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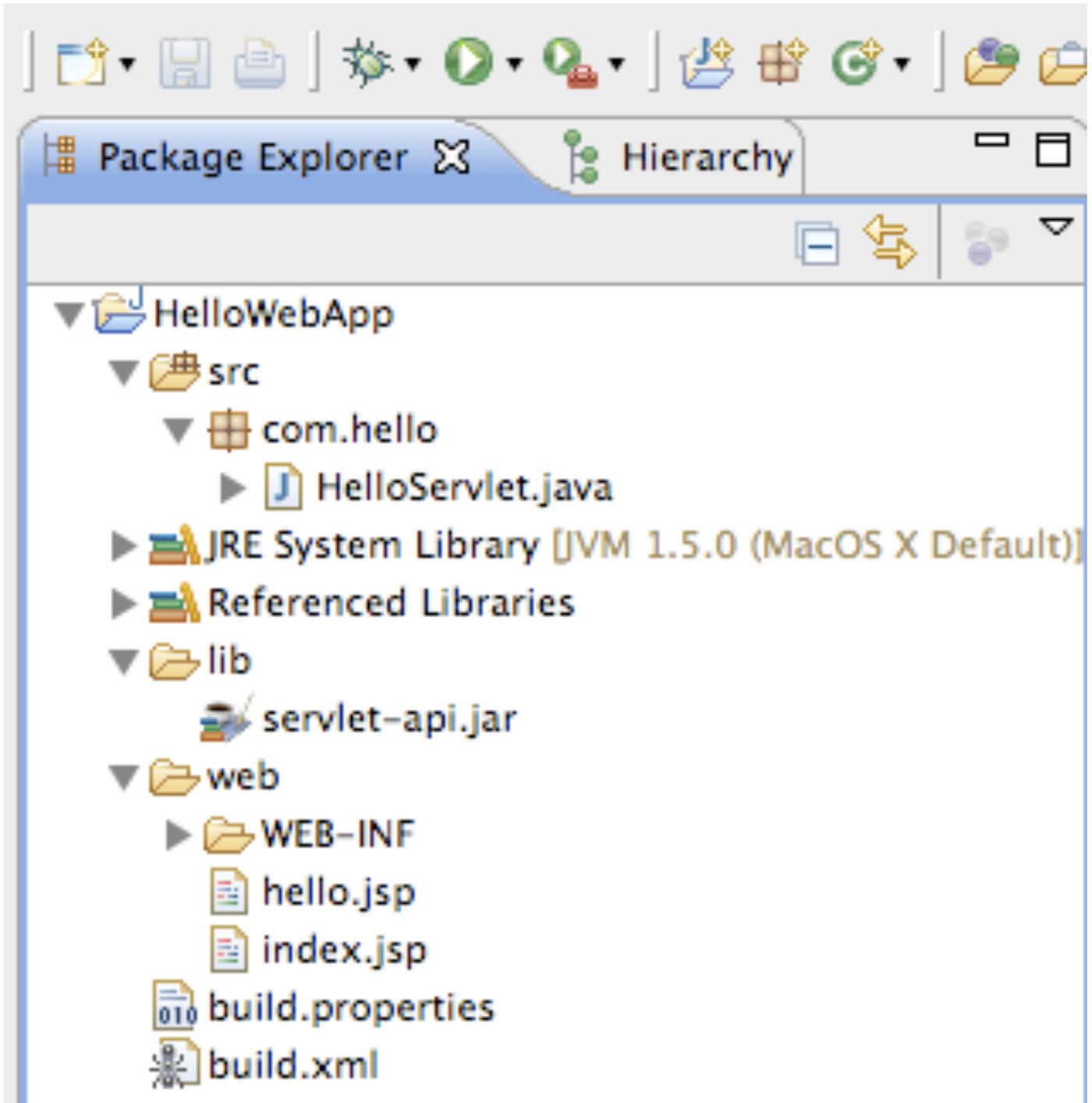
Slides by: Haidar Osman
http://scg.unibe.ch/staff/Osman

