

# Agile Software Development

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Produced  
by

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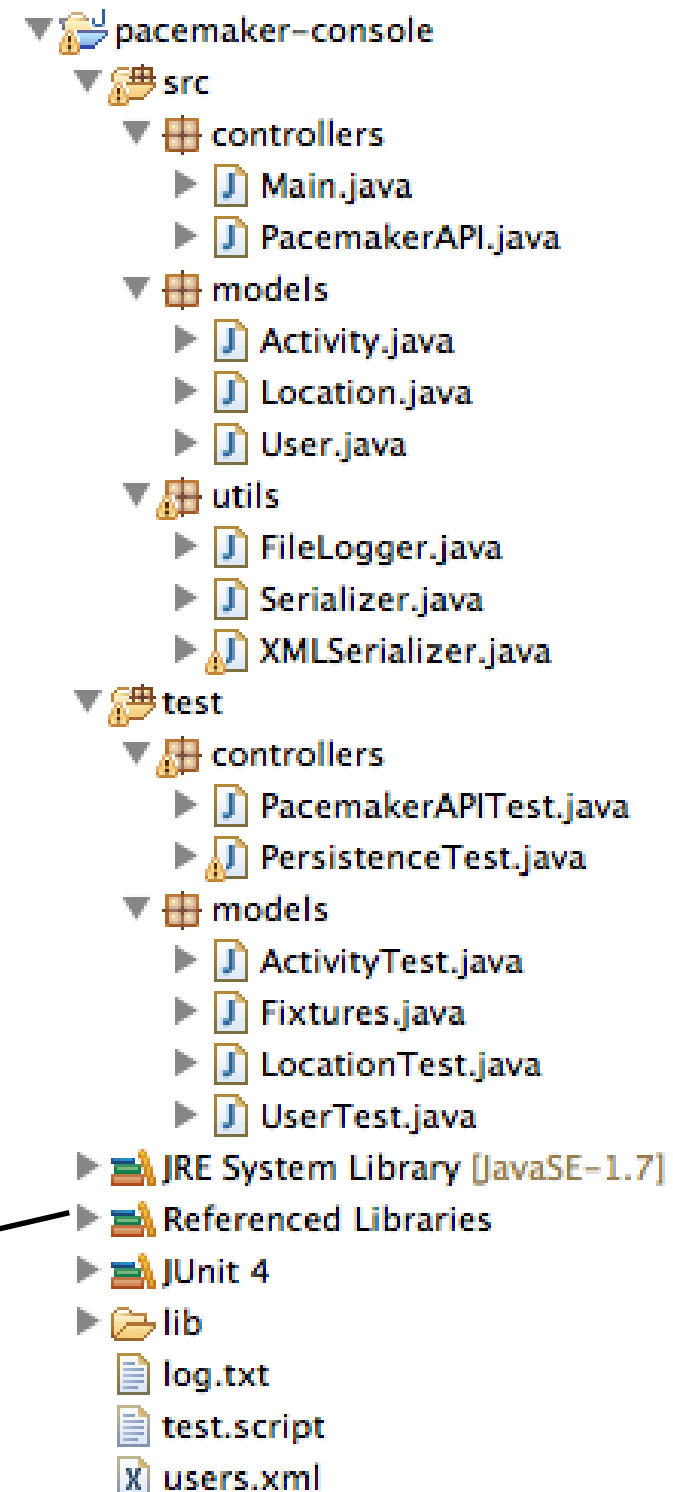
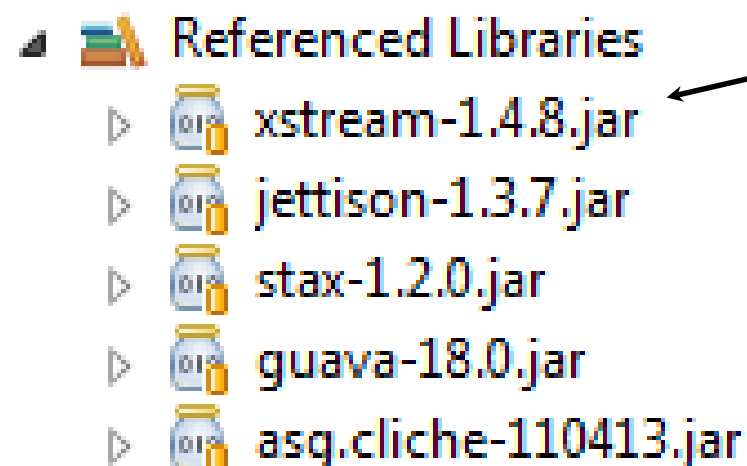


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# pacemaker-console

- Take the pacemaker-console (java) project.
- Note the external dependencies:
  - xstream-1.4.8.jar
  - guava-18.0.jar
  - asg.cliche-11-413.jar



# Project Creation Archetype

- From the command line, execute maven command to create a project skeleton structure:

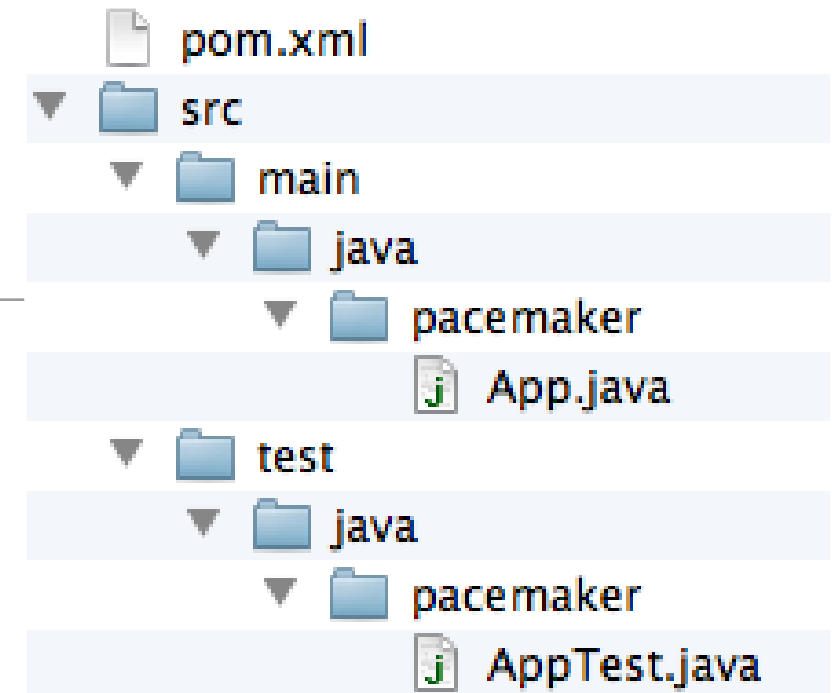
```
mvn archetype:generate -DarchetypeGroupId=org.apache.maven.archetypes
-DarchetypeArtifactId=maven-archetype-quickstart
-DgroupId=pacemaker
-DartifactId=pacemaker-console-maven
```

```
Grendel:Session 9 edeleastar$ mvn archetype:create -DarchetypeGroupId=org.apache.maven.archetypes -D
archetypeArtifactId=maven-archetype-quickstart -DgroupId=msccomm -DartifactId=Pim
[INFO] Scanning for projects...
[INFO] Searching repository for plugin with prefix: 'archetype'.
[INFO] -----
[INFO] Building Maven Default Project
[INFO]   task-segment: [archetype:create] (aggregator-style)
[INFO] -----
[INFO] Setting property: classpath.resource.loader.class => 'org.codehaus.plexus.velocity.ContextCla
ssLoaderResourceLoader'.
[INFO] Setting property: velocimacro.messages.on => 'false'.
[INFO] Setting property: resource.loader => 'classpath'.
[INFO] Setting property: resource.manager.logwhenfound => 'false'.
[INFO] *****
[INFO] Starting Jakarta Velocity v1.4
[INFO] RuntimeInstance initializing.
[INFO] Default Properties File: org/apache/velocity/runtime/defaults/velocity.properties
[INFO] Default ResourceManager initializing. (class org.apache.velocity.runtime.resource.ResourceMan
agerImpl)
[INFO] Resource Loader Instantiated: org.codehaus.plexus.velocity.ContextClassLoaderResourceLoader
[INFO] ClasspathResourceLoader : initialization starting.
[INFO] ClasspathResourceLoader : initialization complete.
[INFO] ResourceCache : initialized. (class org.apache.velocity.runtime.resource.ResourceCacheImpl)
[INFO] Default ResourceManager initialization complete.
[INFO] Loaded System Directive: org.apache.velocity.runtime.directive.Literal
[INFO] Loaded System Directive: org.apache.velocity.runtime.directive.Macro
[INFO] Loaded System Directive: org.apache.velocity.runtime.directive.Parse
[INFO] Loaded System Directive: org.apache.velocity.runtime.directive.Include
[INFO] Loaded System Directive: org.apache.velocity.runtime.directive.Foreach
[INFO] Created: 20 parsers.
[INFO] Velocimacro : initialization starting.
[INFO] Velocimacro : adding VMs from VM library template : VM_global_library.vm
[ERROR] ResourceManager : unable to find resource 'VM_global_library.vm' in any resource loader.
[INFO] Velocimacro : error using 'VM library template 'VM_global_library.vm' from org.apache.velocity
```

```
[INFO] Using following parameters for creating Archetype: maven-archetype-quickstart:RELEASE
[INFO] -----
[INFO] Parameter: groupId, Value: msccomm
[INFO] Parameter: packageName, Value: msccomm
[INFO] Parameter: basedir, Value: /Users/edeleastar/svn/CourseWork/2008/Agile Software Development/s
rc/Session 9
[INFO] Parameter: package, Value: msccomm
[INFO] Parameter: version, Value: 1.0-SNAPSHOT
[INFO] Parameter: artifactId, Value: Pim
[INFO] ***** End of debug info from resources from generated POM *****
****
[INFO] Archetype created in dir: /Users/edeleastar/svn/CourseWork/2008/Agile Software Development/sr
c/Session 9/Pim
[INFO] -----
[INFO] BUILD SUCCESSFUL
[INFO] -----
[INFO] Total time: 2 seconds
[INFO] Finished at: Sat Nov 08 10:46:09 GMT 2008
[INFO] Final Memory: 5M/9M
[INFO] -----
```

