Documentation for Bamboo 4.3
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Getting started with Bamboo

Bamboo is a continuous integration (CI) server. Bamboo assists software development teams by providing:

- automated building and testing of software source-code status.
- updates on successful/failed builds.
- reporting tools for statistical analysis.

Please see the following pages for information about getting started with Bamboo:

- Understanding the Bamboo CI Server - a conceptual overview of using Bamboo for continuous integration (CI).
- Getting started with Java and Bamboo - a guide to setting up a simple CI workflow.
- Getting started with .NET and Bamboo - a guide to setting up a simple CI workflow on Windows.

Understanding the Bamboo CI Server

Bamboo is a continuous integration (CI) server that can be used to automate the release management for a software application, creating a continuous delivery pipeline.

What does this mean?

CI is a software development methodology in which a build, unit tests and integration tests are performed, or triggered, whenever code is committed to the repository, to ensure that new changes integrate well into the existing code base. Integration builds provide early 'fail fast' feedback on the quality of new changes.

Release management describes the steps that are typically performed to release a software application, including building and functional testing, tagging releases, assigning versions, and deploying and activating the new version in production.

On this page:

- What problem does Bamboo solve?
- How does Bamboo do this?
- What does Bamboo need?
- How is a Bamboo workflow organised?

Related Pages:

- Getting started with Java and Bamboo
- Getting started with .NET and Bamboo
- Using Bamboo
- Installing and upgrading Bamboo
What problem does Bamboo solve?

If you are a solo developer, then using Bamboo gives you:

- an automated, and so reliable, build and test process, leaving you free to code more.
- a way to manage builds that have different requirements or targets.
- automatic deployment to a server, such as the App Store or the Android Market.

If you work in a team, then as well as the above advantages, using Bamboo also means that:

- your build and test process is not dependent on a specific local environment.
- builds and integration tests are triggered automatically as soon as a developer commits code (continuous integration).

If you work on a large, complex application, then, in addition to all the above advantages, using Bamboo means that:

- you can optimise build performance through parallelism.
- you can leverage elastic resources.
- you can deploy continuously, for example to user acceptance testing (UAT).
- you can implement release management.

How does Bamboo do this?

- Bamboo is the central management server which schedules and coordinates all work.
- Bamboo itself has interfaces and plugins for lots of types of work.
- Bamboo first gets your source from a source repository (lots of plugins here for a variety of systems).
- Then Bamboo starts the build - that can be done by calling something like MSBuild to build your Visual Studio solution, or Maven to call your compiler and linker - whatever you use.
- Once your solution or project is built, you have “artifacts” (build results, for example, an executable app, config files, etc.).
- You can do additional things with the build artifacts:
  - zip them up into a ZIP file and copy them somewhere.
  - run a install builder on them and create an MSI.
  - install them on a test server to make sure everything installs just fine.
- Bamboo provides a web front-end for configuration and for reporting the status of builds.
What does Bamboo need?

Bamboo schedules and coordinates the work involved in building and testing your application. Therefore, to use Bamboo, you will need to already have the following set up:

- a code repository that contains the complete source code for the project.
- build scripts
- test suites

It is generally assumed that the person who commits a change to the code is responsible for fixing any resulting build errors immediately.

How is a Bamboo workflow organised?

Bamboo uses the concept of a 'plan' with 'jobs' and 'tasks' to configure and order the actions in the workflow.

| Project | Has one, or more, plans.  
|         | Provides reporting (using the wallboard, for example) across all plans in the project.  
|         | Provides links to other applications.  
| Plan    | Has a single stage, by default, but can be used to group jobs into multiple stages.  
|         | Processes a series of one or more stages that are run sequentially using the same repository.  
|         | Specifies the default repository.  
|         | Specifies how the build is triggered, and the triggering dependencies between the plan and other plans in the project.  
|         | Specifies notifications of build results.  
|         | Specifies who has permission to view and configure the plan and its jobs.  
|         | Provides for the definition of plan variables.  
| Stage   | Has a single job, by default, but can be used to group multiple jobs.  
|         | Processes its jobs in parallel, on multiple agents (where available).  
|         | Must successfully complete all its jobs before the next stage in the plan can be processed.  
|         | May produce artifacts that can be made available for use by a subsequent stage.  
| Job     | Processes a series of one or more tasks that are run sequentially on the same agent.  
|         | Controls the order in which tasks are performed.  
|         | Collects the requirements of individual tasks in the job, so that these requirements can be matched with agent capabilities.  
|         | Defines the artifacts that the build will produce.  
|         | Can only use artifacts produced in a previous stage.  
|         | Specifies any labels with which the build result or build artifacts will be tagged.  

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Getting started with Java and Bamboo

This page describes how your development team can start using the Bamboo continuous integration server to get rapid feedback on your Java project.

ℹ️ You may want to read Understanding the Bamboo CI Server first.

We assume that you already have:

- Bamboo installed and running. See the Bamboo installation guide for details. You'll want user accounts in Bamboo for each member of your team.
- Source code under version control. Each team member will have access to the repository.
- Tests, as part of the source code for the project.
- A command (e.g. a Maven goal) that builds the code and executes the tests.

The continuous integration workflow we want is:

1. A developer commits code.
2. Bamboo builds the project:
   a. Connects to the repository and checks out the source code.
   b. Compiles the code.
   c. Runs the unit and integration tests.
3. Bamboo provides feedback on the test results.

How do we achieve this with Bamboo?

Well, we'll create a new Bamboo plan that knows how to check out and build our source code, and then report on our test results.

On this page:

Create a Bamboo plan
  1. Plan details
  2. Choose a source repository
  3. Triggering the build
  4. Configure tasks
     - The source code checkout task
     - The builder task
     - Getting the test results
  5. Go!

Get feedback

Related pages:
- Getting started with .NET and Bamboo
- Getting started with PHP and Bamboo
- Getting started with Ruby and Bamboo

Create a Bamboo plan
A Bamboo plan is where you define the details of your continuous integration workflow.

A plan allows us to specify a source code repository, when Bamboo gets triggered to run the build, and how Bamboo should provide feedback on the test results.

1. Plan details

Click Create Plan in the menu bar, and then Create a New Plan.

Every plan belongs to a project. We don’t have a project yet, so choose Project > New Project, and enter details for both the project and plan.

See Configuring plans for details.

2. Choose a source repository

Bamboo needs to know where the source code repository is located, and needs access to the repo so that it can check out the code when it runs a build.

Choose the repository type from Source Repository, and provide access details such as username and password.

See Connecting to code repositories for details.

3. Triggering the build

We can choose how Bamboo gets triggered to run the plan build.
We want Bamboo to build the project whenever code is checked into the repository.

Choose **Trigger type > Repository triggers the build...**, and optionally, specify an IP address for the repository server.

See [Triggering builds](#) for details.

### 4. Configure tasks

Each plan needs to have one or more tasks specified. Tasks do the real work of the plan.

**The source code checkout task**

A newly created plan has a default Source Code Checkout task that gets the source code from the source repository specified earlier.

See [Checking out code](#) for details.

**The builder task**

We also want to compile the code, and run the unit and integration tests. We'll add a builder task to the Bamboo plan to do that. We assume that your project already has a build process set up that Bamboo can call upon.

Click **Add Task**, then **Builder** and choose the task that matches the build tool for your project. Expand one of the following sections to see configuration details specific to that builder task:

- **Ant...**

  **Ant Configuration**

  **Task Description**

  **Executable**

  Ant

  **Build File**

  build.xml

  **Target**

  clean test

  The target you want to execute. You can also define system properties such as -Djava.awt.headless=true.


- **Maven 3.0...**
Maven 3.x Configuration

Task Description

Executable

Maven 3

Add New Executable

Goal

clean test

The goal you want to execute. You can also define system properties such as -Djava.awt.headless=true.

Use Maven Return Code

When determining build success, Bamboo checks Maven return code and searches the log for "BUILD SUCCESS". By checking this option, you will configure Bamboo to skip log parsing. This may fail on some Maven versions/operating systems.

Bamboo also supports Maven 1.0 and Maven 2.0.


Grails...

Grails Configuration

Task Description

Executable

Grails Commands

clean
test-app

Use a new line to separate Grails commands. Bamboo will automatically append "-non-interactive" to each command.


Note that:

- A build tool needs to be installed on the Bamboo server machine before you can use the Bamboo task.
- There are plugins available for Bamboo that add build tasks for other tools, such as Gant and Gradle. See [https://plugins.atlassian.com/plugin/details/27818?versionId=851052](https://plugins.atlassian.com/plugin/details/27818?versionId=851052) for details.

Getting the test results

Your tests will be run when the builder task compiles the code. Each of the builder tasks above has a section to tell Bamboo to expect test results and where to look for them. You can specify a custom results location if your project directory doesn't use the conventional structure.
Where should Bamboo look for the test result files?

- The build will produce test results.
  - If checked, the build will fail if no tests are found. Test output must be in JUnit XML format.
- Test Results Directory
  - Look in the standard test results directory.
  - Specify custom results directories

See Configuring jobs and tasks for details.

5. Go!

Enable the plan, and click Create.

You should see the plan run. The ‘Plan Summary’ tab will report whether the build succeeded or not.

Tests in the appropriate directory in the source code repository will be run automatically as part of the build, and the test results will be displayed in Bamboo.

Now, whenever you commit a change to the repository, Bamboo will build your source code and report on your test results.

Get feedback

Bamboo displays a summary of the results of the build on the dashboard.

You can get further information about the build in the following ways:

- Build results for one or more plans can be displayed on a wallboard.
- You can get notifications about build results sent to you by email, IM and RSS feed.
- You can get build statistics about plans, and about developers contributing code to the build.
- You can drill down into the results to see the code changes that triggered the build, and the tests that were run for that build.

See Getting feedback for details.

Getting started with .NET and Bamboo

This page describes how your development team can start using the Bamboo continuous integration server to get rapid feedback on your .NET project.

You may want to read Understanding the Bamboo CI Server first.

We assume that you already have:

- Bamboo installed and running. See the Bamboo installation guide for details. You’ll want user accounts in Bamboo for each member of your team.
- Source code under version control. Each team member will have access to the repository.
- Tests, as part of the source code for the project.
- A command that builds the code and executes the tests.

The continuous integration workflow we want is:

1. A developer commits code.
2. Bamboo builds the project:
   a. Connects to the repository and checks out the source code.
   b. Compiles the code.
   c. Runs the unit and integration tests.
3. Bamboo provides feedback on the test results.
How do we achieve this with Bamboo?

Well, we'll create a new Bamboo plan that knows how to check out and build our source code, and then report on our test results.

---

**On this page:**

- **Create a Bamboo plan**
  - Plan details
  - Choose a source repository
  - Triggering the build
  - Configure tasks
    - The source code checkout task
    - The builder task
    - Getting the test results
  - Go!

- Get feedback

---

**Related pages:**

- [Getting started with Java and Bamboo](#)
- [Getting started with PHP and Bamboo](#)
- [Getting started with Ruby and Bamboo](#)

---

**Create a Bamboo plan**

A Bamboo plan is where you define the details of your continuous integration workflow.

A plan allows us to specify a source code repository, when Bamboo gets triggered to run the build, and how Bamboo should provide feedback on the test results.

1. **Plan details**

   Click **Create Plan** in the menu bar, and then **Create a New Plan**.

   Every plan belongs to a project. We don't have a project yet, so choose **Project > New Project**, and enter details for both the project and plan.

   See [Configuring plans](#) for details.
2. Choose a source repository

Bamboo needs to know where the source code repository is located, and needs access to the repo so that it can check out the code when it runs a build.

Choose the repository type from Source Repository, and provide access details such as username and password.

See Connecting to code repositories for details.

3. Triggering the build

We can choose how Bamboo gets triggered to run the plan build.

We want Bamboo to build the project whenever code is checked into the repository.

Choose Trigger type > Repository triggers the build..., and optionally, specify an IP address for the repository server.

See Triggering builds for details.

4. Configure tasks

Each plan needs to have one or more tasks specified. Tasks do the real work of the plan.

The source code checkout task

A newly created plan has a default Source Code Checkout task that gets the source code from the source repository specified earlier.

See Checking out code for details.

The builder task
We also want to compile the code. We'll add a builder task to the Bamboo plan to do that. We assume that your project already has a build process set up that Bamboo can call upon.

Click Add Task, then Builder and choose the task that matches the build tool for your project. Expand one of the following sections to see configuration details specific to that builder task:

- **MSBuild...**

  MSBuild Configuration
  
  Task Description
  
  Executable *
  
  MSBuild v2.0 (32bit) [Add New Executable]
  
  Project File *
  
  YourSolution.sln
  
  The Solution, Project File or MSBuild project to execute when this Job Builds
  
  Options
  
  The MSBuild.exe command line switches you wish to include.


- **NAnt...**

  NAnt Configuration
  
  Task Description
  
  Executable *
  
  NAnt [Add New Executable]
  
  Build File
  
  default.build
  
  The name of the NAnt build file that you want to execute when this Job builds
  
  Targets *
  
  run
  
  The NAnt targets you want Bamboo to execute when this Job builds
  
  Options
  
  The NAnt command line options you wish to include.


- **Visual Studio...**
5. Go!

Enable the plan, and click Create.

You should see the plan run. The ‘Plan Summary’ tab will report whether the build succeeded or not.

Tests in the appropriate directory in the source code repository will be run automatically as part of the build, and the test results will be displayed in Bamboo.

Now, whenever you commit a change to the repository, Bamboo will build your source code and report on your test results.

Get feedback

Bamboo displays a summary of the results of the build on the dashboard.

You can get further information about the build in the following ways:

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- You can get build statistics about plans, and about developers contributing code to the build.
- You can drill down into the results to see the code changes that triggered the build, and the tests that were run for that build.

See Getting feedback for details.
Getting started with PHP and Bamboo

This page is a stub.

If you would like to see this page improved, please vote for this issue: BAM-10947 - Create documentation for Getting Started with PHP and Bamboo

Getting started with Ruby and Bamboo

This page is a stub.

If you would like to see this page improved, please vote for this issue: BAM-10948 - Create documentation for Getting Started with Ruby and Bamboo

Using the Bamboo dashboard

The dashboard is your Bamboo 'home' page. The dashboard has three tabs:

- **My Bamboo** — a convenient summary of information that is relevant to you (only appears if you have logged in to Bamboo):
  - plans which you have nominated as your favourites.
  - your latest build results (i.e. builds that were triggered by your latest code changes).
  - a summary of your build statistics (only appears if your Bamboo User Profile has been associated with your Author Name).

- **All Plans** — a list of plans and each plan's latest build result.

- **Current Activity** — Bamboo's agents and build queue, showing which plans Bamboo is currently building and which plans are waiting to be built.

You can return to the dashboard from anywhere in Bamboo by clicking **Dashboard** in the top navigation menu.

**On this page:**

- **Viewing the dashboard**
- **Filtering the plans**
- **Working with favourites**

**Related pages:**

- **Configuring plans**
- **Working with builds**
- **Getting feedback**

Viewing the dashboard

You can:

- click the **project name** (e.g. 'Bamboo Testing') to view the plans in the project.
- click the **plan name** (e.g. 'Acceptance Test JDK 1.6') to **view the plan details**.
- click the **build number** (e.g. '7823') to **view the build result**.
- click the **author's name** to **view the author's details** (the author is the person who triggered the build by checking-in code).

The icon next to a build number indicates the plan's current status:

- This plan's latest build was successful.
- This plan's latest build failed.
- Bamboo is currently checking-out the source-code for this plan, in preparation for starting a build.
- Bamboo is currently queuing a build for this plan in the Build Queue.
- Bamboo is currently executing a build for this plan.
The plan is stopped at a manual stage.
This plan has been disabled.

Screenshot: Bamboo dashboard - 'All Plans' tab

Filtering the plans

You can filter the plans on your dashboard according to plan labels. For instructions on how to add a label to a plan, see Labelling a plan.

To filter the dashboard plans by label:

1. Navigate to the dashboard.
2. Click the button. If the plan already has labels, they will be displayed next to the button, otherwise the button will read Filter Plans.
3. In the 'Filter Plans' dialog, select the labels to filter by.
4. Click Save. The dashboard will refresh, showing only the plans with the selected labels.

Screenshot: Filtering plans on a dashboard

Working with favourites

The My Bamboo tab lists your favourite plans — that is, the plans you work with the most. You can easily add
and remove plans from your favourites.

When you add a plan to your favourites, you become a 'watcher' of the plan. This means that you will receive notifications about the build results for your favourite plans, depending on how your administrator has configured each plan's notifications. You can receive notifications by email, Instant Messaging (IM) and RSS feed.

To add a plan to your favourites:

1. Click Dashboard in the top navigation bar, to display the dashboard.
2. Click the All Plans tab. This will display a list of all plans in your Bamboo system.
3. Locate the plan and click the grey star icon at the right.

Keyboard shortcuts

Using Bamboo

Bamboo is a continuous integration (CI) server. Bamboo assists software development teams by providing:

- automated building and testing of software source-code status.
- updates on successful/failed builds.
- reporting tools for statistical analysis.

This user guide has information about using Bamboo. Please see Administering Bamboo for information about managing the Bamboo server itself.

Using

- Configuring plans
- Connecting to code repositories
- Configuring jobs and tasks
- Working with builds
- Getting feedback

Integrating Bamboo with Atlassian applications

Managing your user profile

Installing

- Bamboo installation guide
- Bamboo EAR-WAR installation guide
- Bamboo installation guide for Linux
- Bamboo installation guide for Mac
- Bamboo installation guide for Windows
- Connecting Bamboo to an external database
- Bamboo remote agent installation guide
- Supported platforms
Configuring plans

A plan defines everything about your continuous integration build process in Bamboo.

A plan:

- Has a single stage, by default, but can be used to group jobs into multiple stages.
- Processes a series of one or more stages that are run sequentially using the same repository.
- Specifies the default repository.
- Specifies how the build is triggered, and the triggering dependencies between the plan and other plans in the project.
- Specifies notifications of build results.
- Specifies who has permission to view and configure the plan and its jobs.
- Provides for the definition of plan variables.

Every plan belongs to a project.

Projects and plans can only be configured by Bamboo administrators (see Creating a plan).

Diagram showing the relationship between plans, stages, jobs and tasks:

Tasks execute sequentially within a Job.
Jobs execute in parallel within a Stage.
Stages execute sequentially within a Plan.
Navigating to a plan

To navigate to a plan:

1. Click Dashboard and then the All Plans tab.
2. In the list of plans, click the name of the desired plan. The plan's 'Plan Summary' page will be displayed.
3. Choose Actions > Configure Plan to see the configuration pages for the plan.

Screenshot: The Plan Summary page

Viewing a plan's build information

A plan defines everything about your continuous integration build process in Bamboo.

To view information about a plan:

1. Navigate to the desired plan, as follows:
   - If you are viewing the Dashboard, locate and click the plan's name in the list, or
   - If you are viewing a job or build result, click the plan name in the breadcrumb links at the top of the screen.
2. Click a tab to view information about the plan:
Tab | Notes
--- | ---
Plan Summary | Information about the plan, as shown in the diagram below.
Branches | The branch plans for this plan.
Recent Failures | Information about recent failures of the plan, including the builds that failed, links to the build results, time taken to fix, etc.
History | The full history of builds of the plan.
Tests | A summary of the 10 most frequently broken tests.
Quarantined Tests | Failing test's results that have been disconnected from the build results.
Issues | View the JIRA issues linked to builds of your plan. (*Only displayed if your administrator has integrated Bamboo with JIRA.*)

Use the **Actions** menu to access functions for the plan, such as **Disable Plan** and **Configure Plan.** (*This menu is only displayed if you are an administrator for the plan.*)

**Diagram: Plan Summary (annotated)**

**Creating a plan**

Before you begin:

- You require the 'Create Plan' or 'Admin' global permission to create new plans.
To create a Plan in Bamboo:

1. Click **Create Plan** in the top navigation bar.
2. Choose and complete one of the following options:
   - **Create a New Plan**
   - **Clone an Existing Plan** — This option only appears if there is at least one existing plan, and you have the 'Clone' and/or 'Admin' plan permission for at least one plan, on the Bamboo server.
   - **Import a Maven 2 Project** — This option only appears if Maven 2 has been installed.

Screenshot: Create Plan options

Create Plan
A Plan defines everything about your build process, including what gets built, how the Build is triggered and what Jobs are executed.

**Create a New Plan**
Create a completely new Plan, specify its default repository and configure the Executable for this Plan's Default Job.

**Clone an Existing Plan**
Make a copy of a Plan and its entire configuration.

**Import a Maven 2 Project**
You can import a Plan into Bamboo from a Maven 2 project by getting Bamboo to parse the Plan information from this project's pom.xml file.

Creating a new plan
This page describes how to create a completely new plan.

For other ways to create a plan see:

- Cloning an existing plan
- Importing a Maven 2 project

On this page:

- Step 1. Create the plan
- Step 2. Configure tasks for the plan
- Notes

**Step 1. Create the plan**
When you create a new plan, you can define everything about your build process, including what gets built, how the plan's build is triggered and what jobs are executed.

To create a new plan, complete the following sections:

1. Click **Create Plan** in the top menu bar, and then click **Create a New Plan**.
2. Complete the following sections:

<table>
<thead>
<tr>
<th>Plan Details</th>
<th>Select either an existing project to which this new plan will belong, or New Project.</th>
</tr>
</thead>
</table>
Step 2. Configure tasks for the plan

When a new plan is created, a default job is also created as part of the plan. You need to configure one or more tasks for the default job. Tasks are the 'units of work' for a plan. You can always add more tasks to the default job after the plan is created, as well as create new jobs.

1. On the 'Configure Tasks' screen, click Add Task to add a new task to the new plan.
2. Click the desired task type in the 'Task Types' dialog.
3. Fill out the details for the task. The fields and options will be different depending on the executable that you chose. See the following documentation for specific instructions on each executable:
   - Checking out code
   - Configuring a builder task
   - Configuring a test task
   - Configuring a deployment task
   - Pattern matching reference

4. In the 'Enable this plan' section, choose whether or not to enable this plan. Enabling the plan instructs Bamboo to commence executing builds of the plan based on the plan's trigger configuration (defined above). To enable this plan, select the Yes please! check box.
5. Click Create. Bamboo will automatically run an initial build for your new plan. When you next return to the Dashboard, your new plan (and new project, if applicable) will be displayed on the All Plans tab.

If you wish to configure more plan options, please refer to Editing a plan's configuration.

Screenshots: Creating a new plan - plan configuration and job configuration (click to view gallery)

Notes
• You can configure Bamboo to automatically start an initial build for a new plan, irrespective of the trigger configuration. To do this, add the `fire.initial.build.for.manual.strategy` to your `bamboo.cfg.xml` file as described in Configuring system properties.

Cloning an existing plan
When you clone an existing plan, you make a copy of that plan and its entire configuration.

To clone an existing plan:

1. Click Create Plan in the top menu bar, and then click Clone an Existing Plan.
2. Use Plan to clone to select a plan. Only plans for which you have the ‘Clone’ and/or ‘Admin’ plan permission are shown.
3. Enter details for the new plan. You can add the new plan to an existing or new project.
4. Choose whether to enable this plan. Enabling the plan instructs Bamboo to start running builds of the plan, based on the plan's trigger configuration.
5. When you click Create, the ‘Plan Summary’ page for the new plan will be displayed. Bamboo will automatically run an initial build for your new plan.

Related pages:
• Creating a plan
• Creating a new plan
• Importing a Maven 2 project

If you wish to configure more plan options, please refer to Editing a plan's configuration.

You can configure Bamboo to automatically start an initial build for every new plan. To do this, add the `fire.initial.build.for.manual.strategy` to your `bamboo.cfg.xml` file as described in Configuring system properties.

Screenshot: Cloning an existing plan

Importing a Maven 2 project
This page describes how to import a plan from a Maven 2 project.

Bamboo can check out and parse the `pom.xml` from a Maven 2 project, and create a new plan using the details from it. This feature is not available for Maven 1 projects.
To create a new plan from a Maven 2 `pom.xml` file:

1. Click **Create Plan** in the top menu bar, and then click **Import a Maven 2 Project**. Maven 2 needs to be installed on the Bamboo server machine; see Configuring a new executable.
2. Specify the details required for Bamboo to locate your Maven 2 project's `pom.xml` file.
3. Click **Import**.
4. Confirm the details from your `pom.xml` file that are shown on the 'Confirm Plan Details' page.
5. Choose whether to enable this plan. Enabling the plan instructs Bamboo to start running builds of the plan, based on the plan's trigger configuration.
6. When you click **Create**, the new plan's 'Plan Summary' page will be displayed. Bamboo will automatically run an initial build for your new plan.
7. Click **Confirm** to save your plan configuration so far. The **Tasks** tab of the plan's **default job** is displayed.
8. Configure the Maven 2 task options, as described in **Maven**. You can select a different builder task but this would only be useful if your Maven 2 project's `pom.xml` depended on a non-Maven 2 builder. If you do need to specify a non-Maven 2 builder, refer to the '2. Configure tasks for the plan' section on [Create a new plan](#).

If you wish to configure more plan options, please refer to [Editing a plan's configuration](#).

**Screenshot: Importing a plan from Maven 2**

**Import a Maven 2 Project**

On this page, you can import a Plan into Bamboo from a Maven 2 project by getting Bamboo to parse the Plan information from this project's `pom.xml` file. A Plan with a single Default Job will be created.

**Enter pom.xml Details**

- **Source Repository**: Subversion
- **Repository URL**: The location of subversion repository (e.g. http://svn.collab.net/repos/evr/trunk)
- **Username**: (Optional) The subversion username (if any) required to access the repository
- **Authentication Type**: Password
- **Password**: (Optional) The password required by the subversion username

[Import] [Cancel]

**Notes**

- Security Manager settings too strict — Please note, during the Maven import process, the project file (`pom.xml` or other specified by the user) is analysed using the maven-embedder library. The parent POM files will be examined in the local repository or downloaded from network repositories. In order to reuse Maven's credentials for the network repositories, Bamboo requires internal access to the maven-embedder. If your JVM's or web container's SecurityManager settings are too strict, this process will fail and you will see an error similar to the following in your [Bamboo logs](#):
If your imported Maven project file uses repositories that require credentials (i.e. not public or local), you will need to adjust the SecurityManager settings for your JVM or web container appropriately for the import to work.

- By default, all plans created by importing a Maven 2 project use the Polling the Repository for changes trigger type, but you can change this by editing this plan. You can configure Bamboo to automatically start an initial build for every new plan. To do so, add the fire.initial.build.for.manual.strategy to your bamboo.cfg.xml file as described in Configuring system properties.

Managing plans

See the following pages for information about managing your Bamboo plans:

- Editing a plan's configuration
- Configuring a plan's permissions
- Disabling or deleting a plan
- Labelling a plan

Editing a plan's configuration

To edit an existing plan:

1. Click Dashboard, then the All Plans tab, then the name of the plan in the list, to get to the plan you want to edit.
2. Choose Actions > Configure Plan.
3. Click a tab to configure that aspect of your plan:
   - Plan Details — A plan's Project Key and Plan Key are not editable, but can be changed as described in Moving plans to a different project.
   - Source Repositories — see Specifying the source repository.
   - Triggers — see Triggering builds.
   - Branches — see Using plan branches.
   - Stages — see Using stages in a plan.
   - Dependencies — see Setting up build dependencies.
   - Permissions — see Configuring a plan's permissions.
   - Notifications — see Configuring notifications.
   - Variables — see Defining plan variables.
   - Miscellaneous — see Configuring expiry of a plan's build results.
   - Audit Log — a record of changes to the plan's configuration. This feature is disabled by default. To enable it, please go to Administration > System > Audit Log.

Related pages:

- Creating a plan
- Specifying the source repository
- Using plan branches
- Using stages in a plan
- Setting up build dependencies
- Configuring notifications for a plan and its jobs
- Configuring expiry of a plan's build results
- Configuring a plan's permissions

Screenshot: A plan's configuration pages
Configuring a plan's permissions

The process for changing the permissions for a particular plan are described below. Note that, for ongoing ease of management, it is recommended that you grant permissions to groups rather than to individual users.

You need to have 'Admin' permission on the plan to edit its permissions.

To change plan permissions:

1. Click Dashboard, then the All Plans tab, then the name of the plan in the list, to get to the plan you want to edit.
2. Choose Actions > Configure Plan.
3. Click the Permissions tab.
4. You can change plan permissions for the categories of users in the table below.
5. Select (or clear) the check box for each permission that you wish to change for a user or group.
6. Click Save.

**Related pages:**
- Editing a plan's configuration
- Granting plan permissions in bulk
- Managing permissions

<table>
<thead>
<tr>
<th>User category</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Logged in Users</td>
<td>Users who are logged in to Bamboo.</td>
</tr>
<tr>
<td>Anonymous Users</td>
<td>Users who are not logged in to Bamboo.</td>
</tr>
<tr>
<td>User</td>
<td>A user already created in the Bamboo system.</td>
</tr>
</tbody>
</table>

To edit plan permissions for an existing user:

1. In the Grant permission to list, select User.
2. Type the username into the box, or click the icon to select from a list.
3. Click Add. The user will be added to the list on the screen, and you can then select permissions for them.
Group

A group already created in the Bamboo system.

To edit plan permissions for an existing group:
1. In the Grant permission to list, select Group.
2. Type the group name into the box, or click the icon to select from a list.
3. Click Add. The group will be added to the list on the screen, and you can then select permissions for the group.

Screenshot: Plan Permissions

Disabling or deleting a plan

Bamboo allows you to disable or delete plans that you don’t want to be built:

- **Disabling a plan** prevents it from being built. You can re-enable the plan, if you want to build it again.

  For example, if a plan’s latest build is broken and cannot be fixed quickly, you may want to disable it temporarily to stop the plan from being built.

- **Deleting a plan** removes it completely from your Bamboo system. You will need to recreate a new plan from scratch, if you want to build it again.

  For example, if a plan is no longer relevant, you may want to delete it.

On this page:
- [Disabling a plan](#)
- [Deleting a plan](#)
Related pages:

- Configuring plans
- Exporting data for backup
- Disabling or deleting a job
- Stopping an active build

Disabling a plan

To disable a plan:

1. On the All Plans tab of the dashboard, click on the plan's name.
2. Choose Actions > Disable Plan.

You can also disable the plan using the Plan Enabled check box on the Plan Details tab of a plan's configuration pages.

Note that disabling a plan doesn't disable its branch plans.

Deleting a plan

Deleting a plan deletes everything related to that plan, including the plan's configuration, all of the plan's job configurations and the plan's branch plans, job build results, artifacts, labels and comments.

Before you begin:

- If you need to keep a permanent record of the job build results for your plan, see Exporting data for backup.
- The 'Admin' global permission is required to delete a plan.
- A plan that is currently being built cannot be deleted. If you need to delete such a plan, stop the plan's build first. Refer to Stopping an active build for more information.
- Deleting a plan also deletes its branch plans. Be careful!

To delete a plan:

There are two ways to delete a plan:

- From the dashboard:
  1. On the All Plans tab of the dashboard, click on the plan to delete.
  2. Choose Actions > Configure Plan.
  3. Choose Actions > Delete Plan.

- In the Administration Console:
  1. Click Administration in the top navigation bar.
  2. Click Remove Plans (under 'Plans') in the left navigation column.
  3. Select the plan you wish to delete.
  4. Click Delete at the bottom of the list. You will be prompted to confirm the deletion.

Labelling a plan

Bamboo allows you to label plans. Labelling a plan allows you to filter the plans displayed on the Dashboard or Wallboard. You may want to do this if you have set up a large number of plans in your Bamboo instance and want to highlight specific plans for attention.

For example, you may want to label all builds related to the release with a 'release' label. You can then filter your wallboard during your release, to display only these builds.

Before you begin:

- You must be logged in to Bamboo before you can label a plan.
To label a build result:

1. Click Dashboard, then the All Plans tab, then the name of the plan in the list, to get to the plan you want to edit.
2. Click Actions > Modify Plan Label.
3. Type the relevant label (or multiple labels, separated by commas or spaces).
4. Click Add. Note that the label will be saved in lowercase characters.
5. Click Close.

Screenshot: Adding labels to a plan

Defining plan variables

When configuring a plan, you may want to specify variables to be used in the build process. For details on how variables are used, see Using global, plan or build-specific variables.

Plan variables are one type of variable that is available to you. A plan variable is defined for one specific plan, and has the same value every time that plan is built. If you want to define a variable across all plans rather than a single plan, define a global variable as described in Defining global variables.

Plan variables can be accessed by using ${bamboo.varName}. Plan variables can also be overridden at runtime when running a manual build. For more information, see Running a plan build manually.

Related pages:

- Defining global variables
- Using global, plan or build-specific variables
- Running a plan build manually
• Note that plan variables override global variables with the same name.

To define a plan variable:

1. Click Dashboard, then the All Plans tab, then the name of the plan in the list, to get to the plan you want to edit.
2. Choose Actions > Configure Plan.
3. Click the Variables tab.
4. Add, update or delete plan variables, as desired:
   - Click Add to add a new variable once you have entered the key and value for it.
   - Updates to existing rows will be saved as you move between cells in the table.
   - Click the trash can to delete a variable.

Screenshot: Adding a plan variable

Using stages in a plan

Stages group (or 'map') jobs to individual steps within a plan's build process. For example, you may have an overall plan build process that comprises a compilation step, followed by several test steps, followed by a deployment step. You can create separate Bamboo stages to represent each of these steps.

A stage:

• Has a single job, by default, but can be used to group multiple jobs.
• Processes its jobs in parallel, on multiple agents (where available).
• Must successfully complete all its jobs before the next stage in the plan can be processed.
• May produce artifacts that can be made available for use by a subsequent stage.

Each new plan created in Bamboo contains at least one stage (for the default job) and is known as the 'Default Stage'. Stages can only be configured by Bamboo administrators.

On this page:

• About manual stages
• Navigating to the stages for a plan

Related pages:

• Creating a stage
• Editing a stage
• Deleting a stage
About manual stages

Any stage in a plan can be configured to be a manual stage. If you run a plan with manual stages, Bamboo will pause the execution of the plan every time it reaches a manual stage. The plan build will only continue once a user has manually triggered the stage. Please note:

- A manual stage can only be triggered if the previous stage has completed successfully.
- Manual stages must be executed in the order that they are configured in the plan. You cannot skip a manual stage.
- Manual stages will be displayed in the Plan Navigator with either this icon (not due to be triggered) or this icon (pending execution).
- You need ‘Build’ permission on the plan to run a manual stage.

Navigating to the stages for a plan

To navigate to the stages for a plan:

1. Click Dashboard and then the All Plans tab.
2. In the list of plans, click the name of the desired plan. The plan’s ‘Plan Summary’ page will be displayed.
3. Choose Actions > Configure Plan.
4. Expand the Stages & Jobs section of the left navigation panel to see the stages of the plan.

Creating a stage

This page describes how to create a stage in a plan.

Stages group (or ‘map’) jobs to individual steps within a plan’s build process. For example, you may have an overall plan build process that comprises a compilation step, followed by several test steps, followed by a deployment step. You can create separate Bamboo stages to represent each of these steps.

A stage:

- Has a single job, by default, but can be used to group multiple jobs.
- Processes its jobs in parallel, on multiple agents (where available).
• Must successfully complete all its jobs before the next stage in the plan can be processed.
• May produce artifacts that can be made available for use by a subsequent stage.

Each new plan created in Bamboo contains at least one stage (for the default job) and is known as the ‘Default Stage’. Stages can only be configured by Bamboo administrators.

**Related pages:**
- Configuring a stage (About manual stages)
- Editing a stage
- Deleting a stage
- Creating a job
- Editing a job
- Configuring a job's build artifacts

**To create a stage within a plan:**

1. Click Dashboard, then the All Plans tab, then the name of the plan in the list, to get to the plan you want to edit.
2. Choose Actions > Configure Plan.
3. Click the Stages tab, and then Create Stage on the right. The ‘Create a new Stage’ dialog will appear.
4. Complete the form and click Create. For information about manual stages, see Configuring a stage (About manual stages).
5. (optional) You may want to do one or more of the following with your new stage:
   - Order your new stage in the list of stages, by dragging and dropping it.
   - Create a new job to your new stage.
   - Move a job from another stage to your new stage by dragging and dropping the job.

Note that you may break artifact dependencies by moving stages, or by moving jobs between stages. Bamboo will warn you, if a dependency will be broken by moving a stage or a job.

**Screenshot: Creating a stage**

**Create a new Stage**

<table>
<thead>
<tr>
<th>Stage Name*</th>
<th>Deployment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Description</td>
<td>Deployment tasks</td>
</tr>
<tr>
<td>Manual stages require user interaction in order to execute</td>
<td></td>
</tr>
</tbody>
</table>

**Editing a stage**

**To edit a stage for a plan:**

1. Click Dashboard, then the All Plans tab, then the name of the plan in the list, to get to the plan you want to edit.
2. Choose Actions > Configure Plan.
3. Click the Stages tab.
4. Edit the stage as required:
   • To edit the name and description of the stage or configure whether it is a manual stage, click the cog (🔧) icon and choose Configure Stage.
To move the stage, drag and drop the stage to the desired place in the plan.

Note that you may break artifact dependencies by moving stages. Bamboo will warn you, if a dependency will be broken by moving a stage.

Related pages:

- Configuring a stage (About manual stages)
- Creating a stage
- Deleting a stage
- Configuring a job’s build artifact

Screenshot: Stages for a plan

Deleting a stage

Before you begin, please see the Notes on this page.

To delete a stage from a plan:

1. Click Dashboard, then the All Plans tab, then the name of the plan in the list, to get to the plan you want to edit.
2. Choose Actions > Configure Plan.
3. Click the Stages tab.
4. Click the cog (🔧) icon for the relevant stage and choose **Delete Stage**.
5. Click **Confirm** to delete the stage. Note that a deleted stage cannot be recovered.

**Related pages:**
- Creating a stage
- Editing a stage
- Configuring a job's build artifact

**Screenshot:** Confirming deletion of a stage

**Delete Functional Tests**

![Confirm](confirm-button.png)  ![Cancel](cancel-button.png)

**Notes**
- Deleting a stage will delete all job configurations, artifacts, logs and results related to the stage. These cannot be recovered after the stage is deleted.
- You may break artifact dependencies by deleting a stage.

**Using plan branches**

Plan branches are used to represent a branch in your version control repository, with the plan branch using the same build configuration as your plan.

Tools such as Git and Mercurial encourage a practice called **feature branching**, where a developer can use a new branch to work in isolation from his or her team members before merging their changes back into main line development. Previously however, changes made on a branch may not have been built and tested by Bamboo unless the developer had specifically set up a new build plan, or had cloned an existing plan and configured it to build the new branch.

Now, with plan branches in Bamboo:
- Any new branch created in the repository can be automatically built and tested using the same build configuration as that of the parent plan.
- You have the flexibility to individually configure branch plans, by overriding the parent plan, if required.
- Optionally, changes from the feature branch can be automatically merged back to the "master" (e.g. trunk, default or mainline branch) when the build succeeds.
Activating plan branching

When you activate plan branching, Bamboo automatically creates plan branches whenever the source repo is branched. You can also create a plan branch manually.

You can override the master plan’s configuration in a branch plan, if required.

To see a list of branches for a plan, click on the branch icon beside a plan name on the All Plans tab of the dashboard. Select a branch name from the list to go directly to the summary page for that branch plan.

Auto branching

You can use auto branching for Git, Mercurial and Subversion repositories. For other repository types, you can use manual branching.

To have Bamboo automatically manage plan branches whenever the repo branches:

1. Go to the Branches tab in the configuration pages for the plan you wish to branch.
2. Select Automatically manage branches.
3. Enter a regular expression to specify the repo branch names for which plan branches will be created. An example is: (branch1|branch2|branch3)/.* See the Java documentation on regular expressions.
4. Make the following optional settings as required. These will be applied to all branch plans created from this plan configuration, although they can be overridden in those branch plans, if required.

<table>
<thead>
<tr>
<th>Remove after</th>
<th>Edit the value, in days, after which branches are automatically deleted, if no commits have been made to the VCS branch in that period. A value of zero prevents plans from being deleted.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Merging</td>
<td>Not available for Subversion. Check Branch Merging Enabled, and complete either the ‘Branch updater’ or ‘Gatekeeper’ sections, as described below.</td>
</tr>
</tbody>
</table>
JIRA Feature Branches

Check Create Remote Links from JIRA Issues to have the plan branch automatically linked, using an issue key in the branch name. Described below.

Notifications

Described below.

Branches Root

Only available for plans that use a Subversion source repository. Bamboo assumes that your Subversion repository structure follows the convention for branches, and automatically calculates the branch root URL.

For example, for the fastBuild repo with this URL: https://svn.mycompany.com/svn/fastBuild/trunk, Bamboo will expect that branches will be created at this location: https://svn.mycompany.com/svn/fastBuild/branches.

If your Subversion repository structure follows a different convention, you can specify where repository branches will be created by selecting Change branch root URL.

5. Click Save.

Manual branching

Use manual branching for all supported repository types. You may want to consider using auto branching for Git, Mercurial and Subversion repositories.

To manually create a branch of a plan:

1. Go to the Branches tab in the configuration pages for the plan you wish to branch.
2. Click Create Branch. Bamboo automatically checks for branches in the specified repository for the plan.
3. Select from the available VCS branches, then click Create.
4. You can override the default settings for the branch, such as the source repository used, if you wish.

Screenshot: The Plan Summary page for a branch, showing the 'branches' menu.
Integrating branches with JIRA

When a developer begins working on a feature described in a JIRA issue, they use Git or Mercurial to branch the repository. If they use the issue key as part of the VCS branch name, Bamboo will detect the issue key and automatically link the new branch to the issue:

- The JIRA issue key needs to be in the name of the branch – ‘jb-BDEV-790’ and ‘BDEV-769 1’ are valid forms.
- The link shows up right under the breadcrumb on the Build Result Summary for the plan branch, and on the JIRA issue too.

To use JIRA Feature Branching, Bamboo needs an application link to the JIRA server.

Branch notifications

You can get build notifications from branch plans just as you do for master plans.

To specify how notifications are sent by all branches created from a plan, go to the Branches tab for the plan’s configuration and choose one of the following options:

- Notify committers and people who have favourited this branch.
- Use the plan’s notification settings.
- Notifications should not be sent for this branch.

You can override how notifications are sent from a particular branch plan, if necessary, by going to the Notifications tab on the Plan Branch configuration.

See Configuring notifications for a plan and its jobs for information about plan notifications.

Branch dependencies

You can use build dependencies for plan branches in a similar way to that for plans: a branch plan is triggered only when another branch plan has been successfully built. This can be used to ensure that breaking source code changes associated with one branch plan are detected before they can break the build of a dependent branch plan. Dependencies between master plans are maintained if their branch plans have the same name. See Setting up plan build dependencies for further information about dependencies.

Select Trigger Dependencies for Branches, on the Dependencies tab for the plan configuration, if you want plan branches to honour the build dependencies of their respective master plans.

Configuring branch plans
Whether a plan branch is created automatically or manually, the master plan maintains the structure and configuration of its branch plans. However, you can go to the configuration pages to override the following settings in a branch plan:

<table>
<thead>
<tr>
<th>Setting</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Branch clean-up</td>
<td>On the Branch Details tab of the branch's configuration, you can specify that a plan branch is not cleaned up automatically.</td>
</tr>
<tr>
<td>Trigger type</td>
<td>On the Branch Details tab of the branch's configuration. See Triggering builds. Note that you can only configure one trigger for a plan branch, and that this overrides all triggers that may be configured for the master plan.</td>
</tr>
<tr>
<td>Merging</td>
<td>On the Branch Details tab of the branch's configuration. Described below.</td>
</tr>
<tr>
<td>Source repository</td>
<td>On the Source Repository tab of the branch's configuration. See Specifying the source repository.</td>
</tr>
<tr>
<td>Notifications</td>
<td>On the Notifications tab of the branch's configuration. The options are:</td>
</tr>
<tr>
<td></td>
<td>• Notify committers and people who have favourited this branch.</td>
</tr>
<tr>
<td></td>
<td>• Use the plan's notification settings.</td>
</tr>
<tr>
<td></td>
<td>• Notifications should not be sent for this branch.</td>
</tr>
<tr>
<td></td>
<td>See Configuring notifications for a plan and its jobs for information about plan notifications.</td>
</tr>
<tr>
<td>Variables</td>
<td>On the Variables tab of the branch's configuration. See Defining plan variables.</td>
</tr>
</tbody>
</table>

Using automatic merging

Bamboo provides 2 merging models if you choose to automate your branch merging:

- **Branch Updater** — a branch repo is kept up-to-date with changes to master.
- **Gatekeeper** — the default repo is only updated with changes in the branch that have built successfully.

The automatic branch merge strategy for the master plan can be overridden in an individual plan branch, if required.

**Branch updater**

**When to use**

The Branch Updater should be used when you want to:

- Automatically merge changes from the team’s master branch into your feature branch, after a successful build of the master branch.
- Get notified when the changes on your feature branch are no longer compatible with the team's master branch.
Configuring

To have recent changes in another repo merged into your branch repo:

1. Go to the **Branch Details** tab of the branch plan's configuration pages. (Click on the branch icon beside a plan name on the **All Plans** tab, then choose **Actions > Configure Branch**.)
2. Under 'Merging' select **Branch Merging Enabled**, and then click **Branch Updater**.
3. Use the **Merge From** list to choose the repo from which changes should be merged with your feature branch.
4. Select **Push on** only if you want those changes merged back into your branch once the build completes successfully,
5. Click **Save**.

---

**Gatekeeper**

**When to use**

The Gatekeeper should be used when you want to:
- Automatically merge your feature branch back into the team's master branch, after a successful build of the merged changes from both branches.
- Get notified when a build of combined changes from both branches fails, preventing the feature branch from being merged back into the team's master branch.

### Configuring

To have your successfully built changes pushed to another repo:

1. Go to the **Branch Details** tab of the branch plan's configuration pages. (Click on the branch icon beside a plan name on the **All Plans** tab, then choose **Actions > Configure Branch**.)
2. Under 'Merging' select **Branch Merging Enabled**, and then click **Gate Keeper**.
3. Use the **Checkout** list to choose the repo with which to merge your changes (and to which changes should be pushed).
4. Select **Push on** only if you want your changes pushed to the other repo once the build completes successfully.
5. Click **Save**.

### Limitations with plan branches
The following limitations apply to using automated plan branching and merging:

<table>
<thead>
<tr>
<th>Action</th>
<th>Limitations</th>
</tr>
</thead>
<tbody>
<tr>
<td>Auto plan branching</td>
<td>• Can only be used with Git, Mercurial and Subversion repositories. For other repository types, use manual branching.</td>
</tr>
<tr>
<td></td>
<td>• Cannot be used with the Git implementation embedded in Bamboo. (You need to have set up native Git.)</td>
</tr>
<tr>
<td>Manual plan branching</td>
<td>• Can be used for all repository types supported by Bamboo.</td>
</tr>
<tr>
<td>Auto branch merging</td>
<td>• Can only be used with Git and Mercurial repositories.</td>
</tr>
<tr>
<td></td>
<td>• Can only be used with branches that were configured in Bamboo.</td>
</tr>
<tr>
<td></td>
<td>• Cannot be used with the Git implementation embedded in Bamboo. (You need to have set up native Git.)</td>
</tr>
</tbody>
</table>

Branches wallboard

The branches wallboard displays the status of all the branches and the plan that the branches belong to. The plan's own status always appears first. Plans shown as grey are disabled.

To display the branches wallboard:

1. Go to the Plan Summary for the plan that has branches you want to display.
2. Choose Actions > Branch Wallboard.

Connecting to code repositories

A core part of setting up your continuous integration build process in Bamboo is to specify the code repositories that Bamboo should work with.

- When you create a new plan, the source repository you specify becomes the default. It is used by the plan's 'Default Job' and can be used by other jobs added to this plan.
- You can specify additional repositories for a Bamboo plan to work with, perhaps for tasks in later stages of the build. See Checking out code.
- You can set up shared source repositories that are then available globally to all plans and jobs configured on the Bamboo server. Doing this can save you from having to reconfigure the source repositories in
multiple places if these ever change. Changes to a shared repository are applied to every plan or job that uses the repository.

Bamboo is able to connect to a variety of SCMs; for details regarding a particular repository type, please refer to Specifying the source repository and the pages listed below:

- Bitbucket - Mercurial
- CVS
- Git
- GitHub
- Mercurial
- Perforce
- Subversion

Specifying the source repository
When you create a new plan, you specify the default source repository to be used for your plan builds. Bamboo checks out the code from the repository before performing all the subsequent tasks for the build.

Bamboo is able to connect to a variety of SCMs. For details, please refer to the following pages (and see Notes below):

- Bitbucket - Mercurial
- CVS
- Git
- GitHub
- Mercurial
- Perforce
- Subversion

If you are a Bamboo server administrator, you can configure a shared source repository. Shared repositories are available to all plans on the server.

On this page:
- Viewing the source repository for a plan
- Viewing the source repository for a job
- Notes

Related pages:
- Connecting to code repositories
- Checking out code
- Configuring a shared source repository
- Configuring plans

Screenshot: Configuring a job — Subversion Source Repository
Viewing the source repository for a plan

To navigate to the source repository settings for a plan:

1. Click Dashboard and then the All Plans tab.
2. Locate the plan in the list and click its icon. The plan's configuration pages will be displayed.
3. Click the Source Repositories tab to see all the repositories configured for this plan.
4. Click the name of a repository to see its particular settings (see screenshot below).

Screenshot: Viewing the details for a source repository of a plan
Viewing the source repository for a job

To navigate to the source repository settings for a job:

1. Click Dashboard and then the All Plans tab.
2. Locate the plan in the list which contains the job you wish to configure and click the plan’s name. The plan’s ‘Plan Summary’ page will be displayed.
3. Choose Actions > Configure Plan.
4. Click the name of the job in the ‘Plan Navigator’ on the left. The job’s Summary will be displayed.
5. Click the Tasks tab and then the Source Code Checkout task, to see the repository settings for your job. (Note that this may not be present in your job configuration if it has been explicitly removed by the user.)

For a description of configuring the Source Code Checkout task see Checking out code.

Notes

- A number of source repositories are supported ‘out of the box’, as described on the Supported platforms page. If you need to use a type of repository that is not supported, a number of third-party Source Repository plugin modules are available (e.g. ClearCase plugin). You can also write a Source Repository Module plugin to enable Bamboo to connect to your repository.

Bitbucket - Mercurial

This page describes how to configure Bamboo to use a Bitbucket Mercurial source repository for either a plan or a job.

Before you start:

- You will not be able to create plans or jobs that use a Bitbucket Mercurial repository without specifying the shared local Mercurial capability first. Read more about configuring a Version Control capability.

Related pages:

- Specifying the source repository
- Mercurial

Configuring a Bitbucket Mercurial source repository
To add a new Bitbucket repository, navigate to the source repository settings for a plan or job, as described on [Specifying the source repository](#).

1. Either click **Add Repository** to add a new repository, or edit an existing repository configuration.
2. Choose **Bitbucket** from the **Source Repository** list.
3. Enter a **Display Name** to help identify the repository in Bamboo.
4. Add your Bitbucket **Username** and **Password**.
5. You can configure the following settings for a Bitbucket source repository for your plan:

<table>
<thead>
<tr>
<th><strong>My Repositories</strong></th>
<th>Retrieves all repositories you have explicit permissions to access from Bitbucket when you click <strong>Load Repositories</strong>.</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>URL</strong></td>
<td>Allows you to specify a <strong>Repository URL</strong> (eg. <code>http://bitbucket.org/sindbad/ogre</code>). To choose a branch to work with, other than the default branch, click <strong>Load Branches</strong>.</td>
</tr>
<tr>
<td><strong>Branch</strong></td>
<td>Pick a branch if you want to check out code from a branch other than the default branch.</td>
</tr>
</tbody>
</table>

### Advanced Options

<table>
<thead>
<tr>
<th><strong>Command timeout</strong></th>
<th>This is useful to stop hung Bitbucket processes. On slower networks, you may consider increasing the default timeout to allow Bamboo time to make an initial clone of the Mercurial repository.</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Verbose logs</strong></td>
<td>Turns on <code>--verbose</code> and <code>--debug</code> options in hg commands and passes the output to build logs. Use this option if you encounter problems with Mercurial in Bamboo.</td>
</tr>
<tr>
<td><strong>Enable Quiet Period</strong></td>
<td>Specifies a delay after a single commit is detected before the build is started. This allows multiple commits to be aggregated into a single build.</td>
</tr>
<tr>
<td><strong>Include/Exclude Files</strong></td>
<td>Allows you to specify the files that Bamboo should, or should not, use to detect changes. Enter into <strong>File Pattern</strong> a regular expression to match the files that Bamboo includes or excludes. The regex pattern must match the file path in the repository. See <a href="#">sub page</a> for examples.</td>
</tr>
<tr>
<td><strong>Exclude Changesets</strong></td>
<td>Enter a regular expression to match the commit messages for changesets that should not start a build.</td>
</tr>
<tr>
<td><strong>Web Repository</strong></td>
<td>If your repository can be viewed in a web browser, select the repository type. This allows links to relevant files to be displayed in the ‘<strong>Code Changes</strong>’ section of a build result.</td>
</tr>
</tbody>
</table>
**Mercurial Web Repository** – select one of the following viewer schemes:

- **BitBucket Web Repository Scheme** (if you use BitBucket)
- **Default Web Repository Scheme (hgserve)** (Mercurial's own default web server)

**Stash** – specify the following details for the repository:

- **Stash URL** – the URL of your Stash instance (e.g. 'https://stash.mycompany.com').
- **Stash Project Key** – the key of the project in Stash (e.g. 'CONF').
- **Repository Name** – the name of the repository in Stash (e.g. 'conf-dev').

See [Integrating Bamboo with Stash](#) for more information.
FishEye – specify the following details for the repository:

- **FishEye URL** — the URL of your FishEye repository (e.g. ‘https://atlas-eye.atlassian.com/’).
- **Repository Name** — the name of your FishEye repository (e.g. ‘Bamboo’). This is effectively the alias for your repository path.
- **Repository Path** — the path for your FishEye repository (e.g. ‘/atlassian/bamboo/’).

See [Integrating Bamboo with FishEye](#) for more information.

### How do I determine my Repository Path?

If you have previously run builds with changes from your repository, the easiest way of determining your repository path is to view the code changes and copy the path from the start of the path of one of the changed files, up to (but not including) the appropriate root directory. The root directories for repositories are the ones shown by FishEye when browsing a repository (e.g. trunk). For example, if a code change listed `/atlassian/bamboo/trunk/bamboo-acceptance-test/pom.xml`, the path would be `/atlassian/bamboo/`.

If you have not previously run builds with changes from your repository, you will need to ask your FishEye administrator for the repository path indexed by FishEye.

### CVS

The instructions on this page describe how to configure Bamboo to use a CVS source repository for either a plan or a job.

**Related pages:**

- Specifying the source repository

**Configuring a CVS source repository**

Navigate to the source repository settings for a plan or job, as described on [Specifying the source repository](#).
1. Either click **Add Repository** to add a new repository, or edit an existing repository configuration.
2. Choose **CVS** from the **Source Repository** list.
3. Enter a **Display Name** to help identify the repository in Bamboo.
4. You can configure the following settings for a CVS source repository for your plan:

| **CVS Root** | The full path to your CVS repository root (e.g. `pserver:me@cvs.atlassian.com:/cvsroot/atlassian`). Bamboo supports pserver, ext (ssh) and local repository access methods. Note that you can use global variables in this field (see [Using global plan or build-specific variables](#)).
| **Authentication Type** | **Password** – choose this option if you want to authenticate with a password.
| **Quiet Period** | This setting is used to avoid starting a build while someone is in mid-checkin. Bamboo will only initiate a build for this plan when no more changes are detected within the Quiet Period following the last known change. Type the number of seconds Bamboo should wait. Please note that this parameter is mandatory for CVS, as CVS allows partial checkouts.
| **Module** | Type the name of the CVS module that contains the source-code.

- If you are **importing a Maven 2 Project**, this location should contain your project's `pom.xml` file.
- Currently Bamboo has limited support for CVS ampersand modules. To use an ampersand module, you will need to define a regular module with the same name as the ampersand module (since Bamboo expects there to be a directory with the specified checkout module name). For example:
  a. Create a module (e.g. `allbuilds`).
  b. Define an ampersand module with the same name. (The ampersand module can be empty.)
  c. In the **Module** field, enter the following: `allbuilds allbuilds &project2 &project2 &project3`
| **Version of module** | The version of the module that Bamboo should build:  
- **HEAD**  
- **Branch/Tag** – supply the name of the branch or tag.  

Note that you can use global variables in this field (see [Using global, plan or build-specific variables](#)). |
|----------------------|-------------------------------------------------------------------------------------------------------------|

### Advanced Options

| **Include/Exclude Files** | Allows you to specify the files that Bamboo should, or should not, use to detect changes.  
Enter into **File Pattern** a regular expression to match the files that Bamboo includes or excludes. The regex pattern must match the file path in the repository. See [sub page](#) for examples. |
|--------------------------|----------------------------------------------------------------------------------------------------------------|

<table>
<thead>
<tr>
<th><strong>Exclude Changesets</strong></th>
<th>Enter a regular expression to match the commit messages for changesets that should not start a build.</th>
</tr>
</thead>
</table>

| **Web Repository** | If your repository can be viewed in a web browser, select the repository type.  
This allows links to relevant files to be displayed in the ‘Code Changes’ section of a build result. |
|-------------------|----------------------------------------------------------------------------------------------------------------|

### Generic Web Repository

- **Web Repository URL** – the URL of the repository.  
- **Web Repository Module** — the particular repository required for this plan or job, if the Web Repository URL above points to multiple repositories. |

| **Stash** – specify the following details for the repository:  
- **Stash URL** – the URL of your Stash instance (e.g. ‘https://stash.mycompany.com’).  
- **Stash Project Key** – the key of the project in Stash (e.g. ‘CONF’).  
- **Repository Name** – the name of the repository in Stash (e.g. ‘conf-dev’).  
  
See [Integrating Bamboo with Stash](#) for more information. |
|------------------|----------------------------------------------------------------------------------------------------------------|

---

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FishEye

- **FishEye URL** — the URL of your FishEye repository (e.g. 'https://atlaseye.atlassian.com/').
- **Repository Name** — the name of your FishEye repository (e.g. 'Bamboo'). This is effectively the alias for your repository path.
- **Repository Path** — the path for your FishEye repository (e.g. '/atlassian/bamboo/').

See [Integrating Bamboo with FishEye](#) for more information.

### How do I determine my Repository Path?

If you have previously run builds with changes from your repository, the easiest way of determining your repository path is to [view the code changes](#) and copy the path from the start of the path of one of the changed files, up to (but not including) the appropriate root directory. The root directories for repositories are the ones shown by FishEye when [browsing a repository](#) (e.g. trunk). For example, if a code change listed /atlassian/bamboo/trunk/bamboo-acceptance-tests/pom.xml, the path would be /atlassian/bamboo/

If you have not previously run builds with changes from your repository, you will need to ask your FishEye administrator for the repository path indexed by FishEye.

---

**Configuring source code management triggers for CVS**

This page provides instructions on how to configure CVS to send message events that trigger the execution of Bamboo plans.

You only need to configure CVS to send these message events if **The repository triggers the build when changes are committed** trigger has been configured for one or more of your Bamboo plans.

### Configuring CVS to trigger a build

This section explains how to configure CVS to trigger a build when the repository is changed. This involves installing two scrips:

1. A pre-commit trigger keeps track of the last directory to be processed, so we know when the commit has completed.
2. A post-commit trigger that waits until it has processed the last directory of the commit before instructing the Bamboo server to execute the relevant plan(s).

On this page:
- Configuring CVS to trigger a build
- Notes

Related pages:
- CVS
- Configuring source code management triggers for Subversion

⚠️ The following commands and script files assume that your CVS server runs on a UNIX- or Linux-based operating system. If your CVS server runs on any other operating system, then you will need to modify the script files and if necessary, the commands below to suit that operating system.

Step 1. Checking out the CVSROOT

First check out your repository's CVSROOT directory into a temporary directory:

```bash
cvs -d cvsroot-to-your-repository checkout CVSROOT
```

where:
- `cvsroot-to-your-repository` is the root directory pathname of the CVS repository.
- Using `-d` `cvsroot-to-your-repository` overrides the any `CVSROOT` environment variable setting.

The following files should be checked out:

- CVSROOT/checkoutlist
- CVSROOT/commitinfo
- CVSROOT/config
- CVSROOT/cvswrappers
- CVSROOT/editinfo
- CVSROOT/logininfo
- CVSROOT/modules
- CVSROOT/notify
- CVSROOT/rcsinfo
- CVSROOT/taginfo
- CVSROOT/verifymsg

Step 2. Install the pre-commit trigger

Add a line like the following example's to the CVSROOT/commitinfo pre-commit trigger file. The CVSROOT/commitinfo file contains the list of programs to run whenever a file is about to be committed to the repository.

```
^Moo /path-to-your-bamboo-installation/scripts/cvs-triggers/preCommit.sh
```
Step 3. Install the post-commit trigger

Add a line like the following example's to the CVSROOT/loginfo post-commit trigger file. The CVSROOT/loginfo file contains the list of programs to run whenever a file has been successfully committed into the repository.

```
^Moo
```

where:
- `^Moo` is the regular expression used to identify the name of the module (called Moo) being updated.
- `/path-to-your-bamboo-installation/scripts/cvs-triggers/postCommitBuildTrigger.sh` is the Bamboo shell script to trigger the build.
- `%{}` is how CVS tells the `postCommitBuildTrigger.sh` script which directory it is committing.
- `MOO-KEY` the key of the Bamboo plan to be executed.

Step 4. Save the changes back to CVS

Commit the changes you made to the CVSROOT/commitinfo and CVSROOT/loginfo files in step 2 and 3, respectively, back to the repository.

```
cvs -d cvsroot-to-your-repository commit
```

where:
- `cvsroot-to-your-repository` is the root directory pathname of the CVS repository.
- Using `-d cvsroot-to-your-repository` overrides the any `$CVSROOT` environment variable setting.

Step 5. Do a test commit

Conduct a ‘test’ commit. Bamboo should start building the relevant plan after a few seconds.

The Bamboo log file should contain an entry like this:

```
[INFO] com.atlassian.bamboo.build.UpdateAndBuild - Bamboo build was triggered by remote http call from 127.0.0.1
```
Notes

Build Trigger Security — Bamboo will only accept remote build triggers if the triggers originated from the CVS server(s) identified in the CVS root paths of any Bamboo plans. Requests originating from other CVS servers will be rejected by Bamboo.

Git
This page describes how to configure Bamboo to use a Git source repository.

You need to have previously defined a Git capability before you can configure a Git source repository — see Configuring a new version control capability.

Note that Bamboo comes with its own built-in Git implementation. However, you need to use native Git to be able to use symbolic links, submodules, automatic branch detection and automatic merging - these are not supported by the built-in Git.

You can download Git from the following locations:

- Windows: http://code.google.com/p/msysgit/downloads/list?can=3&q=official+Git
- Linux and Mac: http://git-scm.com/download

Related pages:
- Specifying the source repository
- GitHub
- Configuring a new version control capability

Configuring a Git source repository

To add a new Git repository, navigate to the source repository settings for a plan or job, as described on Specifying the source repository.

1. Either click Add Repository to add a new repository, or edit an existing repository configuration.
2. Choose Git from the Source Repository list.
3. Enter a Display Name to help identify the repository in Bamboo.
4. You can configure the following settings for a Git source repository for your plan:

<table>
<thead>
<tr>
<th>Repository URL</th>
<th>The full path to your Git repository (eg: git://github.com/atlassian/bamboo-git-plugin.git)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Valid URLs are of the form:</td>
</tr>
<tr>
<td></td>
<td>• git://host.xz[:port]/path/to/repo.git</td>
</tr>
<tr>
<td></td>
<td>• ssh://[user@]host.xz[:port]/path/to/repo.git</td>
</tr>
<tr>
<td></td>
<td>• [user@]host.xz:path/to/repo.git</td>
</tr>
<tr>
<td></td>
<td>• http[s]://host.xz[:port]/path/to/repo.git</td>
</tr>
<tr>
<td></td>
<td>• /path/to/repo.git</td>
</tr>
<tr>
<td></td>
<td>• file:///path/to/repo.git</td>
</tr>
</tbody>
</table>
### Branch
Type the name of the relevant branch (or tag) you want to work on. Leave empty to work on the master branch.

### Authentication Type
- **None** – choose none if you want to access the repository anonymously.
- **Username/password** – authenticate with a username and password.
- **SSH private key** – upload an SSH Key and provide the corresponding SSH Passphrase.

### Use shallow clones
Allows Bamboo to perform shallow clones (i.e. history truncated to a specified number of revisions). This should increase the speed of the initial code checkouts, however if your build depends on the full repository history, we recommend that you do not use this option. Shallow clones are enabled by default.

### Location of POM file
The path to your project's pom.xml file, relative to the root of your Git Repository URL (defined above).

*(Only available when importing a Maven 2 project)*

### Advanced Options

#### Use submodules
Select to enable submodules support if these are defined for the repository. If native Git capability is not defined for agent submodules support will be disabled.

#### Command timeout
This is useful to stop hung Bitbucket processes. On slower networks, you may consider increasing the default timeout to allow Bamboo time to make an initial clone of the Git repository.

#### Verbose logs
Turns on --verbose and --debug options in hg commands and passes the output to build logs. Use this option if you encounter problems with Git in Bamboo.

#### Enable Quiet Period
 Specifies a delay after a single commit is detected before the build is started. This allows multiple commits to be aggregated into a single build.

#### Include/Exclude Files
Allows you to specify the files that Bamboo should, or should not, use to detect changes.

Enter into **File Pattern** a [regular expression](http://www.example.com) to match the files that Bamboo includes or excludes. The regex pattern must match the file path in the repository. See [sub page](http://www.example.com) for examples.

#### Exclude Changesets
Enter a [regular expression](http://www.example.com) to match the commit messages for changesets that should not start a build.
<table>
<thead>
<tr>
<th>Web Repository</th>
<th>If your repository can be viewed in a web browser, select the repository type. This allows links to relevant files to be displayed in the 'Code Changes' section of a build result.</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Stash</strong> — specify the following details for the repository:</td>
<td></td>
</tr>
<tr>
<td>• <strong>Stash URL</strong> — the URL of your Stash instance (e.g. '<a href="https://stash.mycompany.com">https://stash.mycompany.com</a>').</td>
<td></td>
</tr>
<tr>
<td>• <strong>Stash Project Key</strong> — the key of the project in Stash (e.g. ‘CONF’).</td>
<td></td>
</tr>
<tr>
<td>• <strong>Repository Name</strong> — the name of the repository in Stash (e.g. ‘conf-dev’).</td>
<td></td>
</tr>
<tr>
<td>See <a href="#">Integrating Bamboo with Stash</a> for more information.</td>
<td></td>
</tr>
</tbody>
</table>
FishEye — specify the URL and other details for the repository:

- **FishEye URL** — the URL of your FishEye repository (e.g. 'https://atlaseye.atlassian.com/').
- **Repository Name** — the name of your FishEye repository (e.g. 'Bamboo'). This is effectively the alias for your repository path.
- **Repository Path** — the path for your FishEye repository (e.g. '/atlassian/bamboo/').

See [Integrating Bamboo with FishEye](#) for more information.

### How do I determine my Repository Path?

If you have previously run builds with changes from your repository, the easiest way of determining your repository path is to view the code changes and copy the path from the start of the path of one of the changed files, up to (but not including) the appropriate root directory. The root directories for repositories are the ones shown by FishEye when browsing a repository (e.g. trunk). For example, if a code change listed /atlassian/bamboo/trunk/bamboo-acceptance-tests/pom.xml, the path would be /atlassian/bamboo/.

If you have not previously run builds with changes from your repository, you will need to ask your FishEye administrator for the repository path indexed by FishEye.

---

**GitHub**

The instructions on this page describe how to configure Bamboo to use a GitHub source repository.

**Related pages:**

- Specifying the source repository
- Git

**Configuring a GitHub source repository**

To add a new GitHub repository, navigate to the source repository settings for a plan or job, as described on Specifying the source repository.
1. Either click Add Repository to add a new repository, or edit an existing repository configuration.
2. Choose GitHub from the Source Repository list.
3. Enter a Display Name to help identify the repository in Bamboo.
4. Enter your GitHub Username and Password.
5. Click Load Repositories.
6. You can configure the following advanced options for a GitHub source repository for your plan:

### Advanced Options

<table>
<thead>
<tr>
<th><strong>Use submodules</strong></th>
<th>Select to enable submodules support if these are defined for the repository. If native GitHub capability is not defined for agent submodules support will be disabled.</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Command timeout</strong></td>
<td>This is useful to stop hung Bitbucket processes. On slower networks, you may consider increasing the default timeout to allow Bamboo time to make an initial clone of the GitHub repository.</td>
</tr>
<tr>
<td><strong>Verbose logs</strong></td>
<td>Turns on --verbose and --debug options in hg commands and passes the output to build logs. Use this option if you encounter problems with GitHub in Bamboo.</td>
</tr>
<tr>
<td><strong>Enable Quiet Period</strong></td>
<td>Specifies a delay after a single commit is detected before the build is started. This allows multiple commits to be aggregated into a single build.</td>
</tr>
<tr>
<td><strong>Include/Exclude Files</strong></td>
<td>Allows you to specify the files that Bamboo should, or should not, use to detect changes. Enter into File Pattern a regular expression to match the files that Bamboo includes or excludes. The regex pattern must match the file path in the repository. See sub page for examples.</td>
</tr>
<tr>
<td><strong>Exclude Changesets</strong></td>
<td>Enter a regular expression to match the commit messages for changesets that should not start a build.</td>
</tr>
<tr>
<td><strong>Web Repository</strong></td>
<td>If your repository can be viewed in a web browser, select the repository type. This allows links to relevant files to be displayed in the 'Code Changes' section of a build result.</td>
</tr>
<tr>
<td><strong>Stash</strong></td>
<td>specify the following details for the repository:</td>
</tr>
<tr>
<td></td>
<td>• Stash URL – the URL of your Stash instance (e.g. ‘<a href="https://stash.mycompany.com%E2%80%99">https://stash.mycompany.com’</a>).</td>
</tr>
<tr>
<td></td>
<td>• Stash Project Key – the key of the project in Stash (e.g. ‘CONF’).</td>
</tr>
<tr>
<td></td>
<td>• Repository Name – the name of the repository in Stash (e.g. ‘conf-dev’).</td>
</tr>
<tr>
<td></td>
<td>See Integrating Bamboo with Stash for more information.</td>
</tr>
</tbody>
</table>
FishEye – specify the URL and other details for the repository:

- **FishEye URL** — the URL of your FishEye repository (e.g. `https://atlaceye.atlassian.com/`).
- **Repository Name** — the name of your FishEye repository (e.g. 'Bamboo'). This is effectively the alias for your repository path.
- **Repository Path** — the path for your FishEye repository (e.g. '/atlassian/bamboo/').

See [Integrating Bamboo with FishEye](#) for more information.

### How do I determine my Repository Path?

If you have previously run builds with changes from your repository, the easiest way of determining your repository path is to **view the code changes** and copy the path from the start of the path of one of the changed files, up to (but not including) the appropriate root directory. The root directories for repositories are the ones shown by FishEye when **browsing a repository** (e.g. trunk). For example, if a code change listed `/atlassian/bamboo/trunk/bamboo-acceptance-test/pom.xml`, the path would be `/atlassian/bamboo/`. If you have not previously run builds with changes from your repository, you will need to ask your FishEye administrator for the repository path indexed by FishEye.

---

**Mercurial**

This page describes how to configure Bamboo to use a Mercurial source repository.

**Before you start:**

- **Please use Mercurial 2.1.1 or later.** Mercurial 2.1 has a [bug](#) that makes it incompatible with Bamboo.
- You will not be able to create plans or jobs that use a Mercurial repository without specifying the shared local Mercurial capability first. Read more about configuring a **Version Control capability**.

**Related pages:**

- [Specifying the source repository](#)
- [Bitbucket - Mercurial](#)
Configuring a Mercurial source repository

To add a new Mercurial repository, navigate to the source repository settings for a plan or job, as described on Specifying the source repository.

1. Either click Add Repository to add a new repository, or edit an existing repository configuration.
2. Choose Mercurial from the Source Repository list.
3. Enter a Display Name to help identify the repository in Bamboo.
4. You can configure the following settings for a Mercurial source repository for your plan:

<table>
<thead>
<tr>
<th>Repository URL</th>
<th>The full path to your Mercurial repository (eg: git://bitbucket.org/atlassian/bamboo-git-plugin.git)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Valid URLs are of the form:</td>
</tr>
<tr>
<td></td>
<td>• local/filesystem/path[#revision]</td>
</tr>
<tr>
<td></td>
<td>• file://local/filesystem/path[#revision]</td>
</tr>
<tr>
<td></td>
<td>• http[s]://[user[:pass]@]host[:port]/[path][#revision]</td>
</tr>
<tr>
<td></td>
<td>• ssh://[user[:pass]@]host[:port]/[path][#revision]</td>
</tr>
<tr>
<td></td>
<td>(for further references visit Mercurial documentation)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Branch</th>
<th>The name of the relevant branch (or tag) you want to work on. Leave empty to work on default branch.</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>Username</th>
<th>The username (if any) required to access the repository.</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>Authentication</th>
<th>Password</th>
<th>Choose Password if you want to authenticate with a username and password.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Keyfile with passphrase</td>
<td>Upload an SSH Key and provide the corresponding SSH Passphrase.</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Keyfile without passphrase</th>
<th>Upload an SSH Key.</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>Default Mercurial credentials</th>
<th>Bamboo will rely on default hg authentication. Use this option, for example, if you had set up the Bamboo server manually with SSH servers defined in .ssh/config, valid SSH identity files, etc.</th>
</tr>
</thead>
</table>

Advanced Options

<table>
<thead>
<tr>
<th>Command timeout</th>
<th>Type the number of minutes bamboo should wait for hg commands to finish. This is useful to stop hung Mercurial processes. On slower networks you may consider increasing default timeout to allow Bamboo to make an initial clone of the Mercurial repository.</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>Verbose logs</th>
<th>Turns on --verbose and --debug options in hg commands and passes the output to build logs. Use that option if you encounter problems with Mercurial in Bamboo.</th>
</tr>
</thead>
</table>
| **Location of POM file** | Type the path to your project's `pom.xml` file which is relative to the root of your Mercurial **Repository URL** (defined above).

*(Only available when importing a Maven 2 project)* |
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Disable repository caching</strong></td>
<td>Select this option to enable subrepositories support.</td>
</tr>
<tr>
<td><strong>Enable Quiet Period</strong></td>
<td>Specifies a delay after a single commit is detected before the build is started. This allows multiple commits to be aggregated into a single build.</td>
</tr>
</tbody>
</table>
| **Include/Exclude Files** | Allows you to specify the files that Bamboo should, or should not, use to detect changes.

Enter into **File Pattern** a regular expression to match the files that Bamboo includes or excludes. The regex pattern must match the file path in the repository. See [sub page](#) for examples. |
| **Exclude Changesets** | Enter a regular expression to match the commit messages for changesets that should not start a build. |
| **Web Repository** | If your repository can be viewed in a web browser, select the repository type.

This allows links to relevant files to be displayed in the 'Code Changes' section of a build result. |

**Mercurial Web Repository** – select one of the following viewer schemes:

- **BitBucket Web Repository Scheme** (if you use BitBucket)
- **Default Web Repository Scheme (hgserve)** (Mercurial's own default web server)

**Stash** – specify the following details for the repository:

- **Stash URL** – the URL of your Stash instance (e.g. 'https://stash.mycompany.com').
- **Stash Project Key** – the key of the project in Stash (e.g. 'CONF').
- **Repository Name** – the name of the repository in Stash (e.g. 'conf-dev').

See [Integrating Bamboo with Stash](#) for more information. |
**FishEye** – specify the URL and other details for the repository:

- **FishEye URL** — the URL of your FishEye repository (e.g. ‘https://atlas-eye.atlassian.com/’).
- **Repository Name** — the name of your FishEye repository (e.g. ‘Bamboo’). This is effectively the alias for your repository path.
- **Repository Path** — the path for your FishEye repository (e.g. ‘/atlassian/bamboo/’).

See [Integrating Bamboo with FishEye](#) for more information.

---

**How do I determine my Repository Path?**

If you have previously run builds with changes from your repository, the easiest way of determining your repository path is to view the code changes and copy the path from the start of the path of one of the changed files, up to (but not including) the appropriate root directory. The root directories for repositories are the ones shown by FishEye when browsing a repository (e.g. trunk). For example, if a code change listed `/atlassian/bamboo/trunk/bamboo-acceptance-test/pom.xml`, the path would be `/atlassian/bamboo/.

If you have not previously run builds with changes from your repository, you will need to ask your FishEye administrator for the repository path indexed by FishEye.

---

**Upgrading remote agents for Mercurial**

The [remote agent installer](#) has been modified for Bamboo 2.7 to handle Mercurial source code repositories. This update only impacts Mercurial plans or jobs that use the "SSH/Keyfile with passphrase" option to access the remote repository:

*Screenshot: Choosing the 'Keyfile with passphrase' option for a plan or job*
If you need to access a Mercurial repository using the SSH protocol with a passphrase-protected keyfile, then you need to upgrade your remote agents to version 2.7 or later. Otherwise, you can keep your old agent. To upgrade your remote agents:

1. Obtain the Bamboo remote agent for version 2.7 or later (i.e. `atlassian-bamboo-agent-installer-x.x.jar` where 'x.x' is 2.7 or later). Refer to Bamboo remote agent installation guide for more information.
2. Use this file to replace your existing `atlassian-bamboo-agent-installer.x.x.jar` (where 'x.x' is 2.6 or earlier) on the computers running your Bamboo remote agents.
3. Restart the remote agent (i.e. kill it among with accompanying wrapper processes and then issue the command `java -jar atlassian-bamboo-agent-installer-2.7.jar yourBambooAgentServer`).

This procedure should prepare your agent to build Mercurial plans using passphrase-protected SSH keyfiles.

**Perforce**

The instructions on this page describe how to configure Bamboo to use a Perforce source repository.

**Configuring a Perforce source repository**

To add a new Perforce repository, navigate to the source repository settings for a plan or job, as described on Specifying the source repository.

1. Either click **Add Repository** to add a new repository, or edit an existing repository configuration.
2. Choose **Perforce** from the **Source Repository** list.
3. Enter a **Display Name** to help identify the repository in Bamboo.
4. You can configure the following settings for a Perforce source repository for your plan:

<table>
<thead>
<tr>
<th>Port</th>
<th>Type either the port to which the Perforce client will connect, or the Perforce server itself. This is the Perforce P4PORT environment variable that tells Bamboo which p4d (Perforce server) to use.</th>
</tr>
</thead>
</table>

On this page:
- Configuring a Perforce source repository
- Notes

Related pages:
- Specifying the source repository
<table>
<thead>
<tr>
<th><strong>Client (Workspace)</strong> (3)</th>
<th>The name of the Perforce Client Workspace which Bamboo will use. The Client Workspace determines which portions of the depot are visible in your Workspace Tree. Do not create two Plans/Jobs that use the same client (e.g. one client set to manage, the other client set to not manage). This setup will create major issues in your builds.</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Depot View</strong></td>
<td>The client view of the depot that contains the source code files for this Plan/Job. This is typically in the form <code>//&lt;clientname&gt;/&lt;workspace_mapping&gt;/</code>. ... For details please see the <em>Perforce User's Guide</em>. Bamboo sets the client root to its <em>working directory</em>, which means that code will be checked out to the <code>working directory/&lt;workspace_mapping&gt;</code> location. Please take note of this, when specifying the 'Artifact Copy Pattern' for your <em>Build Artifacts.</em></td>
</tr>
<tr>
<td><strong>Username</strong></td>
<td>The Perforce username that Bamboo will use when it accesses the server ('Port'). Leave this field blank if you want Bamboo to use the default Perforce user (i.e. the OS username).</td>
</tr>
<tr>
<td><strong>Password</strong></td>
<td>Type the password required by the Perforce username (if applicable).</td>
</tr>
<tr>
<td><strong>Let Bamboo manage your workspace</strong> (4)</td>
<td>This field indicates whether or not you want Bamboo to manage your workspace.</td>
</tr>
<tr>
<td><strong>Use Client Mapping For Change Detection</strong></td>
<td>Select this option if you use <em>overlay mappings</em> for your workspace. Your workspace must be available on the Bamboo Server.</td>
</tr>
<tr>
<td><strong>Advanced Options</strong></td>
<td></td>
</tr>
<tr>
<td><strong>Enable Quiet Period</strong></td>
<td>Specifies a delay after a single commit is detected before the build is started. This allows multiple commits to be aggregated into a single build.</td>
</tr>
<tr>
<td><strong>Include/Exclude Files</strong></td>
<td>Allows you to specify the files that Bamboo should, or should not, use to detect changes. Enter into <em>File Pattern</em> a <em>regular expression</em> to match the files that Bamboo includes or excludes. The regex pattern must match the file path in the repository. See <em>sub page</em> for examples.</td>
</tr>
<tr>
<td><strong>Exclude Changesets</strong></td>
<td>Enter a <em>regular expression</em> to match the commit messages for changesets that should not start a build.</td>
</tr>
<tr>
<td>Web Repository</td>
<td>If your repository can be viewed in a web browser, select the repository type.</td>
</tr>
<tr>
<td>-------------------------------------------------------------------------------</td>
<td>--------------------------------------------------------------------------------</td>
</tr>
<tr>
<td></td>
<td>This allows links to relevant files to be displayed in the 'Code Changes' section of a build result.</td>
</tr>
<tr>
<td><strong>Generic Web Repository</strong></td>
<td><strong>Web Repository URL</strong> – the URL of the repository.</td>
</tr>
<tr>
<td></td>
<td><strong>Web Repository Module</strong> — the particular repository required for this plan or job, if the Web Repository URL above points to multiple repositories.</td>
</tr>
<tr>
<td><strong>Stash</strong></td>
<td><strong>Stash URL</strong> – the URL of your Stash instance (e.g. '<a href="https://stash.mycompany.com">https://stash.mycompany.com</a>').</td>
</tr>
<tr>
<td></td>
<td><strong>Stash Project Key</strong> – the key of the project in Stash (e.g. 'CONF').</td>
</tr>
<tr>
<td></td>
<td><strong>Repository Name</strong> – the name of the repository in Stash (e.g. 'conf-dev').</td>
</tr>
<tr>
<td></td>
<td>See Integrating Bamboo with Stash for more information.</td>
</tr>
</tbody>
</table>
FishEye – specify the URL and other details for the repository:

- **FishEye URL** — the URL of your FishEye repository (e.g. 'https://atlaseye.atlassian.com/').
- **Repository Name** — the name of your FishEye repository (e.g. 'Bamboo'). This is effectively the alias for your repository path.
- **Repository Path** — the path for your FishEye repository (e.g. '/atlassian/bamboo/').

See [Integrating Bamboo with FishEye](#) for more information.

### How do I determine my Repository Path?

If you have previously run builds with changes from your repository, the easiest way of determining your repository path is to view the code changes and copy the path from the start of the path of one of the changed files, up to (but not including) the appropriate root directory. The root directories for repositories are the ones shown by FishEye when browsing a repository (e.g. trunk). For example, if a code change listed /atlassian/bamboo/trunk/bamboo-acceptance-test/pom.xml, the path would be /atlassian/bamboo/.

If you have not previously run builds with changes from your repository, you will need to ask your FishEye administrator for the repository path indexed by FishEye.

---

**Notes**

1. **You will not be able to create plans or jobs that use a Perforce repository without specifying the shared local Perforce capability first.** Read more about configuring a VCS capability.
2. **Keep your Perforce configuration up to date** — If you are using Perforce as your repository, you must ensure your Perforce configuration in Bamboo is in sync with any changes to your Perforce repository (such as client, depot or user credential changes). If not, your Perforce repository changes may cause unexpected behaviour in Bamboo when Bamboo tries to access the repository. See the notes in the configuration instructions below for further details.
3. **Issue when running Bamboo with Perforce prior to Bamboo 2.0.7** — A known issue exists when running Bamboo with Perforce prior to Bamboo 2.0.7 (See BAM-2866 and BAM-2849). If you change the name of your Perforce client (i.e. via an update) without updating your Perforce configuration in Bamboo, Bamboo will not be able to find the Perforce client to run against. Perforce will then create a default client...
in your running directory. This can lead to situations where Bamboo will attempt to clear out data from your running directory (e.g. force build). To avoid this problem, ensure that you update the 'Client' in your Perforce configuration whenever you change your Perforce client.

4. Please be aware of the following implications when either letting Bamboo manage or preventing Bamboo from managing your workspace:

- **If you let Bamboo manage your workspace,**
  - We recommend this configuration if your Jobs will be running on many different machines or different operating systems, as Bamboo sets the client root for you.
  - Bamboo will make configuration changes to the Client Workspace to manage builds (e.g. Bamboo will modify the `host` and `root`). You need to ensure that you enter a Client Workspace in the 'Client' field that will be used **solely for Bamboo**.
  - Under this configuration, you should configure one client per Job to avoid conflicts when updating the client root.

- **If you do not let Bamboo manage your workspace,**
  - We recommend this configuration if you wish to reuse your client for several Jobs, as Bamboo will retrieve the client root directory from Perforce and use it to run builds.
  
  **Setting the client root in Perforce:** We strongly recommend that you choose a directory that is dedicated for Bamboo's use only, when you are specifying the client root in your Perforce repository. This directory may get cleaned (i.e. files and sub-directories deleted) if you choose to force clean builds.
  - Under this configuration, you need to ensure that the client root directory exists on all machines that the Job will be built on.
  - Please note that alternate roots does not currently work in Bamboo. See issue [BAM-2377](#) for further details.

Using Perforce with Bamboo - limitations and workarounds

There are some limitations to using Bamboo with Perforce. Please read the following information carefully before setting up a build plan to use Perforce.

On this page:

1. Running builds on multiple remote agents or machines
2. Using Perforce Overlay and Exclusionary Mappings in Bamboo

1. Running builds on multiple remote agents or machines

**Limitation**

You will not be able to run builds on multiple remote agents and/or multiple remote machines using a Perforce repository, without using one of the workarounds described below. If you try to do so, you will run into problems with change detection that could cause your agents to build incorrect code. This problem does not affect the running of builds on multiple local agents.

**Background**

Perforce is a client/server SCM (software configuration management) system that manages your changes/files by storing the change information on its server. However, storing change information on the Perforce server can cause problems when you have clients on multiple agents/machines. If you have downloaded a particular change with a Perforce client, the change will be marked as downloaded by the Perforce server. If you use the same Perforce client on another machine, the Perforce server will incorrectly assume that you have already downloaded that particular change and will not download it. Hence, your agents may not pick up changes correctly and could build incorrect code.

**Workarounds**

There a few workarounds available for this issue, if you are using Perforce with Bamboo:
• **Restrict your plan to use a single machine** — you can use one or more remote agents to build a plan, if they are running on the same machine and you set the client root yourself (i.e. do not let Bamboo manage your workspace) so that your agents will build to the same directory.

• **Make Bamboo force a clean build every time it builds** — this will ensure that your agents are always building the correct code. However, it can be an inefficient setup for big projects.

• **Use alternate roots for different machines** — specifying alternate roots for different machines will allow you to work around the change detection issue, as long as the roots on each machine are unique. Please note however, you will be restricted to three machines (with three different roots) due to Perforce limitations.

Please see the following JIRA issues for further information, BAM-2843 and BAM-2774.

---

2. Using Perforce Overlay and Exclusionary Mappings in Bamboo

**Limitation**

You will not be able to control how Bamboo detects changes using exclusionary mappings or overlay mappings.

ℹ️ Please note, this issue does not affect you if you only trigger your builds on a schedule or manually, as Bamboo agents still build the correct code when triggered.

ℹ️ You may want to try the "Use Client Mapping For Change Detection" available in the Bamboo Perforce repository type.

**Background**

Bamboo currently uses the depot view, not the client view, when detecting changes. Hence, any exclusionary and overlay mappings will not be available during change detection.

For example, if a p4 client uses an overlay mapping like this one:

```
//depot/Prj/... //clientName/depot/Prj/...
+/depot/Dep/... //clientName/depot/Prj/Dep/...
```

and the 'Depot' specified in a plan's repository configuration is:

```
//clientName/depot/Prj/...
```

then Bamboo will lookup the corresponding depot view and detect changes by running the following command:

```
p4 changes //depot/Prj/...
```

Consequently, no changes to files in //clientName/depot/Prj/Dep/... will be picked up by change detection, despite the overlay mapping.

Hence, if you set up your build to trigger when code is updated it will not trigger correctly.

**Workarounds**
A partial workaround is available in Bamboo, if you wish to use exclusionary mappings for your client workspace. Specify your build plan to exclude files that match a specified pattern by choosing ‘Exclude all changes that match the following pattern’ from the ‘Include / Exclude Files’ dropdown (under the ‘Common repository configuration’ section). See this document for further details. Please note, this will only exclude one pattern whereas multiple exclusions can be specified in an exclusionary mapping.

Unfortunately, there is no workaround for overlay mappings in Bamboo.

Please note, we are aware of these problems and are working to address them — see the following JIRA issue for further information, BAM-3323.

**Subversion**
The instructions on this page describe how to configure Bamboo to use a Subversion source repository.

---

**On this page:**
- Configuring a Subversion source repository
- Notes

**Related pages:**
- Specifying the source repository

---

**Configuring a Subversion source repository**

Navigate to the source repository settings for a plan or job, as described on Specifying the source repository.

1. Either click Add Repository to add a new repository, or edit an existing repository configuration.
2. Choose Subversion from the Source Repository list.
3. Enter a Display Name to help identify the repository in Bamboo.
4. You can configure the following settings for a Subversion source repository for your plan:

<table>
<thead>
<tr>
<th>Repository URL</th>
<th>The location of your Subversion repository e.g.<a href="http://svn.collab.net/repos/svn/trunk">http://svn.collab.net/repos/svn/trunk</a> Note that you can use global variables in this field (see Using Global or Build-specific Variables).</th>
</tr>
</thead>
<tbody>
<tr>
<td>Username</td>
<td>(Optional) The Subversion username (if any) required to access the repository.</td>
</tr>
<tr>
<td>Authentication Type</td>
<td><strong>Password</strong> – choose this option if you want to authenticate with a username and password. <strong>SSH</strong> – if you choose to authenticate using SSH, you need to provide the following details:</td>
</tr>
<tr>
<td></td>
<td>• Private Key — the absolute path of your SSH private key. <strong>Passphrase</strong> — the passphrase for your SSH private key.</td>
</tr>
</tbody>
</table>

If you are importing a Maven 2 Project, this location should contain your project’s `pom.xml` file.

---

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**SSL Client Certificate** – if you choose to authenticate using an SSL Client Certificate, you need to provide the following details:

- **Private Key** — the absolute path of your SSL client certificate.
- **Passphrase** — the passphrase for your SSL client certificate.

⚠️ Please note, the client certificate has to be in PKCS12 format and the client certificate file must be passphrase protected, otherwise a runtime exception is thrown by the JDK security engine while opening the user key.

### Advanced Options

<table>
<thead>
<tr>
<th>Feature</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Detect Changes in Externals</strong></td>
<td>Select this if your Subversion repository uses <code>svn:externals</code> to link to other repositories (your externals must be in the root of the checkout directory, not in a subdirectory). Please note that you only need to select this check box if you require Bamboo to detect changes in the externals. If your externals reference a particular (static) revision, you do not need to check this box.</td>
</tr>
<tr>
<td><strong>Use SVN Export</strong></td>
<td>This option will speed up the first-time checkout, but updates are not supported. Implies Force Clean Build.</td>
</tr>
<tr>
<td><strong>Enable Commit Isolation</strong></td>
<td>Ensures that a build will only have one change, allowing you to isolate your build failures.</td>
</tr>
<tr>
<td><strong>Automatically detect root URL for branches</strong></td>
<td>Specifies whether the VCS Branching Task automatically determines the location of created branches.</td>
</tr>
<tr>
<td><strong>Automatically detect root URL for tags</strong></td>
<td>Specifies whether the VCS Tagging Task automatically determines the location of created branches.</td>
</tr>
<tr>
<td><strong>Enable Quiet Period</strong></td>
<td>Specifies a delay after a single commit is detected before the build is started. This allows multiple commits to be aggregated into a single build. <em>(Only available when configuring an existing plan.)</em></td>
</tr>
<tr>
<td><strong>Include/Exclude Files</strong></td>
<td>Allows you to specify the files that Bamboo includes or excludes. The regex pattern must match the file path in the repository. See sub page for examples.</td>
</tr>
<tr>
<td><strong>Exclude Changesets</strong></td>
<td>Enter a regular expression to match the commit messages for changesets that should not start a build.</td>
</tr>
</tbody>
</table>
**Web Repository**

If your repository can be viewed in a web browser, select the repository type.

This allows links to relevant files to be displayed in the 'Code Changes' section of a build result.

<table>
<thead>
<tr>
<th>Generic Web Repository</th>
</tr>
</thead>
<tbody>
<tr>
<td>• <strong>Web Repository URL</strong> – the URL of the repository.</td>
</tr>
<tr>
<td>• <strong>Web Repository Module</strong> — the particular repository required for this plan or job, if the <strong>Web Repository URL</strong> above points to multiple repositories.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Stash</th>
</tr>
</thead>
<tbody>
<tr>
<td>• <strong>Stash URL</strong> – the URL of your Stash instance (e.g. '<a href="https://stash.mycompany.com">https://stash.mycompany.com</a>').</td>
</tr>
<tr>
<td>• <strong>Stash Project Key</strong> – the key of the project in Stash (e.g. 'CONF').</td>
</tr>
<tr>
<td>• <strong>Repository Name</strong> – the name of the repository in Stash (e.g. 'conf-dev').</td>
</tr>
</tbody>
</table>

See [Integrating Bamboo with Stash](#) for more information.
FishEye – specify the URL and other details for the repository:

- **FishEye URL** — the URL of your FishEye repository (e.g. 'https://atlaseye.atlassian.com/').
- **Repository Name** — the name of your FishEye repository (e.g. 'Bamboo'). This is effectively the alias for your repository path.
- **Repository Path** — the path for your FishEye repository (e.g. '/atlassian/bamboo/').

See [Integrating Bamboo with FishEye](#) for more information.

### How do I determine my Repository Path?

If you have previously run builds with changes from your repository, the easiest way of determining your repository path is to view the code changes and copy the path from the start of the path of one of the changed files, up to (but not including) the appropriate root directory. The root directories for repositories are the ones shown by FishEye when browsing a repository (e.g. trunk). For example, if a code change listed `/atlassian/bamboo/trunk/bamboo-acceptance-tests/pom.xml`, the path would be `/atlassian/bamboo/`

If you have not previously run builds with changes from your repository, you will need to ask your FishEye administrator for the repository path indexed by FishEye.

**Notes**

- If you are having problems connecting to Subversion, consult our documentation on [troubleshooting Subversion connections](#).
- If you use [pre-1.5 Subversion client](#) to access code checked out by Bamboo, you may encounter problems with your builds. This is due to the SVNKit upgrade in Bamboo 2.1.4. Please read this [knowledge base article](#) for further details.

### Configuring source code management triggers for Subversion

This page provides instructions on how to configure Subversion to send message events that trigger the execution of Bamboo plans. You only need to configure Subversion to send these message events if **The repository triggers the build when changes are committed** build strategy has been specified for one or more of your Bamboo plans.
Configuring Subversion to trigger a build

This section explains how to configure Subversion to trigger a build when the repository is changed. A Subversion hook script is used to perform the trigger action whenever a Subversion repository is changed.

The following commands and script files assume that your Subversion server runs on a UNIX- or Linux-based operating system. If your Subversion server runs on any other operating system, then you will need to modify the script files and if necessary, the commands below to suit that operating system.

### On this page:
- Configuring Subversion to trigger a build
- Notes

### Related pages:
- Subversion
- Configuring source code management triggers for CVS

---

### Step 1. Enable the Subversion post-commit hook

To do this, run the following commands:

```
cd svn-repository-containing-the-build-source-code
cd into the hooks/ directory
```

The Subversion post-commit file is not installed by default. If it does not exist, make a copy of the `post-commit.tmpl` file in the `hooks/` directory, name it `post-commit` and make it executable:

```
cp post-commit.tmpl post-commit
chmod a+rx post-commit
```

### Step 2. Install the post-commit trigger

Add a line like the following to the `post-commit` file, for running Bamboo’s build trigger script file.

```
/path-to-your-bamboo-installation/scripts/svn-triggers/postCommitBuildTrigger.sh base-url BUILD-KEY
```

where:
- `base-url` is the base URL of the Bamboo server. For example: `http://<name-of-machine>:8085`
- `BUILD-KEY` is the key of the Bamboo plan to be executed.

Make Bamboo’s build trigger script file executable (using `chmod`) so that the Subversion user can execute it.

### Step 3. Do a test commit

Conduct a ‘test’ commit. Bamboo should start building the relevant plan after a few seconds.
The Bamboo log file should contain an entry like this:

```
[INFO] com.atlassian.bamboo.build.UpdateAndBuild - Bamboo build was triggered by remote http call from 127.0.0.1
```

**Notes**

**Build Trigger Security** — Bamboo will only accept remote build triggers if the triggers originated from the Subversion server(s) identified in the Subversion Repository URL of any Bamboo plans. Requests originating from other Subversion servers will be rejected by Bamboo.

**Configuring a shared source repository**

You can set up shared source repositories that are then available globally to all plans and jobs configured on the Bamboo server. Doing this can save you from having to reconfigure the source repositories in multiple places if these ever change. Changes to a shared repository are applied to every plan or job that uses the repository.

**To configure shared source repositories:**

1. Click Administration and then Shared Repositories (under 'Build Resources').
2. Either add a new repository, or edit an existing shared repository.
3. Follow the on-screen instructions to configure the repository. Bamboo is able to connect to a variety of SCMs; for details regarding a particular repository type, please refer to the pages listed below:
   - Bitbucket - Mercurial
   - CVS
   - Git
   - GitHub
   - Mercurial
   - Perforce
   - Subversion

**Triggering builds**

Triggering in Bamboo allows plan builds to be started automatically. Bamboo has the following trigger methods:

- **Polling the repository for changes** — Bamboo polls the source repository for changes, either periodically or according to a schedule. This ensures that a plan build only runs when code has changed in the plan's source repository.
- **Repository triggers the build when changes are committed** — Requires that your source repository is configured to fire an event to Bamboo. This has the advantage of placing minimal load on your Bamboo server.
- **Cron-based scheduling** — Builds are run according to a schedule, regardless of whether any code changes have occurred. This can allow a team to structure the day according to a predictable schedule.
- **Single daily build** — The build is run at a specified time every day.

Triggers can only be configured by a Bamboo administrator. The trigger method for a plan's build is listed in the 'Reason' column on the dashboard.

See also **Running a plan build manually** and **Setting up plan build dependencies**.

**On this page:**

- Choosing a triggering strategy
- Conditional build triggers
Note that a plan that has no configured triggers can only be started manually, or if it is dependent on the successful build of another plan.

From Bamboo 4.3, you can configure multiple triggers for each plan. This allows a plan to be triggered by different trigger types, and to have triggering scenarios such as "every 5 minutes between 9:00am and 10:00am, and every 20 minutes between 1:00pm and 10:00pm".

Triggers can only be configured by a Bamboo administrator.

Choosing a triggering strategy

This table lists the ways in which plan builds can be triggered in Bamboo.

<table>
<thead>
<tr>
<th>Triggering option</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Polling the repository for changes</td>
<td>Bamboo will 'poll' the selected source code repositories for code changes, using either a specified interval (that is, periodically) or a schedule. If Bamboo detects code changes, a build of the plan is triggered.</td>
</tr>
<tr>
<td></td>
<td>• Your VCS must service a 'check out' or 'update' command whenever it is polled, even if no code has changed in a repository.</td>
</tr>
<tr>
<td></td>
<td>See Polling the repository for changes.</td>
</tr>
<tr>
<td>Repository triggers the build when changes are committed</td>
<td>Bamboo waits to receive a message about changed code from any of the selected source code repositories. When Bamboo receives such a message, a build of the plan is triggered.</td>
</tr>
<tr>
<td></td>
<td>• This option minimises server load, because message events are sent only when code changes to a repository are committed.</td>
</tr>
<tr>
<td></td>
<td>• You must configure your source code management system to send message events to Bamboo about code changes in the repositories.</td>
</tr>
<tr>
<td></td>
<td>See Repository triggers the build when changes are committed.</td>
</tr>
</tbody>
</table>
### Cron-based scheduling

Bamboo will trigger scheduled builds of this plan based on a cron expression.

- This option allows you to schedule builds when server load is likely to be minimal, for example, outside office hours.
- Scheduled builds are triggered irrespective of any code changes in the source code repositories.

See [Cron-based scheduling](#).

### Single daily build

Bamboo will trigger a build of the plan once per day at a specified time.

- Can be set up to run at a time of your choice.
- This option is suitable if a build of this plan takes a long time to complete.
- Scheduled builds are triggered irrespective of any code changes in the source code repositories.

See [Single daily build](#).

## Conditional build triggers

*This field is only available when configuring an existing plan.*

You can choose to run builds of this plan only if other specified plans are currently passing. Those plans must build successfully before this plan will be built. See also [Setting up plan build dependencies](#).

Note that, because a plan may have multiple triggers configured, each of which can have differing trigger conditions, it is possible for the plan build to be started by one trigger, even though another trigger is currently blocked.

**To specify build trigger conditions:**

1. Click **Dashboard** and then the **All Plans** tab.
2. Locate the plan in the list and click the edit icon to display the plan’s configuration pages.
3. Click the **Triggers** tab, and click either an existing trigger or **Add Trigger**.
4. Select **Only run Build if other Plans are currently passing**, under ‘Trigger Conditions’.
5. Specify one or more other plans by adding their full keys.

### Polling the repository for changes

You can configure Bamboo to poll the repository for source code changes, either:

- periodically (e.g. every 180 seconds), or
- based on a schedule (e.g. the second Sunday of every month at 5:00 am).

If Bamboo detects a change in the source code, a build of your plan is triggered.
To configure Bamboo to poll the repository for source code changes:

1. Click **Dashboard** and then the **All Plans** tab.
2. Locate the plan in the list and click the edit icon to display the plan's configuration pages.
3. Click the **Triggers** tab, then click either an existing trigger or **Add Trigger**.
4. Optionally, enter a trigger description.
5. Choose **Trigger type > Polling the Repository for changes**.
6. Bamboo displays the available repositories for the plan, as previously configured on the **Source Repositories** tab. Choose the repositories that this trigger should apply to.
7. Choose a polling strategy:

<table>
<thead>
<tr>
<th>Periodically</th>
<th>Enter a <strong>Polling Frequency</strong> value (in seconds) for the time between when Bamboo checks for repository changes.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Scheduled</td>
<td>Click the edit icon (errupt) to use the Schedule Editor to set the polling schedule. Note, this is a schedule for polling your repository: a plan build will only be triggered if there are source code changes. See <a href="#">Triggering builds</a>. Note that for the <strong>Cron Expression</strong> option, a cron expression consists of 6 mandatory and one optional field. The fields in sequential order are: seconds, minutes, hours, day-of-month, month, day-of-week and (optional) year. For example, <code>0 0 1 ? * 1#2</code>. For information on Cron expressions, see this FAQ: <a href="#">How do I construct a cron expression in Bamboo</a>.</td>
</tr>
</tbody>
</table>

8. Click **Save Trigger**.

**Screenshots: Scheduling polling for changes**

1. Daily
2. Week

**Repository triggers the build when changes are committed**

Using the source repository to trigger the build of a plan is one of the available methods for [triggering builds](#) in
Bamboo.

"Repository triggers the build when changes are committed" has the advantage of placing minimal load on your Bamboo server. However, it requires that your source repository is configured to fire an event to the Bamboo server (which the configured Plan will 'listen for').

Configuring the repository to trigger the build when changes are committed requires two changes:

1. Configuring your source repository.
2. Configuring Bamboo to trigger a build on code check in.

On this page:

1. Configuring your source repository
2. Configuring Bamboo to trigger a build on code check in

Related pages:

- Triggering builds
- Polling the repository for changes
- Cron-based scheduling
- Single daily build

1. Configuring your source repository

To configure your source repository:

Configure your source code management system's repository to send post-commit event messages to Bamboo. These messages tell Bamboo to begin building the plans that use this repository.

For CVS, click here to expand...

Edit two files in the CVSROOT module: commitinfo and loginfo.

- For commitinfo, add a line like this:

```bash
^jira(/|$) /path/to/preCommit.sh
```

where "jira" is your module.

- For loginfo, add a line like this:

```bash
^jira(/|$) /path/to/postCommitBuildTrigger.sh %{}
http://bambooserver JIRA-MAIN JIRA-BRANCH
```

where JIRA-MAIN and JIRA-BRANCH are the Bamboo plans that you would like to trigger, JIRA being the project key and BRANCH or MAIN being the plan key.

Please refer to Configuring source code management triggers for Subversion.

For Subversion, click here to expand...

If you are using a remote SVN server, copy file "atlassian-bamboo/repositoryScripts/svn-triggers/postCommitBuildTrigger.sh" to the SVN repository

.../hook/post-commit folder so that the postCommitBuildTrigger.sh file can be accessible from post-commit
trigger file.

Edit the Subversion repository's hooks/post-commit trigger file with something like:

```
/path/to/postCommitBuildTrigger.sh http://bambooserver JIRA-MAIN JIRA-BRANCH
```

Please refer to Configuring source code management triggers for Subversion.

For Perforce, click here to expand...
Add the script as a change-commit trigger.

```
triggerName change-commit //myDepot/...
"/usr/local/bin/postCommitBuildTrigger.sh http://bambooserver/
MYPLAN-DEFAULT"
```

For Mercurial, click here to expand...
Edit the Hg repository's .hg/hgrc settings file with something like:

```
[hooks]
changenumber.update = /path/to/postCommitBuildTrigger.sh
http://bambooserver JIRA-MAIN JIRA-BRANCH
```

For Git, click here to expand...
Edit the Git repository's .git/hooks/post-receive trigger file with something like:

```
/path/to/postCommitBuildTrigger.sh http://bambooserver JIRA-MAIN JIRA-BRANCH
```

1. Copy the scripts to your repository. If you are using the Bamboo distribution, the scripts are located in the /scripts folder of your Bamboo Installation Directory. If you are using Bamboo EAR-WAR distribution, you can find them in the /repositoryScripts folder. You can also download the scripts by following this link.
2. Depending on which operating system your repository is running on, you may need to edit the scripts. The scripts assume that 'wget' is in '/usr/bin/'; if this isn't the case for your repository (e.g. Solaris 10 has it in '/usr/sfw/bin/), edit the scripts and change '/usr/bin/' to the appropriate location.
3. Ensure that the user which Bamboo is running as has appropriate file permissions to execute the scripts, i.e. the scripts should be executable by non-root user(s).
4. Enable Bamboo's remote API so that the scripts can use Bamboo's REST-style remote API to access Bamboo's data.

2. Configuring Bamboo to trigger a build on code check in

Before you begin:

- Triggering a build when there is no update — Bamboo will ignore the build triggers, if the local working copy and the repository copy have the same revision numbers. When testing your build triggers, please
check that the local working copy is not the latest version - in which case, no further action will be taken.

To configure Bamboo to trigger a build on code check in:

1. Click Dashboard and then the All Plans tab.
2. Locate the plan in the list and click the edit icon to display the plan's configuration pages.
3. Click the Triggers tab, then click either an existing trigger or Add Trigger.
4. Optionally, enter a trigger description.
5. Choose Trigger type > Repository triggers the build when changes are committed.
6. Bamboo displays the available repositories for the plan, as previously configured on the Source Repositories tab. Choose the repositories that this trigger should apply to.
7. Only enter an IP address in Trigger IP Addresses if you want Bamboo to receive post-commit notifications from other than the primary IP address for the repository.

If you use a Mercurial or Git repository then you must type the IP address of your repository host in Trigger IP Addresses.

8. Click Save Trigger.

Screenshot: Build Strategy – repository triggers the build when changes are committed

Cron-based scheduling
Using a cron-based schedule to trigger the build of a plan is one of the available methods for triggering builds in Bamboo. This schedule is configured using the Schedule Editor.

The schedule can be daily (times per day), weekly (days per week), monthly (days per month) or based on a cron expression.

Related pages:
- Triggering builds
- Polling the repository for changes
- Repository triggers the build when changes are committed
- Single daily build
To schedule a plan build using a cron expression:

1. Click **Dashboard** and then the **All Plans** tab.
2. Locate the plan in the list and click the edit icon to display the plan's configuration pages.
3. Click the **Triggers** tab, then click either an existing trigger or **Add Trigger**.
4. Optionally, enter a trigger description.
5. Choose **Trigger type > Cron Based Scheduling**.
6. Click the edit icon (✏️) next to the current schedule to display the Schedule Editor.
7. Use the Schedule Editor (see screenshots below), to specify the build schedule for your plan. For information about cron expressions, see this FAQ: [How do I construct a cron expression in Bamboo](#).
8. Click **Save Trigger**.

**Screenshots: Schedule Editor options**

<table>
<thead>
<tr>
<th>Daily</th>
<th>Days per Week</th>
<th>Days per Month</th>
<th>Cron Expression</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Interval:</strong> once per day</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>At: 12:00 am</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Single daily build**

Triggering the build of a plan to run at a particular time each day is one of the available methods for triggering builds in Bamboo.

A “Single daily build” runs at a time of your choice. This is particularly suitable for builds that take a long time to complete.

**Related pages:**
- [Triggering builds](#)
- [Polling the repository for changes](#)
- [Repository triggers the build when changes are committed](#)
- [Cron-based scheduling](#)

To schedule a plan build at a specified time each day:

1. Click **Dashboard** and then the **All Plans** tab.
2. Locate the plan in the list and click the edit icon to display the plan's configuration pages.
3. Click the **Triggers** tab, then click either an existing trigger or **Add Trigger**.
4. Optionally, enter a trigger description.
5. Choose **Trigger type > Single daily build**.
6. Specify the time of day at which the build should run in **Build Time**. Use hh:mm format, with a 24-hour clock.
7. Click **Save Trigger**.
Running a plan build manually

Typically in Bamboo, your build plans are configured to be automatically triggered when code changes are committed to the working repository, or according to a schedule.

However, there can be scenarios where you do not want the plan to be automatically triggered:

- The plan should only ever be run manually.
- You want to choose the revision of the default repository that should be used for the build.
- You want to run a customised build, so as to override global variables or plan variables.
- You want to select particular manual stages to run.
- You want the plan to be triggered by other plans that build successfully first.

This page describes how to run a plan build manually, and the options available when running a customised plan build.

Running a plan build manually

To start a plan build manually:

1. Locate the relevant plan on the Dashboard.
2. Click the Run icon for the plan.

Alternatively, if you are viewing the plan, simply click the Run menu.

On this page:
- Running a plan build manually
- Running a customised manual build

Related pages:
- Triggering builds
- Setting up plan build dependencies
- Stopping an active build
- Defining plan variables

Running a customised manual build

If you trigger a plan build manually, you can customise the following aspects of how the plan is run (when these are available):

- Choose the revision of the default repository that should be used.
- Override any global variables or plan variables with your own parameters when triggering a build manually. This is referred to as running a 'parameterised plan build'.
- Select which manual stages to run, if manual stages have been configured for the plan.

To run a customised plan build:

1. Locate the relevant plan on the Dashboard.
2. Click the plan name to go to the Plan Summary.
3. Choose Run > Run Customised.
4. Customise the following aspects of the plan:
Choose a repository revision to use for the build.

Note that:
- You can only choose revisions from the default repository.
- The build is not included in plan statistics or telemetry.
- SVN repositories use the revision number
- Perforce projects use the changelist number
- Git repositories use the changeset number
- Mercurial repositories use the tag

### Note for Subversion repositories that make use of externals

When running a build with a custom revision on a repository with externals Bamboo will choose the latest revision in the external repository as Subversion externals always use the latest version and cannot be fixed at a specific revision.

<table>
<thead>
<tr>
<th>Build Variables</th>
<th>Click <strong>Override a variable</strong> to choose another variable to override.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Stages</td>
<td>Choose the stages that should be run.</td>
</tr>
</tbody>
</table>

5. Click **Run**.

---

**Rerunning a failed stage**

If a stage has failed in your build, you can choose to rerun the stage (with exactly the same data) instead of the entire plan.
To rerun a stage:

1. Navigate to the failed build result, as described on Viewing a build result.
2. Choose Run > Rerun all failed Jobs to run the stage again.

Note that:

- Only failing jobs will be re-run.
- Subsequent stages will be executed automatically, unless they are manual stages.
- You might want to add a comment to the build result to record the reason for failure. The existing build result will be overwritten (Bamboo will not create a new build) and the previous failure reason will not be retained.
- For plans based on a Subversion repository, you can only rerun the failed job or the whole plan.

**Related pages:**

- Running a plan build manually
- Editing a plan's configuration
- Configuring jobs
- Using stages in a plan

**Screenshot: Rerunning a failed stage**

**Configuring jobs and tasks**

The following pages contain information on configuring jobs and tasks for your Bamboo plans. If you are looking for information about Bamboo builds, please see Working with builds.

- Configuring jobs
- Configuring tasks
- Using global, plan or build-specific variables

**Screenshot: Configuring tasks for a job**
Configuring jobs

A Bamboo job is a single build unit within a plan. One or more jobs can be organised into one or more stages. The jobs in a stage can all be run at the same time, if enough Bamboo agents are available. A job is made up of one or more tasks.

A job:

- Processes a series of one or more tasks that are run sequentially on the same agent.
- Controls the order in which tasks are performed.
- Collects the requirements of individual tasks in the job, so that these requirements can be matched with agent capabilities.
- Defines the artifacts that the build will produce.
- Can only use artifacts produced in a previous stage.
- Specifies any labels with which the build result or build artifacts will be tagged.

Each new plan created in Bamboo contains at least one job known as the 'Default Job'.

Projects and plans can only be configured by Bamboo administrators (see Creating a plan).

**Related pages:**

- Creating a job
- Editing a job
- Disabling or deleting a job
- Viewing a job's Maven dependencies
- Configuring a test task

To navigate to the configuration for a job:
1. Go to the configuration pages for the plan that has the job.
2. Click on the job under 'Stages & Jobs' in the left-hand navigation panel.

Creating a job
This page describes how to create a Bamboo job in a stage.

- You can either create a new job, or clone an existing job.
- You must have the 'Admin' or 'Create Plan' global permission to create jobs.
- Creating a new job allows you to define a single unit of execution within a stage, including what gets built and what builder to use.

<table>
<thead>
<tr>
<th>Related pages:</th>
</tr>
</thead>
<tbody>
<tr>
<td>- Configuring plans</td>
</tr>
<tr>
<td>- Using stages in a plan</td>
</tr>
<tr>
<td>- Editing a job</td>
</tr>
<tr>
<td>- Disabling or deleting a job</td>
</tr>
</tbody>
</table>

To create a new job:
1. Click Dashboard and then the All Plans tab.
2. Click the name of the plan in the list.
3. Choose Actions > Configure Plan.
4. Click on the Stages tab.
5. Click Create Job in the stage where you want the new job.
6. Click either Create a New Job or Clone an Existing Job.
7. If cloning a job, complete the ‘Job to clone from’ section:
   - Plan to clone from — Select the plan containing the job you wish to clone. Plans are grouped by project in the list.
   - Only plans for which you have the 'Clone' and/or 'Admin' plan permission are shown.
   - Job to clone — Select the job you wish to clone from your selected plan. Jobs are grouped by stage in the list.
8. Complete the 'Job Details' section.
9. Select Yes please! to enable this job, if required. Enabling the job instructs Bamboo to execute the job whenever the job's plan is built.
10. Click Create Job.

If you wish to configure tasks for the job, such as configuring a Repository Checkout, please refer to Editing a job.

Screenshot: Cloning an existing job
Editing a job

To edit an existing job in a Bamboo plan:

1. Navigate to the configuration pages for the job, as described on Configuring jobs.
2. Click Stages & Jobs in the left navigation panel.
3. Click the required job, and then appropriate tab to begin editing that aspect of your job:
   - Job Details — Note that Job Key is not editable.
   - Tasks — see Configuring tasks, including Repository Checkout tasks and builder tasks.
   - Requirements — see Configuring a job’s requirements.
   - Artifacts — see Configuring a job’s build artifacts (from step 3).
   - Miscellaneous — see Configuring miscellaneous settings for a job and Configuring automatic labelling of build results (from step 3).

**Screenshot: The Tasks tab of a job's configuration pages**
Configuring a job's requirements
This page describes how to configure the requirements of a job.

A requirement is specified in a job or a task. A requirement specifies a capability that an agent must have for it to build that job or task. A job inherits all of the requirements specified in its tasks.

Together, capabilities and requirements control which agents can execute builds for particular jobs. Each job can only be built by agents whose capabilities match the job's requirements.

There are four types of capabilities in Bamboo:

- **Executable capability** — Every task has one 'Executable' requirement. A job inherits the 'Executable' requirements of its tasks.
- **JDK capability** — A task has either one 'JDK' requirement or none, depending on the task's 'Executable'. A job inherits the 'JDK' requirements of its tasks.
- **Custom capability** — A job can have multiple 'custom' requirements (or none). Before you can specify a custom requirement in your job, you must first define that custom requirement in your Bamboo system (see Configuring a new custom capability). Custom capabilities can be used to control which jobs will be built by a particular agent. For example, if the builds for a particular job should only run in a Windows environment, you could create a custom capability 'operating.system=WindowsXP' for the appropriate agent(s), and specify it as a requirement for this job.
- **Perforce capability** — A job will have a 'Perforce' requirement automatically specified, if Perforce was selected as the source repository.

On this page:
- Specifying extra requirements for a job
- Viewing current capable agents

Related pages:
- Editing a job
- Configuring tasks
- Viewing an agent's capabilities
- Viewing a capability's agents and jobs

Specifying extra requirements for a job
A job's will inherit the requirements of its tasks by default. However, you can specify extra requirements for the
job, in addition to the task requirements.

To specify extra requirements for a job:

1. Navigate to the desired job's configuration pages, as described on Editing a job.
2. Click the Requirements tab (see screenshot below). This page shows a list of all the job's current requirements and the number of 'Matching Agents' and 'Matching Images' (i.e. agents/elastic images which meet the job's requirements and can run a build for this job). See Viewing current capable agents below for more information.
3. If you have previously set up an agent capability, you can select it from the Requirement list in the 'Add Extra Requirement' section. If you are setting up a new custom requirement, select New custom requirement from that list instead.
4. Complete the form for the requirement:
   a. **Key** (new custom requirement only) — enter a key of the new capability.
   b. Select the value for the requirement from the list:
      - **exists** — this job can be built by any agent that has a capability with the same key.
      - **equals** — this job can be built by any agent that has the capability with the same key and value.
      - **matches** — this job can be built by any agent that has a capability with the same key, and the value matches the regular expression. For more information about regular expressions, see http://download.oracle.com/javase/1.4.2/docs/api/java/util/regex/Pattern.html#sum.
   c. Click Add. The numbers of 'Matching Agents' and 'Matching Images' will be updated, as the plan can now only be built by agents with capabilities that meet the new custom requirement you have specified.

**Screenshot: Specifying requirements for a job**

![Job Details Tab](image)

Requirements

This job can only be built by agents whose capabilities meet the 3 requirements below. 18 agents are capable of building this Job. This Job is capable of building in the Elastic Cloud on 11 images.

<table>
<thead>
<tr>
<th>Capability</th>
<th>Required by</th>
<th>Matching Agents</th>
<th>Matching Images</th>
</tr>
</thead>
<tbody>
<tr>
<td>JDK</td>
<td>exists</td>
<td>Unit Tests Task</td>
<td>31 12</td>
</tr>
<tr>
<td>Maven 2</td>
<td>exists</td>
<td>Unit Tests Task</td>
<td>25 11</td>
</tr>
<tr>
<td>Mercurial</td>
<td>exists</td>
<td>Checkout Default Repository Task</td>
<td>22 15</td>
</tr>
</tbody>
</table>

Add Extra Requirement

The Requirement dropdown contains JDKs and Executables that are setup as capabilities on agents, as well as custom capabilities.

**Viewing current capable agents**

To view details about agents or elastic images that are currently able to build your job:

1. On the job's Requirements tab (described above), click the name of the requirement in the table (e.g. 'Maven 2').
2. The summary page for the capability will be displayed, showing the agents and elastic images that have the capability. See Viewing a capability’s agents and jobs for more information.
Configuring a job's build artifacts

Artifacts are files created by a job build (e.g. JAR files). Artifact definitions are used to specify which artifacts to keep from a build and are configured for individual jobs.

See Configuring artifact sharing between jobs.

This page describes how to define the artifacts that should be kept from a job's build. For example, you may wish to keep reports, websites or files (e.g. JAR files) generated by a job build.

You can also configure artifact sharing between jobs in a plan. For example, you may want to run acceptance tests on a build, and then share the WAR from one job to another, without rebuilding the WAR each time. Artifact sharing is described on this page: Configuring artifact sharing between jobs.

---

On this page:
- Defining which artifacts to keep for a job
- Notes

Related pages:
- Viewing a build's artifacts
- Configuring artifact sharing between jobs

Atlassian blog posts:
- Artifact passing for agile teams

---

Defining which artifacts to keep for a job

You can specify which artifacts to keep by setting up an artifact definition for the job. The artifacts will be available after each build of a job.

To set up an artifact definition for a job:

1. Navigate to the desired job, as described on Configuring jobs.
2. Click the Artifacts tab, and then Create Definition.
3. Complete the fields on the screen (see screenshot below) and click Create. For example, if you want to...
keep the latest version of a JAR you have built, you could specify Copy Pattern to be \\
'*/*.jar' and the Location to be 'target'.

Please note:

- The location is relative to the build directory. Do not use the absolute path to refer to the location.
- The copy pattern is relative to the location specified.
- Asterisks are not supported for Location. For this field, provide the folder name where the file would be located.
- If you want to share artifacts with other jobs in the plan, you will need to mark the artifacts as shared. Sharing artifacts is described on this page: Configuring artifact sharing between jobs.

Screenshot: Creating an artifact definition

<table>
<thead>
<tr>
<th>Create a new Artifact Definition</th>
</tr>
</thead>
<tbody>
<tr>
<td>Name*</td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td>Location</td>
</tr>
<tr>
<td></td>
</tr>
</tbody>
</table>
| Copy Pattern* | \\
|       | Specify the name (or Ant file copy pattern) of the artifact(s) you want to keep, e.g. \\
|       | */*.jar |
|       | Make the Artifact available to other Jobs in this Plan. |
|        | Shared |

**Notes**

Artifacts are copied to a subdirectory (/JOB_KEY/download-data/) under your 'Build Directory' folder (see Locating important directories and files). Artifacts which you define in the plan are listed in each build result as artifacts (see Viewing a build's artifacts).

**Configuring artifact sharing between jobs**

This page describes how to configure artifact sharing between jobs in a plan. Artifact sharing allows you to pass an artifact from one job to a job in a subsequent stage. That is, the artifact is copied to the subsequent job's agent. Note, you cannot pass artifacts between jobs in the same stage.

For example, you may want to run acceptance tests on a build, sharing the same WAR from one job to another without rebuilding it each time.

This page also describes how to configure artifact sharing when you are using a Maven builder. In this case, the artifact is deployed to, and resolved from, a Maven repository by jobs, rather than being copied from agent to agent.

**Sharing artifacts between jobs**

You can share artifacts between jobs in different stages using artifact dependencies. Each time the artifact is shared with a subsequent job, it is copied to the job's agent.

**To share an artifact between two jobs in different stages:**

1. Navigate to the configuration pages for the job that will produce the artifact, as described on Configuring...
2. Click the **Artifacts** tab (see [Configuring a job's build artifacts](#)).
3. Click **Edit** for the artifact that you want to share. The artifact definition will be displayed.
4. Select the **Shared** check box and then click **Save**.
5. Navigate to the job in a subsequent stage that will consume the artifact, and click the **Artifacts** tab.
6. Click **Create Dependency**.
7. Complete the fields on the screen (see screenshot below) and click **Create**.

Please note:

- The **Artifact** list only shows artifacts from jobs in previous stages that have been marked as shared. This is described in [Configuring a job's build artifacts](#).
- **Destination directory** is relative to the build directory. Do not use the absolute path to refer to the destination directory.

**On this page:**

- [Sharing artifacts between jobs](#)
- [Sharing artifacts between Maven jobs (Beta)](#)
- [Notes](#)

**Related pages:**

- [Viewing a build's artifacts](#)
- [Configuring a job's build artifacts](#)
- [Pattern matching reference](#)

**Atlassian Blogs:**

- [Boost Your Build Automation with Artifact Sharing](#)

---

**Screenshot: Creating an artifact dependency**

![Create Dependency](#)

**Sharing artifacts between Maven jobs (Beta)**

Before you begin:

- Maven artifact sharing is currently in beta. We recommend that you do not use it with any critical production systems.
- Maven artifact sharing is not supported for Maven 1.
About Maven artifact sharing

Maven artifact sharing works by producing new remote repositories when you run a plan. These are temporary equivalents of the deployment repositories configured within the project's pom.xml files. For example, if the project deploys its repository to the 'mycorp-private' repository at http://repository.example.com/ then Bamboo will create a 'mycorp-private' repository for each Plan result hosted on the Bamboo server.

When a job produces a Maven artifact, it is deployed to this repository. A subsequent job that consumes an artifact created by this process will resolve it from the repository within Bamboo. This process of deploying and resolving artifacts can then be repeated, as necessary across subsequent jobs in later stages. Once a build has completed, the temporary repositories are removed to conserve disk space, unless specified otherwise (see configuration instructions below).

The diagram below shows an example of how artifact sharing works. Two jobs, Job A and Job B, share an artifact in the plan, MyPlan. Job A builds the artifact then deploys it to the temporary remote Maven repository. Job A triggers Job B. Job B resolves the artifact, builds, then deploys the artifact back to the repository.

Diagram: Maven artifact sharing example

Configuring Maven artifact sharing

Artifact sharing is configured differently when using Maven 2 or 3 as a builder for your jobs. Artifacts are deployed to and resolved from a Maven repository, rather than copied from agent to agent. You will need to change your pom.xml file, as well as configure the relevant jobs to set up artifact sharing.

Before you begin:

- Your Bamboo URL must be specified correctly for Maven artifact sharing to work correctly. For example, do not use localhost as part of your Bamboo URL. For more information, see Specifying Bamboo's URL.

To share an artifact between two Maven jobs in different stages:
1. Edit your `pom.xml` file and add the following plugin definition:

```xml
<build>
  <plugins>
    <plugin>
      <groupId>com.atlassian.bamboo.maven.sharing</groupId>
      <artifactId>bamboo-artifact-sharing-maven-plugin</artifactId>
      <version>3.0-i5</version>
      <executions>
        <execution>
          <id>sharing</id>
          <goals>
            <goal>share</goal>
          </goals>
        </execution>
      </executions>
    </plugin>
  </plugins>
</build>
```

- Note, the version number specified above (`<version>`) must match the version of Bamboo you are using. This version number will be compatible across minor releases of Bamboo, unless specified otherwise in the relevant upgrade.

2. Navigate to the plan that you want to enable artifact sharing for, and click the **Miscellaneous** tab (see [screenshot below]).

3. Select the **Enabled** checkbox.

4. If you don't want to keep the Maven artifact once the plan build has completed, select **Expire Maven Repository Artifacts**.

   Note that each plan builds may result in hundreds of megabytes of Maven artifacts. Ensure that you have sufficient disk space to accommodate this.

5. Configure artifact sharing between the desired jobs. That is,
   - If a job needs to deploy an artifact (i.e. produce the artifact), mark the artifact as shared in the relevant **artifact definition**.
   - If a job needs to resolve an artifact (i.e. consume the artifact), create an artifact dependency for the artifact as described above.

**Screenshot: Enabling Maven artifact sharing on the Miscellaneous tab for a plan**

<table>
<thead>
<tr>
<th>Maven Artifact Sharing (Beta)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Enabled</td>
</tr>
<tr>
<td>Enables support for Maven Artifact Passing (Beta)</td>
</tr>
<tr>
<td>Expire Maven Repository Artifacts</td>
</tr>
<tr>
<td>Expire the Maven Repository Artifacts once the plan has finished executing</td>
</tr>
</tbody>
</table>

**Notes**

Artifacts are copied to a subdirectory (`/JOB_KEY/download-data/`) under your 'Build Directory' folder (see [locating important directories and files]). Artifacts which you define in the plan are listed in each build result as **artifacts** (see [Viewing a build's artifacts]).

**Configuring miscellaneous settings for a job**

For each job of a plan, you can optionally specify a number of miscellaneous settings including:

- Build hanging detection
- NCover output
To configure the miscellaneous settings for a job:

1. Navigate to the desired job, as described in Editing a job.
2. Edit the desired settings as follows:

<table>
<thead>
<tr>
<th>Setting</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Override default hanging build detection</strong></td>
<td>Override the default build hanging detection settings. These settings determine when a build hung event is thrown (e.g. you can configure your notifications to trigger from this event).</td>
</tr>
<tr>
<td><strong>Build Time Multiplier</strong></td>
<td>Calculate the 'Expected Build Time' for the build (i.e. 'Expected Build Time' = 'Build Time Multiplier' multiplied by 'Average Build Time'). 'Average Build Time' is calculated by using an average of previous build times.</td>
</tr>
<tr>
<td><strong>Log Quiet Time</strong></td>
<td>The amount of time since Bamboo last recorded an entry in the build log for a build. The 'Expected Build Time' and 'Log Quiet Time' must both be exceeded for Bamboo to throw the build hung event.</td>
</tr>
<tr>
<td><strong>Build Queue Timeout</strong></td>
<td>The amount of time that a build will wait in a build queue before an timeout event is thrown. Setting this value will override the global build queue timeout setting (see Configuring the build queue timeout event).</td>
</tr>
<tr>
<td><strong>NCover output will be produced</strong></td>
<td>Do not select this option. NCover is a code coverage tool that supports .NET projects.</td>
</tr>
<tr>
<td><strong>Use Clover to collect Code Coverage for this build</strong></td>
<td>Select this check box if:</td>
</tr>
<tr>
<td></td>
<td>• This job will be building a Java or Groovy-based project using a builder such as Ant, Maven or Grails.</td>
</tr>
<tr>
<td></td>
<td>• You are running Atlassian Clover and want to collect code coverage data to view from within Bamboo (see Viewing the Clover code-coverage for a build).</td>
</tr>
<tr>
<td><strong>Automatically integrate Clover into this build</strong></td>
<td>Select this check box if:</td>
</tr>
<tr>
<td></td>
<td>• Generate a Clover Historical Report — shows the current coverage results compared with previous Clover code coverage reports.</td>
</tr>
<tr>
<td></td>
<td>• Generate a JSON report — gives the Clover results in a format ready for embedding into applications or external report views.</td>
</tr>
</tbody>
</table>

You will also need to insert a Clover license (evaluation licenses are available) into the field provided. See Enabling the Clover plugin.
Clover is already integrated into this build and a clover.xml file will be produced

Use this option when you already have Clover-for-Ant or Clover-for-Maven configured to generate a report.

- **Clover XML Location** — specify where the Clover XML report is generated. Include the name of the directory, including path, *relative* to your job build's root directory, for example: target/site/clover/clover.xml

3. Click **Save**.

### Configuring automatic labelling of job build results

For each job of a plan, you can (as an option) specify a label that can be applied to the job's build results automatically after each build of that job.

Automatic labelling of job builds is built into Bamboo itself. There are a number of *third-party plugin modules* available that can provide additional 'post' actions (e.g. the Pre-Post Build Command plugin). You can also write your own plugins to provide additional post actions for a job. See the [Bamboo Plugin Guide](#) for further details.

A *label* is a convenient way to tag and group *build results* that are logically related to each other. Labels can also be used to define RSS feeds and to control *build expiry*.

Labels can be applied to build results automatically, by specifying the label(s) in a plan (note that only Bamboo administrators can do this). Labels can also be applied *ad hoc* to build results by Bamboo users.

#### On this page:
- Specifying labels for a job's build results
- Regex examples

#### Related pages:
- Editing a job

### Specifying labels for a job's build results

To specify labels for a job's build results:

1. Navigate to a job's configuration pages, as described on [Editing a job](#).
2. Click the **Miscellaneous** tab.
3. Using **Regex Pattern**, you can either:
   - Specify a regular expression to match content in the log files of this job's builds. Labels will be applied to a build of this job if this regular expression matches content in the build's log files (see the examples below).
   - Leave this field blank to label every build of this job.
4. In the **Labels** field, type the word (or multiple words, separated by commas and/or spaces) with which the plan's build results are to be labelled.
5. Click **Save**.

**Regex examples**

A simple regex example:

```
'There are \d+ results'
```

In the above regex, '\d+' represents any number with one or more digits. ('\d' means 'any digit', and '+' means 'one or more times'. When combined, they mean 'any sequence of one or more digits'.) Therefore, positive matches would include:

- 'There are 0 results'
- 'There are 123 results'

A regex example with multiple labels:

You can use "capturing groups" with Bamboo 1.2.1 or later to create different labels for different purposes.

For example, the following settings will label your builds with PERFORMANCE_IMPROVED if "PERFORMANCE_IMPROVED" appears in the build log, and PERFORMANCE_DETERIORATED if "PERFORMANCE_DETERIORATED" appears in the build log. If both strings appear in a log, then both labels are applied to the build.

- Enter the following into the Regex Pattern field:
  ```
  (PERFORMANCE_IMPROVED|PERFORMANCE_DETERIORATED)
  ```

- Enter the following into the Labels field:
  ```
  \1
  ```

Viewing a job's Maven dependencies

If you have configured a job to use a Maven builder (Maven 2 or later), you can choose to have dependencies generated from your Maven pom.xml (see documentation for setting up Maven as a builder for instructions).

After the initial build, Maven will parse the pom.xml file, determine the artifacts produced by the build and generate the dependencies. You can view these dependencies in two places:

- On the Dependencies tab when configuring your plan, as described in Setting up plan build dependencies.
- On the Artifacts tab when viewing a job's build result, as described below.

Before you begin:

- The Maven dependencies for a build will only become known to Bamboo after a build. If you cannot see the Maven dependencies for a build, try running it first without triggering any other dependencies. See Modifying multiple plans in bulk if you want to run multiple builds.

To view the Maven dependencies for a job's build result:

1. Navigate to the desired job, as described on Configuring jobs.
2. Click the desired build result number in the 'Recent History' of the Job Summary.
3. Click the Artifacts tab for the build results. The produced Maven artifacts and Maven artifact dependencies will be listed.

Screenshot: Maven 2 dependencies for a job's build result
Disabling or deleting a job
Bamboo allows you to disable or delete jobs that you don't want to be built:

- **Disabling a job** prevents it from being built. Disabling a job prevents Bamboo from building that particular job within a plan, allowing the rest of the plan's jobs to be built. You can re-enable the job, if you want to build it again.

  For example, if a job's latest build is broken and cannot be fixed quickly, you may want to disable it temporarily to stop the job from being built.

- **Deleting a job** removes it completely from your Bamboo system. You will need to recreate a new job from scratch, if you want to build it again.

  For example, if a job is no longer relevant, you may want to delete it.

### On this page:
- Disabling a job
- Deleting a job

### Related pages:
- Creating a job
- Editing a job
- Disabling or deleting a plan
- Deleting a job's current working files

### Disabling a job

**To disable a job:**

1. Navigate to the job configuration, as described on Configuring jobs.
2. Choose Actions > Disable Job.
Deleting a job

Deleting a job deletes everything related to that job, including the job's configuration, build results, artifacts, labels and comments. However, everything else related to the job's plan, and this plan's other jobs, is retained by Bamboo.

Before you begin:

- The ‘Admin’ global permission is required to delete a job.
- A job that is currently being built cannot be deleted. If you need to delete such a job, stop the plan's build first. Refer to Stopping an active build for more information.
- If you need to keep a permanent record of the job build results, see Exporting data for backup.

To delete a job:

1. Navigate to the job configuration, as described on Configuring jobs.
2. Choose Actions > Delete Job.

Deleting a job's current working files

If you only run a single Bamboo server (i.e. with no remote or elastic agents) and you:

- need to ensure that a plan's job cleanly checks out its source code when Bamboo next executes a build of that plan and
- do not to use the Force Clean Build option when specifying the source repository for a job.

Simply delete the current working files for that job to ensure its source code is cleanly checked out.

Before you begin:

- Only people with the ‘Admin’ global permission or the ‘Admin’ plan permission can delete current working files.

Related pages:

- Specifying the source repository
- Disabling or deleting a job
- Deleting the results of a plan build

To delete a job's current working files:

1. Navigate to the job configuration, as described on Configuring jobs.
2. Click the Files tab. Note that the Files tab is only available if:
   - the current working files resulting from that job's previous build reside on the Bamboo server (not a remote/elastic agent) and
   - working files exist in this directory.
3. At the end of this page (scroll down if necessary), click Delete all build files.

Configuring tasks

A Task:

- Is a small discrete unit of work, such as source code checkout, executing a Maven goal, running a script, or parsing test results.
- Is run sequentially within a job on a Bamboo working directory.

Tasks may make use of an executable if required. Once a task is defined in the Bamboo system, it can then be specified in jobs by a plan administrator. A job can be configured to execute a number of tasks, on the same working directory. For example, before executing a Maven goal, the user could substitute specific files within the working directory, substitute version numbers, checkout source repositories or execute a script.

Creating a task for a job
When creating a new job or configuring an existing one, you need to specify the tasks that will execute the job's builds. You must specify an executable for each task. If you specify an Ant, Grails or Maven executable, you will also need to choose a JDK.

When creating a new plan, you can configure the tasks for the plan's default job.

On this page:
- Creating a task for a job
- Ordering the tasks in a job
- Notes

Related pages:
- Checking out code
- Configuring a builder task
- Configuring a test task
- Configuring jobs
- Creating a plan
- Pattern matching reference

To create a task for a job:

1. Navigate to the tasks configuration for the desired job, i.e.
   - navigate to the Tasks tab when configuring an existing job, or
   - create a plan (you will be configuring tasks for the default job).
2. Click Add Task.
3. Click the desired task type in the 'Task Types' dialog.
4. Update the values to configure the task as desired. The fields displayed will vary depending on the executable chosen. See the following pages for further details:
   - Checking out code
   - Configuring a builder task
   - Configuring a test task
   - Configuring a deployment task
   - Pattern matching reference
5. Click Save.

Screenshot: Specifying a task for a job — Task Types
Ordering the tasks in a job

Tasks can be designated as *build tasks* or *final tasks* in a job:

- **Build Tasks** will run sequentially in the order specified in the job. If a Build Task fails, all subsequent tests will not be executed.
- **Final Tasks** will run sequentially, once the build tasks have completed. Final Tasks will always be executed, regardless of whether any Build Tasks or other Final Tasks fail. Final Tasks will be executed even if you stopped the build manually.

**To order the tasks for a job:**

1. Navigate to the tasks for the desired job.
2. Drag and drop the tasks into the desired order in the table on the left. If you want to change a Build Task to a Final Task or vice versa, drag and drop it under the desired header in the table. Your changes will be saved immediately.

*Screenshot: Existing Task — Maven 2*
1. Notes

- **About the 'Compatibility Task'** — The 'Compatibility Task' is created by Bamboo when upgrading from Bamboo 3.0 or earlier and Bamboo cannot match a builder to a task. This may occur if you are using a builder enabled by a custom plugin. For more information, see the **Bamboo 3.1 Upgrade Guide**.

- **Adding new executables** — At least one executable is configured automatically after installing Bamboo. You can add more executables of different types as described in **Configuring a New Executable**.

- **Adding new JSDKs** — At least one JDK is configured automatically after installing Bamboo. You can add more JSDKs as described in **Configuring a new JDK**.

2. Checking out code

Bamboo uses the 'Source Code Checkout' task to check out repositories into the working directory on the agent.

Using this task it is possible to:

- Check out multiple repositories to a custom directory path in the working directory
- Specify multiple checkouts that occur at different stages of the build. (This can be achieved by simply adding another 'Source Code Checkout' task to a job at any point in the plan.)

**To configure a new Source Code Checkout task:**

1. Navigate to the job that should perform the task, as described on **Specifying the source repository**.
2. Click the **Tasks** tab, and select an existing ‘Source Code Checkout’ task in the tasks list, or add a new one using the **Add Task** button.
3. Select the desired repository from the **Repository** list. If you wish to add different types of repositories,
they must have been previously defined on the plan’s Source Repositories tab. See Specifying the source repository for a list of supported SCMs.

4. Specify a Checkout Directory location, which is where the contents of the selected repository will be checked out to when the task executes.

5. Click Add Repository, at the bottom of the ‘Task’ screen, to add another repository to the task.

6. Click Save.

Screenshot: Configuring a Source Code Checkout task

Notes

- A number of source repositories are supported 'out of the box', as described on the Supported Platforms page. If you need to use a type of repository that is not supported, a number of third-party Source Repository plugin modules are available (e.g. ClearCase plugin). You can also write a Source Repository Module plugin to enable Bamboo to connect to your repository.

Configuring a builder task

A builder task allows you to connect your Bamboo plan (or job) to a build tool such as Ant, Maven or MSBuild. The build tool uses its existing configuration when the plan (or job) is built.

You can connect Bamboo to the following build tools:

- Ant
- Custom command executable
- Grails
- Maven
- MSBuild
- NAnt
Ant

This page describes how to configure a Bamboo task that uses an Ant executable.

See Configuring a builder task for an overview of Bamboo builder tasks.

To configure an Ant task:

1. Navigate to the Tasks configuration tab for the job (this will be the default job if creating a new plan).
2. Click the name of the desired Ant task, or click Add Task and then Ant if creating a new task.
3. Complete the following settings:

<table>
<thead>
<tr>
<th>Ant configuration</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Task Description</td>
<td>A description of the task, which is displayed in Bamboo.</td>
</tr>
<tr>
<td>Executable</td>
<td>The Ant executable that is available to perform the task. The executable that you select will become one of the task's (and so, the job's) requirements. You can add other executables, if required.</td>
</tr>
</tbody>
</table>
### Build File

The name of your existing build file (e.g. `build.xml`).
You can include variables (see [Using Global or Build-specific Variables](#)).

### Target

The Ant target that you want this Bamboo task to execute (e.g. `test`).
You can use `-D` to define one or more JVM parameters (e.g.: `-D java.awt.headless=true`).
Multiple Ant targets can be specified with a space-delimited list.
You can also include variables (see [Using Global or Build-specific Variables](#)).

### Build JDK

The JDKs that are available to perform the task.
The JDK that you select will become one of the task's (and so, the job's) requirements.
You can add other JDKs if required.

### Environment Variables

(Optional) Additional system environment variables that you want to pass to your build. Note that existing environment variables are automatically available to the executable. You can also include Bamboo global or build-specific variables (see [Using global, plan or build-specific variables](#)).
Multiple variables should be separated with spaces. Parameters with spaces must be quoted (e.g `ANT_OPTS=-Xms200m -Xmx700m`).

### Working Sub Directory

(Optional) An alternative subdirectory, relative to the job's root directory, where Bamboo will run the executable. The root directory contains everything checked out from the job's configured source repository. If you leave this field blank, Bamboo will look for build files in the root directory. This option is useful if your task has a build script in a subdirectory and the executable needs to be run from within that subdirectory.

4. If required, specify environment variables and working directory settings:

5. If applicable, select **The build will produce test results** and specify the directory, relative to the root directory, where test results will be created. You can use Ant-style patterns such as `**/test-reports/*.xml`. Bamboo requires test results to be in JUnit XML format.

⚠️ For jobs that use CVS, the root directory is `<bamboo-home>/xml-data/build-dir/JOB_KEY/<cvs-module>`.

6. Click **Save**.
Custom command executable

This page describes how to configure a Bamboo task that uses a command (e.g. Bash) executable.

See [Configuring a builder task](#) for an overview of Bamboo builder tasks.
To configure a command task:

1. Navigate to the Tasks configuration tab for the job (this will be the default job if creating a new plan).
2. Click the name of the desired Command task, or click Add Task and then Command if creating a new task.
3. Complete the following settings:

<table>
<thead>
<tr>
<th>Command configuration</th>
</tr>
</thead>
<tbody>
<tr>
<td>Task Description</td>
</tr>
<tr>
<td>Executable</td>
</tr>
<tr>
<td>Argument</td>
</tr>
</tbody>
</table>

4. If required, specify environment variables and working directory settings:

| Environment Variables         | (Optional) Additional system environment variables that you want to pass to your build. Note that existing environment variables are automatically available to the executable. You can also include Bamboo global or build-specific variables (see Using global, plan or build-specific variables). Multiple variables should be separated with spaces. Parameters with spaces must be quoted (e.g ANT_OPTS="-Xms200m -Xmx700m"). |
| Working Sub Directory        | (Optional) An alternative subdirectory, relative to the job's root directory, where Bamboo will run the executable. The root directory contains everything checked out from the job's configured source repository. If you leave this field blank, Bamboo will look for build files in the root directory. This option is useful if your task has a build script in a subdirectory and the executable needs to be run from within that subdirectory. |

5. Click Save.
Grails
This page describes how to configure a Bamboo task that uses a Grails executable.

Bamboo supports Grails versions 1.2.x, 1.3.x, and 2.x.

**Related pages:**
- Configuring tasks
- Editing a job
- Configuring an Agent-specific JDK capability

**To configure a Grails task:**

1. Navigate to the **Tasks** configuration tab for the job (this will be the default job if creating a new plan).
2. Click the name of the desired Grails task, or click **Add Task** and then **Grails** if creating a new task.
3. Complete the following settings:

<table>
<thead>
<tr>
<th>Grails configuration</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Task Description</strong></td>
<td>A description of the task, which is displayed in Bamboo.</td>
</tr>
<tr>
<td><strong>Executable</strong></td>
<td>The Grails executable that is available to perform the task. The executable that you select will become one of the task's (and so, the job's) requirements. You can add other executables, if required.</td>
</tr>
</tbody>
</table>
**Grails Commands**

The Grails commands that you want Bamboo to execute. See the [Grails Command Line Reference](#) documentation for more details on Grails commands.

- You can use `-D` to define one or more JVM parameters, e.g.: `-Djava.awt.headless=true` will pass the parameter 'java.awt.headless' with a value of 'true'.
- You can include variables (see [Using global, plan or build-specific variables](#)).

**Build JDK**

The JDKs that are available to perform the task. The JDK that you select will become one of the task's (and so, the job's) requirements. You can add other JDKs if required.

4. If required, specify environment variables and working directory settings:

**Environment Variables**

(Optional) Additional system environment variables that you want to pass to your build. Note that existing environment variables are automatically available to the executable. You can also include Bamboo global or build-specific variables (see [Using global, plan or build-specific variables](#)).

Multiple variables should be separated with spaces. Parameters with spaces must be quoted (e.g ANT_OPTS="-Xms200m -Xmx700m").

**Working Sub Directory**

(Optional) An alternative subdirectory, relative to the job's root directory, where Bamboo will run the executable. The root directory contains everything checked out from the job's configured source repository. If you leave this field blank, Bamboo will look for build files in the root directory. This option is useful if your task has a build script in a subdirectory and the executable needs to be run from within that subdirectory.

5. If applicable, select **The build will produce test results** and choose one of the following:

**Look in the standard test results directory**

Bamboo looks in the standard directory for the test results. Use this unless you've customised your test runner to output the results to a different location.

**Specify custom results directories**

Specify the custom directory, relative to the root directory, where test results will be created. You can use Ant-style patterns such as **/test-reports/*.xml. Bamboo requires test results to be in JUnit XML format.

⚠️ For jobs that use CVS, the root directory is `<bamboo-home>/xml-data/build-dir/JOB_KEY/<cvs-module>`.
6. Click **Save**.
Grails Configuration

Task Description

Executable
Grails

Add New Executable

Grails Commands *
clean
test-app

Use a new line to separate Grails commands. Bamboo will automatically append "-non-interactive" to each command

Build JDK *
JDK

Add New JDK
Which JDK do you need to use for the build?

Environment Variables

(Optional) Any extra environment variables you want to pass to your build. e.g. JAVA_OPTS="-Xmx256m -Xms128m". You can add multiple parameters separated by a space.

Working Sub Directory

(Optional) Specify an alternative sub-directory as working directory for the task.

Where should Bamboo look for the test result files?

☑ The build will produce test results.
If checked, the build will fail if no tests are found. Test output must be in JUnit XML format.

Test Results Directory

☐ Look in the standard test results directory.
☐ Specify custom results directories

Where should Bamboo look for the test result files?

Specify custom results directories

"**/reports/*.xml"

Where does the build place generated test results?
This is a comma separated list of test result directories. You can also use ant style patterns such as
Maven
This page describes how to configure a Bamboo task that uses a Maven executable. Apache Maven is a tool used for building and managing Java-based projects.

**Related pages:**
- Configuring tasks
- Editing a job
- Viewing a job's Maven dependencies
- Configuring an Agent-specific JDK capability

**Atlassian blogs:**
- Forgetful Maven Users, Rejoice! A new Bamboo task "releases" you from worry.

To configure a Maven task:
1. Navigate to the **Tasks** configuration tab for the job (this will be the default job if creating a new plan).
2. Click the name of the desired Maven task, or click **Add Task** and then a Maven option (e.g. **Maven 2.x**) if creating a new task.
3. Complete the following settings:

<table>
<thead>
<tr>
<th>Maven configuration</th>
<th>A description of the task, which is displayed in Bamboo.</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Task Description</strong></td>
<td>The Maven executable that is available to perform the task. The executable that you select will become one of the task's (and so, the job's) requirements. You can add other executables, if required.</td>
</tr>
<tr>
<td><strong>Executable</strong></td>
<td>The Maven goal that Bamboo will execute. You can use '-D' to define one or more JVM parameters. For example, -Djava.awt.headless=true will pass the parameter 'java.awt.headless' with a value of 'true'. Multiple maven goals can be specified, separated with a spaces. You can include variables (see Using Global or Build-specific Variables).</td>
</tr>
<tr>
<td><strong>Use Maven Return Code</strong></td>
<td>Select to have Bamboo skip log parsing.</td>
</tr>
<tr>
<td><strong>Build JDK</strong></td>
<td>The JDKs that are available to perform the task. The JDK that you select will become one of the task's (and so, the job's) requirements. You can add other JDKs, if required.</td>
</tr>
<tr>
<td><strong>Override Project File</strong></td>
<td></td>
</tr>
<tr>
<td>---------------------------</td>
<td></td>
</tr>
<tr>
<td><em>(Optional: Maven 2.x and later only)</em> The path to your Maven project file, relative to the working sub directory specified. If this is not specified, Maven will use the <code>pom.xml</code> in the root of the working sub directory.</td>
<td></td>
</tr>
</tbody>
</table>

4. If required, specify environment variables and working directory settings:

<table>
<thead>
<tr>
<th><strong>Environment Variables</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td><em>(Optional)</em> Additional system environment variables that you want to pass to your build. Note that existing environment variables are automatically available to the executable. You can also include Bamboo global or build-specific variables (see Using global, plan or build-specific variables). Multiple variables should be separated with spaces. Parameters with spaces must be quoted (e.g. <code>ANT_OPTS=&quot;-Xms200m -Xmx700m&quot;</code>).</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>Working Sub Directory</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td><em>(Optional)</em> An alternative subdirectory, relative to the job's root directory, where Bamboo will run the executable. The root directory contains everything checked out from the job's configured source repository. If you leave this field blank, Bamboo will look for build files in the root directory. This option is useful if your task has a build script in a subdirectory and the executable needs to be run from within that subdirectory.</td>
</tr>
</tbody>
</table>

5. If applicable, select **The build will produce test results** and choose one of the following:

<table>
<thead>
<tr>
<th>Look in the standard test results directory</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>Specify custom results directories</th>
</tr>
</thead>
</table>

Specify the alternative directory, relative to the root directory, where test results will be created. You can use Ant-style patterns such as `*/test-reports/*` . Bamboo requires test results to be in JUnit XML format.

⚠️ For jobs that use CVS, the root directory is `<bamboo-home>/xml-data/build-dir/JOB_KEY/<cvs-module>`.

6. Click **Save**.
Maven 3.x Configuration

**Task Description**

**Executable**
- **Maven 3**

**Add New Executable**

**Goal**
- **clean test**

The goal you want to execute. You can also define system properties such as `-Djava.awt.headless=true`.

**Use Maven Return Code**
When determining build success, Bamboo checks Maven return code and searches the log for "BUILD SUCCESS". By checking this option, you will configure Bamboo to skip log parsing. This may fail on some Maven versions/operating systems.

**Build JDK**
- **JDK**

**Add New JDK**
Which JDK do you need to use for the build?

**Override Project File**
(Optional) Path to the project file, relative to the working sub directory. If left blank, Maven will use the pom.xml in the root of the working sub directory.

**Environment Variables**
(Optional) Any extra environment variables you want to pass to your build. e.g. `JAVA_OPTS=-Xmx256m -Xms128m`. You can add multiple parameters separated by a space.

**Working Sub Directory**
(Optional) Specify an alternative sub-directory as working directory for the task.

**Where should Bamboo look for the test result files?**

- **The build will produce test results.**
  If checked, the build will fail if no tests are found. Test output must be in JUnit XML format.

- **Test Results Directory**
  • Look in the standard test results directory.
To configure an MSBuild task:

1. Navigate to the Tasks configuration tab for the job (this will be the default job if creating a new plan).
2. Click the name of the desired MSBuild task, or click Add Task and then MSBuild if creating a new task.
3. Complete the following settings:

<table>
<thead>
<tr>
<th>MSBuild configuration</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Task Description</strong></td>
<td>A description of the task, which is displayed in Bamboo.</td>
</tr>
<tr>
<td><strong>Executable</strong></td>
<td>The MSBuild executable that is available to perform the task. The executable that you select will become one of the task's (and so, the job's) requirements. You can add other executables, if required.</td>
</tr>
<tr>
<td><strong>Project File</strong></td>
<td>The name of the solution, project file or MSBuild project to execute, e.g. ExampleSolution.sln. You can include variables (see Using global, plan or build-specific variables).</td>
</tr>
<tr>
<td><strong>Options</strong></td>
<td>The MSBuild command line options that you want to include. You can also include variables (see Using global, plan or build-specific variables).</td>
</tr>
</tbody>
</table>

4. If required, specify environment variables and working directory settings:
Environment Variables  (Optional) Additional system environment variables that you want to pass to your build. Note that existing environment variables are automatically available to the executable. You can also include Bamboo global or build-specific variables (see Using global, plan or build-specific variables). Multiple variables should be separated with spaces. Parameters with spaces must be quoted (e.g ANT_OPTS="-Xms200m -Xmx700m").

| Working Sub Directory  (Optional) An alternative subdirectory, relative to the job's root directory, where Bamboo will run the executable. The root directory contains everything checked out from the job's configured source repository. If you leave this field blank, Bamboo will look for build files in the root directory. This option is useful if your task has a build script in a subdirectory and the executable needs to be run from within that subdirectory. |

5. Click **Save**.

Note that you cannot use Clover to collect code coverage for MSBuild builds, as Clover only supports builders of Java/Groovy-based projects, such as Ant, Maven or Grails.
NAnt
This page describes how to configure a Bamboo task to use a NAnt executable.

**Related pages:**
- Configuring tasks
- Editing a job

To configure a NAnt task:
1. Navigate to the Tasks configuration tab for the job (this will be the default job if creating a new plan).
2. Click the name of the desired NAnt task, or click Add Task and then NAnt if creating a new task.
3. Complete the following settings:

<table>
<thead>
<tr>
<th><strong>NAnt configuration</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Task Description</strong></td>
</tr>
<tr>
<td><strong>Executable</strong></td>
</tr>
<tr>
<td><strong>Build File</strong></td>
</tr>
<tr>
<td><strong>Targets</strong></td>
</tr>
<tr>
<td><strong>Options</strong></td>
</tr>
</tbody>
</table>

4. If required, specify environment variables and working directory settings:

| **Environment Variables** | *(Optional)* Additional system environment variables that you want to pass to your build. Note that existing environment variables are automatically available to the executable. You can also include Bamboo global or build-specific variables (see [Using global, plan or build-specific variables](#)). Multiple variables should be separated with spaces. Parameters with spaces must be quoted (e.g `ANT_OPTS=-Xms200m -Xmx700m`). |
| **Working Sub Directory** | *(Optional)* An alternative subdirectory, relative to the job's root directory, where Bamboo will run the executable. The root directory contains everything checked out from the job's configured source repository. If you leave this field blank, Bamboo will look for build files in the root directory. This option is useful if your task has a build script in a subdirectory and the executable needs to be run from within that subdirectory. |

5. Click **Save**.

Note that you cannot use Clover to collect code coverage for NAnt builds, as Clover only supports builders of Java/Groovy-based projects, such as Ant, Maven or Grails.
This page describes how to configure a Bamboo task to use a script executable. You can use Bash on Linux, and batch files on Windows.

**Related pages:**
- Configuring tasks
- Editing a job

**To configure a script task:**

1. Navigate to the **Tasks** configuration tab for the job (this will be the default job if creating a new plan).
2. Click the name of the desired script task, or click **Add Task** and then **Script** if creating a new task.
3. Complete the following settings:

**Script configuration**
### Task Description
A description of the task, which is displayed in Bamboo.

### Script location
Select the location of the script file.
- **File** — enter the location of the file in the Script file field. This can be either relative to the repository root of the plan, or absolute. You can include variables (see [Using global, plan or build-specific variables](#)).
- **Inline** — enter the script in the Script body field.

### Argument
Specify an argument to pass to the script. Arguments that contain spaces must be quoted. You can include variables (see [Using global, plan or build-specific variables](#)).

4. If required, specify environment variables and working directory settings:

#### Environment Variables
(Optional) Additional system environment variables that you want to pass to your build. Note that existing environment variables are automatically available to the executable. You can also include Bamboo global or build-specific variables (see [Using global, plan or build-specific variables](#)).

Multiple variables should be separated with spaces. Parameters with spaces must be quoted (e.g `ANT_OPTS=-Xms200m -Xmx700m`).

#### Working Sub Directory
(Optional) An alternative subdirectory, relative to the job's root directory, where Bamboo will run the executable. The root directory contains everything checked out from the job's configured source repository. If you leave this field blank, Bamboo will look for build files in the root directory. This option is useful if your task has a build script in a subdirectory and the executable needs to be run from within that subdirectory.

5. Click **Save**.
Visual Studio
This page describes how to configure a Bamboo task to use a Visual Studio (devenv.exe) executable.

**Related pages:**
- Configuring tasks
- Editing a job

**To configure a Visual Studio task:**

1. Navigate to the **Tasks** configuration tab for the job (this will be the default job if creating a new plan).
2. Click the name of the desired MSBuild task, or click **Add Task** and then **Visual Studio** if creating a new task.
3. Complete the following settings:

<table>
<thead>
<tr>
<th><strong>Visual Studio configuration</strong></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Task Description</strong></td>
<td>A description of the task, which is displayed in Bamboo.</td>
</tr>
<tr>
<td><strong>Executable</strong></td>
<td>The Visual Studio executable that is available to perform the task. The executable that you select will become one of the task's (and so, the job's) requirements. You can add other executables, if required.</td>
</tr>
</tbody>
</table>
Solution

The name of the Visual Studio solution file that you want Bamboo to execute. For example: RegexDemo/RegexDemo.sln. You can also include variables (see Using global, plan or build-specific variables).

Options

Specify any Visual Studio command-line options that you want to include (e.g. /build Debug). You can also include variables (see Using global, plan or build-specific variables).

Platform

Select the platform toolset required to compile your solution. This is provided as an argument to Vcvarsall.bat (see this MSDN article for more details).

4. If required, specify environment variables and working directory settings:

Environment Variables

(Optional) Additional system environment variables that you want to pass to your build. Note that existing environment variables are automatically available to the executable. You can also include Bamboo global or build-specific variables (see Using global, plan or build-specific variables).

Multiple variables should be separated with spaces. Parameters with spaces must be quoted (e.g ANT_OPTS="-Xms200m -Xmx700m").

Working Sub Directory

(Optional) An alternative subdirectory, relative to the job's root directory, where Bamboo will run the executable. The root directory contains everything checked out from the job's configured source repository. If you leave this field blank, Bamboo will look for build files in the root directory. This option is useful if your task has a build script in a subdirectory and the executable needs to be run from within that subdirectory.

5. Click Save.
Configuring a test task
Test tasks in Bamboo parse test data, and may run tests, using a particular testing framework.

Please note:

- Java builder tasks in Bamboo (e.g. Maven) parse test information as part of the task. You do not need to configure a test task, if you have specified that test results will be produced as part of the builder task. However, you can configure a builder task to not produce test results and use a test task to parse the test data instead. For example, you may want to set up one JUnit Parser task to parse test data for a number of Maven tasks after they have executed.
- .Net builder tasks in Bamboo (e.g. NAnt) do not parse test information as part of the task. You must configure a test task (e.g. NUnit Parser), if you want test results from the builder task to be parsed.

Related pages:
- Configuring a builder task
See the following pages for more information on configuring specific test tasks:

- **JUnit Parser**
- **MBUnit Parser**
- **MSTest Parser**
- **MSTest Runner**
- **NUnit Parser**
- **NUnit Runner**
- **PHPUnit**

**Community test task plugins**

There are numerous test task plugins available on the [Atlassian Marketplace](https://marketplace.atlassian.com). These plugins are unsupported by Atlassian for the time being but the source code has been made freely available.

<table>
<thead>
<tr>
<th>Bamboo plugin</th>
<th>Testing framework</th>
<th>Languages and Platforms</th>
<th>Supported by Atlassian?</th>
<th>Source code</th>
<th>Issue tracking adding official support</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Bamboo Xcode Task</strong></td>
<td>OCUnit</td>
<td>Objective-C, Apple iOS, Cocoa and Mac OS X</td>
<td>No</td>
<td>Available on Bitbucket</td>
<td>BAM-6149 - Authenticate to see issue details</td>
</tr>
<tr>
<td><strong>Bamboo Ruby Plugin</strong></td>
<td>RSpec</td>
<td>Ruby</td>
<td>No</td>
<td>Available on Github</td>
<td>BAM-12328 - Authenticate to see issue details</td>
</tr>
<tr>
<td><strong>Bamboo CppUnit Task</strong></td>
<td>CppUnit</td>
<td>C++</td>
<td>No</td>
<td>Available on Bitbucket</td>
<td>BAM-7839 - Authenticate to see issue details</td>
</tr>
</tbody>
</table>

**JUnit Parser**

This page describes how to configure a **JUnit Parser** executable for a Bamboo task. Because TestNG uses the JUnit XML format, the JUnit Parser task is also able to parse TestNG test results.