ESE 2017

Maven is a Dependency Management Tool



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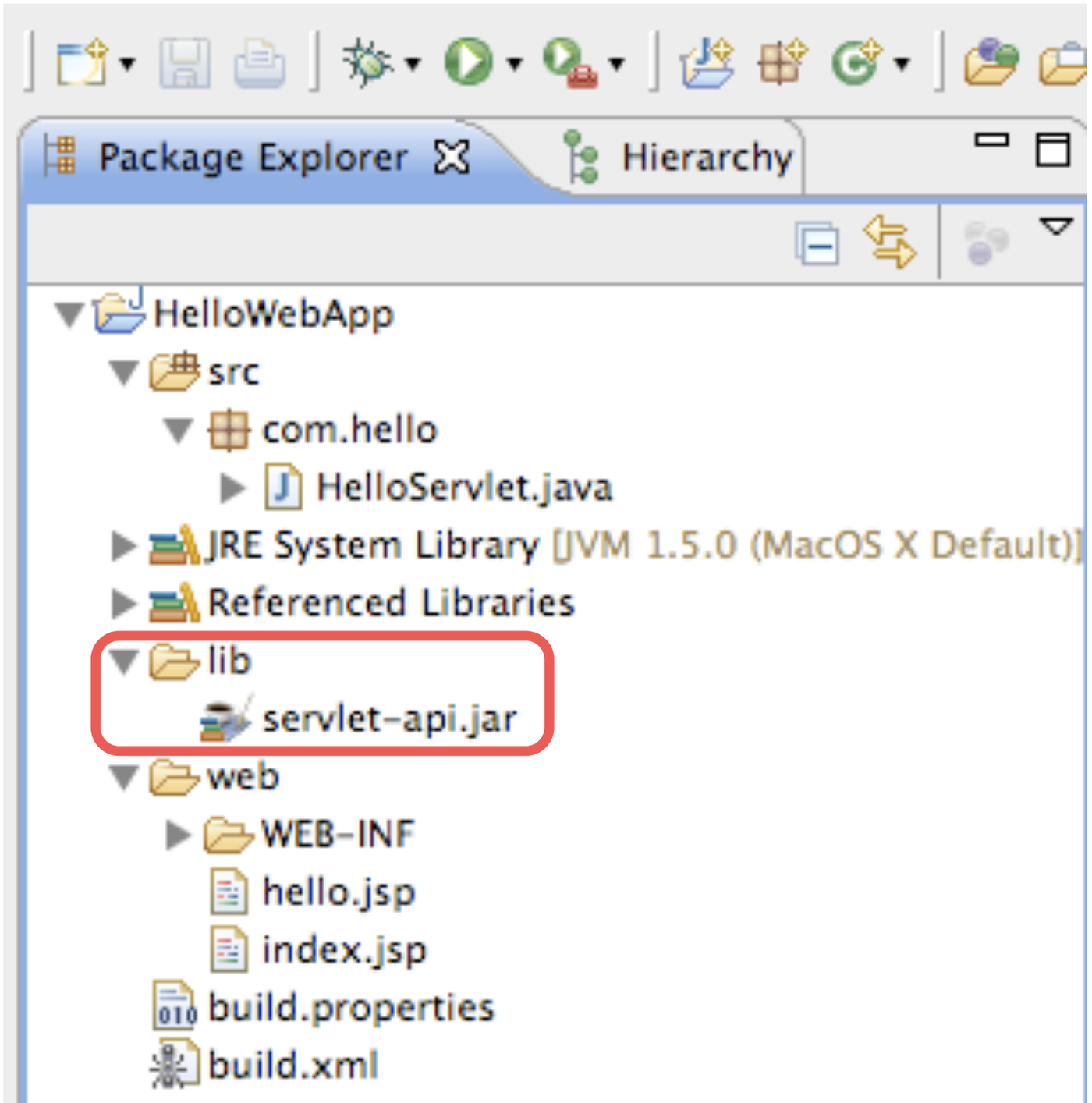