# Generated Directory Structure

- The generated directory structure contains two dummy java files that can be discarded
- It also generates a POM, which is the basis for the project dependency structure.



```
<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/xsd/maven-4.0.0.xsd">
  <modelVersion>4.0.0</modelVersion>

  <groupId>pacemaker</groupId>
  <artifactId>pacemaker-console-maven</artifactId>
  <version>1.0-SNAPSHOT</version>
  <packaging>jar</packaging>

  <name>pacemaker-console-maven</name>
  <url>http://maven.apache.org</url>

  <properties>
    <project.build.sourceEncoding>UTF-8</project.build.sourceEncoding>
  </properties>

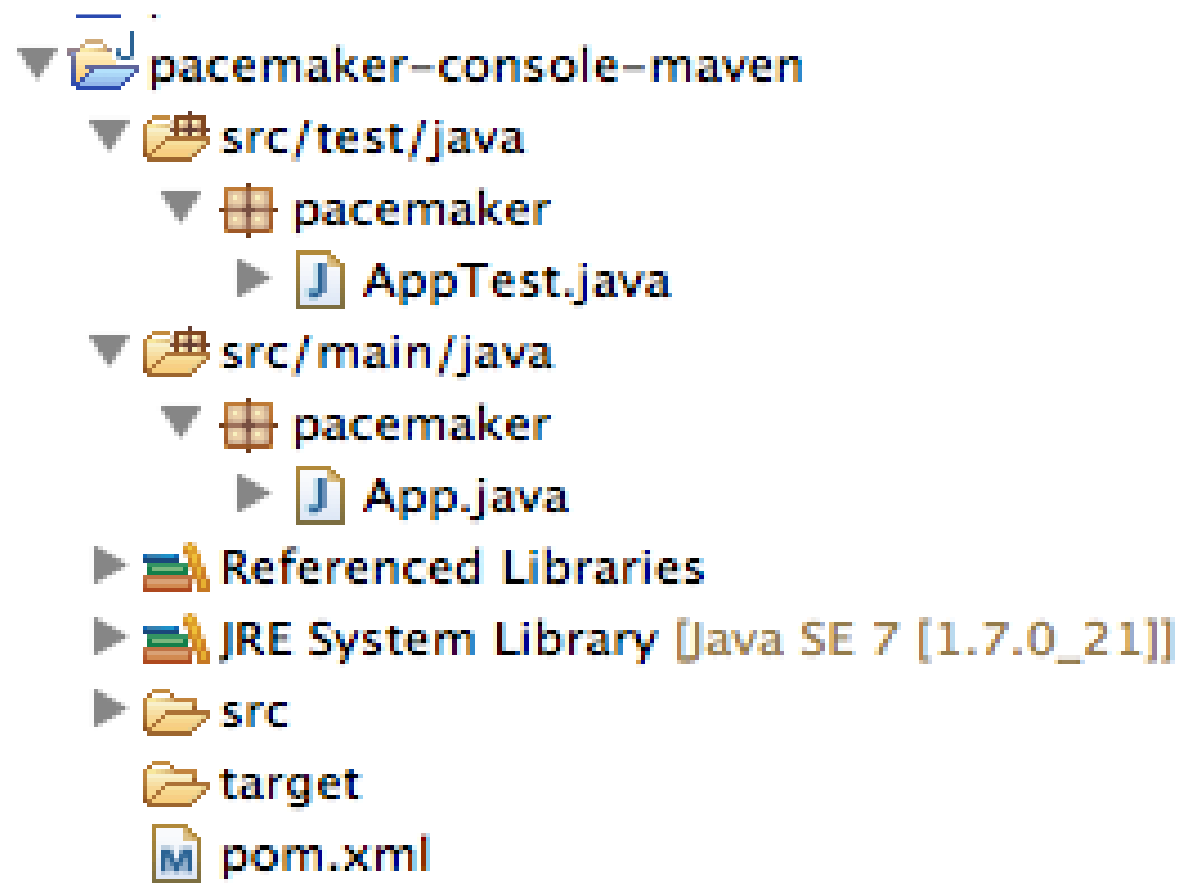
  <dependencies>
    <dependency>
      <groupId>junit</groupId>
      <artifactId>junit</artifactId>
      <version>3.8.1</version>
      <scope>test</scope>
    </dependency>
  </dependencies>
</project>
```

# Generate 'Eclipse' project

---

```
mvn eclipse:eclipse
```

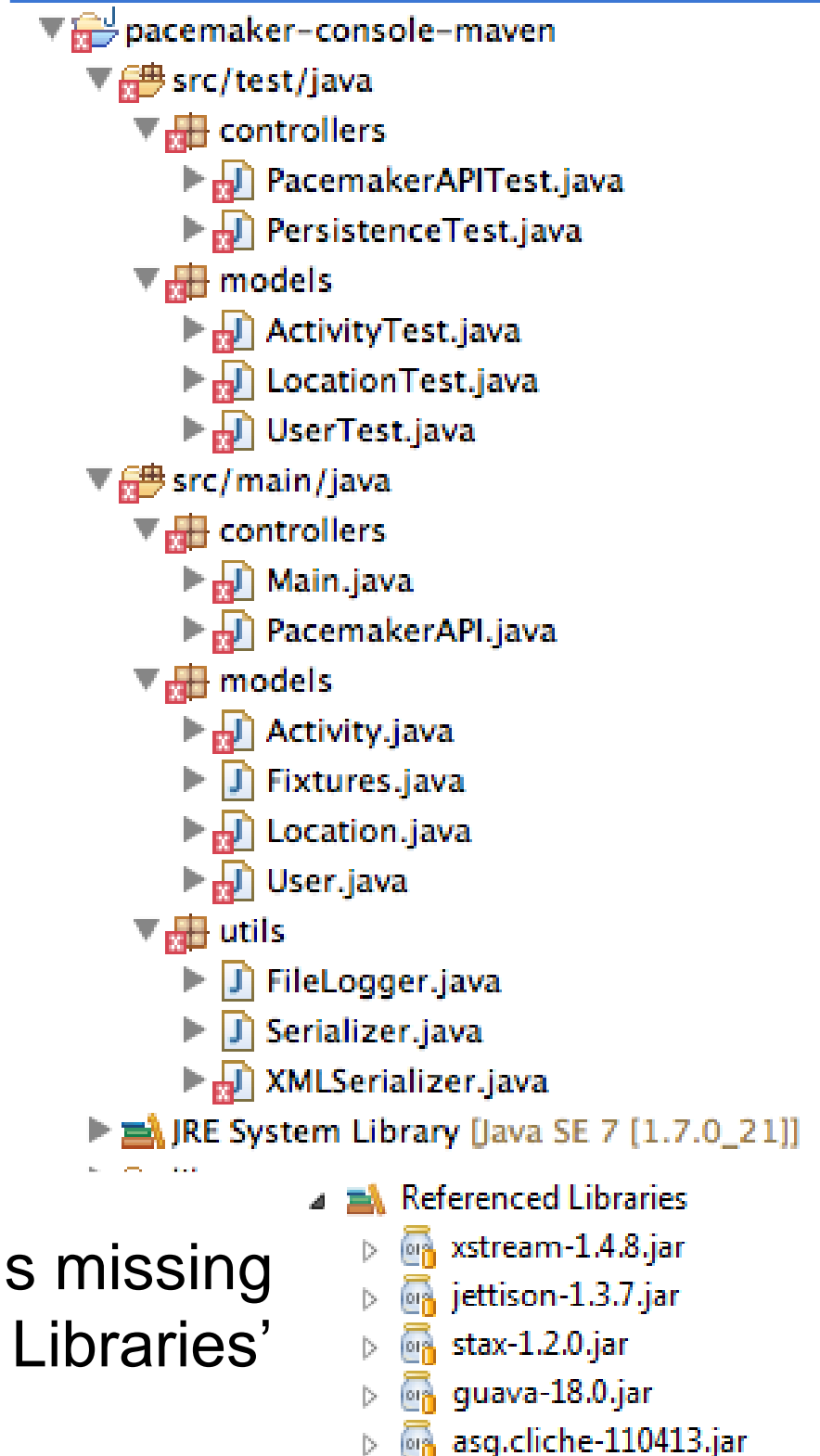
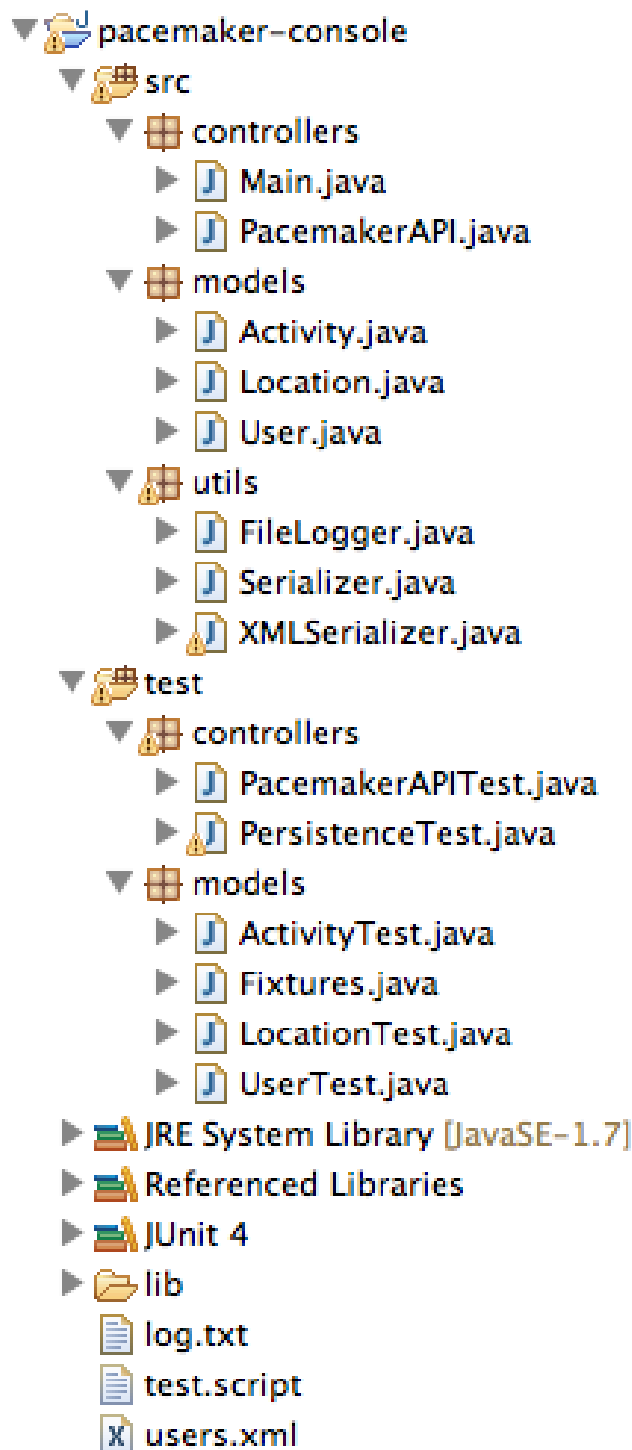
- Generates the '.project' and '.classpath' Eclipse uses to specify project name, structure and dependencies.



- The project can then be 'imported' into eclipse.

# Manipulate the project in eclipse...

- Copy Paste sources from original project into maven generated project.



Reference errors - project is missing  
'Referenced Libraries'

# Default POM

---

```
<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/xsd/maven-4.0.0.xsd">
  <modelVersion>4.0.0</modelVersion>

  <groupId>pacemaker</groupId>
  <artifactId>pacemaker-console-maven</artifactId>
  <version>1.0-SNAPSHOT</version>
  <packaging>jar</packaging>

  <name>pacemaker-console-maven</name>
  <url>http://maven.apache.org</url>

  <properties>
    <project.build.sourceEncoding>UTF-8</project.build.sourceEncoding>
  </properties>

  <dependencies>
    <dependency>
      <groupId>junit</groupId>
      <artifactId>junit</artifactId>
      <version>3.8.1</version>
      <scope>test</scope>
    </dependency>
  </dependencies>
</project>
```

# url + version

```
<version>1.0</version>  
<url>http://www.wit.ie</url>
```

```
<project...>  
  <modelVersion>4.0.0</modelVersion>  
  
  <groupId>pacemaker</groupId>  
  <artifactId>pacemaker-console-maven</artifactId>  
  <version>1.0</version>  
  <packaging>jar</packaging>  
  
  <name>pacemaker-console-maven</name>  
  <url>http://www.wit.ie</url>  
  
  <properties>  
    <project.build.sourceEncoding>UTF-8</project.build.sourceEncoding>  
  </properties>  
  
  <dependencies>  
    <dependency>  
      <groupId>junit</groupId>  
      <artifactId>junit</artifactId>  
      <version>3.8.1</version>  
      <scope>test</scope>  
    </dependency>  
  </dependencies>  
</project>
```



# Java 8 Support + 'rev' Junit to 4.11

---

```
<properties>  
  <project.build.sourceEncoding>UTF-8</project.build.sourceEncoding>  
  <maven.compiler.source>1.8</maven.compiler.source>  
  <maven.compiler.target>1.8</maven.compiler.target>  
</properties>
```

```
<dependency>  
  <groupId>junit</groupId>  
  <artifactId>junit</artifactId>  
  <version>4.11</version>  
  <scope>test</scope>  
</dependency>
```

