

ApacheCon



## Eclipse IAM, Maven integration for Eclipse

Carlos Sanchez

March 26, 2009



Leading the Wave  
of Open Source

# About me



During the day

Sr. Solutions Architect at G2iX

At night

Member of Apache Maven PMC

IAM project co-lead at Eclipse Foundation

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# Maven in the IDE

Q4E

[Q for Eclipse]

[code.google.com/p/q4e](http://code.google.com/p/q4e)

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# Maven in the IDE



## Eclipse IAM

[Eclipse Integration for  
Apache Maven]

[www.eclipse.org/iam](http://www.eclipse.org/iam)

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# Goals

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# Simplicity



```
Default
package: org.eclipse.ese2008
Y: :
[INFO] -----
[INFO] Using following parameters for creating OldArchetype: maven-archetype-qui
ckstart:RELEASE
[INFO] -----
[INFO] Parameter: groupId, Value: org.eclipse.ese2008
[INFO] Parameter: packageName, Value: org.eclipse.ese2008
[INFO] Parameter: basedir, Value: /Users/amuino/dev/ESE2008
[INFO] Parameter: package, Value: org.eclipse.ese2008
[INFO] Parameter: version, Value: 1.0-SNAPSHOT
[INFO] Parameter: artifactId, Value: iam
[INFO] ***** End of debug info from resources from generated POM
*****
[INFO] OldArchetype created in dir: /Users/amuino/dev/ESE2008/iam
[INFO] -----
[INFO] BUILD SUCCESSFUL
[INFO] -----
[INFO] Total time: 54 seconds
[INFO] Finished at: Sat Oct 11 20:10:39 CEST 2008
[INFO] Final Memory: 8M/15M
[INFO] -----
pantalla:~/dev/ESE2008 amuino$
```

# ApacheCon



# Simplicity

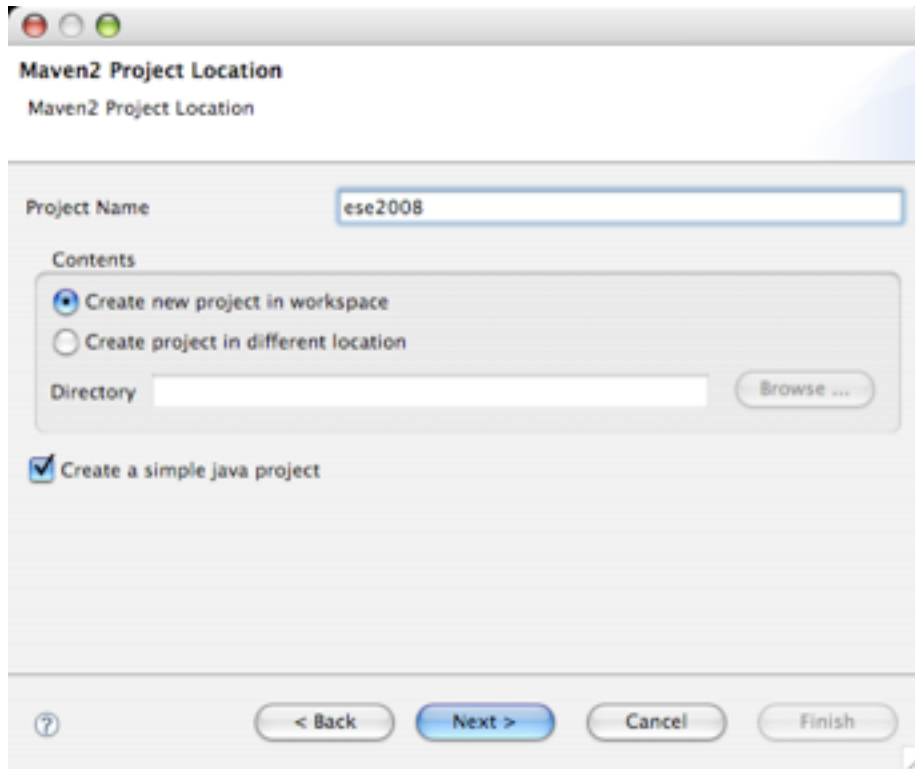
# ApacheCon

```
Default
package: org.eclipse.ese2008
Y: :
[INFO] -----
[INFO] Using following parameters for creating OldArchetype: maven-archetype-qui
ckstart:RELEASE
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[INFO] Parameter: groupId, Value: org.eclipse.ese2008
[INFO] Parameter: packageName, Value: org.eclipse.ese2008
[INFO] Parameter: basedir, Value: /Users/amuino/dev/ESE2008
[INFO] Parameter: package, Value: org.eclipse.ese2008
[INFO] Parameter: version, Value: 1.0-SNAPSHOT
[INFO] Parameter: artifactId, Value: iam
[INFO] ***** End of debug info from resources from generated POM
*****
[INFO] OldArchetype created in dir: /Users/amuino/dev/ESE2008/iam
[INFO] -----
[INFO] BUILD SUCCESSFUL
[INFO] -----
[INFO] Total time: 54 seconds
[INFO] Finished at: Sat Oct 11 20:10:39 CEST 2008
[INFO] Final Memory: 8M/15M
[INFO] -----
pantalla:~/dev/ESE2008 amuino$
```





# Simplicity

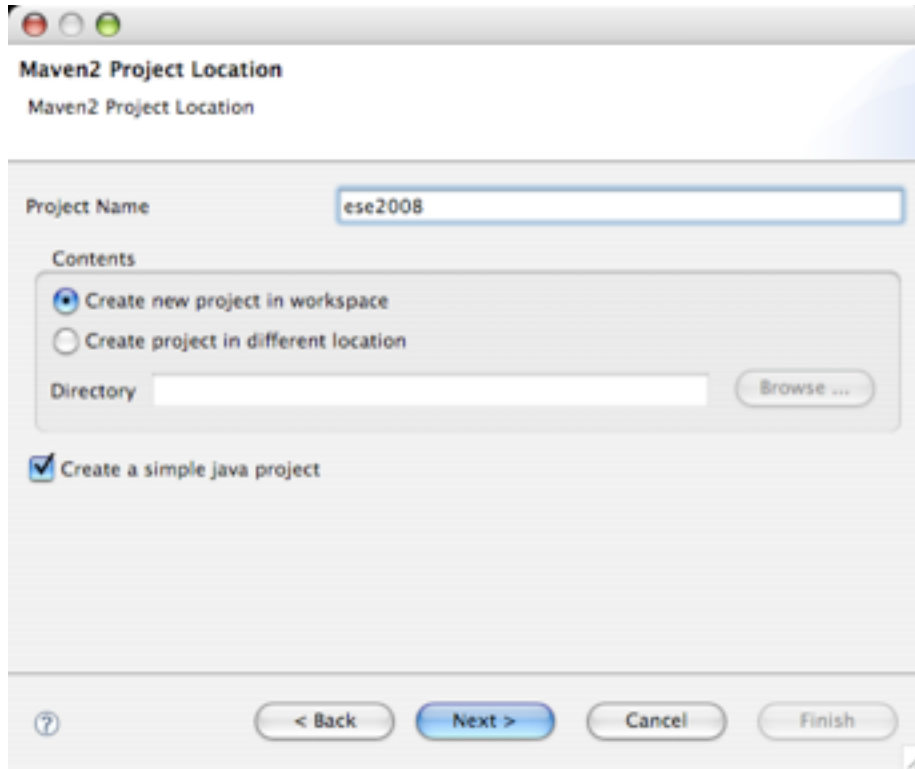


The screenshot shows a dialog box titled "Maven2 Project Location" with a subtitle "Maven2 Project Location". The "Project Name" field contains "ese2008". Under the "Contents" section, the "Create new project in workspace" radio button is selected, and the "Create project in different location" radio button is unselected. The "Directory" field is empty, and a "Browse ..." button is next to it. The "Create a simple java project" checkbox is checked. At the bottom, there are four buttons: "?", "< Back", "Next >", "Cancel", and "Finish".