When creating a new job or configuring an existing one, you need to specify the **tasks** that will execute the job's builds. You must specify an **executable** for each task. If you specify an **Ant**, **Grails** or **Maven** executable, you will also need to choose a **JDK**.

When creating a new plan, you can configure the tasks for the plan's default job.

An **executable** is a program external to Bamboo used to automate processes. Generally, executables compile source code to generate compiled executable files (referred to as **artifacts** in Bamboo). **Ant**, **Maven**, **MSBuild** or **PHPUnit** are just some examples of executables that can be used as part of your build process.

New executables can be defined as **capabilities** in Bamboo. Once an executable has been defined in Bamboo, it can be configured as part of a **task**.

**Related pages:**

- Configuring tasks
- Editing a job
- Configuring a test task
Configuring a JUnit Parser executable for a task

Before you begin:

- Java builder tasks in Bamboo (e.g. Maven) parse test information as part of the task. You do not need to configure a test task, if you have specified that test results will be produced as part of the builder task.

To configure a JUnit executable for a task:

1. Navigate to the task configuration for the job (this will be the default job if creating a new plan).
2. Click the name of the desired JUnit Parser task, or click Add Task and then JUnit Parser if creating a new task.
3. Update the task settings:
   - Task Description — Enter a description of the task, for display in Bamboo.
   - Specify custom results directories — Enter the name of the test results directory (or multiple directories, separated by commas). You can also use Ant-style patterns such as */test-reports/* where the base directory is the "working directory" — this can be found at the start of your build log. Do not specify an absolute path.
   For jobs that use CVS, the job build's root directory is <bamboo-home>/xml-data/build-dir/JOB_KEY/<cvs-module>.
4. Click Save.

MBUnit Parser

This page describes how to configure a MBUnit parser executable for a Bamboo task.

When creating a new job or configuring an existing one, you need to specify the tasks that will execute the job's builds. You must specify an executable for each task. If you specify an Ant, Grails or Maven executable, you will also need to choose a JDK.

When creating a new plan, you can configure the tasks for the plan's default job.

An executable is a program external to Bamboo used to automate processes. Generally, executables compile source code to generate compiled executable files (referred to as artifacts in Bamboo). Ant, Maven, MSBuild or PHPUnit are just some examples of executables that can be used as part of your build process.

New executables can be defined as capabilities in Bamboo. Once an executable has been defined in Bamboo, it can be configured as part of a task.

Related pages:

- Configuring tasks
- Editing a job
- Configuring a test task

Configuring a MBUnit Parser executable for a task

Before you begin:

- .NET builder tasks in Bamboo (e.g. NAnt) do not parse test information as part of the task. You must configure a test task (e.g. MBUnit Parser), if you want test results from the builder task to be parsed.

To configure a MBUnit Parser executable for a task:

1. Navigate to the task configuration for the job (this will be the default job if creating a new plan).
2. Click the name of the desired MBUnit Parser task, or click Add Task and then MBUnit Parser if creating
a new task.
3. Update the task settings:
   - **Task Description** — Enter a description of the task, for display in Bamboo.
   - **MBUnit Test Results File** — Enter the name of the test results file. The test file must be in MBUnit XML format. For more information on MBUnit, see http://www.mbunit.com/.
4. Click **Save**.

**MSTest Parser**

This page describes how to configure a **MSTest** parser executable for a Bamboo task.

.NET builder tasks in Bamboo (for example NAnt) do not parse test information as part of the task. To have the test results parsed, you need to configure a test task such as MSTest Parser.

Note that each test results file must have a unique name. You can use Bamboo variables to achieve this.

Here is a customer-supplied example that includes the revision and build numbers in the name of the test file:

```
<Project-Test-Subfolder>\TestResults\<Project>TestResults-Rev_${bamboo.repository.revision.number}-Build_${bamboo.buildNumber}.trx
```

**Related pages:**
- Configuring tasks
- Editing a job
- Configuring a test task

**To configure a MSTest Parser executable for a task:**

1. Navigate to the task configuration for the job (this will be the default job if creating a new plan).
2. Click the name of the desired MSTest Parser task, or click **Add Task** and then MSTest Parser if creating a new task.
3. Update the task settings:
   - **Task Description** — Enter a description of the task, for display in Bamboo.
   - **MBUnit Test Results File** — Enter the name of the test results file. The test file must be in MBUnit XML format. For more information on MBUnit, see http://www.mbunit.com/.
4. Click **Save**.

**MSTest Runner**

This page describes how to configure a **MSTest Runner** executable for a Bamboo task. The MSTest Runner executable runs and parses tests for .NET builds.

When creating a new job or configuring an existing one, you need to specify the tasks that will execute the job's builds. You must specify an executable for each task. If you specify an Ant, Grails or Maven executable, you will also need to choose a JDK.

When creating a new plan, you can configure the tasks for the plan's default job.

An executable is a program external to Bamboo used to automate processes. Generally, executables compile source code to generate compiled executable files (referred to as artifacts in Bamboo). Ant, Maven, MSBuild or PHPUnit are just some examples of executables that can be used as part of your build process.

New executables can be defined as capabilities in Bamboo. Once an executable has been defined in Bamboo, it can be configured as part of a task.

**Configuring a MSTest Runner executable for a task**

Before you begin:

- .NET builder tasks in Bamboo (e.g. NAnt) do not parse test information as part of the task. You must
configure a test task (e.g. MSTest Parser), if you want test results from the builder task to be parsed.

**To configure a MSTest Runner executable for a task:**

1. Navigate to the task configuration for the job (this will be the default Job if creating a new plan).
2. Click the name of the desired MSTest Runner task, or click **Add Task** and then **MSTest Runner** to creating a new task.
3. Update the task settings:

   **Related pages:**
   - Configuring tasks
   - Editing a job
   - Configuring a test task

<table>
<thead>
<tr>
<th>Setting</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Task Description</strong></td>
<td>A description of the task, for display in Bamboo.</td>
</tr>
</tbody>
</table>
| **Executable**   | The MSTest Runner executable that you wish to use for this task (e.g. "Visual Studio 2010"). The executable that you select will become one of the task's capability requirements (and hence, one of the job's requirements). For details, please see **Configuring a job's requirements**. Specifically for MSTest, we recommend the executable to be defined with the Visual Studio IDE folder path. Example: C:\Program Files (x86)\Microsoft Visual Studio 10.0\Common7\IDE 
|                  | This will allow Bamboo to find the necessary resources.                                                                                   |
| **Environment Variables** | Any extra environment variables you want to pass to your build. e.g. JAVA_OPTS="-Xmx256m -Xms128m".                                                                 |
| **Container**    | The test container, i.e. the file that contains the tests you want to run. For example, tests.dll. The value of this field is passed to the MSTest.exe as the /testcontainer parameter. See **MSTest.exe Command-Line Options (MSDN)**. |
| **Test Metadata** | The path to the Test Metadata file relative to the working directory. For example, "MyApp\MyApp.vsmdi"                                       |
Result Filename

The file that you want to save the test results to. For example, testResults.trx. The value of this field is passed to the MSTest.exe as the /resultsfile parameter. See MSTest.exe Command-Line Options (MSDN).

Run Configuration

The run configuration that you want to use. For example, localtestrun.Testrunconfig. The value of this field is passed to the MSTest.exe as the /runconfig parameter. See MSTest.exe Command-Line Options (MSDN).

MSTest Runner Configuration

Task Description

Executable

Visual Studio 2010

Add New

Environment Variables

(Optional) Any extra environment variables you want to pass to your build. For example, JAVA_OPTS="-Xmx256m -Xms128m". You can add multiple parameters separated by a space.

Container

The file that contains the tests. For example, "MyTests\bin\Debug \\MYTests.dll"

Test Metadata

Path to the Test Metadata file relative to the working directory. For example, "MyApp\MyApp.vsmdi"

Result Filename

testResults.trx

The name Bamboo should give to the results file produced by MSTest. Must end with the extension '.trx'.

Run Configuration

Use this option to specify a run configuration file

Save  Cancel

NUnit Parser

This page describes how to configure a NUnit Parser executable for a Bamboo task.

When creating a new job or configuring an existing one, you need to specify the tasks that will execute the job's builds. You must specify an executable for each task. If you specify an Ant, Grails or Maven executable, you will also need to choose a JDK.
When creating a new plan, you can configure the tasks for the plan's default job.

An executable is a program external to Bamboo used to automate processes. Generally, executables compile source code to generate compiled executable files (referred to as artifacts in Bamboo). Ant, Maven, MSBuild or PHPUnit are just some examples of executables that can be used as part of your build process.

New executables can be defined as capabilities in Bamboo. Once an executable has been defined in Bamboo, it can be configured as part of a task.

### Related pages:
- Configuring tasks
- Editing a job
- Configuring a test task

Configuring a NUnit Parser executable for a task

Before you begin:

- .NET builder tasks in Bamboo (e.g. NAnt) do not parse test information as part of the task. You must configure a test task (e.g. MSTest Parser), if you want test results from the builder task to be parsed.

To configure a NUnit Parser executable for a task:

1. Navigate to the task configuration for the job (this will be the default job if creating a new plan).
2. Click the name of the desired NUnit Parser task, or click Add Task and then NUnit Parser if creating a new task.
3. Update the task settings:
   - **Task Description** — Enter a description of the task, for display in Bamboo.
   - **NUnit Test Results File/Directory** — Enter the name of the test results file/directory. The test files must be in NUnit XML format. For more information on NUnit, see [http://www.nunit.org/](http://www.nunit.org/).
4. Click Save.

**NUnit Runner**

This page describes how to configure a NUnit Runner executable for a Bamboo task.

When creating a new job or configuring an existing one, you need to specify the tasks that will execute the job's builds. You must specify an executable for each task. If you specify an Ant, Grails or Maven executable, you will also need to choose a JDK.

### Related pages:
- Configuring a NUnit Runner task

When creating a new plan, you can configure the tasks for the plan's default job.

An executable is a program external to Bamboo used to automate processes. Generally, executables compile source code to generate compiled executable files (referred to as artifacts in Bamboo). Ant, Maven, MSBuild or PHPUnit are just some examples of executables that can be used as part of your build process.

New executables can be defined as capabilities in Bamboo. Once an executable has been defined in Bamboo, it can be configured as part of a task.

Configuring a NUnit Runner executable for a task

Before you begin:

- .NET builder tasks in Bamboo (e.g. NUnit Runner) do not parse test information as part of the task. You must configure a test task (e.g. MSTest Parser), if you want test results from the builder task to be parsed.
To configure a NUnit Runner executable for a task:

1. Navigate to the task configuration for the job (this will be the default job if creating a new plan).
2. Click the name of the desired NUnit Runner task, or click Add Task and then NUnit Runner if creating a new task.
3. Update the task settings:

<table>
<thead>
<tr>
<th>Setting</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Task Description</td>
<td>A description of the task, which gets displayed in Bamboo.</td>
</tr>
<tr>
<td>Executable</td>
<td>The NUnit Runner executable that is available to perform the task. The executable that you select will become one of the task's (and so, the job's) requirements. You can add other executables, if required.</td>
</tr>
<tr>
<td>NUnit Test Files</td>
<td>The name of an assembly (.dll), Visual Studio project (.csproj), or NUnit Test Suite (.nunit) to test. See <a href="http://www.nunit.org/">http://www.nunit.org/</a>.</td>
</tr>
<tr>
<td>Result Filename</td>
<td>The name to be used for the XML results file.</td>
</tr>
<tr>
<td>Tests to Run</td>
<td>The name of the test case, test fixture or namespace to run.</td>
</tr>
<tr>
<td>Test Categories to Include</td>
<td>Specify one or more test categories, separated by commas, to be included in the test run.</td>
</tr>
<tr>
<td>Test Categories to Exclude</td>
<td>Specify one or more test categories, separated by commas, to be excluded from the test run. Exclusions take precedence over inclusions.</td>
</tr>
<tr>
<td>Command Line Options</td>
<td>Specify any command line options or switches you wish to include when running NUnit.</td>
</tr>
</tbody>
</table>

4. Click Save.

For more information on NUnit, see http://www.nunit.org/.
PHPUnit
This page describes how to configure a **PHPUnit** executable for a Bamboo task.

When creating a new job or configuring an existing one, you need to specify the tasks that will execute the job's builds. You must specify an executable for each task. If you specify an Ant, Grails or Maven executable, you will also need to choose a JDK.

When creating a new plan, you can configure the tasks for the plan's default job.

An executable is a program external to Bamboo used to automate processes. Generally, executables compile source code to generate compiled executable files (referred to as artifacts in Bamboo). Ant, Maven, MSBuild or **PHPUnit** are just some examples of executables that can be used as part of your build process.

New executables can be defined as capabilities in Bamboo. Once an executable has been defined in Bamboo, it can be configured as part of a task.
To configure a PHPUnit executable for a task:

1. Navigate to the task configuration for the job (this will be the default job if creating a new plan).
2. Click the name of the desired command task, or click Add Task and then a PHPUnit option (e.g. 'PHPUnit') if creating a new task.
3. Update the task settings:
   - **Task Description** — Enter a description of the task, for display in Bamboo.
   - **Executable** — Select the PHPUnit executable that you wish to configure for this task (e.g. "PHPUnit 3.3.x" or "PHPUnit"). The executable that you select will become one of the task’s capability requirements (and hence, one of the job’s requirements). For details, please see Configuring a Job’s Requirements.
   - **Arguments** — Type the name of the directory/files that will be analysed recursively by PHPUnit. The default value is "." (i.e. the working subdirectory, if specified). You must specify at least one argument.
4. If required, update the system environment variables and working directory settings:

   **Environment Variables**
   - **(Optional)** Additional system environment variables that you want to pass to your build. Note that existing environment variables are automatically available to the executable. You can also include Bamboo global or build-specific variables (see Using global, plan or build-specific variables).
   - Multiple variables should be separated with spaces. Parameters with spaces must be quoted (e.g ANT_OPTS="-Xms200m -Xmx700m").

   **Working Sub Directory**
   - **(Optional)** An alternative subdirectory, relative to the job’s root directory, where Bamboo will run the executable. The root directory contains everything checked out from the job’s configured source repository. If you leave this field blank, Bamboo will look for build files in the root directory. This option is useful if your task has a build script in a subdirectory and the executable needs to be run from within that subdirectory.

5. Update the following build parameters:
   - **Log test execution to XML file** — Select if you want PHPUnit to record test results in JUnit format. This format is also used by TestNG.
   - **Test Result File** — Enter the location of the file to record JUnit test results.
   - **Generate code coverage report in HTML format** — Select if you want PHPUnit to generate code coverage data in HTML format (e.g. for PHPUnit HTML Code Coverage reports).
   - **HTML Code Coverage Directory** — Enter the location of the directory to record HTML coverage data.
6. Click Save.

Configuring a deployment task

Deployment tasks in Bamboo allow you to set up plans that can manage the continuous deployment and delivery of your application.

See the following pages for more information on configuring specific deployment tasks in Bamboo:

- Using Tomcat with Bamboo for continuous deployment
- Using the SCP task in Bamboo
- Using the SSH task in Bamboo
- Using the Heroku task in Bamboo

Using Tomcat with Bamboo for continuous deployment

You can use Bamboo to deploy and manage your Java web application with Tomcat 6 or 7, without having to directly interact with Maven, Ant or write special scripts.

Bamboo provides tasks that use the HTTP-based scripting interface to the Tomcat Manager application that ships with Tomcat. You can use the Bamboo tasks to perform the following Tomcat operations:

- Deploy an application to a Tomcat instance
- Start an application in a Tomcat instance
- Stop an application in a Tomcat instance
- Reload an application to a Tomcat instance
- Undeploy an application from a Tomcat instance

Each of these tasks run as part of a Bamboo job.

On this page:

- Setting up Tomcat
- Deploying an application from Bamboo
  - Configuring the Tomcat tasks

Related pages:

- Configuring a deployment task

Atlassian blogs:

- Continuous deployment with Bamboo and Tomcat

Setting up Tomcat

You will need to prepare the Tomcat server before Bamboo can manage and deploy applications to it.

1. Download the Tomcat 7 distribution and unzip it on your file system.

2. Add a new Tomcat user for Bamboo to use the Tomcat Application Manager by adding the following line in conf/tomcat-users.xml between the <tomcat-users> tags:

   `<user username="bamboo" password="bamboo" roles="manager-script,manager-gui"/>

3. Start Tomcat by running bin/startup.sh on Linux or Mac, or bin/startup.bat on Windows.
4. Test this setup by browsing to http://localhost:8080/manager and using the username and password you
configured in the step above. You should see the “Tomcat Web Application Manager” page, and a list of the running applications on your instance.

For more information about the Tomcat Application Manager and its authentication and authorisation configuration see the Tomcat documentation.

Deploying an application from Bamboo

You use Tomcat deployment tasks in the context of a job in a build plan in Bamboo. This plan should generate a deployable artifact, such as a WAR file. To deploy the artifact, you add a Tomcat deploy task to the plan, as follows:

1. Navigate to the task configuration for the job (this will be the default job if you are creating a new plan).
2. Click Add Task and then Deploy Tomcat Application.
3. Configure the Tomcat task settings, as described below.
4. Click Save.
5. To deploy the application, simply run the plan.

You can check that the deployment has been successful by:

1. Navigating to the logs for the job. Towards the end you should see something like:

> Deploying application with war file ‘target/tomcat-test-0.1.war’ to context ‘/myapp’ to server [http://localhost:8080/manager/] (http://localhost:8080/manager/)
> Application was successfully deployed.

This indicates that Bamboo completed the task successfully.
2. Now, browse to the expected address for your application. You should see the welcome page.

Configuring the Tomcat tasks

The Tomcat Deploy, Start, Stop, Undeploy and Reload tasks each make use of some or all of the following configuration settings:

<table>
<thead>
<tr>
<th>Task Description</th>
<th>To help you to identify the task.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tomcat Manager URL</td>
<td>The URL for the Tomcat Manager e.g. <a href="http://localhost:8080/manager/">http://localhost:8080/manager/</a></td>
</tr>
<tr>
<td>Target Tomcat server is version 6.x</td>
<td>Choose this if deploying to a Tomcat 6.x server.</td>
</tr>
<tr>
<td>Tomcat Manager Username and Password</td>
<td>These should match the credentials set in conf/tomcat-users.xml when you configured Tomcat, as described above.</td>
</tr>
<tr>
<td>Application Context</td>
<td>Specifies where the application should sit on the Tomcat server once deployed.</td>
</tr>
</tbody>
</table>
## WAR File

The path to the WAR file, relative to the Bamboo working directory, for example “target/tomcat-test-0.1.war”

## Deployment Tag

The value used to tag the deployment within the Tomcat Manager. You can use Bamboo variables to build the tag value.

For example, using the value `${bamboo.buildResultKey}` will tag the deployment with the build number of the build that was used to deploy the application.

### Deploy Tomcat Application Configuration

<table>
<thead>
<tr>
<th>Task Description</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Tomcat Manager URL *</th>
</tr>
</thead>
<tbody>
<tr>
<td><code>http://localhost:8080/manager/</code></td>
</tr>
<tr>
<td>The URL to the Tomcat Application Server Manager, eg <code>http://localhost:8080/manager</code></td>
</tr>
<tr>
<td>Target Tomcat server is version 6.x</td>
</tr>
<tr>
<td>The application has been re-structured for Tomcat 7 onwards and some of the URLs have changed</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Tomcat Manager Username *</th>
</tr>
</thead>
<tbody>
<tr>
<td><code>admin</code></td>
</tr>
<tr>
<td>An authorized username for the Tomcat Application Server Manager</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Tomcat Manager Password *</th>
</tr>
</thead>
<tbody>
<tr>
<td>An authorized password for the Tomcat Application Server Manager</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Application Context *</th>
</tr>
</thead>
<tbody>
<tr>
<td><code>/test</code></td>
</tr>
<tr>
<td>The Application Context to deploy the application to, eg <code>mywebapp</code></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>WAR File *</th>
</tr>
</thead>
<tbody>
<tr>
<td>The path of the WAR to deploy relative to the working directory</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Deployment Tag</th>
</tr>
</thead>
<tbody>
<tr>
<td>The value used to tag the deployment within the Tomcat Application Server Manager. You can use Bamboo Variables to build your own tag value</td>
</tr>
</tbody>
</table>

### Using the SCP task in Bamboo

You can use the Bamboo SCP task to upload files from Bamboo directly to a remote server as part of a Bamboo job. The SCP task is able to copy multiple files and preserves the directory structure for the copied files.

See [Configuring a deployment task](#) for an overview of Bamboo deployment tasks.
To configure an SCP task:

1. Navigate to the Tasks configuration tab for the job (this will be the default job if creating a new plan).
2. Click the name of the SCP task, or click Add Task and then SCP Task if creating a new task.
3. Complete the following settings:

<table>
<thead>
<tr>
<th>Task Description</th>
<th>Helps you identify the purpose of the task.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Host</td>
<td>The hostname or IP address of the remote server to which the files will be copied.</td>
</tr>
<tr>
<td>Verify remote host fingerprint on connect</td>
<td>Enter the host fingerprint to be verified. See below for more details.</td>
</tr>
<tr>
<td>Port</td>
<td>The port number of the remote host that is used for the SSH connection. The default value is 22.</td>
</tr>
<tr>
<td>Username</td>
<td>The username to use to connect to the remote host.</td>
</tr>
<tr>
<td>Authentication Type</td>
<td>Password – the password associated with Username.</td>
</tr>
<tr>
<td></td>
<td>Key without passphrase – browse to the SSH private key with which to authenticate with the remote host.</td>
</tr>
<tr>
<td></td>
<td>Key with passphrase – browse to the SSH private key, and supply the passphrase, to use to authenticate with the remote host.</td>
</tr>
<tr>
<td>Local Path</td>
<td>The local path to the files you want to copy. Use commas to separate files and directories. You can also use Ant-style pattern matching to include multiple files, such as <em>/target/</em>.jar.</td>
</tr>
<tr>
<td>Remote Path</td>
<td>The path to the destination directory on the remote server.</td>
</tr>
</tbody>
</table>

4. Click Save.
SCP Task Configuration

Task Description

Host*

Hostname or IP address of the remote host

☑ Verify remote host fingerprint on connect

Host fingerprint

Port

22

Port number for remote host ssh connection. Default value is 22.

Username*

Username you want to use to access the remote host

Authentication Type*

Key with passphrase

SSH Key*

SSH private key you want to use to access the remote host

SSH Passphrase*

Passphrase you want to use to access SSH private key

Local Path*

Location of files to copy to remote host

This is a comma separated list of files or directories. You can also use ant style patterns such as **/target/*.jar.

Remote Path*


Save  Cancel

Host fingerprint

You can determine the fingerprint for a host by running:
Using the SSH task in Bamboo

You can use the Bamboo SSH task to execute an SSH command on a remote computer as part of a Bamboo job.

You can use the SSH task to do such things as:

- Calling database migration scripts
- Starting and stopping services
- Anything you can run on the command line on a remote machine

See Configuring a deployment task for an overview of Bamboo deployment tasks.

To configure an SSH task:

1. Navigate to the Tasks configuration tab for the job (this will be the default job if creating a new plan).
2. Click the name of the SSH task, or click Add Task and then SSH Task if creating a new task.
3. Complete the following settings:

<table>
<thead>
<tr>
<th>Task Description</th>
<th>Helps you identify the purpose of the task.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Host</td>
<td>The hostname or IP address of the remote server on which the SSH Command will be executed.</td>
</tr>
<tr>
<td>Verify remote host fingerprint on connect</td>
<td>Enter the host fingerprint to be verified. See below for more details.</td>
</tr>
<tr>
<td>Port</td>
<td>The port number of the remote host that is used for the SSH connection. The default value is 22.</td>
</tr>
<tr>
<td>Username</td>
<td>The username to use to connect to the remote host.</td>
</tr>
<tr>
<td>Authentication Type</td>
<td>Password – the password associated with Username.</td>
</tr>
</tbody>
</table>
Key without passphrase – browse to the SSH private key with which to authenticate with the remote host.

Key with passphrase – browse to the SSH private key, and supply the passphrase, to use to authenticate with the remote host.

| SSH Command | The shell command to execute on the remote host. You can only enter a single command here. |

4. Click **Save**.

**SSH Task Configuration**

- **Task Description**
- **Host**
  - Hostname or IP address of the remote host
  - **Verify remote host fingerprint on connect**
- **Host fingerprint**
- **Port**
  - 22
  - Port number for remote host ssh connection. Default value is 22.
- **Username**
- **Authentication Type**
  - **Key with passphrase**
- **SSH Key**
  - **Browse...**
  - SSH private key you want to use to access the remote host
- **SSH Passphrase**
  - Passphrase you want to use to access SSH private key
- **SSH command**
  - Shell command to execute on the remote host
You can determine the fingerprint for a host by running:

```
ssh-keygen -l -F <HOSTNAME>
```

The fingerprint is the part of the response shown in the screenshot below:

![Fingerprint screenshot](image)

**Pattern matching reference**

Bamboo supports a powerful type of regular expression for matching files and directories (as with pattern matching in Apache Ant).

These expressions use the following wild cards:

<table>
<thead>
<tr>
<th>Wild Card</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>?</td>
<td>Matches one character (any character except path separators)</td>
</tr>
<tr>
<td>*</td>
<td>Matches zero or more characters (not including path separators)</td>
</tr>
<tr>
<td>**</td>
<td>Matches zero or more path segments.</td>
</tr>
</tbody>
</table>

Remember that Ant globs match paths, not just simple filenames.

- If the pattern does not start with a path separator i.e. / or \, then the pattern is considered to start with /** /.
- If the pattern ends with / then ** is automatically appended.
- A pattern can contain any number of wild cards.

Also see the [Ant documentation](#).

**Examples**

<table>
<thead>
<tr>
<th>Pattern</th>
<th>Matches</th>
</tr>
</thead>
<tbody>
<tr>
<td>*.txt</td>
<td>/foo.txt and /bar/foo.txt but not /foo.txt or /bar/foo.txt/</td>
</tr>
<tr>
<td>/*.txt</td>
<td>/foo.txt but not /bar/foo.txt</td>
</tr>
</tbody>
</table>
### Using global, plan or build-specific variables

Variables can be used to set static values that are used when building plans in Bamboo.

- **Global variables** are defined across your entire Bamboo instance, and have the same (static) value for every plan that is built by Bamboo.
- **Plan variables** are similar to global variables, but are defined for specific plans. Plan variables override global variables with the same name. You can also override a plan variable for a build, if you have triggered the build manually.
- **Build-specific variables** are evaluated by Bamboo dynamically at build time. The source of a build-specific variable can either be a Bamboo property or one of the default plugins (assuming they have been enabled).
- **System variables** also apply across your entire Bamboo instance and inherit their values from system or environment variables of the same name.

#### Specifying variables

**Global variables**

See [Defining global variables](#) for information on defining global variables.

The usage format for all global variables is:

```
${bamboo.globalVarName}
```

---

**On this page:**

- [Specifying variables](#)
- [Using variables](#)
- [Examples of variables usage](#)
- [Specifying capabilities as variables](#)

**Related pages:**

- [Defining global variables](#)
- [Defining plan variables](#)
- [Running a plan build manually](#)
- [Configuring plugins](#)
Plan variables

See Defining plan variables for information on defining plan variables. You can override a plan variable for a build, if you have triggered the build manually. For details, see Triggering a plan Build Manually.

The usage format for all plan variables is:

```
${bamboo.varName}
```

Build-specific variables

The following build-specific variables are also available by default:

<table>
<thead>
<tr>
<th>Build-specific variable</th>
<th>Source</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>buildKey</td>
<td>Bamboo property</td>
<td>The job key for the current job in the form PROJECT-PLAN-JOB, e.g. BAM-MAIN-JOBX</td>
</tr>
<tr>
<td>buildNumber</td>
<td>Bamboo property</td>
<td>The Bamboo build number, e.g. 1 23</td>
</tr>
<tr>
<td>buildPlanName</td>
<td>Bamboo property</td>
<td>The Bamboo plan name e.g. Some Project name - Some plan name</td>
</tr>
<tr>
<td>buildTimeStamp</td>
<td>Bamboo property</td>
<td>The time when build was started in ISO 8601 format e.g. 2010-01-01T01:00:00.000+01:00</td>
</tr>
<tr>
<td>buildForceCleanCheckout</td>
<td>Bamboo property</td>
<td>Whether the “Force Clean Build” option was used, values:true/false</td>
</tr>
<tr>
<td>build.working.directory</td>
<td>Bamboo property</td>
<td>The working directory that the build is being executed on</td>
</tr>
<tr>
<td>ManualBuildTriggerReason.userName</td>
<td>Bamboo property</td>
<td>The user who triggered the manual build</td>
</tr>
<tr>
<td>repository.revision.number</td>
<td>Plugin</td>
<td>The revision number</td>
</tr>
<tr>
<td>repository.branch.name</td>
<td></td>
<td>The repository branch name (for Bamboo version 4.2 or later)</td>
</tr>
<tr>
<td>repository.previous.revision.number</td>
<td>Plugin</td>
<td>The previous revision number (might not exist if for example is initial build)</td>
</tr>
<tr>
<td>Variable Name</td>
<td>Type</td>
<td>Description</td>
</tr>
<tr>
<td>----------------------------------------</td>
<td>------------</td>
<td>-----------------------------------------------------------------------------</td>
</tr>
<tr>
<td>custom.svn.revision.number</td>
<td>Plugin</td>
<td>(For Subversion only) The revision number</td>
</tr>
<tr>
<td>custom.svn.lastchange.revision.number</td>
<td>Plugin</td>
<td>(For Subversion only) The last changed revision number</td>
</tr>
<tr>
<td>custom.svn.username</td>
<td>Plugin</td>
<td>(For Subversion only) User name used for repository authentication</td>
</tr>
<tr>
<td>repository.svn.repositoryUrl</td>
<td></td>
<td>(For Subversion only) The repository url</td>
</tr>
<tr>
<td>custom.cvs.last.update.time</td>
<td>Plugin</td>
<td>(For CVS only) The last updated timestamp</td>
</tr>
<tr>
<td>custom.cvs.last.update.time.label</td>
<td>Plugin</td>
<td>(For CVS only) The last updated timestamp to be used as a label for post build result labelling. The spaces in the cvs version string are replaced with '_'</td>
</tr>
<tr>
<td>custom.p4.revision.number</td>
<td>Plugin</td>
<td>(For Perforce only) The change set number</td>
</tr>
<tr>
<td>custom.p4.username</td>
<td>Plugin</td>
<td>(For Perforce only) User name used for repository authentication</td>
</tr>
<tr>
<td>custom.p4.port</td>
<td>Plugin</td>
<td>(For Perforce only) Port used for repository communication</td>
</tr>
<tr>
<td>custom.p4.client</td>
<td>Plugin</td>
<td>(For Perforce only) Client used for repository communication</td>
</tr>
<tr>
<td>repository.git.branch</td>
<td></td>
<td>(For Git only) The branch</td>
</tr>
<tr>
<td>repository hg.repositoryUrl</td>
<td></td>
<td>(For Mercurial only) The repository url</td>
</tr>
<tr>
<td>repository hg.branch</td>
<td></td>
<td>(For Mercurial only) The branch</td>
</tr>
<tr>
<td>repository hg.username</td>
<td></td>
<td>(For Mercurial only) User name used for repository authentication</td>
</tr>
</tbody>
</table>

- **System variables** also apply across your entire Bamboo instance and inherit their values from system or environment variables of the same name.

The usage format for all build-specific variables is:

```
${bamboo.varName}
```

System variables
The usage format for all system variables is:

\${system.<variable>}

For example, if you have a system variable MYPATH=C:\MyPath; you can use a Bamboo system variable system.MYPATH which will inherit the same value as the system variable.

**Using variables**

Variables can be used in the following fields of your build plan:

<table>
<thead>
<tr>
<th>Field</th>
<th>Global</th>
<th>Build-specific</th>
<th>System</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Goal</strong> (for Maven builders only)</td>
<td>![ ]</td>
<td>![ ]</td>
<td>![ ]</td>
</tr>
<tr>
<td>— see Configuring tasks</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Build File</strong> (for Ant and NAnt builders only)</td>
<td>![ ]</td>
<td>![ ]</td>
<td>![ ]</td>
</tr>
<tr>
<td>— see Configuring tasks</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Target</strong> (for Ant and NAnt builders only)</td>
<td>![ ]</td>
<td>![ ]</td>
<td>![ ]</td>
</tr>
<tr>
<td>— see Configuring tasks</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Options</strong> (for NAnt builders only)</td>
<td>![ ]</td>
<td>![ ]</td>
<td>![ ]</td>
</tr>
<tr>
<td>— see Configuring tasks</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Script</strong> (for Scripts only)</td>
<td>![ ]</td>
<td>![ ]</td>
<td>![ ]</td>
</tr>
<tr>
<td>— see Configuring tasks</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Argument</strong> (for Scripts and Custom Commands only)</td>
<td>![ ]</td>
<td>![ ]</td>
<td>![ ]</td>
</tr>
<tr>
<td>— see Configuring tasks</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Environment Variables</strong></td>
<td>![ ]</td>
<td>![ ]</td>
<td>![ ]</td>
</tr>
<tr>
<td>— see Configuring tasks</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Repository URL</strong> (for Subversion repositories only)</td>
<td>![ ]</td>
<td>![ ]</td>
<td>![ ]</td>
</tr>
<tr>
<td>— see Specifying the source repository</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Web Repository URL</strong> (for Subversion, CVS and Perforce repositories)</td>
<td>![ ]</td>
<td>![ ]</td>
<td>![ ]</td>
</tr>
<tr>
<td>— see Specifying the source repository</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Examples of variables usage

Maven example

For example, you may want your Maven 2 version to be determined by Bamboo. In Maven 2 `pom.xml` you may have:

```xml
...  
<groupId>com.atlassian.boo</groupId>  
<artifactId>boo-test</artifactId>  
<packaging>jar</packaging>  
<version>1.1.1-${env.bambooBuildNumber}-SNAPSHOT</version>  
...  
```

You can then specify the following in the **Goal** field of your build plan:

```
clean package -DbambooBuildNumber=${bamboo.buildNumber}
```

When the command runs, Bamboo will replace the `buildNumber` with the actual number (e.g. 1102), which will be passed to the underlying Maven build to use. The command will then produce a jar that looks like this: `boo-test-1.1.1102-SNAPSHOT.jar`.

**Ant example**

You can then specify the following in the **Target** field of your build plan:

```
-f build.xml -DbambooBuildNumber=${bamboo.buildNumber}
```

When the command runs, Bamboo will replace the `buildNumber` with the actual number (e.g. 1102), which will be passed to the underlying Ant build to use.

**Specifying capabilities as variables**

You can also specify a capability to be used in a similar way to a global variable.

The format of the capability should be as follows:
For example,

- **Custom**
  
  \(\textit{${bamboo.capability.<capability_key}>}$

- **JDK**
  
  \(\textit{${bamboo.capability.system.jdk.<jdk_label>}}\)

- **Builder**
  
  \(\textit{${bamboo.capability.system.builder.<builder_type>.<builder_label>}}\)
  
  e.g. \(\textit{${bamboo.capability.system.build.maven.Maven1}}\)

- **Perforce**
  
  \(\textit{${bamboo.capability.system.p4Executable}}\)

If you click on a capability, the specific capability key will be contained in the URL.

Please note, the space characters in the URL will be replaced with ‘+’ characters. We recommend that you do not use capability labels with space characters, if you wish to use them as variables. A possible solution for space characters is to format them with '${}' symbols, however, this does not work in all cases.

**Using capabilities**

Global and Build-Specific Variables can be used in a specific fields of your build plan, as specified above. For capabilities,

- **System Capabilities** are available to all of these fields, (i.e. global and build-specific).
- **Agent Capabilities** (i.e. agent-specific and shared/server capabilities) are available only to the build-specific fields. (i.e. not available to Repository URL, CVS Root or Branch name.)

For example,
If you wanted to specify a system variable, but have it set to different values on each agent, do the following:

1. Set the following as a system environment variable field on the **Builder** tab:

   $$\text{${bamboo.capability.thatsystemvariable}$}$$

2. Specify the system environment variable as a custom capability on each of your agents, and set to the capability to the different values, as desired.

### Defining global variables

When configuring a plan, you may want to specify variables to be used in the build process. For details on how variables are used, see [Using global, plan or build-specific variables](#).

**Global variables** are one type of variable that is available to you. Global variables are defined across your entire Bamboo instance, and have the same value for every plan that is built by Bamboo. If you want to define a variable for a specific plan rather than across all plans, define a plan variable as described in [Defining plan variables](#).

Global variables can be accessed by using $$\text{${bamboo.globalVarName}$}$$. Global variables can also be overridden at runtime when running a manual build. For more information, see [Running a plan build manually](#).

**Related pages:**

- [Using global, plan or build-specific variables](#)
- [Defining plan variables](#)
- [Running a plan build manually](#)

### To access the global variables page:

1. Click the **Administration** link in the top navigation bar.
2. Click **Global Variables**, in the left navigation column under the 'Build Resources' section.
3. Add, update or delete the global variables, as desired:
   - Click **Add** to add a new variable once you have entered the key and value for it.
   - Updates to existing rows will be saved as you move between cells in the table.
   - Click the trash can to delete a variable.

**Screenshot: Global variables**
Working with builds

The following pages contain information on working with your Bamboo builds. If you are looking for information on configuring a job, please see Configuring jobs and tasks.

- Working with build results
- Working with comments
- Working with labels
- Quarantining failing tests
- Setting up plan build dependencies
- Viewing test statistics for a job
- Reordering jobs in the build queue
- Stopping an active build

Working with build results

About builds

A build is the execution of either a plan or a job. The execution of a plan is referred to as a 'plan build' and that of a job is a 'job build'.

Related pages:
- Viewing a build result
- Deleting the results of a plan build
- Working with comments
- Working with labels
- Assigning responsibility for build failures
- Configuring build results expiry for a plan

About build results

Every completed build has a build result:
- 'Successful' — the code compiled, with or without errors, and all tests completed successfully.
- 'Failed' — either the code did not compile, or at least one test failed.
'Incomplete' — the build was not completed, e.g. it may have been stopped manually.

Additionally,

- if the build result is 'Failed', and the previous build result was 'Successful', the build is said to be 'Broken'.
- if the build result is 'Successful', and the previous build result was 'Failed', the build is said to be 'Fixed'.

The latest build result for every plan is listed on the Dashboard. Bamboo can also send notifications and generate RSS feeds about build results.

**Viewing a build result**

The instructions on this page describe how to view the build results for a plan.

Every completed build has a *build result*:

- 'Successful' — the code compiled, with or without errors, and all tests completed successfully.
- 'Failed' — either the code did not compile, or at least one test failed.
- 'Incomplete' — the build was not completed, e.g. it may have been stopped manually.

Additionally,

- if the build result is 'Failed', and the previous build result was 'Successful', the build is said to be 'Broken'.
- if the build result is 'Successful', and the previous build result was 'Failed', the build is said to be 'Fixed'.

**Viewing the most recent build result for a plan**

**To view the most recent job build result of a plan:**

1. Click **Dashboard** in the top menu.
2. Locate the plan on the **All Plans** tab, then click the build number.

---

**On this page:**

- Viewing the most recent build result for a plan
- Viewing all build results for a plan
- Viewing all build results for a job

**Related pages:**

- Viewing test results for a build
- Viewing the code changes that triggered a build
- Viewing a build's artifacts
- Viewing a build log
- Viewing the metadata for a build result
- Viewing linked JIRA issues
- Reporting

---

Screenshot: Build Result Summary
## Tab Description

### Build Summary
- Displays a snapshot of the build result.
  - ✓ indicates a successful build.
  - ✗ indicates a build that was not completed. For example, it may have been stopped manually.
  - ✧ indicates a failed build. If a build has failed, you can run the entire build again or rerun just the failed stage.

### Tests
- Provides details of the build's test results.

### Changes
- Provides details of the code changes that triggered this build (if applicable).

### Artifacts
- Shows any artifacts relating to this build.

### Logs
- Displays a complete build log.

### Metadata
- Displays any metadata that relates to this build.

### Build Times
- Displays a histogram of build times for jobs, and a list of which agents were used to build each job.

### Issues
- Provides details of the JIRA issues linked to this build (if applicable). Availability depends on Bamboo's configuration.
### Clover

| Displays the [Clover code-coverage](https://www.clover.io) that relates to this build (if applicable). Availability depends on Bamboo's configuration. |

- You can click the **Comment** button to [add a comment](#).
- You can assign responsibility for a broken build, either to yourself (click **Claim full responsibility**) or to someone else in your team (click **Assign responsibility**).

### Viewing all build results for a plan

**To view all build results for a plan:**

1. Click **Dashboard** in the top menu.
2. Click the plan on the **All Plans** tab. The ten most recent builds will be displayed in the 'Recent History' section on the **Plan Summary** tab. See [Viewing a plan's build information](#).
3. Click the **History** tab to view all builds for the plan.

### Viewing all build results for a job

**To view all build results for a job:**

1. Navigate to the desired job, as described on [Configuring jobs](#). The ten most recent builds will be displayed in the 'Recent History' section of the **Job Summary** tab.
2. Click the **History** tab to view all builds for the job.

### Viewing test results for a build

Bamboo provides a convenient summary of all the tests that were run when a particular build was executed — as well as full details of any errors. This is useful when you are investigating what caused a build to fail.

Note that for more meaningful display of test names within Bamboo, the word 'test' is stripped out of test case names if it occurs at the beginning, and capitals and underscores are treated as word separators.

**Related pages:**

- [Viewing a test's history](#)

**To view the test results for a particular build:**

1. Navigate to the build results for the plan or job, as described in [Viewing a build result](#), and click the desired build result.
2. Click the **Tests** tab.
   - Click the test name to see a particular test's results for [other builds](#).

**Screenshot: Test results for a build**
Viewing a test's history

A test's history shows you:

- The occasions when the test has failed. This can be useful when investigating what code changes were related to a failed test (see below).
- The test's average duration (running time), and whether the duration is increasing or decreasing across builds.

**Related pages:**

- Viewing test results for a build

To view a test's history:

1. Navigate to the build results for the Plan/Job, as described in Viewing a build result, and click the desired build result.
2. Click the Tests tab.
3. Click the name of the test in which you are interested. The test's latest result will be displayed.
4. Click View test case across builds. The 'Test History' will be displayed, as shown below.

Screenshot: Test History
Viewing the code changes that triggered a build

If a build was triggered by a code change, the updated files will be listed in the build result.

When Atlassian's FishEye is connected to your Bamboo server, you can view the code changes that triggered a build. When a build fails due to a compilation error or failed test, you can explore the failed build in FishEye and jump directly into the changeset that broke the build. You can view the history of that changeset to see what the author was trying to fix, take advantage of the the side-by-side diff view to analyze the change and then open the correct files in your IDE.

To view the code changes that triggered a particular build result:

1. Navigate to the build results for the plan, as described in Viewing a build result, and click the desired build result.
2. Click the Changes tab. A list of updated files will be shown.
   - Click the link to the source file to view the changes.
   - Click the version number to view the entire file.
   - Click the diffs link to view the differences between the current and previous version of each file.

Links to individual source-code files will only be available if your Bamboo administrator has connected the plan to the source repository, as specified in the 'Advanced Options' on the 'Source Repositories' tab for the plan. For details, please see Integrating Bamboo with FishEye.
Viewing a build’s artifacts
After a build has run, you can view the artifacts that were produced by all of the jobs in the plan. You can also view the latest version of an artifact from the most recent build.

Artifacts are files created by a job build (e.g. JAR files). Artifact definitions are used to specify which artifacts to keep from a build and are configured for individual jobs.

Viewing the artifacts for a build

To view a build’s artifacts:

1. Go to the build result. See Viewing a build result for instructions.
2. Click the Artifacts tab. The artifacts produced by the jobs in the plan will be displayed. The artifact definitions for a job determine which artifacts are kept and which artifacts are shared with other jobs in the plan.
   - The artifacts that are marked as shared (in the artifact definitions) are listed under 'Shared Artifacts'.
   - The artifacts that are not marked as shared (in the artifact definitions) are listed under 'Job Artifacts'.

On this page:
- Viewing the artifacts for a build
- Viewing the latest version of an artifact from the latest build

Related pages:
- Configuring a job’s build artifacts
- Configuring artifact sharing between jobs

Viewing the latest version of an artifact from the latest build

To view the latest version of an artifact from the most recent build, you can manually edit the build artifact URL to retrieve it.

To view the latest version of an artifact from the most recent build:

1. Copy the URL for the build artifact.
2. Paste the URL for the build artifact in your browser and replace the build number in the URL with '/latest'.
   - If you need to log in to view the artifacts, you can append os_username and os_password parameters to the URL to access the files.

For example, if the URL for your artifact is:
http://server/bamboo/browse/MYBUILD-254/artifact/logs/sample-log.log
You would replace ‘-254’ with /latest:
http://server/bamboo/browse/MYBUILD/latest/artifact/logs/sample-log.log

Screenshot: Build Artifacts
Viewing a build log

Every build has a build log. A build log is a permanent record of all the output generated by compiling the job's source-code and executing the tests.

**Related pages:**
- Working with build results

**To view a build log:**

1. Navigate to the build results for the plan or job, as described in Viewing a build result, and click the desired build result.
2. Click the Log tab.
   - Click View for the desired log.
   - Click Download to download a text file of the log.

**Screenshot: Build Log**
Viewing the metadata for a build result

If your source-code repository provides metadata (i.e. key-value properties that are used to describe your build) for your build results, Bamboo will display it.

**Related pages:**

- Working with build results

To view the metadata for a build result:

1. Navigate to the build results for the plan or job, as described in Viewing a build result, and click the desired build result.
2. Click the Metadata tab.

Screenshot: Metadata for a Build Result
Assigning responsibility for build failures

Bamboo automatically alerts the people who are assigned as responsible for a broken build, and lets other members of the team know that someone is looking at the problem. As you investigate the build failure, you can revise who is responsible, or claim all the responsibility for yourself!

People are assigned as being responsible for fixing a broken build in two ways:

- When a build fails, Bamboo automatically assigns all those who committed code to the failing build as responsible.
- You can manually assign people as being responsible.

Bamboo then sends notifications to whoever is assigned. Once the build is successful, Bamboo removes the responsible people from the build – they’re off the hook!

Note that notifications need to have been configured first, using the ‘Change of Responsibilities’ Event and the ‘Responsible User’ Recipient Type. See Configuring notifications for a plan and its jobs for more information.

To assign responsibility for a broken build manually:

1. Go to the Build Result Summary for a plan.
2. Click Assign responsibility to make another member of your team responsible for fixing the build.
3. Click Claim full responsibility if you want to shoulder all the blame yourself.

People who are responsible for the broken build are displayed on the Build Result Summary.
Broken builds that are assigned to you are displayed on your My Bamboo page, available from the Dashboard.

### Build Result Summary

<table>
<thead>
<tr>
<th>Details</th>
<th>Responsible</th>
</tr>
</thead>
<tbody>
<tr>
<td>Trigger</td>
<td>This build was manually triggered by Sarah Goff-Dupont.</td>
</tr>
<tr>
<td>Revisions</td>
<td>Bitbucket API 880f20a... Bitbucket Core 880f20a... Bitbucket Web App a7141b9... Git Submodules Repo c7f09cc...</td>
</tr>
<tr>
<td></td>
<td>James Dumay</td>
</tr>
<tr>
<td></td>
<td>Jans Schmacher Assigned by James Dumay</td>
</tr>
<tr>
<td></td>
<td>Sarah Goff-Dupont Assigned by James Dumay</td>
</tr>
</tbody>
</table>

#### Configuring build results expiry for a plan

By enabling build expiry for just a plan (described below), you override the global expiry settings that affect all plans. If you disable build expiry for a plan, that plan's build result data will never be automatically deleted from your Bamboo server.

You can choose the build result data that will be kept for a plan and for how long this data will be kept (e.g. for reporting purposes), before Bamboo automatically deletes it.

You can also delete the results of a plan build manually — see Deleting the results of a plan build.

**On this page:**
- Configuring the expiry of build results for a plan
- Disabling the expiry of build results for a plan

**Related pages:**
- Editing a plan's configuration
- Configuring global build results expiry

#### Configuring the expiry of build results for a plan

Before you begin:
- Ensure that you back up your build results data before its expiry date is reached.

To enable and configure the expiry of build result data for a particular plan:

1. Navigate to the configuration for the desired plan, as described on Editing a plan's configuration.
2. Click Miscellaneous to display the plan's current build expiry settings.
3. Select the Override global build expiry configuration check box. The following fields will be displayed:

<table>
<thead>
<tr>
<th>Setting</th>
<th>Result</th>
</tr>
</thead>
<tbody>
<tr>
<td>Build results</td>
<td>All build results data (including artifacts and build logs) are deleted.</td>
</tr>
<tr>
<td>Artifacts</td>
<td>Only user-defined artifacts are deleted from the build results.</td>
</tr>
<tr>
<td>Build logs</td>
<td>Only build logs are deleted from the build results.</td>
</tr>
</tbody>
</table>
Expiry period

Specifies the period (days, weeks or months) for which you want to keep build results. E.g. specify '24 months' to keep all build results for the last two years.

Minimum builds to keep

Specifies the minimum number of build results you want to keep. E.g. specify '50' to keep the latest 50 build results, even if they are older than the period specified with Expiry period.

Labels to keep

Specifies the build labels (not plan labels or job labels) applied to builds for which you want to keep build results, regardless of the Expiry period and Minimum builds to keep settings. Note that builds can be labelled either manually or automatically.

4. Click Save.

Note that the build expiry event is a global event that runs periodically, regardless of whether you disable or enable build expiry in your plans. When this event occurs, the build results for your plan will be expired according to the criteria specified in the settings above or globally. To configure the global event and global build expiry settings, please refer to Configuring global build results expiry.

Screenshot: Enabling Build Expiry

<table>
<thead>
<tr>
<th>Build Expiry</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bamboo will remove expired data when the global build expiry schedule is triggered. You can override the global criteria for expired data, for this plan, in the settings below.</td>
</tr>
<tr>
<td>Override global build expiry configuration</td>
</tr>
<tr>
<td>This will enable and override build expiry for the build</td>
</tr>
<tr>
<td>What should be expired?</td>
</tr>
<tr>
<td>Build results</td>
</tr>
<tr>
<td>The entire result will be removed (including artifacts)</td>
</tr>
<tr>
<td>Artifacts</td>
</tr>
<tr>
<td>User defined artifacts will be expired</td>
</tr>
<tr>
<td>Build logs</td>
</tr>
<tr>
<td>Build log will be expired</td>
</tr>
<tr>
<td>Expiry criteria</td>
</tr>
<tr>
<td>Expiry period</td>
</tr>
<tr>
<td>Minimum builds to keep</td>
</tr>
<tr>
<td>Minimum number of builds per plan to keep (e.g. 1 will keep the last build only), the rest will expire. Use 0 to ignore this option.</td>
</tr>
<tr>
<td>Don't expire builds with certain labels</td>
</tr>
</tbody>
</table>

Disabling the expiry of build results for a plan

To disable expiry of the build result data for a particular plan:

1. Navigate to the configuration for the desired plan, as described on Editing a plan's configuration.
2. Click Miscellaneous.
3. Select the Override global build expiry configuration check box.
4. Enter '999999999 months' for the Expiry Period. This is a workaround for this Bamboo issue (BAM-4270). Please vote for this issue, if you would like to see it implemented in Bamboo.
5. Click Save.
Deleting the results of a plan build

If the results of a plan builds are no longer required, you can completely remove the them from your Bamboo system. The results include all the results of all job builds that were processed as part of an individual plan build (with a specific build number).

Note that you can also remove job build result data that reaches a particular age. See Configuring global build results expiry or Configuring expiry of a plan's job build results for more information.

To delete the result of a plan build:

1. Click Dashboard and then the All Plans tab.
2. In the list of plans, click the name of the desired plan.
3. Click the History tab. A table of completed plan build results will be displayed, with the most recent builds at the top.
4. Locate the desired build result and click Delete. (see screenshot below).
5. Confirm the deletion. The plan build result and any artifacts generated as a result of the plan build's execution will be deleted.
**Working with comments**

Comments are a useful way to record and share information about builds. There are two types of comments in Bamboo:

- Comments you make **when you commit code** — these comments are automatically copied into Bamboo from your source-code repository. See [Viewing code check-in comments](#).
- Comments you make **about a build result** — these are comments that you make ad-hoc about a particular build result. See [Commenting about a build result](#) and [Viewing comments about a build result](#).

**Related topics**

For information on working with comments, see the following topics:

- [Commenting about a build result](#)
- [Viewing comments about a build result](#)
- [Viewing code check-in comments](#)

**Commenting about a build result**

Bamboo allows you to record comments about a build result. This is a convenient way to record relevant information for future reference, and to collaborate with colleagues.

You can include JIRA issue keys into your comments. Bamboo will automatically convert these into hyperlinks to the respective JIRA issues. Bamboo needs to have been configured for JIRA integration, and the issue key must be of the default JIRA issue key format (that is, two or more uppercase letters ([A-Z] [A-Z]+), followed by a hyphen and the issue number, for example BAM-123).

**Before you begin:**

- You must be logged in to Bamboo before you can comment on a build result.

**Related pages:**

- [Working with comments](#)
- [Viewing a build result](#)

**To comment on a build result:**

1. Navigate to the desired build result, as described on [Viewing a build result](#).
2. In the 'Build Result' screen, click **Comment**.
3. Type your comment into the **Comment** box, then click **Add**.

**Screenshot: Adding a comment to a build result**
Viewing comments about a build result

Bamboo allows you to record comments about a build result. This is a convenient way to record relevant information for future reference, and to collaborate with colleagues. You can view comments recorded against build results by other users.

**Viewing comments about a particular build result**

To view comments about a particular build result:

1. Navigate to the desired build result, as described on Viewing a build result.
2. A list of all comments about this build result will be displayed in the ‘Summary’ tab, including author and timestamp. Comments added to the job that produced the build result will also be displayed.

**On this page:**

- Viewing comments about a particular build result
- Viewing comments on the Plan or Job Summary

**Related pages:**

- Working with comments
- Commenting about a build result
- Viewing a build result
To view comments about a build result a Plan summary or Job summary:

1. Navigate to the desired plan or job, as described on Configuring plans and Configuring jobs and tasks.
2. The plan or job's build results will be displayed in the 'Recent History' section of the Plan or Job Summary. The message icon (📢) indicates that there are one or more comments about a particular build result. Hover your mouse over the icon to see the comments.

Viewing code check-in comments

If a build was triggered by a code change, the commit comment (or check-in comment) will be shown in the build result.

To view the code check-in comments for a particular build result:

1. Navigate to the desired build result, as described on Viewing a build result.
2. The build's commit comment will be shown to the right of the screen, under the heading 'Code Changes'.
You can see more details on the **Changes** tab of the Build Result Summary page.

Note that you can include links to JIRA issues in a change comment simply by typing the key. Bamboo automatically converts the key to a link, as long as the key is of the default JIRA issue key format (that is, two or more uppercase letters ([^A-Z]+), followed by a hyphen and the issue number, for example BAM-123).

**Related pages:**
- Working with comments
- Triggering builds

### Working with labels

#### About labels

A **label** is a convenient way to tag and group **build results** that are logically related to each other. Labels can also be used to define **RSS feeds** and to control **build expiry**.

Labels can be applied to build results automatically, by specifying the label(s) in a plan (note that only Bamboo administrators can do this). Labels can also be **applied ad hoc** to build results by Bamboo users.

With Bamboo, you can label your **build results** in whatever way works best for your team. Labels are not restricted to a particular **plan**, so you can apply the same label to build results from different plans.

For example, it might not be practical for your QA team to review every build, and you need to know which builds they have reviewed. By using labels such as "qa_passed" and "qa_failed", Bamboo allows them to simply indicate which builds have passed and failed QA.

**Related pages**

For information on working with labels, see the following topics:

- Labelling a build result
- Removing a label from a build result
- Viewing labelled build results
- Viewing popular labels
- Labelling a plan

### Labelling a build result

With Bamboo, you can label your **build results** in whatever way works best for your team. Labels are not restricted to a particular **plan**, so you can apply the same label to build results from different plans.

For example, it might not be practical for your QA team to review every build, and you need to know which builds they have reviewed. By using labels such as "qa_passed" and "qa_failed", Bamboo allows them to simply indicate which builds have passed and failed QA.

You can include JIRA a issue key in the label, as long as the key is of the default JIRA issue key format (that is,
two or more uppercase letters ([A-Z][A-Z]+), followed by a hyphen and the issue number, for example BAM-123).

Before you begin:

- You must be logged in to Bamboo before you can label a build result.

**Related pages:**
- Working with labels

**To label a build result:**

1. Navigate to the desired build result, as described on Viewing a build result.
2. Click the pencil icon (✏️), next to Labels in the ‘Details’ section.
3. Type the relevant label (or multiple labels, separated by commas or spaces). Note that the label will be saved in lowercase characters.
4. Click Close.

Note that:

- You can view a list of existing labels by clicking the Labels link.
- You can also label a build result using Instant Messaging.

**Removing a label from a build result**

A label is a convenient way to tag and group build results that are logically related to each other. Labels can also be used to define RSS feeds and to control build expiry.

Labels can be applied to build results automatically, by specifying the label(s) in a plan (note that only Bamboo administrators can do this). Labels can also be applied ad hoc to build results by Bamboo users.

Before you begin:

- You must be logged in to Bamboo before you can label a build result.

**Related pages:**
- Working with labels

**To remove a label from a build result:**

1. Navigate to the desired build result, as described on Viewing a build result.
2. Click the pencil icon (✏️), next to the Labels in the 'Details' section.
3. Click the ‘x’ at the right of the label you want to remove.
4. Click Close.

**Viewing labelled build results**

A label is a convenient way to tag and group build results that are logically related to each other. Labels can also be used to define RSS feeds and to control build expiry.

Labels can be applied to build results automatically, by specifying the label(s) in a plan (note that only Bamboo administrators can do this). Labels can also be applied ad hoc to build results by Bamboo users.

**Related pages:**
- Working with labels

**To view all build results which have a particular label:**

1. Navigate to the All Plans tab of the Dashboard.
2. Click **Filter Plans** (or the label name).
3. Click the label of interest. The list of all build results which have that label will be displayed.

### Viewing popular labels

A *label* is a convenient way to tag and group *build results* that are logically related to each other. Labels can also be used to define *RSS feeds* and to control *build expiry*.

Labels can be applied to build results automatically, by specifying the label(s) in a plan (note that only Bamboo administrators can do this). Labels can also be *applied ad hoc* to build results by Bamboo users.

When **labelling a build result**, it can be useful to see which labels are most popular, that is, most frequently used by your colleagues.

### Related pages:

- Working with labels

### To view the most popular labels:

1. Navigate to the desired build result, as described on [Viewing a build result](#).
2. Click the **Labels** link in the 'Details' section.
3. Click **See also labels in All Projects**.
4. Click **By Popularity**.

This will display a list all labels that are used in Bamboo, by popularity. You can click any label to see a list of all build results which have that label.

### Quarantining failing tests

There may be times when you want to prevent a failing test from causing the whole build to fail.

Possible scenarios where this may be useful include:

- You want to build an artifact despite there being a failing test, but can’t do this while the plan build is failing.
- In test-driven development (TDD), a test will fail until the functionality is implemented - you want to quarantine all but the relevant tests.
- A test may give unpredictable results, perhaps because of infrastructure issues or dependencies.
- You want to remove a test from a build, but don’t want to alter or delete the test source code because doing so could affect another Bamboo plan.

In Bamboo, you can temporarily disconnect any test’s results from the plan build results by quarantining the test. The test is still run whenever the plan is built, but the test’s results do not affect the plan’s build results.

You can always restore a test's results to the build results when required, for example if the test is now passing.

All the quarantined tests for a plan are displayed on the **Quarantined Tests** tab of the plan summary. The status bar for each test shows the recent build history of the test.

### On this page:

- To quarantine a failing test
- To restore a quarantined test to a build
To quarantine a failing test

You need plan administrator permission to quarantine a test.

1. Choose Dashboard > All Plans > #buildresult to go to the build result where the test is failing.
2. Click Quarantine for the failing test (in the ‘Build Result Summary’ screen).

To restore a quarantined test to a build

You need plan administrator permission to restore a test.

1. Choose Dashboard and click on a plan to go to the plan’s summary.
2. Click the Quarantined Tests tab.
3. Click Unleash for the test to be restored.

Screenshot: The quarantined tests for a plan, showing the Status bar.

Setting up plan build dependencies

You may want to trigger a plan build when another plan’s build has successfully completed. This ensures that changes to any job’s source code associated with one plan does not break the build of another dependent plan (known in this context as a ‘child’ plan).

For example, there could be two plans in Bamboo:

1. Acme – Core — which contains the core code for an application.
2. Acme – Plugin — which contains code for a plugin to the application.

In this scenario, the Acme – Plugin plan is a child of Acme – Core. Any changes to source code associated with the Acme – Core plan should trigger a build of Acme – Plugin.
On this page:

- Triggering dependent plans
- Automatic dependency management with Maven 3
- Dependency blocking
- Notes

Triggering dependent plans

To trigger a child plan to build when this plan builds successfully:

1. Click Dashboard and then the All Plans tab.
2. Locate the plan in the list and click the edit icon to display the plan's Configuration pages.
3. Click the Dependencies tab.
4. Under 'Child Plans', begin typing a plan name in Search for plan to select child plans to trigger. You can set multiple plans to be triggered.
5. Click Save.

Automatic dependency management with Maven 3

Automatic Dependency Management is a feature for users who use Maven 3 and wish for their parent and child dependencies to be set up according to the dependencies in the Maven pom.xml. Every time the plan is run, the Bamboo Automatic Dependencies are updated to reflect any additions or removals of Maven dependencies.

To setup automatic dependency management:

1. Click Dashboard and then the All Plans tab.
2. Locate the plan in the list and click the edit icon to display the plan's configuration pages.
3. Locate the job that contains the pom.xml you wish to use to automatically update plan dependencies by analysing a Maven pom file.
5. Click on the Tasks tab.
6. Click Add Task and add the Maven Dependency Processor task to the job. For best results, ensure that the task runs last by dragging it to the bottom of the task list. For more information on configuring tasks, see Configuring tasks.

<table>
<thead>
<tr>
<th>Setting</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Override Project File</td>
<td>Optional. The location relative to the working directory or sub-working directory where the project file (pom.xml) is located.</td>
</tr>
<tr>
<td>Working Sub Directory</td>
<td>Optional. The sub directory from which the Task should look for the project file (pom.xml)</td>
</tr>
<tr>
<td>Alternate location of settings.xml</td>
<td>Optional. Specify an alternate settings.xml to be used if the Task needs to resolve dependencies from specific Maven repositories.</td>
</tr>
<tr>
<td>Path to Maven local repository</td>
<td>Optional. Specify a full path to a local Maven repository for the Task to use to resolve dependencies.</td>
</tr>
</tbody>
</table>

7. Click Save.
8. Use the Plan Navigator to return to the plan.
9. Click the Dependencies tab.
10. Select Automatic Dependency Management. You should see the name of the job for which you configured the Maven Dependency Processor appear.
11. Click **Save**.

### Dependency blocking

Dependency blocking is an advanced feature of dependent build triggering that can be used to manage plan builds with parent build dependencies. This ensures that a "tree" of dependent builds always runs in tree hierarchy order, even if child plan builds are triggered independently of their parents. For more information, see [Dependency blocking strategies](#). Please note, dependency blocking only works when the plan build is triggered because of source repository code updates.

### Notes

Build dependencies work together with the trigger configuration of plans to trigger builds of these plans. For example, you can set up Plan A to **poll its repository for changes** as well as to be dependent on a parent plan (Plan B). In this case, builds of Plan A will be triggered when code changes are detected in its repository *and also when* builds of Plan B complete successfully.

If you want your builds to *only* be triggered by successful parent builds from your build dependencies, don't configure triggering for your child plans at all. See [Running a plan build manually](#).

- If the child build **uses the same source** as the parent build (for example, the Subversion URL is the same), the child build will be forced to check out the same revision of source code as the parent build. This ensures that builds are consistent when triggering one build from another.
- Take care not to create **circular dependencies**, where your child build triggers one of its parent builds. Otherwise your plans may build continuously. See [Running a plan build manually](#).

### Dependency blocking strategies

Dependency blocking is an advanced feature of dependent build triggering that can be used to manage the builds of plans that have parent plans. This ensures that a 'tree' of dependent builds always runs in tree hierarchy order, even if child plan builds are triggered independently of their parents.

The three dependency blocking strategies are:

<table>
<thead>
<tr>
<th>Strategy</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Do not block</strong></td>
<td>When triggered by a source code update, the plan will always be built, regardless of any parent plan build dependencies.</td>
</tr>
<tr>
<td><strong>Block build if parent builds are queued or in progress</strong></td>
<td>When triggered by a source code update, the plan will <em>not</em> be built if its parent plans are building or are waiting in the build queue.</td>
</tr>
<tr>
<td><strong>Block build if parent plans have unbuilt changes</strong></td>
<td>When triggered by a source code update, the plan will <em>not</em> be built if its parent plans are building, are waiting in the build queue, or have changes. When Bamboo finds parent plans with source repository changes, those plans will be triggered and your plan will be blocked.</td>
</tr>
</tbody>
</table>

Note that for the **Block build if parent plans have unbuilt changes** option, only the repositories of parent plans that are specified by triggers (that is, by the **Polling the repository for changes** or **Repository triggers the build when changes are committed** trigger types) are scanned for unbuilt changes; if there are repository changes (for parent plans), then the parent plans are triggered and the current plan is blocked.

⚠️ **Dependency blocking only works when the plan uses a trigger configuration based on source code updates (i.e. Polling the repository for changes or Repository triggers the build when changes are committed).** This feature will not work when a plan uses a trigger configuration based on a **schedule** or **triggered via a parent build** (when...
there are multiple parent plan builds in progress).

These dependence blocking strategies are illustrated in the flowchart below:

---

**Viewing test statistics for a job**

Bamboo provides a summary of test results across all of a job's builds. This helps you to:

- **Troubleshoot** by identifying which tests fail most frequently, and which tests take longest to fix.
- **Manage your build duration** by identifying the plan's slowest running tests.
- **Ensure quality** by monitoring the number of tests over time: are your test cases growing with your code base?

*Related pages:*
- [Reporting](#)

**To view the test statistics for all of a job's builds:**

1. Navigate to the desired build result page, as described in [Viewing a build result](#).
2. Click the **Tests** tab.
3. Click the sub-tabs to filter the rest statistics (see screenshots below).
   - To view a test's **history**, click the test name.

*Screenshot: Test statistics for a job*
Reordering jobs in the build queue

Bamboo automatically assigns a plan's jobs to the build queue when the plan is triggered and no agents are available to run them. The build queue is displayed on the Current Activity tab of the Dashboard.

If you want to prioritise one job build over another in the build queue, you can manually reorder these jobs in the build queue. This will not force a job build to run immediately, but will promote it in the build queue. Your job build will still require an agent (which has the capabilities to meet the job's requirements) to become available. Similarly, you can demote a job build in the build queue if you do not need it to run urgently.

Bamboo administrators can reorder plans in the queue. To do this, use the icon to move the plan to its new position in the queue.
Stopping an active build
The instructions on this page describe how to stop a plan or job build that is running.

Note that if your Bamboo server runs on Windows, it may only be possible to stop an active build by going to the Windows Task Manager and ending the relevant processes.

To start a building a plan manually, see Running a plan build manually.

On this page:
- Stopping an active plan build
- Stopping an active job build

Related pages:
- Running a plan build manually
- Disabling or deleting a plan
- Disabling or deleting a job

Stopping an active plan build
To prevent Bamboo submitting a plan to the build queue, refer to Disabling or deleting a plan.

To stop an active plan build:
1. Click Dashboard and then the All Plans tab.
2. Click the ‘Stop’ icon next to the active plan you want to stop.

Stopping an active job build
To prevent Bamboo submitting a job to the build queue, refer to Disabling or deleting a job.

To stop an active job build:
1. Click Dashboard and then the All Plans tab.
2. Click the name of the plan.
3. Click the ‘Stop’ icon next to the active job you want to stop (in the ‘Current Activity’ section).

Getting feedback
Getting immediate feedback about build results is the essence of continuous integration. Furthermore, getting reports on activity of your development team can give you deep insights into your process efficiencies and schedule risks.

Notifications
Bamboo can send notifications to your team about the success or failure of their builds in a number of ways:
- The Wallboard
- Email
- Instant messaging
- RSS feeds

Reports
Bamboo provides various reports about the build activity of your development team:
- Summary statistics for all users
- Build results for an author
- Comparison charts for authors
Notifications

Bamboo can send notifications about build results so that you can find out immediately about the success or failure of your builds.

You can get notifications in different ways:

<table>
<thead>
<tr>
<th>Notifications Method</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Bamboo Wallboard</strong></td>
<td>Show build results on a dedicated monitor.</td>
</tr>
<tr>
<td></td>
<td>See <a href="#">Displaying the wallboard</a></td>
</tr>
<tr>
<td><strong>Email (e.g. GMail)</strong></td>
<td>Get build results in your inbox.</td>
</tr>
<tr>
<td></td>
<td>See <a href="#">Configuring notifications</a></td>
</tr>
<tr>
<td><strong>Instant messaging (e.g. HipChat, Google Talk)</strong></td>
<td>Send notifications to your dev chat room.</td>
</tr>
<tr>
<td></td>
<td>See <a href="#">Configuring notifications</a></td>
</tr>
<tr>
<td><strong>RSS feeds</strong></td>
<td>Get aggregated key information about your builds.</td>
</tr>
<tr>
<td></td>
<td>See <a href="#">Subscribing to RSS feeds</a></td>
</tr>
</tbody>
</table>

See also [Changing your notification preferences](#).

Displaying the wallboard

A development team can benefit from setting up a dedicated monitor to display Bamboo’s latest build results using the Bamboo wallboard.

The Bamboo wallboard can display the latest results for:

- all plans that you have permission to see.
- just your favourite plans.
- plans filtered by plan label.

The branches wallboard displays the status of all the branches and the plan that the branches belong to.
How do I do that?

Log in to Bamboo. This is optional when displaying all plans if your Bamboo administrator has allowed anonymous access.

Go to the Dashboard.

<table>
<thead>
<tr>
<th>Task</th>
<th>Action</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>All plans</td>
<td>Wallboard &gt; All Plans</td>
<td>Alternatively, use the following URL in your browser, replacing 'bambooserver' with the real name of your Bamboo server: <a href="http://bambooserver:8080/bamboo/telemetry.action">http://bambooserver:8080/bamboo/telemetry.action</a></td>
</tr>
<tr>
<td>Favourite plans</td>
<td>Wallboard &gt; Favourite Plans</td>
<td>Only users who have logged in to Bamboo can specify and access favourites. Alternatively, use the following URL in your browser, replacing 'bambooserver' with the real name of your Bamboo server: <a href="http://bambooserver:8080/bamboo/telemetry.action?f=filter=favourites">http://bambooserver:8080/bamboo/telemetry.action?f=filter=favourites</a></td>
</tr>
<tr>
<td>Filtered plans</td>
<td>Wallboard &gt; Filtered Plans</td>
<td>You need to have set up a plan filter first. See Using the Bamboo Dashboard.</td>
</tr>
</tbody>
</table>

Notes

- You will only be able to display those plans that you have permission to see.
- Once you are viewing the wallboard in your browser window, set your browser to ‘full screen’ mode to make the wallboard fill your entire screen. (Use F11 for common browsers on Windows and UNIX/Linux-based systems and Shift+Cmd+F for Firefox on Mac OS X.)
- If you are going to display the wallboard permanently, you may want to ask your Bamboo administrator to create a user who has only a limited set of permissions.
- If your wallboard is displayed on a touchscreen (such as an iPad) or its content can be accessed with a ‘human interface device’, such as a mouse, then touching or clicking a build result on the wallboard shows more information about that build.
Configuring notifications for a plan and its jobs

Notifications in Bamboo are triggered by a range of events involving a plan and its jobs, including build completion, build outcomes and comments being posted against build results. You can configure whether notifications are sent for a particular event and who they are sent to. Users can choose whether to receive their notifications via email, IM, both or neither.

For each plan or job, you can specify different recipients for each type of event notification. Also be aware that these recipients do not require Bamboo user accounts.

Adding notifications for a plan or job

Before you begin:

- You must have the 'Edit' permission for a plan, to add or remove notifications for it.
- You need to configure Bamboo’s SMTP email and/or instant messaging capabilities before Bamboo can send notifications. If you have not configured either or both of these, a note will display on the page prompting you to set up the appropriate server(s):
  - To configure an email server for Bamboo, click Add an Email Server in the note and enter the email server details in the window that displays. See Configuring Bamboo to send SMTP Email for more information.
  - To configure an instant messaging server for Bamboo, click Add an Instant Messaging Server in the note and enter the instant messaging server details in the window that displays. See Configuring Bamboo to use Instant Messaging for more information.

On this page:

- Adding notifications for a plan or job
- Notification events
- Removing notifications from a plan or job

Related pages:

- Notifications
- Editing a plan's configuration
- Changing your notification preferences
- Granting plan permissions in bulk
- Configuring Bamboo to send SMTP Email
- Configuring Bamboo to use Instant Messaging

To add a notification for a plan or its jobs:
1. Navigate to the configuration for the desired plan, as described on Editing a plan’s configuration.
2. Click the Notifications tab.
3. Set up a new notification in the ‘Add Build Notification’ section as follows:

<table>
<thead>
<tr>
<th>Setting</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Event</td>
<td>Select the event type you want to be notified about. Refer to the list of events for details.</td>
</tr>
<tr>
<td>Recipient Type</td>
<td><strong>User</strong> — Enter the username of the appropriate Bamboo user, or click the icon to select from a list of users.</td>
</tr>
<tr>
<td></td>
<td><strong>Hipchat</strong> — Enter the Hipchat API Token and Room Name. See Integrating Bamboo with HipChat for more information.</td>
</tr>
<tr>
<td></td>
<td><strong>Group</strong> — Enter the name of the appropriate Bamboo group(s).</td>
</tr>
<tr>
<td></td>
<td><strong>Email Address</strong> — You can use email to send notifications to a person who is not a Bamboo user. Type the appropriate email address. Note that:</td>
</tr>
<tr>
<td></td>
<td>- If you specify the email address of an existing Bamboo user, the user will receive notifications even if they have elected not to receive notifications in their user preferences.</td>
</tr>
<tr>
<td></td>
<td><strong>IM Address</strong> — This is useful if you need to send Instant Messenger (IM) notifications to a person who is not a Bamboo user. Type the appropriate IM address. Note that:</td>
</tr>
<tr>
<td></td>
<td>- If you specify a broadcast address (e.g. ‘<a href="mailto:project-x@broadcast.chat.mycompany.com">project-x@broadcast.chat.mycompany.com</a>’), Bamboo will not know the context of related IM responses.</td>
</tr>
<tr>
<td></td>
<td>- If you specify the IM address of an existing Bamboo user, the user will receive notifications even if they have elected not to receive notifications in their user preferences.</td>
</tr>
</tbody>
</table>

| Responsible Users | The Bamboo users who have been assigned as being responsible for a broken build. See Assigning responsibility for build failures. |
| Committers        | The Bamboo users who have committed code to a particular build since build was last checked out by Bamboo. |
| Watchers          | The Bamboo users who have marked this plan as one of their favourites. |

4. Click Add, then configure further notifications if required.
5. Click Save when you have finished.
Screenshot: Plan build notifications

<table>
<thead>
<tr>
<th>Plan Details</th>
<th>Source Repositories</th>
<th>Branches</th>
<th>Stages</th>
<th>Dependencies</th>
<th>Permissions</th>
<th>Notifications</th>
<th>Variables</th>
<th>Miscellaneous</th>
<th>Audit Log</th>
<th>Run</th>
<th>Actions</th>
</tr>
</thead>
</table>

**Notifications**

There are currently no notifications set up for this Plan.

**Add build notification**

**Event**

- **All Builds Completed**
  - Notification sent for every fully completed build

**Recipient Type**

- **User**
  - The username of the user to notify

**Add** | **Cancel**

### Notification events

<table>
<thead>
<tr>
<th>Plan Events</th>
<th>Description</th>
</tr>
</thead>
</table>
| **All Builds Completed** | Bamboo will send a notification whenever the plan build finishes, regardless of the plan build's result. This notification is recommended for any plans whose latest build activity is critical for people to be informed about. 
✔️ This is a good plan-based notification to use if you are new to Bamboo. You can change it to a less obtrusive notification option as you become more confident with continuous integration and Bamboo's build processes. |
| **Change of Build Status** | Bamboo will send a notification only when there has been a change in status of the plan's build activity over consecutive plan builds — for example, only whenever a plan's latest build changes from successful to failed or vice versa (i.e. 'fixed').
✔️ This notification option is less obtrusive than the other plan notifications mentioned above. |
| **Failed Builds And First Successful** | Bamboo will send a notification whenever: 
- a build of this plan fails. 
- the plan is 'fixed' (that is, the plan's latest build is successful and the previous plan build failed).
✔️ This notification is generally suitable for the majority of plans. |
| **After X Failed Builds** | This notification allows you to specify the **Number Of Failures** (i.e. number of failed builds of this plan), after which Bamboo will send a notification.
✔️ This notification option minimises the number of messages sent by Bamboo if the plan's builds fail on a frequent basis. You can also use this event to escalate plan build problems, for example, to notify a manager when a plan build fails five times. |

Created by Atlassian in 2012. Licensed under a Creative Commons Attribution 2.5 Australia License.
| **Comment Added** | Bamboo will send a notification whenever a [comment is posted against a plan build result](#). The email notification will contain all comments against the plan build, whereas IM notifications will only contain the comment that triggered this notification event.  
✔ This notification can help improve collaboration between team members. Be aware that you will not receive notifications for any comments which you post yourself. |
|-----------------|---------------------------------------------------------------|
| **Change of Responsibilities** | Bamboo will send a notification whenever someone is added to, or removed from, the list of those responsible for a broken build.  
✔ This notification can help improve collaboration between team members. |
| **Job Events** | |
| **All Jobs Completed** | Bamboo will send a notification whenever a job build of the plan finishes, regardless of the job build's result. This notification is recommended if the latest build activity of all jobs in this plan are critical for people to be informed about.  
✔ This is a good job-based notification to use if you are new to Bamboo. You can change it to a less obtrusive notification option as you become more confident with continuous integration and Bamboo's build processes. |
| **Change of Job Status** | Bamboo will send a notification only when there has been a change in build activity status of the jobs within this plan over consecutive plan builds — for example, only whenever the latest build of any job in this plan changes from successful to failed or vice versa (i.e. 'fixed').  
✔ This notification option is less obtrusive than the other job notifications mentioned above. |
| **Failed Jobs And First Successful** | Bamboo will send a notification whenever:  
- a build of this job fails.  
- the job is 'fixed' (that is, the job's latest build is successful and the previous job build failed). |
| **First Failed Job For plan** | If multiple jobs fail in a plan, Bamboo will only send a notification for the first failing job detected by the Bamboo system.  
✔ This is a less obtrusive notification option that informs about a failing job (and hence, plan) in the shortest possible time. |
### Job Error
Bamboo will send a notification whenever an error occurs in one of the plan’s job build processes (i.e. the activities that Bamboo performs to run a job build). This event is not related to failures of the actual build itself (see the Failed Jobs And First Successful and Failed Builds And First Successful events above). For example, a notification will be sent if Bamboo encounters an error when connecting to the repository, or detecting changes.

### Job Hung
Bamboo will send a notification whenever it determines that one of the plan’s job builds has hung, according to the hung job build criteria (read more about configuring your hung job build settings). Use this notification to ensure that the relevant people are informed when a job build becomes unresponsive.

### Job Queue Timeout
Bamboo will send a notification whenever one of the plan’s job builds has been waiting in the queue for longer than the build queue timeout criteria (read more about configuring your job’s Build Queue Timeout settings). Use this notification to ensure that the relevant people are informed when a job build is stuck in the build queue for too long.

### Job Queued Without Capable Agents
Bamboo will send a notification whenever one of the plan’s job builds is queued and there are no agents capable of building it. Use this notification to ensure that people are notified when changes to agents adversely affect your job’s builds.

### Removing notifications from a plan or job

Before you begin:

- You must have the ‘Edit’ permission for a plan, to add or remove notifications for it.

### To remove notifications for a plan or its jobs:

1. Navigate to the configuration for the desired Plan, as described on Editing a plan’s configuration.
2. Click the Notifications tab.
3. Click Remove for each of the notifications that you wish to remove.

### Configuring Bamboo to send SMTP Email

Bamboo can send email notifications about its build results. There are two steps to setting this up:

1. Configure Bamboo to send SMTP email (see below).
2. Configure a plan to send SMTP email notifications about build results (see Configuring notifications for a plan and its jobs).
Configuring Bamboo to send SMTP email

To configure Bamboo to send SMTP email:

1. Click Administration in the top navigation bar.
2. Click Mail Server in the left navigation column (under 'Communication'). This will display the 'Mail Server Details' page (see screenshot below).
3. Edit the mail server settings as necessary:

<table>
<thead>
<tr>
<th>Setting</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Name</td>
<td>A display-name for the email address e.g. 'SMTP Server'</td>
</tr>
<tr>
<td>From Address</td>
<td>The email address from which Bamboo notifications will be sent.</td>
</tr>
</tbody>
</table>
| Subject Prefix   | The text (if any) which will be added to the start of the email subject line. For example '[Bamboo]' will result in emails with subjects like:  
  - [Bamboo] TEST build 1,001 has FAILED (77 tests failed, no failures were new) : Change made by jsmith  
  - [Bamboo] TEST build 1,002 was SUCCESSFUL (with 77 tests) : Change made by jsmith |
| Email Settings   | Choose either SMTP or JNDI. See the Notes about JNDI below. |
| SMTP Server      | The address of the email server that Bamboo will use to send notifications e.g. 'mail.myserver.com'. |
| Username         | The login name of the account that Bamboo will use to login to the SMTP server. |
| Password         | The password of the account that Bamboo will use to login to the SMTP server. |
| JNDI Location    | Depends on your application server, and on the location of the 'mail' resource within the JNDI tree you specify. E.g. 'java:comp/env/mail/BambooMailServer'. |

4. Type a test email address in the Test Recipient Address box.
5. Click Test, and verify that a test email is received.
6. Click Save.

Screenshot: Email Server Details
Configuring email notifications for Gmail

Gmail.com uses TLS (SSL). A JNDI connector needs to be configured. Unfortunately the Bamboo distribution does not yet support JNDI with TLS.

**To enable Gmail as your mail server:**

1. Install [Bamboo as war on Tomcat](#)
2. Add the following configuration to your `apache-tomcat-xxx/conf/Catalina/localhost/server.xml` file:
<Context path="/bamboo" docBase="${catalina.base}/bamboo.war"
reloadable="true">
  <Resource name="mail/GmailSmtpServer"
    auth="Container"
    type="javax.mail.Session"
    mail.smtp.host="smtp.gmail.com"
    mail.smtp.port="465"
    mail.smtp.auth="true"
    mail.smtp.user="<your-name>@gmail.com"
    password="<your-pw>"
    mail.smtp.starttls.enable="true"
    mail.smtp.socketFactory.class="javax.net.ssl.SSLSocketFactory"
  />
</Context>

3. Ensure that the files `mail-X.X.jar` and `activation-X.X.jar` exist only in the `apache-tomcat-xx
x/lib` folder. You can move those installed at `<Bamboo-Install>/WEB-INF/lib` to `apache-tomcat
-xxx/lib` if they don't exist there yet. If they are already there, you can delete those shipped with
Bamboo.

4. Configure Bamboo to use a **JNDI Location** of `java:comp/env/mail/GmailSmtpServer`. Note that
the JNDI Location is case sensitive and must match the resource name specified in `server.xml`.

**Notes**

You can use a mail session as an alternative to specifying mail details directly in Bamboo. You configure the
mail session in your application server (e.g. in the server.xml file — see [Locating important directories and files](#)),
and then use JNDI to look up the preconfigured mail session. JNDI has the following advantages:

- **Centralised management** - mail details are configured in the same place as database details, and
  may be configured through your application server administration tools.
- **Better security** - mail details are not available to Bamboo administrators through the Bamboo
  interface, and aren't stored in Bamboo backup files.
- **More SMTP options** - e.g. SSL. If you want to use SMTP over SSL you will need to use JNDI.

### Configuring Bamboo to use Instant Messaging

Bamboo can send **Instant Messaging (IM) notifications** about its build results. There are two steps to setting this
up:

1. Configure Bamboo to use Instant Messaging (see below).
2. Configure a plan to send IM notifications about its build results (see [Configuring notifications for a plan and its jobs](#)).

Please note, Bamboo supports **XMPP protocol** for messaging. This means Bamboo can be used with **Gtalk** or
your enterprise XMPP server.

**Related pages:**

- [Configuring notifications for a plan and its jobs](#)
- [Configuring Bamboo to use Google Talk for Instant Messaging](#)

To configure Bamboo to use Instant Messaging:

1. Click **Administration** in the top menu bar.
2. Click **IM Server** in the left navigation panel (under 'Communication').
3. Click **Edit**.
<table>
<thead>
<tr>
<th>Setting</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Host</td>
<td>The address of your IM server (for example, 'chat.atlassian.com').</td>
</tr>
<tr>
<td>Port</td>
<td>The TCP port that your organisation uses for IM traffic (or leave this field blank to have Bamboo either perform a DNS lookup or use the default port).</td>
</tr>
<tr>
<td>Username</td>
<td>The login name of the IM account from which Bamboo notifications will be sent.</td>
</tr>
<tr>
<td>Change password</td>
<td>Select this if you have specified a username different from the currently logged-in user.</td>
</tr>
<tr>
<td>Resource</td>
<td>An identifying name for the connection if multiple clients use the same jabber account.</td>
</tr>
<tr>
<td>Requires a TLS/SSL connection</td>
<td>Select this if your IM server uses SSL.</td>
</tr>
<tr>
<td>Force legacy SSL</td>
<td></td>
</tr>
<tr>
<td>Test Recipient Address</td>
<td>You can test this configuration by entering an address and clicking Test.</td>
</tr>
</tbody>
</table>

4. Click **Save**.

**Screenshot: Instant Messaging server details**

**Update Instant Messaging Server Details**

Update the details of the instant messaging server in Bamboo, then click **Save**. Currently only XMPP (such as Jabber, Openfire) is supported.

- **Host**: chat.example.com
  - For example “chat.myserver.com”
- **Port**: 5432
  - If no port is specified, Bamboo will first perform a DNS SRV lookup or use the default port.
- **Username**: example-user
- **Resource**: bamboo01.example.com
  - Name of resource used to distinguish connections if multiple clients connect to the same jabber account. For example “bamboo01.myserver.com”.
- **Requires a TLS/SSL connection**

**Test Instant Messaging Server Configuration**

Enter recipient addresses below. Bamboo will test whether this instant messenger server setting is valid by sending a test message to the specified recipient(s).

- **Test Recipient Address** (optional)
  - You can enter in one (or more, comma separated) instant messaging address to which Bamboo will send a test instant message.

[Save] [Test] [Cancel]
Configuring Bamboo to use Google Talk for Instant Messaging

If your Bamboo server has access to the internet, it can use Google Talk to send IM notifications about build results.

**Related pages:**
- Configuring notifications for a plan and its jobs
- Working with Instant Messenger (IM) Notifications

Before you begin:

- Google Talk does not allow IM messages to be received unless the receiver has approved the sender. Please ensure that the Gmail user specified below is approved by each Google Talk recipient. That is, ensure that the 'Host' and 'Username' have previously sent messages to each other via Google Talk.
- The Google Talk service is hosted at talk.google.com. The default port is 5222. (Note: be aware that your firewall might be blocking traffic to this port.)
- TLS is required.
- The only supported authentication mechanism is SASL PLAIN. For additional information, please see: [http://code.google.com/apis/talk/open_communications.html](http://code.google.com/apis/talk/open_communications.html)

To configure Bamboo to use Google Talk for Instant Messaging:

1. Click **Administration** in the top menu bar.
2. Click **IM Server** in the left navigation panel (under 'Communication').
3. Click **Edit**. Modify the settings as required.

<table>
<thead>
<tr>
<th>Setting</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Host</strong></td>
<td>Type 'talk.google.com'. (If your IM Server uses an 'googlemail.com' account, type 'googlemail.com'.)</td>
</tr>
<tr>
<td><strong>Port</strong></td>
<td>Leave blank. Bamboo will perform a DNS lookup to figure out which port to use.</td>
</tr>
<tr>
<td><strong>Username</strong></td>
<td>Type the login name of the Google account from which IM notifications will be sent. Starting with Bamboo 3.4, you need to include the domain name, e.g. <strong><a href="mailto:atlassianbamboo@gmail.com">atlassianbamboo@gmail.com</a></strong> NOT <strong>atlassianbamboo</strong>.</td>
</tr>
<tr>
<td><strong>Change password</strong></td>
<td>Select this if you have specified a username different from the currently logged-in user.</td>
</tr>
<tr>
<td><strong>Resource</strong></td>
<td>An identifying name for the connection if multiple clients use the same jabber account.</td>
</tr>
<tr>
<td><strong>Requires a TLS/SSL connection</strong></td>
<td>Select this.</td>
</tr>
<tr>
<td><strong>Force legacy SSL</strong></td>
<td></td>
</tr>
<tr>
<td><strong>Test Recipient Address</strong></td>
<td>You can test this configuration by entering an address and clicking <strong>Test</strong>.</td>
</tr>
</tbody>
</table>

4. Click **Save**.

Modifying notification templates
If you want to customise the layout and content of your Bamboo notifications, you can customise the templates for each of the notification types (i.e. HTML email, text email, instant message) and events (e.g. Build Commented). The notification templates are written in **Freemarker**.

Some content in notifications can also be configured via system properties, such as the number of log lines to include in email notifications that display log information.

⚠️ Changes to notification templates only take effect after a Bamboo restart.

### On this page:
- Modifying a notification template
- Configuring notifications content via system properties
- Notes

### Related pages:
- Configuring Bamboo to use Instant Messaging

---

### Modifying a notification template

To modify a notification template:

1. Locate the default notification templates in your Bamboo distribution in `WEB-INF/classes/notification-templates/`
2. Copy the notification template that you wish to modify into the `templates/notification-templates` folder of your Bamboo home directory, e.g. HOME/templates/notification-templates
   - The filename will have formatted as: `<event name><notification type>.ftl`, e.g. `AfterXFailedHTMLEmail.ftl`
3. Modify the copied template, as desired. Please see the section on Working with Freemarker below for tips on updating templates.
4. Save your changes to the template. You need to restart your Bamboo server for the template changes to take effect.

### Working with Freemarker

The Bamboo notification templates are written in Freemarker. The Freemarker engine allows for dynamic content generation based on the Freemarker markup tags that are used in templates. This document does not describe the Freemarker language in detail. Please see the [Freemarker Online Manual](https://freemarker.org/) for full information on using this markup language.

Generating content via Freemarker involves merging a template (*.ftl file) with a context map. You can access any data in the context map from within the template using the Freemarker markup. For the notifications we have provided a specific subset of Bamboo objects that you can access. For example,

```freemarker
[#if buildSummary.successful]
${buildSummary.buildResultKey} was successful.
[/#if]
```

If you had a successful Bamboo build with build result, BAM-1234-1, the above markup would return the following text in your notification:

BAM-1234-1 was successful.

You can find more information on working with Freemarker, including Bamboo objects available from Freemarker templates, tips on writing Freemarker templates and examples in the [Freemarker and notification](https://freemarker.org/) documentation.
templates document.

Configuring notifications content via system properties

The following system properties can be configured to control some of the content that is included in notifications (e.g. the number of log lines to include in email notifications that display log information). For instructions on how to configure a system property, please refer to the Configuring system properties page.

Before you begin:
The system properties below do not add content to notifications. You still need to ensure that your notification templates contain the relevant entities to display the content. For example, changing the bamboo.notifications.logLinesToInclude property will not add log information to your notifications. It only modifies the number of log lines displayed in notification templates that already include logs.

<table>
<thead>
<tr>
<th>System Property</th>
<th>Description</th>
<th>Default Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>bamboo.notifications.logLinesToInclude</td>
<td>Specifies the number of log lines to include in email notifications that display log information.</td>
<td>100</td>
</tr>
</tbody>
</table>

Notes

- **Bamboo does not validate notification templates.** If you have incorrectly formatted the markup text in the template, Bamboo will still use the template to send out notifications. If this happens, your users may receive notifications with unreadable or missing information, as well as error messages. Errors will also be posted to your logs.

Freemarker and notification templates

Notification templates in Bamboo can be modified to customise the format and content of your notifications. The templates are written in Freemarker. This page is intended to complement the Modifying notification templates page and contains information on the Bamboo objects available from Freemarker templates, tips on writing Freemarker templates and examples.

⚠️ Changes to notification templates only take effect after a Bamboo restart.

On this page:

- Accessing Bamboo data
- Special considerations when working with Freemarker
- Freemarker examples

Related pages:

- Configuring Bamboo to use Instant Messaging
- Modifying notification templates

Accessing Bamboo data

Each individual notification has a different subset of data that can be accessed from the Freemarker templates. You can find information on the objects available in our javadocs below.

- Build Completed Notification ("All Completed Builds" and "Failed and First Success")
- After X Failed Builds Notification
- Build Commented Notification
- Build Hung Notification
- Build Error Notification
Special considerations when working with Freemarker

Never assume data exists

Unfortunately Freemarker is not very forgiving if data does not exist or is null. Hence, you will need to check whether information exists before adding it to a page. The sample code below shows how you can validate for non-existent data.

```
[if issue.jiraIssueDetails.summary?has_content][/if]
[if issue.jiraIssueDetails.summary??][/if]
${issue.jiraIssueDetails.summary?if_exists}
${issue.jiraIssueDetails.summary!}
```

Check the encoding of your information

Freemarker has built-in utilities for escaping special characters. These could be characters that you deliberately do not want to be interpreted as HTML, or data that could potentially contain malicious content. The sample code below shows how you can escape characters in Freemarker.

```
${commit.comment?html} // for data to be encoded to be displayed as html
${commit.author?url} // for data to be encoded for a url
```

You can find more information on these utilities in the official Freemarker documentation.

Use white space carefully

When editing text email content and instant message content, you need to be very careful with spacing and line breaks. Any spaces and line breaks that you have entered in the Freemarker template will also exist in the evaluated content. Freemarker provides you with some utilities to remove white space, so that you can still retain some formatting in the templates.

More information can be found the official Freemarker documentation.

Freemarker examples

Below are some raw examples of additional information that you can add to your emails.

Please note, these examples are intended to demonstrate the use of Freemarker and how to access Bamboo objects. You will need to modify these examples to include your desired formatting and make it work with your data.

List files in a commit
Provide test error details

Working with Instant Messenger (IM) notifications

Bamboo can send you notifications about build results for a particular plan. Each plan’s recipients are specified by a Bamboo administrator, but you can choose whether you would like to receive your Bamboo notifications via email and/or instant messenger (IM). See Changing your notification preferences.
As well as receiving IM notifications, you can interact with Bamboo using IM, as described on this page.

On this page:
- Labelling a build result using IM
- Commenting about a build result using IM

Related pages:
- Working with labels
- Configuring Bamboo to use Instant Messaging
- Getting feedback

Labelling a build result using IM

To label a build result using IM:
In your Instant Messenger client, type your comment in the following format:

```
label [build key] <labels>
```

Entering a build key is optional. If none is specified, Bamboo will look up the last time it corresponded with you and the build that was in context. The context gets updated when you specify a build key in your command, and when Bamboo sends you a notification about a particular build.

Commenting about a build result using IM

To comment on a build result using IM:
In your Instant Messenger client, type your comment in the following format:

```
comment [build key] <comment message>
```

Entering a build key is optional. If none is specified, Bamboo will look up the last time it corresponded with you and the build that was in context. The context gets updated when you specify a build key in your command, and when Bamboo sends you a notification about a particular build.

Screenshot: Interacting with Bamboo using IM
Subscribing to RSS feeds

Bamboo aggregates key information about your builds into RSS feeds. You can subscribe to these feeds using any feed reader.

<table>
<thead>
<tr>
<th>RSS feed scope</th>
<th>Options</th>
<th>Set up</th>
</tr>
</thead>
<tbody>
<tr>
<td>All plans</td>
<td>• All build results&lt;br&gt;</td>
<td>1. Go to the Dashboard’s All Plans tab.</td>
</tr>
<tr>
<td></td>
<td>• Failed build results</td>
<td>2. Locate the RSS icon at the bottom of the screen.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>3. Right-click either all builds or all failed builds, and copy its URL</td>
</tr>
<tr>
<td></td>
<td></td>
<td>4. Paste the URL into your RSS reader.</td>
</tr>
<tr>
<td>A specific plan</td>
<td>• All build results&lt;br&gt;</td>
<td>1. Go to the plan.</td>
</tr>
<tr>
<td></td>
<td>• Failed build results</td>
<td>2. Locate the RSS icon at the bottom of the screen.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>3. Right-click either all builds or all failed builds, and copy its URL</td>
</tr>
<tr>
<td></td>
<td></td>
<td>4. Paste the URL into your RSS reader.</td>
</tr>
</tbody>
</table>
### Build results with a particular label

<table>
<thead>
<tr>
<th>Step</th>
<th>Action</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Go to the <a href="https://www.atlassian.com/software">Dashboard</a>.</td>
</tr>
<tr>
<td>2.</td>
<td>Go to any plan that has a <strong>label</strong> (this may involve trial and error).</td>
</tr>
<tr>
<td>3.</td>
<td>Click on any label, near the top of the screen.</td>
</tr>
<tr>
<td>4.</td>
<td>Click <strong>All Labels</strong>.</td>
</tr>
<tr>
<td>5.</td>
<td>Click the label of interest.</td>
</tr>
<tr>
<td>6.</td>
<td>Locate the RSS icon at the bottom of the screen.</td>
</tr>
<tr>
<td>7.</td>
<td>Right-click <strong>Feed for builds labelled</strong> and copy its URL.</td>
</tr>
<tr>
<td>8.</td>
<td>Paste the URL into your RSS reader.</td>
</tr>
</tbody>
</table>

### Reporting

You are able to get reports about various kinds of activity in Bamboo:

#### Summary statistics for all users

A list of summary build statistics for all Bamboo users, showing such things as the number of builds triggered, broken and fixed.

See [Viewing build statistics for all users](#).

#### Build results for an author

Build results summaries for someone who has committed code to projects in Bamboo, including the last 10 builds, the last 10 broken and the last 10 fixed.

See [Viewing build results for an author](#).

#### Comparison charts for authors

Create comparison charts of build activity for selected authors.

See [Generating reports on selected authors](#).

#### Comparison charts for plans

Create comparison charts of build results for selected plans.

See [Generating reports across multiple plans](#).

#### Clover code-coverage reports

See [Viewing the Clover code-coverage for a job](#)

See [Viewing the Clover code-coverage for a build](#)

### Viewing build statistics for all users

The build statistics summary gives you an overview of the activity of Bamboo users.

**To view summary statistics for all users:**

1. Click **Authors** in the top menu bar.
2. Click the **List Users** tab.
Screenshot: Users Summary

User and Author Statistics

Users

A listing of all authors who commit to projects in Bamboo. Broken means the build has failed but the previous build was successful. Fixed means that the build was successful but the previous build has failed. The Score is a difference of fixed and broken builds.

<table>
<thead>
<tr>
<th>Name</th>
<th>Triggered</th>
<th>Failed</th>
<th>% Failed</th>
<th>Broken</th>
<th>Fixed</th>
<th>Score</th>
</tr>
</thead>
<tbody>
<tr>
<td>Adrian Decisco</td>
<td>0</td>
<td>0</td>
<td>0%</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Adrian Hempel</td>
<td>589</td>
<td>156</td>
<td>26%</td>
<td>60</td>
<td>56</td>
<td>-4</td>
</tr>
<tr>
<td>Agnes Ro</td>
<td>0</td>
<td>0</td>
<td>0%</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Alex Wei</td>
<td>1</td>
<td>0</td>
<td>0%</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Andrew Lynch</td>
<td>0</td>
<td>0</td>
<td>0%</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Anna Butfield</td>
<td>3</td>
<td>2</td>
<td>67%</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Arun Bhalla</td>
<td>37</td>
<td>16</td>
<td>43%</td>
<td>5</td>
<td>2</td>
<td>-3</td>
</tr>
<tr>
<td>Belinda Teh</td>
<td>396</td>
<td>131</td>
<td>33%</td>
<td>29</td>
<td>21</td>
<td>-8</td>
</tr>
<tr>
<td>Ben Woskow</td>
<td>182</td>
<td>91</td>
<td>50%</td>
<td>17</td>
<td>7</td>
<td>-10</td>
</tr>
</tbody>
</table>

Viewing build results for an author

The page author does not exist.

To view build results for a particular author:

1. Click Authors in the top menu bar.
2. Click the List Authors tab.
3. Click an author's name to see statistics and recent build results for the author:

<table>
<thead>
<tr>
<th>User Details</th>
<th>The author's user details.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Builds Summary</td>
<td>A statistical summary of all the author's builds.</td>
</tr>
<tr>
<td>Last 10 Builds</td>
<td>The last 10 builds that were triggered by this author.</td>
</tr>
<tr>
<td>Last 10 Broken</td>
<td>The last 10 builds that were triggered by this author, where the build failed and the previous build for the same plan was successful.</td>
</tr>
<tr>
<td>Last 10 Fixed</td>
<td>The last 10 builds that were triggered by this author, where the build was successful and the previous build for the same plan failed.</td>
</tr>
</tbody>
</table>

Related pages:

- Viewing build statistics for all users
Generating reports on selected authors

The page author does not exist.

Generating a report on selected authors

To generate a report on selected authors:

1. Click Authors in the top menu bar.
2. Click the Statistics tab.
3. Set the report parameters:

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Report</td>
<td>Choose from the available reports, described below. Additional reports may have been configured by your Bamboo administrator.</td>
</tr>
<tr>
<td>Authors</td>
<td>Choose the authors on whom you want to report. Use the &lt;Ctrl&gt; key to select multiple authors.</td>
</tr>
<tr>
<td>Group By</td>
<td>Choose the time scale for the horizontal axis.</td>
</tr>
</tbody>
</table>

4. Click Submit.

On this page:
- Generating a report on selected authors
- Selected author report types

Related pages:
- Viewing build results for an author
- Getting feedback
- Notifications

Selected author report types

The following standard report types are available.
Build activity

Build Activity

Number of build failures

Number of Build Failures

Number of builds broken

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Number of builds fixed

Percentage of successful builds
Generating reports across multiple plans
Bamboo provides a report generator that enables you to compare build statistics across one or more plans, using a variety of different metrics.

Generating plan reports

To report on build statistics per plan:

1. Click Reports in the top menu bar.
2. Set the report parameters:

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Report</td>
<td>Choose from the available reports, shown below. Additional reports may have been configured by your Bamboo administrator.</td>
</tr>
<tr>
<td>Build plans</td>
<td>Choose the plans on which you want to report. You can use the <code>&lt;Ctrl&gt;</code> key to select multiple plans.</td>
</tr>
<tr>
<td>Group By</td>
<td>Choose the time scale for the horizontal axis.</td>
</tr>
<tr>
<td>Date Filter</td>
<td>Choose the time period on which to report. Use <strong>Select Range</strong> to set a custom range.</td>
</tr>
</tbody>
</table>

3. Click Submit.
Plan report types

Some of the standard plan report types are illustrated below.

Build activity

![Build Activity Chart](image)

**Build Activity**

How many builds are triggered in a given time period? This indicates the level of activity for the plan.

Build duration

![Build Duration Chart](image)
**Build Duration**

The report shows how long your build takes over time. Is it getting slower or faster?

![Graph showing build duration over time with data points for different categories.]

**Percentage of Successful Builds**

Comparing success percentages gives you an idea of how stable a plan is compared to one another. 100% means your plan is always rock solid. 0% means something is seriously wrong.

![Graph showing percentage of successful builds over time with data points for different categories.]

**Time to fix**
**Time to Fix**

How long does it take on average to fix problems? This provides an indication of how quickly breakages are resolved for the plan.

**Number of Tests**

How many tests does your build have? This provides a rough indication of the level of testing over time for the plan.
### Number of Build Failures

How many builds are being broken? A high value indicates a relatively unstable plan that tends to be broken often.

<table>
<thead>
<tr>
<th>Chart</th>
<th>Data Table</th>
<th>Builds</th>
</tr>
</thead>
</table>

![Graph showing number of build failures](image)

- **Bamboo Main - Extras**
- **Bamboo Main - CI Tests**
- **Bamboo Main - Stable Extras**
- **Bamboo Main - Stable CI Tests**

---

**Clover lines of code**

### Clover Lines of Code

Provides an indication of the size of the code base for the build.

<table>
<thead>
<tr>
<th>Chart</th>
<th>Data Table</th>
<th>Builds</th>
</tr>
</thead>
</table>

![Graph showing lines of code](image)

- **Spring - LDAP**

---

**Clover code coverage**
Viewing the Clover code-coverage for a job

If you use Atlassian's Clover and your job specifies a Clover directory (see Enabling the Clover plugin), you will be able to view the Clover coverage summary for the job.

Related pages:
- Enabling the Clover plugin
- Viewing the Clover code-coverage for a build
- Generating reports across multiple plans

To view the Clover coverage summary for a job:

1. Navigate to the desired job, as described on Configuring jobs.
2. Click the Clover tab, to see graphs of the coverage history and lines of code history.

Screenshot: Clover Coverage Summary for a job
Viewing the Clover code-coverage for a build

If your organisation uses the Atlassian Clover code-coverage tool, Bamboo can record code-coverage details (i.e. the percentage of code covered by tests) for each build result.

This is only available if the build's plan specifies a Clover directory (for details please refer to the Enabling the Clover plugin).

Bamboo also provides data on code-coverage trends for a plan over a period of time. For details see the Related pages at right.

**Related pages:**
- Working with build results
- Enabling the Clover plugin
- Generating reports across multiple plans

To view Clover code-coverage for a build result:

1. Navigate to the build results for the plan, as described in Viewing a build result, and click the desired build result.
2. Click the Clover tab.

Screenshot: Clover code-coverage for a build result
Integrating Bamboo with Atlassian applications

You can integrate Bamboo with the following Atlassian applications:

When Bamboo is integrated with JIRA, you can:

- create actionable JIRA issues from a Bamboo build
- run a Bamboo build when releasing a JIRA version
- have Bamboo automatically link a plan branch with a JIRA issue
- view the JIRA issues linked to a build result
- view the Bamboo builds that relate to a particular JIRA issue
- view the Bamboo builds that relate to a JIRA project or version
- add Bamboo gadgets to a JIRA dashboard.

When Bamboo is integrated with Confluence, you can add the following Bamboo gadgets to a Confluence wiki page:

- Bamboo Charts
- Bamboo Plan Summary Chart
- Bamboo Plan Status
When Bamboo is **integrated with Stash**, you can:

- view the changesets that are part of a build
- click through to Stash to see the changeset diff for all files that are part of the changeset.

When Bamboo is **integrated with FishEye**, you can:

- view the code changes that triggered a build
- explore a failed build in FishEye and jump directly into the changeset that broke the build
- view the history of the changeset to see what the author was trying to fix
- analyze the change using the side-by-side diff view
- open the relevant files in your IDE.

When Bamboo is **integrated with Clover**, you can:

- view code-coverage details (i.e. the percentage of code covered by tests) for each build result
- view code-coverage trends for a job over a period of time
- view the code-coverage summary for the job.

When Bamboo is **integrated with HipChat**, you can get notifications from Bamboo for things like:

- when a build passes or fails
- when you are assigned responsibility for a breaking build
- when a build you are responsible for has been fixed
- when a manual stage of a build is ready to be run

...and many other notification events.

See [The big list of Atlassian gadgets](#).

### Integrating Bamboo with JIRA

Integrating Bamboo with Atlassian's [JIRA](https://www.atlassian.com/software/jira) combines Bamboo's continuous integration capabilities with your issue tracker to give you a unified view of your software development project.

Using JIRA and Bamboo together, you can:

- create actionable JIRA issues from a Bamboo build
- run a Bamboo build when releasing a JIRA version
- have Bamboo automatically [link a plan branch](https://www.atlassian.com/how-to-use-bamboo/developing-with-bamboo) with a JIRA issue
- view the JIRA issues linked to a [build result](https://www.atlassian.com/how-to-use-bamboo/developing-with-bamboo)
- view the JIRA issues linked to a [particular JIRA issue](https://www.atlassian.com/how-to-use-bamboo/developing-with-bamboo)
- view the Bamboo builds that relate to a [JIRA project](https://www.atlassian.com/how-to-use-bamboo/developing-with-bamboo) or [version](https://www.atlassian.com/how-to-use-bamboo/developing-with-bamboo)
add Bamboo gadgets to a JIRA dashboard.

Configuring Bamboo and JIRA to work together simply requires you to set up an application link (two-way) between JIRA and Bamboo. By the way, application links have nothing to do with using JIRA as a user repository for Bamboo; these 2 configurations can exist separately.

### Before you begin

#### Version Requirements

<table>
<thead>
<tr>
<th>Application</th>
<th>Requirement</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bamboo</td>
<td>Version 3.1 or later</td>
<td>If you are using an earlier version of Bamboo, please refer to these instructions in the corresponding older version of the Bamboo documentation.</td>
</tr>
<tr>
<td>JIRA</td>
<td>Version 4.4 or later</td>
<td>If you are using an earlier version of JIRA, please refer to the Bamboo 3.0 instructions: Integrating Bamboo with JIRA (Bamboo 3.0).</td>
</tr>
</tbody>
</table>

If you are using an earlier version of Bamboo and/or JIRA, you can also download an older version of the JIRA Bamboo plugin from the Atlassian Plugin Exchange. However, we strongly advise you to upgrade JIRA to version 4.4 or later and Bamboo to version 3.1 or later, if you wish to integrate Bamboo with JIRA.

### Set up an application link

Before you begin:

- Security Considerations — The instructions below recommend setting up authentication for the application link between JIRA and Bamboo. Please ensure that you read the Security Implications for each Authentication Type (JIRA documentation). For example, if you use basic HTTP authentication for the JIRA to Bamboo link, you must specify a user that JIRA uses to log in to Bamboo. Hence, this user’s Bamboo permissions will be used (not the Bamboo permissions of the user who is currently logged into JIRA), e.g. a user viewing Bamboo information in JIRA will see all builds available to the user specified in the JIRA-Bamboo setup, instead of the builds available under their own permissions.

Follow the JIRA instructions to configure the application link in JIRA.

- You will need to set up a two-way link, i.e. select the 'Create a link back to this server' option when adding the application link.
• You will need to configure either OAuth or Trusted Apps authentication for your application link. See Configuring Authentication for an Application Link for instructions.

Congratulations! You have successfully integrated Bamboo and JIRA.

Try your new configuration

You may wish to read about how to use these two applications together in the following pages:

• View the Bamboo builds that relate to a particular JIRA issue. If you are able to see your JIRA issues from a Bamboo build, but cannot see your Bamboo builds in JIRA (on the Builds tab), please make sure that you have "View Version Control" permission enabled.
• View the Bamboo builds that relate to a JIRA project or version.
• View the JIRA issues for a build result.
• Add JIRA gadgets to display the status of your builds or a graphical summary of each build plan (please note, if you have added multiple Bamboo servers there will be one set of these Bamboo gadgets available for each server, e.g. 'Bamboo Status Gadget from http://172.20.5.83:8085').
• Trigger Bamboo builds when releasing JIRA versions (JIRA documentation).

Notes

What if the Bamboo gadgets do not appear in JIRA?

If the Bamboo gadgets do not appear in your JIRA gadget directory, you will need to subscribe to Bamboo's gadgets in JIRA.

To subscribe to Bamboo’s gadgets in JIRA:

1. Go to your JIRA dashboard.
2. Click Add Gadget.
3. In the 'Gadget Directory' dialog, click Gadget Subscriptions.
4. In the 'Gadget Subscriptions' dialog, click Add Subscription.
5. In the 'Add Subscriptions' dialog, copy the base URL for your Bamboo site (e.g. http://www.foobar.com:8085) and paste it into the text box on the screen.
6. Click Add Subscription.
7. Click Finished.

Known issues

Deploying multiple Atlassian applications in a single Tomcat container is not supported. We do not test this configuration and upgrading any of the applications (even for point releases) is likely to break it. There are also a number of known issues with this configuration (see this FAQ for more information).

We also do not support deploying multiple Atlassian applications to a single Tomcat container for a number of practical reasons. Firstly, you must shut down Tomcat to upgrade any application and secondly, if one application crashes, the other applications running in that Tomcat container will be inaccessible.

Finally, we recommend not deploying any other applications to the same Tomcat container that runs Bamboo, especially if these other applications have large memory requirements or require additional libraries in Tomcat's lib subdirectory.

ℹ️ JIRA and Bamboo cannot run in the same Tomcat instance due to a known issue with the Bamboo plugin for JIRA (see JIRA-19662).

⚠️ If integrating Bamboo with JIRA, you should not change the JIRA project key format from the default, as Bamboo only supports the default project key format.

If you need further help, please raise a support request in our support system, in the Bamboo project. You may also want to view articles in the Bamboo Knowledge Base and browse our forums.
Viewing linked JIRA issues

If your organisation uses Atlassian’s JIRA and your administrator has integrated Bamboo with JIRA, you will be able to view the JIRA issues that have been linked to a build. This provides an easy way to jump to relevant issues in JIRA to see details about what the code is intended to achieve.

Linked JIRA issues can be viewed on:

- the Issues tab of the Plan Summary page, for all issues linked to the plan
- the Build Result Summary page, for just 2 of the issues linked to a build
- the Issues tab of the Build Result Summary page, for issues linked to a build.

Issue links can be created automatically by Bamboo when you specify an issue key in your build comments, labels or commit messages, or they can be added manually.

On this page:

- Viewing the JIRA issues linked to a plan’s builds
- Viewing the JIRA issues for a build result

Related pages:

- Linking JIRA issues to a build
- Creating JIRA issues from a build
- Integrating Bamboo with JIRA

Viewing the JIRA issues linked to a plan’s builds

To view the JIRA issues linked to all builds for a plan:

1. Navigate to the desired plan, as described on Configuring plans.
2. Click the Issues tab. A list of all of the issues linked to builds for the plan are displayed, sorted by build date. You can constrain the list using the build filter (e.g. ‘Showing last 25 builds’) next to the tabs.

- Click the issue key to view the issue in JIRA.
- Click the N related builds link (where N is a number of builds) to view the builds linked to that issue on the Builds tab in JIRA.

---

Viewing the JIRA issues linked to a plan’s builds

<table>
<thead>
<tr>
<th>JIRA Issues (15 issues)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>BDEV-503</strong></td>
</tr>
<tr>
<td><strong>BAM-11645</strong></td>
</tr>
<tr>
<td><strong>BDEV-397</strong></td>
</tr>
<tr>
<td><strong>BDEV-346</strong></td>
</tr>
</tbody>
</table>

This page lists the JIRA issues that have been linked to builds related to this plan, ordered by last built. This includes issues specified in commit messages, labels or comments for builds, as well as issues manually linked to builds.
Viewing the JIRA issues for a build result

To view the JIRA issues linked to a particular build result:

1. Navigate to the build results for the plan, as described in Viewing a build result.
2. Click the build number for the desired build result.

- **Build Summary** tab — the ‘JIRA Issues’ section displays up to two of the issues linked to the build.
- **Issues** tab — displays all of the JIRA issues linked to the build. Click Add linked issue to link this build to an issue in JIRA.

**Screenshot: JIRA issues for a build result — Build Summary tab**

**Build Result Summary**

<table>
<thead>
<tr>
<th>Details</th>
<th>Code Changes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Trigger</td>
<td>Code has been updated by Ashwin Srinivasan.</td>
</tr>
<tr>
<td>Revision</td>
<td>b9535fde...</td>
</tr>
<tr>
<td>Completed</td>
<td>25 May 2012, 6:21:29 PM — 2 days ago</td>
</tr>
<tr>
<td>Duration</td>
<td>41 minutes</td>
</tr>
<tr>
<td>Successful since</td>
<td>#111 (12 hours before)</td>
</tr>
<tr>
<td>Labels</td>
<td>None</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Test Summary</th>
<th>Code Changes</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th></th>
<th>Code Changes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Issue</td>
<td>Description</td>
</tr>
<tr>
<td></td>
<td>See full issue details</td>
</tr>
<tr>
<td>BOEV-327</td>
<td>Home page pointing to EC2 config</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Comments</th>
<th>Code Changes</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Screenshot: JIRA issues for a build result — Issues tab**
Linking JIRA issues to a build

If your organisation uses Atlassian's JIRA and your administrator has integrated Bamboo with JIRA:

- Bamboo will automatically link JIRA issues to builds.
- You can manually link an issue to a build.

**Automatically linking issues to a build**

Bamboo will automatically link an issue to a build if you specify a JIRA issue key in a Bamboo build comment or label, or in a code commit message.

The issue key must be of the default JIRA issue key format (that is, two or more uppercase letters ([A-Z][A-Z]+), followed by a hyphen and the issue number, for example BAM-123).

**Manually linking issues to a build**

If an issue has not been linked automatically to your build, you can manually create a link from that issue to your build.

**To manually link a JIRA Issue to a build result:**

1. Go to the plan in Bamboo.
2. Click on the build number for a build result.
3. Click the Issues tab in the 'Build Result Summary'. All of the JIRA issues linked to your build will be listed.
4. Click Add linked issue.
5. Enter the JIRA issue key of the issue you want to link to this build. Please note, the issue key must be of the default JIRA issue key format (that is, two or more uppercase letters ([A-Z][A-Z]+), followed by a hyphen and the issue number, for example BAM-123).
6. Click Save.

**Screenshot: Adding a new JIRA issue link to a build**
Creating JIRA issues from a build

When Bamboo is integrated with JIRA, you can create new JIRA issues right from your Bamboo build result. This lets you easily:

- **Capture** critical infrastructure failures that are keeping your build from passing.
- **Request** that a successful build be deployed to the next environment.
- **Create** a searchable knowledge base of failure causes and solutions.
- **Log** time spent on build failures and use JIRA dashboard gadgets to discover trends over time.

When you create an issue from Bamboo, the issue in JIRA links back to the build result it was created from.

A link to the new issue is displayed in the ‘JIRA Issues’ section of the Build Result Summary, and on the Issues tab, in Bamboo.

To take advantage of JIRA issue creation in Bamboo:

- You require JIRA 5.0, or higher.
- There must be an application link already set up between JIRA and Bamboo.
- Your JIRA administrator needs to have enabled fully reciprocal issue linking in JIRA.

**Related pages:**

- [Linking JIRA issues to a build](#)
- [Viewing linked JIRA issues](#)
- [Integrating Bamboo with JIRA](#)

**To create a new JIRA issue from a Bamboo build:**

1. On the Build Result Summary, choose **Actions > Create Issue**.
2. Complete the form.
3. Click **Create**.
Integrating Bamboo with Confluence

Integrating Bamboo with Atlassian's Confluence combines Bamboo's continuous integration capabilities with your wiki to give you a unified view of your software development project.

When Bamboo is integrated with Confluence, you can add the following Bamboo gadgets to a Confluence wiki page:

- **Bamboo Charts**
- **Bamboo Plan Summary Chart**
- **Bamboo Plan Status**

Configuring Bamboo and Confluence to work together simply requires you to set up an application link (two-way) between Confluence and Bamboo.

**On this page:**

- **Before you begin**
- **Set up an application link**
- **Try your new configuration**
- **Notes**

**Related pages:**

- **Registering External Gadgets** (Confluence documentation)

### Before you begin

**Version Requirements**

<table>
<thead>
<tr>
<th>Application</th>
<th>Version Requirement</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bamboo</td>
<td>Version 3.2 or later</td>
</tr>
<tr>
<td>Confluence</td>
<td>Version 3.5.9 or later</td>
</tr>
</tbody>
</table>
Set up an application link

Before you begin:

- Security Considerations — The instructions below recommend setting up authentication for the application link between Confluence and Bamboo. Please ensure that you read the Security Implications for each Authentication Type (Confluence documentation). For example, if you use basic HTTP authentication for the Confluence to Bamboo link, you must specify a user that Confluence uses to log in to Bamboo. Hence, this user's Bamboo permissions will be used (not the Bamboo permissions of the user who is currently logged into Confluence).

Follow the Confluence instructions to configure the application link in Confluence.

- You will need to set up a two-way link, i.e. select the 'Create a link back to this server' option when adding the application link.
- You will need to configure either OAuth or Trusted Apps authentication for your application link. See Configuring Authentication for an Application Link for instructions.

Congratulations! You have successfully integrated Bamboo and Confluence.

Try your new configuration

You may wish to read about how to use these two applications together in the following pages:

- Add Bamboo gadgets to Confluence, see Registering External Gadgets (Confluence documentation).

Notes

If you need further help, please raise a support request in our support system, in the Bamboo project. You may also want to view articles in the Bamboo Knowledge Base and browse our forums.

Integrating Bamboo with Stash

When Bamboo is integrated with Atlassian's Stash, you can:

- view the changesets that are part of a build
- click through to Stash to see the changeset diff for all files that are part of the changeset.

A user who has edit privileges for a plan can make links to source-code files available by connecting the plan to the source repository, as described below.

**Related pages:**

- Integrating Bamboo with Atlassian applications
- Specifying the source repository

To integrate Bamboo with Stash:

1. Navigate to the 'Source Repositories' tab for the plan, as described in Specifying the source repository.
2. Click on a repository name, and then click Advanced Options.
3. Choose Web Repository > Stash.
4. Specify the Stash URL, Stash Project Key and Repository Name.

*Screenshot: Specifying a Stash project in Bamboo*
Integrating Bamboo with FishEye

When Bamboo is integrated with Atlassian's FishEye, you can:

- view the code changes that triggered a build
- explore a failed build in FishEye and jump directly into the changeset that broke the build
- view the history of the changeset to see what the author was trying to fix
- analyze the change using the side-by-side diff view
- open the relevant files in your IDE.

A Bamboo administrator can make links to individual source-code files available by connecting the plan to the source repository, as described below.

**Related pages:**
- Integrating Bamboo with Atlassian applications
- Specifying the source repository

To integrate Bamboo with FishEye:

1. Navigate to the 'Source Repositories' tab for the plan, as described in Specifying the source repository.
2. Click on a repository name, and then click Advanced Options.
3. Choose Web Repository > FishEye.
4. Specify the FishEye URL, Repository Name and Repository Path.

Screenshot: Specifying a FishEye project in Bamboo
Integrating Bamboo with HipChat

When Bamboo is integrated with HipChat, you can get notifications from Bamboo in your chat room for events like:

- when a build passes or fails
- when you are assigned responsibility for a breaking build
- when a build you are responsible for has been fixed
- when a manual stage of a build is ready to be run

...and many other notification events.

To integrate Bamboo with HipChat:

1. Sign up for a HipChat account.
2. Set up plan notifications in Bamboo that use the 'HipChat' Recipient Type.

Screenshot: Bamboo notifications in HipChat: failing builds are shown in red, successful builds in green.
Managing your user profile

You can manage your user details, password, notifications preferences and other preferences using your user profile.

To change your personal details:

1. Go to your name (the 'Profile' menu) at the top of the page and choose Profile.
2. Click Edit Profile.
3. Update your personal details as required.

Note that if your user profile is managed using a single sign-on application, like Atlassian's Crowd, you will only be able to edit your Instant Messaging Address and Source Repository Alias.

Changing your password

To change your Bamboo password:

1. Go to your name (the 'Profile' menu) at the top of the page and choose Profile.
2. Click Change Password.
3. Complete the form.

ℹ️ If your password is managed via a single sign-on application, like Atlassian's Crowd, this function will not be available.

Changing your notification preferences

Notifications in Bamboo are triggered by a range of events for a plan, including build completion, build outcomes and comments being posted against build results. You can configure whether notifications are sent for a particular event and who they are sent to. Users can choose whether to receive their notifications via email, IM,
You can see which notifications are currently applicable to you, in your user profile: go to your name (the 'Profile' menu) at the top of the page, choose Profile, and then click the Notifications tab.

Before you begin:

- You must have the 'Edit' permission for a plan to add or remove notifications for it.

To change your notification preferences:

1. Go to your name (the 'Profile' menu) at the top of the page and choose Profile.
2. Click the Notifications tab.
3. Click Edit Notification Preferences.
4. Choose an option from How would you like Bamboo to send you notifications. If you choose one of the IM options, you also need to specify an Instant Messaging Address on the Personal Details tab.
5. Choose an Email Format option, if required.
6. Click Save.

Screenshot: User Profile

Associating your author name with your user profile

The page author does not exist.

Your Author Name is your login name for the source-code repository.

Before you begin:

- If your Bamboo user profile has not yet been associated with your author name, then:
  - your 'My Bamboo' tab will not contain any data about your recent builds.
  - your 'Author' information will not include a User Details tab.

To associate your author name with your user profile:

1. Go to your name (the 'Profile' menu) at the top of the page and choose Profile.
2. Click Edit Profile.
3. Select your author name from the Source Repository Aliases list. If your name does not appear in the list, click Add Alias. Note that your author name (alias) need not be identical to your user name.
4. Click Save.
Continuous deployment and delivery with Bamboo

This page provides an overview of key tools in Bamboo that you can use to manage the continuous deployment and delivery of your application.

You may also find the following features in Bamboo useful:

- artifact sharing
- parameterised builds
- building from a revision number
- re-running successful stages

On this page:

- Deploying with Tomcat
- Copying and moving files with SCP
- Executing remote commands with SSH
- Integrating with JIRA
- Integrating with Heroku

Deploying with Tomcat

You can use Bamboo to deploy and manage your Java web application with Tomcat 6 or 7, without having to directly interact with Maven, Ant or write special scripts.

See Using Tomcat with Bamboo for continuous deployment.

Copying and moving files with SCP

You can use the Bamboo SCP task to upload files from Bamboo directly to a remote server as part of a Bamboo job. The SCP task is able to copy multiple files and preserves the directory structure for the copied files.

See Using the SCP task in Bamboo.

Executing remote commands with SSH

You can use the Bamboo SSH task to execute a SSH command on a remote computer as part of a Bamboo job.

See Using the SSH task in Bamboo.

Integrating with JIRA

Releasing a new version of software usually involves a number of tasks, such as releasing the version in JIRA, building and testing, merging code, creating tags, creating branches, labelling builds, etc. If you have integrated Bamboo with Atlassian's JIRA, you can trigger these tasks to run automatically at the release of a version in JIRA.
See Running a Bamboo Build when Releasing a Version.

Integrating with Heroku

You can use Bamboo to deploy your Java web application to the Heroku cloud platform.

See Using the Heroku task in Bamboo.

**Using the Heroku task in Bamboo**

You can use Bamboo to deploy your Java web application to the Heroku cloud platform.

The plan that does this:

- Should have access to the previously created WAR artifact. For example, in Maven-based projects, this would typically be created using the `package` goal. See Configuring artifact sharing between jobs.
- Should use the Heroku: Deploy WAR Artifact task. To configure this task, specify the API Key, App Name, and WAR File to use. Your API key can be found on the Heroku account page. If the app name specified does not exist, it will be created for you. The WAR file value should be the relative path to the WAR artifact.

To find out more, go to the Heroku documentation:

- Getting started with the Heroku plugin for Atlassian Bamboo
- Getting started with Java on Heroku

Note that the Heroku task is bundled with Bamboo 4.3, but is also available from the Atlassian Marketplace.

Administering Bamboo

Bamboo is a continuous integration (CI) server. Bamboo assists software development teams by providing:

- automated building and testing of software source-code status.
- updates on successful/failed builds.
- reporting tools for statistical analysis.

This administration guide has information about managing the Bamboo server itself. Please see Using Bamboo for help with setting up CI builds.
Administering

**Administering plans**
Configuring global plan settings.

**System settings**
Configuring the Bamboo server.

**Agents and capabilities**
Setting up services, including Elastic Bamboo, to perform builds.

**Users and permissions**
Managing users, groups and their permissions.

**Plugins**
Extending Bamboo.

**Data and backups**
Managing databases, data and backups.

**Security**
Managing security for agents and Elastic Bamboo.

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**Installing**

**Bamboo installation guide**

**Bamboo EAR-WAR installation guide**

**Bamboo installation guide for Linux**

**Bamboo installation guide for Mac**

**Bamboo installation guide for Windows**

**Connecting Bamboo to an external database**

**Bamboo remote agent installation guide**

**Supported platforms**

---

**See also**

**Getting started**

**Using Bamboo**

**Release notes**

**Bamboo security advisories**

**Bamboo documentation downloads**

---

**Administering plans**

A *plan* defines everything about your continuous integration build process in Bamboo. See [Configuring plans](#) for information about how to set up build plans.
You can also perform actions on one or more plans together, or make global settings that affect all plans on the Bamboo server. These plan administration tasks are:

- **Moving plans to a different project** — organising plans in projects.
- **Modifying multiple plans in bulk** — making changes, such as adding a notification, to all plans at once.
- **Monitoring job builds** — configuring plan timeout events.
- **Configuring concurrent builds** — building the same plan on more than one agent at the same time.

### Moving plans to a different project

Moving a plan to a different project involves changing the plan's project key (as well as possibly the plan name and plan key), which will also change the build key for all of the plan's build results.

Moving a plan does not affect the plan's configuration, nor any comments or labels that have been applied to job build results within the plan.

You need to be a Bamboo administrator to move a plan.

⚠️ Note that moving a plan will require Bamboo to re-index all its data, so your Bamboo system may run slowly for a few minutes.

**Before you begin:**

- We recommended that you back up your Bamboo build results before you move a plan. See [Exporting data for backup](#) for instructions.

**To move a plan to a different project:**

1. Click **Administration** in the menu bar.
2. Click **Move Plans** (under ‘Plans’) in the left-hand panel.
3. Select either an existing project or **New Project** from the **Destination Project** list. For a new project, enter a new **Project Name** and a unique **Project Key**.
4. Select one or more plans to move.
5. Click **Move** to display the 'Configure New Plan Details' page (as shown in [Screenshot 2 below](#)).
6. Edit the new name and new key for each plan, if necessary. You may need to do this if the destination project already has a plan with the same plan name or key, or if you wish to change these.
7. Click **Move**.

![Screenshot 1: 'Moving Plans - Select Plans'](#)}
Move Build Plan Wizard

It is strongly recommended that you ensure that all agents are disabled before you perform the move. Disable all agents.

Select Plans

You can move a plan to another project with this wizard. Simply select the plan you want to move and the destination project. As names and keys may conflict, you’ll then be asked to enter new names and keys for the plans. Note that because we are changing plan keys, this operation requires some slow operations (e.g. indexing of all builds) and may take a few minutes.

- Destination Project: New Project
- Project Name: A New Project
- Project Key: NEWPROJ

Artifact Sharing Dogfooding

- Artifact sharing
- CI Tests
- Maven Sharing CI Tests
- Maven Sharing CI Tests with Maven 3

Bamboo Main

- CI Tests
- Extras
- Stable CI Tests
- Stable Extras

UI

- Default
- MC Test
- WebDriver Tests
- WebDriver Tests JDK 1.6

Move

Screenshot 2: Moving Plans - Choose new build keys and build names
Modifying multiple plans in bulk

Bulk actions allow you to make changes to multiple plans at once.

You need to be a Bamboo administrator to modify plans in bulk.

To use bulk actions:

1. Click **Administration** in the top navigation bar.
2. Click **Bulk Action** in the left-hand panel (under 'Plans').
3. Choose the required bulk action and follow the on-screen instructions to complete the 5 steps.

The following bulk actions are available:

<table>
<thead>
<tr>
<th>Bulk Action</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Add new notification</td>
<td>See Configuring notifications for a plan and its jobs for further details.</td>
</tr>
<tr>
<td>Remove all notifications</td>
<td>See Configuring notifications for a plan and its jobs for further details.</td>
</tr>
<tr>
<td>Disable Plan</td>
<td>See Disabling or deleting a plan for further details.</td>
</tr>
<tr>
<td>Enable Plan</td>
<td></td>
</tr>
<tr>
<td>Run manual build</td>
<td>You have the option to disable dependencies when running the manual builds for the selected plans.</td>
</tr>
<tr>
<td>Update CVS module</td>
<td>See CVS documentation for further details.</td>
</tr>
<tr>
<td>Update CVS root and credentials</td>
<td>See CVS documentation for further details.</td>
</tr>
<tr>
<td>Update SVN credentials</td>
<td>See Subversion documentation for further details.</td>
</tr>
<tr>
<td>Update SVN repository URL</td>
<td>See Subversion documentation for further details.</td>
</tr>
<tr>
<td>Update web repository</td>
<td>See the Subversion, CVS or Perforce documentation for further details.</td>
</tr>
</tbody>
</table>
Update Maven 2 dependencies

You have the option for Bamboo to determine plan dependencies from your Maven pom.xml file, for all plans.

**Screenshots: Adding a notification to multiple plans example (click to view full-sized images)**

---

**Monitoring job builds**

The following Bamboo features can help you monitor your running job builds:

- [Configuring the hanging build event](#)
- [Configuring the build queue timeout event](#)
- [Disabling build monitoring](#)

**Configuring the hanging build event**

The hanging build event is thrown when Bamboo determines that a build has become unresponsive according to two criteria:

- **Expected Build Time** — defined as Build Time Multiplier \* Average Build Time
  - Build Time Multiplier is a user-defined setting.
  - Average Build Time is calculated by Bamboo using an average of previous build times (in minutes).
- **Log Quiet Time** — the length of time (in minutes) between log entries for a build.

The Expected Build Time and Log Quiet Time must both be exceeded for Bamboo to throw a hanging build event.

This event is currently used by Bamboo to send notifications.

You can also disable build monitoring altogether so that the hanging build event never occurs.

---

**On this page:**

- [Configure the hanging build event](#)
- [Changing how often Bamboo checks for hung builds](#)
Configure the hanging build event

You can change the criteria governing when a hanging build event is thrown.

Note, the hanging build criteria can be also be set for a specific job, when specifying a job's builder. Job-level criteria will override the global criteria described on this page (including disabling this event).

To edit the hanging build event settings:

1. Click Administration in the menu bar.
2. Click Build Monitoring (under 'Plans') in the left panel.
3. Click Edit and update the values for Build Time Multiplier and Log Quiet Time as required.
4. Click Save.

Screenshot: Editing the hanging build event settings

Changing how often Bamboo checks for hung builds
By default, Bamboo will check whether a hanging build event has been thrown every 60 seconds. You can change this by configuring the system property, `bamboo.buildHangingMonitor.checkInterval`. (This property is specified in seconds.)

Please read Configuring system properties for instructions on how to configure the `bamboo.buildHangingMonitor.checkInterval` system property.

### Configuring the build queue timeout event

The build queue timeout event is thrown when a build has been waiting in the build queue for longer than a specified period of time.

This event is currently used by Bamboo to send notifications.

#### On this page:
- Configuring the build queue timeout event
- Disabling the build queue timeout event
- Changing how often Bamboo checks for build queue timeouts

#### Related pages:
- Configuring notifications for a plan and its jobs
- Disabling build monitoring

### Configuring the build queue timeout event

You can change the criteria governing when the build queue timeout event is thrown. You can also disable build monitoring altogether so that the build queue timeout event never occurs.

**To edit the build queue timeout event settings:**

1. Click Administration in the menu bar.
2. Click Build Monitoring (under ‘Plans’) in the left panel.
3. Click Edit and update the value for Build Queue Timeout as required.
4. Click Save.

*Screenshot: Editing build queue timeout event settings*
Disabling the build queue timeout event

You can disable the build queue timeout event by disabling build monitoring for your Bamboo installation. See Disabling build monitoring.

Please note, you cannot disable the build queue timeout event without disabling all build monitoring features for your Bamboo installation.

Changing how often Bamboo checks for build queue timeouts

By default, Bamboo will check whether a build queue timeout event has been thrown every 60 seconds. You can change this by configuring the system property, `bamboo.buildQueueMonitor.checkInterval`. (This property is specified in seconds.)

Please read Configuring system properties for instructions on how to configure the `bamboo.buildQueueMonitor.checkInterval` system property.

Disabling build monitoring

To disable build monitoring:

1. Click Administration in the menu bar.
2. Click Build Monitoring in the left panel.
3. Click Disable. This will disable all build monitoring for your Bamboo installation, including the build hanging event and build queue timeout notifications. It is not possible to disable build monitoring features separately.

Screenshot: Disabling build monitoring
Configuring concurrent builds

Bamboo's concurrent builds feature allows you to build a plan concurrently on several agents. You might find this useful if a plan is likely to be triggered again before the current build completes.

You can configure a default value for the maximum number of builds of a plan that your Bamboo server can run concurrently, using the Bamboo administration console. This value is a default – it can be overridden on the Miscellaneous tab of a plan's configuration.

You need to be a Bamboo administrator to configure concurrent builds.

To configure the number of concurrent builds of a plan allowed by Bamboo:

1. Click Administration in the menu bar.
2. Click Concurrent Builds in the left panel (under “Plans”), then click Enable.
3. Click Edit.
4. Edit the value for Default number of concurrent builds allowed.
5. Click Save.

System settings

For information on configuring system settings, see the following topics:

- Viewing Bamboo's system information
- Updating your Bamboo license details
- Specifying Bamboo's title
- Specifying Bamboo's URL
- Logging in Bamboo
- Enabling GZIP compression
- Enabling Bamboo's Remote API
- Configuring system properties
Viewing Bamboo's system information

When you installed Bamboo, you provided information about how the system should be configured. You can view the system information from your administration console in Bamboo.

The system information contains useful data for you to send to Atlassian when requesting support.

**Related pages:**
- Locating important directories and files

To view your Bamboo system information:

1. Click Administration in the top navigation bar.
2. Click System Information (under 'System') in the left navigation panel.

Screenshot: Bamboo system information (cropped)
# System Information

## System Properties

- **System Date**: Tuesday, 15 Feb 2011  
- **System Time**: 15:49:22  
- **Uptime**: 1 day, 31 minutes, 14 seconds (since Mon Feb 14 15:18:08 EST 2011)  
- **Username**: panda  
- **User Timezone**: Australia/Sydney  
- **User Locale**: English (United States)  
- **System Encoding**: MacRoman  
- **Operating System**: MacOS X 10.6.5  
- **Operating System Architecture**: x86_64  
- **Available Processors**: 8  
- **Application Server Container**: Apache Tomcat 6.0.18

## Java / JVM Information

- **Java Version**: 1.6.0_17  
- **Java Vendor**: Apple Inc.  
- **JVM Spec. Version**: 1.0  
- **JVM Spec. Vendor**: Sun Microsystems Inc  
  - **JVM Version**: 14.3-b01-101  
  - **JVM Vendor**: Apple Inc.  
  - **JVM Name**: Java HotSpot(TM) 64-Bit Server VM  
  - **JRE Version**: 1.6.0_17-b04-243  
  - **JRE Name**: Java(TM) SE Runtime Environment

## Network

- **Host Name**: panda.sydney.atlassian.com  
- **IP Address**: 172.20.6.108

## Memory Statistics

- **Total Memory**: 292 MB  
- **Free Memory**: 63 MB  
- **Used Memory**: 229 MB

## Bamboo Version Information

- **Version**: 3.0  
- **Build Number**: 2301  
- **Build Date**: 14/02/11
Updating your Bamboo license details
When you upgrade or renew your Bamboo license, you will receive a new license key. You will need to update your Bamboo server with the new license key.

Please see the Licensing FAQ if you have questions to do with licensing.

To update your Bamboo license key:
1. Click Administration in the top menu bar.
2. Click License Details (under 'System') in the left navigation panel. This will display your existing Bamboo license details.
3. Paste your new license into License Key.
4. Click Save New License.

Specifying Bamboo's title
Bamboo's name is the displayed title of this installation of Bamboo. It will appear throughout Bamboo (e.g. on the Dashboard), and in the window title of your users' browsers.

To specify Bamboo’s title:
1. Click Administration in the top menu bar.
2. Click General Configuration (under 'System') in the left navigation column.
3. Type the display title for your Bamboo server (e.g. "MyCompany's Bamboo") into the Name field.
4. Click Save.

Specifying Bamboo's URL
This is the base URL of this installation of Bamboo. All links created (for links in Bamboo email notifications etc.) will be prefixed by this URL.

To specify Bamboo’s URL:
1. Click Administration in the top menu bar.
2. Click General Configuration (under 'System'), in the left navigation panel.
3. In the Base URL field, type the URL address of your Bamboo server (for example, "http://keg:8080/bamboo").
4. Click Save.

Notes
- Accessing Bamboo from Outside a Firewall — When accessing Bamboo through a web browser, most Bamboo URL links (which provide navigation throughout the product) will use the base URL that was originally entered into your browser's URL field. For example, to access Bamboo through a web browser on the same machine running Bamboo itself, you may have entered the base URL:
http://localhost:8085/

into your browser's URL field. Consequently, most Bamboo URL links will use the base URL:

http://localhost:8085/

However, URL links to a Bamboo instance that are provided in Bamboo email notifications and by some Bamboo plugins, will use the base URL set on this 'General Configuration' page. Hence, if you configure the Base URL field above to one that can only be accessed internally, behind a firewall, then you may have problems accessing this Bamboo instance externally.

Logging in Bamboo

The information on this page relates to the Bamboo server (atlassian-bamboo) logs only. You cannot change the logging configuration for the build logs.

Bamboo generates two distinct sets of logs:

- **Build logs**: The build logs are generated each time a plan is executed. All information specific to the build is stored in these logs. The build logs are located in the `<Bamboo-Home>/xml-data/builds/` sub-directories. The build logs can be downloaded as an artifact (see Viewing a build's artifacts).

**On this page:**
- Configuring the level of logging on the Bamboo server
- Configuring the level of logging on remote agents
- Configuring the location of the atlassian-bamboo logs

**Related pages:**
- System settings
- Locating important directories and files
- Viewing a build's artifacts

- **atlassian-bamboo logs:**
  - **atlassian-bamboo logs for the Bamboo server** — Bamboo records all server activity in the atlassian-bamboo.log. The location of the atlassian-bamboo.log file can be viewed in Bamboo's System Information under the 'Bamboo Paths' section. The location will generally be either the root `<Bamboo-Home>` directory. In case of a Tomcat webapp deployment, the logs are piped out to catalina.out file.

  Please note, this log is different from the bamboo.log found in the `<Bamboo-Install>/log` directory, which is the log written by the Java Service wrapper.

  - **atlassian-bamboo logs for remote agents** — All agent activity is recorded in atlassian-bamboo-agent.log file stored on the agent machine. These are generated in the running directory of the agent. The running directory can be viewed in the remote agent's system properties under the 'Bamboo Paths' section.

  - **atlassian-bamboo logs for elastic agents** — Elastic agent activity is logged inside the elastic instance where the elastic agent runs. To access the elastic agent logs (atlassian-bamboo.log and bamboo-elastic-agent.out) use ssh to log in to your elastic instance as described in Viewing an elastic instance and retrieve the logs.

See Locating important directories and files for information on where to find other important files in Bamboo.
Configuring the level of logging on the Bamboo server

Bamboo uses the log4j library for logging during runtime. The logging levels can be changed by editing the <Bamboo-Install>/webapp/WEB-INF/classes/log4j.properties file. There are five logging levels available: 'DEBUG', 'INFO', 'WARN', 'ERROR' and 'FATAL'. Each logging level provides more logging information that the level after it:

DEBUG > INFO > WARN > ERROR > FATAL

i.e. DEBUG provides the most verbose logging and FATAL provides the least verbose logging.

You can adjust the logging levels for the different Bamboo packages on the fly, using the runtime log4j configuration tool in the Bamboo administration console. The default log settings are still stored in the log4j.properties file. When you view the log settings page for the first time you will see the default log settings as defined in log4j.properties. All changes to the log settings via the runtime log4j configuration tool will not be persisted and are valid during Bamboo runtime only.

Before you begin:

- Note, you do not need to restart your Bamboo server for any logging changes to take effect.

To change the level of logging on your Bamboo server:

1. Click Administration in the top menu bar.
2. Click Log Settings (under ‘System’) in the left navigation panel. The ‘Bamboo Log Settings’ page will display showing the Bamboo packages being logged (see screenshot below).
   - To change the logging level of a package that is already being logged, locate the Bamboo package, select the desired logging level from the list next to it and click Save.
   - To start monitoring a package in the Bamboo logs, enter the class name in the text box at the top of the page, select the desired logging level from the list next to it and click Add.
   - To stop logging a package, locate the Bamboo package and click Delete next to it.

Screenshot: Bamboo log settings
1. **Configuring the level of logging on remote agents**

   The runtime `log4j` configuration tool in the Bamboo administration console can only be used to modify the logging levels for the Bamboo server. To configure the logging levels for your remote agents, you will need to update the `log4j.properties` file manually.

   You can control the logging for each of remote agents separately from the Bamboo server. To do this, simply repeat the process described below for multiple remote agents, so that each remote agent has a `log4j.properties` file that overrides the `log4j.properties` file on the Bamboo server.

   **To change the level of logging on your remote agent:**
   
   1. Configure a `log4j.properties` file for your remote agent. This can be any `log4j.properties` file. If you do not already have a `log4j.properties` file, you can take a copy of the `log4j.properties` file from the server, copy it to your remote agent and configure it as desired:
      - The `rootLogger` property in the `log4j.properties` file controls the verbosity of logs being generated at the top level. By default, the root level logging is set to 'INFO'. To change the root
level logging, find the following lines in `<Bamboo-Install>/webapp/WEB-INF/classes/log4j.properties` file and update the value of `log4j.rootLogger` to the desired logging level:

```
# Change the following line to configure the bamboo logging levels
(one of INFO, DEBUG, ERROR, FATAL)
#
log4j.rootLogger=INFO, console, filelog
```

- Modify the logging level for any of the individual packages in the `log4j.properties` as desired, e.g. `log4j.category.webwork=WARN`

2. Save changes to the file.
3. Update the `log4j.configuration` system property on your remote agent to point to the `log4j.properties` file. To do this, add the following line to the `<bamboo-agent-home>/conf/wrapper.conf` file:
   ```
   wrapper.java.additional.3=-Dlog4j.configuration=/full/path/to/log4j.properties
   ```
   where `/full/path/to/log4j.properties` is the **absolute path** of your `log4j.properties` file.
4. Restart your remote agent.

### Configuring the location of the atlassian-bamboo logs

To change the directory that the `atlassian-bamboo` logs are generated to, you must set the environment variable for the target location of the logs, as seen below:

```
log4j.appender.fileLog.file=/my/path/to/atlassian-bamboo.log
```

Note that the new log file location applies to both the server and remote agents. If using an absolute path this may result in aggregated logs.

### Enabling GZIP compression

You can enable GZIP compression in order to reduce the size of Bamboo's web pages. This is useful if Bamboo is being run over slow networks. There is a slight performance penalty, and note that GZIP may not work for languages other than English.

**Related pages:**
- System settings

#### To enable GZIP compression:
1. Click **Administration** in the top menu bar.
2. Click **General Configuration** (under 'System') in the left navigation panel.
3. Select **Apply gzip compression to reduce the size of Bamboo's web pages?**.
4. Click **Save**.

### Enabling Bamboo's Remote API

> Please note, the Bamboo Remote API has been deprecated in favour of the new Bamboo REST API.

You can access Bamboo's data from an external program by using Bamboo's REST-style remote API.

The remote API is disabled by default. Bamboo will return an error if people try to use the remote API when it is disabled. You only need to enable the **Accept remote API calls?** option (as described below), if you want to allow access to the deprecated remote API. Access to the new REST API is enabled by default.
To enable the remote API:

1. Click Administration in the top menu bar.
2. Click General Configuration (under ‘System’) in the left navigation panel.
3. Select Accept remote API calls?.
4. Click Save. Bamboo will now accept remote calls. You do not have to restart the Bamboo server.

Configuring system properties

The default settings on a number of Bamboo functions can be configured by setting the appropriate system properties. This page provides general instructions on how to set a system property in Bamboo.

Bamboo on UNIX-based operating systems (such as Solaris, Linux or Mac OS X) can be started by either executing the bamboo.sh script or using the Java Service Wrapper packaged with Bamboo.

Bamboo on Windows-based operating systems can be started by running the startup.bat file from the command line (which is the same as running the ‘Start in Console’ option from the Windows Start menu) or as a Windows Service. Both approaches start Bamboo using the Java Service Wrapper.

On this page:

- Configuring a Bamboo system property (UNIX)
- Configuring a Bamboo system property (Windows)
- Configuring Bamboo runtime parameters for bamboo.war

Related pages:

- System settings
- Configuring Bamboo on start-up

Configuring a Bamboo system property (UNIX)

Before you begin:

- Bamboo must be shut down before modifying any of its system properties. Once you have modified one or more system properties, they will come into effect when Bamboo is restarted.
- If you have any elastic agents running, ensure that they are shut down before you restart the Bamboo server. If you do not shut down your elastic instances before restarting, they will continue to run and become orphaned from your Bamboo server.

To configure a system property via the bamboo.sh file:

1. Open the Bamboo start-up script bamboo.sh in a text editor. (This is usually located at the root of your Bamboo installation directory.)
2. Locate the variable RUN_CMD in bamboo.sh and add the system property as a parameter to the java command string value of RUN_CMD, by adding the ‘-D’ prefix to the system property.

For example, if you wanted to set the bamboo.agent.heartbeatInterval system property to 10 (seconds), you would add the parameter -Dbamboo.agent.heartbeatInterval=10 to the java command string value of RUN_CMD such that the RUN_CMD variable assignment in bamboo.sh might look like:

```
RUN_CMD="java -server -Xms256m -Xmx512m -XX:MaxPermSize=256m -Dbamboo.agent.heartbeatInterval=10 -Djava.awt.headless=true -classpath $CLASSPATH -Dorg.mortbay.xml.XmlParser.NotValidating=true -Djetty.port=8085 com.atlassian.bamboo.server.Server 8085 ./webapp /
```
3. Save your changes to the `bamboo.sh` file and start Bamboo.

Configuring a Bamboo system property (Windows)

Before you begin:

- Bamboo must be shut down before modifying any of its system properties. Once you have modified one or more system properties, they will come into effect when Bamboo is restarted.
- If you have any elastic agents running, ensure that they are shut down before you restart the Bamboo server. If you do not shut down your elastic instances before restarting, they will continue to run and become orphaned from your Bamboo server.

To configure a system property via the Java Service Wrapper `wrapper.conf` configuration file:

1. Open the Bamboo Wrapper configuration file `wrapper.conf` in a text editor. (This is usually located in the `conf` subdirectory of your Bamboo installation directory.)
2. Locate the set of variables beginning `wrapper.java.additional.X`, where X is a series of consecutive numbers starting from ‘1’. After the final `wrapper.java.additional.X` variable in this set, add a new variable `wrapper.java.additional.Y`, where Y is the next consecutive number in this set of variables.
3. Add the entire system property with the Java '-D' prefix and assign it to the value of `wrapper.java.addional.Y`.
   For example, if you wanted to set the `bamboo.agent.heartbeatInterval` system property to 10 (seconds), you would add a new variable `wrapper.java.additional.4` to `wrapper.conf` and assign it the value `-Dbamboo.agent.heartbeatInterval=10`, such that this section of the `wrapper.conf` file might look like:

   ```
   wrapper.java.additional.1=-Dorg.mortbay.xml.XmlParser.NotValidating=true
   wrapper.java.additional.2=-XX:MaxPermSize=256m
   wrapper.java.additional.3=-Djava.awt.headless=true
   # And now for the new variable:
   wrapper.java.additional.4=-Dbamboo.agent.heartbeatInterval=10
   ```

4. Save your changes to the `wrapper.conf` file and start Bamboo.

Configuring Bamboo runtime parameters for `bamboo.war`

The application container that deploys bamboo has to be configured with the additional java parameter.

Example Tomcat:

```bash
./bin.setenv.sh
```

```bash
... JAVA_OPTS="-server -XX:MaxPermSize=256m -Dbamboo.home=/path/to/bamboo-tomcat-home -Xmx512m -Djava.awt.headless=true -D<your-parameter>=<value> $JAVA_OPTS" export JAVA_OPTS ... 
```

Finding Your Bamboo Support Entitlement Number (SEN)

Your Support Entitlement Number (SEN) is required when raising a support request in our support system: [http://support.atlassian.com](http://support.atlassian.com).
See Finding Your Support Entitlement Number in the support space for more general information about how Atlassian Support uses this number.

The three ways of finding your SEN are described below.

**On this page:**
- Method 1 — Check the Bamboo Administration Interface
- Method 2 — Check my.atlassian.com
- Method 3 — Check your Atlassian Invoice

**Method 1 — Check the Bamboo Administration Interface**

To find your SEN via the Bamboo administration interface:

1. Click Administration in the top menu bar of Bamboo.
2. Click License Details in the left navigation panel (under 'System'). The SEN is shown, as in the screenshot below.

Screenshot: SEN in the Bamboo administration console

**License Key Details**

**Existing License Key Details**

You may view your licensing details or use the Update License form to update the license Bamboo is running with.

- **Organisation**: Atlassian
- **Date Purchased**: 26 June 2010
- **License Type**: Bamboo Enterprise, Developer
- **Number of local agents supported**: Unlimited
- **Number of remote agents supported**: 25
- **Support Period Lasts Until**: 27 June 2011
- **Server ID**: 
- **Support Entitlement Number (SEN)**: 

**Update License**

**License Key**

Please enter your Bamboo license key above – either commercial or evaluation. Please contact Atlassian if you require a license key.

Save New License
Method 2 — Check my.atlassian.com

To find your SEN via my.atlassian.com:

1. Log into my.atlassian.com as the Account Holder or Technical Contact for your Bamboo product.
2. The SEN will be shown, as per the screenshot below.

**Screenshot: SEN in my.atlassian.com**

Method 3 — Check your Atlassian Invoice

Your Support Entitlement Number (SEN) appears on the third page of your Atlassian Invoice.

**Configuring Gravatar support**

Bamboo is configured to support Gravatars by default. This means that Bamboo will attempt to use user’s emails to retrieve profile pictures from the [Gravatar service](https://gravatar.com). The profile pictures will be displayed against user activity, e.g. comments, in Bamboo.

**Related pages:**

- [System settings](https://confluence.atlassian.com/system-settings-help-459227966.html)

**To enable (or disable) Gravatar support:**

1. Click **Administration** in the top menu bar.
2. Click **General Configuration** in the left navigation panel.
3. Select (or clear) the **Enable Gravatar Support** checkbox, as required.
4. Click **Save**.

**Agents and capabilities**

**Viewing an agent**
To view an agent, including the agent properties, capabilities and the plans that an agent can build, see Viewing an agent.

Viewing the status of all agents
To view the status of all of your agents, see Monitoring agent status.

Related pages:
- About agents and capabilities
- Viewing Bamboo's agents
- Configuring agents
- Configuring capabilities
- Remote agents
- Working with Elastic Bamboo

Viewing an agent's capabilities
To find out what capabilities an agent already has, please see Viewing an agent's capabilities.

Viewing the agents and plans related to a capability
To view the agents and plans related to a capability, see Viewing a capability's agents and jobs.

About agents and capabilities
A Bamboo agent is a service that provides capabilities to run job builds. There are two types of Bamboo agents:
- local agents run as part of the Bamboo server.
- remote agents run on computers, other than the Bamboo server, that run the remote agent tool.

An elastic agent is a remote agent that runs in the Amazon Elastic Compute Cloud (EC2).

Local agents run in the server's process, i.e. in the same JVM as the server. Each remote agent runs in its own process, i.e. has its own JVM.)

A capability is a feature of an agent. A capability can be:

- an executable (e.g. Maven)
- a JDK
- a custom capability. This is a key-value property which defines a particular characteristic of an agent (e.g. 'operating.system=WindowsXP' or 'fast.builds=true').
- a Version Control System client application (e.g. Git)

Capabilities can be defined specifically for an agent, or they can be shared between either all local agents or all remote agents. Note that the value of an agent-specific capability overrides the value of a shared capability of the same name (if one exists).

See Configuring capabilities for more information.

On this page:
- How do capabilities work with requirements?
- How are builds distributed to agents?
- How do capabilities affect the distribution of builds to agents?
How do capabilities work with requirements?

A requirement is specified in a job or a task. A requirement specifies a capability that an agent must have for it to build that job or task. A job inherits all of the requirements specified in its tasks.

Together, capabilities and requirements control which agents can execute builds for particular jobs. Each job can only be built by agents whose capabilities match the job’s requirements. See Configuring a job’s requirements for more information.

How are builds distributed to agents?

An agent will consume a single job at a time and will block any other Bamboo jobs from being processed until that job build is complete. If you would like to build multiple jobs simultaneously on the Bamboo server, then simply set up multiple local agents. If the agents are remote, then you will need to install that number of agent instances on the machine. Separate installations are required because each remote agent will need its own home and log directories.
How do capabilities affect the distribution of builds to agents?
Viewing Bamboo's agents

A Bamboo agent is a service that provides capabilities to run job builds. There are two types of Bamboo agents:

- **local agents** run as part of the Bamboo server.
- **remote agents** run on computers, other than the Bamboo server, that run the remote agent tool. An elastic agent is a remote agent that runs in the Amazon Elastic Compute Cloud (EC2).

Local agents run in the server's process, i.e. in the same JVM as the server. Each remote agent runs in its own process, i.e. has its own JVM.)

To view agents which are currently active, see Using the Bamboo dashboard.
Viewing all available Bamboo agents

To view all of Bamboo's available agents:

1. Click **Dashboard** in the top navigation bar to display the **Dashboard**.
2. Click the **Current Activity** tab of the Dashboard.
3. Click X of Y online agents are building in the 'Building' section of the page.
   - 'X' is the number of online agents that are currently building Bamboo builds and 'Y' is the total number of available online agents.

   **Screenshot: Accessing the List of All Bamboo Agents**

4. A list of all agents in your Bamboo system will be displayed (see screenshot below).

   **Screenshot: View Agents**

Viewing a specific Bamboo agent as a Bamboo user
To view a specific agent as a standard Bamboo user:

1. Click **Dashboard** in the top navigation bar to display the **Dashboard**.
2. Click the **Current Activity** tab of the Dashboard.
3. Click the name of the agent you wish to view in the ‘Building’ section of the page. To access the name of the agent, you can either:
   - Click its name in the list of builds as shown in the following screenshot:
     *Screenshot: Accessing the Agent Name in the List of Builds*

   ![Building section of Bamboo Dashboard](image)

   - Click **X of Y online agents are building** in the ‘Building’ section of the page to view the list of all Bamboo Agents.
     *‘X’ is the number of online agents that are currently building Bamboo builds and ‘Y’ is the total number of available online agents.
     - Click the name of an agent in the ‘Local Agents’ section of this page (see screenshot below).
     - **Note:** You can view agents listed in the ‘Remote Agents’ or ‘Elastic Images’ sections of this page by clicking their names too. However, you will require Bamboo administrator permissions to access these details. Upon clicking one of these agent’s names, you may be prompted to log in to Bamboo.

   *Screenshot: Choosing an Agent on the List of All Bamboo Agents Page*
4. The details of the selected agent will be displayed. If you have not changed the default view, the 'Recent Builds' view will be shown. If not, click the 'Recent Builds' tab.

**Screenshot: View Agent**
You can click on the 'Executable Plans' tab to view the plans that this agent is capable of building. Screenshot: View Agent - Executable Plans

You can also click on the 'Capabilities' tab to view the capabilities of this agent. Screenshot: View Agent - capabilities
Viewing a specific Bamboo agent as a Bamboo administrator

To view a specific agent as a Bamboo administrator:

1. Click Dashboard in the top navigation bar. This opens the Dashboard.
2. Click the Current Activity tab of the Dashboard.
3. Click the name of the agent you wish to view in the 'Building' section of the page. To access the name of the agent, you can either:
   • Click its name in the list of builds as shown in the following screenshot:

   Screenshot: Accessing the Agent Name in the List of Builds

   - Hover your mouse pointer over the 'X of Y online agents are building' link and in the resulting popup, click on the agent's name as shown in the following screenshot:

   (X) 'X' is the number of online agents that are currently building Bamboo builds and 'Y' is the total number of available online agents.
4. The details of the selected agent will be displayed in the Bamboo administration console, where you can further configure this agent and its capabilities. By default, the 'Capabilities' view will be shown. If not, click the Capabilities tab.
**Screenshot: View Agent**

**Agents > Core 2 (local)**

### Information
- Current status: Building - JIRA.Func.JDK15.4672
- 86% complete (5280/6168 successful)

### Capabilities
- Executable Plans
- System Properties

### Agent-Specific Capabilities
- A capability is a feature of an agent. There are 3 types of capabilities: builders, JDKs and custom.
- The following capabilities are specific to this agent:

<table>
<thead>
<tr>
<th>Key</th>
<th>Value</th>
<th>Operations</th>
</tr>
</thead>
<tbody>
<tr>
<td>funcTestRunner</td>
<td>true</td>
<td>View</td>
</tr>
</tbody>
</table>

### Shared Capabilities
- The following ‘shared’ capabilities are inherited by this agent. Note that the value of a shared capability is overridden by the value of an agent-specific capability with the same key (if one exists).

<table>
<thead>
<tr>
<th>Key</th>
<th>Value</th>
<th>Operations</th>
</tr>
</thead>
<tbody>
<tr>
<td>container</td>
<td>false</td>
<td>View</td>
</tr>
<tr>
<td>elastic</td>
<td>false</td>
<td>View</td>
</tr>
<tr>
<td>local</td>
<td>true</td>
<td>View</td>
</tr>
<tr>
<td>maven1.clover2.license</td>
<td>import bots/clover2license</td>
<td>View</td>
</tr>
<tr>
<td>maven1.clover2.plugin</td>
<td>import</td>
<td>View</td>
</tr>
<tr>
<td>resin3c.installation</td>
<td>import</td>
<td>View</td>
</tr>
<tr>
<td>unitTestRunner</td>
<td>true</td>
<td>View</td>
</tr>
<tr>
<td>weblogic92.installation</td>
<td>import</td>
<td>View</td>
</tr>
<tr>
<td>websphere61.installation</td>
<td>import</td>
<td>View</td>
</tr>
</tbody>
</table>

- You can click on the **Executable Plans** tab to view the plans that this agent is capable of building.

**Screenshot: View Agent - Executable Plans**
You can also click on the **System Properties** tab to view the system properties of this agent.