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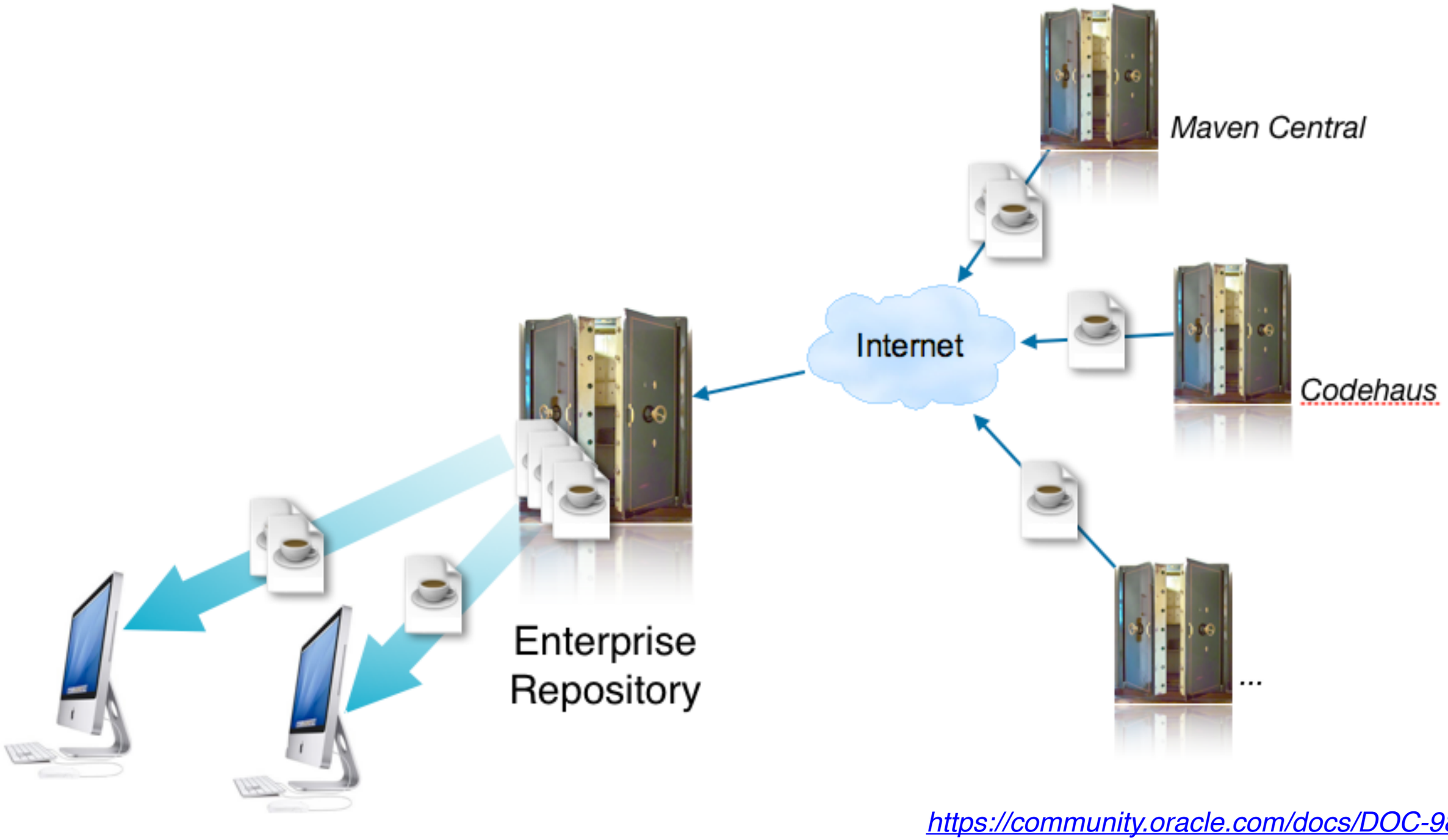
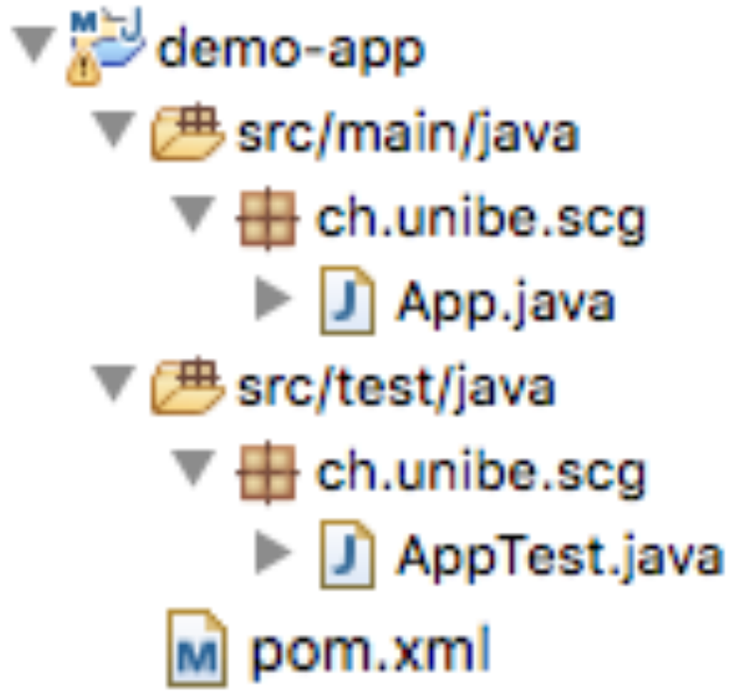
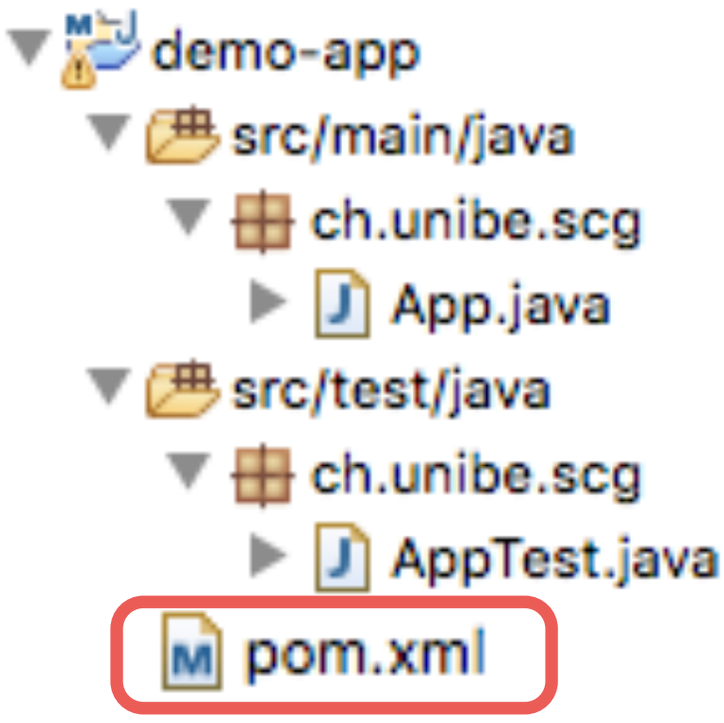