<project ...>

<groupId>pacemaker</groupId>

<artifactId>pacemaker-console-maven</artifactId>

<version>1.0</version>

<packaging>jar</packaging>

<name>pacemaker-console-maven</name>

<url>http://www.wit.ie</url>

<properties>

<project.build.sourceEncoding>UTF-8</project.build.sourceEncoding>

<maven.compiler.source>1.8</maven.compiler.source>

<maven.compiler.target>1.8</maven.compiler.target>

</properties>

<dependencies>

<dependency>

<groupId>junit</groupId>

<artifactId>junit</artifactId>

<version>4.11</version>

<scope>test</scope>

</dependency>

</dependencies>

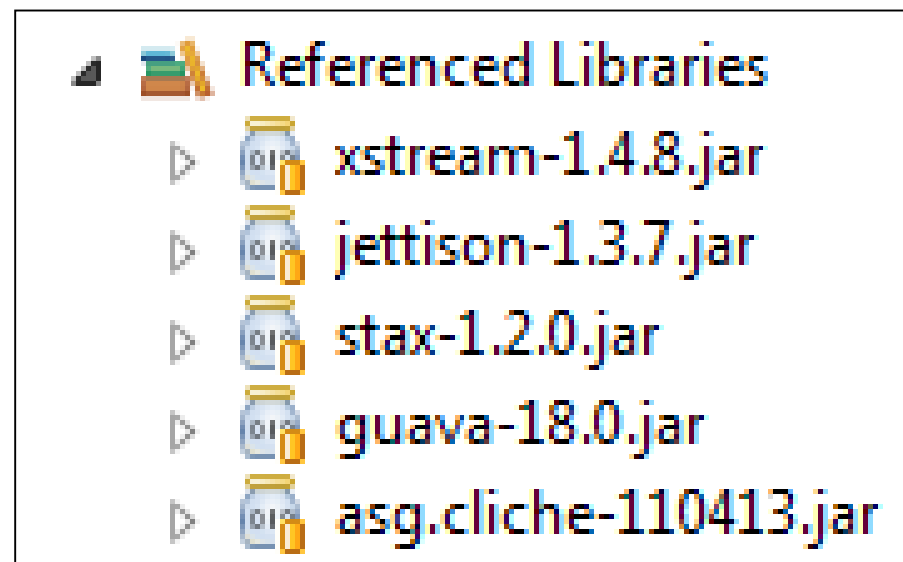
</project>

Java 8 Support +  
'rev' Junit to 4.11

# Dependencies

---

- JUnit installed.
- Need to incorporate:
  - guava
  - xstream
- and also
  - asg.cliche
- what about
  - hamcrest-core?



- Well supported, maintained components:
  - xstream, guava
- abandoned, legacy?
  - asg.cliche
- Downstream dependency of junit
  - hamcrest-core



# Dependency entries

```
<dependencies>

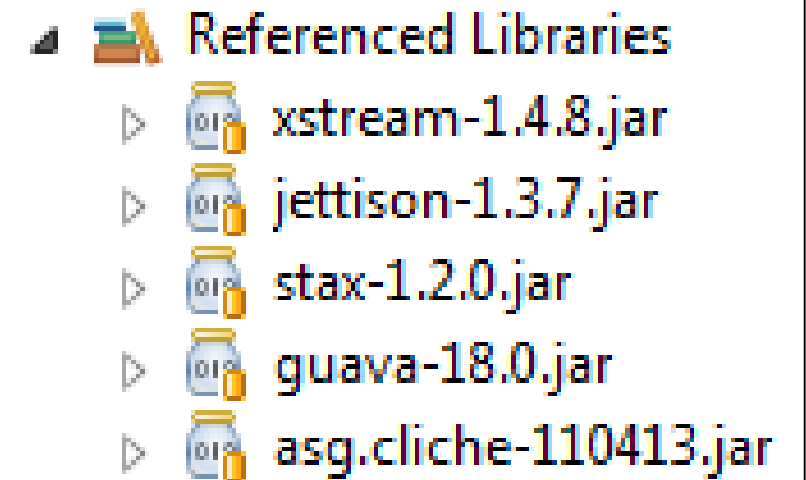
<dependency>
  <groupId>junit</groupId>
  <artifactId>junit</artifactId>
  <version>4.11</version>
  <scope>test</scope>
</dependency>

<dependency>
  <groupId>com.google.guava</groupId>
  <artifactId>guava</artifactId>
  <version>18.0</version>
</dependency>

<dependency>
  <groupId>com.thoughtworks.xstream</groupId>
  <artifactId>xstream</artifactId>
  <version>1.4.8</version>
</dependency>

<dependency>
  <groupId>asg-cliche</groupId>
  <artifactId>asg-cliche</artifactId>
  <version>1.0</version>
</dependency>

</dependencies>
```



- Junit
- guava
- xstream
- asg.cliche

JUnit 'depends on' hamcrest', and including JUnit will automatically incorporate hamcrest into build

```

<project ...>
  <groupId>pacemaker</groupId>
  <artifactId>pacemaker-console-maven</artifactId>
  <version>1.0</version>
  <packaging>jar</packaging>

  <name>pacemaker-console-maven</name>
  <url>http://www.wit.ie</url>

  <properties>
    <project.build.sourceEncoding>UTF-8</project.build.sourceEncoding>
    <maven.compiler.source>1.8</maven.compiler.source>
    <maven.compiler.target>1.8</maven.compiler.target>
  </properties>

  <dependencies>
    <dependency>
      <groupId>junit</groupId>
      <artifactId>junit</artifactId>
      <version>4.11</version>
      <scope>test</scope>
    </dependency>

    <dependency>
      <groupId>com.google.guava</groupId>
      <artifactId>guava</artifactId>
      <version>18.0</version>
    </dependency>

    <dependency>
      <groupId>com.thoughtworks.xstream</groupId>
      <artifactId>xstream</artifactId>
      <version>1.4.8</version>
    </dependency>

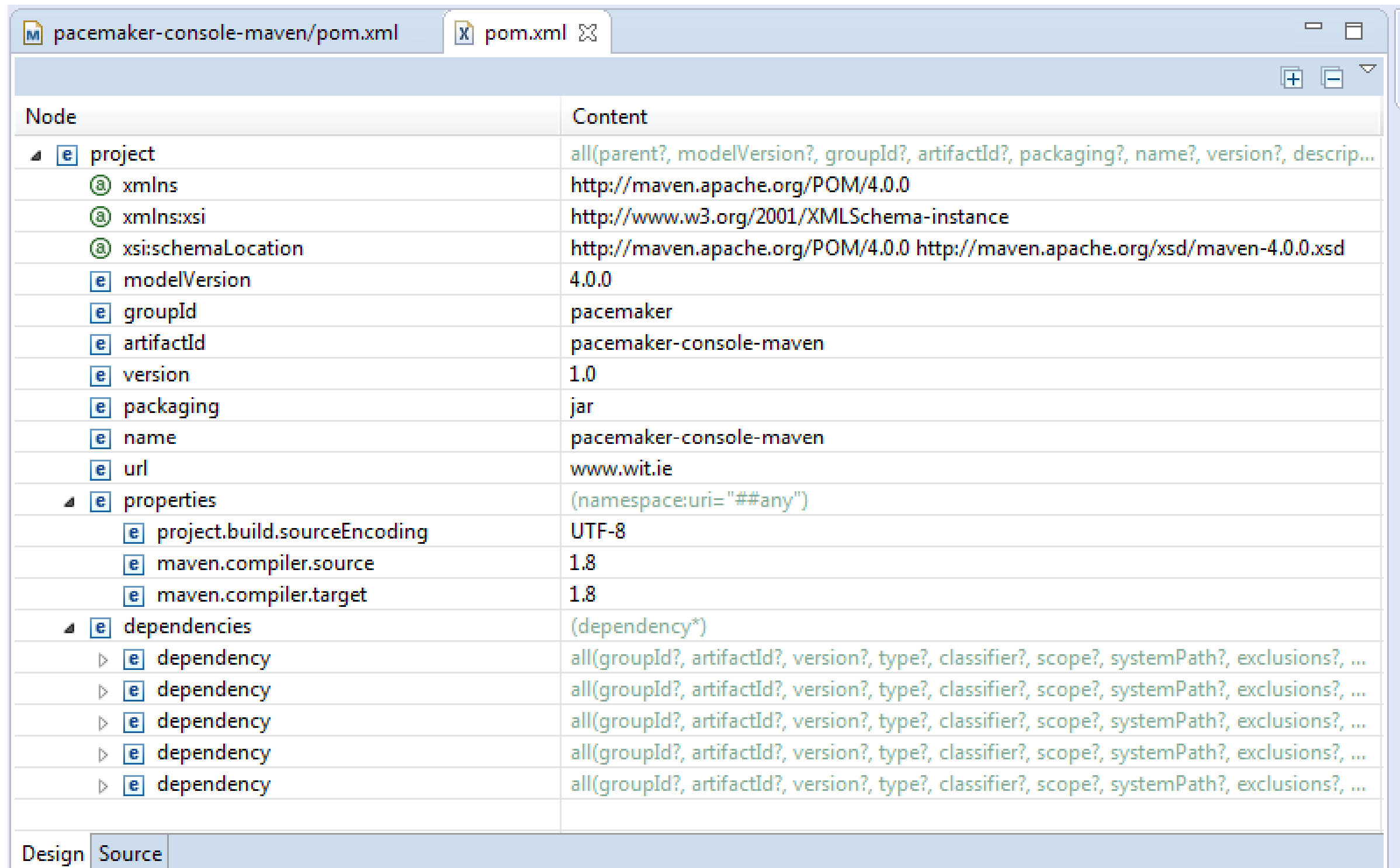
    <dependency>
      <groupId>asg-cliche</groupId>
      <artifactId>asg-cliche</artifactId>
      <version>1.0</version>
    </dependency>
  </dependencies>
</project>

```

# Complete POM

- Project identifiers
- Project version
- Language version
- Dependencies

# Design View (Eclipse XML Editor)



The screenshot shows the Eclipse XML Editor in Design View. The top toolbar includes icons for adding (+), removing (-), and navigating (down arrow). The table below lists the XML nodes and their content.

Node	Content
▲ [e] project	all(parent?, modelVersion?, groupId?, artifactId?, packaging?, name?, version?, descrip...
[a] xmlns	http://maven.apache.org/POM/4.0.0
[a] xmlns:xsi	http://www.w3.org/2001/XMLSchema-instance
[a] xsi:schemaLocation	http://maven.apache.org/POM/4.0.0 http://maven.apache.org/xsd/maven-4.0.0.xsd
[e] modelVersion	4.0.0
[e] groupId	pacemaker
[e] artifactId	pacemaker-console-maven
[e] version	1.0
[e] packaging	jar
[e] name	pacemaker-console-maven
[e] url	www.wit.ie
▲ [e] properties	(namespace:uri="##any")
[e] project.build.sourceEncoding	UTF-8
[e] maven.compiler.source	1.8
[e] maven.compiler.target	1.8
▲ [e] dependencies	(dependency*)
▷ [e] dependency	all(groupId?, artifactId?, version?, type?, classifier?, scope?, systemPath?, exclusions?, ...
▷ [e] dependency	all(groupId?, artifactId?, version?, type?, classifier?, scope?, systemPath?, exclusions?, ...
▷ [e] dependency	all(groupId?, artifactId?, version?, type?, classifier?, scope?, systemPath?, exclusions?, ...
▷ [e] dependency	all(groupId?, artifactId?, version?, type?, classifier?, scope?, systemPath?, exclusions?, ...
▷ [e] dependency	all(groupId?, artifactId?, version?, type?, classifier?, scope?, systemPath?, exclusions?, ...