*Screenshot: View Agent - System Properties*
Configuring agents

A Bamboo agent is a service that provides capabilities to run job builds. There are two types of Bamboo agents:

- **local agents** run as part of the Bamboo server.
- **remote agents** run on computers, other than the Bamboo server, that run the remote agent tool.

An elastic agent is a remote agent that runs in the Amazon Elastic Compute Cloud (EC2).

Local agents run in the server's process, i.e. in the same JVM as the server. Each remote agent runs in its own process, i.e. has its own JVM.)

If you are looking for information on elastic agents, please refer to the documentation on Working with Elastic Bamboo.

On this page:
- Creating a new agent
- Editing an agent's details
- Configuring an agent's capabilities
- Disabling or deleting an agent
- Notes

Creating a new agent

To create a new agent, see:
• Creating a local agent, or
• Creating a remote agent.

Editing an agent's details

To edit an existing agent's details, see Editing an agent's details.

Configuring an agent’s capabilities

To configure an existing agent's capabilities, see:

• Configuring capabilities
• Configuring remote agent capabilities

Disabling or deleting an agent

To disable or delete an agent, see Disabling or deleting an agent.

Notes

• A capability is a feature of an agent. A capability can be:
  • an executable (e.g. Maven)
  • a JDK
  • a custom capability. This is a key-value property which defines a particular characteristic of an agent (e.g. ‘operating.system=WindowsXP’ or ‘fast.builds=true’).
  • a Version Control System client application (e.g. Git)

Capabilities can be defined specifically for an agent, or they can be shared between either all local agents or all remote agents. Note that the value of an agent-specific capability overrides the value of a shared capability of the same name (if one exists).

Creating a local agent

A Bamboo agent is a service that provides capabilities to run job builds. There are two types of Bamboo agents:

• local agents run as part of the Bamboo server.
• remote agents run on computers, other than the Bamboo server, that run the remote agent tool.

An elastic agent is a remote agent that runs in the Amazon Elastic Compute Cloud (EC2).

Local agents run in the server’s process, i.e. in the same JVM as the server. Each remote agent runs in its own process, i.e. has its own JVM.)

Note that one local agent, with the default name of 'Default Agent', is automatically created after installing Bamboo.

### Related pages:

• Configuring agents
• Bamboo remote agent installation guide

To create a new local agent:

1. Click Administration in the menu bar.
2. Click Agents in the left panel (under 'Build Resources') to display a list of all local and remote agents that currently exist in your Bamboo system.
3. Click Add Local Agent.
4. Enter details for the agent. The name is displayed on the dashboard. The description is only visible to administrators.
5. Click **Add**.

Note that your new local agent:

- will be enabled by default.
- will inherit all local server capabilities that are defined in your Bamboo system.
- will be able to run builds for all jobs whose requirements are met by the agent’s capabilities (see Configuring a job’s requirements).

Screenshot: Creating a local agent

**Add Local Agent**

Enter a new unique name and a description for this local agent.

**Information**

- **Name**
- **Description**

[Add] [Cancel]

**Editing an agent’s details**

A Bamboo agent is a service that provides capabilities to run job builds. There are two types of Bamboo agents:

- **local agents** run as part of the Bamboo server.
- **remote agents** run on computers, other than the Bamboo server, that run the remote agent tool.

An **elastic agent** is a remote agent that runs in the Amazon Elastic Compute Cloud (EC2).

Local agents run in the server’s process, i.e. in the same JVM as the server. Each remote agent runs in its own process, i.e. has its own JVM.

Each agent has a defined set of capabilities and can only run builds for jobs whose requirements match the agent’s capabilities.

For more information, see:

- Configuring agents
- Agents and capabilities
- Configuring a job’s requirements

**On this page:**

- Editing an agent’s name or description
- Editing an agent’s capabilities
Related pages:

- Configuring capabilities
- Configuring an agent-specific executable capability
- Configuring an agent-specific JDK capability
- Configuring an agent-specific custom capability

Editing an agent's name or description

To edit an agent's name or description:

1. Navigate to the desired agent, as described on Viewing an agent.
2. Click Edit Details.
3. Update the details for the agent.
4. Click Save.

Editing an agent's capabilities

To edit an agent's capabilities, see:

- Configuring an agent-specific executable capability
- Configuring an agent-specific JDK capability
- Configuring an agent-specific custom capability

Screenshot: Editing the details of an agent

Edit Details - Test Agent

Update the details of this agent, then click Update.

Information

<table>
<thead>
<tr>
<th>Name</th>
<th>Test Agent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Description</td>
<td>Agent for testing purposes</td>
</tr>
</tbody>
</table>

Update  Cancel

Disabling or deleting an agent

Bamboo allows you to disable or delete an agent, to prevent that agent from running any further builds.

- **Disabling an agent** lets you keep the agent in Bamboo, but stops it from running builds.
  - If you need to prevent Bamboo from building any plans at all (e.g. while you re-index Bamboo), you can disable all agents. By doing so, all builds will wait in the queue until you re-enable the agents.
- **Deleting an agent** removes it from Bamboo altogether. If you need to use the agent again in future, you will need to recreate it (see Creating a local agent and Creating a remote agent for more information).

Note that you can also delete/disable individual plans and/or their jobs. This prevents the plans and/or their jobs from being submitted to the build queue. See Disabling or deleting a plan and Disabling or deleting a job.
To disable (or delete) an agent:

1. Click **Administration** in the menu bar.
2. Click **Agents** in the left panel to display the ‘Agents’ screen, which lists all agents that currently exist in your Bamboo system. The ‘Status’ column indicates which agents are currently enabled or disabled.
3. Select the check box for the agent (or agents) you wish to disable or delete.
4. Click the **Disable** (or **Delete**) button above the table.

**Screenshot: Agent — Delete or Disable**

### Viewing an agent

A Bamboo **agent** is a service that provides capabilities to run **job builds**. There are two types of Bamboo agents:

- **local agents** run as part of the Bamboo server.
- **remote agents** run on computers, other than the Bamboo server, that run the **remote agent** tool.

An **elastic agent** is a remote agent that runs in the **Amazon Elastic Compute Cloud (EC2)**.

Local agents run in the server’s process, i.e. in the same JVM as the server. Each remote agent runs in its own process, i.e. has its own JVM.)

**Related pages:**

- Viewing an agent's capabilities
- Viewing the jobs that an agent can build
- Determining which agents can build which jobs
- Viewing an agent's system properties

### To view an agent:

1. Click **Administration** in the menu bar.
2. Click **Agents** in the left panel to display the ‘Agents’ page, which lists all local and remote agents that currently exist in your Bamboo system.
3. Click the name of the desired agent. The agent's page will be displayed.

**Viewing an agent's capabilities**

A **capability** is a feature of an **agent**. A capability can be:

- an executable (e.g. Maven)
• a JDK
• a custom capability. This is a key-value property which defines a particular characteristic of an agent (e.g. 'operating.system=WindowsXP' or 'fast.builds=true').
• a Version Control System client application (e.g. Git)

Capabilities can be defined specifically for an agent, or they can be shared between either all local agents or all remote agents. Note that the value of an agent-specific capability overrides the value of a shared capability of the same name (if one exists).

**Related pages:**
- Viewing the jobs that an agent can build
- Determining which agents can build which jobs

**To view an agent's capabilities:**

1. Click **Administration** in the top navigation bar.
2. Click **Agents** in the left navigation panel.
3. Click the name of the agent whose capabilities you wish to view.
4. If necessary, click the **Capabilities** tab to show a list of all 'Agent-Specific Capabilities' and 'Shared Capabilities' (see screenshot below). The capabilities in each of these sections are grouped into the following subsections:
   - Custom — custom capabilities.
   - Executable — executable capabilities.
   - JDK — JDK capabilities.
   - Perforce, Mercurial, Git — VCS capability.
   - To define a new capability, see Configuring capabilities.

**Screenshot: An agent's capabilities**
Notes

- How capabilities work with requirements — A requirement is specified in a job or a task. A requirement specifies a capability that an agent must have for it to build that job or task. A job inherits all of the requirements specified in its tasks.

  Together, capabilities and requirements control which agents can execute builds for particular jobs. Each job can only be built by agents whose capabilities match the job's requirements.

Viewing the jobs that an agent can build

To view the plans that an agent can build:

1. Click Administration in the top navigation bar.
2. Click Agents in the left navigation panel to display the 'Agents' screen.
3. Click the name of the agent of interest.
4. If necessary, click the **Executable Plans** tab to show a list of jobs which this agent is capable of building (see screenshot below).

**Screenshot: Viewing the executable plans for an agent**

```
Agents > Default Agent (local)

The default agent

**Information**

70%  
570 / 809 Successful

Current status  
Idle

View Recent Activity | Edit Details | Disable | Request Agent Stop | Stop Immediately | Delete

**Capabilities**  
**Executable Jobs**  
**System Properties**

**Jobs whose requirements match the capabilities.**

<table>
<thead>
<tr>
<th>Plan</th>
<th>Last built</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. DeltaTest - DeltaTestChain-Test1</td>
<td>DELTATEST-DELTATESTCHAIN-TEST1-55 2 months ago (Last successful build DELTATEST-DELTATESTCHAIN-TEST1-04, 2 months ago)</td>
</tr>
<tr>
<td>2. ImportMaven2 - Maven Quick Start Archetype 1.0 - Default Job</td>
<td>IMPORTMAVEN2-MAVENQUICKSTARTARCHETYPE10-JOB1-10 3 months ago (Never built successfully)</td>
</tr>
<tr>
<td>3. Logtest - logtest - Default Job</td>
<td>LOGTEST-LOGTEST-JOB1-60 1 month ago (Last successful build LOGTEST-LOGTEST-JOB1-58, 1 month ago)</td>
</tr>
<tr>
<td>4. Project1 - Maven Quick Start Archetype 1.02 - Default Job</td>
<td>PROJECT1-MAVENQUICKSTARTARCHETYPE10-JOB1-93 2 months ago (Never built successfully)</td>
</tr>
<tr>
<td>5. PROJECT - SUCCESS - Default Job</td>
<td>PROJECT-SUCCESS-JOB1-1 2 months ago</td>
</tr>
<tr>
<td>6. PROJECT - FAIL - Default Job</td>
<td>PROJECT-FAIL-JOB1-1 2 months ago (Never built successfully)</td>
</tr>
</tbody>
</table>
```

**Notes**

- Determining which plans an agent can build — A **requirement** is specified in a **job** or a **task**. A requirement specifies a **capability** that an **agent** must have for it to **build** that job or task. A job inherits all of the requirements specified in its tasks.

  Together, capabilities and requirements control which agents can execute builds for particular **jobs**. Each job can only be built by agents whose capabilities match the job's requirements.

- To see which agents are capable of building particular jobs, see **Determining which agents can build which jobs**.

**Determining which agents can build which jobs**

An agent can only build a job if the **capabilities** of the agent match the **requirements** of that job. Read more on **Configuring a job's requirements** and **Configuring capabilities**.

The 'Agents and Plans Matrix' page displays the agents that are capable of building every job currently set up in your Bamboo system, including disabled jobs. Every shared agent, remote agent and elastic image is listed.
against each job with either a tick ✓ or a cross ✗ to indicate whether or not the agent is not capable of building the job.

To see the jobs that a specific agent can build, refer to Viewing the jobs that an agent can build.

**Related pages:**
- Configuring a job's requirements
- Configuring capabilities

To view which agents can build which jobs:

1. Click Administration in the top navigation bar.
2. Click Agent Matrix in the left navigation panel.
3. If an agent is not capable of building a particular job, hover your mouse over the cross ✗ to see the job requirements that are not met.

---

**Agents and Plans Matrix**

The matrix below shows which enabled Bamboo agents can execute which jobs. Each column represents an agent while each row represents a job. If you have enabled Elastic Bamboo, your elastic image configurations will also be displayed below. Elastic agents will derive their capabilities from the elastic Image. Hover your mouse over any ✗ icons to see which job requirements are not being met by the relevant agent.

<table>
<thead>
<tr>
<th>Job Description</th>
<th>Local Agent</th>
<th>bamboo-pc-sydney.atlassian.com</th>
<th>Default</th>
<th>Maven 2.1 Image</th>
</tr>
</thead>
<tbody>
<tr>
<td>Default Job</td>
<td>✗</td>
<td>✗</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Default Job</td>
<td>✗</td>
<td>✗</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Func Test Clean</td>
<td>✓</td>
<td>✗</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Func Test Clean</td>
<td>✓</td>
<td>✗</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Func Test Clean</td>
<td>✗</td>
<td>✗</td>
<td>✓</td>
<td>✓</td>
</tr>
</tbody>
</table>

**Viewing an agent's system properties**

To view the system properties for an agent:

1. Navigate to the desired agent, as described on Viewing an agent.
2. Click System Properties tab to view the agent's system properties.

**Screenshot: Viewing an agent's system properties**
Monitoring agent status
You can monitor your agents' status to check that all agents are functioning as expected.

Online versus Offline agents:
- An 'Online' agent is an agent which is currently available for use by Bamboo. Local agents are always online, although remote agents may be either online or offline.
- An 'Offline' agent is a remote agent which has been registered with the Bamboo server, was online, but is
now unavailable for builds because:

- The Bamboo remote agent process (running on the remote hardware) was stopped.
- The Bamboo server (for whatever reason) cannot communicate with the remote hardware that is running the Bamboo remote agent process.

Bamboo administrators can manually 'disable' an online agent to prevent it from being used in build generation. The agent will still be online and it can be 'enabled' at a later point in time. It is not possible to disable offline agents.

### Related pages:

- [Creating a local agent](#)
- [Bamboo remote agent installation guide](#)

### To monitor the status of your agents:

1. Click **Administration** in the menu bar.
2. Click **Agents** in the left panel. This will display the 'Agents' screen, showing lists of all local agents and all remote agents that currently exist in your Bamboo system (see screenshot below).

   Agents can have one of the following statuses:

<table>
<thead>
<tr>
<th>Status</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Idle</td>
<td>Available to execute builds.</td>
</tr>
<tr>
<td>Building</td>
<td>Currently executing a build.</td>
</tr>
<tr>
<td>Cancelling</td>
<td>Currently cancelling a Job build</td>
</tr>
<tr>
<td>Disabled</td>
<td>Not available to execute builds (see <a href="#">Disabling or deleting an agent</a>).</td>
</tr>
<tr>
<td>Disabled - Building</td>
<td>Currently executing a build, but disabled so cannot execute further builds.</td>
</tr>
<tr>
<td>Disabled - Cancelling</td>
<td>Currently cancelling a build, and disabled so cannot execute further builds.</td>
</tr>
</tbody>
</table>

Note that to see the jobs that are currently being built, look at the **Current Activity** tab on the [dashboard](#).

**Screenshot: Viewing the status of your agents**
**Agents**

An agent is a service that executes Bamboo builds. You can use this page to view, add and delete agents. You can also use this matrix to determine which agents can execute which build plans.

### Local Agents

Local agents run on the Bamboo server.

<table>
<thead>
<tr>
<th>Agent</th>
<th>Status</th>
<th>Operations</th>
</tr>
</thead>
<tbody>
<tr>
<td>Local Agent</td>
<td>Building - SANDBOX-RFIN-JOB1-22</td>
<td>View</td>
</tr>
<tr>
<td>Reporting agent</td>
<td>Idle (Disabled)</td>
<td>View</td>
</tr>
</tbody>
</table>

Add Local Agent

### Remote Agents

Remote agents run on computers other than the Bamboo server.

Online Remote Agents

Remote agents run on the Bamboo server.

<table>
<thead>
<tr>
<th>Agent</th>
<th>Status</th>
<th>Operations</th>
</tr>
</thead>
<tbody>
<tr>
<td>Elastic Agent on i-01bcc86d</td>
<td>Idle</td>
<td>View</td>
</tr>
<tr>
<td>Elastic Agent on i-03bcc86f</td>
<td>Idle</td>
<td>View</td>
</tr>
<tr>
<td>Elastic Agent on i-1bbcc873</td>
<td>Building - BT9-FUNC-JOB1-7816</td>
<td>View</td>
</tr>
</tbody>
</table>

There are currently 3 remote agents online (3 elastic). Start elastic agents here. A maximum of 25 agents are supported by your license.

Select All, None, Idle, Disabled Action: Delete  Disable  Enable

There are two logs that are refreshed every 10 seconds. You will need to refresh the page to see any other updates.

Install Remote Agent | Disable Remote Agent Support

### Configuring capabilities

A capability is a feature of an agent. A capability can be:

- an executable (e.g. Maven)
- a JDK
• a custom capability. This is a key-value property which defines a particular characteristic of an agent (e.g. 'operating.system=WindowsXP' or 'fast.builds=true').
• a Version Control System client application (e.g. Git)

Capabilities can be defined specifically for an agent, or they can be shared between either all local agents or all remote agents. Note that the value of an agent-specific capability overrides the value of a shared capability of the same name (if one exists).

On this page:

• Defining a new capability
• Editing a capability
• Renaming a capability
• Deleting a capability
• Notes

Related pages:

• Configuring agents

Defining a new capability

To define a new capability, see:

• Configuring a new executable
• Configuring a new JDK
• Configuring a new custom capability
• Configuring a new version control capability

Editing a capability

To edit an existing capability, see Modifying and deleting capabilities.

Renaming a capability

To rename an existing capability, see Renaming a capability.

Deleting a capability

To delete a capability, see Modifying and deleting capabilities.

Notes

• A requirement is specified in a job or a task. A requirement specifies a capability that an agent must have for it to build that job or task. A job inherits all of the requirements specified in its tasks.

Together, capabilities and requirements control which agents can execute builds for particular jobs. Each job can only be built by agents whose capabilities match the job's requirements. See Configuring a job's requirements for more information.

Viewing a capability’s agents and jobs

You can view a capability to see the following information about it:

• which agents have/inherit the capability. Click one of the listed agents to show further information about that agent:
  • Executable Jobs tab — all the jobs whose requirements match the capabilities of this agent
  • Capabilities tab — the capabilities of the agent itself
  • System Properties tab — system information about this agent
  • Recent Activity link — recent builds for the agent
• which jobs have the capability specified as a requirement.
• which elastic images have this capability and the Bamboo plans that rely on this capability. See also Viewing an elastic image.

On this page:
• Viewing an agent-specific capability
• Viewing a local server capability
• Viewing a shared remote capability

Related pages:
• Configuring capabilities
• Renaming a capability
• Modifying and deleting capabilities

Viewing an agent-specific capability

To view an agent-specific capability:
1. Navigate to the desired agent, as described on Viewing an agent.
2. Click the Capabilities tab.
3. Click View for the capability you wish to view.

Viewing a local server capability

To view a local server capability:
1. Click Administration in the top navigation bar.
2. Click Server Capabilities in the left navigation panel.
3. Click View for the capability you wish to view.

Viewing a shared remote capability

Before you begin:
• Shared remote capabilities are not shared with elastic agents.

To view a shared remote capability:
1. Click Administration in the top navigation bar.
2. Click Agents in the left navigation column.
3. Click Shared Remote Capabilities in the top right of the ‘Remote Agents’ section.
4. ClickView for the capability you wish to view.

Configuring a new executable

About executables

An executable is a program external to Bamboo used to automate processes. Generally, executables compile source code to generate compiled executable files (referred to as artifacts in Bamboo). Ant, Maven, MSBuild or PHPUnit are just some examples of executables that can be used as part of your build process.

New executables can be defined as capabilities in Bamboo. Once an executable has been defined in Bamboo, it can be configured as part of a task.

At least one executable was automatically configured when you installed Bamboo. You can configure more by defining capabilities for the new executables (i.e. executable capabilities). Bamboo supports the following types of executables:
The executables listed above are supported out-of-the-box. If you need to use a different executable, a number of third-party plugin modules are available (e.g. NoseXUnit). You can also create your own executable plugin (see the Bamboo Plugin Guide for details).

Configuring a new executable

You can define a new executable capability for:

- **a specific local agent** — see Configuring an agent-specific executable capability
- **all local agents** — see Configuring a shared executable capability
- **a specific remote agent** — see Configuring an agent-specific executable capability
- **all remote agents** — see Configuring a shared executable capability

If an agent has its own specific executable capability, the value will override the value of a shared executable capability of the same name (if one exists).

**Once you have configured a new executable capability in your Bamboo system, its label (e.g. 'Ant') will appear in the Executable list when you configure the executable for a task** (see Configuring tasks). The executable you select will be used every time the task is executed during a build. That is, the task can only be run by agents which have a capability that matches the executable specified in the task's Executable list.

**Notes**

- **Pre-configured executables** — The executable that was automatically configured when you installed Bamboo depends on the system environment variables (e.g. 'ANT_HOME=/opt/java/ant') that were present on the machine that Bamboo was installed on.
  - On the Bamboo server, environment variables that were present during installation were saved as local server capabilities in Bamboo.
  - On remote agents, environment variables that were present during installation were saved as agent-specific capabilities in Bamboo.
- **msbuild.exe** — You will need to install the .NET framework SDK and reference the default path for msbuild.exe, (e.g. C:\Windows\Microsoft.NET\Framework*64*\v2.0.50727), to use this executable.
- **PHPUnit** — You will need to install PHPUnit and reference the path to your PHP command-line interpreter, (e.g. /usr/bin/phpunit on Ubuntu), to use this executable.

Viewing your executable capabilities

You can view all of the executable capabilities that have been defined in Bamboo on the 'Executables' page. These include local server capabilities, local agent-specific capabilities and remote agent-specific capabilities.
An executable is a program external to Bamboo used to automate processes. Generally, executables compile source code to generate compiled executable files (referred to as artifacts in Bamboo). Ant, Maven, MSBuild or PHPUnit are just some examples of executables that can be used as part of your build process.

New executables can be defined as capabilities in Bamboo. Once an executable has been defined in Bamboo, it can be configured as part of a task.

On this page:

- Viewing and configuring executable capabilities
- Notes

Related pages:

- Configuring capabilities

Viewing and configuring executable capabilities

To view and configure the executable capabilities defined in Bamboo:

1. Click Administration in the top menu bar.
2. Click Executables in the left navigation panel.
3. Click a specific executable's tab on the left to see the agents and jobs related to this executable capability.

- View more details about an agent with this executable capability — click the linked name of the agent in the 'Agent' column. This will show you the complete list of capabilities and jobs associated with that agent.
- Edit the executable path of an agent with this capability — click Edit in the 'Operations' column for the agent you wish to configure. See Configuring an agent-specific executable capability.
- Remove this executable capability from an agent — click Delete in the 'Operations' column for the agent that currently possesses this executable capability.
  
  Be aware that you can only remove a executable capability from all local agents, not from individual local agents. See the note below for more information.
- View details about (and configure) an elastic image with this executable capability — click the linked name of the elastic image in the 'Elastic Image Configuration' column.
- Edit the configuration of a Job which relies on/requires this executable capability — click the linked name of the job in the 'Plan' column.
- If you are currently viewing a Maven (2.x or later) executable capability, you can configure repository isolation for it by clicking Edit Capability Configuration. Please refer to Configuring repository isolation for Maven executables for more information.
- To add a new executable as a local server capability, click Add executable to server capabilities to navigate to the 'Server Capabilities' page.

Screenshot: Executables
Notes

- **Bamboo’s automatic detection of executables** — When you install the Bamboo server application or the Bamboo Remote Agent application on another machine, either of these applications will automatically look for existing executables installed on the same machine (based on a combination of the machine’s environment variables and other conditions). A 'executable capability' will be created for each executable that that either of these Bamboo applications find.

The environment variables and conditions that Bamboo uses to automatically detect and create executable capabilities are listed below. With the exception of the 'Command' executable, the paths for each automatically detected executable are based on the path 'string' values found within these environment variables.

- **Ant** — the `ANT_HOME` environment variable
- **Maven** — the `MAVEN_HOME`, `M2_HOME`, or `MAVEN2_HOME` environment variable (Maven 1), `M2_HOME` or `MAVEN2_HOME` environment variable (Maven 2.x)
- **Grails** — `GRAILS_HOME` environment variable
- **Command** — the existence of the `/bin/bash` file
- **PHPUnit** — the existence of the `phpunit` file anywhere within the machine's `PATH` environment variable

- **Local agents and executable capabilities** — Since Bamboo automatically looks for executables installed on the same machine and creates a 'executable capability' for each executable installation it finds, all existing and subsequent local agents that you create will possess these executable capabilities.
Hence, when you access the 'Executables' page and view these executable capabilities, all local agents will be grouped together in the 'All local agents' category and you will only be able to remove these executable capabilities from all local agents, not from individual local agents.

**Configuring an agent-specific executable capability**

Once you have configured a new executable capability in your Bamboo system, its label (e.g. 'Ant') will appear in the Executable list when you configure the executable for a task (see Configuring tasks). The executable you select will be used every time the task is executed during a build. That is, the task can only be run by agents which have a capability that matches the executable specified in the task's Executable list. An agent-specific capability is a capability that applies to one agent only. Note that the value of an agent-specific capability will override the value of a shared capability of the same name (if one exists).

**Related pages:**
- Configuring tasks
- Configuring a shared executable capability

To configure a new agent-specific executable capability:

1. Navigate to the desired agent, as described on Viewing an agent.
2. In the 'Agent-Specific Capabilities' section of the Capabilities tab, click Add Capability. The 'Add Capability' page is displayed (see screenshot below).
3. Choose Capability Type > Executable.
4. Select the appropriate executable from the Type list.
5. In the Executable Label, type a name/label for the executable. Bamboo uses this name in the Executable list whenever a task's executable is configured.
6. In the Path field, type the appropriate path. This will vary depending on the Type you selected in the previous step.
   - For Ant and Maven, Bamboo requires the path to be the location of the executable installation folder.
7. Click Add. This will verify whether the executable and path you have specified are valid.

**Screenshot: Add Capability — Executable**

Configuring a shared executable capability

Once you have configured a new executable capability in your Bamboo system, its label (e.g. 'Ant') will appear in the Executable list when you configure the executable for a task (see Configuring tasks). The executable you select will be used every time the task is executed during a build. That is, the task can only be run by agents which have a capability that matches the executable specified in the task's Executable list. Shared capabilities are inherited by all applicable agents, that is, (shared) local server capabilities are inherited by all local agents, and shared remote capabilities are inherited by all remote agents. Note, however, that the value of a shared capability will be overridden by the value of an agent-specific capability of the same name (if one exists).

**On this page:**
- Configuring a new local server executable capability
- Configuring a new shared remote executable capability
Configuring a new local server executable capability

Before you begin:

- Shared remote executable capabilities are **not shared** with elastic agents.
- If you want to run multiple Maven agents on your local server, you will need to configure repository isolation for your Maven executables. See Configuring repository isolation for Maven executables for details.

**To configure a new local server executable capability:**

1. Click **Administration** in the top menu bar.
2. Click **Server Capabilities** in the left navigation panel.
3. Choose **Capability Type > Executable** in the 'Add Capability' section at the end of the page (see screenshot below).
4. Select the appropriate type of executable from the **Type** list.
5. In the **Executable Label** field, type a name/label for the executable, which Bamboo presents in the 'Executable' dropdown list whenever a Task's executable is configured.
6. In the **Path** field, type the appropriate path. This will depend on the **Type** you selected in the previous step.
   - For Ant and Maven, Bamboo requires the path to be the location of the executable installation folder.
7. Click **Add**.

Configuring a new shared remote executable capability

**To configure a new shared remote executable capability:**

1. Click **Administration** in the top menu bar.
2. Click **Agents** in the left navigation panel.
3. In the 'Remote Agents' section, click **Shared Remote Capabilities** at the right.
4. Choose **Capability Type > Builder** in the 'Add Capability' section at the end of the page (see screenshot below).
5. Select the appropriate type of executable from the **Type** list.
6. In the **Executable Label** field, type a name/label for the Builder.
7. In the **Path** field, type the appropriate path. This will depend on the **Type** you selected in the previous step.
   - For Ant and Maven, Bamboo requires the path to be the location of the executable installation folder.
8. Click **Add**.

**Screenshot: Add Shared Capability — Executable**
Configuring repository isolation for Maven executables

Bamboo allows you to isolate Maven (2.x or later only) executables on an agent-specific basis. If you configure repository isolation for a particular Maven executable capability, each agent that uses this executable will have its own private Maven 2.x artifacts directory, thereby allowing you to avoid these jar and dependency file corruptions. Each isolated repository directory has the path:

```
$BAMBOO_HOME/.m2/AGENT-${agendid}/repository
```

You may want to configure repository isolation for Maven executables, if you run multiple Maven executables on one server machine which run under the same user account on that server, but belong to different Bamboo agents. In this case, the agents will use the same default Maven artifacts directory: `~/.m2/repository` (for Unix-based servers) or `%USERPROFILE%\m2\repository` for Windows-based servers). This is the directory to which Maven dependency jars are downloaded and where project artifacts are installed during the "install" phase of a Maven build.

Hence, problems can arise if Bamboo uses these multiple Maven executables simultaneously. For example, if multiple agents on a single computer, each with a different Maven executable capability, start to run Maven builds simultaneously from the queue, the different Maven executables may attempt to download the same dependency to the same artifacts directory location, resulting in corruption of the downloaded jar and dependency files.

**Related pages:**
- [Configuring a shared executable capability](#)

Before you begin:

- This feature is not available for Maven 1.x executables.
- When configuring any Maven executables in Bamboo in which you want to force local repository isolation, ensure that the executable label you use is one that identifies it as such — for example, 'Maven 2.x with local repository isolation'.

**To configure a new local server Maven capability with repository isolation:**

1. Click **Administration** in the top menu bar.
2. Click **Server Capabilities** in the left navigation panel.
3. In the 'Add Capability' section, choose your executable and enter its details as described:

```
<table>
<thead>
<tr>
<th>Capability Type</th>
<th>Select Executable</th>
</tr>
</thead>
<tbody>
<tr>
<td>Executable</td>
<td>Maven 2.x</td>
</tr>
<tr>
<td>Path</td>
<td>volumes/panda/opt/dev/tools/maven</td>
</tr>
</tbody>
</table>
```

**Add Capability**
<table>
<thead>
<tr>
<th>Type</th>
<th>Select one of the Maven options (2.x or later)</th>
</tr>
</thead>
</table>
| Executable Label | Enter 'Maven with local repository isolation'  
*You can use any label you wish. However, it will help you and your Bamboo users if you enter an appropriate executable label that identifies this Maven 2.x executable as one that uses local repository isolation.* |
| Path | Enter the path for your Maven executable |

4. Click **Add**.
5. Click the label for the executable you have just added. The executable capability summary screen will be displayed (see 'Maven 2.x Executable' screenshot below).
6. Click **Edit Capability Configuration**. The 'Configure Capability' screen will be displayed (see 'Maven 2.x Repository Isolation' screenshot below).
7. Select the **Local repository isolation** check box.
8. Click **Save**.

Screenshot: Maven Executable
Maven 2 with local repository isolation

The screen shows the summary of a capability. You can see which jobs have a requirement on this capability and which agents have the capability.

Agents with capability

The following agents have this capability.

<table>
<thead>
<tr>
<th>Agent</th>
<th>Path</th>
<th>Operations</th>
</tr>
</thead>
<tbody>
<tr>
<td>All local agents</td>
<td>/Volumes/Pharlap/opt/dev/tools/maven</td>
<td>Edit</td>
</tr>
<tr>
<td>bambooperf-sydney.atlassian.com</td>
<td>C:\Program Files\Java\apache-maven-2.1.0</td>
<td>Edit</td>
</tr>
</tbody>
</table>

Elastic Image Configurations with capability

3 elastic image configurations have this capability.

<table>
<thead>
<tr>
<th>Elastic Image Configuration</th>
<th>Path</th>
</tr>
</thead>
<tbody>
<tr>
<td>KBTEST</td>
<td>/opt/maven-2.0</td>
</tr>
<tr>
<td>Default</td>
<td>/opt/maven-2.0</td>
</tr>
<tr>
<td>Maven 2.1 Image</td>
<td>/opt/maven-2.0</td>
</tr>
</tbody>
</table>

Jobs with requirement

28 jobs rely on this capability.

<table>
<thead>
<tr>
<th>Plan</th>
<th>Path</th>
<th>Operations</th>
</tr>
</thead>
<tbody>
<tr>
<td>Artifact Sharing Dogfooding › Artifact sharing › Consumer</td>
<td>exists</td>
<td></td>
</tr>
<tr>
<td>Artifact Sharing Dogfooding › Artifact sharing › Final</td>
<td>exists</td>
<td></td>
</tr>
</tbody>
</table>

Capability Configuration

Local repository isolation: Yes

Rename Capability | Edit Capability Configuration

Screenshot: Maven Repository Isolation

Executable > Maven 2

Configure Capability

Update specific features of this capability.

- Local repository isolation

When enabled, executable will use per-agent private maven local repository.

Save | Cancel

Configuring a new JDK

At least one JDK was automatically configured when you installed Bamboo\(^1\). You can configure more by
defining **JDK capabilities**.

You can define a new JDK capability for:

- a specific local agent — see Configuring an agent-specific JDK capability
- all local agents — see Configuring a shared JDK capability
- a specific remote agent — see Configuring an agent-specific JDK capability
- all remote agents — see Configuring a shared JDK capability

Note that if an agent has its own specific JDK capability, the value will override the value of a shared JDK capability of the same name (if one exists).

Once you have configured a new JDK capability in your Bamboo system, its label (e.g. '1.5') will appear in the Build JDK list when you configure a job's builder (see Configuring tasks). The JDK you select will be used for every one of that job's builds. That is, the job can only be built by agents which have a JDK capability whose label is specified in the job's Build JDK field.

---

1 This depends on the system environment variables (e.g. 'JAVA_HOME=/opt/java/java_sdk1.5') that were present on the machine on which Bamboo was installed:

- On the Bamboo server, environment variables that were present during installation were saved as shared local capabilities in Bamboo.
- On remote agents, environment variables that were present during installation were saved as agent-specific capabilities in Bamboo.

**Configuring an agent-specific JDK capability**

Once you have configured a new JDK capability in your Bamboo system, its label (e.g. '1.5') will appear in the Build JDK list when you configure a job's builder (see Configuring tasks). The JDK you select will be used for every one of that job's builds. That is, the job can only be built by agents which have a JDK capability whose label is specified in the job's Build JDK field. An agent-specific capability is a capability that applies to one agent only. Note that the value of an agent-specific capability will override the value of a shared capability of the same name (if one exists).

**Related pages:**

- Configuring a shared JDK capability

**To configure a new agent-specific JDK capability:**

1. Navigate to the desired agent, as described on Viewing an agent.
2. Click the Capabilities tab.
3. Click Add Capability (under 'Agent-Specific Capabilities').
4. Choose Capability Type > JDK.
5. In the JDK Label field, type a name/label for the JDK. Bamboo show this in the Build JDK list whenever a job's builder is configured.
6. In the Java Home field, type the location of the JDK Home Directory.
7. Click Add.
Notes

• **Configuring generic JDK capabilities** — If you want to indicate that an agent is capable of running builds for a set of related JDKs (e.g. all point versions of JDK 1.5), you **set up generic JDK capabilities** to encompass these JDKs.

  For example, you can set up the following JDK capabilities for your Bamboo agent(s):

  • **JDK** (where 'JDK Label' = 'JDK' and 'Java Home' = '/usr/java/jdk1.5.0_07') — this JDK capability indicates that an agent(s) is capable of running builds with any JDK requirement.

  • **JDK 1.5** (where 'JDK Label' = 'JDK 1.5' and 'Java Home' = '/usr/java/jdk1.5.0_07') — this JDK capability indicates that an agent(s) is capable of running builds with a JDK 1.5 requirement or any point version of JDK 1.5, e.g. 1.5.0_07, 1.5.0_08, etc.

  • **JDK 1.5.0_07** (where 'JDK Label' = 'JDK 1.5.0_07' and 'Java Home' = '/usr/java/jdk1.5.0_07') — this JDK capability indicates that an agent(s) is only capable of running builds with a JDK 1.5.0_07 requirement.

  If you have set up redundant JDK capabilities, you can view the list of **JDK capabilities** set up in Bamboo and delete any unwanted JDK capabilities.

**Configuring a shared JDK capability**

Once you have configured a new JDK capability in your Bamboo system, its label (e.g. '1.5') will appear in the Build JDK list when you configure a job's builder (see Configuring tasks). The JDK you select will be used for every one of that job's builds. That is, the job can only be built by agents which have a JDK capability whose label is specified in the job's Build JDK field. **Shared capabilities** are inherited by all applicable agents, that is, (shared) local server capabilities are inherited by all local agents, and shared remote capabilities are inherited by all remote agents. Note, however, that the value of a shared capability will be overridden by the value of an agent-specific capability of the same name (if one exists).

**On this page:**

- Configuring a new local server JDK capability
- Configuring a new shared remote JDK capability
- Notes

**Related pages:**

- Configuring an agent-specific JDK capability

**Configuring a new local server JDK capability**

Before you begin:

• Shared remote JDK capabilities are **not shared** with elastic agents.

**To configure a new local server JDK capability:**
1. Click **Administration** in the top menu bar.
2. Click **Server Capabilities** in the left navigation panel.
3. Choose **Capability Type > JDK** in the 'Add Capability' section at the end of the page (see screenshot below).
4. In the **JDK Label** field, type a name/label for the JDK. Bamboo displays this in the **Build JDK** list whenever a job's builder is configured.
5. In the **Java Home** field, type the location of the JDK Home Directory.
6. Click **Add**.

**Configuring a new shared remote JDK capability**

**To configure a new shared remote JDK capability:**

1. Click **Administration** in the top menu bar.
2. Click **Agents** in the left navigation panel.
3. In the 'Remote Agents' section, click **Shared Remote Capabilities** at the right.
4. Choose **Capability Type > JDK** in the 'Add Capability' section at the end of the page (see screenshot below).
5. In the **JDK Label** field, type a name/label for the JDK. Bamboo displays this in the **Build JDK** list whenever a job's builder is configured.
6. In the **Java Home** field, type the location of the JDK Home Directory.
7. Click **Add**.

**Screenshot: ‘Add Capability — JDK’**

**Notes**

- **Configuring generic JDK capabilities** — If you want to indicate that an agent is capable of running builds for a set of related JDKs (e.g. all point versions of JDK 1.5), you set up generic JDK capabilities to encompass these JDKs.

  For example, you can set up the following JDK capabilities for your Bamboo agent(s):

  - **JDK** (where 'JDK Label' = 'JDK' and 'Java Home' = '/usr/java/jdk1.5.0_07') — this JDK capability indicates that an agent(s) is capable of running builds with **any** JDK requirement.

  - **JDK 1.5** (where 'JDK Label' = 'JDK 1.5' and 'Java Home' = '/usr/java/jdk1.5.0_07') — this JDK capability indicates that an agent(s) is capable of running builds with a JDK 1.5 requirement or any point version of JDK 1.5, e.g. 1.5.0_07, 1.5.0_08, etc.

  - **JDK 1.5.0_07** (where 'JDK Label' = 'JDK 1.5.0_07' and 'Java Home' = '/usr/java/jdk1.5.0_07') — this JDK capability indicates that an agent(s) is only capable of running builds with a JDK 1.5.0_07 requirement.

- If you have set up redundant JDK capabilities, you can view the list of **JDK capabilities** set up in Bamboo and delete any unwanted JDK capabilities.

**Viewing your JDK capabilities**

You can view all the JDK capabilities that have been defined in your Bamboo system on the **JDKs** page. These include local server capabilities, local agent-specific capabilities and remote agent-specific capabilities.

Note the following:

- **Bamboo’s automatic detection of JDKs** — When you install either Bamboo or the Bamboo Remote
Agent, it will automatically look for an existing JDK installed on the same machine (based on the machine's `JAVA_HOME` environment variable) and create a 'JDK capability' for that JDK installation, with its path being the value of `JAVA_HOME`.

- **Local agents and JDK capabilities** — Since Bamboo automatically looks for an existing JDK installed on the same machine and creates a 'JDK capability' for it, all existing and subsequent local agents that you create will possess this JDK capability. Hence, when you access the 'JDKs' page and view this JDK capability, all local agents will be grouped together in the 'All local agents' category and you will only be able to remove this JDK capability from *all* local agents, not from individual local agents.

### Related pages:
- [Configuring a new JDK](#)

### To view and configure the JDK capabilities defined in Bamboo:

1. Click **Administration** in the top menu bar.
2. Click **JDKs** (under 'Build Resources') in the left navigation panel.
3. Click the tab for a specific JDK to see the agents and jobs related to this JDK capability.

   - View the capabilities and jobs associated with an agent with this JDK capability — click the linked name of the agent in the 'Agent' column. See [Viewing a capability's agents and jobs](#).
   - Edit JAVA_HOME for an agent — click **Edit** in the 'Operations' column for the agent you wish to configure. See [Configuring an Agent-specific JDK Capability](#).
   - Remove this JDK capability from an agent — click **Delete** in the 'Operations' column for the agent that currently possesses this JDK capability.
   - Be aware that you can only remove a JDK capability from *all* local agents, not from individual local agents. See [the note above](#) for more information.
   - View details about (and configure) an elastic image with this JDK capability — click the name of the elastic image in the 'Elastic Image Configuration' column. See [Viewing an elastic image](#).
   - Edit the configuration of a Job which relies on this JDK capability — click the name of the job in the 'Plan' column.

   - To **add a new JDK as a local server capability**, click **add a JDK as a server capability** at the top of the page. This opens the 'Server Capabilities' page at the 'Add Capability' section, with the JDK selected as the **Capability Type**.

---

**Screenshot:** Viewing the JDKs in Bamboo

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Configuring a new version control capability

Version control capabilities let Bamboo know where the client application for a version control system is located, so that Bamboo can perform a checkout whilst building. Bamboo requires that a capability for at least one of the following version control repositories be set so that Bamboo can checkout source code from that repository type:

- **Git** (If no capability is provided, Bamboo will use its built-in Git implementation. Note that the built-in Git implementation does not support symbolic links, submodules, automatic branch detection and automatic merging.)
- **Mercurial**
- **Perforce**

**Example version control executable paths**

For the version control systems that require capabilities to be set on agents, the following table offers example paths for both Linux and Windows systems.
Note that these paths may differ on your actual system's configuration.

<table>
<thead>
<tr>
<th>Capability type</th>
<th>Example paths</th>
</tr>
</thead>
</table>
| Git             | • /usr/bin/git  
|                 | • C:\Program Files\Git\git.exe  |
| Mercurial       | • /usr/local/bin/hg  
|                 | • C:\Program Files\Mercurial\hg.exe  |
| Perforce        | • /usr/bin/p4  
|                 | • C:\Program Files\Perforce Client\p4.exe  |

To configure a new version control capability:

1. Navigate to the desired agent, as described in Viewing an agent.
2. Select either a local or remote agent.
3. Choose the version control type you require from Capability Type.
4. Provide the full path to client executable on the agent machine.

![Note that these paths may differ on your actual system's configuration.](image)

If you install a new agent on a machine that has Git already installed, the agent will find the Git client automatically.

### Configuring a new custom capability

Custom capabilities can be used to control which jobs will be built by a particular agent. For example, if the builds for a particular job should only run in a Windows environment, you could create a custom capability 'operating.system=WindowsXP' for the appropriate agent(s), and specify it as a requirement for this job. (See Configuring a job's requirements.) You can configure a new custom capability for:

- a specific local agent
- a specific remote agent
- all local agents
- all remote agents

![Note that the value of an agent-specific capability overrides the value of a shared capability of the same name (if one exists).](image)

#### Configuring an agent-specific custom capability

Custom capabilities can be used to control which jobs will be built by a particular agent. For example, if the builds for a particular job should only run in a Windows environment, you could create a custom capability 'operating.system=WindowsXP' for the appropriate agent(s), and specify it as a requirement for this job. (See Configuring a job's requirements.) An agent-specific capability is a capability that applies to one agent only. Note that the value of an agent-specific capability will override the value of a shared capability of the same name (if one exists).

**Related pages:**
- Configuring a shared custom capability

**To configure a new agent-specific custom capability:**

1. Navigate to the desired agent, as described in Viewing an agent.
2. Click Add Capability in the top right of the 'Agent-Specific Capabilities' section.
3. Choose Capability Type > Custom.
4. Specify values for Key and Value.
5. Click **Add**.

**Screenshot: Adding an agent-specific custom capability**

![Add Capability - Local Agent](image)

**Configuring a shared custom capability**

Custom capabilities can be used to control which **jobs** will be built by a particular agent. For example, if the builds for a particular job should only run in a Windows environment, you could create a custom capability 'operating.system=WindowsXP' for the appropriate agent(s), and specify it as a requirement for this job. (See Configuring a job's requirements.) **Shared capabilities** are inherited by all applicable agents, that is, (shared) local server capabilities are inherited by all local agents, and shared remote capabilities are inherited by all remote agents. Note, however, that the value of a shared capability will be overridden by the value of an **agent-specific capability** of the same name (if one exists).

**On this page:**
- Configuring a new local server custom capability
- Configuring a new shared remote custom capability

**Related pages:**
- Configuring an agent-specific custom capability

**Configuring a new local server custom capability**

**Before you begin:**
- Shared remote custom capabilities are **not shared** with elastic agents.

**To configure a new local server custom capability:**

1. Click **Administration** in the top navigation bar.
2. Click **Server Capabilities** in the left navigation panel (under 'Build Resources').
3. Locate the 'Add Capability' section at the bottom of the screen (see screenshot below).
4. Choose **Capability Type > Custom**.
5. Specify values for **Key** and **Value**.
6. Click **Add**.

**Configuring a new shared remote custom capability**

**To configure a new shared remote custom capability:**

1. Click **Administration** in the top navigation bar.
2. Click **Agents** in the left navigation panel (under 'Build Resources').
3. Locate the 'Remote Agents' section.
4. Click **Shared Remote Capabilities**.
5. Locate the 'Add Capability' section at the bottom of the screen (see screenshot below).
6. Choose Capability Type > Custom.
7. Specify values for Key and Value.
8. Click Add.

Screenshot: Adding a shared custom capability

<table>
<thead>
<tr>
<th>Add Capability</th>
</tr>
</thead>
<tbody>
<tr>
<td>Capability Type</td>
</tr>
<tr>
<td>Key</td>
</tr>
<tr>
<td>Value</td>
</tr>
</tbody>
</table>

Modifying and deleting capabilities

Depending on the capability type, you can edit parameters such as Path, Java Home and Value for the capability.

Note that:

- Because each agent can only run builds for jobs whose requirements are met by the agent's capabilities (see Configuring a job's requirements), modifying or deleting a capability may mean that some plans can no longer be built.
- Renaming a capability involves changing its key. See Renaming a capability.

On this page:

- Modifying an agent-specific capability
- Modifying a local server capability
- Modifying a shared remote capability

Related pages:

- About agents and capabilities
- Configuring capabilities
- Renaming a capability

Modifying an agent-specific capability

To delete an agent-specific capability:

1. Navigate to the desired agent, as described in Viewing an agent.
2. Click either Edit or Delete for the capability you wish to modify.

Modifying a local server capability

To delete a local server capability:

1. Click Administration in the top navigation bar.
2. Click Server Capabilities in the left navigation panel.
3. Click either Edit or Delete for the capability you wish to modify.

Modifying a shared remote capability

To delete a shared remote capability:
1. Click **Administration** in the top navigation bar.
2. Click **Agents** in the left navigation column.
3. Click **Shared Remote Capabilities** in the top right of the 'Remote Agents' section.
4. Click either **Edit** or **Delete** for the capability you wish to modify.

**Renaming a capability**
To rename a capability you have to change its key value.

**Renaming an agent-specific capability**

**To rename a capability:**

1. Click **Administration** in the menu bar.
2. Click **Agents** in the left panel (under 'Build Resources').
3. Click **View** for the agent that has the capability you wish to rename. A list of agent-specific capabilities and shared capabilities for that agent is displayed.
4. Click **View** for the capability you wish to rename.
5. Click **Rename Capability**. The 'Rename Capability' page will display.
6. Enter a value for **New key** and click **Rename Capability**.

**On this page:**
- Renaming an agent-specific capability
- Renaming a local server capability
- Renaming a shared remote capability

**Related pages:**
- About agents and capabilities
- Configuring capabilities

**Renaming a local server capability**

**To rename a local server capability:**

1. Click **Administration** in the menu bar.
2. Click **Server Capabilities** in the left panel (under 'Build Resources').
3. Click **View** for the capability you wish to rename.
4. Click **Rename Capability**. The 'Rename Capability' page will display.
5. Enter a value for **New key** and click **Rename Capability**.

**Renaming a shared remote capability**

**To rename a shared remote capability:**

1. Click **Administration** in the menu bar.
2. Click **Agents** in the left panel (under 'Build Resources').
3. Click **Shared Remote Capabilities** in the 'Remote Agents' section.
4. Click **View** for the capability you wish to rename.
5. Click **Rename Capability**. The 'Rename Capability' page will display.
6. Enter a value for **New key** and click **Rename Capability**.

**Screenshot: Renaming a custom capability**
Remote agents

For information about installing and using remote agents, see the following pages:

- Bamboo remote agent installation guide
- Configuring remote agent capabilities using bamboo-capabilities.properties
- Disabling and enabling remote agents support

Disabling and enabling remote agents support

A Bamboo agent is a service that provides capabilities to run job builds. There are two types of Bamboo agents:

- local agents run as part of the Bamboo server.
- remote agents run on computers, other than the Bamboo server, that run the remote agent tool. An elastic agent is a remote agent that runs in the Amazon Elastic Compute Cloud (EC2).

Local agents run in the server’s process, i.e. in the same JVM as the server. Each remote agent runs in its own process, i.e. has its own JVM.)

Each agent has a defined set of capabilities and can only run builds for jobs whose requirements match the agent’s capabilities.

For more information, see:

- Configuring agents
- Agents and capabilities
- Configuring a job’s requirements

On this page:

- Disabling remote agent support
- Re-enabling remote agent support

Disabling remote agent support

Disabling remote agent support in Bamboo will disable all remote agents and prevent any users from creating new remote agents. This function will not delete any remote agents that you have already created. To delete a remote agent, see Disabling or deleting an agent.

Before you begin:

- Note, remote agent support must be enabled to use Elastic Bamboo. Disabling remote agent support will disable Elastic Bamboo.
To disable remote agent support:

1. Click the Administration link in the top navigation bar.
2. Click the Agents link in the left navigation column to display the Agents screen.
3. Click the Disable Remote Agent Support link (see screenshot below).

**Screenshot: Disabling remote agent support**

<table>
<thead>
<tr>
<th>Remote Agents</th>
<th>Shared Remote Capabilities</th>
</tr>
</thead>
<tbody>
<tr>
<td>Online Remote Agents</td>
<td>Offline Remote Agents</td>
</tr>
<tr>
<td>There are currently no online remote agents configured on this Bamboo instance.</td>
<td></td>
</tr>
<tr>
<td>Install Remote Agent</td>
<td>Disable Remote Agent Support</td>
</tr>
</tbody>
</table>

Re-enabling remote agent support

To re-enable remote agent support:

1. Click the Administration link in the top navigation bar.
2. Click the Agents link in the left navigation column. This displays the Agents screen with a message indicating that remote agent support is disabled.
3. Click the Enable Remote Agent Support link (see screenshot below).

**Screenshot: Re-enabling remote agent support**

Working with Elastic Bamboo

Elastic Bamboo is a feature in Bamboo that allows you to use computing resources from the Amazon Elastic Compute Cloud (EC2) to run builds. Elastic Bamboo uses a remote agent AMI (Amazon Machine Image) to create instances of remote agents in the Amazon EC2. Builds run on these 'elastic agents' in a similar way to how they run on local and remote agents.

The following pages and sub-pages describe how to work with Elastic Bamboo:

- **About Elastic Bamboo** — Elastic Bamboo concepts.
- **Getting started with Elastic Bamboo** — setting up Elastic Bamboo for the first time. It contains instructions on enabling Elastic Bamboo for your Bamboo installation and running your first build.
- **Configuring Elastic Bamboo** — changing settings for Elastic Bamboo. This includes instructions on how to use Amazon's Elastic Block Storage to persist build information for your builds on Elastic Bamboo.
- **Managing Elastic Bamboo** — managing your elastic image, instances and agents.
- **Elastic Bamboo Security** — setting up secure communication between Bamboo and the EC2.
Conceptual Overview

Elastic Bamboo is a feature in Bamboo that allows you to use computing resources from the Amazon Elastic Compute Cloud (EC2) to run builds. Elastic Bamboo uses a remote agent AMI (Amazon Machine Image) to create instances of remote agents in the Amazon EC2. Builds run on these 'elastic agents' in a similar way to how they run on local and remote agents.

A Job's build can be run on an elastic agent, provided that the capabilities of the elastic agent meet the requirements of the Job. Bamboo will assign the relevant Job build to an available elastic agent from the build queue automatically, in the same way that Job builds are assigned to non-elastic agents. The elastic agent must already be running for a Job build to be assigned to it.

An elastic agent is started by creating a new instance of an elastic image. Creating this new elastic instance automatically runs an elastic agent process in the instance. The agent inherits the capabilities of the image it was created from. Only one agent process can be run in an instance, although multiple instances can be created from the same image.

Once a Job's build has completed running on an elastic agent, its results are made available (like those of any other Job build executed on a non-elastic agent). The elastic agent and instance will continue to run until they are shut down. Shutting down an elastic instance will terminate the agent, not take it offline. However, Bamboo will store historical information about the terminated elastic agent, such as the Job builds which it has run.
An Amazon Web Services (AWS) account is required to use Elastic Bamboo. Elastic Bamboo Costs are charged by Amazon, separate to Bamboo licence costs, as Elastic Bamboo is powered by Amazon resources.

Did you know you can configure Bamboo to start and shut down elastic instances automatically, based on build queue demands? Please refer to Configuring Elastic Bamboo for more information.

**Key Terms**

| Elastic Image | An elastic image is an Amazon Machine Image (AMI) that is stored in one of Amazon data centres for use with the Elastic Bamboo feature. An elastic image is used to create elastic instances, which in turn create elastic agents. Conceptually, an elastic image is equivalent to an operating system running on a computer's boot hard drive and elastic instances would be the software that runs on this operating system. Each elastic image registered with the Amazon Web Services (AWS) has its own unique identifier, known as an AMI ID.

You can associate multiple elastic images with a Bamboo server. One default shared image is maintained by Atlassian in AWS, and is available to all Elastic Bamboo users. You also create your own custom elastic images.

| Elastic Instance | An elastic instance is a running instance of an elastic image. One elastic instance is created whenever an elastic image is started. Hence, starting one elastic image multiple times, results in the creation of multiple elastic instances. Each time an elastic instance is created, one elastic agent is created on that instance.

Conceptually, an elastic instance can be thought of as a computer. The elastic agent's processes are run on this computer and the elastic image is the boot hard drive. Unlike computers, however, elastic instances are temporary and stateless. When an elastic instance is shut down:

- Any changes that an elastic instance makes to the boot hard drive (e.g. agent log file) will not persist
- Any customisations to the instance itself will also be lost.

The Amazon Elastic Block Store can provide persistent storage for your elastic instances.

| Elastic Agent | An elastic agent is a remote agent that runs in the Amazon Elastic Compute Cloud (EC2). An elastic agent process runs in an elastic instance of an elastic image. An elastic agent inherits its capabilities from the elastic image that it was created from.
Setting Up Elastic Bamboo

If you would like to set up Elastic Bamboo for your Bamboo installation, please read Getting started with Elastic Bamboo. This document guides you through the initial configuration of Elastic Bamboo and running your first Bamboo build.

Elastic Bamboo Costs

This page provides high level guidelines to Elastic Bamboo costs. As usage patterns vary from user to user, these guidelines are only intended to provide a picture of how Elastic Bamboo operates, not to make definitive pricing statements.

The Bamboo pricing page on the Atlassian website details the costs for Elastic Bamboo. This page is intended to complement that information.

Amazon EC2 Pricing Information

You can use Elastic Bamboo to run remote agents on elastic instances in the Amazon Elastic Compute Cloud (EC2). If you choose to do this, you will be charged by Amazon for your EC2 compute usage. These charges will be billed to the AWS account that you provide.  

Please note, if you do not have an AWS account, you must register for one on the AWS registration page before you can enable Elastic Bamboo.

Full details on Amazon EC2 pricing is available on the Amazon EC2 pricing page. Please also note the following important information, which is relevant to EC2 usage by Elastic Bamboo:

- You are responsible for all EC2 compute usage costs incurred on your AWS account.
- Elastic Bamboo creates "High-CPU Medium" Instances by default, however you can configure the EC2 instance type. Read Managing your elastic image configurations for instructions on how to change your default instance type. Please note the different costs for different instance types.
- You are responsible for creating and shutting down elastic instances to run agents in EC2.
- You can track your EC2 usage in near real-time on the AWS Account page.
- Your Elastic Bamboo compute usage will not be distinguishable from your non-Bamboo EC2 compute usage in your AWS billing.

General Notes about EC2 Usage and Costs

The following information is based on our usage of Elastic Bamboo at Atlassian. These points are intended to be guidelines to EC2 usage and costs only.

- The bulk of EC2 costs from using Elastic Bamboo is for the uptime of EC2 instances. We strongly recommend that you shut down your instances when not in use.
- The costs for storing and moving data in and out of the EC2 will vary. However these costs are minimal (e.g. storing image) compared to instance uptime costs. Using the Amazon Elastic Block Store (EBS) with Elastic Bamboo can significantly reduce the data transfer (and associated costs) in and out of the EC2. Read more about configuring elastic instances to use EBS.
- The costs for using the Amazon Elastic Block Store (EBS) is minimal, relative to instance uptime costs.

Getting started with Elastic Bamboo

Elastic Bamboo is a feature in Bamboo that allows you to use computing resources from the Amazon Elastic Compute Cloud (EC2) to run builds. Elastic Bamboo uses a remote agent AMI (Amazon Machine Image) to create instances of remote agents in the Amazon EC2. Builds run on these elastic agents in a similar way to how they run on local and remote agents.
1. Read important documents

If you are using Elastic Bamboo for the first time, we highly recommend that you start by reading the following important documents:

- **About Elastic Bamboo** — This high-level overview explains the key concepts behind the Elastic Bamboo feature.
- **Elastic Bamboo Security** — *We strongly recommend* that you read this document to understand the security implications of enabling Elastic Bamboo. This includes important information on securing your version control system (VCS) for use with Elastic Bamboo.
- **Elastic Bamboo Costs** — Elastic Bamboo sources resources from the Amazon Elastic Compute Cloud (EC2) which are charged separately to your Bamboo license fee. We recommend that you read this document to understand how you will be charged for using Elastic Bamboo.

2. Enable and configure Elastic Bamboo

Once you have understood the concepts, security implications and costs of Elastic Bamboo, you can enable and configure Elastic Bamboo for your Bamboo installation. You will also need to make your version control system (VCS) available to Amazon for Elastic Bamboo to work correctly.

2.1. Enabling Elastic Bamboo

**To enable Elastic Bamboo:**

1. Enable remote agent support in Bamboo — if you have disabled remote agent support, you must enable it before you can enable Elastic Bamboo. The [Disabling and enabling remote agents support](#) documentation also contains instructions on how to enable remote agent support.
2. In Bamboo, click **Administration** in the top menu bar.
3. Click **Configuration** in the left navigation panel (under 'Elastic Bamboo'). The 'Elastic Bamboo Configuration' screen will display.
4. Click **Enable**.

2.2. Configuring Elastic Bamboo

Before you can use Elastic Bamboo, you must configure it as detailed in the 'Configuring Elastic Bamboo' document. This is a simple three-step process:

1. **Provide your Amazon Web Services account details**
2. **Configure your Elastic Bamboo global settings**
3. **Configure your elastic instance settings**

- Read the [Configuring Elastic Bamboo](#) document.

2.3. Providing access to your VCS

You need to make your version control system available to Amazon to run job builds using Elastic Bamboo. This has security implications, particularly if your VCS is behind a firewall.

- Read the [Elastic Bamboo Security](#) document for further instructions, if you have not read it already.
3. Start an Elastic Instance

Now that you have enabled and configured Elastic Bamboo for your Bamboo installation, you can try building a plan with Elastic Bamboo. You can manually start an elastic instance using the Bamboo administration console. Starting an elastic instance will automatically start an elastic agent process on it.

- Read about starting an elastic instance

4. Run a plan build

To run a plan build on your elastic agent, you must set up a plan with its Default Job (plus any other optional jobs) all of whose requirements can meet your elastic agent's capabilities. Elastic agents inherit the capabilities of the image they are started from. We recommend that you use the Bamboo default image to start with.

- Read about the capabilities of the default image.

For the purposes of this guide, you should set up your plan so that its jobs' requirements can only be met by the elastic agent's capabilities. This will ensure that the jobs' builds run on your elastic agent. If you cannot set up your jobs' requirements to meet your elastic agent's capabilities, you can customise your elastic agent's capabilities to add a unique custom capability, e.g. 'elastic=true').

- Read about configuring the capabilities of elastic agents.

Job builds on elastic agents are run just like job builds on any other agent. You will see the progress of your build on your dashboard and can view the build result when it has completed.

Tip: You can significantly reduce the costs and time taken to run a job build by configuring Elastic Bamboo to use Amazon's Elastic Block Store (EBS).

5. Shut down your Elastic instance

When your job builds successfully, shut down your elastic instance. As described in Elastic Bamboo Costs, the bulk of your Elastic Bamboo costs are from instance uptime. We strongly recommend that you shut down your elastic instances when not in use.

- Read about shutting down an elastic instance.

Please note, that when you shut down an elastic instance, the agent process it is running is terminated. This means that elastic agents are not present on the ‘Agents’ page in Bamboo unless they are online. If you wish to view information about a terminated elastic agent, you can find the agent in the elastic agent usage history.

- Read about viewing your elastic agent usage history.

Congratulations! You have successfully set up and run a job build with Elastic Bamboo.

Further information

You may be interested in reading the following related topics below to help you manage and improve Elastic Bamboo's handling of job builds:

- Managing your elastic images, Managing your elastic instances, Managing your elastic agents — information hubs for managing Elastic Bamboo images, instances and agents.
- Running job builds using Elastic Bamboo — general questions about running builds using Elastic
Configuring Elastic Bamboo

Elastic Bamboo is a feature in Bamboo that allows you to use computing resources from the Amazon Elastic Compute Cloud (EC2) to run builds. Elastic Bamboo uses a remote agent AMI (Amazon Machine Image) to create instances of remote agents in the Amazon EC2. Builds run on these 'elastic agents' in a similar way to how they run on local and remote agents.

⚠️ If you have disabled remote agent support, you **must enable it** before you can enable Elastic Bamboo. Refer to [Disabling and enabling remote agents support](#) for instructions on how to enable remote agent support.

To configure your Amazon Web Services (AWS) account details or settings for Elastic Bamboo:

1. Click **Administration** in the top menu bar.
2. Click **Configuration** in the left navigation panel (under 'Elastic Bamboo').
3. Click **Edit**.
4. Configure settings as described in the sections below.
5. Click **Save** when finished.

---

**On this page:**
- AWS account settings
- Global settings
- EC2 spot instances
- AWS settings
- Automatic elastic instance management

**Related pages:**
- [Generating your AWS Private Key File and Certificate File](#)
- [Configuring elastic instances to use the EBS](#)
- [Managing Elastic Bamboo](#)
- [Disabling Elastic Bamboo](#)

---

**AWS account settings**

Before you use Elastic Bamboo for the first time in your Bamboo instance, you must enter your Amazon Web Services (AWS) account details into the Bamboo application. If you do not have an AWS account, you must register for one on the AWS registration page before you can enable Elastic Bamboo.

Before you begin:

- Please note, Elastic Bamboo dynamically creates and runs remote agents in the Amazon Elastic Compute Cloud (EC2). Hence, if you choose to use Elastic Bamboo, you **will be charged by Amazon for your EC2 compute usage** (separately to your Bamboo license fee). These charges will be billed to the AWS account that you provide. Please read [Elastic Bamboo Costs](#) for more details.
- Please note, if you change your AWS account details, Bamboo will **stop all elastic agents** that are currently running.

To set your AWS account details:

1. Enter or update your **AWS Access Key ID** (you can get the "AWS Access Key ID" and "AWS Secret Access Key" if you go to your account: "My Account/Console" -> Security Credentials).
2. To enter or update your AWS Secret Access Key, select the **Change AWS Secret Access Key?** checkbox, and enter or update **AWS Secret Access Key** (see Notes below).
3. Click **Save**.
Note that your AWS Access Key ID and AWS Secret Access Key are used together to identify you when accessing Amazon EC2 services. If you are unsure what your AWS Account ID and AWS Secret Access Key are, please refer to the Amazon documentation on [AWS access identifiers](https://docs.aws.amazon.com/AWSCloudFormation/latest/UserGuide/AWS_ACCESS_IDENTIFIERS.html).

### Global settings

Elastic Bamboo provides you with a number of global configuration options to help you optimise EC2 usage for your Bamboo job builds. These settings control how the Bamboo server operates and how it manages its elastic instances and agents.

<table>
<thead>
<tr>
<th>Maximum Number of Elastic Instances</th>
<th>The number of elastic instances that can be running at any one time. You may wish to decrease this value if you are concerned about EC2 compute costs, and you have a large number of concurrent job builds that cannot be supported by your non-elastic agents.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Automatically shut down elastic instance when elastic agent process ends</td>
<td>Controls whether your elastic instances will automatically shut down after the elastic agent processes running on them terminate.&lt;br&gt;• <strong>Shutdown Delay</strong> —controls how long an elastic instance will wait before shutting down, after its elastic agent process terminates.</td>
</tr>
</tbody>
</table>

### EC2 spot instances

Elastic Bamboo provides support for [Amazon EC2 Spot Instances](https://docs.aws.amazon.com/AWSEC2/latest/UserGuide/ec2-spot-instances.html). Amazon spot instances allow you to bid on unused EC2 capacity and use it, as long as your bid exceeds the current "Spot price". You can configure Elastic Bamboo to bid for a spot instance of a particular type, and fall back to a regular instance after a set amount of time if no instances are available.

<table>
<thead>
<tr>
<th>Enable support for spot instances</th>
<th>Select this checkbox to enable support for spot instances.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fallback to a regular instance after</td>
<td>The time (in minutes) after which Elastic Bamboo will fall back to using a regular instance, if a spot instance has not become available.</td>
</tr>
<tr>
<td>Your current bid levels (per hour)</td>
<td>Fill out this table with your bids. The bids are categorised by <a href="https://docs.aws.amazon.com/AWSEC2/latest/UserGuide/ec2-instance-types.html">EC2 instance type</a> and operating system.</td>
</tr>
</tbody>
</table>

### AWS settings

These settings allow you to specify your AWS configuration settings in Bamboo so that Bamboo can operate elastic instances through your AWS account. This section includes settings that are used to configure elastic instances to work with the Amazon Elastic Block Store (EBS).

Using EBS with your elastic instances can significantly reduce the amount of data transfer required to run a job build, compared with starting a clean elastic instance. To find out more about this feature and how to set it up in Elastic Bamboo, read [Configuring elastic instances to use the EBS](https://docs.aws.amazon.com/AWSEC2/latest/UserGuide/elastic-block-store-management.html).
Upload AWS account identifiers to new elastic instances

Select to upload the AWS Account Private Key File and Account Certificate File to all new elastic instances started. This is mandatory if you wish to use EBS to store job build information in a snapshot. However, you can also check this option if you are not using EBS (e.g. if you wish upload the AWS account identifiers in order to use Amazon's AWS command line tools).

Key files location

Choose how private key and certificate will be provided.

Account Private Key File

You must specify the location of this file to use the Amazon EBS with Elastic Bamboo.

Account Certificate File

You must specify the location of this file to use the Amazon EBS with Elastic Bamboo.

If you haven't downloaded an AWS private key file or certificate file to your Bamboo server yet, please see Generating your AWS Private Key File and Certificate File for instructions.

Automatic elastic instance management

The Automatic Elastic Instance Management feature allows Bamboo to start and shut down elastic instances automatically (based on build queue demands), so that you do not have to perform these actions manually. This feature reduces Bamboo administration overhead and can help minimise your overall elastic instance usage costs.

If a job's requirements cannot be met by any available online agents, this feature will start any elastic instance whose elastic agent has the capabilities to execute the job, so that the job's build can be generated. Regardless of how an elastic instance was started, all elastic instances will be shut down based on the settings specified below.

Elastic Instance Management

Choose from the following elastic instance management presets. Each of these presets define values for the five criteria described in the 'Custom' user-defined options (below). (Bear in mind that both the 'Aggressive' and 'Passive' presets have trade-offs.)

- **Default** — Balances build queue clearance rates with elastic instance usage costs.
- **Aggressive** — Favours higher build queue clearance rates but with higher elastic instance usage costs.
- **Passive** — Favours lower instance usage costs but with lower build queue clearance rates.
- **Custom** — Choose your own settings, as described below.
- **Disabled** — Disables Bamboo's automatic elastic instance management feature.
<table>
<thead>
<tr>
<th><strong>Idle Agent Shutdown Delay</strong></th>
<th>Specify the number of minutes that an elastic agent must be idle before Bamboo shuts down the elastic instance running that agent.</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Allowed non-Bamboo instances</strong></td>
<td>The maximum number of elastic instances allowed on your AWS account that are not controlled by this Bamboo instance.</td>
</tr>
<tr>
<td><strong>Maximum Number of Instances to Start at Once</strong></td>
<td>The maximum number of elastic instances that Bamboo can start in one go. Bamboo only starts this maximum number of elastic instances on a 'per minute' basis.</td>
</tr>
<tr>
<td><strong>Number of Builds in Queue Threshold</strong></td>
<td>The total number of builds in a queue. When this and all other thresholds have been reached, new elastic instances will be started.</td>
</tr>
<tr>
<td><strong>Number of Elastic Builds in Queue Threshold</strong></td>
<td>The number of builds in the queue that can be executed on elastic instances. When this and all other thresholds have been reached, new elastic instances will be started.</td>
</tr>
<tr>
<td><strong>Average Queue Time Threshold</strong></td>
<td>The average number of minutes that job builds have been waiting in a queue. When this and all other thresholds have been reached, new elastic instances will be started.</td>
</tr>
</tbody>
</table>

**Generating your AWS Private Key File and Certificate File**

The Amazon Web Services (AWS) private key file and certificate file work together to allow Elastic Bamboo to securely access AWS. It is different to the security mechanism provided by the AWS Secret Access Key and is required to enable certain features, such as EBS for elastic instances and the Amazon command line tools.

- The **certificate file** contains the public key associated with your AWS account. This file is kept by Amazon, (not on your Bamboo server).
- The **private key file** contains the private key that is used to authenticate requests to AWS. This file must be stored on your Bamboo server, if you are using EBS for elastic instances or the Amazon command line tools.
- The public key and private key from these files together form an **X.509 certificate**.

**On this page:**

- Generating the files
- Downloading the files
- Notes

**Related pages:**

- Configuring Elastic Bamboo

**Generating the files**

The first time you use Elastic Bamboo, Bamboo will automatically generate the private key file and certificate file for you. The certificate file will be kept by Amazon (to inject into your elastic instances) and the private key file...
will be downloaded to your Bamboo server in your Bamboo Home directory. If you are setting up Elastic Bamboo on multiple Bamboo servers using the same AWS account, you can simply copy the private key file across from the original Bamboo server. You should not need to regenerate the private key file and certificate file unless your private key file is lost or corrupted.

If you do need to regenerate the private key file and certificate file, please follow the instructions in the Amazon X.509 Certificates documentation. The Amazon documentation also contains instructions on using your own certificate, if you wish.

Downloading the files

Once the files are generated, you will be able to download them (see screenshot below). We recommend that you store the files in the Home directory of your Bamboo server.

Screenshot: Downloading the generated AWS private key file and certificate file

Notes

Please take note of the following important information regarding your AWS private key file and certificate file:

- If you wish to use this security mechanism with multiple Bamboo installations using the same AWS account (e.g. you have configured your elastic instances on each installation to use EBS), you will need to copy the AWS private key file and certificate file to each Bamboo server.
- You can only download the AWS private key file at the time it is generated. If the private key file has already been generated for your AWS account, you will not be able to download it from AWS again (for security purposes). You will have to copy it from wherever it was previously downloaded to. Otherwise you will have to generate a new private key file and certificate file to go with it.
If you regenerate a new private key file and certificate file, any Bamboo servers using the old private key file and certificate file will no longer be able to access the Amazon EC2, as only one X.509 certificate can be associated with your AWS account.

- You can download the AWS certificate file as many times as you want. This file does not need to be regenerated.

### Configuring elastic instances to use the EBS

The Amazon [Elastic Block Store (EBS)](https://aws.amazon.com/elasticblockstore/) provides 'EBS volumes' which can attach to EC2 instances. EBS volumes (and the 'EBS snapshots' created from these volumes) provide persistent storage for your elastic instances.

If you have relatively static resources required for building your Bamboo Jobs (such as, source code checkouts and Maven repository artifacts), you can add these to an EBS volume. From this volume, you can create an EBS snapshot, which effectively records the 'state' of an EBS volume at a given point in time.

After setting up an EBS snapshot, you can then associate it with an elastic image configuration. When this elastic image is started:

- its elastic instance will be started, along with the EBS volume (derived from the EBS snapshot associated with the elastic image) and
- this EBS volume will be attached to this elastic instance

    - any build resources (added to the EBS volume prior to creating its snapshot) will be available to this elastic instance.

### Why should I use the EBS with Elastic Bamboo?

Because an elastic instance is stateless, so is the elastic agent that runs on it. Hence, every time an elastic instance is restarted from the same image:

- Any resources that its elastic agent must retrieve externally (for example, Maven repository artifacts), must be downloaded in their entirety.
- Full checkouts must be performed by elastic agents when new Jobs are built.

Therefore, you can use the EBS to store these external resources in an EBS volume and snapshot so that they do not have to be downloaded or source code checked out each time you start up an elastic instance from an image. If your Jobs rely heavily on downloading such resources and/or you are not performing clean builds each time, the EBS may significantly **improve your build times**.

Additionally, the EBS provides an easy mechanism for **customising elastic agents**, rather than you having to create a custom elastic image from scratch (with your own elastic agent capabilities). For example, you could upload files and scripts to your EBS volume that would install resources such as PostgreSQL databases for your elastic agents, which will be available when the agent's elastic instance is started.

### On this page:

- [Creating your first EBS snapshot](#)
- [Configuring an Elastic Image to use an EBS snapshot](#)
- [Updating your EBS snapshot](#)
- [Important EBS Directories and Files](#)

### Related page:

- [Configuring Elastic Bamboo](#)
- [Populating your EBS volume](#)

### Creating your first EBS snapshot

**To create your first EBS snapshot:**

1. Download Amazon Web Services (AWS) account identifiers to your Bamboo server — You will need to store the AWS private key file and certificate file on your Bamboo server to use Elastic Bamboo with EBS.
If you haven't downloaded an AWS private key file or certificate file to your Bamboo server yet, please see Generating your AWS Private Key File and Certificate File for instructions.

2. Update your Bamboo configuration settings with the location of the AWS account identifier files you have downloaded. This will ensure that these files are uploaded to any new elastic instances started. See the Elastic Instance Settings section on the Configuring Elastic Bamboo for instructions (you will need to update the 'Upload AWS account identifiers to new elastic instances (mandatory if EBS Snapshot ID specified)' checkbox and 'Account Private Key File' and 'Account Certificate File' fields described in this document).


4. Access your elastic instance via SSH (see Accessing an elastic instance for instructions).

5. As root user, follow the steps below to create an EBS volume and attach it to the elastic instance (step a & b), upload content to the EBS volume (step c & d), and generate the snapshot (step e & f):

   a. Run `createInitialVolume.sh <volume size>` — This script creates a EBS volume (where <volume size> is the size of the volume), attaches the volume and mounts it on the elastic instance. For example, `createInitialVolume.sh 100` will create a 100GB EBS volume and attach and mount it on the elastic instance.

   b. Run `rewarmEbsSnapshot.sh` — This script sets up the standard structure for Elastic Bamboo on the EBS volume. The directories and files for this standard volume structure are detailed in the Important EBS Directories and Files section below.

   c. (optional) Populate your EBS volume — Your EBS volume can now be populated with any files and scripts that you wish to make available to the elastic instances that use the EBS volume. For example, you may want to upload maven repository data, source code, scripts and files to install databases on your elastic agents, etc. You must upload your files to the /mnt/bamboo-ebs folder or its subfolders, if you want them to be included in the snapshot. We recommend that you read Populating your EBS volume for guidelines on how to populate your EBS volume effectively.

   d. Ensure all uploaded content has the owner `bamboo:bamboo` — You can set the owner of a file by executing the following command: `chown -R bamboo:bamboo <filename>`

   e. Execute the `killall java` command — This command kills all processes on the instance, such as agent processes, so that the volume can be unmounted to be snapshotted.

   f. Run `generateSnapshot.sh` — This script unmounts and detaches the volume, before creating a snapshot based on the volume. The time taken to create the snapshot will vary depending on the amount of content that you have uploaded to the EBS volume. The Snapshot ID for the snapshot will be available in the logs for the elastic instance. See Accessing an Elastic Instance for instructions on how to access the logs for your elastic instance.

   i. The device can not unmount if any terminals are currently in the mounted volume.


Configuring an Elastic Image to use an EBS snapshot

Once you have set up an EBS snapshot, the final step is to add the snapshot details to an elastic image configuration, so that any instances started from that image will have EBS volumes attached to them. You can associate different snapshots with different elastic image configurations.

To configure Elastic Bamboo to use an EBS snapshot:

1. Determine the Snapshot ID of the EBS snapshot you have just created. The Snapshot ID should be recorded in the logs of the elastic instance you created it on. You can also view your EBS snapshots in the AWS Console by clicking the 'Snapshots' menu item.
1. Navigate to the Bamboo administration menu, i.e. click the `Administration` link in the top navigation bar of the Bamboo application.

2. Click the `Image Configurations` link in the left navigation column under the `Elastic Bamboo` sub-header. The `Manage Elastic Image Configurations` page will display.

3. Click the `Edit` link in the `Operations` column of the elastic image configuration that you would like to add your EBS snapshot to. The `Edit Elastic Image Configuration - <imagename>` screen will display (see screenshot below).

4. Check the `Automatically attach an Amazon Elastic Block Store (EBS) volume to new elastic instances` checkbox. The `EBS Snapshot ID` field will display.

5. Enter the Snapshot ID of your EBS snapshot in the `EBS Snapshot ID` field.

6. Click the `Save` button. A new EBS volume will be created from the specified snapshot and attached to any new elastic instances started from that image.

### Updating your EBS snapshot

If you are currently using EBS with Elastic Bamboo and want to update your snapshot, follow the instructions below. These are similar to the instructions for creating a new EBS snapshot.

#### To update your EBS snapshot:

1. Start a single elastic instance via Bamboo. See [Starting an elastic instance](#) for instructions.

2. *(optional)* Run a build on the elastic agent of the instance to populate the attached EBS volume. We recommend that you read [Populating your EBS volume](#) for guidelines on how to populate your EBS volume effectively.

3. Access your elastic instance via SSH (see [Accessing an elastic instance](#) for instructions) and do the following:

   - *All the scripts described below are bundled with Bamboo.*
a. (optional) Upload any additional content to the attached EBS volume via Secure Copy (SCP). You must upload your files to the /mnt/bamboo-ebs folder or its subfolders, if you want them to be included in the snapshot.

b. Execute `killall java` — This command kills all agent processes, so that nothing is using the mounted volume.

c. Execute `jps -vl` — This command displays a list of all java processes running on your instance. There should be no java processes running.

d. Run `generateSnapshot.sh` — This script unmounts and detaches the volume, before creating a snapshot based on the volume. **The device can not unmount if any terminals are currently in the mounted volume.**

e. Check the elastic instance logs for the Snapshot ID of the snapshot you just created. See Accessing an Elastic Instance for instructions on how to access the logs for your elastic instance.

f. Update the new Snapshot ID in your Elastic Bamboo configuration, as described in Configuring an Elastic Image to use an EBS snapshot above.

**Important EBS Directories and Files**

By convention, Bamboo will attach an EBS device at /dev/sdh. This will be mounted at /mnt/bamboo-ebs. The contents of the standard structure are:

- `bin/customiseInstance.sh` - This script is run on startup of an elastic instance. We recommend that you do not customise this script, as it is overwritten when `rewarmEbsSnapshot.sh` is run.
- `bin/customise-extras.sh` - This script is run on startup of an elastic instance as the root (as opposed to being run as the Bamboo user). This script is safe to customise, as it will never be overwritten. You can customise this script to automate processes such as setting up your database, move files to custom locations on the instance, etc.
- `profile-extras.sh` - This script gets appended to the profile that is run under the Bamboo user (as opposed to being run as the root). It is useful for setting up environment variables.
- `bamboo-agent/bamboo-agent.cfg.xml` - This configuration file modifies the build working directory to point to build working directory on the EBS volume.
- `bamboo-agent/build-dir` - This is the build working directory.
- `maven/build.properties` - This properties file is copied to /home/bamboo on startup of an elastic instance. It points the Maven 1 default repository to /mnt/bamboo-ebs/maven/.maven
- `maven/.m2/settings.xml` - This configuration files is copied to /home/bamboo/.m2 on startup of an elastic instance. It points the Maven 2 default repository to /mnt/bamboo-ebs/maven/.m2/repository.
- `tmp-extras` - The contents of this directory is copied to /tmp on startup of an elastic instance.

**Populating your EBS volume**

This page is intended to complement the instructions for Configuring elastic instances to use the EBS. It lists different methods of for populating your EBS volume, depending on the data you wish to have available in your snapshot.

**On this page:**

- Uploading Maven 2 repository data
- Uploading Ant repository data
- Setting up PostgreSQL for elastic agents
- Setting up Selenium on elastic agents

**Related pages:**

- Configuring elastic instances to use the EBS

**Uploading Maven 2 repository data**

You can upload Maven 2 repository data to your EBS volume, so that it does not have to be downloaded every
time an elastic agent (running on an instance which uses the EBS volume) is started.

To populate your EBS snapshot with your Maven repository data, we recommend that you upload it via SCP (see step 5c of the 'Creating your first EBS snapshot' section in Configuring elastic instances to use the EBS). In most cases, you will have a modified settings.xml file if you are using Maven 2. This means that you will need to upload this file and Maven repository data to your EBS volume, rather than populating your volume by running a build.

**Uploading Ant repository data**

You can upload Ant repository data to your EBS volume, so that it does not have to be downloaded every time an elastic agent (running on an instance which uses the EBS volume) is started.

To populate your EBS snapshot with your Ant repository data, we recommend that you run a build on an elastic agent with a blank EBS volume attached to the elastic instance (see step 2 of the 'Updating your EBS snapshot' section in Configuring elastic instances to use the EBS). This is a faster and more reliable method of populating your volume, if you are using Ant.

**Setting up PostgreSQL for elastic agents**

You can upload scripts to your EBS volume so that the elastic agent started on any elastic instances which use this EBS volume, will have PostgreSQL automatically installed. These elastic instances must be started from an elastic image which is associated with an EBS snapshot derived from this EBS volume.

To set up the automatic installation of PostgreSQL on your EBS volume for elastic agents, you will need to create the following script:

```bash
#!/bin/sh
yum install -y postgresql-server
service postgresql initdb
cat > /var/lib/pgsql/data/pg_hba.conf << EOF
local all all trust
host all all 127.0.0.1/32 trust
EOF
/etc/init.d/postgresql start
```

This script uses the package management tools provided by Fedora to install and configure PostgreSQL on the agent when its started.

1. *Uses* yum *to install the PostgreSQL server packages.* Details on the yum tool can be found in the Fedora Software Management Guide.
2. *Initialises* the PostgreSQL server environment by creating the database directories and default config files.
3. *Creates* a new pg_hba.conf file which trusts all local connections and all connections coming from localhost.
4. *Starts* PostgreSQL.

You then need to update the **customise-extras.sh** file on your EBS volume (see Important EBS Directories and Files) to invoke this script.
Finally, you need to add a custom capability (e.g. `postgres=true`) to the elastic agents with PostgreSQL installed. You can do this by updating the elastic image configuration that the agents inherit their capabilities from. Read [Configuring elastic agent capabilities](#) for detailed instructions.

### Setting up Selenium on elastic agents

You can upload scripts to your EBS volume so that the elastic agent started on any elastic instances which use the EBS volume, will be able to run Selenium tests.

> These elastic instances must be started from an elastic image which is associated with an EBS snapshot derived from this EBS volume.

To set up elastic agents to support Selenium test, you will need to create the following script:

**setupSelenium.sh**

```bash
#!/bin/sh

centosMajorVersion=5
centosVersion=${centosMajorVersion}

cat >/etc/yum.repos.d/centos-$centosVersion.repo <<EOF
[centos-base]
name=CentOS - Base
mirrorlist=http://mirrorlist.centos.org/?release=${centosVersion}&arch=$basearch &repo=os
gpgcheck=1
gpgkey=http://mirror.centos.org/centos/RPM-GPG-KEY-CentOS-$centosMajorVersion
enabled=0

[centos-update]
name=CentOS - Updates
mirrorlist=http://mirrorlist.centos.org/?release=${centosVersion}&arch=$basearch &repo=updates
gpgcheck=1
gpgkey=http://mirror.centos.org/centos/RPM-GPG-KEY-CentOS-$centosMajorVersion
enabled=0

EOF

yum -y --enablerepo=centos-base install firefox

yum -y install xorg-x11-server-Xvfb xterm xorg-x11-server-utils twm xorg-x11-fonts-ISO8859-1-75dpi xorg-x11-fonts-Type1

/usr/bin/killall Xvfb

#Start virtual screen
Xvfb :100 -ac -screen 0 1024x768x24 &
```

This script uses the package management tools provided by Fedora to install Mozilla’s Firefox and enough of X to get a VNC (Virtual Network Computing) server running.

1. Uses **yum** to install the following packages. Details on the yum tool can be found in the [Fedora Software Management Guide](#).
   - `vnc-server` — the vnc server used by the selenium test server.
   - `xorg-x11-server-Xvfb xterm xorg-x11-server-utils twm xorg-x11-fonts-ISO8859-1-75dpi xorg-x11-fonts-Type1` — these packages cover the xorg dependencies to get Firefox to run.
2. The script then copies some prepared VNC authentication files into the bamboo home directory and sets their permissions accordingly. These files are:
- `vncpasswd` — this is the password file used by the VNC server (copied to `/home/bamboo/.vnc/passwd`)
- `vncxstartup` — this is the script executed by the VNC server when a connection is made (copied to `/home/bamboo/.vnc/xstartup`)

3. The last step of this script is to manually install Firefox into `/opt/firefox` *(we manually install Firefox because the package that would be installed by the Fedora 8 package management appears to be outdated).*
   - The tar is extracted to the appropriate directory
   - The `.bashrc` file is customised to include the Firefox directory when searching for libraries. This is so Firefox will be able to find its libraries.

You then need to update the `customise-extras.sh` file on your EBS volume *(see Important EBS Directories and Files)* to invoke this script.

Finally, you need to add a custom capability (e.g. `selenium=true`) to the elastic agents with PostgreSQL installed. You can do this by updating the elastic image configuration that the agents inherit their capabilities from. Read Configuring elastic agent capabilities for detailed instructions.

Managing Elastic Bamboo

The following pages and the related sub-pages contain information on managing your elastic image, instances and agents.

- Managing your elastic images — please see this page and the related sub-pages for detailed information about Elastic Bamboo images in Bamboo. This includes instructions on how to view and customise the capabilities of your Elastic Bamboo images.
- Managing your elastic instances — please see this page and the related sub-pages for detailed information about Elastic Bamboo instances in Bamboo. This includes instructions on how to view, start, stop and access an elastic instance.
- Managing your elastic agents — please see this page and the related sub-pages for detailed information about Elastic Bamboo remote agent instances in Bamboo. This includes instructions on how to view and disable an elastic instance.

Managing your elastic images

An elastic image is an Amazon Machine Image (AMI) that is stored in one of Amazon data centres for use with the Elastic Bamboo feature. An elastic image is used to create elastic instances, which in turn create elastic agents. Conceptually, an elastic image is equivalent to an operating system running on a computer's boot hard drive and elastic instances would be the software that runs on this operation system.

Each elastic image registered with the Amazon Web Services (AWS) has its own unique identifier, known as an AMI ID.

You can associate multiple elastic images with a Bamboo server. One default shared image is maintained by Atlassian in AWS, and is available to all Elastic Bamboo users. You also create your own custom elastic images.

- To view an elastic image, including the image properties, capabilities and the Jobs that an image can build, see Viewing an elastic image.
- To associate an elastic image with your Bamboo installation, see Managing your elastic image configurations.
- To customise the capabilities of an elastic image, see Configuring elastic agent capabilities.
- To create your own custom elastic image, see Creating a custom elastic image.

Viewing an elastic image

An elastic image is an Amazon Machine Image (AMI) that is stored in one of Amazon data centres for use with the Elastic Bamboo feature. An elastic image is used to create elastic instances, which in turn create elastic agents. Conceptually, an elastic image is equivalent to an operating system running on a computer's boot hard drive and elastic instances would be the software that runs on this operation system.
Each elastic image registered with the Amazon Web Services (AWS) has its own unique identifier, known as an AMI ID.

You can associate multiple elastic images with a Bamboo server. One default shared image is maintained by Atlassian in AWS, and is available to all Elastic Bamboo users. You also create your own custom elastic images.

An image is similar to an agent, hence the 'Image' page closely resembles the 'Agent' page. A number of functions available for agents are also available for images.

- **Viewing an elastic image's capabilities** — your image has capabilities, similar to how agents have capabilities. Read more about viewing an agent's capabilities.
- **Viewing the Jobs that an image can build** — you can also view the Jobs that an image is capable of building (via the elastic agent created from the image), similar to how you view the Jobs that an agent is capable of viewing. Read more about viewing the Jobs that an agent can build and determining which agents can build which Jobs.

**Related pages:**
- Managing your elastic images

**To view an image:**
1. Click Administration in the top menu bar.
2. Click Image Configurations in the left navigation panel (under 'Elastic Bamboo').
3. Click the name, or View, for the image that you want to view.

<table>
<thead>
<tr>
<th>Name</th>
<th>The name of the image.</th>
</tr>
</thead>
<tbody>
<tr>
<td>AMI ID</td>
<td>The Amazon Machine Image identifier that uniquely identifies the image.</td>
</tr>
<tr>
<td>EBS Snapshot ID</td>
<td>The ID of the EBS Snapshot that you have associated with this image. See Configuring elastic instances to use the EBS and Managing your elastic image configurations for more information on how to use EBS with Elastic Bamboo.</td>
</tr>
<tr>
<td>Instance Type</td>
<td>The instance type of new instances started from this image. Read more about Amazon instance types.</td>
</tr>
<tr>
<td>Availability Zone Preference</td>
<td>New instances started from this image will be run in the Amazon availability zone named here.</td>
</tr>
<tr>
<td>Active Instances</td>
<td>The number of currently active instances that were started from this image.</td>
</tr>
</tbody>
</table>

*Screenshot: Elastic Bamboo image configuration*
### Manage Elastic Image Configurations

#### Maven 2.1 Image

**Elastic Image Configuration**

- **Name**: Maven 2.1 Image
- Contains Maven 2.1 and the necessary bits for Selenium 2
- **AMI ID**: ami-0ab54563
- **EBS Snapshot ID**: snap-68204c00
- **Instance Type**: High-CPU Medium
- **Availability Zone Preference**: Default (chosen by EC2)
- **Active Instances**: 13

Start Instances | Disable | Edit

#### Elastic Image Capabilities

A capability is a feature of an agent. There are 3 types of capabilities: builders, JDKs and custom. You can use this page to view, add and delete capabilities associated with this Elastic Image Configuration. Any existing elastic instances will need to be restarted to pick up these changes.

The following capabilities exist on Elastic Agents running on an instance of this image:

**Custom**

`Custom` capabilities are key-value pairs that define particular characteristics of an agent (e.g. `Operating System=WindowsXP`, `Test Build=true`). For an agent to be able to build a job, both the `Key` and `Value` must match the job’s requirements.

<table>
<thead>
<tr>
<th>Key</th>
<th>Value</th>
<th>Operations</th>
</tr>
</thead>
<tbody>
<tr>
<td>bamboo.functional</td>
<td>true</td>
<td>View</td>
</tr>
</tbody>
</table>

**Builder**

Builder capabilities define the builders which are available to your build plans.

<table>
<thead>
<tr>
<th>Builder Label</th>
<th>Path</th>
<th>Operations</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ant</td>
<td>/opt/apache-ant-1.7.1</td>
<td>View</td>
</tr>
<tr>
<td>Maven 2</td>
<td>/opt/maven-2.0</td>
<td>View</td>
</tr>
<tr>
<td>Maven 2.1</td>
<td>/opt/maven-2.1</td>
<td>View</td>
</tr>
<tr>
<td>Maven 2.2</td>
<td>/opt/maven-2.2</td>
<td>View</td>
</tr>
</tbody>
</table>

**JDK**

JDK capabilities define the JDKs which are available to your build plans.

<table>
<thead>
<tr>
<th>JDK Label</th>
<th>Java Home</th>
<th>Operations</th>
</tr>
</thead>
<tbody>
<tr>
<td>JDK</td>
<td>/opt/jdk-5</td>
<td>View</td>
</tr>
<tr>
<td>JDK 1.5</td>
<td>/opt/jdk-5</td>
<td>View</td>
</tr>
<tr>
<td>JDK 1.6</td>
<td>/opt/jdk-6</td>
<td>View</td>
</tr>
</tbody>
</table>

**Mercurial**

The path to the Mercurial executable (e.g. `C:\Program Files (x86)\Mercurial\hg.exe` or `/usr/local/bin/hg`)

<table>
<thead>
<tr>
<th>Executable</th>
<th>Path</th>
<th>Operations</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mercurial</td>
<td>/usr/bin/hg</td>
<td>View</td>
</tr>
</tbody>
</table>
Managing your elastic image configurations

An elastic image is an Amazon Machine Image (AMI) that is stored in one of Amazon data centres for use with the Elastic Bamboo feature. An elastic image is used to create elastic instances, which in turn create elastic agents. Conceptually, an elastic image is equivalent to an operating system running on a computer's boot hard drive and elastic instances would be the software that runs on this operation system.

Each elastic image registered with the Amazon Web Services (AWS) has its own unique identifier, known as an AMI ID.

You can associate multiple elastic images with a Bamboo server. One default shared image is maintained by Atlassian in AWS, and is available to all Elastic Bamboo users. You also create your own custom elastic images.

On this page:
- Associating custom elastic images with Bamboo
- Creating elastic images with custom agent capabilities

Related pages:
- Managing your elastic images

Associating custom elastic images with Bamboo

Associating a custom elastic image with your Bamboo installation allows you to start elastic instances with a different set of inherited capabilities than those inherited from the default image. For example, you may wish to associate a Ubuntu operating system-based elastic image with your Bamboo installation, so that you can run Ubuntu-related tests on the instances started from that image.

Once you have associated a custom elastic image with Bamboo, the settings for your elastic image are stored as an elastic image configuration.

To associate a custom image with Bamboo:

1. Click Administration in the top menu bar in Bamboo.
2. Click Image Configurations in the left navigation panel (under ‘Elastic Bamboo’).
3. Enter the details of your custom elastic image in the panel under ‘Create Elastic Image Configuration’:

<table>
<thead>
<tr>
<th>Name</th>
<th>The name of your custom elastic image. If you created your own custom image, you should have named it in step 6 of the Creating a custom elastic image instructions. You can also view the image name via the AWS console.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Description</td>
<td>A description for your image, which is used in Bamboo only.</td>
</tr>
<tr>
<td>AMI ID</td>
<td>The AMI ID obtained as an output from step 6 of the Creating a custom elastic image instructions. You can also view the AMI IDs of elastic images via the AWS console.</td>
</tr>
<tr>
<td>----------------------------------</td>
<td>--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------</td>
</tr>
</tbody>
</table>
| Automatically attach an Amazon Elastic Block Store (EBS) volume to new elastic instances | Select this option if you want the elastic instances started from this image to use the EBS. Read more about Configuring elastic instances to use the EBS.  
**EBS Snapshot ID** — Specify the EBS Snapshot ID of the EBS volume that you wish to attach to new instances. |
| Instance Type | The instance type for new instances started from this image. Amazon offers a number of instance types that provide different computing capacity. Read more about Amazon EC2 instance types. |
| Virtual Private Cloud Subnet | The Subnet of the Virtual Private Cloud where your Elastic Bamboo agent will start up. For more about VPC, see the Amazon VPC FAQ. |
| Availability Zone | The availability zone used to start your new instances from this image in (e.g. if you wish to use Elastic Bamboo with reserved instances). We recommend that you select "Default (chosen by EC2)" to allow Amazon to select the best zone for your instance. Read more about Amazon EC2 availability zones. |
| Product | The EC2 product name. |

**Screenshot: Manage your Elastic Image Configurations**

![Elastic Image Configuration Details](image)

**Creating elastic images with custom agent capabilities**

You can customise the agent capabilities of an elastic image that is already associated with Bamboo. The initial process is similar to that of associating a custom elastic image with Bamboo (above). Here, however, you use the AMI ID of an image already associated with Bamboo — most commonly the default image.

**To create an elastic image with customised agent capabilities:**
1. Click Administration in the top menu bar in Bamboo.
2. Click Image Configurations in the left navigation panel (under 'Elastic Bamboo').
3. Click the name, or View, for the image that you want to view.
4. Enter the details of your custom elastic image in the panel (under 'Create Elastic Image Configuration'). See the section above for details.
5. You now have a new elastic image configuration based on an existing elastic image. Follow the procedure on Configuring elastic agent capabilities to customise this elastic image's agent capabilities.

**Creating a custom elastic image**

An *elastic image* is an Amazon Machine Image (AMI) that is stored in one of Amazon data centres for use with the Elastic Bamboo feature. An elastic image is used to create elastic instances, which in turn create elastic agents. Conceptually, an elastic image is equivalent to an operating system running on a computer's boot hard drive and elastic instances would be the software that runs on this operation system.

Each elastic image registered with the Amazon Web Services (AWS) has its own unique identifier, known as an AMI ID.

You can associate multiple elastic images with a Bamboo server. One default shared image is maintained by Atlassian in AWS, and is available to all Elastic Bamboo users. You also create your own custom elastic images.

At a high level, the process for creating a custom elastic image consists of taking one of the existing Amazon Machine Images (AMIs) available on Amazon EC2, starting an instance of the AMI, customising the instance and then creating an image from the customised instance. This image can then be used as an elastic image in your Bamboo installation.

Before you begin:

- This is *not a trivial procedure*. If you're using Linux/UNIX, instead of creating a custom elastic image, you may want to consider customising an existing Bamboo image by using Amazon's Elastic Block Store (EBS), as described in Configuring elastic instances to use the EBS. This is a much simpler option. If you are having problems, please don't hesitate to contact us for further help.
- Please note, Atlassian does not support custom elastic images. Consider customising the elastic agents started from your existing image instead.
- A number of the EC2 commands in the steps below can be completed using the AWS console rather than command line tools (e.g. registering an image). You should use the method you're feel most comfortable with.

---

**On this page:**

1. Requirements
2. Selecting an existing AMI
3. Starting an instance
4. Accessing your instance
5. Customising your instance
6. Creating an image of your customised instance
7. Next steps
8. Need more help?

---

1. **Requirements**

First ensure that you have set up the following:

- **Amazon Web Services (AWS) account with EC2** — if you are already using Elastic Bamboo, you should already have an AWS account with EC2 set up. If not, please read Getting started with Elastic Bamboo.
- **Amazon EC2 API Tools** — you must install the EC2 API tools on your local machine, otherwise you will not be able to start and access your AMI instance. Note: you need Java Runtime Environment to run
these tools. You can install the EC2 API tools by executing the following commands:

```
wget http://s3.amazonaws.com/ec2-downloads/ec2-api-tools.zip
unzip ec2-api-tools.zip
```

- **Environment Variables**— you must set up the following environment variables on your local machine before creating a custom elastic image:
  - `EC2_HOME` — set this to the path to the installed EC2 API Tools
  - `EC2_CERT` — set this to the path to the certificate assigned to EC2 account
  - `EC2_PRIVATE_KEY` — set this to the path to the private key assigned to your AWS account

- **Registered Key Pair**— you need a registered EC2 key pair, which consists of a private key file and certificate file, to use the EC2 API tools with your AMI instance. If you have previously generated and registered an EC2 key pair (e.g. to use the EC2 API tools), you can re-use it. If you need to generate a new key pair, you can use the following command to do so:

```
e2-add-keypair <key_pair_name>
```

The content of the private key will be displayed in the command-line output on your console. Save this content in a file, starting with the line:

```
"--BEGIN RSA PRIVATE KEY--"
```

and ending with the line:

```
"--END RSA PRIVATE KEY--"
```

This private key file will be used to access your AMI instance. Set up the appropriate permissions on the private key file by executing the following command:

```
chmod 600 <private_key_file>
```

2. Selecting an existing AMI

We strongly recommend that you select an existing Linux/UNIX AMI to customise, rather than starting with a blank AMI. When choosing an AMI, decide whether you want to launch 32-bit or 64-bit instances from your custom elastic image and select an existing AMI matching your choice.

We recommend the following existing Linux/UNIX AMIs for customisation (in order of preference):

<table>
<thead>
<tr>
<th>Source</th>
<th>Description</th>
<th>AMI list</th>
</tr>
</thead>
<tbody>
<tr>
<td>Atlassian</td>
<td>One of the stock images provided by Atlassian. It is an Amazon Linux image updated and prepared for Bamboo, i.e. you will not have to install any Bamboo prerequisites.</td>
<td>Available on your Bamboo instance under Administration/Image Configurations</td>
</tr>
</tbody>
</table>
Atlassian's AMIs (and hence, their IDs) may change with each release of Bamboo, including both major and minor releases. To quickly access Atlassian's AMI IDs for your a currently-running version of Bamboo, open that Bamboo site in a web browser and access its 'Image Configurations' page (see Managing your Elastic Image Configurations for more information). The AMI IDs of Atlassian’s AMIs are labelled with "(stock image)".

- If you want to find out the AMI IDs for a version of Bamboo you don't have running or you're starting an image from scratch and you need the image baseline, click here...

1. Open the following URL: https://maven.atlassian.com/content/repositories/atlassian-public/com/atlassian/bamboo/atlassian-bamboo/ in a web browser.
2. On the resulting directory page, click the link that represents the version of Bamboo you are currently running. For example, if you are running Bamboo 3.4.4, click on the 3.4.4 link. Another directory page opens, listing a .pom and some additional checksum files.
   - Do not click on a version number link that contains 'mX', 'rcX' or 'betaX' (where 'X' is a number), since these relate to publicly available developmental releases of Bamboo.
3. Open the atlassian-bamboo-x.x.x.pom file (where x.x.x is your version of Bamboo). The image version/baseline is stored in elastic-image.version tag. For example, for version 3.4.4, the baseline was 1.7.
4. Open the following URL: https://maven.atlassian.com/content/repositories/atlassian-public/com/atlassian/bamboo/atlassian-bamboo-elastic-image/ in a web browser.
5. Click on the image baseline version you found in the elastic-image.version tag.
6. On the resulting directory page, the file with ami extension contains all stock image AMI ids.

3. Starting an instance

After you have selected an existing AMI to customise, the next step is to start an instance of the AMI.

3.1 Starting an instance of Atlassian's default AMI

If you chose to customise Atlassian's default AMI, you will have to start the instance from the admin section of Bamboo. See Starting an elastic instance.

Note that Atlassian's default AMI cannot be started using the command line ec2 tools. This is because, on start up, the Bamboo agent on Atlassian's AMI checks to see if it was started from a Bamboo server, and immediately shuts itself down if it was not.

Once started, see Accessing an elastic instance for details on how to access the running instance.

3.2 Starting an instance from the command line

Use the `ec2-run-instances` command to start your instance, as follows:
ec2-run-instances <image_name> -k <key_pair_name>

where <image_name> is the name of the AMI selected in the previous step and <key_pair_name> is the name of the registered key pair generated in '1. Requirements'. The public certificate of this key will be injected into your instance.

For example, if you wanted to start an instance of image ami-e55bbd8c using key pair my-keypair, you would run the following command:

ec2-run-instances ami-e55bbd8c -k my-keypair

This command would produce the following command-line output:

| INSTANCE | i-25b86743 | ami-e55bbd8c | running | my-keypair |

i-25b86743 is the name of the new instance in the above example. You should note down the name of your new instance, as you will need that to access your instance in the next step.

Don't forget to shut down unused instances

Please note that once you start an instance, you will be billed by Amazon for instance uptime. If you decide to abandon the setup of a custom elastic image after this step, please ensure that you shut down your instance via the AWS console.

3.3 Starting an instance from Bamboo

You can also start a fresh, uncustomised image from Bamboo and begin customisation. The drawback of this approach is that you have only 40 minutes before Bamboo shuts down your instance. The advantage is that you can customise the agent in a single step (as opposed to having to customise/create image/start from Bamboo/save image again).

4. Accessing your instance

If you started the instance from Bamboo, see Accessing an elastic instance for details on how to access the running instance.

Once your instance is running, you will need to obtain the address of the instance so you can access it. To do this, use the following command:

ec2-describe-instances <instance_name>

For example, if you wanted to find the address of instance i-25b86743, you would enter:
1. Requirements

Replace /opt/bamboo/home/xml-data/configuration/elasticbamboo.pk command text with the private key file you generated in '1. Requirements'.

Replace ec2-68-111-185-197.compute-1.amazonaws.com in the example command text with the address of your instance.

5. Customising your instance

Now that you have a running instance, customisation steps heavily depend on the operating system you're using. We've prepared separate pages with Linux-specific instructions and Windows-specific instructions.

6. Creating an image of your customised instance

The process of creating a new image varies depending whether you based your image on an instance-store or EBS-root image. You can check your image type via AWS console or using ec2-describe-images.

Creating an image from EBS-root instances

See here for instructions: Amazon Tutorial

Creating an image from instance-store (S3) instances

The final step is to create an image from your customised instance. To do this, you will require the following information:

- Amazon Account Number
- Access Key ID
- Secret Access Key
- Amazon S3 bucket name that will be used to store image (if you don't have access to Amazon S3, you can sign up on this page.)

1. Transfer Amazon private key file and certificate to your instance
   
   Transfer the key files to your instance by running these commands on your local machine:
scp -i <private_key_file> $EC2_PRIVATE_KEY
root@<instance_address>:/mnt
scp -i <private_key_file> $EC2_CERT root@<instance_address>:/mnt

where <private_key_file> is the private key file from your local machine created in step 'Registered Key Pair' of 1. Requirements and the <instance_address> is the address of your instance from '4. Accessing your Instance'.

2. Set up EC2_HOME and JAVA_HOME environment variables
Set up these environment variables by running the following commands on your instance:

export EC2_HOME=<location of your EC2 tools installation>
export EC2_PRIVATE_KEY=/mnt/<ec2_private_key_file>
export EC2_CERT=/mnt/<ec2_certificate_file>
export JAVA_HOME=<path to JRE used to start the agent>

3. You can create an image of your customised instance by using the ec2-bundle-vol command, as follows:

ec2-bundle-vol -c $EC2_CERT -k $EC2_PRIVATE_KEY -u
<amazon_account_number> -p <elastic_image_name> --batch --debug

where <elastic_image_name> is the name that you want to assign to your custom image (e.g. 'CustomImage1')

4. Once the image is created, you need to upload it to Amazon S3 by running the command below:

ec2-upload-bundle -b <s3_bucket_name> -m
/tmp/<elastic_image_name>.manifest.xml -a <access_key_id> -s
<secret_access_key> --retry --debug

where <s3_bucket_name>, <access_key_id> and <secret_access_key> are the Amazon S3 bucket name, Access Key ID and Secret Access Key described previously, and <elastic_image_name> is the name that you want to assign to your custom image (e.g. 'CustomImage1').

You will then need to register your image with Amazon EC2 by using the ec2-register command:

ec2-register <s3_bucket_name>/<elastic_image_name>.manifest.xml

where <s3_bucket_name> is the Amazon S3 bucket name described previously and <elastic_image_name> is the name that you want to assign to your custom image (e.g. 'CustomImage1').
7. Next steps

Now that you have created a custom elastic image, there are two more steps that you will need to complete before you can use it.

First, you will need to associate your custom elastic image with your Bamboo installation by creating an Elastic Image Configuration. Please note the AMI ID of your new custom image and read Managing your Elastic Image Configurations for further instructions.

Secondly, you will need to configure the capabilities of the elastic agents that will run on instances started from your image. This is done by adding the appropriate builder, JDK, Perforce and custom capabilities to your elastic image configuration, so that it reflects what your custom elastic image actually can do. For example, if you have created a custom elastic image with JDK 1.6 and Maven 2 installed, you will need to add capabilities for JDK 1.6 and Maven 2 to the elastic image configuration. Read Configuring Elastic Agent Capabilities for further instructions.

8. Need more help?

If you need more help, there are a number of resources that you can take advantage of:

- AWS Support Center — if you are having problems with any of your Amazon services, not specifically related to Bamboo, you can obtain basic support from the AWS Support Center. Note, you will need to sign up for Premium Support to get access to web/phone support.
- AWS Resource Center — the AWS Resource Center has links to online documentation, code samples and tools for AWS services.
- Bamboo Developer Forums — please feel free to discuss any useful tips or issues regarding this process in the Bamboo Developer Forums.

Creating a custom elastic image - Linux

5. Customising your instance

Customising your instance is the most complicated part of creating a custom elastic image. You need to install the packages that are prerequisites for Bamboo onto your instance (if you didn't choose the Elastic Bamboo stock images as your base AMI), add your customisations, deploy Bamboo onto your instance and set up an EC2 environment on your instance.

5.1 Installing Bamboo prerequisite packages

If you selected Atlassian's AMI as your base AMI in '2. Selecting an Existing AMI', you can skip this step and go to '5.2 Adding Customisations' as this image has been pre-configured for Bamboo. If you have selected a different AMI, you will need to install the following packages onto your instance using the commands shown below:

Amazon EC2 API tools
wget http://s3.amazonaws.com/ec2-downloads/ec2-api-tools.zip
unzip ec2-api-tools.zip
mv ec2-api-tools-* /opt/ec2-api-tools

Note: if your distribution already contains ec2-api-tools package, you can install it instead.

Java JRE

You need to install JRE (or JDK) on your instance to be able to run the agent. The preferred way of doing this is to install a package that came with your distribution. For a list of supported JREs, see [supported platforms](#).

5.2 Adding user customisations to your instance

Adding your own customisations is quite a simple process, once you have made it this far.

To add user customisations to your instance:

1. Log into your elastic instance (as previously described in '4. Accessing your Instance').
2. Once you have logged into your elastic instance, you can treat it as a standalone machine and install anything you want. For example, if you want to install Tomcat on an Ubuntu instance you would run `sudo apt-get install tomcat6`, configure it, ensure that your startup scripts are in place, etc, just as you would when installing Tomcat on a standalone machine.
   \[\text{⚠️ Please note however, you cannot customise the operating system of a running instance. If you want to create an instance with a customised operating system (e.g. Ubuntu), you will need to select an AMI with that operating system installed (as previously described in '2. Selecting an Existing AMI').}\]
3. Everything that you install will be saved in snapshot image created at the end of these instructions (see '6. Creating an Image of your Customised Instance'). Any instances started from this image will have all of your user customisations automatically installed.

5.3 Deploying Bamboo onto your instance

Once you have installed the Bamboo pre-requisites on you instance and added your customisations, you can deploy Bamboo elastic bootstrap files onto your instance.

5.3.1 Creating Bamboo user

First, you need to create a 'bamboo' user on your instance by running the following command:

```
useradd -m bamboo
```

5.3.2 Downloading agent installer to the instance

Then, install Bamboo Agent binaries as described below. In this case we’re using image version 2.2, you should use the latest version available at [https://maven.atlassian.com/content/repositories/atlassian-public/com/atlassian/bamboo/atlassian-bamboo-elastic-image/](https://maven.atlassian.com/content/repositories/atlassian-public/com/atlassian/bamboo/atlassian-bamboo-elastic-image/).
5.4 Instance configuration

At this stage, you should have a customised instance with Bamboo deployed onto it. The last step in creating a customised instance is to set up an EC2 environment on your instance. Carry out the following steps to set this up:

1. Run the following command on your instance to set permissions on the bamboo user directory:

   chown -R bamboo:bamboo /home/bamboo/

2. Configure path variables

   Create a file profile.sh in your instance’s /mnt directory. This file contains the default Elastic Bamboo path configuration settings, as seen below:

   ```
   export JAVA_HOME=<path to JRE used to start the agent>
   export EC2_HOME=<location of your EC2 tools installation>
   export EC2_PRIVATE_KEY=/root/pk.pem
   export EC2_CERT=/root/cert.pem
   export PATH=/opt/bamboo-elastic-agent/bin:$EC2_HOME/bin:$JAVA_HOME/bin:$M2_HOME/bin:$MAVEN_HOME/bin:$ANT_HOME/bin:$PATH
   ```

   If all of the tools on this page were installed in recommended locations, no changes are required. Otherwise, you can update the file as required.

   Once profile.sh is correctly customised for your instance, you need to copy it to the /etc/profile.d directory by running the following command on your instance in the /mnt directory:

   ```
   mv profile.sh /etc/profile.d/bamboo.sh
   ```

3. Configure automatic startup of the Bamboo agent

   You will need to configure your instance to start up the Bamboo agent automatically when the instance is started. You can do this by appending the rc.local file to the one that already exists on your instance,
by running the following command on your instance in the mnt directory:

```
cat /opt/bamboo-elastic-agent/etc/rc.local >> /etc/rc.d/rc.local
```

4. **Final settings and cleanup**

Finally, create a Bamboo welcome screen and clean up keys on your instance by running the following command:

```
cp /opt/bamboo-elastic-agent/etc/motd /etc/motd
echo bamboo-<x.x.x> >> /etc/motd
rm -f /root/firstlogin /etc/ssh/ssh_host_dsa_key
/etc/ssh/ssh_host_dsa_key.pub
/etc/ssh/ssh_host_key /etc/ssh/ssh_host_key.pub
/etc/ssh/ssh_host_rsa_key
/etc/ssh/ssh_host_rsa_key.pub /root/.ssh/authorized_keys
touch /root/firstrun
```

where `<x.x.x>` is the Bamboo version you are running (e.g. 4.1.2).

5. **Now, follow the instructions from section “Creating an image of your Customised Instance” to create an AMI.**

6. **Start the image from Bamboo.** The agent should come up and download all necessary data to the EC2 instance.

7. **Run /opt/bamboo-elastic-agent/bin/prepareInstanceForSaving.sh.**

8. **Now, follow the instructions from section “Creating an image of your Customised Instance” to create an AMI.** That's it, the newly created AMI contains everything you need to start Bamboo Agents.

Note: if you started your instance from Bamboo right at the start, instead of steps 5 & 6, you can just run:

```
su -c /opt/bamboo-elastic-agent/bin/bamboo-elastic-agent - bamboo
```

Creating a custom elastic image - Windows

To perform the tasks listed below, log in to your instance with an Administrator account using Remote Desktop Client.

⚠️ **Subscribing to this page is the best idea you're going to have today.**

**Setting up the user account**

Create the user account that will be used by the Bamboo agent. The account name is up to you, I will use Bamboo in the examples below. All builds running on your machine will use this account. It can be a regular user (i.e. it does not need to be a Power User or Administrator, unless your builds require it). Set up a password for that user. The default user on a Windows image has a user name of Bamboo with a password of Atlassian1.
Important: by default, a newly created user should be denied remote login rights (which is as we want it to be). To be on the safe side, please make sure that you indeed cannot log in using that user’s credentials (unless you change them to non-default ones).

- If your builds are not headless (i.e. they show/manipulate windows, like Selenium does), click here for additional instructions

You’ll need to set up autologin for your Bamboo account (don’t worry, this will not let remote users in). To do this, run `control userpasswords2` and uncheck “User must enter a user name and password to enter this computer”:

![Screen shot of User Accounts and Autologon]

Setting up the firewall

Reconfigure the Windows firewall to accept TCP connections on port 26224. No other inbound connections are necessary for Bamboo.
Installing the required software

1. Install a supported Oracle Java version (6 or 7).
2. Download the latest version of agent installer zip from this [this location](#) (at the time this guide was written, the latest version was [this](#)). Unpack it to a desired location, we suggest using C:\opt\bamboo-elastic-agent to match stock images distributed with Bamboo.
3. A batch file should launch with your Windows instance startup. In order to do this, use the Windows Task Scheduler (Start->Administrative Tools->Task Scheduler), and set up a new task with Action “Start a program->PATH TO YOUR BATCH FILE”. Remember to select “Run whether user is logged on or not” in the “General” tab and appropriately define the task Trigger so that the agent starts up only after the network connection is up and running.
The task manager will warn you that the account needs to be able to log in as a batch job. Make sure the “Log on as batch job” policy is set for the user. This policy is accessible by opening the Control Panel -> Administrative Tools -> Local Security Policy. In the Local Security Policy window, click Local Policies -> User Rights Assignment -> Log on as batch job:
Testing

The easiest way to check if everything is set up correctly, is to run the task you’ve defined using Windows Task Scheduler (Start->Administrative Tools->Task Scheduler). Right click on the task and select "Run". Always test the script using the Task Scheduler - if you run the script manually, you’ll use Administrator account, which is not what we want.

Look for the `%USERPROFILE%\bamboo-elastic-agent.out` file. If it exists and contains an error message stating that agent was not run within an EC2 instance started by Bamboo Server, you’ve successfully completed the customisation.

Run `c:\opt\bamboo-elastic-agent\bin\prepareInstanceForSaving.bat`. Bundle your instance. Make note of the AMI id of the new image.

Start your image from Bamboo

⚠️ If you fail to complete the following steps within ~40 minutes, Bamboo will shut down your instance, so remember to save your work if you’re running out of time (i.e. create an interim image).

In Bamboo, define an image configuration for the image you’ve just created, and start it from Bamboo. If everything went well, the agent will start together with the instance. It will perform the following steps:

- Update/create `/opt/bamboo-elastic-agent` directory structure by creating additional directories. If they appeared, Java is working correctly on that machine and the connection to S3 is working.
- Start the agent which will create the Bamboo Agent Home directory and populate it with data pulled from Bamboo server.

If everything went well, you should see the agent appear in the Bamboo instance list. Congratulations, you have a working Bamboo agent.
Because the agent has just synchronised itself with the Bamboo server you have (i.e. downloaded all the jars exactly matching what you have on your server), as an extra step, you may want to save that state to speed up future instance startup and reduce bandwidth usage.

To do it, run `c:\opt\bamboo-elastic-agent\bin\prepareInstanceForSaving.bat`, save the image, define a new image configuration, kill the instance, and try running it from Bamboo.

**Upgrading the agent for your custom elastic image**

The instructions below are valid if you were using Bamboo 3.4 or newer. If you're upgrading from an earlier version, you should first reinstall the agent installer (see Creating a custom elastic image).

If you customised your instance according to Creating a custom elastic image, your instance will keep itself updated across Bamboo. The synchronisation process takes a while and the time required increases as your image gets older. If you notice slow startup, you may want to refresh your image. You can either customise the instance from scratch, as when you created your customised image, or update just the agent data, which is much faster.

**Related pages:**
- Managing your elastic image configurations
- Creating a custom elastic image

**To refresh your agent data:**

1. Start your instance from Bamboo.
2. Log into your instance.
3. Run `/opt/bamboo-elastic-agent/bin/prepareInstanceForSaving.sh`.
4. Create an Image of your Customised Instance.

The final step is to create an image from your customised instance. To do this, you will require the following information:

- Amazon Account Number
- Access Key ID
- Secret Access Key
- Amazon S3 bucket name that will be used to store image (if you don't have access to Amazon S3, you can sign up on this page.)

You can create an image of your customised instance by using the `ec2-bundle-vol` command, as follows:

```
/usr/local/bin/ec2-bundle-vol -c $EC2_CERT -k $EC2_PRIVATE_KEY -u <amazon_account_number> -p <elastic_image_name> --batch --debug
```

where `<elastic_image_name>` is the name that you want to assign to your custom image (e.g. 'CustomImage1')

Once the image is created, you need to upload it to Amazon S3 by running the command below:
where <s3_bucket_name>, <access_key_id> and <secret_access_key> are the Amazon S3 bucket name, Access Key ID and Secret Access Key described previously, and <elastic_image_name> is the name that you want to assign to your custom image (e.g. 'CustomImage1')

You will then need to register your image with Amazon EC2 by using the ec2-register command:

```
$EC2_HOME/bin/ec2-register
<s3_bucket_name>/<elastic_image_name>.manifest.xml
```

where <s3_bucket_name> is the Amazon S3 bucket name described previously and <elastic_image_name> is the name that you want to assign to your custom image (e.g. 'CustomImage1')

The output of this command will show the AMI ID of your custom image.

5. Associate the new Custom Image with Bamboo.
Finally, you will need to associate your custom elastic image with your Bamboo installation by creating an Elastic Image Configuration. Please note the AMI ID of your new custom image and read Managing your elastic image configurations for further instructions.

**Updating elastic images for Bamboo upgrades**

Various updates to default packages and capabilities are made to the default image with each major release of Bamboo.

Therefore, if you are using either a:

- custom elastic image, or
- an elastic image with customised agent capabilities

then to ensure this elastic image acquires these package/capability updates, use the flow chart below to update your elastic image.

⚠️ Use this flowchart only after Bamboo has been upgraded. For each elastic image you wish to update, follow this flow chart from the start.
Elastic Images with Customised Capabilities:

This flow chart assumes that all elastic images with customised agent capabilities are based off the default image. Please check the default image page to identify the packages and related capabilities available in the default image for Bamboo 4.3.x.

Managing your elastic instances

An elastic instance is a running instance of an elastic image. One elastic instance is created whenever an elastic image is started. Hence, starting one elastic image multiple times, results in the creation of multiple elastic instances. Each time an elastic instance is created, one elastic agent is created on that instance.

The following list directs you to details on managing elastic instances manually in Bamboo. However, you can configure Bamboo to automatically manage your elastic instances. Please refer to Automatic Elastic Instance Management for more information.
To view a running elastic instance, see Viewing an elastic instance.
To access your elastic instance via a client, see Accessing an elastic instance.
To start one or more elastic instances, see Starting an elastic instance.
To shut down one or more elastic instances, see Shutting down an elastic instance.
To configure your Elastic Bamboo settings for elastic instances, see the Elastic Instance Settings section in the Configuring Elastic Bamboo document.

**Viewing an elastic instance**

An elastic instance is a running instance of an elastic image. One elastic instance is created whenever an elastic image is started. Hence, starting one elastic image multiple times, results in the creation of multiple elastic instances. Each time an elastic instance is created, one elastic agent is created on that instance.

Conceptually, an elastic instance can be thought of as a computer. The elastic agent's processes are run on this computer and the elastic image is the boot hard drive. Unlike computers, however, elastic instances are temporary and stateless. When an elastic instance is shut down:

- Any changes that an elastic instance makes to the boot hard drive (e.g. agent log file) will not persist
- Any customisations to the instance itself will also be lost.

The Amazon Elastic Block Store can provide persistent storage for your elastic instances.

You can also view information about your elastic instances on the AWS Management Console. Please note, we strongly recommend that you use the console for viewing instance information only. You may experience errors if you attempt to manage your instances outside of Bamboo.

**Related pages:**
- Managing your elastic instances

**To view an elastic instance:**

1. Click Administration in the top menu bar.
2. Click Instances in the left navigation panel.
3. Click the name of the instance that you want to view, e.g. 'i-05ff716c'.

<table>
<thead>
<tr>
<th>Current status</th>
<th>The status of the elastic instance. Values include, 'Pending' (instance starting up), 'Running' and 'Shutting down'.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Public DNS</td>
<td>The public DNS address of the elastic instance. The IP address of the elastic instance is displayed here.</td>
</tr>
<tr>
<td>Start Time</td>
<td>The start time of the instance, based on the Amazon EC2 timezone (US Eastern Time for Elastic Bamboo). Start time is the time when you sent the request to start an instance, not the time when the instance progresses to 'Running' status. Up time of the instance (including the time taken for the instance to start up) is shown in brackets after the start time.</td>
</tr>
<tr>
<td><strong>Elastic Agent</strong></td>
<td>The elastic agent process currently running on your elastic instance. Currently, Elastic Bamboo only supports one elastic agent per elastic image. Click the link to view the elastic agent. If the agent is running a job, the job's key will be shown in brackets after the elastic agent name.</td>
</tr>
<tr>
<td><strong>Current Availability Zone</strong></td>
<td>The availability zone that your elastic instance is running in. Read more about Amazon EC2 availability zones. Your availability zone preference is shown in brackets after the current availability zone. For instructions on how to set the availability zone for your instances, please see Managing your elastic image configurations.</td>
</tr>
<tr>
<td><strong>Attached Volumes</strong></td>
<td>The IDs of the attached EBS volumes, if you have configured your elastic instances to use EBS.</td>
</tr>
<tr>
<td><strong>Configuration</strong></td>
<td>The name of the elastic image configuration that was used to create this elastic instance. Click the name to configure the elastic image.</td>
</tr>
<tr>
<td><strong>AMI ID</strong></td>
<td>The ID of the elastic image (i.e. Amazon Machine Image) that the elastic instance was created from (as part of the elastic image configuration).</td>
</tr>
<tr>
<td><strong>EBS Snapshot ID</strong></td>
<td>The ID of the EBS snapshot that was used to create the EBS volumes attached to your instance, if you have configured your elastic instances to use EBS.</td>
</tr>
</tbody>
</table>

ℹ️ **Bamboo polls the EBS volumes for an elastic instance every 60 seconds by default. If you want to change this interval, you need to modify the following system property:** `bamboo.agent.elastic.ebsVolumeSupervisionIntervalInSeconds`

| **Instance Type** | The instance type of your instance. |
| **SSH Access** | Please see Accessing an elastic instance for information on using this function. |
| **Accessing Logs** | Please see Accessing an elastic instance for information on using this function. |

**Screenshot: Viewing an elastic instance**
Elastic Bamboo » Instances » i-07ec936b

Information
This is an instance running on the Amazon EC2 compute cloud. You can get more extensive information about this instance from the Amazon AWS Web Console.

- **Current status**: Running
- **Public DNS**: ec2-184-72-81-22.compute-1.amazonaws.com
- **IP**: 184.72.81.22
- **Start Time**: 14/02/11 10:57 AM (41 minutes ago)
- **Elastic Agent**: Elastic Agent on i-07ec936b (Idle)
  This is the Bamboo agent that is running in this instance in EC2.
- **Current Availability Zone**: us-east-1c (chosen by EC2)

**Attached Volumes**
- vol-fe3c536

Configuration
- **Configuration**: Maven 2.1 Image
  Contains Maven 2.1 and the necessary bits for Selenium 2
- **AMI ID**: ami-0ab54563
- **EBS Snapshot ID**: snap-58204c00
- **Instance Type**: High-CPU Medium

Shut Down

SSH Access
You can SSH into this instance in the EC2. To do this, simply execute the following command from the bamboo server home directory. Bamboo can not find the elasticbamboo.pk file on the server. For more information on where to find your elasticbamboo.pk file see our online documentation.

```
ssh -i elasticbamboo.pk root@ec2-184-72-81-22.compute-1.amazonaws.com
```

Accessing Logs
You can use SCP to download the logs from this EC2 instance. To do this, simply execute the following command.

```
scp -i elasticbamboo.pk root@ec2-184-72-81-22.compute-1.amazonaws.com:/home/bamboo/bamboo-elastic-agent.out .
```

Amazon EC2 Console
You can manage your EC2 instances using the Amazon EC2 Console. Once you've logged in through the console, you can access logs for this instance directly. Logs are reproduced below in the iframe below (note that the logs are usually a little delayed).
Accessing an elastic instance

It is possible to connect directly to a running elastic instance to access logs or upload files. Access is available via SSH (secure shell) and file transfer is enabled via SCP (secure copy).

Please note, you can only access elastic instances that are running. You may need to configure the automatic termination of elastic instances.

On this page:
- Using SSH
- Using SCP
- Notes

Related pages:
- Managing your elastic instances

Using SSH

To access your elastic instance using SSH:

1. Navigate to the desired elastic instance, as described on Viewing an elastic instance.
2. Copy the command text listed under the 'SSH Access' section. It will be similar to the following example command text:
   
   ssh -i /opt/bamboo/home/xml-data/configuration/elasticbamboo.pk root@ec2-68-111-185-197.compute-1.amazonaws.com

3. Execute the text in your terminal and you will have full SSH access to the Elastic Instance. You can also download the private key via the link in the 'SSH Access' section to access your elastic instance via SSH. Click 'here' in the following text on screen to download the key: 'You can also download the SSH private key file from here and use the private key to access the EC2 instance.'

Using SCP

Note, you can also use SCP to upload files to your elastic instance.

To access your elastic instance using SCP:

1. Navigate to the desired elastic instance, as described on Viewing an elastic instance.
2. Copy the command text listed under the 'Accessing Logs' section. It will be similar to the following example command text:
   
   scp -i /opt/bamboo/home/xml-data/configuration/elasticbamboo.pk root@ec2-68-111-185-197.compute-1.amazonaws.com:/home/bamboo/bamboo-elastic-agent.out ./

3. Execute the text in your terminal to download the logs from your elastic instance.

Notes

- Permission issues for SSH access — If you are experiencing permission issues when attempting to access your elastic instance via SSH, you may need to modify permissions on your Elastic Bamboo private key file. See this FAQ for further details.

Starting an elastic instance

An elastic agent process runs in an elastic instance and will automatically start when an instance is started. If you want to run a Job build on an elastic agent, you can start an elastic instance for the agent to run in. The elastic agent will inherit the capabilities of the image that the instance is started from.

Limitations on the number of elastic instances — An elastic agent is counted as a remote agent for licensing.
purposes. Hence, if starting an elastic instance (and hence an elastic agent) causes you to exceed the total number of remote agents allowed under your license, you will not be able to start the instance.

Related pages:
- Managing your elastic instances

To start an elastic instance:

1. Click Administration in the top menu bar.
2. Click Instances in the left navigation panel.
3. Click Start New Elastic Instances.
   - Use Number of instances to specify the number of new instances you would like to start.
   - Use Elastic Image Configuration Name to select the elastic image configuration that you would like your instances to use.
4. Click Submit. The ‘Manage Elastic Instances’ page will be displayed, showing your new instances starting:
   a. A note will display stating that the elastic instances (and corresponding agents) are starting.
   b. Your elastic instances will then display with a status of ‘Pending’ while they start up. This generally takes a few minutes.

<table>
<thead>
<tr>
<th>Instance → Agent</th>
<th>Status</th>
<th>Up Time</th>
<th>Operations</th>
</tr>
</thead>
<tbody>
<tr>
<td>instance-i-2204914b</td>
<td>Pending</td>
<td>8 seconds</td>
<td>View</td>
</tr>
</tbody>
</table>

c. Once your elastic instances have started up, they will progress to ‘Running’ status. An elastic agent process will then start up for each instance. They will display a status of ‘Pending’ while they start.

d. Once the elastic agents have started, they will display a status of ‘Online’.

<table>
<thead>
<tr>
<th>Instance → Agent</th>
<th>Status</th>
<th>Up Time</th>
<th>Operations</th>
</tr>
</thead>
<tbody>
<tr>
<td>instance-i-2204914b</td>
<td>Running</td>
<td>1 minute</td>
<td>View</td>
</tr>
<tr>
<td>Elastic Agent on i-2204914b</td>
<td>Pending</td>
<td></td>
<td></td>
</tr>
<tr>
<td>instance-i-2204914b</td>
<td>Running</td>
<td>10 minutes</td>
<td>View</td>
</tr>
<tr>
<td>Elastic Agent on i-2204914b</td>
<td>Online</td>
<td></td>
<td>Disable</td>
</tr>
</tbody>
</table>

Notes

- **What if my elastic agent doesn't start?** Bamboo has a set period of time that it waits for the agent to start on an elastic instance. If no response is received by the end of this time period, Bamboo will shut down the elastic instance. You can configure this time period by modifying the following system property (default is 600):
  bamboo.agent.elastic.startupTimeoutSeconds
Read Configuring system properties for instructions on how to set a system property.

Scheduling your elastic instances

You can schedule the startup and shutdown of elastic instances in Bamboo. For example, you may wish to shut down all elastic instances on weekends or start up additional instances to help cope with job builds during

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regular busy periods.

On this page:
- Managing your elastic instance schedules
- Adding a new elastic instance schedule

Related pages:
- Managing your elastic instances

Managing your elastic instance schedules

To manage your elastic instance schedules:

1. Click Administration in the top menu bar.
2. Click Instance Schedule in the left navigation panel (under 'Elastic Bamboo').
3. Do any of the following:

<table>
<thead>
<tr>
<th>Task</th>
<th>Action</th>
</tr>
</thead>
<tbody>
<tr>
<td>Add a new schedule</td>
<td>Click Add Elastic Instance Schedule to create a schedule from new.</td>
</tr>
<tr>
<td></td>
<td>Click Copy to use an existing schedule as a template.</td>
</tr>
<tr>
<td></td>
<td>See the Adding a New Elastic Instance Schedule section below for further instructions.</td>
</tr>
<tr>
<td>Edit an existing schedule</td>
<td>Click Edit for an existing schedule. You can also Delete existing schedules.</td>
</tr>
<tr>
<td>Enable existing schedules</td>
<td>Click Enable for a particular schedule, or click Enable All.</td>
</tr>
<tr>
<td>Disable existing schedules</td>
<td>Click Disable for a particular schedule, or click Disable All.</td>
</tr>
</tbody>
</table>

You can also view the configuration for the elastic image that the instances will be created from, by clicking the image configuration name (e.g. 'Default') in the table of schedules.

Screenshot: Viewing elastic instance schedules

View Elastic Instance Schedules

Configure when to start up or shut down elastic instances of a particular elastic image.

<table>
<thead>
<tr>
<th>Next Scheduled Run</th>
<th>Cron Expression</th>
<th>Image Config</th>
<th>Active Instances</th>
<th>Operations</th>
</tr>
</thead>
<tbody>
<tr>
<td>Trigger disabled</td>
<td>Each Saturday at 4:30 am</td>
<td>Stop all elastic instances</td>
<td>Edit</td>
<td>Enable</td>
</tr>
<tr>
<td>Trigger disabled</td>
<td>Each Monday at 9:00 am</td>
<td>Stop all elastic instances</td>
<td>Edit</td>
<td>Enable</td>
</tr>
</tbody>
</table>

Adding a new elastic instance schedule
1. Click **Administration** in the top menu bar.

2. Click **Instance Schedules** in the left navigation panel (under 'Elastic Bamboo').

3. Click either **Add Elastic Instance Schedule** to create a schedule from new, or **Copy** for an existing schedule to use it as a template.

<table>
<thead>
<tr>
<th><strong>Enabled</strong></th>
<th>Clear if you do not want this schedule to be enabled when you create it.</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Trigger On</strong></td>
<td>Choose when this schedule should start:</td>
</tr>
<tr>
<td></td>
<td>- <strong>Next Bamboo startup</strong></td>
</tr>
<tr>
<td></td>
<td>- <strong>A cron schedule</strong> — edit Schedule as required. For information on constructing cron expressions, see <a href="#">this FAQ</a>.</td>
</tr>
<tr>
<td><strong>On Trigger Bamboo Should</strong></td>
<td>Choose the action Bamboo should perform:</td>
</tr>
<tr>
<td></td>
<td>- <strong>Stop all elastic instances</strong></td>
</tr>
<tr>
<td></td>
<td>- <strong>Adjust number of active instances</strong></td>
</tr>
<tr>
<td><strong>Image Config</strong></td>
<td>Choose which image the elastic instances should be started from. The elastic agents running on the instances will inherit the capabilities from the image.</td>
</tr>
<tr>
<td><strong>Active Instances</strong></td>
<td>Choose the logical operator and specify a value for the number of active instances.</td>
</tr>
</tbody>
</table>

_Screenshot: Adding an elastic instance schedule_
Shutting down an elastic instance

We recommend that you shut down any elastic instances that are not being used. Amazon EC2 charge for the period of time that you have an instance running, so you can minimise your costs simply by shutting down instances with inactive agents. You should also shut down your elastic instances if you are going to restart your Bamboo server, otherwise you will orphan them from your Bamboo server.

If you have set up automated procedures via the Bamboo Remote API - Deprecated to terminate agents (e.g. cron jobs), you can also configure Elastic Bamboo to automatically shut down instances after the agent processes terminate.

Before you begin:

- Please ensure that the agent on an elastic instance is not running a job build, before shutting down the instance. Any job builds running on the agent will be abandoned when you shut down the elastic instance.

To shut down an elastic instance:
1. Click **Administration** in the top menu bar.
2. Click **Instances** in the left navigation panel. The 'Manage Elastic Instances' screen will display.
3. Click **Shut Down** for the instance that you wish to shut down (in the 'Operations' column).
4. Click **Confirm**. In the 'Manage Elastic Instances' screen, the elastic instance that you have shut down will show a 'Shutting down' status for a few minutes, before it shuts down and disappears from this screen.

**Shutting down all elastic instances**

Before you begin:

- Please ensure that the agent on an elastic instance is not running a Job build, before shutting down the instance. Any Job builds running on the agent will be abandoned when you shut down the elastic instance.

**To shut down all elastic instances:**

1. Click **Administration** in the top menu bar.
2. Click **Instances** in the left navigation panel. The 'Manage Elastic Instances' screen will display.
3. Click **Shut Down All Instances**. The 'Shut Down All Instances' screen will display.
4. Click **Confirm**. The 'Manage Elastic Instances' screen will display again. The elastic instances will display 'Shutting down' status for a few minutes, before they shut down and disappear from this screen.

**Configuring automatic shutdown of instances after agent termination**

To configure Elastic Bamboo to automatically shut down instances when agents are terminated:

Please refer to [Configuring Elastic Bamboo](#) and follow the instructions for setting the **Automatically shut down elastic instance when elastic agent process ends** option in the 'Elastic Bamboo Global Settings' section.

**Shutting down elastic instances using the AWS Console**

We strongly recommend that you manage your instances using the Elastic Bamboo user interface. However, if you have orphaned your elastic instances from your Bamboo server (e.g. restarted your Bamboo server without shutting down your elastic instances), you may need to shut your elastic instances down directly in the Amazon Web Services (AWS) console.

Please refer to [How do I shut down my elastic instances if I have restarted my Bamboo server](#) for further details.

**Managing your elastic agents**

An elastic agent is a remote agent that runs in the Amazon Elastic Compute Cloud (EC2). An elastic agent process runs in an elastic instance of an elastic image. An elastic agent inherits its capabilities from the elastic image that it was created from.

- To view your elastic agents, see [Viewing your elastic agents](#).
- To view elastic agents that have terminated, see [Viewing your elastic agent usage history](#).
- To configure your elastic agent's capabilities, see [Configuring elastic agent capabilities](#).
- To disable an elastic agent, see [Disabling an Elastic Agent](#).
Viewing your elastic agents

An elastic agent is a remote agent that runs in the Amazon Elastic Compute Cloud (EC2). An elastic agent process runs in an elastic instance of an elastic image. An elastic agent inherits its capabilities from the elastic image that it was created from.

An elastic agent will always have an 'Online' status, (i.e. 'Online' or 'Online (Disabled)'). If you disable an elastic agent, the elastic instance will remain online. However, if you shut down the elastic instance, then the elastic agents process is killed and will not appear in the remote agents list. Hence, an elastic agent will never have an 'Offline' status.

**Related pages:**
- Managing your elastic agents

To view your elastic agents:

1. Click Administration in the top menu bar.
2. Click Agents in the left navigation panel.

The agents for your Bamboo instance will be displayed (see screenshot below). Any elastic agents that are running will be listed in the 'Remote Agents' section. The elastic agent name will be prefixed with 'Elastic Agent', e.g. 'Elastic Agent on i-2204914b'

Screenshot: Elastic agents
Viewing your elastic agent usage history

When you shut down an elastic instance, the agent process for that instance is killed. As such, the elastic agent will not appear in an offline status, but will be removed altogether from your available agents in Bamboo.

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However, information about these elastic agents is recorded in Bamboo and can be viewed on the 'Elastic Agent History' page.

**Related pages:**
- Managing your elastic agents

**To view the history of an elastic instance that has been shut down:**

1. Click **Administration** in the top menu bar.
2. Click **Agent History** in the left navigation panel.
3. To view the usage history of the elastic agent, click the agent name, or **View** next to the agent. The 'Elastic Agent History' page for the elastic agent will display (see screenshot). This page will show the following information:
   - Elastic instance — the elastic instance that the elastic agent ran in.
   - Last startup time — the last time that the elastic agent was started. This is based on the Bamboo server time.
   - Last shutdown time — the last time that the elastic instance was stopped. This is based on the Bamboo server time.
   - Up time — the total time that the elastic agent was online.
   - Build History — this table lists the job builds run by the elastic agent and information about the job build, such as the status, duration, test results, etc. You can access the full results by clicking the build number.

**Screenshot: Elastic agent history**

### Elastic Agent History

#### Elastic Agent on i-e9ec9385 (elastic)

Elastic agent on instance i-e9ec9385, configuration: Maven 2.1 Image

You can view historical information for this elastic agent in this page. This agent is offline and will never come back alive.

**Agent Details**

- **50%**
- Elastic instance: **i-e9ec9385**
- Last startup time: **14/02/2011 11:05:39 AM**
- Last shutdown time: **14/02/2011 12:56:22 PM**
- Up time: **1 hour, 50 minutes**

**Build History**

The agent was building for **28.15%** of the up time.

<table>
<thead>
<tr>
<th>Status</th>
<th>Reason</th>
<th>Completed</th>
<th>Duration</th>
<th>Test Results</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bamboo Testing</td>
<td>Remote Agent Functional Tests on JDK 1.6, #1088 : Default Job</td>
<td>Mon, 14 Feb, 11:52 AM</td>
<td>21 minutes</td>
<td>13 passed</td>
</tr>
<tr>
<td>Manual build by</td>
<td>James Dumay</td>
<td>Mon, 14 Feb, 11:14 AM</td>
<td>6 minutes</td>
<td>No tests found</td>
</tr>
</tbody>
</table>

**Configuring elastic agent capabilities**

An **elastic agent** is a remote agent that runs in the **Amazon Elastic Compute Cloud (EC2)**. An elastic agent process runs in an **elastic instance** of an **elastic image**. An elastic agent inherits its capabilities from the elastic
You can customise the capabilities of your elastic agents by configuring the capabilities on the relevant elastic image.

You may want to configure the capabilities on your elastic image to force your job builds to run on particular elastic agents (e.g. running slow acceptance tests on your most powerful elastic agents). You may also need to configure the capabilities on any custom elastic images that you have created and/or associated with your Bamboo installation.

Please note, adding a builder, JDK or Perforce capability to the image does not install the actual builders, JDKs or Perforce modules on the image. Please take particular note of this, if you are adding capabilities to a custom image.

### Related pages:
- Managing your elastic agents

### To configure the capabilities on an elastic image:

1. Click **Administration** in the top menu bar.
2. Click **Configuration** in the left navigation panel (under 'Elastic Bamboo').
3. Click the name or **View** for the elastic image whose capabilities you want to configure. The configuration screen will be displayed, showing the capabilities of the image.
4. You can add new capabilities to the image using the 'Add Capability' panel at the bottom of the screen. Adding a new capability to an image is very similar to adding capabilities to non-elastic agents. Please see the following pages for further information:
   - Configuring a new executable
   - Configuring a new JDK
   - Configuring a new version control capability
   - Configuring a new custom capability
5. You can also edit, rename and delete a capability from an elastic image, similar to how you would edit, rename and delete a capability from a non-elastic agent. Please see the following pages for further information:
   - Configuring capabilities
   - Renaming a capability
6. You can also view the agents and elastic image configurations with a particular capability and the jobs with the related requirement by clicking **View** for the capability.
7. Any changes that you have made to elastic agent capabilities will only be reflected in new agents started after the changes were made. You will need to restart any existing agents, if you want them to pick up your changes.

*Screenshot: Configuring elastic agent capabilities*
Disabling an Elastic Agent

An elastic agent is a remote agent that runs in the Amazon Elastic Compute Cloud (EC2). An elastic agent process runs in an elastic instance of an elastic image. An elastic agent inherits its capabilities from the elastic image.
To disable an elastic agent:

1. Navigate to the desired elastic agent, as described in Viewing your elastic agents.

<table>
<thead>
<tr>
<th>Instance</th>
<th>Agent</th>
<th>Status</th>
<th>Up Time</th>
<th>Operations</th>
</tr>
</thead>
<tbody>
<tr>
<td>Instance</td>
<td>i-2776e24e</td>
<td>➕ Running</td>
<td>5 minutes</td>
<td>View</td>
</tr>
</tbody>
</table>

| Elastic Agent | i-2776e24e | Online | 5 minutes | Disable |

2. Click Disable in the 'Operations' column for the elastic agent. The elastic agent will display with a status of 'Online (Disabled)'.

Re-enable the elastic agent by clicking Enable.

<table>
<thead>
<tr>
<th>Instance</th>
<th>Agent</th>
<th>Status</th>
<th>Up Time</th>
<th>Operations</th>
</tr>
</thead>
<tbody>
<tr>
<td>Instance</td>
<td>i-2776e24e</td>
<td>➕ Running</td>
<td>6 minutes</td>
<td>View</td>
</tr>
</tbody>
</table>

Running job builds using Elastic Bamboo

This page provides answers to common questions about running builds using Elastic Bamboo. If you are using Elastic Bamboo for the first time, we highly recommend that you read Getting started with Elastic Bamboo for instructions on setting up Elastic Bamboo and running your first build.

What job builds can I run on Elastic Bamboo?

You can run any of your job builds on any elastic agent (which in turn runs on an elastic instance), provided that the elastic agent's capabilities meet the job's requirements. An elastic agent inherits the capabilities of the elastic image it was created from. Hence, you can see which of your jobs can run on elastic agents by checking that your job's requirements match your elastic image's capabilities.

✔️ You view your elastic image and the job builds that meet its requirements on the Agents and Plans matrix.
On this page:

- What job builds can I run on Elastic Bamboo?
- How do I run a plan build and its jobs on an elastic agent?
- How do I automatically start or shut down elastic instances for job builds?
- How do I know whether my job build was run on an elastic agent?
- How do I customise the capabilities of my elastic agents?
- How much does it cost to run a build?
- What is EBS and how does it affect my job builds?

How do I run a plan build and its jobs on an elastic agent?

An elastic agent operates in a similar fashion to a non-elastic agent. The Bamboo server will determine if any job builds in the queue can be built on any of the available agents (including elastic agents), based on whether or not the capabilities of these agents meet the requirements of these jobs.

If an available elastic agent (like any other available agent) has capabilities which meet the requirements of a build in the build queue, the Bamboo server will assign that job build to this elastic agent.

If you do not have any free elastic agents running, you can configure Bamboo to automatically start up elastic instances whose elastic agents are capable of running job builds in the queue, or you can start up an appropriate elastic instance manually. (When an elastic instance is started, its elastic agent is also started, automatically.) For more information about starting elastic instances manually, refer to Starting an elastic instance.

If you do not use Bamboo's Automatic Elastic Instance Management feature and prefer to manage your elastic instances manually, then we strongly recommend that you shut down any elastic instances (running your elastic agents), when they are not in use. Minimising unutilised elastic instance uptime will help reduce costs. Read Shutting down an elastic instance for instructions on how to shut down an elastic instance.

How do I automatically start or shut down elastic instances for job builds?

Bamboo can automatically start elastic instances based on demand from the build queue and shut them down once the elastic agents running on them have been idle for a specified period of time. For more information, please refer to the Automatic Elastic Instance Management section of the Configuring Elastic Bamboo topic.

While Bamboo's Automatic Elastic Instance Management feature is the easiest and most effective method of managing elastic instances in Bamboo, you can also manage elastic instances via the Bamboo Remote API - Deprecated. For example, you could implement cron jobs to intelligently start and stop elastic instances, so that elastic agents are available at key times for your job builds.

How do I know whether my job build was run on an elastic agent?

The name of the image and elastic agent that ran a job build can be viewed as part of the build result. Please see the Viewing a build result page for more information.

How do I customise the capabilities of my elastic agents?

You may want to customise the capabilities of your elastic agents to suit certain jobs in your plans. For example, if you want to force certain job builds to only run on elastic agents, you can add a custom capability of elastic =true to your elastic agents and add the same requirement to these jobs.
To customise the capabilities for your elastic agents, you need to customise the capabilities of the image that they are created from. Read Configuring elastic agent capabilities for instructions.

**How much does it cost to run a build?**

As Elastic Bamboo usage varies from customer to customer, we cannot provide a definitive cost estimate for running a job build using Elastic Bamboo. We do provide high level guidelines for Elastic Bamboo costs, based on our own experience of using Elastic Bamboo at Atlassian, on the Elastic Bamboo Costs page.

You can significantly reduce the costs and time taken to run a job build by configuring Elastic Bamboo to use Automatic Elastic Instance Management and Amazon's Elastic Block Store (EBS).

**What is EBS and how does it affect my job builds?**

The Amazon Elastic Block Store (EBS) provides persistent storage volumes that can be attached to EC2 instances. Elastic Bamboo can use the EBS to store snapshots of relatively static build information, such as checkouts of source code and Maven repository data. You can choose a snapshot to create EBS volumes from. These volumes can then be attached to your elastic instances when they start up.

**Disabling Elastic Bamboo**

If you do not want to execute Plan builds and their Jobs in the Amazon EC2 anymore, you can disable Elastic Bamboo for your Bamboo installation. Your AWS account details will be preserved when you disable Elastic Bamboo, so you can just enable it if you want to start using it again.

Before you begin:

- Please ensure that you do not require your elastic agents before disabling Elastic Bamboo, as they will be stopped immediately.

**To disable Elastic Bamboo:**

1. Click Administration in the top menu bar.
2. Click Configuration in the left navigation panel (under 'Elastic Bamboo').
3. Click Disable. Elastic Bamboo will be disabled and a confirmation message will be displayed.

**Users and permissions**

Bamboo provides several options for user management:

- Manage users and groups in Bamboo.
- Manage users and groups in Atlassian's JIRA
- Connect to an external user directory, such as Atlassian's Crowd or an LDAP server.

Note that this information does not relate to application-level security for Bamboo. If you are looking for information on security of the Bamboo application, please refer to the Security page.
About users and authors

The page author does not exist. Depending on your organisation's needs, you can configure Bamboo to grant access to non-users. However, only Bamboo users can:

- view the My Bamboo tab on the Dashboard.
- belong to a group.

About groups

Bamboo groups are used to specify which users will have global permissions and plan permissions. They can also be used to specify which users will receive notifications about a plan's build results. You can create and delete as many groups as you need. You will typically create at least one group per project.

A special group called bamboo-admin is automatically created when you install Bamboo. Members of this group have Bamboo administration rights.

About permissions

A plan permission is the ability to perform a particular operation on a plan and its jobs. For each plan, different permissions can be granted to particular groups and/or users. A global permission is the ability to perform a particular operation in relation to Bamboo as a whole.

Managing users

Bamboo provides several options for user management:

- Manage users and groups in Bamboo — see
- Manage users and groups in Atlassian's JIRA or Atlassian's Crowd — see Integrating Bamboo with Crowd.
- Connecting to an external user directory, such as an LDAP server — see Integrating Bamboo with LDAP.

To choose how users are managed in Bamboo:

1. Navigate to Administration > User Repositories (under 'Security').
2. Choose one of the user management options:
   - Local users and groups — manage users and groups in Bamboo.
   - Users and groups from JIRA or Crowd — manage users and groups using Atlassian's Crowd. For instructions on how to connect Bamboo to Crowd, read Integrating Bamboo with Crowd.
   - Custom user repository — Choose this option to manage your users and groups via an LDAP server or a custom repository. For instructions on how to connect Bamboo to an LDAP server, read Integrating Bamboo with LDAP.
3. Click Save.

For information about tasks for managing users, see the following topics:
• Creating a user
• Changing a user’s password or details
• Deleting or deactivating a user
• Granting administration rights to a user
• Changing usernames
• Connecting to external user directories

Notes

The page author does not exist. Depending on your organisation’s needs, you can configure Bamboo to grant access to non-users. However, only Bamboo users can:

• view the My Bamboo tab on the Dashboard.
• belong to a group.

Creating a user

A user is someone who can log in to Bamboo.

Depending on your organisation’s needs, you can configure Bamboo to grant access to non-users. However, only Bamboo users can:

• view the My Bamboo tab on the Dashboard.
• belong to a group.

Related pages:
• Managing users

To create a Bamboo user:

1. Choose Administration, and then Users in the left navigation panel.
2. Complete the ‘Add User’ form.

<table>
<thead>
<tr>
<th>Field</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Username</td>
<td>Username cannot be changed after the user is created.</td>
</tr>
<tr>
<td>Password</td>
<td>The user can easily change their password later.</td>
</tr>
<tr>
<td>Email</td>
<td>The address to which notifications are sent.</td>
</tr>
<tr>
<td>Instant Messaging Address</td>
<td>If no IM address is specified, Bamboo will not be able to recognise the user’s context when interacting using IM.</td>
</tr>
<tr>
<td>Source Repository Aliases</td>
<td>If the user is a Bamboo author, click Add Alias to enter the user’s login name for their source-code repository. If you don’t know their login name, they can specify it themselves later.</td>
</tr>
</tbody>
</table>

Changing a user’s password or details

To change a user’s password or details:

1. Click Administration in the menu bar.
2. Click Users in the left panel (under ‘Security’).
3. Locate the user by typing part of their username, full name or email, and clicking Search. This will display
a list of matching users.
4. Click Edit for the required user.
5. Edit the user's details or password as necessary. See Creating a user.
   • If you have configured SMTP email on your Bamboo server, the user will automatically receive an email containing their new password.
   • The user can easily change their password later.
6. Click Save.

Related pages:
• Managing users

Notes
• Users who have forgotten their passwords can click the Forgotten your password? link on the Bamboo login screen. This will automatically generate a new password and email it to the user (provided the Bamboo server has been configured to send SMTP email).
• Logged-in users can also change their own password and details, as described in Managing your user profile.
• See Associating your author name with your user profile for information about Source Repository Aliases.

Deleting or deactivating a user
Deleting a user removes their Bamboo user account. Deactivating a user prevents them from logging in to Bamboo.

Deleting a Bamboo user

Before you begin:
• Deleting a Bamboo user will not delete their author data — that is, their author statistics and code check-in comments will still exist in Bamboo.
• You cannot delete a user who has created labels or comments about build results. You may want to deactivate them instead.
• You cannot delete the user account with which you are currently logged in to Bamboo.

On this page:
• Deleting a Bamboo user
• Deactivating a Bamboo user

Related pages:
• Managing users

To delete a Bamboo user:
1. Choose Administration, and then Users in the left navigation panel.
2. Use the Delete link in the ‘Operations’ column.

Screenshot: Deleting a Bamboo user
Deactivating a Bamboo user

Deactivate a Bamboo user account (rather than deleting it), requires you to change the password so that the user cannot login.

To deactivate a Bamboo user:

1. Choose Administration, and then Users in the left navigation panel.
2. Click Edit for the user to be deactivated.
3. Enter a new password for the user.
   - If you have configured SMTP email on your Bamboo server, the user will automatically receive an email containing their new password.
4. To get around the email problem, enter an invalid email address in the Email field, for example foobar@foobar.
5. Delete the user's Instant Messaging Address so that he or she does not receive notifications on build events.
6. Click Save.

Granting administration rights to a user

In Bamboo, there are two types of administrators:

- **Global administrators** — that is, people with the 'Admin' global permission. These people can access the Bamboo Administration menu. They can also administer every plan.
- **Plan administrators** — that is, people with the 'Admin' and 'Edit' plan permissions. These people can administer a particular plan.

Granting global administration rights to a user

To grant global administration rights to a user:

- Either grant the 'Admin' global permission to the user explicitly (as described in Granting global permissions to users or groups);
- OR:
  - Add the user to a group which has the 'Admin' global permission (as described in Changing members of groups).
On this page:

- Granting global administration rights to a user
- Granting plan administration rights to a user

Related pages:

- Managing users
- Granting global permissions to users or groups
- Adding users to and removing them from groups
- Granting plan permissions in bulk

Granting plan administration rights to a user

- Either grant the 'Admin' and 'Edit' plan permissions to the user explicitly (as described in Granting plan permissions in bulk);
- OR:
- Add the user to a group which has the 'Admin' and 'Edit' plan permissions (as described in Changing members of groups).

Changing usernames

The script below has been used by an Atlassian customer to change a username in Bamboo 3.1. No guarantees are implied by its presence here.

```sql
update ACL_ENTRY set SID='newusername' where SID='oldusername';
update ACL_OBJECT.IDENTITY set OWNER_SID='newusername' where OWNER_SID='oldusername';
update AUDIT_LOG set USER_NAME='newusername' where USER_NAME='oldusername';
update AUTHOR set LINKED_USER_NAME='newusername' where LINKED_USER_NAME='oldusername';
update AUTHOR set AUTHOR_NAME='newusername' where AUTHOR_NAME='oldusername';
update AUTH_ATTEMPT_INFO set USER_NAME='newusername' where USER_NAME='oldusername';
update BUILDRESULTSUMMARY_CUSTOMDATA set CUSTOM INFO VALUE='newusername' where CUSTOM_INFO KEY='ManualBuildTriggerReason.userName' &
CUSTOM_INFO VALUE='oldusername' &
CUSTOM_INFO KEY='ManualBuildTriggerReason.userName';
update BUILDRESULTSUMMARY_LABEL set USER_NAME='newusername' where USER_NAME='oldusername';
update LABEL set NAMESPACE='newusername' where NAMESPACE='oldusername';
update NOTIFICATIONS set RECIPIENT='newusername' where RECIPIENT='oldusername';
update REMEMBERME_TOKEN set USERNAME='newusername' where USERNAME='oldusername';
update USER_COMMENT set USER_NAME='newusername' where USER_NAME='oldusername';
update external_entities set name='newusername' where name='oldusername';
update users set name='newusername' where name='oldusername';
```

Connecting to external user directories
Bamboo provides a number of options for connecting to external user directories for user management:

- Manage users and groups in Atlassian's JIRA or Atlassian's Crowd — see Integrating Bamboo with Crowd.
- Connect to a custom external user directory, such as an LDAP server — see Integrating Bamboo with LDAP.

You can also manage users and groups within the Bamboo server itself.

Integrating Bamboo with Crowd

Atlassian's Crowd identity management system can be integrated with Bamboo. This allows you to use Crowd as a user directory manager for Bamboo.

The integration process requires you to configure Crowd to talk to Bamboo, then configure Bamboo to talk to Crowd. Hence, the instructions below reference the Crowd documentation. Ensure that you are referring to the correct version of the Crowd documentation.

If you have JIRA 4.3 or later, you can also manage your users via JIRA. The process for connecting Bamboo to JIRA for user management is the same as the process for connecting Bamboo to Crowd for user management (described below).

ℹ️ Bamboo 3.2 should work with versions of Crowd from 2.1 onwards. We recommend Crowd 2.3 or later for performance reasons. Versions earlier than 2.1 are not supported.

On this page:
- Step 1. Configuring Crowd to Talk to Bamboo
- Step 2. Configuring Bamboo to Talk to Crowd
- Notes

Related pages:
- Connecting to external user directories
- Integrating Crowd with Atlassian Bamboo (Crowd documentation)

Step 1. Configuring Crowd to Talk to Bamboo

For instructions on how to configure Crowd to talk to Bamboo, please refer to the Integrating Crowd with Atlassian Bamboo for the latest version of Crowd, which can be found in the Crowd Administrator's Guide. If you are using an older version of Crowd, find the documentation from the Crowd documentation homepage.

Step 2. Configuring Bamboo to Talk to Crowd

1. Navigate to Administration > User Repositories (under ‘Security’).
2. Choose Users and groups from JIRA or Crowd and configure the connection settings, as follows:
3. Click Save

2.1 Configure External User Management in Bamboo
If you are connecting Bamboo to an external user management system and do not have rights to update user attributes there, you will need to prevent users from being updated in Bamboo. In this case, you should ensure that the Read-only External User Management? check-box is checked. For example, if Crowd directory permissions don’t allow any remote changes, then Bamboo will give an error message if an attempt is made to change user account settings. We are tracking this bug:

[BAM-12002 - Authenticate](http://localhost:8095/crowd/services/) to see issue details.

To configure the external user management option in Bamboo:

1. Navigate to Administration > Security Settings.
2. Click Edit.
3. Select the Read-only External User Management? checkbox. The table below outlines the correct

<table>
<thead>
<tr>
<th>Server URL</th>
<th>Enter the URL of your Crowd server:</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>If using Crowd 2.1 or older versions: <a href="http://localhost:8095/crowd/services/">http://localhost:8095/crowd/services/</a></td>
</tr>
<tr>
<td></td>
<td>If using Crowd 2.2 or newer versions: <a href="http://localhost:8095/crowd/">http://localhost:8095/crowd/</a></td>
</tr>
<tr>
<td></td>
<td>If your Crowd server's port is configured differently from the default (8095), set it accordingly.</td>
</tr>
<tr>
<td>Application Name</td>
<td>Enter the application name that you specified when configuring Crowd in Step 1 above.</td>
</tr>
<tr>
<td>Application Password</td>
<td>Select Change password and set the password that you specified when configuring Crowd in Step 1 above.</td>
</tr>
<tr>
<td>Cache Refresh Interval</td>
<td>Set to 0, if you want authentication checks to occur on each request. Otherwise set to the number of minutes between requests to validate if the user is logged in or out of the Crowd SSO server. Setting this value to 1 or higher will increase the performance of Crowd's integration.</td>
</tr>
<tr>
<td>Synchronise now</td>
<td>Click this link to synchronise users and groups from Crowd to Bamboo. Note, this operation may take a long time depending on the number of users that need to be synchronised.</td>
</tr>
</tbody>
</table>
configuration for Bamboo, depending on your external user management setup:

<table>
<thead>
<tr>
<th>External User Management Setup</th>
<th>Read-only External User Management?</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bamboo integrated with — Crowd using the Crowd database (i.e. Internal Directories)</td>
<td>Unchecked</td>
</tr>
<tr>
<td>Bamboo integrated with — Crowd connected to a read-only LDAP</td>
<td>Checked</td>
</tr>
<tr>
<td>Bamboo integrated with — Crowd connected to a read-write LDAP</td>
<td>Unchecked</td>
</tr>
<tr>
<td>Bamboo integrated with — Crowd with authentication-only delegated to LDAP.</td>
<td>Unchecked</td>
</tr>
</tbody>
</table>

4. Click Save.

2.2 **(Optional)** Enable Single Sign-On

Single sign-on (SSO) is optional when integrating Bamboo and other Atlassian products with Crowd. To use centralised authentication without SSO, skip the steps below.