https://community.oracle.com/docs/DOC-982921


demo-app
src/main/java
ch.unibe.scg
App.java
src/test/java
ch.unibe.scg
AppTest.java
pom.xml

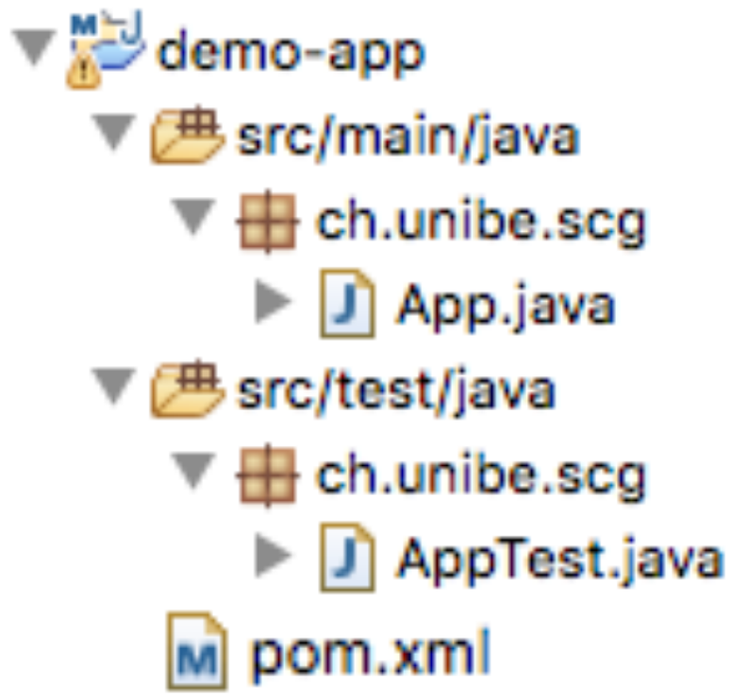



```
<project xmlns="http://maven.apache.
  xsi:schemaLocation="http://maven.ap
  <modelVersion>4.0.0</modelVersion>

  <groupId>ch.unibe.scg</groupId>
  <artifactId>demo-app</artifactId>
  <packaging>jar</packaging>
  <version>1.0-SNAPSHOT</version>
  <name>demo-app</name>
  <url>http://maven.apache.org</url>

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


</project>
```