Design Source

# Eclipse Maven Support (via Maven plugin)

The screenshot displays the Eclipse IDE's Maven Overview view. The top toolbar shows icons for refreshing, saving, and opening a file. The main area is divided into several sections:

- Artifact**: Fields for Group Id (pacemaker), Artifact Id (\* pacemaker-console-maven), Version (1.0), and Packaging (jar).
- Parent**: A section with icons for adding and removing parent projects.
- Properties**: A list of properties including `project.build.sourceEncoding : UTF-8`, `maven.compiler.source : 1.8`, and `maven.compiler.target : 1.8`. Buttons for 'Create...' and 'Remove' are present.
- Modules**: A section with a 'New module element' button.
- Project**: Fields for Name (pacemaker-console-maven), URL (www.wit.ie), and Description (empty text area).
- Inception**: A field for the inception date.
- Organization**, **SCM**, **Issue Management**, and **Continuous Integration**: Collapsible sections for additional project metadata.

The bottom of the window features a tabbed interface with the following tabs: Overview, Dependencies, Dependency Hierarchy, Effective POM, pom.xml, and a blank tab.

# Dependency Hierarchy

- Shows 'implicit' dependencies:
  - Hamcrest (for JUnit),
  - xmlpull, xpp3\_min (parsing engine)

The screenshot displays the Maven IDE interface for the project 'pacemaker-console-maven'. The 'pom.xml' file is open, and the 'Dependency Hierarchy [test]' view is active. This view shows a tree of dependencies, including 'junit : 4.11 [test]', 'hamcrest-core : 1.3 [test]', 'guava : 18.0 [compile]', 'xstream : 1.4.8 [compile]', 'xmlpull : 1.1.3.1 [compile]', 'xpp3\_min : 1.1.4c [compile]', 'asg-cliche : 1.0 [compile]', and 'joda-time : 2.3 [compile]'. The 'Resolved Dependencies' view on the right lists the same dependencies in a flat list. The bottom of the IDE shows a tabbed interface with 'Overview', 'Dependencies', 'Dependency Hierarchy', 'Effective POM', and 'pom.xml'.

pacemaker-console-maven/pom.xml pom.xml

**Dependency Hierarchy [test]** Filter:

**Dependency Hierarchy**

- junit : 4.11 [test]
  - hamcrest-core : 1.3 [test]
- guava : 18.0 [compile]
- xstream : 1.4.8 [compile]
  - xmlpull : 1.1.3.1 [compile]
  - xpp3\_min : 1.1.4c [compile]
- asg-cliche : 1.0 [compile]
- joda-time : 2.3 [compile]

**Resolved Dependencies**

- asg-cliche : 1.0 [compile]
- guava : 18.0 [compile]
- hamcrest-core : 1.3 [test]
- joda-time : 2.3 [compile]
- junit : 4.11 [test]
- xmlpull : 1.1.3.1 [compile]
- xpp3\_min : 1.1.4c [compile]
- xstream : 1.4.8 [compile]

Overview Dependencies **Dependency Hierarchy** Effective POM pom.xml



# Supported Libraries

- junit, guava and xstream are all under active development.
- Latest versions are deposited in public maven repositories.

mvnrepository.com/artifact/xstream/xstream

**MVNREPOSITORY**


Search by group, artifact or description.  
E.g: log4j, spring, hibernate

home » xstream » xstream

**Repository**

- Plugins
- Tag Cloud

**Artifacts/Jars**



555k  
277k  
0  
2004 2013  
Artifacts/Year

**Popular Tags**

ajax analysis annotations ant apache api archetype aspect asynchronously beans binding bpm build buildsystem bytecode cache cms codecoverage codehaus collections concurrency container database directory distributed doc eclipse ejb esb format framework graph graphics hadoop hibernate html http ide imap io jbi jdbc jdo jini jms jmx jndi jsf jsp language logging mail maven metadata microsoft mock net osgi parser pdf persistence plugin pool portal portlet query regexp rmi rpc rss ruleengine

**Available versions**

Version	Type	Download
<a href="#">1.2.2</a>	release	<a href="#">Binary</a> (0 bytes)
<a href="#">1.2.1</a>	release	<a href="#">Binary</a> (0 bytes)
<a href="#">1.2</a>	release	<a href="#">Binary</a> (335 KB)
<a href="#">1.1.3</a>	release	<a href="#">Binary</a> (256 KB)
<a href="#">1.1.2</a>	release	<a href="#">Binary</a> (242 KB)
<a href="#">1.1.1</a>	release	<a href="#">Binary</a> (219 KB)
<a href="#">1.1</a>	release	<a href="#">Binary</a> (195 KB)
<a href="#">1.0.2</a>	release	<a href="#">Binary</a> (110 KB)
<a href="#">1.0.1</a>	release	<a href="#">Binary</a> (99 KB)
<a href="#">1.0</a>	release	<a href="#">Binary</a> (93 KB)
<a href="#">1.0-rc1</a>	release candidate	<a href="#">Binary</a> (91 KB)
<a href="#">0.6</a>	release	<a href="#">Binary</a> (84 KB)
<a href="#">0.6-rc1</a>	release candidate	<a href="#">Binary</a> (81 KB)
<a href="#">0.5</a>	release	<a href="#">Binary</a> (78 KB)
<a href="#">0.4</a>	release	<a href="#">Binary</a> (66 KB)
<a href="#">0.3</a>	release	<a href="#">Binary</a> (58 KB)
<a href="#">0.2</a>	release	<a href="#">Binary</a> (57 KB)
<a href="#">0.1</a>	release	<a href="#">Binary</a> (52 KB)

**Stats**

Size Growth

344 KB

# Unsupported Libraries

---

- asg-cliche is not under active development, and is not in any public maven repo.
- To keep our build consistent, we install asg-cliche in our local repo:

```
mvn install:install-file
  -Dfile=asg-cliche-1.0.jar
  -DgroupId=asg-cliche
  -DartifactId=asg-cliche
  -Dversion=1.0
  -Dpackaging=jar
```

- Our maven build will find it locally, and resolve to that version without searching further.

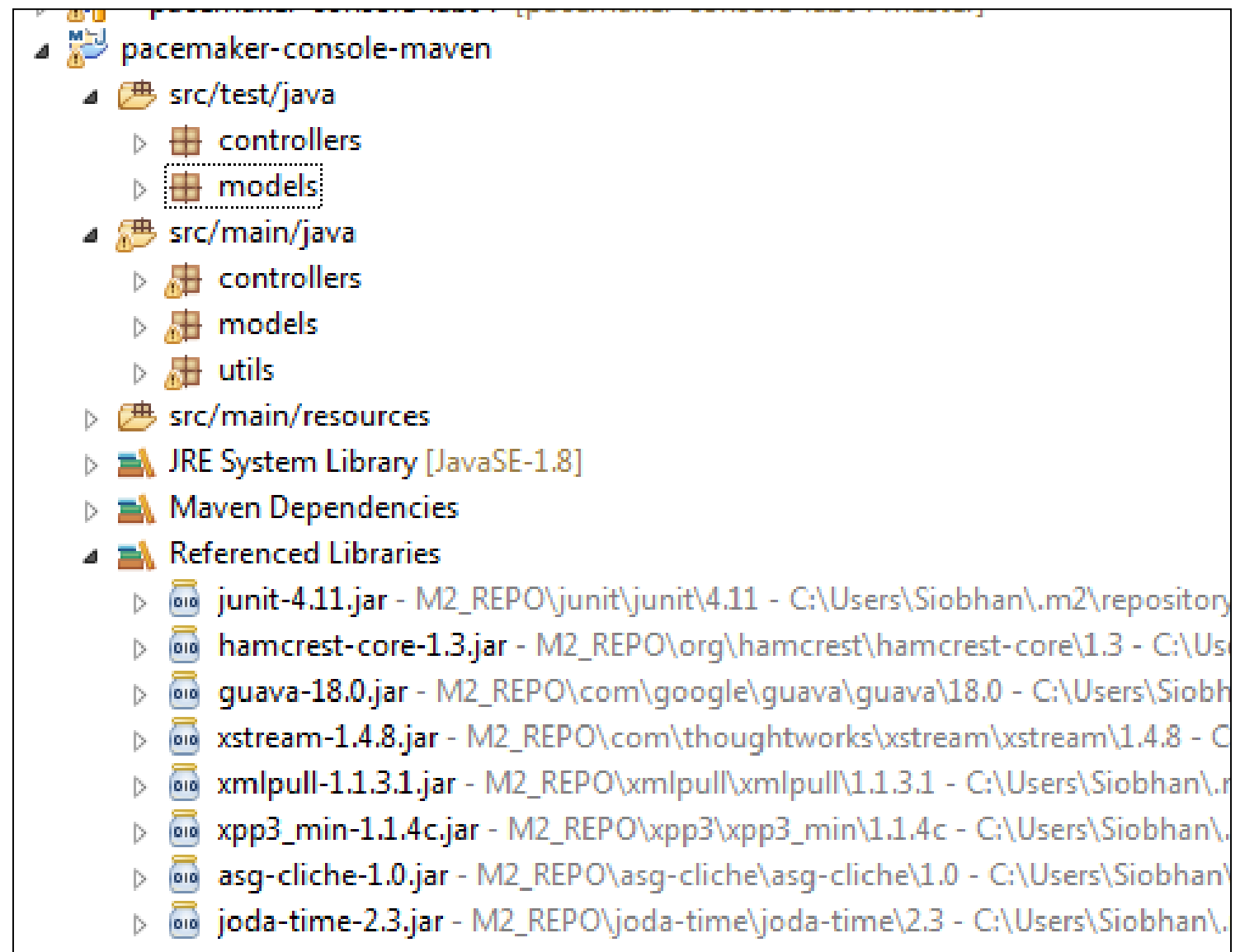
# Regenerate Eclipse Version

---

- On command line, instruct maven to refresh the eclipse project

```
mvn eclipse:eclipse
```

This will now include dependancies,  
including inferred upstream  
dependencies



# Maven Lifecycles

---

- Maven is based around the central concept of a build lifecycle - a clearly defined process for building and distributing a particular artifact.
- Only necessary to learn a small set of commands to build any Maven project, and the POM will ensure correct execution.
- There are three built-in build lifecycles:
  - **default:** handles your project deployment.
  - **clean:** handles project re-initialization/clean up.
  - **site:** handles the creation of the project's documentation.