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# Simplicity



The screenshot shows a 'Maven2 Project Location' dialog box. The title bar reads 'Maven2 Project Location' and the subtitle is 'Maven2 Project Location'. The 'Project Name' field contains 'ese2008'. Under the 'Contents' section, there are two radio buttons: 'Create new project in workspace' (selected) and 'Create project in different location'. Below this is a 'Directory' field with a 'Browse ...' button. At the bottom of the dialog, there is a checked checkbox for 'Create a simple java project'. The bottom of the dialog features a help icon, a '< Back' button, a 'Next >' button, a 'Cancel' button, and a 'Finish' button.



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# Integration

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# Integration

# JDT

ApacheCon



# Integration

# JDT



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And allow Integration

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# And allow Integration

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Google Code  
Eclipse Scala Maven Integration

Project Home | Wiki | Issues | Source

Summary | Updates

Welcome to the Eclipse Scala Maven Integration, via aim to provide better support to both G for eclipse users to be IDE and the Scala Eclipse plugin, as well as integrating them together. This project is purposefully narrow in scope. This allows us (and G) focus our efforts and be able to maintain the integration, ideas.

The goals/objectives of this project are as follows:

- Use existing plugins to the greatest extent possible
- Use Maven for our build system
- Use Scala as our core language
- Meet needs as they arise in the Eclipse/Scala/Maven world
- Support projects like J2E, which make use of Scala and Maven.
- Etc, what we do
- Become a one-stop-shop for eclipse users who want Scala and Maven.

**Status**

This project is currently on hold with Scala 2.7.2 and G 4.8.2 are released

So far I just have basically the integration between G and Scala. It allows you to import a maven project and work up with the scala nature added automatically.

There is an pre-0.0.1-alpha available at the update site: [http://www.apachecode.com/eclipseupdate\\_site\\_0.0.1](http://www.apachecode.com/eclipseupdate_site_0.0.1) This requires you to already have the uninstalled beta version of the Scala Eclipse plugin (at least the scala library portion).

**Immediate Goals:**

- Build System (Maven)
- Update site wiring (We should enhance Scala and G update sites from our own)
- Project import/creation integration between G and Scala

**Future Goals:**

- Create scala version from jars
- Use Scala to build for various compilation
- Automated testing of aim
- Continuous integration of aim
  - Clean Scala IDE/ACM marketplace
  - Meet -> Maven dependency

Code License: Apache License 2.0  
Labels: scala, eclipse, maven, & integration, plugin

Links: [Site Eclipse](#)  
[Scala Eclipse Plugin](#)

Blogs: [James Blog](#)

Feeds: [Project Feeds](#)

Project owner: [Chris Stewart](#)

Project members: [James Cook](#)



# And allow Integration

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# And allow Integration

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# yours?



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# Features

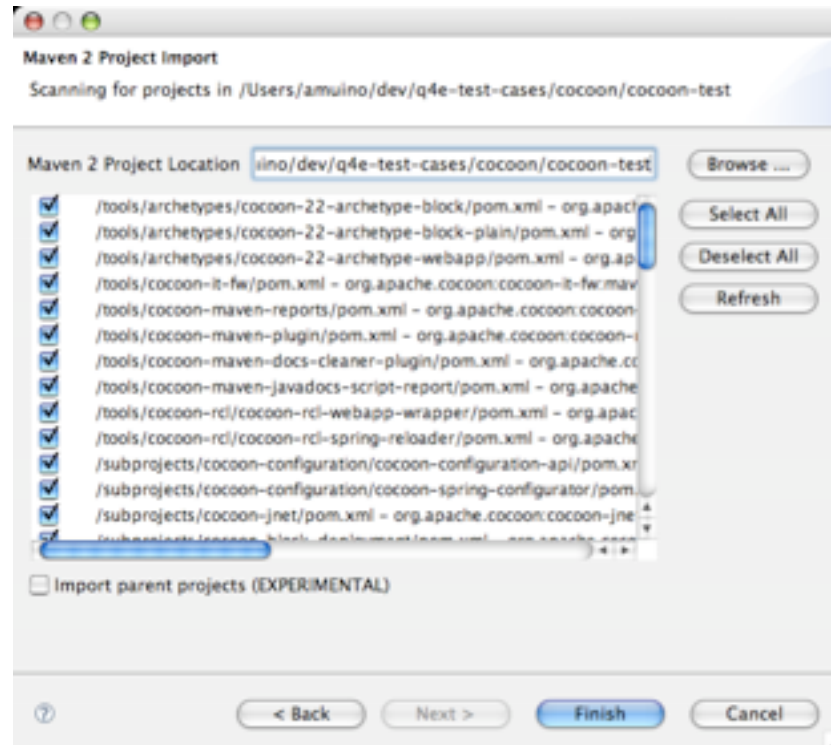
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# Importing Maven projects