Project Description

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<project xmlns="http://maven.apache.
  xsi:schemaLocation="http://maven.ap
  <modelVersion>4.0.0</modelVersion>

  <groupId>ch.unibe.scg</groupId>
  <artifactId>demo-app</artifactId>
  <packaging>jar</packaging>
  <version>1.0-SNAPSHOT</version>
  <name>demo-app</name>
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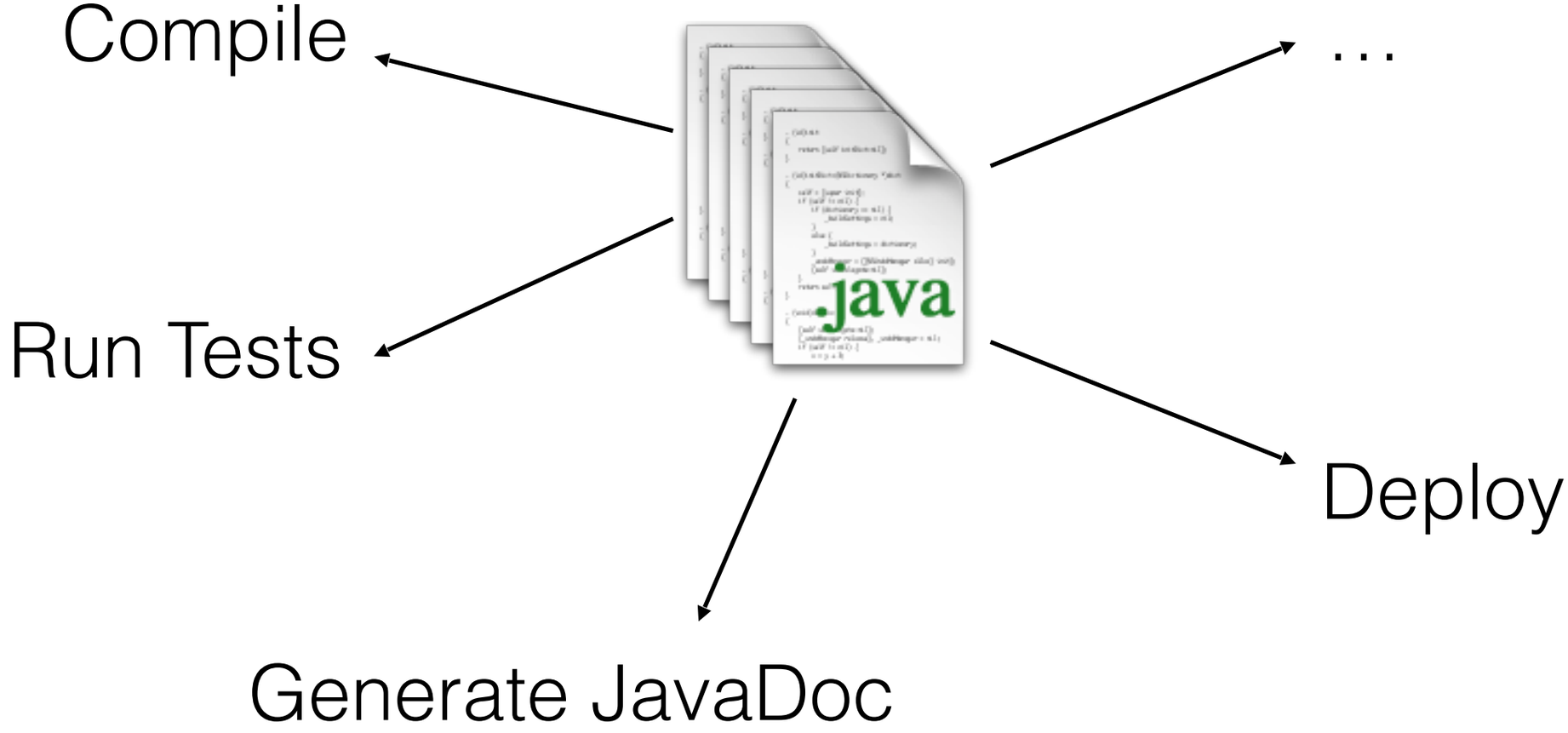
Dependencies