To enable single sign-on (SSO), you will configure Bamboo's authentication and access request calls to use Seraph. To configure Seraph-based authentication:

1. Shut down Bamboo.
2. Edit the \\BAMBOO\webapp\WEB-INF\classes\seraph-config.xml
3. Comment out the authenticator node:

```xml
<authenticator
class="com.atlassian.bamboo.user.authentication.BambooAuthenticator"/>
```

4. Add a new authenticator, by adding the following tag:

```xml
<authenticator
class="com.atlassian.crowd.integration.seraph.v25.BambooAuthenticator"/>
```

5. Start Bamboo. Bamboo’s authentication and access request calls will now be performed using Seraph.

**Notes**

- Test times for synchronising Bamboo-Crowd — As a guideline, we were able to synchronise 5000 users in six seconds in our internal tests using Crowd 2.3.1. Older versions of Crowd took three minutes to complete the same task.
- If you want to configure the Bamboo-Crowd connection settings manually (e.g. to change the proxy settings), you can find the `crowd.properties` and `atlassian-user.xml` files in the `$BAMBOO_HOME/xml-data/configuration/` directory.

**Integrating Bamboo with LDAP**

Bamboo can be integrated with LDAP for the authentication and authorisation of LDAP users. The [Integrating](#)
Bamboo with LDAP instructions below describe how you can set this up. Please note that Bamboo does not currently support multiple LDAP servers. If you need to connect to multiple LDAP servers, please consider using Atlassian's Crowd.

If you choose to integrate Bamboo with LDAP, please note that you cannot manage LDAP accounts or user groups from Bamboo. Please refer to the Integrating Bamboo with LDAP instructions on this page for details on how to manage your users and groups.

⚠️ In Bamboo versions prior to 1.2.2, it is not possible to perform XML backups of your Bamboo instance when integrated with LDAP. In Bamboo version 1.2.2 and later, exports are possible, but user data will not be included in the export.

⚠️ Please note that once LDAP has been enabled, reverting back to local user management is not possible.

## On this page:
- Integrating Bamboo with LDAP
- External User Management
- Notes

## Related pages:
- Connecting to external user directories

### Integrating Bamboo with LDAP

#### Before you begin

You will need to confirm that your LDAP server is compatible and set up correctly before integrating it with Bamboo. Please check your LDAP server against the requirements below:

- **Check your LDAP server version** — Supported versions are v2 and v3. Supported LDAP servers include OpenLDAP, Microsoft Active Directory, Novell eDirectory, and any server that uses Java JNDI-LDAP mapping.
- **Check whether your LDAP or Active Directory server supports static groups** — Your LDAP or Active Directory server must support static groups. This means that the *user DN*s must be stored against a membership attribute inside an LDAP group. An example of a static group is shown below:

```plaintext
Dn: CN=Sales and Marketing,CN=Users,DC=ad,DC=atlassian,DC=com
objectClass: top; group;
cn: Sales and Marketing;
distinguishedName: CN=Sales and Marketing,CN=Users,DC=ad,DC=atlassian,DC=com;
name: Sales and Marketing;
... member: CN=John Smith,CN=Users,DC=ad,DC=atlassian,DC=com
member: CN=Sally Smith,CN=Users,DC=ad,DC=atlassian,DC=com
...```

The membership attribute in this case is **member**, but this is not required. Note that the full DN of *John Smith* and *Sally Smith* are listed. If the values against **member** are not full DNs, but are just usernames, then you need to add the flag `<useUnqualifiedUsernameForMembershipComparison>true</useUnqualifiedUsernameForMembershipComparison>` to your LDAP configuration. Open Directory on OS X uses this configuration.
• Ensure that you do not have an LDAP group called 'bamboo-admin'. — The bamboo-admin group is reserved by Bamboo.
• Ensure that you do not have duplicate users on your LDAP — If you have users on your LDAP that are also on Bamboo, the first repository definition in your atlassian-user.xml file will take precedence.
• Ensure that you do not have duplicate groups on your LDAP — If you have groups on your LDAP that are also on Bamboo, this may cause unpredictable behaviour when you attempt to integrate your LDAP server with Bamboo.

Step 1 — Backup your data

We strongly recommend that you backup your data before attempting LDAP integration.

Step 2 — Configure Connection Details

The LDAP server connection is specified by manually editing the file atlassian-user.xml.

To configure your connection details:

1. Edit the file .../{BAMBOO-HOME}/xml-data/configuration/atlassian-user.xml and configure the connection AD or LDAP.
2. Check your configuration against the example connection details shown below.

```xml
<ldap key="ldapRepository" name="LDAP Repository@hecate.atlassian.com" cache="true">
  <host>hecate.atlassian.com</host>
  <port>389</port>
  <securityPrincipal>cn=admin,dc=atlassian,dc=private</securityPrincipal>
  <securityCredential>secret</securityCredential>
  <securityProtocol>plain</securityProtocol>
  <securityAuthentication>simple</securityAuthentication>
  <baseContext>dc=atlassian,dc=private</baseContext>
...
```

3. Please ensure that the following line is also active in your atlassian-user.xml (it should be there by default):

```xml
<hibernate name="Hibernate Repository" key="hibernateRepository" description="Hibernate Repository"/>
```

Step 3 — Map LDAP Data Tree

To map the LDAP Data Tree:

1. To configure the mappings in atlassian-user.xml for either AD or LDAP, please see:
   • Mapping Active Directory
   • Mapping other LDAP servers
2. Check your configuration against the example connection details shown below.
...<baseUserNamespace>dc=staff,dc=perftest,dc=atlassian,dc=private</baseUserNamespace>
<baseGroupNamespace>dc=groups,dc=perftest,dc=atlassian,dc=private</baseGroupNamespace>
  <usernameAttribute>cn</usernameAttribute>
  <userSearchFilter>(objectClass/inetorgperson)</userSearchFilter>
  <firstnameAttribute>givenname</firstnameAttribute>
  <surnameAttribute>sn</surnameAttribute>
  <emailAttribute>mail</emailAttribute>
  <groupnameAttribute>cn</groupnameAttribute>
  <groupSearchFilter>(objectClass=groupOfNames)</groupSearchFilter>
  <membershipAttribute>member</membershipAttribute>
</ldap>

**Filters:** `<userSearchFilter>` and `<groupSearchFilter>` may use the AD specific filter syntax. Operators such as `&` need to be escaped.

```xml
<userSearchFilter>(objectClass=inetorgperson)(memberOf=cn=bamboo-usr,ou=groups,DC=atlassian,dc=com)</userSearchFilter>
```

### Making Sure that the LDAP Filters are Precise

Depending on the LDAP server being used, different object types may have common `objectClass` values. In this case, please customize the User and Group filters so that Bamboo can fetch only the objects that are really useful for the application. If your directory server does not display the literal object LDIF details, you may want to use an LDAP browser tool like [Apache Directory Studio](https://directory.apache.org/) to check if the filters are restricting the objects correctly based on one or more object attributes.

### Step 4 — Optional LDAP Settings

The following settings do not appear in the default `atlassian-user.xml` file. Their default values are as follows:

```xml
<poolingOn>true</poolingOn>
<maxSize>0</maxSize>
<initSize>10</initSize>
<prefSize>10</prefSize>
<debugLevel>none</debugLevel>
<securityProtocol>plain ssl</securityProtocol>
<authentication>simple</authentication>
<timeout>0</timeout>
<initialContextFactory>com.sun.jndi.ldap.LdapCtxFactory</initialContextFactory>
<batchSize>100</batchSize>
<timeToLive>0</timeToLive>
<userSearchAllDepths>true</userSearchAllDepths>
<groupSearchAllDepths>true</groupSearchAllDepths>
```
If you want to override these default values, you can specify any or all of them by adding them to the end of the `atlassian-user.xml` file. For example, to add your own value for the `<initSize>` setting, you would add an extra line before the `</ldap>` line shown in `Stage 3` above:

```xml
... 
  <groupnameAttribute>cn</groupnameAttribute>
  <groupSearchFilter>(objectClass=groupOfNames)</groupSearchFilter>
  <membershipAttribute>member</membershipAttribute>
  <initSize>20</initSize>
</ldap>
```

It is important that the connection pool timeout value be set to 0, as this will force Atlassian User (via the JNDI layer) to clean up lingering connections that have lived past one request. For more information about LDAP pools please see [http://java.sun.com/products/jndi/tutorial/ldap/connect/config.html](http://java.sun.com/products/jndi/tutorial/ldap/connect/config.html).

**External User Management**

You cannot manage LDAP accounts or user groups from Bamboo. Bamboo will continue to use local users and groups, even when LDAP is enabled. If you need to assign LDAP users to particular groups referenced by Bamboo (e.g. for permissions or notifications), the workaround is to assign your LDAP users to local Bamboo groups, and reference these groups rather than LDAP groups.

⚠️ Please note that once LDAP has been enabled, *reverting back to local user management is not possible.*

1. Navigate to Administration > User Repositories (under 'Security').
2. Choose Custom user repository.
3. Click Save.

**Step 1 — Configuring Bamboo for External User Management**

Please ensure that **Read-only External User Management** is turned **OFF** in Bamboo before assigning LDAP users to Bamboo groups. The **Read-only External User Management** check-box in Bamboo controls whether users and groups in Bamboo are editable. Setting this option to **ON** will make users and groups in Bamboo read-only (i.e. the implication being that you will be managing your users and groups externally).

ℹ️ If you are using Crowd together with an LDAP, please read the documentation on Integrating Bamboo with Crowd to see our recommended settings for the **Read-only External User Management** check-box.

**To disable Read-only External User Management:**

1. Click Administration in the top menu bar.
2. Click Security Settings (under ‘Security’) in the left navigation panel.
3. Clear the **Read-only External User Management** check-box.
4. Click Save.

**Step 2 — Assigning LDAP Users to Bamboo Groups**

Once Bamboo is started with **Read-Only External User Management** disabled, you can assign LDAP users to Bamboo groups. Please see Changing members of groups. 

⚠️ Please note, the ‘View Users’ and ‘View Groups’ screens in Bamboo currently will not list all of your LDAP users/groups (please see [BAM-1963](https://jira.atlassian.com/browse/BAM-1963) for details).

**Notes**

- To check whether the atlassian-user.xml file is correctly configured, please run the Paddle tool to debug
the LDAP configuration in your atlassian-user.xml file. For further reference, please visit the Paddle usage page.

**Configuring the Caching of your LDAP Repository**

The instructions on this page describe how to configure the caching of your LDAP repository.

**Disabling the Caching of Users**

By default, caching is activated for your LDAP users. We recommend that you do not disable caching of your LDAP users, as your LDAP repository may be overloaded by the high volume of requests by Bamboo.

**To disable the caching of users:**

1. Click the 'Administration' link in the top navigation bar.
2. Edit the file .../webapp/WEB-INF/classes/atlassian-user.xml
3. Set the property cache="false" on your LDAP repository, as shown in the example below:

```
<ldap key="myLdapRepository" name="LDAP Repository@hecate.atlassian.com"
    cache="false">
    <host>hecate.atlassian.com</host>
    <port>389</port>
</ldap>
```

**Enabling the Caching of Users**

By default, caching is activated for your LDAP users. If you need to enable caching, follow the instructions below:

**To enable the caching of users:**

1. Edit the file .../webapp/WEB-INF/classes/atlassian-user.xml
2. Set the property cache="true" on your LDAP repository as shown in the example below:

```
<ldap key="myLdapRepository" name="LDAP Repository@hecate.atlassian.com"
    cache="true">
    <host>hecate.atlassian.com</host>
    <port>389</port>
</ldap>
```

**Configuring the LDAP Caches**

Bamboo uses a number of caches for managing an LDAP repository, each of which can be configured differently. You must enable caching, as described above, before configuring the caches. The caches used by Bamboo are:

- **Disabling the Caching of Users**
- **Enabling the Caching of Users**
- **Configuring the LDAP Caches**
  - **Configuring Caches for Users**
Each cache can be configured by following the instructions below:

To configure a cache:

1. Edit the file .../webapp/WEB-INF/classes/ehcache.xml.
2. Find the cache that you wish to edit. Examples of each of the caches are described in the Configuring Caches for Users and Configuring Caches for User Groups sections below.
3. Modify the cache, as desired. The following properties can be configured for each cache:

- **maxElementsInMemory** (mandatory) - Sets the maximum number of objects that will be created in memory
- **eternal** (mandatory) - Sets whether elements are eternal. If eternal, timeouts are ignored and the element is never expired.
- **timeToIdleSeconds** (optional) - Sets the time to idle for an element before it expires. i.e. The maximum amount of time between accesses before an element expires. This is only used if the element is not eternal. A value of 0 means that an Element can idle for infinity. The default value is 0.
- **timeToLiveSeconds** (optional) - Sets the time to live for an element before it expires i.e. The maximum time between creation time and when an element expires. This is only used if the element is not eternal. A value of 0 means that an Element can live for infinity. The default value is 0.

If you have caching turned on Bamboo will, by default, set the cache to eternal (elements will never expire), and set the maximum number of elements stored to 500. These can be configured to speed up user retrieval, reduce memory usage or reduce the load on the LDAP repository.

## Configuring Caches for Users

**In each of the examples below, replace myLdapRepository with the key of the repository specified in atlassian-user.xml**

- **LDAPUserManagerReadOnly.*.users**

  **LDAPUserManagerReadOnly.*.users** stores the individual users, if you have difficulties with Bamboo picking up new user additions in the LDAP repository you will need to alter the configuration of this cache. In the example below, the users will expire after 5 minutes.

  ```
  <cache
    name="com.atlassian.user.impl.ldap.LDAPUserManagerReadOnly.myLdapRepository.users"
    maxElementsInMemory="500"
    eternal="false"
    timeToIdleSeconds="300"
    timeToLiveSeconds="300"
  />
  ```

  ![Cache Configuration Example](image-url)
• LDAPUserManagerReadOnly.*.users_ro

LDAPUserManagerReadOnly.*.users_ro stores whether or not the users are read only. This will have no effect on the functionality of Bamboo, but you may wish to modify this cache for performance and memory tuning purposes.

```xml
<cache
    name="com.atlassian.user.impl.ldap.LDAPUserManagerReadOnly.myLdapRepository.users_ro"
    maxElementsInMemory="500"
    eternal="false"
    timeToIdleSeconds="300"
    timeToLiveSeconds="300"
/>
```

• LDAPUserManagerReadOnly.*.repository

LDAPUserManagerReadOnly.*.repository stores which repository the user belongs to. Bamboo does not yet support multiple repositories, so modifying this cache will have no effect on functionality. However, you may wish to modify this cache for performance and memory tuning purposes.

```xml
<cache
    name="com.atlassian.user.impl.ldap.LDAPUserManagerReadOnly.myLdapRepository.repository"
    maxElementsInMemory="500"
    eternal="false"
    timeToIdleSeconds="300"
    timeToLiveSeconds="300"
/>
```

### Configuring Caches for User Groups

⚠️ In each of the examples below, replace myLdapRepository with the key of the repository specified in atlassian-user.xml

• LDAPGroupManagerReadOnly.*.groups

LDAPGroupManagerReadOnly.*.groups stores the available groups in LDAP. If you wish Bamboo to pick up changes made to groups, then you will need to configure this cache appropriately.

```xml
<cache
    name="com.atlassian.user.impl.ldap.LDAPGroupManagerReadOnly.myLdapRepository.groups"
    maxElementsInMemory="500"
    eternal="false"
    timeToIdleSeconds="300"
    timeToLiveSeconds="300"
/>
```

• LDAPGroupManagerReadOnly.*.groups_hasMembership* and LDAPGroupManagerReadOnly.*.groups_getGroupsForUser

The LDAPGroupManagerReadOnly.*.groups_hasMembership and LDAPGroupManagerReadOnly.*.
groups_getGroupsForUser caches store the associations between users and groups. If you wish Bamboo to pick up changes made to group memberships then you will need to configure these caches appropriately.

```xml
<cache
    name="com.atlassian.user.impl.ldap.LDAPGroupManagerReadOnly.myLdapRepository.groups_hasMembership"
    maxElementsInMemory="500"
    eternal="false"
    timeToIdleSeconds="300"
    timeToLiveSeconds="300"
/>
<cache
    name="com.atlassian.user.impl.ldap.LDAPGroupManagerReadOnly.myLdapRepository.groups_getGroupsForUser"
    maxElementsInMemory="500"
    eternal="false"
    timeToIdleSeconds="300"
    timeToLiveSeconds="300"
/>
```

- LDAPGroupManagerReadOnly.*.repositories

LDAPGroupManagerReadOnly.*.repositories stores which repository the group belongs to. Bamboo does not yet support multiple repositories, so modifying this cache will have no effect on functionality. However, you may wish to modify this cache for performance and memory tuning purposes.

```xml
<cache
    name="com.atlassian.user.impl.ldap.LDAPGroupManagerReadOnly.myLdapRepository.repositories"
    maxElementsInMemory="500"
    eternal="false"
    timeToIdleSeconds="300"
    timeToLiveSeconds="300"
/>
```

**Notes**

**Related Topics**

Integrating Bamboo with LDAP

Testing LDAP or Active Directory connectivity with Paddle

Paddle is a tool that will test the LDAP or Active Directory settings in your atlassian-user.xml.

Using Paddle

You do not need to have Bamboo running to run this tool. The steps are:

1. Download into a directory where you have permissions to create files.
2. Copy your atlassian-user.xml into that directory - this is found in your <Bamboo-Install>/webapp/WEB-INF/classes/ directory.
3. Run java -jar paddle-x.x.jar (where x.x is the version of Paddle you downloaded).
Parameters

Paddle currently supports the following parameters:

<table>
<thead>
<tr>
<th>Name</th>
<th>Example</th>
<th>Purpose</th>
</tr>
</thead>
<tbody>
<tr>
<td>debug</td>
<td>java -jar paddle-x.x.jar debug</td>
<td>Prints DEBUG messages to the console as well as paddle.log.</td>
</tr>
<tr>
<td>limit</td>
<td>java -jar paddle-x.x.jar limit=100</td>
<td>Sets the limit on the number of results returned by user and group queries. Defaults to 10.</td>
</tr>
</tbody>
</table>

Sample output

This is an example of a successful run:

```
#############################################################################
# LDAP Support Tool version 1.1
#############################################################################
# Connection to LDAP/Active Directory Server at ldap://192.168.0.86:389 SUCCESSFUL.
#-----------------------------------------------------------------
# TEST 1: Search and list 10 users
#-----------------------------------------------------------------
User: CN=Administrator
Member of:
   (1) CN=Schema Admins
   (2) CN=Enterprise Admins
   (3) CN=Domain Admins
   (4) CN=Group Policy Creator Owners

User: CN=Guest
Does not belong to any LDAP groups.

User: CN=SUPPORT_388945a0
Member of:
   (1) CN=HelpServicesGroup

User: CN=IUSR_MALTSHOVEL
Does not belong to any LDAP groups.

User: CN=IWAM_MALTSHOVEL
Member of:
   (1) CN=IIS_WPG
```
User: CN=ASPNET
Does not belong to any LDAP groups.

User: CN=krbtgt
Does not belong to any LDAP groups.

User: CN=John\, Smith
Member of:
  (1) CN=Domain Users
  (2) CN=Sales and Marketing

User: CN=Matt Ryall
Member of:
  (1) CN=Enterprise Admins
  (2) CN=Domain Admins

User: CN=Justin Koke
Member of:
  (1) CN=Domain Controllers
  (2) CN=Enterprise Admins

Found more than 10 results.

-----------------------------------------------------------------
TEST 2: Search and list 10 groups
-----------------------------------------------------------------

Group: CN=HelpServicesGroup
Members:
  (1) CN=SUPPORT_388945a0,CN=Users,DC=ad,DC=atlassian,DC=com

Group: CN=TelnetClients
No members in this group.

Group: CN=IIS_WPG
Members:
  (1) CN=S-1-5-20,CN=ForeignSecurityPrincipals,DC=ad,DC=atlassian,DC=com
  (2) CN=S-1-5-6,CN=ForeignSecurityPrincipals,DC=ad,DC=atlassian,DC=com
  (3) CN=S-1-5-18,CN=ForeignSecurityPrincipals,DC=ad,DC=atlassian,DC=com
  (4) CN=IWAM_MALTSHOVEL,CN=Users,DC=ad,DC=atlassian,DC=com

Group: CN=SQLServer2005SQLBrowserUser$MALTSHOVEL
Members:
  (1) CN=S-1-5-18,CN=ForeignSecurityPrincipals,DC=ad,DC=atlassian,DC=com

Group: CN=SQLServer2005MSSQLServerADHelperUser$MALTSHOVEL
Members:
  (1) CN=S-1-5-20,CN=ForeignSecurityPrincipals,DC=ad,DC=atlassian,DC=com

Group: CN=SQLServer2005SQLAgentUser$MALTSHOVEL$MSSQLSERVER
Members:
  (1) CN=S-1-5-18,CN=ForeignSecurityPrincipals,DC=ad,DC=atlassian,DC=com

Group: CN=SQLServer2005MSSQLUser$MALTSHOVEL$MSSQLSERVER
Members:
  (1) CN=S-1-5-18,CN=ForeignSecurityPrincipals,DC=ad,DC=atlassian,DC=com

Group: CN=SQLServer2005MSFTEUser$MALTSHOVEL$MSSQLSERVER
Members:
  (1) CN=S-1-5-18,CN=ForeignSecurityPrincipals,DC=ad,DC=atlassian,DC=com

Group: CN=SQLServer2005MSOLAPUser$MALTSHOVEL$MSSQLSERVER

Created by Atlassian in 2012. Licensed under a Creative Commons Attribution 2.5 Australia License.
Members:
(1) CN=S-1-5-18,CN=ForeignSecurityPrincipals,DC=ad,DC=atlassian,DC=com

Group: CN=SQLServer2005NotificationServicesUser$MALTSHOVEL
Related Topics

Integrating Bamboo with LDAP

Managing groups

Bamboo groups are used to specify which users will have global permissions and plan permissions. They can also be used to specify which users will receive notifications about a plan's build results. You can create and delete as many groups as you need. You will typically create at least one group per project.

A special group called bamboo-admin is automatically created when you install Bamboo. Members of this group have Bamboo administration rights.

Read more about managing groups for your users:

- Creating a group
- Deleting a group
- Changing members of groups

Creating a group

Bamboo groups are used to specify which users will have global permissions and plan permissions. They can also be used to specify which users will receive notifications about a plan's build results. You can create and delete as many groups as you need. You will typically create at least one group per project.

A special group called bamboo-admin is automatically created when you install Bamboo. Members of this group have Bamboo administration rights.

Related pages:

- Managing groups

To create a group:

1. Click Administration in the menu bar.
2. Click Groups (under 'Security') in the left navigation panel.
3. Type a name for your new group into Group Name (in the 'Create Group' section). Note that the group name cannot be changed after the group is created.
4. Select relevant users from the Users to add list. Hold <Ctrl> to select multiple users. You can also add or remove users from the group later if required.
5. Click Save.

Screenshot: Creating a Bamboo group
Deleting a group

Note that the bamboo-admin group cannot be deleted.

To delete a group:

1. Click Administration in the top menu bar.
2. Click Groups in the left navigation panel. The 'Manage Groups' screen will be displayed.
3. Click Delete for the relevant group, in the 'Operations' column.

Screenshot: Deleting a group

Changing members of groups

Bamboo groups are used to specify which users will have global permissions and plan permissions. They can also be used to specify which users will receive notifications about a plan's build results. You can create and
delete as many groups as you need. You will typically create at least one group per project.

A special group called **bamboo-admin** is automatically created when you install Bamboo. Members of this group have Bamboo administration rights.

**To change the members of a group:**

1. Click **Administration** in the top menu bar.
2. Click **Groups** in the left navigation panel. The ‘Manage Groups’ screen will be displayed.
3. Click **Edit** for the relevant group, in the ‘Operations’ column. The ‘Edit Group Details’ screen will be displayed. Users who already belong to the group are shown in blue; users who do not currently belong to the group are shown in white.
4. Press the <Ctrl> key and hold it while you select (or deselect) the users whom you want to add to (or remove from) the group.
5. Click **Save**.

**Screenshot: Adding users to a group**

![Group Details](image)

**Managing permissions**

You can grant global permissions so as to control which users and groups have access to build plans and the Bamboo server, and the actions they can perform.

Common global permissions tasks are:

- **Granting plan permissions in bulk** — control the users and groups that can perform actions on plans (e.g. edit, build, clone).
- **Granting global permissions to users or groups** — control the users and groups that can create plans, delete plans, and administer Bamboo.
- **Allowing anonymous access to Bamboo** — allow people not logged in to Bamboo to generate reports.
and view plans and build results.

Read about managing for users and groups

You can also change the permissions for an individual plan: see Configuring a plan's permissions.

Granting plan permissions in bulk

A plan permission is the ability to perform a particular operation on a plan and its jobs. For each plan, different permissions can be granted to particular groups and/or users.

- People who have the 'Admin' global permission can 'bulk edit' permissions for multiple plans at the same time, as described below. Note that this will overwrite any pre-existing plan permissions.
- People who have the 'Admin' plan permission for one or more plans, but do not have the 'Admin' global permission, can only edit one plan at a time, as described in Configuring a plan's permissions.

Note that it is recommended that you grant permissions to groups rather than to individual users.

To grant bulk plan permissions to a user or group:

1. Click Administration in the menu bar.
2. In the Plans section of left navigation panel, click Bulk Edit Plan Permissions.
3. Select the plans whose permissions you wish to edit, then click Next (at the bottom of the screen).
4. You can set plan permissions for the categories of users in the table below.
5. Select the check box for each permission that you wish to grant to the user or group.
6. Click Save.

<table>
<thead>
<tr>
<th>User category</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Logged in Users</td>
<td>Users who are logged in to Bamboo.</td>
</tr>
<tr>
<td>Anonymous Users</td>
<td>Users who are not logged in to Bamboo.</td>
</tr>
<tr>
<td>User</td>
<td>A user already created in the Bamboo system.</td>
</tr>
<tr>
<td></td>
<td>To edit plan permissions for an existing user:</td>
</tr>
<tr>
<td></td>
<td>1. In the Grant permission to list, select User.</td>
</tr>
<tr>
<td></td>
<td>2. Type the username into the box, or click the icon</td>
</tr>
<tr>
<td></td>
<td>to select from a list.</td>
</tr>
<tr>
<td></td>
<td>3. Click Add. The user will be added to the list on</td>
</tr>
<tr>
<td></td>
<td>the screen, and you can then select permissions for</td>
</tr>
<tr>
<td></td>
<td>them.</td>
</tr>
<tr>
<td>Group</td>
<td>A group already created in the Bamboo system.</td>
</tr>
<tr>
<td></td>
<td>To edit plan permissions for an existing group:</td>
</tr>
<tr>
<td></td>
<td>1. In the Grant permission to list, select Group.</td>
</tr>
<tr>
<td></td>
<td>2. Type the group name into the box, or click the</td>
</tr>
<tr>
<td></td>
<td>icon to select from a list.</td>
</tr>
<tr>
<td></td>
<td>3. Click Add. The group will be added to the list on</td>
</tr>
<tr>
<td></td>
<td>the screen, and you can then select permissions for</td>
</tr>
<tr>
<td></td>
<td>the group.</td>
</tr>
</tbody>
</table>

Screenshot: Bulk Edit Plan Permissions Wizard
Granting global permissions to users or groups

Global permissions control which users and groups have access to build plans and the Bamboo server, and what actions they can perform.

Note that if you remove all permissions for a user or group, that user or group will disappear from the Permissions tab for all plans.

To change global permissions:

1. Click Administration in the menu bar.
2. Click Global Permissions in the left navigation panel, and then Edit Global Permissions.
3. You can set plan permissions for the categories of users in the table below.
4. Select (or clear) the check box for each permission that you wish to change for a user or group.
5. Click Save.
Related pages:
- Managing permissions
- Configuring a plan's permissions.

<table>
<thead>
<tr>
<th>User category</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Logged in Users</td>
<td>Users who are logged in to Bamboo.</td>
</tr>
<tr>
<td>Anonymous Users</td>
<td>Users who are not logged in to Bamboo.</td>
</tr>
<tr>
<td>User</td>
<td>A user already created in the Bamboo system.</td>
</tr>
<tr>
<td></td>
<td>To edit plan permissions for an existing user:</td>
</tr>
<tr>
<td></td>
<td>1. In the Grant permission to list, select User.</td>
</tr>
<tr>
<td></td>
<td>2. Type the username into the box, or click the icon to select from a list.</td>
</tr>
<tr>
<td></td>
<td>3. Click Add. The user will be added to the list on the screen, and you can then select permissions for them.</td>
</tr>
</tbody>
</table>

| Group            | A group already created in the Bamboo system. |
|                  | To edit plan permissions for an existing group: |
|                  | 1. In the Grant permission to list, select Group. |
|                  | 2. Type the group name into the box, or click the icon to select from a list. |
|                  | 3. Click Add. The group will be added to the list on the screen, and you can then select permissions for the group. |

You can grant the following global permissions:

<table>
<thead>
<tr>
<th>Global permission</th>
<th>Description</th>
<th>Can be granted to</th>
</tr>
</thead>
<tbody>
<tr>
<td>Access</td>
<td>Permission to view the Bamboo system. The ability to view build plans and build results is subject to individual plan permissions.</td>
<td>- a particular user</td>
</tr>
<tr>
<td></td>
<td></td>
<td>- a particular group</td>
</tr>
<tr>
<td></td>
<td></td>
<td>- all logged-in users</td>
</tr>
<tr>
<td></td>
<td></td>
<td>- anonymous users</td>
</tr>
<tr>
<td>Create Plan</td>
<td>Permission to create new build plans.</td>
<td>- a particular user</td>
</tr>
<tr>
<td></td>
<td></td>
<td>- a particular group</td>
</tr>
<tr>
<td></td>
<td></td>
<td>- all logged-in users</td>
</tr>
</tbody>
</table>
Admin

Permission to:
- access the Bamboo Administration menu
- create plans
- delete plans

The 'Admin' global permission also includes all plan permissions, for every plan.

ℹ️ The 'Restricted Admin' global permission used in JIRA Studio is equivalent to this permission but has the following restrictions:

- Local agents cannot be created because JIRA Studio only uses Elastic Agents
- Users and groups are managed by JIRA Studio

Screenshot: Global Permissions

Global Permissions

You can edit your global application level permissions here. Permissions can be granted to specific users or groups. Please note these are global application permissions. For Plan level permissions, please go to the Plan configuration page.

<table>
<thead>
<tr>
<th>Users</th>
<th>Access</th>
<th>Create Plan</th>
<th>Admin</th>
</tr>
</thead>
<tbody>
<tr>
<td>luke</td>
<td>✓</td>
<td>✓</td>
<td>☑</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Groups</th>
<th>Access</th>
<th>Create Plan</th>
<th>Admin</th>
</tr>
</thead>
<tbody>
<tr>
<td>bamboo-admin</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Other</th>
<th>Access</th>
<th>Create Plan</th>
</tr>
</thead>
<tbody>
<tr>
<td>All logged in users</td>
<td>✓</td>
<td></td>
</tr>
<tr>
<td>Anonymous users</td>
<td>✓</td>
<td></td>
</tr>
</tbody>
</table>

Edit Global Permissions

Allowing anonymous access to Bamboo

Allowing anonymous users to access your Bamboo system means that people who aren't logged in to Bamboo will be able to perform functions such as generating reports, and viewing plans and build results — subject to individual plan permissions.

Note that people who aren't logged in to Bamboo do not have a 'My Bamboo' tab on their Dashboard.

See Managing anonymous access.

To allow anonymous users to access Bamboo:
1. Click **Administration** in the menu bar.
2. Click **Global Permissions** (under 'Security'), and then **Edit Global Permissions**.
3. Select the **Access** check box for 'Anonymous users'.
4. Click **Save**.

**Anonymous users will now be able to access your Bamboo system. However, they will only be able to view plans and build results for plans where the ‘Access’ plan permission has been granted to ‘Anonymous users’.**

**Screenshot: Global Permissions**

![Global Permissions](image)

**Global security and permission properties**

Global security and permission properties allow a Bamboo system administrator to configure security- and permission-related properties that apply to Bamboo at a site-wide level.

Read more about configuring Bamboo's global security and permission properties:

- [Allowing public signup](#)
- [Displaying full details about users](#)
- [Using Captcha for failed logins](#)

Note that the **Restricted Administrator Role** global permission is used in [JIRA Studio](#) and grants access to 'Builds' administration: permission to delete plans and access to plan permissions for every plan - but not to administer Bamboo.

The **Restricted Administrator Role** global permission is equivalent to the [Admin global permission](#) but has the following restrictions:

- Local agents cannot be created because JIRA Studio only uses [elastic agents](#).
- Users and groups are managed by JIRA Studio.

**Allowing public signup**

If you enable **signup** for your Bamboo system, visitors can create their own Bamboo user accounts. Public signup is enabled on your Bamboo site if you see the ‘Signup’ link at the top-right of the Bamboo user interface.

**To enable (or disable) signup:**

1. Click **Administration** in the top menu bar.
2. Click **Security Settings** (under 'Security') in the left navigation panel to open the 'Global Security and Permission Properties' page.
3. Click Edit on this page.
4. Select, (or clear) the Enable Signup? check box.
5. Select Enable Captcha On Signup if you require an additional security measure to prevent brute force attacks.
6. Click Save.
7. Log out of Bamboo and verify that the top menu bar now contains (or does not contain) a Signup link.

Related pages:
- Global security and permission properties
- Using Captcha for failed logins

Screenshot: Security settings for Bamboo, including signup

Security and Permission

You can change the following security and permission related settings for Bamboo.

Change Global Security and Permission Properties

- ☑ Read-only External User Management?
  Enable this option if you are connecting Bamboo to an external user management system and do not have update rights there.

- ☐ Enable Signup?
  This will allow users to sign up for an account to Bamboo.

- ☐ Enable contact details to be displayed?
  This will allow Bamboo user’s contact details to be visible. Disabling this option will hide the email address, IM address, and the group the user is in.

- ☐ Enable Restricted Administrator Role
  This will enable the Restricted Administrator Role

- ☑ Enable Brute Force Protection
  Forces the user to enter a captcha code if they meet the maximum amount of failed login attempts

Login Attempts* 3
Number of login attempts before Captcha is shown

Displaying full details about users

If you enable the display of contact details on your Bamboo system, the full contact details for all users, including email address, IM address, and group membership, will be visible to any visitors to Bamboo. The email addresses of administrators on the 'Contact Administrators' page will also be visible.

To enable (or disable) the display of contact details:

1. Click Administration in the top menu bar.
2. Click Security Settings (under 'Security') in the left navigation panel to open the 'Global Security and Permission Properties' page.
3. Click Edit on this page.
4. Select (or clear) the Enable contact details to be displayed? check box.
5. Click Save.
Using Captcha for failed logins

Captcha is a tool that prevents brute force attacks on the Bamboo login screen. A brute force attack occurs when an attacker uses malicious code to make automated, repeated login attempts on a Bamboo site with the aim of gaining access to that Bamboo site.

A Bamboo system administrator can configure Bamboo to block automated login attempts. Once a certain number of failed login attempts has been reached (the default is three) Bamboo’s Captcha feature will be activated. When Captcha is activated, users will need to recognise a distorted picture of a word and must type the word into a text field. This is easy for humans to do, but very difficult for computers.

To enable (or disable) Captcha for Bamboo:

1. Click Administration in the top menu bar.
2. Click Security Settings (under ‘Security’) in the left navigation panel to open the ‘Global Security and Permission Properties’ page.
3. Click Edit on this page.
4. Select (or clear) the Enable Captcha check box.
5. If required, specify the number of failed login attempts permitted by Bamboo before Captcha is activated. (This field is mandatory and requires a value of 1 or more.)
6. Click Save.

Screenshot: The Bamboo login screen with Captcha activated

Managing authors

An author is any person who contributes to a build by checking-in code to a repository that is associated with a Bamboo plan.
By having author names linked to their Bamboo user name, a developer...

The 'linked user name' is ...

The 'author name' is the arbitrary name used

You can link more than one author name to a user name.

To manage Bamboo authors:

1. Click Administration in the top menu bar, and then Authors (under 'Security').
2. On the 'Manage Authors' page you can do any of the following:
   - Search for a particular author by author name to ...
   - Search for a particular Bamboo user by their linked user name to see all their author names.
   - Either link an author with their Bamboo user name, or unlink them, using the links to the right of their name.
   - Auto-link all authors who are not yet linked to a Bamboo user name.
   - Unlink all authors at once.

### Manage Authors

<table>
<thead>
<tr>
<th>Author Name</th>
<th>Linked User</th>
<th>Operations</th>
</tr>
</thead>
<tbody>
<tr>
<td>arjenmarkus</td>
<td></td>
<td>Link with user</td>
</tr>
<tr>
<td>Bas Leijdekkers</td>
<td></td>
<td>Link with user</td>
</tr>
<tr>
<td>bjohnson</td>
<td>bjohnson</td>
<td>Unlink user</td>
</tr>
<tr>
<td>Brian Johnstone</td>
<td></td>
<td>Link with user</td>
</tr>
</tbody>
</table>

### Plugins

A plugin is an add-on to the core Bamboo code that extends the Bamboo functionality. Some plugins are shipped with Bamboo and others are available for you to install yourself.

Examples of Bamboo plugins are:

- [JIRA plugin](#)
- [NAnt Builder plugin](#)
- [Clover plugin](#)

You can develop additional plugins (see the [Bamboo Plugin Guide](#)) or download existing plugins from the [Atlassian Plugin Exchange](#), and install them into your Bamboo system.
Managing your plugins

- Installing a plugin
- Upgrading your existing plugins
- Checking plugin compatibility for Bamboo upgrades
- Configuring plugins
- Disabling or enabling a plugin
- Viewing the plugin audit log
- Viewing your installed plugins
- Uninstalling a plugin
- Plugin blacklist

About the Universal Plugin Manager (UPM)

The Universal Plugin Manager (UPM) provides you with a powerful and user-friendly interface to manage your plugins. The Universal Plugin Manager itself is a plugin, which contains a number of modules that are implementations of the Atlassian REST plugin module type. It allows you to perform common plugin tasks, such as:

- Enabling/disabling plugins and their plugin modules.
- Installing new plugins.
- Configuring advanced plugin options.
- Finding out-of-date plugins and updating them.
- Checking the compatibility of your installed plugins against newer versions of the application.

The Universal Plugin Manager also interfaces with the Atlassian Plugin Exchange, so you can browse the wide range of plugins available for your application from within your application. You can install any of these plugins with a single click, or upload your own plugins using the Universal Plugin Manager as well.

Screenshot: The Universal Plugin Manager in Bamboo
Notes

- **Plugin Safety.** Plugins are very powerful. They can change the behaviour of almost any part of the Bamboo server. This makes it very important that you trust a plugin before you install it. Always be aware of where and who a plugin comes from.

- **Troubleshooting.** Having problems with the Universal Plugin Manager? Try the [Universal Plugin Manager FAQ](#). (The link will direct you to the Universal Plugin Manager documentation. Use the back button on your browser to return the Bamboo documentation).

Installing a plugin

This page describes how to install a plugin in Bamboo. You can use plugins to customise and extend the functionality of Bamboo.

A number of plugins are available from the [Atlassian Plugin Exchange](#). You can also create your own as described in the [Bamboo Plugin Guide](#).

Adding a plugin from the Atlassian Plugin Exchange

**Go to the Plugin Manager in Bamboo:**
1. Log in as a user with the 'Admin' global permission.
2. Click **Administration** in the top navigation bar.
3. Click **Plugin Manager**, in the left-hand panel, under 'Plugins'.

**To find a plugin in the Atlassian Plugin Exchange and add it to Bamboo:**
1. Click the 'Install' tab in the UPM. You will see a list of featured plugins.
2. Search for your plugin as follows:
   - Enter some keywords that describe the plugin in the **Search the Plugin Exchange** search box.
and press 'Enter'.

- Alternatively, browse to the desired plugin in the list. You can choose 'Featured', 'Popular', 'Supported' (by Atlassian) or 'All available' from the 'Plugins to show' dropdown to see a different list of plugins.

3. Click the 'Install' button for the desired plugin to add it to your application. A confirmation message and the plugin details will appear when the plugin is installed successfully.

   **Note:** You may need to restart your application for your change to take effect. The Universal Plugin Manager will inform you if this is the case.

   **Note:** Not all plugins can be automatically installed. Some required manual installation. These plugins will have a 'Download' button instead of an 'Install' button. In these cases, you should read and follow the plugin's installation instructions.

Now, restart Bamboo with the plugin installed.

---

### On this page:

- Adding a plugin from the Atlassian Plugin Exchange
- Uploading your own plugin
- Notes

### Related pages:

- Plugins

---

### Uploading your own plugin

**Go to the Plugin Manager in Bamboo:**

1. Log in as a user with the 'Admin' global permission.
2. Click **Administration** in the top navigation bar.
3. Click **Plugin Manager**, in the left-hand panel, under 'Plugins'.

**To upload your own plugin to Bamboo:**

1. Click the 'Install' tab in the UPM. You will see a list of featured plugins.
2. Click the 'Upload Plugin' link. The 'Upload Plugin' window will appear.
3. Specify the location of your plugin:
   - If the plugin you want to install is on your computer, use the 'Browse' dialogue to choose the plugin JAR file.
   - If you want to install a plugin from a remote location, enter the URL of the plugin JAR file in the 'From this URL' text box.
4. Click the 'Upload' button to upload and enable your plugin. A confirmation message will appear when the plugin is successfully installed.

   **Note:** You may need to restart your application for your change to take effect. The Universal Plugin Manager will inform you if this is the case.

Now, restart Bamboo with the plugin installed.

**Screenshot: Uploading a new plugin**
Notes

- In Bamboo, you can install and uninstall both version 1 and version 2 plugins using the Universal Plugin Manager. You will see an Install or an Uninstall button.
- Some entries that you find listed in the Universal Plugin Manager are not actually plugins. These entries will show a Download button that allows you to download the application to your desktop and run it.

Upgrading your existing plugins

Plugins are often developed separately from Bamboo. You may wish to upgrade your plugins to more recent versions to allow them to work with your Bamboo version or simply to take advantage of new features in a plugin version. The Universal Plugin Manager (UPM) provides you with a list of plugins that have available upgrades and allows you to upgrade each plugin individually or in bulk.

Upgrading a plugin

Go to the Plugin Manager in Bamboo:

1. Log in as a user with the 'Admin' global permission.
2. Click Administration in the top navigation bar.
3. Click Plugin Manager, in the left-hand panel, under 'Plugins'.

To upgrade a plugin in Bamboo:

1. Click the 'Upgrade' tab. The plugin upgrades page will appear.
   - If there is a later version of a plugin that you have already installed, this page will show the latest compatible version of the plugin.
   - You can click the plugin name to expand the row and see more information about the plugin.
   - You can filter your list by entering keywords in the 'Filter plugins' text box.
2. Click the 'Upgrade Now' button next to the relevant plugin to update it to the plugin version shown.
Upgrading all your plugins

Go to the Plugin Manager in Bamboo:
1. Log in as a user with the 'Admin' global permission.
2. Click Administration in the top navigation bar.
3. Click Plugin Manager, in the left-hand panel, under 'Plugins'.

To upgrade all available plugins in Bamboo:
1. Click the 'Upgrade' tab. The plugin upgrades page will appear.
   - If there is a later version of a plugin that you have already installed, this page will show the latest compatible version of the plugin.
   - You can click the plugin name to expand the row and see more information about the plugin.
   - You can filter your list by entering keywords in the 'Filter plugins' text box.
2. Click the 'Upgrade All' button to update every plugin to the plugin versions shown.
   Note: Some plugins cannot be installed via the Universal Plugin Manager. You must install these plugins manually. These plugins will not be upgraded automatically.

Notes
- If you are considering upgrading Bamboo, you can use the Universal Plugin Manager to check the compatibility of your plugins with your desired Bamboo version. See Checking plugin compatibility for Bamboo upgrades.

Checking plugin compatibility for Bamboo upgrades
You can use the plugin manager's 'Upgrade Check' to verify that your plugins will still work after a Bamboo upgrade.

For example, if you are thinking of upgrading from Bamboo 3.1 to Bamboo 3.2, the upgrade check can tell you the following:
- Installed plugins that are compatible with Bamboo 3.1 and Bamboo 3.2.
- Installed plugins that are not compatible with Bamboo 3.2 but will be compatible with Bamboo 3.2 if you upgrade them.
- Installed plugins that are not compatible with Bamboo 3.2, even if you upgrade them to their latest version.

Related pages:
- Plugins
- Configuring plugins
about the plugin.

The plugins are grouped into sections under the following headings:

- **Incompatible** – The installed versions of these plugins are not compatible with the selected application version. There are currently no plugin upgrades available that are compatible with the selected application version.
- **Compatible, if upgraded** – The installed versions of these plugins are not compatible with the selected application version. However, the plugins will be compatible if you upgrade them. There are buttons allowing you to upgrade these plugins.
- **Compatible if both <the application> and the plugin are upgraded** – The installed versions of these plugins are not compatible with the selected application version. There is a plugin compatible with the newer application version, but it is not compatible with the application version you are currently running. You must upgrade the application and then upgrade the plugin. There are buttons allowing you to disable these plugins before proceeding with the upgrade.
- **Compatible** – The currently installed versions of these plugins are compatible with the selected application version.
- **Unknown** – These plugins may or may not be compatible with the selected application version. If a plugin is not registered with the Atlassian Plugin Exchange, the Universal Plugin Manager cannot check its compatibility with different application versions.

### Configuring plugins

A number of Bamboo plugins offer advanced configuration options. If you have one of these plugins installed in your application, you can view and update these configuration options via the Universal Plugin Manager (UPM).

If you would like to disable or enable a plugin, please refer to [Disabling or enabling a plugin](#).

### Configuring a plugin

**Go to the Plugin Manager in Bamboo:**

1. Log in as a user with the 'Admin' global permission.
2. Click **Administration** in the top navigation bar.
3. Click **Plugin Manager**, in the left-hand panel, under 'Plugins'.

**To configure a plugin in Bamboo:**

1. Click the 'Manage Existing' tab.
2. Locate the plugin that you want to configure and click its title. The plugin details section will expand.
3. Click the 'Configure' link for that plugin.
   - The link will be disabled if the plugin is disabled.
   - If there is no 'Configure' link, then there are no advanced configuration options available for that plugin.
4. The advanced configuration options for the plugin will appear. Update the configuration settings as desired and save your changes.

   **Note:** The advanced configuration screens are provided by the plugin. If you encounter any problems after you click the 'Configure' link, the plugin is responsible for the issue, not the Universal Plugin Manager.

---

**On this page:**

- Configuring a plugin
- Configuration notes for specific plugins

**Related pages:**

- [Plugins](#)
- [Checking plugin compatibility for Bamboo upgrades](#)
Configuration notes for specific plugins

Please refer to the following pages about configuring specific plugins:

- [Enabling the Clover plugin](#)

Enabling the Clover plugin

This page contains instructions on enabling and configuring Atlassian’s [Clover](#) plugin for a job in Bamboo.

When Bamboo is integrated with Clover, you can:

- view code-coverage details (i.e. the percentage of code covered by tests) for each build result
- view code-coverage trends for a job over a period of time
- view the code-coverage summary for the job.

To enable the Clover plugin on a job:

1. Navigate to the desired job, as described on [Configuring jobs](#).
2. Choose Actions > Configure Job.
3. Click Miscellaneous.
4. Select **Use Clover to collect Code Coverage for this build** and complete the following settings:

   Related pages:

   - [Using Bamboo with Clover](#)
   - [Viewing the Clover code-coverage for a build](#)
   - [Viewing the Clover code-coverage for a job](#)

   Atlassian Blogs:

   - [Aggregated code coverage using Maven, Clover and Bamboo](#)

<table>
<thead>
<tr>
<th>Setting</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Automatically integrate Clover into this build</td>
<td>You will need to provide a Clover license (<a href="#">evaluation licenses</a> are available), unless this has been configured globally in the Administration panel (<a href="#">Administration</a> &gt; Plugins &gt; Clover Plugin).</td>
</tr>
<tr>
<td>Generate a Clover Historical Report</td>
<td>Displays the current coverage results compared with previous Clover code coverage reports.</td>
</tr>
<tr>
<td>Generate a JSON report</td>
<td>Provides the Clover results in a format ready for embedding into applications or external report views.</td>
</tr>
<tr>
<td>Use plan-defined Clover license key</td>
<td>Override the global Clover license for this particular plan.</td>
</tr>
<tr>
<td>Clover is already integrated into this build</td>
<td>Use this option when you already have Clover-for-Ant or Clover-for-Maven configured to generate a report.</td>
</tr>
</tbody>
</table>
### Clover XML Location

Specify the location where Bamboo will look for the XML report file from Clover. Please specify the file path *relative to your plan's root directory* (e.g. `/home/bamboouser/bamboo-home/xml-data/build-dir/MY_PLAN/`), i.e. do not specify an absolute path.

```markdown
| target/site/clover/clover.xml |
```

**Screenshot: Enabling Clover for a job**

---

#### Disabling or enabling a plugin

The Universal Plugin Manager (UPM) allows you to disable a plugin in Bamboo without permanently removing it. You can also enable any plugins that have been previously disabled. If you want to add or remove a plugin from your Bamboo site, please refer to [Installing a plugin](#) or [Uninstalling a plugin](#) respectively.

You can also disable all user installed plugins in Bamboo, by enabling **safe mode**. This may help you to diagnose a plugin-related problem more easily.

---

**On this page:**

- Disabling a plugin
- Enabling a plugin
- Disabling or enabling all user installed plugins (Safe Mode)

**Related pages:**

- [Plugins](#)

#### Disabling a plugin

**Go to the Plugin Manager in Bamboo:**

1. Log in as a user with the 'Admin' global permission.
2. Click **Administration** in the top navigation bar.
3. Click **Plugin Manager**, in the left-hand panel, under 'Plugins'.

**To disable a plugin in Bamboo:**
1. Click the 'Manage Existing' tab. You will see a list of the plugins installed in your application. Enabled plugins will have this icon: ✡.
2. Locate the plugin that you want to disable and click the title to expand the plugin details section.
3. Click the 'Disable' button.
4. Once a plugin has been disabled, you may need to restart your application for your change to take effect. If so, you will see a message for the plugin, 'Disabled, requires restart'. Once the plugin is fully disabled, you will see a 'Enable' link for the plugin.

**Enabling a plugin**

**Go to the Plugin Manager in Bamboo:**
1. Log in as a user with the 'Admin' global permission.
2. Click **Administration** in the top navigation bar.
3. Click **Plugin Manager**, in the left-hand panel, under 'Plugins'.

To enable a plugin in Bamboo:
1. Click the 'Manage Existing' tab. You will see a list of the plugins installed in your application. Disabled plugins will have this icon: ✡.
2. Locate the plugin that you want to enable and click the title to expand the plugin details section.
3. Click the 'Enable' button.
4. Once a plugin has been enabled, you may need to restart your application for your change to take effect. If so, you will see a message for the plugin, 'Enabled, requires restart'. Once the plugin is fully disabled, you will see a 'Disable' link for the plugin.

**Disabling or enabling all user installed plugins (Safe Mode)**

Running your application in safe mode disables all user installed plugins at once. By "user installed plugins", we mean plugins that were not shipped with Bamboo but were installed later via the UPM.

All plugins that were disabled when you entered safe mode will be re-enabled when you exit safe mode.

**Go to the Plugin Manager in Bamboo:**
1. Log in as a user with the 'Admin' global permission.
2. Click **Administration** in the top navigation bar.
3. Click **Plugin Manager**, in the left-hand panel, under 'Plugins'.

To enable safe mode in Bamboo:
1. Click the 'Manage Existing' tab. You will see a list of the plugins installed in your application.
2. Click the 'Enable Safe Mode' button.
3. Click the 'Continue' button in the confirmation window. All user installed plugins will be disabled and your application will now be running in 'Safe Mode'.
4. You can now make changes to your installed plugins as desired. For example, you may want to enable/disable specific plugins or plugin modules.
5. Exit safe mode by clicking one of the links in the Safe Mode banner:
   - Click 'Exit Safe Mode and restore the previous configuration' to restore your plugin configuration to its state before you entered Safe Mode.
   - Click 'Exit Safe Mode and keep the current configuration' to keep all changes made to your plugin configuration during Safe Mode.

**Viewing the plugin audit log**

The Universal Plugin Manager (UPM) keeps a log of all plugin activity for your Bamboo site. Such activities may be adding plugins, enabling plugins, and so on. You can adjust the period of time for which log entries are kept.
Go to the Plugin Manager in Bamboo:
1. Log in as a user with the 'Admin' global permission.
2. Click Administration in the top navigation bar.
3. Click Plugin Manager, in the left-hand panel, under 'Plugins'.

To view the plugin audit log:

1. Click the 'Audit Log' tab. The plugin audit log will appear, showing the 25 most recent entries.
2. Use the arrows if you want to view older entries.
3. Click the orange RSS icon if you want to receive the audit log activity in an RSS feed.

On this page:
- Viewing the plugin audit log
- Configuring the plugin audit log

Related pages:
- Plugins

Configuring the plugin audit log

Go to the Plugin Manager in Bamboo:
1. Log in as a user with the 'Admin' global permission.
2. Click Administration in the top navigation bar.
3. Click Plugin Manager, in the left-hand panel, under 'Plugins'.

To configure the length of time for which log entries are kept:

1. Click the 'Audit Log' tab. The plugin audit log will appear.
2. Click the 'Configure purge policy' link.
3. In the 'Purge audit log after' field, specify the number of days for which you wish to keep the logs.
4. Click the 'Confirm' button.

Viewing your installed plugins

Using the Universal Plugin Manager (UPM) you can see a list of plugins installed on your Bamboo site. These include plugins that are bundled with Bamboo as well as any plugins that you have installed. Both enabled and disabled plugins are displayed.

Viewing your installed plugins

To view your installed plugins:

1. Click the Manage Existing tab. You will see a list of the plugins installed in your application.
   - The plugins are grouped into 'User-installed Plugins' and 'System Plugins'.
   - You can filter your list by entering keywords in the 'Filter visible plugins' text box.
   - The list of 'System Plugins' will be hidden by default. Click the Show System Plugins link to see them.
   - Enabled plugins will have this icon: ✅ Disabled plugins will have this icon: ⬛
   - Click the name of a plugin to view the plugin's details.
   - Click Enable Safe Mode to run your application in safe mode. This mode disables all user installed plugins.

Note that you can also see a list of the plugins that are enabled on your Bamboo server by clicking Administration and then System Information (under 'System').
Viewing a plugin’s details

You can view the details for a plugin by clicking the name of a plugin in the list of installed plugins. The summary contains a short description of the plugin as well as links to plugin operations and related information.

- **Plugin key** – A unique key that identifies each plugin in the system.
- **Developer** — The name of the plugin developer and a link to the developer’s home page, if provided by the plugin developer.
- **Plugin version** – The version of the plugin currently installed.
- **Manage plugin modules** — Click this link to display the plugin modules below the plugin summary. A module is a component of the plugin. This link will only appear if the plugin has modules. If you want to enable or disable a plugin module, hover your mouse over the module and click the 'Enable'/'Disable' button for that module.
- **Configure** – Click this link to display the configuration settings for the plugin. This link is disabled if the plugin is disabled. Please note that not all plugins have settings that can be configured through the Universal Plugin Manager.
- **Disable** – Click this button to disable the plugin in your application. This button will only appear if the plugin is enabled.
- **Enable** – Click this button to enable the plugin in your application. This button will only appear if the plugin is disabled.
- **Uninstall** – Click this button to uninstall the plugin from your application. This button will only appear for user installed plugins.

Notes

- **What is the difference between a 'system plugin' and a 'user installed plugin'?**
  - System plugins are shipped with the application. These plugins are essential for the functioning of the system. Although you can disable some of them, you should not do so unless instructed by an Atlassian support engineer. Note: Not every system plugin can be disabled. You cannot uninstall any system plugins.
  - User installed plugins are those which have been installed in the application after it was set up. You can install a plugin either by uploading a JAR file or via the Universal Plugin Manager. You can uninstall these plugins.

Uninstalling a plugin

If you wish to completely remove a plugin from Bamboo, you can uninstall it via the Universal Plugin Manager (UPM). If you only want to temporarily remove it, you may wish to disable the plugin instead.

Go to the Plugin Manager in Bamboo:
1. Log in as a user with the 'Admin' global permission.
2. Click Administration in the top navigation bar.
3. Click Plugin Manager, in the left-hand panel, under 'Plugins'.

To uninstall a plugin from Bamboo:
1. Click the 'Manage Existing' tab. You will see a list of the plugins installed in your application.
2. Click the name of the plugin that you wish to uninstall. The plugin details will appear.
3. Click the 'Uninstall' button. The information summary will display an 'Uninstalling' message and the plugin will be uninstalled from your application.

**Related Topics**

**Plugins**

**Plugin blacklist**

Outdated plugins may break certain functionality in Bamboo. If Bamboo detects the presence of a non-working plugin it will print a warning to its logs during startup and ask you to refer to this page.

For more information about why Bamboo printed a particular warning, please refer to a section below that is relevant to the plugin in question.

**Experimental Bamboo Git plugin**

Since version 3.0 Bamboo is distributed with a fully supported version of the Bamboo Git plugin.

The experimental Bamboo Git Plugin that was available before Bamboo 3.0 (and was not distributed with Bamboo) does not work with Bamboo 3.0 and later.

If you were using the experimental Git Plugin, please remove the plugin from your Bamboo installation, and manually reconfigure each plan that was using it to use the Bamboo Git Plugin that is distributed with Bamboo.

**Data and backups**

For information on managing data and backups, see the following topics:

- Locating important directories and files
- Specifying Bamboo's working directory
- Viewing your database connection details
- Moving your Bamboo data to a different database
- Optimising or re-indexing data
- Specifying a backup schedule
- Exporting data for backup
- Importing data from backup
- Configuring global build results expiry

**Locating important directories and files**

The information on this page describes how to find important Bamboo directories and files.

**On this page:**

- Bamboo server installation directory
- Bamboo server home directory
- Bamboo agent home directory

**Bamboo server installation directory**

When you installed your Bamboo server, you specified the location for the Bamboo installation directory — this is the directory where the Bamboo application files are installed. (The default location depends on your operating system: Windows, Unix/Linux, Solaris or Mac OS.)
<table>
<thead>
<tr>
<th>Directory</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>webapp/WEB-INF/classes/bamboo-init.properties</td>
<td>This file tells Bamboo where to find the bamboo home directory. The location of this directory is specified by the Bamboo administrator as described in the Bamboo installation guide, and can be viewed as described in Viewing Bamboo's System Information.</td>
</tr>
<tr>
<td>bamboo.sh*</td>
<td>This is the startup file for Bamboo under Unix/Linux, Solaris and Mac OS.</td>
</tr>
<tr>
<td>bamboo.bat *</td>
<td>This is the startup file for the Bamboo under Windows.</td>
</tr>
<tr>
<td>bamboo.pid*</td>
<td>This file, under Linux, contains the Process ID for the running instance of Bamboo.</td>
</tr>
<tr>
<td>conf/wrapper.conf*</td>
<td>This file is used to configure Bamboo on startup, when using the Java Service wrapper under Linux or Windows.</td>
</tr>
<tr>
<td>scripts/</td>
<td>This directory contains operational scripts, including scripts for CVS and SVN triggers.</td>
</tr>
<tr>
<td>wrapper/*</td>
<td>This directory contains the necessary files to start Bamboo using the Java Service wrapper (see the Mac and Linux installation guides).</td>
</tr>
<tr>
<td>logs/*</td>
<td>This directory contains logs written by the Java Service wrapper, unless you have used the Installer for Windows. (Note: The Bamboo server logs are written to the root of the installation directory. Build logs are stored in the xml-data/builds/sub-directories.)</td>
</tr>
<tr>
<td>webapp/</td>
<td>This directory contains all the Bamboo server application files.</td>
</tr>
<tr>
<td>webapp/WEB-INF/lib/</td>
<td>This directory is used when deploying Bamboo plugins. It also contains other libraries required by Bamboo.</td>
</tr>
<tr>
<td>webapp/WEB-INF/classes/log4j.properties</td>
<td>This is Bamboo's logging configuration file.</td>
</tr>
<tr>
<td>webapp/WEB-INF/classes/jetty.xml*</td>
<td>This is the configuration file for Jetty, the application server that is bundled with Bamboo distribution.</td>
</tr>
</tbody>
</table>

* This applies to the Bamboo distribution. The configuration may differ for the Bamboo EAR-WAR distribution.

**Bamboo server home directory**

When you installed your Bamboo server, you specified the location for the Bamboo home directory — This is the directory where your Bamboo configuration data and build results are stored. (The default location depends on your operating system: Windows, Unix/Linux, Solaris or Mac OS.) This directory can grow quite large when...
managing large quantities of plans and builds.

<table>
<thead>
<tr>
<th>Path</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>artifacts/PLAN_KEY/shared/build-BUILD_NUMBER/</td>
<td>This is a folder shared by all the stages of a certain plan. Stages will place Artifacts here so that other stages from the same plan can have access to them. The BUILD_NUMBER will always have a minimum of 5 digits, having the number completed with zeros when necessary. For instance, for build &quot;42&quot; the number will be &quot;00042&quot;.</td>
</tr>
<tr>
<td>bamboo.cfg.xml</td>
<td>This is Bamboo's core configuration file. It includes the configuration information for connecting to Bamboo's database.</td>
</tr>
<tr>
<td>xml-data/</td>
<td>This directory contains all files relating to source repositories and build results.</td>
</tr>
<tr>
<td>xml-data/build-dir/JOB_KEY</td>
<td>This is known as the Working Directory. This is where Bamboo temporarily puts the checked-out files it is building. The location of this directory was specified using the Setup Wizard, can be viewed as described in Viewing Bamboo's System Information, and can be changed as described in Specifying Bamboo's Working Directory.</td>
</tr>
<tr>
<td>xml-data/builds/</td>
<td>This is known as the Build Directory. This is where Bamboo stores build results (note that they will be deleted as described in Configuring global build results expiry). The location of this directory was specified using the Setup Wizard, and can be viewed as described in Viewing Bamboo's System Information. Its contents can be backed up as per Exporting data for backup.</td>
</tr>
<tr>
<td>xml-data/builds/JOB_KEY/results</td>
<td>Contains the build results for all the builds belonging to the JOB_KEY plan. Each build result is an individual XML file. Do not edit these files or the corresponding information in the database may become corrupt.</td>
</tr>
<tr>
<td>xml-data/builds/JOB_KEY/download-data</td>
<td>Contains the logs for each build belonging to the JOB_KEY plan.</td>
</tr>
<tr>
<td>xml-data/configuration/</td>
<td>This is known as the Configuration Directory. It contains server-wide configuration information. The location of this directory was specified via the Setup Wizard, and can be viewed as described in Viewing Bamboo's System Information. Its contents can be backed up as per Exporting data for backup.</td>
</tr>
<tr>
<td>database/</td>
<td>This directory contains Bamboo's embedded HSQL database. The database contains plan configurations and some build results data.</td>
</tr>
<tr>
<td>index/</td>
<td>This directory contains the build results index. Removing or modifying files in this directory may corrupt build history. Rebuilding the search index from Bamboo's global administration screen (see Optimising or re-indexing data) will completely regenerate the contents of this directory.</td>
</tr>
</tbody>
</table>
Bamboo agent home directory

When you installed your remote agents (if any), you specified the location for the Agent home directory — this is the directory where the agent's configuration data is stored. The default name of this directory is `bamboo-agent-home`. (The default location depends on your operating system: Windows, Unix/Linux, Solaris or Mac OS.) This directory can grow quite large when managing large numbers of plans and builds.

The contents of the agent home directory are:

<table>
<thead>
<tr>
<th>bamboo-agent.cfg.xml</th>
<th>This contains configuration information about this remote agent. Most notably, it stores the agent id, which gets generated the first time this agent connects to the Bamboo server.</th>
</tr>
</thead>
<tbody>
<tr>
<td>xml-data/build-dir/</td>
<td>This is where the agent will check out the files and perform builds (similar to the Bamboo server's <code>xml-data/build-dir/</code> directory)</td>
</tr>
</tbody>
</table>

Specifying Bamboo's working directory

The Working Directory is where Bamboo temporarily puts the checked-out files it is building. The location of this directory was specified using the Setup Wizard, can be viewed as described in Viewing Bamboo's System Information, and can be changed as described below.

By default, this directory is located under the `xml-data` directory in the Bamboo home directory.

Each build's jobs have their own working directory relative to this configured working directory:

```
xml-data/build-dir/JOB_KEY
```

To change the location of Bamboo's working directory:

1. Shut down Bamboo.
2. Open the `<Bamboo-Home>/bamboo.cfg.xml` file in a text editor. Find the following line -

   ```xml
   ....
   <property name="buildWorkingDir">/home/Bamboo-home/xml-data/build-dir</property>
   ....
   ```

3. Edit the Bamboo working directory to point to a new folder on disk.
4. Save the changes and restart Bamboo.

   Note: Bamboo will do a fresh checkout and perform a clean build of all your plans, once the directory is changed.

Viewing your database connection details

When you installed Bamboo, you would have set up a database connection by following one of these processes:

Once Bamboo is running, you can view the database configuration details as follows.

```
Related pages:

- Data and backups
```

To view your database connection details:
Moving your Bamboo data to a different database

When you installed Bamboo, you would have set up a database connection by following one of these processes:

You may later wish to use a different database. For example, the embedded HSQL database is suitable for evaluation purposes only — you would typically move to an external database before deploying Bamboo in production.

To move your Bamboo data to a different database:

1. Back up your Bamboo data as described in Exporting data for backup. Note the filename and path of the exported file for use in Step 8 below.
2. Shut down your old instance of Bamboo.
3. If your old instance of Bamboo was configured to start automatically (e.g. as a Windows service), disable it.
4. Install a new instance of Bamboo as described in the Bamboo installation guide. Specify a different Home Directory and Installation Directory from the directories used by your old instance of Bamboo. (If you use the same locations, your existing data will be deleted.)
5. Launch your new instance of Bamboo. You will see the Setup Wizard.
6. At Step 1 of the Setup Wizard, ensure that your new Configuration Directory, Build Data Directory and Build Working Directory are in different locations to your old instance of Bamboo.
7. At Step 2 of the Setup Wizard, select your new database and follow the appropriate instructions for your chosen database:
   - PostgreSQL 8.2
   - MySQL 5.1
   - Tomcat and External MySQL Datasource Example
   - Oracle 11g
   - Microsoft SQL Server 2005 and 2008
   - How do I connect Bamboo to an unsupported database
8. At Step 3 of the Setup Wizard (see screenshot below), select Import existing data and specify the export file created in Step 1 above.
9. Wait while Bamboo imports your data. (You will not need to complete any more steps of the Setup Wizard.)
10. When the data import has finished, restart your new instance Bamboo.
11. Re-index your Bamboo data as described in Optimising or re-indexing data.
12. Verify that your build results and system settings look the same as before.
*For information about the contents of these directories, please see [Locating important directories and files](#).

## Optimising or re-indexing data

### About optimising

You may want to *optimise* your Bamboo build results data if you notice that search-intensive operations (e.g. `reporting`) are becoming slow. Bamboo will still be accessible while the optimisation process is running.

### About re-indexing

You will need to *re-index* your Bamboo build results data whenever you perform a `data import`. Re-indexing your data can also be helpful if your reports appear to be out-of-sync with your data. Bamboo will *not* be accessible while the re-indexing process is running. This may take a few minutes to complete (see [System Information](#) for an estimate of how long it will take).

### Related pages:

- [Data and backups](#)

To re-index or optimise Bamboo's build results data:

1. Click **Administration** in the top navigation bar.
2. Click **Indexing** in the left navigation column, under 'System'.
3. Select either **Full reindex** or **Optimise current index**, and click **Perform**.

## Specifying a backup schedule

You can configure Bamboo to automatically create a backup each night, rather than doing a `manual export` every time.

Before you begin,

- Bamboo will be unavailable while the backup process completes. The export itself may take a long time to complete, depending on the number of builds and test. We recommend running your backups at a time of day or night when usage is low.
- Backups may require large amounts of disk space, depending on the number of builds and tests. Please make sure you have enough disk space in your desired backup location before proceeding.
- Bamboo will not export if plans are currently being built (see [Using the Bamboo dashboard](#)).

### On this page:

- [Specifying a backup schedule](#)
- [Disabling a backup](#)

### Related pages:

- [Data and backups](#)
- [Exporting data for backup](#)
- [Importing data from backup](#)

### Specifying a backup schedule

To specify a backup schedule:

1. Click **Administration** in the top navigation bar.
2. Click **Scheduled Backups** in the left navigation column (under 'System').
3. Click **Edit** to modify the schedule settings:

<table>
<thead>
<tr>
<th>Setting</th>
<th>Notes</th>
</tr>
</thead>
</table>

Created by Atlassian in 2012. Licensed under a [Creative Commons Attribution 2.5 Australia License](#).
Disable scheduled backups | This check box must be cleared for automatic backups to be performed.
---|---
Backup Artifacts | Select if you want to include build artifacts in your scheduled backups.
Backup path | Specify the directory where you want to store your backups. Each backup will be stored as a single file. It may be necessary to modify the Bamboo `bamboo.paths.set.allowed` system property to do this.

*Note that:* Bamboo restricts the editing of certain file path settings for security reasons (see Bamboo Security Advisory 2010-05-04). If you must configure Bamboo to permit modification to its file path settings, start Bamboo with the system property `bamboo.paths.set.allowed=true`. The procedure for configuring a Bamboo system property is described on Configuring system properties.

Once you have configured your file path setting, we recommend removing or disabling the `bamboo.paths.set.allowed` system property and restarting Bamboo. If your Bamboo instance is accessible to anyone outside your organisation, then this will minimise the risk of Bamboo being compromised by security-related attacks.

Backup file prefix | Specify the first part of the filename for all your backup files.
Backup file date pattern | Specify the date/time format for identifying your individual backup files. This will be appended to Backup file prefix to form the complete filename for your backup files.
Schedule | Use the Schedule Editor to choose the frequency with which backups will be performed. See Cron-based scheduling for more information about the Schedule Editor.

4. Click Save. Your first backup will run when your server's clock matches the specified time.

**Disabling a backup**

If you disable schedule backups, your schedule details will be retained but no automatic backups will be performed.

**To disable a scheduled backup:**

1. Click Administration in the top navigation bar.
2. Click Scheduled Backups in the left navigation column. The 'Scheduled Backup Details' page will be displayed, showing details about the status of scheduled backups or any currently configured backup.
3. Click Edit to edit the current 'Scheduled Backup Details'.
4. Select the Disable scheduled backups check box.
5. Click Save.
### Scheduled Backups

Configure Bamboo to generate a backup at specific time intervals.

#### Scheduled Backup Details

- **Please choose the schedule for your backups carefully. Bamboo will be unavailable for the duration of the backup process.**

  - **Disable scheduled backups**
  - **Switch scheduled backups on and off.**
  - **Backup Artifacts**
  - **Should Bamboo backup build artifacts**

**Backup path**

```
/Volumes/Pharlul/opt/dogfood/panda/home/backups/
```

**Backup file prefix**

```
bamboo_backup
```

**Backup file date pattern**

```
yyyy_MM_dd
```

**Schedule**

- Each Saturday at 12:00 am

### Exporting data for backup

The instructions on this page describe how to export Bamboo data for backup.

**Before you begin:**

- Bamboo will be unavailable while the backup process completes. The export itself may take a long time to complete, depending on the number of builds and test. We recommend running your backups at a time of day or night when usage is low.
- Backups may require large amounts of disk space, depending on the number of builds and tests. Please make sure you have enough disk space in your desired backup location before proceeding.
- Bamboo will not export if plans are currently being built.
- Bamboo uses the third party TrueZip library to create zip archives. TrueZIP currently implements the ZIP32 specification only. This limits the maximum ZIP file length to 4GB. Unfortunately, Bamboo exports will fail if the resulting ZIP file is over 4GB. As a workaround, please export Bamboo without artifacts or use a different backup strategy.
- User management settings for Bamboo will be saved as part of the export. For information on user management in Bamboo, see [Connecting to external user directories](#).
- **Export Directory Path** setting: Bamboo restricts the editing of certain file path settings for security reasons (see [Bamboo Security Advisory 2010-05-04](#)). If you must configure Bamboo to permit modification to its file path settings, start Bamboo with the system property `bamboo.paths.set.allowed=true`. The procedure for configuring a Bamboo system property is described on [Configuring system properties](#).

Once you have configured your file path setting, we recommend removing or disabling the `bamboo.paths.set.allowed` system property and restarting Bamboo. If your Bamboo instance is accessible to anyone outside your organisation, then this will minimise the risk of Bamboo being compromised by security-related attacks.
To export data for backup:

1. Click **Administration** in the top navigation bar.
2. Click **Export** in the left navigation column.
3. Specify the absolute **Export Directory Path** to which Bamboo will export its data. For example, `C:\Documents and Settings\<me>\bamboo-home\my-backups` for a Windows-based operating system.
   You would typically use forward-slashes (without drive letter specification) on UNIX-based operating systems.
4. Edit the default **File Name** of the file to which Bamboo will export, if necessary.
5. Select the **Export Artifacts** check box if you want to export your **build artifacts**.
6. Click the **Export**.

**Related pages:**
- [Data and backups](#)
- [Specifying a backup schedule](#)
- [Importing data from backup](#)

**Screenshot: Exporting data for backup**

```markdown
Exporting data for backup

Export

- Bamboo will be unavailable until the export process completes.

Specify Export Paths

Depending on the number of builds and tests, the export may take a long time to complete and may require large amounts of disk space. Please make sure you have enough disk space before proceeding.

Export Directory Path: `/Volumes/Pharlap/opt/dogfood/panda/home/exports`

File Name: `export_atlassianbamboo_2301_20110215.zip`
- Specify the file name for Bamboo export
- **Export Artifacts**
  - Should `bamboo export build artifacts`
- **Export Build Logs**
  - Should `bamboo export build logs`

Click **Export**.
```

Importing data from backup

The instructions on this page describe how to import data from a **Bamboo backup**.

Before you begin:

- The import process will **delete** your Bamboo installation and restore data from a previous export of Bamboo. This includes login data, so you will need to know an administration login in the Bamboo data to be imported.
- Bamboo will be unavailable until the import process is complete, which may take some time.
- If you created your backup file using Bamboo 3.2 or later, importing the file will restore your **user management settings**. If you created your backup file using Bamboo 3.1 or earlier, importing the file will default your **user management settings** to 'Local users and groups' (i.e. user/group management in Bamboo). You may need to change your settings after the import.
- If you manage users externally (using LDAP or Crowd) and the Bamboo **internal** user repository (in the backup file) contains user names that duplicate user names in the external repository, you will not be able
to import from the backup file.

- **Backup Directory Path**: Bamboo restricts the editing of certain file path settings for security reasons (see Bamboo Security Advisory 2010-05-04). If you must configure Bamboo to permit modification to its file path settings, start Bamboo with the system property `bamboo.paths.set.allowed=true`. The procedure for configuring a Bamboo system property is described on Configuring system properties. Once you have configured your file path setting, we recommend removing or disabling the `bamboo.paths.set.allowed` system property and restarting Bamboo. If your Bamboo instance is accessible to anyone outside your organisation, then this will minimise the risk of Bamboo being compromised by security-related attacks.

**Related pages:**
- Data and backups
- Specifying a backup schedule
- Exporting data for backup

---

**To import data from backup:**

1. Click Administration in the top navigation bar.
2. Click the Import in the left navigation column (under 'System').
3. Type the absolute File Path from which Bamboo is to import data. For example, "/opt/bamboo/bamboo-home/export.zip" on UNIX-based operating systems.
4. Select the Backup data check-box. (This is highly recommended.)
5. Specify the absolute Backup Directory Path to which Bamboo will backup its data, if required. This must be different from the File Path specified above. For example, "C:\Documents and Settings\<me>\bamboo-home\my-backups" for a Windows-based operating system.
6. Type the File Name of the file to which Bamboo will export its data.
7. Click Import.
8. After the import is complete,
   - check the paths of your builders and JDK.
   - index your data.

**Screenshot: Importing data from a backup**
**Configuring global build results expiry**

Global build expiry allows you to choose when build result data and artifacts will be deleted from your Bamboo system.

Build result data is used for such things as *reporting*. If global build expiry is disabled, the build result data for your plans will never be deleted from your Bamboo server. This could lead to a large portion of your Bamboo server's storage space being used to store this data.

You can configure build results expiry for:

- **all plans** (i.e. 'global', described below). This is generally the easiest way to manage build expiry in Bamboo. The global configuration applies to all plans that do not override the global build expiry settings.
- **individual plans** (see Configuring build results expiry for a plan). You would generally only do this if there is a specific reason to keep/delete a particular plan's build result data.

You can also delete the results of a plan build manually — see Deleting the results of a plan build.

You must be Bamboo administrator to configure global build results expiry.

---

**On this page:**

- Configuring global expiry
- Disabling global expiry
Configuring global expiry

Before you begin:

- If you enable build expiry, ensure that you back up your build results data before its expiry date is reached.

To enable and configure global expiry of build result data:

1. Click Administration in the top menu bar.
2. Click Build Expiry (under ‘Plans’) in the left-hand panel.
3. Click Edit.
4. Click the icon on the right of the scheduled expiry to set when the build expiry event will be triggered. You can specify a cron expression if required. See this FAQ for help constructing cron expressions.
5. Clear the Disable Global Build Expiry checkbox, if necessary, to enable build expiry. The controls described below will be displayed.

<table>
<thead>
<tr>
<th>Setting</th>
<th>Result</th>
</tr>
</thead>
<tbody>
<tr>
<td>Build results</td>
<td>All build results data (including artifacts and build logs) are deleted.</td>
</tr>
<tr>
<td>Artifacts</td>
<td>Only user-defined artifacts are deleted from the build results.</td>
</tr>
<tr>
<td>Build logs</td>
<td>Only build logs are deleted from the build results.</td>
</tr>
<tr>
<td>Expiry period</td>
<td>Specifies the period (days, weeks or months) for which you want to keep build results. E.g. specify '24 months' to keep all build results for the last two years.</td>
</tr>
<tr>
<td>Minimum builds to keep</td>
<td>Specifies the minimum number of build results you want to keep. E.g. specify '50' to keep the latest 50 build results, even if they are older than the period specified with Expiry period.</td>
</tr>
<tr>
<td>Labels to keep</td>
<td>Specifies the build labels (not plan labels or job labels) applied to builds for which you want to keep build results, regardless of the Expiry period and Minimum builds to keep settings. Note that builds can be labelled either manually or automatically.</td>
</tr>
</tbody>
</table>

6. Click Save.

Note that the Disable Global Build Expiry checkbox, described above, only controls the deletion of build results. The build expiry event (triggered by the expiry Schedule) will still run. For example, you may wish to...
disable build expiry globally, but still schedule a global build expiry event that triggers the deletion of build data from individual plans. See Configuring build results expiry for a plan for details on how to override the global build expiry settings.

Disabling global expiry

To disable global expiry of build result data:

1. Click Administration in the top menu bar.
2. Click Build Expiry (under ‘Plans’) in the left-hand panel.
3. Click Edit, then check Disable Global Build Expiry.

Screenshot: Configuring build expiry

Security

As a distributed application, Bamboo's security is important. This page contains links to security-related information in the Bamboo documentation.
Security advisories

For information on how to report a security vulnerability in Bamboo and our policy on security advisories and patches, please read Bamboo security advisories. A full list of security advisories that we have previously issued is also available on that page.

Bamboo permissions

For information on Bamboo’s internal security model, i.e. user management and permissions, please see Users and permissions.

Remote agent security considerations

Please note the following security implications when enabling remote agents for Bamboo:

- No encryption of data passed between server and agent — this includes data such as:
  - login credentials for version control repositories
  - build logs
  - build artifacts
- No authentication of the agent or server — this could result in unauthorised actions being taken on your system, such as:
  - Unauthorised parties installing new remote agents — version control repository login credentials could be stolen.
  - Unauthorised parties masquerading as a Bamboo server — the unauthorised server could pass malicious code to the agent to run.
- See Agent authentication for more information.

We strongly recommend that you do not enable remote agent installation on any Bamboo instance accessible from a public or untrusted network. Creating remote agents is Disabling and enabling remote agents support by default.

Bamboo configuration

The following pages contain information on how to configure Bamboo features that can permit/forbid access to the Bamboo application.

- Agent authentication
- Elastic Bamboo Security
- Bamboo cookies
- Best practices for Bamboo security
- Securing your remote agents

Other security resources

No content found for label(s) security-resources.

Agent authentication

Bamboo provides a way to verify that remote agents are allowed to connect to the Bamboo server. This provides improved security for sensitive information in Bamboo.

- Bamboo prevents unknown remote agents from connecting to the Bamboo server.
- Remote agents need to be manually approved by an administrator before they can communicate with the Bamboo server in any way.

Note that Elastic agents do not have to be approved.
Authenticating remote agents

There are 2 aspects to the authentication of remote agents. Both of these are actioned in the administration 'Agents' screen.

To go there, click Administration and then Agents (under ‘Build Resources’).

1. Enable remote agent authentication on the Bamboo server

To do this, click Enable Remote Agent Authentication, and then Confirm.

2. Approve access for a particular remote agent

To do this, click on the Agent Authentication tab (under ‘Remote Agents’).

See Bamboo remote agent installation guide for details about installing a remote agent.

Screenshot: Approving access for a remote agent

<table>
<thead>
<tr>
<th>Online Remote Agents</th>
<th>Offline Remote Agents</th>
<th>Agent Authentication</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Below is a list of IP addresses and corresponding unique IDs. You may approve agents pending approval or revoke approval from previously approved agents.

Select: All, None, Waiting, Approved

Action: Approve Access, Revoke Access

<table>
<thead>
<tr>
<th>Agent IP</th>
<th>Agent Unique ID (UUID)</th>
<th>Status</th>
<th>Operations</th>
</tr>
</thead>
<tbody>
<tr>
<td>172.20.7.206</td>
<td>d549e866-fae0-4787-8b17-3773e49cf3dc</td>
<td>Waiting</td>
<td>Approve Access</td>
</tr>
</tbody>
</table>

Notes

- If the agent’s IP address changes, perhaps because DHCP is being used, then you will have to reapprove the agent when it next tries to connect using that different IP address.
- If you revoke access for a connected agent, the agent will remain connected and will continue to run. However, if the agent is subsequently restarted, it will not be able to connect.
- If you enable remote agent authentication, having previously revoked access for connected agents and disabled remote agent authentication, then you get the option to approve access for all connected agents at once. If you don’t approve this, the agents stay connected and continue to run, but you will need to manually approve them when they next try to connect.

Elastic Bamboo Security

Elastic Bamboo is a feature in Bamboo that allows Bamboo to dynamically source computing resources from the Amazon Elastic Compute Cloud (EC2).
All traffic sent between the agents located in EC2 and the Bamboo server is always tunnelled through an SSL-encrypted tunnel. The tunnel will be initiated from the Bamboo Server to the EC2 instance which means that you do not need to compromise your firewall by allowing inbound connections. Only a single port on the EC2 instance is open for the purposes of the tunnel.

SSL tunneling is not implemented for VCS (Version Control System) to EC2 traffic though. You will need to make your VCS available for access from EC2 to use Elastic Bamboo. Please see the section on setting up your VCS for Elastic Bamboo, which contains guidelines on securing your VCS.

Please be warned that just as with a regular host accessible from the Internet, if one of your remote agent instances is compromised, your Bamboo installation may be exposed to number of security vulnerabilities. These include confidential data (e.g. source code, VCS credentials) being stolen, malicious code being injected into elastic agents, unauthorised access to build queues and false information being submitted to Bamboo servers. Given that all Bamboo-related traffic is sent through a single encrypted connection, the risk of that happening is not high and can be further mitigated by setting up a VPC (Amazon Virtual Private Cloud). In a VPC, your elastic instances typically have no public IPs which means they are inaccessible from the internet other than through a regular, industry-standard VPN connection.

The sections below explain the default access rules for remote agent instances and how to change these rules, if desired.

**On this page:**

- Default EC2 Access Rules
- Changing the Default EC2 Access Rules
- Using VPCs with Elastic Bamboo
- Setting up your Version Control System (VCS) for Elastic Bamboo

**Related pages:**

- Configuring Elastic Bamboo

---

**Diagram above: Elastic Bamboo security architecture**

**Default EC2 Access Rules**

When you first use Elastic Bamboo, i.e. start an elastic instance, an 'elasticbamboo' security group will be set up for you on your AWS account. This security group is essentially a set of IP addresses that are permitted access to the EC2. By default, the security group will contain two rules — one to allow connections for Elastic Bamboo itself, and another to allow connections via SSH.

The EC2 security groups can be accessed via the AWS management console (see 'Security Groups' in the left-hand menu under 'Configuration').
Changing the Default EC2 Access Rules

If you wish to permit additional connections to your EC2 instance, you can do this by adding entries to the 'Allowed Connections' section for the 'elasticbamboo' security group. See the previous section on 'Default EC2 Access Rules' for instructions on how to access your EC2 security groups.

Using VPCs with Elastic Bamboo

VPC functionality is available with Bamboo 4.3. Amazon Virtual Private Cloud (Amazon VPC) lets you provision a private, isolated section of the Amazon Web Services (AWS) Cloud where you can launch AWS resources in a virtual network. By default, the instances running in that network will have no public IPs and will not be accessible to the computers outside of your VPC. You can also create a Hardware Virtual Private Network (VPN) connection between your company datacenter and your VPC and leverage the AWS cloud as an extension of your company datacenter. You can read more about VPCs on Amazon Web Services VPC page.

Using a VPC means that your agents (and other instances launched in the VPC) will not be available on the Internet. There are several basic scenarios that can be realised using a VPC:

- Secure access to your company datacenter - agents can securely access resources from your internal network through a VPN connection. In this way, you can safely use your Version Control System or other
internal resources such as databases from your Elastic Agents - without making them publicly accessible.

- Hiding some EC2 instances from the Internet - agents can communicate with your other hosts on the VPC using the internal network. This lets you e.g. set up an agent with a Windows-based DBMS and another one that runs tests against that DBMS from a different platform. Computers from outside of the VPC will not be able to access the DBMS because it will have no external IP. You don't need to use VPN for that use case, it's enough to assign an Elastic IP to the agent.

- Full-cloud deployment - you can host your Bamboo server in an Amazon's VPC and hide all your agents in a VPC. This will also let you access your other resources located in a VPC. The Bamboo Server can be accessed using VPN or an Elastic IP.

Note that Bamboo does not manage your Elastic IPs, if you want to assign one to your instance you can easily do it using an instance setup script defined in your Image Configuration.

Setting up your Version Control System (VCS) for Elastic Bamboo

We recommend that you take the following steps to ensure that your Version Control System is set up securely for Elastic Bamboo:

1. Make your Version Control System accessible to the public internet
2. Use VCS authentication and access control
3. Use encrypted connections to VCS

1. Make your Version Control System accessible to the public internet

You only need to do this if you are not using a VPC for agent connectivity. See using Bamboo with VPCs for more information.

As SSL tunnelling is not implemented for VCS to EC2 connections, you will need to make your VCS accessible to the public internet to use Elastic Bamboo. If your VCS is behind a firewall this will involve configuring an access point in your firewall. Please consult the documentation for your firewall software for details on how to do this.

2. Use VCS authentication and access control

We highly recommend that you secure access to your VCS by enabling the authentication and access control features on your VCS. Please consult the documentation for your VCS for details.

3. Use encrypted connections to VCS

We also highly recommend that you use encrypted connections for your VCS (e.g. SSL). Please consult the documentation for your VCS for details.

Bamboo cookies

Bamboo uses Seraph, an open source framework, for HTTP cookie authentication.

Authentication cookies

Bamboo uses two cookies:

- The JSESSIONID cookie is created by the application server and used for session tracking purposes.
- The 'remember me' cookie, seraph.bamboo, is generated by Bamboo when the user selects the Remember me checkbox on the login page.

You can read about cookies on the Wikipedia page.
The ‘Remember Me’ cookie

The ‘remember me’ cookie is a long-lived HTTP cookie. This cookie can be used to authenticate an unauthenticated session. Bamboo generates this cookie when the user selects the Remember me checkbox on the login page.

Cookie key and value

By default, the cookie key is seraph.bamboo. This key is defined in the BAMBOO-INSTALLATION/webapp/WEB-INF/classes/seraph-config.xml file, in the login.cookie.key parameter.

The cookie contains a unique identifier plus a securely-generated random string.

Use of cookie for authentication

When a user requests a web page, if the request is not already authenticated via session-based authentication or otherwise, Bamboo will match the ‘remember me’ cookie (if present) against the token stored for the user in the Bamboo database (if present).

If the random string matches the value stored in the database and the cookie has not expired, the user is authenticated.

Life of ‘Remember Me’ cookies

You can configure the maximum age of the cookie. To do that you will need to modify the BAMBOO-INSTALLATION/webapp/WEB-INF/classes/seraph-config.xml file and insert the following lines below the other init-param elements:

```xml
<init-param>
  <param-name>autologin.cookie.age</param-name>
  <param-value>2592000</param-value><!-- 30 days in seconds -->
</init-param>
```

Other cookie usage

There are several cookies in Bamboo that are used for storing basic presentation states, such as the number of log lines to show, which tab was previously selected etc. They are:

<table>
<thead>
<tr>
<th>Cookie</th>
<th>Purpose</th>
</tr>
</thead>
<tbody>
<tr>
<td>AJS.conglomerate.cookie</td>
<td>Track which general tabs are open and closed</td>
</tr>
<tr>
<td>BAMBOO-AGENT-FILTER</td>
<td>Date range to show the builds for agents</td>
</tr>
</tbody>
</table>
### BAMBOO-BUILD-FILTER
Date range to show the builds

### BAMBOO-LOG-REFRESH
Log refresh interval in seconds

### BAMBOO-MAX-DISPLAY-LINES
Maximum # of lines to show on the live logs page

### atlassian.bamboo.dashboard.tab.selected
Which tab is selected on the dashboard

### bamboo.author.view
Which tab is selected on the Authors tab

### bamboo.build.groupby.type
Which time group-by period is used in the reports

### bamboo.dash.display.toggle
The ids of the projects that are expanded on the dashboard

---

## Best practices for Bamboo security

The best way to harden a system is to look at each of the involved systems individually. Contact your company’s security officer or department to find out what security policies you should be using. There are many things to consider, such as the configuration of your underlying operating systems, application servers, database servers, network, firewall, routers, etc. It would be impossible to outline all of them here.

This page contains guidelines on good security practices, to the best of our knowledge.

### On this page:
- Configuring the web server
- Configuring the application server
- Configuring the application
- Configuring system admin access
- Further precautions

---

## Configuring the web server

Please refer to the following guides for system administrators:

- How to configure Apache to lock down the administration interface to those people who really need it. See [Using Apache to limit access to the Confluence administration interface](http://confluence.atlassian.com/display/CDOC/Using+Apache+to+limit+access+to+the+Confluence+administration+interface) for guidance.
- How to reduce the risk of brute force attacks: [Enabling or Disabling Captcha for Failed Logins](http://confluence.atlassian.com/display/CDOC/Enabling+or+Disabling+Captcha+for+Failed+Logins).

---

## Configuring the application server

See the following system administrator guide for general hints on the application server level:

- [Tomcat security best practices](http://tomcat.apache.org/security.html)

---

## Configuring the application

The way you set up Bamboo roles, permissions and processes makes a big difference in the security of your Bamboo site.

Below are some more Bamboo-specific items to consider. None of these provides 100% security. They are measures to reduce impact and to slow down an intruder in case your system does become compromised.

- Restrict the number of users with powerful roles or group memberships. If only one department should
have access to particularly sensitive data, then do restrict access to the data to those users. Do not let
convenience over-rule security. Do not give all staff access to sensitive data when there is no need.

- Put documented procedures in place for the case of employees leaving the company.
- Perform security audits regularly. Know who can help in case a security breach occurs. Perform 'what if'
planning exercises. ('What is the worst thing that could happen if a privileged user's password were stolen
while he's on vacation? What can we do to minimise damage?').
- Make sure the Bamboo database user (and all datasource database users) only has the amount of
database privileges it really needs.
- Monitor your binaries. If an attacker compromises an account on your system, he will usually try to gain
access to more accounts. This is sometimes done by adding malicious code, such as by modifying files
on the system. Run routine scripts that regularly verify that no malicious change has been made.

Configuring system admin access

Below are some things to consider specifically related to the system admin role:

- Keep the number of Bamboo administrators extremely low. For example, 3 system administrator accounts
should be the maximum.
- The administrators should have separate Bamboo accounts for their administrative roles and for their day
to day roles. If John Doe is an administrator, he should have a regular user account without administrator
access to do his day to day work (such as configuring build plans). This could be a 'john.doe' account. In
addition, he should have an entirely separate account (that cannot be guessed by an outsider and that
does not even use his proper name) for administrative work. This account could be 'jane smith' – using a
username that is so obscure or fake that no outsider could guess it. This way, even if an attacker singles
out the actual person John Doe and gets hold of his password, the stolen account would most likely be
John's regular user account, and the attacker cannot perform administrative actions with that account.
- Lock down administrative actions as much as you can. If there is no need for your administrators to
perform administrative actions from outside the office, then lock down access to those actions to known
IP addresses, for example. See Using Apache to limit access to the Confluence administration interface
for guidance.

Further precautions

As another precaution:

- Regularly monitor the above requirements. There are many things that could start out well, but deteriorate
over time:
  - A system may start out with just 3 administrators, but over the course of a year this could grow to
    30 administrators if no one prevents expansion.
  - Apache administration restrictions may be in place at the start of the year, but when the application
    server is migrated after a few months, people may forget to apply the rules to the new system.

Again, keep in mind that the above steps may only be a fraction of what could apply to you, depending on your
security requirements. Also, keep in mind that none of the above rules can guarantee anything. They just make it
harder for an intruder to move quickly.

Securing your remote agents

We strongly recommend that you do not enable remote agent installation without securing them on any
Bamboo instance accessible from a public or untrusted network. Creating remote agents is disabled by default. If
you choose to enable your remote agents without securing them, please read this Security Advisory to
understand the security implications.

You can secure your remote agents by configuring them to use SSL (Secure Sockets Layer). This protocol
provides a secure mechanism for communication between your Bamboo server and remote agents. The
information below describes how to configure your remote agents to use SSL.
Please note that you cannot set up client certificates in Bamboo due to limitations with Active MQ. Thus, while encryption works both ways between the server and client in this recommended configuration, authentication is only one-way. That is, the clients (i.e. agents) can authenticate the server, but the server will not be able to authenticate the clients (i.e. agents).

On this page:

- Step 1. Create keys, stores and certificates
- Step 2. Tell your Bamboo server and agents where to find the stores
- Step 3. Configure your Bamboo server to use SSL

Related pages:

- Security
- Agent authentication
- Bamboo remote agent installation guide
- Disabling and enabling remote agents support
- Configuring agents

Step 1. Create keys, stores and certificates

The first step in configuring your remote agents to use SSL is to create the required keys, stores and certificates. These artefacts are created using a keytool, as described below:

SSL relies on keys being set up on your server and clients (i.e. agents). To securely store these keys, keystores (databases of keys) need to be created. A certificate is then created by the server (and optionally on the clients, but not for this configuration) to allow publication of the server's key. To establish that the client "trusts" the server, this server certificate is then imported into a truststore (key database file that contains the public keys for a specific server) created on the client.

To create the required keys, stores and certificates for your server and agents:
1. Using a keytool, create a certificate for your server by entering the following command:

```
keytool -genkey -alias server -keyalg RSA -keystore server.ks
```

2. The server's certificate will be created. Export the certificate, so it can be shared with clients, by entering the following command:

```
keytool -export -alias server -keystore server.ks -file server_cert
```

3. Each client should now be able to access the server's certificate. Create a keystore for each client, by entering the following command:

```
keytool -genkey -alias client -keyalg RSA -keystore client.ks
```

4. Create a truststore for each client and import the server's certificate, by entering the command below. This establishes that the client "trusts" the server:

```
keytool -import -alias server -keystore client.ts -file server_cert
```

**Step 2. Tell your Bamboo server and agents where to find the stores**

The second step in configuring your agents to use SSL is to instruct your Bamboo server and agents to use the keystores and truststores that you have just created.

To tell your server where to find the keystore:
1. Add the system properties 'javax.net.ssl.keyStore=/path/to/server.ks' and 'javax.net.ssl.keyStorePassword=password' to your VM, by carrying out any of the following three steps:
   - (Bamboo or Bamboo EAR-WAR) Set the SSL_OPTS environment variable to hold the 'javax.net.ssl.keyStore=/path/to/server.ks' and 'javax.net.ssl.keyStorePassword=password' properties.
     e.g.

     ```
     export SSL_OPTS =
     -Djavax.net.ssl.keyStore=/path/to/server.ks
     -Djavax.net.ssl.keyStorePassword=password
     ```

     Or,

     - (Bamboo only) Add 'javax.net.ssl.keyStore=/path/to/server.ks' and 'javax.net.ssl.keyStorePassword=password' as additional properties to the `wrapper.conf` file.
       e.g.

       ```
       wrapper.java.additional.4=-Djavax.net.ssl.keyStore=/path/to/server.ks
       wrapper.java.additional.5=-Djavax.net.ssl.keyStorePassword=password
       ```

     Or,

     - (Bamboo EAR-WAR only) Make the 'javax.net.ssl.keyStore=/path/to/server.ks' and 'javax.net.ssl.keyStorePassword=password' properties visible to the VM, as per the instructions for your webserver.

To tell your agents where to find the keystore and truststore:
For each agent,

1. Tell your agent where to find the keystore and the trust store, by executing the following command to run the agent,

```
java -jar bamboo-agent-2.0-SNAPSHOT.jar <agentserverURL>
```

including the following command line parameters,

```
-Djavax.net.ssl.keyStore=/path/to/client.ks
-Djavax.net.ssl.keyStorePassword=password
-Djavax.net.ssl.trustStore=/path/to/client.ts
```

where `<agentserverURL>` is the URL of the agent's server, e.g.

```
http://192.168.3.235:8085/agentServer/
```

For example,

```
java -Djavax.net.ssl.keyStore=/path/to/client.ks
-Djavax.net.ssl.keyStorePassword=password
-Djavax.net.ssl.trustStore=/path/to/client.ts -jar bamboo-agent-2.0.jar
http://192.168.3.235:8085/agentServer/
```

**Step 3. Configure your Bamboo server to use SSL**

Once the server and agents know where to find the keystores and truststores, the final step is to instruct your Bamboo server to start using SSL so that agents will be able to authenticate the server.

To configure your Bamboo server to use SSL:

If you are setting up Bamboo for the first time,

1. Launch the [Bamboo Setup Wizard](#) and change the protocol of the 'Broker URL' to 'SSL'.
   i.e. **ssl://host:port/**

Or, if you are configuring an existing installation of Bamboo,

1. Shut down your Bamboo server and agents.
2. Change the protocol of your 'Broker URL' in the `bamboo.cfg.xml` file to 'SSL'. Note, do not change the address of this URL.
   e.g. `<property name="bamboo.jms.broker.uri">ssl://myhost:myport?wireFormat.maxInactivityDuration=0</property>`
3. Start up the Bamboo server.
4. Start up the Bamboo agents. If your agents do not start up, please check that you have set up your certificates correctly.

**Installing and upgrading Bamboo**
Release notes

Bamboo release notes
Bamboo release summary

No content found for label(s) bambooreleasenotes.

Security advisories

Bamboo security advisories

No content found for label(s) securityadvisory.

Installing

Bamboo installation guide
Bamboo EAR-WAR installation guide
Bamboo installation guide for Linux
Bamboo installation guide for Mac
Bamboo installation guide for Windows
Connecting Bamboo to an external database
Bamboo remote agent installation guide

Supported platforms

Upgrading

Bamboo upgrade guides
Bamboo generic upgrade guide

No content found for label(s) bambooupgradeguide.

Supported platforms

This page describes the supported platforms for Bamboo 4.3.x.

Key: ✔️ = Supported; ❌ = Not Supported

<table>
<thead>
<tr>
<th>Java Version</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Oracle JDK (1.5)</td>
<td>✔️ 1.7</td>
</tr>
<tr>
<td></td>
<td>✔️ 1.6</td>
</tr>
<tr>
<td></td>
<td>❌ 1.5</td>
</tr>
<tr>
<td>OpenJDK</td>
<td>✔️ 1.7</td>
</tr>
</tbody>
</table>

Operating Systems

Created by Atlassian in 2012. Licensed under a Creative Commons Attribution 2.5 Australia License.
| **Microsoft Windows** (2) | ✓ |
| **Linux / Solaris** (2) | ✓ |
| **Apple Mac OS X** (2) | ✓ |

**Application Servers**

| **Apache Tomcat** (3) | ✓ 6.0.x  
| ✓ 5.5.x |

**Databases**

| **MySQL** | ✓ 5.x with [JDBC Connector/J 5.1](#)  
| ✓ 5.0.x |
| **PostgreSQL** | ✓ 8.2+ with [PostgreSQL Driver 8.4.x](#) |
| **Microsoft SQL Server** | ✓ 2008 with [JTDS 1.2.2](#)  
| ✓ 2005 with [JTDS 1.2.2](#) |
| **Oracle** | ✓ 11G with [Oracle 11.2.x](#)  
| ✗ 10G |
| **HSQLDB** (4) | ✓ (for evaluation only) |

**Web Browsers**

| **Microsoft Internet Explorer** | ✓ 9.0  
| ✓ 8.0  
| ✗ 7.0 |
| **Mozilla Firefox** | ✓ Latest stable version supported |
| **Safari** | ✓ Latest stable version supported |
| **Chrome** | ✓ Latest stable version supported |

**Source Repositories**

| **Mercurial** | ✓ client: 1.6-2.1.x  
| ✗ client: 2.1.0 |

**NOTE:** Mercurial 2.1 has a bug that makes it incompatible with Bamboo. Please use Mercurial 2.1.1 or later.

| **Subversion** (6) | ✓ with server 1.5-1.7 |
| **Git** | ✓ with client 1.7 |
Notes:

1. Oracle JDK:
   - For the server, it is not enough to have just the JRE. Please ensure that you have the full JDK.
   - You can download the Java SE Development Kit (JDK) from the [Oracle website](http://www.oracle.com).
   - Once the JDK is installed, you will need to set the `JAVA_HOME` environment variable, pointing to the root directory of the JDK. Some JDK installers set this automatically (check by typing `echo %JAVA_HOME%` in a DOS prompt, or `echo $JAVA_HOME` in a shell). You need to do this before installing Bamboo, as Bamboo will automatically configure JDK capabilities based on the system environment variables on your machine.

2. Please note:
   - Bamboo is a pure Java application and should run on any platform, provided all the JDK requirements are satisfied.
   - If you are using Linux/UNIX: A dedicated user should be created to run Bamboo, as Bamboo runs as the user it is invoked under and therefore can potentially be abused. Here is an example of how to create a dedicated user to run Bamboo in Linux:
     ```
     $ sudo /usr/sbin/useradd --create-home --home-dir /usr/local/bamboo --shell /bin/bash bamboo
     ```

3. Deploying multiple Atlassian applications in a single Tomcat container is not supported. We do not test this configuration and upgrading any of the applications (even for point releases) is likely to break it. There are also a number of known issues with this configuration (see [this FAQ](http://confluence.atlassian.com/display/BAM/FAQ) for more information).

   We also do not support deploying multiple Atlassian applications to a single Tomcat container for a number of practical reasons. Firstly, you must shut down Tomcat to upgrade any application and secondly, if one application crashes, the other applications running in that Tomcat container will be inaccessible.

   Finally, we recommend not deploying any other applications to the same Tomcat container that runs Bamboo, especially if these other applications have large memory requirements or require additional libraries in Tomcat's `lib` subdirectory.

4. Bamboo ships with a built-in HSQL database, which is fine for evaluation purposes but is somewhat susceptible to data loss during system crashes. For production environments we recommend that you configure Bamboo to use an external database.

5. Note that your agents can build software with any JDK version. You only need to run the agent and server using a supported JDK.

6. Bamboo 4.2 supports Subversion 1.7, but uses the Subversion 1.6 Workspace Format by default to keep backwards compatibility with older Subversion working copies. You can set the `bamboo.svn.wc.format` system property if your Bamboo plans need to use Subversion 1.7 commands as part of your build scripts. See [Setting Bamboo to Support Subversion 1.7 Workspace Format](http://confluence.atlassian.com/display/BAM/Setting+Bamboo+to+Support+Subversion+1.7+Workspace+Format) for details.

### End of Support Announcements for Bamboo

This page contains announcements of the end of support for various platforms and browsers when used with Bamboo. This is summarised in the table below. Please see the sections following for the full announcements.

### End of Support Matrix for Bamboo

The table below summarises information regarding the end of support announcements for upcoming Bamboo releases.
releases. If a platform (version) has already reached its end of support date, it is not listed in the table.

<table>
<thead>
<tr>
<th>Platform</th>
<th>Bamboo End of Support</th>
</tr>
</thead>
<tbody>
<tr>
<td>MySQL 5.0</td>
<td>December 2011</td>
</tr>
<tr>
<td>Oracle 10g</td>
<td>December 2011</td>
</tr>
</tbody>
</table>

Why is Atlassian ending support for these platforms?

Atlassian is committed to delivering improvements and bug fixes as fast as possible. We are also committed to providing world class support for all the platforms our customers run our software on. However, as the complexity of our applications grows, the cost of supporting multiple platforms increases exponentially. Each new feature has to be tested on several combinations of application servers, databases, web browsers, etc, with setup and ongoing maintenance of automated tests. Moving forward, we want to reduce the time spent there to increase Bamboo development speed significantly.

On this page (most recent announcements first):

- Deprecated Databases for Bamboo (4 October 2011)
- Deprecated Java Platforms for Bamboo (16 February 2011)
- Deprecated Web Browsers for Bamboo (16 February 2011)

Deprecated Databases for Bamboo (4 October 2011)

This section announces the end of Atlassian support for certain database versions for Bamboo. End of support means that Atlassian will not fix bugs related to certain database versions past the support end date.

We will stop supporting the following database versions in Bamboo 3.4, from December 2011:

- MySQL 5.0
- Oracle 10g

The details are below. Please refer to the list of supported platforms for details of platform support for Bamboo. If you have questions or concerns regarding this announcement, please email eol-announcement at atlassian dot com.

End of Life Announcement for Database Support

<table>
<thead>
<tr>
<th>Database</th>
<th>Support End Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>MySQL 5.0</td>
<td>When Bamboo 3.4 releases, after December 2011</td>
</tr>
<tr>
<td>Oracle 10g</td>
<td>When Bamboo 3.4 releases, after December 2011</td>
</tr>
</tbody>
</table>

- Notes for MySQL 5.0 and Oracle 10g:
  - Atlassian intends to end support for MySQL 5.0 and Oracle 10g in Bamboo 3.4. Bamboo 3.3 is the last version that will support MySQL 5.0 and Oracle 10g.
  - 'Support End Date' means that Bamboo 3.3 and previously released versions will continue to work with MySQL 5.0 and Oracle 10g. However, Atlassian will not fix bugs affecting MySQL 5.0 and Oracle 10g past the support end date.
  - Bamboo 3.4 will not be tested with MySQL 5.0 and Oracle 10g.

Deprecated Java Platforms for Bamboo (16 February 2011)
This section announces the end of Atlassian support for certain Java Platforms for Bamboo.

We will stop supporting the following Java Platforms:

- From Bamboo 3.1, due in the first half of 2011, support for Java Platform 5 (JDK/JRE 1.5) will end.

We are ending support for Java Platform 5, in line with Sun's Java SE Support Road Map (i.e. "End of Service Life" for Java Platform 5 dated October 30, 2009). We are committed to helping our customers understand this decision and assist them in updating to Java Platform 6, our supported Java Platform.

The details are below. Please refer to the Supported platforms for more details regarding platform support for Bamboo. If you have questions or concerns regarding this announcement, please email eol-announcement at atlassian dot com.

### End of Life Announcement for Java Platform Support

<table>
<thead>
<tr>
<th>Java Platform</th>
<th>Support End Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>Java Platform 5 (JDK/JRE 1.5)</td>
<td>When Bamboo 3.1 releases, due in the first half of 2011</td>
</tr>
</tbody>
</table>

- **Java Platform 5 End of Support Notes:**
  - ‘Support End Date’ means that Bamboo 3.0.x and previous released versions will continue to work with Java Platform 5 (JDK/JRE 1.5), however we will not fix bugs related to Java Platform 5 past the support end date.
  - Bamboo 3.1 will only be tested with and support Java Platform 6 (JDK/JRE 1.6).
  - If you have concerns with this end of support announcement, please email eol-announcement at atlassian dot com.

### Deprecated Web Browsers for Bamboo (16 February 2011)

This section announces the end of Atlassian support for certain web browser versions for Bamboo. End of support means that Atlassian will not fix bugs related to certain web browser versions past the support end date.

We will stop supporting the following web browser versions from Bamboo 3.0, due February 2011:

- Microsoft Internet Explorer 7 (IE7)

The details are below. Please refer to the list of supported platforms for details of platform support for Bamboo. If you have questions or concerns regarding this announcement, please email eol-announcement at atlassian dot com.

### End of Life Announcement for Web Browser Support

<table>
<thead>
<tr>
<th>Web Browser</th>
<th>Support End Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>Microsoft Internet Explorer (version 7 only)</td>
<td>When Bamboo 3.0 releases, due February 2011</td>
</tr>
</tbody>
</table>

- **Internet Explorer Notes:**
  - Atlassian intends to end support for IE7 in Bamboo 3.0. Bamboo 2.7 is the last version that will support IE7.
  - IE8 will still be supported.
  - ‘Support End Date’ means that Bamboo 2.7 and previously released versions will continue to work with IE7. However, we will not fix bugs affecting IE7 past the support end date.
Bamboo installation guide

1. Check the system requirements

Supported platforms

Please read the Supported platforms page before you install Bamboo. The Supported Platforms page lists the applications servers, databases, operating systems, web browsers and JDKs that we have tested Bamboo with and recommend.

Hardware requirements

While some of our customers run Bamboo on SPARC-based hardware, Atlassian only officially supports Bamboo running on x86 hardware and 64-bit derivatives of x86 hardware.

Servlet container requirements

If you are using the Bamboo EAR-WAR distribution, you will need a servlet container that supports the Servlet 2.4 specification. Most modern containers should comply with this.

On this page:

1. Check the system requirements
2. Choose your Bamboo distribution
3. Installation and setup
Checking for known issues and troubleshooting the Bamboo installation

Related pages:

- Running the Setup Wizard
- Upgrade guide
- Bamboo remote agent installation guide
- Release notes

2. Choose your Bamboo distribution

Bamboo is available in two 'distributions' — Bamboo or Bamboo EAR-WAR. The Bamboo distribution is recommended (even for organisations with an existing application server environment).

Bamboo distribution

- Pre-packaged with the Jetty application server
- Requires virtually no setup
- Recommended for all users

Bamboo EAR-WAR distribution

- Deploys into an existing application server
- Requires manual configuration
- Suitable only for system administrators

3. Installation and setup
Notes for when the JDK is 64-bit:

If you're installing Bamboo 3.0 or later and choose to download the ZIP Archive distribution (Windows) or TAR.GZ Archive distribution (Linux) or TGZ Archive distribution (Mac OS X), the 32-bit wrapper will be included, and Bamboo may not start as expected. So after extracting Bamboo from the compressed file, please follow these steps:

1. Download the 64-bit wrapper attached to this document.
2. Extract it from the compressed file.
3. Delete the existing <Bamboo installation directory>/wrapper directory.
4. Copy the extracted wrapper directory to <Bamboo installation directory>.

Installation and setup for Bamboo distribution

- [Installation Guide — Linux](#)
- [Installation Guide — Mac](#)
- [Installation Guide — Windows](#)

Installation and setup for Bamboo EAR-WAR distribution

- [EAR-WAR Installation Guide](#)

Checking for known issues and troubleshooting the Bamboo installation

If something is not working correctly after you have completed the steps above to install Bamboo, please check for known Bamboo issues and try troubleshooting your upgrade as described below:

- **Check for known issues.** Sometimes we find out about a problem with the latest version of Bamboo after we have released the software. In such cases we publish information about the known issues in the Bamboo Knowledge Base. Please check the [known issues](#) in the Bamboo Knowledge Base and follow the instructions to apply any necessary patches if necessary.

- **Did you encounter a problem during the Bamboo installation?** Please refer to the guide to troubleshooting upgrades in the Bamboo Knowledge Base.

- If you encounter a problem during the upgrade and cannot solve it, please create a support ticket and one of our support engineers will help you.

Bamboo 101

<table>
<thead>
<tr>
<th>Bamboo 101</th>
</tr>
</thead>
<tbody>
<tr>
<td>Thank you for choosing Bamboo. To help you get up and running quickly, we've compiled some easy instructions for configuring and using Bamboo.</td>
</tr>
</tbody>
</table>

**Getting Started**

1. **Installing Bamboo**

First things first. If you haven't already got Bamboo up and running, carry out the following steps:
For Windows: (click to expand)
1. Go to the Atlassian Download Center.
2. Download the Bamboo Windows Installer (.EXE) file.
3. Run the Windows Installer .EXE file, choose an installation directory and a home directory.
4. Start the Bamboo server by selecting the 'Start in Console' option from the new 'Bamboo' folder that has been created in your Windows 'Start' menu.
5. To access Bamboo, go to your web browser and type this address: http://localhost:8085/.
6. Follow the Setup Wizard. This will guide you through the process of setting up your Bamboo server, database and creating an Admin user.

For more help on the technical procedures in this section, see the Bamboo Installation Guide.

If you need assistance, please create a support ticket.

⚠️ Before using Bamboo as a production system, you need to switch from the embedded HSQL database, which is provided for evaluation purposes only. Please see the documentation for details.

For Mac: (click to expand)
1. Go to the Atlassian Download Center.
2. Download the Bamboo (Mac OS X Installer) file.
3. Run the Mac OS X Installer .DMG file, choose an installation directory and a home directory.
4. Start the Bamboo server by running ./bamboo.sh console in the installation root directory.
5. To access Bamboo, go to your web browser and type this address: http://localhost:8085/.
6. Follow the Setup Wizard. This will guide you through the process of setting up your Bamboo server, database and creating an Admin user.

For more help on the technical procedures in this section, see the Bamboo Installation Guide.

If you need assistance, please create a support ticket.

⚠️ Before using Bamboo as a production system, you need to switch from the embedded HSQL database, which is provided for evaluation purposes only. Please see the documentation for details.
For Unix or Linux: (click to expand)

1. Go to the Atlassian Download Center.
2. Download the Bamboo (TAR.GZ Archive) file.
3. Extract the files to a directory of your choice. This directory will be referred to as your 'Bamboo installation directory'.
4. Set up your Bamboo home directory by opening the file named `bamboo-init.properties` in the `<Bamboo installation directory>/webapp/WEB-INF/classes` directory. In this file, insert the property "bamboo.home", with an absolute path to your desired Bamboo home directory. e.g.
   
   ```
   bamboo.home=/test/bamboo-home
   ```

   Please ensure that your Bamboo home directory is not located inside the Bamboo installation directory.
5. Start the Bamboo server by running `./bamboo.sh console` in the installation root directory.
6. To access Bamboo, go to your web browser and type this address: http://localhost:8085/.
7. Follow the Setup Wizard. This will guide you through the process of setting up your Bamboo server, database and creating an Admin user.

For more help on the technical procedures in this section, see the Bamboo Installation Guide.

If you need assistance, please create a support ticket.

Before using Bamboo as a production system, you need to switch from the embedded HSQL database, which is provided for evaluation purposes only. Please see the documentation for details.

2. Configuring the Default Agent

   Why would I do this? (click to expand)

   Your default local agent will inherit all local server capabilities that are defined in your Bamboo system. If you had system environment variables set up for builders and JDKs on your system, then the Bamboo installation process will have set them up as local server capabilities. However, if they were not automatically configured, you can configure them yourself. You may also want to set up additional custom capabilities to match specific types of builds to the agent (e.g. `function.al.tests=true`, `fast.builds=true`, `operating.system=linux`, etc.

   To configure the default local agent: (click to expand)

   1. Click Administration in the top navigation bar.
   2. Click Agents in the left navigation column. The 'Agents' screen will display.
   3. Click Default Agent in the list of agents.
   4. Click Add Capability to add agent-specific capabilities that override shared capabilities (e.g. custom capability: `operating.system=linux`). See the following pages for detailed instructions:

      - Configuring an agent-specific executable capability
      - Configuring an agent-specific JDK capability
      - Configuring an agent-specific custom capability

Running your First Build

3. Creating a Plan
To create a new plan in Bamboo: (click to expand)

1. Click **Create Plan** in the top navigation bar. This opens the 'Create Plan' introductory page.
2. Click the large **Create a New Plan** button and commence creating your new plan as described in the Creating a Plan topic.

If you are using **Atlassian's FishEye**, you can link your Bamboo plan to your FishEye project when specifying your plan's source repository. Enter the URL of your FishEye project in the **Repository URL** (e.g. `https://svn.myrepo.com/fisheye/browse/myproject`) and the Code Changes' section of a build result will display links to your files via FishEye.

You can install plugins to extend Bamboo's for support additional repositories, builders and build tools for your plans. Check out our plugin library for more information.

To run your build on your default agent, you will need to ensure that the capability requirements of the plan can be met by the capabilities of your default agent.

4. Running a Build

1. Click **Dashboard** and then click the **All Plans** tab.
2. Locate the relevant **plan** and click the 'Check Out and Build' icon: ➤
3. You can view the build's activity on the **Current Activity** tab.
   (if your plan does not build, check whether all of its capability requirements can be met by the remote agent's capabilities)

You can configure your build plan to be triggered by code changes or on a schedule, rather than manually triggering it. See **Triggering builds** for more information.

To view the build results: (click to expand)

1. Click **Dashboard** and then click the **All Plans** tab.
2. Locate the relevant **plan** and click the plan name. The plan summary will display, showing the latest build result. You can also click the **History** tab to see a summary list of build results.
   - To view the test results, click the **Tests** tab.
   - To view the build artifacts, click the **Artifacts** tab.
   - To view the build logs, click the **Logs** tab.
   - If you have Atlassian's Clover installed, you can also view the Clover code coverage by clicking the Clover tab. See '8. Using Bamboo with Clover' below for details.

Using Bamboo with your Development Tools

5. Using Bamboo with your IDE

Why would I do this? (click to expand)

Integrating Bamboo with your IDE (via an Atlassian IDE Connector) allows you to work with Bamboo from within your IDE. You won’t have to switch between applications to see what's happening with your builds. You can start them, monitor them and view the results without leaving your IDE.

The Atlassian IDE Connectors are currently available for **IntelliJ IDEA** and **Eclipse**.

To use Bamboo with Eclipse: (click to expand)

1. Install the Atlassian Eclipse Connector by following the instructions in this document: Install the Eclipse Connector
2. Configure Bamboo options in Eclipse by following the instructions in this document: Configuring your Bamboo Options in Eclipse
3. Read the following document for instructions on how to use Bamboo from within Eclipse: Working with Bamboo Builds in Eclipse
To use Bamboo with IntelliJ IDEA: (click to expand)

1. Install the Atlassian IntelliJ Connector by following the instructions in this document: [Installing the IntelliJ Connector](#)
2. Configure Bamboo options in IntelliJ IDEA by following the instructions in this document: [Configuring your Bamboo Options in IDEA](#)
3. Read the following document for instructions on how to use Bamboo from within IntelliJ: [Working with Bamboo Builds in IDEA](#)

6. Using Bamboo with JIRA

- Why would I do this? (click to expand)

Integrating Bamboo with [Atlassian's JIRA](#) allows you to access Bamboo information from within JIRA and vice versa. Your team will be able to see which issues are being actively coded, which builds have run for an issue, find the build that fixed the issue, download your distribution and much more.

- To use Bamboo with JIRA: (click to expand)

1. Configure the JIRA plugin for Bamboo and the Bamboo plugin for JIRA on your Bamboo and JIRA servers by following the instructions in this document: [Integrating Bamboo with JIRA](#)
2. Read the following documents for instructions on how to use Bamboo with JIRA:
   - View the Bamboo builds that relate to a particular JIRA issue.
   - View the Bamboo builds that relate to a JIRA project or version.
   - View the JIRA issues for a build result.
   - Add JIRA portlets to display the status of your builds or a graphical summary of each build plan.

7. Using Bamboo with Confluence

- Why would I do this? (click to expand)

Integrating Bamboo with [Atlassian's Confluence](#) allows you to easily access Bamboo information from within Confluence. You will be able to view the status of builds, build history and charts from within your wiki and share it with team members.

- To use Bamboo with Confluence: (click to expand)

1. Follow the instructions on [Integrating Bamboo with Confluence](#).

8. Using Bamboo with Clover

- Why would I do this? (click to expand)

If your organisation uses the [Atlassian Clover](#) code-coverage tool, Bamboo can record code-coverage details (i.e. the percentage of code covered by tests) for each build result. This can help you to monitor and improve code-coverage over your builds.

- To use Bamboo with Clover: (click to expand)

1. Edit the plan that you wish to record code-coverage details for.
2. Click the 'Builder' tab.
3. Configure the Clover details for your plan, as described on [Enabling the Clover plugin](#).

You will now be able to view Clover code-coverage for any subsequent builds of this plan. Please see [Viewing the Clover code-coverage for a build](#) for further details.

Collaborating with your Team in Bamboo

9. Adding User Groups and Users
Before you create additional users, you may wish to create a non-administrator user group. Here's how (click to expand):

1. Click **Administration** in the top navigation bar.
2. Click **Groups** in the left navigation column. The ‘Manage Groups’ screen will be displayed.
3. In the **Group Name** field (in the ‘Create Group’ section), type a name for your new group. You can add users to this group when you create them in the next section.
4. Click **Save** to save your new group.

For each of the users that you wish to add, you will need to do the following: (click to expand)

1. Click **Administration** in the top navigation bar.
2. Click **Users** in the left navigation column.
3. Enter details for the user: **Username, Password, Full Name, Email** and optionally the instant messaging **Jabber Address** for the user.
4. Select a user group for the user.
5. Click **Save**.

### 10. Configuring Notifications

**Why would I do this?** (click to expand)

Bamboo can automatically notify users when certain events occur in a build. For example, if the build has hung you can ensure that an email is sent to the appropriate people. Setting up the appropriate notifications can help your users to keep in touch with build activity on Bamboo. You can also help foster collaboration between team members by configuring notifications to be sent whenever someone comments on a build result.

To set up SMTP email and/or instant messages for Bamboo: (click to expand)

Bamboo can send notifications based on build plan configuration. For example, you may wish to send an email to all users when a build has hung. To take advantage of this feature, you will first need to configure Bamboo to send **SMTP email** and/or **instant messages**.

To configure notifications for a build plan: (click to expand)

1. Click **Dashboard**, and then the **All Plans** tab.
2. Locate the plan in the list and click this icon: 📝
3. Click the **Notifications** tab.
4. Add a new notification in the ‘Add Build Notification’ section by doing the following:
   - Specify an **Event** and **Recipient Type** (this may include a child field such as **User**) for the notification.
   - Click **Add**.
5. Repeat the last step if you want to add more notifications for the plan.
6. Click **Done**.

### 11. Labelling Builds

**Why would I do this?** (click to expand)

A label is a convenient way to tag and group build results that are logically related to each other. For example, it might not be practical for your QA team to review every build, and you need to know which builds they have reviewed. By using labels such as “qa_passed” and “qaFailed”, Bamboo allows them to simply indicate which builds have passed and failed QA.

Labels can be applied to build results automatically by specifying the label(s) in a build plan (note that only Bamboo administrators can do this) or applied ad hoc to build results by Bamboo users. Labels can also be used to define **RSS feeds** and to control **build expiry**.

To add a label to a build result: (click to expand)

1. Go to the **build result**.
2. Click **Labels** at the top of the screen (above the ‘Summary’ tab).
3. Click **Add**. The ‘Enter labels to add to this build’ textbox will display.
4. Type the relevant label (or multiple labels, separated by commas).
5. Click **Close**.
To view all build results with a particular label: (click to expand)

1. Go to the build result.
2. Click Labels at the top of the screen (above the 'Summary' tab).
3. Click the label that you want to view the build results for. All build results with that label will be displayed.

12. Commenting on Build Results

Why would I do this? (click to expand)

Comments are a useful way to record and share information about builds. Together with notifications, they can help your team to collaborate more effectively. Comments made when code was committed are automatically copied from the repository. Comments can also be manually added to a particular build result.

To add a comment to a build result: (click to expand)

1. From within the 'Build Result' screen, click Comments. A list of existing comments about this build result will be displayed.
2. Type your comment into the Add Comment box, then click Save.

Scaling your Build System

13. Setting up Distributed Builds

Why would I do this? (click to expand)

You can set up remote agents to distribute builds across multiple build servers. This is particularly useful if you need to run your builds in different geographic locations, or on different platforms. Installing a Bamboo agent on a new build server is a simple process and once installed, your main Bamboo server will be able to manage them.

To set up a remote agent on a machine: (click to expand)

1. Create a directory on the agent machine (e.g. bamboo-agent-home) to serve as the Bamboo agent home for the remote agent.
2. On your Bamboo server, click Administration in the top navigation bar.
3. Click Agents in the left navigation column. The 'Agents' screen will display.
4. Click Enable Remote Agent Support.
5. Click Install Remote Agent. The 'Installing a Remote Agent' screen will display.
6. Click DOWNLOAD Remote Agent JAR and save the JAR file to the Bamboo agent home directory on your agent machine.
7. Copy the command under 'Running a Remote Agent' to your clipboard, e.g. java -jar atlassian-bamboo-agent-installer-2.2.4.jar http://172.20.5.83:8085/agentServer/, and execute it on your agent machine to start the remote agent.
8. Follow the instructions on the pages linked below to set up agent-specific capabilities for your remote agent:
   - Configuring an agent-specific executable capability
   - Configuring an agent-specific JDK capability
   - Configuring an agent-specific custom capability

Once you have set up a remote agent, builds will be assigned to it, just as they are assigned to any other agent.

For information on more remote agent configuration options, see the full Bamboo remote agent installation guide.

14. Building in the Cloud

(Please note, you need to have an Amazon Web Services (AWS) account to use Elastic Bamboo. If you don't have one, you will need to register for one on the AWS registration page.)
Why would I do this? (click to expand)

The Elastic Bamboo feature allows you to run your builds in the Amazon Elastic Compute Cloud (EC2). This provides you with instant scalability for your builds, allowing you to keep your build queues short while minimising your hardware costs.

To set up Elastic Bamboo: (click to expand)

1. Click Administration in the top navigation bar.
2. Click Configuration in the left navigation column under the 'Elastic Bamboo' sub-header. The 'Elastic Bamboo Configuration' screen will display.
3. Click Enable to enable Elastic Bamboo for your Bamboo installation. The 'Elastic Bamboo Configuration' screen will display.
4. Enter your details for AWS Access Key ID and AWS Secret Access Key (what are these?)
5. Click Save.

You can configure advanced features of Elastic Bamboo on this screen, such as using the Amazon Elastic Block Store (EBS) to improve build times and customise elastic agents. Read Configuring Elastic Bamboo for more information.

To start an elastic agent: (click to expand)

An elastic agent is essentially a remote agent that runs in the Amazon EC2. You can create elastic agents on the fly when you need them to run builds and shut them down when not required. This allows you to dynamically scale your computing resources to meet build demand.

1. Click Administration in the top navigation bar.
2. Click Instances in the left navigation column. The 'Manage Elastic Instances' screen will display.
3. Click Start New Elastic Instances. The 'Start New Elastic Instances' screen will display. An elastic agent process runs in an elastic instance and will automatically start when an instance is started.
   - Enter ‘1’ in the Number of instances field.
   - Select Default from the Elastic Image Configuration Name list.
   - Your elastic agent will inherit its capabilities from this elastic image. It is possible to set up additional elastic images for use with Elastic Bamboo. Read Managing your elastic image configurations for more information.
4. Click Submit. The 'Manage Elastic Instances' page will display, showing the startup of your new instance.

Once you have set up an elastic agent, builds will be assigned to it, just as they are assigned to any other agent.

Amazon EC2 charges for the period of time that you have an instance running. Please ensure that you remember to shut down any elastic instances you start, to minimise your costs.

Analysing and Improving your Builds

15. Generating Reports

Why would I do this? (click to expand)

You can generate reports in Bamboo to help you identify problem areas to improve upon for your builds, based on the most common failures, tests that take longest to fix, long-running tests and more.
To generate a report on selected authors: (click to expand)

1. Click **Authors** in the top navigation bar. The 'User and Author Statistics' screen will display.
2. Click **Statistics**. The 'Report Parameters' screen will display.
3. Select the parameters for your report, as follows:
   - **Report** — choose from the available report types. Available reports include: You can configure custom reports by installing the appropriate plugins.
   - **Authors** — choose the author(s) on whom you want to report. You can use the <Ctrl> key to select multiple author.
   - **Group By** — choose whether your report's horizontal axis should show days, months or weeks. You can also specify Auto (generally defaults to 'month').
4. Click **Submit** to generate your report.

To report on build statistics per plan: (click to expand)

1. Click **Reports** in the top navigation bar.
2. Select the parameters for your report, as follows:
   - **Report** — choose from the available report types. Available reports include: You can configure custom reports by installing the appropriate plugins.
   - **Build plans** — choose the plan(s) on which you want to report. You can use the <Ctrl> key to select multiple plans.
   - **Group By** — choose whether your report's horizontal axis should show days, months or weeks. You can also specify Auto (generally defaults to 'month').
   - **Date Filter** — date range to report on.
3. Click **Submit** to generate your report.

**Important Next Steps**

*(Please note, you need to be an Administrator to do the tasks in this section.)*

16. Connecting to an External Database

Before using Bamboo as a production system, you need to switch from the default HSQL database, which is provided for evaluation purposes only. Please see the documentation for details.

17. Backing up Data

To back up your Bamboo data, and establish processes for regular backups, please see the documentation.

Thank you for using Bamboo.

Thanks for choosing Bamboo. We’re always happy to help. Feel free to email or call us with any questions you have.

**Bamboo EAR-WAR installation guide**

The Bamboo EAR-WAR distribution is intended for deployment into an existing J2EE application server. It is assumed that you already know how to deploy a web application on the application server of choice. If not, we recommend that you install the Bamboo distribution.

The following instructions are only indicative of the process and examples are based on installing the Bamboo WAR file on the Apache Tomcat application server. Deployment and configuration will differ from the procedure below if you choose to deploy the Bamboo EAR-WAR distribution on another (unsupported) application server.

**Before you begin:**

- Please ensure that you have read the Requirements section of the Bamboo Installation Guide.
- Deploying multiple Atlassian applications in a single Tomcat container is not supported. We do not test this configuration and upgrading any of the applications (even for point releases) is likely to break it.
- There are also a number of known issues with this configuration (see this FAQ for more information).
We also do not support deploying multiple Atlassian applications to a single Tomcat container for a number of practical reasons. Firstly, you must shut down Tomcat to upgrade any application and secondly, if one application crashes, the other applications running in that Tomcat container will be inaccessible.

Finally, we recommend not deploying any other applications to the same Tomcat container that runs Bamboo, especially if these other applications have large memory requirements or require additional libraries in Tomcat's lib subdirectory.

**On this page:**

1. Download and install Bamboo EAR-WAR
2. Set the Bamboo Home
3. Set jms.broker.uri
4. Set Java OPTs
5. Edit the Bamboo Context Descriptor (Tomcat)
6. Configure Bamboo

**Related pages:**

- Bamboo installation guide for Linux
- Bamboo installation guide for Mac
- Bamboo installation guide for Windows

1. **Download and install Bamboo EAR-WAR**
   1. Download Bamboo WAR for your operating system. Bamboo WAR files for Linux, Mac OS X and Windows are available for download from the Bamboo Download Center. Click the tab for your operating system, click the 'Show all' link to display the WAR file and select the Bamboo WAR file to download.
   2. Deploy onto your application server by using either of the following methods:
   - Place the WAR file directly into the webapps folder of Tomcat. Tomcat will perform all the necessary extractions when it starts.
   - Extract the WAR file to your chosen directory in the webapps folder. This directory is referred to as the installation directory (i.e. `<bamboo-install>`)

   **Extracting the Bamboo WAR**
   - **Windows** users must avoid Win XP's built-in unzip as it doesn't extract all the files. Use a third-party zip extractor like WinZip.
   - **Solaris** users will need to use GNU tar to handle the long filenames.

   *By default, the WAR file will extract to a folder called Bamboo-<version>. The name of the directory in the webapps folder will form the URL required to access Bamboo (e.g. Tomcat/webapps/bamboo-1.0/ will become http://host:port/bamboo-1.0/). You may wish to change the directory name for a more concise access URL.*

2. **Set the Bamboo Home**

   Set your Bamboo Home Directory. You can do this in one of three ways:
   - Set the `bamboo.home` property in the file `/WEB-INF/classes/bamboo-init.properties` to your chosen Bamboo home directory.
   - Pass the Bamboo home directory to the application server as a java opt. (eg. `-Dbamboo.home=C:/bamboo/bamboo-home`).
   - Specify an environment variable `BAMBOO_HOME` which specifies the absolute path to your BAMBOO_HOME directory.
3. Set jms.broker.uri

If you are going to use Bamboo remote agents, set the following in the /WEB-INF/classes/bamboo-init.properties file:

```java
bamboo.jms.broker.uri=tcp://localhost:54663
```

- Replace 'localhost' with the real host name or IP address of your Bamboo server.
- If port number 54663 is already in use, specify a different port number.

4. Set Java OPTs

You have to set the following Java OPTs on your application server:

- `-server` — Ensures that the jvm starts up in server mode. This will perform various optimisation tasks which are beneficial for long-running applications.
- `-Xmx512m` — Sets the maximum memory recommended for Bamboo.
- `-XX:MaxPermSize=256m` — Sets the maximum permgen memory recommended for Bamboo.
- `-Djava.awt.headless=true` — *(Unix systems only)* This allows AWT to run in headless mode and is required if running Bamboo in non-graphical environments. For more details visit the Sun Developer Network.

In Tomcat, you can set the above Java OPTs as follows:

**Windows:**

1. Find the setenv.bat file.
2. Assign the desired properties to the JAVA_OPTS variable:

```bash
set JAVA_OPTS=-server -XX:MaxPermSize=256m
-Dbamboo.home=/opt/bamboo/bamboohome -Xmx512m -Djava.awt.headless=true
%JAVA_OPTS%
```

**Linux-based systems:**

1. Find the setenv.sh file
2. Assign the desired properties to the JAVA_OPTS variable:

```bash
JAVA_OPTS="-server -XX:MaxPermSize=256m
-Dbamboo.home=/opt/bamboo/bamboohome -Xmx512m -Djava.awt.headless=true
$JAVA_OPTS"
export JAVA_OPTS
```

5. Edit the Bamboo Context Descriptor (Tomcat)

If you have extracted the WAR file to a directory other than the default directory (e.g. for a Tomcat application server), you need to deploy `<bamboo-install>` by following the steps below:

1. Create a file called `bamboo.xml` in your Tomcat installation's `conf/Catalina/localhost` directory. If you have set up a different hostname for your Tomcat instance, please use your specified hostname instead of localhost.

   Please note, if you are using Tomcat 6 you must create the Catalina and localhost directories.
2. Open your new **bamboo.xml** and add the following:

   ```xml
   <Context path="/bamboo" docBase="c:/applications/bamboo-war/" debug="0"
   reloadable="true">
   </Context>
   ``

   **If you wish to change the context path to a different name, change both the context path and the name of the xml file.**

3. For **docBase**, specify the `<bamboo-install>` absolute path that you noted down earlier.

   **If you are installing Bamboo 3.4 or newer versions**

   If installing Bamboo 3.4, or newer versions, please make sure that you apply the Tomcat configuration suggested in [this KB Article](#).

6. **Configure Bamboo**

   1. Shut down and then restart your application server.
   3. Configure Bamboo via the Setup Wizard which will display. Read [Running the Setup Wizard](#) for further instructions.

**Configuring Tomcat to Use HttpOnly Session ID Cookies**

*Bamboo distributions* from version 2.5.5 now enforce the **HttpOnly** flag on session ID cookies by default, as a means to minimise the risk of common XSS attacks. For more information about this feature, please refer to the *Bamboo Security Advisory 2010-05-04*.

If you are running the Bamboo EAR-WAR distribution on Tomcat (or another application server that is unsupported), it is likely that Bamboo’s session ID cookies will not be transmitted with the **HttpOnly** flag. To reduce the risk of common XSS attacks, we recommend that you configure your application server to transmit **HttpOnly** session ID cookies.

**To configure Bamboo EAR-WAR distribution running on Tomcat to use HttpOnly Session ID Cookies:**

1. Shutdown the Bamboo service running on Tomcat and the Tomcat application server.
2. Open the `context.xml` file of the Tomcat installation running Bamboo in a text editor.
   **This file is typically located in the `conf` subdirectory of the main Tomcat installation directory.**
3. Add the following **Manager** element within the **Context** element of this file:

   ```xml
   ...
   <Context>
   ...
   <Manager useHttpOnly="true"/>
   ...
   </Context>
   ...
   ```

   **To disable HttpOnly Session ID cookies, either remove this Manager element or change the value of its useHttpOnly parameter to false.**

4. Save your changes to the `context.xml` file.
5. Restart Bamboo.

**Bamboo installation guide for Linux**

This page contains instructions to help you install Bamboo on Linux. If you want to use your application server, rather than the bundled Jetty server, see the Bamboo EAR-WAR installation guide instead.

⚠️ **Before you begin**

Please ensure that you have read the Requirements section of the Bamboo Installation Guide.

---

### On this page:

1. Download and install Bamboo
2. Launch Bamboo on Linux
3. Configure Bamboo

---

### Related pages:

- Bamboo EAR-WAR installation guide
- Bamboo installation guide for Mac
- Bamboo installation guide for Windows

---

1. **Download and install Bamboo**

   1. Download Bamboo for Linux. Bamboo for Linux is available for download from the Bamboo Download Center (click the 'Linux' tab).
   2. Extract the files from the Linux archive to a Bamboo installation directory of your choice. By default, the root directory of the tar file is "Bamboo".
   3. Set up your Bamboo home directory — this is the directory where Bamboo will store its configuration data. To do this, open the file named bamboo-init.properties in the `<Bamboo installation directory>/webapp/WEB-INF/classes` directory. In this file, insert the property "bamboo.home", with an absolute path to your Bamboo home directory. Your file should look something like this:

   ```
   bamboo.home=/test/bamboo-home
   ```

   You must use forward-slashes in your directory path. Backslashes are not recognised by Bamboo. Please ensure that the Bamboo home directory is not located inside the Bamboo installation directory.

   Alternatively, you can specify an environment variable ‘BAMBOO_HOME’ which specifies the absolute path to your {BAMBOO_HOME} directory. Bamboo will check if an environment variable is defined.

2. **Launch Bamboo on Linux**

   There are two ways you can launch Bamboo on Linux — using either a startup script or a Java Service Wrapper:

   **Launch via `bamboo.sh` startup script**

   You can start Bamboo with the default `bamboo.sh` file in your installation root directory. The `bamboo.sh` command accepts the following options (e.g. `./bamboo.sh start`):

   - `start` — this starts Bamboo.
Launch via Java Service Wrapper

⚠️ The wrapper is platform-specific and doesn’t work on SunOS.

You can also start Bamboo using a Java Service Wrapper, which provides services such as automatic restarting. To do this, you will need to use the `start-bamboo` command available in the `/wrapper` folder of the Bamboo installation. You need to run the command with one of the following options (e.g., `./start-bamboo start`):

- `console` — this starts Bamboo in a console. The logs will scroll to standard out.
- `start` — this starts Bamboo.
- `stop` — this stops Bamboo.
- `restart` — this restarts Bamboo.
- `status` — this provides the current status of Bamboo.
- `dump` — stops Bamboo abruptly by killing the process.

⚠️ If you have installed Bamboo on a machine with multiple interfaces, and need to bind Bamboo to a single IP address, please see Binding Bamboo to one IP address.

3. Configure Bamboo

1. Access your running Bamboo instance by going to your web browser and entering the address: http://localhost:8085/.
2. Configure Bamboo using the Setup Wizard that is displayed. Read Running the Setup Wizard for further instructions.

Bamboo installation guide for Mac

This page contains instructions to help you install Bamboo on Mac OS X. If you want to use your application server, rather than the bundled Jetty server, see Bamboo EAR-WAR installation guide instead.

⚠️ Before you begin

Please ensure that you have read the Requirements section of the Bamboo Installation Guide.

On this page:

1. Download and Install Bamboo
2. Launch Bamboo on Mac OS X
3. Configure Bamboo

Related pages:

- Bamboo EAR-WAR installation guide
- Bamboo installation guide for Linux
- Bamboo installation guide for Windows

1. Download and Install Bamboo

You can choose to install Bamboo via a Mac OS X Installer (.dmg) or a TGZ Archive (.tgz):

Download and install Bamboo for Mac OS X (Mac OS X Installer)
1. Bamboo for Mac OS X is available for download from the Bamboo Download Center (click the Mac OS X tab if necessary). Choose the Mac OS X Installer (.dmg) download.

2. Launch the Bamboo Mac OS X installer. This will mount the Atlassian Bamboo installation volume.

3. Launch the Bamboo Continuous Integration Server Installer.app to begin the installation wizard. The installer requires you to specify two directories:
   - **Bamboo installation directory**— This is the directory where Bamboo’s application files will be installed. The default is:
     
     ```
     /Applications/Bamboo
     ```
   - **Bamboo home directory**— This is the directory where Bamboo will store its configuration data. If the directory you specify doesn’t exist, Bamboo will create the directory when it launches. The default is:
     
     ```
     /Users/<current-user>/bamboo-home
     ```

     You must use forward slashes in your directory path. Backslashes are not recognised by Bamboo. Please ensure that the Bamboo home directory is not located inside the Bamboo installation directory.

4. Extract the files from the Mac OS X archive version to a Bamboo installation directory of your choice. By default, the root directory of the tgz file is “Bamboo”.

5. Set up your **Bamboo home directory** — this is the directory where Bamboo will store its root configuration data. To do this, open the file named bamboo-init.properties in the <Bamboo installation directory>/webapp/WEB-INF/classes directory. In this file, insert the property "bamboo.home", with an absolute path to your Bamboo home directory. Your file should look something like this:

   ```
   bamboo.home=/test/bamboo-home
   bamboo.jms.broker.uri=tcp://localhost:54663
   ```

   Alternatively, you can specify an environment variable ‘BAMBOO_HOME’ which specifies the absolute path to your BAMBOO_HOME directory. Bamboo will check if an environment variable is defined.

6. If you are going to use Bamboo remote agents, set the following in the bamboo-init.properties file in the <Bamboo installation directory>/webapp/WEB-INF/classes directory:
   - Replace ‘localhost’ with the real host name or IP address of your Bamboo server.
   - If port number 54663 is already in use, specify a different port number.

2. Launch Bamboo on Mac OS X

   There are two ways you can launch Bamboo on Mac OS X:

   **Launch using the bamboo.sh startup script**

   You can start Bamboo with the default bamboo.sh file in your installation root directory. In a terminal window, type: `/Applications/Bamboo/bamboo.sh start`
The `bamboo.sh` command accepts the following options:

- `console` — this starts Bamboo in a console. The logs will scroll to standard out.
- `start` — this starts Bamboo.
- `stop` — this stops Bamboo.
- `status` — this provides the current status of Bamboo.

**Launch using the Java Service Wrapper**

Alternatively, you can start Bamboo using a Java Service Wrapper, which provides services such as automatic restarting. To do this, use the `run-bamboo` command available in the `/wrapper` folder of the Bamboo installation, by typing the following in a terminal window: `/Applications/Bamboo/wrapper/run-bamboo start`

The `run-bamboo` command accepts the following options:

- `console` — this starts Bamboo in a console. The logs will scroll to standard out.
- `start` — this starts Bamboo.
- `stop` — this stops Bamboo.
- `status` — this provides the current status of Bamboo.

### 3. Configure Bamboo

1. Access your running Bamboo instance by going to your web browser and entering the address: `http://localhost:8085/`.
2. Enter a license code.
3. Configure Bamboo using the Setup Wizard. Read [Running the Setup Wizard](running-the-setup-wizard) for further instructions.

**Bamboo installation guide for Windows**

This page contains instructions to help you install Bamboo on Windows. If you want to use your application server, rather than the bundled Jetty server, see [EAR-WAR Installation Guide](ear-war-installation-guide) instead.

### 1. Download and install Bamboo

Before you begin:

- Please ensure that you have read the [Requirements section](requirements-section) of the Bamboo Installation Guide.
- Note, you can choose to install Bamboo via a [Windows Installer (.exe)](windows-installer) or a [ZIP Archive (.zip)](zip-archive).

**Download and install Bamboo for Windows (Windows Installer)**

⚠️ **Note**, if you wish to run Bamboo on a [Windows x64 platform](windows-x64-platform), make sure that you download the 64-bit version of Bamboo distribution and have a 64-bit JDK installed

2. Launch the Bamboo Windows installer to begin the installation wizard.
3. The installer requires you to specify two directories:
   - **Bamboo installation directory** — This is the directory where Bamboo's application files will be installed. The default is:

```
C:/Program Files/Bamboo
```
On this page:

1. Download and install Bamboo
2. Launch Bamboo
3. Configure Bamboo

Related pages:

- Bamboo EAR-WAR installation guide
- Bamboo installation guide for Linux
- Bamboo installation guide for Mac

- **Bamboo home directory** — This is the directory where Bamboo will store its configuration data. If the directory you specify doesn't exist, Bamboo will create the directory when it launches. The default is:

  C:/Documents and Settings/<current-user>/Bamboo-home

You must use forward-slashes in your directory path. Backslashes are not recognised by Bamboo. Please ensure that the **Bamboo home directory** is not located inside the **Bamboo installation directory**

---

Download and install Bamboo for Windows (ZIP Archive)

1. Download Bamboo for Windows. Bamboo for Windows is available for download from the Bamboo Download Center. Choose the ZIP Archive (.zip) download (click the ‘Show all’ link to show the ZIP Archive’ download link).
2. Extract the files from the ZIP Archive to a **Bamboo installation directory** of your choice. By default, the root directory in your zip file is named "Bamboo".

**Warning: Some unzip programs cause errors**

Some archive-extract programs cause errors when unzipping the Bamboo archive file.

We highly recommend that you use the free **7Zip** archive-extract program (if in doubt, download the ‘32-bit.exe’ version).

3. Set up your **Bamboo home directory** — this is the directory where Bamboo will store its root configuration data. To do this, edit the file named `bamboo-init.properties` in the Bamboo/webapp/WEB-INF/classes directory. In this file, insert the property "bamboo.home", with an absolute path to your Bamboo home directory. Your file should look something like this:

   ```
   bamboo.home=C:/test/bamboo-home
   ```

   Alternatively, you can specify an environment variable 'BAMBOO_HOME' which specifies the absolute path to your {BAMBOO_HOME} directory. Bamboo will check if an environment variable is defined.

4. If you are going to use Bamboo remote agents, set the following in the `bamboo-init.properties` file
in the `<Bamboo installation directory>/webapp/WEB-INF/classes` directory:

```
bamboo.jms.broker.uri=tcp://localhost:54663
```

- Replace 'localhost' with the real host name or IP address of your Bamboo server.
- If port number 54663 is already in use, specify a different port number.

### 2. Launch Bamboo

There are two ways you can launch Bamboo on Windows:

#### Launch via the Start Menu

If you have used the 'Windows Installer' to install Bamboo, you can start Bamboo via the Start Menu in Windows (generally under the 'Bamboo' folder by default). The following options will be available in your Start Menu:

- **'Bamboo Continuous Integration Server Uninstaller'** — uninstalls Bamboo from your computer
- **'Install Service'** — installs Bamboo as a Windows service (note, this will not start Bamboo)
- **'Remove Service'** — removes the Bamboo Windows service, if you have previously installed it (note, Bamboo will not be uninstalled from your computer)
- **'Start in Console'** — starts Bamboo in a Windows console
- **'Start Service'** — starts your installed Bamboo Windows service
- **'Stop Service'** — stops your installed Bamboo Windows service

You can run Bamboo in two modes, either in a Windows console or as a Windows service:

- **To run Bamboo in a Windows console**, click the 'Start in Console' option.
- **To run Bamboo as a Windows service**, click the 'Install service' option. After the service is installed, click 'Start Service'. Once you have installed Bamboo as a service, Bamboo will start up automatically every time Windows restarts.

**Running Bamboo as a service**

- **Changing the user running the Bamboo service** — The default behaviour in Windows is to start the service under the 'SYSTEM' user when Bamboo starts up. You can change this behaviour from the 'Services' console available via the 'Control Panel'. Please note, you may need to uninstall the service and re-install it again, if you have just upgraded or re-installed Bamboo.
- **Running Bamboo as a service in Windows Vista** — Bamboo ships with a service wrapper in Windows and by default, the wrapper installs itself as the NT SYSTEM user. However, in Vista the temporary directory System Variable is not available to untrusted apps. In order to run Bamboo as service in Vista, you must run Bamboo as a non-system user — see Running Bamboo service on Windows as the local user for further instructions.

#### Launch via batch file

You can start Bamboo via the batch files that are shipped with Bamboo. If you have installed Bamboo via the ZIP Archive, you will need to use the batch files to start Bamboo. You can find the following batch files in your installation directory:

- **'BambooConsole.bat'** — this starts Bamboo in a Windows console.
- **'InstallAsService.bat'** — this installs Bamboo as a Windows service. Note that this will not start Bamboo.
- **'StartBamboo.bat'** — this starts your installed Bamboo Windows service.
- **'StopBamboo.bat'** — this stops your installed Bamboo Windows service
- **'UninstallService.bat'** — this un-installs the Bamboo Windows service from your machine. Note that your
Bamboo installation still remains.

You can run Bamboo in two modes, either in a Windows console or as a Windows service:

- **To run Bamboo in a Windows console**, run `BambooConsole.bat`
- **To run Bamboo as a Windows service**, run `InstallAsService.bat`. After the service is installed, run `StartBamboo.bat`. Once you have installed Bamboo as a service, Bamboo will start up automatically every time Windows restarts.

### Running Bamboo as a service

- **Changing the user running the Bamboo service** — The default behaviour in Windows is to start the service under the ‘SYSTEM’ user when Bamboo starts up. You can change this behaviour from the ‘Services’ console available via the ‘Control Panel’. Please note, you may need to uninstall the service and re-install it again, if you have just upgraded or re-installed Bamboo.

- **Running Bamboo as a service in Windows Vista** — Bamboo ships with a service wrapper in Windows and by default, the wrapper installs itself as the NT SYSTEM user. However, in Vista the temporary directory System Variable is not available to untrusted apps. In order to run Bamboo as service in Vista, you must run Bamboo as a non-system user — see Running Bamboo service on Windows as the local user for further instructions.

### 3. Configure Bamboo

Access your running Bamboo instance by going to your web browser and entering the address: `http://localhost:8085/`. Configure Bamboo via the Setup Wizard which will display. Read Running the Setup Wizard for further instructions.

#### Running the Setup Wizard

When you launch Bamboo for the first time, the Bamboo setup wizard will display. The wizard will lead you through the Bamboo settings that you need to configure before you can start using it.

### Before you begin

If you are currently using [Atlassian's Crowd](http://localhost:8085/) with Bamboo and wish to import existing data into Bamboo (see Step 5, Starting Data below), you will need to **disable Crowd** before starting the Setup Wizard. To do this, go to Administration > User Repositories (under 'Security') and choose Local users and groups.

You can then re-enable Crowd and restart Bamboo at the completion of the Setup Wizard.

### Step 1. License Details and Setup Method

You must have a valid Bamboo license (evaluation or commercial) to use Bamboo. You can generate your own Bamboo evaluation license from your MyAtlassian self-service account [here](http://localhost:8085/). If you have any problems with this, please email sales.

Once you have entered a valid license key, you can choose which setup method you prefer for your Bamboo installation:

**Express Installation** — we recommend that you choose this method if you are evaluating or demonstrating Bamboo.

- The 'Express Installation' method requires only a minimum of configuration information. It sets up Bamboo with default settings and an embedded database (HSQL).
- If you choose the 'Express Installation' method you can skip to Step 6, Set Up Administrator User below.
Custom Installation — we recommend that you choose this method if you are setting up a production instance of Bamboo.

- The ‘Custom Installation’ method takes longer, but allows you to configure Bamboo with an external database, customise the default settings, and/or initialise the server with your own data.
- If you choose, the ‘Custom Installation’ method, proceed to Step 2. General Configuration below.

**Screenshot: License Details and Setup Method**

**Welcome to Atlassian Bamboo!**

Welcome to Bamboo Continuous Integration Server. Please enter your license information and choose a setup method below to complete the installation of Bamboo.

**Select Setup Method**

- Express Installation
- Custom Installation

**Step 2. General Configuration**

⚠️ This step applies to the ‘Custom Installation’ method only.

On this page you specify a number of Bamboo server settings, such as the address of the server, where data is stored and the message broker used to communicate with remote agents.

⚠️ You may find it simplest to keep the default settings for the three directory settings, in the table. For more information please see Locating important directories and files.
### Setting | Details
--- | ---
**Name**  | See [Specifying Bamboo’s Title](#)
**Base URL**  | See [Specifying Bamboo’s URL](#)
**Configuration Directory**  | The location for Bamboo configuration files.
**Build Data Directory**  | The location for Bamboo project data files.
**Build Working Directory**  | The location of project files checked out from source control.
**Broker URL**  | Only visible if you are permitted remote agents under your Bamboo license.

The URL of the embedded messaging broker that Bamboo sets up to communicate with its remote build agents. This URL will be written to `bamboo.cfg.xml` as a property. You can update this file if you want to change your Broker URL.

- Replace `localhost` with the real host name or IP address of your Bamboo server. You should not use `localhost` as the host name in the Broker URL, as remote agents are provided with the Broker URL on startup and use it to communicate to the server.
- If port number 54663 is already in use, specify a different port number.

---

**Screenshot: General Configuration**

The following settings for the Bamboo Server:

- **What is the title of this Bamboo instance?**
  - **Name:** Atlassian Bamboo
    - The name of this Bamboo instance.

- **What is the server’s address?**
  - **Base URL:** http://testuser:8080/bamboo
    - This is the base URL of the installation of Bamboo. All links created (for emails etc) will be prefixed by this URL. For example: `http://testuser:8080/bamboo`.

- **System Paths and Directories**
  - **Configuration Directory:** /Users/testuser/Repositories/bamboo-trunk/build/cm/bamboo-home/0.0.9999/xml-data/configuration
    - The configuration directory is where your settings for Bamboo will be stored. For example: `/Users/testuser/Repositories/bamboo-trunk/build/cm/bamboo-home/0.0.9999/xml-data/configuration`.
  - **Build Data Directory:** /Users/testuser/Repositories/bamboo-trunk/build/cm/bamboo-home/0.0.9999/xml-data/builds
    - The build directory is where Bamboo saves the build data such as results and artifacts. For example: `/Users/testuser/Repositories/bamboo-trunk/build/cm/bamboo-home/0.0.9999/xml-data/builds`.
  - **Build Working Directory:** /Users/testuser/Repositories/bamboo-trunk/build/cm/bamboo-home/0.0.9999/xml-data/build-dir
    - The location of project files checked out from source control. For example: `/Users/testuser/Repositories/bamboo-trunk/build/cm/bamboo-home/0.0.9999/xml-data/build-dir`.

- **Remote Agent Communication**
  - **Broker URL:** http://testuser.sydney.atlassian.com:54663?format=xml&duration=300000
    - The URL at which your messaging broker will be set up. The messaging broker is used for communication with Bamboo remote agents. Bamboo remote agents will also use the path to communicate back to this server.

---

**Step 3. Choose a Database Configuration**

*This step applies to the 'Custom Installation' method only.*
Picking a database configuration is an important choice. If you pick the ‘Embedded Database’ configuration, you do not have to set up a database. However, the embedded HSQL database is only suitable for evaluation purposes. You will need to move to an external database, if you decide to deploy Bamboo in production at a later stage (as described in Moving your Bamboo data to a different database).

Choose one of the following:

- **Embedded Database** — Choose this for quick and easy first-time installation of Bamboo. This option is suitable for evaluation purposes only. Skip to Step 5. Starting Data.

- **External Database** — Choose this if you wish to use an external database. Proceed to Step 4. Database Configuration below.

**Screenshot: Choose a Database Configuration**

---

Step 4. Database Configuration

*This step applies to the ‘Custom Installation’ method only.*

If you selected ‘External Database’ in Step 3, you will need to provide the configuration details for your database. Please see Connecting Bamboo to an external database for further instructions.

**Screenshot: Database Configuration**

---

Step 5. Starting Data

*This step applies to the ‘Custom Installation’ method only.*
On this page you specify how Bamboo will populate the ‘home directory’ that you set up when you installed Bamboo.

Choose one of the following:

- **Create new Bamboo home** — choose this if you are performing a normal installation or upgrade.
- **Import existing data** — only choose this under exceptional circumstances, e.g. if you are connecting Bamboo to a different database, or moving your pre-existing Bamboo installation to a different server. Avoid importing backups from different versions of Bamboo.

**Step 6. Set Up Administrator User**

The final step of the setup wizard is to enter the details of the first registered user for the Bamboo system. This user will have global administrative privileges over the entire installation of Bamboo and should not be removed.

Once you have entered the details for your administrator user, click Finish. The Bamboo dashboard will be displayed.

Congratulations, you have successfully set up Bamboo!

**Connecting Bamboo to an external database**

⚠️ **Before you begin**

Please note: if you are already using Bamboo with the embedded HSQL database (or any other database), and you want to keep your data, please see Moving your Bamboo data to a different database.

Bamboo can be connected to an external database. For details and instructions please see:

- [PostgreSQL 8.2](#)
- [MySQL 5.1](#)  
  - Tomcat and External MySQL Datasource Example
- [Oracle 11g](#)
- [Microsoft SQL Server 2005 and 2008](#)
- [How do I connect Bamboo to an unsupported database](#)
PostgreSQL 8.2

These instructions will help you connect Bamboo to a PostgreSQL 8.2+ database. (PostgreSQL 8.0 and PostgreSQL 8.1 are not supported for use with Bamboo.)

ℹ️ Please note, the JDBC driver for PostgreSQL 8.2 (PostgreSQL Driver 8.4.x) is bundled with Bamboo. You do not have to download and install the driver.

On this page:

1. Configuring PostgreSQL
2. Connecting Bamboo to PostgreSQL

1. Configuring PostgreSQL

Accept remote TCP connections (remote PostgreSQL server only)

If you are connecting Bamboo to a remote PostgreSQL server (i.e. if your PostgreSQL server is not installed locally on your Bamboo server host system), you will need to configure your `data/postgresql.conf` and `data/pg_hba.conf` files to accept remote TCP connections from your Bamboo server's IP address.

The following PostgreSQL documentation contains information on the appropriate `listen_addresses` value in the `postgresql.conf` file as well as the `pg_hba.conf` file:

- PostgreSQL 8.2 documentation — Connections and Authentication

Once you have modified your `data/postgresql.conf` and `data/pg_hba.conf` files, you will need to restart PostgreSQL for your changes to take effect.

Creating a Bamboo database

```bash
sudo -s -H -u postgres
# Create the Bamboo user:
/opt/PostgreSQL/8.3/bin/createuser -S -d -r -P bamboouser
# Create the bamboo database:
/opt/PostgreSQL/8.3/bin/createdb -O bamboouser bamboo
exit
```

⚠️ Creating a completely empty Bamboo database is recommended. Avoid using templates to create the database as some may insert default tables which can lead to conflicts when setting up Bamboo.

2. Connecting Bamboo to PostgreSQL

Bamboo provides two ways to connect to a PostgreSQL database — using JDBC or using a datasource. JDBC is generally simpler and is the recommended method.

Run the Setup wizard

For both methods, run the Setup Wizard and choose the Custom Installation option.
On the 'Choose a Database Configuration' page, choose **External Database**, select **PostgreSQL 8.2 and above** from the list and click **Continue**.

Choose one of the following.

**Connecting using JDBC**

On the 'Database Configuration' page of the Setup Wizard, ensure that **Direct JDBC connection** has been selected and make the following settings:

<table>
<thead>
<tr>
<th>Setting</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Driver Class Name</strong></td>
<td>Type <code>org.postgresql.Driver</code> (if different from the default).</td>
</tr>
<tr>
<td><strong>Driver Class Name</strong></td>
<td>Type the URL where Bamboo will access your database (if different from the default). For details about syntax, please refer to the Postgres JDBC driver documentation.</td>
</tr>
<tr>
<td><strong>User Name</strong></td>
<td>Type the username that Bamboo will use to access your database.</td>
</tr>
<tr>
<td><strong>Password</strong></td>
<td>Type the password (if required) that Bamboo will use to access your database.</td>
</tr>
<tr>
<td><strong>Overwrite existing data</strong></td>
<td>Select if you wish Bamboo to overwrite any tables that already exist in the database.</td>
</tr>
</tbody>
</table>

**Screenshot 1: Setup JDBC Connection (PostgreSQL)**

![Database Configuration](image)

**Connecting with a datasource**

Configure a datasource in your application server (consult your application server documentation for details).

For details about the syntax to use for the JDBC database URL, please see the Postgres JDBC driver documentation.
On the 'Database Configuration' page of the Setup Wizard, choose **Connect via a datasource (configured in the application server)** and make the following settings:

<table>
<thead>
<tr>
<th>Setting</th>
<th>Description</th>
</tr>
</thead>
</table>
| JNDI name              | Type the JNDI name of your datasource, as configured in your application server.  
  If `java:comp/env/jdbc/DataSourceName` does not work, try `jdbc/DataSourceName` (and vice versa). |
| Overwrite existing data| Select if you wish Bamboo to overwrite any tables that already exist in the database. |

**Screenshot 2: Setup Datasource Connection**

---

**MySQL 5.1**

These instructions will help you connect Bamboo to a **MySQL 5.1** database. (Neither MySQL 4.1 nor 5.0 are supported databases for use with Bamboo.)

⚠️ Please note that the JDBC driver for MySQL 5.1 (**JDBC Connector/J 5.1**) is not longer bundled with Bamboo. You **must** **download** and install the driver yourself.