direct import of Maven 2 projects

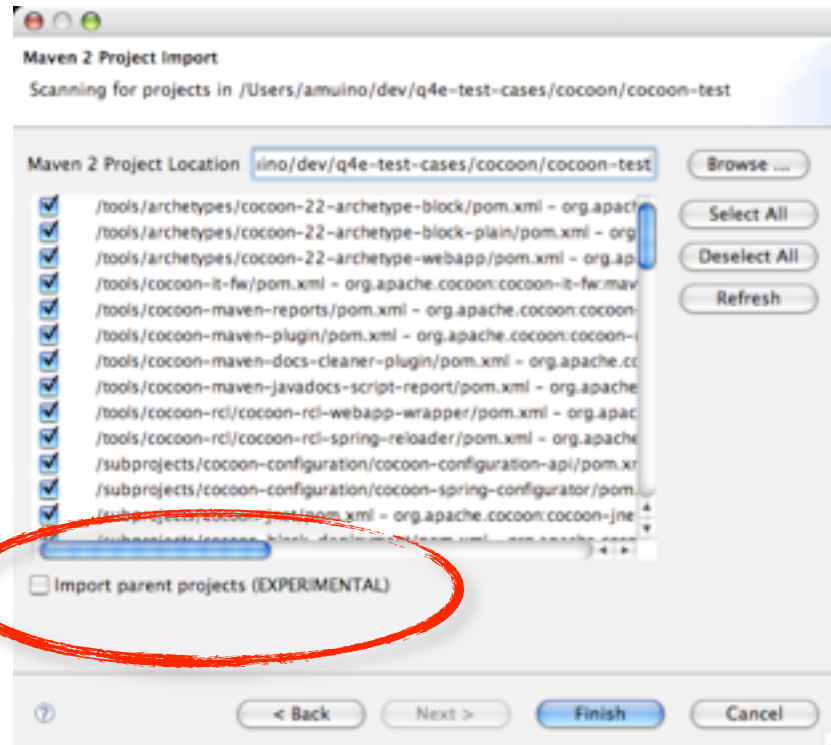


# ApacheCon



# Importing Maven projects

direct import of Maven 2 projects

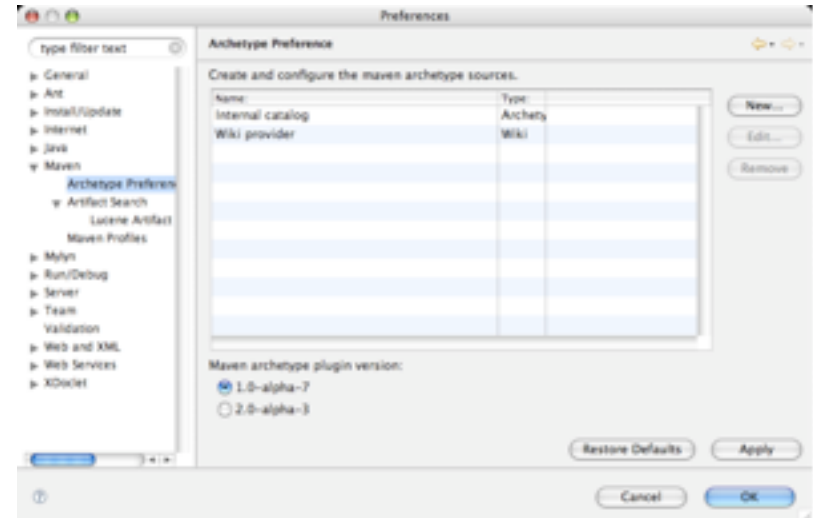
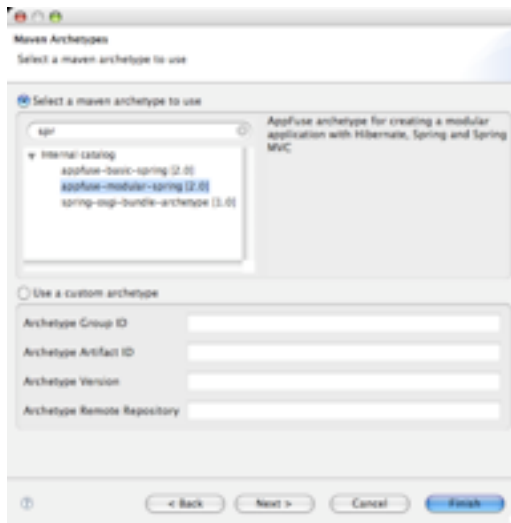


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# New project from Archetype