# Maven Default Lifecycle

---

- Each of these build lifecycles is defined by a different list of build phases, wherein a build phase represents a stage in the lifecycle.
- For example, the default lifecycle has the following build phases (for a complete list of the build phases, refer to the Lifecycle Reference):
  - validate
  - compile
  - test
  - package
  - integration-test
  - verify
  - install
  - deploy

# pacemaker

---

The build phases we will look at:

- Validate
- Compile
- Test
- Package
- Install

```
<project ...>
  <groupId>pacemaker</groupId>
  <artifactId>pacemaker-console-maven</artifactId>
  <version>1.0</version>
  <packaging>jar</packaging>

  <name>pacemaker-console-maven</name>
  <url>http://www.wit.ie</url>

  <properties>
    <project.build.sourceEncoding>UTF-8</project.build.sourceEncoding>
    <maven.compiler.source>1.7</maven.compiler.source>
    <maven.compiler.target>1.7</maven.compiler.target>
  </properties>

  <dependencies>
    <dependency>
      <groupId>junit</groupId>
      <artifactId>junit</artifactId>
      <version>4.11</version>
      <scope>test</scope>
    </dependency>

    <dependency>
      <groupId>com.google.guava</groupId>
      <artifactId>guava</artifactId>
      <version>15.0</version>
    </dependency>

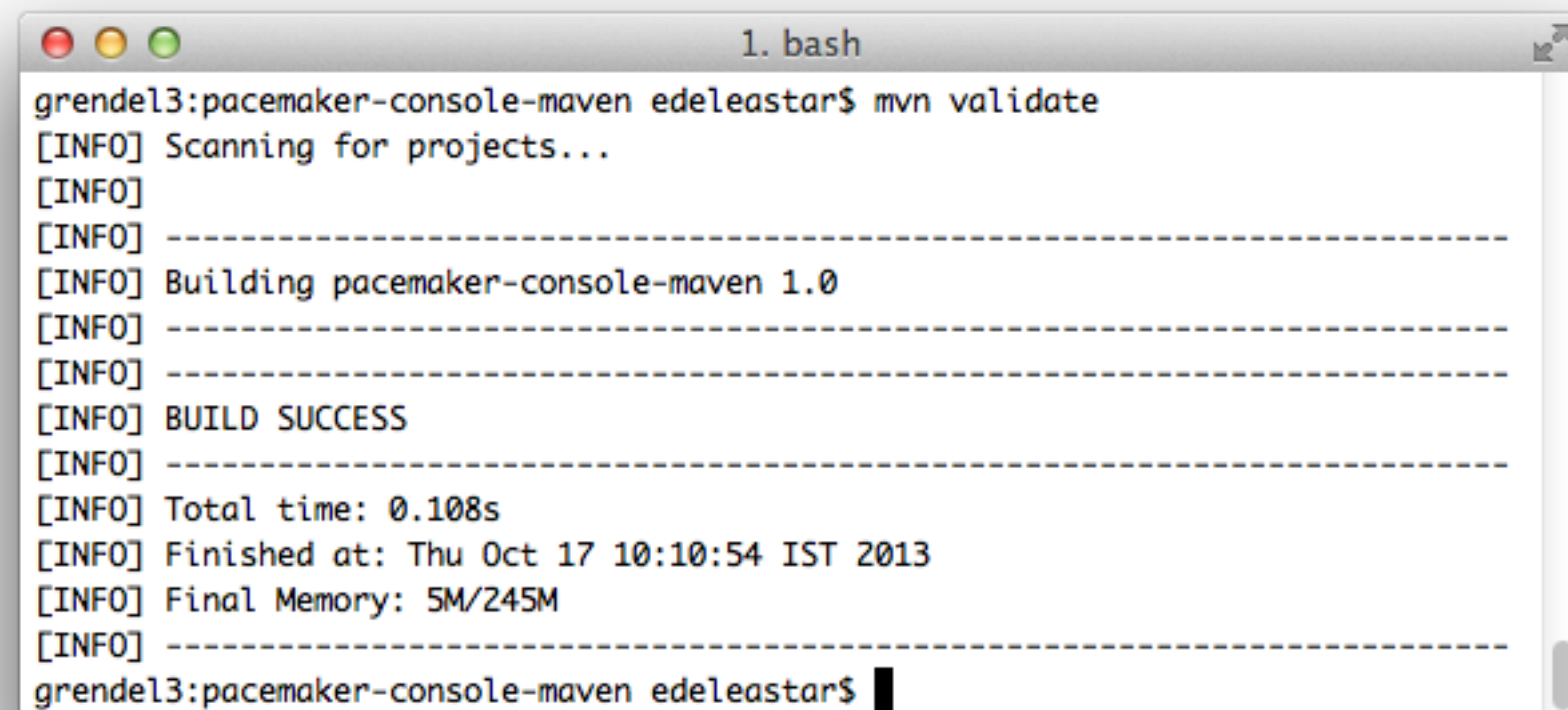
    <dependency>
      <groupId>com.thoughtworks.xstream</groupId>
      <artifactId>xstream</artifactId>
      <version>1.4.4</version>
    </dependency>

    <dependency>
      <groupId>asg-cliche</groupId>
      <artifactId>asg-cliche</artifactId>
      <version>1.0</version>
    </dependency>
  </dependencies>
</project>
```

# Build phase: validate

---

- Validate the project is correct and all necessary information is available

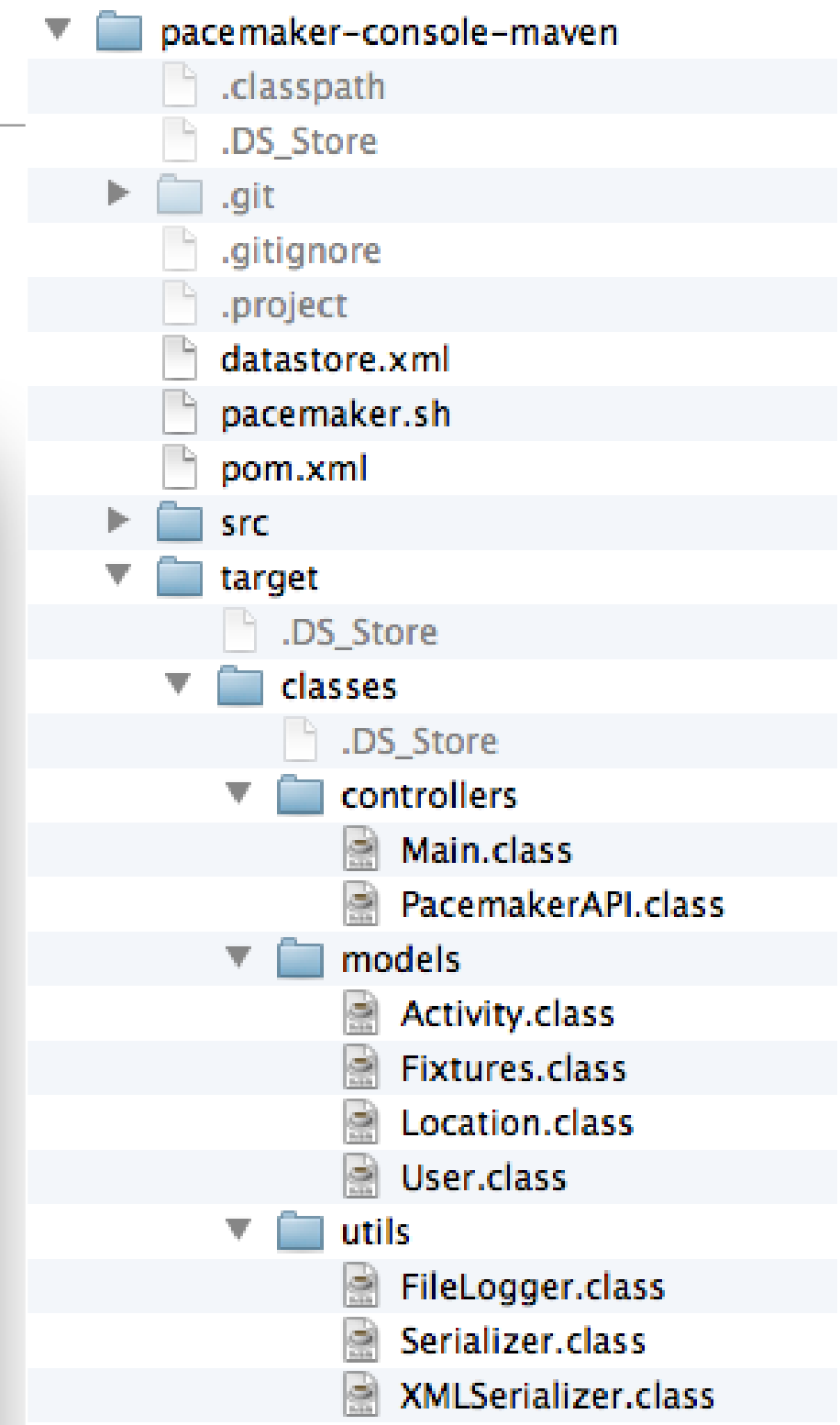


```
1. bash
grendel3:pacemaker-console-maven edeleastar$ mvn validate
[INFO] Scanning for projects...
[INFO]
[INFO] -----
[INFO] Building pacemaker-console-maven 1.0
[INFO] -----
[INFO] -----
[INFO] BUILD SUCCESS
[INFO] -----
[INFO] Total time: 0.108s
[INFO] Finished at: Thu Oct 17 10:10:54 IST 2013
[INFO] Final Memory: 5M/245M
[INFO] -----
grendel3:pacemaker-console-maven edeleastar$
```

# Build phase: compile

- compile the source code of the project

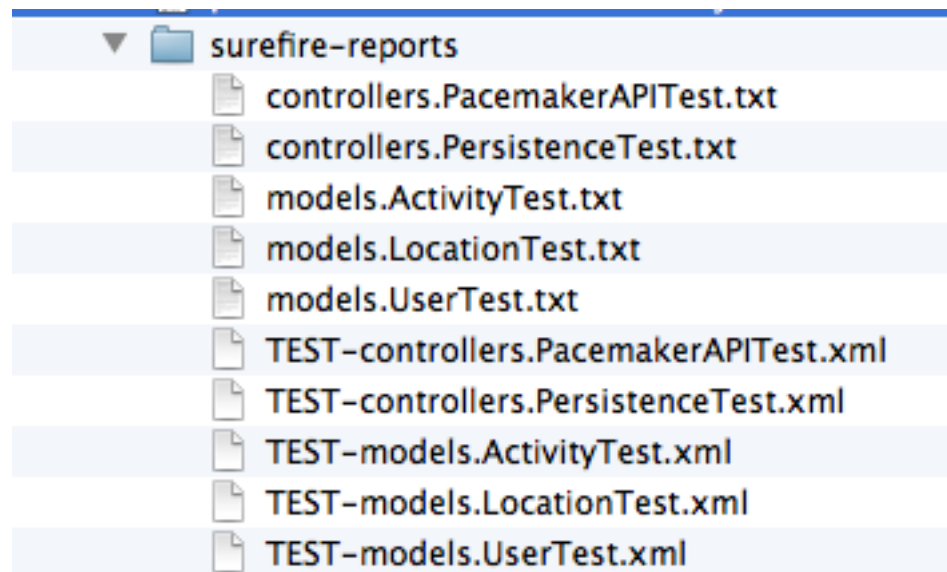
```
1. bash
grendel3:pacemaker-console-maven edeleastar$ mvn compile
[INFO] Scanning for projects...
[INFO]
[INFO] -----
[INFO] Building pacemaker-console-maven 1.0
[INFO] -----
[INFO]
[INFO] --- maven-resources-plugin:2.6:resources (default-resources) @ pacemaker-console-maven ---
[INFO] Using 'UTF-8' encoding to copy filtered resources.
[INFO] skip non existing resourceDirectory /Users/edeleastar/repos/modules/agile/prj/pacemaker-console-maven/src/main/resources
[INFO]
[INFO] --- maven-compiler-plugin:2.5.1:compile (default-compile) @ pacemaker-console-maven ---
[INFO] Nothing to compile - all classes are up to date
[INFO] -----
[INFO] BUILD SUCCESS
[INFO] -----
[INFO] Total time: 1.737s
[INFO] Finished at: Thu Oct 17 10:12:34 IST 2013
[INFO] Final Memory: 8M/245M
[INFO] -----
grendel3:pacemaker-console-maven edeleastar$
```





# Build phase: test

- test the compiled source code using a suitable unit testing framework. These tests should not require the code be packaged or deployed.