On this page:  
1. Creating and Configuring the MySQL database  
2. Connecting Bamboo to the MySQL database

1. **Creating and Configuring the MySQL database**

To connect Bamboo to an external MySQL database, you must first create and configure it. This database must be configured to use:

- utf8 character set encoding, instead of latin1  
- utf8_bin collation  
- the InnoDB storage engine

If your MySQL database server is configured to use a storage engine other than InnoDB by default (such as MyISAM), then if possible change it to use InnoDB. Otherwise, you can **configure Bamboo's JDBC connection** to...
your MySQL database so that any tables which Bamboo creates in this database will be done using the InnoDB database engine.

A MySQL database administrator can easily create and configure a MySQL database for Bamboo by running the following MySQL commands:

```
mysql> CREATE DATABASE bamboo CHARACTER SET utf8 COLLATE utf8_bin;
mysql> GRANT ALL PRIVILEGES ON bamboo.* TO 'bamboouser'@'localhost' IDENTIFIED BY 'password';
mysql> FLUSH PRIVILEGES;
mysql> QUIT
```

This creates an empty MySQL database for Bamboo named `bamboo`.

**Please Note:**
- `bamboouser` — the user account name for the Bamboo MySQL database
- `localhost` — the host name of the MySQL database server
- `password` — the password for this user account
- If the MySQL database and Bamboo servers are on the same physical computer, you can use `localhost` and *not set a password* by omitting `IDENTIFIED BY 'password'` from the 2nd MySQL statement above (if you trust the security within this computer).

For more information about configuring character set encoding and collation for Bamboo MySQL databases, please refer to the MySQL 5 documentation — Specifying Character Sets and Collations.

---

2. Connecting Bamboo to the MySQL database

Bamboo provides two ways to connect to a MySQL database — by using either JDBC or a datasource. JDBC is generally simpler and is the recommended method.

**Connect using JDBC**

1. **Download and install the JDBC driver:**

   The JDBC drivers for MySQL Enterprise Server are *no longer* bundled with Bamboo (due to licensing restrictions). You need to download and install the driver yourself.

   1. Download the MySQL Connector/J JDBC driver from the [download site](#).
   2. Expand the downloaded zip/tar.gz file.
   3. Copy the `mysql-connector-java-5.1.XX-Xbin.jar` file from the extracted directory to the `<Bamboo installation directory>/lib` directory (create the `lib` directory if it doesn't already exist).
   4. Stop Bamboo, on Windows, Linux or Mac.
   5. Restart Bamboo, on Windows, Linux or Mac.

2. **Connect Bamboo to a MySQL database using JDBC:**

   1. Run the Setup Wizard and choose the Custom Installation method.
   2. On the 'Choose a Database Configuration' page, choose External Database > MySQL 5.1 and click Continue. The 'Database Configuration' page will appear.
   3. Ensure that Direct JDBC connection is selected and complete the following fields (as shown in the screenshot below):
<table>
<thead>
<tr>
<th><strong>Driver Class Name</strong></th>
<th>Type <code>com.mysql.jdbc.Driver</code> (if different from the default).</th>
</tr>
</thead>
</table>
| **Database URL**     | Type the URL where Bamboo will access your database (if different from the default). Your URL must include the `autoReconnect=true` flag.  
  • If you intend to use non-Latin characters in Bamboo, ensure that your URL includes the `useUnicode=true` and `characterEncoding=utf8` flags.  
  • If your MySQL database server is configured to use a storage engine other than InnoDB by default, ensure that your URL includes the `sessionVariables=storage_engine=InnoDB` flag.  
If you include all of these flags, your **Database URL** should look similar to:  
  `jdbc:mysql://localhost/bamboo?autoReconnect=true&useUnicode=true&characterEncoding=utf8&sessionVariables=storage_engine=InnoDB`  
  **⚠️ If the `autoReconnect=true` flag is not specified, the MySQL JDBC driver will eventually time out and Bamboo will no longer be able to communicate with the database.**  
For more information on the URL syntax, please see the [MySQL documentation](https://dev.mysql.com/doc/). |
| **User Name**         | Type the username that Bamboo will use to access your database. This is `bamboouser` defined in section 1 (above). |
| **Password**          | Type the password (if required) that Bamboo will use to access your database. This is `password` defined in section 1 (above). Leave this field blank if a password for the database user account was not specified. |

4. Select **Overwrite existing data** if you wish Bamboo to overwrite any tables that already exist in the database.  
5. Click **Continue**.

*Screenshot: Setup JDBC Connection (MySQL)*
Connect using a datasource

To connect Bamboo to a MySQL database using a datasource:

1. Configure a datasource in your application server (consult your application server documentation for details). Please note the following:
   - Ensure that the JDBC URL which you configure in your application server includes the `autoReconnect=true`, `useUnicode=true`, and `characterEncoding=utf8` flags, such that your database URL should look similar to: `jdbc:mysql://localhost/bamboo?autoReconnect=true&useUnicode=true&characterEncoding=utf8`
   - If your MySQL database server is configured to use a storage engine other than InnoDB by default, also include the `sessionVariables=storage_engine=InnoDB` flag in this URL.
   - If the `autoReconnect` flag is not set, the MySQL JDBC driver will eventually time out and Bamboo will no longer be able to communicate with the database. For more information on the URL syntax, please see the MySQL documentation.
   - Datasource example: You can see an example of using Tomcat with a MySQL database as a datasource in the following document: Tomcat and External MySQL Datasource Example.

2. Run the Setup Wizard and choose the Custom Installation method.

3. On the 'Choose a Database Configuration' page, choose External Database > MySQL 5.1 from the list and click Continue. The 'Database Configuration' page appears.

4. Choose Connect via a datasource (configured in the application server) (as shown in the screenshot below).
5. In the JNDI name field, type the JNDI name of your datasource, as configured in your application server.  
   If `java:comp/env/jdbc/DataSourceName` does not work, try `jdbc/DataSourceName` (and vice versa).

6. Select Overwrite existing data if you wish Bamboo to overwrite any tables that already exist in the database.

7. Click Continue.

Screenshot 2: Setup Datasource Connection

Tomcat and External MySQL Datasource Example

Within the Context tags of your context descriptor (bamboo.xml), directly after the opening `<Context...>` line, insert the DataSource Resource tag:

```
<Context .... >
<Resource name="jdbc/bamboo" auth="Container" type="javax.sql.DataSource"
    username="yourusername"
    password="yourpassword"
    driverClassName="com.mysql.jdbc.Driver"
    url="jdbc:mysql://localhost:3306/bamboo?autoReconnect=true"
    maxActive="15"
    maxIdle="7"
    validationQuery="Select 1" />
</Context>
```

Oracle 11g

These instructions will help you connect Bamboo to an Oracle 11g database. Oracle 10g is no longer a supported database for use with Bamboo and the 11.2.x drivers from Oracle do not support 9i.

Bamboo provides two ways to connect to an Oracle database — using JDBC or using a datasource. JDBC is generally simpler and is the recommended method.

On this page:

- Configuring Oracle
- Connecting using JDBC
- Connecting using a datasource
For JDBC or JNDI connections, please ensure that the user connecting to the database will have total permissions over it. This includes DBMS_LOB package and other resources available.

- Note that the JDBC driver for Oracle 11g (Oracle 11.2.0.1.0) is bundled with Bamboo. You do not have to download and install the driver.

### Configuring Oracle

1. Ensure that you have a database instance available for Bamboo (either create a new one or use an existing one).
2. Within that database instance, create a user which Bamboo will connect as (e.g. bamboo-user). Remember this database user name, as it will be used to configure Bamboo's connection to this database.

   ```sql
   create user bamboo-user identified by password;
   ```

3. Ensure that the user has the following permissions:

   ```sql
   grant connect, resource, create table to bamboo-user;
   ```

### Connecting using JDBC

To connect Bamboo to a Oracle database, using JDBC:

1. Run the Setup Wizard and choose the Custom Installation method.
2. At the 'Choose a Database Configuration' step, choose External Database > Oracle 11g. The 'Select Database Connection' screen will appear.
3. Select Direct JDBC connection. The 'Setup JDBC Connection' screen will appear as shown in the screenshot below.

<table>
<thead>
<tr>
<th>Setting</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Driver Class Name</td>
<td>Type: oracle.jdbc.driver.OracleDriver</td>
</tr>
<tr>
<td>Database URL</td>
<td>Type the URL where Bamboo will access your database, e.g. jdbc:oracle:thin:@localhost:1521:SID. For syntax, please see the Oracle documentation.</td>
</tr>
<tr>
<td>Username</td>
<td>Type the username that Bamboo will use to access your database.</td>
</tr>
<tr>
<td>Password</td>
<td>Type the password that Bamboo will use to access your database.</td>
</tr>
</tbody>
</table>

4. Select Overwrite existing data if you wish Bamboo to overwrite any tables that already exist in the database.
5. Click Continue.

*Screenshot: Setup JDBC Connection (Oracle)*
Connecting using a datasource

To connect Bamboo to a Oracle database, using a datasource:

1. Configure a datasource in your application server (consult your application server documentation for details). For the syntax of the JDBC URL to use, please see the Oracle documentation.
2. Run the Setup Wizard and choose the Custom Installation method.
3. At the 'Choose a Database Configuration' step, choose External Database > Oracle 11g.
4. Select Connect using a datasource (configured in the application server). The 'Setup Datasource Connection' screen will appear as shown in the screenshot below.
5. In the JNDI name field, type the JNDI name of your datasource, as configured in your application server. If `java:comp/env/jdbc/DataSourceName` doesn't work, try `jdbc/DataSourceName` (and vice versa).
6. Select Overwrite existing data if you wish Bamboo to overwrite any tables that already exist in the database.
7. Click Continue.

Screenshot Setup Datasource Connection

Microsoft SQL Server 2005 and 2008

These instructions will help you connect Bamboo to a Microsoft SQL Server 2005 or a Microsoft SQL Server 2008 database.

Express Editions: SQL Server Express 2005 and 2008 are not recommended databases due to CPU, memory and database size limitations (please see these pages for full details: SQL Server Express 2005 feature comparison, SQL Server Express 2008 feature comparison). However, the instructions below will allow you to connect Bamboo to SQL Server Express 2005/2008.

Please note, the JDBC driver for SQL Server 2005/2008 (JTDS 1.2.2) is bundled with Bamboo. You do not have to download and install the driver.
1. Configuring SQL Server

Before you connect Bamboo to a SQL Server, you need to configure the SQL Server appropriately.

- **Change server authentication to 'SQL Server and Windows Authentication mode'** — On a typical SQL Server installation, Windows Authentication mode is the default security mode. However, if you try to connect to the database with a database user using this authentication mode, SQL Server will throw an error. You need to change the server authentication mode to **SQL Server and Windows Authentication mode** in SQL Server before you can connect Bamboo to SQL Server. Please see [this MSDN article](#) for instructions on how to do this.
Configure your firewall to allow SQL Server access — If you need to access SQL server through a firewall, you will need to configure your firewall appropriately. The following MSDN article describes how to configure a Windows firewall to allow SQL Server access, however the instructions are applicable to other firewalls: Configuring the Windows Firewall to Allow SQL Server Access.

Enable the TCP/IP protocol for your database instance — You must enable the TCP/IP protocol for your SQL Server database instance by following the instructions in this MSDN article.

2. Creating Your Database

After configuring the SQL Server, you need to create the SQL database.

Create the database for Bamboo — see this MSDN article for instructions.

Assign the 'db-owner' role on the database for the user that will access the Bamboo database — the 'db_owner' fixed database role allows the user to perform all configuration and maintenance activities on the database. You need to add this role to the Bamboo user used to access your database by updating the login properties for your database user in SQL Server. Read more about login properties for SQL Server.

Screenshot: Adding the 'db_owner' database role to a database user in SQL Server
Please ensure that you use a **SQL Server** user account to log into your database, not a Windows user account.

- **Configure the database to use case-sensitive collation** — to make the SQL Server database respect case differences in the data it stores (which is required for Bamboo), ensure that you configure it using a case-sensitive collation option such as 'Latin1_General_CS_AS'. To access this feature in SQL Server Management Studio, right-click on the database name, select **Properties** from the resulting menu, then select the **Options** page.
Screenshot: Configuring the Bamboo database to use 'Latin1_General_CS_AS' collation

- **Configure the database to use the correct isolation level**— Ensure that the new database was set to use Read Committed with Row Versioning as its isolation level. You can apply the new isolation by executing the following query:

  ```sql
  ALTER DATABASE <database name>
  SET READ_COMMITTED_SNAPSHOT ON
  WITH ROLLBACK IMMEDIATE;
  ```

  To verify the changes, use this query which should result in '1':

  ```sql
  SELECT sd.is_read_committed_snapshot_on
  FROM sys.databases AS sd
  WHERE sd.[name] = '〈database name〉';
  ```

**3. Connecting Bamboo to SQL Server**

Bamboo provides two ways to connect to a Microsoft SQL Server database — using JDBC or using a datasource. JDBC is generally simpler and is the recommended method.

- If you are planning to support Unicode in Bamboo please [enable unicode settings for SQL Server](#).

Connecting using JDBC
To connect Bamboo to a Microsoft SQL Server database, using JDBC:

1. Run the Setup Wizard and choose the Custom Installation method.
2. On the Choose a Database Configuration page, choose External Database > Microsoft SQL Server 2005/2008 and click Continue. The 'Database Configuration' page will appear.
3. Ensure that Direct JDBC connection has been selected and complete the following fields (as shown in the screenshot below):

<table>
<thead>
<tr>
<th>Setting</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Driver Class Name</td>
<td>Type net.sourceforge.jtds.jdbc.Driver (if different from the default)</td>
</tr>
<tr>
<td>Database URL</td>
<td>The URL where Bamboo will access your database, e.g. jdbc:jtds:sqlserver://localhost:1433/&lt;database&gt;. If you are connecting to a Named Instance, you will need to append instance=mssqlnamehere to the connection string, where mssqlnamehere is the name of your named instance. For more details about syntax, please refer to the Microsoft SQL Server documentation.</td>
</tr>
<tr>
<td>Username</td>
<td>The username that Bamboo will use to access your database.</td>
</tr>
<tr>
<td>Password</td>
<td>The password that Bamboo will use to access your database.</td>
</tr>
</tbody>
</table>

4. Select Overwrite existing data if you wish Bamboo to overwrite any tables that already exist in the database.
5. Click Continue.

Screenshot: Set Up JDBC Connection SQL Server 2005/2008

Connecting using a datasource

To connect Bamboo to a MS SQL Server, using a datasource:
1. Configure a datasource in your application server (consult your application server documentation for details).
   For details about the syntax to use for the SQL Server database URL, please refer to the Microsoft SQL Server documentation.
2. Run the Setup Wizard and choose the Custom Installation method.
4. Choose Connect via a datasource (configured in the application server), as shown in the screenshot below.
5. In the JNDI name field, type the JNDI name of your datasource, as configured in your application server.
   If `java:comp/env/jdbc/DataSourceName` does not work, try `jdbc/DataSourceName` (and vice versa).
6. Select Overwrite existing data if you wish Bamboo to overwrite any tables that already exist in the database.
7. Click Continue.

Screenshot: Set up Datasource Connection

---

**Unicode Characters Not Supported By Default**

**Problem**
Non-ASCII characters will not be displayed by Bamboo.

**Reason**
The default SQL Server dialect uses column types that do not support Unicode, specifically the **char, varchar** and **text** column types. See [CONF-4786](#) for details.

**Solution**
To add Unicode support, use the Unicode SQL Server dialect which uses **nchar, nvchar** and **ntext** column types. Unicode SQL Server dialect has the downside of halving the maximum length of each column from 8000 characters to 4000, as every char is stored in two bytes.

Enable Unicode SQL Server dialect on a new setup, perform these steps prior to ‘Step 3 - Database Connection Setup’.

1. Open the `<bamboo-install>/webapp/WEB-INF/classes/database-defaults/mssql.properties` file within
your Bamboo installation folder.
2. Comment the line: `dialect=net.sf.hibernate.dialect.SQLServerDialect`
3. Uncomment the line: `#dialect=net.sf.hibernate.dialect.SQLServerIntlDialect`
4. Start the Bamboo Setup Wizard

### How do I connect Bamboo to an unsupported database

We strongly recommend that you use Bamboo with one of the databases that we support (see Supported platforms for details). However, if you wish to connect Bamboo to an unsupported database, you can do so using the instructions below.

First, choose one of the following methods by which you will connect to your database:

- Connecting using JDBC
- Connecting using a datasource.

Then follow the instructions for that method. Note that using JDBC is generally simpler, and is therefore the recommended method.

#### Connecting using JBDC

To connect Bamboo to an unsupported database, using JDBC:

1. Put the appropriate JDBC driver jar file into your application server's classpath:
   - For the Bamboo distribution, copy the jar file into the `webapp/WEB-INF/lib` directory.
   - For the Bamboo EAR-WAR distribution, the location will depend on which application server you are using.
2. Set the following system property before starting your upgraded Bamboo server to enable "Unsupported Database" as a selectable option in the Setup Wizard:
   ```-Dbamboo.enable.unsupported.db=true```
3. At Step 2 of the Bamboo Setup Wizard, choose External Database > Unsupported Database.
4. In the 'Select Database Connection' screen, choose Direct JDBC connection.
5. In the 'Setup JDBC Connection' screen, make the following settings:

<table>
<thead>
<tr>
<th>Setting</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Driver Class Name</td>
<td>The classname of your JDBC driver (consult your JDBC driver documentation for details).</td>
</tr>
<tr>
<td>Database URL</td>
<td>The URL where Bamboo will access your database (consult your JDBC driver documentation for details).</td>
</tr>
<tr>
<td>UserName</td>
<td>The username that Bamboo will use to access your database.</td>
</tr>
</tbody>
</table>
Password | The password (if required) that Bamboo will use to access your database.
--- | ---
Hibernate Dialect | The [Hibernate](https://en.wikipedia.org/wiki/Hibernate_%28object-relational_mapping%29) dialect for your particular database. See the table of dialects below. ! WARNING: the databases in this list are **not supported by Atlassian**. Using these databases is not recommended as there is no guarantee that they will operate correctly with Bamboo. Please consider using a [supported database](https://confluence.atlassian.com/bamboo/what-is-a-supported-database-2624382221.html) instead.

6. Select **Overwrite existing data** if you wish Bamboo to overwrite any tables that already exist in the database.

7. Go to Step 3 of the Setup Wizard.

### Hibernate database dialects

This table lists the [Hibernate](https://en.wikipedia.org/wiki/Hibernate_%28object-relational_mapping%29) dialects that are available for particular databases.

<table>
<thead>
<tr>
<th>Database</th>
<th>Dialect</th>
</tr>
</thead>
<tbody>
<tr>
<td>DB2</td>
<td>net.sf.hibernate.dialect.DB2Dialect</td>
</tr>
<tr>
<td>DB2 AS/400</td>
<td>net.sf.hibernate.dialect.DB2400Dialect</td>
</tr>
<tr>
<td>DB2 OS390</td>
<td>net.sf.hibernate.dialect.DB2390Dialect</td>
</tr>
<tr>
<td>Oracle 9/10g</td>
<td>net.sf.hibernate.dialect.Oracle9Dialect</td>
</tr>
<tr>
<td>Oracle (other versions)</td>
<td>net.sf.hibernate.dialect.OracleDialect</td>
</tr>
<tr>
<td>Sybase</td>
<td>net.sf.hibernate.dialect.SybaseDialect</td>
</tr>
<tr>
<td>Sybase Anywhere</td>
<td>net.sf.hibernate.dialect.SybaseAnywhereDialect</td>
</tr>
<tr>
<td>Microsoft SQL Server</td>
<td>net.sf.hibernate.dialect.SQLServerDialect</td>
</tr>
<tr>
<td>SAP DB</td>
<td>net.sf.hibernate.dialect.SAPDBDialect</td>
</tr>
<tr>
<td>Informix</td>
<td>net.sf.hibernate.dialect.InformixDialect</td>
</tr>
<tr>
<td>Ingres</td>
<td>net.sf.hibernate.dialect.IngresDialect</td>
</tr>
<tr>
<td>Progress</td>
<td>net.sf.hibernate.dialect.ProgressDialect</td>
</tr>
<tr>
<td>Mckoi SQL</td>
<td>net.sf.hibernate.dialect.MckoiDialect</td>
</tr>
<tr>
<td>Interbase</td>
<td>net.sf.hibernate.dialect.InterbaseDialect</td>
</tr>
<tr>
<td>Pointbase</td>
<td>net.sf.hibernate.dialect.PointbaseDialect</td>
</tr>
<tr>
<td>FrontBase</td>
<td>net.sf.hibernate.dialect.FrontbaseDialect</td>
</tr>
</tbody>
</table>
Connecting using a datasource

To connect Bamboo to an unsupported database, using a datasource:

1. Configure a datasource in your application server (consult your application server documentation for details). For the syntax of the JDBC URL to use, please see your JDBC driver documentation.
2. Set the following system property before starting your upgraded Bamboo server to enable "Unsupported Database" as a selectable option in the Setup Wizard:
   `-Dbamboo.enable.unsupported.db=true`
3. At Step 2 of the Bamboo Setup Wizard, choose External Database > Unsupported Database from the list.
4. In the 'Select Database Connection' screen, select Connect via a datasource (configured in the application server).
5. The 'Setup Datasource Connection' screen is displayed. In the JNDI name field, type the JNDI name of your datasource, as configured in your application server.
   - If `java:comp/env/jdbc/DataSourceName` doesn't work, try `jdbc/DataSourceName` (and vice versa).
6. Select Overwrite existing data if you wish Bamboo to overwrite any tables that already exist in the database.
7. Go to Step 3 of the Setup Wizard.

Bamboo remote agent installation guide

This page describes how to install the Bamboo Remote Agent manually.

Before you begin:
- Not sure whether to install a remote agent? See Agents and capabilities to understand how remote agents interact with your Bamboo server.
- Ensure that you have specified the Broker URL, as described in the Bamboo Setup Wizard and the Bamboo 2.0 Upgrade Guide.
- Do you have sufficient agent licenses? See Bamboo licensing for details.
- Have you enabled the creation of remote agents, as described in Disabling and enabling remote agents support.
- Ensure that you have Java Runtime Environment 5.0 or later installed on the agent machine.
- Have you implemented your own remote agent service wrapper? You may not want to use the remote agent supervisor that is bundled with the remote agent. You can choose to install the legacy remote agent (pre-Bamboo 2.2) instead, which does not have a service wrapper.

On this page:
- Step 1. Download and install the remote agent
- Step 2. Launch the remote agent
- Step 3. Configure the remote agent's capabilities
- Step 4. (Optional) Rename the remote agent

Related pages:
- Configuring remote agent capabilities using bamboo-capabilities.properties
- Legacy remote agent installation guide

Step 1. Download and install the remote agent

1. Create a directory on the agent machine (e.g. `bamboo-agent-home`) to serve as the Bamboo agent home for the remote agent.
2. On your Bamboo server, click Administration in the menu bar.
3. Click Agents in the left panel. This will display the 'Agents' screen, showing lists of all local agents and all
remote agents that currently exist on your Bamboo system.

4. Click **Install Remote Agent**. The following screen will be displayed:

![Installing a Remote Agent](image)

To install a remote agent, please follow these instructions:

1. Ensure that you have Java Runtime Environment 5.0 or later installed on the agent machine.
2. Download the remote agent JAR file to a directory on the agent machine.

![DOWNLOAD Remote Agent JAR](image)

Running a Remote Agent

Once installed, you can run the remote agent by executing the following command line from the directory containing the remote agent JAR file:

```
java -jar atlassian-bamboo-agent-installer-3.0-SNAPSHOT.jar
http://bamboo-host-server:8085/agentServer/
```

This will start a service wrapper for your agent, which will automatically restart in case of failure. You may also add extra system properties like `-Dbamboo.home=...` to customize the agent's home location. For more information, see our Bamboo Remote Agent Installation Guide

### Running the agents without the service wrapper

For customers wanting to run the Bamboo agent without the service wrapper, the direct agent JAR is available at `bamboo-agent-3.0-SNAPSHOT.jar`. For more information about using the JAR directly please consult our documentation.

5. Click **DOWNLOAD Remote Agent JAR** and save the JAR file to the directory you created in step 1.1.
6. Take note of the command under the heading 'Running a Remote Agent' for use in step 2 below.

### Step 2. Launch the remote agent

Once installed, you can run the remote agent by executing the command line obtained in the previous step. This command will look something like the following:

```
java -jar atlassian-bamboo-agent-installer-2.2-SNAPSHOT.jar
http://bamboo-host-server:8085/agentServer/
```

*The name of the jar file (e.g. atlassian-bamboo-agent-installer-2.2-SNAPSHOT.jar) will vary depending on the version of Bamboo you are running.*

You can also choose to run the remote agent with different command line parameters, to change where the remote agent stores its data or to suppress the self-signed certificate of the server.

⚠️ If you are having issues launching the agent, then take a look at our [troubleshooting guide](#).

### Changing where the remote agent stores its data

By default, the remote agent will store its data in a `USER_HOME/bamboo-agent-home`. If you wish to specify a different directory, add the following command line parameter before the JAR file name:
where RemoteAgentHome is the path to the Bamboo agent home directory you created in step 1.1. Your command line will look something like this:

```
java -Dbamboo.home=RemoteAgentHome -jar
atlassian-bamboo-agent-installer-2.2-SNAPSHOT.jar
http://bamboo-host-server:8085/agentServer/
```

The name of the jar file (e.g. atlassian-bamboo-agent-installer-2.2-SNAPSHOT.jar) will vary depending on the version of Bamboo you are running.

Disabling auto-capability detection for the remote agent

There may be situations where you want to prevent Bamboo from automatically detecting and adding capabilities (such as JDKs) to the remote agent, or where you don't want to run the remote agent with default capabilities.

To disable auto-capability detection for the remote agent, restart the agent with the following command line parameter before the JAR file name:

```
java -Ddisable_agent_auto_capability_detection=true -jar
atlassian-bamboo-agent-installer-2.2-SNAPSHOT.jar
http://bamboo-host-server:8085/agentServer/
```

Changing the logging on the remote agent

By default, the remote agent will use the same logging level as the Bamboo server. However, you can control the level of logging of your remote agent independently of your Bamboo server by setting up a separate logging configuration file.

Please see [Logging in Bamboo](#) for further details.

Suppressing the self-signed certificate of the server

If your Bamboo server uses SSL (https) with a self-signed certificate, you will need to carry out one of the following two options:

- **Add the following parameter "-Dbamboo.agent.ignoreServerCertName=true" to the remote agent's command line**, for example:
  
  ```
  java -Dbamboo.agent.ignoreServerCertName=true -jar
  atlassian-bamboo-agent-installer-2.2-SNAPSHOT.jar
  http://bamboo-host-server:8085/agentServer/
  ```

  Please be aware that this reduces the security of your configuration, as the identity of your Bamboo server will not be authenticated by the remote agent.

- **Use the keytool utility to add the self-signed certificate to the trusted certificates in your keystore**. This is a more secure option, but is complex to set up. For detailed instructions of how to do this, please refer to the relevant Sun documentation.

Running Bamboo without the Remote Agent Supervisor

The remote agent supervisor is included in the remote agent JAR bundled with Bamboo. The appropriate remote agent supervisor for the operating system of your remote machine, will be automatically installed when you run
the default remote agent start-up command line.

The remote agent supervisor cannot be installed on a small number of operating systems (i.e. the remote agent will start without the remote agent supervisor). If the remote agent supervisor fails to install, please check the operated systems list on the remote agent supervisor page. If your operating system is on the list and the remote agent supervisor still fails to install, please raise a support request in the Bamboo project.

If you need to run the remote agent without running the remote agent supervisor, you can execute the 'classic' version of the remote agent JAR.

The 'classic' agent jar is available from bamboo's agent installation page for download. Follow the steps below to run the 'classic' version of the remote agent:

1. Browse to:

   http://<host>:8085/admin/agent/addRemoteAgent.action

2. Click the 'the direct agent JAR is available at bamboo-agent-2.2.2.jar.' link and save 'classic' agent jar.

3. Start the agent with:

   java -jar bamboo-agent-2.2.2.jar http://<host>:8085/agentServer/

   The name of the jar file (e.g. bamboo-agent-2.2.2.jar) will vary depending on the version of Bamboo you are running.

Running the remote agent with different start-up commands

The remote agent supervisor is executed by default when you run the default remote agent start-up command line. The remote agent supervisor is implemented via a Java Service wrapper. The wrapper allows you to execute a number of general start-up commands when the remote agent is run. These commands are appended to the end of the default remote agent start-up command line:

   java -jar atlassian-bamboo-agent-installer-2.2-SNAPSHOT.jar http://bamboo-host-server:8085/agentServer <wrapper_command>

where <wrapper_command> is one of the keywords described below:

- **console** — runs the remote agent in the foreground, i.e. display all of the commands on the screen. The agent home directory will be populated only if it is empty. This parameter is used by default.
- **start** — runs the remote agent in the background, i.e. no commands are displayed on screen. If you have installed the remote agent as a Windows service, this command will work with the service.
- **stop** — stops a remote agent that is running. If you have installed the remote agent as a Windows service, this command will work with the service.
- **status** — (non-Windows OS only) returns the status of the remote agent, e.g. "Remote agent is not running."
- **install** — installs the files for the remote agent, but does not start it. This will overwrite any changes that have been made to the wrapper.conf file. The agent home directory will be populated, regardless of whether it is empty or not, i.e. existing files will be overwritten. You may wish to use this option, if you want to customise the remote agent files before starting it.
The name of the jar file (e.g. atlassian-bamboo-agent-installer-2.2-SNAPSHOT.jar) will vary depending on the version of Bamboo you are running.

(Windows only) Installing the remote agent as a Windows service

The remote agent supervisor is executed by default when you run the default remote agent start-up command line. The remote agent supervisor is implemented via a Java Service wrapper. The wrapper allows you to install or uninstall the remote agent as a service in Windows (i.e. start the Bamboo remote agent automatically when the machine boots). This is done by appending the appropriate wrapper commands to the end of the default remote agent start-up command line:

```
java -jar atlassian-bamboo-agent-installer-2.2-SNAPSHOT.jar
http://bamboo-host-server:8085/agentServer <wrapper_command>
```

where `<wrapper_command>` is one of the keywords described below:

- `installntservice` — (Windows only) installs the remote agent as a Windows service.
- `uninstallntservice` — (Windows only) uninstalls the remote agent as a Windows service.

The name of the jar file (e.g. atlassian-bamboo-agent-installer-2.2-SNAPSHOT.jar) will vary depending on the version of Bamboo you are running.

If you have installed the NT service, you will be able to use the `start` and `stop` start-up console commands with the service.

The remote agents connect to the Bamboo server on the normal http/https port and 54663. You need to ensure that, the network firewall isn't blocking these ports.

If you're having issues connecting the Remote Agent with Server, please [this Troubleshooting Guide](#).

Step 3. Configure the remote agent's capabilities

Please see Configuring capabilities.

Step 4. (Optional) Rename the remote agent

Your new remote agent has been automatically given a default name (e.g. 'Remote Agent on mymachine'). If you wish to rename your new remote agent, please see Editing an agent's details.

Configuring remote agent capabilities using bamboo-capabilities.properties

You can define the capabilities for a specific remote agent by configuring a bamboo-capabilities.properties file on the agent machine. When the bamboo agent starts up, it will look in the current runtime directory (i.e. `<bamboo-agent-home>/bin`) for a file named bamboo-capabilities.properties. The capabilities defined in that file will then be published for the bamboo agent after registering.
We are aware of an issue that prevents a remote agent capability from being updated once it has been added using the `bamboo-capabilities.properties` file. If you choose to add capabilities with the `bamboo-capabilities.properties` file, you will only be able to update them by deleting the capability in Bamboo and restarting the remote agent. Please see BAM-4213 for further details.

To configure remote agent capabilities:

1. Shut down the remote agent, if it is running.
2. Create a file named `bamboo-capabilities.properties` on the agent machine.
3. Edit the `bamboo-capabilities.properties` file and add the desired capabilities to the agent as desired. You need to follow the capability formats below in the file:

   **Notes:**
   - Use `\` to escape spaces, periods and backslashes (`\`).
   - All capabilities, other than custom capabilities, should start with `system`.

   - **JDK capabilities** — `system.jdk.JDK\ <jdk number>=<jdk location>`
     
     Examples:

     ```
     system.jdk.JDK\ 1.6=/System/Library/Frameworks/JavaVM.framework/Versions/1.6
     system.jdk.JDK\ 1.6=C:\Program Files\Java\jdk6.0.17
     ```
     
     Note the double backslashes in the path for the example above.

   - **Builder capabilities** — `system.builder.<builder type>.<builder label>=<builder path>`
     
     Examples:

     ```
     system.builder.ant.Ant=/opt/apache-ant-1.7.1
     system.builder.maven.Maven\ 1=/opt/maven-1.0.2
     system.builder.mvn2.Maven\ 2=/opt/maven-2.0
     ```

   - **Perforce capabilities** — `system.p4Executable=<perforce executable location>`
     
     Example:

     ```
     system.p4Executable=/usr/bin/p4
     ```

   - **Custom capabilities** — `<custom capability name>=<custom capability value>`
     
     Example:

     ```
     system.os=osx
     ```

4. Save your changes to the `bamboo-capabilities.properties` file.
5. Start up your remote agent. The capabilities defined in the `bamboo-capabilities.properties` file will be configured for your agent.
Legacy remote agent installation guide

If you have implemented your own remote agent service wrapper or have problems with the service wrapper used by the remote agent supervisor in Bamboo, you can install the legacy remote agent (pre-Bamboo 2.2) which does not have a service wrapper.

**Before you begin:**
- Not sure whether to install a Remote Agent? See About Agents to understand how Remote Agents interact with your Bamboo server.
- Ensure that you have specified the Broker URL, as described in the Bamboo Setup Wizard and the Bamboo 2.0 Upgrade Guide.
- Do you have sufficient Agent licenses? See Bamboo licensing for details.
- Have you enabled the creation of Remote Agents, as described in Disabling and enabling remote agents support.
- Ensure that you have Java Runtime Environment 5.0 or later installed on the agent machine.

**Step 1. Download and install the Legacy Remote Agent**

1. Create a directory on the agent machine (e.g. bamboo-agent-home), to serve as the "Bamboo agent home" for the remote agent.
2. On your Bamboo server, click Administration in the top menu.
3. Click Agents in the left navigation panel. This will display the 'Agents' screen, showing lists of all Local Agents and all Remote Agents that currently exist in your Bamboo system.
4. Click Install Remote Agent. The 'Install Remote Agent' screen will be displayed.
5. Click bamboo-agent.jar under the ‘Running the agents without the service wrapper’ section and save the JAR file to the directory you created in step 1.1.

Note that if you configure the capabilities of the remote agent using a bamboo-capabilities.properties file, that file should be located in the same directory as the JAR file (that is, bamboo-agent-home in the above instructions).

**Step 2. Launch the Remote Agent**

Once installed, you can run the remote agent by executing the command line obtained in the previous step. This command will look something like the following:

```bash
java -jar bamboo-agent-2.0-SNAPSHOT.jar
http://bamboo-host-server:8085/agentServer/
```

You may wish to configure the remote agent machine to start the Bamboo remote agent automatically when the machine boots. Please consult your operating system documentation for instructions on how to do this.

You can also choose to run the remote agent with different command line parameters, to change where the remote agent stores its data or suppress the self-signed certificate of the server.

**Changing where the remote agent stores its data**

By default, the remote agent will store its data in a directory called bamboo-agent-home. If you wish to specify a different directory, add the following command line parameter:
where `RemoteAgentHome` is the path to the Bamboo agent home directory you created in step 1.1. Your command line will look something like this:

```
java -Dbamboo.home=RemoteAgentHome -jar bamboo-agent-2.0-SNAPSHOT.jar
http://bamboo-host-server:8085/agentServer/
```

### Suppressing the self-signed certificate of the server

If your Bamboo server uses SSL (https) with a self-signed certificate, you will need to carry out one of the following two options:

- **Add the parameter** `-Dbamboo.agent.ignoreServerCertName=true` **to the remote agent’s command line**, for example:
  ```
  java -Dbamboo.agent.ignoreServerCertName=true -jar bamboo-agent-2.0-SNAPSHOT.jar http://bamboo-host-server:8085/agentServer/
  ```

  Please be aware that this reduces the security of your configuration, as the identity of your Bamboo server will not be authenticated by the remote agent.

- **Use the keytool utility to add the self-signed certificate to the trusted certificates in your keystore**. This is a more secure option, but is complex to set up. For detailed instructions of how to do this, please refer to the relevant Oracle documentation.

### Step 3. Configure the Remote Agent’s Capabilities

Please see [Configuring capabilities](#).

### Step 4. (Optional) Rename the Remote Agent

Your new remote agent has been automatically given a default name (e.g. 'Remote Agent on mymachine'). If you wish to rename your new remote agent, please see [Editing an agent’s details](#).

### Hardware sizing considerations

- **Also see the Bamboo system requirements.**

#### On this page:

- General information
- Database connection pool size
- Local agents considerations
- Remote (or elastic) agents considerations
- Estimating the number of db connections

### General information

For Bamboo, the minimum hardware requirements depend on the size and complexity of your plans. Considerations include:

1. Will your builds have functional tests as part of the plans?
2. Are your plans executed simultaneously? If so, how many plans will be running at any given time?
3. What are the requirements for your running builds, e.g. do they need large amounts of memory/disk/swap
4. How many users will be using Bamboo at any given time? Like any web application, the system resource needed is proportional to the load experienced by the server.
5. How many local agents do you plan on running?

Database connection pool size

The number of database connections available to Bamboo is the the lower of two values: your DBMS connection limit and the configured Bamboo connection pool size. From Bamboo 4.2, the Bamboo connection pool size has a default value of 100.

For a small to medium instances (~5 concurrent users, ~5 busy/building local agents, 20 remote agents, 50 plans), the default values are sufficient.

You should increase the connection limit if you notice UI freezes or general sluggish UI performance. Do not decrease the amount of available connection below 25.

Note: having too many connections available to Bamboo carries no performance penalty as long as your DBMS can handle the load.

Bamboo's connection limit can be modified by altering the following value in your bamboo.cfg.xml file:

```xml
<property name="hibernate.c3p0.max_size">100</property>
```

Local agents considerations

If you run more than 5 concurrently building local agents, note that each busy local agent requires a live database connection, so you'll probably need to adapt the connection limit.

Also, note that large amounts of busy (building) local agents can negatively influence the performance of a Bamboo server (and other services running on that host).

Remote (or elastic) agents considerations

Remote agents do not require special database connection settings.

Estimating the number of db connections

The following formula gives a rough estimate of the number of database connections that will be required:

\[
\text{(Concurrent users)/5} + \text{(Busy remote agents)/5} + \text{(Local agents)} \times 1.1 + \text{(Amount of concurrent change detections)}
\]

For example, an instance with:

- 5 concurrent users
- 30 busy remote (or elastic) agents
- 30 busy local agents
- 60 plans with repository polling set to 60 second intervals (assume 3 seconds per change detection)

would require \(1 + 6 + 33 + 3 = 43\) connections.

Bamboo release notes

Latest Release

✅ Bamboo 4.3 has been released. Read the Bamboo 4.3 Release Notes and Upgrade Guide. Don't have Bamboo 4.3? Take a look at the features of Bamboo's latest major version and try it out!
Release Summary

The features of each Bamboo release, up to and including the latest version, can be found in the Bamboo release summary.

For full details on each of the Bamboo releases, please read the relevant release notes listed below:

- Previous Production Releases
- Previous Beta Releases

You may also be interested in the Bamboo upgrade guides for each release.

All Production Releases

No content found for label(s) bambooreleasenotes.

All Beta Releases

No content found for label(s) bamboobetareleasenotes.

Bamboo release summary

This page shows the highlights of the major Bamboo releases.

Current release

For information about the latest release of Bamboo, please check the main Bamboo release notes page.

Bamboo 4.3 — 30 October 2012

- Simple deployments to Tomcat
- Deploy to the Cloud with Heroku
- Upload files using SCP
- Build from any revision
- Runtime variables for Manual Stages
- Rebuild with one click
- Multiple build Triggers
- Build dependencies after all Stages
- Automatic dependencies for Maven 3
- Dashboard filtering
- Amazon Virtual Private Cloud for Elastic Bamboo
- Wallboard for Branches

Bamboo 4.2 — 21 August 2012

- Notifications, build strategies and dependencies for plan branches
- Automatic linking of JIRA issues to feature branches
- Bamboo build artifacts are linked from JIRA issues
- Git support in the Bamboo Bitbucket connector
- Subversion 1.7 support
- UX improvements
- Mercurial commit isolation

Bamboo 4.1 — 29 May 2012

- Get builds fixed faster with responsibilities
- Take action with JIRA issue creation
- Get your team communicating with Hipchat notifications
- Welcome to the family, Stash!
• More in release notes

**Bamboo 4.0 — 27 March 2012**

- Automatically Build Branches
- Automatically Merge Branches using Gatekeeper and Branch Updater
- Manage Build Failures by Quarantining Intermittent Tests
- Fresh New User Experience
- More in release notes

**Bamboo 3.4 — 14 December 2011**

- Git Submodule Support
- Shared Repositories
- Agent Security Improvements
- New Email Templates
- Elastic Bamboo support for Microsoft Windows®
- More in release notes

**Bamboo 3.3 — 11 October 2011**

- Multiple Source Repositories
- Reload-able Plugins
- Source Repository User Aliases
- Automatic Agent Upgrades
- Fast, history-friendly tabbed navigation
- Commit Centric View
- More in release notes

**Bamboo 3.2 — 26 July 2011**

- Release Management
- Manual Stages
- Rerunning a Failed Stage
- Plan Filters on the Dashboard and Wallboard
- User Management via JIRA
- Improved Application Linking
- More in release notes

**Bamboo 3.1 — 10 May 2011**

- Tasks
- Parameterised Builds
- .Net Support
- Bitbucket Support
- GitHub Support
- New Plugin Manager
- Support for Amazon EC2 Spot Instances
- Gravatar Support
- Improved Windows process handling
- More in release notes

**Bamboo 3.0 — 16 February 2011**

- Artifact Sharing
- Git Support
- User Interface Overhaul — Redesigned Plan Summary, Job Summary and Build Results. New look and feel.
- Scheduled Repository Polling
- Configuration Changes Captured in Audit Logs
- More in release notes

**Bamboo 2.7 — 9 Nov 2010**
- Build Stages — Map Your Build Process, Parallel Builds, Enhanced Plan Structure
- Simplified Plan Creation
- Concurrent Builds
- Mercurial Support
- Improved Wallboards
- New Plan and Job Configuration Summaries
- Recent History on Plan and Job Summaries
- Other User Interface Enhancements — New Breadcrumb Trail, Build Histories, Improved Build Result Summary Tabs
- More in release notes

**Bamboo 2.6 — 1 June 2010**
- Support for up to 100 Remote Agents
- Revamped Dashboard Pages and Other Usability Enhancements
- Performance and Security Improvements
- Automatically Managed Elastic Instances
- Grails Integration
- More in release notes

**Bamboo 2.5 — 4 January 2010**
- Maven Dependency Management
- Plan Import from a pom.xml
- Additional Bulk Actions
- Streamlined Plan Creation
- Express Setup Wizard
- More in release notes

**Bamboo 2.4 — 6 October 2009**
- Bamboo Gadgets in JIRA
- Clover Enhancements
- REST Improvements
- Runtime Log4j Configuration
- More in release notes

**Bamboo 2.3 — 6 August 2009**
- Dependency Blocking Strategies
- New Build Notifications and Queue Reordering
- Bulk Actions
- Multiple Elastic Images
- Elastic Instance Scheduling
- PHPUnit Builder
- Bamboo REST APIs
- Plugins Changes
- More in release notes

**Bamboo 2.2 — 9 March 2009**
- Elastic Bamboo
- Customisable Email Templates
- Build Comment Notification Event
- Hanging Build Detection Event
- Faster Artifact Transfer
- Dependent Builds
- Agent Improvements
- More in release notes

**Bamboo 2.1 — 5 August 2008**
• Link Issues and Builds
• Specify the Issues that are Fixed by a Build
• Track the Builds for your Projects and Versions
• View Issues under Development
• Post Change Detection Plugin Point
• More in release notes

**Bamboo 2.0 — 14 April 2008**
• Distributed builds
• Capability matching
• Memory usage improvements
• Parallel VCS updates and checkouts
• Ability to force a 'clean build'
• Quiet Period functionality supported for Subversion & Perforce
• Bamboo Plugin for Confluence
• Support for Oracle and MS SQL Server databases
• Status Summary screens
• More in release notes

**Bamboo 1.2 — 09 July 2007**
• Permissions (global and plan-based)
• External database support
• Perforce triggering support
• Scheduled backups
• New Bundled NAnt plugin
• More in release notes

**Bamboo 1.1 — 07 May 2007**
• Advanced notifications - rules, triggers, preferences, dynamic recipients
• Build Metadata - pass them to your build, global variables, view them
• File Trigger Inclusions/Exclusions
• More pluggability
• Improved Maven 2 error log parsing
• LDAP and external user management support
• Dashboard loading has been improved
• More in release notes

**Bamboo 1.0 — 20 February 2007**
• All Plans tab
• More in release notes

**Bamboo 4.3 Release Notes**

30th October 2012

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Things don't always go the way you planned, but we won't judge you. Bamboo 4.3 is all about providing the power to build your way and the flexibility to adapt on the fly. Set multiple build triggers for your Plans, choose an arbitrary revision to build from, customize manual stage configs at runtime, even re-run successful builds when you need a "do-over".

With out-of-the-box support for Tomcat, Heroku, SCP and SHH, deploys are just a few clicks away. Send builds
to your own Tomcat server, straight into the cloud (thanks to our friends at Heroku), or upload files to your humble PHP hosting provider.

Bamboo 4.3 is ready for anything. And so are you.

Download

Simple deployments to Tomcat

  Build from any revision
  Multiple build Triggers
  Dashboard filtering
  Deploy to the Cloud with Heroku
  Runtime variables for Manual Stages
  Build dependencies after all Stages

Amazon Virtual Private Cloud for Elastic Bamboo

  Upload files using SCP
  Rebuild with one click
  Automatic dependencies for Maven 3
  Wallboard for Branches

Deployments

Deploy your apps to Tomcat

Start, stop, reload, deploy and undeploy applications in any Tomcat 6.x and 7.x server. Tomcat tasks make it easy to automatically deploy and manage applications on Tomcat as simple as a few clicks.

  Deploy web applications with Heroku

Deploying your Java web application to the cloud has been made easy thanks to our friends over at Heroku. Configure your application name, API token, the WAR file to deploy and click 'Run'.

  Upload files to remote servers using SCP

Upload and deploy static HTML, JavaScript and PHP & Ruby web applications to remote servers using the SCP Task and execute remote commands using the SSH task.
Tomcat, SSH, SCP and Heroku tasks make it easy to deploy your application anywhere in just a few clicks.

More ways to build your way

Run a build from any revision

Build, release and deploy off of an exact revision in your Git, Mercurial, Subversion or Perforce repository.

Rebuild in a click

Rebuild in one click to quickly rollback a deployment or shake out any intermittent failing tests.

Parameterised Stages

Change hostnames, deployment targets, passwords and other variables on the fly when running Manual Stages.

Learn more about customising your build at runtime.

Run a new build from any revision, override variables and change the way your builds at run time

Get a little Trigger happy

Multiple build triggers

Configure your build to run every time a developer commits and once a day using multiple triggers.
Automatic dependencies for Maven 3 projects

Automatically setup child and parent build dependencies between your plans based off of the dependencies in your Maven 3 project.

Trigger dependencies only when all Stages have completed

Configure your build to only trigger child dependency builds when all the Stages of your build have run successfully.

![Triggers](image)

Automatically detect and build new branches from Subversion repositories

Building in the cloud

Amazon Virtual Private Cloud

Launch Elastic Bamboo agents in your own Virtual Private Cloud – an isolated section of Amazon AWS that is accessible by its own Virtual Private Network (VPN) that you define – for extra security and peace of mind.

Updated Elastic Image

Elastic Bamboo image has been updated to add support for Grails 1.3.9, 2.0.4, 2.1.1, PHPUnit 3.7, Apache Ant 1.8.4, JDK 6 update 35 and JDK 7 update 7.

![Setup VPC](image)

Setup a Virtual Private Cloud via the Amazon AWS console and run Elastic Bamboo in your own private cloud (Screenshot of the Amazon AWS Console)
**User Experience**

**Faster, more filterable Dashboard**

Filter the dashboard contents by Project and Plan Labels to personalise the content of your Dashboard. Toggle the filter off to show Plans without a page reload. Pagination shows only the first 50 Plans so the Dashboard loads quicker.

**Wallboard for Branches**

The branches wallboard displays the status of all the branches and the plan that the branches belong to. The plan's own status always appears first so you always know what state your master branch is in.

**Simple configuration of build dependencies**

Managing Dependencies for Bamboo servers that have hundreds of Plans has been made simpler with a new design for the Dependencies configuration tab.

![Dashboard Screenshot]

Filter the dashboard by Project or Plan Label to personalise your Dashboard content.

**Plus more**

**Per-user salting of passwords**

Each users password is automatically salted, reducing the chances of a rainbow table attack if the Bamboo servers database is compromised. Existing users will be migrated to a salted password when they first login to Bamboo 4.3.

**Password metadata is **** out**

Passwords on the Run Customised dialog and in the Metadata tab have been password hashed out to obfuscate their plan text values.

**Switch between Subversion working copy formats**

Switch between Subversion 1.5, 1.6 and 1.7 working copy formats used for checkouts in Administration -> Repository Settings -> Subversion.

Download Bamboo 4.3 now. Upgrading to Bamboo 4.3 is free for all customers with active Bamboo software maintenance. See the Bamboo 4.3 Upgrade Guide for more information.

**Bamboo 4.3 Upgrade Guide**

The instructions on this page describe how to upgrade to Bamboo 4.3 from a previous version of Bamboo. For details on the Bamboo 4.3 release, see the Bamboo 4.3 Release Notes.

Please follow the Bamboo 4.3-specific instructions on this page, in addition to the upgrade instructions in the Bamboo 4.3 Upgrade Guide.
mboo generic upgrade guide.

Please read the Supported platforms page for the full list of supported platforms for Bamboo.

On this page:
- Upgrade notes
- Upgrading from Bamboo prior to 4.1
- Developing for Bamboo 4.3
- Checking for known issues and troubleshooting the Bamboo upgrade

Upgrade notes

Changes to installation

The zip, tgz and tar.gz standalone distributions will now expand with a directory called atlassian-bamboo-X.Y instead of Bamboo (e.g. this releases directory would be called atlassian-bamboo-4.3).

If you automate your upgrade process you will need to make changes to that process to take this change into account.

Dashboard pagination size

By default the Bamboo Dashboard will only show up to 50 plans at any one time to improve performance of systems that have hundreds or thousands of plans.

If the page size is too small, you can change this limit by navigating to Administration -> System -> General Configuration and changing the Default Page Size.

Upgrading from Bamboo 4.2 to 4.3

To upgrade to Bamboo 4.2, following the appropriate instructions below:

- Follow the instructions in the Bamboo generic upgrade guide.

We strongly recommend that you back up your Bamboo instance and database before upgrading, as described in the Bamboo generic upgrade guide.

Upgrading from Bamboo prior to 4.1

In addition to the notes below, please read the Upgrade Guide for every version you are skipping during the upgrade. The complete list of Upgrade Guides is available here.

Notes for upgrading from Bamboo 4.0

- Bamboo's deprecated Remote API has been removed. If you are using this API, migrate to the Bamboo REST API.
- There are no major schema upgrade tasks that may cause the Bamboo upgrade from 3.4 to 4.0 to take an extended amount of time.
- If you are using Elastic Bamboo, we've upgraded JDK6, Grails 1.2, Grails 1.3 and Maven 3 to the latest minor releases on the stock images. Additionally, we've added Grails 2.0 to the image. See here for a complete list of elastic image contents.

Notes for upgrading from Bamboo 3.2

- If you are using Bamboo with Crowd, follow the instructions in Upgrading Bamboo with Crowd to Bamboo 3.2.
- If you've been using Amazon EC2 images with you custom EBS, see Updating EBSes created for Fedora to support Amazon Linux
- If you've customised Amazon EC2 images to work with Bamboo, see Creating a custom elastic image.

Notes for upgrading from a version of Bamboo prior to 2.7.4

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• You will need to upgrade to Bamboo 2.7.4 before upgrading to Bamboo 4.3. If you are using a version of Bamboo earlier than 2.6.3, we recommend that you upgrade to 2.6.3 before upgrading to Bamboo 2.7.4. Bamboo 2.6.3 can be downloaded from the Bamboo Archived Downloads page. Bamboo 2.7.x introduces a number of significant and irreversible changes, so a phased upgrade is recommended. Please see the Bamboo 2.7.x Upgrade Guide for more details.
• You will need to set aside time, as described in the Bamboo 2.7.x Upgrade Guide, for Bamboo to migrate existing Plans to the new Plan structure in Bamboo 2.7.4.
• If you are upgrading from Bamboo 2.5 or earlier, you will need to set aside time, as described in the Bamboo 2.6 Upgrade Guide for Bamboo to migrate its test result data (stored in XML files on the filesystem) into the database.
• If you are upgrading from a version of Bamboo prior to 2.0, you must upgrade to Bamboo 2.0.6 first before upgrading to Bamboo 2.6.3 (and then 2.7.4). Please read the Bamboo 2.0 Upgrade Guide for important upgrade instructions for upgrading from earlier versions of Bamboo.

**Developing for Bamboo 4.3**

If you are a Bamboo plugin developer, please refer to our Changes for Bamboo 4.3 guide, which outlines changes in Bamboo 4.3 that may affect Bamboo plugins compiled for earlier versions of Bamboo.

**Checking for known issues and troubleshooting the Bamboo upgrade**

If something is not working correctly after you have completed the steps above to upgrade your Bamboo installation, please check for known Bamboo issues and try troubleshooting your upgrade as described below:

• **Check for known issues.** Sometimes we find out about a problem with the latest version of Bamboo after we have released the software. In such cases we publish information about the known issues in the Bamboo Knowledge Base. Please check the Bamboo Known Issues in the Bamboo Knowledge Base and follow the instructions to apply any necessary patches if necessary.

• **Did you encounter a problem during the Bamboo upgrade?** Please refer to the guide to troubleshooting upgrades in the Bamboo Knowledge Base.

• If you encounter a problem during the upgrade and cannot solve it, please create a support ticket and one of our support engineers will help you.

**Bamboo 4.2 Release Notes**

13th August 2012

![Working with Git branches has never been easier](image-url)

With dependencies, build strategies and notifications for Plan Branches in Bamboo 4.2, working with branches in Git, Mercurial, Subversion and other version control systems has never been easier. Updated Subversion support now detects new branches automatically, which means that you can build and test all your branches without touching a thing.

Download

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Plan branches

Notifications

Notifications for your branches just got more flexible. Inherit from your plan’s notification settings, send notifications only to committers or your favourite branches, or send no notifications at all.

Build strategies

Want to run your branch build at 2am? Plan branches now have their own build strategy settings just like normal plans.

Dependencies

Dependencies for branches are now here! If both the triggering plan and the receiving plan have a plan branch with the same name, the triggering plan can trigger a branch build of a child.

Defaults for automatic branching

Configure your automatic branch detection so that new branches merge back to master when the build completes, and set default notification preferences for your new branches so the right people on your team get notified of build failures.

Better handling when branches are deleted

When a branch is deleted or is marked as closed the plan branch is automatically disabled, reducing the load on Bamboo and making finished feature branches easy to identify in the user interface.
Configure a default merging strategy for automatically created branches

JIRA

Automatically link your issue to feature branches

If you create a new branch in Git, Mercurial or Subversion that contains a JIRA issue key, Bamboo will automatically link the branch to the JIRA issue. Now you can track all the related builds for your branch from the JIRA ticket and see their latest status.

Get to artifacts from your JIRA issue

Back by popular demand – download Bamboo artifacts directly from the Builds tab of your JIRA ticket.

Link multiple issues to a build at once

To save time when manually linking many JIRA issues to a build, you can put multiple comma-separated issue keys in the link issues field.

If your feature branch contains a JIRA issue key Bamboo will link it back to JIRA.

Git

Bitbucket connector
Just like Bitbucket itself, the Bamboo Bitbucket connector has support for Git repositories. We've also changed the way that Bamboo interacts with the Bitbucket service so that using the connector feels smoother and snappier.

**Better Windows support**

Problems with stuck or hung Bamboo builds when using native Git and SSH repositories on Windows have been obliterated.

**Native Git will rock your world**

Native Git support makes all Git operations super quick just like they are on your local machine. If you have Git installed on your machine, Bamboo will do its best to upgrade from its built-in Git to the new native Git.

**GitHub improvements**

Thought we would forget GitHub? We've taken all the user experience improvements from the Bitbucket connector and brought them to GitHub users. We love you too.

**Gatekeeper reliability**

A number of problems that prevented Gatekeeper with Git from behaving reliably have been fixed. If you are using automatic merging and Git, this update is a great improvement.

![Bitbucket connector configuration](image)

The Bitbucket connector now supports Git repositories

---

**Subversion**

**Automatically detect new branches**

Bamboo automatically detects new branches as they are created in your repository and sets up builds for them.

---

*Created by Atlassian in 2012. Licensed under a Creative Commons Attribution 2.5 Australia License.*
Works with the new toys we introduced with plan branches

Build strategies, dependencies and notifications for branches are not just for Git – they work for Subversion branches too.

Support for Subversion 1.7

Updates to our Subversion support mean it is now possible to use the Subversion 1.7 working space format.

Automatically detect and build new branches from Subversion repositories

User Experience

New results screen

The new results summary screen displays the information you need to diagnose build failures, including comments, test failures and configuration change warnings, right at the top of the page. Since you need to respond to failures fast, operations such as comments are done inline without page refreshes.

Re-run failed jobs from any results screen

Re-running failed jobs is easier now that you can re-run jobs from any results screen, not just from the plan result.

Shortcuts

Need to make a quick configuration change? Press E on any build summary or result page and be automatical taken to the configuration settings for Plans, Jobs and Plan Branches. Quickly organise your plans and results by pressing L to add labels.
The user experience of the result summary has been overhauled to display relevant information first and avoid page refreshes where possible.

**Plus more**

**Performance**

Don't wait – the page load times have been improved right across the user interface, including saving the configuration of plan branches.

**Mercurial commit isolation**

Just as for Subversion and Git, Mercurial repositories now support commit isolation, so you can test each individual commit to a repository.

**Database pool size increase**

Thanks to the feedback from customers with large Bamboo instances, the default database connection pool size has been increased from 25 to 100 connections to improve throughput. Existing customers will need to change their database pool configuration to make use of this recommendation.

Download Bamboo 4.2 now. Upgrading to Bamboo 4.2 is free for all customers with active Bamboo software maintenance. See the Bamboo 4.2 Upgrade Guide for more information.

**Bamboo 4.2 Upgrade Guide**

The instructions on this page describe how to upgrade to Bamboo 4.2 from a previous version of Bamboo. For details on the Bamboo 4.2 release, see the Bamboo 4.2 Release Notes.

Please follow the Bamboo 4.2-specific instructions on this page, in addition to the upgrade instructions in the Bamboo generic upgrade guide.
Please read the Supported platforms page for the full list of supported platforms for Bamboo.

On this page:
- Upgrade notes
- Upgrading from Bamboo 4.1 to 4.2
- Upgrading from Bamboo prior to 4.1
- Developing for Bamboo 4.2
- Checking for known issues and troubleshooting the Bamboo upgrade

Upgrade notes

Git

Atlassian intends to retire all support for built-in Git within the next few releases in favour of the native Git support and we will not be improving built-in Git in subsequent releases. This does NOT mean that we are removing Git from Bamboo, just changing how we use Git.

For this release, Bamboo on upgrade will add a Git capability to your server if it detects a Git executable on the path or in Program Files on Windows machines. If you do not have Git installed on your servers, you should do so before running the upgrade so it is automatically configured for you.

If the upgrade fails to detect the Git executable or you do not configure a native Git capability, the built-in Git will continue to function for this release just as before.

How Bamboo uses Git and why it's changing

Bamboo ships with two Git implementations:

1. Built-in Git – This is a Java implementation of the Git command line tool that can be embedded into applications (such as Bamboo) to provide Git operations when no Git executable is available.
2. Native Git – This uses the Git executable on your server to perform clones, checkouts and merges.
   Bamboo uses a Git capability to store where Bamboo should look for this executable on the server or on an agent.

As we have been working with the built-in Git, we have discovered that under a particular combination of circumstances and operations it may not behave as expected. Furthermore, new features added to native Git only make it into the built-in Git after a period of months or years, which makes it difficult to build new features.

Built-in Git is also not capable of being used by Bamboo’s automatic merging features.

Performance

The default DB connection pool size has been increased for new installations from 25 to 100. This will not happen automatically for existing installations. If you are experiencing performance issues, we recommend that you manually change your database pool to 100 connections.

See Hardware sizing considerations for more information.

Bitbucket

The Repository URL option for Bitbucket repository configurations has been removed and existing configurations using this option have been automatically migrated to the regular Mercurial repository type.

Subversion 1.7 support

Bamboo 4.2 supports Subversion 1.7, but uses the Subversion 1.6 Workspace Format by default to keep backwards compatibility with older Subversion working copies. You can set the bamboo.svn.wc.format system property if your Bamboo plans need to use Subversion 1.7 commands as part of your build scripts. See Setting Bamboo to Support Subversion 1.7 Workspace Format for details.
Since version 4.2.1, Bamboo uses the Subversion 1.7 Working Copy Format by default. For backwards compatibility with older Subversion working copies you need to configure Repository Settings -> Subversion in the Bamboo Administration panel. The bamboo.svn.wc.form at system property is deprecated.

**Upgrading from Bamboo 4.1 to 4.2**

To upgrade to Bamboo 4.2, following the appropriate instructions below:

- Follow the instructions in the Bamboo generic upgrade guide.

We strongly recommend that you back up your Bamboo instance and database before upgrading, as described in the Bamboo generic upgrade guide.

**Upgrading from Bamboo prior to 4.1**

In addition to the notes below, please read the Upgrade Guide for every version you are skipping during the upgrade. The complete list of Upgrade Guides is available here.

**Notes for upgrading from Bamboo 4.0**

- Bamboo's deprecated Remote API has been removed. If you are using this API, migrate to the Bamboo REST API.
- There are no major schema upgrade tasks that may cause the Bamboo upgrade from 3.4 to 4.0 to take an extended amount of time.
- If you are using Elastic Bamboo, we've upgraded JDK6, Grails 1.2, Grails 1.3 and Maven 3 to the latest minor releases on the stock images. Additionally, we've added Grails 2.0 to the image. See here for a complete list of elastic image contents.

**Notes for upgrading from Bamboo 3.2**

- If you are using Bamboo with Crowd, follow the instructions in Upgrading Bamboo with Crowd to Bamboo 3.2.
- If you've been using Amazon EC2 images with your custom EBS, see Updating EBSes created for Fedora to support Amazon Linux
- If you've customised Amazon EC2 images to work with Bamboo, see Creating a custom elastic image.

**Notes for upgrading from a version of Bamboo prior to 2.7.4**

- You will need to upgrade to Bamboo 2.7.4 before upgrading to Bamboo 4.2. If you are using a version of Bamboo earlier than 2.6.3, we recommend that you upgrade to 2.6.3 before upgrading to Bamboo 2.7.4. Bamboo 2.6.3 can be downloaded from the Bamboo Archived Downloads page. Bamboo 2.7.x introduces a number of significant and irreversible changes, so a phased upgrade is recommended. Please see the Bamboo 2.7.x Upgrade Guide for more details.
- You will need to set aside time, as described in the Bamboo 2.7.x Upgrade Guide, for Bamboo to migrate its test result data (stored in XML files on the filesystem) into the database.
- If you are upgrading from Bamboo 2.5 or earlier, you will need to set aside time, as described in the Bamboo 2.6 Upgrade Guide for Bamboo to migrate its test result data (stored in XML files on the filesystem) into the database.
- If you are upgrading from a version of Bamboo prior to 2.0, you must upgrade to Bamboo 2.0.6 first before upgrading to Bamboo 2.6.3 (and then 2.7.4). Please read the Bamboo 2.0 Upgrade Guide for important upgrade instructions for upgrading from earlier versions of Bamboo.

**Developing for Bamboo 4.2**

If you are a Bamboo plugin developer, please refer to our Changes for Bamboo 4.2 guide, which outlines changes in Bamboo 4.2 that may affect Bamboo plugins compiled for earlier versions of Bamboo.
Checking for known issues and troubleshooting the Bamboo upgrade

If something is not working correctly after you have completed the steps above to upgrade your Bamboo installation, please check for known Bamboo issues and try troubleshooting your upgrade as described below:

- **Check for known issues.** Sometimes we find out about a problem with the latest version of Bamboo after we have released the software. In such cases we publish information about the known issues in the Bamboo Knowledge Base. Please check the Bamboo Known Issues in the Bamboo Knowledge Base and follow the instructions to apply any necessary patches if necessary.

- **Did you encounter a problem during the Bamboo upgrade?** Please refer to the guide to troubleshooting upgrades in the Bamboo Knowledge Base.

- If you encounter a problem during the upgrade and cannot solve it, please create a [support ticket](https://confluence.atlassian.com/doc/support-ticket/) and one of our support engineers will help you.

Bamboo 4.2.1 Release Notes

29 August 2012

The Atlassian Bamboo team has announced the release of **Bamboo 4.2.1**.

We've fixed several bugs in this release. Please see the 'Updates and Fixes in this Release' section below for details.

Bamboo 4.2.1 is of course free to all customers with [active Bamboo software maintenance](https://confluence.atlassian.com/doc/active-software-maintenance/).

Don't have Bamboo 4.2 yet?

Take a look at all the new features in the [Bamboo 4.2 Release Notes](https://confluence.atlassian.com/doc/bamboo-4-2-release-notes/) and see what you are missing out on!

![Download latest version]

Upgrading from a Previous Version of Bamboo

If you are upgrading, please read the [Bamboo 4.2 Upgrade Guide](https://confluence.atlassian.com/doc/bamboo-4-2-upgrade-guide/).

Updates and Fixes in this Release

The issues addressed in Bamboo 4.2.1 are shown below.

<table>
<thead>
<tr>
<th>JIRA Issues (6 issues)</th>
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<td>Issue</td>
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Bamboo 4.1 Release Notes

29 May 2012

Atlassian is proud to present Bamboo 4.1 with build responsibility management, JIRA issue creation and linking, HipChat notifications and Stash repository links.

Upgrading to Bamboo 4.1 is free for all customers with active Bamboo software maintenance.

---

**Highlights of this release:**

- Get builds fixed faster with responsibilities
- Take action with JIRA issue creation
- Get your team communicating with HipChat notifications
- Welcome to the family, Stash!
- Plus Over 50 Fixes and Improvements
Thank you for your feedback:

🌟 27 new features and improvements implemented

Please keep logging your votes and issues. They help us decide what needs doing, and are much appreciated!

<table>
<thead>
<tr>
<th>Upgrading to Bamboo 4.1</th>
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<tbody>
<tr>
<td>You can download Bamboo from the Atlassian website. If upgrading from a previous version, please read the Bamboo 4.1 Upgrade Guide.</td>
</tr>
</tbody>
</table>

1

Get builds fixed faster with responsibilities

Finding it difficult to keep track of who caused a build to fail?

Easily keep track of who’s responsible for a build failure by using the new responsibilities. When a build breaks, all those who committed code are added to the list of people who are responsible for the failure. As you investigate the build failure, you can revise who is responsible, or claim all the responsibility for yourself!

Builds that keep failing in series keep the same list of responsible people. When the build passes again everyone is taken off the hook for the failure.

The avatars for the responsible people are also shown on the Wallboard so you can easily recognise if the failure is yours.

We’ve also added a new Responsible recipient so you can notify only the people responsible when Bamboo detects events such as build failures, build successes and comments added.

More...

2

Take action with JIRA issue creation
Quickly create a JIRA issue from any build result and have the newly created issue link directly back to the build result via JIRA's Issue Links. Creating issues from within Bamboo has lots of uses:

- **Capture** and notify other team members of infrastructure failures that are keeping your build from passing.
- **Request** that a successful build be deployed to the next environment.
- **Create** a searchable knowledge base of failure causes and their solutions.
- **Log** time spent on build failures and use JIRA dashboard gadgets to discover trends over time.

More...

Get your team communicating with Hipchat notifications

This year, Atlassian acquired HipChat — the pay-as-you-go private IM service that lives in the cloud. Bamboo 4.1 integrates with HipChat right out of the box, providing another way to get everyone synced up.

Colour-coded build notifications can be broadcast to HipChat rooms, which automatically show the last 100 or so lines of chat history as soon as you enter.

Have Bamboo notify your team of build failures and deployment successes and get more information by clicking directly through to the build result.

Got distributed teams? Open up your HipChat room first thing in the morning to see all the build notifications from overnight. Or fire up the room from your smart phone application during your morning commute and really get a jump on the day.

More...
Welcome to the family, Stash!

We welcomed Stash, a Git Repository Management for Enterprise Teams, to the Atlassian family this year. Just like we have for FishEye, the Bamboo team have built support for Stash repository links. Any commits to a Stash repository are linked directly from the Changes on a build result to the change view in Stash, allowing you to quickly browse the changes in your build.

More...

Do you have a cool idea for a Stash and Bamboo integration? Raise an improvement request to let us know!

Plus Over 50 Fixes and Improvements

The top 10 issues are shown below. Please refer to our public JIRA site to see the full list of fixes and improvements in this release of Bamboo.

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<td>BAM-11367</td>
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<td>BAM-11466</td>
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**The Bamboo 4.1 Team**

*Development*

*Core Team*
- Brydie McCoy
- Jason Berry
- Marek Went
- Krystian Brazulewicz
- Przemek Bruski
- Marcin Gardias
- Piotr Stefan Stefaniak
Bamboo 4.1 Upgrade Guide

The instructions on this page describe how to upgrade to Bamboo 4.1 from a previous version of Bamboo. For details on the Bamboo 4.1 release, see the Bamboo 4.1 Release Notes.

Please follow the Bamboo 4.1-specific instructions on this page, in addition to the upgrade instructions in the Bamboo generic upgrade guide.

Please read the Supported platforms page for the full list of supported platforms for Bamboo.
Upgrade Notes

There are no upgrade notes specific to Bamboo 4.1

Upgrading from Bamboo 4.0 to 4.1

To upgrade to Bamboo 4.1, following the appropriate instructions below:

- Follow the instructions in the Bamboo generic upgrade guide.

We strongly recommend that you back up your Bamboo instance and database before upgrading, as described in the Bamboo generic upgrade guide.

Upgrading from Bamboo prior to 4.0

In addition to the notes below, please read the Upgrade Guide for every version you are skipping during the upgrade. The complete list of Upgrade Guides is available here.

Notes for upgrading from Bamboo 4.0

- Bamboo’s deprecated Remote API has been removed. If you are using this API, migrate to the Bamboo REST API.
- There are no major schema upgrade tasks that may cause the Bamboo upgrade from 3.4 to 4.0 to take an extended amount of time.
- If you are using Elastic Bamboo, we’ve upgraded JDK6, Grails 1.2, Grails 1.3 and Maven 3 to the latest minor releases on the stock images. Additionally, we’ve added Grails 2.0 to the image. See here for a complete list of elastic image contents.

Notes for upgrading from Bamboo 3.2

- If you are using Bamboo with Crowd, follow the instructions in Upgrading Bamboo with Crowd to Bamboo 3.2.
- If you’ve been using Amazon EC2 images with your custom EBS, see Updating EBSes created for Fedora to support Amazon Linux.
- If you’ve customised Amazon EC2 images to work with Bamboo, see Creating a custom elastic image.

Notes for upgrading from a version of Bamboo prior to 2.7.4

- You will need to upgrade to Bamboo 2.7.4 before upgrading to Bamboo 4.1. If you are using a version of Bamboo earlier than 2.6.3, we recommend that you upgrade to 2.6.3 before upgrading to Bamboo 2.7.4. Bamboo 2.6.3 can be downloaded from the Bamboo Archived Downloads page. Bamboo 2.7.x introduces a number of significant and irreversible changes, so a phased upgrade is recommended. Please see the Bamboo 2.7.x Upgrade Guide for more details.
- You will need to set aside time, as described in the Bamboo 2.7.x Upgrade Guide, for Bamboo to migrate existing Plans to the new Plan structure in Bamboo 2.7.4.
- If you are upgrading from Bamboo 2.5 or earlier, you will need to set aside time, as described in the Bamboo 2.6 Upgrade Guide for Bamboo to migrate its test result data (stored in XML files on the filesystem) into the database.
- If you are upgrading from a version of Bamboo prior to 2.0, you must upgrade to Bamboo 2.0.6 first before upgrading to Bamboo 2.6.3 (and then 2.7.4). Please read the Bamboo 2.0.6 Upgrade Guide for important upgrade instructions for upgrading from earlier versions of Bamboo.

Developing for Bamboo 4.1
If you are a Bamboo plugin developer, please refer to our Changes for Bamboo 4.1 guide, which outlines changes in Bamboo 4.1 that may affect Bamboo plugins compiled for earlier versions of Bamboo.

**Checking for Known Issues and Troubleshooting the Bamboo Upgrade**

If something is not working correctly after you have completed the steps above to upgrade your Bamboo installation, please check for known Bamboo issues and try troubleshooting your upgrade as described below:

- **Check for known issues.** Sometimes we find out about a problem with the latest version of Bamboo after we have released the software. In such cases we publish information about the known issues in the Bamboo Knowledge Base. Please check the Bamboo Known Issues in the Bamboo Knowledge Base and follow the instructions to apply any necessary patches if necessary.

- **Did you encounter a problem during the Bamboo upgrade?** Please refer to the guide to troubleshooting upgrades in the Bamboo Knowledge Base.

- If you encounter a problem during the upgrade and cannot solve it, please create a support ticket and one of our support engineers will help you.

**Bamboo 4.1.1 Release Notes**

19 June 2012

The Atlassian Bamboo team is proud to announce the release of Bamboo 4.1.1.

We’ve fixed several bugs in this release. Please see the 'Updates and Fixes in this Release' section below for details.

Bamboo 4.1.1 is of course free to all customers with active Bamboo software maintenance.

Don’t have Bamboo 4.1 yet?

Take a look at all the new features in the Bamboo 4.1 Release Notes and see what you are missing out on!

### Upgrading from a Previous Version of Bamboo

If you are upgrading, please read the Bamboo 4.1 Upgrade Guide.

### Updates and Fixes in this Release

The issues addressed in Bamboo 4.1.1 are shown below.

<table>
<thead>
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### Bamboo 4.1.2 Release Notes

**25 June 2012**

The Atlassian Bamboo team has announced the release of **Bamboo 4.1.2**.

We've fixed several bugs in this release. Please see the 'Updates and Fixes in this Release' section below for details.

Bamboo 4.1.1 is of course free to all customers with [active Bamboo software maintenance](https://www.atlassian.com/software/bamboo/).
Don't have Bamboo 4.1 yet?

Take a look at all the new features in the Bamboo 4.1 Release Notes and see what you are missing out on!

Upgrading from a Previous Version of Bamboo

If you are upgrading, please read the Bamboo 4.1 Upgrade Guide.

Updates and Fixes in this Release

The issues addressed in Bamboo 4.1.2 are shown below.

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<th>JIRA Issues (6 issues)</th>
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Bamboo 4.0 Release Notes

27 March 2012

Atlassian is proud to present Bamboo 4.0 with automated build branches and branch merging, quarantined tests and many more improvements.

Upgrading to Bamboo 4.0 is free for all customers with active Bamboo software maintenance.

Highlights of this release:

- Automatically Build Branches
- Automatically Merge Branches using Gatekeeper and Branch Updater
- Manage Build Failures by Quarantining Intermittent Tests
- Fresh New User Experience
- Plus Over 100 Fixes and Improvements

Thank you for your feedback:

- ★ 55 new features and improvements implemented
- ★ 106 votes fulfilled

Please keep logging your votes and issues. They help us decide what needs doing, and are much appreciated!

Upgrading to Bamboo 4.0

You can download Bamboo from the Atlassian website. If upgrading from a previous version, please read the Bamboo 4.0 Upgrade Guide.

Automatically Build Branches
Git and Mercurial have made creating and merging branches extremely fast and easy, allowing developers to work on features, bug fixes and other improvements without conflicts. In the past, most continuous integration systems were configured to only build the 'master' or mainline branch, not the branch where the developer is actually working. This left the developer and their team uncertain if the branch changes actually worked or not.

Now, with **Plan Branches**, Bamboo can build branches without having to duplicate the build configuration for each branch. You can have Bamboo watch Git and Mercurial repositories and create plan branches automatically when a developer creates a branch. This allows feedback on changes without the hassle of manually configuring a new build for every branch.

**More...**

### Automatically Merge Branches using Gatekeeper and Branch Updater

Remove integration uncertainty in your build when developing on Git and Mercurial branches. With our new support for automatic merging, Bamboo provides two methods to automatically test and merge your code on every change to ensure that your branch will integrate perfectly when it's time to merge your changes.

Using the **Gatekeeper** model, Bamboo automatically merges work on a feature branch back into trunk and pushes it if the build passes. This is great for teams who are working on bug fixes on a separate branch or small features that can be included in the project as soon as they are completed.

The **Branch Updater** model, Bamboo automatically merges work from another specified branch into the current branch. This works fabulously for situations where a branch needs to be kept up to date with changes from master or another branch.

**More...**
Manage Build Failures by Quarantining Intermittent Tests

Fans of "Freakonomics" know about the Broken Window Theory: breakages that are left visible tend to invite further destruction and neglect.

The world of software is no different. Builds with flaky or ever-failing tests tend to fall into severe decay because breakages become the norm. That's why teams adopt the discipline of either fixing the problem right away, or pulling the test out. But if the test was worth writing, it's worth keeping tabs on, and Bamboo's new Quarantine feature makes that easy.

Simply hit the Quarantine button next to a failing test and let Bamboo do the dirty work. Not only that, but you'll see the count of Quarantined tests in every build result as a reminder to reincorporate them into your build. Gone are the days of commenting out test code or manually updating test suite configuration files.

More...

Fresh New User Experience

Springtime means spring cleaning, so we've freshened up the UI in Bamboo 4. Don't want to see the Plan Navigator all the time? Toggle it hidden or shown to keep content-packed pages free of clutter and easy to read.

On the Plan Summary pages, you'll notice that the Plan Statistics
panel has undergone a facelift. And just under that, you’ll find a list of all branches for the plan, complete with build status indicators!

History buffs and stats junkies alike will rejoice in the new build history bar on the plan detail and configuration pages that shows the status of the last 10 builds. Hover your mouse over any indicator to see the build number, what triggered the build and whether any tests failed.

Plus Over 100 Fixes and Improvements

The top 10 issues by votes are shown below. Please refer to our public JIRA site to see the full list of fixes and improvements in this release of Bamboo.

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The Bamboo 4.0 Team

**Development**

**Core Team**

Brydie McCoy  
Jason Berry  
Marek Went  
Krystian Brazulewicz  
Przemek Bruski  
Marcin Gardias  
Piotr Stefan Stefaniak  
Nathan Wilson

**Team Lead**

Mark Chaimungkalanont

**Project Manager**

Anton Mazkovoi

**Support**

Ajay Sridhar  
Armen Khachatryan  
Daniel Rohan  
Douglas Fabretti  
Felipe Kraemer  
Gurleen Anand

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Bamboo 4.0 Upgrade Guide

The instructions on this page describe how to upgrade to Bamboo 4.0 from a previous version of Bamboo. For details on the Bamboo 4.0 release, see the Bamboo 4.0 Release Notes.

Please follow the Bamboo 4.0-specific instructions on this page, in addition to the upgrade instructions in the Bamboo generic upgrade guide.

Please read the Supported platforms page for the full list of supported platforms for Bamboo.

---

### Upgrade Notes

The following upgrade notes are specific to Bamboo 4.0

- Bamboo's deprecated Remote API has been removed. If you are using this API, migrate to the Bamboo REST API.
- There are no major schema upgrade tasks that may cause the Bamboo upgrade from 3.4 to 4.0 to take an extended amount of time.
- If you are using Elastic Bamboo, we've upgraded JDK6, Grails 1.2, Grails 1.3 and Maven 3 to the latest minor releases on the stock images. Additionally, we've added Grails 2.0 to the image. See here for a complete list of elastic image contents.

### Upgrading from Bamboo 3.4 to 4.0

To upgrade to Bamboo 4.0, following the appropriate instructions below:

- Follow the instructions in the Bamboo generic upgrade guide.

We strongly recommend that you back up your Bamboo instance and database before upgrading, as described
in the Bamboo generic upgrade guide.

**Upgrading from Bamboo prior to 3.4**

In addition to the notes below, please read the Upgrade Guide for every version you are skipping during the upgrade. The complete list of Upgrade Guides is available here.

**Notes for upgrading from Bamboo 3.2**

- If you are using Bamboo with Crowd, follow the instructions in Upgrading Bamboo with Crowd to Bamboo 3.2.
- If you’ve been using Amazon EC2 images with you custom EBS, see Updating EBSes created for Fedora to support Amazon Linux.
- If you’ve customised Amazon EC2 images to work with Bamboo, see Creating a Custom Elastic Image.

**Notes for upgrading from a version of Bamboo prior to 2.7.4**

- You will need to upgrade to Bamboo 2.7.4 before upgrading to Bamboo 4.0. If you are using a version of Bamboo earlier than 2.6.3, we recommend that you upgrade to 2.6.3 before upgrading to Bamboo 2.7.4. Bamboo 2.6.3 can be downloaded from the Bamboo Archived Downloads page. Bamboo 2.7.x introduces a number of significant and irreversible changes, so a phased upgrade is recommended. Please see the Bamboo 2.7.x Upgrade Guide for more details.
- You will need to set aside time, as described in the Bamboo 2.7.x Upgrade Guide, for Bamboo to migrate existing Plans to the new Plan structure in Bamboo 2.7.4.
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- If you are upgrading from a version of Bamboo prior to 2.0, you must upgrade to Bamboo 2.0.6 first before upgrading to Bamboo 2.6.3 (and then 2.7.4). Please read the Bamboo 2.0 Upgrade Guide for important upgrade instructions for upgrading from earlier versions of Bamboo.

**Developing for Bamboo 4.0**

If you are a Bamboo plugin developer, please refer to our Changes for Bamboo 4.0 guide, which outlines changes in Bamboo 4.0 that may affect Bamboo plugins compiled for earlier versions of Bamboo.

**Checking for Known Issues and Troubleshooting the Bamboo Upgrade**

If something is not working correctly after you have completed the steps above to upgrade your Bamboo installation, please check for known Bamboo issues and try troubleshooting your upgrade as described below:

- **Check for known issues.** Sometimes we find out about a problem with the latest version of Bamboo after we have released the software. In such cases we publish information about the known issues in the Bamboo Knowledge Base. Please check the Bamboo Known Issues in the Bamboo Knowledge Base and follow the instructions to apply any necessary patches if necessary.

- **Did you encounter a problem during the Bamboo upgrade?** Please refer to the guide to troubleshooting upgrades in the Bamboo Knowledge Base.

- If you encounter a problem during the upgrade and cannot solve it, please create a support ticket and one of our support engineers will help you.

**Bamboo 4.0.1 Release Notes**

**13 April 2012**

The Atlassian Bamboo team is proud to announce the release of Bamboo 4.0.1.

We've fixed several bugs in this release. Please see the 'Updates and Fixes in this Release' section below for details.

Bamboo 4.0.1 is of course free to all customers with active Bamboo software maintenance.
Don't have Bamboo 4 yet?

Take a look at all the new features in the Bamboo 4.0 Release Notes and see what you are missing out on!

**Upgrading from a Previous Version of Bamboo**

If you are upgrading, please read the Bamboo 4.0 Upgrade Guide.

**Updates and Fixes in this Release**

The issues addressed in Bamboo 4.0.1 are shown below.

<table>
<thead>
<tr>
<th>JIRA Issues (12 issues)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Type</strong></td>
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<tr>
<td>---</td>
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<tr>
<td></td>
</tr>
<tr>
<td>Issue</td>
</tr>
<tr>
<td>-------</td>
</tr>
<tr>
<td>BAM-113 40</td>
</tr>
<tr>
<td>Issue Number</td>
</tr>
<tr>
<td>--------------</td>
</tr>
<tr>
<td>BAM-968-0</td>
</tr>
</tbody>
</table>

### Bamboo 3.4 Release Notes

- **✔ Bamboo 4.3** has been released. Read the [Bamboo 4.3 Release Notes](#) and [Upgrade Guide](#).
- *Don't have Bamboo 4.3? Take a look at the features of Bamboo's latest major version and try it out!*

#### 14 December 2011

Atlassian is proud to present Bamboo 3.4 with improved Git support, stronger agent security, global repositories, enhanced email templates and many more improvements.

Upgrading to Bamboo 3.4 is free for all customers with [active Bamboo software maintenance](#).

[Download latest version](#)

**Highlights of this release:**

- Git Submodule Support
- Shared Repositories
- Agent Security Improvements
- New Email Templates
- Elastic Bamboo support for Microsoft Windows®
- Plus over 100 fixes and improvements

*Thank you for your feedback:*
🌟 107 new features and improvements implemented
🌟 56 votes fulfilled

Please keep logging your votes and issues. They help us decide what needs doing, and are much appreciated!

<table>
<thead>
<tr>
<th>Upgrading to Bamboo 3.4</th>
</tr>
</thead>
<tbody>
<tr>
<td>You can download Bamboo from the <a href="https://atlassian.com">Atlassian website</a>. If upgrading from a previous version, please read the <a href="https://docs.atlassian.com">Bamboo 3.4 Upgrade Guide</a>.</td>
</tr>
</tbody>
</table>

1

**Git Submodule Support**

By supporting native Git clients in addition to its embedded Git implementation, Bamboo now unlocks the full power of Git while still making it easy to get started. The new support for [Git Submodules](https://git-scm.com/docs/git-submodule) allows you to structure your projects the way you want, and makes it easy to build multimodule projects.

It is still simple to get started with Git. If you don't have a native Git client installed on your agent, Bamboo will automatically fall back to its embedded Git implementation. To use the improved Git support, simply let Bamboo know where the Git executable is located.

2

**Shared Repositories**

In Bamboo 3.3 we made it easy to add multiple repositories, and now in 3.4 we make it easy to share them. Are you using the same repository in multiple plans and are tired of keeping them all in sync when the configuration of the repository changes? With Shared Repositories you can define repositories globally and share the configuration with as many plans as you want. When you update the configuration, the change will automatically be picked up by all plans that use the repository definition. *More...*
Agent Security Improvements

Bamboo 3.4 now provides a way to verify that remote agents are allowed to connect to the Bamboo server. Bamboo prevents unknown agents from connecting to the server. Agents now need to be manually approved by an administrator before they can communicate with the server in any way. Note that Elastic agents do not have to be approved. This improvement means that sensitive information on the Bamboo server is now much more secure.

More...
**New Email Templates**

We've made the Bamboo email notification a whole lot easier on the eyes. The new design makes the email much easier to read and allows you to see all the important information about the build at a glance.

**Elastic Bamboo support for Microsoft Windows®**

If you've ever wanted to use Elastic Bamboo to test your application in Internet Explorer 9, or for testing .NET applications, Bamboo is able to help you do this quickly and cheaply in the Cloud using Amazon EC2. Start the new Windows 2008 64bit server Elastic Bamboo image with a single click, and get testing on Windows in minutes. **More...**

**Plus over 100 fixes and improvements**

The top 10 issues by votes are shown below. For the full list of fixes and improvements, please refer to our public JIRA site to see a full list of issues fixed in this release of Bamboo.
<table>
<thead>
<tr>
<th>Issue</th>
<th>Description</th>
<th>Priority</th>
<th>Status</th>
</tr>
</thead>
<tbody>
<tr>
<td>BAM-8106</td>
<td>Git Repository should support submodules</td>
<td>26</td>
<td>Resolved</td>
</tr>
<tr>
<td>BAM-5206</td>
<td>Elastic Bamboo support for Windows/.Net images</td>
<td>12</td>
<td>Resolved</td>
</tr>
<tr>
<td>BAM-6361</td>
<td>Support for x86_64 using default ami</td>
<td>10</td>
<td>Resolved</td>
</tr>
<tr>
<td>BAM-1956</td>
<td>SVN:Externals changes are not picked up in sub-folders</td>
<td>5</td>
<td>Resolved</td>
</tr>
<tr>
<td>BAM-10280</td>
<td>Upgrade Fedora version on EC2 Default Image</td>
<td>4</td>
<td>Resolved</td>
</tr>
<tr>
<td>BAM-1647</td>
<td>Cannot create export files larger than 4G</td>
<td>3</td>
<td>Resolved</td>
</tr>
<tr>
<td>BAM-8743</td>
<td>GitHub support only seems to support personal and public organisation repos and not private organisation repos</td>
<td>3</td>
<td>Resolved</td>
</tr>
<tr>
<td>BAM-6238</td>
<td>Bamboo does not connect to eJabberd 2.1.3</td>
<td>3</td>
<td>Resolved</td>
</tr>
<tr>
<td>BAM-4817</td>
<td>Bamboo should retry Repository related operation before failing a build</td>
<td>2</td>
<td>Resolved</td>
</tr>
<tr>
<td>BAM-10015</td>
<td>Agent class server blacklists JIRA plugin needed for deserialisation of build message</td>
<td>2</td>
<td>Resolved</td>
</tr>
</tbody>
</table>

The Bamboo 3.4 Team

Development

Core Team

Brydie McCoy
Bamboo 3.4 Upgrade Guide

The instructions on this page describe how to upgrade to Bamboo 3.4 from a previous version of Bamboo. For details on the Bamboo 3.4 release, see the Bamboo 3.4 Release Notes.

Please follow the Bamboo 3.4-specific instructions on this page, in addition to the upgrade instructions in the Bamboo generic upgrade guide.

Please read the Supported platforms page for the full list of supported platforms for Bamboo.
On this page:

- Upgrade Notes
- Upgrading from Bamboo 3.3 to 3.4
- Upgrading from Bamboo prior to 3.3
- Developing for Bamboo 3.4
- Checking for Known Issues and Troubleshooting the Bamboo Upgrade

Upgrade Notes

The following upgrade notes are specific to Bamboo 3.4.

- EC2 Security - when using Elastic Bamboo it's no longer necessary to open any inbound ports to your Bamboo Server instance. To increase security of your server, please remove any firewall exceptions you may have added.
- EC2 Security Groups - if you've customised the security groups for Bamboo by removing ingress rules, note that as of Bamboo 3.4, Bamboo will keep the security group synchronised with its default setting - i.e. you will not be able to remove SSH, RDP and Bamboo tunnel ingress rules from the security group definition. You will still be able to add new ingress rules and your existing rules will be kept.
- Improved Git support - to use the improved Git support, configure a Git capability on the agent. If you don't have a native Git client installed on your agent, Bamboo will automatically fall back to its embedded Git implementation.
- Bamboo WAR instances installed in Tomcat - after running the upgrade process, make sure you will apply the recommendations from this KB article.

Upgrading from Bamboo 3.3 to 3.4

To upgrade to Bamboo 3.4, following the appropriate instructions below:

- Follow the instructions in the Bamboo generic upgrade guide.

We strongly recommend that you back up your Bamboo instance and database before upgrading, as described in the Bamboo generic upgrade guide.

Upgrading from Bamboo prior to 3.3

In addition to the notes below, please read the Upgrade Guide for every version you are skipping during the upgrade. The complete list of Upgrade Guides is available here.

Notes for upgrading from Bamboo 3.2

- If you are using Bamboo with Crowd, follow the instructions in Upgrading Bamboo with Crowd to Bamboo 3.2.
- If you've been using Amazon EC2 images with you custom EBS, see Updating EBSes created for Fedora to support Amazon Linux.
- If you've customised Amazon EC2 images to work with Bamboo, see Creating a Custom Elastic Image.

Notes for upgrading from a version of Bamboo prior to 2.7.4

- You will need to upgrade to Bamboo 2.7.4 before upgrading to Bamboo 3.4. If you are using a version of Bamboo earlier than 2.6.3, we recommend that you upgrade to it before upgrading to Bamboo 2.7.4. Bamboo 2.6.3 can be downloaded from the Bamboo Archived Downloads page. Bamboo 2.7.x introduces a number of significant and irreversible changes, so a phased upgrade is recommended. Please see the Bamboo 2.7.x Upgrade Guide for more details.
- You will need to set aside time, as described in the Bamboo 2.7.x Upgrade Guide, for Bamboo to migrate existing Plans to the new Plan structure in Bamboo 2.7.4.
- If you are upgrading from Bamboo 2.5 or earlier, you will need to set aside time, as described in the Bamboo 2.6 Upgrade Guide for Bamboo to migrate its test result data (stored in XML files on the filesystem) into the database.
- If you are upgrading from a version of Bamboo prior to 2.0, you must upgrade to Bamboo 2.0.6 first befor
e upgrading to Bamboo 2.6 (2.7.4?)? Please read the Bamboo 2.0 Upgrade Guide for important upgrade instructions for upgrading from earlier versions of Bamboo.

**Developing for Bamboo 3.4**

If you are a Bamboo plugin developer, please refer to our Changes for Bamboo 3.4 guide, which outlines changes in Bamboo 3.4 that may affect Bamboo plugins compiled for Bamboo version 3.1.x or earlier.

**Checking for Known Issues and Troubleshooting the Bamboo Upgrade**

If something is not working correctly after you have completed the steps above to upgrade your Bamboo installation, please check for known Bamboo issues and try troubleshooting your upgrade as described below:

- **Check for known issues.** Sometimes we find out about a problem with the latest version of Bamboo after we have released the software. In such cases we publish information about the known issues in the Bamboo Knowledge Base. Please check the Bamboo Known Issues in the Bamboo Knowledge Base and follow the instructions to apply any necessary patches if necessary.

- **Did you encounter a problem during the Bamboo upgrade?** Please refer to the guide to troubleshooting upgrades in the Bamboo Knowledge Base.

- **If you encounter a problem during the upgrade and cannot solve it**, please create a support ticket and one of our support engineers will help you.

**Bamboo 3.4.5 Release Notes**

17 May 2012

The Atlassian Bamboo team is happy to announce the release of Bamboo 3.4.5.

We’ve fixed several bugs in this release. Please see the 'Updates and Fixes in this Release' section below for details.

Bamboo 3.4.5 is of course free to all customers with active Bamboo software maintenance.

**Don’t have Bamboo 3.4 yet?**

Take a look at all the new features in the Bamboo 3.4 Release Notes and see what you are missing out on! Bamboo 4.0 is now available too!

**Upgrading from a Previous Version of Bamboo**

If you are upgrading, please read the Bamboo 3.4 Upgrade Guide.

**Updates and Fixes in this Release**

The issues addressed in Bamboo 3.4.5 are shown below. To view the list in JIRA, please refer to our main JIRA site.

<table>
<thead>
<tr>
<th>JIRA Issues (4 Issues)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Type</strong></td>
</tr>
<tr>
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</tbody>
</table>
Bamboo 3.4.4 Release Notes

22 February 2012

The Atlassian Bamboo team is happy to announce the release of Bamboo 3.4.4.

We've fixed several bugs in this release. Please see the 'Updates and Fixes in this Release' section below for details.

Bamboo 3.4.4 is of course free to all customers with active Bamboo software maintenance.

Don't have Bamboo 3.4 yet?

Take a look at all the new features in the Bamboo 3.4 Release Notes and see what you are missing out on!

Upgrading from a Previous Version of Bamboo

Documentation for Bamboo 4.3

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If you are upgrading, please read the Bamboo 3.4 Upgrade Guide.

**Updates and Fixes in this Release**

The issues addressed in Bamboo 3.4.4 are shown below. To view the list in JIRA, please refer to our main JIRA site.

### JIRA Issues (13 issues)

<table>
<thead>
<tr>
<th>Type</th>
<th>Key</th>
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<th>Assignee</th>
<th>Reporter</th>
<th>Priority</th>
<th>Status</th>
<th>Resolution</th>
<th>Created</th>
<th>Updated</th>
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<td>71</td>
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</tbody>
</table>

Created by Atlassian in 2012. Licensed under a [Creative Commons Attribution 2.5 Australia License](https://creativecommons.org/licenses/by/2.5/au/).
<table>
<thead>
<tr>
<th>Issue #</th>
<th>Summary</th>
<th>Assignee(s)</th>
<th>Resolution</th>
<th>Created</th>
<th>Resolved</th>
</tr>
</thead>
<tbody>
<tr>
<td>BAM-10802</td>
<td>Make Extended AuthorManager available to plugins</td>
<td>McCoy [Atlassian], Corea [Atlassian]</td>
<td>Fixed</td>
<td>Feb 06, 2012</td>
<td>Feb 12, 2012</td>
</tr>
<tr>
<td>BAM-10794</td>
<td>Artifacts are not exported when &quot;Export Artifacts&quot; is checked while doing Export or running Scheduled Backups</td>
<td>McCoy [Atlassian], Stacey Shkuratoff [Atlassian]</td>
<td>Fixed</td>
<td>Feb 03, 2012</td>
<td>Feb 13, 2012</td>
</tr>
<tr>
<td>BAM-10621</td>
<td>Plugin with a bad i18n description can make the system unusable</td>
<td>McCoy [Atlassian], Shkuratoff [Atlassian]</td>
<td>Fixed</td>
<td>Jan 13, 2012</td>
<td>Jan 23, 2012</td>
</tr>
<tr>
<td>BAM-10617</td>
<td>Problem while deleting plans</td>
<td>McCoy [Atlassian], Corea [Atlassian]</td>
<td>Fixed</td>
<td>Jan 13, 2012</td>
<td>Jan 26, 2012</td>
</tr>
<tr>
<td>BAM-10575</td>
<td>Bamboo is failing to set the required request params when indicating that a request</td>
<td>McCoy [Atlassian], Corea [Atlassian]</td>
<td>Fixed</td>
<td>Jan 08, 2012</td>
<td>Feb 06, 2012</td>
</tr>
</tbody>
</table>
Bamboo 3.4.3 Release Notes

12 January 2012

The Atlassian Bamboo team is happy to announce the release of Bamboo 3.4.3.

We've fixed several bugs in this release. Please see the 'Updates and Fixes in this Release' section below for details.

Bamboo 3.4.3 is of course free to all customers with active Bamboo software maintenance.

Don't have Bamboo 3.4 yet?

Take a look at all the new features in the Bamboo 3.4 Release Notes and see what you are missing out on!

Upgrading from a Previous Version of Bamboo

If you are upgrading, please read the Bamboo 3.4 Upgrade Guide.

Updates and Fixes in this Release

The issues addressed in Bamboo 3.4.3 are shown below. To view the list in JIRA, please refer to our main JIRA site.

<table>
<thead>
<tr>
<th>JIRA Issues (12 issues)</th>
</tr>
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<tbody>
<tr>
<td>Type</td>
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<tr>
<td>Unassigned</td>
</tr>
<tr>
<td>Issue ID</td>
</tr>
<tr>
<td>---------</td>
</tr>
<tr>
<td>BAM-105 55</td>
</tr>
<tr>
<td>------------</td>
</tr>
</tbody>
</table>
Bamboo 3.4.2 Release Notes

28 December 2011

The Atlassian Bamboo team is happy to announce the release of Bamboo 3.4.2.

We've fixed several bugs in this release. Please see the 'Updates and Fixes in this Release' section below for details.

Bamboo 3.4.2 is of course free to all customers with active Bamboo software maintenance.

Don't have Bamboo 3.4 yet?

Take a look at all the new features in the Bamboo 3.4 Release Notes and see what you are missing out on!

Upgrading from a Previous Version of Bamboo

If you are upgrading, please read the Bamboo 3.4 Upgrade Guide.

Updates and Fixes in this Release

The issues addressed in Bamboo 3.4.2 are shown below. To view the list in JIRA, please refer to our main JIRA site.

<table>
<thead>
<tr>
<th>JIRA Issues (2 issues)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Type</strong></td>
</tr>
</tbody>
</table>
Bamboo 3.4.1 Release Notes

21 December 2011

The Atlassian Bamboo team is proud to announce the release of Bamboo 3.4.1.

We've fixed several bugs in this release. Please see the 'Updates and Fixes in this Release' section below for details.

Bamboo 3.4.1 is of course free to all customers with active Bamboo software maintenance.

Don’t have Bamboo 3.4 yet?

Take a look at all the new features in the Bamboo 3.4 Release Notes and see what you are missing out on!

Upgrading from a Previous Version of Bamboo

If you are upgrading, please read the Bamboo 3.4 Upgrade Guide.

Updates and Fixes in this Release

The issues addressed in Bamboo 3.4.1 are shown below. To view the list in JIRA, please refer to our main JIRA site.

<table>
<thead>
<tr>
<th>JIRA Issues (7 issues)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Type</strong></td>
</tr>
</tbody>
</table>

### Bamboo 3.3 Release Notes

- **Bamboo 4.3** has been released. Read the [Bamboo 4.3 Release Notes](#) and [Upgrade Guide](#).
- Don't have Bamboo 4.3? Take a look at the features of Bamboo's [latest major version](#) and try it out!

#### 11 October 2011

Atlassian is proud to present Bamboo 3.3 with support for Multiple Repositories, Reload-able Plugins, multiple source aliases and many more improvements.

Upgrading to Bamboo 3.3 is free for all customers with [active Bamboo software maintenance](#).
Highlights of this release:

- **Multiple Source Repositories**
- **Reload-able Plugins**
- **Source Repository User Aliases**
- **Automatic Agent Upgrades**
- **Fast, history-friendly tabbed navigation**
- **Commit Centric View**
- **Plus over 170 fixes and improvements**

Thank you for your feedback:

🌟 35 new features and improvements implemented
🌟 218 votes fulfilled

Your votes and issues help us keep improving our products, and are much appreciated.

![Download latest version](download.png)

Please keep logging your [votes and issues](#). They help us decide what needs doing!

<table>
<thead>
<tr>
<th>Upgrading to Bamboo 3.3</th>
</tr>
</thead>
<tbody>
<tr>
<td>You can download Bamboo from the <a href="https://atlassian.com">Atlassian website</a>. If upgrading from a previous version, please read the <a href="#">Bamboo 3.3 Upgrade Guide</a>.</td>
</tr>
</tbody>
</table>

1

**Multiple Source Repositories**

With Bamboo 3.3 you can now monitor and checkout code from multiple repositories. Easily build large projects, which are often composed of smaller, self-contained modules, without using externals or submodules.

The new repository configuration interface makes it easy to administrate multiple repositories and specify which of the selected repositories should trigger the build.
Reloadable Plugins

Reloadable Plugins make it faster and easier than ever to install or update plugins in Bamboo. Bamboo’s most common module types now support Atlassian's Plugin Framework 2, which allows for installing and updating plugins without restarting your Bamboo server.

Install new Tasks on the fly without interrupting your builds. And for Tasks that are hugely complex and incompatible with earlier versions, Bamboo now offers a way to safely pause your server without breaking running builds.
Source Repository User Aliases

To ensure all code changes across different repositories are attributed to the right person, Bamboo 3.3 now supports multiple user aliases. If your username is "clarkkent" in one repository, and "superman" in another one, you can map both aliases to the same user in Bamboo. That's not only handy in the DVCS world, but will also be useful for Plans with multiple source repositories. To make sure the statistics are still accurate, we have also aggregated the author statistics into a user statistic.
Automatic Agent Upgrades

Upgrading your agents manually for a new Bamboo release can be painful, especially if you have dozens of agents. With Bamboo 3.3 you no longer have to worry about your agent upgrades, Bamboo will upgrade your agents automatically. We have also massively improved the performance with which new Plugins and Classes are transferred to the agent.

Fast, history-friendly tabbed navigation

Bamboo 3.3 now shows you all the important information about your build even faster. By loading tabbed content via AJAX (instead of full-page reloads) we significantly decreased the page-load times when browsing build results. Utilising HTML5's browser history API we keep track of which tabs (and their URLs) you had selected, so your back/forward buttons work as expected.

Commit Centric View
It's great to know what builds are broken, but for a developer it's even more important to know whether his recent commit was the cause. Bamboo 3.3 now provides a commit centric view in Bamboo, showing builds relation to an individual commit and providing a way to assess a level of overall confidence in a commit. The "My Bamboo" page now has been completely revamped and is not only a whole lot more useful, but also a whole lot prettier.

Plus over 170 fixes and improvements

The top 10 issues by votes are shown below. For the full list of fixes and improvements, please refer to our public JIRA site to see a full list of issues fixed in this release of Bamboo.

<table>
<thead>
<tr>
<th>JIRA Issues (10 issues)</th>
<th>Type</th>
<th>Key</th>
<th>Summary</th>
<th>Priority</th>
<th>Votes</th>
<th>Status</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>BAM-955</td>
<td>Allow a plan to have multiple repositories</td>
<td></td>
<td>69</td>
<td>Resolved</td>
</tr>
<tr>
<td></td>
<td></td>
<td>BAM-1141</td>
<td>All multiple repository aliases</td>
<td></td>
<td>25</td>
<td>Resolved</td>
</tr>
<tr>
<td></td>
<td></td>
<td>BAM-1015</td>
<td>Allow One Plan To Be Based On Multiple CVS Modules</td>
<td></td>
<td>16</td>
<td>Resolved</td>
</tr>
<tr>
<td></td>
<td></td>
<td>BAM-1099</td>
<td>Multiple Source</td>
<td></td>
<td>14</td>
<td></td>
</tr>
</tbody>
</table>
### Repository Aliases for a user

- **BAM-1786** Multiple source repository aliases for a user
  - 13
  - Resolved

- **BAM-678** Allow multiple depots in Perforce connection
  - 13
  - Resolved

- **BAM-2679** Subversion externals are cached until next plan edit / server restart
  - 11
  - Resolved

- **BAM-3131** Map multiple repository aliases users to one Bamboo user
  - 10
  - Resolved

- **BAM-1868** Support multiple repositories per plan
  - 8
  - Resolved

- **BAM-1397** Separate the Build Strategy from the repository configuration
  - 8
  - Resolved

---

### The Bamboo 3.3 Team

**Development**

**Core Team**
- Brydie McCoy
- James Dumay
- Jason Berry
- Marek Went
- Krystian Brazulewicz
- Przemek Bruski
- Marcin Gardias
- Piotr Stefan Stefaniak
- Ben Woskow
- Slawek Ginter
- Nathan Wilson

**Team Lead**
- Mark Chaimungkalanont
Bamboo 3.3 Upgrade Guide

The instructions on this page describe how to upgrade to Bamboo 3.3 from a previous version of Bamboo. For details on the Bamboo 3.3 release, see the Bamboo 3.3 Release Notes.

Please follow the Bamboo 3.3-specific instructions on this page, in addition to the upgrade instructions in the Bamboo generic upgrade guide.

Please read the Supported platforms page for the full list of supported platforms for Bamboo.

On this page:

- Upgrade Notes
- Upgrading from Bamboo 3.2 to 3.3
- Upgrading from Bamboo prior to 3.1
- Developing for Bamboo 3.3
- Checking for Known Issues and Troubleshooting the Bamboo Upgrade

Upgrade Notes

The following upgrade notes are specific to Bamboo 3.3.

Multiple Repositories

Schema changes

The changes to Bamboo to support the Multiple Repositories feature of Bamboo 3.3 require schema changes to the database. Bamboo will automatically migrate existing data to match these changes which may take some time. On our internal system with 1200 Plans with 250,000 build results took approximately 1.5 hours for the
upgrade to complete on a 8 core 2ghz Xeon E5405 system with 768m of memory allocated to Bamboo.

Remote Agents

Automatic Upgrade to new Remote Agent Bootstrap

- Remote Agents installed from a prior version of Bamboo will automatically attempt to upgrade to the new Bamboo 3.3 Remote Agent using the Bamboo 3.3 Agent Installer.
- The upgrade process may fail if the binary location of the Elastic Agent is not writable or is not running within the provided wrapper. If the upgrade fails, simply reinstall the agent using the Bamboo 3.3 Agent Installer.

Changes to the Agent Installer

- Bamboo now includes all the binaries necessary to run a Remote Agent inside the Agent Installer package that can be downloaded from the Agents administration page to reduce startup times.
- When the server version changes (e.g. upgrading to a new major or minor release), Bamboo will fetch the new binaries from the Bamboo server and cache them on the Remote Agent file system.

Upgrading from Bamboo 3.2 to 3.3

To upgrade to Bamboo 3.2, following the appropriate instructions below:

- Follow the instructions in the Bamboo generic upgrade guide.
- If you’ve customised Amazon EC2 images to work with Bamboo, see Creating a Custom Elastic Image.

Upgrading from Bamboo prior to 3.1

In addition to the notes below, please read the Upgrade Guide for every version you are skipping during the upgrade. The complete list of Upgrade Guides is available here.

Notes for upgrading from Bamboo 3.2

- If you are using Bamboo with Crowd, follow the instructions in Upgrading Bamboo with Crowd to Bamboo 3.2.
- If you’ve been using Amazon EC2 images with you custom EBS, see Updating EBSes created for Fedora to support Amazon Linux.

Notes for upgrading from Bamboo 2.6.x

- You will need to upgrade to Bamboo 2.7.4 before upgrading to Bamboo 3.3. If you are not running Bamboo 2.6.3, we recommend that you upgrade to it before upgrading to Bamboo 2.7.4. Bamboo 2.6.3 can be downloaded from the Bamboo Archived Downloads page. Bamboo 2.7.x introduces a number of significant and irreversible changes, so a phased upgrade is recommended. Please see the Bamboo 2.7.x Upgrade Guide for more details.
- You will need to set aside time, as described in the Bamboo 2.7.x Upgrade Guide, for Bamboo to migrate existing Plans to the new Plan structure in Bamboo 2.7.4.

Notes for upgrading from Bamboo 2.5 or earlier

- If you are upgrading from Bamboo 2.5 or earlier, you will need to set aside time, as described in the Bamboo 2.6 Upgrade Guide for Bamboo to migrate its test result data (stored in XML files on the filesystem) into the database.

Notes for upgrading from a version of Bamboo prior to 2.0

- If you are upgrading from a version of Bamboo prior to 2.0, you must upgrade to Bamboo 2.0.6 first before upgrading to Bamboo 2.6. Please read the Bamboo 2.0 Upgrade Guide for important upgrade instructions for upgrading from earlier versions of Bamboo.

Developing for Bamboo 3.3

If you are a Bamboo plugin developer, please refer to our Changes for Bamboo 3.3 guide, which outlines changes in Bamboo 3.3 that may affect Bamboo plugins compiled for Bamboo version 3.1.x or earlier.
Checking for Known Issues and Troubleshooting the Bamboo Upgrade

If something is not working correctly after you have completed the steps above to upgrade your Bamboo installation, please check for known Bamboo issues and try troubleshooting your upgrade as described below:

- **Check for known issues.** Sometimes we find out about a problem with the latest version of Bamboo after we have released the software. In such cases we publish information about the known issues in the Bamboo Knowledge Base. Please check the Bamboo 3.3 Known Issues in the Bamboo Knowledge Base and follow the instructions to apply any necessary patches if necessary.

- **Did you encounter a problem during the Bamboo upgrade?** Please refer to the guide to troubleshooting upgrades in the Bamboo Knowledge Base.

- If you encounter a problem during the upgrade and cannot solve it, please create a support ticket and one of our support engineers will help you.

Bamboo 3.3.4 Release Notes

17 May 2012

The Atlassian Bamboo team is proud to announce the release of Bamboo 3.3.4.

We've fixed several bugs in this release. Please see the ‘Updates and Fixes in this Release’ section below for details.

Bamboo 3.3.4 is of course free to all customers with active Bamboo software maintenance.

Don’t have Bamboo 3.3 yet?

Take a look at all the new features in the Bamboo 3.3 Release Notes and see what you are missing out on! Bamboo 4.0 is now available too!

Upgrading from a Previous Version of Bamboo

If you are upgrading, please read the Bamboo 3.3 Upgrade Guide.

Updates and Fixes in this Release

The issues addressed in Bamboo 3.3.4 are shown below. To view the list in JIRA, please refer to our main JIRA site.

<table>
<thead>
<tr>
<th>JIRA Issues (6 issues)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Type</strong></td>
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<tr>
<td>---</td>
</tr>
</tbody>
</table>
### Bamboo 3.3.3 Release Notes

**14 November 2011**

The Atlassian Bamboo team is proud to announce the release of **Bamboo 3.3.3**.

We've fixed several bugs in this release. Please see the 'Updates and Fixes in this Release' section below for details.

Bamboo 3.3.3 is of course free to all customers with **active Bamboo software maintenance**.

**Don’t have Bamboo 3.3 yet?**

Take a look at all the new features in the **Bamboo 3.3 Release Notes** and see what you are missing out on!

**Upgrading from a Previous Version of Bamboo**

If you are upgrading, please read the **Bamboo 3.3 Upgrade Guide**.

**Updates and Fixes in this Release**

The issues addressed in Bamboo 3.3.3 are shown below. To view the list in JIRA, please refer to our main **JIRA site**.

<table>
<thead>
<tr>
<th>JIRA Issues (15 issues)</th>
<th>Type</th>
<th>Key</th>
<th>Summary</th>
<th>Assignee</th>
<th>Reporter</th>
<th>Priority</th>
<th>Status</th>
<th>Resolution</th>
<th>Created</th>
<th>Updated</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>BAM-101 82</strong></td>
<td></td>
<td></td>
<td>Backport invalid character fix to 3.3.x</td>
<td>Unassigned</td>
<td>James Dumay [Atlassian]</td>
<td></td>
<td></td>
<td>Resolved</td>
<td>Nov 15, 2011</td>
<td>Dec 01, 2011</td>
</tr>
<tr>
<td>TaskConfigurators cannot inject UICONfig Bean because it is a class.</td>
<td>[Atlassian]</td>
<td>[Atlassian]</td>
<td></td>
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</tr>
<tr>
<td><strong>BAM-101 40</strong></td>
<td>Builds will fail to start if the xml files in repositoryData directory get corrupted</td>
<td>Marcin Gardias [Atlassian]</td>
<td>Ajay Sridhar [Atlassian]</td>
<td>Fixed</td>
<td>Nov 08, 2011</td>
<td>Nov 13, 2011</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>BAM-100 91</strong></td>
<td>If source code task is not in a job then bamboo.repository.revision.number is not set (even if its available in previous jobs)</td>
<td>Piotr Stefan Stefanik [Atlassian]</td>
<td>Mads Nissen</td>
<td>Resolved</td>
<td>Nov 01, 2011</td>
<td>Nov 09, 2011</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>BAM-100 37</strong></td>
<td>&quot;Cleaning directory&quot; is run when it shouldn't</td>
<td>Marcin Gardias [Atlassian]</td>
<td>Renan Battaglin [Atlassian]</td>
<td>Resolved</td>
<td>Oct 26, 2011</td>
<td>Nov 09, 2011</td>
<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td><strong>BAM-100</strong></td>
<td>When</td>
<td>Marcin</td>
<td>Marcin</td>
<td>Resolved</td>
<td>Oct 26, 2011</td>
<td>Nov 09, 2011</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>#</td>
<td>Issue Number</td>
<td>Description</td>
<td>Assignee</td>
<td>Resolution</td>
<td>Fixed</td>
<td>Oct 2011</td>
<td>Nov 2011</td>
<td></td>
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<tr>
<td></td>
<td>BAM-10005</td>
<td>Failure to create write repositoryData when using Perforce</td>
<td>Unassigned</td>
<td>Fixed</td>
<td>Oct 21, 2011</td>
<td>Nov 10, 2011</td>
<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td></td>
<td>BAM-99906</td>
<td>If no repository found when upgrading from 2.6.4 -&gt; 2.7.4, subsequent upgrade to 3.3.2 will fail</td>
<td>Krystian Brazulewicz [Atlassian]</td>
<td>Fixed</td>
<td>Oct 18, 2011</td>
<td>Nov 13, 2011</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>BAM-9980</td>
<td>3.3.2 Remote agents don't work if path to bamboo. home has</td>
<td>Przemek Bruski [Atlassian]</td>
<td>Fixed</td>
<td>Oct 14, 2011</td>
<td>Nov 08, 2011</td>
<td></td>
<td></td>
<td></td>
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</tr>
</tbody>
</table>
Bamboo 3.3.2 Release Notes

13 October 2011

The Atlassian Bamboo team is proud to announce the release of Bamboo 3.3.2.

We've fixed several bugs in this release. Please see the 'Updates and Fixes in this Release' section below for details.

Bamboo 3.3.2 is of course free to all customers with active Bamboo software maintenance.

Don't have Bamboo 3.3 yet?

Take a look at all the new features in the Bamboo 3.3 Release Notes and see what you are missing out on!

Upgrading from a Previous Version of Bamboo

If you are upgrading, please read the Bamboo 3.3 Upgrade Guide.

Updates and Fixes in this Release

The issues addressed in Bamboo 3.3.2 are shown below. To view the list in JIRA, please refer to our main JIRA site.

<table>
<thead>
<tr>
<th>JIRA Issues (6 issues)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Type</strong></td>
</tr>
<tr>
<td><strong>Key</strong></td>
</tr>
<tr>
<td><strong>Summary</strong></td>
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<tr>
<td><strong>Assignee</strong></td>
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<td><strong>Reporter</strong></td>
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<tr>
<td><strong>Priority</strong></td>
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<td><strong>Status</strong></td>
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<tr>
<td><strong>Resolution</strong></td>
</tr>
<tr>
<td><strong>Created</strong></td>
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<tr>
<td><strong>Updated</strong></td>
</tr>
</tbody>
</table>

**BAM-996**

Null values in spaces in it

Add back `getSourceCodeDir` to `Plan interface`

Marek Went [Atlassian]

Mark Chaimun [Atlassian]

Resolved

Oct 12, 2011

Nov 10, 2011

**BAM-985**

Changes in plan variables do not show up in the audit log

Marek Went [Atlassian]

Bryce Johnson [Atlassian]

Resolved

Sep 23, 2011

Nov 13, 2011

**BAM-978**

Wrong configuration of IM can disable event system

Przemek Bruski [Atlassian]

Przemek Bruski [Atlassian]

Resolved

Sep 16, 2011

Oct 26, 2011

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<table>
<thead>
<tr>
<th>Issue</th>
<th>Description</th>
<th>Assignee</th>
<th>Resolution</th>
<th>Fixed In</th>
<th>Created</th>
<th>Last Updated</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Upgrade task 2704 fails if there are marked for deletion plans in the database</td>
<td>Przemek Bruski [Atlassian]</td>
<td>Resolved</td>
<td>Oct 11, 2011</td>
<td>Oct 30, 2011</td>
<td></td>
</tr>
</tbody>
</table>
Bamboo 3.3.1 Release Notes

12 October 2011

The Atlassian Bamboo team is proud to announce the release of **Bamboo 3.3.1**.

We've fixed a critical bug in this release. Please see the 'Updates and Fixes in this Release' section below for details.

Bamboo 3.3.1 is of course free to all customers with **active Bamboo software maintenance**.

Don’t have Bamboo 3.3 yet?

Take a look at all the new features in the [Bamboo 3.3 Release Notes](https://confluence.atlassian.com/display/CLUSION) and see what you are missing out on!

[DOWNLOAD latest version](https://atlassian.com/software/bamboo/download)

**Upgrading from a Previous Version of Bamboo**

If you are upgrading, please read the [Bamboo 3.3 Upgrade Guide](https://confluence.atlassian.com/display/CLUSION).

**Updates and Fixes in this Release**

The issues addressed in Bamboo 3.3.1 are shown below. To view the list in JIRA, please refer to our main [JIRA site](https://confluence.atlassian.com/display/CLUSION).

### JIRA Issues (1 issues)

<table>
<thead>
<tr>
<th>Type</th>
<th>Key</th>
<th>Summary</th>
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<th>Reporter</th>
<th>Priority</th>
<th>Status</th>
<th>Resolution</th>
<th>Created</th>
<th>Updated</th>
</tr>
</thead>
</table>
Bamboo 3.2 Release Notes

☑ Bamboo 4.3 has been released. Read the Bamboo 4.3 Release Notes and Upgrade Guide. Don't have Bamboo 4.3? Take a look at the features of Bamboo's latest major version and try it out!

26 July 2011

Atlassian presents Bamboo 3.2 with release management, manual Stages and improved application linking.

Upgrading to Bamboo 3.2 is free for all customers with active Bamboo software maintenance.

Highlights of this release:

- Release Management
- Manual Stages
- Rerunning a Failed Stage
- Plan Filters on the Dashboard and Wallboard
- User Management via JIRA
- Improved Application Linking
- Plus over 130 fixes and improvements

Thank you for your feedback:

⭐ 51 new features and improvements implemented
⭐ 150 votes fulfilled

Your votes and issues help us keep improving our products, and are much appreciated.

Please keep logging your votes and issues. They help us decide what needs doing!

Upgrading to Bamboo 3.2

You can download Bamboo from the Atlassian website. If upgrading from a previous version, please read the Bamboo 3.2 Upgrade Guide.

1

Release Management

Bamboo can be used for more than just continuous deployment. The entire release process can be automated by Bamboo with the appropriate setup. If you are using Atlassian's JIRA with Bamboo, you can now synchronise the release activities between these two applications.

When releasing a version in JIRA, you will have the option of starting a Bamboo build (e.g. a build that tests an deploys the artifacts for the version). If the build passes, the version will be automatically released in JIRA. If it fails, the version will not be released and you will have the option of running it again.
We've released a new version of the **JIRA-Bamboo plugin** for JIRA that provides this release management functionality. Get it from the Atlassian Plugin Exchange: [JIRA-Bamboo Plugin v4.3](https://plugins.atlassian.com/plugins/com.atlassian.bamboo.plugins.jira-bamboo-plugin)

### Manual Stages

The new manual Stages feature also helps you to manage release activities, such as testing, deployment and the release itself, by allowing you pause the execution of your Plan at manual Stages. For example, you might want to use a manual Stage for the deployment to give your QA team a chance to perform a few manual tests before your software goes into production.

Any Stage can be configured as a manual Stage. If you run a Plan with manual Stages, Bamboo will pause the build every time it reaches a manual Stage. The Plan build will only continue once a user has manually triggered the Stage.
Rerunning a Failed Stage

Sometimes, it’s not your developers’ fault. Builds can fail for all sorts of reasons that are not related to the code (e.g. infrastructure problems). If so, you may want to rerun the Stage that a Plan failed at, rather than start the Plan build from scratch again.

We have provided you with the ability to rerun failed Stages in this release. Any Jobs that failed in the Stage will run again and the exact same data will be used.
Plan Filters on the Dashboard and Wallboard

Is your dashboard or wallboard a confusing mess of Plans? If so, you'll be happy to know that we've implemented Plan filters for the dashboard and wallboard in this release. Simply label your Plans, then filter the Plans on your dashboard/wallboard by Plan label, as desired.
User Management via JIRA

You can now use the same set of users in Bamboo and JIRA, and manage your users and groups in JIRA. We've redesigned the user management configuration screen to make it easy to connect Bamboo to JIRA/Crowd for user management. If you use Bamboo with Crowd, you'll also notice a few improvements to the Bamboo-Crowd integration. We've bundled the Crowd 2.3 integration libraries with Bamboo 3.2. Try using Bamboo 3.2 with Crowd 2.3.1 and you will notice an improvement in performance, particularly if you have a large user base.

![User Management Configuration Screen]

More...

Improved Application Linking

Bamboo 3.2 bundles the new Application Links plugin. If you want to link Bamboo to JIRA to take advantage of the new release management feature, you won't need to mess around in the administration consoles of both Bamboo and JIRA any more. The Application Links plugin lets you create two-way links to other applications with your choice of authentication methods, from the Bamboo administration console.

More...
Plus over 130 fixes and improvements

The **top 10 issues by votes** are shown below. For the full list of fixes and improvements, please refer to our [public JIRA site](#) to see a full list of issues fixed in this release of Bamboo.

<table>
<thead>
<tr>
<th>JIRA Issues (10 issues)</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>Type</th>
<th>Key</th>
<th>Summary</th>
<th>Priority</th>
<th>Votes</th>
<th>Status</th>
</tr>
</thead>
<tbody>
<tr>
<td>📌</td>
<td>BAM-489</td>
<td>Ability to use JIRA's user/group database</td>
<td>22</td>
<td>Resolved</td>
<td></td>
</tr>
<tr>
<td>📌</td>
<td>BAM-620</td>
<td>Add the ability to automatically tag the source repository</td>
<td>21</td>
<td>Resolved</td>
<td></td>
</tr>
<tr>
<td>📌</td>
<td>BAM-298</td>
<td>Make it easier to track who disabled a build and why they did it.</td>
<td>20</td>
<td>Resolved</td>
<td></td>
</tr>
<tr>
<td>📌</td>
<td>BAM-2690</td>
<td>Make Bamboo Jira Plugin use Trusted Applications</td>
<td>16</td>
<td>Resolved</td>
<td></td>
</tr>
<tr>
<td>📌</td>
<td>BAM-1664</td>
<td>Ability to configure multiple JIRA servers.</td>
<td>10</td>
<td>Resolved</td>
<td></td>
</tr>
<tr>
<td>📌</td>
<td>BAM-7265</td>
<td>Bamboo removes quotes from builder Argument field</td>
<td>10</td>
<td>Resolved</td>
<td></td>
</tr>
<tr>
<td>📌</td>
<td>BAM-5464</td>
<td>Allow svn export for faster source retrieval</td>
<td>6</td>
<td>Resolved</td>
<td></td>
</tr>
<tr>
<td>📌</td>
<td>BAM-1248</td>
<td>One build per Subversion commit</td>
<td>6</td>
<td>Resolved</td>
<td></td>
</tr>
<tr>
<td>📌</td>
<td>BAM-605</td>
<td>API access to last successful build</td>
<td>6</td>
<td>Resolved</td>
<td></td>
</tr>
<tr>
<td>📌</td>
<td>BAM-7549</td>
<td>Ability to re-run a job within a plan without having to run the entire plan again</td>
<td>5</td>
<td>Resolved</td>
<td></td>
</tr>
</tbody>
</table>

The Bamboo 3.2 Team
Bamboo 3.2.2 Release Notes

23 August 2011

The Atlassian Bamboo team is proud to announce the release of Bamboo 3.2.2.

We've fixed several bugs in this release. Please see the 'Updates and Fixes in this Release' section below for details.

Bamboo 3.2.2 is of course free to all customers with active Bamboo software maintenance.
Don't have Bamboo 3.2 yet?

Take a look at all the new features in the Bamboo 3.2 Release Notes and see what you are missing out on!

Upgrading from a Previous Version of Bamboo

If you are upgrading, please read the Bamboo 3.2.2 Upgrade Guide.

Updates and Fixes in this Release

The issues addressed in Bamboo 3.2.2 are shown below. To view the list in JIRA, please refer to our main JIRA site.

<table>
<thead>
<tr>
<th>JIRA Issues (12 issues)</th>
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<tbody>
<tr>
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<tr>
<td>-----</td>
</tr>
<tr>
<td>BAM-9461</td>
</tr>
</tbody>
</table>
Bamboo 3.2.2 Upgrade Guide

Upgrading from Bamboo 3.2 to 3.2.2

Please follow the Bamboo generic upgrade guide.

ℹ️ No additional upgrade tasks are required to upgrade from Bamboo 3.2 to 3.2.2.

Upgrading from Bamboo 3.1.4 or earlier

In addition to the above, please read the Bamboo 3.2 Upgrade Guide and the Upgrade Guide for every version you are skipping during the upgrade. The complete list of Upgrade Guides is available in the Bamboo upgrade guides section.

Bamboo 3.2 Upgrade Guide

The instructions on this page describe how to upgrade to Bamboo 3.2 from a previous version of Bamboo. For details on the Bamboo 3.2 release, see the Bamboo 3.2 Release Notes.

Please follow the Bamboo 3.2-specific instructions on this page, in addition to the upgrade instructions in the Bamboo generic upgrade guide.

Please read the Supported platforms page for the full list of supported platforms for Bamboo.

On this page:

- Upgrade Notes
- Upgrading from Bamboo 3.1 to 3.2
- Upgrading from Bamboo prior to 3.1
- Developing for Bamboo 3.2
- Checking for Known Issues and Troubleshooting the Bamboo Upgrade

Upgrade Notes

The following upgrade notes are specific to Bamboo 3.2.

Latest versions of Chrome, Firefox and Safari now supported

We have amended our browser support policy. The latest stable versions of Chrome, Firefox and Safari are now supported. The Supported platforms page now states this, as well as listing the versions of the browser that we test against.

crowd.properties, atlassian-user.xml and crowd-ehcache.xml moved

From Bamboo 3.2 onwards, the crowd.properties, atlassian-user.xml and crowd-ehcache.xml files can be found in $BAMBOO_HOME/xml-data/configuration.

Note, copies of these files will still exist in the old BAMBOO/webapp/WEB-INF/classes directory, however you can safely remove or ignore them after you upgrade to Bamboo 3.2.

Auto-Favourite Plugin removed from Bamboo
The auto-favourite plugin has been removed from Bamboo.

**EC2-related changes**

- Default EC2 images are now Amazon Linux-based, if you have your own EBS, see [Updating EBSes created for Fedora to support Amazon Linux](#) for upgrade tips,
- Logging in to your instances using root account is deprecated and will be removed in future versions. Instead, use ec2-user account - this user is also able to execute sudo without password,
- Several build-related tools delivered with the images have been upgraded:
  1. JDK 6 has been upgraded to 6u26,
  2. Apache Ant has been upgraded to 1.8.2,
  3. PHPUnit has been upgraded to 3.4.15,
  4. VCSes (SVN, Mercurial, git and CVS) have been updated to the latest version available with Amazon Linux,
  5. Additional Grails versions have been installed: 1.3.4 and 1.3.7,
  6. The image now has make and GCC (gcc and g++) installed.

**Upgrading from Bamboo 3.1 to 3.2**

To upgrade to Bamboo 3.2, following the appropriate instructions below:

- If you are using Bamboo with Crowd, follow the instructions in [Upgrading Bamboo with Crowd to Bamboo 3.2](#).
- If you are using Bamboo only, follow the instructions in the [Bamboo generic upgrade guide](#).
- If you've been using Amazon EC2 images with you custom EBS, see [Updating EBSes created for Fedora to support Amazon Linux](#)

**Upgrading from Bamboo prior to 3.1**

In addition to the notes below, please read the [Upgrade Guide](#) for every version you are skipping during the upgrade. The complete list of Upgrade Guides is available [here](#).

**Notes for upgrading from Bamboo 2.6.x**

- You will need to upgrade to Bamboo 2.7.4 before upgrading to Bamboo 3.2. If you are not running Bamboo 2.6.3, we recommend that you upgrade to it before upgrading to Bamboo 2.7.4. Bamboo 2.6.3 can be downloaded from the [Bamboo Archived Downloads page](#). Bamboo 2.7.x introduces a number of significant and irreversible changes, so a phased upgrade is recommended. Please see the [Bamboo 2.7.x Upgrade Guide](#) for more details.
- You will need to set aside time, as described in the [Bamboo 2.7.x Upgrade Guide](#), for Bamboo to migrate its test result data (stored in XML files on the filesystem) into the database.

**Notes for upgrading from Bamboo 2.5 or earlier**

- If you are upgrading from Bamboo 2.5 or earlier, you will need to set aside time, as described in the [Bamboo 2.6 Upgrade Guide](#) for Bamboo to migrate its test result data (stored in XML files on the filesystem) into the database.

**Notes for upgrading from a version of Bamboo prior to 2.0**

- If you are upgrading from a version of Bamboo prior to 2.0, you must upgrade to [Bamboo 2.0.6 first](#) before upgrading to Bamboo 2.6. Please read the [Bamboo 2.0 Upgrade Guide](#) for important upgrade instructions for upgrading from earlier versions of Bamboo.

**Developing for Bamboo 3.2**

If you are a Bamboo plugin developer, please refer to our [Changes for Bamboo 3.2](#) guide, which outlines changes in Bamboo 3.2 that may affect Bamboo plugins compiled for Bamboo version 3.1.x or earlier.

**Checking for Known Issues and Troubleshooting the Bamboo Upgrade**

If something is not working correctly after you have completed the steps above to upgrade your Bamboo installation, please check for known Bamboo issues and try troubleshooting your upgrade as described below:
• **Check for known issues.** Sometimes we find out about a problem with the latest version of Bamboo after we have released the software. In such cases we publish information about the known issues in the Bamboo Knowledge Base. Please check the [Bamboo 3.2 Known Issues](https://confluence.atlassian.com/bamboo/Bamboo-Knowledge-Base) in the Bamboo Knowledge Base and follow the instructions to apply any necessary patches if necessary.

• **Did you encounter a problem during the Bamboo upgrade?** Please refer to the guide to troubleshooting upgrades in the Bamboo Knowledge Base.

• If you encounter a problem during the upgrade and cannot solve it, please create a [support ticket](https://support.atlassian.com/) and one of our support engineers will help you.

### Updating EBSes created for Fedora to support Amazon Linux

With Bamboo 3.2, we are shipping the new Amazon Linux-based EC2 images by default (along with the old ones to ease the transition period). The Fedora release used up to now was a pretty old distribution, so despite the fact that the distributions have common roots (Fedora: RedHat, AmazonLinux: CentOS/RedHat), some changes are needed.

The idea is to keep the most popular gotchas on this page to keep the transition as smooth as possible.

**Ephemeral storage**

Ephemeral storage used to be mounted directly on /mnt, which is not a mount point according to FHS. The new mount point for the primary ephemeral storage is /media/ephemeral0 on all instance types. In case you customised your Bamboo working directory location, you should move it there. Changing `bamboo-agent.cfg.xml` to the following should do the trick.

```xml
<?xml version="1.0" encoding="UTF-8" standalone="no"?>
<configuration>
  <buildWorkingDirectory>/media/ephemeral0/bamboo-working-dir</buildWorkingDirectory>
</configuration>
```

Grepping your EBS for `bamboo-working-dir` (or even `/mnt`) is a very good idea.

**Using packages from 3rd party sources**

If needed, you should use the packages prepared for CentOS 5.x, which is binary compatible with Amazon Linux. The recipe for doing this is given in the Selenium paragraph.

**Oracle**

There are two issues with Using Oracle on Amazon Linux: "double tap setup technique" and swap.

**Running Oracle Setup**

There’s a weird bug plaguing yum-based distros that causes the Oracle setup to fail the first time it’s run. The solution is simple:

```
oracleRpm=$LOC/oracle-xe-univ-10.2.0.1-1.0.i386.rpm

yum -y localinstall --nogpgcheck $oracleRpm || yum -y localinstall --nogpgcheck $oracleRpm
```

**Adding swap space**
Oracle Express Edition (possibly others) require at least 1GB of swap space, regardless of how much RAM you have. Amazon Linux has ~800 MB swap by default. The easiest way of adding more swap is:

```bash
swapFile=/media/ephemeral0/swapfile
dd if=/dev/zero of=${swapFile} bs=1M count=1K && mkswap -f ${swapFile}
&& chmod 600 ${swapFile} && swapon -p -2 ${swapFile}
```

You don't need to add 1GB, like in the example - 200MB should be enough.

**PostgreSQL**

No special instructions. In case you've been using 3rd party RPMs to install a recent version of PostgreSQL, make sure you switch to the one distributed with Amazon Linux.

**MySQL**

No special instructions. In case you've been using 3rd party RPMs to install a recent version of MySQL, make sure you switch to the one distributed with Amazon Linux.

**Selenium**

In case you've been using 3rd party RPMs to install a recent version of packages needed for Selenium usage, make sure you switch to the one distributed with Amazon Linux.

Note that Firefox is not distributed with Amazon Linux. To install it, you have to add Centos 5 repositories, which are binary compatible with our Amazon Linux version. Only the packages not distributed with Amazon Linux will be pulled from the CentOS repository.

The complete script used to setup Selenium is given below.
#!/bin/sh

centosMajorVersion=5
centosVersion=${centosMajorVersion}

cat >/etc/yum.repos.d/centos-$centosVersion.repo "<<EOF
[centos-base]
name=CentOS - Base
mirrorlist=http://mirrorlist.centos.org/?release=${centosVersion}&arch=\$basearch&repo=os
gpgcheck=1
gpgkey=http://mirror.centos.org/centos/RPM-GPG-KEY-CentOS-$centosMajorVersion
enabled=0

[centos-update]
name=CentOS - Updates
mirrorlist=http://mirrorlist.centos.org/?release=${centosVersion}&arch=\$basearch&repo=updates
gpgcheck=1
gpgkey=http://mirror.centos.org/centos/RPM-GPG-KEY-CentOS-$centosMajorVersion
enabled=0
EOF

yum -y --enablerepo=centos-* install firefox

yum -y install xorg-x11-server-Xvfb xterm xorg-x11-server-utils
xorg-x11-fonts-ISO8859-1-75dpi xorg-x11-fonts-Type1

/usr/bin/killall Xvfb

#Start virtual screen
Xvfb :100 -ac -screen 0 1024x768x24 &

echo "export DISPLAY=:100.0" >> /home/bamboo/.bashrc

Upgrading Bamboo with Crowd to Bamboo 3.2
The instructions on this page are for customers who are currently using Bamboo with Crowd, and want to upgrade to Bamboo 3.2. These instructions complement the instructions on the [Bamboo 3.2 Upgrade Guide](Bamboo 3.2 Upgrade Guide).

In this upgrade process, you may need to upgrade your Crowd installation in addition to upgrading Bamboo.

On this page:
- Upgrade Crowd to Crowd 2.3.1
  - Testing the Crowd Upgrade
- Upgrade Bamboo to Bamboo 3.2
  - (Recommended) Method 1. Perform an "inline" upgrade without exporting/importing.
  - Method 2. Import through the administration panel.
  - Method 3. Upgrade Bamboo and import via the setup wizard
Upgrade Crowd to Crowd 2.3.1

Bamboo 3.2 ships with Crowd 2.3 integration libraries. Before upgrading Bamboo to Bamboo 3.2, you must upgrade your Crowd instance to at least Crowd 2.3.1. This will result in better performance, particularly if you have a large user base. For instructions on how to upgrade Crowd, see the Crowd Upgrade Guide.

Testing the Crowd Upgrade

If you would like to test whether Crowd 2.3.1 will work properly with your existing Bamboo installation, do the following:

1. Replace your crowd-integration-client with version 2.3.1, i.e.

   ```
   rm Bamboo-3.1.4/webapp/WEB-INF/lib/crowd-integration-client*.jar
   cp atlassian-crowd-2.3.1/client/crowd-integration-client-2.3.1.jar
   Bamboo-3.1.4/webapp/WEB-INF/lib
   rm Bamboo-3.1.4/webapp/WEB-INF/classes/crowd-encache.xml
   cp atlassian-crowd-2.3.1/client/conf/crowd-encache.xml
   Bamboo-3.1.4/webapp/WEB-INF/classes
   ```

2. Copy atlassian-user-crowd-provider-3.2.jar from the Bamboo 3.2 distribution into your old Bamboo WEB-INF/lib directory to avoid "NoClassDef" exceptions due to missing CrowdUserManager class, i.e.

   ```
   cp Bamboo-3.2/webapp/WEB-INF/lib/atlassian-user-crowd-provider-3.2.jar
   Bamboo-3.1.4/webapp/WEB-INF/lib
   ```

Upgrade Bamboo to Bamboo 3.2

After upgrading Crowd, you can upgrade Bamboo to Bamboo 3.2 using one of the following methods:

(Recommended) Method 1. Perform an "inline" upgrade without exporting/importing.

This method is similar to a regular Bamboo upgrade. You will install Bamboo 3.2, copy the Crowd settings over from your old Bamboo instance and point your new instance at your old Bamboo home.

1. Download Bamboo 3.2 from the Bamboo download centre and install it. Do not start it.
2. Copy the Crowd settings from your old Bamboo instance to the new Bamboo 3.2 instance, i.e.
   - `rm Bamboo-3.2/webapp/WEB-INF/classes/atlassian-user.xml`
   - `cp Bamboo-3.1.4/webapp/WEB-INF/classes/atlassian-user.xml
   BAMboo-3.2/webapp/WEB-INF/classes`
   - `rm Bamboo-3.2/webapp/WEB-INF/classes/crowd.properties`
   - `cp Bamboo-3.1.4/webapp/WEB-INF/classes/crowd.properties
   BAMboo-3.2/webapp/WEB-INF/classes`
3. Configure your new Bamboo instance to use the old bamboo-home (in webapp/WEB-INF/classes/bamboo-init.properties).
4. Start up Bamboo.

   **You can remove crowd.properties, atlassian-user.xml and crowd-encache.xml files from Bamboo-3.2/webapp/WEB-INF/classes folder after this, if you wish (as per BAM-9318).**
Method 2. Import through the administration panel.

This method requires you to install Bamboo 3.2 (including running the setup wizard), update your atlassian-user.xml and crowd.properties files in Bamboo, then import the data from your old Bamboo instance.

1. Back up your existing Bamboo installation. See Bamboo generic upgrade guide for instructions.
2. Download and install your new Bamboo 3.2 instance, including completing the setup wizard.
3. Connect your new Bamboo 3.2 instance to your Crowd instance by editing Bamboo-3.2-home/xml-data-configuration/atlassian-user.xml.
   
   **Please note this is not the same file as** Bamboo-3.2/webapp/WEB-INF/classes/atlassian-user.xml.

   Your file should look like this after editing:

   ```xml
   <atlassian-user>
       <repositories>
           <crowd name='Crowd Repository' key='crowd'/>
       </repositories>
   </atlassian-user>
   
   4. Edit Bamboo-3.2-home/xml-data-configuration/crowd.properties and update the credentials and URLs.
      
   **Please note this is not the same file as** Bamboo-3.2/webapp/WEB-INF/classes/crowd.properties.

   5. Restart Bamboo.

   6. Do the import from the administration panel, as described in Importing data from backup.
      
      **You can remove** crowd.properties, atlassian-user.xml and crowd-encache.xml files from Bamboo-3.2/webapp/WEB-INF/classes folder after this, if you wish (as per BAM-9318).

Method 3. Upgrade Bamboo and import via the setup wizard

This method is similar to option 2. You are required to install Bamboo 3.2, however data is imported from your old Bamboo instance during the setup wizard. The atlassian-user.xml and crowd.properties files are updated in Bamboo, after the import.

Please be aware, that Bamboo will return error messages stating that the import has failed in this method. However, this is expected behaviour and the resultant upgrade will still work correctly.

1. Back up your existing Bamboo installation. See Bamboo generic upgrade guide for instructions.
2. Download and install your new Bamboo 3.2 instance.
3. Run the setup wizard. When you are prompted to import data, import data from your old Bamboo installation. At the end of the import, Bamboo will state that there is no user with administration privileges and will ask you to contact Atlassian support. However, your plans and builds will be properly migrated with the exception that the user management is not working yet i.e. you won't be able to log in to Bamboo.
4. Shut down the Bamboo instance.
5. Connect your new Bamboo 3.2 instance to your Crowd instance by editing Bamboo-3.2-home/xml-data-configuration/atlassian-user.xml.

   **Please note this is not the same file as** Bamboo-3.2/webapp/WEB-INF/classes/atlassian-user.xml.

   Your file should look like this after editing:
6. Edit Bamboo-3.2-home/xml-data/configuration/crowd.properties and update the credentials and URLs. Please note this is not the same file as Bamboo-3.2/webapp/WEB-INF/classes/crowd.properties.

7. Start Bamboo

You can remove crowd.properties, atlassian-user.xml and crowd-encache.xml files from Bamboo-3.2/webapp/WEB-INF/classes folder after this, if you wish (as per BAM-9318).

Congratulations! You should now be able to log into your upgraded Bamboo instance and have your users managed by Crowd.

Bamboo 3.1 Release Notes

10 May 2011

Atlassian presents Bamboo 3.1 with Tasks, parameterised builds and support for Bitbucket and GitHub.

Upgrading to Bamboo 3.1 is free for all customers with active Bamboo software maintenance.

Highlights of this release:

- **Tasks**
- **Plan Variables & Parameterised Builds**
- **.Net Support**
- **Bitbucket Support**
- **GitHub Support**
- **New Plugin Manager**
- **Support for Amazon EC2 Spot Instances**
- **Gravatar Support**
- **Improved Windows process handling**
- **Plus over 150 fixes and improvements**
- **The Bamboo 3.1 Team**

Thank you for your feedback:

🌟 47 new features and improvements implemented
🌟 114 votes fulfilled

Your votes and issues help us keep improving our products, and are much appreciated.

Please keep logging your votes and issues. They help us decide what needs doing!
Upgrading to Bamboo 3.1

You can download Bamboo from the [Atlassian website](https://confluence.atlassian.com/display/BAM/Atlassian+Website). If upgrading from a previous version, please read the [Bamboo 3.1 Upgrade Guide](https://confluence.atlassian.com/display/BAM/3.1+Upgrade+Guide).

1

Tasks

Tasks in Bamboo 3.1 provide developers and build engineers with another tool to design more flexible builds. Configure a Job with Tasks to build your application, execute a script, upload files to another server, create you documentation and much more. Bamboo allows you to add as many Tasks as needed for a Job, with each Task providing detailed log messages during the build. Tasks are executed against the same working directory, allowing you to perform actions like changing version numbers or copying files before a subsequent task is executed.

We've also implemented Final Tasks as part of the Tasks feature. No matter what happens in your previous tasks, Final Tasks will always be executed at the end of the build. This gives you the opportunity to clean up after your build, shutting down processes or services that you may have started as part of your build.

2

Plan Variables & Parameterised Builds

Parameterised Builds allow you to customise parts of your Build when the Build is run manually or via a script. We've introduced Plan variables in this release to complement the existing global variables. This allows you to change version numbers on the fly or change certain options you use within your script or commands for particular builds.
.Net Support

We've completely re-written the .Net plugin for Bamboo to add Tasks for building and testing .Net projects. All Tasks take advantage of our improved Windows process handling. The following Tasks are included in the plugin:

- Visual Studio – Build Visual Studio projects with devenv.exe. The Task also allows you to switch between different architectures (x86, AMD64, IA32, IA64).
- MSBuild – Run MSBuild as part of your build.
- NAnt – Execute NAnt targets to build your project.
- MSTest Runner – Run your MSTest configuration and display the MSTest results.
- MSTest Parser – Parse and display MSTest test results.
- MBUnit Parser – Parse and display MBUnit test results.
- NUnit Parser – Parse and display NUnit test results.

The plugin is open-source. Feel free to fork it on Bitbucket.

Bitbucket Support

Bamboo now supports Bitbucket. If you use Bitbucket for your source code hosting, you can use Bamboo to build any source code maintained in repositories on Bitbucket.
GitHub Support

We've extended our Git support to include GitHub. If you use the GitHub for your source code hosting, you can use Bamboo to build any source code maintained in repositories on GitHub.

More...
New Plugin Manager

Managing plugins and performing Bamboo upgrades are now much easier with the brand new plugin manager. The Universal Plugin Manager (UPM) is already bundled with JIRA and Confluence, and has now been integrated into Bamboo. With the UPM you can:

- Perform a plugin compatibility check before upgrading Bamboo.
- Install new plugins from the Atlassian Plugin Exchange.
- Manage existing plugins.
- With just one click, upgrade all plugins that have updates available.
- View and track updates via the audit log.

Manage Existing

The Universal Plugin Manager allows you to view, manage and upgrade your installed plugins, as well as install new ones from the Atlassian Plugin Exchange.

User-installed Plugins

These plugins may be configured, enabled, disabled or uninstalled. With just one click, upgrade all plugins that have updates available.

System Plugins

These plugins are integral parts of your Bamboo system. They cannot be uninstalled. Disabling or removing them will have serious effects, and may render Bamboo inoperable. Do not make changes here unless instructed by Atlassian Support.

Support for Amazon EC2 Spot Instances

Bamboo now supports Amazon EC2 Spot Instances. If you are using Elastic Bamboo to run builds in the Amazon Elastic Compute Cloud (EC2), you can now bid for and use EC Spot Instances. This allows you to run your builds at a much lower price, provided that your bid exceeds the current “spot price” (determined by EC2
Gravatar Support

Bamboo 3.1 adds a personal touch to your CI environment with the introduction of Gravatar support. If your users have signed up to the Gravatar service, Bamboo will attempt to retrieve their profile pictures and display them in Bamboo. You'll see these profile pictures displayed against activities for the user, like code changes or comments on build results.

Code Changes

<table>
<thead>
<tr>
<th>User</th>
<th>Issue</th>
<th>Description</th>
<th>ID</th>
</tr>
</thead>
<tbody>
<tr>
<td>James Dumay</td>
<td>BAM-8438</td>
<td>Create a popup for available variables</td>
<td>(150900)</td>
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<tr>
<td>Brydie McCoy</td>
<td>BAM-8631</td>
<td>Fixing ui for legacy builder configuration</td>
<td>(150899)</td>
</tr>
</tbody>
</table>

More...
Improved Windows process handling

In previous versions of Bamboo, processes started from .bat scripts or a number of different methods were not shut down properly. We have improved the Windows process handling in Bamboo to ensure that the underlying processes and their children are stopped correctly.

Plus over 150 fixes and improvements

The top 10 issues by votes are shown below. For the full list of fixes and improvements, please refer to our public JIRA site to see a full list of issues fixed in this release of Bamboo.

<table>
<thead>
<tr>
<th>JIRA Issues (10 issues)</th>
<th>Type</th>
<th>Key</th>
<th>Summary</th>
<th>Priority</th>
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<tr>
<td></td>
<td></td>
<td>BAM-1410</td>
<td>Multiple builders per plan</td>
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<td>33</td>
<td>Resolved</td>
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<tr>
<td></td>
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<td>BAM-811</td>
<td>On Windows, builds using a batch script or other method, can not be stopped</td>
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<td></td>
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<td>BAM-2357</td>
<td>Link to artifacts from the latest successful build</td>
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<td>BAM-2960</td>
<td>Stop build script feature - Something to run when a build is cancelled / stopped</td>
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<td>6</td>
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<td></td>
<td>BAM-1162</td>
<td>Non-repository based builds</td>
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<td>BAM-1854</td>
<td>Multiple builders for a particular build configuration</td>
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<tr>
<td></td>
<td></td>
<td>BAM-1369</td>
<td>the ability to have multiple builds within the same repository</td>
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<td>BAM-5214</td>
<td>Allow Build REST API to receive custom parameters</td>
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<td>4</td>
<td>Resolved</td>
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<td></td>
<td>BAM-8241</td>
<td>Make ImportExportManager available to</td>
<td></td>
<td>4</td>
<td>Resolved</td>
</tr>
</tbody>
</table>
The Bamboo 3.1 Team

Development

Core Team

Brydie McCoy
James Dumay
Jason Berry
Marek Went
Krystian Brazulewicz
Przemek Bruski
Marcin Gardias
Piotr Stefan Stefaniak
Ben Woskow

Git

Slawek Ginter

Team Lead

Mark Chaimungkalanont

Project Manager

Anton Mazkovoi

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Renan Battaglin
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Zed Yap

Gurleen Anand
Felipe Kraemer
Rene Verschoor
Dylan Hansen

Others

Product Management

Jens Schumacher
Helen Hung

Product Marketing

Giancarlo Lionetti

Technical Writing

Andrew Lui

Operations
James Fleming

Bamboo 3.1.1 Release Notes

24 May 2011

The Atlassian Bamboo team is proud to announce the release of **Bamboo 3.1.1**.

We’ve fixed several bugs in this release. Please see the ‘Updates and Fixes in this Release’ section below for details.

Bamboo 3.1.1 is of course free to all customers with active Bamboo software maintenance.

Don’t have Bamboo 3.1 yet?

Take a look at all the new features in the [Bamboo 3.1 Release Notes](#) and see what you are missing out on!

[DOWNLOAD latest version]

Upgrading from a Previous Version of Bamboo

If you are upgrading, please read the [Bamboo 3.1 Upgrade Guide](#).

Updates and Fixes in this Release

The issues addressed in Bamboo 3.1.1 are shown below. To view the list in JIRA, please refer to our main [JIRA site](#).

**JIRA Issues** (12 issues)

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<th>Assignee</th>
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<th>Status</th>
<th>Resolution</th>
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<tr>
<td>🧟♂️</td>
<td>BAM-876 7</td>
<td><strong>Grails will check for tests even if there are tests not configured.</strong></td>
<td>James Dumay [Atlassian]</td>
<td>James Dumay [Atlassian]</td>
<td>⚠️</td>
<td>🔄 Resolved</td>
<td>Fixed</td>
<td>May 12, 2011</td>
<td>May 24, 2011</td>
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<tr>
<td>🧟♂️</td>
<td>BAM-887</td>
<td><strong>Size of</strong></td>
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<td>Krystian</td>
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<td>🔄 Resolved</td>
<td>Fixed</td>
<td>May 20, 2011</td>
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<tr>
<td>8</td>
<td>BAM-8817</td>
<td>Import from Maven doesn't pick an Executable Label</td>
<td>Marcin Gardias</td>
<td>Mark Chaimungkalanon</td>
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<td>May 17, 2011</td>
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<td>BAM-8766</td>
<td>NAnt home was not autodetected correctly</td>
<td>James Dumay</td>
<td>James Dumay</td>
<td>Fixed</td>
<td>May 11, 2011</td>
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<td>3</td>
<td>BAM-8763</td>
<td>Add option to use client side mapping for p4 change detection</td>
<td>Andrew Lui</td>
<td>Brydie McCoy</td>
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<td>0</td>
<td>BAM-8750</td>
<td>Polish Tasks UI according to usability testing feedback</td>
<td>Jason Berry</td>
<td>Jens Schumacher</td>
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<td>James Dumay</td>
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<td></td>
<td></td>
<td>May 26, 2011</td>
</tr>
<tr>
<td>6</td>
<td>BAM-8716</td>
<td>CommentManager.getCommentsByUserForPlans does not find comments</td>
<td>Unassigned Arun Bhalla</td>
<td></td>
<td>Fixed</td>
<td>May 05, 2011</td>
</tr>
<tr>
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<td>May 24, 2011</td>
</tr>
<tr>
<td>0</td>
<td>BAM-8640</td>
<td>Wallboard likes to</td>
<td>Jason Berry</td>
<td>Jason Berry</td>
<td>Fixed</td>
<td>Apr 29, 2011</td>
</tr>
<tr>
<td></td>
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<td>May 24, 2011</td>
</tr>
</tbody>
</table>
Bamboo 3.1.1 Upgrade Guide

Upgrading from Bamboo 3.1 to 3.1.1

Please follow the Bamboo generic upgrade guide.

No additional upgrade tasks are required to upgrade from Bamboo 3.1 to 3.1.1.

Upgrading from Bamboo 3.0.5 or earlier

In addition to the above, please read the Bamboo 3.1 Upgrade Guide and the Upgrade Guide for every version you are skipping during the upgrade. The complete list of Upgrade Guides is available in the Bamboo upgrade guides section.

Bamboo 3.1.3 Release Notes

16 June 2011

The Atlassian Bamboo team is proud to announce the release of Bamboo 3.1.3.

We've fixed several bugs in this release. Please see the 'Updates and Fixes in this Release' section below for details.

Bamboo 3.1.3 is of course free to all customers with active Bamboo software maintenance.

Don't have Bamboo 3.1 yet?

Take a look at all the new features in the Bamboo 3.1 Release Notes and see what you are missing out on!

Upgrading from a Previous Version of Bamboo

If you are upgrading, please read the Bamboo 3.1.3 Upgrade Guide. Note, there is no Bamboo 3.1.2.

Updates and Fixes in this Release

The issues addressed in Bamboo 3.1.3 are shown below. To view the list in JIRA, please refer to our main JIRA site.

<table>
<thead>
<tr>
<th>JIRA Issues (19 issues)</th>
</tr>
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<tbody>
<tr>
<td>Type</td>
</tr>
<tr>
<td>Ticket</td>
</tr>
<tr>
<td>--------</td>
</tr>
<tr>
<td>BAM-8906</td>
</tr>
</tbody>
</table>
### Bamboo 3.1.3 Upgrade Guide

**Upgrading from Bamboo 3.1 to 3.1.3**

Please follow the Bamboo generic upgrade guide.

1. **No additional upgrade tasks are required to upgrade from Bamboo 3.1.1 to 3.1.3. Note, there is no Bamboo 3.1.2.**

**Upgrading from Bamboo 3.0.5 or earlier**

In addition to the above, please read the Bamboo 3.1 Upgrade Guide and the Upgrade Guide for every version you are skipping during the upgrade. The complete list of Upgrade Guides is available in the Bamboo upgrade guides section.

<table>
<thead>
<tr>
<th></th>
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<th></th>
<th></th>
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<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>BAM-888 4</td>
<td>After Plan has been moved to another project all artifacts are unaccessible</td>
<td>Krystian Brazulewicz [Atlassian]</td>
<td>Krystian Brazulewicz [Atlassian]</td>
<td>Resolved</td>
<td>Fixed</td>
<td>May 20, 2011</td>
<td>Jun 16, 2011</td>
</tr>
</tbody>
</table>
Bamboo 3.1.4 Release Notes

30 June 2011

The Atlassian Bamboo team is proud to announce the release of Bamboo 3.1.4.

We've fixed several bugs in this release. Please see the 'Updates and Fixes in this Release' section below for details.

Bamboo 3.1.4 is of course free to all customers with active Bamboo software maintenance.

Don't have Bamboo 3.1 yet?

Take a look at all the new features in the Bamboo 3.1 Release Notes and see what you are missing out on!

Upgrading from a Previous Version of Bamboo

If you are upgrading, please read the Bamboo 3.1.4 Upgrade Guide.

Updates and Fixes in this Release

The issues addressed in Bamboo 3.1.4 are shown below. To view the list in JIRA, please refer to our main JIRA site.

<table>
<thead>
<tr>
<th>JIRA Issues (6 issues)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Type</strong></td>
</tr>
<tr>
<td>![ ]</td>
</tr>
</tbody>
</table>
Bamboo 3.1.4 Upgrade Guide

Upgrading from Bamboo 3.1.3 to 3.1.4

Please follow the Bamboo generic upgrade guide.

No additional upgrade tasks are required to upgrade from Bamboo 3.1.3 to 3.1.4.

Upgrading from Bamboo 3.0.5 or earlier

In addition to the above, please read the Bamboo 3.1 Upgrade Guide and the Upgrade Guide for every version you are skipping during the upgrade. The complete list of Upgrade Guides is available in the Bamboo upgrade guides section.

Bamboo 3.1 Upgrade Guide

The instructions on this page describe how to upgrade to Bamboo 3.1 from a previous version of Bamboo. For details on the Bamboo 3.1 release, see the Bamboo 3.1 Release Notes.
Please follow the Bamboo 3.1-specific instructions on this page, in addition to the upgrade instructions in the Bamboo generic upgrade guide.

Please read the Supported platforms page for the full list of supported platforms for Bamboo.

On this page:

- Upgrade Notes
- Upgrading from Bamboo 3.0 to 3.1
- Upgrading from Bamboo prior to 3.0
- Developing for Bamboo 3.1
- Checking for Known Issues and Troubleshooting the Bamboo Upgrade

**Upgrade Notes**

**Bamboo Compatibility with Subversion pre-1.6**

We have changed the default behaviour of the SVNKit library in Bamboo. As a result, any source code checked out by Bamboo will be automatically upgraded to be compatible with Subversion 1.6. This does not adversely affect any pre-1.6 Subversion servers. However, if you use a pre-1.6 Subversion client to access code checked out by Bamboo, then any Bamboo builds on that code may fail.

If you want to prevent any checked out code from being automatically upgraded to SVN client format 1.6, you will need to run Bamboo with the following system property:

```
-Dbamboo.svn.wc.format=1.5
```

For more information, please see this FAQ: [How do I manually set the version of new Subversion workspaces](#).

**End of Support for Java Platform 5 (JDK/JRE 1.5)**

We are ending support for Java Platform 5 (JDK/JRE 1.5) in this release. Please see [End of Support](#) for further details.

**Conversion of Builders to Tasks**

The introduction of the Tasks feature in Bamboo 3.1 means that the following activities will occur during the upgrade to Bamboo 3.1:

- Builder capabilities will be renamed to Executable capabilities.
- Builders will be converted to Tasks. The Tasks will be linked to the Job that the Builders were a part of.
- If one of your Builders cannot be matched to a Task (e.g. you are using a custom plugin), it will be converted to a ‘Compatibility Task’. The configuration for your Builder will be transferred to this Task, and the Task will be linked to the Job that the Builder was a part of. You can view/update the configuration by navigating to the Task and clicking ‘Configure Legacy Executable’.

**Changes to Bamboo Files/Directories for Bamboo distributions for Windows**

If you are using the Bamboo distribution (not EAR-WAR) for Windows, please note that the location of the following files/directories have changed.

- All log files now located at %USERPROFILE%\bamboo.log, rather than in the logs folder of your installation directory. For Bamboo running as a Windows service, log files are located at %WINDIR%\System32\Config\systemprofile\bamboo.log. Note, existing logs will not be migrated, however new logs will be written to the new location when running Bamboo after the upgrade.
- All temporary directories on windows are now by default in %WINDIR%\Temp, rather than in the user's temporary directory.
Gravatar Support Enabled by Default

The new Gravatar support feature is enabled by default in Bamboo 3.1. For more information, see Configuring Gravatar support.

Upgrading from Bamboo 3.0 to 3.1

Before you begin, do the following:

1. Back up your existing installation of Bamboo

We strongly recommend that you do the following to back up your Bamboo installation:

- Back up your xml-data directory — See the Bamboo generic upgrade guide for instructions.
- Export your Bamboo data for backup — See the Exporting data for backup for instructions. Please note, that this may take a long time to complete depending on the number of builds and tests in your system.

2. Ensure that your plugins work

If you are using plugins, ensure that your plugins are compiled against 3.1 before upgrading.

Before you upgrade, please read the following important points that relate to Bamboo 3.0.

Upgrading from Bamboo prior to 3.0

In addition to the notes below, please read the Upgrade Guide for every version you are skipping during the upgrade. The complete list of Upgrade Guides is available here.

Notes for upgrading from Bamboo 2.6.x

- You will need to upgrade to Bamboo 2.7.4 before upgrading to Bamboo 3.0. If you are not running Bamboo 2.6.3, we recommend that you upgrade to it before upgrading to Bamboo 2.7.4. Bamboo 2.6.3 can be downloaded from the Bamboo Archived Downloads page. Bamboo 2.7.x introduces a number of significant and irreversible changes, so a phased upgrade is recommended. Please see the Bamboo 2.7.x Upgrade Guide for more details.
- You will need to set aside time, as described in the Bamboo 2.7.x Upgrade Guide, for Bamboo to migrate existing Plans to the new Plan structure in Bamboo 2.7.4.