wizard for creation of new projects  
using the archetype mechanism

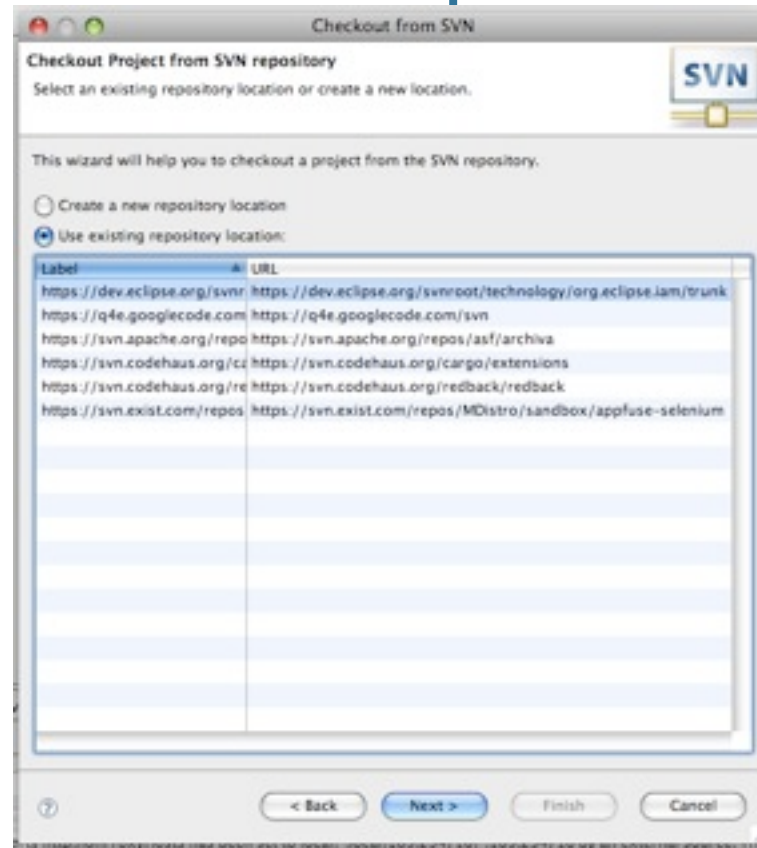


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# Checkout project

checkout and import from SVN

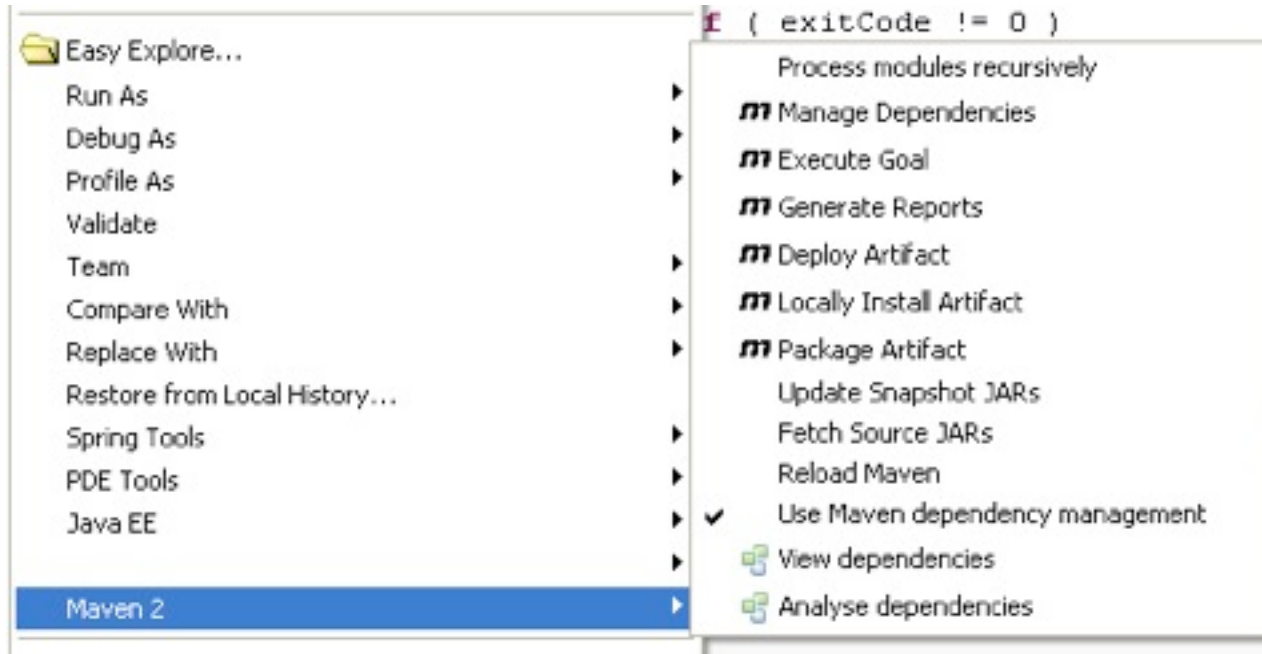


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# Running Maven goals

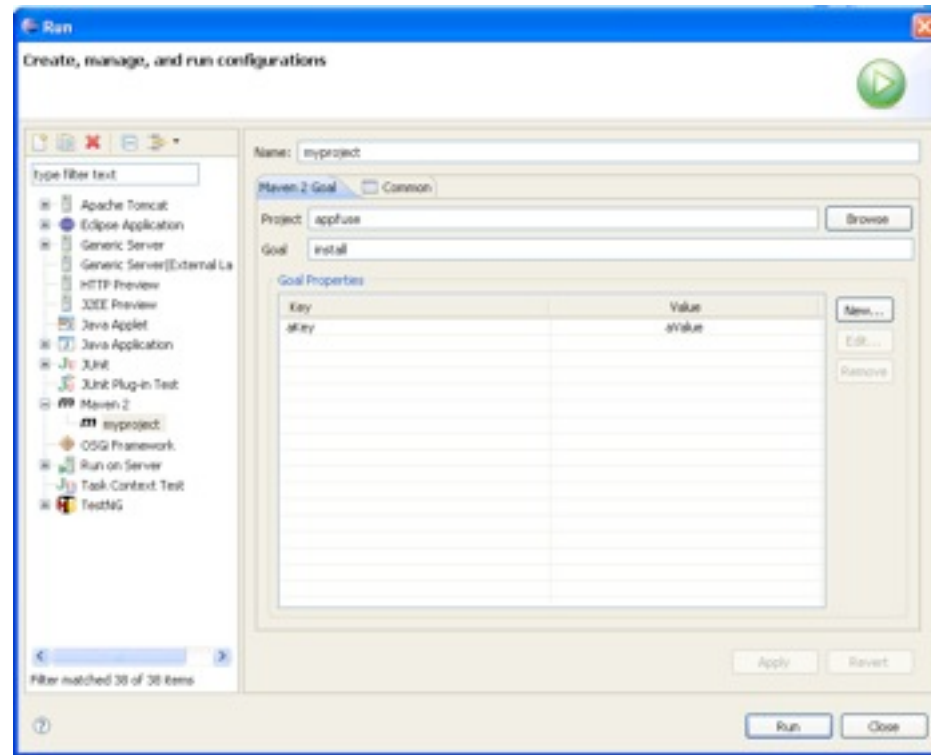
easy access to common goals





# Running Maven goals

launch configurations

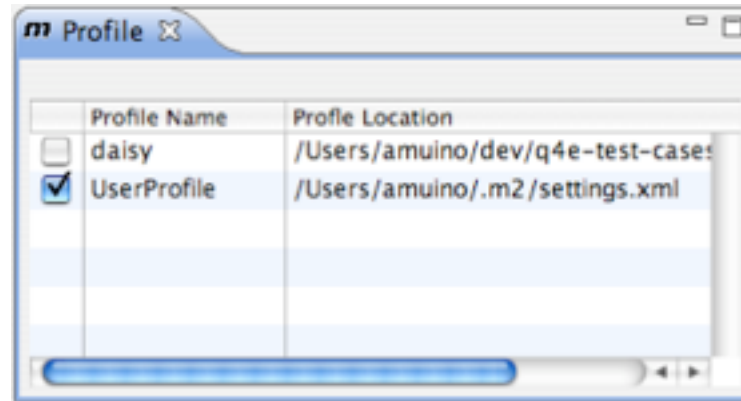


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# Running Maven goals

## Profile management



The screenshot shows a window titled "m Profile" with a table of profile information. The table has two columns: "Profile Name" and "Profile Location". There are two rows of data. The first row has a checkbox that is unchecked, the name "daisy", and the location "/Users/amuino/dev/q4e-test-cases". The second row has a checked checkbox, the name "UserProfile", and the location "/Users/amuino/.m2/settings.xml".

	Profile Name	Profile Location
<input type="checkbox"/>	daisy	/Users/amuino/dev/q4e-test-cases
<input checked="" type="checkbox"/>	UserProfile	/Users/amuino/.m2/settings.xml



# Maven Builder

Automatically execute Maven goals  
as part of Eclipse build

Configurable list of goals to exclude  
from auto builds

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# Maven Builder

Properties for archiva-webapp

type filter text

- Resource
- Builders
- Java Build Path
- Java Code Style
- Java Compiler
- Java Editor
- Javadoc Location
- Maven JD T**
- Project References
- Run/Debug Settings
- SVN Info
- Task Tags
- Validation

### Maven JD T

Execute on resource build

- org.apache.maven.plugins:maven-enforcer-plugin:enforce:default
- org.codehaus.plexus:plexus-maven-plugin:descriptor:generate
- org.apache.maven.plugins:maven-remote-resources-plugin:process:default
- org.apache.maven.plugins:maven-antrun-plugin:run:default
- org.apache.maven.plugins:maven-resources-plugin:resources:default
- org.apache.maven.plugins:maven-dependency-plugin:copy:copy

Execute on test resource build

- org.apache.maven.plugins:maven-enforcer-plugin:enforce:default
- org.codehaus.plexus:plexus-maven-plugin:descriptor:generate
- org.apache.maven.plugins:maven-remote-resources-plugin:process:default
- org.apache.maven.plugins:maven-antrun-plugin:run:default
- org.apache.maven.plugins:maven-resources-plugin:resources:default
- org.apache.maven.plugins:maven-dependency-plugin:copy:copy
- org.apache.maven.plugins:maven-compiler-plugin:compile:default
- org.apache.maven.plugins:maven-war-plugin:inplace:default
- org.apache.maven.plugins:maven-resources-plugin:testResources:default

Add/Remove global profiles that will be applied to every maven invocation

Profile Name

Add Edit Delete

Restore Defaults Apply

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# POM editor

Form based editor

Bidirectional synchronization

Preserves XML formatting

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# POM editor

## Form based editor

Maven 2 Basic Information

Basic POM Information | Dependencies | Dependency Management | Properties

Maven 2 Basic Information  
These basic informations act like a coordinate system for Maven projects.

Group Id	<input type="text" value="org.appfuse"/>
Artifact Id	<input type="text" value="appfuse-selenium"/>
Version	<input type="text" value="2.0.2-SNAPSHOT"/>
Packaging	<input type="text" value="war"/>

More Project Information  
Add more project information to this POM.

Name	<input type="text" value="AppFuse Selenium testing"/>
Description	<input type="text" value="Struts 2 Module for AppFuse: includes Struts 2 and Display Tag"/>
URL	<input type="text"/>
Inception Year	<input type="text"/>
Model Version	<input type="text" value="4.0.0"/>



# POM editor

## Form based editor

### Maven 2 Basic Information

Basic POM Information Dependencies **Dependency Management** Properties

#### Dependency Management

Section for management of default dependency information for use in a group of POMs.

Group Id	Artifact Id	Version	Type	Classifier	Scope	SystemPath	Optional
\$(pom.groupId)	appfuse-struts	2.0.2	war				false
\$(pom.groupId)	appfuse-struts	2.0.2	pom				false
org.seleniumhq.selenium	selenium-java-client-driver	1.0-beta			test		false
org.testng	testng	5.8		jdk15	test		false

#### Dependency Exclusions

Contains information required to exclude an artifact from the project.

Group Id	Artifact Id



# POM editor

## Form based editor

Maven 2 Basic Information

Basic POM Information (Dependencies) (Dependency Management) (Properties)

Dependency Management

Section for management of default dependency information for use in a group of POMs.

Group Id	Artifact Id	Version	Type	Classifier	Scope	SystemPath	Optional

Dependency Management Exclusions

Contains information required to exclude an artifact from the project.

Group Id	Artifact Id	



# POM editor

## Form based editor

### Maven 2 Basic Information

Basic POM Information | Dependencies | Dependency Management | **Properties**

#### Properties

Set the properties of this POM.

Key	Value	
cargo.install.directory	\${project.build.directory}/installs	
servlet.port	18880	
selenium.background	true	



# POM editor

## More Project Information

Licenses/Organization Developers Contributors

### Licenses

This element describes all of the licenses for this project.

Name	URL	Distribution	Comment

New ...

Edit

Remove

Basic POM Information

More POM Information

Build Settings

Environment Settings

Source

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# POM editor

Build

Build (Resource) (Test Resource) (Plugins/Plugin Management) (Reporting)

Plugins  
Section for management of default plugin information for use in a group of POMs.

Plugin Management  
Section for management of default plugin information for use in a group of POMs.