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

```
</project>
```

Maven is a Build Tool



mvn archetype:generate (Create a new project)

-DartifactId=*demo-app* (with this name)

-DgroupId=*ch.unibe.scg* *(with this package prefix)*

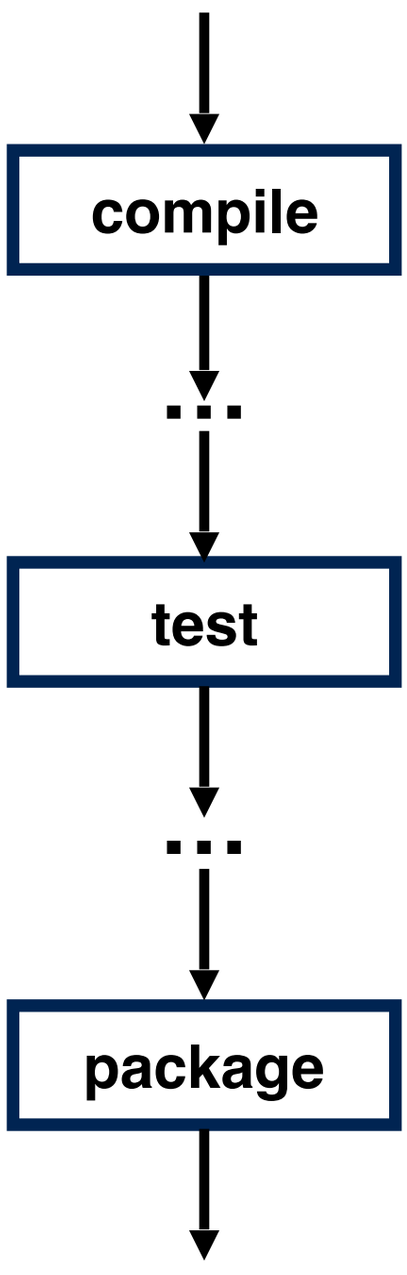
-DarchetypeArtifactId=*maven-archetype-quickstart* *(using this template)*

Maven Build process

mvn compile (compiles the project)

mvn test (runs the test cases)

mvn package (creates a JAR or WAR file)



```
<project xmlns="http://maven.apache.org
  xsi:schemaLocation="http://maven.apa
  <modelVersion>4.0.0</modelVersion>

  <groupId>ch.unibe.scg</groupId>
  <artifactId>demo-app</artifactId>
  <packaging>jar</packaging>
  <version>1.0-SNAPSHOT</version>
  <name>demo-app</name>
  <url>http://maven.apache.org</url>

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

  <plugins>
  </plugins>
</project>
```