Maven Surefire Report Plugin (reports the results of the unit tests)

```
1. bash
n, secret, bart@simpson.com, {}}, User{30, lisa, simpson, secret, lisa@simpson
.com, {10=Activity{10, run, work, 2.2, []}, 11=Activity{11, walk, shop, 2.5, [
]}}}]
User to search for:
User{30, lisa, simpson, secret, lisa@simpson.com, {10=Activity{10, run, work,
2.2, []}, 11=Activity{11, walk, shop, 2.5, []}}
Collection
[User{32, maggie, simpson, secret, maggie@simpson.com, {}}, User{29, marge, si
mpson, secret, marge@simpson.com, {8=Activity{8, walk, fridge, 0.001, [Locatio
n{9, 23.3, 33.3}, Location{10, 34.4, 45.2}, Location{11, 25.3, 34.3}, Location
{12, 44.4, 23.3}]}, 9=Activity{9, walk, bar, 1.0, []}}}, User{31, bart, simpso
n, secret, bart@simpson.com, {}}, User{30, lisa, simpson, secret, lisa@simpson
.com, {10=Activity{10, run, work, 2.2, []}, 11=Activity{11, walk, shop, 2.5, [
]}}}]
Tests run: 2, Failures: 0, Errors: 0, Skipped: 0, Time elapsed: 0.322 sec
Running models.ActivityTest
Tests run: 2, Failures: 0, Errors: 0, Skipped: 0, Time elapsed: 0.003 sec
Running models.LocationTest
Tests run: 3, Failures: 0, Errors: 0, Skipped: 0, Time elapsed: 0 sec
Running models.UserTest
Tests run: 4, Failures: 0, Errors: 0, Skipped: 0, Time elapsed: 0.001 sec

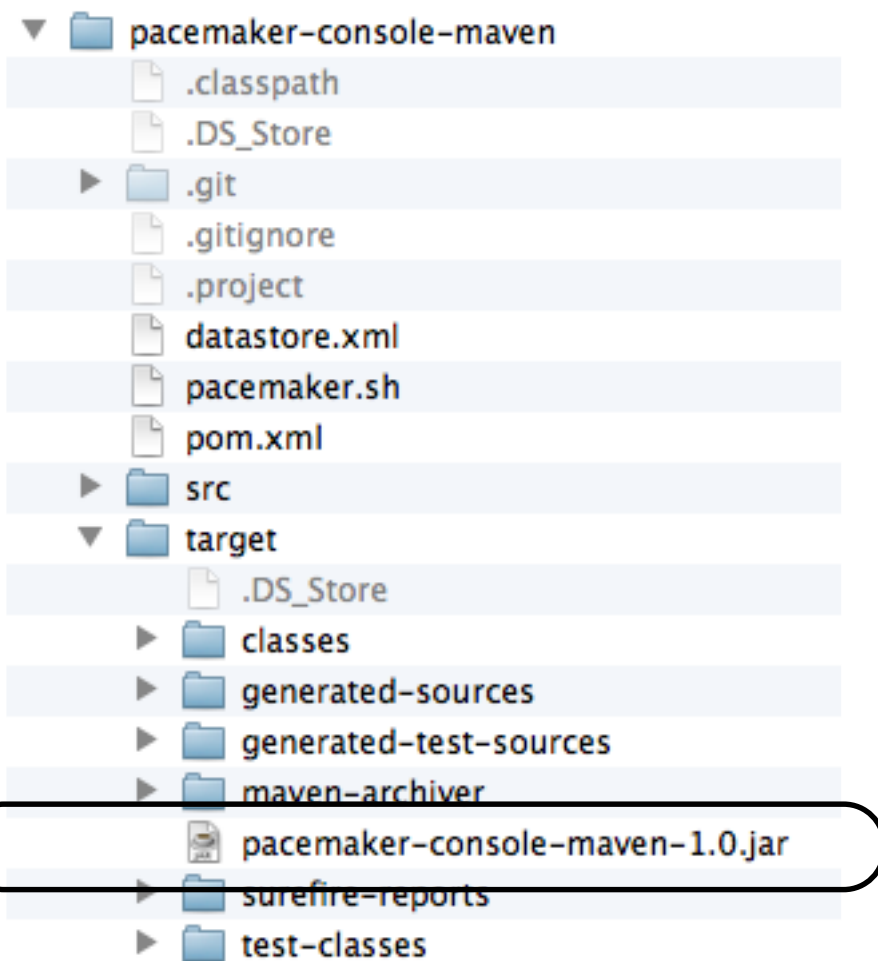
Results :

Tests run: 17, Failures: 0, Errors: 0, Skipped: 0

[INFO] -----
-
[INFO] BUILD SUCCESS
[INFO] -----
-
[INFO] Total time: 2.124s
[INFO] Finished at: Thu Oct 17 10:15:16 IST 2013
[INFO] Final Memory: 7M/245M
[INFO] -----
-
grendel3:pacemaker-console-maven edelestar$
```

# Build phase: package

- take the compiled code and package it in its distributable format, such as a JAR.



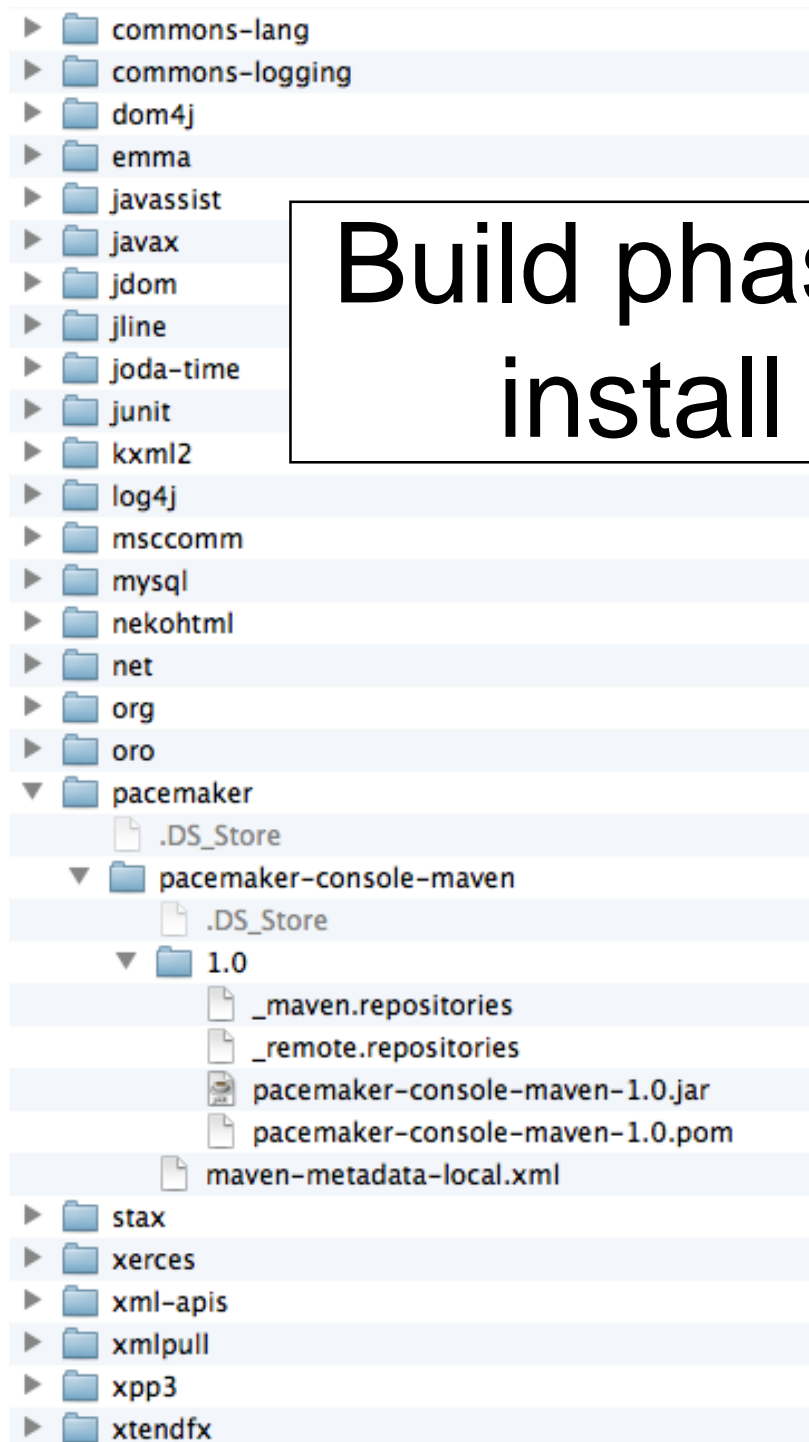
```
1. bash
2.2, [], 11=Activity{11, walk, shop, 2.5, []}}
Collection
[User{32, maggie, simpson, secret, maggie@simpson.com, {}}, User{29, marge, si
mpson, secret, marge@simpson.com, {8=Activity{8, walk, fridge, 0.001, [Locatio
n{9, 23.3, 33.3}, Location{10, 34.4, 45.2}, Location{11, 25.3, 34.3}, Location
{12, 44.4, 23.3}]}, 9=Activity{9, walk, bar, 1.0, []}}, User{31, bart, simpso
n, secret, bart@simpson.com, {}}, User{30, lisa, simpson, secret, lisa@simpson
.com, {10=Activity{10, run, work, 2.2, []}, 11=Activity{11, walk, shop, 2.5, [
]}}}]
Tests run: 2, Failures: 0, Errors: 0, Skipped: 0, Time elapsed: 0.208 sec
Running models.ActivityTest
Tests run: 2, Failures: 0, Errors: 0, Skipped: 0, Time elapsed: 0 sec
Running models.LocationTest
Tests run: 3, Failures: 0, Errors: 0, Skipped: 0, Time elapsed: 0.001 sec
Running models.UserTest
Tests run: 4, Failures: 0, Errors: 0, Skipped: 0, Time elapsed: 0 sec

Results :

Tests run: 17, Failures: 0, Errors: 0, Skipped: 0

[INFO]
[INFO] --- maven-jar-plugin:2.4:jar (default-jar) @ pacemaker-console-maven ---
[INFO] Building jar: /Users/edeleastar/repos/modules/agile/prj/pacemaker-conso
le-maven/target/pacemaker-console-maven-1.0.jar
[INFO] -----
[INFO] BUILD SUCCESS
[INFO] -----
[INFO] Total time: 2.020s
[INFO] Finished at: Thu Oct 17 10:17:11 IST 2013
[INFO] Final Memory: 9M/245M
[INFO] -----
grendel3:pacemaker-console-maven edeleastar$
```