Plugin Management

- ▼ Plugins
  - Plugin [ org.appfuse,maven-warpath-plugin,2.0.2 ]
  - Plugin [ org.apache.maven.plugins,maven-compiler-plugin,2.0.2 ]
  - ▼ Plugin [ org.apache.maven.plugins,maven-dependency-plugin,2.0 ]
    - ▼ Execution [ copy-dependencies,process-resources ]
      - Goal [ copy-dependencies ]
  - ▼ Plugin [ org.codehaus.cargo,cargo-maven2-plugin,1.0-beta-2 ]
    - ▼ Execution [ start-container,pre-integration-test ]
      - Goal [ start ]
    - ▼ Execution [ stop-container,post-integration-test ]
      - Goal [ stop ]
  - ▼ Plugin [ org.apache.maven.plugins,maven-surefire-plugin,2.4.3 ]
    - ▼ Execution [ integration-test ]
      - Goal [ test ]
  - ▼ Plugin [ org.codehaus.mojo,selenium-maven-plugin,1.0-rc-1 ]
    - ▼ Execution [ start-selenium,pre-integration-test ]
      - Goal [ start-server ]
  - Plugin [ org.mortbay.jetty,maven-jetty-plugin,6.1.15 ]

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# POM editor

## XML editor

```
*pom.xml
<project xmlns="http://maven.apache.org/POM/4.0.0" xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
  xsi:schemaLocation="http://maven.apache.org/POM/4.0.0 http://maven.apache.org/maven-v4_0_0.xsd">

  <modelVersion>4.0.0</modelVersion>

  <parent>
    <groupId>org.appfuse</groupId>
    <artifactId>appfuse-web</artifactId>
    <version>2.0.2</version>
  </parent>

  <groupId>org.appfuse</groupId>
  <artifactId>appfuse-selenium</artifactId>
  <version>2.0.2-SNAPSHOT</version>
  <packaging>war</packaging>
  <name>AppFuse Selenium testing</name>

  <description>
    Struts 2 Module for AppFuse: includes Struts 2 and
    Display Tag. Include this module in your dependencies if you want to
    use Struts 2 as your web framework. </description>
  <scm>
    <connection>scm:svn:https://appfuse.dev.java.net/svn/appfuse/trunk/web/struts</connection>
    <developerConnection>scm:svn:https://appfuse.dev.java.net/svn/appfuse/trunk/web/struts</developerConnect
    <url>https://appfuse.dev.java.net/source/browse/appfuse/trunk/web/struts</url>
  </scm>

  <nnnnartiac>
```



# Settings Editor

From Eclipse properties

```
*settings.xml
<settings xmlns="http://maven.apache.org/POM/4.0.0" xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
  xsi:schemaLocation="http://maven.apache.org/POM/4.0.0 http://maven.apache.org/xsd/settings-1.0.0.xsd">

  <mirrors>
    <mirror>
      <mirrorOf>central</mirrorOf>
      <url>http://ftp.cica.es/mirrors/maven2</url>
      <id>central-mirror</id>
    </mirror>
  </mirrors>

  <servers>
  </servers>

  <profiles>
  </profiles>

  <activeProfiles>
  </activeProfiles>

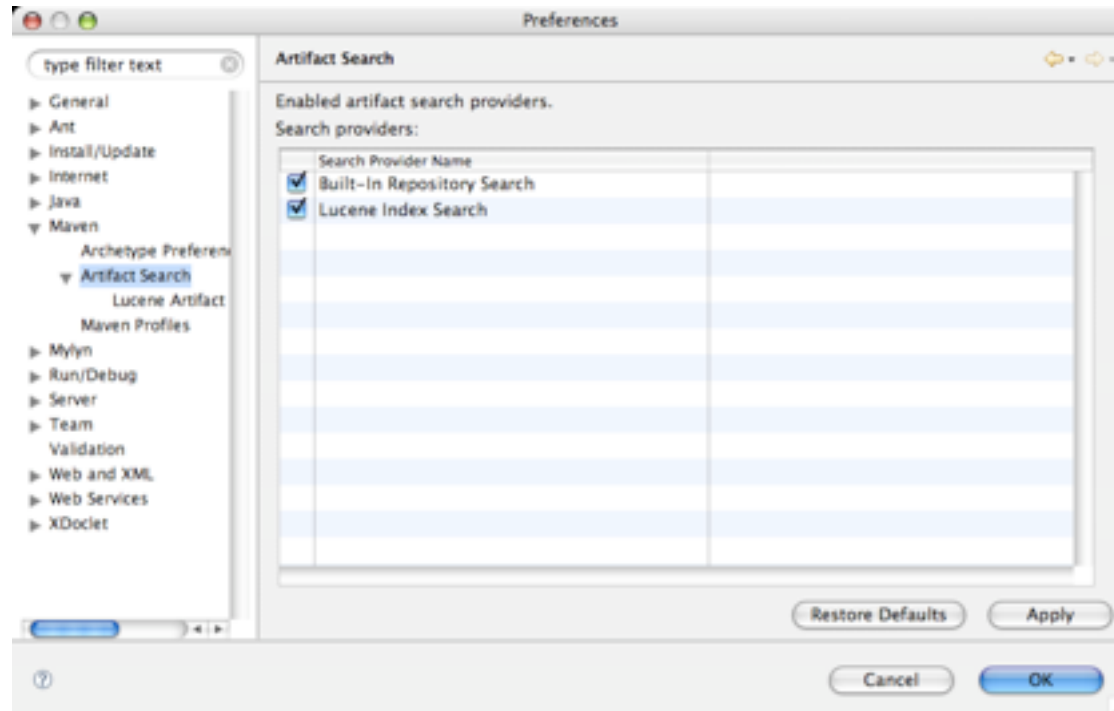
</settings>
```

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# Dependency search

## Search in central repository



# Dependency search

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# Dependency search

Search in

ApacheCon





# Dependency search

Search in

Nexus repository manager

Apache  
Con



# Dependency search

Search in

Nexus repository manager

Apache Archiva repository manager

Apache  
Con



# Dependency search

Search in

Nexus repository manager

Apache Archiva repository manager

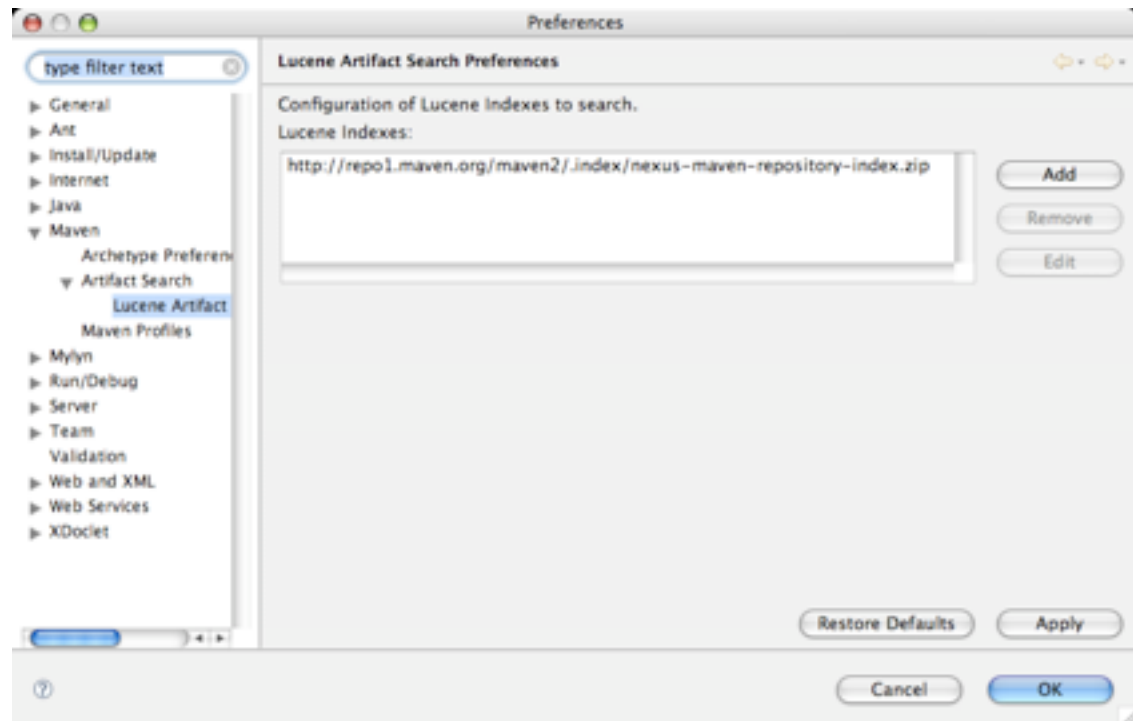
Local repository

Apache  
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# Dependency search