Notes for upgrading from Bamboo 2.5 or earlier

- If you are upgrading from Bamboo 2.5 or earlier, you will need to set aside time, as described in the Bamboo 2.6 Upgrade Guide for Bamboo to migrate its test result data (stored in XML files on the filesystem) into the database.

Notes for upgrading from a version of Bamboo prior to 2.0

- If you are upgrading from a version of Bamboo prior to 2.0, you must upgrade to Bamboo 2.0.6 first before upgrading to Bamboo 2.6. Please read the Bamboo 2.0 Upgrade Guide for important upgrade instructions for upgrading from earlier versions of Bamboo.

Developing for Bamboo 3.1

If you are a Bamboo plugin developer, please refer to our Changes for Bamboo 3.1 guide, which outlines changes in Bamboo 3.1 that may affect Bamboo plugins compiled for Bamboo version 3.0.x or earlier.

Checking for Known Issues and Troubleshooting the Bamboo Upgrade

If something is not working correctly after you have completed the steps above to upgrade your Bamboo installation, please check for known Bamboo issues and try troubleshooting your upgrade as described below:

- Check for known issues. Sometimes we find out about a problem with the latest version of Bamboo after we have released the software. In such cases we publish information about the known issues in the Bamboo Knowledge Base. Please check the Bamboo 3.1 Known Issues in the Bamboo Knowledge Base.
and follow the instructions to apply any necessary patches if necessary.

- Did you encounter a problem during the Bamboo upgrade? Please refer to the guide to troubleshooting in the Bamboo Knowledge Base.
- If you encounter a problem during the upgrade and cannot solve it, please create a support ticket and one of our support engineers will help you.

**Bamboo 3.0 Release Notes**

**16 February 2011**

**With great pleasure, Atlassian presents Bamboo 3.0 with artifact sharing, Git support and a revamped user interface.**

Upgrading to Bamboo 3.0 is free for all customers with active Bamboo software maintenance. **Highlights of this release:**

- Artifact Sharing
- Git Support
- User Interface Overhaul
- Scheduled Repository Polling
- Configuration Changes Captured in Audit Logs
- Plus over 400 fixes and improvements
- The Bamboo 3 Team

**Thank you for your feedback:**

🌟 40 new features and improvements implemented
🌟 125 votes fulfilled

*Your votes and issues help us keep improving our products, and are much appreciated.*

Please keep logging your votes and issues. They help us decide what needs doing!

### Upgrading to Bamboo 3.0

You can download Bamboo from the [Atlassian website](https://www.atlassian.com). If upgrading from a previous version, please read the [Bamboo 3.0 Upgrade Guide](https://confluence.atlassian.com/display/BAAS/Upgrading+to+Bamboo+3.0).

### Artifact Sharing

Bamboo 3.0 allows artifacts produced from a Job to be shared with other Jobs in the same Plan, without being rebuilt every time. Build your artifacts in the first Stage and pass them through Unit and Acceptance testing Stages. When the build has completed, you will have every confidence that the final artifact has been thorough tested, works and is ready for further deployment.

Artifact sharing for Maven 2 is also supported, but in beta.
Git Support

Bamboo now supports Git. If you use this distributed version control system (DVCS) or are thinking of migrating to it, you can use Bamboo to build any source code maintained in Git repositories.
User Interface Overhaul

In our previous release, Bamboo 2.7, we introduced Stages and Jobs to improve the way your Builds are structured. The user interface wasn’t ideal for representing the new Plan structure though. In this release, we’ve taken the opportunity to completely overhaul the Bamboo user interface, including the Plans, Jobs and Build Results screens. If you are currently using Atlassian’s JIRA, you’ll feel right at home with the new look and feel!

Highlights include:

- A more neutral colour scheme to improve readability of the screens.
- Redesigned controls — slicker tabs, svelte forms and tables, Atlassian-standard headings and better buttons.
- Layout changes — functions moved into dropdowns to make key information more prominent.

Plan and Job Summary

As part of our drive to improve the Bamboo user experience, we’ve implemented better user interfaces for Plans and Jobs. The new Plan Navigator shows you the Stages and Jobs hierarchy in a Plan, as well as allowing quick navigation to Jobs. If you are looking at a Job, it will be highlighted in the Plan Navigator. Common functions have been moved into an ‘Actions’ menu for easy access. The interface also looks much cleaner, due to a better organised layout and the new colour scheme.

Build Results

The Build Results user interface for Plans and Jobs has also been improved in Bamboo 3.0. This includes a status ribbon that allows you to see whether a build was successful or not, at a glance. We’ve also added a history navigator that allows you to view the status of and navigate to, prior and subsequent build results. An updated layout and the new colour scheme complements these new features.
Scheduled Repository Polling

Bamboo now allows you to schedule when you want to poll your source repositories for changes. You can create a schedule using Cron expressions, but don’t worry if you can’t remember all that Cron lingo. Bamboo has an easy-to-use user interface that allows you to create your schedule without any expression magic required.

![Schedule Editor](image)

Screenshot above: Schedule Editor for a Plan
Configuration Changes Captured in Audit Logs

All configuration changes in Bamboo are now recorded in the audit logs. This allows you to track down whether a build failed because of an actual problem in your code, or whether a Plan configuration change was responsible.

Plus over 400 fixes and improvements

The top 10 issues by votes are shown below. For the full list of fixes and improvements, please refer to our public JIRA site to see a full list of issues fixed in this release of Bamboo.

<table>
<thead>
<tr>
<th>JIRA Issues (10 issues)</th>
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<tbody>
<tr>
<td>Type</td>
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</tr>
</tbody>
</table>
The Bamboo 3 Team

*Development*

*Core Team*

Brydie McCoy
James Dumay
Jason Berry
Marek Went
Krzystian Brazulewicz
Przemek Bruski
Marcin Gardias
Michael Truong

*Git*

Slawek Ginter
Piotr Stefan Stefaniak

*Team Lead*

Mark Chaimungkalanont

*Project Manager*

Anton Mazkovoi

*Support*

Renan Battaglin
Ajay Sridhar
Zed Yap

*Others*

*Product Management*

Jens Schumacher
Helen Hung

*Product Marketing*

Giancarlo Lionetti

*Technical Writing*

Andrew Lui

*Operations*

James Fleming

**Bamboo 3.0.1 Release Notes**

**25 February 2011**

The Atlassian Bamboo team is proud to announce the release of Bamboo 3.0.1.

We've fixed several bugs in this release. Please see the 'Updates and Fixes in this Release' section below for details.
Bamboo 3.0.1 is of course free to all customers with active Bamboo software maintenance.

Don’t have Bamboo 3.0 yet?

Take a look at all the new features in the Bamboo 3.0 Release Notes and see what you are missing out on!

Upgrading from a Previous Version of Bamboo

If you are upgrading, please read the Bamboo 3.0 Upgrade Guide.

Updates and Fixes in this Release

The issues addressed in Bamboo 3.0.1 are shown below. To view the list in JIRA, please refer to our main JIRA site.

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<thead>
<tr>
<th>JIRA Issues (4 issues)</th>
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<table>
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<th>Assignee</th>
<th>Reporter</th>
<th>Priority</th>
<th>Status</th>
<th>Resolution</th>
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<th>Updated</th>
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</thead>
<tbody>
<tr>
<td>BAM-804</td>
<td>Possible race condition for getting build results with Maven builder or build is red when it shouldn't</td>
<td>Przemek Bruski [Atlassian]</td>
<td>Adrian Deccio [Atlassian]</td>
<td>8</td>
<td>Possible</td>
<td>Resolved</td>
<td>Fixed</td>
<td>Feb 15, 2011</td>
<td>Feb 22, 2011</td>
</tr>
</tbody>
</table>

Bamboo 3.0.1 Upgrade Guide
**Upgrading from Bamboo 3.0 to 3.0.1**

Please follow the [Bamboo generic upgrade guide](https://confluence.atlassian.com/display/DOCS/Overview+of+Bamboo+4.3). No additional upgrade tasks are required to upgrade from Bamboo 3.0 to 3.0.1.

**Upgrading from Bamboo 3.0 or earlier**

In addition to the above, please read the [Bamboo 3.0 Upgrade Guide](https://confluence.atlassian.com/display/DOCS/Upgrading+from+Bamboo+3.0) and the Upgrade Guide for every version you are skipping during the upgrade. The complete list of Upgrade Guides is available in the [Bamboo upgrade guides](https://confluence.atlassian.com/display/DOCS/Upgrade+Guides) section.

**Bamboo 3.0.2 Release Notes**

24 March 2011

The Atlassian Bamboo team is proud to announce the release of **Bamboo 3.0.2**.

We've fixed several bugs in this release. Please see the 'Updates and Fixes in this Release' section below for details.

Bamboo 3.0.2 is of course free to all customers with active Bamboo software maintenance.

Don't have Bamboo 3.0 yet?

Take a look at all the new features in the [Bamboo 3.0 Release Notes](https://confluence.atlassian.com/display/DOCS/Upgrading+from+Bamboo+3.0) and see what you are missing out on!

---

**Upgrading from a Previous Version of Bamboo**

If you are upgrading, please read the [Bamboo 3.0 Upgrade Guide](https://confluence.atlassian.com/display/DOCS/Upgrading+from+Bamboo+3.0).

**Updates and Fixes in this Release**

The issues addressed in Bamboo 3.0.2 are shown below. To view the list in JIRA, please refer to our main [JIRA site](https://confluence.atlassian.com/display/DOCS/Upgrade+Guides).

<table>
<thead>
<tr>
<th>JIRA Issues</th>
<th>Type</th>
<th>Key</th>
<th>Summary</th>
<th>Assignee</th>
<th>Reporter</th>
<th>Priority</th>
<th>Status</th>
<th>Resolution</th>
<th>Created</th>
<th>Updated</th>
</tr>
</thead>
<tbody>
<tr>
<td>BAM-806</td>
<td>9</td>
<td>/build resource does not work</td>
<td>Unassigned</td>
<td>Bulkan Evcimen</td>
<td></td>
<td></td>
<td>Resolved</td>
<td>Fixed</td>
<td>Feb 20, 2011</td>
<td>Mar 03, 2011</td>
</tr>
</tbody>
</table>
### Bamboo 3.0.2 Upgrade Guide

**Upgrading from Bamboo 3.0 to 3.0.2**

Please follow the [Bamboo generic upgrade guide](#).

1. No additional upgrade tasks are required to upgrade from Bamboo 3.0.1 to 3.0.2.

**Upgrading from Bamboo 3.0 or earlier**

In addition to the above, please read the [Bamboo 3.0 Upgrade Guide](#) and the Upgrade Guide for every version you are skipping during the upgrade. The complete list of Upgrade Guides is available in the [Bamboo upgrade guides](#) section.

### Bamboo 3.0.3 Release Notes

**18 April 2011**

The Atlassian Bamboo team is proud to announce the release of **Bamboo 3.0.3**.

We've fixed several bugs in this release. Please see the 'Updates and Fixes in this Release' section below for
details.

Bamboo 3.0.3 is of course free to all customers with active Bamboo software maintenance.

Don’t have Bamboo 3.0 yet?

Take a look at all the new features in the Bamboo 3.0 Release Notes and see what you are missing out on!

Upgrading from a Previous Version of Bamboo

If you are upgrading, please read the Bamboo 3.0.3 Upgrade Guide.

Updates and Fixes in this Release

The issues addressed in Bamboo 3.0.3 are shown below. To view the list in JIRA, please refer to our main JIRA site.

<table>
<thead>
<tr>
<th>JIRA Issues (10 issues)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Type</strong></td>
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<tr>
<td>---</td>
</tr>
<tr>
<td>Issue</td>
</tr>
<tr>
<td>-------</td>
</tr>
<tr>
<td>BAM-8216</td>
</tr>
<tr>
<td>BAM-7833</td>
</tr>
<tr>
<td>BAM-8153</td>
</tr>
</tbody>
</table>

Bamboo 3.0.3 Upgrade Guide
Upgrading from Bamboo 3.0.2 to 3.0.3

Please follow the Bamboo generic upgrade guide. No additional upgrade tasks are required to upgrade from Bamboo 3.0.2 to 3.0.3.

Upgrading from Bamboo 3.0.1 or earlier

In addition to the above, please read the Bamboo 3.0 Upgrade Guide and the Upgrade Guide for every version you are skipping during the upgrade. The complete list of Upgrade Guides is available in the Bamboo upgrade guides section.

Bamboo 3.0 Upgrade Guide

The instructions on this page describe how to upgrade to Bamboo 3.0 from a previous version of Bamboo. For details on the Bamboo 3.0 release, see the Bamboo 3.0 Release Notes.

Please following the Bamboo 3.0-specific instructions on this page, in addition to the upgrade instructions in the Bamboo generic upgrade guide.

Please read the Supported platforms page for the full list of supported platforms for Bamboo.

On this page:

- Upgrade Notes
- Upgrading from Bamboo 2.7 to 3.0
- Upgrading from Bamboo prior to 2.7
- Developing for Bamboo 3.0
- Checking for Known Issues and Troubleshooting the Bamboo Upgrade

Upgrade Notes

End of Support for Internet Explorer 7

We are ending support for Internet Explorer 7 (IE7) in this release. Please see End of Support Announcements for Bamboo for further details.

Advance Notice of End of Support for Java Platform 5

We are planning on ending support for Java Platform 5 (JDK/JRE 1.5) in Bamboo 3.1. Please see End of Support Announcements for Bamboo for further details.

All Bamboo versions using MS SQL 2005 and 2008 demand Read Committed with Row Versioning isolation level.

- Before starting the upgrade process ensure that your current Bamboo MS SQL database is set to use Read Committed with Row Versioning as its isolation level. If you are planning to restore a Bamboo Backup Zip, ensure that the new database will have this isolation level as well. For instructions on how to set this isolation level, please see Microsoft SQL Server 2005 and 2008.

Specifying Artifact Location

In Bamboo 2.7 and earlier, artifacts are stored under xml-data/builds under your ${bambooHome} (unless specified otherwise). An upgrade task for Bamboo 3.0 will move your artifacts out of ${bamboo.project.directory} into a separate artifacts directory under ${bambooHome}. If your artifacts are currently not located under your ${bambooHome}, i.e. you manually changed the location of your ${bamboo.project.directory}, you will need to do one of the following:

- make sure that there is enough room under ${bambooHome} to accommodate the artifacts in the new artifacts directory, or
- set the bamboo.artifacts.directory property in bamboo.cfg.xml to the preferred location for your artifacts. You must update this property before the upgrade. The upgrade task will use the location specified by this property, rather than moving artifacts to the new artifacts directory under ${bambooHome}
If your `bamboo.project.directory` currently points to a different physical disk to your `bambooHome`, the upgrade process will copy (rather than move) data between locations, unless you set the `bamboo.artifacts.directory` property.

### The new Default Path for Artifacts

- **Bamboo 2.6 and earlier versions:**
  ```
  xml-data/builds/PLAN_KEY/download-data
  ```

- **Bamboo 2.7:**
  ```
  <bamboo-home>/xml-data/builds/JOB_KEY/download-data/artifacts/build-BUILD_NUMBER
  ```

- **Bamboo 3.0:**
  ```
  <bamboo-home>/artifacts/PLAN_KEY/shared/build-BUILD_NUMBER/
  ```

In Bamboo 3.0, this is a folder shared by all the stages of a certain plan. Stages will place Artifacts here so that other stages from the same plan can have access to them. The BUILD_NUMBER will always be composed with a minimum of 5 digits, having the number completed with zeros. For instance, for build "42" the number will be "00042".

### Upgrade Exceptions

- If you experience the following exception during the Bamboo 3.0 upgrade, it means that the upgrade task has failed to fully migrate a directory, as part of the internal artifact storage migration. You will need to manually move the directory and restart the upgrade.
  ```
  Unable to move DIRECTORY_NAME_A -> DIRECTORY_NAME_B, destination directory already exists. This might indicate interrupted upgrade process. To continue upgrade, move directory manually.
  ```

### Crowd Integration Authenticator

Bamboo 3.0 is using the new 2.4 version of the Seraph authenticator. Please, go through the [Integrating Crowd with Atlassian Bamboo](https://confluence.atlassian.com/atlassian/integrating-crowd-with-atlassian-bamboo) steps to ensure that the new necessary configurations will be applied.

### Upgrading from Bamboo 2.7 to 3.0

Before you begin, do the following:

1. **Back up your existing installation of Bamboo**

   We strongly recommend that you do the following to back up your Bamboo installation:

   - Back up your xml-data directory — See the [Bamboo generic upgrade guide](https://confluence.atlassian.com/atlassian/bamboo-generic-upgrade-guide) for instructions.
   - Export your Bamboo data for backup — See the [Exporting data for backup](https://confluence.atlassian.com/atlassian/exporting-data-for-backup) for instructions. Please note, that this may take a long time to complete depending on the number of builds and tests in your system.
2. Ensure that your plugins work

If you are using plugins, ensure that your plugins are compiled against 3.0 before upgrading.

Before you upgrade, please read the following important points that relate to Bamboo 2.7.

Upgrading from Bamboo prior to 2.7

In addition to the notes below, please read the Upgrade Guide for every version you are skipping during the upgrade. The complete list of Upgrade Guides is available here.

Notes for upgrading from Bamboo 2.6.x

- You will need to upgrade to Bamboo 2.7.4 before upgrading to Bamboo 3.0. If you are not running Bamboo 2.6.3, we recommend that you upgrade to it before upgrading to Bamboo 2.7.4. Bamboo 2.6.3 can be downloaded from the Bamboo Archived Downloads page. Bamboo 2.7.x introduces a number of significant and irreversible changes, so a phased upgrade is recommended. Please see the Bamboo 2.7.x Upgrade Guide for more details.
- You will need to set aside time, as described in the Bamboo 2.7.x Upgrade Guide, for Bamboo to migrate existing Plans to the new Plan structure in Bamboo 2.7.4.

Notes for upgrading from Bamboo 2.5 or earlier

- If you are upgrading from Bamboo 2.5 or earlier, you will need to set aside time, as described in the Bamboo 2.6 Upgrade Guide for Bamboo to migrate its test result data (stored in XML files on the filesystem) into the database.

Notes for upgrading from a version of Bamboo prior to 2.0

- If you are upgrading from a version of Bamboo prior to 2.0, you must upgrade to Bamboo 2.0.6 first before upgrading to Bamboo 2.6. Please read the Bamboo 2.0 Upgrade Guide for important upgrade instructions for upgrading from earlier versions of Bamboo.

Developing for Bamboo 3.0

If you are a Bamboo plugin developer, please refer to our Changes for Bamboo 3.0 guide, which outlines changes in Bamboo 3.0 that may affect Bamboo plugins compiled for Bamboo version 2.7.x or earlier. In particular, please note that the /build REST endpoint has been replaced with /builds.build results.result. Expand parameters have also been changed from builds.build.to results.result.

Checking for Known Issues and Troubleshooting the Bamboo Upgrade

If something is not working correctly after you have completed the steps above to upgrade your Bamboo installation, please check for known Bamboo issues and try troubleshooting your upgrade as described below:

- **Check for known issues.** Sometimes we find out about a problem with the latest version of Bamboo after we have released the software. In such cases we publish information about the known issues in the Bamboo Knowledge Base. Please check the Bamboo 3.0 Known Issues in the Bamboo Knowledge Base and follow the instructions to apply any necessary patches if necessary.

- **Did you encounter a problem during the Bamboo upgrade?** Please refer to the guide to troubleshooting upgrades in the Bamboo Knowledge Base.

- If you encounter a problem during the upgrade and cannot solve it, please create a support ticket and one of our support engineers will help you.

Bamboo 2.7 Release Notes

9 November 2010

The Atlassian Bamboo team is proud to release Bamboo
2.7.

In Bamboo 2.7, we’ve **enhanced Plans** so that you can **map a complete build process into consecutive steps** (such as compilation, testing and deployment), all within a single Plan!

Bamboo’s **Concurrent Builds** feature allows you to execute a single Plan concurrently on multiple agents — extremely useful if the trigger for building a Plan fires more frequently than the time it takes to build the Plan.

Do you use a **distributed version control system** (DVCS) or are thinking of migrating to one? Bamboo now **supports Mercurial**, so that you can take full advantage of this popular DVCS.

Upgrading to Bamboo 2.7 is free for all customers with **active Bamboo software maintenance**.

**Highlights of this release:**

- **Build Stages**
  - Map Your Build Process
  - Parallel Builds
  - Enhanced Plan Structure

- **Simplified Plan Creation**
- **Concurrent Builds**
- **Mercurial Support**
- **Improved Wallboards**
- **New Plan and Job Configuration Summaries**
- **Recent History on Plan and Job Summaries**
- **Other User Interface Enhancements**
  - New Breadcrumb Trail
  - Build Histories
  - Improved Build Result Summary Tabs

- **Plus over 130 fixes and improvements**

**Thank you for your feedback:**

- 🌟 20 new features and improvements implemented
- 🌟 48 votes fulfilled
- 🌟 Over 200 issues resolved

Your votes and issues help us keep improving our products, and are much appreciated.

Please keep logging your **votes and issues**. They help us decide what needs doing!

<table>
<thead>
<tr>
<th>Upgrading to Bamboo 2.7</th>
</tr>
</thead>
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<tr>
<td>You can download Bamboo from the <a href="https://www.atlassian.com">Atlassian website</a>. If upgrading from a previous version, please read the <a href="https">Bamboo 2.7 Upgrade Guide</a>.</td>
</tr>
</tbody>
</table>

**Build Stages**

**Map Your Build Process**
Bamboo 2.7 allows you to define and map a complete build process in a single Plan. Build steps like compile, test and deploy are mapped to Stages in your Plan, where Stages are processed sequentially. Builds can fail fast if something breaks early in the build process, saving you valuable processing time!

**Parallel Builds**

Single build units within a Stage, called Jobs, can be executed in parallel. This enables you to run different suites of tests simultaneously or the same test against different environments, dramatically reducing the feedback cycle within your build process.

**Enhanced Plan Structure**

To accommodate the features above, Bamboo's Plans now consist of Stages and Jobs, where one or more Jobs can be grouped into a Stage, as depicted in the Enhanced Plan Structure diagram below.

When Bamboo builds a Plan, it starts building all of the Jobs in its first Stage, followed by all Jobs in the second stage and so on.

- Jobs belonging to a single Stage are built in parallel, depending on the availability of Bamboo agents, but Stages are processed one at a time.
- Within any Stage, all Jobs must be built and have succeeded before Bamboo processes the next Stage. If any Job in a Stage fails, Bamboo will not process any subsequent Stages in that Plan (nor any Jobs within these Stages).

**Screenshot: Enhanced Plan Structure**

- Rest assured that when you upgrade to Bamboo 2.7, your existing Plans will be migrated smoothly into Bamboo 2.7’s enhanced Plan structure. For more information please refer to the Bamboo 2.7 Upgrade Guide.

**Simplified Plan Creation**
Bamboo’s Plan creation features have been simplified. Decide up front how you want to create your new Plan:

- Create a new Plan from scratch
- Clone an existing Plan
- Create a Plan by importing a pom.xml file from a Maven 2 project

The **Create a New Plan** page is now much easier to use and only shows options that are essential for the Plan to start building its first Job. More configuration options are available when you edit the configuration of your Plan and/or the Plan's Jobs.

**Screenshot: Creating a New Plan from Scratch**
Concurrent Builds

Bamboo's Concurrent Builds feature allows you to execute a single Plan concurrently on multiple agents. This is extremely useful if the trigger for building a Plan fires more frequently than the time it takes to complete building that Plan.

Screenshot: Plans Building Concurrently

You can easily configure the number of builds of a Plan that your Bamboo server can execute concurrently through Bamboo's administration console. To avoid overloading your Bamboo agents, it is recommended this number be kept to a minimum as the number of Jobs in your Plans increases.

Mercurial Support

Bamboo now supports Mercurial. If you use this distributed version control system (DVCS) or are thinking of migrating to it, you can use Bamboo to build any source code maintained in Mercurial repositories.

Improved Wallboards

The wallboard (formerly known as the build monitor) is designed to present your Bamboo server’s latest build results on a whole screen and now has the following improvements:

- More Plans can be shown — If you display the wallboard within a browser window, more or fewer build results will be shown upon re-sizing the window.
- More information from a build result — If your wallboard is displayed on a touchscreen (such as an iPad) or its content can be accessed with a mouse, then touching or clicking a build result on the wallboard will show more information about that build.
- Black background — Save more energy if your wallboard-dedicated monitor is a plasma or relatively recent LED-based screen.

If you've connected Bamboo to JIRA with OAuth and are using the [JIRA Wallboard](https://docs.atlassian.com/jira/wallboard/), you can display Bamboo gadgets on a JIRA Wallboard along with other JIRA and GreenHopper Gadgets, GreenHopper burndown charts, Crucible code reviews and more!

**Screenshot: The Bamboo Wallboard**

![Bamboo Wallboard Screenshot](image1.png)

**Screenshot: Bamboo Gadget on a JIRA Wallboard**

![Bamboo Gadget Screenshot](image2.png)

More...
New Plan and Job Configuration Summaries

A summary of your Plan's or Job's configuration is available on a single page so that you no longer have to click through a series of tabs to view key settings for any given Plan or Job.

To configure a particular section of a Plan or Job, simply click the 'Plan Configuration' or 'Job Configuration' drop-down menus and select the appropriate option.

Screenshot: Configuration Summary for a Plan

Recent History on Plan and Job Summaries

A list of recently built Plans or Jobs is available on their respective Plan Summary and Job Summary pages.
Each Plan's build has its own build number, where each build number is preceded by a '#' symbol. Each Job that was built as part of a Plan's build, shares the same build number as its Plan's build number.

**Screenshot: Recent History on the Plan Summary Tab**

In the **Recent History** section, clicking on a Plan's build number link, its 'updated' link and test (right-most) link, takes you to the **Summary**, **Changes** and **Tests** tabs respectively for that particular Plan's build.

![Bamboo CI Tests](image)

- **Plan Summary**
- **Recent Failures**
- **Build History**
- **Issues**
- **Configuration**

**Current Activity**

No builds are currently executing or queued for **RAM-FC**.

**Recent History**

- #1669 Updated by Brydie McCoy  57 minutes ago  2138 passed
- #1668 Updated by Przemyslaw Bruski  11 hours ago  2138 passed
- #1667 Updated by James Dumay  19 hours ago  2138 passed
- #1666 Updated by Jason Berry  21 hours ago  2138 passed
- #1665 Updated by Brydie McCoy  22 hours ago  3 of 2100 failed

**Stages**

- **Functional Test**
  - 12 jobs
  - Func Test Clean
  - Func Test CVS (disabled)

From the **Plan Summary** tab, you can quickly access the Plan's **Job Summary** page by clicking the name of the relevant Job in the **Stages** section (under **Recent History**).

**Other User Interface Enhancements**

**New Breadcrumb Trail**

A new intuitive breadcrumb trail makes it clear where you are. Whether you are looking at a Plan or drilling down into a Job to find out why the Build has failed, you will always find your way back.

The tabs below a breadcrumb change depending on your current Plan context. These tabs provide access to options and data that are specific to your particular context.

Clicking back in the breadcrumb trail takes you to a higher level context with the Plan. For example, if you are
viewing the Plan's Job Summary View, clicking back one step on the breadcrumb takes you to its Plan Summary View.

**Screenshot: Breadcrumb for a Job's Build Result View**

Build Histories

Build History tabs on the Plan and Job Summary Views show an expanded version of previous builds in the Recent History lists (above).

Improved Build Result Summary Tabs

The Summary tab of a Plan's and Job's Build Result View has the following useful features, shown in the screenshot below:

- **Test Summary** (Plan Build Result View only) — This section shows the number of:
  - **New Failures** — The number of Jobs built in the Plan's current build that failed but had passed in the Plan's previous build.
  - **Existing Failures** — The number of Jobs built in the Plan's current build that failed and had also failed in the Plan's previous build.
  - **Fixed** — The number of Jobs built in the Plan's current build that were fixed since the Plan's previous build.
- **Tests** — This section shows an itemised list of failed tests associated with specific Jobs in a Plan. On a Plan's Build Result View, failed tests associated with all Jobs are shown.
- **Comment** — By clicking on the 'Comment' button, you can easily add a comment associated with a Plan's or Job's build result.

**Screenshot: Test Summary on a Plan's Build Result View**

---

Plus over 130 fixes and improvements

Refer to our [public JIRA site](https://jira.atlassian.com) to see a full list of issues fixed in this release of Bamboo.

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**Bamboo 2.7 Upgrade Guide**

On this page:

- **Upgrading from Bamboo 2.6 to 2.7**
  - Please set aside some time when upgrading to Bamboo 2.7 or later
  - Old Bamboo Plans migrated smoothly into enhanced Plans
  - Using a Mercurial repository with SSH on remote agents
  - All Bamboo versions using MS SQL 2005 and 2008 demand Read Committed with Row Versioning isolation level.
  - Configuring Plans and Jobs
  - Other Known Issues
  - Developing for Bamboo 2.7

- **Upgrading from Bamboo prior to 2.6**
Upgrading from Bamboo 2.6 to 2.7

**IMPORTANT! Back up your existing installation of Bamboo before attempting to upgrade to Bamboo 2.7!**

Significant changes will be made to your pre-existing Plans when they are migrated to the enhanced Plan structure for Bamboo 2.7.

After commencing the Bamboo 2.7 upgrade process, there is no easy way to:

- revert your Plans back to the old Bamboo 2.6.x (or earlier) structure or
- recover your Plans if you encounter a problem during the Bamboo 2.7 upgrade process.

When backing up Bamboo, we strongly recommended backing up your xml-data directory before proceeding. For full instructions please follow the Bamboo generic upgrade guide.

We also strongly recommend that you export your Bamboo data for backup before proceeding. Please note, that this may take a long time to complete depending on the number of builds and tests in your system. For full instructions please see Exporting data for backup.

If you are using plugins, please make sure that your plugins are compiled against 2.7 before upgrading.

Before you upgrade, please read the following important points that relate to Bamboo 2.7.

**Please set aside some time when upgrading to Bamboo 2.7 or later**

Please set aside some time for Bamboo to migrate Plans to the enhanced Plan structure as this process may require a significant period of time to be completed.

As a guideline, when we upgraded a Bamboo 2.6.x server running on an 8 thread/core machine with approximately 100 Plans (45,000 results), it took us approximately 2 hours to complete the Plan migration process, plus an additional 2 or more hours to complete the Bamboo re-indexing process.

The time it will take you to upgrade to Bamboo 2.7 ultimately depends on your hardware and the number of pre-existing Plans requiring migration.

**Old Bamboo Plans migrated smoothly into enhanced Plans**

Each Plan configured in a Bamboo 2.6 (or earlier) installation will be migrated across smoothly into its own enhanced Bamboo 2.7 Plan. After migration, your plan will consist of a single Default Job in a single Default Stage.

**Using a Mercurial repository with SSH on remote agents**

You will need to upgrade your remote agents if you need your Plans/Jobs to access Mercurial repositories (via SSH authentication using key files with passphrases). For full instructions please see Upgrading remote agents for Mercurial.
You should also make sure that the Mercurial capability is properly configured both on the server and for agents.

All Bamboo versions using MS SQL 2005 and 2008 demand Read Committed with Row Versioning isolation level.

Before starting the upgrade process ensure that your current Bamboo MS SQL database is set to use Read Committed with Row Versioning as its isolation level. If you are planning to restore a Bamboo Backup Zip, ensure that the new database will have this isolation level as well. For instructions on how to set this isolation level, please see Microsoft+SQL+Server+2005+and+2008.

Configuring Plans and Jobs

As a result of the enhanced Plan structure in Bamboo 2.7, you will notice that some configuration settings associated with your old Bamboo Plans are now only available when viewing the Default Jobs of these Plans (following the upgrade). Hence, you will need to ‘drill down’ to an upgraded Plan’s Default Job to access some of the configuration settings you would normally have accessed when editing/configuring a Plan in Bamboo 2.6.x or earlier.

You can easily access a Plan’s Default Job or any other of its Jobs, by viewing the Plan’s Plan Summary tab and clicking the Job’s name in the Stages section of that page.

Other Known Issues

Sometimes we find out about a problem with the latest version of Bamboo after we have released the software. In such cases, we publish information about these other known issues in the Bamboo Knowledge Base. Before you begin the upgrade, please check for any of these other known issues in the Bamboo Knowledge Base first and if provided, follow the instructions to apply any necessary patches.
If you encounter a problem during the upgrade and cannot solve it, please create a [support ticket](http://example.com) and one of our support engineers will help you.

**Developing for Bamboo 2.7**

If you are a Bamboo plugin developer, please refer to our [Changes for Bamboo 2.7](http://example.com) guide, which outlines changes in Bamboo 2.7 that may affect Bamboo plugins compiled for Bamboo version 2.6.x or earlier.

**Upgrading from Bamboo prior to 2.6**

If you're upgrading from versions prior to 2.6, please upgrade to [2.6.3 release](http://example.com) first before upgrading to 2.7. As stated above, 2.7 involves major changes to the database structure and a phased upgrade is recommended.

In addition to the above, please read the *Upgrade Guide* for every version you are skipping during the upgrade. The complete list of Upgrade Guides is available [here](http://example.com).

If you are upgrading from Bamboo 2.5 or earlier, you will need to set aside more time for Bamboo to migrate its test result data stored in XML files on the filesystem into the database. This time is additional to that mentioned above.

In particular, if you are upgrading from a version of Bamboo **prior to 2.0**, please ensure that you upgrade to Bamboo 2.0.6 first before upgrading to Bamboo 2.6.

Please ensure that you read the Bamboo 2.0 Upgrade Guide which contains important upgrade instructions for upgrading from earlier versions of Bamboo.

**Bamboo 2.7.2 Release Notes**

**25 November 2010**

The Atlassian Bamboo team is proud to announce the release of **Bamboo 2.7.2**.

We've fixed several bugs in this release. Please see the 'Updates and Fixes in this Release' section below for details.

Bamboo 2.7.2 is of course free to all customers with active Bamboo software maintenance.

**Don't have Bamboo 2.7 yet?**

Take a look at all the new features in the [Bamboo 2.7 Release Notes](http://example.com) and see what you are missing out on!

![Download latest version](http://example.com)

**Upgrading from a Previous Version of Bamboo**

If you are upgrading, please read the Bamboo 2.7.2 Upgrade Guide.

**Updates and Fixes in this Release**

The issues addressed in Bamboo 2.7.2 are shown below. To view the list in JIRA, please refer to our main JIRA site.

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*Created by Atlassian in 2012. Licensed under a [Creative Commons Attribution 2.5 Australia License](http://creativecommons.org/licenses/by/2.5/).*
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<td>User should be told that after setting custom capabilities on elastic images, instance has to be restarted</td>
<td>Brydie McCoy [Atlassian]</td>
<td>Janusz Gorycki [Atlassian]</td>
<td>Fixed</td>
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Bamboo 2.7.2 Upgrade Guide

**Upgrading from Bamboo 2.7.1 to 2.7.2**

Please follow the [Bamboo generic upgrade guide](https://confluence.atlassian.com/display/BAK/Bamboo+2.7.2+Upgrade+Guide).

*No additional upgrade tasks are required to upgrade from Bamboo 2.7.1 to 2.7.2.*

**Upgrading from Bamboo 2.7 or earlier**

In addition to the above, please read the Bamboo 2.7 Upgrade Guide and the Upgrade Guide for every version you are skipping during the upgrade. The complete list of Upgrade Guides is available in the Bamboo upgrade guides section.

**Bamboo 2.7.1 Release Notes**

**10 November 2010**

The Atlassian Bamboo team is proud to announce the release of **Bamboo 2.7.1**.

Please see the 'Updates and Fixes in this Release' section below for details of the bugs fixed in this release.

Bamboo 2.7.1 is of course free to all customers with [active Bamboo software maintenance](https://www.atlassian.com/software/atlassian/products-by-name.bamboo/overview).

**Don’t have Bamboo 2.7 yet?**

Take a look at all the new features in the [Bamboo 2.7 Release Notes](https://www.atlassian.com/software/atlassian/products-by-name.bamboo/overview) and see what you are missing out on!

**Upgrading from a Previous Version of Bamboo**

If you are upgrading from versions before 2.7, please read the [Bamboo 2.7 Upgrade Guide](https://www.atlassian.com/software/atlassian/products-by-name.bamboo/overview).

**Updates and Fixes in this Release**

The issues addressed in Bamboo 2.7.1 are shown below. To view the list in JIRA, please refer to our main [JIRA site](https://confluence.atlassian.com/display/BAK/Bamboo+2.7.1+Release+Notes).

---

**BAM-678**

**Can not delete image configuration if used in instance scheduling**

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**BAM-5928**

**AJAX requests do not handle umlaut characters in user’s name correctly**

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*Documentation for Bamboo 4.3*  
*Created by Atlassian in 2012. Licensed under a Creative Commons Attribution 2.5 Australia License.*
## JIRA Issues (4 issues)

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<td><code>${system\_PATH}</code> or <code>${system\_ALLUSE\_RSPROFILE}</code> variables are not being replaced</td>
<td>Krystian Brazulewicz [Atlassian]</td>
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### Bamboo 2.7.1 Upgrade Guide

**Upgrading from Bamboo 2.7 to 2.7.1**

Please follow the Bamboo generic upgrade guide.

- No additional upgrade tasks are required to upgrade from Bamboo 2.7 to 2.7.1.

**Upgrading from Bamboo 2.7 or earlier**

In addition to the above, please read the Bamboo 2.7 Upgrade Guide and the Upgrade Guide for every version you are skipping during the upgrade. The complete list of Upgrade Guides is available in the Bamboo upgrade guides section.

### Bamboo 2.7.3 Release Notes

**15 December 2010**

The Atlassian Bamboo team is proud to announce the release of Bamboo 2.7.3.
We've fixed several bugs in this release. Please see the 'Updates and Fixes in this Release' section below for details.

Bamboo 2.7.3 is of course free to all customers with active Bamboo software maintenance.

Don't have Bamboo 2.7 yet?

Take a look at all the new features in the Bamboo 2.7 Release Notes and see what you are missing out on!

Upgrading from a Previous Version of Bamboo

If you are upgrading, please read the Bamboo 2.7.3 Upgrade Guide.

Updates and Fixes in this Release

The issues addressed in Bamboo 2.7.3 are shown below. To view the list in JIRA, please refer to our main JIRA site.

<table>
<thead>
<tr>
<th>JIRA Issues (7 issues)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Type</strong></td>
</tr>
<tr>
<td>[ ]</td>
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</tbody>
</table>
Bamboo 2.7.3 Upgrade Guide

Upgrading from Bamboo 2.7.2 to 2.7.3

Please follow the Bamboo generic upgrade guide.

No additional upgrade tasks are required to upgrade from Bamboo 2.7.1 to 2.7.3.

Upgrading from Bamboo 2.7 or earlier

In addition to the above, please read the Bamboo 2.7 Upgrade Guide and the Upgrade Guide for every version you are skipping during the upgrade. The complete list of Upgrade Guides is available in the Bamboo upgrade guides section.

Bamboo 2.7.4 Release Notes

18 February 2011

The Atlassian Bamboo team is proud to announce the release of Bamboo 2.7.4.

We've fixed several bugs in this release. Please see the 'Updates and Fixes in this Release' section below for details.

Bamboo 2.7.4 is of course free to all customers with active Bamboo software maintenance.

Don't have Bamboo 2.7 yet?

Take a look at all the new features in the Bamboo 2.7 Release Notes and see what you are missing out on!

Upgrading from a Previous Version of Bamboo

If you are upgrading, please read the Bamboo 2.7.4 Upgrade Guide.
Updates and Fixes in this Release

The issues addressed in Bamboo 2.7.4 are shown below. To view the list in JIRA, please refer to our main JIRA site.

### JIRA Issues (7 issues)

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<tr>
<td></td>
<td>BAM-759</td>
<td>Getting tests result produces HTTP 500</td>
<td>Marcin Gardias [Atlassian]</td>
<td>Piotr Marusza k</td>
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<td>Resolved</td>
<td>Dec 22, 2010</td>
<td>Jan 05, 2011</td>
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<td>BAM-747</td>
<td>Bamboo has stopped remembe ring the collapse state of my plans</td>
<td>Brydie McCoy [Atlassian]</td>
<td>Brian Nguyen [Atlassian]</td>
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<td>Resolved</td>
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<td>Dec 22, 2010</td>
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<td>BAM-740</td>
<td>Decimal-</td>
<td>Krystian</td>
<td>Dirk</td>
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<td>Resolved</td>
<td>Nov 26,</td>
<td>Jan 11,</td>
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</tbody>
</table>
Bamboo 2.7.4 Upgrade Guide

Upgrading from Bamboo 2.7.3 to 2.7.4

Please follow the Bamboo generic upgrade guide.

No additional upgrade tasks are required to upgrade from Bamboo 2.7.3 to 2.7.4.

Upgrading from Bamboo 2.7 or earlier

In addition to the above, please read the Bamboo 2.7 Upgrade Guide and the Upgrade Guide for every version you are skipping during the upgrade. The complete list of Upgrade Guides is available in the Bamboo upgrade guides section.

Bamboo 2.6 Release Notes

1 June 2010

The Atlassian Bamboo team is proud to release Bamboo 2.6.

This release brings a host of performance improvements to your continuous integration strategy. Bamboo 2.6 now provides support for up to 100 remote agents and along with several user interface enhancements, you can manage and build many more plans simultaneously from a single Bamboo server.

The ‘Current Activity’ page incorporates several improvements that allow you to manage builds in real time more effectively. You can also comment on build results to record and let others know what might be happening with a build.

Imports and exports are now faster, more reliable and require less memory to perform. You can now also selectively choose to expire build logs to help save disk space.

If you use Elastic Bamboo, the Bamboo server can now automatically manage your elastic instances. This removes the need for you to manually start and shut down elastic instances, and can help keep your elastic instance usage costs to a minimum.

Bamboo also supports continuous integration for Grails projects and can also automatically incorporate Clover code coverage reports into their build results.

Upgrading to Bamboo 2.6 is free for all customers with active Bamboo software maintenance.

Highlights of this release:

- Support for up to 100 Remote Agents
- Revamped Dashboard Pages and Other Usability Enhancements
- Performance and Security Improvements
- Automatically Managed Elastic Instances
- Grails Integration with Optional Clover Code Coverage
- Plus over 140 fixes and improvements

Thank you for your feedback:

🌟 50 new features and improvements implemented
🌟 Over 50 votes fulfilled
Your votes and issues help us keep improving our products, and are much appreciated.

Please keep logging your votes and issues. They help us decide what needs doing!

Upgrading to Bamboo 2.6

You can download Bamboo from the Atlassian website. If upgrading from a previous version, please read the Bamboo 2.6 Upgrade Guide.

Support for up to 100 Remote Agents

Bamboo's scalability has been dramatically increased, now providing support for up to 100 remote agents — up from the previous supported maximum of 25 remote agents. You can now build many more plans simultaneously from a single Bamboo server, with the power of up to 100 remote agents.

To make managing large numbers of remote agents easier, the following user interface enhancements have been introduced into Bamboo:

- In the administration console, builders and JDKs are now grouped by their labels.

  Screenshot: Managing Builders via the Administration Console

- Remote agents are now grouped into separate Online and Offline lists.

  Screenshot: Managing Remote Agents
When specifying the capability requirements of a plan, you can easily access further information about the agents associated with the plan via improved tooltips. To do this, simply click the name of the agent in the tooltip.

**Screenshot: Plan Requirement Popup**

For more information about Bamboo’s pricing, please refer to the Bamboo pricing page.

### Revamped Dashboard Pages and Other Usability Enhancements

The Bamboo Dashboard's 'Current Activity' page has been redesigned to provide more helpful information and make it much more intuitive to use. Bamboo administrators can more easily administer online agents and the build queue on this page.

- The new 'Building' section shows which plans are currently being built by an online agent. Each plan's build in this section also provides an estimate of the remaining time required for its agent to complete the build process.
The 'Recently Built' section is an 'activity stream' which constantly updates to show builds which have just completed. You can comment on build results and also set up a RSS feed, to be informed about builds results as soon as they are generated.

Bamboo administrators can easily:
- Reorder plans in the 'Queue' through a simple drag-and-drop action
- Enable or disable online agents directly from 'Online Agents' pop-up balloon (accessible from the 'Building' section).
Throughout the Bamboo user interface, plans in a queue are now indicated with a new icon and only plans whose builds are currently being built on a Bamboo agent are indicated with the icon.

If a plan’s build was not built, the summary page for its build result will indicate this explicitly, rather than indicating that the build had failed.

### Performance and Security Improvements

Several performance improvements have been implemented throughout Bamboo, in particular:

- Bamboo Plan Summary pages now obtain data more efficiently and complete loading in much less time.
- Bamboo Imports and Exports are now more reliable, faster and require less memory.
- In addition to selectively expiring user-defined build artifacts to preserve storage space, Bamboo now allows you to selectively expire build logs too. Of course, you can still choose to expire all build result data (including build artifacts and logs) too.

In Bamboo 2.5.5, we introduced a Captcha feature to help prevent brute force attacks on your Bamboo server. This feature would be activated after a specified number of consecutive failed login attempts. In Bamboo 2.6, this Captcha feature has been extended to cover public signup.

### Automatically Managed Elastic Instances

If you use Elastic Bamboo, you no longer have to manually start and shut down elastic instances. Instead, you
can choose one of Bamboo’s new automatic elastic instance management settings to manage the way elastic instances are started and shut down in Bamboo, and to help reduce your elastic instance usage costs.

This feature also allows Bamboo to start elastic instances capable of executing plans in the build queue, if no other online agents can do so.

Bamboo provides the following three automatic elastic instance management presets:

- **Default** — Balances build queue clearance rates with elastic instance usage costs.
- **Aggressive** — Favours higher build queue clearance rates but with higher elastic instance usage costs.
- **Passive** — Favours lower instance usage costs but with lower build queue clearance rates.

These presets alter the values of five criteria (indicated in the screenshots below) that define how elastic instances are started and shut down. You can can also **customise** these criteria to further fine tune how Bamboo manages elastic instances.

**Screenshot: Automatic Management of Elastic Instances - Choosing a Management Option**

**Screenshot: Automatic Management of Elastic Instances - Management Criteria**

Bamboo will automatically manage your elastic instances based on the following criteria:

- Bamboo will shut down elastic instances which have been idle for more than 20 minute(s).
- A maximum of 4 elastic instance(s) can be started each minute.
- New elastic instances will be started when all of the following conditions have been met:
  - There are at least 3 build(s) in a queue.
  - There are at least 1 build(s) in a queue that are executable on elastic images.
  - The average time builds have been waiting in a queue is at least 2 minute(s).

**Grails Integration with Optional Clover Code Coverage**

Bamboo now provides continuous integration capabilities for Grails projects. To do this, create a new plan or edit
an existing one and on the plan's 'Builder' tab, select a Grails builder from the list of builders automatically detected by Bamboo, or you can add and use a new Grails builder capability directly from this tab.

You can also configure Bamboo to automatically conduct Clover code coverage on a Grails Bamboo plan. When Bamboo runs this Grails plan, Bamboo will automatically install the Clover plugin and generate a code coverage report of your Grails build result.

Using the Grails Clover feature requires a valid Clover license.

Bamboo automatically detects Grails builders based on the value of the a computer's GRAILS_HOME environment variable.

If you use Elastic Bamboo, our EC2 image supports Grails 1.2.1 and 1.3.1 builder capabilities (as well as Maven 2.1).

Screenshot: Configuring a Grails Builder on the 'Builder' Tab of an Existing Plan

Screenshot: Clover Code Coverage Report of a Grails Bamboo Build
More...

Plus over 140 fixes and improvements

<table>
<thead>
<tr>
<th>JIRA Issues (154 issues)</th>
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<th>Ticket</th>
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<td>BAM-5337</td>
<td>page is slow</td>
<td>make number of 'recent builds' displayed in dashboard &gt; current activity flexible</td>
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<td>BAM-5358</td>
<td>Persist some calculated data for ArtifactLink</td>
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<td>BAM-5385</td>
<td>Allow user to see more of an agent's build history</td>
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<td>Remove deprecated properties on BuildCompletedEvent</td>
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<td>BAM-5442</td>
<td>Expire build logs</td>
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<td>BAM-5515</td>
<td>AccessLoggingFilter should allow everything to be logged</td>
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<td>BAM-5569</td>
<td>'view' a plan config tab and click 'edit' - you land on a tab that you’ve last edited (and not the one you just viewed)</td>
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<td>BAM-5576</td>
<td>comprehensive Javadoc for SystemProperty.java</td>
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<td>Option for XMPP TLS</td>
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<td>BAM-2969</td>
<td>Bamboo doesn't delete administrationconfiguration.xml file after finishing import</td>
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<td>BAM-4565</td>
<td>Bamboo can not start correctly on Windows7</td>
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<td>BAM-4570</td>
<td>Bamboo Acceptance Tests are failing on non-Panda environments</td>
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### Documentation for Bamboo 4.3

Look at >1024 build results when looking for test failures.

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<thead>
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<th>ID</th>
<th>Description</th>
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<td>BAM-5004</td>
<td>Long running task icon is off-centre</td>
<td>Resolved</td>
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<td>BAM-5124</td>
<td>StopBuildManager with abandon result does not abandon result</td>
<td>Resolved</td>
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<tr>
<td>BAM-5145</td>
<td>No default tab on dashboard</td>
<td>Resolved</td>
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<tr>
<td>BAM-5148</td>
<td>Dashboard is not updated to reflect newly created chain</td>
<td>Resolved</td>
</tr>
<tr>
<td>BAM-5151</td>
<td>Chain Actions menu on view Chain page is gone</td>
<td>Resolved</td>
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<tr>
<td>BAM-5152</td>
<td>NPE in notifications when trying to run chain</td>
<td>Resolved</td>
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<tr>
<td>BAM-5153</td>
<td>Running a chain from the actions menu runs the chain twice</td>
<td>Resolved</td>
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<tr>
<td>BAM-5154</td>
<td>Repository is null and throws exception when running chain</td>
<td>Resolved</td>
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<tr>
<td>BAM-5166</td>
<td>BuildState not set properly when build is not run. UI also dies</td>
<td>Resolved</td>
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<tr>
<td>BAM-5168</td>
<td>Build result view for non executed build shows ftl errors</td>
<td>Resolved</td>
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<td>BAM-5173</td>
<td>Exception on System Info page in Administration section</td>
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<td>Should not show chains or builds tab if there are no items to display</td>
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<td>NPE on dashboard when there are no builds or chains present</td>
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<td>Agent upload of artifacts fails to set Content-Length in HTTP/1.1 (on apache lighthttpd)</td>
<td>Resolved</td>
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<td>BAM-5184</td>
<td>Can't create Plan from POM if the only Builder detected was the Elastic Agent</td>
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<td>BAM-5207</td>
<td>Do not show elastic capabilities in the builders/jdks/individual capabilities list if elastic bamboo is disabled</td>
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<td>BAM-5225</td>
<td>Delta State on BuildResultsSummary is incorrect for initial build</td>
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<td>Dashboard is not updated properly after a plan is deleted</td>
<td>Resolved</td>
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<tr>
<td>BAM-5244</td>
<td>Cannot undo Maven POM dependency management</td>
<td>Resolved</td>
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<tr>
<td>BAM-5262</td>
<td>Build Action Menus still look dodgy.</td>
<td>Resolved</td>
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<tr>
<td>BAM-5263</td>
<td>Return URL should be restricted to current server</td>
<td>Resolved</td>
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<tr>
<td>BAM-5287</td>
<td>Name change from Build to Plan security aware broke nant plugin</td>
<td>Resolved</td>
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<tr>
<td>BAM-5293</td>
<td>urls with '&amp;' cause NPE</td>
<td>Resolved</td>
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<td>Differences in the implementation of a BuildResultsSummary cause labels to be duplicated on the 'Related builds by date' tab of the Jira Bamboo Plugin</td>
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<td>getLabelNames on BuildResultsSummary failing due to LazyInitialisationException</td>
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<td>Large number of exceptions being thrown on JBAC</td>
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<td>Breadcrumbs for &quot;Not Built&quot; build result are not working</td>
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<td>Recent Builds display implies only 15 builds have ever run on the agent</td>
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<td>ConcurrentModificationException stacktrace in email body</td>
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<td>Calling getContentType on a JarURLConnection closes the stream</td>
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<td>Fix the notificationDispatcher to play nice with plugins 2.0 plugins</td>
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<tr>
<td>BAM-5425</td>
<td>Adding correct AWS account credentials gives a stack trace if the account does not have an EC2 subscription</td>
<td></td>
</tr>
<tr>
<td>BAM-5431</td>
<td>REST API missing / in url for build log artifact</td>
<td></td>
</tr>
<tr>
<td>BAM-5486</td>
<td>System info page is slow for large instances</td>
<td></td>
</tr>
<tr>
<td>BAM-5504</td>
<td>Problems with REST API's build log artifact</td>
<td></td>
</tr>
<tr>
<td>BAM-5510</td>
<td>Broken link to the dashboard on the /error/error.action</td>
<td></td>
</tr>
<tr>
<td>BAM-5585</td>
<td>java.lang.ClassCastException: $Proxy222 cannot be cast to com.atlassian.bamboo.build.CustomBuildCompleteAction</td>
<td></td>
</tr>
<tr>
<td>BAM-5624</td>
<td>Depending on underlying database,</td>
<td></td>
</tr>
<tr>
<td>BAM-5631</td>
<td><strong>test case import can fail when test case name is too long</strong></td>
<td></td>
</tr>
<tr>
<td>---</td>
<td>---</td>
<td></td>
</tr>
</tbody>
</table>
| BAM-5643 | **No session exception while using plugin from tutorial.**  
Resolved |
| BAM-5674 | **Deadlock on upgrade task 1825**  
Resolved |
| BAM-5675 | **invalid backup cron expression leads to NPE when trying to edit.**  
Resolved |
| BAM-5676 | **JCaptcha throwing occasional exception on OS X**  
Resolved |
| BAM-5692 | **Import failed on empty group (no members)**  
Resolved |
| BAM-5694 | **exception when rendering issueFocussedBuild Results**  
Resolved |
| BAM-5711 | **Import capabilities fails on Oracle**  
Resolved |
| BAM-5713 | **Link is escaped on Elastic Bamboo Configuration screen**  
Resolved |
| BAM-5765 | **failed to import export_BSP-2864_1208_20100408 on MS SQL**  
Resolved |
| BAM-5783 | **NPE on build finish**  
Resolved |
| BAM-5788 | **Freemarker exceptions in the Build Hung emails**  
Resolved |
| BAM-5803 | **Freemarker exception when stopping a build**  
Resolved |
| BAM-5820 | **Division by zero in author list**  
Resolved |
| BAM-5828 | **Update of notification set fails on JBAC data**  
Resolved |
| BAM-5835 | **Subversion on default AMI doesn't trust any root CAs**  
Resolved |
| BAM-5841 | **Unable to trigger a build if there are duplicate authors**  
Resolved |
| BAM-5414 | **Add Bamboo version**  
Resolved |
Bamboo 2.6 Upgrade Guide

On this page:

- Upgrading from Bamboo 2.5 to 2.6
  - Please set aside some time when upgrading to Bamboo 2.6 or later
  - Automatic Clover Integration Issue
  - Bamboo Home Directory — Disk Usage changes
  - Changes in seraph-config.xml that affect new Bamboo security features
  - Other Known Issues
  - Developing for Bamboo 2.6

- Upgrading from Bamboo prior to 2.5

**Supported Platforms**

Please read the [Supported platforms](#) page for the full list of supported platforms for Bamboo.

**Upgrading from Bamboo 2.5 to 2.6**

We strongly recommended that you back up your xml-data directory before proceeding. For full instructions please follow the [Bamboo generic upgrade guide](#).

We also strongly recommend that you export your Bamboo data for backup before proceeding. Please note, that this may take a long time to complete depending on the number of builds and tests in your system. For full instructions please see [Exporting data for backup](#).

If you are using plugins, please make sure that your plugins are compiled against 2.6 before upgrading.

Before you upgrade, please read the following important points that relate to Bamboo 2.6.

**Please set aside some time when upgrading to Bamboo 2.6 or later**

As part of the performance improvements in version 2.6, test result data is stored differently. In versions of Bamboo prior to (and excluding) 2.6, all test result data has been stored in XML files on the filesystem. From Bamboo 2.6, some* of this test result data is stored in the database, permitting quicker retrieval of this information (and consequently faster Bamboo responsiveness) than what can be achieved by accessing XML files.

* Only test result data from failed and fixed builds is stored in the database, since this data will most likely be examined by Bamboo users. (Fixed builds are those which built successfully but had failed the previous time they were built.) Be aware that the test result data for successful builds is still stored in XML files on the filesystem.

During the Bamboo 2.6 upgrade process, relevant test result data generated by previous versions of Bamboo will automatically be migrated to the database when Bamboo 2.6 first starts up. No user-intervention is required during this process, which only runs once.

All subsequent Bamboo starts will not involve this data migration process.

Bamboo administrators should be aware that this data migration process might take some time, depending on the amount of data that needs to be moved to the database. In many cases, this process should be completed within a matter of minutes. However, if your stored test result data is extensive, this data migration
process could take over an hour.

The table below is a guideline to help provide an estimate on how long it will take this data migration process to complete during the Bamboo upgrade procedure. The first column is a multiplication of the number of builds in history with the average number of test results per build. You can estimate the number of builds in history by multiplying the number of plans configured in Bamboo by the number of times each of these plans has run. For example, if you have 20 plans configured and each plan has run 300 times, there will be 6,000 builds (i.e. 20 x 300) in the build history. Note that expired builds are removed from the build history.

<table>
<thead>
<tr>
<th>Number of Builds in History x Number of Tests per Plan</th>
<th>Estimated Migration Time</th>
</tr>
</thead>
<tbody>
<tr>
<td>2,500,000 (5,000 x 500)</td>
<td>&lt; 3 min</td>
</tr>
<tr>
<td>5,000,000 (10,000 x 500)</td>
<td>&lt; 6 min</td>
</tr>
<tr>
<td>10,000,000 (20,000 x 500)</td>
<td>&lt; 10 min</td>
</tr>
<tr>
<td>15,000,000 (30,000 x 500)</td>
<td>&lt; 15 min</td>
</tr>
<tr>
<td>20,000,000 (40,000 x 500)</td>
<td>&lt; 25 min</td>
</tr>
<tr>
<td>25,000,000 (50,000 x 500)</td>
<td>&lt; 45 min</td>
</tr>
<tr>
<td>30,000,000 (60,000 x 500)</td>
<td>&lt; 75 min</td>
</tr>
<tr>
<td>35,000,000 (70,000 x 500)</td>
<td>up to 3 hours</td>
</tr>
</tbody>
</table>

⚠️ The estimated migration time (above) is only just an estimate. The actual time it will take for this step of your Bamboo 2.6 upgrade to complete will also strongly depend on the performance of the hardware running Bamboo and the database that Bamboo uses.

Automatic Clover Integration Issue

A bug in Bamboo 2.6 forces automatic Clover integration and adds Clover targets or goals for Ant, Maven and Grail builds, despite having opted for manual Clover integration.

If you are affected by this issue, please apply the patch provided in JIRA issue BAM-5920.

Bamboo Home Directory — Disk Usage changes

⚠️ This issue only affects Bamboo 2.6 and is fixed in Bamboo 2.6.1 and above.

Due to backend changes in Bamboo 2.6 (implemented for a feature that will be fully supported in a future version of Bamboo), the structure for storing temporary build files in the Working Directory has changed.

In versions of Bamboo prior to (and excluding) 2.6 had the following structure:

```
.../xml-data/build-dir/PLAN-KEY/
```

From Bamboo 2.6, the location for storing this data is now:
Hence, each agent now has its own directory for storing temporary build files, which means that the disk usage requirements for the Bamboo Home directory have increased in Bamboo 2.6. If you are concerned about disk usage, please upgrade to Bamboo 2.6.1 or above.

### Changes in seraph-config.xml that affect new Bamboo security features

As part of the [brute force attack protection](https://docs.atlassian.com/bamboo-2.5-5/features#brute-force-attack-protection) feature (introduced in Bamboo 2.5.5) and [Captcha on public signup](https://docs.atlassian.com/bamboo-2.5-5/features#captcha-on-public-signup), the following lines have been added to the `seraph-config.xml` file.

```xml
<rolemapper class="com.atlassian.bamboo.user.authentication.BambooRoleMapper"/>
<authenticator
    class="com.atlassian.bamboo.user.authentication.BambooAuthenticator"/>
<controller
    class="com.atlassian.bamboo.user.authentication.BambooSecurityController"/>
<elevatedsecurityguard
    class="com.atlassian.bamboo.user.authentication.BambooElevatedSecurityGuard"/>
```

If you use a customised version of the `seraph-config.xml` file with Bamboo, you will need to ensure that these lines of code are added to your customised `seraph-config.xml`, to ensure the availability of these new Bamboo security features.

### Other Known Issues

Sometimes we find out about a problem with the latest version of Bamboo after we have released the software. In such cases, we publish information about these other known issues in the [Bamboo Knowledge Base](https://confluence.atlassian.com/display/BAK/Other+Known+Issues). Before you begin the upgrade, please check for any of these other known issues in the Bamboo Knowledge Base first and if provided, follow the instructions to apply any necessary patches.

If you encounter a problem during the upgrade and cannot solve it, please create a [support ticket](https://confluence.atlassian.com/display/BAK/Other+Known+Issues) and one of our support engineers will help you.

### Developing for Bamboo 2.6

If you are a Bamboo plugin developer, please refer to our [Changes for Bamboo 2.6](https://docs.atlassian.com/bamboo-2.5-5/changes) guide, which outlines changes in Bamboo 2.6 that may affect Bamboo plugins compiled for Bamboo version 2.5.x or earlier.

### Upgrading from Bamboo prior to 2.5

In addition to the above, please read the [Upgrade Guide](https://confluence.atlassian.com/display/BAK/Other+Known+Issues) for every version you are skipping during the upgrade. The complete list of Upgrade Guides is available [here](https://confluence.atlassian.com/display/BAK/Other+Known+Issues).

In particular, if you are upgrading from a version of Bamboo [prior to 2.0](https://confluence.atlassian.com/display/BAK/Other+Known+Issues), please ensure that you upgrade to Bamboo [2.0.6](https://confluence.atlassian.com/display/BAK/Other+Known+Issues) first before upgrading to Bamboo 2.5.

⚠️ Please ensure that you read the [Bamboo 2.0 Upgrade Guide](https://confluence.atlassian.com/display/BAK/Other+Known+Issues) which contains important upgrade instructions for upgrading from earlier versions of Bamboo.

### Bamboo 2.6.3 Release Notes

**13 October 2010**

The Atlassian Bamboo team is proud to announce the release of **Bamboo 2.6.3**.
We've fixed several bugs in this release. Please see the 'Updates and Fixes in this Release' section below for details.

Bamboo 2.6.3 is of course free to all customers with active Bamboo software maintenance.

**Don't have Bamboo 2.6 yet?**

Take a look at all the new features in the Bamboo 2.6 Release Notes and see what you are missing out on!

Upgrading from a Previous Version of Bamboo

If you are upgrading, please read the Bamboo 2.6.3 Upgrade Guide.

**Updates and Fixes in this Release**

The issues addressed in Bamboo 2.6.3 are shown below. To view the list in JIRA, please refer to our main JIRA site.

<table>
<thead>
<tr>
<th>JIRA Issues (4 issues)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Type</td>
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<tr>
<td>---</td>
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<tr>
<td></td>
</tr>
</tbody>
</table>

Bamboo 2.6.3 Upgrade Guide

Upgrading from Bamboo 2.6.2 to 2.6.3
Please follow the Bamboo generic upgrade guide.

No additional upgrade tasks are required to upgrade from Bamboo 2.6.2 to 2.6.3.

Upgrading from Bamboo 2.5.x or earlier

In addition to the above, please read the Bamboo 2.6 Upgrade Guide and the Upgrade Guide for every version you are skipping during the upgrade. The complete list of Upgrade Guides is available in the Bamboo upgrade guides section.

Bamboo 2.6.2 Release Notes

6 August 2010

The Atlassian Bamboo team is proud to announce the release of Bamboo 2.6.2.

We've fixed several bugs in this release. Please see the 'Updates and Fixes in this Release' section below for details.

Bamboo 2.6.2 is of course free to all customers with active Bamboo software maintenance.

Don't have Bamboo 2.6 yet?

Take a look at all the new features in the Bamboo 2.6 Release Notes and see what you are missing out on!

Upgrading from a Previous Version of Bamboo

If you are upgrading, please read the Bamboo 2.6.2 Upgrade Guide.

Updates and Fixes in this Release

The issues addressed in Bamboo 2.6.2 are shown below. To view the list in JIRA, please refer to our main JIRA site.

<table>
<thead>
<tr>
<th>JIRA Issues (13 issues)</th>
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<tr>
<td>Issue</td>
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<td>-------</td>
</tr>
<tr>
<td>BAM-6197</td>
</tr>
<tr>
<td>BAM-6179</td>
</tr>
<tr>
<td>BAM-6119</td>
</tr>
</tbody>
</table>

Bamboo 2.6.2 Upgrade Guide
Upgrading from Bamboo 2.6.1 to 2.6.2

Please follow the Bamboo generic upgrade guide. No additional upgrade tasks are required to upgrade from Bamboo 2.6.1 to 2.6.2.

Upgrading from Bamboo 2.5.x or earlier

In addition to the above, please read the Bamboo 2.6 Upgrade Guide and the Upgrade Guide for every version you are skipping during the upgrade. The complete list of Upgrade Guides is available in the Bamboo upgrade guides section.

Bamboo 2.6.1 Release Notes

8 June 2010

The Atlassian Bamboo team is proud to announce the release of Bamboo 2.6.1.

We've fixed several bugs in this release. Please see the 'Updates and Fixes in this Release' section below for details.

Bamboo 2.6.1 is of course free to all customers with active Bamboo software maintenance.

Don't have Bamboo 2.6 yet?

Take a look at all the new features in the Bamboo 2.6 Release Notes and see what you are missing out on!

Upgrading from a Previous Version of Bamboo

If you are upgrading, please read the Bamboo 2.6.1 Upgrade Guide.

Updates and Fixes in this Release

The issues addressed in Bamboo 2.6.1 are shown below. To view the list in JIRA, please refer to our main JIRA site.

<table>
<thead>
<tr>
<th>JIRA Issues (6 issues)</th>
</tr>
</thead>
<tbody>
<tr>
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</tr>
<tr>
<td><img src="1" alt="bug" /></td>
</tr>
<tr>
<td>BAM-358</td>
</tr>
</tbody>
</table>

**Bamboo 2.6.1 Upgrade Guide**
Upgrading from Bamboo 2.6 to 2.6.1

Please follow the Bamboo generic upgrade guide.

No additional upgrade tasks are required to upgrade from Bamboo 2.6 to 2.6.1.

Upgrading from Bamboo 2.5.x or earlier

In addition to the above, please read the Bamboo 2.6 Upgrade Guide and the Upgrade Guide for every version you are skipping during the upgrade. The complete list of Upgrade Guides is available here.

Bamboo 2.5 Release Notes

4 January 2010

The Atlassian Bamboo team is proud to release Bamboo 2.5.

Bamboo 2.5 brings a host of new Maven integration features to your favourite build tool. You can now elect to have your plan dependencies managed by your Maven project. Bamboo will automatically set up the dependencies based on the information in your pom.xml file. If you have information for a build plan already in your Maven project, you can import your plan into Bamboo as well. Simply specify the location of your pom.xml plus any required authentication details and Bamboo will do the rest.

Two new bulk actions have been added to Bamboo in this release. The first new bulk action allows you to enable the new Maven 2 dependencies feature for multiple plans. The second new bulk action can be used to run manual builds for multiple plans without triggering dependencies (For example, if you want to run initial builds to create dependencies for plans with the Maven 2 dependencies feature enabled).

We've also streamlined both the Bamboo setup wizard and plan creation wizard. Express setup options, inline functions as well as redesigned screens make it even easier for you to complete these setup tasks.

Finally, if you are running Confluence, you will be happy to know that Bamboo gadgets are fully compatible with Confluence 3.1.

Atlassian Bamboo 100 Remote Agent Beta Program

We are please to announce a beta program to test Bamboo with more than 25 remote agents. If you would like to participate, please sign up via this form:

Sign up for the Atlassian Bamboo 100 Remote Agent Beta Program

Upgrading to Bamboo 2.5 is free for all customers with active Bamboo software maintenance.

Highlights of this release:

- Maven Dependency Management
- Plan Import from a pom.xml
- Additional Bulk Actions
- Streamlined Plan Creation
- Express Setup Wizard
- Plus over 70 fixes and improvements

Thank you for your feedback:

- 34 new features and improvements implemented
- 33 votes fulfilled

Your votes and issues help us keep improving our products, and are much appreciated.
Please keep logging your votes and issues. They help us decide what needs doing!

**Upgrading to Bamboo 2.5**

You can download Bamboo from the [Atlassian website](https://www.atlassian.com). If upgrading from a previous version, please read the [Bamboo 2.5 Upgrade Guide](https://confluence.atlassian.com/display/BAU/Upgrading+to+Bamboo+2.5).

### Highlights of Bamboo 2.5

#### 1. Maven Dependency Management

Bamboo 2.5 can now use Maven (Maven 2 only) to manage your dependencies between plans. You can choose to allow Bamboo to do this when you create a new plan or edit an existing plan that uses Maven 2 as the builder. Bamboo will automatically set up the dependencies based on the information in your pom.xml file.

- Read more about [Viewing a job's Maven dependencies](https://confluence.atlassian.com/display/BAU/Viewing+a+job%039s+Maven+dependencies).

#### 2. Plan Import from a pom.xml

We've also introduced a new feature that allows you to create a plan based on information from your Maven (Maven 2) project. There's no need to re-enter information already specified in the pom.xml. Simply enter the location of your pom.xml and any required authentication details, and Bamboo will parse the pom.xml to create your build plan.

- Read more about [Import a Maven 2 Project](https://confluence.atlassian.com/display/BAU/Import+a+Maven+2+Project).
Additional Bulk Actions

We've also added two new bulk actions to Bamboo, enable Maven 2 dependencies for multiple plans and run manual builds for multiple plans. Enabling Maven 2 dependencies for multiple plans allows Maven to manage dependencies between plans (described above). Running manual builds for multiple plans via the bulk actions menu runs the selected builds with option of triggering dependencies.

- Read more about modifying Multiple (Bulk) Plans.

Streamlined Plan Creation

The plan creation wizard now allows you to create a plan without progressing through all of the steps. If you are cloning a plan or don’t want to provide all the information on the latter tabs at the time of creation, you can save after the second or third step respectively. If you are still working on your plan setup, you can prevent the initial build from running when you save too.

We've also improved the Builder and Notifications tabs in the plan creation wizard. You can now add new JDKs, Builders, Mail and IM servers inline without leaving the wizard.

- Read more about Creating a plan.
Express Setup Wizard

We've streamlined the Setup Wizard for Bamboo in this release. If you are happy to use the default settings an embedded database bundled with Bamboo, you can get Bamboo up and running in only two steps. If you want to customise all of the settings, the longer version of the setup wizard has also been improved to allow you enter the required information in less steps.

- Read more about running the Setup Wizard.

Plus over 70 fixes and improvements

<table>
<thead>
<tr>
<th>JIRA Issues (76 issues)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Type</strong></td>
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<tr>
<td>BAM-4821</td>
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<td>BAM-4830</td>
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</tbody>
</table>

Resolved

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<table>
<thead>
<tr>
<th>Issue</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>BAM-4872</td>
<td>Tabs are missing for IE6 in Bamboo 2.4 (Resolved)</td>
</tr>
<tr>
<td>BAM-4888</td>
<td>Maven 2 project with automatic Clover integration can't find Clover (Resolved)</td>
</tr>
<tr>
<td>BAM-5320</td>
<td>Clover integration screenshots are out of date (Resolved)</td>
</tr>
<tr>
<td>BAM-4402</td>
<td>NPE on upgrade task 1502 (Resolved)</td>
</tr>
<tr>
<td>BAM-4545</td>
<td>Can't cancel from login page (Resolved)</td>
</tr>
<tr>
<td>BAM-4556</td>
<td>IE Takes a long time to render the checkbox tree (Resolved)</td>
</tr>
<tr>
<td>BAM-4557</td>
<td>First chart gadget added works, subsequent ones don't (Resolved)</td>
</tr>
<tr>
<td>BAM-4638</td>
<td>Clover 1-Click integration for Ant is broken on Windows (Resolved)</td>
</tr>
<tr>
<td>BAM-4640</td>
<td>Updating repository polling time doesn't work (Resolved)</td>
</tr>
<tr>
<td>BAM-4683</td>
<td>pressing enter on the plan wizard takes you to the previous page (Resolved)</td>
</tr>
<tr>
<td>BAM-4719</td>
<td>Bamboo deadlock on RemoteElasticInstance (Resolved)</td>
</tr>
<tr>
<td>BAM-4755</td>
<td>UI issues with new style dropdowns (Resolved)</td>
</tr>
<tr>
<td>BAM-4766</td>
<td>Bamboo gadget update interval is not persisted when re-editing (Resolved)</td>
</tr>
<tr>
<td>BAM-4767</td>
<td>Build hover popup styles broken in 2.5-m2 on BEAC (Resolved)</td>
</tr>
<tr>
<td>BAM-4803</td>
<td>Delete stage deletes always first one (Resolved)</td>
</tr>
<tr>
<td>BAM-4816</td>
<td>Each agent waits 300 secs before shutting down on (Resolved)</td>
</tr>
</tbody>
</table>
Bamboo 2.5 Upgrade Guide

⚠️ Supported Platforms

We have made significant changes to our supported platforms (application servers, databases, browsers, etc) in this release. Please read the Supported platforms page for the full list of supported platforms for Bamboo.

Upgrading from Bamboo 2.4 to 2.5

We strongly recommended that you back up your xml-data directory before proceeding. For full instructions
please follow the Bamboo generic upgrade guide.

We also strongly recommend that you export your Bamboo data for backup before proceeding. Please note, this may take a long time to complete depending on the number of builds and tests in your system. For full instructions please see Exporting data for backup.

If you are using plugins, please make sure that your plugins are compiled against 2.5 before upgrading.

Please also note the following important points:

1. Developing for Bamboo 2.5

If you are a Bamboo plugin developer, please refer to our Changes for Bamboo 2.5 guide, which outlines changes in Bamboo 2.5 that may affect Bamboo plugins compiled for Bamboo version 2.4.x or earlier.

2. Remote API Support automatically enabled

Remote API support for your Bamboo instance will be automatically enabled when you upgrade to Bamboo 2.5. If this is a security concern, you can disable remote API support via your administration console, however Bamboo gadgets may not work correctly.

3. Database Changes

Please note that during the upgrade, Bamboo will automatically remove the table BUILD_ASSOCIATION and the table PLAN_DEPENDENCIES will be added. No user intervention is required. However, please ensure that Bamboo has the appropriate access to your database before the upgrade tasks are run (i.e. when you start Bamboo).

4. Pre/Post Build Command Plugin problems

The pre/post build command plugin (v2.4 and earlier) currently does not work with Bamboo 2.5 and will prevent you from creating new plans. If you are using this plugin, we recommend that you either disable it or wait for a new fixed version of the plugin to be released before upgrading to Bamboo 2.5.

5. "Unsupported Databases" is no longer a selectable option in Setup Wizard

The Setup Wizard no longer offers "Unsupported Database" as a selectable option when choosing to connect to an external database. If you are using an unsupported database, you will need to set the following system property before starting your upgraded Bamboo server to enable "Unsupported Database" as a selectable option in the Setup Wizard:

-Dbamboo.enable.unsupported.db=true

Upgrading from Bamboo prior to 2.4

In addition to the above, please read the Upgrade Guide for every version you are skipping during the upgrade. The complete list of Upgrade Guides is available here.

In particular, if you are upgrading from a version of Bamboo prior to 2.0, please ensure that you upgrade to Bamboo 2.0.6 first before upgrading to Bamboo 2.5.

Please ensure that you read the Bamboo 2.0 Upgrade Guide which contains important upgrade instructions for upgrading from earlier versions of Bamboo.

Bamboo 2.5.5 Release Notes

4 May 2010
The Atlassian Bamboo team is proud to announce the release of **Bamboo 2.5.5**. This point release is a highly recommended upgrade as it contains important fixes to security vulnerabilities in Bamboo (listed below). For more information about these security vulnerabilities, please refer to the Bamboo Security Advisory 2010-05-04.

Please also refer to the Bamboo 2.5.5 Upgrade Guide for important changes in Bamboo, which are designed to minimise the risk of security attacks.

Bamboo 2.5.5 is of course free to all customers with **active Bamboo software maintenance**.

**Don't have Bamboo 2.5 yet?**

Take a look at all the new features in the Bamboo 2.5 Release Notes and see what you are missing out on!

**Upgrading from a Previous Version of Bamboo**

If you are upgrading, please read the Bamboo 2.5.5 Upgrade Guide.

**Updates and Fixes in this Release**

The issues addressed in Bamboo 2.5.5 are shown below. To view the list in JIRA, please refer to our main **JIRA site**.

<table>
<thead>
<tr>
<th>JIRA Issues (6 issues)</th>
<th>Type</th>
<th>Key</th>
<th>Summary</th>
<th>Assignee</th>
<th>Reporter</th>
<th>Priority</th>
<th>Status</th>
<th>Resolution</th>
<th>Created</th>
<th>Updated</th>
</tr>
</thead>
<tbody>
<tr>
<td>BAM-540</td>
<td>SVN checkout</td>
<td>are not based on the global repository revision number</td>
<td>Marek Went [Atlassian]</td>
<td>Wilfried Weissmann</td>
<td>⚖️</td>
<td>Resolved</td>
<td>Fixed</td>
<td>Mar 01, 2010</td>
<td>Apr 28, 2010</td>
<td></td>
</tr>
<tr>
<td>BAM-530</td>
<td>Revert BAM-500 6 - it has broken the functionality of $bamboo.custom.svn.revision.numb</td>
<td></td>
<td>Marek Went [Atlassian]</td>
<td>Dan Harrell</td>
<td>⚖️</td>
<td>Resolved</td>
<td>Fixed</td>
<td>Feb 09, 2010</td>
<td>Apr 28, 2010</td>
<td></td>
</tr>
<tr>
<td>BAM-577</td>
<td>Fixed file</td>
<td></td>
<td>Marek</td>
<td>Mark</td>
<td>⚖️</td>
<td>Resolved</td>
<td>Fixed</td>
<td>May 10, 2010</td>
<td>May 10, 2010</td>
<td></td>
</tr>
</tbody>
</table>
Bamboo 2.5.5 Upgrade Guide

Upgrade Notes

A few changes to Bamboo's behaviour have resulted as a consequence of some important fixes to security vulnerabilities in Bamboo 2.5.5. For more information about these security vulnerabilities and their fixes, please refer to the Bamboo Security Advisory 2010-05-04.

Setting File Paths in Bamboo

When modifying Bamboo's 'File Path' option on the Export or Import administration pages or the 'Backup Path' option on the Scheduled Backup page, you can only change the name of files associated with these options (not the actual file path component itself). To change these file path components, you must explicitly run Bamboo with the following system property:

bamboo.paths.set.allowed=true

Please refer to Configuring system properties for details on how to run Bamboo with system properties.

Brute Force Attack Prevention

By default, if you attempt to log in to Bamboo three times unsuccessfully, then for subsequent login attempts, Bamboo will require you recognise a distorted picture of a word and type that word into a text field. For more information, please refer to Using Captcha for failed logins.

HttpOnly Session ID Cookies

In the Bamboo distribution, session ID cookies now use the HttpOnly flag by default. This makes it more difficult for malicious (JavaScript) code on a client's browser to gain access to these session ID cookies, thereby minimising the risk of common XSS attacks.

If you are running the Bamboo EAR-WAR distribution, then to minimise the risk of common XSS attacks, we strongly recommend that you configure the application server (Tomcat) running Bamboo to transmit session ID cookies using the HttpOnly flag. Please refer to Configuring Tomcat to Use HttpOnly Session ID Cookies for more information.

Upgrading from Bamboo 2.5.3 to 2.5.5

Please follow the Bamboo generic upgrade guide.
No additional upgrade tasks are required to upgrade from Bamboo 2.5.3 to 2.5.5.

Upgrading from Bamboo 2.4.x or earlier

In addition to the above, please read the Bamboo 2.5 Upgrade Guide and the Upgrade Guide for every version you are skipping during the upgrade. The complete list of Upgrade Guides is available here.

Bamboo 2.5.2 Release Notes

24 February 2010

The Atlassian Bamboo team is proud to announce the release of Bamboo 2.5.2.

We've fixed several bugs in this release. Please see the 'Updates and Fixes in this Release' section below for details.

Bamboo 2.5.2 is of course free to all customers with active Bamboo software maintenance.

Don't have Bamboo 2.5 yet?

Take a look at all the new features in the Bamboo 2.5 Release Notes and see what you are missing out on!

Upgrading from a Previous Version of Bamboo

If you are upgrading, please read the Bamboo 2.5.2 Upgrade Guide.

Updates and Fixes in this Release

<table>
<thead>
<tr>
<th>JIRA Issues (10 issues)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Type</strong></td>
</tr>
<tr>
<td>---</td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td>Issue Number</td>
</tr>
<tr>
<td>--------------</td>
</tr>
<tr>
<td>BAM-5184</td>
</tr>
</tbody>
</table>

**Bamboo 2.5.2 Upgrade Guide**

*Upgrading from Bamboo 2.5.1 to 2.5.2*
Please follow the Bamboo generic upgrade guide.

No additional upgrade tasks are required to upgrade from Bamboo 2.5.1 to 2.5.2.

Upgrading from Bamboo 2.4.x or earlier

In addition to the above, please read the Bamboo 2.5 Upgrade Guide and the Upgrade Guide for every version you are skipping during the upgrade. The complete list of Upgrade Guides is available here.

Bamboo 2.5.1 Release Notes

28 January 2010
The Atlassian Bamboo team is proud to announce the release of Bamboo 2.5.1.

We've fixed several bugs in this release. Please see the 'Updates and Fixes in this Release' section below for details.

Bamboo 2.5.1 is of course free to all customers with active Bamboo software maintenance.

Don't have Bamboo 2.5 yet?
Take a look at all the new features in the Bamboo 2.5 Release Notes and see what you are missing out on!

Upgrading from a Previous Version of Bamboo

If you are upgrading, please read the Bamboo 2.5.1 Upgrade Guide.

Updates and Fixes in this Release

<table>
<thead>
<tr>
<th>JIRA Issues (16 issues)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Type</strong></td>
</tr>
<tr>
<td>📑</td>
</tr>
<tr>
<td>Change Key</td>
</tr>
<tr>
<td>------------</td>
</tr>
<tr>
<td>BAM-33-59</td>
</tr>
<tr>
<td>BAM-16-49</td>
</tr>
<tr>
<td>BAM-51-36</td>
</tr>
<tr>
<td>Issue</td>
</tr>
<tr>
<td>-------</td>
</tr>
<tr>
<td>BAM-4974</td>
</tr>
<tr>
<td>BAM-4808</td>
</tr>
<tr>
<td>BAM-4246</td>
</tr>
<tr>
<td>Description</td>
</tr>
<tr>
<td>-------------</td>
</tr>
<tr>
<td>An admin can select a dependency blocking strategy for a build even if the build has no parent builds.</td>
</tr>
<tr>
<td>Test output files are only parsed if their name ends in &quot;xml&quot;, regardless of the file pattern specified in the build plan configuration.</td>
</tr>
<tr>
<td>The &quot;View error details&quot; pop-up doesn't close when the &quot;clear error log&quot; link is clicked.</td>
</tr>
</tbody>
</table>

**Bamboo 2.5.1 Upgrade Guide**

*Upgrading from Bamboo 2.5 to 2.5.1*

Please follow the Bamboo generic upgrade guide.

*Created by Atlassian in 2012. Licensed under a Creative Commons Attribution 2.5 Australia License.*
No additional upgrade tasks are required to upgrade from Bamboo 2.5 to 2.5.1.

**Upgrading from Bamboo 2.4.x or earlier**

In addition to the above, please read the Bamboo 2.5 Upgrade Guide and the Upgrade Guide for every version you are skipping during the upgrade. The complete list of Upgrade Guides is available here.

**Bamboo 2.5.3 Release Notes**

18 March 2010

The Atlassian Bamboo team is proud to announce the release of Bamboo 2.5.3.

We've fixed several bugs in this release. Please see the 'Updates and Fixes in this Release' section below for details.

Bamboo 2.5.3 is of course free to all customers with active Bamboo software maintenance.

Don't have Bamboo 2.5 yet?

Take a look at all the new features in the Bamboo 2.5 Release Notes and see what you are missing out on!

**Upgrading from a Previous Version of Bamboo**

If you are upgrading, please read the Bamboo 2.5.3 Upgrade Guide.

**Updates and Fixes in this Release**

The issues addressed in Bamboo 2.5.3 are shown below. To view the list in JIRA, please refer to our main JIRA site.

<table>
<thead>
<tr>
<th>JIRA Issues (10 issues)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Type</strong></td>
</tr>
<tr>
<td>😡</td>
</tr>
<tr>
<td>Ticket</td>
</tr>
<tr>
<td>--------</td>
</tr>
<tr>
<td>BAM-521</td>
</tr>
<tr>
<td>BAM-534</td>
</tr>
<tr>
<td>BAM-534</td>
</tr>
<tr>
<td>BAM-521</td>
</tr>
<tr>
<td>BAM-541</td>
</tr>
</tbody>
</table>
Bamboo 2.5.3 Upgrade Guide

Upgrading from Bamboo 2.5.2 to 2.5.3

Please follow the Bamboo generic upgrade guide.

No additional upgrade tasks are required to upgrade from Bamboo 2.5.2 to 2.5.3.

Upgrading from Bamboo 2.4.x or earlier

In addition to the above, please read the Bamboo 2.5 Upgrade Guide and the Upgrade Guide for every version you are skipping during the upgrade. The complete list of Upgrade Guides is available here.

Bamboo 2.4 Release Notes

6 October 2009

The Atlassian Bamboo team is proud to release Bamboo 2.4.

Hot on the heels of Bamboo 2.3, our latest release comes packed full of improvements to key Bamboo features. If you use JIRA 4.0, you'll be happy to know that Bamboo 2.4 is fully compatible with Atlassian's biggest ever JIRA release. You'll be able to take advantage of JIRA's dynamic dashboards with our new Bamboo gadgets, including revamped versions of our existing Bamboo portlets.

We've also overhauled the Clover plugin that is bundled with Bamboo. If you use Atlassian's Clover, you will be able to view your Clover HTML reports in Bamboo or even view your Clover information in JIRA via a gadget. Getting Clover to work with Bamboo is also much simpler — integrate with a single-click.

Finally, we've added a number of useful tools for Bamboo administrators and developers. The Bamboo REST API has been extended and now incorporates a host of new services, including services with POST methods. Bamboo administrators can also take advantage of our new runtime log4j configuration feature to configure...
logging levels for Bamboo classes on the fly.

Upgrading to Bamboo 2.4 is free for all customers with active Bamboo software maintenance. **Highlights of this release:**

- Bamboo Gadgets in JIRA
- Clover Enhancements
- REST Improvements
- Runtime Log4j Configuration
- Plus over 20 fixes and improvements

Thank you for your feedback:

- 5 new features and improvements implemented
- 2 votes fulfilled

Your votes and issues help us keep improving our products, and are much appreciated.

Upgrading to Bamboo 2.4

You can download Bamboo from the Atlassian website. If upgrading from a previous version, please read the Bamboo 2.4 Upgrade Guide.

**Highlights of Bamboo 2.4**

**Bamboo Gadgets in JIRA**

Atlassian's JIRA 4.0 has a wealth of useful functionality and we've improved the Bamboo-JIRA integration in this release so you can take advantage of it. Our existing Bamboo portlets have been upgraded to gadgets for JIRA 4 and we've added some new gadgets too. You'll notice that the Bamboo gadgets not only look better than the old portlets, they also provide you with more information about your Bamboo instance.

- Read more about Integrating Bamboo with JIRA. If you don't have JIRA 4 already, give it a try!
Clover Enhancements

We have made a number of improvements to the Clover plugin for Bamboo in this release. You can now integrate Atlassian's Clover with Bamboo via a single click, access embedded HTML reports and view Clover information in the Bamboo gadget.

- Read more about configuring the Clover plugin for Bamboo.
3

REST Improvements

The REST interface for Bamboo has been extended for this release. You will now be able to access a range of new REST methods to help you access and update Bamboo information.

- Read more about the Bamboo REST APIs.

```
<xml version="1.0" encoding="UTF-8" standalone="yes">
  - <link rel="self" href="http://myhost:8085/bamboo/rest/api/latest/queue"/>
  - <queuedBuilds expand="queuedBuild" size="1" max-result="1" start-index="0">
    - <queuedBuild buildResultKey="MYPROJ1-MYPLAN1-7" buildNumber="7" planKey="MYPROJ1-MYPLAN1">
      <triggerReason>Manual build</triggerReason>
      <changes expand="change" size="1" max-result="1" start-index="0">
        <change changesetId="98662" author="apowers"/>
      </changes>
    </queuedBuild>
  </queuedBuilds>
</xml>
```

4

Runtime Log4j Configuration

We’re bundling a feature in Bamboo 2.4 that our own support staff have found incredibly helpful — runtime log4j configuration. This handy Bamboo administration tool allows you to temporarily adjust the logging levels defined in your log4j.properties file. You can change the logging levels on existing packages as well as add new packages to be monitored on the fly.

- Read more about configuring logging in Bamboo.

```
Bamboo Log Settings
On the fly switch between Production and Debug Logging. The settings are predefined in log4j.properties

Add a Class to Log4j

Add a new class and level to be included in the bamboo log

[Input box]
Add

Edit current Levels

Change the log level

<table>
<thead>
<tr>
<th>Package</th>
<th>Current Level</th>
<th>New Level</th>
<th>Save Delete</th>
</tr>
</thead>
<tbody>
<tr>
<td>com.atlassian.bamboo.agent</td>
<td>DEBUG</td>
<td>ALL</td>
<td></td>
</tr>
<tr>
<td>com.atlassian.bamboo.buildqueue</td>
<td>DEBUG</td>
<td>ALL</td>
<td></td>
</tr>
<tr>
<td>com.atlassian.bamboo.user.BambooUserManagerImpl</td>
<td>WARN</td>
<td>ALL</td>
<td></td>
</tr>
<tr>
<td>com.opensymphony.xwork.util.LocalizedTextUtil</td>
<td>ERROR</td>
<td>ALL</td>
<td></td>
</tr>
</tbody>
</table>
```

5

Plus over 20 fixes and improvements
# JIRA Issues (27 issues)

<table>
<thead>
<tr>
<th>Type</th>
<th>Key</th>
<th>Summary</th>
<th>Priority</th>
<th>Status</th>
</tr>
</thead>
<tbody>
<tr>
<td>🔄</td>
<td>BAM-3608</td>
<td><strong>Bamboo REST API</strong> should expose functionality to retrieve all comments for selected build</td>
<td>🔄</td>
<td>Resolved</td>
</tr>
<tr>
<td>🔄</td>
<td>BAM-4293</td>
<td><strong>REST API - Get current (running) build details</strong></td>
<td>🔄</td>
<td>Resolved</td>
</tr>
<tr>
<td>🔄</td>
<td>BAM-549</td>
<td><strong>Add a portlet to the Jira-Bamboo plugin (possibly Confluence also)</strong></td>
<td>🔄</td>
<td>Resolved</td>
</tr>
<tr>
<td>🔄</td>
<td>BAM-2867</td>
<td><strong>Be able to reference more than one Bamboo from JIRA</strong></td>
<td>🔄</td>
<td>Resolved</td>
</tr>
<tr>
<td>🔄</td>
<td>BAM-4335</td>
<td><strong>UniqueAuthorName Validator throws NPE when repository alias is added and table author contains (null) entries</strong></td>
<td>🔄</td>
<td>Resolved</td>
</tr>
<tr>
<td>🔄</td>
<td>BAM-4349</td>
<td><strong>Sort the view capabilities page lexicographically</strong></td>
<td>🔄</td>
<td>Resolved</td>
</tr>
<tr>
<td>🔄</td>
<td>BAM-4492</td>
<td><strong>Update BuildResultService in REST documentation</strong></td>
<td>🔄</td>
<td>Resolved</td>
</tr>
<tr>
<td>🔄</td>
<td>BAM-4513</td>
<td><strong>Prevent Jira Bamboo Plugin from adding gadgets to browser if they dont exist</strong></td>
<td>🔄</td>
<td>Resolved</td>
</tr>
<tr>
<td>🔄</td>
<td>BAM-4573</td>
<td><strong>phpunit builder should (optionally) only check for a return code or make the number of lines for 'OK' message flexible</strong></td>
<td>🔄</td>
<td>Resolved</td>
</tr>
<tr>
<td>🟥</td>
<td>BAM-4407</td>
<td><strong>REST - Hibernate exception on build details load</strong></td>
<td>🟥</td>
<td>Resolved</td>
</tr>
<tr>
<td>🟥</td>
<td>BAM-4384</td>
<td><strong>Unable to view Plan in REST</strong></td>
<td>🟥</td>
<td>Resolved</td>
</tr>
<tr>
<td>🟥</td>
<td>BAM-4517</td>
<td><strong>svnkit authentication fails due to</strong></td>
<td>🟥</td>
<td>Resolved</td>
</tr>
<tr>
<td>Issue Key</td>
<td>Description</td>
<td>Resolution</td>
<td></td>
<td></td>
</tr>
<tr>
<td>------------</td>
<td>-----------------------------------------------------------------------------</td>
<td>------------</td>
<td></td>
<td></td>
</tr>
<tr>
<td>BAM-4013</td>
<td>Favourite toggle broken in all plans screen</td>
<td>Resolved</td>
<td></td>
<td></td>
</tr>
<tr>
<td>BAM-4241</td>
<td>rest/api/latest/chart should return useful information</td>
<td>Resolved</td>
<td></td>
<td></td>
</tr>
<tr>
<td>BAM-4360</td>
<td>Ensure that all commands when mounting EBS volumes handle failure recursively</td>
<td>Resolved</td>
<td></td>
<td></td>
</tr>
<tr>
<td>BAM-4376</td>
<td>Queue re-ordering doesn't work in Safari 4</td>
<td>Resolved</td>
<td></td>
<td></td>
</tr>
<tr>
<td>BAM-4342</td>
<td>Plugins 2 xwork plugins throw ClassNotFoundException</td>
<td>Resolved</td>
<td></td>
<td></td>
</tr>
<tr>
<td>BAM-4350</td>
<td>Maven 2.1 will not respect path if not already the default M2_HOME</td>
<td>Resolved</td>
<td></td>
<td></td>
</tr>
<tr>
<td>BAM-4411</td>
<td>Build reorder section does not show up on the BuildQueue screen</td>
<td>Resolved</td>
<td></td>
<td></td>
</tr>
<tr>
<td>BAM-4542</td>
<td>Connection from remote agent fails if the agent time is in the past</td>
<td>Resolved</td>
<td></td>
<td></td>
</tr>
<tr>
<td>BAM-4543</td>
<td>No cancel link from login page</td>
<td>Resolved</td>
<td></td>
<td></td>
</tr>
<tr>
<td>BAM-4550</td>
<td>Legacy clover tab should not show if there is no data</td>
<td>Resolved</td>
<td></td>
<td></td>
</tr>
<tr>
<td>BAM-4551</td>
<td>Plan is limited to 15 (Critical)</td>
<td>Resolved</td>
<td></td>
<td></td>
</tr>
<tr>
<td>BAM-4553</td>
<td>JIRA Plugin &quot;Latest plan status&quot; link doesn't work (seems to just reload the page) in FireFox 3</td>
<td>Resolved</td>
<td></td>
<td></td>
</tr>
<tr>
<td>BAM-4558</td>
<td>Clover Gadget doesn't handle the case where there are no clover enabled plans very well - no warning.</td>
<td>Resolved</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Bamboo 2.4 Upgrade Guide

**Bamboo 2.4.x does not run on JBoss 4.2.3 or later**

We are aware of a JBoss issue that currently prevents Bamboo 2.4.x from running on JBoss 4.2.3 or later. If you are using JBoss 4.2.3 or later, we recommend that you **do not upgrade** your Bamboo installation until a fix has been implemented. Please see [BAM-4705](#) for more information.

**Upgrading from Bamboo 2.3 to 2.4**

We strongly recommended that you **back up your xml-data directory** before proceeding. For full instructions please follow the [Bamboo generic upgrade guide](#).

We also strongly recommend that you **export your Bamboo data for backup** before proceeding. Please note, that this may take a long time to complete depending on the number of builds and tests in your system. For full instructions please see [Exporting data for backup](#).

- If you are using plugins, please make sure that your plugins are compiled against 2.4 before upgrading.

Please also note the following important points:

**Developing for Bamboo 2.4**

If you are a Bamboo plugin developer, please refer to our [Changes for Bamboo 2.4](#) guide, which outlines changes in Bamboo 2.4 that may affect Bamboo plugins compiled for Bamboo version 2.3.x or earlier.

**Upgrading from Bamboo prior to 2.3**

In addition to the above, please read the **Upgrade Guide** for every version you are skipping during the upgrade. The complete list of Upgrade Guides is available [here](#).

In particular, if you are upgrading from a version of Bamboo **prior to 2.0**, please ensure that you **upgrade to Bamboo 2.0.6 first** before upgrading to Bamboo 2.4.

- Please ensure that you read the [Bamboo 2.0 Upgrade Guide](#) which contains important upgrade instructions for upgrading from earlier versions of Bamboo.

**Bamboo 2.4.3 Release Notes**
9 December 2009
The Atlassian Bamboo team is proud to announce the release of Bamboo 2.4.3.

We've fixed a major IE6 bug in this release, please see the 'Updates and Fixes in this Release' section below for details.

Bamboo 2.4.3 is of course free to all customers with active Bamboo software maintenance.

Don't have Bamboo 2.4 yet?
Take a look at all the new features in the Bamboo 2.4 Release Notes and see what you are missing out on!

Upgrading from a Previous Version of Bamboo

If you are upgrading, please read the Bamboo 2.4.3 Upgrade Guide.

Updates and Fixes in this Release

<table>
<thead>
<tr>
<th>JIRA Issues</th>
<th>Key</th>
<th>Summary</th>
<th>Assignee</th>
<th>Reporter</th>
<th>Priority</th>
<th>Status</th>
<th>Resolution</th>
<th>Created</th>
<th>Updated</th>
<th>Due</th>
</tr>
</thead>
<tbody>
<tr>
<td>BAM-4872</td>
<td>Tabs are missing for IE6 in Bamboo 2.4</td>
<td>Mark Chaimungkalan [Atlassian]</td>
<td>Edwin Wong [Atlassian]</td>
<td></td>
<td></td>
<td></td>
<td>Fixed</td>
<td>Nov 19, 2009</td>
<td>Dec 01, 2009</td>
<td></td>
</tr>
</tbody>
</table>

Bamboo 2.4.3 Upgrade Guide

Upgrading from Bamboo 2.4.2 to 2.4.3

Please follow the Bamboo generic upgrade guide.

No additional upgrade tasks are required to upgrade from Bamboo 2.4.2 to 2.4.3.

Upgrading from Bamboo 2.3.x or earlier

In addition to the above, please read the Bamboo 2.4 Upgrade Guide and the Upgrade Guide for every version you are skipping during the upgrade. The complete list of Upgrade Guides is available here.

Bamboo 2.4.2 Release Notes

25 November 2009
The Atlassian Bamboo team is proud to announce the release of Bamboo 2.4.2.

We've fixed a number of bugs in this release, please see the 'Updates and Fixes in this Release' section below for details.

Bamboo 2.4.2 is of course free to all customers with active Bamboo software maintenance.

Don't have Bamboo 2.4 yet?
Take a look at all the new features in the Bamboo 2.4 Release Notes and see what you are missing out on!
Upgrading from a Previous Version of Bamboo

If you are upgrading, please read the Bamboo 2.4.2 Upgrade Guide.

Updates and Fixes in this Release

<table>
<thead>
<tr>
<th>JIRA Issues (4 issues)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Type</strong></td>
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<tr>
<td>📜</td>
</tr>
</tbody>
</table>

Bamboo 2.4.2 Upgrade Guide

**Upgrading from Bamboo 2.4.1 to 2.4.2**

Please follow the Bamboo generic upgrade guide.

No additional upgrade tasks are required to upgrade from Bamboo 2.4.1 to 2.4.2.

**Upgrading from Bamboo 2.3.x or earlier**

In addition to the above, please read the Bamboo 2.4 Upgrade Guide and the Upgrade Guide for every version you are skipping during the upgrade. The complete list of Upgrade Guides is available here.
Bamboo 2.4.1 Release Notes

10 November 2009
The Atlassian Bamboo team is proud to announce the release of Bamboo 2.4.1.

We've fixed a number of significant bugs in this release, including a HTTP Content-Type bug preventing browsing of REST methods in IE7 (see BAM-4533) and a bug preventing custom elastic images from being created (see BAM-4812).

Bamboo 2.4.1 is of course free to all customers with active Bamboo software maintenance.

Don’t have Bamboo 2.4 yet?
Take a look at all the new features in the Bamboo 2.4 Release Notes and see what you are missing out on!

Upgrading from a Previous Version of Bamboo

If you are upgrading, please read the Bamboo 2.4.1 Upgrade Guide.

Updates and Fixes in this Release

<table>
<thead>
<tr>
<th>JIRA Issues</th>
<th>(7 issues)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Type</strong></td>
<td><strong>Key</strong></td>
</tr>
</tbody>
</table>
### Bamboo 2.4.1 Upgrade Guide

**Upgrading from Bamboo 2.4 to 2.4.1**

Please follow the Bamboo generic upgrade guide.

- No additional upgrade tasks are required to upgrade from Bamboo 2.4 to 2.4.1.

**Upgrading from Bamboo 2.3.x or earlier**

In addition to the above, please read the Bamboo 2.3 Upgrade Guide and the Upgrade Guide for every version you are skipping during the upgrade. The complete list of Upgrade Guides is available [here](#).

### Bamboo 2.3 Release Notes

- **Bamboo 4.3** has been released. Read the Bamboo 4.3 Release Notes and Upgrade Guide.
  
  Don’t have Bamboo 4.3? Take a look at the features of Bamboo’s latest major version and try it out!
6 August 2009

The Atlassian Bamboo team is proud to release Bamboo 2.3.

Bamboo 2.3 is all about making your life easier. We’ve added a host of new features to help you manage your builds better, including dependency blocking, new build notifications, queue reordering and bulk actions for plans.

If you are using Elastic Bamboo, you'll find that Bamboo 2.3 gives you more control over your elastic resources with the introduction of custom elastic images and instance scheduling. You can now specify the availability zone for your elastic images as well, if you want to take advantage of the new 'reserved instances' option from Amazon.

Finally, Bamboo 2.3 includes a number of improvements for the plugin developers. There's a brand new REST API that you can use to get information about projects, plans, builds and reports. We've also added Bandana support and downloadable plugin and web resources.

Upgrading to Bamboo 2.3 is free for all customers with active Bamboo software maintenance.

Highlights of this release:

- Dependency Blocking Strategies
- New Build Notifications and Queue Reordering
- Bulk Actions
- Multiple Elastic Images
- Elastic Instance Scheduling
- PHPUnit Builder
- Bamboo REST APIs
- Plugins Changes
- Plus over 80 fixes and improvements

Thank you for your feedback:

⭐ over 36 new features and improvements implemented
⭐ over 184 votes fulfilled

Your votes and issues help us keep improving our products, and are much appreciated.

Please keep logging your votes and issues. They help us decide what needs doing!

Upgrading to Bamboo 2.3

You can download Bamboo from the Atlassian website. If upgrading from a previous version, please read the Bamboo 2.3 Upgrade Guide.

Highlights of Bamboo 2.3

1

Dependency Blocking Strategies
Bamboo 2.3 gives you greater control over your builds with the introduction of **dependency blocking**. Dependency blocking is a advanced feature of **dependent build triggering** that can be used to manage builds which have parents. You can ensure that a "tree" of dependent builds always runs in order of the tree hierarchy, even if child builds are triggered independently of their parents.

- Read more about [Dependency blocking strategies](#).

![Diagram of dependency blocking](image)

## New Build Notifications and Queue Reordering

Bamboo automatically assign builds to the **build queue** when they are **triggered** and no agents are available to run them. In this release, you can now **manually reorder builds** that have been placed in the build queue. Prioritise a build in the queue if you need it to run urgently, or demote low priority builds. We've also added two new build notifications in this release, 'Build Queue Timeout' and 'Build Queued Without Capable Agents', to help you keep on top of your builds.

- Read more about [Reordering jobs in the build queue](#) and [Configuring notifications for a plan and its jobs](#).
### Bulk Actions

We've also made it easier for you to configure multiple build plans via the new **bulk actions** in Bamboo 2.3. Bulk actions allow you to modify key plan information for multiple plans at once, like adding notifications, changing Subversion URLs and credentials and updating web repository URLs.

- Read more about [Modifying multiple plans in bulk](#).

### Multiple Elastic Images
Atlassian supplies a **stock images** for use with Elastic Bamboo. In this release, you can now create and/or associate **multiple custom images** (Linux/Unix) with your Bamboo installation. This means that you can use separate images to start up differently configured elastic instances.

If you want to use **EC2 Reserved Instances** with Elastic Bamboo, you can also manually specify the availability zone for each of your images in this release.

- Read more about Creating a custom elastic image and Managing your elastic image configurations.

### Manage Elastic Image Configurations

You can manage the configurations of elastic images that you have associated with Bamboo on this page. You can also associate additional elastic images by creating new elastic image configurations on this page.

<table>
<thead>
<tr>
<th>Name</th>
<th>AMI ID</th>
<th>EBS Snapshot ID</th>
<th>Instance Type</th>
<th>Availability Zone Preference</th>
<th>Active Instances</th>
<th>Operations</th>
</tr>
</thead>
<tbody>
<tr>
<td>Default (default)</td>
<td>ami-391f56</td>
<td>snap-actealacs</td>
<td>High-CPU Medium</td>
<td>Default (chosen by EC2)</td>
<td>10</td>
<td>Start</td>
</tr>
<tr>
<td>Reserved Instance 1</td>
<td>ami-3if1ce60</td>
<td>snap-atc5ea8c5</td>
<td>Small</td>
<td>us-east-1b</td>
<td>0</td>
<td>Start</td>
</tr>
</tbody>
</table>

### Create Elastic Image Configuration

#### Elastic Image Configuration Details

- **Name:** Custom Elastic Image 1
- **Description:** Custom Ubuntu image with Maven 2
- **AMI ID:** ami-650fc5e
- **EBS Snapshot ID:** snap-3143dfe3 
- **Instance Type:** High-CPU Medium
- **Availability Zone:** Default (chosen by EC2)
- **Automatically attach an Amazon Elastic Block Store (EBS) volume to new elastic instances.**

### Elastic Instance Scheduling

Bamboo 2.3 makes it easy for you to automatically streamline your build resources by configuring schedules for your elastic instances. You can specify exactly how many elastic instances you want to be active at a particular time and Bamboo will automatically start up or shut down elastic instances as needed.

- Read more about Scheduling your elastic instances.

### View Elastic Instance Schedules

Configure when to start up or shut down elastic instances of a particular elastic image.
6

PHPUnit Builder

We have added to our stable of builders in Bamboo by bundling the **PHPUnit builder** plugin with Bamboo. You can now configure build plans to run using this popular testing framework.

- Read more about [configuring a PHPUnit builder for a plan](#).

<table>
<thead>
<tr>
<th>Builder Configuration</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Builder:</strong> PHPUnit</td>
</tr>
<tr>
<td><strong>Arguments:</strong></td>
</tr>
<tr>
<td>System Environment Variables:</td>
</tr>
<tr>
<td>Working Sub Directory:</td>
</tr>
<tr>
<td>Where shall PHPUnit store test result file</td>
</tr>
<tr>
<td>Where shall PHPUnit store code coverage data in Clover XML format</td>
</tr>
</tbody>
</table>

- Log test execution in XML format to file
- Write code coverage data in Clover XML format
- Clover Code Coverage File: test-reports/coverage/clover/clover.xml
- Relative path to file where PHPUnit will store code coverage data in Clover XML format (option --coverage-clover). |

| Where shall PHPUnit store code coverage data in HTML format |
| Generate code coverage report in HTML format |

7

Bamboo REST APIs

Bamboo 2.3 exposes a new **REST API** for developers. You can use the REST API to retrieve information about projects and plans as well as available actions. You can also retrieve information about build results and report via the REST API. Results can be returned in either XML or JSON format.

- Read more about [Bamboo REST APIs](#).

8

Plugins Changes

In further improvements for Bamboo developers, we have introduced a number of features to help you build Bamboo plugins more easily.

Firstly, Bamboo 2.3 now includes **Bandana support**. Bandana is our XML-based framework for persistence that is easy to use in plugins. You can use Bandana to store and retrieve data via contexts and key-value pairs.

- Read more about [Bamboo Persistence using Bandana](#)

In addition, you can now define **downloadable plugin resources** and **web resources** for your plugins. If you
want to include static images, Javascript or CSS with your plugin, you can use downloadable plugin resources or web resources to make them available.

- Read more about Bamboo Persistence using Bandana, Downloadable Plugin Resources and Web Resources.

Plus over 80 fixes and improvements

<table>
<thead>
<tr>
<th>JIRA Issues (89 issues)</th>
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<tbody>
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<td>BAM-4256</td>
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<td>BAM-2349</td>
</tr>
<tr>
<td>BAM-2184</td>
</tr>
<tr>
<td>BAM-1469</td>
</tr>
</tbody>
</table>
BAM-4168  Web repository module can be added without a web repository url  
Resolved

BAM-3660  Builds that took less than 1 sec to execute should be reported as 'less than a second' instead of 'Unknown'  
Resolved

BAM-3242  Entering incorrect project key gives big stack trace  
Resolved

BAM-2965  Missing custom build data when examined from a CustomBuildCompleteAction  
Resolved

BAM-3787  View Plan > Tests: "Most Recent" column hard to understand. Most Recent What?  
Resolved

BAM-3780  User Profile > Edit: "Jabber Address" label isn't clear.  
Resolved

BAM-3575  Weird Panelling on General Configuration Updated  
Resolved

Bamboo 2.3 Upgrade Guide

Upgrading from Bamboo 2.2 to 2.3

We strongly recommended that you back up your xml-data directory before proceeding. For full instructions please follow the Bamboo generic upgrade guide.

We also strongly recommend that you export your Bamboo data for backup before proceeding. Please note, that this may take a long time to complete depending on the number of builds and tests in your system. For full instructions please see Exporting data for backup.

If you are using plugins, please make sure that your plugins are compiled against 2.3 before upgrading.

Please also note the following important points:

1. Bamboo developers — Changes for 2.3

If you are a Bamboo developer, please take note of the 'Changes for Bamboo 2.3' document when upgrading to 2.3. We have made significant changes to Bamboo's remote API to improve it. However, it is likely that a number of existing Bamboo plugins will not work as a result.

We strongly recommend that you take note of the changes linked above and update your plugins accordingly.
2. Remote agents automatically upgraded

Please note that your remote agents **do not** need to be manually upgraded for this release. They will be automatically upgraded when you upgrade your Bamboo instance.

**Upgrading from Bamboo prior to 2.2**

In addition to the above, please read the *Upgrade Guide* for every version you are skipping during the upgrade. The complete list of Upgrade Guides is available [here](#).

In particular, if you are upgrading from a version of Bamboo **prior to 2.0**, please ensure that you **upgrade to Bamboo 2.0.6 first** before upgrading to Bamboo 2.3.

⚠️ Please ensure that you read the *Bamboo 2.0 Upgrade Guide* which contains important upgrade instructions for upgrading from earlier versions of Bamboo.

**Bamboo 2.3.1 Release Notes**

12 August 2009

The Atlassian Bamboo team is proud to announce the release of **Bamboo 2.3.1**. Bamboo 2.3.1 is a minor bug fix release. Most customers will not notice any changes from our last major release — *Bamboo 2.3*.

SVNKit has been upgraded to version 1.3 in this release. Any new workspaces created will have a format that is compatible with Subversion 1.6, by default. This format is also compatible with Subversion 1.5. You can now also manually set the version of any new Subversion workspaces created by Bamboo via the system property `bamboo.svn.wc.format`. Please see [this FAQ](#) for further details.

Bamboo 2.3.1 is of course free to all customers with [active Bamboo software maintenance](#).

**Don't have Bamboo 2.3 yet?**

Take a look at all the new features in the [Bamboo 2.3 Release Notes](#) and see what you are missing out on!

![Download latest version](#)

**Upgrading from a Previous Version of Bamboo**

If you are upgrading, please read the *Bamboo 2.3.1 Upgrade Guide*.

**Updates and Fixes in this Release**

<table>
<thead>
<tr>
<th>JIRA Issues (5 issues)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Type</strong></td>
</tr>
</tbody>
</table>
### Bamboo 2.3.1 Upgrade Guide

**Upgrading from Bamboo 2.3 to 2.3.1**

Please follow the [Bamboo generic upgrade guide](https://confluence.atlassian.com/display/ATL/Bamboo+generic+upgrade+guide).

> No additional upgrade tasks are required to upgrade from Bamboo 2.3 to 2.3.1.

**Upgrading from Bamboo 2.2.x or earlier**

In addition to the above, please read the [Bamboo 2.3 Upgrade Guide](https://confluence.atlassian.com/display/ATL/Bamboo+2.3+Upgrade+Guide) and the Upgrade Guide for every version you are skipping during the upgrade. The complete list of Upgrade Guides is available [here](https://confluence.atlassian.com/display/ATL/Bamboo+Upgrade+Guides).

### Bamboo 2.2 Release Notes

- Bamboo 4.3 has been released. Read the [Bamboo 4.3 Release Notes](https://confluence.atlassian.com/display/ATL/Bamboo+4.3+Release+Notes) and [Upgrade Guide](https://confluence.atlassian.com/display/ATL/Bamboo+Upgrade+Guide). Don't have Bamboo 4.3? Take a look at the features of Bamboo's [latest major version](https://atlassian.com) and try it out!

#### 9 March 2009

**The Atlassian Bamboo team is proud to release Bamboo 2.2.**

Bamboo 2.2 introduces a range of exciting new features and improvements. Harness the flexible online processing potential of the Amazon Elastic Compute Cloud (EC2) to power your builds with the new Elastic Bamboo feature. This provides you with the power to reduce your build times as well as the flexibility in capacity to minimise costs.

Bamboo emails have been redesigned in this release. HTML templates are now supported and can be easily customised to your liking. We have also added new notification events in Bamboo, to allow you to collaborate more easily via build comments or detect when your builds hang.

Finally, we've implemented a few refinements to Bamboo builds. These include improving the performance of...
artifact transfer from remote agents and adding the ability to use the same repository snapshot revision for dependent builds.

⚠️ Please note, this release contains a number of important security fixes. Please see Bamboo Security Advisory 2009-03-09 for further details.

Upgrading to Bamboo 2.2 is free for all customers with active Bamboo software maintenance.

**Highlights of this release:**

- Elastic Bamboo
- Customisable Email Templates
- Build Comment Notification Event
- Hanging Build Detection Event
- Faster Artifact Transfer
- Dependent Builds
- Agent Improvements
- Plus over 80 fixes and improvements

**Thank you for your feedback:**

⭐️ over 68 new features and improvements implemented
⭐️ over 170 votes fulfilled

Your votes and issues help us keep improving our products, and are much appreciated.

Please keep logging your votes and issues. They help us decide what needs doing!

### Upgrading to Bamboo 2.2

You can download Bamboo from the [Atlassian website](https://www.atlassian.com/software). If upgrading from a previous version, please read the [Bamboo 2.2 Upgrade Guide](https://confluence.atlassian.com/display/BAMBOO/Upgrading+to+Bamboo+2.2).

### Highlights of Bamboo 2.2

#### Elastic Bamboo

Cloud computing comes to Bamboo with the introduction of the Elastic Bamboo feature. You can now configure your Bamboo application to create remote agents in the [Amazon Elastic Compute Cloud (EC2)](https://aws.amazon.com/ec2). We’ve also incorporated a number of useful tools with this feature, that allow you to start up your builds more quickly via build snapshots, run Elastic Bamboo builds from behind a firewall and control Elastic Bamboo via the Bamboo REST API.

- Read more about [Working with Elastic Bamboo](https://confluence.atlassian.com/display/BAMBOO/Working+with+Elastic+Bamboo).
Customisable Email Templates

Bamboo emails have been given a facelift in this release. Multi-part (MIME) format is now supported allowing you to use HTML in your email templates (e.g. for Bamboo notifications). We've set up Freemarker templates in Bamboo as well, making it easy for you to customise the look and feel of your emails.

- Read more about configuring your notification templates.
3 Build Comment Notification Event

The new build comment notification event makes it even easier to collaborate in Bamboo. You can set up Bamboo to notify selected users and groups when a comment is posted against a build. Users can be notified by email, instant message or even RSS feed, depending on their preference.

- Read more about notifications in Bamboo.

4 Hanging Build Detection Event

We have also added a notification event for hung builds. Ensure that the right people are informed when a build hangs, by setting up notifications using this event. Users can be notified by email, instant message or even RSS feed, depending on their preference.
Faster Artifact Transfer

We have dramatically improved the speed of artifact transfer from remote agents in this release. Remote builds with large artifacts will complete much more quickly, particularly over high-latency network links.

- Read more about viewing a build's artifacts.

Dependent Builds

Builds are now more consistent when triggering a build after another build finishes. If a child build uses the same source as the parent build, the child build will now be forced to check out the same revision of source code as the parent build.

- Read more about triggering a build when another build finishes.

Agent Improvements

We have introduced a remote agent supervisor in this release to monitor and automatically restart your remote agents, if necessary. You should notice an improvement in the uptime of your remote agents with this change.

- Read more about the remote agent supervisor in the Bamboo remote agent installation guide.

Plus over 80 fixes and improvements
## JIRA Issues (115 issues)

<table>
<thead>
<tr>
<th>Key</th>
<th>Summary</th>
<th>Priority</th>
<th>Status</th>
</tr>
</thead>
<tbody>
<tr>
<td>BAM-3607</td>
<td>Builds should be able to have a configurable timeout threshold</td>
<td>![ ]</td>
<td>Resolved</td>
</tr>
<tr>
<td>BAM-3605</td>
<td>CLONE - The LATEST URL redirect(s) only apply to top level artifacts.</td>
<td>![ ]</td>
<td>Resolved</td>
</tr>
<tr>
<td>BAM-3591</td>
<td>Initial logging level of Remote Agent is DEBUG</td>
<td>![ ]</td>
<td>Resolved</td>
</tr>
<tr>
<td>BAM-3561</td>
<td>Bamboo uses db column name &quot;resource&quot;, this is reserved in Oracle</td>
<td>![ ]</td>
<td>Resolved</td>
</tr>
<tr>
<td>BAM-3554</td>
<td>inconsistent slashing on View Instance page</td>
<td>![ ]</td>
<td>Resolved</td>
</tr>
<tr>
<td>BAM-3553</td>
<td>Elastic Bamboo Configuration administration tab should be always visible</td>
<td>![ ]</td>
<td>Resolved</td>
</tr>
<tr>
<td>BAM-3521</td>
<td>Agent Matrix should limited to active plans &amp; agents</td>
<td>![ ]</td>
<td>Resolved</td>
</tr>
<tr>
<td>BAM-3509</td>
<td>Restarting Remote Agent in wrapper causes license issues with 1 Remote Agent licenses</td>
<td>![ ]</td>
<td>Resolved</td>
</tr>
<tr>
<td>BAM-3508</td>
<td>&quot;Can't open file&quot; error causes build to not be run</td>
<td>![ ]</td>
<td>Resolved</td>
</tr>
<tr>
<td>BAM-3504</td>
<td>Plan Requirements Configuration page showing incorrect coloration and heading for images</td>
<td>![ ]</td>
<td>Resolved</td>
</tr>
<tr>
<td>BAM-3480</td>
<td>Remote Agent creates spurious directory tree under the default bamboo home bin/ directory</td>
<td>![ ]</td>
<td>Resolved</td>
</tr>
<tr>
<td>BAM-3479</td>
<td>Refactor VariableSubstitutionBean's so that their internal bamboo variables can be accessed by other components</td>
<td>![ ]</td>
<td>Resolved</td>
</tr>
<tr>
<td>BAM-3462</td>
<td>Edit shared capabilities broken</td>
<td>![ ]</td>
<td>Resolved</td>
</tr>
<tr>
<td>BAM-3458</td>
<td>Artifact copier fails to copy any artifacts if a target directory is missing</td>
<td>![ ]</td>
<td>Resolved</td>
</tr>
<tr>
<td>BAM-3457</td>
<td>Make instance type of</td>
<td>![ ]</td>
<td>Resolved</td>
</tr>
<tr>
<td>Issue</td>
<td>Description</td>
<td>Resolution</td>
<td></td>
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<td>-----------</td>
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<tr>
<td>BAM-3445</td>
<td>SVN UpdateEventHandler throws NPE</td>
<td>Resolved</td>
<td></td>
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<tr>
<td>BAM-3432</td>
<td>Shutdown all elastic agent fails</td>
<td>Resolved</td>
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<tr>
<td>BAM-3412</td>
<td>Change to SVN URL through global variables not detected</td>
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<td></td>
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<tr>
<td>BAM-3408</td>
<td>Evaluation Expiry message for all products</td>
<td>Resolved</td>
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<tr>
<td>BAM-3386</td>
<td>Cannot test IM notifications in Edit mode for non @talk.google.com accounts</td>
<td>Resolved</td>
<td></td>
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<tr>
<td>BAM-3341</td>
<td>All capability sets are imported as LocalCapabilitySets regardless if they are remote or local</td>
<td>Resolved</td>
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<tr>
<td>BAM-3339</td>
<td>Elastic Bamboo implementation, M4</td>
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<tr>
<td>BAM-3335</td>
<td>Elastic Bamboo implementation M3</td>
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<tr>
<td>BAM-3329</td>
<td>Bamboo ships with out-of-date version of ehcache settings</td>
<td>Resolved</td>
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<tr>
<td>BAM-3292</td>
<td>Global Variables list in Administration panel is sorted randomly</td>
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<tr>
<td>BAM-3281</td>
<td>Previous button on page '5. Artifacts' goes to '6. Notifications' instead of '4. Requirements'</td>
<td>Resolved</td>
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</tr>
<tr>
<td>BAM-3280</td>
<td>Allow users to use the bootstrap jar directly</td>
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<td></td>
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<tr>
<td>BAM-3250</td>
<td>API for retrieving build artifacts</td>
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<tr>
<td>BAM-3246</td>
<td>Remote build logging can slow down a build</td>
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<tr>
<td>BAM-3243</td>
<td>Export fails with &quot;Adding text to an XML document must not be null&quot;</td>
<td>Resolved</td>
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<tr>
<td>BAM-3240</td>
<td>Local cvs repositories are not supported</td>
<td>Resolved</td>
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<tr>
<td>BAM-3220</td>
<td>Can not test IM client while in edit mode</td>
<td>Resolved</td>
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<tr>
<td>BAM-3194</td>
<td>Build Hang Prediction shows no logs for '299' minutes, even when messages are coming through</td>
<td>Resolved</td>
<td></td>
</tr>
<tr>
<td>Issue Key</td>
<td>Description</td>
<td>Status</td>
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<td></td>
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<tr>
<td>BAM-3189</td>
<td>Tests summary screen always shows last 25 builds</td>
<td>Resolved</td>
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<tr>
<td>BAM-3183</td>
<td>Test results directory can't be updated</td>
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<tr>
<td>BAM-3179</td>
<td>Ability to delete comments</td>
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<tr>
<td>BAM-3177</td>
<td>Artifact editing/viewing screens are inconsistent in the order of the columns</td>
<td>Resolved</td>
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<tr>
<td>BAM-3176</td>
<td>Latest status of a build may clear comment form</td>
<td>Resolved</td>
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<tr>
<td>BAM-3172</td>
<td>Allow underscore '_' character in Global Variable name</td>
<td>Resolved</td>
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<tr>
<td>BAM-3168</td>
<td>Ability to Abandon a build</td>
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<td>BAM-3166</td>
<td>Maven download logs should be filtered</td>
<td>Resolved</td>
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<td>BAM-3155</td>
<td>Build Configuration</td>
<td>Builder</td>
<td>Test Result Directory not persisted for Bash (Command type)</td>
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<td>BAM-3141</td>
<td>Typo in LocalBuildResultProcessor 'Ignoring'</td>
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<tr>
<td>BAM-3138</td>
<td>Scheduled builds and builds running on remote agents don't seem to switch to a new source root in the build directory</td>
<td>Resolved</td>
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<tr>
<td>BAM-3125</td>
<td>Allow 'wget' unix utility to access plan's artifacts by providing username and password</td>
<td>Resolved</td>
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<tr>
<td>BAM-3122</td>
<td>Export of custom data is not null safe</td>
<td>Resolved</td>
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<tr>
<td>BAM-3120</td>
<td>Ability to download artifact via the REST API</td>
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<tr>
<td>BAM-3108</td>
<td>User Picker for build permissions lets you 2 when you can only add 1</td>
<td>Resolved</td>
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<tr>
<td>BAM-3105</td>
<td>Include failure details into Bamboo mail notification</td>
<td>Resolved</td>
<td></td>
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<tr>
<td>BAM-3104</td>
<td>Send Bamboo messages as HTML formatted mails</td>
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<tr>
<td>BAM-3091</td>
<td>Incorrect error for editProfile when not logged in</td>
<td>Resolved</td>
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<tr>
<td>BAM-3090</td>
<td>Access artifacts from the standard &quot;pretty&quot; URL</td>
<td>Resolved</td>
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</tr>
<tr>
<td>BAM-3089</td>
<td>Build results summary</td>
<td>Resolved</td>
<td></td>
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</table>
BAM-3083  | Bamboo email notifications should include the unit tests that failed | Resolved
BAM-3043  | Change logging level of AccessLogFilter from INFO to DEBUG | Resolved
BAM-2994  | The LATEST URL redirect(s) only apply to top level artifacts. | Resolved
BAM-2991  | SVN URL change is not picked up by all the agent. | Resolved
BAM-2989  | Artifact collections with large numbers of small files take forever to copy | Resolved
BAM-2983  | The remote agent dies if a (remote) build is stopped while artifacts are being transferred. | Resolved
BAM-2951  | Add plugin point so that Agent/Build matching can be customised | Resolved
BAM-2946  | Bamboo should display source repository revision used for particular build. | Resolved
BAM-2933  | Ability to substitute to existing system variables for the System Environment field | Resolved
BAM-2852  | Improve log transfer between Bamboo agent and build server | Resolved
BAM-2835  | Bamboo should look for the BUILD FAILED message along with the BUILD SUCCESSFUL message to determine build out come. | Resolved
BAM-2803  | Reduced log spam from remote agents | Resolved
BAM-2721  | Artifacts should not be copied if builds fail. | Resolved
BAM-2713  | Remove Errors From Dashboard | Resolved
BAM-2664  | Tranfering artifacts of large size require too much CPU resources | Resolved
BAM-2612  | Make latest artifact link an | Resolved
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<tr>
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<th>Description</th>
<th>Resolution</th>
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</thead>
<tbody>
<tr>
<td>BAM-2606</td>
<td>Global Variables should be available in the Custom Data Map for a build</td>
<td>Resolved</td>
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<tr>
<td>BAM-2605</td>
<td>Bamboo doesn't trim spaces when entering email addresses in the build notifications screen</td>
<td>Resolved</td>
</tr>
<tr>
<td>BAM-2560</td>
<td>Add links to order form on pages that notify customers their maintenance has expired</td>
<td>Resolved</td>
</tr>
<tr>
<td>BAM-2541</td>
<td>&quot;Comment Added&quot; Notification Condition</td>
<td>Resolved</td>
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<tr>
<td>BAM-2530</td>
<td>Scheduled Builds With no changes say &quot;This is an initial or manual build&quot;</td>
<td>Resolved</td>
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<tr>
<td>BAM-2494</td>
<td>Bamboo home is logged as blank in the logs during start-up</td>
<td>Resolved</td>
</tr>
<tr>
<td>BAM-2479</td>
<td>Build Action status on &quot;Currently Building ...&quot; Screen doesn't update</td>
<td>Resolved</td>
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<tr>
<td>BAM-2475</td>
<td>Bamboo re-index code, doesn't handle cases where the buildresults XML file is null</td>
<td>Resolved</td>
</tr>
<tr>
<td>BAM-2466</td>
<td>Swap order of source directory and pattern columns in artifacts admin UI</td>
<td>Resolved</td>
</tr>
<tr>
<td>BAM-2450</td>
<td>Email Bamboo admins when builds start failing due to issues with the repository.</td>
<td>Resolved</td>
</tr>
<tr>
<td>BAM-2402</td>
<td>Reimplement &quot;latest&quot; artifact URLs as 302 redirects, rather than client-side refreshes</td>
<td>Resolved</td>
</tr>
<tr>
<td>BAM-2399</td>
<td>Document the ability to link to the latest version of an artifact</td>
<td>Resolved</td>
</tr>
<tr>
<td>BAM-2298</td>
<td>Allow for global variable substitution in the private key field of the source repository page.</td>
<td>Resolved</td>
</tr>
<tr>
<td>BAM-2227</td>
<td>Dependencies should pass down meta data about the dependency chain</td>
<td>Resolved</td>
</tr>
<tr>
<td>BAM-2209</td>
<td>Only &quot;stop build&quot; is available from the Build Actions drop down menu even when the build has completed</td>
<td>Result: Resolved</td>
</tr>
<tr>
<td>BAM-2198</td>
<td>The URL filter fails if there are special characters in the testcase name</td>
<td>Result: Resolved</td>
</tr>
<tr>
<td>BAM-2168</td>
<td>Make Global System Variables accessible on the post actions page.</td>
<td>Result: Resolved</td>
</tr>
<tr>
<td>BAM-2080</td>
<td>Elastic Bamboo implementation, M2</td>
<td>Result: Resolved</td>
</tr>
<tr>
<td>BAM-2059</td>
<td>Directory clean on repository change may fail in distributed agent environment</td>
<td>Result: Resolved</td>
</tr>
<tr>
<td>BAM-2047</td>
<td>Trivial typo on plan Notifications screen: 'commited' should have a double 't'</td>
<td>Result: Resolved</td>
</tr>
<tr>
<td>BAM-2018</td>
<td>Emails sent based on Build Notification</td>
<td>Result: Resolved</td>
</tr>
<tr>
<td>BAM-1999</td>
<td>Add artifacts section to build notification emails.</td>
<td>Result: Resolved</td>
</tr>
<tr>
<td>BAM-1991</td>
<td>&quot;BUILD SUCCESSFUL&quot; appearing shortly before a final &quot;BUILD FAILED&quot; message is misinterpreted as a successful build</td>
<td>Result: Resolved</td>
</tr>
<tr>
<td>BAM-1839</td>
<td>Agent bootstrapper restart if server goes down / communication error occurs</td>
<td>Result: Resolved</td>
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<tr>
<td>BAM-1831</td>
<td>HTML Emails</td>
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<tr>
<td>BAM-1736</td>
<td>Incorrect message in error page when configuring notification for invalid groups/users</td>
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<tr>
<td>BAM-1706</td>
<td>Ability to specify SMTP port in order to connect to SMTP server.</td>
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<tr>
<td>BAM-1592</td>
<td>Ability to disable/delete IM Server</td>
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<tr>
<td>BAM-1497</td>
<td>Next build arrow image has stray pixels</td>
<td>Result: Resolved</td>
</tr>
<tr>
<td>BAM-1413</td>
<td>Support for MSBuild</td>
<td>Result: Resolved</td>
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<tr>
<td>BAM-1403</td>
<td>Add more detail to the broken build e-mail - compiler error or broken test</td>
<td>Result: Resolved</td>
</tr>
<tr>
<td>Issue</td>
<td>Description</td>
<td>Status</td>
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<tr>
<td>------------</td>
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<td>--------</td>
</tr>
<tr>
<td>BAM-1396</td>
<td>Have a time limit on builds</td>
<td>✅</td>
</tr>
<tr>
<td>BAM-1394</td>
<td>Add &quot;Build Actions&quot; menu to Build Results page</td>
<td>✅</td>
</tr>
<tr>
<td>BAM-1375</td>
<td>Labeller plugin assumes that build log contains instances of SimpleLogEntry rather than LogEntry</td>
<td>✅</td>
</tr>
<tr>
<td>BAM-1360</td>
<td>Bamboo should explicitly build projects when user triggers a build ON manual build strategy</td>
<td>✅</td>
</tr>
<tr>
<td>BAM-1355</td>
<td>Ability to remove Mail Server of IM Server Configuration</td>
<td>✅</td>
</tr>
<tr>
<td>BAM-1299</td>
<td>Improve the Notification Framework in Bamboo, to register listeners</td>
<td>✅</td>
</tr>
<tr>
<td>BAM-1177</td>
<td>Run builders on Amazon cloud</td>
<td>✅</td>
</tr>
<tr>
<td>BAM-1107</td>
<td>Broadcast IM comments</td>
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</tr>
<tr>
<td>BAM-947</td>
<td>Dependant builds of the same source tree should build the same source as the parent</td>
<td>✅</td>
</tr>
<tr>
<td>BAM-849</td>
<td>Ajaxy panels don't behave properly when a full page is returned from bamboo.</td>
<td>✅</td>
</tr>
<tr>
<td>BAM-846</td>
<td>Customisable emails.</td>
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<tr>
<td>BAM-810</td>
<td>UI is left in a confused state on build failure</td>
<td>✅</td>
</tr>
<tr>
<td>BAM-695</td>
<td>Build email doesn't contain enough information in the case of build failure.</td>
<td>✅</td>
</tr>
<tr>
<td>BAM-614</td>
<td>When a build fails I only want 1 error for artifacts</td>
<td>✅</td>
</tr>
<tr>
<td>BAM-509</td>
<td>Timeout builds when they take too long</td>
<td>✅</td>
</tr>
</tbody>
</table>

**Bamboo 2.2 Upgrade Guide**

*Upgrading from Bamboo 2.1 to 2.2*

It is strongly recommended that you back up your xml-data directory before proceeding. For full instructions please follow the [Bamboo generic upgrade guide](#).

> If you are using plugins, please make sure that your plugins are compile against 2.2 before upgrading.

Please also note the following important points:
1. Remote agent changes

The default remote agent JAR shipped with Bamboo 2.2 has been upgraded. You will need to upgrade the remote agent JAR files for all of your remote agents, as described below.

- If you want to use the new remote agent supervisor service wrapper, you will need to download and install the new remote agent JAR for all of your remote agents, as described in Step 1 of Bamboo remote agent installation guide.
- If you do not want to use the new remote agent supervisor service wrapper (e.g. you have implemented your own service wrapper), you will need to download and install the legacy remote agent JAR for all of your remote agents, as described in Step 1 of Legacy remote agent installation guide. This remote agent JAR does not include the remote agent supervisor service wrapper.

Please note, your pre-Bamboo 2.2 remote agent JAR files will not work if you upgrade to Bamboo 2.2. You must install one of the two JARs described above.

2. Issue with remote agent home directory on Windows

An outstanding issue exists when installing remote agents on servers running Windows. If your remote agent home directory has space characters (e.g. /remote agent home), you will not be able to install remote agents. The process will crash when you attempt to run the remote agent (see BAM-3604 for further details).

We recommend that you remove all space characters from your remote agent home directory. Instructions for changing your remote agent home are described in the Bamboo remote agent installation guide.

3. Bamboo Developers — Changes for 2.2

If you are a Bamboo developer, please take note of the changes described in Changes for Bamboo 2.2 when upgrading to 2.2.

Upgrading from Bamboo prior to 2.1

In addition to the above, please read the Upgrade Guide for every version you are skipping during the upgrade. The complete list of Upgrade Guides is available here.

⚠️ Please ensure that you read the Bamboo 2.0 Upgrade Guide which contains important upgrade instructions for upgrading from earlier versions of Bamboo.

Bamboo 2.2.4 Release Notes

9 July 2009
The Atlassian Bamboo team is proud to announce the release of Bamboo 2.2.4.

We have added an SVNkit java command-line client to Bamboo in this release (see BAM-4057). This client will provide valuable assistance in analysing Subversion-related connectivity issues. For detailed instructions on using this client, please see this FAQ.

This point release also contains 5 bug fixes and improvements which can be viewed below. Click a specific issue to see details of the fix, and to download patches where relevant.

Bamboo 2.2.4 is of course free to all customers with active Bamboo software maintenance.

Don’t have Bamboo 2.2 yet?
Take a look at all the new features in the Bamboo 2.2 Release Notes and see what you are missing out on!
Upgrading from a Previous Version of Bamboo

If you are upgrading, please read the Bamboo 2.2.4 Upgrade Guide.

Updates and Fixes in this Release

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<th>JIRA Issues (7 issues)</th>
<th>Type</th>
<th>Key</th>
<th>Summary</th>
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<th>Priority</th>
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</thead>
</table>
| BAM-41-86              | documen
nt jsvn usage for unix and windows | Ulrich Kuhnhar
dt [Atlassia
n] | Ulrich Kuhnhar
dt [Atlassia
n] | Fixed | Jul 08, 2009 | Jul 09, 2009 |
| BAM-41-85              | Merge jsvn libs to trunk | Unassigned | None | Fixed | Jul 08, 2009 | Aug 26, 2010 |
| BAM-40-87              | Improve error handling and reportin
g for EC2 ebs snapshot/volume procedures (scripts) | Krystian Brazule
wicz [Atlassia
n] | Ulrich Kuhnhar
dt [Atlassia
n] | Fixed | Jun 17, 2009 | Jul 02, 2009 |
| BAM-40-57              | Add svnkit java command line client to bamboo distributi
on to analyse svn problems | Ulrich Kuhnhar
dt [Atlassia
n] | Ulrich Kuhnhar
dt [Atlassia
n] | Fixed | Jun 10, 2009 | Jul 08, 2009 |
| BAM-40-55              | /api/rest/getRece
ntlyCompletedB
uildResultsForB
uildaction gives empty output | Krystian Brazule
wicz [Atlassia
n] | Brian Matzon | Fixed | Jun 10, 2009 | Jul 02, 2009 |
Bamboo 2.2.4 Upgrade Guide

Upgrading from Bamboo 2.2.3 to 2.2.4

Please follow the Bamboo generic upgrade guide. No additional upgrade tasks are required to upgrade from Bamboo 2.2.3 to 2.2.4.

Upgrading from Bamboo 2.1.x or earlier

In addition to the above, please read the Bamboo 2.2 Upgrade Guide and the Upgrade Guide for every version you are skipping during the upgrade. The complete list of Upgrade Guides is available here.

Bamboo 2.2.3 Release Notes

☑ Bamboo 4.3 has been released. Read the Bamboo 4.3 Release Notes and Upgrade Guide. Don’t have Bamboo 4.3? Take a look at the features of Bamboo’s latest major version and try it out!

4 June 2009

The Atlassian Bamboo team is proud to announce the release of Bamboo 2.2.3.

You can now disable your Bamboo server’s automatic capability detection upon agent restart, so that you do not have to reconfigure your agent capabilities every time you restart it. See this FAQ for details.

This point release also contains 14 bug fixes and improvements, including 2 critical fixes, which can be viewed below. Click a specific issue to see details of the fix, and to download patches where relevant.

Bamboo 2.2.3 is of course free to all customers with active Bamboo software maintenance.

Don’t have Bamboo 2.2 yet?

Take a look at all the new features in the Bamboo 2.2 Release Notes and see what you are missing out on!

Upgrading from a Previous Version of Bamboo

If you are upgrading, please read the Bamboo 2.2.3 Upgrade Guide.

Updates and Fixes in this Release
## JIRA Issues (15 issues)

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<td>🟢</td>
<td>BAM-39 57</td>
<td>Tomcat &gt;5.5.25 does not allow &quot;=&quot; signs in cookies</td>
<td>Brydie McCoy [Atlassian]</td>
<td>Brydie McCoy [Atlassian]</td>
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<td>Resolved</td>
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<td>BAM-38 61</td>
<td>REST API not</td>
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<td>Issue</td>
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<td>Start Date</td>
<td>End Date</td>
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<td>BAM-3850</td>
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<td>Fixed</td>
<td>Apr 27, 2009</td>
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<td>BAM-3833</td>
<td>Perforce configuration doesn't use system variables during validation for client and port</td>
<td>Brydie McCoy [Atlassian]</td>
<td>Resolved</td>
<td>Fixed</td>
<td>Apr 22, 2009</td>
<td>Jun 02, 2009</td>
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<td>BAM-3688</td>
<td>Upgrading to 2.2.1 with expired license causes exceptions</td>
<td>Brydie McCoy [Atlassian]</td>
<td>Resolved</td>
<td>Fixed</td>
<td>Mar 24, 2009</td>
<td>May 27, 2009</td>
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<td>BAM-3332</td>
<td>Plan list collapse/expand is not persisted on tomcat version &gt; 5.5.25</td>
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<td>Resolved</td>
<td>Fixed</td>
<td>Dec 10, 2008</td>
<td>Jun 08, 2009</td>
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<tr>
<td>BAM-32</td>
<td>Bamboo</td>
<td>Krystian Marcel</td>
<td>Resolved</td>
<td>Fixed</td>
<td>Nov 30, 2008</td>
<td>Jun 02, 2009</td>
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</tbody>
</table>
**Bamboo 2.2.3 Upgrade Guide**

*Upgrading from Bamboo 2.2.2 to 2.2.3*

The `settings.xml` file that is shipped with Bamboo no longer contains references to the Atlassian internal maven proxies. If you were relying on these proxies (for your EBS volumes), you can either edit the file to reference your own maven proxies or rely on the default ones.

Please also follow the [Bamboo generic upgrade guide](#).

*Upgrading from Bamboo 2.1.x or earlier*

In addition to the above, please read the [Bamboo 2.2 Upgrade Guide](#) and the Upgrade Guide for every version you are skipping during the upgrade. The complete list of Upgrade Guides is available [here](#).

**Bamboo 2.2.2 Release Notes**
Bamboo 4.3 has been released. Read the Bamboo 4.3 Release Notes and Upgrade Guide. Don't have Bamboo 4.3? Take a look at the features of Bamboo's latest major version and try it out!

13 May 2009
The Atlassian Bamboo team is proud to announce the release of Bamboo 2.2.2.

You can now control the logging for each of your remote agents independently from your Bamboo server in this release. For example, you may wish to change the logging on a particular remote agent to a more detailed level, if you are trying to troubleshoot a problem. For more information, please read Logging in Bamboo.

This point release also contains 9 bug fixes and improvements, including 3 critical fixes, which can be viewed below. Click a specific issue to see details of the fix, and to download patches where relevant.

Bamboo 2.2.2 is of course free to all customers with active Bamboo software maintenance.

Don't have Bamboo 2.2 yet?
Take a look at all the new features in the Bamboo 2.2 Release Notes and see what you are missing out on!

Upgrading from a Previous Version of Bamboo
If you are upgrading, please read the Bamboo 2.2.2 Upgrade Guide.

Updates and Fixes in this Release

<table>
<thead>
<tr>
<th>JIRA Issues (13 issues)</th>
</tr>
</thead>
<tbody>
<tr>
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<td>#</td>
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</tbody>
</table>
| BAM-37 28 | BAM-36 74 | (Regression) - Incorrect display of failing since test                  | Marek Went [Atlassian] Paul Slade [Atlassian] | Resolved | Fixed   | Apr 07, 2009 | May 18, 2009 | **it/update**  
|       |         |                                                                         |                |            |         |           |              | **func tests**                                                        |
|       |         |                                                                         |                |            |         |           |              | **func tests**                                                        |
| BAM-37 17 | BAM-36 43 | Notifications generating incorrect links to test results               | Krystian Brazulewicz [Atlassian] Juan Alonso              | Resolved | Fixed   | Apr 02, 2009 | Jun 17, 2009 | **it/update**  
|       |         |                                                                         |                |            |         |           |              | **func tests**                                                        |
|       |         |                                                                         |                |            |         |           |              | **func tests**                                                        |
| BAM-36 74 | BAM-36 28 | Failing Since Wrong Build #                                             | Marek Went [Atlassian] Sam Berlin                       | Resolved | Fixed   | Mar 23, 2009 | May 18, 2009 | **it/update**  
|       |         |                                                                         |                |            |         |           |              | **func tests**                                                        |
|       |         |                                                                         |                |            |         |           |              | **func tests**                                                        |
| BAM-36 43 |          | Many many open activeM Q                                               | Mark Chaimungkalan David Cheney [Atlassian]             | Resolved | Fixed   | Mar 12, 2009 | Feb 11, 2010 | **it/update**  
|       |         |                                                                         |                |            |         |           |              | **func tests**                                                        |
### Bamboo 2.2.2 Upgrade Guide

**Upgrading from Bamboo 2.2.1 to 2.2.2**

Please follow the [Bamboo generic upgrade guide](#).

*No additional upgrade tasks are required to upgrade from Bamboo 2.2.1 to 2.2.2.*

**Upgrading from Bamboo 2.1.x or earlier**

In addition to the above, please read the [Bamboo 2.2 Upgrade Guide](#) and the Upgrade Guide for every version you are skipping during the upgrade. The complete list of Upgrade Guides is available [here](#).

### Bamboo 2.2.1 Release Notes

**✓ Bamboo 4.3** has been released. Read the [Bamboo 4.3 Release Notes](#) and [Upgrade Guide](#). Don't have Bamboo 4.3? Take a look at the features of Bamboo's [latest major version](#) and try it out!

### 18 March 2009

The Atlassian Bamboo team is proud to announce the release of **Bamboo 2.2.1**.

The .Net plugin has been upgraded in this release and should now work correctly. In addition, this point release contains more than 10 bug fixes and improvements which can be viewed below. Click a specific issue to see

<table>
<thead>
<tr>
<th>Issue</th>
<th>Title</th>
<th>Description</th>
<th>Assignee</th>
<th>Resolution</th>
<th>Status</th>
<th>Created</th>
<th>Fixed</th>
<th>Milestone</th>
</tr>
</thead>
<tbody>
<tr>
<td>BAM-3121</td>
<td>Changing the way the &quot;Update by&quot; text field is being constructed</td>
<td>Marek Went [Atlassian] Lucas Guminski [Atlassian]</td>
<td></td>
<td>Resolved</td>
<td>Fixed</td>
<td>Oct 14, 2008</td>
<td>May 18, 2009</td>
<td></td>
</tr>
<tr>
<td>BAM-2683</td>
<td>Configurable log4j.properties for the remote agent</td>
<td>Mark Chaimukangkalont [Atlassian] Kirk Wylie</td>
<td></td>
<td>Resolved</td>
<td>Fixed</td>
<td>Jun 02, 2008</td>
<td>May 18, 2009</td>
<td></td>
</tr>
</tbody>
</table>
details of the fix, and to download patches where relevant.

Bamboo 2.2.1 is of course free to all customers with active Bamboo software maintenance.

**Don’t have Bamboo 2.2 yet?**
Take a look at all the new features in the [Bamboo 2.2 Release Notes](#) and see what you are missing out on!

![Download latest version](image)

**Upgrading from a Previous Version of Bamboo**

If you are upgrading, please read the [Bamboo 2.2.1 Upgrade Guide](#).

**Updates and Fixes in this Release**

### JIRA Issues (13 issues)

<table>
<thead>
<tr>
<th>Type</th>
<th>Key</th>
<th>Summary</th>
<th>Assignee</th>
<th>Reporter</th>
<th>Priority</th>
<th>Status</th>
<th>Resolution</th>
<th>Created</th>
<th>Updated</th>
<th>Due</th>
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</thead>
<tbody>
<tr>
<td>Ticket</td>
<td>Summary</td>
<td>Reporter</td>
<td>Assignee</td>
<td>Resolution</td>
<td>Status</td>
<td>Fixed</td>
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<tr>
<td>BAM-36</td>
<td>Update 2.1.5 to 2.2 fails with PostgreSQL database; operator does not exist</td>
<td>Mark Chaimungkalon</td>
<td>Ulrich Kuhnhardt</td>
<td>Resolved</td>
<td>Fixed</td>
<td>Mar 12, 2009</td>
<td>Mar 15, 2009</td>
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<tr>
<td>BAM-36</td>
<td>Remote Agent Wrapper does not quote the bamboo home</td>
<td>Krystian Brazulewicz</td>
<td>Brydie McCoy</td>
<td>Resolved</td>
<td>Fixed</td>
<td>Mar 04, 2009</td>
<td>Mar 15, 2009</td>
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<tr>
<td>BAM-35</td>
<td>Help text for SSH to Instance link should be more informative if private key is missing</td>
<td>Brydie McCoy</td>
<td>Ulrich Kuhnhardt</td>
<td>Resolved</td>
<td>Fixed</td>
<td>Feb 25, 2009</td>
<td>Mar 05, 2009</td>
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<tr>
<td>BAM-35</td>
<td>Link from EB configuration to Agents configuration when Remote Agents are disabled uses Base URL, rather than relative URL</td>
<td>Brydie McCoy</td>
<td>Adrian Hempel</td>
<td>Resolved</td>
<td>Fixed</td>
<td>Feb 24, 2009</td>
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<tr>
<td>BAM-35</td>
<td>Update REST API</td>
<td>Unassigned</td>
<td>None</td>
<td>Resolved</td>
<td>Fixed</td>
<td>Feb 17, 2009</td>
<td>Aug 26, 2010</td>
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<td>Ticket</td>
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<tr>
<td>BAM-33</td>
<td>Gray out plan names if they are disabled in the plans matrix page</td>
<td>Mark Chaimungkalanon</td>
<td>Mark Chaimungkalanon</td>
<td>Resolved</td>
<td>Fixed</td>
<td>Dec 08, 2008</td>
<td>Jun 21, 2009</td>
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<tr>
<td>BAM-32</td>
<td>Post build regex pattern labeller should allow multiple capturing groups to be combined into one label</td>
<td>Brydie McCoy</td>
<td>Greg Baysden</td>
<td>Resolved</td>
<td>Fixed</td>
<td>Nov 16, 2008</td>
<td>Mar 05, 2009</td>
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<td>BAM-29</td>
<td>If perforce files end up open for edit, syncs don't work but Bamboo still builds</td>
<td>Brydie McCoy</td>
<td>Brydie McCoy</td>
<td>Resolved</td>
<td>Fixed</td>
<td>Jul 31, 2008</td>
<td>Mar 02, 2009</td>
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<tr>
<td>BAM-28</td>
<td>Passwords submitted REST API login method are logged by AccessLogFilter</td>
<td>Brydie McCoy</td>
<td>Adrian Hempel</td>
<td>Resolved</td>
<td>Fixed</td>
<td>Jul 02, 2008</td>
<td>Feb 11, 2010</td>
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</tbody>
</table>
Bamboo 2.1 Release Notes

✅ Bamboo 4.3 has been released. Read the Bamboo 4.3 Release Notes and Upgrade Guide. Don't have Bamboo 4.3? Take a look at the features of Bamboo's latest major version and try it out!

5 August 2008

The Atlassian Bamboo team is proud to release Bamboo 2.1.

Bamboo 2.1 introduces a suite of new features which help you monitor the status of your JIRA issues and Bamboo builds side by side, when you integrate Bamboo with Atlassian's JIRA. This includes enhancements to issue viewing and linking functionality in Bamboo, enhanced views in both JIRA and Bamboo, and an easier setup process to integrate JIRA and Bamboo.

Upgrading to Bamboo 2.1 is free for all customers with active Bamboo software maintenance. The Bamboo plugin for JIRA is free for all customers.

Highlights of this release:

- Link Issues and Builds
- Specify the Issues that are Fixed by a Build
- Track the Builds for your Projects and Versions
- View Issues under Development
- Post Change Detection Plugin Point
- Plus over 30 fixes and improvements
Please keep logging your votes and issues. They help us decide what needs doing!

### Upgrading to Bamboo 2.1

You can download Bamboo from the [Atlassian website](https://www.atlassian.com). To obtain the full benefits of this release, you will also need to [install the latest JIRA Bamboo plugin](https://www.atlassian.com), which is available for free [here](https://www.atlassian.com). If upgrading from a previous version, please read the [Bamboo 2.1 Upgrade Guide](https://www.atlassian.com).

### Highlights of Bamboo 2.1

#### Link Issues and Builds

Bamboo now provides you with more ways to link JIRA issues to your builds, when you integrate JIRA with Bamboo. Bamboo will still automatically link an issue to your build when you specify it in your commit message, but it will now also pick up related JIRA issue keys that have been included in build comments and labels. If you want to manually link a particular JIRA issue to a build, we have included a new user interface to let you do that too.

- [Read more about linking issues to builds.](https://www.atlassian.com)

---

![Screen capture of Bamboo interface showing linking of JIRA issues to builds.](https://www.atlassian.com)
Specify the Issues that are Fixed by a Build

We have also enhanced the issue to build linking to allow you to specify which issues are fixed by a build. This handy function will make it more convenient for your developers to flag when a particular JIRA issue is fixed in project version. The build artifacts are then automatically made available as links from your JIRA issue, allowing you to download them straightaway in JIRA.

- Read more about editing issue links for a build.

Track the Builds for your Projects and Versions

Real-time tracking of the builds for a project or version has been included in this release of Bamboo. View the status of the builds for a project or a version at a glance in JIRA and drill down for details of each issue and build.

- Read more about viewing builds for your project and viewing builds for your project version.
View Issues under Development

Bamboo 2.1 now also provides you with a detailed view of the issues related to builds in Bamboo. Find out which issues are linked to completed builds, to track which issues were worked on recently.

- Read more about viewing issues linked to a build
Post Change Detection Plugin Point

As part of the Bamboo 2.1 release, we have extended our plugin framework by introducing the post change detection plugin point. This allows you to customise Bamboo actions before an build is queued, giving you greater flexibility to manage your build process.

Plus over 30 fixes and improvements

<table>
<thead>
<tr>
<th>JIRA Issues (47 issues)</th>
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<tbody>
<tr>
<td>Key</td>
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<tr>
<td>BAM-3293</td>
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Service libraries don't match jirasoap-service-v2.wsdl

<table>
<thead>
<tr>
<th>BAM-2341</th>
<th>Shutdown logging should not be so verbose</th>
<th>Resolved</th>
</tr>
</thead>
<tbody>
<tr>
<td>BAM-2242</td>
<td>The JIRA Bamboo plugin shows incorrect version number</td>
<td>Resolved</td>
</tr>
<tr>
<td>BAM-2171</td>
<td>URL rewrite issue with JIRA's Bamboo plugin</td>
<td>Resolved</td>
</tr>
<tr>
<td>BAM-1955</td>
<td>The shipped Bamboo source code assembly is missing the bamboo-ldap-web-app module</td>
<td>Resolved</td>
</tr>
<tr>
<td>BAM-1937</td>
<td>REST API Login action does not work if anonymous user access to plans is disabled</td>
<td>Resolved</td>
</tr>
<tr>
<td>BAM-1791</td>
<td>Indexing Rework</td>
<td>Resolved</td>
</tr>
<tr>
<td>BAM-1619</td>
<td>Incorrect link generated by JIRA (Bamboo Integration) Portlet</td>
<td>Resolved</td>
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<tr>
<td>BAM-1615</td>
<td>FileNotFoundException due to Bamboo fragmenting indexes in ../&lt;Bamboo-Home&gt;/index</td>
<td>Resolved</td>
</tr>
<tr>
<td>BAM-1323</td>
<td>Indexes are slow to reindex</td>
<td>Resolved</td>
</tr>
<tr>
<td>BAM-1228</td>
<td>Links to JIRA is potentially confusing</td>
<td>Resolved</td>
</tr>
<tr>
<td>BAM-984</td>
<td>Repeated NullPointerException; shutdown fails to complete</td>
<td>Resolved</td>
</tr>
<tr>
<td>BAM-954</td>
<td>Changes View -&gt; Clicking on the revision number of the file should lead to an annotated file view as of this revision</td>
<td>Resolved</td>
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<tr>
<td>BAM-953</td>
<td>Changes tab should feature a Changeset link</td>
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</tr>
<tr>
<td>BAM-142</td>
<td>ShutdownHook doesn't work correctly in Tomcat</td>
<td>Resolved</td>
</tr>
</tbody>
</table>

**Bamboo 2.1 Upgrade Guide**

*Upgrading from Bamboo 2.0 to 2.1*

It is strongly recommended that you back up your xml-data directory before proceeding. For full instructions please follow the Bamboo generic upgrade guide.
Please also note the following important points:

1. **Reindex during upgrade**

   Please note that Bamboo will reindex when attempting to upgrade. **For large instances this may take several hours.** We strongly recommend that you do not upgrade during critical time periods for your development environment.

2. **Database changes**

   Please note that during the upgrade, Bamboo will automatically remove the table `BUILDRESULTSUMMARY_JIRA_ISSUE` and replace it with `BRSLINKEDJIRAISSUES`. No user intervention is required.

3. **Issues upgrading Bamboo to version 2.1 with an Oracle database**

   There is an issue [upgrading Bamboo with an Oracle database](https://issues.atlassian.com/browse/BBT-733) to Bamboo 2.1. Please upgrade to Bamboo 2.1.1, which contains the fix for this problem - read the [release notes](https://confluence.atlassian.com/display/BBT/Release+Notes+2.1.1+for+Bamboo) and [upgrade guide](https://confluence.atlassian.com/display/BBT/Upgrading+Bamboo+2.1.1) for further details.

4. **Bamboo Developers — Changes for 2.1**

   If you are a Bamboo developer, please take note of the changes described in *Changes for Bamboo 2.1* when upgrading to 2.1.

### Upgrading from Bamboo prior to 2.0

In addition to the above, please read the [Upgrade Guide](https://confluence.atlassian.com/display/BBT/Upgrading+Guide) for every version you are skipping during the upgrade. The complete list of Upgrade Guides is available [here](https://www.atlassian.com/software/bamboo/upgrade).

Please ensure that you read the [Bamboo 2.0 Upgrade Guide](https://confluence.atlassian.com/display/BBT/Upgrade+Guide+2.0) which contains important upgrade instructions for upgrading from earlier versions of Bamboo.

### Bamboo 2.1.5 Release Notes

**2 December 2008**

The Atlassian Bamboo team is proud to announce the release of *Bamboo 2.1.5*.

This point release contains more than 5 bug fixes and improvements which can be viewed below. Click a specific issue to see details of the fix, and to download patches where relevant.

Bamboo 2.1.5 is of course free to all customers with [active Bamboo software maintenance](https://www.atlassian.com/software/bamboo/pro).  

**Don’t have Bamboo 2.1 yet?**

Take a look at all the new features in the [Bamboo 2.1 Release Notes](https://confluence.atlassian.com/display/BBT/Release+Notes+2.1) and see what you are missing out on!

![Download Bamboo 2.1.5](https://www.atlassian.com/software/bamboo/download)

**Upgrading from a Previous Version of Bamboo**

If you are upgrading, please read the [Bamboo 2.1.5 Upgrade Guide](https://confluence.atlassian.com/display/BBT/Upgrade+Guide+2.1.5).

**Updates and Fixes in this Release**

---

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<table>
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<tr>
<th>Type</th>
<th>Key</th>
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<td>BAM-3241</td>
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<td><strong>Bamboo 2.1.4 forces SVN working copy to upgrade to 1.5</strong></td>
<td>Brydie McCoy [Attlassian]</td>
<td>Brydie McCoy [Attlassian]</td>
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<td><strong>SynRepository unit tests shall be independent of network infrastructure</strong></td>
<td>Unassigned</td>
<td>None</td>
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<td>BAM-30 03</td>
<td>Add a directive to allow users to configure system variables in Bamboo</td>
<td>Krystian Brazulewicz [Atlassian]</td>
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<td>Error when upgrading to Bamboo 2.0</td>
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<td>Variable substitution should not assume that the result will be contained within a single command argument</td>
<td>Krystian Brazulewicz [Atlassian]</td>
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<td>BAM-1539</td>
<td>when Mercurial plugin is released, mention on the 'Plan' page that third-party source-repository plugin modules are also available from the EXT space</td>
<td>Andrew Lui [Atlassian]</td>
<td>Rosie Jameson [Atlassian]</td>
<td>Fixed</td>
<td>Jul 31, 2007</td>
<td>Dec 14, 2008</td>
<td></td>
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</tbody>
</table>
Bamboo 2.1.5 Upgrade Guide

Upgrading from Bamboo 2.1.4 to 2.1.5

Bamboo 2.1.5 contains a workaround to a Subversion-related issue in Bamboo 2.1.4, where any checked out code was automatically upgraded to SVN client format 1.5. If you want to prevent this automatic upgrade from occurring (e.g. you are using a pre-1.5 Subversion client to access code checked out by Bamboo), you can disable this automatic upgrade of checked out code by running Bamboo with the following system property:

```
-Dbamboo.svn.compatibility.14=true
```

Please also follow the Bamboo generic upgrade guide.

Upgrading from Bamboo 2.0.x or earlier

In addition to the above, please read the Bamboo 2.1 Upgrade Guide and the Upgrade Guide for every version you are skipping during the upgrade. The complete list of Upgrade Guides is available here.

Bamboo 2.1.4 Release Notes

☑ Bamboo 4.3 has been released. Read the Bamboo 4.3 Release Notes and Upgrade Guide. Don't have Bamboo 4.3? Take a look at the features of Bamboo's latest major version and try it out!

11 November 2008

The Atlassian Bamboo team is proud to announce the release of Bamboo 2.1.4.

This point release also over 5 bug fixes and improvements which can be viewed below. Click a specific issue to see details of the fix, and to download patches where relevant.

⚠️ For Bamboo 2.1.x users

If you are currently using Bamboo 2.1.x, we strongly recommend that you upgrade to Bamboo 2.1.4. This release contains an important fix to an LDAP issue (BAM-3180) that may cause problems for your system.

Don't have Bamboo 2.1 yet?

Take a look at all the new features in the Bamboo 2.1 Release Notes and see what you are missing out on!

Download latest version

Upgrading from a Previous Version of Bamboo

If you are upgrading, please read the Bamboo 2.1.4 Upgrade Guide.