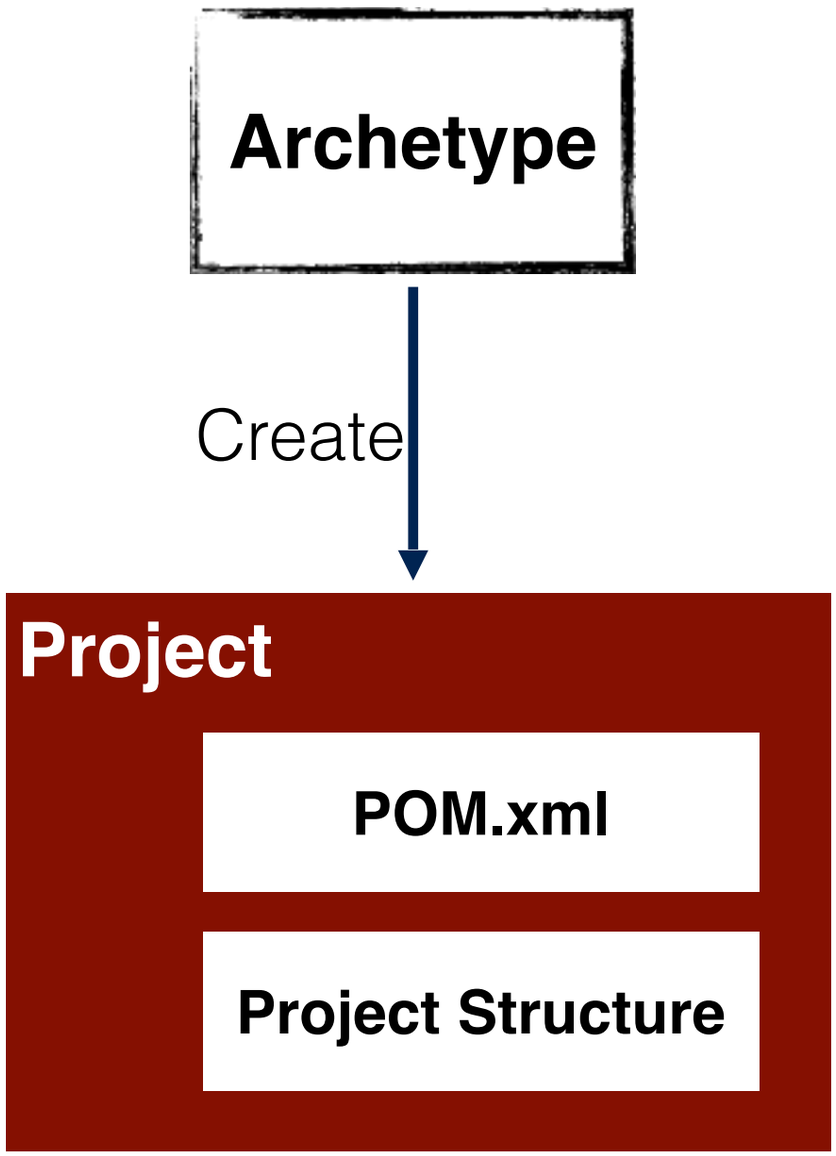
Project Description

Dependencies

Plugins

```
<build>
  <plugins>
    <plugin>
      <groupId>org.apache.maven.plugins</groupId>
      <artifactId>maven-compiler-plugin</artifactId>
      <version>3.5.1</version>
      <configuration>
        <source>1.8</source>
        <target>1.8</target>
      </configuration>
    </plugin>
  </plugins>
</build>
```

Archetype


Archetype
Create
Project
POM.xml
Project Structure

Archetype

Create

Project

POM.xml

Project Structure

Retrieve Dependencies

Archetype

Create

Project

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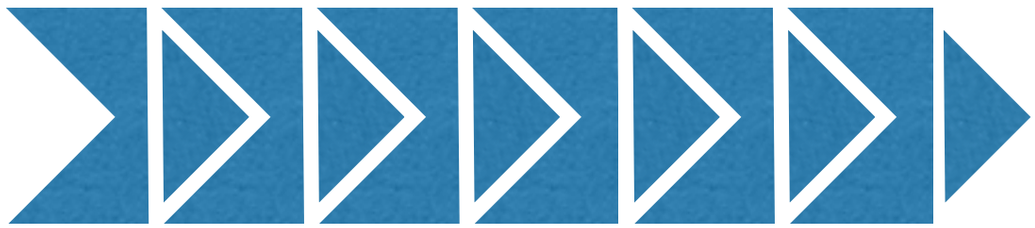
Project Structure

