Maven Tools Reference Guide

Version: 3.3.0.GA
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Introduction

In the context of application development, Maven allows you to extend your applications by referencing and utilizing resources from local and remote repositories.

Covered in this reference guide is how to create Maven projects and modules, and how to add Maven functionality to an existing project or application.

This guide does not cover how to setup a Maven repository. For information on how to setup a Maven repository consult the documentation associated with your application server or framework kit.
Creating a Maven Project

To create a new Maven Project, from your workspace navigate to File → New → Other and from the wizard selection screen select Maven → Maven Project.

Figure 2.1. Selecting the Maven Project wizard

The first screen of the wizard will ask you if you wish to create a simple project (selecting this will skip the ability to select an archetype), to select a location for the project and if any projects should be added to the working set.
New Maven project
Select project name and location

- Create a simple project (skip archetype selection)

- Use default Workspace location
  Location: 

- Add project(s) to working set
  Working set: 

Advanced

Figure 2.2. Maven project location and basic settings
You can also select Advanced options concerning existing workspace projects and the naming convention to use.
New Maven project

Select project name and location

- Create a simple project (skip archetype selection)
- Use default Workspace location
  - Location: [Field]
  - Browse...
- Add project(s) to working set
  - Working set: [Field]
  - More...

Advanced

- Resolve Workspace projects
  - Profiles: [Field]
  - Name template: [Field]
    - [artifactId]
    - [artifactId]-TRUNK
    - [artifactId]-[version]
    - [groupId],[artifactId]
    - [groupId],[artifactId]-[version]

Figure 2.3. Maven project location and advanced settings

The following screen is the Archetype selection screen, and will only appear when you have not selected to create a simple project on the previous screen.

Select an archetype based on the purpose of the project you are creating.
Figure 2.4. Archetype selection

The final screen of the wizard is where you will set the **Group Id**, **Artifact Id** and project **Version**. The **Package** name will be created based on the **Group Id** and **Artifact Id** values.

You can also add specific properties associated with the chosen archetype, to the project.
Figure 2.5. Final project naming

Clicking Finish will bring you back to the workbench and your Maven project will appear in the Project Explorer.
Figure 2.6. Project in the Project Explorer
Creating a Maven Module

A Maven module is a sub-project. To create a Maven module you will need to already have a Maven project available.

The parent project must have its Packaging option pre-configured to pom, for a module to be created and associated with it. To ensure your parent project has this option set correctly before proceeding, double-click on the pom.xml file of your parent project in the Project Explorer.

In the Overview settings page that is now displayed in your workbench, confirm that the option Packaging is set to pom. If it is not, select pom from the list menu and save the changes to your pom.xml file.

![Figure 3.1. Parent project pom.xml file settings](image)

From your workspace navigate to File → New → Other and from the wizard selection screen select Maven → Maven Module.
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**Select a wizard**

Create a Maven module

**Wizards:**

- JBoss Tools Web
- JPA
- Maven
  - Checkout Maven Projects from SCM
  - Maven Module
  - Maven Project
- OpenShift

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**Figure 3.2. Selecting the Maven Module wizard**

Type a name for the module in the **Module Name** field.
**Figure 3.3. Naming the module**

Click the **Browse** button beside the **Parent Project** field. This will launch a project selection box.

Select the project to be used as the parent project of the module you are creating, and click **OK**.
Figure 3.4. Selecting the parent project

You will be returned to the Select a parent project screen and the Parent Project field will contain the name of the project you selected.
New Maven Module

Select the module name and parent

- Create a simple project (skip archetype selection)

- Module Name: module_id
- Parent Project: artifact_id

- Add project(s) to working set

Advanced

Figure 3.5. Parent Project field populated with project name

Click the Next button.

Select an archetype available in the list displayed. For the purposes of this example the maven-archetype-quickstart is selected.
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New Maven Module
Select an Archetype

Figure 3.6. Archetype selection screen

Click the Next button.

Specify archetype parameters Group Id and Version. Ensure that the values you specify for these fields are unique from those set in the parent project.

In this example, the Group Id and Version settings of the parent project used are set to group_id and 0.0.1-SNAPSHOT respectively. For the module, Group Id and Version settings are being specified as sub_group_id and 0.1.1-SNAPSHOT respectively, to avoid conflict.
Figure 3.7. Archetype parameter settings

Click the Finish button.

The module will now be created and appear in your Project Explorer.
You can view and change settings associated with the module by selecting the module's `pom.xml` file from the Project Explorer and double-clicking on it. This will launch an Overview screen containing the module settings.
Figure 3.9. Module Overview screen
Adding Maven support to an existing project

Select the project that Maven support will be added to from the Project Explorer.

![Image of Project Explorer](image)

**Figure 4.1. Selecting Maven project conversion**

Right-click on the project to bring up the context menu and click on Properties.

From the Properties screen click on Project Facets.
Figure 4.2. Project Facets screen

<table>
<thead>
<tr>
<th>Project Facet</th>
<th>Version</th>
</tr>
</thead>
<tbody>
<tr>
<td>BIRT Charting Runtime Component</td>
<td>4.2.0</td>
</tr>
<tr>
<td>BIRT Reporting Runtime Component</td>
<td>4.2.0</td>
</tr>
<tr>
<td>CDI (Contexts and Dependency Injection)</td>
<td>1.0</td>
</tr>
<tr>
<td>CXF 2.x Web Services</td>
<td>1.0</td>
</tr>
<tr>
<td>Dynamic Web Module</td>
<td>3.0</td>
</tr>
<tr>
<td>Java</td>
<td>1.6</td>
</tr>
<tr>
<td>JavaScript</td>
<td>1.0</td>
</tr>
<tr>
<td>JavaServer Faces</td>
<td>2.1</td>
</tr>
<tr>
<td>JAX-RS (REST Web Services)</td>
<td>1.1</td>
</tr>
<tr>
<td>JAXB</td>
<td>2.1</td>
</tr>
<tr>
<td>JBoss Maven Integration</td>
<td>1.0</td>
</tr>
<tr>
<td>JBoss Web Services Core</td>
<td>3.0</td>
</tr>
<tr>
<td>JPA</td>
<td>2.0</td>
</tr>
<tr>
<td>Seam</td>
<td>2.3</td>
</tr>
<tr>
<td>WebDoclet (XDoclet)</td>
<td>1.2.3</td>
</tr>
</tbody>
</table>
Select **JBoss Maven Integration** from the facets list. You will notice that a **Further configuration required** button appears at the bottom of the screen.

![Figure 4.3. Maven Integration facet selected](image)

Click on the **Further configuration required** button and you can either modify or accept the default values for all fields. Click the **OK** button to return to the facets screen.
Figure 4.4. Maven Integration facet settings

The **Further configuration required** button has now changed to **Further configuration available**. Click the **Apply** button and then the **OK** button to complete the addition of Maven support to your project.
Figure 4.5. Maven Integration facet configured

Maven support has been added to the project, and a new `pom.xml` file appears in the list of files for the project. This can be viewed in the Project Explorer.
Double-click on the pom.xml file to view the settings associated with it. The settings here were set in the Further configuration required step, and can be edited from this Overview screen.

It is recommended that you change the Packaging option to pom to avoid any issues in expansion of the project with Maven modules in the future.
Figure 4.7. Overview screen for pom.xml