## Build phase: install

- install the package into the local repository, for use as a dependency in other projects locally.

```
1. bash
.com, {10=Activity{10, run, work, 2.2, []}, 11=Activity{11, walk, shop, 2.5, [
]]}]
Tests run: 2, Failures: 0, Errors: 0, Skipped: 0, Time elapsed: 0.209 sec
Running models.ActivityTest
Tests run: 2, Failures: 0, Errors: 0, Skipped: 0, Time elapsed: 0 sec
Running models.LocationTest
Tests run: 3, Failures: 0, Errors: 0, Skipped: 0, Time elapsed: 0 sec
Running models.UserTest
Tests run: 4, Failures: 0, Errors: 0, Skipped: 0, Time elapsed: 0 sec

Results :

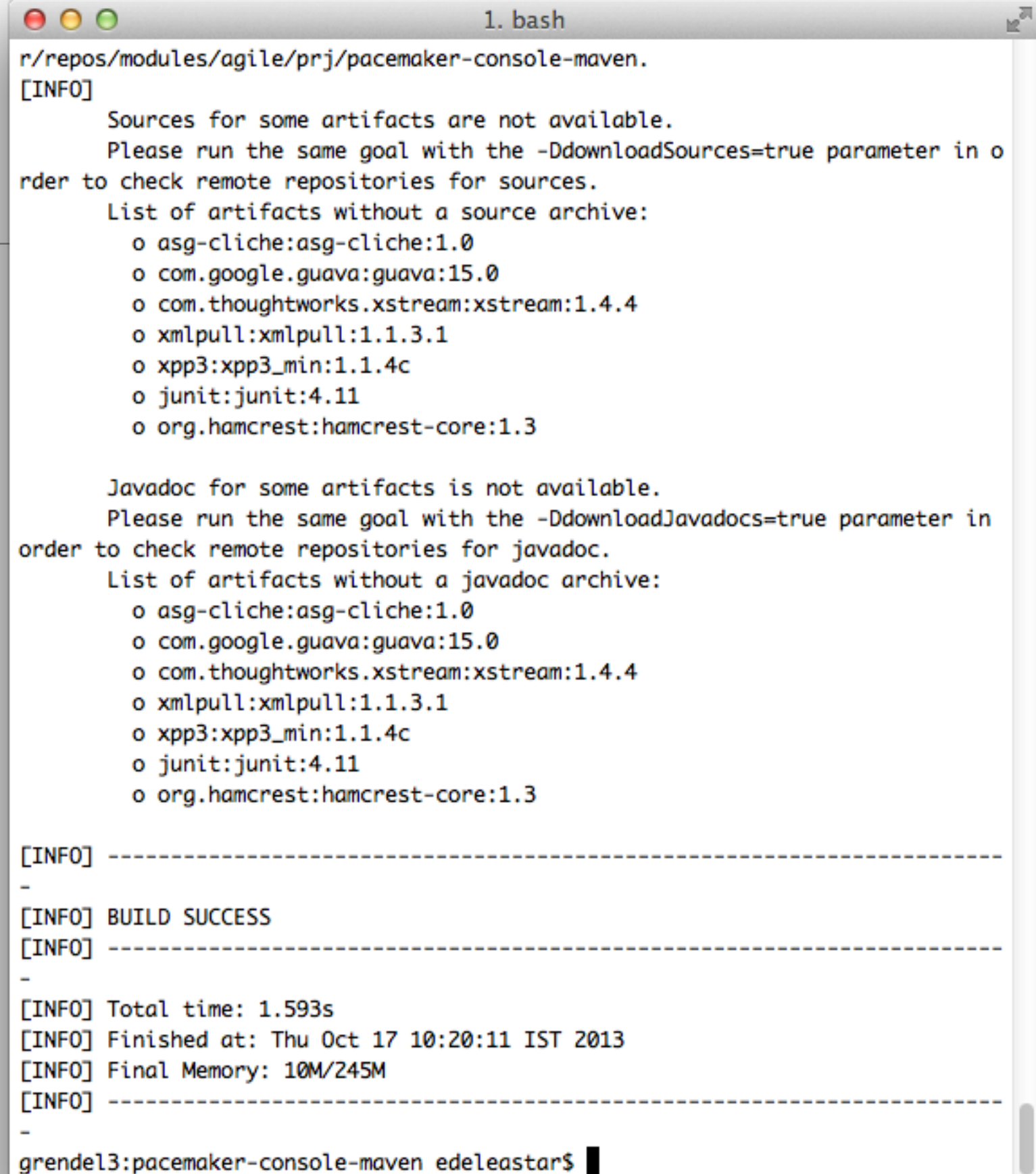
Tests run: 17, Failures: 0, Errors: 0, Skipped: 0

[INFO]
[INFO] --- maven-jar-plugin:2.4:jar (default-jar) @ pacemaker-console-maven ---
[INFO]
[INFO] --- maven-install-plugin:2.4:install (default-install) @ pacemaker-console-maven ---
[INFO] Installing /Users/edeleastar/repos/modules/agile/prj/pacemaker-console-maven/target/pacemaker-console-maven-1.0.jar to /Users/edeleastar/.m2/repository/pacemaker/pacemaker-console-maven/1.0/pacemaker-console-maven-1.0.jar
[INFO] Installing /Users/edeleastar/repos/modules/agile/prj/pacemaker-console-maven/pom.xml to /Users/edeleastar/.m2/repository/pacemaker/pacemaker-console-maven/1.0/pacemaker-console-maven-1.0.pom
[INFO] -----
[INFO] BUILD SUCCESS
[INFO] -----
[INFO] Total time: 1.978s
[INFO] Finished at: Thu Oct 17 10:18:30 IST 2013
[INFO] Final Memory: 9M/245M
[INFO] -----
grendel3:pacemaker-console-maven edeleastar$
```

# Maven & Eclipse

- The project is now built entirely by the maven build system. However, we can continue to use Eclipse for day to day development.
- To do this, we generate an eclipse project from the maven project structure. Do this by issuing the following maven command:

**`mvn eclipse:eclipse`**



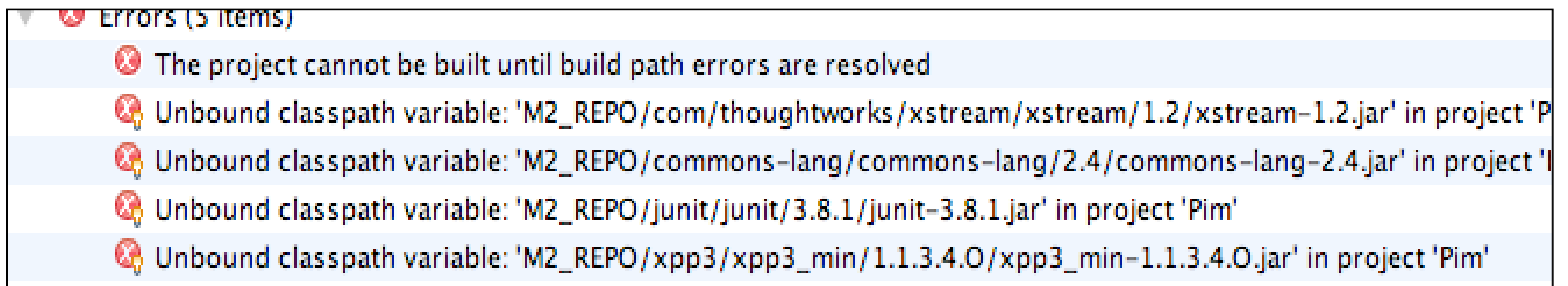
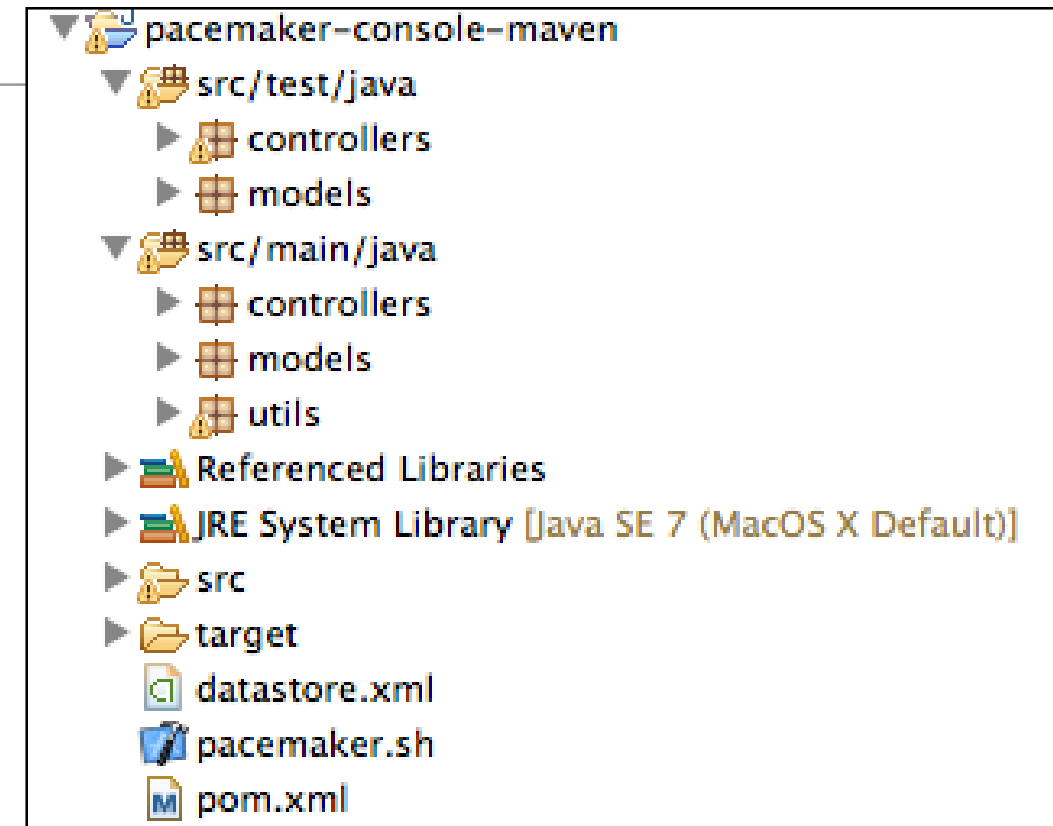
```
1. bash
r/repos/modules/agile/prj/pacemaker-console-maven.
[INFO]
    Sources for some artifacts are not available.
    Please run the same goal with the -DdownloadSources=true parameter in o
rder to check remote repositories for sources.
    List of artifacts without a source archive:
        o asg-cliche:asg-cliche:1.0
        o com.google.guava:guava:15.0
        o com.thoughtworks.xstream:xstream:1.4.4
        o xmlpull:xmlpull:1.1.3.1
        o xpp3:xpp3_min:1.1.4c
        o junit:junit:4.11
        o org.hamcrest:hamcrest-core:1.3

    Javadoc for some artifacts is not available.
    Please run the same goal with the -DdownloadJavadocs=true parameter in
order to check remote repositories for javadoc.
    List of artifacts without a javadoc archive:
        o asg-cliche:asg-cliche:1.0
        o com.google.guava:guava:15.0
        o com.thoughtworks.xstream:xstream:1.4.4
        o xmlpull:xmlpull:1.1.3.1
        o xpp3:xpp3_min:1.1.4c
        o junit:junit:4.11
        o org.hamcrest:hamcrest-core:1.3

[INFO] -----
-
[INFO] BUILD SUCCESS
[INFO] -----
-
[INFO] Total time: 1.593s
[INFO] Finished at: Thu Oct 17 10:20:11 IST 2013
[INFO] Final Memory: 10M/245M
[INFO] -----
-
grendel3:pacemaker-console-maven edeleastar$
```

# Eclipse Project Structure

- This will have produced the required .classpath and .project files in the project directory.
- You can now import this project into eclipse using the normal import → existing project into workspace.
- Although will import successfully, it will not build