Updates and Fixes in this Release

JIRA Issues (11 issues)
<table>
<thead>
<tr>
<th>Type</th>
<th>Key</th>
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<td>BAM-31 62</td>
<td>Mvn idea:idea does not create project files correctly</td>
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<td>BAM-15</td>
<td>when Mercurial plugin is released mention on the 'Plan' page that third-party source-repository plugin modules are also available from the EXT space</td>
<td>Andrew Lui [Atlassian]</td>
<td>Rosie Jameson [Atlassian]</td>
<td>Resolved</td>
<td>Fixed</td>
<td>Jul 31, 2007</td>
<td>Dec 14, 2008</td>
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</table>

Bamboo 2.1.4 Upgrade Guide

**Upgrading from Bamboo 2.1.3 to 2.1.4**

Please follow the Bamboo generic upgrade guide.

ℹ️ No additional upgrade tasks are required to upgrade from Bamboo 2.1.3 to 2.1.4.
Bamboo compatibility with Subversion pre-1.5

We have upgraded the SVNKit library in Bamboo. As a result, any source code checked out by Bamboo will be automatically upgraded to be compatible with Subversion 1.5. This does not adversely affect any pre-1.5 Subversion servers. However, if you use a pre-1.5 Subversion client to access code checked out by Bamboo, then any Bamboo builds on that code may fail. Please refer to BAM-3241 for further details.

Please avoid using a pre-1.5 Subversion client to access code checked out by Bamboo.

Bamboo 2.1.5 contains a workaround to this issue. We highly recommend that you upgrade your Bamboo version.

Upgrading from Bamboo 2.0.x or earlier

In addition to the above, please read the Bamboo 2.1 Upgrade Guide and the Upgrade Guide for every version you are skipping during the upgrade. The complete list of Upgrade Guides is available here.

Bamboo 2.1.3 Release Notes

Bamboo 4.3 has been released. Read the Bamboo 4.3 Release Notes and Upgrade Guide. Don't have Bamboo 4.3? Take a look at the features of Bamboo's latest major version and try it out!

16 October 2008

The Atlassian Bamboo team is proud to announce the release of Bamboo 2.1.3.

This point release also includes over 10 bug fixes and improvements which can be viewed below. Click a specific issue to see details of the fix, and to download patches where relevant.

Bamboo 2.1.3 is of course free to all customers with active Bamboo software maintenance.

Don't have Bamboo 2.1 yet?

Take a look at all the new features in the Bamboo 2.1 Release Notes and see what you are missing out on!

Upgrading from a Previous Version of Bamboo

If you are upgrading, please read the Bamboo 2.1.3 Upgrade Guide.

JIRA Issues (17 issues)

<table>
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<th>Type</th>
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<td>BAM-3087</td>
<td>Sentence incomplete in Plan Details -&gt; Build Plan Key description</td>
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<td>BAM-3086</td>
<td>Build agent fails sporadically with Uncategorized Exception</td>
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<td>Admins updating a user resets the notification preferences</td>
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<td>Renaming a custom capability sets the readonly flag in the plan requirement to true.</td>
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<td>BAM-2995</td>
<td>Adding comment containing issue key results in badly formed URL</td>
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<td>BAM-2986</td>
<td>Freemaker exception thrown</td>
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<td>BAM-29-59</td>
<td>Locks on svn:externals repository should be detected and cleaned</td>
<td>Mark Chaimungkalan</td>
<td>Resolved</td>
<td>Fixed</td>
<td>Aug 04, 2008</td>
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<td>BAM-28-31</td>
<td>Local agents that goes down cannot be restarted</td>
<td>Mark Chaimungkalan</td>
<td>Resolved</td>
<td>Fixed</td>
<td>Jun 30, 2008</td>
<td>Sep 01, 2009</td>
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<td>BAM-28-24</td>
<td>Bamboo shouldn't need to immediately re-check out code after import</td>
<td>Mark Chaimungkalan</td>
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<td>Fixed</td>
<td>Jun 29, 2008</td>
<td>Sep 29, 2008</td>
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<td>BAM-26-26</td>
<td>After upgrade all builds are queued</td>
<td>Mark Chaimungkalan</td>
<td>Resolved</td>
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<td>May 16, 2008</td>
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<td>BAM-25-53</td>
<td>postCommitBuildTrigger.sh for svn asks for sh, but actually needs bash</td>
<td>Lucas Guminshi</td>
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<td>BAM-24-73</td>
<td>Enabling a plan on the dashboard</td>
<td>Mark Chaimungkalan</td>
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<td>Apr 09, 2008</td>
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<td>when Mercurial plugin is released, mention on the 'Plan' page that third-party source-repository plugin modules</td>
<td>Andrew Lui [Atlassian]</td>
<td>Resolved</td>
<td>Jul 31, 2007</td>
<td>Dec 14, 2008</td>
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</table>
Bamboo 2.1.3 Upgrade Guide

Upgrading from Bamboo 2.1.2 to 2.1.3

Please follow the Bamboo generic upgrade guide.

No additional upgrade tasks are required to upgrade from Bamboo 2.1.2 to 2.1.3.

Upgrading from Bamboo 2.0.x or earlier

In addition to the above, please read the Bamboo 2.1 Upgrade Guide and the Upgrade Guide for every version you are skipping during the upgrade. The complete list of Upgrade Guides is available here.

Bamboo 2.1.2 Release Notes

24 September 2008

The Atlassian Bamboo team is proud to announce the release of Bamboo 2.1.2.

We have improved the availability and reliability of remote agents in this release, by adding a failover to reconnect agents when the network drops out. You should also notice a significant performance improvement in Bamboo 2.1.2, if you are using a Perforce repository, as we have dramatically reduced the CPU usage (60%-70% less usage) for Perforce polling.

This point release also includes over 20 bug fixes and improvements which can be viewed below. Click a specific issue to see details of the fix, and to download patches where relevant.

Bamboo 2.1.2 is of course free to all customers with active Bamboo software maintenance.

Don’t have Bamboo 2.1 yet?

Take a look at all the new features in the Bamboo 2.1 Release Notes and see what you are missing out on!

Upgrading from a Previous Version of Bamboo

If you are upgrading, please read the Bamboo 2.1.2 Upgrade Guide.

Updates and Fixes in this Release

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<th>JIRA Issues (26 issues)</th>
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<tr>
<td>BAM-2691</td>
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<td>BAM-2030</td>
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</tbody>
</table>
Bamboo 2.1.2 Upgrade Guide

Upgrading from Bamboo 2.1.1 to 2.1.2

Please follow the Bamboo generic upgrade guide.

No additional upgrade tasks are required to upgrade from Bamboo 2.1.1 to 2.1.2.

Upgrading from Bamboo 2.0.x or earlier

In addition to the above, please read the Bamboo 2.1 Upgrade Guide and the Upgrade Guide for every version you are skipping during the upgrade. The complete list of Upgrade Guides is available here.

Bamboo 2.1.1 Release Notes

- Bamboo 4.3 has been released. Read the Bamboo 4.3 Release Notes and Upgrade Guide. Don't have Bamboo 4.3? Take a look at the features of Bamboo's latest major version and try it out!
12 August 2008

The Atlassian Bamboo team is proud to announce the release of Bamboo 2.1.1. This point release includes fixes for two critical issues (refer to the JIRA issues below for details).

Bamboo 2.1.1 is of course free to all customers with active Bamboo software maintenance.

Don’t have Bamboo 2.1 yet?

Take a look at all the new features in the Bamboo 2.1 Release Notes and see what you are missing out on!

Upgrading from a Previous Version of Bamboo

If you are upgrading, please read the Bamboo 2.1.1 Upgrade Guide.

Updates and Fixes in this Release

**JIRA Issues (4 issues)**

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</table>
Bamboo 2.1.1 Upgrade Guide

Upgrading from Bamboo 2.1 to 2.1.1

Please follow the Bamboo generic upgrade guide.

No additional upgrade tasks are required to upgrade from Bamboo 2.1 to 2.1.1.

Upgrading from Bamboo 2.0.x or earlier

In addition to the above, please read the Bamboo 2.1 Upgrade Guide and the Upgrade Guide for every version you are skipping during the upgrade. The complete list of Upgrade Guides is available here.

Bamboo 2.0 Release Notes

Bamboo 4.3 has been released. Read the Bamboo 4.3 Release Notes and Upgrade Guide. Don’t have Bamboo 4.3? Take a look at the features of Bamboo’s latest major version and try it out!

Atlassian Software Systems presents Bamboo 2.0

Upgrading to Bamboo 2.0 is free for all customers with active Bamboo software maintenance as at 14th April 2008. This release introduces the ability to run distributed builds. You will find this particularly useful if you need to run your builds in different geographic locations, or on different platforms. Simply install the new Bamboo Agent on your additional build servers, and your main Bamboo 2.0 server will be able to manage them. We have also provided a number of plugin points in case you need to control your distributed builds programmatically.

Highlights of Bamboo 2.0:

- Distributed builds
- Capability matching
- Memory usage improvements
- Parallel VCS updates and checkouts
- Ability to force a 'clean build'
- Quiet Period functionality supported for Subversion & Perforce
- Bamboo Plugin for Confluence
- Support for Oracle and MS SQL Server databases
- Status Summary screens
• Plus over 160 other fixes and improvements

Thank you for your feedback:

🌟 over 70 new features and improvements implemented
🌟 over 240 votes fulfilled

Your votes and issues help us keep improving our products, and are much appreciated.

![Download latest version](image)

<table>
<thead>
<tr>
<th>Upgrading to Bamboo 2.0</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bamboo 2.0 can be downloaded from the <a href="#">Bamboo Download Centre</a>. Before upgrading, please refer to the <a href="#">Bamboo 2.0 Upgrade Guide</a>.</td>
</tr>
</tbody>
</table>

## Highlights of Bamboo 2.0

### Distributed builds

In response to the most popular feature on your wish-list, Bamboo 2.0 introduces agents — that is, services which execute builds. These can either run on the Bamboo server (‘local agents’) or on other machines (‘remote agents’), which is particularly useful if you need to run your builds in different geographic locations, or on different platforms.

A single build queue manages the distribution of builds to appropriate agents, using capability matching (see below).

The activity of all agents can be seen on the dashboard:
Capability matching

To enable you to control exactly which agents may execute builds for particular plans, Bamboo 2.0 introduces capability matching:

- A capability is a feature of an agent. A capability can be:
  - an executable (e.g. Maven)
  - a JDK
  - a custom capability. This is a key-value property which defines a particular characteristic of an agent (e.g. 'operating.system=WindowsXP' or 'fast.builds=true').
  - a Version Control System client application (e.g. Git)

Capabilities can be defined specifically for an agent, or they can be shared between either all local agents or all remote agents. Note that the value of an agent-specific capability overrides the value of a shared capability of the same name (if one exists).

See Configuring capabilities for more information.

- A requirement is specified in a job or a task. A requirement specifies a capability that an agent must have for it to build that job or task. A job inherits all of the requirements specified in its tasks.

Together, capabilities and requirements control which agents can execute builds for particular jobs. Each
job can only be built by agents whose capabilities match the job's requirements. See Configuring a job's requirements for more information.

For more details please see these diagrams.

Note that for ease of conversion, the Bamboo 2.0 upgrade process will automatically create appropriate agent capabilities and assign appropriate requirements to all your pre-existing build plans (see the Bamboo 2.0 Upgrade Guide).

3

Memory usage improvements

The underlying engine for Bamboo has been revamped to decrease memory usage. You will notice a distinct improvement in the performance of your builds, especially if you have very large logs.

4

Parallel VCS updates and checkouts

No more waiting! Plans can now perform checkouts and updates to your version control system in parallel, rather than serially. Hence, the time taken to run plans will be improved.

5

Ability to force a 'clean build'

You can now instruct Bamboo to delete the old working files and perform a new checkout of the entire source code directory, before commencing a build.

See the documentation for more details.

6

Quiet Period functionality supported for Subversion & Perforce

By popular request, Quiet Period parameters can now be specified for Subversion and Perforce when configuring a source repository for a build plan. You can choose to set how long Bamboo should wait after a commit before triggering a build, and the number of times it retries before initiating a build. Read more about configuring Subversion and Perforce source repositories.

7

Bamboo Plugin for Confluence

Atlassian brings collaboration to the next level with the introduction of the Bamboo plugin for Confluence. Here'
some of the build information that your wiki users will be able to have at their fingertips:

- the most recent status of any given build plan.
- the current status of all builds in a project.
- the recent build history of a plan.
- the recent build history of a user across all projects.
- the recent build history of all plans in a project.
- Bamboo charts, including duration of builds, build failures, numbers of test, percentage of test failures and more!

Read more about the Bamboo Plugin for Confluence.

Support for Oracle and MS SQL Server databases

By popular request, Bamboo's supported databases now include Oracle and MS SQL Server.

Status Summary screens

See the status of your builds at a glance! Set up a build status monitor for your development team and display Bamboo's new status summary screens. These screens show the status of your builds in a color-coded and easy to view format.

Plus over 160 other fixes and improvements

See them here.

Bamboo 2.0 Upgrade Guide

On this page:

- Upgrading from Bamboo version 1.1.x or earlier to 2.0
  - Upgrading from Bamboo 1.1.x
  - Upgrading from Bamboo 1.0.x
- Upgrading from Bamboo 1.2.x to 2.0
  - 1. Adding a Broker URL property.
  - 2. Changes to Server Configuration
    - JDK support
    - Database changes
    - Plugins
  - 3. Changes to Build Queues and Build Plans
    - Conversion of Build Queues to Agents
    - Conversion of Builders to Capabilities
    - Conversion of JDKs to Capabilities
  - 4. Changes to Repositories
Upgrading from Bamboo version 1.1.x or earlier to 2.0

If you are using a version of Bamboo prior to version 1.2, you will need to upgrade Bamboo to version 1.2 before you can upgrade to version 2.0. Note that the upgrade process from version 1.0.x is different from the upgrade process from version 1.1.x. Please follow the appropriate instructions below:

Upgrading from Bamboo 1.1.x

You will need to:

1. Upgrade to Bamboo 1.2 — please see the Bamboo 1.2 Upgrade Guide.
2. Then upgrade to Bamboo 2.0, as per the 'Upgrading from Bamboo 1.2.x to 2.0' instructions below.

Upgrading from Bamboo 1.0.x

You will need to:

1. Upgrade to 1.1.2 first — please see the Bamboo 1.1.2 Upgrade Guide. (This step is necessary as there is an issue with the upgrade process from the 1.0.x series that we're currently looking into.)
2. Then upgrade to Bamboo 1.2 — please see the Bamboo 1.2 Upgrade Guide.
3. Then upgrade to Bamboo 2.0, as per the 'Upgrading from Bamboo 1.2.x to 2.0' instructions below.

⚠️ Please read this if you have a datasource configured

Currently, Bamboo upgrade tasks fail if user has a datasource configured. To get around this issue please follow instructions on this page before upgrading to Bamboo 2.0

It is strongly recommended that you back up your xml-data directory before proceeding. For full instructions please follow the Bamboo generic upgrade guide.

You will need to re-index your Bamboo instance post upgrade, please consult step 6 of the Bamboo generic upgrade guide for more details.

Upgrading from Bamboo 1.2.x to 2.0

1. Adding a Broker URL property.

Bamboo uses a messaging broker to communicate with it's remote build agents. To ensure this works properly, a URL must be specified. This URL is where Bamboo will set up its embedded broker. Remote agents will also be provided with this URL on startup.

To specify the broker URL, please add a `bamboo.jms.broker.uri` property in your `bamboo.cfg.xml` file, located inside the Bamboo home directory. For example:

```
<property name="bamboo.jms.broker.uri">tcp://HOSTNAME:54663</property>
```
where HOSTNAME is the canonical name of your Bamboo server.

Please note, as remote agents use this URL to communicate to the server, you should take care not to specify localhost as the host name in the broker URL.

If no broker URL is found in bamboo.cfg.xml, Bamboo will default the broker URL to tcp://HOST NAME:54663 in the bamboo.cfg.xml file, as seen in the example above. Bamboo will also append the parameter wireFormat.maxInactivityDuration=0 by default to any broker URL coming from bamboo.cfg.xml.

2. Changes to Server Configuration

**JDK support**

Bamboo 2.0 requires **JDK 1.5** (i.e. JDK 1.4 is no longer supported). Please note that this does not affect the actual builds: it is only the Bamboo server itself that must be running JDK 1.5.

**Database changes**

The release of 2.0 will include some changes to column names in the database as follows:

- In the BUILD_DEFINITION table, the column XML_DATA will be changed to XML_DEFINITION_DATA
- In the BUILDRESULTSUMMARY_CUSTOMDATA table, the column CUSTOM_INFO_DATA will be changed to CUSTOM_INFO_VALUE

These fields have also had types changed to CLOB to increase their maximum lengths.

**Plugins**

If you are using external or custom plugins, please make sure that your plugins compile against Bamboo 2.0 before upgrading.

We've made significant changes to the internals of the application for Bamboo 2.0. If you've installed an external plugin for 1.2.4, it's likely that it will be broken. Please take care when upgrading.

3. Changes to Build Queues and Build Plans

Bamboo 2.0 introduces the concepts of **agents and capabilities**. To preserve the functionality of your existing plans, JDKs, Builders and Build Queues, the following will automatically happen during the upgrade:

**Conversion of Build Queues to Agents**

Prior to Bamboo 2.0, you could have multiple build queues. In Bamboo 2.0, there is now only one build queue, but multiple agents (see diagram).

As part of the upgrade process,
Each of your build queues will be converted to a local agent.

If, prior to the upgrade, the build queue accepted builds from all plans, the agent will be given the following capability (and every plan will be given an equivalent requirement):

- **Key**: bamboo.1.2.queue
- **Value**: ALLOW_ANY_BUILDS

Or if, prior to the upgrade, the build queue only accepted builds from specific plans, the agent will be given the following capability (and the relevant plans will be given an equivalent requirement):

- **Key**: bamboo.1.2.queue
- **Value**: <name of old queue>

If you wish to change this after the upgrade, please see Agents and capabilities and Configuring a Job's Requirements.

Conversion of Builders to Capabilities

Prior to Bamboo 2.0, your builders (e.g. Maven) were defined globally. In Bamboo 2.0, builders are now defined as agent capabilities and specified as plan requirements.

As part of the upgrade process,

- Each of your builders will be converted to a local server capability (that is, it will apply to every local agent).
- Every plan will continue to have the same builder that it had before the upgrade.

If you wish to change this after the upgrade, please see Configuring capabilities and Configuring a Job's Requirements.

Conversion of JDKs to Capabilities

Prior to Bamboo 2.0, your JDKs (e.g. JDK 1.5) were defined globally. In Bamboo 2.0, JDKs are now defined as agent capabilities and specified as plan requirements.

As part of the upgrade process,

- Each of your JDKs will be converted to local server capabilities (that is, it will apply to every local agent).
- Upon conversion, the labels of each of your JDKs will upgraded to the Bamboo 2.0 JDK label format, (i.e. 'JDK 9.9.9_99').
- Upon conversion, two more generic versions of the labels will be created for each JDK, (i.e. 'JDK 9.9' and 'JDK').
- Every plan will have its requirements upgraded, to keep the association with the same JDK that it had before the upgrade.

If you wish to change this after the upgrade, please see Configuring capabilities and Configuring a Job's Requirements.

4. Changes to Repositories

Bamboo 2.0 introduces the concepts of agents and capabilities. To preserve the functionality of your existing Repositories, the following will automatically happen during the upgrade:

Conversion of Perforce P4 Client Application Location to a Capability

With the introduction of remote agents in Bamboo 2.0, the location of the Perforce P4 client application now needs to be specified as a capability. To create build plans using Perforce as repository, a local server capability must be created for the P4 client application location. In addition, agent-specific remote capabilities must be created for each remote agent using Perforce.

As part of the upgrade process,
• A local server Perforce capability will be created for the Perforce P4 client application location. The upgrade task reads this information from the system’s environment variables. If the Perforce P4 client application location has not been specified as an environment variable, the local server capability will need to be set up manually.

The upgrade task will not create agent-specific Perforce capabilities for any remote agents. These capabilities will need to be set up manually.

Please see Configuring a new Perforce Capability for further details on creating Perforce capabilities.

Minimum repository version requirement for CVS and Perforce

Due to internal changes, Bamboo is no longer compatible with the following:

• CVS server version 1.11.1p2 and below.
• Perforce server version 2005.1 and below.

If you are planning on upgrading to Bamboo 2.0, please consider upgrading your repository server version.

5. Changes to Jetty (Bamboo Distribution Only)

Jetty has been upgraded from version 5 to version 6 in Bamboo 2.0. This means that if you have set up Bamboo to use the jetty.xml file, it will no longer work. You will need to update the configuration to be compatible with Jetty 6. An example Jetty 6 jetty.xml file can be found at Getting Bamboo to use the jetty.xml file.

Upgrading from Bamboo 2.0 Beta to 2.0

If you are already using the latest Bamboo 2.0 Beta, no additional upgrade tasks are required. Your Beta license key will continue to function until it expires. We encourage you to consider purchasing a license, if you wish to continue using Bamboo 2.0.

Bamboo 2.0.6 Release Notes

Bamboo 4.3 has been released. Read the Bamboo 4.3 Release Notes and Upgrade Guide. Don't have Bamboo 4.3? Take a look at the features of Bamboo's latest major version and try it out!

8 July 2008

Atlassian Software Systems is proud to announce the release of Bamboo 2.0.6. This point release includes over 10 major bug fixes and improvements which can be viewed below. Click a specific issue to see details of the fix, and to download patches where relevant.

Bamboo 2.0.6 is of course free to all customers with active maintenance.

This release includes significant fixes to issues with remote agents.

Don't have Bamboo 2.0 yet?
Take a look at all the new features in the Bamboo 2.0 Release Notes and see what you are missing out on!

Upgrading from a Previous Version of Bamboo

If you are upgrading, please read the Bamboo 2.0.6 Upgrade Guide.
### Updates and Fixes in this Release

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</table>
**Bamboo 2.0.6 Upgrade Guide**

*Upgrading from Bamboo 2.0.x to 2.0.6*

Please follow the [Bamboo generic upgrade guide](#).

![Warning icon] No further upgrade tasks are required to upgrade from Bamboo 2.0.x to 2.0.6, but please ensure that you have read the [Bamboo 2.0.1 Upgrade Guide](#) which contains information on minor database changes.

*Upgrading from Bamboo 1.2.x or earlier*

In addition to the above, please read the [Bamboo 2.0 Upgrade Guide](#) and the Upgrade Guide for every version you are skipping during the upgrade. The complete list of Upgrade Guides is available [here](#).

**Bamboo 2.0.5 Release Notes**

- Bamboo 4.3 has been released. Read the [Bamboo 4.3 Release Notes](#) and [Upgrade Guide](#). Don't have Bamboo 4.3? Take a look at the features of Bamboo's latest major version and try it out!

25 June 2008

Atlassian Software Systems is proud to announce the release of bamboo 2.0.5. This point release includes 5 major bug fixes and improvements which can be viewed below. Click a specific issue to see details of the fix, and to download patches where relevant.
Bamboo 2.0.5 is of course free to all customers with active maintenance.

**Don’t have Bamboo 2.0 yet?**
Take a look at all the new features in the [Bamboo 2.0 Release Notes](#) and see what you are missing out on!

![Download latest version](#)

**Upgrading from a Previous Version of Bamboo**

If you are upgrading, please read the [Bamboo 2.0.5 Upgrade Guide](#).

**Updates and Fixes in this Release**

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</table>
Bamboo 2.0.5 Upgrade Guide

Upgrading from Bamboo 2.0.x to 2.0.5

Please follow the Bamboo generic upgrade guide.

We have made additional optimisation improvements for SVN support in this release. To get these improvements, you will also need to upgrade your remote agents' startup jar with the latest version from the Bamboo server, as follows:

1. Upgrade your Bamboo server to version 2.0.5.
2. Shut down all your remote agents.
3. Replace the startup jar on each of your remote agents with the latest version from the Bamboo server. This is available from Administration -> Agents -> Install Remote Agent.
4. Start your Bamboo remote agents.

No further upgrade tasks are required to upgrade from Bamboo 2.0.x to 2.0.5, but please ensure that you have read the Bamboo 2.0.1 Upgrade Guide which contains information on minor database changes.

Upgrading from Bamboo 1.2.x or earlier

In addition to the above, please read the Bamboo 2.0 Upgrade Guide and the Upgrade Guide for every version you are skipping during the upgrade. The complete list of Upgrade Guides is available here.

Bamboo 2.0.4 Release Notes

BAM-27  
**Documention on Changing Build**

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<td>BAM-26</td>
<td>Jabber connection with talk.google.com doesn't work when using port 443</td>
<td>Mark Chaimungkalan</td>
<td>Resolved</td>
<td>Jun 02, 2008</td>
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<td>BAM-26</td>
<td>CVS change detection should be more tolerant of symlinks of CVSRO QT</td>
<td>Mark Chaimungkalan</td>
<td>Resolved</td>
<td>Jun 02, 2008</td>
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<td>BAM-26</td>
<td>Perforce occasionally fails to connect to the server</td>
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<td>Jun 01, 2008</td>
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<td>Brydie McCoy</td>
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<td>Jun 01, 2008</td>
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<td>Import fails during setup of Bamboo 2.0.x</td>
<td>Adrian Hempel</td>
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<td>Jun 03, 2008</td>
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<td>BAM-26</td>
<td>net.sf.hibernate.LazyInitializationException : cannot access</td>
<td>Mark Chaimungkalan</td>
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<td>May 29, 2008</td>
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<td>BAM-2667</td>
<td>Can't edit mail server after upgrading from 2.0.2 - 2.0.3</td>
<td>Brydie McCoy [Atlassian]</td>
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<td>Clicking on the favourite Icon, makes the Bamboo server unresponsive on MSSQL</td>
<td>Mark Chaimungkalan [Atlassian]</td>
<td>Resolved</td>
<td>Fixed</td>
<td>May 25, 2008</td>
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### Bamboo 2.0.4 Upgrade Guide

**Upgrading from Bamboo 2.0.x to 2.0.4**

Please follow the [Bamboo generic upgrade guide](#).

No additional upgrade tasks are required to upgrade from Bamboo 2.0.x to 2.0.4, but please ensure that you have read the [Bamboo 2.0.1 Upgrade Guide](#) which contains information on minor database changes.

#### Upgrading from Bamboo 1.2.x or earlier

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Customers using PostgreSQL

Due to a recent fix to our 2.0.4 upgrade tasks, if you are using a PostgreSQL database the upgrade will fail. Please follow the instructions in this JIRA issue prior to running Bamboo 2.0.4.

In addition to the above, please read the Bamboo 2.0 Upgrade Guide and the Upgrade Guide for every version you are skipping during the upgrade. The complete list of Upgrade Guides is available here.

Bamboo 2.0.3 Release Notes

Bamboo 4.3 has been released. Read the Bamboo 4.3 Release Notes and Upgrade Guide. Don't have Bamboo 4.3? Take a look at the features of Bamboo's latest major version and try it out!

23 May 2008
Atlassian Software Systems is proud to announce the release of Bamboo 2.0.3. This point release includes six bug fixes and improvements which can be viewed below. Click a specific issue to see details of the fix, and to download patches where relevant.

Bamboo 2.0.3 is of course free to all customers with active maintenance.

Don't have Bamboo 2.0 yet?
Take a look at all the new features in the Bamboo 2.0 Release Notes and see what you are missing out on!

Upgrading from a Previous Version of Bamboo

If you are upgrading, please read the Bamboo 2.0.3 Upgrade Guide.

Updates and Fixes in this Release

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Bamboo 2.0.3 Upgrade Guide

Upgrading from Bamboo 2.0.x to 2.0.3

Please follow the Bamboo generic upgrade guide.

1. No additional upgrade tasks are required to upgrade from Bamboo 2.0.x to 2.0.3, but please ensure that you have read the Bamboo 2.0.1 Upgrade Guide which contains information on minor database changes.

Upgrading from Bamboo 1.2.x or earlier

In addition to the above, please read the Bamboo 2.0 Upgrade Guide and the Upgrade Guide for every version you are skipping during the upgrade. The complete list of Upgrade Guides is available here.

Bamboo 2.0.2 Release Notes

☑ Bamboo 4.3 has been released. Read the Bamboo 4.3 Release Notes and Upgrade Guide. Don't have Bamboo 4.3? Take a look at the features of Bamboo's latest major version and try it out!

5 May 2008

Atlassian Software Systems is proud to announce the release of Bamboo 2.0.2. This point release includes five bug fixes and improvements which can be viewed below. Click a specific issue to see details of the fix, and to download patches where relevant.

Bamboo 2.0.2 is of course free to all customers with active maintenance.

Significant fixes for this point release include, a resolution to a memory leak problem caused by Subversion Client Manager (see BAM-2543) and a fix to an SVN Externals exception (see BAM-2544).

Don't have Bamboo 2.0 yet?

Take a look at all the new features in the Bamboo 2.0 Release Notes and see what you are missing out on!

Upgrading from a Previous Version of Bamboo

If you are upgrading, please read the Bamboo 2.0.2 Upgrade Guide.

Updates and Fixes in this Release

<table>
<thead>
<tr>
<th>JIRA Issues (8 issues)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Type</strong></td>
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</tbody>
</table>

Created by Atlassian in 2012. Licensed under a Creative Commons Attribution 2.5 Australia License.
<table>
<thead>
<tr>
<th>Issue</th>
<th>Description</th>
<th>Assignee/Status</th>
<th>Resolved</th>
<th>Created</th>
<th>Updated</th>
</tr>
</thead>
<tbody>
<tr>
<td>BAMB-2544</td>
<td>Multiple External calls will cause an exception on startup after restart</td>
<td>Mark Chaimungkalan [Atlassian]</td>
<td>Resolved</td>
<td>Fixed</td>
<td>May 01, 2008</td>
</tr>
</tbody>
</table>
Bamboo 2.0.2 Upgrade Guide

Upgrading from Bamboo 2.0.x to 2.0.2

Please follow the Bamboo generic upgrade guide.

No additional upgrade tasks are required to upgrade from Bamboo 2.0.x to 2.0.2, but please ensure that you have read the Bamboo 2.0.1 Upgrade Guide which contains information on minor database changes.

Upgrading from Bamboo 1.2.x or earlier

In addition to the above, please read the Bamboo 2.0 Upgrade Guide and the Upgrade Guide for every version you are skipping during the upgrade. The complete list of Upgrade Guides is available here.

Bamboo 2.0.1 Release Notes

29 April 2008

Atlassian Software Systems is proud to announce the release of Bamboo 2.0.1. This point release includes over 15 bug fixes and improvements which can be viewed below. Click a specific issue to see details of the fix, and to download patches where relevant.

Bamboo 2.0.1 is of course free to all customers with active maintenance.

Don't have Bamboo 2.0 yet?

Take a look at all the new features in the Bamboo 2.0 Release Notes and see what you are missing out on!
### Upgrading from a Previous Version of Bamboo

If you are upgrading, please read the [Bamboo 2.0.1 Upgrade Guide](#).

### Updates and Fixes in this Release

#### JIRA Issues (19 issues)

<table>
<thead>
<tr>
<th>Type</th>
<th>Key</th>
<th>Summary</th>
<th>Assignee</th>
<th>Reporter</th>
<th>Priority</th>
<th>Status</th>
<th>Resolution</th>
<th>Created</th>
<th>Updated</th>
<th>Due</th>
</tr>
</thead>
<tbody>
<tr>
<td>🍂</td>
<td>BAM-25 45</td>
<td>Using devenv builder - server startup failure</td>
<td>Unassigned</td>
<td>Jason Davis</td>
<td>🍁</td>
<td>Resolved</td>
<td>Fixed</td>
<td>May 01, 2008</td>
<td>Feb 11, 2010</td>
<td></td>
</tr>
<tr>
<td>Issue</td>
<td>Bamboo</td>
<td>Description</td>
<td>Author</td>
<td>Resolution</td>
<td>Fixed</td>
<td>Reported Date</td>
<td>Resolved Date</td>
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</tr>
<tr>
<td>BAM-25-12</td>
<td>Bamboo 2.0 war explodes to the root directory</td>
<td>James Dumay [Atlassian]</td>
<td>Resolved</td>
<td>Fixed</td>
<td>Apr 21, 2008</td>
<td>Apr 27, 2008</td>
<td></td>
<td></td>
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</tr>
<tr>
<td>BAM-25-09</td>
<td>Upgrade Task612 doesn’t drop the Bamboo queue build key table in PostgreSQL</td>
<td>Adrian Hempel [Atlassian]</td>
<td>Resolved</td>
<td>Fixed</td>
<td>Apr 21, 2008</td>
<td>Jan 22, 2010</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>BAM-25-00</td>
<td>Upgrade tasks fail if a builder plugin is missing.</td>
<td>Edwin Wong [Atlassian]</td>
<td>Resolved</td>
<td>Fixed</td>
<td>Apr 18, 2008</td>
<td>May 20, 2008</td>
<td></td>
<td></td>
<td></td>
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</tr>
<tr>
<td>BAM-24-88</td>
<td>Bamboo should not run post-build actions and send out notifications, when it fails to save the buildresultsummary</td>
<td>Brydie McCoy [Atlassian]</td>
<td>Resolved</td>
<td>Fixed</td>
<td>Apr 16, 2008</td>
<td>Apr 21, 2008</td>
<td></td>
<td></td>
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</tr>
<tr>
<td>BAM-24-87</td>
<td>The commit comment field in the COMMIT table</td>
<td>Brydie McCoy [Atlassian]</td>
<td>Resolved</td>
<td>Fixed</td>
<td>Apr 16, 2008</td>
<td>Apr 28, 2008</td>
<td></td>
<td></td>
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<td></td>
</tr>
<tr>
<td><strong>BAM-2428</strong></td>
<td><strong>Allow configuration of SVNKit to spool / not spool</strong></td>
<td>Mark Chaimungkalan [Atlassian]</td>
<td>Mark Chaimungkalan [Atlassian]</td>
<td>Resolved</td>
<td>Fixed</td>
<td>Apr 01, 2008</td>
<td>May 05, 2008</td>
<td></td>
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<tr>
<td><strong>BAM-2370</strong></td>
<td><strong>Mechanism to control the agent heartbeat interval.</strong></td>
<td>Adrian Hempel [Atlassian]</td>
<td>Jason Davis</td>
<td>Resolved</td>
<td>Fixed</td>
<td>Mar 12, 2008</td>
<td>Apr 20, 2008</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
### Bamboo 2.0.1 Upgrade Guide

**Upgrading from Bamboo 2.0 to 2.0.1**

Please follow the [Bamboo generic upgrade guide](https://confluence.atlassian.com/display/bamboohelp/Bamboo+Upgrade+Guide).

⚠️ No additional upgrade tasks are required to upgrade from Bamboo 2.0 to 2.0.1.

#### Database Changes

Please note, we are replacing the `commit_comment` field in the `user_commit` table with a new `commit_comment_clob` field to allow for longer commit messages. This change will be made automatically and will not affect the user interface. However, please be aware of the field name change, if you are referencing this field externally (e.g. via a custom plugin).

---

### BAM-17

- **ID:** BAM-17
- **Number:** 12
- **Component:** java.lang.NumberFormat
- **Description:** Exception: in CloverIndexReader.java while viewing authors page
- **Assignee:** Mark Chaimungkalanon [Atlassian]
- **Fixed By:** Ajay Sridhar [Atlassian]
- **Status:** Fixed
- **Resolution:** Resolved
- **Created:** Sep 20, 2007
- **Updated:** Sep 01, 2009

### BAM-13

- **ID:** BAM-13
- **Number:** 61
- **Component:** Main clover tab get confused over weekends
- **Assignee:** Mark Chaimungkalanon [Atlassian]
- **Fixed By:** Robert Macaulay
- **Status:** Fixed
- **Resolution:** Resolved
- **Created:** Jun 19, 2007
- **Updated:** Apr 18, 2008

### BAM-94

- **ID:** BAM-94
- **Number:** 5
- **Component:** Clover charts are inaccurate on days that builds did not occur
- **Assignee:** Mark Chaimungkalanon [Atlassian]
- **Fixed By:** Chris Beams
- **Status:** Fixed
- **Resolution:** Resolved
- **Created:** Mar 01, 2007
- **Updated:** Apr 18, 2008
In addition to the above, please read the Bamboo 2.0 Upgrade Guide and the Upgrade Guide for every version you are skipping during the upgrade. The complete list of Upgrade Guides is available here.

**Bamboo 2.0 Beta Release Notes**

✅ Bamboo 4.3 has been released. Read the Bamboo 4.3 Release Notes and Upgrade Guide. Don't have Bamboo 4.3? Take a look at the features of Bamboo's latest major version and try it out!

This page contains a live summary of all Bamboo release notes for the Bamboo 2.0 Beta. Click through to each of the individual release notes to view the complete list of issues and fixes associated with each release.

ℹ️ Please read the release notes up to and including the version that you are interested in. You may also wish to read the Bamboo 2.0 Beta upgrade guides.

**Bamboo 2.0 Beta Release Notes**

- [Bamboo 2.0 Beta 1](#)
- [Bamboo 2.0 Beta 2](#)
- [Bamboo 2.0 Beta 3](#)
- [Bamboo 2.0 Beta 4](#)
- [Bamboo 2.0 Beta 5](#)
- [Bamboo 2.0 Beta 6](#)
- [Bamboo 2.0 Beta 8](#)
- [Bamboo 2.0 Beta 9](#)

**Bamboo 2.0 Beta 1**

Bamboo 2.0 will be launched in early 2008 and will introduce a number of new features, including the ability to run distributed builds, flexible build agent management and memory usage improvements.

Because Bamboo 2.0 will introduce major architectural changes, the Bamboo 2.0 Beta program is being provided to enable you to preview the upcoming features and perform preliminary testing.

Please note that this release is a beta and should not be used on production systems.

<table>
<thead>
<tr>
<th>Upgrading to Bamboo 2.0 Beta</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bamboo 2.0 Beta can be downloaded from the Bamboo Download Centre. Before upgrading, please refer to the Bamboo 2.0 Beta Upgrade Guide. You must upgrade to Bamboo 1.2.x before upgrading to 2.0.</td>
</tr>
</tbody>
</table>

**What's New in Bamboo 2.0?**

1️⃣ **Distributed Builds** — This release introduces the ability to run distributed builds. You will find this particularly useful if you need to run your builds in different geographic locations, or on different platforms. Simply install the new Bamboo Agent on your additional build servers, and your main Bamboo 2.0 server will be able to manage them. We have also provided a number of plugin points in case you need to control your distributed builds programmatically.

2️⃣ **Flexible Build Agent Management** — Bamboo 2.0 also gives you much more flexibility in managing your builds. Build queues are no longer required, with the introduction of requirements and capabilities. You can direct builds to be run on a particular agent, by specifying build plan requirements to match the builder, JDK and...
custom capabilities that you have set up for the agent. Read more about agents and capabilities here.

3 Memory Usage Improvements — The underlying engine for Bamboo has been revamped to decrease memory usage. You will notice a distinct improvement in the performance of your builds, especially if you have very large logs.

Read more about Bamboo 2.0 Beta 1...

Bamboo 2.0 Beta 2

This point release includes more than 10 minor fixes and improvements. Bamboo 2.0 Beta 2 can be downloaded here.

Before upgrading, please read the Bamboo 2.0 Beta 2 Upgrade Guide. If you are upgrading from a version of Bamboo prior to the Bamboo 2.0 Beta, please read all of the Bamboo 2.0 Beta Release Notes and Bamboo 2.0 Beta Upgrade Guides before upgrading.

Read more about Bamboo 2.0 Beta 2...

Bamboo 2.0 Beta 3

Bamboo 2.0 Beta 3 introduces a number of new features, including Perforce support and the ability to connect to Oracle and MS SQL as external databases. A number of significant fixes have been included as well, improving the overall quality and experience of the beta.

What's New in Bamboo 2.0 Beta 3?

1 Perforce Support — Bamboo brings back out of the box support for Perforce source repositories. A number of changes have been made to Perforce configuration to ensure that it works correctly with distributed builds. Read more about configuring Perforce.

2 Oracle and MS SQL Server Support — By popular request, Bamboo's supported databases now include Oracle and MS SQL Server. Read more about connecting Bamboo to Oracle and MS SQL Server.

3 Major Bug Fixes — Bamboo now works with PostgreSQL and MySQL correctly. Please see the relevant PostgreSQL and MySQL JIRA issues for details about the fixes.

Read more about Bamboo 2.0 Beta 3...

Bamboo 2.0 Beta 4
This point release includes more than 15 minor fixes and improvements. Bamboo 2.0 Beta 4 can be downloaded here.

Before upgrading, please read the Bamboo 2.0 Beta 4 Upgrade Guide. If you are upgrading from a version of Bamboo prior to the Bamboo 2.0 Beta, please read all of the Bamboo 2.0 Beta Release Notes and Bamboo 2.0 Beta Upgrade Guides before upgrading.

Major Bug Fixes

- Previously, Bamboo determined which agents could build a plan when the plan was queued, but would then incorrectly ignore any subsequent changes (including disabling the agent). Bamboo will now correctly update where plans can be built, even if changes are made after the plan has been queued.

For the Developers

- The new 'RepositoryEventAware' interface allows you to implement custom actions before and/or after retrieving source code from your repository. Read more about extending the standard repository functionality.

Read more about Bamboo 2.0 Beta 4...

Bamboo 2.0 Beta 5

This point release includes more than 10 minor fixes and improvements. Bamboo 2.0 Beta 5 can be downloaded here.

Before upgrading, please read the Bamboo 2.0 Beta 5 Upgrade Guide. If you are upgrading from a version of Bamboo prior to the Bamboo 2.0 Beta, please read all of the Bamboo 2.0 Beta Release Notes and Bamboo 2.0 Beta Upgrade Guides before upgrading.

JDK and Builders page now included in Bamboo 2.0 Beta

- The JDK and Builder pages which were temporarily removed from Bamboo for the 2.0 Beta have now been restored.

Read more about Bamboo 2.0 Beta 5...

Bamboo 2.0 Beta 6

This point release includes more than 5 minor fixes and improvements. Bamboo 2.0 Beta 6 can be downloaded here.

Before upgrading, please read the Bamboo 2.0 Beta 6 Upgrade Guide. If you are upgrading from a version of Bamboo prior to the Bamboo 2.0 Beta, please read all of the Bamboo 2.0 Beta Release Notes and Bamboo 2.0 Beta Upgrade Guides before upgrading.

Secured Remote Agents are now Supported

- Remote agents can now be secured with the appropriate SSL configuration. Read more about Securing your remote agents. We strongly recommend that you do not enable remote agent installation on any Bamboo instance.
accessible from a public or untrusted network without securing your remote agents. If you choose to enable your remote agents without securing them, please read this security advisory to understand the security implications.

**Changes to Client Workspace Configuration for Perforce**
- If you use Perforce, you can now choose whether your want Bamboo to manage your client workspace (i.e. set the client root) or manage it yourself. Read more about Perforce configuration.

**‘Shared Local Capabilities’ are now called ‘Local Server Capabilities’**
- All references to ‘Shared Local Capabilities’ (or equivalent terminology) have been changed to ‘Local Server Capabilities’ in the Bamboo user interface.

Read more about Bamboo 2.0 Beta 6...

**Bamboo 2.0 Beta 8**

This point release includes more than 20 minor fixes and improvements. Bamboo 2.0 Beta 8 can be downloaded here.

Before upgrading, please read the Bamboo 2.0 Beta 8 Upgrade Guide (Please note that there is no 2.0 Beta 7). If you are upgrading from a version of Bamboo prior to the Bamboo 2.0 Beta, please read all of the Bamboo 2.0 Beta Release Notes and Bamboo 2.0 Beta Upgrade Guides before upgrading.

**Quiet Period Functionality Supported for Subversion & Perforce**

By popular request, Quiet Period parameters can now be specified for Subversion and Perforce when configuring a source repository for a build plan. You can choose to set how long Bamboo should wait after a commit before triggering a build, and the number of times it retries before initiating a build. Read more about configuring Subversion and Perforce source repositories.

**‘Force Clean Builds’ Supported**

Also by popular request, you can now force Bamboo to run 'Clean Builds' in a build plan. That is, the source directory is removed and then checked out from the repository prior to each build. Read more about this function in Specifying a Plan's Source Repository.

Read more about Bamboo 2.0 Beta 8...

**Bamboo 2.0 Beta 9**

This point release includes more than 10 minor fixes and improvements. Bamboo 2.0 Beta 9 can be downloaded here.

Before upgrading, please read the Bamboo 2.0 Beta 9 Upgrade Guide. If you are upgrading from a version of Bamboo prior to the Bamboo 2.0 Beta, please read all of the Bamboo 2.0 Beta Release Notes and Bamboo 2.0 Beta Upgrade Guides before upgrading.

**Edit and Rename Capabilities**

You can now edit capabilities in Bamboo, as listed below:
• If you are editing a Builder capability, you can modify the 'Path' of the builder.
• If you are editing a JDK capability, you can modify the 'Java Home' of the JDK.
• If you are editing a Custom capability, you can modify the 'Value' of the capability.
• If you are editing a Perforce capability, you can modify the 'Perforce Executable' path.

You can also rename a capability. This is reflected in any plans that the capability is specified as a requirement for.

ℹ️ Read more about configuring capabilities.

**View Agents and Plans related to a Capability**

A 'View Capability' screen is now available in Bamboo 2.0. This screen lists the agents that have/inherit a particular capability, as well as which plans have the capability specified as a requirement.

ℹ️ Read more about viewing capabilities.

Read more about Bamboo 2.0 Beta 9...

**Bamboo 2.0 Beta Upgrade Guide**

This page contains a live aggregate of all version-specific upgrade guides for the Bamboo 2.0 Beta.

**How to read the Bamboo 2.0 Beta Upgrade Guides**

• Read all Bamboo 2.0 Beta Upgrade Guides up to the version that you are upgrading to.
• Read the relevant release notes.
• Read the Bamboo generic upgrade guide for general upgrade instructions.

**Bamboo 2.0 Beta Upgrade Guides**

• Upgrading to Bamboo 2.0 Beta 1
• Upgrading to Bamboo 2.0 Beta 2
• Upgrading to Bamboo 2.0 Beta 3
• Upgrading to Bamboo 2.0 Beta 4
• Upgrading to Bamboo 2.0 Beta 5
• Upgrading to Bamboo 2.0 Beta 6
• Upgrading to Bamboo 2.0 Beta 8
• Upgrading to Bamboo 2.0 Beta 9

*Upgrading to Bamboo 2.0 Beta 1*
If you are using a version of Bamboo prior to version 1.2, you will need to upgrade Bamboo to version 1.2 before you can upgrade to the 2.0 Beta. Note that the upgrade process from version 1.0.x is different from the upgrade process from version 1.1.x. Please follow the appropriate instructions below:

Upgrading from Bamboo 1.1.x

You will need to:

1. Upgrade to Bamboo 1.2 — please see the Bamboo 1.2 Upgrade Guide.
2. Then upgrade to the desired version of the Bamboo 2.0 Beta, as per the instructions below.

Upgrading from Bamboo 1.0.x

You will need to:

1. Upgrade to 1.1.2 first — please see the Bamboo 1.1.2 Upgrade Guide. (This step is necessary as there is an issue with the upgrade process from the 1.0.x series that we're currently looking into.)
2. Then upgrade to Bamboo 1.2 — please see the Bamboo 1.2 Upgrade Guide.
3. Then upgrade to the desired version of the Bamboo 2.0 Beta, as per the instructions below.

It is strongly recommended that you back up your xml-data directory before proceeding. For full instructions please follow the Bamboo generic upgrade guide. Additionally, please note the following:

1. Adding a Broker URL property.

Bamboo uses a messaging broker to communicate with it's remote build agents. To ensure this works properly, a URL must be specified. This URL is where Bamboo will set up its embedded broker. Remote agents will also be provided with this URL on startup.

To specify the broker URL, please add a bamboo.jms.broker.url property in your bamboo.cfg.xml file, located inside the Bamboo home directory. For example:

```xml
<property name="bamboo.jms.broker.uri">tcp://HOSTNAME:54663</property>
```

where HOSTNAME is the canonical name of your Bamboo server.

Please note, as remote agents use this URL to communicate to the server, you should take care not to specify localhost as the host name in the broker URL.

If no broker URL is found in bamboo.cfg.xml, Bamboo will default the broker URL to tcp://HOSTNAME:54663 in the bamboo.cfg.xml file, as seen in the example above. Bamboo will also append the parameter wireFormat.maxInactivityDuration=0 by default to any broker URL coming from bamboo.cfg.xml.

2. Changes to Server Configuration

JDK support

Bamboo 2.0 requires JDK 1.5 (i.e. JDK 1.4 is no longer supported). Please note that this does not affect the actual builds: it is only the Bamboo server itself that must be running JDK 1.5.

Database changes

The release of 2.0 will include some changes to column names in the database as follows:
• In the BUILD_DEFINITION table, the column XML_DATA will be changed to XML_DEFINITION_DATA
• In the BUILDRESULTSUMMARY_CUSTOMDATA table, the column CUSTOM_INFO_DATA will be changed to CUSTOM_INFO_VALUE

These fields have also had types changed to CLOB to increase their maximum lengths.

**Plugins**

If you are using external or custom plugins, please make sure that your plugins compile against Bamboo 2.0 before upgrading.

⚠️ We've made significant changes to the internals of the application for Bamboo 2.0. If you've installed an external plugin for 1.2.4, it's likely that it will be broken. Please take care when upgrading.

3. Changes to Build Queues and Build Plans

Bamboo 2.0 introduces the concepts of [agents and capabilities](#). To preserve the functionality of your existing agents and capabilities, plans, JDKs, Builders and Build Queues, the following will automatically happen during the upgrade:

**Conversion of Build Queues to Agents**

Prior to Bamboo 2.0, you could have multiple build queues. In Bamboo 2.0, there is now only one build queue, but multiple agents (see [diagram](#)).

As part of the upgrade process,

• Each of your build queues will be converted to a [local agent](#).
• If, prior to the upgrade, the build queue accepted builds from *all plans*, the agent will be given the following capability (and every plan will be given an equivalent requirement):
  • Key: bamboo.1.2.queue
  • Value: ALLOW_ANY_BUILDS

• Or if, prior to the upgrade, the build queue only accepted builds from *specific plans*, the agent will be given the following capability (and the relevant plans will be given an equivalent requirement):
  • Key: bamboo.1.2.queue
  • Value: <name of old queue>

If you wish to change this after the upgrade, please see [Agents and capabilities](#) and [Configuring a job's requirements](#).

**Conversion of Builders to Capabilities**

Prior to Bamboo 2.0, your builders (e.g. Maven) were defined globally. In Bamboo 2.0, builders are now defined as agent capabilities and specified as plan requirements.

As part of the upgrade process,

• Each of your builders will be converted to a [shared local capability](#) (that is, it will apply to every local agent).
• Every plan will continue to have the same builder that it had before the upgrade.

If you wish to change this after the upgrade, please see [Configuring capabilities](#) and [Configuring a job's requirements](#).

**Conversion of JDKs to Capabilities**

Prior to Bamboo 2.0, your JDKs (e.g. JDK 1.5) were defined globally. In Bamboo 2.0, JDKs are now defined as agent capabilities and specified as plan requirements.

As part of the upgrade process,
• Each of your JDKs will be converted to shared local capabilities (that is, it will apply to every local agent).
• Upon conversion, the labels of each of your JDKs will upgraded to the Bamboo 2.0 JDK label format, (i.e. 'JDK 9.9.9_99').
• Upon conversion, two more generic versions of the labels will be created for each JDK, (i.e. 'JDK 9.9' and 'JDK').
• Every plan will have its requirements upgraded, to keep the association with the same JDK that it had before the upgrade.

If you wish to change this after the upgrade, please see Configuring capabilities and Configuring a job's requirements.

**Upgrading to Bamboo 2.0 Beta 2**

ℹ️ It is strongly recommended that you back up your xml-data directory before proceeding. For full instructions please follow the Bamboo generic upgrade guide.

No additional upgrade tasks are required to upgrade from Bamboo 2.0 Beta 1 to 2.0 Beta 2.

**Upgrading to Bamboo 2.0 Beta 3**

ℹ️ It is strongly recommended that you back up your xml-data directory before proceeding. You are also strongly recommended to back up your database due to schema changes in this release. For full instructions please follow the Bamboo generic upgrade guide. Additionally, please note the following:

1. Changes to Repositories

Bamboo 2.0 introduces the concepts of agents and capabilities. To preserve the functionality of your existing Repositories, the following will automatically happen during the upgrade:

   **Conversion of Perforce P4 Client Application Location to a Capability**

   With the introduction of remote agents in Bamboo 2.0, the location of the Perforce P4 client application now needs to be specified as a capability. To create build plans using Perforce as repository, a shared local capability must be created for the P4 client application location. In addition, agent-specific remote capabilities must be created for each remote agent using Perforce.

   As part of the upgrade process,

   • A shared local Perforce capability will be created for the Perforce P4 client application location. The upgrade task reads this information from the system's environment variables. If the Perforce P4 client application location has not been specified as an environment variable, the shared local capability will need to be set up manually.

   The upgrade task will not create agent-specific Perforce capabilities for any remote agents. These capabilities will need to be set up manually.

   Please see Configuring a new Perforce Capability for further details on creating Perforce capabilities.

**Upgrading to Bamboo 2.0 Beta 4**

ℹ️ It is strongly recommended that you back up your xml-data directory before proceeding. For full instructions please follow the Bamboo generic upgrade guide.

No additional upgrade tasks are required to upgrade from Bamboo 2.0 Beta 3 to 2.0 Beta 4.

**Upgrading to Bamboo 2.0 Beta 5**

ℹ️ It is strongly recommended that you back up your xml-data directory before proceeding. For full instructions please follow the Bamboo generic upgrade guide.
No additional upgrade tasks are required to upgrade from Bamboo 2.0 Beta 4 to 2.0 Beta 5.

Upgrading to Bamboo 2.0 Beta 6

It is strongly recommended that you back up your xml-data directory before proceeding. For full instructions please follow the Bamboo generic upgrade guide.

1. Changes to Perforce Workspace Management

If you use Perforce, you can now choose whether you want Bamboo to manage your workspace or whether you want to manage it yourself. Prior to this release, Bamboo would automatically manage your workspace (i.e. changed the client root). Hence, if you want to manage your workspace in this release, you will need to reset your client roots.

Upgrading to Bamboo 2.0 Beta 8

It is strongly recommended that you back up your xml-data directory before proceeding. For full instructions please follow the Bamboo generic upgrade guide.

No additional upgrade tasks are required to upgrade from Bamboo 2.0 Beta 6 to 2.0 Beta 8.

Upgrading to Bamboo 2.0 Beta 9

It is strongly recommended that you back up your xml-data directory before proceeding. For full instructions please follow the Bamboo generic upgrade guide.

No additional upgrade tasks are required to upgrade from Bamboo 2.0 Beta 8 to 2.0 Beta 9.

Bamboo 2.0 Beta 9 Release Notes

Bamboo 4.3 has been released. Read the Bamboo 4.3 Release Notes and Upgrade Guide. Don't have Bamboo 4.3? Take a look at the features of Bamboo's latest major version and try it out!

3 April 2008

Atlassian is proud to announce the release of Bamboo 2.0 Beta 9. This point release includes more than 10 minor fixes and improvements. Bamboo 2.0 Beta 9 can be downloaded here.

Before upgrading, please read the Bamboo 2.0 Beta 9 Upgrade Guide. If you are upgrading from a version of Bamboo prior to the Bamboo 2.0 Beta, please read all of the Bamboo 2.0 Beta Release Notes and Bamboo 2.0 Beta Upgrade Guides before upgrading.

Edit and Rename Capabilities

You can now edit capabilities in Bamboo, as listed below:

- If you are editing a Builder capability, you can modify the ‘Path’ of the builder.
- If you are editing a JDK capability, you can modify the ‘Java Home’ of the JDK.
- If you are editing a Custom capability, you can modify the ‘Value’ of the capability.
- If you are editing a Perforce capability, you can modify the ‘Perforce Executable’ path.

You can also rename a capability. This is reflected in any plans that the capability is specified as a requirement for.

Read more about configuring capabilities.

View Agents and Plans related to a Capability
A 'View Capability' screen is now available in Bamboo 2.0. This screen lists the agents that have/inherit a particular capability, as well as which plans have the capability specified as a requirement.

Read more about viewing capabilities.

### Known Issues

The following issues are applicable at the time of the Bamboo 2.0 Beta 9 release. Please refer to each of the previous beta release notes to review the complete list of issues and fixes for each beta release.

- Hibernate Errors in logs - this is a known issue, caused due to our pre-hibernate upgrade tasks to prepare Bamboo database for Oracle and MS SQL Server compatibility - For further details, see this Knowledge base article.

### Updates and issues fixed

Please help us with the final 2.0 release by reporting any bugs and issues you find, in the Bamboo project at jira.atlassian.com.

#### JIRA Issues (15 issues)

<table>
<thead>
<tr>
<th>Type</th>
<th>Key</th>
<th>Summary</th>
<th>Assignee</th>
<th>Reporter</th>
<th>Priority</th>
<th>Status</th>
<th>Resolution</th>
<th>Created</th>
<th>Updated</th>
<th>Due</th>
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<tbody>
<tr>
<td>📕</td>
<td>BAM-24 07</td>
<td>Remote Agent running on Sun JDK 1.6 exits after build is queued for it</td>
<td>Adrian Hempel [Atlassian]</td>
<td>Rex Tener</td>
<td>⚠️ Resolved</td>
<td>Fixed</td>
<td>Mar 27, 2008</td>
<td>Apr 01, 2008</td>
<td></td>
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<tr>
<td>Issue</td>
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<td>Reporter</td>
<td>Assignee</td>
<td>Status</td>
<td>Date</td>
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<tr>
<td>BAM-2381</td>
<td>Failing since build for a test reports the wrong result</td>
<td>Brydie McCoy [Atlassian]</td>
<td>Mark Chaimungkalanont [Atlassian]</td>
<td>Resolved</td>
<td>Fixed</td>
<td>Mar 17, 2008</td>
<td>Apr 01, 2008</td>
<td></td>
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<tr>
<td>BAM-2315</td>
<td>LDAP user cache is not refreshed when principals are added to AD/LDAP</td>
<td>Brydie McCoy [Atlassian]</td>
<td>Ajay Sridhar [Atlassian]</td>
<td>Resolved</td>
<td>Fixed</td>
<td>Feb 28, 2008</td>
<td>Sep 01, 2009</td>
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</tbody>
</table>
### Bamboo 2.0 Beta 9 Upgrade Guide

Upgrading to Bamboo 2.0 Beta 9

These instructions outline how to upgrade Bamboo from version **2.0 Beta 8** to **2.0 Beta 9**. If you are upgrading from a version **prior to 2.0 Beta 8**, please also refer to the aggregated [upgrade guides](#) for details on the

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<table>
<thead>
<tr>
<th>Issue</th>
<th>Summary</th>
<th>Reporter</th>
<th>Resolved</th>
<th>Fixed</th>
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<tbody>
<tr>
<td>BAM-2140</td>
<td>A capability screen that allows bulk editing of capabilities and requirements</td>
<td>Mark Chaimungkalan [Atlassian]</td>
<td>Resolved</td>
<td>Fixed</td>
<td>Jan 22, 2008</td>
<td>Feb 12, 2010</td>
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<tr>
<td>BAM-2122</td>
<td>Some exceptions during a build don’t cause build to abort</td>
<td>Adrian Hempel [Atlassian]</td>
<td>Resolved</td>
<td>Fixed</td>
<td>Jan 22, 2008</td>
<td>Apr 01, 2008</td>
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<tr>
<td>BAM-1862</td>
<td>Move the XFire dependency for Crowd from 1.2.1 to 1.2.6</td>
<td>Brydie McCoy [Atlassian]</td>
<td>Resolved</td>
<td>Fixed</td>
<td>Oct 24, 2007</td>
<td>Apr 01, 2008</td>
</tr>
</tbody>
</table>

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previous beta releases.

It is strongly recommended that you back up your xml-data directory before proceeding. For full instructions please follow the Bamboo generic upgrade guide.

No additional upgrade tasks are required to upgrade from Bamboo 2.0 Beta 8 to 2.0 Beta 9.

Bamboo 2.0 Beta 8 Release Notes

Bamboo 4.3 has been released. Read the Bamboo 4.3 Release Notes and Upgrade Guide. Don't have Bamboo 4.3? Take a look at the features of Bamboo's latest major version and try it out!

27 March 2008
Atlassian is proud to announce the release of Bamboo 2.0 Beta 8. This point release includes more than 20 minor fixes and improvements. Bamboo 2.0 Beta 8 can be downloaded here.

Before upgrading, please read the Bamboo 2.0 Beta 8 Upgrade Guide (Please note that there is no 2.0 Beta 7). If you are upgrading from a version of Bamboo prior to the Bamboo 2.0 Beta, please read all of the Bamboo 2.0 Beta Release Notes and Bamboo 2.0 Beta Upgrade Guides before upgrading.

Quiet Period Functionality Supported for Subversion & Perforce

By popular request, Quiet Period parameters can now be specified for Subversion and Perforce when configuring a source repository for a build plan. You can choose to set how long Bamboo should wait after a commit before triggering a build, and the number of times it retries before initiating a build. Read more about configuring Subversion and Perforce source repositories.

'Force Clean Builds' Supported

Also by popular request, you can now force Bamboo to run 'Clean Builds' in a build plan. That is, the source directory is removed and then checked out from the repository prior to each build. Read more about this function in Specifying a Plan's Source Repository.

Known Issues

The following issues are applicable at the time of the Bamboo 2.0 Beta 8 release. Please refer to each of the previous beta release notes to review the complete list of issues and fixes for each beta release.

- Hibernate Errors in logs - this is a known issue, caused due to our pre-hibernate upgrade tasks to prepare Bamboo database for Oracle and MS SQL Server compatibility - For further details, see this Knowledge base article.

Updates and issues fixed

Please help us with the final 2.0 release by reporting any bugs and issues you find, in the Bamboo project at jira.atlassian.com.

JIRA Issues (21 issues)

<table>
<thead>
<tr>
<th>Type</th>
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<tr>
<td></td>
<td>BAM-23</td>
<td>SVN externals now</td>
<td>Mark Chaimungkalan</td>
<td>Mark Chaimungkalan</td>
<td>🟢</td>
<td>🟢 Resolved</td>
<td>Fixed</td>
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<td>BAM-2384</td>
<td>Test setting up database with JNDI</td>
<td>None</td>
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<td>Nov 2008</td>
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<tr>
<td>BAM-2382</td>
<td>Perforce Web Repository URLs are not implemented in 2.0</td>
<td>Brydie McCoy</td>
<td>Resolved</td>
<td>Mar 17, 2008</td>
<td>Apr 01, 2008</td>
<td>Dec 2007</td>
<td></td>
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<td>BAM-2372</td>
<td>Repository web URL still create links even though none is specified</td>
<td>Brydie McCoy</td>
<td>Resolved</td>
<td>Mar 13, 2008</td>
<td>Apr 01, 2008</td>
<td>Dec 2007</td>
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<table>
<thead>
<tr>
<th>Issue</th>
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<td>Can't Find JUnit Results</td>
<td>Fixed</td>
<td>Mar 11, 2008</td>
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<td>BAM-23</td>
<td>NullPointerException on startup</td>
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<td>BAM-22</td>
<td>Upgrade task to change &quot;Queue&quot; to &quot;Agent&quot; in the queue names</td>
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<td>BAM-22</td>
<td>Link incorrectly escaped in Builder JDK error message</td>
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<td>BAM-22</td>
<td>Variable substitution doesn't work in Bamboo 2.0</td>
<td>Duplicated</td>
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<td>57</td>
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<tr>
<td>BAM-22</td>
<td>Agent shut down if the server is shut down</td>
<td>Fixed</td>
<td>Feb 08, 2008</td>
<td>Apr 01, 2008</td>
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<td>02</td>
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<tr>
<td>BAM-21</td>
<td>Indexer is not thread safe</td>
<td>Fixed</td>
<td>Jan 25, 2008</td>
<td>Apr 01, 2008</td>
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<td>52</td>
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<tr>
<td>BAM-21</td>
<td>Reshuffle the</td>
<td>Fixed</td>
<td>Jan 22, 2008</td>
<td>Apr 01, 2008</td>
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<td>Issue</td>
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<td>Resolution</td>
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<td>BAM-2095</td>
<td>Detecte d JDKs may not be persiste d</td>
<td>Adrian Hempel [Atlassia n]</td>
<td>Resolved</td>
<td>Jan 15, 2008</td>
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<tr>
<td>BAM-1314</td>
<td>An option to delete local working copy of the repository before building</td>
<td>Mark Chaimungkalan [Atlassia n]</td>
<td>Resolved</td>
<td>Jun 03, 2007</td>
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<td>BAM-1178</td>
<td>Commit quiet period</td>
<td>Mark Chaimungkalan [Atlassia n]</td>
<td>Resolved</td>
<td>May 03, 2007</td>
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<tr>
<td>BAM-1034</td>
<td>Allow a full checkou t to be perform ed for each change</td>
<td>Mark Chaimungkalan [Atlassia n]</td>
<td>Resolved</td>
<td>Mar 16, 2007</td>
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<tr>
<td>BAM-926</td>
<td>An option to delay building after</td>
<td>Mark Chaimungkalan</td>
<td>Resolved</td>
<td>Feb 27, 2007</td>
</tr>
</tbody>
</table>
Bamboo 2.0 Beta 8 Upgrade Guide

Upgrading to Bamboo 2.0 Beta 8

These instructions outline how to upgrade Bamboo from version 2.0 Beta 6 to 2.0 Beta 8 (Please note that there is no 2.0 Beta 7). If you are upgrading from a version prior to 2.0 Beta 6, please also refer to the aggregated upgrade guides for details on the previous beta releases.

It is strongly recommended that you back up your xml-data directory before proceeding. For full instructions please follow the Bamboo generic upgrade guide.

No additional upgrade tasks are required to upgrade from Bamboo 2.0 Beta 6 to 2.0 Beta 8.

Bamboo 2.0 Beta 6 Release Notes

- Bamboo 4.3 has been released. Read the Bamboo 4.3 Release Notes and Upgrade Guide. Don’t have Bamboo 4.3? Take a look at the features of Bamboo’s latest major version and try it out!

18 March 2008

Atlassian is proud to announce the release of Bamboo 2.0 Beta 6.

This point release includes more than 5 minor fixes and improvements. Bamboo 2.0 Beta 6 can be downloaded here.

Before upgrading, please read the Bamboo 2.0 Beta 6 Upgrade Guide. If you are upgrading from a version of Bamboo prior to the Bamboo 2.0 Beta, please read all of the Bamboo 2.0 Beta Release Notes and Bamboo 2.0 Beta Upgrade Guides before upgrading.

Secured Remote Agents are now Supported

- Remote agents can now be secured with the appropriate SSL configuration. Read more about Securing your remote agents.
  
  We strongly recommend that you do not enable remote agent installation on any Bamboo instance accessible from a public or untrusted network without securing your remote agents. If you choose to enable your remote agents without securing them, please read this security advisory to understand the security implications.

Changes to Client Workspace Configuration for Perforce

- If you use Perforce, you can now choose whether you want Bamboo to manage your client workspace (i.e. set the client root) or manage it yourself. Read more about Perforce configuration.

‘Shared Local Capabilities’ are now called ‘Local Server Capabilities’

- All references to ‘Shared Local Capabilities’ (or equivalent terminology) have been changed to ‘Local Server Capabilities’ in the Bamboo user interface.

Known Issues

The following issues are applicable at the time of the Bamboo 2.0 Beta 6 release. Please refer to each of the...
previous beta release notes to review the complete list of issues and fixes for each beta release.

- Secured remote agents are not supported in the Bamboo 2.0 Beta (but will be supported in the official Bamboo 2.0 release). Please see the Bamboo security advisory for further details. RESOLVED!
- Hibernate Errors in logs - this is a known issue, caused due to our pre-hibernate upgrade tasks to prepare Bamboo database for Oracle and MS SQL Server compatibility - For further details, see this Knowledge base article.

Updates and issues fixed

Please help us with the final 2.0 release by reporting any bugs and issues you find, in the Bamboo project at jira.atlassian.com.

<table>
<thead>
<tr>
<th>JIRA Issues (11 issues)</th>
</tr>
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</table>

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<tr>
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<th>Reporter</th>
<th>Priority</th>
<th>Status</th>
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<tbody>
<tr>
<td>🚢</td>
<td>BAM-2366</td>
<td>Perforce Validation does not work if there is no global permissions set</td>
<td>Brydie McCoy [Atlassian]</td>
<td>Brydie McCoy [Atlassian]</td>
<td>⚠</td>
<td>Resolved</td>
<td>Fixed</td>
<td>Mar 12, 2008</td>
<td>Apr 01, 2008</td>
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<td>🚢</td>
<td>BAM-2363</td>
<td>Resolve perforce source directory issue</td>
<td>Unassigned</td>
<td>None</td>
<td>⚠</td>
<td>Resolved</td>
<td>Fixed</td>
<td>Mar 12, 2008</td>
<td>Aug 26, 2010</td>
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<tr>
<td>🚢</td>
<td>BAM-2387</td>
<td>CVS</td>
<td>Mark</td>
<td>Mark</td>
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<td>Resolved</td>
<td>Fixed</td>
<td>Mar 09, 2008</td>
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</tbody>
</table>

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### Bamboo 2.0 Beta 6 Upgrade Guide

**Upgrading to Bamboo 2.0 Beta 6**

These instructions outline how to upgrade Bamboo from version 2.0 Beta 5 to 2.0 Beta 6. If you are upgrading from a version prior to 2.0 Beta 5, please also refer to the aggregated upgrade guides for details on the previous beta releases.
It is strongly recommended that you back up your xml-data directory before proceeding. For full instructions please follow the Bamboo generic upgrade guide.

1. Changes to Perforce Workspace Management

If you use Perforce, you can now choose whether you want Bamboo to manage your workspace or whether you want to manage it yourself. Prior to this release, Bamboo would automatically manage your workspace (i.e. changed the client root). Hence, if you want to manage your workspace in this release, you will need to reset your client roots.

Bamboo 2.0 Beta 5 Release Notes

☑ Bamboo 4.3 has been released. Read the Bamboo 4.3 Release Notes and Upgrade Guide. Don’t have Bamboo 4.3? Take a look at the features of Bamboo’s latest major version and try it out!

12 March 2008

Atlassian is proud to announce the release of Bamboo 2.0 Beta 5.

This point release includes more than 10 minor fixes and improvements. Bamboo 2.0 Beta 5 can be downloaded here.

Before upgrading, please read the Bamboo 2.0 Beta 5 Upgrade Guide. If you are upgrading from a version of Bamboo prior to the Bamboo 2.0 Beta, please read all of the Bamboo 2.0 Beta Release Notes and Bamboo 2.0 Beta Upgrade Guides before upgrading.

JDK and Builders page now included in Bamboo 2.0 Beta

- The JDK and Builder pages which were temporarily removed from Bamboo for the 2.0 Beta have now been restored.

Known Issues

The following issues are applicable at the time of the Bamboo 2.0 Beta 5 release. Please refer to each of the previous beta release notes to review the complete list of issues and fixes for each beta release.

- JDK and Builders pages have not been included in the Bamboo 2.0 Beta (but will be supported in the official Bamboo 2.0 release). FIXED!
- Hibernate Errors in logs - this is a known issue, caused due to our pre-hibernate upgrade tasks to prepare Bamboo database for Oracle and MS SQL Server compatibility - For further details, see this Knowledge base article.
- Secured remote agents are not supported in the Bamboo 2.0 Beta (but will be supported in the official Bamboo 2.0 release). Please see the Bamboo security advisory for further details.

Updates and issues fixed

Please help us with the final 2.0 release by reporting any bugs and issues you find, in the Bamboo project at jira.atlassian.com.

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<thead>
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<tr>
<td>Ticket</td>
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<td>BAM-23</td>
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<td>BAM-23</td>
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<td>BAM-23</td>
</tr>
</tbody>
</table>

Directory on repository change if the agent has never built that plan before.
<table>
<thead>
<tr>
<th>BAM-23 12</th>
<th>Cannot Setup Perforce Repository: &quot;This user is not available on this port (Perforce server)</th>
<th>Brydie McCoy [Atlassian]</th>
<th>Steven Salter</th>
<th>Resolved</th>
<th>Fixed</th>
<th>Feb 28, 2008</th>
<th>Apr 01, 2008</th>
</tr>
</thead>
<tbody>
<tr>
<td>BAM-22 78</td>
<td>Build status doesn't update correctly on dashboard until a refresh is done</td>
<td>Mark Chaimungkalanont [Atlassian]</td>
<td>Andreas Knecht [Atlassian]</td>
<td>Resolved</td>
<td>Fixed</td>
<td>Feb 20, 2008</td>
<td>Apr 01, 2008</td>
</tr>
<tr>
<td>BAM-22 30</td>
<td>Autonomic of agents only goes up to (2)</td>
<td>Brydie McCoy [Atlassian]</td>
<td>Mark Chaimungkalanont [Atlassian]</td>
<td>Resolved</td>
<td>Fixed</td>
<td>Feb 12, 2008</td>
<td>Apr 01, 2008</td>
</tr>
<tr>
<td>BAM-22 03</td>
<td>Report can't generate image. Throws a NoClassDefFoundError</td>
<td>Ajay Sridhar [Atlassian]</td>
<td>Benjaminn LERMAN</td>
<td>Resolved</td>
<td>Reolved Locally</td>
<td>Feb 08, 2008</td>
<td>Feb 11, 2010</td>
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<tr>
<td>BAM-21 94</td>
<td>Clicking edit for an agent, then cancel, should return</td>
<td>Brydie McCoy [Atlassian]</td>
<td>Brydie McCoy [Atlassian]</td>
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<td>Feb 07, 2008</td>
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</table>
### Bamboo 2.0 Beta 5 Upgrade Guide

#### Upgrading to Bamboo 2.0 Beta 5

These instructions outline how to upgrade Bamboo from version 2.0 Beta 4 to 2.0 Beta 5. If you are upgrading from a version prior to 2.0 Beta 4, please also refer to the aggregated upgrade guides for details on the previous beta releases.

> It is strongly recommended that you back up your xml-data directory before proceeding. For full instructions please follow the [Bamboo generic upgrade guide](#).

No additional upgrade tasks are required to upgrade from Bamboo 2.0 Beta 4 to 2.0 Beta 5.

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<table>
<thead>
<tr>
<th>Issue</th>
<th>Summary</th>
<th>Assignee(s)</th>
<th>Status</th>
<th>Resolution</th>
<th>Date</th>
<th>Fixed</th>
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</table>
Bamboo 2.0 Beta 4 Release Notes

4 March 2008
Atlassian is proud to announce the release of Bamboo 2.0 Beta 4.

This point release includes more than 15 minor fixes and improvements. Bamboo 2.0 Beta 4 can be downloaded here.

Before upgrading, please read the Bamboo 2.0 Beta 4 Upgrade Guide. If you are upgrading from a version of Bamboo prior to the Bamboo 2.0 Beta, please read all of the Bamboo 2.0 Beta Release Notes and Bamboo 2.0 Beta Upgrade Guides before upgrading.

Major Bug Fixes

- Previously, Bamboo determined which agents could build a plan when the plan was queued, but would then incorrectly ignore any subsequent changes (including disabling the agent). Bamboo will now correctly update where plans can be built, even if changes are made after the plan has been queued.

For the Developers

- The new 'RepositoryEventAware' interface allows you to implement custom actions before and/or after retrieving source code from your repository. Read more about extending the standard repository functionality.

Known Issues

The following issues are applicable at the time of the Bamboo 2.0 Beta 4 release. Please refer to each of the previous beta release notes to review the complete list of issues and fixes for each beta release.

- Please note that builds are currently allocated to agents during queuing time, not execution time. This may occasionally mean that a build is executed by an agent that you have disabled, which is slightly different from the functionality described in Monitoring agent status. FIXED!
- Hibernate Errors in logs - this is a known issue, caused due to our pre-hibernate upgrade tasks to prepare Bamboo database for Oracle and MS SQL Server compatibility - For further details, see this Knowledge base article.
- Secured remote agents are not supported in the Bamboo 2.0 Beta (but will be supported in the official Bamboo 2.0 release). Please see the Bamboo security advisory for further details.
- JDK and Builders pages have not been included in the Bamboo 2.0 Beta (but will be supported in the official Bamboo 2.0 release).

Updates and issues fixed

Please help us with the final 2.0 release by reporting any bugs and issues you find, in the Bamboo project at jira.atlassian.com.

<table>
<thead>
<tr>
<th>JIRA Issues</th>
<th>17 issues</th>
</tr>
</thead>
<tbody>
<tr>
<td>Type</td>
<td>Key</td>
</tr>
<tr>
<td>BAM-23</td>
<td>BAM-23</td>
</tr>
<tr>
<td>Issue</td>
<td>Description</td>
</tr>
<tr>
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</tr>
<tr>
<td><a href="https://example.com/bamboo-issues/viewIssue.action?issueKey=BAM-2299">BAM-2299</a></td>
<td>Provide the ability to add a comment to a build result via Bamboo's REST API</td>
</tr>
<tr>
<td>Ticket</td>
<td>Description</td>
</tr>
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<td>-----------------------------------------------------------------------------</td>
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<tr>
<td>BAM-22</td>
<td>Unable to delete a build</td>
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<tr>
<td>BAM-22</td>
<td>Number Format Exception when adding a label to a build</td>
</tr>
<tr>
<td>BAM-22</td>
<td>pre-authenticate d RSS feed</td>
</tr>
<tr>
<td>38</td>
<td></td>
</tr>
<tr>
<td>BAM-22</td>
<td>Bamboo 2.0 beta 1 WAR file not working in Tomcat</td>
</tr>
<tr>
<td>00</td>
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</tr>
<tr>
<td>BAM-21</td>
<td>Bamboo has problem s if you change the SVN Source</td>
</tr>
<tr>
<td>93</td>
<td></td>
</tr>
<tr>
<td>BAM-21</td>
<td>Queued builds with no eligible builder are not built even if requirements are edited to make a builder eligible</td>
</tr>
<tr>
<td>02</td>
<td></td>
</tr>
<tr>
<td>98</td>
<td></td>
</tr>
</tbody>
</table>

Documentation for Bamboo 4.3

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Bamboo 2.0 Beta 4 Upgrade Guide

Upgrading to Bamboo 2.0 Beta 4

These instructions outline how to upgrade Bamboo from version 2.0 Beta 3 to 2.0 Beta 4. If you are upgrading from a version prior to 2.0 Beta 3, please also refer to the aggregated upgrade guides for details on the previous beta releases.

It is strongly recommended that you back up your xml-data directory before proceeding. For full instructions please follow the Bamboo generic upgrade guide.
No additional upgrade tasks are required to upgrade from Bamboo 2.0 Beta 3 to 2.0 Beta 4.

Bamboo 2.0 Beta 3 Release Notes

☑ Bamboo 4.3 has been released. Read the Bamboo 4.3 Release Notes and Upgrade Guide. Don't have Bamboo 4.3? Take a look at the features of Bamboo's latest major version and try it out!

27 February, 2008

Atlassian Software Systems presents Bamboo 2.0 Beta 3

Bamboo 2.0 Beta 3 introduces a number of new features, including Perforce support and the ability to connect to Oracle and MS SQL as external databases. A number of significant fixes have been included as well, improving the overall quality and experience of the beta.

Upgrading to Bamboo 2.0 Beta

Bamboo 2.0 Beta can be downloaded from the Bamboo Download Centre. Before upgrading, please read the Bamboo 2.0 Beta 3 Upgrade Guide. If you are upgrading from a version of Bamboo prior to the Bamboo 2.0 Beta 2, please read all of the Bamboo 2.0 Beta Release Notes and Bamboo 2.0 Beta Upgrade Guides before upgrading.

What’s New in Bamboo 2.0 Beta 3?

1 Perforce Support — Bamboo brings back out of the box support for Perforce source repositories. A number of changes have been made to Perforce configuration to ensure that it works correctly with distributed builds. Read more about configuring Perforce.

2 Oracle and MS SQL Server Support — By popular request, Bamboo's supported databases now include Oracle and MS SQL Server. Read more about connecting Bamboo to Oracle and MS SQL Server.

3 Major Bug Fixes — Bamboo now works with PostgreSQL and MySQL correctly. Please see the relevant PostgreSQL and MySQL JIRA issues for details about the fixes.

Known Issues

The following issues are applicable at the time of the Bamboo 2.0 Beta 3 release. Please refer to each of the previous beta release notes to review the complete list of issues and fixes for each beta release.

- Perforce is not supported in the Bamboo 2.0 Beta (but will be supported in the official Bamboo 2.0 release). FIXED!
- Bamboo currently does not work with MySQL. See BAM-2260 for further details. FIXED!
- Plans currently cannot be edited, if Bamboo is integrated with a PostgreSQL database. See BAM-2208 for further details. FIXED!
- Hibernate Errors in logs - this is a known issue, caused due to our pre-hibernate upgrade tasks to prepare Bambo database for Oracle and MS SQL Server compatibility - For further details, see this Knowledge base article.
- Secured remote agents are not supported in the Bamboo 2.0 Beta (but will be supported in the official Bamboo 2.0 release). Please see the Bamboo security advisory for further details.
- JDK and Builders pages have not been included in the Bamboo 2.0 Beta (but will be supported in the official Bamboo 2.0 release).
- Please note that builds are currently allocated to agents during queuing time, not execution time. This may occasionally mean that a build is executed by an agent that you have disabled, which is slightly different from the functionality described in Monitoring agent status. For example:
  1. Agent A is enabled and is currently executing a build for Plan X.
2. Plan Y submits a build to the queue, and the queue assigns the build to Agent A.
3. You disable Agent A.
4. Agent A completes Plan X’s build.
5. Although agent A is disabled, it will still run Plan Y’s build, because it was determined as executable when plan Y was queued.

Updates and Fixes in this Release

Please help us with the final 2.0 release by reporting any bugs and issues you find, in the Bamboo project at jira.atlassian.com.

<table>
<thead>
<tr>
<th>JIRA Issues (18 issues)</th>
<th>Summary</th>
<th>Priority</th>
<th>Status</th>
</tr>
</thead>
<tbody>
<tr>
<td>BAM-2290</td>
<td>Incorrect instructions for running remote agent JAR</td>
<td></td>
<td>Resolved</td>
</tr>
<tr>
<td>BAM-2284</td>
<td>Upgrading from 1.2.4 will update the JDK keys to the wrong value</td>
<td></td>
<td>Resolved</td>
</tr>
<tr>
<td>BAM-2282</td>
<td>Ability to run automatic detection of environment variables as JDKs &amp; Builders</td>
<td></td>
<td>Resolved</td>
</tr>
<tr>
<td>BAM-2276</td>
<td>Better logging when remote agents disabled</td>
<td></td>
<td>Resolved</td>
</tr>
<tr>
<td>BAM-2264</td>
<td>Extend Bamboo REST API to provide access to details of test cases</td>
<td></td>
<td>Resolved</td>
</tr>
<tr>
<td>BAM-2262</td>
<td>Improve Bamboo REST API error response to provide information that can be presented to an end user</td>
<td></td>
<td>Resolved</td>
</tr>
<tr>
<td>BAM-2260</td>
<td>Mysql integration with Bamboo 2.0 Beta release 1 doesn't work</td>
<td></td>
<td>Resolved</td>
</tr>
<tr>
<td>BAM-2245</td>
<td>Forgotten password reports wrong error when user doesn't exist</td>
<td></td>
<td>Resolved</td>
</tr>
<tr>
<td>BAM-2229</td>
<td>More agent meta data</td>
<td></td>
<td>Resolved</td>
</tr>
<tr>
<td>BAM-2112</td>
<td>Crowd with delegated LDAP auth - update documentation for Bamboo-Crowd integration</td>
<td></td>
<td>Resolved</td>
</tr>
<tr>
<td>BAM-1807</td>
<td>subversion/source control queue</td>
<td></td>
<td>Resolved</td>
</tr>
<tr>
<td>BAM-1504</td>
<td>Ability to import data during setup without restarting</td>
<td></td>
<td>Resolved</td>
</tr>
<tr>
<td>BAM-1466</td>
<td>Bamboo should support MS SQL Database</td>
<td></td>
<td>Resolved</td>
</tr>
</tbody>
</table>
Bamboo 2.0 Beta 3 Upgrade Guide

Upgrading to Bamboo 2.0 Beta 3

These instructions outline how to upgrade Bamboo from version 2.0 Beta 2 to 2.0 Beta 3. If you are upgrading from a version prior to 2.0 Beta 2, please refer to the aggregated upgrade guides for details on the previous beta releases.

It is strongly recommended that you back up your xml-data directory before proceeding. You are also strongly recommended to back up your database due to schema changes in this release. For full instructions please follow the Bamboo generic upgrade guide. Additionally, please note the following:

1. Changes to Repositories

Bamboo 2.0 introduces the concepts of agents and capabilities. To preserve the functionality of your existing Repositories, the following will automatically happen during the upgrade:

Conversion of Perforce P4 Client Application Location to a Capability

With the introduction of remote agents in Bamboo 2.0, the location of the Perforce P4 client application now needs to be specified as a capability. To create build plans using Perforce as repository, a shared local capability must be created for the P4 client application location. In addition, agent-specific remote capabilities must be created for each remote agent using Perforce.

As part of the upgrade process,

• A shared local Perforce capability will be created for the Perforce P4 client application location. The upgrade task reads this information from the system's environment variables. If the Perforce P4 client application location has not been specified as an environment variable, the shared local capability will need to be set up manually.

The upgrade task will not create agent-specific Perforce capabilities for any remote agents. These capabilities will need to be set up manually.
Please see Configuring a new Perforce Capability for further details on creating Perforce capabilities.

Bamboo 2.0 Beta 2 Release Notes

Bamboo 4.3 has been released. Read the Bamboo 4.3 Release Notes and Upgrade Guide. Don't have Bamboo 4.3? Take a look at the features of Bamboo's latest major version and try it out!

19 February 2008
Atlassian is proud to announce the release of Bamboo 2.0 Beta 2.

This point release includes more than 10 minor fixes and improvements. Bamboo 2.0 Beta 2 can be downloaded here.

Before upgrading, please read the Bamboo 2.0 Beta 2 Upgrade Guide. If you are upgrading from a version of Bamboo prior to the Bamboo 2.0 Beta, please read all of the Bamboo 2.0 Beta Release Notes and Bamboo 2.0 Beta Upgrade Guides before upgrading.

Known Issues

The following issues are applicable at the time of the Bamboo 2.0 Beta 2 release. Please refer to the aggregated Bamboo 2.0 Beta Release Notes to review the complete list of issues and fixes for each beta release.

- Perforce is not supported in the Bamboo 2.0 Beta (but will be supported in the official Bamboo 2.0 release).
- Bamboo currently does not work with MySQL. See BAM-2260 for further details.
- Plans currently cannot be edited, if Bamboo is integrated with a PostgreSQL database. See BAM-2208 for further details.
- Secured remote agents are not supported in the Bamboo 2.0 Beta (but will be supported in the official Bamboo 2.0 release). Please see the Bamboo security advisory for further details.
- JDK and Builders pages have not been included in the Bamboo 2.0 Beta (but will be supported in the official Bamboo 2.0 release).
- Please note that builds are currently allocated to agents during queuing time, not execution time. This may occasionally mean that a build is executed by an agent that you have disabled, which is slightly different from the functionality described in Monitoring agent status. For example:
  1. Agent A is enabled and is currently executing a build for Plan X.
  2. Plan Y submits a build to the queue, and the queue assigns the build to Agent A.
  3. You disable Agent A.
  4. Agent A completes Plan X's build.
  5. Although agent A is disabled, it will still run Plan Y's build, because it was determined as executable when plan Y was queued.

Updates and issues fixed

Please help us with the final 2.0 release by reporting any bugs and issues you find, in the Bamboo project at jira.atlassian.com.

JIRA Issues (13 issues)

<table>
<thead>
<tr>
<th>Type</th>
<th>Key</th>
<th>Summary</th>
<th>Assignee</th>
<th>Reporter</th>
<th>Priority</th>
<th>Status</th>
<th>Resolution</th>
<th>Created</th>
<th>Updated</th>
<th>Due</th>
</tr>
</thead>
<tbody>
<tr>
<td>📝</td>
<td>BAM-2246</td>
<td>Improve logging of why a</td>
<td>Mark Chaimunganlal</td>
<td>Mark Chaimunganlal</td>
<td></td>
<td>🕒 Resolved</td>
<td>Fixed</td>
<td>Feb 14, 2008</td>
<td>Apr 01, 2008</td>
<td></td>
</tr>
<tr>
<td>Ticket</td>
<td>Title</td>
<td>Description</td>
<td>Assigned To</td>
<td>Resolution</td>
<td>Fixed Date</td>
<td></td>
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<tr>
<td>BAM-2236</td>
<td>Build passes or fails</td>
<td>Unassigned</td>
<td>Mark Chaimungkalan</td>
<td>Resolved</td>
<td>Fixed Feb 12, 2008 Sep 01, 2009</td>
<td></td>
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<td></td>
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</tr>
<tr>
<td>BAM-2235</td>
<td>Live logs should show full username where possible</td>
<td>Mark Chaimungkalan</td>
<td>Resolved</td>
<td>Fixed Feb 12, 2008 Apr 01, 2008</td>
<td></td>
<td></td>
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<td></td>
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</tr>
<tr>
<td>BAM-2231</td>
<td>Agents matrix now display which requirements are missing</td>
<td>Mark Chaimungkalan</td>
<td>Resolved</td>
<td>Fixed Feb 12, 2008 Apr 01, 2008</td>
<td></td>
<td></td>
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<tr>
<td>BAM-2224</td>
<td>Regression: Failing tests no longer displayed in build failure summary</td>
<td>Mark Chaimungkalan</td>
<td>Resolved</td>
<td>Fixed Feb 11, 2008 Apr 01, 2008</td>
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<tr>
<td>BAM-2222</td>
<td>Clicking on the &quot;stop build&quot; icon (red square) next to a build in the &quot;Current Activity&quot; tab throws</td>
<td>Mark Chaimungkalan</td>
<td>Resolved</td>
<td>Fixed Feb 11, 2008 Apr 01, 2008</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Issue</td>
<td>Description</td>
<td>Reporter</td>
<td>Assignee</td>
<td>Status</td>
<td>Resolution</td>
<td>Created</td>
<td>Resolved</td>
<td></td>
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<tr>
<td>BAM-22 01</td>
<td>Bamboo uses a nonexistent SQL function with postgres SQL</td>
<td>Mark Chaimungkalan [Atlassian]</td>
<td>Benjamine LERMAN</td>
<td>Fixed</td>
<td>Resolved</td>
<td>Feb 08, 2008</td>
<td>Apr 01, 2008</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Bamboo 2.0 Beta 2 Upgrade Guide

Upgrading to Bamboo 2.0 Beta 2

These instructions outline how to upgrade Bamboo from version 2.0 Beta 1 to 2.0 Beta 2. If you are upgrading from a version prior to 2.0 Beta 1, please also refer to the aggregated upgrade guides for details on the previous beta releases.

⚠️ It is strongly recommended that you back up your xml-data directory before proceeding. For full instructions please follow the Bamboo generic upgrade guide.

No additional upgrade tasks are required to upgrade from Bamboo 2.0 Beta 1 to 2.0 Beta 2.

Bamboo 2.0 Beta 1 Release Notes

☑️ Bamboo 4.3 has been released. Read the Bamboo 4.3 Release Notes and Upgrade Guide. Don't have Bamboo 4.3? Take a look at the features of Bamboo's latest major version and try it out!

8 February, 2008

Atlassian Software Systems presents Bamboo 2.0 Beta

Bamboo 2.0 will be launched in early 2008 and will introduce a number of new features, including the ability to run distributed builds, flexible build agent management and memory usage improvements.

Because Bamboo 2.0 will introduce major architectural changes, the Bamboo 2.0 Beta program is being provided to enable you to preview the upcoming features and perform preliminary testing.

Please note that this release is a beta and should not be used on production systems.

<table>
<thead>
<tr>
<th>Upgrading to Bamboo 2.0 Beta</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bamboo 2.0 Beta can be downloaded from the Bamboo Download Centre. Before upgrading, please refer to the Bamboo 2.0 Beta Upgrade Guide. You must upgrade to Bamboo 1.2.x before upgrading to 2.0.</td>
</tr>
</tbody>
</table>

What's New in Bamboo 2.0?

1. **Distributed Builds** — This release introduces the ability to run distributed builds. You will find this particularly useful if you need to run your builds in different geographic locations, or on different platforms. Simply install the new Bamboo Agent on your additional build servers, and your main Bamboo 2.0 server will be able to manage them. We have also provided a number of plugin points in case you need to control your distributed builds programmatically.

2. **Flexible Build Agent Management** — Bamboo 2.0 also gives you much more flexibility in managing your builds. Build queues are no longer required, with the introduction of requirements and capabilities. You can direct builds to be run on a particular agent, by specifying build plan requirements to match the builder, JDK and custom capabilities that you have set up for the agent. Read more about agents and capabilities here.
Memory Usage Improvements — The underlying engine for Bamboo has been revamped to decrease memory usage. You will notice a distinct improvement in the performance of your builds, especially if you have very large logs.

Security Considerations

⚠ Important security information for the Bamboo 2.0 Beta has been published. Please refer to the security advisory for details.

Known Issues

The following issues are applicable at the time of the Bamboo 2.0 Beta 1 release. Please refer to the aggregated Bamboo 2.0 Beta Release Notes to review the complete list of issues and fixes for each beta release.

- Perforce is not supported in the Bamboo 2.0 Beta (but will be supported in the official Bamboo 2.0 release).
- Bamboo currently does not work with MySQL. See BAM-2260 for further details.
- Plans currently cannot be edited, if Bamboo is integrated with a PostgreSQL database. See BAM-2208 for further details.
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Updates and Fixes in this Release

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### JIRA Issues (188 issues)

<table>
<thead>
<tr>
<th>Key</th>
<th>Summary</th>
<th>Priority</th>
<th>Status</th>
</tr>
</thead>
<tbody>
<tr>
<td>BAM-3010</td>
<td>Remove &quot;build auto-execution&quot; feature</td>
<td>🚨</td>
<td>📜 Resolved</td>
</tr>
<tr>
<td>BAM-2609</td>
<td>Show who canceled a build in the log</td>
<td>📦</td>
<td>📜 Resolved</td>
</tr>
<tr>
<td>BAM-2462</td>
<td>Add link to the Status Summary Screen</td>
<td>🚨</td>
<td>📜 Resolved</td>
</tr>
<tr>
<td>BAM-2460</td>
<td>Caching error may cause wrong build result to be cached</td>
<td>🌐</td>
<td>📜 Resolved</td>
</tr>
<tr>
<td>BAM-2448</td>
<td>File Added In Attic Changelog Shown For CVS Plans on MAIN</td>
<td>🌐</td>
<td>📜 Resolved</td>
</tr>
<tr>
<td>BAM-2447</td>
<td>CVS Plans Don't Work For Branches</td>
<td>🩹</td>
<td>📜 Resolved</td>
</tr>
<tr>
<td>Issue</td>
<td>Description</td>
<td></td>
<td></td>
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<tr>
<td>--------</td>
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<td></td>
<td></td>
</tr>
<tr>
<td>BAM-2435</td>
<td>When deleting a requirement within the error screen, creates null pointer</td>
<td></td>
<td></td>
</tr>
<tr>
<td>BAM-2431</td>
<td>Unable to save buildresultsummary if a code commit doesn't have comment</td>
<td></td>
<td></td>
</tr>
<tr>
<td>BAM-2430</td>
<td>Dashboard quirk while removing plan from favourites list on the My Bamboo tab of dashboard</td>
<td></td>
<td></td>
</tr>
<tr>
<td>BAM-2429</td>
<td>500 on /admin/configurePipeline!default.action</td>
<td></td>
<td></td>
</tr>
<tr>
<td>BAM-2425</td>
<td>Errors in IE7 while viewing the Edit Build configuration page</td>
<td></td>
<td></td>
</tr>
<tr>
<td>BAM-2422</td>
<td>Error while importing Bamboo buildresults from bdac due to missing authors from commits</td>
<td></td>
<td></td>
</tr>
<tr>
<td>BAM-2407</td>
<td>Remote Agent running on Sun JDK 1.6 exits after build is queued for it</td>
<td></td>
<td></td>
</tr>
<tr>
<td>BAM-2405</td>
<td>Add extension builder interfaces</td>
<td></td>
<td></td>
</tr>
<tr>
<td>BAM-2404</td>
<td>Clicking on the previous button of the Plan creation wizard doesn't work on the Requirements page</td>
<td></td>
<td></td>
</tr>
<tr>
<td>BAM-2401</td>
<td>Remote agent restart can leave builds in a building state while the agent reports it is idle</td>
<td></td>
<td></td>
</tr>
<tr>
<td>BAM-2391</td>
<td>SVN externals now prohibitively slow</td>
<td></td>
<td></td>
</tr>
<tr>
<td>BAM-2390</td>
<td>Allow capabilities to be used in variable replacements</td>
<td></td>
<td></td>
</tr>
<tr>
<td>BAM-2388</td>
<td>Javascript messagebox shown when ajax connection to bamboo fails is very annoying</td>
<td></td>
<td></td>
</tr>
<tr>
<td>BAM-2383</td>
<td>NPE trying to access <a href="https://bamboo.developer.atlassian.com/browse/FIS-H-STABLE/test">https://bamboo.developer.atlassian.com/browse/FIS-H-STABLE/test</a></td>
<td></td>
<td></td>
</tr>
<tr>
<td>BAM-2382</td>
<td>Perforce Web Repository Uris are not implemented</td>
<td></td>
<td></td>
</tr>
<tr>
<td>BAM-2381</td>
<td>Failing since build for a test reports the wrong result</td>
<td>Resolved</td>
<td></td>
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<td>-------------</td>
<td>---------------------------------------------------------</td>
<td>-----------------------------</td>
<td></td>
</tr>
<tr>
<td>BAM-2372</td>
<td>Repository web URL still create links even though none is specified</td>
<td>Resolved</td>
<td></td>
</tr>
<tr>
<td>BAM-2368</td>
<td>Queue Reconstruction intermittently fails when queue size is large</td>
<td>Resolved</td>
<td></td>
</tr>
<tr>
<td>BAM-2366</td>
<td>Perforce Validation does not work if there is no global permissions set</td>
<td>Resolved</td>
<td></td>
</tr>
<tr>
<td>BAM-2360</td>
<td>Manual Build No Longer Shows Changes</td>
<td>Resolved</td>
<td></td>
</tr>
<tr>
<td>BAM-2359</td>
<td>Plan Not Building</td>
<td>Resolved</td>
<td></td>
</tr>
<tr>
<td>BAM-2358</td>
<td>Can't Find JUnit Results</td>
<td>Resolved</td>
<td></td>
</tr>
<tr>
<td>BAM-2355</td>
<td>Bamboo 2.0 Upgrade Task 608 Fails</td>
<td>Resolved</td>
<td></td>
</tr>
<tr>
<td>BAM-2353</td>
<td>CVS Repository last update time should be from the files updated</td>
<td>Resolved</td>
<td></td>
</tr>
<tr>
<td>BAM-2348</td>
<td>Build result navigator misaligned</td>
<td>Resolved</td>
<td></td>
</tr>
<tr>
<td>BAM-2346</td>
<td>Failure to clear working directory on repository change if the agent has never built that plan before.</td>
<td>Resolved</td>
<td></td>
</tr>
<tr>
<td>BAM-2330</td>
<td>Can't add new notification rules for plans.</td>
<td>Resolved</td>
<td></td>
</tr>
<tr>
<td>BAM-2329</td>
<td>Bamboo sends IM messages with an empty &quot;to&quot; field.</td>
<td>Resolved</td>
<td></td>
</tr>
<tr>
<td>BAM-2327</td>
<td>Dashboard Refresh problems</td>
<td>Resolved</td>
<td></td>
</tr>
<tr>
<td>BAM-2325</td>
<td>ScheduleBackupConfiguration exception if backup is configured</td>
<td>Resolved</td>
<td></td>
</tr>
<tr>
<td>BAM-2322</td>
<td>New Perforce Library puts password into command line which is not all that secure</td>
<td>Resolved</td>
<td></td>
</tr>
<tr>
<td>BAM-2321</td>
<td>Perforce failing to connect on agent</td>
<td>Resolved</td>
<td></td>
</tr>
<tr>
<td>BAM-2317</td>
<td>Quirks with logging on Bamboo agent.</td>
<td>Resolved</td>
<td></td>
</tr>
<tr>
<td>BAM-2314</td>
<td>Allow further hooks for the repository</td>
<td>Resolved</td>
<td></td>
</tr>
<tr>
<td>BAM-2312</td>
<td>Cannot Setup Perforce Repository: &quot;This user is not available on this port (Perforce server)</td>
<td>![Resolved]</td>
<td></td>
</tr>
<tr>
<td>----------</td>
<td>-------------------------------------------------------------------------------------------------</td>
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<td></td>
</tr>
<tr>
<td>BAM-2309</td>
<td>NullPointerException in AgentHeartBeat on startup</td>
<td>![Resolved]</td>
<td></td>
</tr>
<tr>
<td>BAM-2308</td>
<td>Improve memory footprint of Bamboo</td>
<td>![Resolved]</td>
<td></td>
</tr>
<tr>
<td>BAM-2299</td>
<td>Provide the ability to add a comment to a build result via Bamboo's REST API</td>
<td>![Resolved]</td>
<td></td>
</tr>
<tr>
<td>BAM-2294</td>
<td>Setup wizard fails at first step if IP address cannot be determined</td>
<td>![Resolved]</td>
<td></td>
</tr>
<tr>
<td>BAM-2293</td>
<td>On repository change clearing build directory fails</td>
<td>![Resolved]</td>
<td></td>
</tr>
<tr>
<td>BAM-2291</td>
<td>Can't add custom build requirement</td>
<td>![Resolved]</td>
<td></td>
</tr>
<tr>
<td>BAM-2290</td>
<td>Incorrect instructions for running remote agent JAR</td>
<td>![Resolved]</td>
<td></td>
</tr>
<tr>
<td>BAM-2288</td>
<td>Make details of the commits contained in a build visible via the Bamboo REST API</td>
<td>![Resolved]</td>
<td></td>
</tr>
<tr>
<td>BAM-2284</td>
<td>Upgrading from 1.2.4 will update the JDK keys to the wrong value</td>
<td>![Resolved]</td>
<td></td>
</tr>
<tr>
<td>BAM-2283</td>
<td>Upgrade task to change &quot;Queue&quot; to &quot;Agent&quot; in the 1.2.4 queue names</td>
<td>![Resolved]</td>
<td></td>
</tr>
<tr>
<td>BAM-2282</td>
<td>Ability to run automatic detection of environment variables as JDKs &amp; Builders</td>
<td>![Resolved]</td>
<td></td>
</tr>
<tr>
<td>BAM-2279</td>
<td>Improve link to download WAR edition of Bamboo</td>
<td>![Resolved]</td>
<td></td>
</tr>
<tr>
<td>BAM-2278</td>
<td>Build status doesn't update correctly on dashboard until a refresh is done</td>
<td>![Resolved]</td>
<td></td>
</tr>
<tr>
<td>BAM-2276</td>
<td>Better logging when remote agents disabled</td>
<td>![Resolved]</td>
<td></td>
</tr>
<tr>
<td>BAM-2270</td>
<td>Link incorrectly escaped in Builder JDK error Message</td>
<td>![Resolved]</td>
<td></td>
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<tr>
<td>BAM-2267</td>
<td>Editing capabilities and requirements</td>
<td>![Resolved]</td>
<td></td>
</tr>
<tr>
<td>Issue ID</td>
<td>Description</td>
<td>Status</td>
<td></td>
</tr>
<tr>
<td>----------</td>
<td>-----------------------------------------------------------------------------</td>
<td>----------</td>
<td></td>
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<tr>
<td>BAM-2264</td>
<td>Extend Bamboo REST API to provide access to details of test cases</td>
<td>Resolved</td>
<td></td>
</tr>
<tr>
<td>BAM-2262</td>
<td>Improve Bamboo REST API error response to provide information that can be presented to an end user</td>
<td>Resolved</td>
<td></td>
</tr>
<tr>
<td>BAM-2260</td>
<td>Mysql integration with Bamboo 2.0 Beta release 1 doesn't work</td>
<td>Resolved</td>
<td></td>
</tr>
<tr>
<td>BAM-2250</td>
<td>Agent bootstrap doesn't handle paths without trailing /</td>
<td>Resolved</td>
<td></td>
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<tr>
<td>BAM-2248</td>
<td>Unable to delete a build</td>
<td>Resolved</td>
<td></td>
</tr>
<tr>
<td>BAM-2246</td>
<td>Improve logging of why a build passes or fails</td>
<td>Resolved</td>
<td></td>
</tr>
<tr>
<td>BAM-2245</td>
<td>Forgotten password reports wrong error when user doesn't exist</td>
<td>Resolved</td>
<td></td>
</tr>
<tr>
<td>BAM-2241</td>
<td>Build Configuration page for script builder, doesn't show the values in the Arguments field in the UI.</td>
<td>Resolved</td>
<td></td>
</tr>
<tr>
<td>BAM-2240</td>
<td>Number Format Exception when adding a label to a build</td>
<td>Resolved</td>
<td></td>
</tr>
<tr>
<td>BAM-2238</td>
<td>pre-authenticated RSS feed</td>
<td>Resolved</td>
<td></td>
</tr>
<tr>
<td>BAM-2236</td>
<td>Ensure that java.io.tmp exists when server / agent starts up</td>
<td>Resolved</td>
<td></td>
</tr>
<tr>
<td>BAM-2235</td>
<td>Live logs should show full username where possible</td>
<td>Resolved</td>
<td></td>
</tr>
<tr>
<td>BAM-2231</td>
<td>Agents matrix now display which requirements are missing</td>
<td>Resolved</td>
<td></td>
</tr>
<tr>
<td>BAM-2230</td>
<td>Autonaming of agents only goes up to (2)</td>
<td>Resolved</td>
<td></td>
</tr>
<tr>
<td>BAM-2229</td>
<td>More agent meta data</td>
<td>Resolved</td>
<td></td>
</tr>
<tr>
<td>BAM-2226</td>
<td>Build expiry fails when excluding labels</td>
<td>Resolved</td>
<td></td>
</tr>
<tr>
<td>BAM-2225</td>
<td>Bamboo sent empty notification e-mail</td>
<td>Resolved</td>
<td></td>
</tr>
<tr>
<td>BAM-2224</td>
<td>Regression: Failing tests no longer displayed in build failure summary</td>
<td>Resolved</td>
<td></td>
</tr>
<tr>
<td>BAM-2223</td>
<td>Build requirements are duplicated</td>
<td>Resolved</td>
<td></td>
</tr>
<tr>
<td>Issue</td>
<td>Description</td>
<td>Status</td>
<td></td>
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<tr>
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<td>------------------------------------------------------------------------------</td>
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<tr>
<td>BAM-2222</td>
<td>Clicking on the &quot;stop build&quot; icon (red square) next to a build in the &quot;Current Activity&quot; tab throws exception</td>
<td>Resolved</td>
<td></td>
</tr>
<tr>
<td>BAM-2208</td>
<td>Cannot edit maven 2 plan</td>
<td>Resolved</td>
<td></td>
</tr>
<tr>
<td>BAM-2207</td>
<td>Unable to start Bamboo successfully if JRE cannot determine IP address</td>
<td>Resolved</td>
<td></td>
</tr>
<tr>
<td>BAM-2206</td>
<td>Alt text appearing instead of icons on All Plans tab</td>
<td>Resolved</td>
<td></td>
</tr>
<tr>
<td>BAM-2205</td>
<td>Cannot add comment to failed build</td>
<td>Resolved</td>
<td></td>
</tr>
<tr>
<td>BAM-2202</td>
<td>Agent shutdown if the server is shutdown</td>
<td>Resolved</td>
<td></td>
</tr>
<tr>
<td>BAM-2201</td>
<td>Bamboo use a unexistant SQL function with postgresQL</td>
<td>Resolved</td>
<td></td>
</tr>
<tr>
<td>BAM-2199</td>
<td>BEAC Upgrade issues</td>
<td>Resolved</td>
<td></td>
</tr>
<tr>
<td>BAM-2197</td>
<td>UpgradeTask610BuilderPlanRequirements fails if we can't parse JDK</td>
<td>Resolved</td>
<td></td>
</tr>
<tr>
<td>BAM-2196</td>
<td>UpgradeTask608BuildLogStorageUpdate will fail a plan doesn't have a results folder</td>
<td>Resolved</td>
<td></td>
</tr>
<tr>
<td>BAM-2195</td>
<td>Clicking on favourite link navigates to malformed page</td>
<td>Resolved</td>
<td></td>
</tr>
<tr>
<td>BAM-2194</td>
<td>Clicking edit for an agent, then cancel, should return you to the page you were just on</td>
<td>Resolved</td>
<td></td>
</tr>
<tr>
<td>BAM-2193</td>
<td>Bamboo has problems if you change the SVN Source</td>
<td>Resolved</td>
<td></td>
</tr>
<tr>
<td>BAM-2176</td>
<td>Put in a null check to UpgradeTask608BuildLogStorageUpdate, to ensure the buildresultxml file being parsed is not null!</td>
<td>Resolved</td>
<td></td>
</tr>
<tr>
<td>BAM-2152</td>
<td>Indexer is not thread safe</td>
<td>Resolved</td>
<td></td>
</tr>
<tr>
<td>BAM-2150</td>
<td>Clicking &quot;Clear error from log&quot; on a plan's page navigates to the Dashboard</td>
<td>Resolved</td>
<td></td>
</tr>
<tr>
<td>BAM-2147</td>
<td>Reshuffle the admin menu to have Plan &amp; Build Resources subheading</td>
<td>Resolved</td>
<td></td>
</tr>
<tr>
<td>BAM-2146</td>
<td>Readd Builder and JDK</td>
<td>Resolved</td>
<td></td>
</tr>
<tr>
<td>Issue</td>
<td>Description</td>
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</tr>
<tr>
<td>BAM-2140</td>
<td>A capability screen that allows bulk editing of capabilities and requirements</td>
<td></td>
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</tr>
<tr>
<td>BAM-2132</td>
<td>Two attempts to start a manual build of a plan in quick session locks the plan, and does not result in a build</td>
<td></td>
<td></td>
</tr>
<tr>
<td>BAM-2129</td>
<td>getLastBuildResultSummaries is returning first, rather than last, BuildResultSummaries</td>
<td></td>
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<tr>
<td>BAM-2122</td>
<td>Some exceptions during a build don't cause build to abort</td>
<td></td>
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<tr>
<td>BAM-2118</td>
<td>CustomBuildInfo is not transferred from remote agent to server</td>
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<tr>
<td>BAM-2117</td>
<td>VCSVersionReader returns an illegal null on Remote Agent</td>
<td></td>
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<tr>
<td>BAM-2116</td>
<td>If Remote Agent dies, subsequent attempt to start it fails</td>
<td></td>
<td></td>
</tr>
<tr>
<td>BAM-2113</td>
<td>Clover plug-in may use out-of-date Clover data</td>
<td></td>
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</tr>
<tr>
<td>BAM-2104</td>
<td>Confusing to upgrade an expired Bamboo 1.2 license, to Bamboo 2.0!</td>
<td></td>
<td></td>
</tr>
<tr>
<td>BAM-2103</td>
<td>Bamboo 1.2.4 import into Bamboo 2.0, throws exception due to UpgradeTask 612</td>
<td></td>
<td></td>
</tr>
<tr>
<td>BAM-2102</td>
<td>Queued builds with no eligible builder are not built even if requirements are edited to make a builder eligible</td>
<td></td>
<td></td>
</tr>
<tr>
<td>BAM-2100</td>
<td>Bamboo should indicate queued builds that cannot be built on any active agent</td>
<td></td>
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</tr>
<tr>
<td>BAM-2096</td>
<td>JDKs autodetected on Bamboo 2.0 agents don't match builds requiring autodetected JDKs imported from Bamboo 1.2.4</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
| BAM-2095 | Detected JDKs may not
<table>
<thead>
<tr>
<th>Issue</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>BAM-2077</td>
<td>Build Result Not Saved</td>
</tr>
<tr>
<td>BAM-2073</td>
<td>Nullpointer exception when trying to save build configuration</td>
</tr>
<tr>
<td>BAM-2063</td>
<td>Reimplement include / exclude files</td>
</tr>
<tr>
<td>BAM-2057</td>
<td>Installers should configure JMS broker URI</td>
</tr>
<tr>
<td>BAM-2032</td>
<td>Perforce configuration throws nullpointer exception</td>
</tr>
<tr>
<td>BAM-2029</td>
<td>Bamboo upgrade task fails if the build Results XML file is corrupted</td>
</tr>
<tr>
<td>BAM-2017</td>
<td>BuildResultsImpl.cloneAsBuildResults() does not copy the data included in the customBuildData variable</td>
</tr>
<tr>
<td>BAM-2013</td>
<td>Implement Perforce ticket authentication in Bamboo.</td>
</tr>
<tr>
<td>BAM-2007</td>
<td>Bamboo doesn’t update available builders after each restart.</td>
</tr>
<tr>
<td>BAM-1996</td>
<td>Anonymous user is able to download artifacts even if Anonymous mode is disabled both at global level and plan level</td>
</tr>
<tr>
<td>BAM-1976</td>
<td>Build artifacts should display the size of the file (if single file)</td>
</tr>
<tr>
<td>BAM-1968</td>
<td>Make the install4j path a property in the standalone distribution project</td>
</tr>
<tr>
<td>BAM-1967</td>
<td>the main distribution POM doesn't use the correct parent POM</td>
</tr>
<tr>
<td>BAM-1966</td>
<td>The title of the Configure Groups page is incorrect</td>
</tr>
<tr>
<td>BAM-1964</td>
<td>Use the enforcer plugin to fail fast if a developer uses a jdk below 1.5</td>
</tr>
<tr>
<td>BAM-1944</td>
<td>Users should not be able to view plans if Global Anonymous access is disabled.</td>
</tr>
<tr>
<td>BAM-1932</td>
<td>Fix up files tab</td>
</tr>
<tr>
<td>BAM-1897</td>
<td>Change log entries that contain URLs appear fine on screen but the actual HREF is mangled</td>
</tr>
<tr>
<td>BAM-1882</td>
<td>Code coverage setup says optional, but is required</td>
</tr>
<tr>
<td>BAM-1860</td>
<td>Set a time limit on number of times Bamboo tries to checkout.</td>
</tr>
<tr>
<td>BAM-1847</td>
<td>Bamboo does not export ServerID</td>
</tr>
<tr>
<td>BAM-1821</td>
<td>Bamboo should not die with freemarker error due to undefined values.</td>
</tr>
<tr>
<td>BAM-1813</td>
<td>The project level RSS feeds are ordered wrong.</td>
</tr>
<tr>
<td>BAM-1807</td>
<td>subversion/source control queue</td>
</tr>
<tr>
<td>BAM-1797</td>
<td>Bamboo runs out of Permgen space, when saving build result - due to massive build log output</td>
</tr>
<tr>
<td>BAM-1752</td>
<td>Bamboo does not handle the failure to delete source code very well</td>
</tr>
<tr>
<td>BAM-1740</td>
<td>Add file sizes to Artifacts page</td>
</tr>
<tr>
<td>BAM-1719</td>
<td>create a Confluence Bamboo Plugin (similar to the JIRA Bamboo Plugin)</td>
</tr>
<tr>
<td>BAM-1709</td>
<td>FileNotFoundExeception when accessing 'Index Operations' screen in a new empty instance</td>
</tr>
<tr>
<td>BAM-1696</td>
<td>Increase the VARCHAR(4000) in 'CUSTOM_INFO_DATA' column of 'BUILDRESULTSUMMARY_CUSTOMDATA' table from 4000</td>
</tr>
<tr>
<td>BAM-1688</td>
<td>When updating group membership in crowd changes don't get reflected in Bamboo for a while</td>
</tr>
<tr>
<td>BAM-1682</td>
<td>Prevent OutOfMemory errors while viewing the logs page</td>
</tr>
<tr>
<td>BAM-1658</td>
<td>BuildNumberStamper</td>
</tr>
</tbody>
</table>
should be sidegraded to a CustomPreBuildAction

<table>
<thead>
<tr>
<th>BAM-1652</th>
<th>ChangeLogEntry has invalid myDate field</th>
<th>Resolved</th>
</tr>
</thead>
<tbody>
<tr>
<td>BAM-1628</td>
<td>NullPointerException when adding many artifacts</td>
<td>Resolved</td>
</tr>
<tr>
<td>BAM-1618</td>
<td>Feedback as an admin message upon catastrophic IO exceptions</td>
<td>Resolved</td>
</tr>
<tr>
<td>BAM-1604</td>
<td>SVN Externals, do not work when pointed to a specific revision number</td>
<td>Resolved</td>
</tr>
<tr>
<td>BAM-1586</td>
<td>Bamboo doesn't free up SVN connections</td>
<td>Resolved</td>
</tr>
<tr>
<td>BAM-1585</td>
<td>Successful test results are apparently unordered</td>
<td>Resolved</td>
</tr>
<tr>
<td>BAM-1572</td>
<td>Add also the user who triggered the manual build to the Build Results page and Recently Completed Builds</td>
<td>Resolved</td>
</tr>
<tr>
<td>BAM-1518</td>
<td>Build logs should be separated from the activity logs</td>
<td>Resolved</td>
</tr>
<tr>
<td>BAM-1504</td>
<td>Ability to import data during setup without restarting</td>
<td>Resolved</td>
</tr>
<tr>
<td>BAM-1466</td>
<td>Bamboo should support MS SQL Database</td>
<td>Resolved</td>
</tr>
<tr>
<td>BAM-1465</td>
<td>Bamboo should support Oracle Database</td>
<td>Resolved</td>
</tr>
<tr>
<td>BAM-1416</td>
<td>Allow parallel VCS checkouts</td>
<td>Resolved</td>
</tr>
<tr>
<td>BAM-1401</td>
<td>Allow multiple build plans to be updating from SCM at the same time</td>
<td>Resolved</td>
</tr>
<tr>
<td>BAM-1365</td>
<td>Assigning of build to queues is non-optimal</td>
<td>Resolved</td>
</tr>
<tr>
<td>BAM-1356</td>
<td>Collect build changes for full checkout/clean builds</td>
<td>Resolved</td>
</tr>
<tr>
<td>BAM-1314</td>
<td>An option to delete local working copy of the repository before building</td>
<td>Resolved</td>
</tr>
<tr>
<td>BAM-1303</td>
<td>Ability to see who executed a manual build</td>
<td>Resolved</td>
</tr>
<tr>
<td>BAM-1297</td>
<td>Keep track of what/who triggered a build</td>
<td>Resolved</td>
</tr>
<tr>
<td>BAM-1295</td>
<td>Show a list of all</td>
<td>Resolved</td>
</tr>
<tr>
<td>Issue</td>
<td>Description</td>
<td>Status</td>
</tr>
<tr>
<td>---------</td>
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</tr>
<tr>
<td>BAM-1294</td>
<td>Ability to find a specific test on the successful tests screen</td>
<td>Resolved</td>
</tr>
<tr>
<td>BAM-1288</td>
<td>CVS changelogs are not picked up when the repository is on different timezone</td>
<td>Resolved</td>
</tr>
<tr>
<td>BAM-1257</td>
<td>Pause in between builds</td>
<td>Resolved</td>
</tr>
<tr>
<td>BAM-1251</td>
<td>Ability to pick force synch flag in Perforce</td>
<td>Resolved</td>
</tr>
<tr>
<td>BAM-1186</td>
<td>Bamboo should't loop through all the plans, when building an specific plan</td>
<td>Resolved</td>
</tr>
<tr>
<td>BAM-1178</td>
<td>Commit quiet period</td>
<td>Resolved</td>
</tr>
<tr>
<td>BAM-1110</td>
<td>Ability to add plan to build queue as you are creating said plan</td>
<td>Resolved</td>
</tr>
<tr>
<td>BAM-1082</td>
<td>Perforce source code directory (client root) is currently cached</td>
<td>Resolved</td>
</tr>
<tr>
<td>BAM-1069</td>
<td>Bamboo keeps building and won't stop</td>
<td>Resolved</td>
</tr>
<tr>
<td>BAM-1041</td>
<td>Build Expiry Settings - mark some build as non expirable</td>
<td>Resolved</td>
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<tr>
<td>BAM-1034</td>
<td>Allow a full checkout to be performed for each change</td>
<td>Resolved</td>
</tr>
<tr>
<td>BAM-1012</td>
<td>Output Shows Directories With Undisplayable Character</td>
<td>Resolved</td>
</tr>
<tr>
<td>BAM-991</td>
<td>Need a BuildRequired queue</td>
<td>Resolved</td>
</tr>
<tr>
<td>BAM-990</td>
<td>BuildChangeDetector should only run on a Quartz schedule</td>
<td>Resolved</td>
</tr>
<tr>
<td>BAM-981</td>
<td>Checkins during a build don't seem to trigger another build after the current one finished</td>
<td>Resolved</td>
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<tr>
<td>BAM-926</td>
<td>An option to delay building after checkout detected for SVN</td>
<td>Resolved</td>
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<tr>
<td>BAM-924</td>
<td>Perforce client error forces full checkout/build</td>
<td>Resolved</td>
</tr>
<tr>
<td>BAM-894</td>
<td>Multiple remote cross</td>
<td>Resolved</td>
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<td>Issue</td>
<td>Description</td>
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<td>BAM-760</td>
<td>Errors on dashboard should show which build they were raised in</td>
<td>Resolved</td>
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<td>BAM-705</td>
<td>Log the user who started the build</td>
<td>Resolved</td>
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<tr>
<td>BAM-662</td>
<td>Having independent build queues underutilises resources</td>
<td>Resolved</td>
</tr>
<tr>
<td>BAM-498</td>
<td>Building hangs if one build does not get response from source repository.</td>
<td>Resolved</td>
</tr>
<tr>
<td>BAM-479</td>
<td>Starting builds on multiple servers</td>
<td>Resolved</td>
</tr>
<tr>
<td>BAM-462</td>
<td>Some errors in XML results parsing not reported to the UI</td>
<td>Resolved</td>
</tr>
<tr>
<td>BAM-293</td>
<td>Ability to do remote/distributed builds</td>
<td>Resolved</td>
</tr>
<tr>
<td>BAM-229</td>
<td>Link dependent builds to the build which launched them</td>
<td>Resolved</td>
</tr>
<tr>
<td>BAM-195</td>
<td>Create new BuildReason object which can pass along more information for dependency builds.</td>
<td>Resolved</td>
</tr>
<tr>
<td>BAM-21</td>
<td>Investigate making change detector to run asynchronously or in a queue</td>
<td>Resolved</td>
</tr>
</tbody>
</table>

**Bamboo 2.0 Beta 1 Upgrade Guide**

**Upgrading to Bamboo 2.0 Beta 1**
If you are using a version of Bamboo prior to version 1.2, you will need to upgrade Bamboo to version 1.2 before you can upgrade to the 2.0 Beta. Note that the upgrade process from version 1.0.x is different from the upgrade process from version 1.1.x. Please follow the appropriate instructions below:

**Upgrading from Bamboo 1.1.x**

You will need to:

1. Upgrade to Bamboo 1.2 — please see the Bamboo 1.2 Upgrade Guide.
2. Then upgrade to the desired version of the Bamboo 2.0 Beta, as per the instructions below.

**Upgrading from Bamboo 1.0.x**

You will need to:

1. Upgrade to 1.1.2 first — please see the Bamboo 1.1.2 Upgrade Guide. (This step is necessary as there is an issue with the upgrade process from the 1.0.x series that we're currently looking into.)
2. Then upgrade to Bamboo 1.2 — please see the Bamboo 1.2 Upgrade Guide.
3. Then upgrade to the desired version of the Bamboo 2.0 Beta, as per the instructions below.

It is strongly recommended that you back up your xml-data directory before proceeding. For full instructions please follow the Bamboo generic upgrade guide. Additionally, please note the following:

1. **Adding a Broker URL property.**

Bamboo uses a messaging broker to communicate with its remote build agents. To ensure this works properly, a URL must be specified. This URL is where Bamboo will set up its embedded broker. Remote agents will also be provided with this URL on startup.

To specify the broker URL, please add a `bamboo.jms.broker.url` property in your `bamboo.cfg.xml` file, located inside the Bamboo home directory. For example:

```xml
<property name="bamboo.jms.broker.uri">tcp://HOSTNAME:54663</property>
```

where HOSTNAME is the canonical name of your Bamboo server.

Please note, as remote agents use this URL to communicate to the server, you should take care not to specify `localhost` as the host name in the broker URL.

If no broker URL is found in `bamboo.cfg.xml`, Bamboo will default the broker URL to `tcp://HOSTNAME:54663` in the `bamboo.cfg.xml` file, as seen in the example above. Bamboo will also append the parameter `wireFormat.maxInactivityDuration=0` by default to any broker URL coming from `bamboo.cfg.xml`.

2. **Changes to Server Configuration**

**JDK support**

Bamboo 2.0 requires **JDK 1.5** (i.e. JDK 1.4 is no longer supported). Please note that this does not affect the actual builds: it is only the Bamboo server itself that must be running JDK 1.5.

**Database changes**

The release of 2.0 will include some changes to column names in the database as follows:
- In the BUILD_DEFINITION table, the column XML_DATA will be changed to XML_DEFINITION_DATA
- In the BUILDRESULTSUMMARY_CUSTOMDATA table, the column CUSTOM_INFO_DATA will be changed to CUSTOM_INFO_VALUE

These fields have also had types changed to CLOB to increase their maximum lengths.

**Plugins**

If you are using external or custom plugins, please make sure that your plugins compile against Bamboo 2.0 before upgrading.

⚠️ We've made significant changes to the internals of the application for Bamboo 2.0. If you've installed an external plugin for 1.2.4, it's likely that it will be broken. Please take care when upgrading.

3. Changes to Build Queues and Build Plans

Bamboo 2.0 introduces the concepts of agents and capabilities. To preserve the functionality of your existing plans, JDKs, Builders and Build Queues, the following will automatically happen during the upgrade:

**Conversion of Build Queues to Agents**

Prior to Bamboo 2.0, you could have multiple build queues. In Bamboo 2.0, there is now only one build queue, but multiple agents (see diagram).

As part of the upgrade process,

- Each of your build queues will be converted to a local agent.
- If, prior to the upgrade, the build queue accepted builds from all plans, the agent will be given the following capability (and every plan will be given an equivalent requirement):
  - Key: bamboo.1.2.queue
  - Value: ALLOW_ANY_BUILDS
- Or if, prior to the upgrade, the build queue only accepted builds from specific plans, the agent will be given the following capability (and the relevant plans will be given an equivalent requirement):
  - Key: bamboo.1.2.queue
  - Value: <name of old queue>

If you wish to change this after the upgrade, please see Agents and capabilities and Configuring a job’s requirements.

**Conversion of Builders to Capabilities**

Prior to Bamboo 2.0, your builders (e.g. Maven) were defined globally. In Bamboo 2.0, builders are now defined as agent capabilities and specified as plan requirements.

As part of the upgrade process,

- Each of your builders will be converted to a shared local capability (that is, it will apply to every local agent).
- Every plan will continue to have the same builder that it had before the upgrade.

If you wish to change this after the upgrade, please see Configuring capabilities and Configuring a job’s requirements.

**Conversion of JDKs to Capabilities**

Prior to Bamboo 2.0, your JDKs (e.g. JDK 1.5) were defined globally. In Bamboo 2.0, JDKs are now defined as a
gent capabilities and specified as plan requirements.

As part of the upgrade process,

- Each of your JDKs will be converted to shared local capabilities (that is, it will apply to every local agent).
- Upon conversion, the labels of each of your JDKs will upgraded to the Bamboo 2.0 JDK label format, (i.e. 'JDK 9.9.9_99').
- Upon conversion, two more generic versions of the labels will be created for each JDK, (i.e. 'JDK 9.9' and 'JDK').
- Every plan will have its requirements upgraded, to keep the association with the same JDK that it had before the upgrade.

If you wish to change this after the upgrade, please see Configuring capabilities and Configuring a job’s requirements.

**Bamboo 1.2 Release Notes**

✅ Bamboo 4.3 has been released. Read the Bamboo 4.3 Release Notes and Upgrade Guide. Don’t have Bamboo 4.3? Take a look at the features of Bamboo’s latest major version and try it out!

Atlassian Software Systems is proud to announce the release of Bamboo 1.2. This release contains:

- Permissions (global and plan-based)
- External database support
- Perforce triggering support
- Scheduled backups
- New Bundled NAnt plugin
- Lots of minor features and bug fixes

Bamboo 1.2 can be downloaded here, and is of course free to all customers who purchased their Bamboo licence or maintenance after July 9, 2006.

When upgrading, please refer to the Bamboo 1.2 Upgrade Guide.

⚠️ Want to see Bamboo 1.2 in action? Check out our live opensource instance.

**Permissions (global and plan-based)**

Different organisations, and different projects, have different security requirements. Some information can be made public, while sensitive information may need to be confined to a particular group of people.

Bamboo 1.2 gives you the ability to set security on individual build plans, as well as on your entire Bamboo system:

- Plan permissions allow your chosen users to perform a particular operation in relation to a particular build plan (e.g. view its build results).
- Global permissions allow your chosen users to perform a particular operation in relation to Bamboo as a whole.
External database support

Bamboo ships with a built-in HSQL database, which is well suited to evaluation purposes. When deploying Bamboo in production, however, you will probably prefer to connect Bamboo to an enterprise database of your choice.

Bamboo 1.2 now includes support for MySQL and Postgres. If you need to use a different database, generic instructions for connecting Bamboo to an unsupported database are also provided.

Perforce triggering support

We are pleased to announce that Bamboo builds can now be triggered by Perforce repositories (previously only Subversion and CVS repositories were supported).

Scheduled backups

You can now schedule your Bamboo data exports to occur automatically at a convenient time:
New Bundled NAnt plugin

Want to build your .Net projects on Bamboo? Now you can, with the NAnt plugin, which comes bundled by default with Bamboo 1.2.

On the topic of plugins, have you checked out the Bamboo plugins, home to a whole host of cool Bamboo plugins?

Other updates and bug fixes

On top of these features, Bamboo 1.2 also includes a host of minor new features, improvements and bug fixes:

Error rendering macro 'jiraissues' : Unable to determine if sort should be enabled.

Bamboo 1.2 Upgrade Guide

Upgrading from Bamboo 1.1.2 to 1.2

It is strongly recommended that you back up your xml-data directory before proceeding. For full instructions please follow the Bamboo generic upgrade guide.
If you are using plugins, please make sure that your plugins are compile against 1.2 before upgrading.

If you are using Bamboo with Crowd, please make sure that you upgrade to Crowd 1.1.2 before upgrading Bamboo.

Bamboo on Tomcat 5
If you are running Bamboo on Tomcat 5, please follow the instructions on this page.

Please note that the upgrade process may take a while to complete.

Upgrading from Bamboo 1.1.1 and earlier

In addition to the above, please read the Upgrade Guide for every version you are skipping during the upgrade. The complete list of Upgrade Guides is available here.

If you're upgrading from Bamboo 1.0.x to Bamboo 1.2, please upgrade to 1.1.2 first. There is an issue with the upgrade process from the 1.0.x series that we're currently looking into.

Bamboo 1.2 Plugin Interface Changes

Below are details of plugin interface changes with Bamboo 1.2

Notification Condition

The method getTextEmail has changed from

```java
public void getTextEmail(Event event, Email email);
```

to

```java
public Email getTextEmail(Event event, Email email);
```

It now requires you to return the email object with the content populated (body, subject mimeType etc)

Bamboo 1.2.4 Release Notes

Bamboo 4.3 has been released. Read the Bamboo 4.3 Release Notes and Upgrade Guide. Don't have Bamboo 4.3? Take a look at the features of Bamboo's latest major version and try it out!

17 October 2007

Atlassian is proud to announce the release of Bamboo 1.2.4. This point release includes more than 20 minor fixes and improvements. Bamboo 1.2.4 can be downloaded here. When upgrading, please refer to the Bamboo 1.2.4 Upgrade Guide.

Updates and issues fixed
## JIRA Issues (28 issues)

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<thead>
<tr>
<th>Type</th>
<th>Key</th>
<th>Summary</th>
<th>Assignee</th>
<th>Reporter</th>
<th>Priority</th>
<th>Status</th>
<th>Resolution</th>
<th>Created</th>
<th>Updated</th>
<th>Due</th>
</tr>
</thead>
<tbody>
<tr>
<td>🚨</td>
<td>BAM-2041</td>
<td>Bamboo displays Freemarker exception when displaying test result for which no duration was reported</td>
<td>Unassigned</td>
<td>Adrian Hempel [Atlassian]</td>
<td>🔴</td>
<td>Resolved</td>
<td>Obsolete</td>
<td>Dec 23, 2007</td>
<td>Jan 09, 2008</td>
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<td>Issue</td>
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<td>BAM-1799</td>
<td><strong>Build expiry is set to expire from last built date - as opposed to current working date.</strong></td>
<td>Brydie McCoy [Atlassian]</td>
<td>Resolved</td>
<td>Oct 08, 2007</td>
<td>Jan 09, 2008</td>
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<td>BAM-1794</td>
<td><strong>Bamboo gives the impression that Build Expiry will run at the end of the build</strong></td>
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<td>Oct 07, 2007</td>
<td>Jul 30, 2008</td>
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<tr>
<td>BAM-1788</td>
<td><strong>View commits page may return an error if no commit comment exists</strong></td>
<td>Mark Chaimungkalanont [Atlassian]</td>
<td>Resolved</td>
<td>Oct 05, 2007</td>
<td>Oct 05, 2007</td>
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<tr>
<td>BAM-1742</td>
<td><strong>Freemarker error on BDAC</strong></td>
<td>Unassigned</td>
<td>Resolved</td>
<td>Sep 27, 2007</td>
<td>Oct 25, 2007</td>
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<td>Ticket</td>
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<td>Resolution Date</td>
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<td>BAM-17-00</td>
<td>Unable to see the test detail page when the test name contains a slash</td>
<td>Brydie McCoy [Atlassian]</td>
<td>Samuel Langlois</td>
<td>Fixed</td>
<td>Resolution</td>
<td>Sep 13, 2007</td>
<td>Sep 25, 2007</td>
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<td>Issue ID</td>
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<td>BAM-1697</td>
<td>Bamboo dashboard never updates Plan name if it has been changed</td>
<td>Edwin Wong [Atlassian]</td>
<td>Resolved</td>
<td>Fixed</td>
<td>Sep 13, 2007</td>
<td>Oct 02, 2007</td>
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<td>BAM-1695</td>
<td>When editing notification rule, warning message about IM server missing appears even when one configured</td>
<td>Brydie McCoy [Atlassian]</td>
<td>Resolved</td>
<td>Fixed</td>
<td>Sep 12, 2007</td>
<td>Sep 16, 2007</td>
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<tr>
<td>BAM-1693</td>
<td>Build artifacts won't open correctly in Firefox</td>
<td>Brydie McCoy [Atlassian]</td>
<td>Resolved</td>
<td>Fixed</td>
<td>Sep 12, 2007</td>
<td>Sep 19, 2007</td>
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<td>BAM-1687</td>
<td>Users without Admin rights can't change number of shown builds in ViewbuildResult page</td>
<td>Edwin Wong [Atlassian]</td>
<td>Resolved</td>
<td>Fixed</td>
<td>Sep 10, 2007</td>
<td>Sep 17, 2007</td>
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<tr>
<td>BAM-1684</td>
<td>Bamboo should build to perforce label</td>
<td>Ajay Sridhar [Atlassian]</td>
<td>Resolved</td>
<td>Fixed</td>
<td>Sep 09, 2007</td>
<td>Apr 03, 2012</td>
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<tr>
<td>BAM-1665</td>
<td>Build</td>
<td>Brydie Mark</td>
<td>Resolved</td>
<td>Fixed</td>
<td>Sep 02, 2007</td>
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<tr>
<td>66</td>
<td>BAM-1591</td>
<td>Perforce repository polling: Use 'change s' instead of 'sync' to detect changes</td>
<td>Unassigned MattyJ</td>
<td>Resolved</td>
<td>Aug 13, 2007</td>
<td>May 11, 2008</td>
<td></td>
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<tr>
<td>15</td>
<td>BAM-1515</td>
<td>Have a nicer Error page, when trying to see a non existing build report</td>
<td>Brydie McCoy [Atlassian] Samuel Le Berrigaud [Atlassian]</td>
<td>Resolved</td>
<td>Jul 25, 2007</td>
<td>Sep 17, 2007</td>
<td></td>
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<tr>
<td>22</td>
<td>BAM-1222</td>
<td>Code changes should display Perforce changelist number</td>
<td>Unassigned Colin Ho</td>
<td>Resolved</td>
<td>May 13, 2007</td>
<td>May 11, 2008</td>
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</tbody>
</table>
Bamboo 1.2.4 Upgrade Guide

Upgrading from Bamboo 1.2.x to 1.2.4

Please follow the Bamboo generic upgrade guide, plus:

⚠️ Bamboo on Tomcat 5

If you are running Bamboo on Tomcat 5, please follow the instructions on this page.

Upgrading from Bamboo 1.1.x or earlier

In addition to the above, please read the Bamboo 1.2 Upgrade Guide and the Upgrade Guide for every version you are skipping during the upgrade. The complete list of Upgrade Guides is available here.

Bamboo 1.2.3 Release Notes

✅ Bamboo 4.3 has been released. Read the Bamboo 4.3 Release Notes and Upgrade Guide. Don't have Bamboo 4.3? Take a look at the features of Bamboo's latest major version and try it out!

12 September 2007

Atlassian is proud to announce the release of Bamboo 1.2.3. This point release includes more than 20 minor fixes and improvements. Most notably, for greater flexibility when configuring a build plan, variables can now be used in a number of different places.

Bamboo 1.2.3 can be downloaded here. When upgrading, please refer to the Bamboo 1.2.3 Upgrade Guide.

Updates and issues fixed

<table>
<thead>
<tr>
<th>JIRA Issues (24 issues)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Type</strong></td>
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</tbody>
</table>

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<table>
<thead>
<tr>
<th>Issue</th>
<th>System Environment Variables Separated or Not Indicated</th>
<th>User</th>
<th>Action</th>
<th>Resolution Status</th>
<th>Resolution Date 1</th>
<th>Resolution Date 2</th>
</tr>
</thead>
<tbody>
<tr>
<td>BAM-1680</td>
<td>SSO with Crowd causes NoSuch Method Error</td>
<td>Unassigned</td>
<td>Arjan Schaaf</td>
<td>Resolved</td>
<td>Fixed</td>
<td>Sep 07, 2007</td>
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<td>BAM-1668</td>
<td>Bamboo can't parse test results, where method name is &quot;Test&quot;</td>
<td>Adrian Hempel [Atlassian]</td>
<td>Resolved</td>
<td>Fixed</td>
<td>Sep 03, 2007</td>
<td>Sep 03, 2007</td>
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<td>BAM-1660</td>
<td>Duplicate Path variable(s) added by Bamboo when executing Build</td>
<td>Brydie McCoy [Atlassian]</td>
<td>Resolved</td>
<td>Fixed</td>
<td>Aug 31, 2007</td>
<td>Sep 11, 2007</td>
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<td>Issue</td>
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<tr>
<td>BAM-16</td>
<td>Upgrade Seraph dependency from 0.7.17 to 0.7.23</td>
<td>Edwin Wong [Atlassian], Justin Koke [Atlassian]</td>
<td>Resolved</td>
<td>Aug 29, 2007</td>
<td>Sep 10, 2007</td>
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<td>BAM-16</td>
<td>Implement rules to determine whether an artifact is to be downloaded or viewed in the browser</td>
<td>Brydie McCoy [Atlassian], Adrian Hempel [Atlassian]</td>
<td>Resolved</td>
<td>Aug 28, 2007</td>
<td>Oct 21, 2007</td>
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<td>BAM-16</td>
<td>Bamboo will not export under JDK 1.4 using JBoss 4.0.5</td>
<td>Brydie McCoy [Atlassian], Ajay Sridhar [Atlassian]</td>
<td>Resolved</td>
<td>Aug 26, 2007</td>
<td>Sep 03, 2007</td>
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<td>BAM-16</td>
<td>AccessLogFilter is configured but does not show &lt;user&gt; &lt;curl&gt; &lt;starting memory free in bamboo.log&gt;</td>
<td>Brydie McCoy [Atlassian], Levent Tutar</td>
<td>Resolved</td>
<td>Aug 22, 2007</td>
<td>Aug 27, 2007</td>
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</tbody>
</table>

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<table>
<thead>
<tr>
<th>Ticket</th>
<th>Description</th>
<th>Owner</th>
<th>Assignee</th>
<th>Resolution</th>
<th>Created</th>
<th>Updated</th>
</tr>
</thead>
<tbody>
<tr>
<td>BAM-16</td>
<td><strong>When configuring Perforce scm, with Triggered build, the “Trigger IP address” field does not get saved.</strong></td>
<td>Brydie McCoy [Atlassian]</td>
<td>Ajay Srithar [Atlassian]</td>
<td>Resolved</td>
<td>Aug 19, 2007</td>
<td>Aug 21, 2007</td>
</tr>
<tr>
<td>Issue</td>
<td>Summary</td>
<td>Reporter</td>
<td>Assignee</td>
<td>Status</td>
<td>Resolved</td>
<td>Created</td>
</tr>
<tr>
<td>-------</td>
<td>---------</td>
<td>----------</td>
<td>----------</td>
<td>--------</td>
<td>----------</td>
<td>---------</td>
</tr>
<tr>
<td>BAM-14-42</td>
<td>User comments should have the standard link formatting applied to it</td>
<td>Brydie McCoy [Atlassian]</td>
<td>Mark Chaimungkalanont [Atlassian]</td>
<td>Resolved</td>
<td>Fixed</td>
<td>Jul 08, 2007</td>
</tr>
</tbody>
</table>

**Bamboo 1.2.3 Upgrade Guide**

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### Upgrading from Bamboo 1.2.x to 1.2.3

Please follow the Bamboo generic upgrade guide, plus:

**⚠️ Bamboo on Tomcat 5**

If you are running Bamboo on Tomcat 5, please follow the instructions on [this page](#).

### Upgrading from Bamboo 1.1.x or earlier

In addition to the above, please read the Bamboo 1.2 Upgrade Guide and the Upgrade Guide for every version you are skipping during the upgrade. The complete list of Upgrade Guides is available [here](#).

#### Bamboo 1.2.2 Release Notes

- **☑️ Bamboo 4.3** has been released. Read the Bamboo 4.3 Release Notes and Upgrade Guide. Don't have Bamboo 4.3? Take a look at the features of Bamboo's latest major version and try it out!

Atlassian is proud to announce the release of Bamboo 1.2.2!

**Major features include:**

- Bulked editing of plan permissions.
- Administrators can now change users' passwords.
- Improved caching on the dashboard, for better performance.

**Major fixes include:**

- Import and export when integrated with LDAP or Crowd.
- More import and export fixes.
- Users can now IM with Crowd integrated.

**Updates and Issues fixed**

<table>
<thead>
<tr>
<th>JIRA Issues (22 issues)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Type</strong></td>
</tr>
<tr>
<td>---</td>
</tr>
<tr>
<td>Issue</td>
</tr>
<tr>
<td>-------</td>
</tr>
<tr>
<td>BAM-15</td>
</tr>
<tr>
<td>BAM-15</td>
</tr>
<tr>
<td>BAM-15</td>
</tr>
<tr>
<td>BAM-15</td>
</tr>
<tr>
<td>Issue</td>
</tr>
<tr>
<td>-------</td>
</tr>
<tr>
<td>BAM-14 36</td>
</tr>
<tr>
<td>#</td>
</tr>
<tr>
<td>-----</td>
</tr>
<tr>
<td>BAM-12 85</td>
</tr>
<tr>
<td>BAM-12 52</td>
</tr>
<tr>
<td>BAM-11 88</td>
</tr>
<tr>
<td>BAM-10 86</td>
</tr>
<tr>
<td>BAM-10 43</td>
</tr>
</tbody>
</table>

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Bamboo 1.2.2 Upgrade Guide

Upgrading from Bamboo 1.2 (or 1.2.1) to 1.2.2

Please follow the Bamboo generic upgrade guide, plus:

⚠️ Bamboo on Tomcat 5

If you are running Bamboo on Tomcat 5, please follow the instructions on Bamboo 1.2.2 on Tomcat 5.

Upgrading from Bamboo 1.1 and earlier

In addition to the above, please read the Upgrade Guide for every version you are skipping during the upgrade. The complete list of Upgrade Guides is available here.

Bamboo 1.2.1 Release Notes

✅ Bamboo 4.3 has been released. Read the Bamboo 4.3 Release Notes and Upgrade Guide. Don't have Bamboo 4.3? Take a look at the features of Bamboo's latest major version and try it out!

Atlassian is proud to announce the release of Bamboo 1.2.1! Bamboo 1.2.1 is mainly a bug fix release.

ℹ️ It is strongly recommended that you upgrade to Bamboo 1.2.1! It contains a fix to a critical security exploit in the system.

Major fixes include:

- Security exploit in Webwork 2.2.
- JDK 1.4 support
- Import & Export of build plan dependencies
- Upgrading from 1.0.x to 1.2.

Updates and Issues fixed

Error rendering macro 'jiraissues' : Unable to determine if sort should be enabled.

Bamboo 1.2.1 Upgrade Guide

Upgrading from Bamboo 1.2 to 1.2.1

Please follow the Bamboo generic upgrade guide

Upgrading from Bamboo 1.1 and earlier

In addition to the above, please read the Upgrade Guide for every version you are skipping during the upgrade. The complete list of Upgrade Guides is available here.
Bamboo 1.1 Release Notes

✅ Bamboo 4.3 has been released. Read the Bamboo 4.3 Release Notes and Upgrade Guide. Don't have Bamboo 4.3? Take a look at the features of Bamboo's latest major version and try it out!

The Atlassian Bamboo team is proud to announce the release of Bamboo 1.1! This release contains a whole host of new features targeted to make your build plans even more powerful and flexible.

⚠️ Want to see Bamboo 1.1 in action? Check out our live opensource instance.

Advanced Notifications

In this release, we have extended Bamboo notifications framework to provide more flexibility, allowing you to select the how, who and when of notifications.

Notification Rules

Rather than having static fields for emails/IM recipients, Bamboo now allows you to define your own notifications for your build plans as a set of rules, giving you greater granularity in controlling exactly which recipient gets notified and when.

<table>
<thead>
<tr>
<th>Notification Trigger</th>
<th>Notification Recipients</th>
<th>Operations</th>
</tr>
</thead>
<tbody>
<tr>
<td>Failed Builds And First Successful</td>
<td>Users: test, admin</td>
<td>Edit</td>
</tr>
<tr>
<td>Notify After 5 Failed Builds</td>
<td>Roles: Watcher</td>
<td>Edit</td>
</tr>
<tr>
<td>All Completed Builds</td>
<td>Roles: Committer</td>
<td>Edit</td>
</tr>
</tbody>
</table>

Notification Triggers

In release 1.1, we introduce notification triggers, defining exactly when you would like a notification to be sent by Bamboo. By default, you can select a notification to be sent on "all builds completion", "after X failed builds" or "failed builds and first successful build". Want more customised triggers? You can now write your own as a notification condition plugin.

Add Build Notification

Notification Preferences

Different users prefer to get notified in different ways. Bamboo now lets you control that, via the new user notification preferences.

Set Your Notification Preference

How would you like bamboo to send you notifications:

- ☐ Do not send notifications
- ☑ Send instant message
- ☑ Send text email
- ☑ Send email and instant message

Please ensure that you have set the appropriate address for the notification type.

Dynamic recipients
Only want to receive a notification when you have committed against the build? Want to opt-in to receive notifications on the build plan that you are keeping an eye on? Bamboo 1.1 introduces two new dynamic recipient roles: committers (those users who have committed to the plan triggering the particular build to execute) and watchers (those users who have marked the build plan as their favourite), which allow you to do just that!

**Build Metadata**

Every build process is different, and each build will have its own information that you may want to keep track of and use on top of the information that Bamboo stores about your build. This is particularly the case if you run custom plugins in your build process.

**Pass them to your build**

One way to use your build metadata is to pass it along to your builder as a property or target. To do this, you simply specify your variables in your target (or goal) field in your builder configuration. During build execution, the variables will be substituted with the actual values from your build metadata.

**Global Variables**

Bamboo 1.1 also allows you the option to specify variables globally. When a build begins, the global variables will be populated to the build's metadata. This is a handy option for you to control many plans in one go.

**Global Variables**

You can use this page to view, add and delete global variables. Global variables are available on every build run in Bamboo.

<table>
<thead>
<tr>
<th>Key</th>
<th>Value</th>
<th>Operations</th>
</tr>
</thead>
<tbody>
<tr>
<td>bambooVersion</td>
<td>1.1</td>
<td>Delete</td>
</tr>
</tbody>
</table>

**View your metadata**

Use the "Metadata" tab to keep track of all of your build's metadata.

<table>
<thead>
<tr>
<th>Key</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>buildKey</td>
<td>EXT-BLAH</td>
</tr>
<tr>
<td>buildNumber</td>
<td>31</td>
</tr>
<tr>
<td>bambooVersion</td>
<td>1.1</td>
</tr>
</tbody>
</table>
**File Trigger Inclusions/Exclusions**

In this release, we also introduce the file trigger inclusion/exclusion filter. Instead of listening and picking up all changes from a repository, you can now use regex patterns to define those files which you do (or don't) want to trigger builds.

<table>
<thead>
<tr>
<th>Include / Exclude Files:</th>
<th>Exclude all changes that matches the following pattern</th>
</tr>
</thead>
<tbody>
<tr>
<td>File Pattern:</td>
<td>&quot;documentation.*&quot;</td>
</tr>
</tbody>
</table>
A regular expression to match the file to be included / excluded.

**More pluggability**

In release 1.1, we have added more plugin points to make Bamboo even more extensible than before. On top of the notification condition plugin point, we have also added pre-build action plugins, as well as repository plugins.

- **Repository Plugins** Not using SVN, CVS, or Perforce? You can now write a plugin to integrate with your very own source control.
- **Pre-build Plugins** Similar to the post-build action plugin, the pre-build action plugin will allow you to perform any custom task you may wish. The only difference is, of course, that it occurs before the build execution begins.

**Improved Maven 2 error log parsing**

Bamboo now intelligently parses the Maven 2 error log for possible errors in the build errors log, giving you a better view of what really went wrong in your build summary.

```
Error Summary

INFO] The build generated some errors. See the full build log for details.

[ERROR] BUILD FAILURE
[INFO] Compilation Failure

/path/to/maven-3.2.5/bin/maven-clean

[INFO] For more information, run Maven with the -e switch.
```

**LDAP and external user management support**

In release 1.1, we have improved our user management capability to support externally sourced users and groups, including LDAP, and Crowd

**Performance of Dashboard**

With this release, we have also made significant performance improvements to the dashboard, which should see its load times reduce dramatically.

**Other updates and bug fixes**

On top of these features, we have also made a whole host of bug fixes, with over x bugs fixed since release 1.0.5.

**Error rendering macro 'jiraissues': Unable to determine if sort should be enabled.**

If you want to check out a live Bamboo instance, take a look at our opensource instance.
**Bamboo 1.1 Upgrade Guide**

**Upgrading from Bamboo 1.0.5 to 1.1**

It is strongly recommended that you back up your xml-data directory before proceeding. For full instructions please follow the [Bamboo generic upgrade guide](#).

Please note that the upgrade process may take a while to complete.

**Upgrading from Bamboo 1.0.5 and earlier**

In addition to the above, please read the *Upgrade Guide* for every version you are skipping during the upgrade. The complete list of Upgrade Guides is available [here](#).

**Bamboo 1.1.2 Release Notes**

ês Bamboo 4.3 has been released. Read the [Bamboo 4.3 Release Notes](#) and [Upgrade Guide](#). Don't have Bamboo 4.3? Take a look at the features of Bamboo's [latest major version](#) and try it out!

Atlassian is proud to announce the release of Bamboo 1.1.2! Bamboo 1.1.2 is mainly a bug fix release.

Major fixes include:

- Export - Windows Export caused some problems, these are now fixed
- Subversion - We have ungraded to the latest SVNKit to incorporate many of their bug fixes
- Fisheye Integration - The Fisheye links for perforce have been fixed
- Character Encoding - Bamboo now lets you use all Unicode characters
- LDAP - More LDAP fixes!

**Updates and Issues fixed**

**Error rendering macro 'jiraissues' : Unable to determine if sort should be enabled.**

**Bamboo 1.1.2 Upgrade Guide**

**Upgrading from Bamboo 1.1.1 to 1.1.2**

Please follow the [Bamboo generic upgrade guide](#)

**Upgrading from Bamboo 1.1 and earlier**

In addition to the above, please read the *Upgrade Guide* for every version you are skipping during the upgrade. The complete list of Upgrade Guides is available [here](#).

**Bamboo 1.1.1 Release Notes**

Atlassian is proud to announce the release of Bamboo 1.1.1! Bamboo 1.1.1 is mainly a bug fix release.

Major fixes include:

- LDAP - Many problems with LDAP integration have been overcome
- IMPORT/EXPORT - Several import fixes were implemented
- CVS - CVS change detection has been improved
Updates and Issues fixed

Error rendering macro 'jiraissues': Unable to determine if sort should be enabled.

Bamboo 1.1.1 Upgrade Guide

Upgrading from Bamboo 1.1 to 1.1.1

Please follow the Bamboo generic upgrade guide

Upgrading from Bamboo 1.0.5 and earlier

In addition to the above, please read the Upgrade Guide for every version you are skipping during the upgrade. The complete list of Upgrade Guides is available here.

Bamboo 1.0 Release Notes

✔️ Bamboo 4.3 has been released. Read the Bamboo 4.3 Release Notes and Upgrade Guide. Don't have Bamboo 4.3? Take a look at the features of Bamboo's latest major version and try it out!

Atlassian is proud to announce the final release of Bamboo 1.0! Bamboo 1.0 is the first official release of Atlassian's new Continuous Integration and Build Server.

Bamboo is more than just a build server — it is an entire Build Telemetry system designed to provide you with unprecedented insight into your development processes.

To check out Bamboo's features and see what it can do for you, please visit our Feature Tour.

⚠️ Upgrading from a pre-release version? Please see the Bamboo 1.0 Upgrade Guide.

⚠️ Doing an upgrade? Make sure you re-index Bamboo by going to the Administration section and hitting 'Re-index'.

Changes since RC2

The final steps to 1.0 since RC2 has been focused on resolving issues. Release 1.0 includes over 30 issues resolved.

In addition, the 1.0 release also sports another revised "All Plans" tab in the dashboard.
Other updates and bug fixes.

Error rendering macro 'jiraissues' : Unable to determine if sort should be enabled.

Bamboo 1.0 Upgrade Guide

Upgrading from Bamboo 1.0-RC2 to 1.0

Please follow the Bamboo generic upgrade guide

You will need to reindex your data after the upgrade is complete and Bamboo has started. To do this, go to the indexing page under the Administration section in Bamboo.

Upgrading from Bamboo 1.0-RC1 and earlier

In addition to the above, please read the Upgrade Guide for every version you are skipping during the upgrade. The complete list of Upgrade Guides is available here.

Bamboo 1.0.5 Release Notes

Bamboo 4.3 has been released. Read the Bamboo 4.3 Release Notes and Upgrade Guide. Don't have Bamboo 4.3? Take a look at the features of Bamboo's latest major version and try it out!

Atlassian is proud to announce the release of Bamboo 1.0.5! Bamboo 1.0.5 is mainly a bug fix release related to subversion connectivity issues.

Updates and Issues fixed

Error rendering macro 'jiraissues' : Unable to determine if sort should be enabled.

Bamboo 1.0.5 Upgrade Guide

Upgrading from Bamboo 1.0.4 to 1.0.5
It is strongly recommended that you back up your xml-data directory before proceeding. For full instructions please follow the Bamboo generic upgrade guide.

Upgrading from Bamboo 1.0.4 and earlier

In addition to the above, please read the Upgrade Guide for every version you are skipping during the upgrade. The complete list of Upgrade Guides is available here

Bamboo 1.0.4 Release Notes

☑️ Bamboo 4.3 has been released. Read the Bamboo 4.3 Release Notes and Upgrade Guide. Don't have Bamboo 4.3? Take a look at the features of Bamboo's latest major version and try it out!

Atlassian is proud to announce the release of Bamboo 1.0.4! Bamboo 1.0.4 is mainly a bug fix release with over 10 issues resolved.

In this release, the focus has been on resolving connectivity issues with Subversion and Perforce

Perforce Improvements

There have been a few changes in Bamboo's Perforce integration

- Bamboo will now cache the client root rather than polling the repository continuously to obtain it. This reduces the load on the Perforce server considerably. However, if you change the root in the client definition on Perforce, Bamboo will require a restart to pick up the change.
- Bamboo now uses changelist numbers to detect source code changes rather than a timestamp. This will avoid all sorts of problems that occur when the Bamboo server clock and Perforce server clock are out of sync.
- Bamboo now picks up multi line change descriptions from Perforce.
- Bamboo can now generate web urls for perforce files when using Fisheye.

Updates and Issues fixed

Error rendering macro 'jiraissues': Unable to determine if sort should be enabled.

Bamboo 1.0.4 Upgrade Guide

Upgrading from Bamboo 1.0.3 to 1.0.4

In this version, an upgrade task has been added to update Perforce plans to use the change list number rather than the timestamp when detecting changes. Please ensure that you have connectivity to the Perforce server before you upgrade.

If Bamboo encounters any errors during the upgrade task it will set the Perforce plan's last change list number to 0. This means that the next time you build that plan there may be some unusual results (eg. picking up every single change list). Once this build is complete normal behaviour will resume.

It is strongly recommended that you back up your xml-data directory before proceeding. For full instructions please follow the Bamboo generic upgrade guide.

Upgrading from Bamboo 1.0.2 and earlier

In addition to the above, please read the Upgrade Guide for every version you are skipping during the upgrade. The complete list of Upgrade Guides is available here

Bamboo 1.0.3 Release Notes
Atlassian is proud to announce the release of Bamboo 1.0.3! Bamboo 1.0.3 is mainly a bug fix release with over 10 issues resolved.

In this release, the focus has been on improving SVN integration (detection of SVN Externals) and CVS integration (detection of ampersand modules).

**Updates and Issues fixed**

**Error rendering macro 'jiraissues' : Unable to determine if sort should be enabled.**

**Bamboo 1.0.3 Upgrade Guide**

**Upgrading from Bamboo 1.0.2 to 1.0.3**

In this version, an upgrade task has been added to upgrade your CVS commit files data to a correct path (which includes module name). This may take a while to run, and it is strongly recommended that you back up your xml-data directory before proceeding. For fuller instructions please follow the [Bamboo generic upgrade guide](#).

**Upgrading from Bamboo 1.0.1 and earlier**

In addition to the above, please read the Upgrade Guide for every version you are skipping during the upgrade. The complete list of Upgrade Guides is available [here](#).

**Bamboo 1.0.2 Release Notes**

Atlassian is proud to announce the release of Bamboo 1.0.2! Bamboo 1.0.2 is mainly a bug fix release with over 10 issues resolved.

In addition, Bamboo 1.0.2 also sees added support for ssh private key authentication for both Subversion and CVS repositories.

**Updates and Issues fixed**

**Error rendering macro 'jiraissues' : Unable to determine if sort should be enabled.**

**Bamboo 1.0.2 Upgrade Guide**

**Upgrading from Bamboo 1.0.1 to 1.0.2**

Please follow the [Bamboo generic upgrade guide](#)

**Upgrading from Bamboo 1.0.1 and earlier**

In addition to the above, please read the Upgrade Guide for every version you are skipping during the upgrade. The complete list of Upgrade Guides is available [here](#).

**Bamboo 1.0.1 Release Notes**
Bamboo 4.3 has been released. Read the Bamboo 4.3 Release Notes and Upgrade Guide. Don't have Bamboo 4.3? Take a look at the features of Bamboo's latest major version and try it out!

Atlassian is proud to announce the release of Bamboo 1.0.1! Bamboo 1.0.1 is largely a bug fix build with over 20 issues resolved, including:

- Support for SVN cached default authentication.
- IE7 Javascript issues.
- Startup Script issues.

New startup procedures for Mac OS X and Linux distributions

The Bamboo startup procedure for Mac OS X and Linux distributions have now changed. Instead of using the Java Service Wrapper by invoking run-bamboo (in Mac OS X) or start-bamboo in Linux, the default startup script has been replaced by a generic bamboo.sh script in the root Bamboo installation folder. Using this script bypasses the Java Service Wrapper.

Usages for bamboo.sh

- start - starts Bamboo
- stop - stops Bamboo
- console - runs Bamboo in the console
- status - checks the status of Bamboo.

The Java Service Wrapper is still available, and you can startup Bamboo with it if you so choose. To do this, simply run your startup command in the /wrapper folder rather than the installation root folder.

Updates and Issues fixed.

Error rendering macro 'jiraissues' : Unable to determine if sort should be enabled.

Bamboo 1.0.1 Upgrade Guide

Upgrading from Bamboo 1.0 to 1.0.1

Please follow the Bamboo generic upgrade guide

You will need to reindex your data after the upgrade is complete and Bamboo has started. To do this, go to the indexing page under the Administration section in Bamboo.

Upgrading from Bamboo 1.0 and earlier

In addition to the above, please read the Upgrade Guide for every version you are skipping during the upgrade. The complete list of Upgrade Guides is available here.

Bamboo 1.0-Beta Release Notes

The Atlassian Bamboo team is proud to announce the release of Bamboo 1.0 beta. This release includes over 40 bug fixes and improvements.

Upgrading? Please see the Bamboo 1.0-Beta Upgrade Guide.
New in Release 1.0 - Beta

Anonymous access and sign on control.

In this release, you can now control whether your Bamboo is a public or private instance via the anonymous access and sign on options. Anonymous access allows users not signed in to view read only sections of Bamboo. Sign on allows users to create their own account for login. Disable these options to fully protect your Bamboo instance.

Auto favourite feature

Bamboo gets smarter with an auto-favourite marking feature. It'll mark those builds you commit against as your favourites.

Longest time to fix tests

Get a view of which tests in your builds are taking the longest the fix.

Other updates and bug fixes

Error rendering macro 'jiraissues' : Unable to determine if sort should be enabled.

Bamboo 1.0-Beta Upgrade Guide

Upgrading from Bamboo 0.9 to 1.0-Beta

Please follow the Bamboo generic upgrade guide.

Upgrading from Bamboo 0.8 and earlier

In addition to the above, please read the Upgrade Guide for every version you are skipping during the upgrade. The complete list of Upgrade Guides is available here.