Extension points to plug other providers



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# Dependency management

Project dependencies are hard to keep  
on track

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# Dependency management

Project dependencies are hard to keep on track



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# Dependency management

dependency  
management using  
the POM



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# Dependency management

automatic download  
of dependencies  
and **sources!**



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# Dependency management

Integrates with

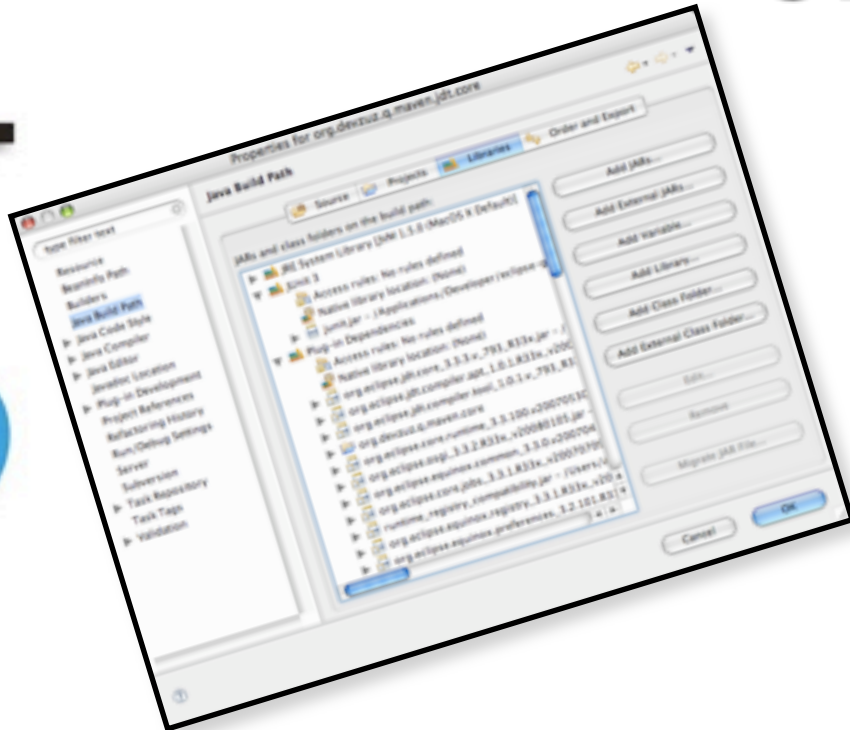
ApacheCon



# Dependency management

Integrates with

**JDT**



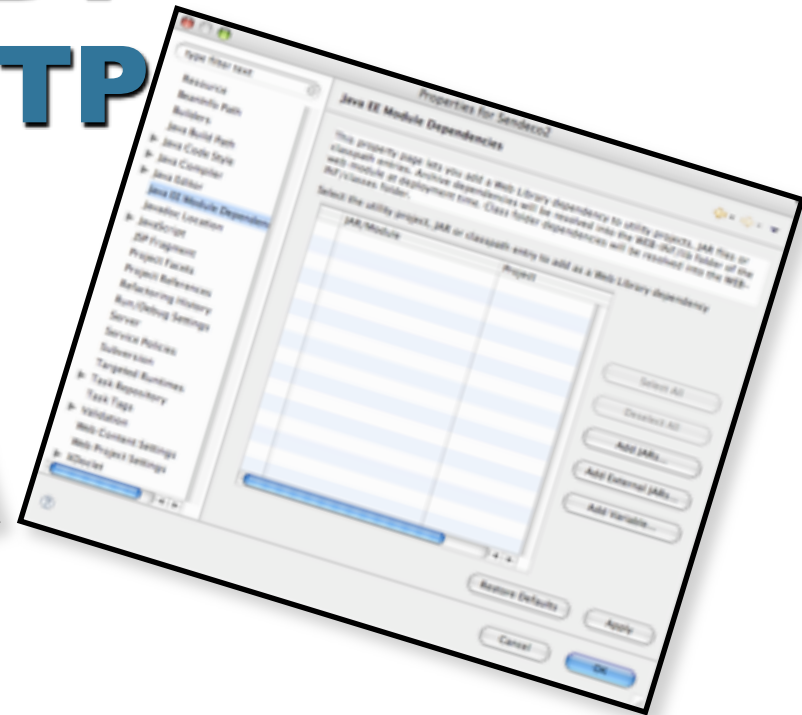
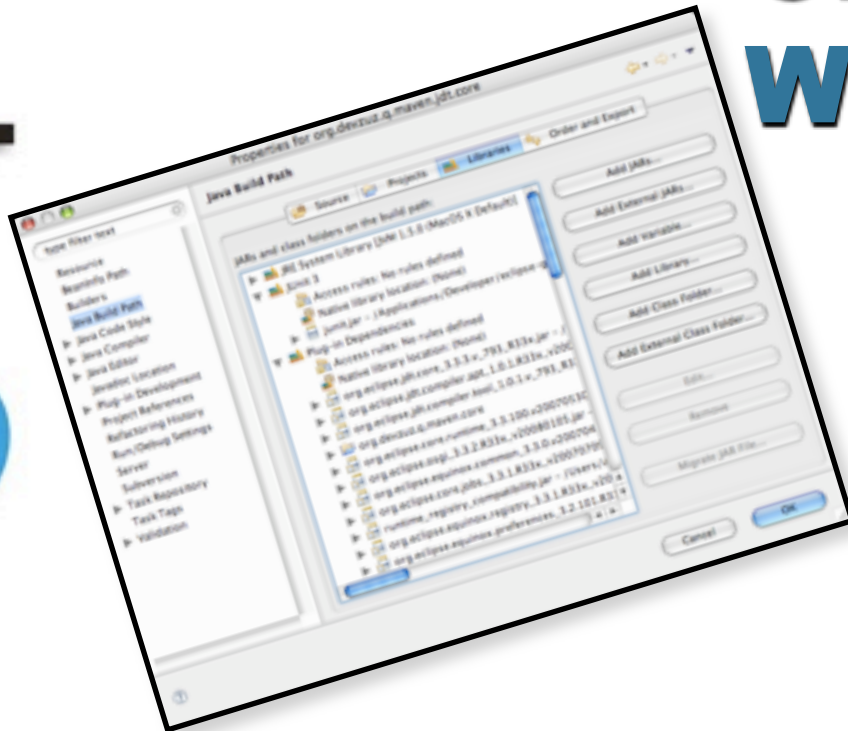
ApacheCon



