# MavenBuilder

## A simple Builder to interface with Maven

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## 1. Overview

**MavenBuilder**: *A simple Builder to interface with Maven*

### 1.1. Intent

Provide a standard interface to automate Maven integrated builds.

- Automate enviornment and configuration setup.
- Expose maven options and arguments into the ControlTier object model for automating each build.
- Support automated builds within a Continuous Integration (CI) Loop such as Hudson or CruiseControl.
- Support additional Continuous Deployment as part of a CI Loop in order to automate end to end build and deployment within a development environment.

### 1.2. Problem

Automating builds require command line parameters, environment, supporting infrastructure, and configuration. Setting up an automated build is different than a developer's enviornment in that pure command line and environment must be explicit and managed for change. Exposing all of these configurations including any referring CI deployed tool must be coherently managed.

## 2. Design

### Super Type
Builder

| Role | **Concrete**. (Objects can be created.) |
|---|---|
| Instance Names | **Unique** |
| Notification | **false** |
| Template Directory | |
| Data View | Bi-directional, proximity: **1** |
| Logger Name | Builder |

## 3. Constraints

## 3.1. Allowed Child Dependencies

- BuilderAutoUpdate1
- BuilderBuildFile1
- BuilderBuildstamp1
- BuilderBuildTarget1
- BuilderImportMax1
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- [BuilderMavenHome](#) 1
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- BuilderVersionTag1
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- CruiseControlInterval1
- CruiseControlMailHost1
- CruiseControlReturnAddress1
- HudsonPollSpec1

- [PlatformZip](#)

1: These types have a *Singleton* constraint. Only one instance may be added as a resource.

## 3.2. Allowed Parent Dependencies

- [CruiseControl](#)
- [Hudson](#)
- Node
- Updater

Limit referring [CruiseControl](#) and [Hudson](#) objects for Continous Integration (CI) automated builds.

Allow referring Updater's for optional automatic deployments within a CI loop.

Support Node based deployments

## 4. Attributes

## 4.1. Exported Attributes

| Name | Property | Description |
|------|----------|-------------|
| basedir | deployment-basedir | the "checkout" workspace of the maven enabled build |
| targetdir | deployment-install-root | the "target" directory containing artifact(s) produced by maven enabled build |

## 4.2. Defaults for Imported Attributes

| Name | Default | Description |
|------|---------|-------------|
| autoUpdate | false | turn on automatic deployments when integrated within a Continuous Integration Loop (typical for development environments), defaults to false |
| buildFile | pom.xml | maven buildfile, defaults to "pom.xml" |
| buildPath | /bin:/usr/bin | PATH environment used for the build, defaults to a typical unix |

| | | environment |
|---|---|---|
| `buildTarget` | all | maven build target, defaults to "all" |
| `cruiseControlInterval` | 300 | Continuous Integration build interval via cruisecontrol, defaults to 300 seconds |
| `hudsonPollSpec` | */5 * * * * | Continuous Integration build interval hudson, defaults to 5 minutes (cron based format) |
| `hudsonPollSpec` | */5 * * * * | |
| `importMax` | 1 | maximum number of packages to import into the controltier package repository, defaults to 1 |
| `importMin` | 1 | minimum number of packages to import into the controltier package repository, defaults to 1 |
| `javaHome` | ${env.JAVA_HOME} | value for JAVA_HOME (root of the jdk install), defaults to JAVA_HOME environment variable |
| `mavenHome` | ${env.MAVEN_HOME} | value for MAVEN_HOME (root of the maven install), defaults to MAVEN_HOME environment variable |
| `mavenOpts` | | optional value for MAVEN_OPTS passed into the maven build |
| `packageBuildtimePattern` | yyyyMMdd'T'HHmmss | |
| `packageExtension` | war | package filename extension of the produced artifact, defaults to the "war" |
| `packageFilebase` | .*? | basename of the produced artifact filename (precedes the packageSeparator character), defaults to the ".*?" regular expression |

| packageInstallRank | 10 | default installation for artifactobject's package object and used at deployment time. |
| packageInstallroot | ${entity.attribute.catalinaBase}/w | target installation root for the produced artifact when deployed, defaults to the webapps directory of a tomcat container |
| packageSeparator | - | separator in produced filename of the artifact differentiating the package name from the version of the package, defaults to the "-" character |
| packageType | war | package type for the produced artifact when imported into the controltier package repository, defaults to the war package type |
| requireBuildstamp | false | enforce use of the buildstamp command line parmeter, defaults to false |
| scmBinding | cvs | source code management binding, defaults to cvs |
| scmLabel | | optional label to apply prior to checkout from source |
| scmUser | ${user.name} | user name for interacting with the source code managmement system, defaults to the effective user |

## 5. Commands

View the available commands in the [User Reference](User Reference).