Bamboo upgrade guides

You should read the general Bamboo generic upgrade guide as well as the upgrade guide for the version of Bamboo you are upgrading to. The upgrade guides for each of the Bamboo releases, can be found below.

Please also read the relevant release notes for the version you are upgrading to.

Previous Releases

No content found for label(s) bambooupgradeguide.

Bamboo generic upgrade guide

This guide describes upgrade tasks that are common to upgrades for all Bamboo versions. Please ensure that you also read the upgrade guide for the version you are upgrading to.

☑️ Bamboo 4.3 has been released. Read the Bamboo 4.3 Release Notes and Upgrade Guide. Don't have Bamboo 4.3? Take a look at the features of Bamboo's latest major version and try it out!

Step 1. Export and back up Bamboo data

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Export the Bamboo database

In Bamboo, export your Bamboo database, for backup purposes. See Exporting data for backup for instructions. Note that this may take a long time to complete depending on the number of builds and tests in your system.

If you are using an external database, then use the native database backup tools to acquire a database dump.

On this page:

- Step 1. Export and back up Bamboo data
- Step 2. Install the new Bamboo version
- Step 3. Configure the new Bamboo
- Step 4. Launch Bamboo
- Troubleshooting

Related pages:

- Bamboo installation guide
- Bamboo release notes
- Bamboo security advisories

Back up the Bamboo configuration

Shut down Bamboo.

Back up your 'Bamboo Home' directory, which includes the builds and configuration directories.

Expand for info on how to find these directories...

Click Administration, and then System Information (under 'System') in your Bamboo instance, and note the location of the 'Bamboo Home', 'Build Path' and 'Configuration Path' directories (under 'Bamboo Paths'):

<table>
<thead>
<tr>
<th>Bamboo Paths</th>
<th>Information (under 'System')</th>
</tr>
</thead>
<tbody>
<tr>
<td>Current running directory</td>
<td>/opt/j2ee/domains/bamboo.atlassian.com/jira/apache-tomcat-5.5.20</td>
</tr>
<tr>
<td>Configuration Path:</td>
<td>/home/j2ee/bamboo/xml-data/configuration</td>
</tr>
<tr>
<td>Build Path:</td>
<td>/home/j2ee/bamboo/xml-data/builds</td>
</tr>
<tr>
<td>Build Working Directory:</td>
<td>/home/j2ee/bamboo/xml-data/build-dir</td>
</tr>
<tr>
<td>Bamboo Home:</td>
<td>/home/j2ee/bamboo</td>
</tr>
</tbody>
</table>

For more information about these directories see Important Directories and Files.

Step 2. Install the new Bamboo version

- Make sure that your {BAMBOO_INSTALL} directory is either a new directory, or else delete your old {BAMBOO_INSTALL} directory before you begin, as legacy files may cause problems.
- The {BAMBOO_HOME} directory must be different from the {BAMBOO_INSTALL} directory. This will ensure that your data is not lost when upgrading or re-installing Bamboo.

If you are installing using the .zip or .tgz packages:

- Specify the {BAMBOO_HOME} directory in <Bamboo-install>/webapp/WEB-INF/classes/bambo
Step 3. Configure the new Bamboo

Reconnect external user directories

You only need to perform this step if either of the following apply:

- **LDAP integration** — If you had previously integrated Bamboo with LDAP/AD, copy your old
  ../<Bamboo-o-init>/webapp/WEB-INF/classes/atlassian-user.xml to it's new location. Starting with
  version 3.2, the atlassian-user.xml file will be stored at {BAMBOO-HOME}/xml-data/configuration/.
  Please replace the existing file using your old atlassian-user.xml. Note that in a EAR-WAR
  installation, the webapp directory may have a different name.

- **Crowd integration** — If you had previously integrated Bamboo with Crowd, you will need to re-enable
  Crowd integration. For details please see Integrating Crowd with Bamboo.

Update any installed plugins

If you are using any plugins other than the ones that ship with Bamboo, check that each one is compatible with
the new version of Bamboo. Upgrade any plugins that are out-of-date, and disable any plugins that are
incompatible with your new version of Bamboo.

Automatic upgrade of remote agents

For Bamboo 3.2 and later, remote agents are upgraded automatically. The remote agent can automatically
detect when a new version is available, and has a special classloader that downloads the new classes from the
server.

See also the Bamboo remote agent installation guide.

Step 4. Launch Bamboo

Start Bamboo

Before starting Bamboo, ensure that Bamboo has write access to your database. This is required to complete
the upgrade tasks that will run when you start up Bamboo. Please consult your database documentation to
ensure that you have configured your database appropriately.

Once you have installed Bamboo and set the bamboo.home property (as described in the installation guides),
start Bamboo. The upgrade process will be performed when Bamboo starts up. You will not see the Setup
Wizard.

Monitor the atlassian-bamboo.log to ensure that the upgrade process completes successfully.

Reindex Bamboo (if indicated in the release notes)
Bamboo maintains an index of its build results. This allows Bamboo to display aggregate build results information across builds. You may need to perform a re-index of Bamboo if the upgrade process requires it. This step may or may not be required (depending on the upgrade versions). Also note that you only need to do this if you have existing data in Bamboo.

To re-index, go to Administration, then Indexing (under ‘System’).

⚠️ Depending on the number of builds and tests you may have, the indexing process may take a significant amount of time. During this period, Bamboo will not be available. Also, it is advisable to ensure that all you have disabled all build queues (or all agents, if you are upgrading from Bamboo 2.0 or later), and that no builds are in progress when you start the re-indexing process. If you have a large instance, it is recommended that you reindex overnight.

Troubleshooting

If you have any problems during upgrade, please raise a support request at https://support.atlassian.com/ and attach your atlassian-bamboo.log so we can help you find out what's gone wrong.

Bamboo security advisories

As a distributed application, Bamboo's application-level security is important. This document contains links to version-specific security advisories and related documents for the Bamboo application.

ℹ️ This document is intended to provide information to system administrators about the security of the Bamboo application. It does not describe Bamboo's internal security model – user management and permissions – except as it relates to the overall application security.

Finding and reporting a security vulnerability

Atlassian's approach to releasing patches is detailed in How to Report a Security Issue.

Publication of Bamboo security advisories

Atlassian's approach to publishing security advisories is detailed in Security Advisory Publishing Policy.

Severity levels

Atlassian's scale for measuring security issues is detailed in Severity Levels for Security Issues.

Our patch policy

Atlassian's approach to releasing patches is detailed in our Security Patch Policy.

Security advisories

- Bamboo Security Advisory 2012-08-28
- Bamboo Security Advisory 2012-05-17
- Bamboo Security Advisory 2012-01-31
- Bamboo Security Advisory 2011-11-22
- Bamboo Security Advisory 2011-03-29
- Bamboo Security Advisory 2010-05-04
- Bamboo Security Advisory 2009-03-09
- Bamboo Security Advisory 2008-02-08 (Bamboo 2.0 Beta)
Bamboo Security Advisory 2012-08-28

This advisory announces a security vulnerability that we have found in Bamboo and fixed in a recent version of Bamboo.

- **Customers who have downloaded and installed Bamboo** should upgrade their existing Bamboo installations to fix this vulnerability.
- **Atlassian OnDemand** are not affected by any of the issues described in this advisory.

Atlassian is committed to improving product security. The vulnerability listed in this advisory has been discovered by Atlassian, unless noted otherwise. The reporter may also have requested that we do not credit them.

If you have questions or concerns regarding this advisory, please raise a support request at [http://support.atlassian.com/](http://support.atlassian.com/).

In this advisory:

- **OGNL Injection Vulnerability**

OGNL Injection Vulnerability

*Severity*

Atlassian rates the severity level of this vulnerability as **Critical**, according to the scale published in [Severity Levels for Security Issues](#). The scale allows us to rank the severity as critical, high, moderate or low.

This is an independent assessment and you should evaluate its applicability to your own IT environment.

*Description*

We have identified and fixed a vulnerability caused by the way WebWorks/Struts and Freemarker templates are used in Bamboo. The vulnerability allows a non-authenticated user to execute arbitrary Java methods in the JVM hosting the Bamboo application. This can be used to execute OS commands as the JVM user.

All versions of Bamboo up to and including 4.0.1 are affected. This issue can be tracked here: [BAM-12066](#) - Authenticate to see issue details

This vulnerability has been fixed in Bamboo 4.1. A patch is available for Bamboo 3.0 and above

<table>
<thead>
<tr>
<th>Bamboo Vulnerability</th>
<th>Affected versions</th>
<th>Fixed Version</th>
<th>Issue Tracking</th>
</tr>
</thead>
<tbody>
<tr>
<td>Elevation of privileges</td>
<td>4.x</td>
<td>4.1</td>
<td><strong><a href="#">BAM-12066 - Authenticate</a></strong> to see issue details</td>
</tr>
<tr>
<td></td>
<td>3.x</td>
<td>Patches available</td>
<td></td>
</tr>
</tbody>
</table>

*Risk Mitigation*

If you cannot upgrade immediately, you should disable public access to your Bamboo instance to mitigate the risk of this vulnerability.

*Fix*
Upgrade

The vulnerabilities and fix versions are described in the 'Description' section above.

We recommend that you upgrade to the latest version of Bamboo, if possible. For a full description of the latest version of Bamboo, see the release notes. You can download the latest version of Bamboo from the download centre.

Bamboo Security Advisory 2012-05-17

This advisory discloses a critical security vulnerability that exists in all versions of Bamboo up to and including 3.4.4.

- **Customers who have downloaded and installed Bamboo** should upgrade their existing Bamboo installations to fix this vulnerability.
- **Enterprise Hosted customers** need to request an upgrade by raising a support request at [http://support.atlassian.com](http://support.atlassian.com) in the "Enterprise Hosting Support" project.
- **JIRA Studio and Atlassian OnDemand customers** are not affected by any of the issues described in this advisory.

Atlassian is committed to improving product security. The vulnerability listed in this advisory has been discovered by Atlassian, unless noted otherwise. The reporter may also have requested that we do not credit them.

If you have questions or concerns regarding this advisory, please raise a support request at [http://support.atlassian.com](http://support.atlassian.com).

In this advisory:

- **Critical XML Parsing Vulnerability**
  - **Severity**
  - **Description**
  - **Risk Mitigation**
  - **Fix**

**Critical XML Parsing Vulnerability**

**Severity**

Atlassian rates the severity level of this vulnerability as **critical**, according to the scale published in [Severity Levels for Security Issues](http://support.atlassian.com). The scale allows us to rank the severity as critical, high, medium or low.

This is an independent assessment and you should evaluate its applicability to your own IT environment.

**Description**

We have identified and fixed a vulnerability in Bamboo that results from the way third-party XML parsers are used in Bamboo.

This vulnerability allows an attacker to:

- execute denial of service attacks against the Bamboo server, and
- read all local files readable to the system user under which Bamboo runs.

The attacker needs to have an account with the affected Bamboo server instance and be able to log in in order to execute the attack.

All versions of Bamboo **up to and including 3.4.4** are affected by this vulnerability. This issue can be tracked...
Risk Mitigation

We recommend that you upgrade your Bamboo installation to fix this vulnerability. Alternatively, if you are not in a position to upgrade or apply patches immediately, you should do all of the following until you can upgrade or patch. Please note, these measures will only limit the impact of the vulnerability, they will not mitigate it completely.

- Disable public access (such as anonymous access and public signup) to your Bamboo instance until you have applied the necessary patch or upgrade.
- Ensure that your Bamboo system user is restricted as described in best practices for Bamboo security.

Fix

Upgrade (recommended)

Upgrade to Bamboo 4.0 or later which fixes this vulnerability. For a full description of this release, see the Bamboo 4.0 release notes. The following releases have also been made available to fix this vulnerability in older Bamboo versions:

- Bamboo 3.3.4 for Bamboo 3.3.x
- Bamboo 3.4.5 for Bamboo 3.4.x

You can download these versions from the Bamboo download centre.

Patches (not recommended)

Patches are only available for Bamboo 3.2.x - 3.4.x. We recommend patching only when you can neither upgrade nor apply external security controls. Patches are usually only provided for vulnerabilities of critical severity (as per our Security Patch Policy), as an interim solution until you can upgrade. You should not expect that you can continue patching your system instead of upgrading. Our patches are often non-cumulative – we do not recommend that you apply multiple patches from different advisories on top of each other, but strongly recommend upgrading to the most recent version regularly.

If for some reason you cannot upgrade to the latest version of Bamboo, you must do all of the following steps to fix the vulnerability described in this security advisory.

2. Rename the file to atlassian-bundled-plugins.zip
3. Stop Bamboo.
4. Make a backup of the <bamboo_install_dir> directory.
5. Copy atlassian-bundled-plugins.zip into webapp/WEB-INF/classes in the <bamboo_install_dir>, to replace the existing file of the same name.
6. Restart Bamboo.

Bamboo Security Advisory 2012-01-31

This advisory discloses two CRITICAL security vulnerabilities that exist in all versions of Bamboo up to and including 3.4.2. You need to upgrade your existing Bamboo installations to fix these vulnerabilities. Enterprise Hosted customers should request an upgrade by raising a support request at http://support.atlassian.com in the “Enterprise Hosting Support” project. Neither Bamboo Studio nor Atlassian OnDemand are vulnerable to any of the issues described in this advisory.

Atlassian is committed to improving product security. The vulnerabilities listed in this advisory have been discovered by Atlassian, unless noted otherwise. The reporter may also have requested that we do not credit...
them.

If you have questions or concerns regarding this advisory, please raise a support request at http://support.atlassian.com/.

In this advisory:

- **Code Injection Vulnerability**
  - **Severity**
  - **Description**
  - **Vulnerability**
  - **Risk Mitigation**
  - **Fix**
  - **Patches**
    - Applying the patch

- **Arbitrary File Disclosure Vulnerability**
  - **Severity**
  - **Description**
  - **Vulnerability**
  - **Risk Mitigation**
  - **Fix**
  - **Patches**
    - Applying the patch

**Code Injection Vulnerability**

**Severity**

Atlassian rates the severity level of this vulnerability as **CRITICAL**, according to the scale published in Severity Levels for Security Issues. The scale allows us to rank the severity as critical, high, medium or low.

**Description**

We have identified and fixed a code injection vulnerability in Bamboo caused by an underlying vulnerability in the third-party Webwork 2 framework. This vulnerability allows an attacker to run arbitrary Java code on a Bamboo server with user privileges of a Bamboo process. This vulnerability is a variant of a recently disclosed Struts2 vulnerability. The vulnerability exists in pages accessible by non-privileged users and can also be exploited by use of social engineering, e.g. having a legitimate click on a specially crafted link.

The maintainer of the original library can be contacted at http://struts.apache.org/

**Vulnerability**

The table below describes the Bamboo version and the specific functionality affected by the Webwork 2 vulnerability.

<table>
<thead>
<tr>
<th>Bamboo Component</th>
<th>Affected Bamboo Versions</th>
<th>Fixed Versions</th>
<th>Issue Tracking</th>
</tr>
</thead>
<tbody>
<tr>
<td>Webwork 2</td>
<td>All versions up to and including 3.4.2</td>
<td>3.3.4 3.4.3</td>
<td>BAM-10627</td>
</tr>
</tbody>
</table>

**Risk Mitigation**

We highly recommend that you upgrade your Bamboo installation to fix these vulnerabilities.
Alternatively, if you are not in a position to upgrade immediately and you judge it necessary, you can restrict access to your instance of Bamboo by using a firewall.

**Fix**

Bamboo 3.4.3 and later versions fix this issue. View the issue linked above for information about fix versions. For a full description of the latest version of Bamboo, see the release notes. You can download the latest version of Bamboo from the Bamboo download centre.

If you cannot upgrade to the latest version of Bamboo, you can patch your existing installation using the patch listed below. We strongly recommend upgrading and not patching.

**Patches**

A binary patch for the Webwork 2 vulnerability is available for Bamboo versions 3.0 and later. The patch is attached to the BAM-10627 tracking issue.

<table>
<thead>
<tr>
<th>Vulnerability</th>
<th>Patch</th>
<th>Patch File Name</th>
</tr>
</thead>
<tbody>
<tr>
<td>Code injection vulnerability in third-party Webwork 2 framework used by Bamboo</td>
<td>Attached to BAM-10627 issue</td>
<td>SimpleConversionErrorInterceptor.zip</td>
</tr>
</tbody>
</table>

**Applying the patch**

If you are using Bamboo 3.0 or later:

1. Download the SimpleConversionErrorInterceptor.zip file that is attached to the BAM-10627 issue.
2. Stop Bamboo.
3. Make a backup of the `<bamboo_install_dir>` directory.
4. Create directories `com/atlassian/bamboo/ww2/interceptors` in the WEB-INF/classes directory, which can be found within your Bamboo installation.
5. Unzip SimpleConversionErrorInterceptor.zip into `com/atlassian/bamboo/ww2/interceptors`:

   ```shell
   mkdir -p com/atlassian/bamboo/ww2/interceptors
   cd com/atlassian/bamboo/ww2/interceptors
   unzip SimpleConversionErrorInterceptor.zip
   ```

6. Add a reference to the new SimpleConversionErrorInterceptor in the xwork.xml file in WEB-INF/classes:

   ```xml
   <xwork>
     ...
     <interceptor name="conversionError"
                 class="com.atlassian.bamboo.ww2.interceptors.SimpleConversionErrorInterceptor"/>
     ...
   </xwork>
   ```

7. Restart Bamboo.

**Arbitrary File Disclosure Vulnerability**

**Severity**
Atlassian rates the severity level of this vulnerability as **CRITICAL**, according to the scale published in [Severity Levels for Security Issues](#). The scale allows us to rank the severity as critical, high, medium or low.

**Description**

We have identified and fixed a vulnerability in Bamboo caused by a combination of issues in **third-party** libraries, including FreeMarker template library, used in Bamboo. This vulnerability allows an attacker to access any files on Bamboo server that are readable by the Bamboo server process. The attacker does not need to authenticate in order to exploit the vulnerability. The vulnerability is related to the previously disclosed [FreeMarker issue](#). The vulnerability **does not affect** Bamboo installations using Tomcat as will usually be present only in Bamboo standalone.

**Vulnerability**

The table below describes the Bamboo versions and the specific functionality affected by the arbitrary file disclosure vulnerability.

<table>
<thead>
<tr>
<th>Bamboo Component</th>
<th>Affected Bamboo Versions</th>
<th>Fixed Versions</th>
<th>Issue Tracking</th>
</tr>
</thead>
<tbody>
<tr>
<td>FreeMarker</td>
<td>All versions up to and including 3.4.2</td>
<td>3.3.4, 3.4.3</td>
<td>BAM-10628</td>
</tr>
</tbody>
</table>

**Risk Mitigation**

We recommend that you upgrade your Bamboo installation to fix this vulnerability.

Alternatively, if you are not in a position to upgrade immediately and you judge it necessary, you can restrict access to your instance of Bamboo by using a firewall.

**Fix**

Bamboo 3.4.3 and later versions fix this issue. View the issue linked above for information about fix versions. For a full description of the latest version of Bamboo, see the [release notes](#). You can download the latest version of Bamboo from the [Bamboo download centre](#).

If you cannot upgrade to the latest version of Bamboo, you can patch your existing installation using the patch listed below. We strongly recommend upgrading and not patching.

**Patches**

A binary patch for the FreeMarker vulnerability is available for Bamboo versions 3.0 and later. The patch is attached to the [BAM-10628](#) tracking issue.

<table>
<thead>
<tr>
<th>Vulnerability</th>
<th>Patch</th>
<th>Patch File Name</th>
</tr>
</thead>
<tbody>
<tr>
<td>File disclosure vulnerability in third-party FreeMarker template library used by Bamboo</td>
<td>Attached to <a href="#">BAM-10628</a> issue</td>
<td>freemarker-2.3.16-atlassian-11.jar</td>
</tr>
</tbody>
</table>

**Applying the patch**

If you are using Bamboo 3.0 or later:

1. Download the [freemarker-2.3.16-atlassian-11.jar](#) file that is attached to the [BAM-10628](#) issue.
2. Stop Bamboo.
3. Make a backup of the `<bamboo_install_dir>` directory.

5. Move the existing freemarker jar to a backed up location.

6. Restart Bamboo.

**Bamboo Security Advisory 2011-11-22**

This advisory discloses a number of security vulnerabilities that we have found in versions of Bamboo prior to 3.3. You need to upgrade your existing Bamboo installations to fix these vulnerabilities. Enterprise Hosted customers should request an upgrade by raising a support request at [http://support.atlassian.com](http://support.atlassian.com) in the "Enterprise Hosting Support" project. Neither Bamboo Studio nor OnDemand are vulnerable to any of the issues described in this advisory.

Atlassian is committed to improving product security. The vulnerabilities listed in this advisory have been discovered by Atlassian, unless noted otherwise. The reporter may also have requested that we do not credit them.

If you have questions or concerns regarding this advisory, please raise a support request at [http://support.atlassian.com](http://support.atlassian.com).

In this advisory:

<table>
<thead>
<tr>
<th>XSS Vulnerabilities</th>
<th>Severity</th>
<th>Risk Assessment</th>
<th>Vulnerability</th>
<th>Risk Mitigation</th>
<th>Fix</th>
</tr>
</thead>
<tbody>
<tr>
<td>OS Command Injection Vulnerability</td>
<td>Severity</td>
<td>Risk Assessment</td>
<td>Vulnerability</td>
<td>Risk Mitigation</td>
<td>Fix</td>
</tr>
<tr>
<td>Information Leakage Vulnerability</td>
<td>Severity</td>
<td>Risk Assessment</td>
<td>Vulnerability</td>
<td>Risk Mitigation</td>
<td>Fix</td>
</tr>
</tbody>
</table>

**XSS Vulnerabilities**

**Severity**

Atlassian rates the severity level of all these vulnerabilities as **high**, according to the scale published in [Severity Levels for Security Issues](http://www.owasp.org/index.php/OWASP_2010_CRS_Rating_Scale). The scale allows us to rank the severity as critical, high, medium or low. These vulnerabilities are not critical.

**Risk Assessment**

We have identified and fixed a number of reflected and stored cross-site scripting (XSS) vulnerabilities in Bamboo. XSS vulnerabilities allow an attacker to embed their own JavaScript into a Bamboo page. You can read more about XSS attacks at [cgnsecurity.com](http://cgnsecurity.com), [The Web Application Security Consortium](http://www.wasc.org) and other places on the web.
Vulnerability

The table below describes the Bamboo versions and the specific functionality affected by the XSS vulnerabilities.

<table>
<thead>
<tr>
<th>Bamboo Feature</th>
<th>Affected Bamboo Versions</th>
<th>Fixed Version</th>
<th>Issue Tracking</th>
</tr>
</thead>
<tbody>
<tr>
<td>User Picker</td>
<td>all earlier than 2.7.4</td>
<td>2.7.4, 3.0</td>
<td>BAM-10024</td>
</tr>
<tr>
<td>Default 'internal server error' page</td>
<td>all earlier than 3.1</td>
<td>3.1</td>
<td>BAM-10026</td>
</tr>
<tr>
<td>viewAgent.action</td>
<td>all earlier than 3.1</td>
<td>3.1</td>
<td>BAM-10027</td>
</tr>
<tr>
<td>configureAgents resource</td>
<td>all earlier than 3.1</td>
<td>3.1</td>
<td>BAM-10028</td>
</tr>
<tr>
<td>chooseBuildsToMove.action</td>
<td>all earlier than 3.1</td>
<td>3.1</td>
<td>BAM-10029</td>
</tr>
</tbody>
</table>

Our thanks to Marian Ventuneac (http://www.ventuneac.net) who reported several of the vulnerabilities mentioned above. We fully support the reporting of vulnerabilities and we appreciate it when people work with us to identify and solve the problem.

Risk Mitigation

We recommend that you upgrade your Bamboo installation to fix these vulnerabilities.

Alternatively, if you are not in a position to upgrade immediately and you judge it necessary, you can restrict access to trusted groups.

Fix

Bamboo 3.1 and later versions fix all these issues. View the issue linked above for information on fix versions.

For a full description of the latest version of Bamboo, see the release notes. You can download the latest version of Bamboo from the Bamboo download centre.

There are no patches available to fix these vulnerabilities. You must upgrade your Bamboo installation.

OS Command Injection Vulnerability

Severity

Atlassian rates the severity level of this vulnerability as high, according to the scale published in Severity Levels for Security Issues. The scale allows us to rank the severity as critical, high, medium or low. This vulnerability is not critical.

Risk Assessment

We have identified and fixed an OS command injection vulnerability in the third-party Perforce library used in Bamboo. This vulnerability allows an attacker to execute arbitrary OS commands on a Bamboo server as Bamboo user. The attacker needs to have plan edit rights. Only the servers that have Perforce integration enabled (i.e. have a Perforce capability defined on the server) can be exploited. You can read more about command injection attacks and consequences at OWASP and other places on the web.

Note that if your server has local agents enabled, anyone who controls build plans is already capable of causing the web.
arbitrary code to run locally as part of the normal build process, and this bug does not lead to any additional access.

The maintainer of the original library can be contacted at https://github.com/digerata/P4Java/

**Vulnerability**

The table below describes the Bamboo versions and the specific functionality affected by the OS command injection vulnerability.

<table>
<thead>
<tr>
<th>Bamboo Feature</th>
<th>Affected Bamboo Versions</th>
<th>Fixed Version</th>
<th>Issue Tracking</th>
</tr>
</thead>
<tbody>
<tr>
<td>OS command injection vulnerability in Perforce library</td>
<td>2.4 – 3.1</td>
<td>3.1.1, 3.2</td>
<td>BAM-10030</td>
</tr>
</tbody>
</table>

**Risk Mitigation**

We recommend that you upgrade your Bamboo installation to fix this vulnerability.

Alternatively, if you are not in a position to upgrade immediately and you judge it necessary, you can restrict access to trusted groups.

**Fix**

Bamboo 3.2 and later versions fix this issue. View the issue linked above for information on fix versions. For a full description of the latest version of Bamboo, see the release notes. You can download the latest version of Bamboo from the Bamboo download centre.

If you cannot upgrade to the latest version of Bamboo, you can patch your existing installation using the patch listed below. We strongly recommend upgrading and not patching.

**Patches**

If you are running Bamboo 2.4 – 3.1, you can apply the following library patch to fix the BAM-10030 vulnerability. We strongly recommend upgrading and not patching.

<table>
<thead>
<tr>
<th>Vulnerability</th>
<th>Patch</th>
<th>Patch File Name</th>
</tr>
</thead>
<tbody>
<tr>
<td>OS command injection vulnerability in Perforce library used by Bamboo</td>
<td>Attached to issue BAM-10030</td>
<td>p4java-0.7.5-atlassian-6.jar</td>
</tr>
</tbody>
</table>

**Patch Procedure: Install the Patch**

A patch is available for Bamboo 2.4 – 3.1.

The patch addresses the following issue:

- OS command injection vulnerability in Perforce library used by Bamboo (BAM-10030).

**Applying the patch**

If you are using Bamboo 2.4 – 3.1:
1. Download the `p4java-0.7.5-atlassian-6.jar` file that is attached to the BAM-10030 issue.
2. Stop Bamboo.
3. Make a backup of the `<bamboo_install_dir>` directory.
4. Copy the downloaded jar file into `<bamboo_install_dir>/Bamboo/webapp/WEB-INF/lib`, and delete the existing p4java jar file.
5. Restart Bamboo.

### Information Leakage Vulnerability

#### Severity

Atlassian rates the severity level of this vulnerability as **medium**, according to the scale published in the [Severity Levels for Security Issues](https://confluence.atlassian.com/atlassian/security-1182). The scale allows us to rank the severity as critical, high, medium or low. This vulnerability is **not** critical.

#### Risk Assessment

We have identified and fixed an information leakage vulnerability in Bamboo. This vulnerability allows an attacker to view all directory listings (but not the content of the files) on the server readable by the Bamboo user.

#### Vulnerability

The table below describes the Bamboo versions and the specific functionality affected by the information leakage vulnerability.

<table>
<thead>
<tr>
<th>Bamboo Feature</th>
<th>Affected Bamboo Versions</th>
<th>Fixed Version</th>
<th>Issue Tracking</th>
</tr>
</thead>
<tbody>
<tr>
<td>Information leakage</td>
<td>2.0 – 3.2</td>
<td>3.2.3, 3.3</td>
<td>BAM-10031</td>
</tr>
</tbody>
</table>

#### Risk Mitigation

We recommend that you upgrade your Bamboo installation to fix this vulnerability. Alternatively, if you are not in a position to upgrade immediately and you judge it necessary, you can restrict access to trusted groups.

#### Fix

Bamboo 3.3 and later versions fix this issue. View the issue linked above for information on fix versions. For a full description of the latest version of Bamboo, see the release notes. You can download the latest version of Bamboo from the Bamboo download centre.

There are no patches available to fix this vulnerability. You must upgrade your Bamboo installation.

### Bamboo Security Advisory 2011-03-29

This advisory announces a security vulnerability that we have found in all versions of Bamboo prior to 2.7.4 and fixed in 2.7.4 and later. You need to upgrade your existing Bamboo installations to fix this vulnerability. JIRA Studio is not vulnerable to any of the issues described in this advisory.

Atlassian is committed to improving product security. The vulnerabilities listed in this advisory have been discovered by Atlassian, unless noted otherwise. The reporter may also have requested that we do not credit them.

If you have questions or concerns regarding this advisory, please raise a support request at [http://support.atlassian.com/](http://support.atlassian.com/).
In this advisory:

- **XSS Vulnerability in Bamboo User Management**
  - **Severity**
  - **Risk Assessment**
  - **Vulnerability**
  - **Risk Mitigation**
  - **Fix**

**XSS Vulnerability in Bamboo User Management**

**Severity**

Atlassian rates the severity level of these vulnerabilities as *high*, according to the scale published in [Severity Levels for Security Issues](#). The scale allows us to rank the severity as critical, high, moderate or low.

**Risk Assessment**

We have identified and fixed a cross-site scripting (XSS) vulnerability in Bamboo. This XSS vulnerability allows an attacker to embed their own JavaScript into a Bamboo page. You can read more about XSS attacks and consequences at [cgisecurity.com](#), [The Web Application Security Consortium](#) and other places on the web.

**Vulnerability**

The table below describes the Bamboo versions and the specific functionality affected by the XSS vulnerability.

<table>
<thead>
<tr>
<th>Bamboo Feature</th>
<th>Affected Bamboo Versions</th>
<th>Issue Tracking</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bamboo User Management</td>
<td>Bamboo 1.0 - 2.7.3</td>
<td>BAM-8260</td>
</tr>
</tbody>
</table>

**Risk Mitigation**

We recommend that you upgrade your Bamboo installation to fix these vulnerabilities.

Alternatively, if you are not in a position to upgrade immediately and you judge it necessary, you can restrict access to trusted groups.

**Fix**

Bamboo 2.7.4 and later versions fix this issue. View the issue linked above for information on fix versions. For a full description of this release, see the [Bamboo 2.7.4 Release Notes](#). You can download the latest version of Bamboo from the [Bamboo download centre](#).

There are no patches available to fix these vulnerabilities. You must upgrade your Bamboo installation.

**Bamboo Security Advisory 2010-05-04**

In this advisory:

- **XSS Vulnerabilities**
  - **Severity**
  - **Risk Assessment**
  - **Vulnerability**
  - **Risk Mitigation**
  - **Fix**

- **General Tightening of the Bamboo Security Model**
XSS Vulnerabilities

Severity

Atlassian rates these vulnerabilities as **high**, according to the scale published in [Severity Levels for Security Issues](https://confluence.atlassian.com/display/SECURITY/Severity+Levels+for+Security+Issues). The scale allows us to rank a vulnerability as critical, high, moderate or low.

Risk Assessment

We have identified and fixed several cross-site scripting (XSS) vulnerabilities in Bamboo, which may affect Bamboo instances. These vulnerabilities have security implications and are especially important for anyone running publicly accessible instances of Bamboo.

- The attacker might take advantage of the vulnerability to steal other users’ session cookies or other credentials, by sending the credentials back to the attacker's own web server.
- The attacker's text and script might be displayed to other people viewing a Bamboo page. This is potentially damaging to your company’s reputation.

You can read more about XSS attacks at [cgisecurity](https://www.cgisecurity.com/), [CERT](https://www.cert.org) and other places on the web.

Vulnerability

All version of Bamboo up to and including Bamboo 2.5.3 are susceptible to these vulnerabilities.

An attacker can inject their own malicious JavaScript code into areas of Bamboo listed in the table below. This code could be executed by simply entering the URL into the browser address bar or when a user performs a specific function in Bamboo, such as clicking a link or a button.

<table>
<thead>
<tr>
<th>Affected areas in Bamboo</th>
</tr>
</thead>
<tbody>
<tr>
<td>Server Administration User Interface — Including the User and Group Security, System and Communication sections.</td>
</tr>
<tr>
<td>Main Bamboo User Interface — Including the Create Plan and Build Configuration areas and Log and various Result views.</td>
</tr>
</tbody>
</table>

Risk Mitigation

We recommend that you upgrade your Bamboo installation to fix these vulnerabilities. Please see the 'fix' section below.

Fix

Bamboo 2.5.5 fixes these vulnerabilities. See the release notes and upgrade guide for more information about this release and changes to Bamboo’s behaviour. You can download the latest version of Bamboo from the download centre.

There are no patches available to fix these vulnerabilities for previous versions of Bamboo.

General Tightening of the Bamboo Security Model
Severity

Atlassian rates one of these vulnerabilities as high and the other as moderate, according to the scale published in Severity Levels for Security Issues. The scale allows us to rank a vulnerability as critical, high, moderate or low.

Risk Assessment

We have identified and fixed two potential security vulnerabilities in Bamboo. These vulnerabilities have security implications that are especially important for anyone running publicly accessible instances of Bamboo.

An attacker, who has gained administrator access to a Bamboo instance, could set Bamboo's export, import and scheduled backup paths to a location within the Bamboo web application directory. Once this has been done, the attacker will be able to download any Bamboo data which has been exported or backed up by Bamboo. If you have followed standard guidelines for hardening your application servers, then your Bamboo instance should be less susceptible to this vulnerability. Therefore, we have provided an optional mechanism that prevents directory paths from being changed.

Bamboo does not set a maximum number of repeated login attempts. This makes Bamboo vulnerable to brute force attacks. Therefore, we have prevented brute force attacks by imposing a maximum number of repeated login attempts.

For Bamboo distributions, we have set Bamboo's session ID cookies to use the HttpOnly flag. This makes it more difficult for malicious (JavaScript) code on a client's browser to gain access to these session ID cookies, thereby minimising the risk of common XSS attacks.

Vulnerability

All versions of Bamboo up to and including Bamboo 2.5.3 are susceptible to these vulnerabilities.

Please refer to the following JIRA issues for more information:

- **BAM-5775** for restricting the ability to set Bamboo's file paths.
- **BAM-5708** for brute force attack prevention in Bamboo.
- **BAM-5668** for HttpOnly session ID cookies in the Bamboo distribution (not EAR-WAR).

Risk Mitigation

We recommend that you upgrade your Bamboo installation to fix these vulnerabilities. Please see the ‘fix’ section below.

If you are running the Bamboo EAR-WAR distribution, then to minimise the risk of common XSS attacks, we strongly recommend that you configure the application server (Tomcat) running Bamboo to transmit session ID cookies using the HttpOnly flag. Please refer to Configuring Tomcat to Use HttpOnly Session ID Cookies for more information.

Fix

Bamboo 2.5.5 fixes these vulnerabilities. See the release notes and upgrade guide for more information about this release and changes to Bamboo’s behaviour. You can download the latest version of Bamboo from the download centre.

There are no patches available to fix these vulnerabilities for previous versions of Bamboo.

Changed Behaviour in Bamboo

As a consequence of these security fixes, the following changes to Bamboo's default behaviour have occurred.

- When modifying Bamboo’s 'File Path' option on the Export or Import administration pages or the 'Backup Path' option on the Scheduled Backup page, you can only change the name of files associated with these options (not the actual file path component itself). To change these file path components, you must
explicitly run Bamboo with the following system property:

```
bamboo.paths.set.allowed=true
```

Please refer to Configuring system properties for details on how to run Bamboo with system properties.
- If you attempt to log in to Bamboo three times unsuccessfully, Bamboo will then require subsequent login attempts to be accompanied by text from a Captcha image.

For details about changes to Bamboo’s behaviour as a result of these fixes to security vulnerabilities, please refer to the Bamboo 2.5.5 Upgrade Guide.

**Bamboo Security Advisory 2009-03-09**

In this advisory:

- **Security vulnerabilities**
  - **XSS vulnerabilities on the User Profile page**
    - **Severity**
    - **Risk Assessment**
    - **Risk Mitigation**
    - **Vulnerability**
    - **Fix**
  - **XSS vulnerabilities when adding Requirements for a Build**
    - **Severity**
    - **Risk Assessment**
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  - **XSS vulnerabilities in the user’s full name**
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  - **XSS vulnerabilities in build logs**
    - **Severity**
    - **Risk Assessment**
    - **Risk Mitigation**
    - **Vulnerability**
    - **Fix**

---

**Security vulnerabilities**

**XSS vulnerabilities on the User Profile page**

**Severity**

Atlassian rates this vulnerability as **HIGH**, according to the scale published in the Bamboo Security documentation. This scale allows us to rank a vulnerability as critical, high, moderate or low.

**Risk Assessment**

We have identified and fixed a security flaw which may affect Bamboo instances in a public environment. This flaw is an XSS (cross-site scripting) vulnerability in Bamboo’s 'User Profile' page. This potentially allows a malicious user (hacker) to hack the URL of controls on the page (e.g. User Profile link) to insert special
JavaScript. A hacker could present the hacked URL to users (e.g. disguised in an email). If any users clicked the URL, the special JavaScript would be executed in the user's session.

- The hacker might take advantage of this flaw to steal other users' session cookies or other credentials, by sending the credentials back to the hacker's own web server.
- The hacker could also gain control over the underlying system, based on the privileges of the user whose session cookie has been stolen.
- The hacker's text and script might be displayed to other people on the User Profile page. This is potentially damaging to your company's reputation.

Atlassian recommends that you upgrade to Bamboo 2.2 to fix the vulnerabilities described below.

You can read more about XSS attacks at cgisecurity, CERT and other places on the web.

Risk Mitigation

If you judge it necessary, you can disable public access (i.e. anonymous access and public signup) to your Bamboo system until you have applied the necessary patch or upgrade. For even tighter control, you could restrict Bamboo access to trusted groups only.

Vulnerability

The User Profile page in Bamboo is affected. The URLs of links on this page are not HTML-escaped.

Fix

The fix is to HTML-encode the URLs of all links on the User Profile page, so that it cannot be used to run special scripts.

This issue has been fixed in Bamboo 2.2 only. There are no patches available for previous versions of Bamboo, for this fix.

---

XSS vulnerabilities when adding Requirements for a Build

Severity

Atlassian rates this vulnerability as HIGH, according to the scale published in the Bamboo Security documentation. This scale allows us to rank a vulnerability as critical, high, moderate or low.

Risk Assessment

We have identified and fixed a security flaw which may affect Bamboo instances in a public environment. This flaw is an XSS (cross-site scripting) vulnerability when adding requirements for a build. This potentially allows a malicious user (hacker) to insert special JavaScript in the key of a requirement when adding it to a build. If any users clicked the requirement, the special JavaScript would be executed in the user's session.

- The hacker might take advantage of this flaw to steal other users' session cookies or other credentials, by sending the credentials back to the hacker's own web server.
- The hacker could also gain control over the underlying system, based on the privileges of the user whose session cookie has been stolen.
- The hacker's text and script might be displayed to other people on the User Profile page. This is potentially damaging to your company's reputation.

Atlassian recommends that you upgrade to Bamboo 2.2 to fix the vulnerabilities described below.

You can read more about XSS attacks at cgisecurity, CERT and other places on the web.

Risk Mitigation
If you judge it necessary, you can disable public access (i.e. anonymous access and public signup) to your Bamboo system until you have applied the necessary patch or upgrade. For even tighter control, you could restrict Bamboo access to trusted groups only.

Vulnerability

The requirements for a build are affected. The key is not HTML-escaped. This affects all versions from 2.0 onwards.

Fix

The fix is to HTML-encode the keys of requirements for builds, so that they cannot be used to run special scripts.

This issue has been fixed in Bamboo 2.2 only. There are no patches available for previous versions of Bamboo, for this fix.

---

### XSS vulnerabilities in the user's full name

**Severity**

Atlassian rates this vulnerability as **HIGH**, according to the scale published in the [Bamboo Security documentation](https://confluence.atlassian.com/display/SECURITY/Bamboo+Security+Release+Notes+2.0). This scale allows us to rank a vulnerability as critical, high, moderate or low.

**Risk Assessment**

We have identified and fixed a security flaw which may affect Bamboo instances in a public environment. This flaw is an XSS (cross-site scripting) vulnerability in the user's full name. This potentially allows a malicious user (hacker) to create a new user and hack the user's full name to insert special JavaScript. The user's full name is presented in a number of places, including author statistics page, build result comments, build changes and commit notifications. If any users clicked the user name, the special JavaScript would be executed in the user's session.

- The hacker might take advantage of this flaw to steal other users' session cookies or other credentials, by sending the credentials back to the hacker's own web server.
- The hacker could also gain control over the underlying system, based on the privileges of the user whose session cookie has been stolen.
- The hacker's text and script might be displayed to other people on the User Profile page. This is potentially damaging to your company's reputation.

Atlassian recommends that you upgrade to **Bamboo 2.2** to fix the vulnerabilities described below.

You can read more about XSS attacks at [cgitsecurity](https://cgitsecurity.org/), [CERT](https://cert.org) and other places on the web.

**Risk Mitigation**

If you judge it necessary, you can disable public access (i.e. anonymous access and public signup) to your Bamboo system until you have applied the necessary patch or upgrade. For even tighter control, you could restrict Bamboo access to trusted groups only.

Vulnerability

The author statistics page, build result comments, build changes and commit notifications are affected. The user name is not HTML-escaped.

Fix

The fix is to HTML-encode the user's full name on these pages/notifications, so that it cannot be used to run
special scripts.

This issue has been fixed in Bamboo 2.2 only. There are no patches available for previous versions of Bamboo, for this fix.

---

**XSS vulnerabilities in build logs**

**Severity**

Atlassian rates this vulnerability as HIGH, according to the scale published in the Bamboo Security documentation. This scale allows us to rank a vulnerability as critical, high, moderate or low.

**Risk Assessment**

We have identified and fixed a security flaw which may affect Bamboo instances in a public environment. This flaw is an XSS (cross-site scripting) vulnerability in the Bamboo build logs. This potentially allows a malicious user (hacker) to insert special JavaScript into a build log. If a user opened the hacked build log, the special JavaScript would be executed in the user's session.

- The hacker might take advantage of this flaw to steal other users' session cookies or other credentials, by sending the credentials back to the hacker's own web server.
- The hacker could also gain control over the underlying system, based on the privileges of the user whose session cookie has been stolen.
- The hacker's text and script might be displayed to other people on the User Profile page. This is potentially damaging to your company's reputation.

Atlassian recommends that you upgrade to Bamboo 2.2 to fix the vulnerabilities described below.

You can read more about XSS attacks at cgisecurity, CERT and other places on the web.

**Risk Mitigation**

If you judge it necessary, you can disable public access (i.e. anonymous access and public signup) to your Bamboo system until you have applied the necessary patch or upgrade. For even tighter control, you could restrict Bamboo access to trusted groups only.

**Vulnerability**

The Bamboo build logs are affected. The log lines are not HTML-escaped.

**Fix**

The fix is to HTML-encode the log entries for the build logs, so that they cannot be used to run special scripts.

This issue has been fixed in Bamboo 2.2 only. There are no patches available for previous versions of Bamboo, for this fix.

---

*Please let us know what you think of the format of this security advisory and the information we have provided.*

**Bamboo Security Advisory 2008-02-08 (Bamboo 2.0 Beta)**

In this advisory:

- Bamboo 2.0 Beta Security Considerations
  - Risk Assessment
Bamboo 2.0 Beta Security Considerations

Risk Assessment

The Bamboo 2.0 Beta does not include the security features that will be present in the final released product. Please note the following security implications when enabling Bamboo's remote agent functionality:

- No encryption of data passed between server and agent — this includes data such as:
  - login credentials for version control repositories
  - build logs
  - build artifacts
- No authentication of the agent or server — this could result in unauthorised actions being taken on your system, such as:
  - Unauthorised parties installing new remote agents — version control repository login credentials could be stolen.
  - Unauthorised parties masquerading as a Bamboo server — the unauthorised server could pass malicious code to the agent to run.

We strongly recommend that you do not enable remote agent installation on any Bamboo instance accessible from a public or untrusted network. Creating remote agents is disabled by default. These are limitations of the beta release only and will be addressed before the final released product.

Vulnerability

An unauthorised party could steal sensitive data passing between the Bamboo server and agents or run malicious code on your agents, as described in the ‘Risk Assessment’ section.

Fix

These are limitations of the beta release only and will be addressed before the final released product.

Bamboo FAQ

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- Deploying Multiple Atlassian Applications in a Single Tomcat Container
- How to Report a Security Issue
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- Backing up Bamboo instances over 4GB
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- Can multiple plans share a common 3rd-party directory
- Changing Bamboo database settings
- Finding the Support Entitlement Number (SEN)
- How Bamboo processes task arguments and passes them to OS shell
- How do I manually set the version of new Subversion workspaces
- Securing your repository connection
- Changing the remote agent heartbeat interval
- Cloning a Bamboo instance
- CVS Error logging in Bamboo
- Do I have to upgrade all remote agents for Bamboo Release 2.1.2
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- Hibernate errors in logs after upgrading to Bamboo 2.0
- How do I construct a cron expression in Bamboo
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- Send Errors to stderr - Script Builder in Visual Studio WinXP to build Solutions Files
- Using Bamboo with Clover
  - Getting gcov results in Clover coverage summary
- Working with Sun JAVA libraries
- Bamboo indicates that my Ant or Maven builds failed, even though they were successful
- How can I pass bamboo variables to my build script
Bamboo Evaluator’s FAQ

If you are evaluating Bamboo, you may also wish to consult the Bamboo Evaluator’s FAQ:

- Can Bamboo be Extended or Integrated with Other Tools?
- Can Bamboo be Used for Release Management?
- Can I use Clover Code Coverage with Bamboo?
- How is Bamboo Licensed?
- What are Remote and Elastic Agents?
- What are the Hardware Requirements for Bamboo?
- What Build Tools can Bamboo Work With?
- What Environments are Supported?
- What is Continuous Integration?
- Who Broke The Build?

Need more help?

Do you have a question, or need help with Bamboo? Please create a support request.

Browse our Bamboo Developer FAQ.

You may also like to check out the forums:

- Bamboo General Forum
- Bamboo Developers Forum

On this page:

- Bamboo FAQ
- Bamboo Evaluator’s FAQ
- Need more help?

Installation FAQ

- Changing the Root Context Path
- Configuring Bamboo on start-up
- Getting Bamboo to use the jetty.xml file
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- Running Bamboo as a Service on Windows
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- Setting up JNDI mail on JBoss 4.2.2
- Setting up JNDI on Jetty

Changing the Root Context Path

When running Bamboo behind a proxy, you might need to change the Root Context Path i.e. the host URL referenced while accessing Bamboo (e.g. http://localhost:8085/bamboo).

To change the context path from ‘/’ to ‘/Your_Context_Path’:

For Bamboo 3.2 or below

- If you are using the bamboo.sh script to start Bamboo:

  Change the following line in your bamboo.sh script:
Or, if you are using the wrapper to start Bamboo:

The wrapper reads the configuration information from the wrapper.conf file in the ../<Bamboo-Inst all>/conf/folder. Find the following line:

```
wrapper.app.parameter.4=/
```

and replace it with the following line:

```
wrapper.app.parameter.4=/Your_Context_Path
```

Or, if you are using the jetty.xml file to configure Bamboo

See our documentation on configuring jetty.xml file

For Bamboo 3.3 or above

- If you are using the bamboo.sh script or wrapper to start Bamboo:
  The wrapper reads the configuration information from the wrapper.conf file in the ../<Bamboo-Inst all>/conf/folder. Find the following line:

```
wrapper.app.parameter.4=/
```

and replace it with the following line:

```
wrapper.app.parameter.4=/Your_Context_Path
```

- Or, if you are using the jetty.xml file to configure Bamboo
See our documentation on [configuring jetty.xml file](#).

### Configuring Bamboo on start-up

#### Restarting Bamboo

After editing the options below, Bamboo needs to be shut down and restarted for the changes to take effect. If you have any elastic agents running, ensure that they are shut down before you restart the Bamboo server. If you do not shut down your elastic instances before restarting, they will continue to run and become orphaned from your Bamboo server.

#### Configuring Bamboo Server on start-up

- **Configuring Bamboo Server on start-up**
  - **Configuring Bamboo's start-up parameters under Linux**
    - **Bamboo 3.1 and above: Modifying the wrapper.**
    - **Bamboo 3.0 and below: Modifying the bamboo.sh script.**
  - **Configuring Bamboo's start-up parameters under Windows**
  - **Configuring Bamboo runtime parameters for bamboo.war**

- **Configuring Bamboo agent on start-up**
  - **Configuring Bamboo agent service**
  - **Configuring classic Bamboo agent**

### Configuring Bamboo Server on start-up

#### Configuring Bamboo’s start-up parameters under Linux

Bamboo on Linux/Unix can be started by either executing the bamboo.sh script or using the wrapper. Either way, the Bamboo server can be customised at start-up.

**Bamboo 3.1 and above: Modifying the wrapper.**

The wrapper reads the configuration from wrapper.conf found in `../<BAMBOO_INSTALL>/conf`. (The properties are documented inside the file.)

**Bamboo 3.0 and below: Modifying the bamboo.sh script.**

The bamboo.sh script takes four parameters: start|stop|restart|status.

To customise these parameters at startup, edit the $RUN_CMD variable:

```bash
# This is how the Bamboo server will be started
#
RUN_CMD="java -Xms256m -Xmx512m -Djava.awt.headless=true -classpath $CLASSPATH
-Dorg.mortbay.xml.XmlParser.NotValidating=true -Djetty.port=8085
com.atlassian.bamboo.server.Server 8085 ./webapp /
```

- `-Xms256m -Xmx512m` specifies the minimum and maximum Java Heap size.
- `-classpath $CLASSPATH` sets the class path at startup.
- `-Djetty.port=8085` specifies the port number for the Jetty server.
- `com.atlassian.bamboo.server.Server 8085 ./webapp /` is the main class that will be executed followed by the context path.
In some cases it might be useful to increase the PermGen space. To do this, add the following parameter to the RUN_CMD variable: "XX:MaxPermSize=512m". This will set the PermGen space to 512mb next time Bamboo is run. For example, this could be a valid RUN_CMD configuration: "java -Xms256m -Xmx512m -XX:MaxPermSize=512m -Djava.awt.headless=true -classpath $CLASSPATH -Dorg.eclipse.jetty.xml.XmlParser.Validating=false com.atlassian.bamboo.server.Server webapp/WEB-INF/classes/jetty.xml"

Configuring Bamboo’s start-up parameters under Windows

Bamboo can be started in Windows with the startup.bat file (from the command line) or as a Windows Service. Both use the wrapper to start Bamboo. As in Linux (see above), the wrapper reads the configuration from wrapper.conf. Please edit the .../conf/wrapper.conf file (situated in the root of your Bamboo_Installation directory) as required.

For example to to add more java parameters to the bamboo process extend the parameter list:

```
wrapper.java.additional.1=-Dorg.mortbay.xml.XmlParser.NotValidating=true
wrapper.java.additional.2=-XX:MaxPermSize=256m
wrapper.java.additional.3=-Djava.awt.headless=true
wrapper.java.additional.4=-D<your-parameter>
```

Configuring Bamboo runtime parameters for bamboo.war

The application container that deploys bamboo has to be configured with the additional java parameter.

Example Tomcat:

```
./bin.setenv.sh

...JAVA_OPTS="-server -XX:MaxPermSize=256m -Dbamboo.home=/path/to/bamboo-tomcat-home -Xmx512m -Djava.awt.headless=true -D<your-parameter>=<value> $JAVA_OPTS" export JAVA_OPTS ...
```

Configuring Bamboo agent on start-up

Configuring Bamboo agent service

Bamboo agent uses the same wrapper as the server. If you are running Bamboo as a service, then edit the conf/wrapper.conf file in <Bamboo-Agent-Home>

For example, to add more java parameters to the Bamboo process, extend the parameter list:

```
wrapper.java.additional.1=-Dorg.mortbay.xml.XmlParser.NotValidating=true
wrapper.java.additional.2=-XX:MaxPermSize=256m
wrapper.java.additional.3=-Djava.awt.headless=true
wrapper.java.additional.4=-D<your-parameter>
```

Configuring classic Bamboo agent

To apply additional properties to the classic Bamboo agent, append the system to the start-up command.
In the example below, we are specifying a Bamboo Home for the agent by adding -Dbamboo.home system property during startup:

```java
// Without a Bamboo Home specified
// With a Bamboo Home specified
java -jar -Dbamboo.home=/bamboo/home bamboo-agent-2.6.2.jar
http://192.168.35.128:8085/bamboo/agentServer/
```

**Getting Bamboo to use the jetty.xml file**

The instructions on this page apply to the Bamboo distribution, not the Bamboo EAR-WAR distribution.

By default Bamboo doesn't use the jetty.xml file to configure itself. If you need to modify the jetty.xml for advanced configuration (such as JNDI or https), you will also need to tell Bamboo to use it.

The method for doing this depends on whether you are using the bamboo.sh startup script or the Java Service Wrapper.

### Step 1 - Instructing Bamboo to use jetty.xml

**If you are using the bamboo.sh script to start Bamboo:**

The standard Bamboo startup script can be customised to use the jetty.xml file by modifying the following section in your bamboo.sh script (this section specifies how the Bamboo server will start):

For Bamboo 3.0 and newer:

```bash
RUN_CMD="java -Xms256m -Xmx512m -Djava.awt.headless=true -classpath $CLASSPATH
-Dorg.eclipse.jetty.xml.XmlParser.Validating=false -Djetty.port=8085
com.atlassian.bamboo.server.Server 8085 ./webapp /"
```

For Bamboo older than 3.0:

```bash
RUN_CMD="java -Xms256m -Xmx512m -Djava.awt.headless=true -classpath $CLASSPATH
-Dorg.mortbay.xml.XmlParser.NotValidating=true -Djetty.port=8085
com.atlassian.bamboo.server.Server 8085 ./webapp /"
```

Now, modify this startup script to read the jetty.xml file from webapp/WEB-INF/classes/jetty.xml by changing the RUN_CMD argument as follows:

For Bamboo 3.0 and newer:

```bash
RUN_CMD="java -Xms256m -Xmx512m -Djava.awt.headless=true -classpath $CLASSPATH
webapp/WEB-INF/classes/jetty.xml"
```

For Bamboo older than 3.0:

```bash
RUN_CMD="java -Xms256m -Xmx512m -Djava.awt.headless=true -classpath $CLASSPATH
-Dorg.mortbay.xml.XmlParser.NotValidating=true com.atlassian.bamboo.server.Server
webapp/WEB-INF/classes/jetty.xml"
```

**If you are using the Java Service Wrapper to start Bamboo:**

When starting up Bamboo with the Java Service Wrapper, you'll need to modify the wrapper.conf file in the conf directory.
You will need to replace the argument which specifies your port number "wrapper.app.parameter.2=8085" with "wrapper.app.parameter.2=../webapp/WEB-INF/classes/jetty.xml".

You will need to comment out the other arguments: "wrapper.app.parameter.3=../webapp" and "wrapper.app.parameter.4=/"

This will make Bamboo start up using your jetty.xml configuration file instead of the default three arguments (port, web app directory, context path).

**Step 2 - Setting root context web application in jetty.xml**

If you are using Bamboo 1.2.4 follow the instructions below:

Edit the webapp root context in your jetty.xml file situated in `<Bamboo-install>/webapp/WEB-INF/classes/jetty.xml`. From

```xml
<Call name="addWebApplication">
  <Arg>/bamboo</Arg>
  <Arg>
    <SystemProperty name="bamboo.webapp" default="bamboo-web-app/src/main/webapp"/>
  </Arg>
</Call>
</Configure>
```

To

```xml
<Call name="addWebApplication">
  <Arg>/bamboo</Arg>
  <Arg>
    <SystemProperty name="bamboo.webapp" default="full/path/to/bamboo/install/directory/webapp"/>
  </Arg>
</Call>
</Configure>
```

If you are using Bamboo 2.0 follow the instructions below:

**Linux Platforms**

Replace your existing `<Bamboo-install>/webapp/WEB-INF/classes/jetty.xml` file, with this jetty.xml file.

**Windows Platforms**

Replace your existing `<Bamboo-install>/webapp\WEB-INF\classes\jetty.xml` file, with this jetty.xml file.

**Installation notes for Bamboo on JBoss 4.x**

This page is for people who are deploying the Bamboo EAR/WAR edition on the JBoss 4.x application server. For full installation instructions please see the Bamboo EAR-WAR installation guide.
Bamboo 2.4.x does not run on JBoss 4.2.3 or later

We are aware of a JBoss issue that currently prevents Bamboo 2.4.x from running on JBoss 4.2.3 or later. If you are using JBoss 4.2.3 or later, we recommend that you do not upgrade your Bamboo installation until a fix has been implemented. Please see BAM-4705 for more information.

File extraction notes

To deploy Bamboo EAR-WAR onto your JBoss application server, copy the Bamboo WAR file to ../<JBoss-install>/server/default/deploy/atlassian-bamboo-1.1.2.war.

By default the WAR file will extract to atlassian-bamboo-<version>. The name of the directory in the webapps folder will form the URL required to access Bamboo, e.g. <JBoss-install>/server/default/deploy/atlassian-bamboo-1.1.2.war will become http://host:port/atlassian-bamboo-1.1.2/

How to set Java OPTs on JBoss 4.x

- **Windows:**
  1. Find the run.bat file.
  2. Edit JAVA_OPTS to set the desired properties variable:
     
     FROM
     
     if exist "%JBOSST_HOME%\bin\native" set JAVA_OPTS=%JAVA_OPTS%
     -Djava.library.path=%JBOSST_HOME%\bin\native
     
     TO
     
     if exist "%JBOSST_HOME%\bin\native" set JAVA_OPTS=%JAVA_OPTS%
     -Djava.library.path=%JBOSST_HOME%\bin\native -server -XX:MaxPermSize=256m
     -Dbamboo.home=/opt/bamboo/bamboohome -Xmx512m -Djava.awt.headless=true
     -Dbamboo.home=Your_Path_To_Bamboo

- **Linux-based systems:**
  1. Find the run.sh file
  2. Edit JAVA_OPTS to set the desired properties variable:
     
     FROM
     
     # Setup JBoss specific properties
     JAVA_OPTS="-Dprogram.name=$PROGNAME $JAVA_OPTS"
     
     TO
     
     # Setup JBoss specific properties
     JAVA_OPTS="-Dprogram.name=$PROGNAME -server -XX:MaxPermSize=256m
     -Dbamboo.home=/opt/bamboo/bamboohome -Xmx512m -Djava.awt.headless=true
     -Dbamboo.home=Your_Path_To_Bamboo $JAVA_OPTS"
Running Bamboo as a Service on Windows

Once you have installed Bamboo, you can choose to run Bamboo as service so that it starts up every time windows restarts.

To do this,

1. Click on the **Start menu** in Windows,
2. Select **Bamboo** from the programs list,
3. Click on **Install Service** option to install Bamboo as a service in Windows.
4. Click **Start Service** to start the service.

**Running Bamboo as local user**

Bamboo service installs itself as the windows NT SYSTEM User, to run Bamboo as a local user see [Running Bamboo service on Windows as the local user](#).

**Upgrading Bamboo server**

If you have just upgraded your Bamboo server, **you must** re-install the Bamboo service. You can do this by removing the service and installing it again.

Running Bamboo over HTTPS

This document is a guide to configuring the Bamboo Standalone distribution (not EAR-WAR) with basic HTTPS authentication. For further reference please visit the Jetty page on [configuring SSL with Jetty](#).

1. Adding Certificate to your Keystore

Option 1. Using a self-signed Certificate

The simplest way to generate keys and certificates is to use the keytool application that comes with the JDK, as it generates keys and certificates directly into the keystore.
The following command will generate a key pair and certificate directly into a keystore:

```
keytool -keystore keystore -alias jetty -genkey -keyalg RSA
```

This command will prompt for information about the certificate and for passwords to protect both the keystore and the keys within it. The only mandatory response is to provide the fully qualified host name of the server at the "first and last name" prompt.

Option 2. Using Certificate issued by an Certificate Authority

**Certificate Option 2 – Use a Certificate Issued by a Certificate Authority**

When running Bamboo in a production environment, you will need a certificate issued by a certificate authority (CA, sometimes also called a 'certification authority') such as VeriSign, Thawte or TrustCenter. The instructions below are adapted from the Tomcat documentation.

First you will generate a local certificate and create a 'certificate signing request' (CSR) based on that certificate. You will submit the CSR to your chosen certificate authority. The CA will use that CSR to generate a certificate for you.

1. Use Java's `keytool` utility to generate a local certificate, as described in the previous section.
2. Use the `keytool` utility to generate a CSR, replacing the text `<MY_KEYSTORE_FILENAME>` with the path to and file name of the `.keystore` file generated for your local certificate:

   ```
   keytool -certreq -keyalg RSA -alias tomcat -file certreq.csr -keystore <MY_KEYSTORE_FILENAME>
   ```

3. Submit the generated file called `certreq.csr` to your chosen certificate authority. Refer to the documentation on the CA's website to find out how to do this.
4. The CA will send you a certificate.
5. Import the new certificate into your local keystore:

   ```
   keytool -importcert -alias tomcat -keystore <MY_KEYSTORE_FILENAME> -file <MY_CERTIFICATE_FILENAME>
   ```

Now, we need to configure an SSL listener.

**NOTE:** If you're running a Bamboo EAR-WAR distribution deployed in Tomcat, please follow these instructions. Otherwise, go to Step 2 below.

2. Configuring Jetty

Using the Sun JVM, add the SunJsseListener as a HttpListeners, In the `../<Bamboo_Application_Directory>/webapp/WEB-INF/classes/jetty.xml` file add the following lines.

This will make Bamboo accessible in port 8443 on `https://localhost:8443/`

If you are using Bamboo 1.2.4 (or earlier)
<Call name="addListener">
  <Arg>
    <New class="org.mortbay.http.SunJsseListener">
      <Set name="Port">8443</Set>
      <Set name="Keystore"><SystemProperty name="jetty.home" default="./"></SystemProperty</Set>
      <Set name="Password">password</Set>
      <Set name="KeyPassword">password</Set>
    </New>
  </Arg>
</Call>

If you are using Bamboo 2.0 (or newer version)

<Call name="addConnector">
  <Arg>
    <New class="org.eclipse.jetty.server.ssl.SslSelectChannelConnector">
      <Set name="Port">8443</Set>
      <Set name="Keystore"><SystemProperty name="jetty.home" default="./"></SystemProperty</Set>
      <Set name="Password">password</Set>
      <Set name="KeyPassword">password</Set>
    </New>
  </Arg>
</Call>

1. Please note that Password and KeyPassword indicate the passwords you entered when you imported the certificate to the keystore.
2. The keystore file in this example is given relative to the Bamboo Application Directory, so copy your keystore file to BAMBOO_INSTALL directory.
3. Also, you might need an extra "." (dot) at ./keystore.
4. Clear out the context path at (<Arg name="contextPath">/bamboo</Arg>), so it now looks like (<Arg name="contextPath">/</Arg>) if you are not using a context URL.
5. Please ensure that jcert.jar, jnet.jar and jsse.jar files are on your classpath (http://docs.oracle.com/javase/6/docs/technotes/tools/windows/classpath.html).

Your jetty.xml file should look like this:

```xml
<?xml version="1.0"?>
<!DOCTYPE Configure PUBLIC "-//Jetty//Configure//EN"
  "http://www.eclipse.org/jetty/configure.dtd">

<!-- Configure the Jetty Server -->
<!-- Documentation of this file format can be found at: -->

<Configure id="Server" class="org.eclipse.jetty.server.Server">
```

Created by Atlassian in 2012. Licensed under a Creative Commons Attribution 2.5 Australia License.
<!-- Server Thread Pool -->
<!-- Default queued blocking threadpool -->
<!-- New class="org.eclipse.jetty.util.thread.QueuedThreadPool" -->
<Set name="minThreads">10</Set>
<Set name="maxThreads">200</Set>
</New>
</Set>

<!-- Server Thread Pool -->
<!-- Set connectors -->
<!-- New class="org.eclipse.jetty.server.ssl.SslSelectChannelConnector" -->
<Call name="addConnector">
  <Arg>
    <New class="org.eclipse.jetty.server.ssl.SslSelectChannelConnector">
      <Set name="Port">8443</Set>
      <Set name="Keystore"><SystemProperty name="jetty.home" default="."/>keystore</Set>
      <Set name="Password">password</Set>
      <Set name="KeyPassword">password</Set>
    </New>
  </Arg>
</Call>

<!-- For SSL Connextions use: -->
<!-- Add web applications Context. -->
<!-- The default location can be changed using: java -Dbamboo.webapp= -->
<Call name="setHandler">
  <Arg>
    <New class="org.eclipse.jetty.webapp.WebAppContext">
      <Arg name="webApp">
        <SystemProperty name="bamboo.webapp" default="/opt/dev/src/atlassian/bamboo-trunk/components/bamboo-web-app/src/main/webapp"/>
      </Arg>
      <Arg name="contextPath">/</Arg>
      <Get name="sessionHandler">
        <New class="org.eclipse.jetty.server.session.HashSessionManager">
          <Set name="httpOnly">true</Set>
        </New>
      </Get>
    </New>
  </Arg>
</Call>
http only cookies? -->

</New>
</Set>
</Get>
</New>
</Call>

<!-- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -  

<!-- Add Any JNDI Resources -->

<!-- The default location can be changed using: java -Dbamboo.webapp= -->

<!-- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -  

<!--New id="resourceID" class="org.eclipse.jetty.plus.jndi.Resource">
<Arg>resourceName</Arg>
</New>

<!-- Uncomment to enable AJP Support -->

<!-- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -  -->

<!--Call name="addConnector" -->

<Arg>
<New class="org.eclipse.jetty.ajp.Ajp13SocketConnector">
<Set name="port">8009</Set>
</New>
</Arg>
</Call>

-->
Also, modify C:\Atlassian\atlassian-bamboo-4.0\Bamboo\conf\wrapper.conf by:

- Replacing the argument which specifies the port number "wrapper.app.parameter.2=8085" with "wrapper.app.parameter.2=../webapp/WEB-INF/classes/jetty.xml".
- Commenting out the other arguments: "wrapper.app.parameter.3=../webapp" and "wrapper.app.parameter.4="/".
- Please note that using this part might fail for Windows: "<SystemProperty name="bamboo.webapp" default="../webapp"/>". In that case use 2 dots before "/webapp":

    ...  
    <SystemProperty name="bamboo.webapp" default="../webapp"/>  
    ... 

After following the steps mentioned above, you should be able to start your Bamboo instance by reaching it at https://127.0.0.1:8443

3. Getting Bamboo to use the jetty.xml file

Follow this Knowledge Base article, to instruct Bamboo to use the jetty.xml file configured in step 2.

Running Bamboo EAR-WAR over HTTPS

After adding a certificate to your Keystore (Step 1), please follow these steps:

1. Open Tomcat's server.xml, located at <Tomcat_Installation_Directory>/conf
2. Uncomment this section:

    <Connector port="8443" protocol="HTTP/1.1" SSLEnabled="true" 
    maxThreads="150" scheme="https" secure="true" 
    clientAuth="false" sslProtocol="TLS" />

3. Edit it so it looks like this:

    <Connector port="8443" protocol="HTTP/1.1" SSLEnabled="true" 
    maxThreads="150" scheme="https" secure="true" 
    clientAuth="false" sslProtocol="TLS" 
    keystorePass="<keystore_password_defined>" 
    keystoreFile="<keystore_file_location>" />

4. Start Tomcat
5. Access Bamboo at https://host_name:8443/bamboo_context

Running Bamboo service on Windows as the local user

1. Install Bamboo Application Server

Created by Atlassian in 2012. Licensed under a Creative Commons Attribution 2.5 Australia License.
1. Download Bamboo and run the Setup Wizard.
2. Install Bamboo as Windows service, as described in the Bamboo Installation Guide (Windows).

2. Edit the Bamboo service to run as the "local user"
1. Go to Start -> Run and enter 'services.msc'.
2. The 'Services' window will display (see screenshot below). Double-click the 'Bamboo build server' row.

3. The 'Bamboo build server Properties' window will display (see screenshot above). Select the 'This account' option and click the 'OK' button to apply your changes.

3. Give the local user access to "logon as a service"
1. Go to Start -> Run and enter 'secpol.msc'
2. The 'Local Security Settings' window will display. Expand the 'Local Policies' tree and click 'User Rights Assignment'.
3. Scroll down and find the 'Logon As a Service' Policy (see screenshot below). Double-click the 'Log on as a service' policy.
4. The properties window for the 'Log on as a service' policy will display (see screenshot below). Click the 'Add User or Group' button.

5. The 'Select Users or Groups' window will display (see screenshot above). Enter your local user and click 'OK' to allow your user to "logon as a service".

6. Click 'OK' and close all open windows.

Bamboo will now start as service, under the local user.

Setting up JNDI mail on JBoss 4.2.2
This page explains how to set up the (gmail) mail service for JBoss 4.2.2. with the following features

- smtp over SSL
- TLS encryption

After installing bamboo.war on jboss modify <jboss-install>/server/default/deploy/mail-service.xml to be

```xml
<?xml version="1.0" encoding="UTF-8"?>
<!-- $Id: mail-service.xml 62349 2007-04-15 16:48:15Z dimitris@jboss.org $ -->
<server>

<!-- Mail Connection Factory -->

<mbean code="org.jboss.mail.MailService"

name="jboss:service=Mail">

<attribute name="JNDIName">java:/Mail</attribute>
<attribute name="User">${account}@gmail.com</attribute>
<attribute name="Password">${pw}</attribute>
<attribute name="Configuration">

<!-- A test configuration -->

<configuration>

<!-- Change to your mail server prototocol -->
<property name="mail.transport.protocol" value="smtp"/>

<!-- Change to the user who will receive mail -->
<property name="mail.user" value="${account}@gmail.com"/>

<!-- Change to the SMTP gateway server -->
<property name="mail.smtp.host" value="smtp.gmail.com"/>

<!-- The mail server port -->
<property name="mail.smtp.port" value="465"/>

<!-- Change to the address mail will be from -->
<property name="mail.from" value="${account}@whatever.com"/>

<property name="mail.smtp.auth" value="true"/>
<property name="mail.smtp.user" value="${account}@gmail.com"/>
<property name="mail.smtp.password" value="${pw}"/>
<property name="mail.smtp.ssl.enable" value="true"/>
<property name="mail.smtp.socketFactory.class" value="javax.net.ssl.SSLSocketFactory"/>
<property name="mail.smtp.starttls.enable" value="true"/>

<!-- Enable debugging output from the javamail classes -->
<property name="mail.debug" value="false"/>
</configuration>

</attribute>
<depends>jboss:service=Naming</depends>
</mbean>

</server>
```

Problems

If you encounter a class loading problem you will need to remove

- <bamboo-war>/WEB-INF/lib/activation-x.x.x.jar
Setting up JNDI on Jetty

The Bamboo start up script can be customised to setup JNDI resources

Follow this guide to setup Bamboo to use the jetty.xml file

You will also need to change the jetty.xml file under webapp/WEB-INF/classes by change the context path from /bamboo to /. Example of this is below:

If you are using Bamboo 1.2.4 (or earlier):

```xml
<!-- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -->
<!-- Add root context web applications. -->
<!-- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -->
<Call name="addWebApplication">
  <Arg>/</Arg>
  <Arg>
    <SystemProperty name="bamboo.webapp" default="webapp"/>
  </Arg>
</Call>
```

If you are using Bamboo 2.0:

```xml
<Call name="addHandler">
  <Arg>
    <New class="org.mortbay.jetty.webapp.WebAppContext">
      <Arg name="webApp">
        <SystemProperty name="bamboo.webapp" default="webapp"/>
      </Arg>
      <Arg name="contextPath">
        /
      </Arg>
    </New>
  </Arg>
</Call>
```

To set up the JNDI mail session, you will also need to uncomment and modify the section of this jetty.xml shown below. You will need to replace the values inside the <Arg> tags with appropriate values (username, password, host, from address).

In Bamboo 1.2.4 and earlier:
In Bamboo 2.0:

```xml
<!--
<Call name="addService">
   <Arg>
     ...
   </Arg>
</Call>
-->
```

If you are experiencing class loading problems with your mail session. Try uncommenting the following line in the web applications context (2.0 only):

```xml
<!--<Set name="parentLoaderPriority">true</Set>--> 
```

Support Policies

Welcome to the support policies index page. Here, you'll find information about how Atlassian Support can help you and how to get in touch with our helpful support engineers. Please choose the relevant page below to find out more.

- [Bamboo Support Policy](#)
- [Bug Fixing Policy](#)
- [Deploying Multiple Atlassian Applications in a Single Tomcat Container](#)
- [How to Report a Security Issue](#)
- [New Features Policy](#)
- [Patch Policy](#)
- [Security Advisory Publishing Policy](#)
- [Security Patch Policy](#)
- [Severity Levels for Security Issues](#)

To request support from Atlassian, please raise a support issue in our online support system. To do this, visit [support.atlassian.com](http://support.atlassian.com), log in (creating an account if need be) and create an issue under Bamboo. Our friendly support engineers will get right back to you with an answer.

**Bamboo Support Policy**

This page contains details about the scope of Bamboo Support.

**On this page:**
Build Failures

Atlassian will provide Troubleshooting Guide(s) and documentation to help customers resolve Bamboo-related issues.

Ultimately, users are responsible for the administration and maintenance of their build systems and infrastructure.

However, if the root cause of the problem is partially or wholly related to Bamboo, we will create a Bug Report or Feature request to address the issue.

Any bug or feature request reported during the course of investigation is subject to Atlassian's Bug Fixing and New Features Policies, as outlined in the Atlassian Support Offerings document.

Distributed Builds

The pre-requisites outlined in the Technical Overview section of Troubleshooting Guide must be met for server/agent communication to work.

If Atlassian determines that a customer's agent connectivity or communication problem results from a network or environmental factor, it is the customer's responsibility to address this problem and keep their network maintained.

EC2

Atlassian does not support custom elastic images (custom AMIs) and recommends using an EBS volume to customise your image if desired. While we are happy to assist with issues related to the elastic agent, we cannot help troubleshoot modifications to the stock images which are not directly related to Bamboo functionality.

Plugins

Atlassian offers support for certain third party plugins as listed in our supported plugins list. For unsupported plugins, issues should be raised with the provider of the plugin.

The following can be classified as being third-party plugins:

- Integration with repositories other than Subversion, CVS and Perforce.
- Third party builders, test and code coverage tools other than what is shipped with Bamboo.

Each plugin's supported status is listed on its page in the Plugin Exchange.

Related Information

Atlassian Bug Fixing Policy

New Features Policy

Patch Policy

Atlassian Support Offerings
Bug Fixing Policy

Summary
- Atlassian Support will help with workarounds and bug reporting.
- Critical bugs will generally be fixed in the next maintenance release.
- Non-critical bugs will be scheduled according to a variety of considerations.

Raising a Bug Report

Atlassian Support is eager and happy to help verify bugs — we take pride in it! Please open a support request in our support system providing as much information as possible about how to replicate the problem you are experiencing. We will replicate the bug to verify, then lodge the report for you. We’ll also try to construct workarounds if they’re possible.

Customers and plugin developers are also welcome to open bug reports on our issue tracking systems directly. Use http://jira.atlassian.com for the stand-alone products and http://studio.atlassian.com for JIRA Studio and Atlassian OnDemand.

When raising a new bug, you should rate the priority of a bug according to our JIRA usage guidelines. Customers should watch a filed bug in order to receive e-mail notification when a "Fix Version" is scheduled for release.

How Atlassian Approaches Bug Fixing

Maintenance (bug fix) releases come out more frequently than major releases and attempt to target the most critical bugs affecting our customers. The notation for a maintenance release is the final number in the version (ie the 1 in 3.0.1).

If a bug is critical (production application down or major malfunction causing business revenue loss or high numbers of staff unable to perform their normal functions) then it will be fixed in the next maintenance release provided that:

- The fix is technically feasible (i.e. it doesn't require a major architectural change).
- It does not impact the quality or integrity of a product.

For non-critical bugs, the developer assigned to fixing bugs prioritises the non-critical bug according to these factors:

- How many of our supported configurations are affected by the problem.
- Whether there is an effective workaround or patch.
- How difficult the issue is to fix.
- Whether many bugs in one area can be fixed at one time.

The developers responsible for bug fixing also monitor comments on existing bugs and new bugs submitted in JIRA, so you can provide feedback in this way. We give high priority consideration to security issues.

When considering the priority of a non-critical bug we try to determine a 'value' score for a bug which takes into account the severity of the bug from the customer's perspective, how prevalent the bug is and whether roadmap features may render the bug obsolete. We combine this with a complexity score (i.e. how difficult the bug is). These two dimensions are used when developers self serve from the bug pile.

Further reading

See Atlassian Support Offerings for more support-related information.
Deploying Multiple Atlassian Applications in a Single Tomcat Container

Deploying multiple Atlassian applications in a single Tomcat container is not supported. We do not test this configuration and upgrading any of the applications (even for point releases) is likely to break it. There are also a number of known issues with this configuration:

- You may not be able to start up all of the applications in the container, due to class conflicts (in 3rd party libraries bundled with our application) that result from the Atlassian applications sharing a single JVM in the Tomcat container.
- You will not be able to determine the startup order of the applications. Hence, you may experience problems such as JIRA starting before Crowd, rather than vice versa.
- Memory problems are also common as one application may allocate all of the memory in the Tomcat JVM to itself, starving the other applications.

We also do not support deploying multiple Atlassian applications to a single Tomcat container for a number of practical reasons. Firstly, you must shut down Tomcat to upgrade any application and secondly, if one application crashes, the other applications running in that Tomcat container will be inaccessible.

Finally, we recommend not deploying any other applications to the same Tomcat container that runs the Atlassian application, especially if these other applications have large memory requirements or require additional libraries in Tomcat's lib subdirectory.

How to Report a Security Issue

Finding and Reporting a Security Vulnerability

If you find a security bug in the product, please open an issue on http://jira.atlassian.com in the relevant project.

- Set the priority of the bug to 'Blocker'.
- Provide as much information on reproducing the bug as possible.
- Set the security level of the bug to 'Developer and Reporters only'.

All communication about the vulnerability should be performed through JIRA, so that Atlassian can keep track of the issue and get a patch out as soon as possible.

If you discover a security vulnerability, please attempt to create a test case that proves this vulnerability locally before opening either a bug or a support issue. When creating an issue, please include information on how the vulnerability can be reproduced; see our Bug Fixing Policy for general bug reporting guidelines. We will prioritise fixing the reported vulnerability if your report has information on how the vulnerability can be exploited.

Further reading

See Atlassian Support Offerings for more support-related information.

New Features Policy

Summary

- We encourage and display customer comments and votes openly in our issue tracking system, http://jira.atlassian.com.
- We do not publish roadmaps.
- Product Managers review our most popular voted issues on a regular basis.
- We schedule features based on a variety of factors.
- Our Atlassian Bug Fixing Policy is distinct from our Feature Request process.
• Atlassian provides consistent updates on the top 20 feature/improvement requests (in our issue tracker systems).

How to Track what Features are Being Implemented

When a new feature or improvement is scheduled, the 'fix-for' version will be indicated in the JIRA issue. This happens for the upcoming release only. We maintain roadmaps for more distant releases internally, but because these roadmaps are often pre-empted by changing customer demands, we do not publish them.

How Atlassian Chooses What to Implement

In every major release we aim to implement highly requested features, but it is not the only determining factor. Other factors include:

• Direct feedback from face to face meetings with customers, and through our support and sales channels.
• Availability of staff to implement features.
• Impact of the proposed changes on the application and its underlying architecture.
• How well defined the requested feature is (some issues gain in popularity rapidly, allowing little time to plan their implementation).
• Our long-term strategic vision for the product.

How to Contribute to Feature Development

Influencing Atlassian's release cycle

We encourage our customers to vote on feature requests in JIRA. The current tally of votes is available online in our issue tracking system, http://jira.atlassian.com. Find out if your improvement request already exists. If it does, please vote for it. If you do not find it, create a new feature or improvement request online.

Extending Atlassian Products

Atlassian products have powerful and flexible extension APIs. If you would like to see a particular feature implemented, it may be possible to develop the feature as a plugin. Documentation regarding the plugin APIs is available. Advice on extending either product may be available on the user mailing-lists, or at Atlassian Answers.

If you require significant customisations, you may wish to get in touch with our partners. They specialise in extending Atlassian products and can do this work for you. If you are interested, please contact us.

Further reading

See Atlassian Support Offerings for more support-related information.

Patch Policy

Patch Policy

Atlassian will only provide software patches in extremely unusual circumstances. If a problem has been fixed in a newer release of the product, Atlassian will request that you upgrade your instance to fix the issue. If it is deemed necessary to provide a patch, a patch will be provided for the current release and the last maintenance release of the last major version only.

Patches are issued under the following conditions:

• The bug is critical (production application down or major malfunction causing business revenue loss or high numbers of staff unable to perform their normal functions).
• A patch is technically feasible (i.e., it doesn't require a major architectural change) OR
• The issue is a security issue, and falls under our Security Patch Policy.

Atlassian does not provide patches for non-critical bugs.

Provided that a patch does not impact the quality or integrity of a product, Atlassian will ensure that patches
supplied to customers are added to the next maintenance release. Customers should watch a filed bug in order to receive e-mail notification when a "Fix Version" is scheduled for release.

Patches are generally attached to the relevant http://jira.atlassian.com issue.

Further reading

See Atlassian Support Offerings for more support-related information.

Security Advisory Publishing Policy

Publication of Security Advisories

When a security vulnerability in an Atlassian product is discovered and resolved, Atlassian will inform customers through the following mechanisms:

- We will post a security advisory in the latest documentation of the affected product at the same time as releasing a fix for the vulnerability. This applies to all security advisories, including severity levels of critical, high, medium and low.
- We will send a copy of all security advisories to the 'Technical Alerts' mailing list for the product concerned.
  Note: To manage your email subscriptions and ensure you are on this list, please go to my.atlassian.com and click 'Communications Centre' near the top right of the page.
- If the person who reported the vulnerability wants to publish an advisory through some other agency, such as CERT, we will assist in the production of that advisory and link to it from our own.

Early warning of critical security vulnerabilities:

- If the vulnerability is rated critical (see our criteria for setting severity levels) we may send an early warning to the 'Technical Alerts' mailing list approximately one week before releasing the fix. This early warning is in addition to the security advisory itself, described above.
- However, if the vulnerability is publicly known or being exploited, we will release the security advisory and patches as soon as possible, potentially without early warning.

Further reading

See Atlassian Support Offerings for more support-related information.

Security Patch Policy

Product Security Patch Policy

Atlassian makes it a priority to ensure that customers' systems cannot be compromised by exploiting vulnerabilities in Atlassian products.

Scope

This page describes when and how we release security patches and security upgrades for our products. It does not describe the whole of disclosure process that we follow. It also excludes JIRA Studio, since JIRA Studio will always be patched by Atlassian without additional notifications.

Critical vulnerabilities

When a Critical security vulnerability is discovered by Atlassian or reported by a third party, Atlassian will do all of the following:

- Issue a new, fixed release for the current version of the affected product as soon as possible, usually in a few days.
- Issue a binary patch for the current release.
- Issue a binary patch for the latest maintenance release of the previous version of the product.
• Patches for older versions or releases normally will not be issued.

Patches will be attached to the relevant JIRA issue. You can use these patches as a "stop-gap" measure until you upgrade your installation in order to fully fix the vulnerability.

**Non-critical vulnerabilities**

When a security issue of a **High, Medium or Low** severity is discovered, Atlassian will do all of the following:

• Include the fix into the next scheduled release, both for the current and previous maintenance versions.
• Where practical, provide new versions of plugins or other components of the product that can be upgraded independently.

You should upgrade your installation in order to fix the vulnerability.

**Other information**

Severity level of vulnerabilities is calculated based on [Severity Levels for Security Issues](#).

Visit our general [Atlassian Patch Policy](#) as well.

**Examples**

**Example 1:** A critical severity vulnerability is found in a (hypothetical current release) JIRA 5.3.2. The last bugfix release in 5.2.x branch was 5.2.3. In this case, a patch will be created for 5.3.2 and 5.2.3. In addition, new bugfix releases, 5.3.3 and 5.2.4, which are free from this vulnerability, will be created in a few days.

**Example 2:** A high or medium severity vulnerability is found in the same release as in the previous example. The fix will be included into the currently scheduled releases 5.3.3 and 5.2.4. Release schedule will not be brought forward and no patches will be issued. If the vulnerability is in a plugin module, then a plugin upgrade package may still be supplied.

**Further reading**

See [Atlassian Support Offerings](#) for more support-related information.

## Severity Levels for Security Issues

### Severity Levels

Atlassian security advisories include a severity level. This severity level is based on our self-calculated CVSS score for each specific vulnerability. CVSS is an industry standard vulnerability metric. You can learn more about CVSS at [FIRST.org](#) web site.

CVSS scores are mapped into the following severity ratings:

• Critical
• High
• Medium
• Low

An approximate mapping guideline is as follows:

<table>
<thead>
<tr>
<th>CVSS score range</th>
<th>Severity in advisory</th>
</tr>
</thead>
<tbody>
<tr>
<td>0 – 2.9</td>
<td>Low</td>
</tr>
<tr>
<td>3 – 5.9</td>
<td>Medium</td>
</tr>
</tbody>
</table>
Below is a summary of the factors which illustrate types of vulnerabilities usually resulting in a specific severity level. Please keep in mind that this rating does not take into account details of your installation.

**Severity Level: Critical**

Vulnerabilities that score in the critical range usually have most of the following characteristics:

- Exploitation of the vulnerability results in root-level compromise of servers or infrastructure devices.
- The information required in order to exploit the vulnerability, such as example code, is widely available to attackers.
- Exploitation is usually straightforward, in the sense that the attacker does not need any special authentication credentials or knowledge about individual victims, and does not need to persuade a target user, for example via social engineering, into performing any special functions.

For critical vulnerabilities, is advised that you patch or upgrade as soon as possible, unless you have other mitigating measures in place. For example, if your installation is not accessible from the Internet, this may be a mitigating factor.

**Severity Level: High**

Vulnerabilities that score in the high range usually have some of the following characteristics:

- The vulnerability is difficult to exploit.
- Exploitation does not result in elevated privileges.
- Exploitation does not result in a significant data loss.

**Severity Level: Medium**

Vulnerabilities that score in the medium range usually have some of the following characteristics:

- Denial of service vulnerabilities that are difficult to set up.
- Exploits that require an attacker to reside on the same local network as the victim.
- Vulnerabilities that affect only nonstandard configurations or obscure applications.
- Vulnerabilities that require the attacker to manipulate individual victims via social engineering tactics.
- Vulnerabilities where exploitation provides only very limited access.

**Severity Level: Low**

Vulnerabilities in the low range typically have very little impact on an organisation's business. Exploitation of such vulnerabilities usually requires local or physical system access.

**Further reading**

See [Atlassian Support Offerings](https://support.atlassian.com) for more support-related information.

**Usage FAQ**

- [Backing up Bamboo instances over 4GB](https://confluence.atlassian.com/display/BAMBOO/Backing+up+Bamboo+instances+over+4GB)
- [Bamboo Database Schema](https://confluence.atlassian.com/display/BAMBOO/Bamboo+Database+Schema)
- [Binding Bamboo to one IP address](https://confluence.atlassian.com/display/BAMBOO/Binding+Bamboo+to+one+IP+address)
- [Can Bamboo build and test non-Java projects](https://confluence.atlassian.com/display/BAMBOO/Can+Bamboo+build+and+test+non-Java+projects)
- [Can multiple plans share a common 3rd-party directory](https://confluence.atlassian.com/display/BAMBOO/Can+multiple+plans+share+a+common+3rd-party+directory)
- [Changing Bamboo database settings](https://confluence.atlassian.com/display/BAMBOO/Changing+Bamboo+database+settings)
- [Finding the Support Entitlement Number (SEN)](https://confluence.atlassian.com/display/BAMBOO/Finding+the+Support+Entitlement+Number+%28SEN%29)
- [How Bamboo processes task arguments and passes them to OS shell](https://confluence.atlassian.com/display/BAMBOO/How+Bamboo+processes+task+arguments+and+passes+them+to+OS+shell)
- [How do I manually set the version of new Subversion workspaces](https://confluence.atlassian.com/display/BAMBOO/How+do+I+manually+set+the+version+of+new+Subversion+workspaces)
Back up Bamboo instances over 4GB

Due to limitations of the original ZIP file format, and the TrueZIP library used to generate ZIP files, it is not possible to export a Bamboo instance when the resulting ZIP file, or the original size of any of its components, is larger than 4GB. Instead, you will need to backup Bamboo manually. We strongly recommend performing regular backups.

To backup Bamboo manually:

1. Shut down Bamboo.
2. Copy the contents of your `<Bamboo-Home>` directory. You can delete bamboo's working copy folder `<bamboo-home>/xml-data/build-dir` beforehand to reduce the size. Zip this backup.
3. If you are using an external database, use the database's native backup tool to backup your database (please consult your database documentation for further instructions). Alternatively, perform an SQL dump of your database.

To restore your Bamboo instance to a previous state:

1. Edit the `../Bamboo-Install-Directory/webapp/WEB-INF/classes/bamboo.init.properties` file to point to your backed-up `<Bamboo-Home>` directory.
2. If you are using an external database, restore your database using the database's native backup tool.

Bamboo Database Schema

This documentation is now deprecated, if you want to investigate how Bamboo DB Schema please see this kb.
Binding Bamboo to one IP address

These instructions apply to the Bamboo distribution (not EAR-WAR), which ships with the Jetty application server.

If you have installed Bamboo on a machine with multiple interfaces, and need to bind Bamboo to a single IP address, follow these instructions.

**Step 1 — Instruct Bamboo to read its configuration from the jetty.xml file**

By default Bamboo doesn't use the jetty.xml file to configure itself. You will need to tell Bamboo to use it.

**Step 2 — Edit the jetty.xml file**

Your jetty.xml file is located in `<Bamboo_Install_directory>/webapp/WEB-INF/classes/jetty.xml`.

Please note: `YOUR_HOST_URL` should be the same as the Bamboo base URL configured in Bamboo.

If you are using Bamboo 1.2.4:

Find the following section:
Change the last line as follows:

```xml
<Call name="addListener">
  <Arg>
    <New class="org.mortbay.http.SocketListener">
      <Set name="Port">
        <SystemProperty name="jetty.port" default="8085"/>
      </Set>
      <Set name="Host">YOUR_HOST_URL</Set>
    </New>
  </Arg>
</Call>
```

If you are using Bamboo 2.0

Find the following section:

```xml
<Call name="addConnector">
  <Arg>
    <New class="org.mortbay.jetty.bio.SocketConnector">
      <Set name="Port">
        <SystemProperty name="jetty.port" default="8085"/>
      </Set>
    </New>
  </Arg>
</Call>
```

Uncomment the host property as follows:

```xml
<Call name="addConnector">
  <Arg>
    <New class="org.mortbay.jetty.bio.SocketConnector">
      <Set name="Port">
        <SystemProperty name="jetty.port" default="8085"/>
      </Set>
      <Set name="Host">YOUR_HOST_URL</Set>
    </New>
  </Arg>
</Call>
```

Step 3 — Restart Bamboo

If you have any elastic agents running, ensure that they are shut down before you restart the Bamboo server. If you do not shut down your elastic instances before restarting, they will continue to run and become orphaned from your Bamboo server.
Can Bamboo build and test non-Java projects

Bamboo can be ported to be used on any architecture and can build projects in virtually any language/script (Java, C++, ruby, perl, VB.net, bash, make and C# to name a few of many projects currently built with Bamboo).

Bamboo can execute any script/build that has a return code after the build process is completed. Ideally, you would configure a build tool (such as Maven or Ant) to build your code. Bamboo will then call on the build tool to build your project (depending on how your build process is configured).

Regarding tests, Bamboo uses JUnit tests to integrate test results with Java and is capable of reading test results from any testing framework that outputs to a Junit XML report.

Can multiple plans share a common 3rd-party directory

For example, you might have three repository directories, say, A, B, and C, where A is a common 3rd-party library. A is used across projects.

At this stage, Bamboo doesn't support having multiple checkout directories per build plan. However, you can work around this by setting these three directories up as separate Bamboo build plans - P_A, P_B and P_C.

To make this work, you will also need to specify as an argument to your build scripts for P_B and P_C the location of A, which will be something like this:

`../Plan_key_for_A/`

Using a set up like this, your library module (A) should only be checked out once across the Bamboo instance.

See also:

Triggering a build when another build finishes

Changing Bamboo database settings

The Bamboo database configuration is persisted in the `<Bamboo-Home>/bamboo.cfg.xml` file. You can change the database settings by editing this file, as detailed in the instructions below:

Changing the Bamboo database username and password.

If you want to change the database username and password, edit the following line,

```xml
<property name="hibernate.connection.password">YOUR_PASSWORD</property>
<property name="hibernate.connection.username">YOUR_USERNAME</property>
```

Changing the Bamboo database URL

If you want to change the database URL, edit the following line,

```xml
<property name="hibernate.connection.url">DATABASE_URL</property>
```

⚠️ You need to restart the Bamboo application server for the changes to take effect. If you have any elastic agents running, ensure that they are shut down before you restart the Bamboo server. If you do not shut down your elastic instances before restarting, they will continue to run and become orphaned from your Bamboo

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server.

Finding the Support Entitlement Number (SEN)

If you have a current Bamboo maintenance license under another account please supply the details of the licensee and the current Support Entitlement Number (SEN)

- Your Support Entitlement Number (SEN) is listed on the third page of your Atlassian Invoice.

OR

- Log into http://my.atlassian.com to find the SEN for a specific license

How Bamboo processes task arguments and passes them to OS shell

- Parsing arguments
- Passing arguments to shell
- FAQ
  - I want to pass double quotes with my argument to Unix shell.
  - My Maven Task doesn't work when I specify multiple targets in argument field

Parsing arguments

When executing different Tasks, Bamboo attempts to tokenize value entered in Arguments field. The general rules are:

- white characters are argument separators,
- single and double quotes are used to preserve white characters in arguments.

This particular string

```
clean install -DpartiallyQuotedArgument1="Partially Quoted Argument"
'Fully Quoted Argument'
```

would be tokenized as
clean
install
-DpartiallyQuotedArgument1="Partially Quoted Argument"
'Fully Quoted Argument'

Each line here represents a single argument that will be passed to shell.

**Passing arguments to shell**

Bamboo generally doesn’t modify tokenized arguments before passing them to shell with one exception:

- on non-Windows OS arguments that are fully enclosed in single or double quotes will be stripped from those quotes.

This particular string

```
clean install -DpartiallyQuotedArgument1="Partially Quoted Argument"
'Fully Quoted Argument'
```

would be passed to Windows shell as

```
clean
install
-DpartiallyQuotedArgument1="Partially Quoted Argument"
'Fully Quoted Argument'
```

but to Unix shell as

```
clean
install
-DpartiallyQuotedArgument1="Partially Quoted Argument"
Fully Quoted Argument
```

**FAQ**

*I want to pass double quotes with my argument to Unix shell.*

Try this

```
'"Only external quotes will be stripped and double quotes will be preserved when passing this to Unix shell"'
```

*My Maven Task doesn’t work when I specify multiple targets in argument field*

Make sure you haven’t quoted the whole contents of Arguments field:
"clean install"

You should simply delete quotes

clean install

**How do I manually set the version of new Subversion workspaces**

You can manually set the version of any new Subversion workspaces created by Bamboo on checkout. Bamboo automatically upgrades any source code it checks out, to be compatible with a particular version of Subversion. If you use an older Subversion client to access the code checked out by Bamboo, you will need to force any new Subversion workspaces to be created with the SVN version that you wish to retain. Otherwise, if you then use an older Subversion client to access this code, any Bamboo builds on that code may fail.

If you want to prevent Bamboo from automatically upgrading any source code checked out, you will need to run Bamboo with the following *system property*:

```
-Dbamboo.svn.wc.format=X.X
```

where X.X is the SVN version that you want to retain for your code. Valid values for this parameter are 1.3, 1.4, 1.5 and 1.6.

To change this parameter for your Bamboo instance:

- Add the parameter with a `-D` prefix and appropriate value, in your command line when starting Bamboo.
  
  e.g. `-Dbamboo.svn.wc.format=1.5`, or

  **Please note, setting this parameter will only affect any Subversion workspaces created after the parameter has been set. It will not change the version of any Subversion workspaces that have already been created. And the parameter needs to be set on the Bamboo server in case of an local build and remote agent in case of a remote agent build.**

For example, setting this parameter to 1.5 tells Bamboo to:

- check out code to version 1.5 if no working copy exists, and
- not to automatically upgrade any already checked out code of an existing working copy to be compatible with Subversion 1.6.

**Securing your repository connection**

**About this page**

This page shows how to secure your bamboo server to source repository connection.

**Subversion**

*svn+ssh*

In your build plan you must specify the absolute path to the repository when using *svn+ssh*, for example *svn+ssh h://<svnhost>/absolute/path/to/repository/root/your/module*
Using a key pair

They key pair is shared between your bamboo agent box (the bamboo server box in case of local agents) and the repository server box. Your repository configuration allows you to specify the location of a private key file that must be stored on the agent box.

The key pair has to be in PKCS12/OpenSSH format and the private key must be passphrase protected, otherwise a runtime exception is thrown by JDK security engine while opening the user key.

**Linux and related**

1. On the repository box generate the keypair

```bash
ssh-keygen -t rsa
```

2. add public key to ~/.ssh/authorized_keys

```bash
cat id_rsa.pub >> ~/.ssh/authorized_keys
```

3. copy the private key to all the agent boxes into a directory that is common to all agents (remote and local) e.g. /var/keys/ssh/id_rsa

**For windows agents**

Store the private key file in the same location on the drive that the agent is started from. For example you start your agent with

```bash
d:\bamboo-agent > java -jar atlassian-bamboo-agent-installer-xxx.jar ....
```

Then the key file must be in d:\var\keys\ssh\id_rsa

**Windows**

Private key should always be in OpenSSH format. On windows usually "putty" (plink) program is used that uses keys in its proprietary format (PPK - putty private key), this format is not supported by bamboo. The PuttyGen program may be used on Windows to convert key in PPK format to OpenSSH.

How to add the public key to the windows version of ~/.ssh/authorized_keys

**Trouble shooting**

You can test the svn+ssh connection from the command line. First you need to tell the svn command line client which key file to use:

```bash
$ export SVN_SSH="ssh -i /absolute/path/to/private/key"
```

Then you can test the connection with
Changing the remote agent heartbeat interval

Remote agents periodically send a "heartbeat" signal to the Bamboo server. This is vital for tracking whether your remote agents are online or offline. The remote heartbeat is asynchronous, which means that if a remote agent goes offline and comes back online again it will reconnect instead of being shut down (as long as the same server is available).

However, you may wish to adjust the time parameters for the remote agent heartbeat, particularly if you have a lot of network activity already.

You need to be running Bamboo 2.0.6 or above to adjust the following remote agent heartbeat parameters.

There are three configurable parameters on the bamboo server for the remote agent heartbeat:

- `bamboo.agent.heartbeatInterval` — This parameter governs the frequency of the heartbeat signal from the remote agents. This parameter is specified in seconds with the default being 5 seconds.
- `bamboo.agent.heartbeatTimeoutSeconds` — This parameter governs how long the Bamboo server will wait before it times out an agent that it hasn't received a heartbeat signal from. A remote agent that has been timed out will be marked as 'Offline'. Any builds being run by agents which have timed out will be abandoned. This parameter is specified in seconds with the default being 600 seconds.
- `bamboo.agent.heartbeatCheckInterval` — This parameter governs how often Bamboo checks for agents that have exceeded the heartbeat timeout specified in `bamboo.agent.heartbeatTimeoutSeconds`. This parameter is specified in seconds with the default being 30 seconds.

Please read the Configuring system properties page for instructions on how to change a remote agent heartbeat parameter for your Bamboo server.

Cloning a Bamboo instance

In case you need to clone your production instance to a test/staging instance in order to prepare migrating to another database or upgrading bamboo.

For example, you may want to transfer your current production snapshot to a test server as permitted in the license agreement.

We strongly recommend to duplicate bamboo first and then apply changes such as upgrade or migrating to another database.

License

Development licenses are available for any Commercial or Academic license. Create one or contact us for help.

Clone Production Instance - Standard

This is the simple and straightforward way to clone your instance

1. Export/Backup your current instance
2. Copy zip across to new server.
3. Install the same version of bamboo on new server.
4. Point bamboo.home in `<bamboo-install>/webapp/WEB-INF/classes/bamboo-init.properties` to your new bamboo home directory
5. Start the new instance

$ svn list svn+ssh://<svn-server>/Absolute/Path/To/Repository/[Module]
6. Complete the setup wizard, choose 'import existing data',

**Clone Production Instance - Alternative**

If your current instance has grown too large and export/import does not work you can still clone your instance using an alternative backup and restore strategy.

The purpose is to clone `<bamboo-home>` and make it available to the new test/clone instance.

1. shutdown production bamboo at a convenient time
2. Create a backup

<table>
<thead>
<tr>
<th><strong>embedded DB</strong></th>
<th><strong>external DB</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>(Optional) reduce the size of this zip by deleting the xml-data/build-dir - this directory only contains working copies of checked out sources.</td>
<td>(Optional) reduce the size of this zip by deleting the xml-data/build-dir - this directory only contains working copies of checked out sources.</td>
</tr>
<tr>
<td>zip <code>&lt;bamboo-production-home&gt;</code> directory, the <strong>embedded database</strong> will be part of this zip.</td>
<td>zip <code>&lt;bamboo-production-home&gt;</code> directory.</td>
</tr>
<tr>
<td>create a backup with the native tools provided by your DB.</td>
<td>create a backup with the native tools provided by your DB.</td>
</tr>
</tbody>
</table>

3. restart production bamboo
4. transfer the `home.zip` to your cloned instance and unzip into `<bamboo-clone-home>`
5. (External DB only) create a new database for the cloned instance and import the db dump.
6. edit `<bamboo-clone-home>/bamboo.cfg.xml` and `<bamboo-clone-home>/xml-data/configuration/administration.xml` and change the server names/ip addresses according to the new location.
7. (External DB only) edit `<bamboo-clone-home>/bamboo.cfg.xml` and enter the new database connection details and credentials
8. point `bamboo.home` of your cloned instance to the unzipped `<bamboo-clone-home>` directory
9. start the bamboo clone

This should give you a perfectly cloned instance.

**Your next steps**

- If the new server has different locations for
  - JDKs
  - Ant
  - Maven
  - Perforce
  - Msbuild tools
    adjust the settings in the server capabilities settings to match the locations on the new machine.
  - From here you can upgrade if desired.
  - After the upgrade you should be able to export your instance without problems and then migrate to another database for instance.

**CVS Error logging in Bamboo**

Currently, if the server throws an error during a CVS build in Bamboo versions 2.0.x, the application will hang with no indication of any checkout/update problems. There is an open JIRA issue tracking this problem.

In order to further debug any CVS issues, you will need to turn up the CVS logging by passing in the `-DcvsClientLog=system system` argument to Bamboo. Please edit `<bamboo-install>/bamboo.sh` accordingly.

**Do I have to upgrade all remote agents for Bamboo Release 2.1.2**
We have improved the availability and reliability of remote agents in this release, by adding a failover to reconnect agents when the network drops out. By default, remote agents now use ActiveMQ failover mechanism to reconnect.

It's not essential to upgrade the agent jar. The agent will automatically download the changed code from the server.

The agent has a special classloader that actually downloads classes from the server. The JAR file on the agent only contains a handful of classes it needs to bootstrap itself.

### Enable User Management debug logging in Bamboo

This page describes how to turn on user management debug logging.

Edit `<bamboo-install>/webapp/WEB-INF/classes/log4j.properties` and append the following lines:

```plaintext
log4j.logger.bucket.user=DEBUG
log4j.category.com.atlassian.user=DEBUG
log4j.category.com.atlassian.bamboo.user.BambooUserManagerImpl=DEBUG
```

Restart bamboo.

### Hibernate errors in logs after upgrading to Bamboo 2.0

If you are upgrading to Bamboo 2.0 from Bamboo 1.2.4 by pointing to your Bamboo-Home, you may see the following errors in your logs:

```
2008-02-21 09:13:39,891 ERROR [main] [SchemaUpdate] Constraint already exists in statement "alter table USER_COMMIT add constraint FKF8936C2BA958B29F foreign key (BUILDRESULTSUMMARY_ID) references BUILDRESULTSUMMARY"
2008-02-21 09:13:39,892 ERROR [main] [SchemaUpdate] Unsuccessful: alter table USER_COMMIT add constraint FKF8936C2BFE0C684F foreign key (AUTHOR_ID) references AUTHOR
2008-02-21 09:13:39,892 ERROR [main] [SchemaUpdate] Constraint already exists in statement "alter table USER_COMMIT add constraint FKF8936C2BFE0C684F foreign key (AUTHOR_ID) references AUTHOR"
2008-02-21 09:13:39,894 ERROR [main] [SchemaUpdate] Constraint already exists in statement "alter table USER_COMMENT add constraint FK19DA09CBA958B29F foreign key (BUILDRESULTSUMMARY_ID) references BUILDRESULTSUMMARY"
```

In Bamboo 2.0 we introduced compatibility with Oracle and MS SQL Server, this meant we had to make a few changes to the Bamboo Database schema and as a side-effect of these changes - you might notice hibernate warnings above in your atlassian-bamboo logs while Bamboo starts up. These warnings will not prevent your instance of Bamboo from working correctly, but will display every time Bamboo is started.

If you do wish to remove these warning messages, follow the steps below:

1. Perform an export from your current Bamboo 2.0 instance.
2. Re-install Bamboo 2.0 on a fresh instance.
3. Import the old exported data into your new Bamboo 2.0 instance.

This will remove the Hibernate Error messages while Bamboo starts up.
How do I construct a cron expression in Bamboo

Cron is a time-based job scheduler used in Unix/Linux computer operating systems with a unique and powerful terminology. A number of scheduling features in Bamboo, such as build expiry and elastic instance scheduling, require you to specify your requirements as a cron-based expression. For example, a cron expression such as "0 0/30 9-19 * * MON-FRI" signifies that a scheduled event will be triggered every half an hour from 9am to 7pm, Monday to Friday.

A cron expression comprises of 6 mandatory and one optional field to specify a schedule. The fields in sequential order are: seconds, minutes, hours, day-of-month, month, day-of-week and (optional) year, i.e. `<seconds> <minutes> <hours> <day-of-month> <month> <day-of-week> <year (optional)>`

Each field can be expressed as an integer (e.g. 1, 2, 3, etc) and special characters can be used in most fields as well (i.e. ', -, * / ? L W #').

Bamboo uses OpenSymphony's Quartz to schedule cron tasks. The syntax it accepts may vary from other cron implementations. Please refer to the Quartz CronTrigger Tutorial documentation for further information on each of these parameters and more detailed examples.

How do I disable SSH access to my elastic instances

By default, SSH (Secure Shell) access is enabled for elastic instances, the first time that you use Elastic Bamboo. Access rules for the Amazon Elastic Compute Cloud (EC2) are managed by 'security groups' in the Amazon Web Services Console. You can disable SSH access for your elastic instances by changing the EC2 access rules to remove the 'SSH' Connection Method from the 'elasticbamboo' security group.

For instructions on changing the EC2 access rules for Elastic Bamboo, please read the Elastic Bamboo Security document.

How do I shut down my elastic instances if I have restarted my Bamboo server

If you restart your Bamboo server without shutting down your elastic instances first, your elastic instances will continue to run. Your elastic instances will also be orphaned from your Bamboo server, and you will not be able to shut them down via Bamboo after your Bamboo server has restarted. You will need to terminate them via the Amazon Web Services (AWS) Console.

To shut down an elastic instance via the AWS Console:

1. Log in to the AWS Console. The 'Amazon EC2' tab of the console should display.
2. Click the Instances link under the 'Images & Instances' section of the left navigation column. Your EC2 instances should be displayed.
3. Check the checkbox next to the instances that need to be terminated in the 'My Instances' panel. In most cases, it should be all instances unless you are running Elastic Bamboo on multiple Bamboo servers.
4. The buttons at the top of the 'My Instances' panel should become enabled. Click Terminate to terminate your instances.

Screenshot: Shutting down an elastic instance via the AWS Console
How do I stop Bamboo from shutting itself down and restarting

If your Bamboo server is shutting itself down and restarting multiple times during the day, you may be experiencing problems with Bamboo's service wrapper.

**Symptom**

Bamboo server is restarting itself a couple of times per day.
Wrapper reported in the log JVM seems to be hung and will be terminated.

**Explanation**

Bamboo's service wrapper comes with a timeout that specifies the interval at which the JVM is pinged. A response is expected in that time. If the JVM is too busy, it will not respond to this ping in time.

wrapper.ping.timeout defines the timeout in seconds. 0 means that it will never time out. The default value of this setting is 30 seconds.

**Solution**

Increase the timeout in the wrapper's configuration. To do this,

1. Edit `<Bamboo-Install>/conf/wrapper.conf.`
2. Add the following line to the end of the wrapper.conf file:

   ```bash
   wrapper.ping.timeout=90
   ```
3. Restart Bamboo. If you have any elastic agents running, ensure that they are shut down before you
restart the Bamboo server. If you do not shut down your elastic instances before restarting, they will continue to run and become **orphaned from your Bamboo server**.

**How do I stop the Bamboo server from automatically configuring my remote agent's capabilities**

The Bamboo server automatically detects and populates the capabilities that a remote agent should be configured with upon agent start up. If you have modified the agent capabilities, they will be reset by the server’s automatic capability detection when the agent is next restarted.

You can override this by adding the following flag, "--DISABLE_AGENT_AUTO_CAPACITY_DETECTION=true", to the Bamboo server. Read Configuring system properties for information on how to do this.

**JUnit parsing in Bamboo**

Bamboo can parse any test output that conforms to standard JUnit XML format. The implementation of this is pretty simple — Bamboo looks for specific tags in the JUnit XML output.

**A failed JUnit XML report, that is successfully parsed by Bamboo.**

```xml
<?xml version="1.0" encoding="UTF-8" ?>
<testsuite errors="0" tests="3" time="0.391" failures="1"
name="com.atlassian.bamboo.repository.perforce.PerforceSyncCommandTest">
  <properties>
    <property value="Java(TM) 2 Runtime Environment, Standard Edition" name="java.runtime.name"/>
    <property value="UnicodeBig" name="sun.io.unicode.encoding"/>
    ............
  </properties>
  <testcase time="0.001" name="testGeneratesCorrectF4CommandLine"/>
  <testcase time="0" name="testGettersReturnExpectedStuff"/>
  <testcase time="0.164" name="testUsingPerforceWhenNoFilesHaveChanged">
    <failure type="junit.framework.AssertionFailedError" message="Should not have any errors. [Perforce client error:,
Connect to server failed; "]>
      junit.framework.AssertionFailedError: Should not have any errors. [Perforce client error:,
Connect to server failed; check $P4PORT., TCP connect to keg failed., keg: host
unknown.] expected:&lt;0&gt; but was:&lt;4&gt;
      at junit.framework.Assert.fail(Assert.java:47)
      at junit.framework.Assert.failNotEquals(Assert.java:282)
      at junit.framework.Assert.assertEquals(Assert.java:64)
      at junit.framework.Assert.assertEquals(Assert.java:201)
      at com.atlassian.bamboo.repository.perforce.PerforceSyncCommandTest.testUsingPerforceWhenNoFilesHaveChanged(PerforceSyncCommandTest.java:60)
      at sun.reflect.NativeMethodAccessorImpl.invoke0(Native Method)
      at sun.reflect.NativeMethodAccessorImpl.invoke(NativeMethodAccessorImpl.java:39)
      at sun.reflect.DelegatingMethodAccessorImpl.invoke(DelegatingMethodAccessorImpl.java:25)
      at java.lang.reflect.Method.invoke(Method.java:585)
      at junit.framework.TestCase.runTest(TestCase.java:154)
      at junit.framework.TestCase.runBare(TestCase.java:127)
      at junit.framework.TestResult$1.protect(TestResult.java:109)
```
org.codehaus.classworlds.Launcher.launchEnhanced(Launcher.java:315)
at org.codehaus.classworlds.Launcher.launch(Launcher.java:255)
at org.codehaus.classworlds.Launcher.mainWithExitCode(Launcher.java:430)
at org.codehaus.classworlds.Launcher.main(Launcher.java:375)
</failure>
<system-out>
  PerforceSyncCommand.command: /usr/local/bin/p4
Click here to download the XML report.

A passed JUnit XML report, that is successfully parsed by Bamboo.

```xml
<?xml version="1.0" encoding="UTF-8" ?>
<testsuite errors="0" skipped="0" tests="1" time="0.045" failures="0"
name="com.atlassian.bamboo.labels.LabelManagerImplTest">
  <properties>
    <property value="Java(TM) 2 Runtime Environment, Standard Edition"
name="java.runtime.name"/>
    <property value="/usr/java/jdk1.5.0_07/jre/lib/1386"
name="sun.boot.library.path"/>
    <property value="1.5.0_07-b03" name="java.vm.version"/>
    <property value="Sun Microsystems Inc." name="java.vm.vendor"/>
    <property value="http://java.sun.com/" name="java.vendor.url"/>
    <property value=":" name="path.separator"/>
    <property value="Java HotSpot(TM) Client VM" name="java.vm.name"/>
    <property value="sun.io" name="file.encoding.pkg"/>
    <property value="US" name="user.country"/>
    <property value="unknown" name="sun.os.patch.level"/>
    <property value="Java Virtual Machine Specification"
name="java.vm.specification.name"/>
    <property value="/opt/bamboo-data/bamboohome/xml-data/build-dir/BAM-MAIN"
name="user.dir"/>
    <property value="1.5.0_07-b03" name="java.runtime.version"/>
    <property value="sun.awt.X11GraphicsEnvironment"
name="java.awt.graphicsenv"/>
    <property value="/opt/bamboo-data/bamboohome/xml-data/build-dir/BAM-MAIN/bamboo-core"
name="basedir"/>
    <property value="/usr/java/jdk1.5.0_07/jre/lib/endorsed"
name="java.endorsed.dirs"/>
    <property value="1386" name="os.arch"/>
    <property value="/tmp" name="java.io.tmpdir"/>
    <property value="Sun Microsystems Inc." name="java.specification.vendor"/>
    <property value="Linux" name="os.name"/>
    <property value="/opt/java/tools/maven2/bin/m2.conf"
name="classworlds.conf"/>
    <property value="ISO-8859-1" name="sun.jnu.encoding"/>
    <property value="/usr/java/jdk1.5.0_07/jre/lib/1386.."
name="java.library.path"/>
    <property value="Java Platform API Specification"
name="java.specification.name"/>
    <property value="49.0" name="java.class.version"/>
    <property value="HotSpot Client Compiler" name="sun.management.compiler"/>
    <property value="2.6.15-1.1833_FC4smp" name="os.version"/>
    <property value="/home/bamboo" name="user.home"/>
    <property value="Australia/Sydney" name="user.timezone"/>
    <property value="sun.print.PSPrinterJob" name="java.awt.printerjob"/>
    <property value="ISO-8859-1" name="file.encoding"/>
    <property value="1.5" name="java.specification.version"/>
    <property value="bamboo" name="user.name"/>
    <property value="/opt/java/tools/maven2/boot/classworlds-1.1.jar"
name="java.class.path"/>
  </properties>
</testsuite>
```
<property value="1.0" name="java.vm.specification.version"/>
<property value="32" name="sun.arch.data.model"/>
<property value="/usr/java/jdk1.5.0_07/jre" name="java.home"/>
<property value="Sun Microsystems Inc." name="java.specification.vendor"/>
<property value="en" name="user.language"/>
<property value="mixed mode, sharing" name="java.vm.info"/>
<property value="1.5.0_07" name="java.version"/>
<property value="/usr/java/jdk1.5.0_07/jre/lib/ext" name="java.ext dirs"/>
<property value="Sun Microsystems Inc." name="java.vendor"/>
<property value="/opt/java/tools/maven2" name="maven.home"/>
<property value="/home/bamboo/.m2/repository" name="localRepository"/>
<property value="/" name="file.separator"/>
<property value="http://java.sun.com/cgi-bin/bugreport.cgi" name="java.vendor.url.bug"/>
<property value="little" name="sun.cpu.endian"/>
<property value="UnicodeLittle" name="sun.io.unicode.encoding"/>
<property value="" name="sun.cpu.isalist"/>
Known issues with CVS in Bamboo

Bamboo uses CVS `rlog` command - this lets you perform a CVS update on your local working directory without checking out your project.

**CVS Error logging in Bamboo**

Currently, if the server throws an error during a CVS build in Bamboo versions 2.0.x, the application will hang with no indication of any checkout/update problems. There is an open JIRA issue tracking this problem.

In order to further debug any CVS issues, you will need to turn up the CVS logging by passing in the `-DcvsClientLog=system` system argument to Bamboo.

1) Incompatibility with CVS servers 1.11.1 and below

Support for the `rlog` command 1.11.1p and performing a CVS `rlog` command returns the following error:

```
-cvs [rlog aborted]: server does not support rlog
```

2) Incompatibility with CVS server version 1.11.x when using "." to denote the root module to be checked out.

The CVS `rlog` command fails if you are using CVS version 1.11.x, with the following error.

```
INFO | jvm 1 | 2008/05/15 14:19:10 | E cvs: recurse.c:642: do_recursion:  
Assertion `strstr (repository, "/./") == ((void *)0)' failed.
INFO | jvm 1 | 2008/05/15 14:19:10 | error
```

Please upgrade your CVS version to 1.12.x to get around this issue.

3) CVS Checkout format

Due to prior issues, Bamboo will checkout all files (including text files) from the CVS server as binary, however post Bamoo 2.1.2 this behaviour can be changed via a system parameter. To do this restart Bamboo with the following parameter *(if you have any elastic agents running, ensure that they are shut down before you restart the Bamboo server. If you do not shut down your elastic instances before restarting, they will continue to run and become orphaned from your Bamboo server)*.

```
-DCVS_CHECKOUT_BINARY_FORMAT=false
```
Post 2.1.5 this has been replaced with a more flexible option

```bash
--DCVS_CHECKOUT_FORMAT=BINARY
```

<table>
<thead>
<tr>
<th>Option</th>
<th>Command Options</th>
<th>Behaviour</th>
</tr>
</thead>
<tbody>
<tr>
<td>BINARY (Default)</td>
<td>-b</td>
<td>forces all files to be checked out in binary and won't convert any line endings</td>
</tr>
<tr>
<td>TEXT</td>
<td>-kv</td>
<td>forces all files to be checked out as text and converts all line endings (even Binary files)</td>
</tr>
<tr>
<td>NONE</td>
<td></td>
<td>lets CVS decide whether or not to convert line endings</td>
</tr>
</tbody>
</table>

For further reference, on configuring Bamboo start-up options see this document

### Monitoring and Profiling Bamboo

This page helps you to set up profiling for bamboo. Profiling information can be useful to monitor bamboo's performance, memory consumption and the server's CPU load.

**On this page**

- **Profiling with JMX**
  - Enabling the profiler
  - Monitoring and Controlling the Profiler with JConsole

- **Profiling with Yourkit**
  - Installing Yourkit
  - Enabling the profiler

### Profiling with JMX

**Enabling the profiler**

JMX is Sun's [native java platform monitor](#). JConsole can be used to visualise the profiling data.

To enable JMX add `-Dcom.sun.management.jmxremote (or -Dcom.sun.management.jmxremote.port =<portNum> for remote monitoring)` as a command line argument when starting bamboo.

**For Unix**: add the parameter to the `RUN_CMD` line in `bamboo.sh`

**For Windows**: add the parameter to the `.\conf\wrapper.conf` file as `wrapper.java.additional.4=-D...

Restart Bamboo.

⚠️ **Does not work when bamboo is run as a windows service**

At the moment profiling via JMX only works when bamboo is run as a console application on windows.

Running bamboo as a windows service with profiling is currently not supported.
Monitoring and Controlling the Profiler with JConsole

Please refer to Sun's documentation

Profiling with Yourkit

Installing Yourkit

Yourkit is an alternative (commercial) java profiler.
Follow the installation instructions for your platform.
You do not need a license if you just run the profiling agent with bamboo.

Enabling the profiler

Add `-agentlib:jpagent=onexit=snapshot` to the command line in `bamboo.sh` or as an additional parameter to `wrapper.conf`

Then follow the instructions on enabling the profiler manually for your platform.

Restart Bamboo.

Monitor Memory usage and Garbage Collection in Bamboo

A simple way to do this is to turn on garbage collection and heap dump on out of memory.

Parameters

Please add the following parameters to Bamboo:

```
-XX:+PrintGCDetails -XX:+PrintGCTimeStamps -verbose:gc -Xloggc:/path/to/gc.log
```

Note: Remember to substitute `/path/to/gc.log` with a meaningful file path on your server.

GC log file location

The garbage collection traces and the heap dumps are in `<bamboo-install>/gc.log`.

Additional Note

The `-XX:+PrintGCTimeStamps` flag, prints when GCs happen relative to the start of the application.

Some helpful links:


http://java.sun.com/developer/technicalArticles/Programming/GCPortal/

Moving Bamboo-Home of an agent

To move an agent's Bamboo-Home -

1. Move the Bamboo-Home of the agent, to the intended location.
2. Edit the `<Bamboo-Agent-Home>/bamboo-agent.cfg.xml` file, find the following line -
3. Point the working directory and the artifact directory to the new Bamboo-Home.
4. Start your Agent with -Dbamboo.home=your_new_agent_home and point to your new Bamboo-Agent-Home.

**Performing a thread dump.**

If Bamboo stops responding, or is performing poorly, you should create a thread dump to help Atlassian determine the cause of the problem.

This will show the state of each thread in the JVM, including a stack trace and information about what locks that thread is holding and waiting for.

**Linux (and Solaris and other Unices) Users**

Find the process id of the JVM and issue the command:

Use the `ps` command to get list of all processes.

```
kill -3 <pid>
```

**Note:** This will not kill your server (so long as you included the "-3" option, no space in between). The thread dump will be printed to Bamboo’s standard output.

⚠️ Please note that some application servers (like tomcat) redirect stdout (to catalina.out for instance).

**Jstack (any Platform with an JAVA JDK)**

Sun JDK 1.5 and above ship with native tool called `jstack` to perform thread dump. To use the tool find the Process ID and execute the command:

```
jstack <ProcessID>
```

⚠️ If you run your Atlassian product via wrapper (as a service) on Windows, you may encounter this error, ['Not enough storage is available to process this command']. See the suggestions in this KB article for workarounds.

**Java VisualVM (any Platform with an JAVA JDK)**

Oracle JDK has a native tool `jvisualvm` to perform thread dumps (and much more). To use the tool execute the command:

**Thread Dump Tools**
- [Samurai](http://samuraipm.com)
- [Thread Dump Analyzer TDA](http://tdathreaddump.sourceforge.net)

**Removing Coverage plug-in data from the Bamboo database**

The third-party Coverage plug-in for Bamboo stores very large amounts of data in the Bamboo database. There are two consequences of this:

1. Using the Coverage plug-in with an embedded Bamboo database may result in poor performance, OutOfMemoryErrors, and/or Bamboo start-up failures; and
2. After installing the Coverage plug-in, you may encounter difficulties with Bamboo’s import, export and backup features, such as OutOfMemoryErrors and corrupted export and backup files.

**Precautionary Measures**

To mitigate the risk of these problems, Atlassian makes the following recommendations to users of the Coverage plug-in:

1. Atlassian strongly recommends that you [migrate to a supported external database](http://confluence.atlassian.com/display/DOCS/Migrate+to+a+supported+external+database) before installing this plug-in; and
2. Once you have installed the Coverage plug-in, Atlassian strongly recommends that you regularly [backup your bamboo-home and external database using external tools](http://confluence.atlassian.com/display/DOCS/Backup+your+bamboo-home+and+external+database+using+external+tools), as the plug-in may interfere with the reliability of Bamboo’s built-in backup feature. We intend to address the underlying issue in a future release of Bamboo.

**Recovery Procedure**

If an instance of Bamboo is configured with an embedded database and the Coverage plug-in is failing for the reasons described above, this can be rectified by removing the Coverage plug-in's data from the database, using the following procedure.

**On Linux, Mac OS X and other Unix-like platforms:**

1. Shut down Bamboo.
2. Execute the following commands in a shell, substituting `bamboo-home` with the path to your Bamboo home directory:

```
    cd bamboo-home/database
    grep "^INSERT INTO BUILDRESULTSUMMARY_CUSTOMDATA .*'coverage\." defaultdb.script | gzip > coverage.sql.gz
    mv defaultdb.script defaultdb.script.backup_with_coverage
    gzip defaultdb.script.backup_with_coverage
    gunzip -c defaultdb.script.backup_with_coverage.gz | grep -v "^INSERT INTO BUILDRESULTSUMMARY_CUSTOMDATA .*'coverage\." > defaultdb.script
```
On Microsoft Windows:

For assistance, please raise a Bamboo support request.

Restoring passwords to recover admin users

Use this document if you are unable to login as administrator or have forgotten your password and do not have Mail Server configured, to manually replace administrator passwords.

Follow the instructions for either the Embedded Database or External Database. If you have not configured a database, use the Embedded instructions.

Embedded Database Instructions

Stage One - Identify Administrator

This guide assumes that the first user added was an administrator. If this is not the case, search for the admin username and find their user id number, then modify their password hash instead.

1. Shutdown Bamboo
2. In your Bamboo home directory, open \database\defaultdb.script file in a text editor
3. Search for the text:

   INSERT INTO USERS VALUES(1

To find the administrator login entry:

   INSERT INTO USERS VALUES(1,'USERNAME','PASSWORD_HASH')

Where the 1 is the user id number, and USERNAME and PASSWORD_HASH are actual values. As an example, my table entry for user admin with password admin looks like this;

   INSERT INTO USERS
VALUES (1,'admin','x61Ey612Kl2gpFL56FT9weDnpSo4AV8j8+qx2AuTHdRyY036xxzTTrw10Wq3+4qQyB+XURPWx1ONxp3Y3pB37A==','admin@admin.com','2007-08-14 11:26:18.504000000','admin')

1. This step makes admin the administrator's password. Bamboo does not store passwords in plain text in the database, but uses hashes computed from the original password. The hash for the characters admin is below:

   x61Ey612Kl2gpFL56FT9weDnpSo4AV8j8+qx2AuTHdRyY036xxzTTrw10Wq3+4qQyB+XURPWx1ONxp3Y3pB37A==

   Paste the admin password hash between the " characters of their existing PASSWORD_HASH. The new administrator login entry should look like:
External Database Instructions

**Stage One - Identify User**

The first user added is always an admin. To restore your password you simply need to update the password hash in the USERS table with the admin hash.

Connect to your database using a database admin tool such as DBVisualiser. Please download a database admin tool now if you do not have one installed already. Once installed, connect to your database and retrieve the list of administrator usernames with:

```
select * from USERS where ID=1
```

This command should list all users who belong to Bamboo-Admin user group.

**Stage Two - Replace Administrator Password**

Bamboo does not store passwords in plain text in the database, but uses hashes computed from the original password. You instead cut and a paste a hash, rather than the plain password, over the existing password. Below is the hash for the password admin

```
x61Ey612Kl2gpFL56FT9weDnpSo4AV8j8+qx2AuTHdRyY036xxzTTrw10Wq3+4qQyB+XURPWx1ONxp3Y3pB37A==
```

To change the password to admin for a given username:

1. Shutdown Bamboo
2. Connect to your database. run this SQL on your database: `select * from USERS where NAME='admin'` If you are using LDAP integration for user management (not only authentication) then your admin user will be in a different table. The SQL to run is:

```
update USERS set PASSWORD = 'x61Ey612Kl2gpFL56FT9weDnpSo4AV8j8+qx2AuTHdRyY036xxzTTrw10Wq3+4qQyB+XURPWx1ONxp3Y3pB37A==' where NAME = 'USER_NAME_FROM_STAGE_ONE'
```

3. Start Bamboo
4. Login with your username and your password is now admin

**Send Errors to stderr - Script Builder in Visual Studio WinXP to build Solutions Files**
To display an Error Summary for erroneous builds in bamboo build summary is not available for the Script Builder - going through the build logs seems tedious. There is a section named "Error summary" which collects all errors during the build process that are printed to stderr. For example a build script

```
#!/bin/bash
echo "ERROR build xyz failed" >&2
```

would print this message into the build summary section. It is up to you to insert the appropriate messages into your build script.

**Problem**

The actual problem is devenv.com/msbuild not being very helpful: both build tools only append to stdout stream, even in the case of warnings/errors during the build.

**Solution**

I solved the issue by writing a simple Ruby script that invokes the build tool and filters the stdout stream for any warnings and errors via regexp; the matching warning/error lines are then echoed to stderr and Bamboo picks them up nicely.

```
pipe = IO.popen("devenv.com #{$*[0]} /Rebuild ")
errors = 0
warnings = 0
while line = pipe.gets
  if line =~ /^.* : .* error .*$/
    $stderr.puts line
    errors += 1
  elsif line =~ /^.* : warning .*$/
    $stderr.puts line
    warnings += 1
  else
    $stdout.puts line
  end
end
exit errors > 0 ? 1 : 0
```

**Related Pages**

- Knowledge Base - (BSP-1381) Script Builder Display build errors in Error Summary
- Using Bamboo with Clover

**Getting Started**

**One-click Clover Integration**

Clover has been seamlessly integrated with Bamboo from Bamboo 2.4 and later. Clover reports can be activated in the Builder configuration screen. Please see Enabling the Clover plugin for further details.
To configure Clover activity refer to Clover Reference Guides for your builder:

- Clover for Ant
- Clover for Maven 2

**Classic Clover Integration**

To use Clover with Bamboo, you need to:

1. Integrate Clover with Bamboo with your build:
   - Clover-for-Ant Installation Guide
   - Clover-for-Maven 2 and 3 Installation Guide

2. And either:
   - call the Clover goal in your plan configuration (see Configuring tasks);
   - or:
   - add the maven-clover-plugin report to the reports section in your POM.

3. Ensure that there are tests present in your build plan that generate test results in JUnit test report format.
4. Ensure that your build creates a Clover report (that is, a clover.xml file). Bamboo will use this Clover report as source.
5. Set up Bamboo to read the Clover report (clover.xml file) generated by Clover. To do this:
   a. Ensure the 'Clover output will be produced' check-box is ticked in your plan's build configuration page.
   b. Instruct Bamboo on the location of your 'Clover XML Directory' — where Bamboo will look for the XML report output file from Clover. Please specify the path to your clover.xml file relative to your plan's root directory (e.g. your plan's root directory is /home/bamboouser.bamboo-home/xml-data/build-dir/MY_PLAN/ and you would enter target/clover/site/clover.xml). Please do not specify the absolute path.

For further details, please see Configuring tasks.

**Common Problems**

Q: I have managed to get Clover statistics displayed in numerical form for each build, but the graphs do not show a history of these statistics?
A: The history of Clover is displayed over time periods (e.g. a day, a week, a month), and the minimum data point is per day. The Clover coverage will not display data that is less than a day old.

Q: Will the Bamboo/Clover integration run on failed builds?
A: Before Bamboo version 1.2.1, Bamboo would only report Clover coverage for successful builds. As of Bamboo 1.2.1, Bamboo will report Clover coverage regardless of the build outcome.

**Getting gcov results in Clover coverage summary**

This feature is not officially supported by Atlassian. It is being maintained by open source community, feel free to contribute.

**Description**

Clover does not support code coverage for C/C++. However, it is possible to display C/C++ coverage statistics on "Clover" tab on "Job Summary" and "Plan Summary" pages. In order to get this working:

- create a task in which gcov is used and produces coverage file
- create a task in which python script (see references below) converts gcov data to clover.xml file
- enable Clover on Miscellaneous tab on Job Configuration page
  - enable "Use Clover to collect code coverage for this build"
  - select option "Clover is already integrated into this build and a clover.xml will be produced."
  - enter path to clover.xml file

References

Source code for Python script performing conversion is kept in Mercurial bamboo-gcov-plugin repository on bitbucket.org:

```
hg clone ssh://hg@bitbucket.org/atlassian/bamboo-gcov-plugin
```

Discussion about Clover schema on Atlassian Answers:

- https://answers.atlassian.com/questions/68875/clover-xml-schema

Working with Sun JAVA libraries

Due to licensing restrictions, we are not allowed to re-distribute native SUN libraries through our maven2 public repositories.

If you are developing plugins for Bamboo or building Bamboo from source, you might need javax.mail and javax.transaction:jta:jar for Bamboo to build successfully. The relevant POMs for this look something like this:

```
<dependency>
  <groupId>javax.mail</groupId>
  <artifactId>mail</artifactId>
  <version>1.3.2</version>
  <scope>compile</scope>
</dependency>
<dependency>
  <groupId>jta</groupId>
  <artifactId>jta</artifactId>
  <version>1.0.1</version>
  <scope>compile</scope>
</dependency>
```

Before building, please install the Sun JAR's into your local Maven2 repositories by following the instructions below.

To install the javax.mail JAR into your local Maven2 repository:

1. Download the javax.mail Jar from Sun's website.
2. Install it on our your local machine by entering the following command in a terminal:
mvn install:install-file -DgroupId=javax.mail -DartifactId=mail
-Dversion=1.3.3 -Dpackaging=jar -Dfile=YOUR/PATH/TO/FILE

To install javax.transaction:jta:jar JAR into your local Maven 2 repository:
1. Download the javax.transaction:jta:jar Jar from Sun's website.
2. Install it on your local machine by entering the following command in a terminal:

mvn install:install-file -DgroupId=javax.transaction -DartifactId=jta
-Dversion=1.0.1B -Dpackaging=jar -Dfile=/path/to/file

Bamboo indicates that my Ant or Maven builds failed, even though they were successful

⚠️ Please note this Bamboo functionality relates only to the Maven Task and Ant Task outputs.

If your plan's build logs indicate that your Maven or Ant builds are passing but Bamboo is reporting them as failed (or vice-versa), it could be that:

- Bamboo is not finding 'BUILD SUCCESS' in your build logs
- Bamboo is finding 'BUILD FAILED' in your build logs when it should not be doing so. (This marker is not used in Maven.)
- Your builds are returning a non-zero return code. (For example, the build log will indicate build process for 'ABC Application - XYZ Build' returned with return code = 1.)

If your builds produce atypical or non-standard output, you can make Bamboo check for text other than 'BUILD SUCCESS' or 'BUILD FAILED' in your build logs. An additional system property is available to specify how far back in the logs Bamboo checks for these text markers.

<table>
<thead>
<tr>
<th>System Property</th>
<th>Description</th>
<th>Default Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>atlassian.bamboo.builder.successMarker</td>
<td>Specifies the text (or string) that Bamboo looks for in the build log to determine if the build was successful</td>
<td>BUILD SUCCESS</td>
</tr>
<tr>
<td>atlassian.bamboo.builder.failedMarker</td>
<td>Specifies the text (or string) that Bamboo looks for in the build log to determine if the build failed</td>
<td>BUILD FAILED</td>
</tr>
<tr>
<td>SUCCESS_MESSAGE_LINES</td>
<td>Specifies the number of lines from the end of the builder log in which to check for the values of atlassian.bamboo.builder.successMarker Or atlassian.bamboo.builder.failedMarker.</td>
<td>250</td>
</tr>
</tbody>
</table>

For instructions on how to configure a system property, please refer to the Configuring system properties page.

**How can I pass bamboo variables to my build script**

Bamboo global and build specific variables can be referred to in build scripts or maven pom.xml. Bamboo
variables are not directly available in the builder execution context however. They can be passed as parameters to the builder.

**Maven**

For example, you may want your Maven 2 version to be determined by Bamboo. In Maven 2 `pom.xml` you may have:

```xml
... 
<groupId>com.atlassian.boo</groupId>
<artifactId>boo-test</artifactId>
<packaging>jar</packaging>
<version>1.1.${env.bambooBuildNumber}-SNAPSHOT</version>
...
```

You can then specify the following in the 'Goal' field of your build plan:

```bash
clean package -DbambooBuildNumber=${bamboo.buildNumber}
```

When the command runs, Bamboo will replace the `buildNumber` with the actual number (e.g. 1102), which will be passed to the underlying Maven build to use. The command will then produce a jar that looks like this: `boo-test-1.1.1102-SNAPSHOT.jar`.

**Ant**

You can pass bamboo variables as ant parameters along with ant targets like

```bash
clean test -Dbuild.key=${bamboo.buildKey}
```

In your ant build script just refer to this variable

```xml
...
<echo message="bamboo.buildKey = ${build.key}"/>
...
```

**Bamboo resources**

**Resources for Evaluators**

- Free Trial
- Feature Tour

**Resources for Administrators**

- Bamboo Knowledge Base
- Bamboo FAQ
- Tips of the Trade
- Guide to Installing an Atlassian Integrated Suite
- The big list of Atlassian gadgets
Resources for Developers

- Bamboo Developer Documentation
- API documentation
- Developer topics on Atlassian Answers

Downloadable Documentation

- Bamboo documentation in PDF, HTML or XML formats

Plugins

- Atlassian Plugin Exchange

IDE Connectors

- Use the Atlassian Connector for Eclipse or the Atlassian Connector for IntelliJ IDEA to work with your Bamboo builds right there in your development environment. Do you use JIRA, Crucible or FishEye too? With the connector you can manage your issues and code reviews within your IDE, or move quickly between the IDE and a FishEye view of your source repository. Hint: The Atlassian IDE Connectors are free.

Support

- Atlassian Support
- Support Policies

Training

- Atlassian Training

Forums

- Bamboo forum at Atlassian Answers
- Bamboo developers forum

Mailing Lists

- Visit http://my.atlassian.com to sign up for mailing lists relating to Atlassian products, such as technical alerts, product announcements and developer updates.

Feature Requests

- Issue Tracker and Feature Requests for Bamboo

Contributing to the Bamboo documentation

Would you like to share your Bamboo hints, tips and techniques with us and with other Bamboo users? We welcome your contributions.

Blogging your technical tips and guides

Have you written a blog post describing a specific configuration of Bamboo or a neat trick that you have discovered? Let us know, and we will link to your blog from our documentation. More...

Contributing documentation in other languages

Have you written a guide to Bamboo in a language other than English, or translated one of our guides? Let us know, and we will link to your guide from our documentation. More...
On this page:

- Blogging your technical tips and guides
- Contributing documentation in other languages
- Updating the documentation Itself
  - Getting permission to update the documentation
  - Our style guide
  - How we manage community updates

Related pages:

- Tips of the Trade
- Author Guidelines
- Atlassian Contributor License Agreement

Updating the documentation Itself

Have you found a mistake in the documentation, or do you have a small addition that would be so easy to add yourself rather than asking us to do it? You can update the documentation page directly

Getting permission to update the documentation

Please submit the Atlassian Contributor License Agreement.

Our style guide

Please read our short guidelines for authors.

How we manage community updates

Here is a quick guide to how we manage community contributions to our documentation and the copyright that applies to the documentation:

- **Monitoring by technical writers.** The Atlassian technical writers monitor the updates to the documentation spaces, using RSS feeds and watching the spaces. If someone makes an update that needs some attention from us, we will make the necessary changes.

- **Wiki permissions.** We use wiki permissions to determine who can edit the documentation spaces. We ask people to sign the Atlassian Contributor License Agreement (ACLA) and submit it to us. That allows us to verify that the applicant is a real person. Then we give them permission to update the documentation.

- **Copyright.** The Atlassian documentation is published under a Creative Commons CC BY license. Specifically, we use a Creative Commons Attribution 2.5 Australia License. This means that anyone can copy, distribute and adapt our documentation provided they acknowledge the source of the documentation. The CC BY license is shown in the footer of every page, so that anyone who contributes to our documentation knows that their contribution falls under the same copyright.

Tips of the Trade

Below are some links to external blog posts and articles containing technical tips and instructions on setting up and using Bamboo. This page presents an opportunity for customers and community authors to share information and experiences.

The references here are technical 'how to' guides written by bloggers who use Bamboo. For feature tours, solution tours and other information about continuous integration, please refer to the Atlassian website and to our evaluator resources.
Please be aware that these are external blogs and articles.

Most of the links point to external sites, and some of the information is relevant to a specific release of Bamboo. Atlassian provides these links because the information is useful and relevant at the time it was written. Please check carefully whether the information is still relevant when you read it, and whether it is relevant to your version of Bamboo. Unless explicitly stated, Atlassian does not offer support for third-party extensions or plugins. The information in the linked blog posts has not been tested or reviewed by Atlassian. We recommend that you test all solutions on a test server before trying them on your production site.

On this page:

- Lightning fast notification
- Automating the staging and production deployments
- Continuous Integration for Ruby
- Continuous Integration Goodness for your Ruby Project
- Bamboo JMeter Aggregator - Getting the most from performance builds
- Bamboo plugins for Git and GitHub
- Secure Installation of Bamboo

Build Management

**Lightning fast notification**

- By: John Ferguson Smart, on the 'Atlassian Blog'
- About: Using IM as a notification system to keep developers up to date on the new deployments for their various projects
- Date: 15 April 2009
- Related documentation: [Working with Instant Messenger (IM) notifications](#)

**Automating the staging and production deployments**

- By: John Ferguson Smart, on the 'Atlassian Blog'
- About: Moving your builds to general availability (GA) and production deployments with Maven, JIRA and Bamboo
- Date: 6 May 2009
- Related documentation: [JiraVersions Plugin](#)

Non-Java Languages

**Continuous Integration for Ruby**

- By: John Ferguson Smart, on the 'Atlassian Blog'
- About: A Continuous Integration environment that runs Ruby builds and tests on Bamboo, and automates the deployment and installation on a remote test machine
- Date: 20 May 2009
- Related documentation: [Can Bamboo build and test non-Java projects](#)

**Continuous Integration Goodness for your Ruby Project**

- By: Nick Sieger, on the ‘Nick Sieger’ blog
- About: Running Ruby builds and tests on Bamboo
- Date: 6 Jan 2007
- Related documentation: [Can Bamboo build and test non-Java projects](#)
Performance Builds

**Bamboo JMeter Aggregator - Getting the most from performance builds**
- By: James Roper, on the ‘Atlassian Blog’
- About: Using the Bamboo JMeter Aggregator plugin to manage the data produced by your performance builds
- Date: 21 May 2009
- Related documentation: Bamboo JMeter Aggregator Plugin

Repositories

**Bamboo plugins for Git and GitHub**
- By: Ken Olofsen, on the ‘Atlassian Blog’
- About: Using Bamboo with Git and Github
- Date: 2 May 2009
- Related documentation: Specifying the source repository

Installation

**Secure Installation of Bamboo**
- By: Stéphane Bagnier, on the ‘Antelink Blog’
- About: Part of a series about the complete installation of the Atlassian suite behind a proxy with SSL everywhere
- Date: 14 December 2010
- Related documentation: Bamboo installation guide

☑ Have you written a technical tip for Bamboo?

Add a comment to this page, linking to your blog post or article. We will include it if the content fits the requirements of this page.

☑ Feedback?

Your first port of call should be the author of the linked blog post. If you want to let us know how useful (or otherwise) a linked post is, please add a comment to this page.

Other Sources of Information

- Atlassian website
- Atlassian forums
- Atlassian blog
- Bamboo plugins

Bamboo Documentation in Other Languages

Below are some links to Bamboo documentation written in other languages. In some cases, the documentation may be a translation of the English documentation. In other cases, the documentation is an alternative guide written from scratch in another language. This page presents an opportunity for customers and community authors to share documentation that they have written in other languages.
Please be aware that these are external guides.

Most of the links point to external sites, and some of the information is relevant to a specific release of Bamboo. Atlassian provides these links because the information is useful and relevant at the time it was written. Please check carefully whether the information is still relevant when you read it, and whether it is relevant to your version of Bamboo. The information in the linked guides has not been tested or reviewed by Atlassian.

On this page:

- No guides yet

<table>
<thead>
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<th>None</th>
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<tbody>
<tr>
<td>No guides yet</td>
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<tr>
<td>We do not yet have any guides to link here. Be the first to suggest one!</td>
</tr>
</tbody>
</table>

Adding Your Own Guide to this Page

Have you written a guide for Bamboo in another language? Add a comment to this page, linking to your guide. We will include it if the content fits the requirements of this page.

Giving Feedback about One of the Guides

If you have feedback on one of the guides listed above, please give the feedback to the author of the linked guide.

If you want to let us know how useful (or otherwise) one of these guides is, please add a comment to this page.

Other Sources of Information

- Bamboo Documentation Home
- Atlassian website
- Atlassian blog
- Bamboo plugins

Glossary

- activity log
- agent
- agent-specific capability
- artifact
- authors in Bamboo
- build
- build activity
- build duration
build log
build queue
build result
build telemetry
capability
child
committer
custom capability
default repository
elastic agent
elastic Bamboo
elastic block store
elastic image
elastic instance
executable
favourites
global permission
job
label
local agent
parent
permission
plan
plan permission
projects in Bamboo
queue
reason
remote agent
remote agent supervisor
requirement
activity log

Every **plan** has an *activity log*. An *activity log* is a temporary display of the latest output from the plan's most recent **build log**.

agent

A Bamboo **agent** is a service that provides **capabilities** to run **job builds**. There are two types of Bamboo agents:

- **local agents** run as part of the Bamboo server.
- **remote agents** run on computers, other than the Bamboo server, that run the **remote agent** tool.
  
  An **elastic agent** is a remote agent that runs in the Amazon Elastic Compute Cloud (EC2).

Local agents run in the server's process, i.e. in the same JVM as the server. Each remote agent runs in its own process, i.e. has its own JVM.)

Each agent has a defined set of **capabilities** and can only run builds for jobs whose **requirements** match the agent's capabilities.

For more information, see:

- Configuring agents
- Agents and capabilities
- Configuring a job's requirements

agent-specific capability

An **agent-specific capability** is a **capability** that applies to one agent only. Note that the value of an agent-specific capability will override the value of a **shared capability** of the same name (if one exists).

See Agents and capabilities and Configuring capabilities for more information.

artifact

**Artifacts** are files created by a **job build** (e.g. JAR files). Artifact definitions are used to specify which artifacts to keep from a build and are configured for individual **jobs**.
See Configuring artifact sharing between jobs.

authors in Bamboo
An author is any person who contributes to a build by checking-in code to a repository that is associated with a Bamboo plan. An author need not be a Bamboo user.

See Generating reports on selected authors.

build
A build is the execution of either a plan or a job. The execution of a plan is referred to as a 'plan build' and that of a job is a 'job build'.

build activity
Build activity is the number of builds that occur in a given period of time.

build duration
Build duration is the total time taken to execute a plan — that is, the time taken to compile the code and run all of the plan’s tests.

Variations in a plan’s build duration can be over time.

build log
Every build has a build log. A build log is a permanent record of all the output generated by compiling the job’s source-code and executing the tests.

build queue
The Bamboo build queue controls the sequence of builds. When a plan submits a build to the build queue, the build will wait in the build queue until a suitable agent is available to run the build.

The build queue is displayed on the Current Activity tab of the Dashboard.

build result
Every completed build has a build result:

- 'Successful' — the code compiled, with or without errors, and all tests completed successfully.
- 'Failed' — either the code did not compile, or at least one test failed.
- 'Incomplete' — the build was not completed, e.g. it may have been stopped manually.

Additionally,
• if the build result is 'Failed', and the previous build result was 'Successful', the build is said to be 'Broken'.
• if the build result is 'Successful', and the previous build result was 'Failed', the build is said to be 'Fixed'.

build telemetry

**Build telemetry** is the insight provided by Bamboo's dynamic reports, charts and collation of build metrics. Build telemetry helps identify trends across **build plans** and across **authors** — not just focusing on the results of a single build.

**capability**

A **capability** is a feature of an **agent**. A capability can be:

- an executable (e.g. Maven)
- a JDK
- a custom capability. This is a key-value property which defines a particular characteristic of an agent (e.g. 'operating.system=WindowsXP' or 'fast.builds=true').
- a Version Control System client application (e.g. Git)

Capabilities can be defined specifically for an agent, or they can be shared between either all local agents or all remote agents. Note that the value of an agent-specific capability overrides the value of a shared capability of the same name (if one exists).

See [Configuring capabilities](#) for more information.

**child**

A **child** is a **plan** which gets triggered when another plan completes a build. See [Setting up plan build dependencies](#).

**committer**

A **committer** is the Bamboo user(s) who committed code to a particular build (i.e. someone who committed code after the previous build was checked out by Bamboo).

Administrators can configure a plan's **notifications** to be sent to the build's committer(s).

**custom capability**

Custom capabilities can be used to control which **jobs** will be built by a particular agent. For example, if the builds for a particular job should only run in a Windows environment, you could create a custom capability 'operating.system=WindowsXP' for the appropriate agent(s), and specify it as a requirement for this job.
To create a new custom capability in your Bamboo system, see Configuring a new custom capability. To specify a job's requirement for a custom capability, see Configuring a job's requirements.

**default repository**

The first repository in the list of plan repositories is the Plan's Default Repository. The default repository will be automatically checked out by any new job created.

Repository specific Plan Variables, such as repository.revision.number, will point to the default repository of a Plan. To address a specific repository, you must add the name of the repository to the end of the variable as follows: repository.revision.number.product_core.

---

**elastic agent**

An elastic agent is a remote agent that runs in the Amazon Elastic Compute Cloud (EC2). An elastic agent process runs in an elastic instance of an elastic image. An elastic agent inherits its capabilities from the elastic image that it was created from.

**elastic Bamboo**

Elastic Bamboo is a feature in Bamboo that allows you to use computing resources from the Amazon Elastic Compute Cloud (EC2) to run builds. Elastic Bamboo uses a remote agent AMI (Amazon Machine Image) to create instances of remote agents in the Amazon EC2. Builds run on these elastic agents in a similar way to how they run on local and remote agents.

**elastic block store**

The Amazon Elastic Block Store (EBS) provides ‘EBS volumes’ which can attach to EC2 instances. EBS volumes (and the ‘EBS snapshots’ created from these volumes) provide persistent storage for your elastic instances.

If you have relatively static resources required for building your Bamboo Jobs (such as, source code checkouts and Maven repository artifacts), you can add these to an EBS volume. From this volume, you can create an EBS snapshot, which effectively records the ‘state’ of an EBS volume at a given point in time.

**elastic image**

An elastic image is an Amazon Machine Image (AMI) that is stored in one of Amazon data centres for use with the Elastic Bamboo feature. An elastic image is used to create elastic instances, which in turn create elastic agents. Conceptually, an elastic image is equivalent to an operating system running on a computer's boot hard drive and elastic instances would be the software that runs on this operation system.

Each elastic image registered with the Amazon Web Services (AWS) has its own unique identifier, known as an AMI ID.
You can **associate multiple elastic images** with a Bamboo server. One **default shared image** is maintained by Atlassian in AWS, and is available to all Elastic Bamboo users. You also **create your own custom elastic images**.

### Elastic Instance

An **elastic instance** is a running instance of an **elastic image**. One elastic instance is created whenever an elastic image is started. Hence, starting one elastic image multiple times, results in the creation of multiple elastic instances. Each time an elastic instance is created, one **elastic agent** is created on that instance.

Conceptually, an elastic instance can be thought of as a computer. The elastic agent's processes are run on this computer and the elastic image is the boot hard drive. Unlike computers, however, elastic instances are temporary and stateless. When an elastic instance is shut down:

- Any changes that an elastic instance makes to the boot hard drive (e.g. agent log file) will not persist.
- Any customisations to the instance itself will also be lost.

The Amazon **Elastic Block Store** can provide persistent storage for your elastic instances.

### Executable

An **executable** is a program external to Bamboo used to automate processes. Generally, executables compile source code to generate compiled executable files (referred to as **artifacts** in Bamboo). **Ant**, **Maven**, **MSBuild** or **PHPUnit** are just some examples of executables that can be used as part of your build process.

New executables can be defined as **capabilities** in Bamboo. Once an executable has been defined in Bamboo, it can be configured as part of a **task**.

See [Configuring a new executable](#).

### Favourites

Each Bamboo user can nominate their **favourite** plans — that is, the plans they work with the most.

Each user's favourites are displayed on the 'My' page of the **Dashboard**. Bamboo administrators can also configure each plan to send **build result notifications** to users who have nominated the plan as one of their favourites (these users are known as the plan's **watchers**).

### Global Permission

A **global permission** is the ability to perform a particular operation in relation to Bamboo as a whole. See [Granting global permissions to users or groups](#).

See also [plan permission](#).

### Job

A Bamboo **job** is a single build unit within a **plan**. One or more jobs can be organised into one or more **stages**. The jobs in a stage can all be run at the same time, if enough Bamboo agents are available. A job is made up of one or more **tasks**.

A job:
Processes a series of one or more tasks that are run sequentially on the same agent.
Controls the order in which tasks are performed.
Collects the requirements of individual tasks in the job, so that these requirements can be matched with agent capabilities.
Defines the artifacts that the build will produce.
Can only use artifacts produced in a previous stage.
Specifies any labels with which the build result or build artifacts will be tagged.

Each new plan created in Bamboo contains at least one job known as the 'Default Job'.

Projects and plans can only be configured by Bamboo administrators (see Creating a plan).

label

A label is a convenient way to tag and group build results that are logically related to each other. Labels can also be used to define RSS feeds and to control build expiry.

Labels can be applied to build results automatically, by specifying the label(s) in a plan (note that only Bamboo administrators can do this). Labels can also be applied ad hoc to build results by Bamboo users.

local agent

See agent.

parent

A parent is a plan which triggers another plan to build whenever it completes a build. See Setting up plan build dependencies.

permission

See plan permission and global permission.

plan

A plan defines everything about your continuous integration build process in Bamboo.

A plan:

- Has a single stage, by default, but can be used to group jobs into multiple stages.
- Processes a series of one or more stages that are run sequentially using the same repository.
- Specifies the default repository.
- Specifies how the build is triggered, and the triggering dependencies between the plan and other plans in the project.
- Specifies notifications of build results.
- Specifies who has permission to view and configure the plan and its jobs.
- Provides for the definition of plan variables.

Every plan belongs to a project.

Projects and plans can only be configured by Bamboo administrators (see Creating a plan).

plan permission

A plan permission is the ability to perform a particular
operation on a plan and its jobs. For each plan, different permissions can be granted to particular groups and/or users.

See Granting plan permissions in bulk.

See also global permission.

projects in Bamboo

A project is a collection of plans. Projects enable you to easily group and identify plans which are logically related to each other. They are especially useful when generating reports across multiple plans.

A project:

- Has one, or more, plans.
- Provides reporting (using the wallboard, for example) across all plans in the project.
- Provides links to other applications.

queue

See build queue.

reason

A build's reason is the way in which the build was triggered.

Triggering in Bamboo allows plan builds to be started automatically. Bamboo has the following trigger methods:

- Polling the repository for changes — Bamboo polls the source repository for changes, either periodically or according to a schedule. This ensures that a plan build only runs when code has changed in the plan's source repository.
- Repository triggers the build when changes are committed — Requires that your source repository is configured to fire an event to Bamboo. This has the advantage of placing minimal load on your Bamboo server.
- Cron-based scheduling — Builds are run according to a schedule, regardless of whether any code changes have occurred. This can allow a team to structure the day according to a predictable schedule.
- Single daily build — The build is run at a specified time every day.

For more information, see Triggering builds.

remote agent

See agent.

remote agent supervisor

A remote agent supervisor is an application that is installed alongside a Bamboo remote agent, by default. The remote agent supervisor is an implementation of the Java Service Wrapper.

The remote agent supervisor monitors remote agents on the machine that it is installed on. If any remote agent crashes, the remote agent supervisor will automatically attempt to restart it. If communications are lost with the
Bamboo server, the remote agent will shut itself down and wait for the remote agent supervisor to restart it.

The remote agent supervisor will run on the following operating systems:

- **Linux:**
  - x86
  - x86_64
  - IA64
  - PPC 64 bit (but not 32 bit)
- **Mac OSX:**
  - all architectures
- **Solaris:**
  - x86
  - x86_64 (running in 32 bit mode)
  - IA64 (running in 32 bit mode)
  - SPARC (both 32 bit and 64 bit)
- **Windows:**
  - 32 bit
  - 64 bit

**requirement**

A requirement is specified in a job or a task. A requirement specifies a capability that an agent must have for it to build that job or task. A job inherits all of the requirements specified in its tasks.

Together, capabilities and requirements control which agents can execute builds for particular jobs. Each job can only be built by agents whose capabilities match the job's requirements. See Configuring a job's requirements for more information.

**shared capability**

*Shared capabilities* are inherited by all applicable agents, that is, (shared) local server capabilities are inherited by all local agents, and shared remote capabilities are inherited by all remote agents. Note, however, that the value of a shared capability will be overridden by the value of an agent-specific capability of the same name (if one exists).

See Agents and capabilities and Configuring capabilities.

**stage**

*Stages* group (or 'map') jobs to individual steps within a plan's build process. For example, you may have an overall plan build process that comprises a compilation step, followed by several test steps, followed by a deployment step. You can create separate Bamboo stages to represent each of these steps.

A stage:

- Has a single job, by default, but can be used to group multiple jobs.
- Processes its jobs in parallel, on multiple agents (where available).
- Must successfully complete all its jobs before the next stage in the plan can be processed.
- May produce artifacts that can be made available for use by a subsequent stage.
Each new plan created in Bamboo contains at least one stage (for the default job) and is known as the 'Default Stage'. Stages can only be configured by Bamboo administrators.

stock images

Atlassian maintains public 'default' elastic images, currently they are available for the following operating systems:

- Amazon Linux
- Windows (introduced in Bamboo 3.4)

Bamboo’s Elastic Bamboo feature uses these images by default. In your list of elastic image configurations, this image will have '(stock image)' appended to its name.

### On this page:

- [Amazon Linux stock image](#)
- [Windows stock image](#)
- [Notes](#)

---

**Amazon Linux stock image**

The Amazon Linux 'default image' uses:

- the Amazon Linux (a CentOS derivative) operating system.
- the Bamboo elastic agent.

and has the following default packages/capabilities:

<table>
<thead>
<tr>
<th>Default packages/capabilities</th>
<th>Path/value</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Builders</strong></td>
<td></td>
</tr>
<tr>
<td>Ant (version 1.8.2)</td>
<td>/opt/ant-1.8.2</td>
</tr>
<tr>
<td>Bash (Command)</td>
<td>/bin/bash</td>
</tr>
<tr>
<td>Grails 1.2.2</td>
<td>/opt/grails-1.2.5</td>
</tr>
<tr>
<td>Grails 1.3.1</td>
<td>/opt/grails-1.3.7</td>
</tr>
<tr>
<td>Grails 2.0.1</td>
<td>/opt/grails-2.0.1</td>
</tr>
<tr>
<td>Maven 1 (version 1.0.2)</td>
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</tr>
<tr>
<td>Maven 1.1</td>
<td>/opt/maven-1.1</td>
</tr>
<tr>
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<tr>
<td>Maven 3.0 (Maven 3.x) (version 3.0.4)</td>
<td>/opt/maven-3.0.4</td>
</tr>
</tbody>
</table>
The agent jar also contains the libraries required to connect to Subversion and CVS.

Windows stock image

The Windows 'stock image' is built from:

- the Windows 2008 Server R2 64bit operating system, with all updates applied.
- the Bamboo elastic agent.

and has the following default packages/capabilities:

<table>
<thead>
<tr>
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<th>Path/value</th>
</tr>
</thead>
<tbody>
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<tr>
<td>Maven 2.0 (Maven 2.x) (version 2.0.11)</td>
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<td>NAnt 0.91</td>
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<tr>
<td><strong>JDKs</strong></td>
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<tr>
<td>JDK 1.6 (version 6u33)</td>
<td>C:\Program Files\Java\jdk1.6.0_33</td>
</tr>
<tr>
<td>JDK 1.7 (version 7u05)</td>
<td>C:\Program Files\Java\jdk1.7.0_05</td>
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<tr>
<td><strong>Browsers</strong></td>
<td></td>
</tr>
<tr>
<td>Firefox (FF10)</td>
<td>C:\Program Files (x86)\Mozilla Firefox</td>
</tr>
</tbody>
</table>
### Internet Explorer (IE9)
C:\Program Files (x86)\Internet Explorer

### Others

### Git
C:\Program Files (x86)\Git\bin\git.exe

### Mercurial 2.0 Executable (version 2.0)
C:\Program Files\TortiseHg\hg.exe

* The agent jar also contains the libraries required to connect to Subversion and CVS.

### Notes

Be aware that the default packages/capabilities listed above may change with each major release of Bamboo. There is a new default image (with its own AMI ID) for each new version of Bamboo. However, older default images will still be available for use.

### task

A Task:

- Is a small discrete unit of work, such as source code checkout, executing a Maven goal, running a script, or parsing test results.
- Is run sequentially within a job on a Bamboo working directory.

Tasks may make use of an executable if required. Once a task is defined in the Bamboo system, it can then be specified in jobs by a plan administrator. A job can be configured to execute a number of tasks, on the same working directory. For example, before executing a Maven goal, the user could substitute specific files within the working directory, substitute version numbers, checkout source repositories or execute a script.

### triggering

Triggering in Bamboo allows plan builds to be started automatically. Bamboo has the following trigger methods:

- **Polling the repository for changes** — Bamboo polls the source repository for changes, either periodically or according to a schedule. This ensures that a plan build only runs when code has changed in the plan's source repository.
- **Repository triggers the build when changes are committed** — Requires that your source repository is configured to fire an event to Bamboo. This has the advantage of placing minimal load on your Bamboo server.
- **Cron-based scheduling** — Builds are run according to a schedule, regardless of whether any code changes have occurred. This can allow a team to structure the day according to a predictable schedule.
- **Single daily build** — The build is run at a specified time every day.

For more information, see [Triggering builds](#).

### watcher

A plan's watchers are the Bamboo users who have marked this plan as one of their **favourites**. Administrators can configure a plan's [notifications](#) to be sent to the plan's watchers.