# Dependency management

Integrates with

**JDT**  
**WTP**



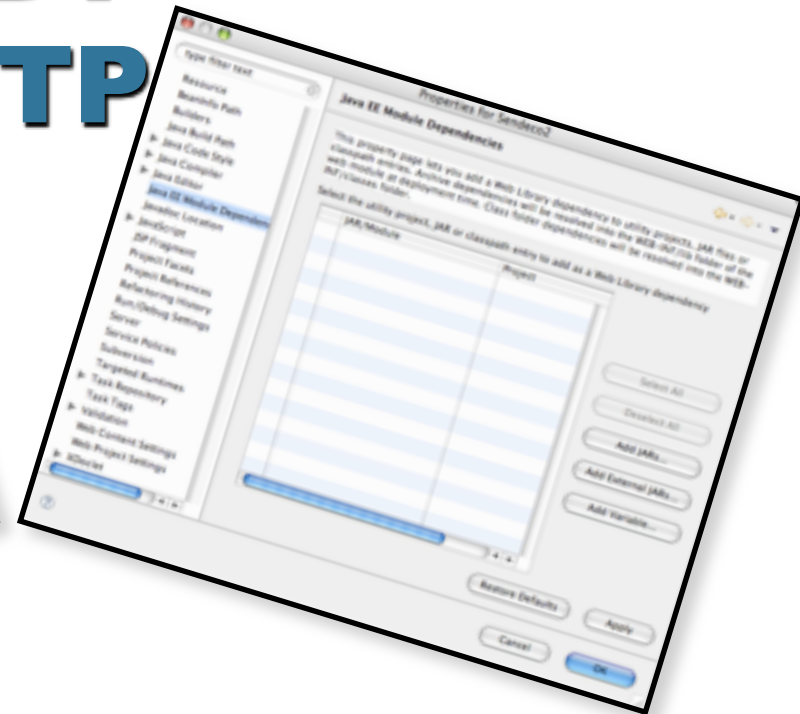
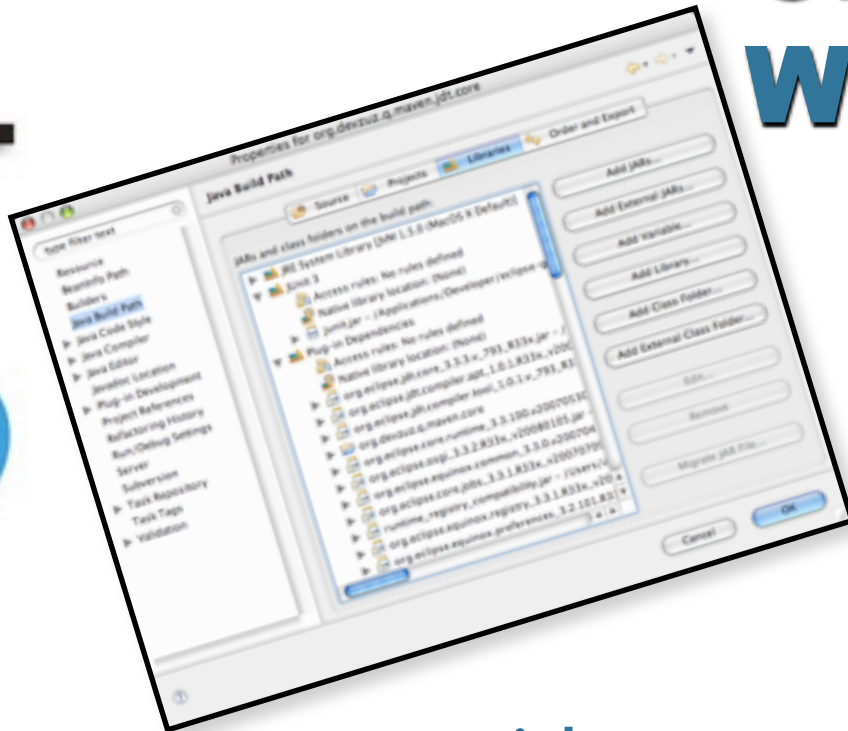
Apache  
CON