## 6. Related Types

The following types are defined for use with MavenBuilder.

### 6.1. BuilderMavenHome

### 6.1.1. Overview

**BuilderMavenHome**: *Maven instance that should be used*

supports the "mavenHome" attribute setting, where settingValue will override the referring attribute-default (if defined). See use of "MAVEN_HOME" environment variable and [Maven](Maven) documentation.

### 6.1.2. Design

#### Super Type
BuilderSetting

| Role | **Concrete**. (Objects can be created.) |
|------|------------------------------------------|
| Instance Names | **Unique** |

### 6.1.3. Attributes

#### 6.1.3.1. Exported Attributes

| Name | Property |
|------|----------|
| `mavenHome` | settingValue |

## 6.2. BuilderMavenOpts

### 6.2.1. Overview

**BuilderMavenOpts**: *Maven options that should be used*

supports the "mavenOpts" attribute setting, where settingValue will override the referring attribute-default (if defined). See use of "MAVEN_OPTS" environment variable and [Maven](Maven) documentation.

### 6.2.2. Design

#### Super Type
BuilderSetting

| Role | **Concrete**. (Objects can be created.) |
|------|------------------------------------------|
| Instance Names | **Unique** |

### 6.2.3. Attributes

#### 6.2.3.1. Exported Attributes

| Name | Property |
|---|---|
| `mavenOpts` | settingValue |

## 6.3. BuilderNotificationList

### 6.3.1. Overview

**BuilderNotificationList**: *Comma separated list of email addresses to be notified about the build*

### 6.3.2. Design

**Super Type**
BuilderSetting

| Role | **Concrete**. (Objects can be created.) |
|---|---|
| Instance Names | **Unique** |

### 6.3.3. Attributes

#### 6.3.3.1. Exported Attributes

| Name | Property |
|---|---|
| `notificationList` | settingValue |

## 6.4. BuilderScmCheckExternal

### 6.4.1. Overview

**BuilderScmCheckExternal**: *Subversion specific external definition to check for last changed revision*

### 6.4.2. Design

**Super Type**
BuilderSetting

| Role | **Concrete**. (Objects can be created.) |
|---|---|
| Instance Names | **Unique** |

### 6.4.3. Attributes

#### 6.4.3.1. Exported Attributes

| Name | Property |
|---|---|
| scmCheckExternal | settingValue |

## 6.5. BuilderVersionBuild

### 6.5.1. Overview

**BuilderVersionBuild**: *Build version number to use to generate a buildstamp (often pulled from Subversion, etc)*

### 6.5.2. Design

**Super Type**
BuilderSetting

| Role | **Concrete**. (Objects can be created.) |
|---|---|
| Instance Names | **Unique** |

### 6.5.3. Attributes

#### 6.5.3.1. Exported Attributes

| Name | Property |
|---|---|
| versionBuild | settingValue |

## 6.6. BuilderVersionMajor

### 6.6.1. Overview

**BuilderVersionMajor**: *Major version number to use to generate a buildstamp*

### 6.6.2. Design

**Super Type**
BuilderSetting

| Role | **Concrete**. (Objects can be created.) |
|---|---|
| Instance Names | **Unique** |

### 6.6.3. Attributes

#### 6.6.3.1. Exported Attributes

| Name | Property |
|---|---|
| versionMajor | settingValue |

## 6.7. BuilderVersionMinor

### 6.7.1. Overview

**BuilderVersionMinor**: *Minor version number to use to generate a buildstamp*

### 6.7.2. Design

**Super Type**
BuilderSetting

| Role | **Concrete**. (Objects can be created.) |
|---|---|
| Instance Names | **Unique** |

### 6.7.3. Attributes

#### 6.7.3.1. Exported Attributes

| Name | Property |
|---|---|
| versionMinor | settingValue |

## 6.8. BuilderVersionRelease

### 6.8.1. Overview

**BuilderVersionRelease**: *Release version number to use to generate a buildstamp*

*MavenBuilder*

### 6.8.2. Design

**Super Type**
BuilderSetting

| Role | **Concrete**. (Objects can be created.) |
|---|---|
| Instance Names | **Unique** |

### 6.8.3. Attributes

### 6.8.3.1. Exported Attributes

| Name | Property |
|---|---|
| versionRelease | settingValue |