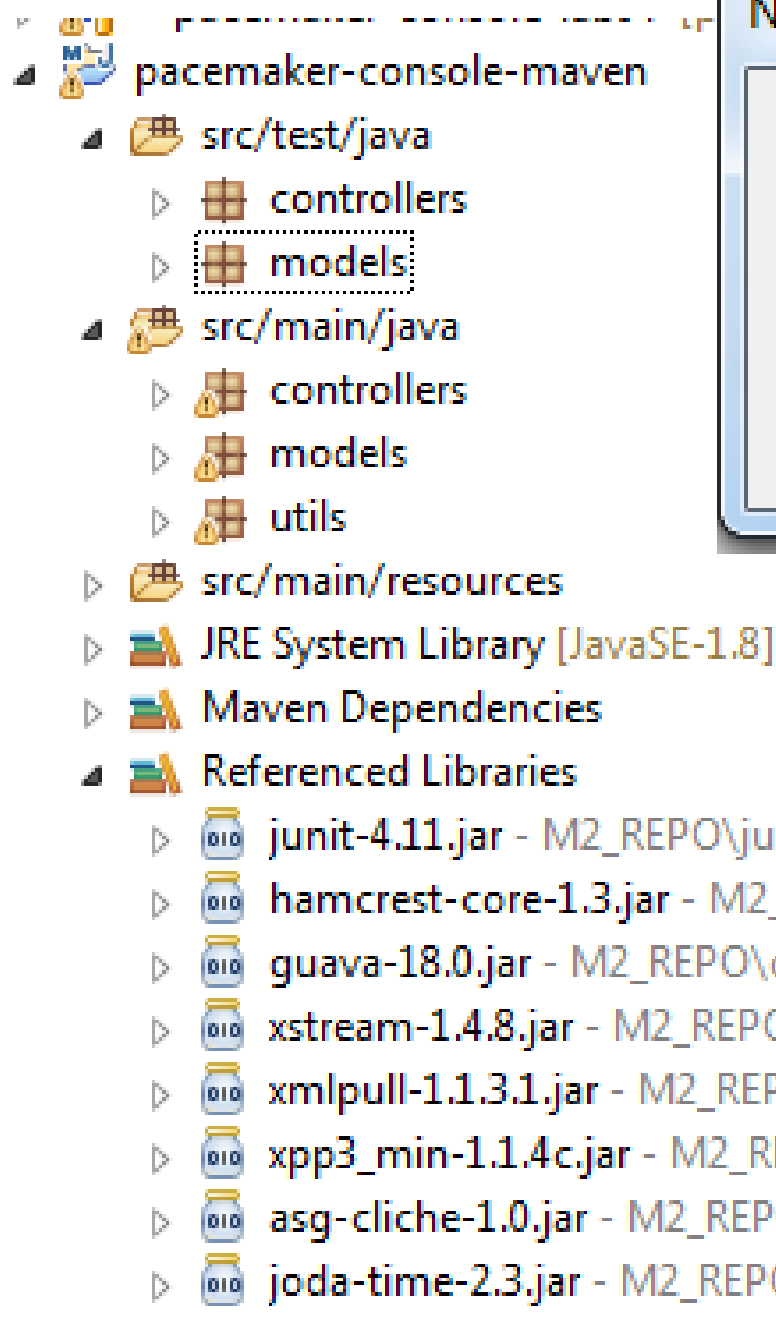


# Eclipse .classpath and .project files

```
<classpath>
  <classpathentry kind="src" path="src/test/java" output="target/test-classes" including="**/*.java"/>
  <classpathentry kind="src" path="src/main/java" including="**/*.java"/>
  <classpathentry kind="output" path="target/classes"/>
  <classpathentry kind="var" path="M2_REPO/asg-cliche/asg-cliche/1.0/asg-cliche-1.0.jar"/>
  <classpathentry kind="var" path="M2_REPO/com/google/guava/guava/18.0/guava-18.0.jar"/>
  <classpathentry kind="var" path="M2_REPO/org/hamcrest/hamcrest-core/1.3/hamcrest-core-1.3.jar"/>
  <classpathentry kind="var" path="M2_REPO/junit/junit/4.11/junit-4.11.jar"/>
  <classpathentry kind="var" path="M2_REPO/xmlpull/xmlpull/1.1.3.1/xmlpull-1.1.3.1.jar"/>
  <classpathentry kind="var" path="M2_REPO/xpp3/xpp3_min/1.1.4c/xpp3_min-1.1.4c.jar"/>
  <classpathentry kind="var" path="M2_REPO/com/thoughtworks/xstream/xstream/1.4.8/xstream-1.4.8.jar"/>
  <classpathentry kind="con" path="org.eclipse.jdt.launching.JRE_CONTAINER"/>
</classpath>
```

```
<projectDescription>
  <name>pacemaker-console-maven</name>
  <projects/>
  <buildSpec>
    <buildCommand>
      <name>org.eclipse.jdt.core.javabuilder</name>
    </buildCommand>
  </buildSpec>
  <natures>
    <nature>org.eclipse.jdt.core.javanature</nature>
  </natures>
</projectDescription>
```

# Eclipse Variable Definition





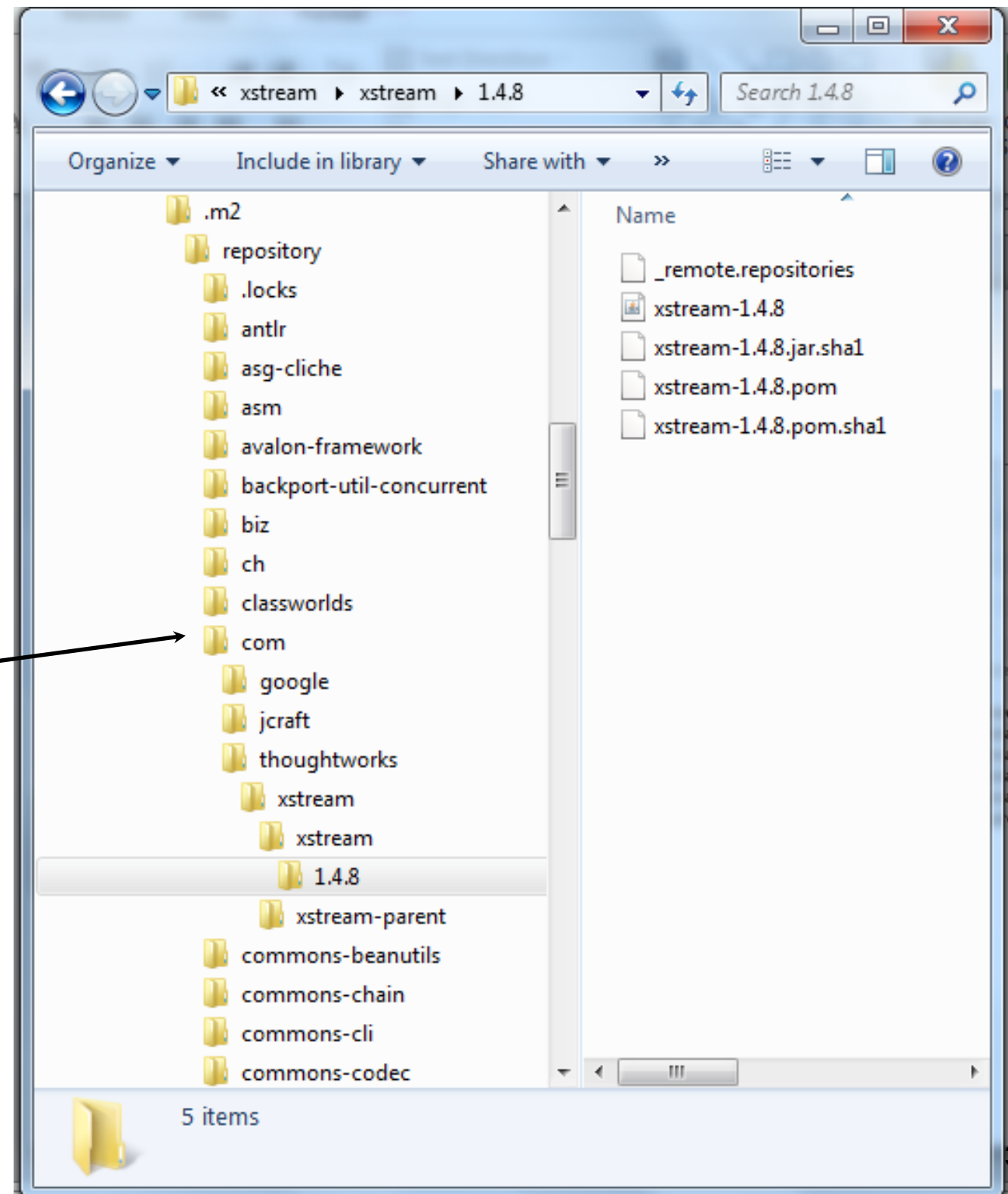
# Dependencies also in Repositories

```
<dependencies>
  <dependency>
    <groupId>junit</groupId>
    <artifactId>junit</artifactId>
    <version>4.11</version>
    <scope>test</scope>
  </dependency>
```

```
<dependency>
  <groupId>com.google.guava</groupId>
  <artifactId>guava</artifactId>
  <version>18.0</version>
</dependency>
```

```
<dependency>
  <groupId>com.thoughtworks.xstream</groupId>
  <artifactId>xstream</artifactId>
  <version>1.4.8</version>
</dependency>
```

```
<dependency>
  <groupId>asg-cliche</groupId>
  <artifactId>asg-cliche</artifactId>
  <version>1.0</version>
</dependency>
</dependencies>
```





# Launch Script – Unix / Linux / OS X

---

- Maven Repository

- Classpath for pacemaker

- Launch Command

`M2_REPO=/Users/edelestar/.m2/repository`

`export CLASSPATH=%CLASSPATH%:\`

`${M2_REPO}/pacemaker/pacemaker-console-maven/1.0/pacemaker-console-maven-1.0.jar:\`

`${M2_REPO}/com/thoughtworks/xstream/xstream/1.4.8/xstream-1.4.8.jar:\`

`${M2_REPO}/com/google/guava/guava/18.0/guava.18.0.jar:\`

`${M2_REPO}/asg-cliche/asg-cliche/1.0/asg-cliche-1.0.jar`

`java controllers.Main`

# Launch Script – Windows (.bat file)

---

- Maven Repository →
  - Classpath for pacemaker →
  - Launch Command →
- ```
echo off
set M2_REPO=C:/Users/Siobhan/.m2/repository

set CLASSPATH=.;%CLASSPATH%;
%M2_REPO%/pacemaker/pacemaker-console-maven/1.0/pacemaker-console-maven-1.0.jar;
%M2_REPO%/com/thoughtworks/xstream/xstream/1.4.8/xstream-1.4.8.jar;
%M2_REPO%/com/google/guava/guava/18.0/guava.18.0.jar;
%M2_REPO%/asg-cliche/asg-cliche/1.0/asg-cliche-1.0.jar;"

java controllers.Main
```

```
1. sh
grendel3:pacemaker-console-maven edeleastar$ sh ./pacemaker.sh
Welcome to pacemaker-console - ?help for instructions
pm> ?la
abbrev  name      params
!rs     !run-script  (filename)
!el     !enable-logging (fileName)
!dl     !disable-logging ()
!gle    !get-last-exception ()
!sdt    !set-display-time (do-display-time)
?l      ?list      ()
?l      ?list      (startsWith)
?h      ?help      ()
?h      ?help      (command-name)
?la     ?list-all  ()
?ghh    ?generate-HTML-help (file-name, include-prefixed)
cu      create-user  (first name, last name, email, password)
gu      get-user    (email)
gu      get-users   ()
du      delete-user (email)
aa      add-activity (user-id, type, location, distance)
al      add-location (activity-id, latitude, longitude)
pm> 
```



# maven-android-plugin

(renamed to android-maven-plugin) Easy to use Maven plugin for Android™!

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## Contributors, Developers..

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+ [More about source and contributing](#)  
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## ★ Documentation

Documentation collection for Android Maven Plugin

Featured

## Maven: The Complete Reference - Android chapter

Documentation in book form is available with the Android chapter of the free book Maven: The complete R  
<http://www.sonatype.com/books/mvnref-book/reference/android-dev.html>

## Wiki Documentation

### Start here

- [GettingStarted](#) quickly!
- See some [Samples](#) of how to use Android Maven Plugin
- [Tips and tricks](#) for using the plugin even easier

### Eclipse

- [EclipseIntegration](#) - help collecti
- [QuickStartForEclipseProject](#)

### Reference

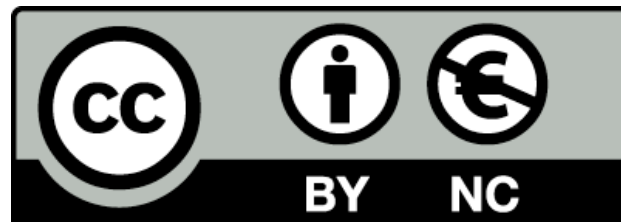
- [Maven Site](#) - Auto-generated do
  - [Plugin goals reference](#) - All
- See [AddOns](#) for Building for And
- See [ApkLib](#) for how to bring in o
- **Signing**
  - See [SigningAPKWithMaven](#)
  - See [ZipalignAPKBuiltByMA](#)

### See also

- Take part in the mailing list [Mav](#)

*Comment by XXXX, May 2, 2013*

*I found the Maven android plugin on several plugin collection page, so I thought this will be a resource I should use, but I gave up, because I didn't even found out what is this in a few minutes. You should really write at least one paragraph about this project for the newbies like me. I am not too lazy to put time in learning, but I will not spend time for something which has no real documentation, and I will presume there is none, if I didn't found out what is this on the project homepage.*



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