# Dependency management

Integrates with

**JDT**  
**WTP**

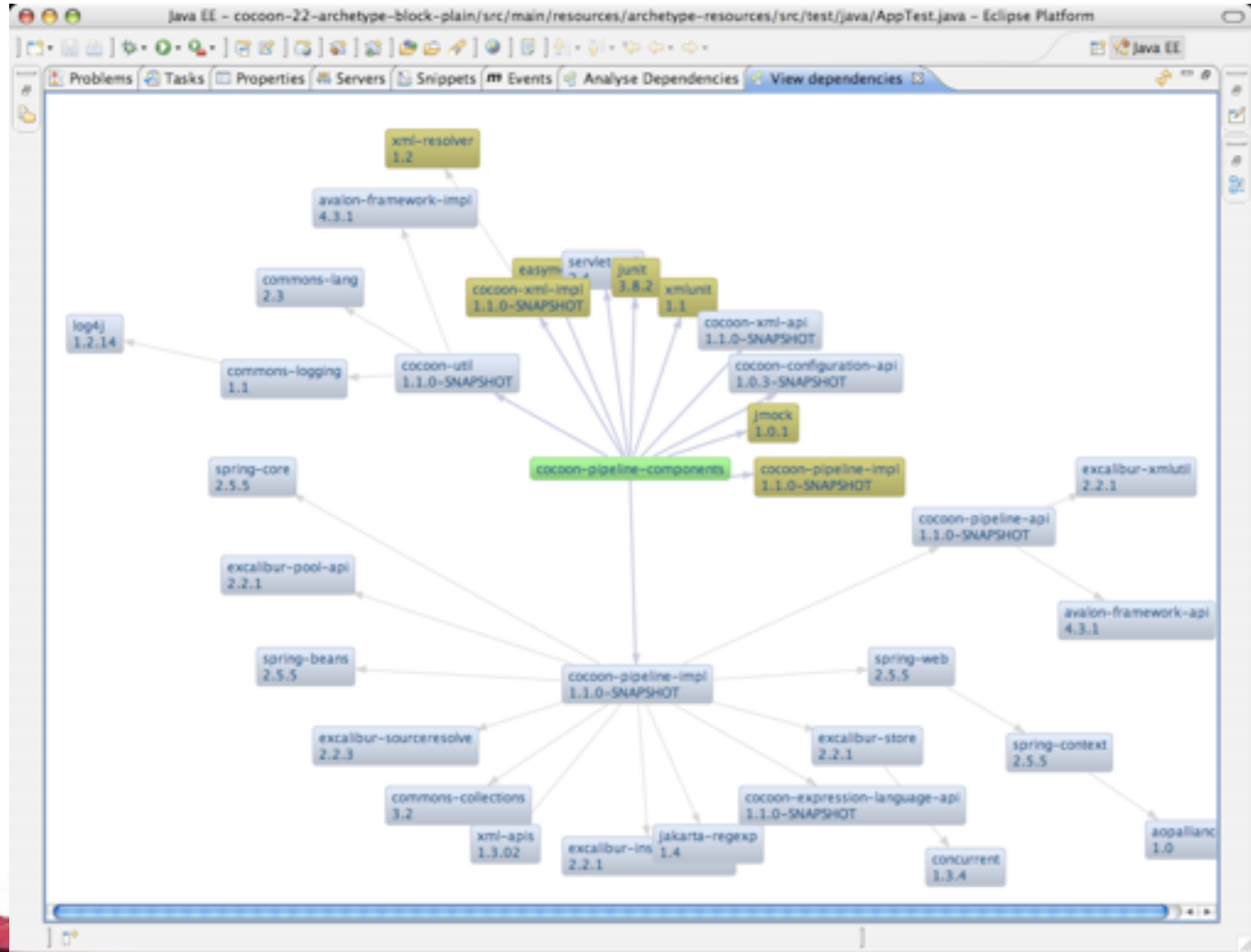


provides transitive dependencies

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# dependency graphing



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# dependency analysis

# Apache Cocoon

Analyse Dependencies

- org.apache.cocoon.cocoon-configuration-api:jar:1.0.3-SNAPSHOT:compile
- org.apache.cocoon.cocoon-pipeline-impl:jar:1.1.0-SNAPSHOT:compile
  - org.apache.cocoon.cocoon-pipeline-api:jar:1.1.0-SNAPSHOT:compile
  - (org.apache.cocoon.cocoon-configuration-api:jar:1.0.3-SNAPSHOT:compile - omitted for duplicate)
  - (org.apache.cocoon.cocoon-util:jar:1.1.0-SNAPSHOT:compile - omitted for duplicate)
  - (org.apache.cocoon.cocoon-xml-api:jar:1.1.0-SNAPSHOT:compile - omitted for duplicate)
  - org.apache.cocoon.cocoon-expression-language-api:jar:1.1.0-SNAPSHOT:compile
  - org.apache.excalibur.components:excalibur-pool-api:jar:2.2.1:compile
    - (org.apache.avalon.framework.avalon-framework-api:jar:4.3.1:compile - omitted for duplicate)
  - org.apache.excalibur.components:excalibur-sourceresolve:jar:2.2.3:compile
  - org.apache.excalibur.components:excalibur-store:jar:2.2.1:compile
  - org.apache.excalibur.containerkit:excalibur-instrument-api:jar:2.2.1:compile
  - commons-collections:commons-collections:jar:3.2:compile
  - jakarta-regexp:jakarta-regexp:jar:1.4:compile
  - org.springframework:spring-beans:jar:2.5.5:compile
  - org.springframework:spring-core:jar:2.5.5:compile
  - org.springframework:spring-web:jar:2.5.5:compile
  - xml-apis:xml-apis:jar:1.3.02:compile
- org.apache.cocoon.cocoon-util:jar:1.1.0-SNAPSHOT:compile
- org.apache.cocoon.cocoon-xml-api:jar:1.1.0-SNAPSHOT:compile
- javax.servlet:servlet-api:jar:2.4:provided
- org.apache.cocoon.cocoon-pipeline-impl-test:jar:tests:1.1.0-SNAPSHOT:test
- org.apache.cocoon.cocoon-xml-impl:jar:1.1.0-SNAPSHOT:test
- xmlunit:xmlunit:jar:1.1:test
- jmock:jmock:jar:1.0.1:test
- junit:junit:jar:3.8.2:test
- easymock:easymock:jar:1.1:test

Group Id	Artifact Id	Version	Inst...ces
concurrent	concurrent	1.3.4	1
easymock	easymock	1.1	1
org.apache.excalibur	excalibur-instrument-api	2.2.1	2
org.apache.excalibur	excalibur-pool-api	2.2.1	2
org.apache.excalibur	excalibur-sourceresolve	2.2.3	4
org.apache.excalibur	excalibur-store	2.2.1	2
org.apache.excalibur	excalibur-xmlutil	2.2.1	1
jakarta-regexp	jakarta-regexp	1.4	3
jmock	jmock	1.0.1	1
junit	junit	3.8.2	3
log4j	log4j	1.2.14	1
javax.servlet	servlet-api	2.4	1
org.springframework	spring-beans	2.5.5	5
org.springframework	spring-context	2.5.5	2
org.springframework	spring-core	2.5.5	6
org.springframework	spring-web	2.5.5	2
xml-apis	xml-apis	1.3.02	3

Group Id	Artifact Id	Versions
org.apache.excalibur	excalibur-instrument-api	1
org.apache.cocoon	cocoon-expression-language-api	1
xml-apis	xml-apis	1
org.apache.excalibur	excalibur-sourceresolve	1
jmock	jmock	1
org.springframework	spring-core	1
concurrent	concurrent	1
org.apache.avalon.framework	avalon-framework-api	1

Exclude All  
Force Version

# Features

modular approach to improve  
reusability by other Eclipse projects

ability to  
import parent projects (pom projects)

ability to cancel Maven builds

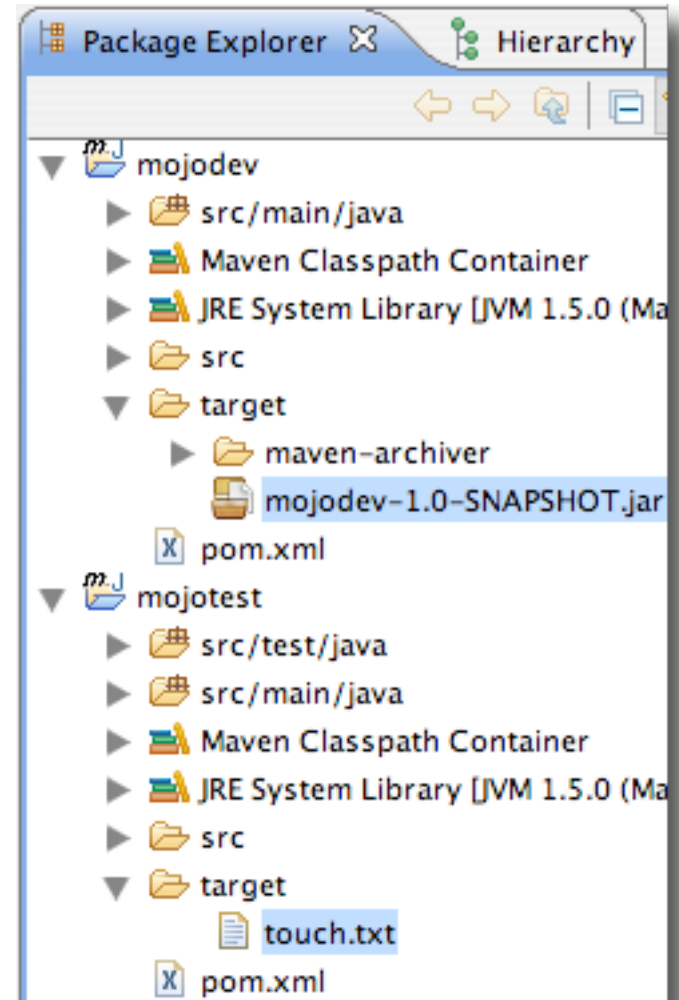
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# Maven Plugin development

plugins can be resolved from the workspace

you can create and debug Maven MOJOs





# Integration with Buckminster

automating build, assemble & deploy

integration with Maven through IAM

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# High activity

10 committers  
7 active

## Q for Eclipse

Main Language: XSL Transformation

Total Lines of Code: 497

Active Developers: 7

Commit Activity Timeline:



Updated 2009-03-19 16:12

more at [ohloh](#)

## Eclipse IAM

Main Language: Java

Total Lines of Code: 73,043

Active Developers: 7

Commit Activity Timeline:



Updated 2009-03-17 03:54

more at [ohloh](#)

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# Known issues



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# Maven Version

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# Maven Version

Maven 2.1

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# Maven Version

~~Maven 2.1~~

now called Maven 3.0

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# Alternatives



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# Maven Eclipse Plugin

`mvn eclipse:eclipse`

command line  
limited functionality

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# m2eclipse

historically different

merging to same set of functionality

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Work in progress



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# Performance

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# ApacheCon

Performance  
Performance  
Performance  
Performance  
Performance  
Performance  
Performance





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# Roadmap

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# Roadmap

Integration with other plugins  
Scala, Candy for Appfuse, SpringIDE,...

UI tooling to work around Maven  
limitations

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G2iX  
.com

maestrodev



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Thanks

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# Picture credits

That was easy!: spackletoe  
Magic!: Kaptain Kobold

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