Retrieve Dependencies

Build



Archetype

Create

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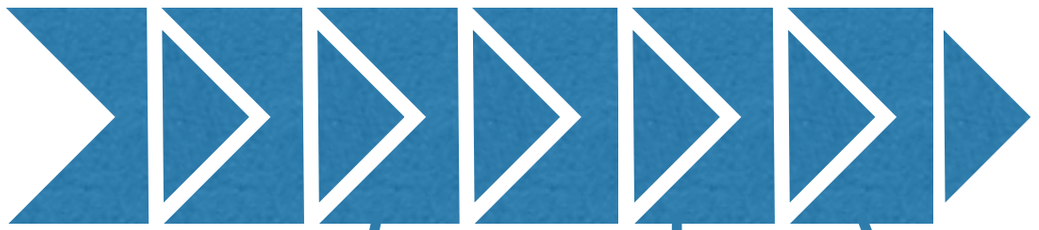
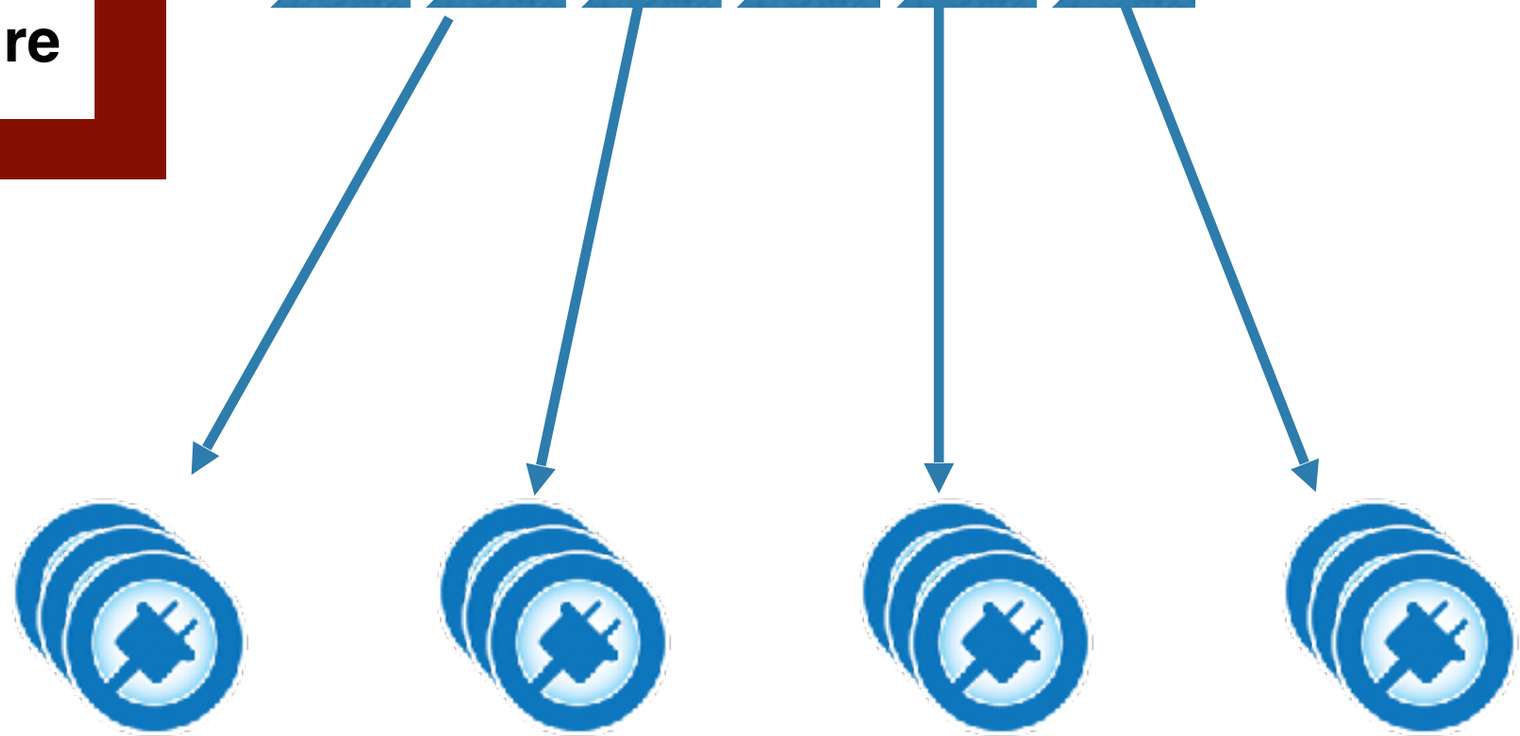
POM.xml

Project Structure

Retrieve Dependencies

Build





Plugins

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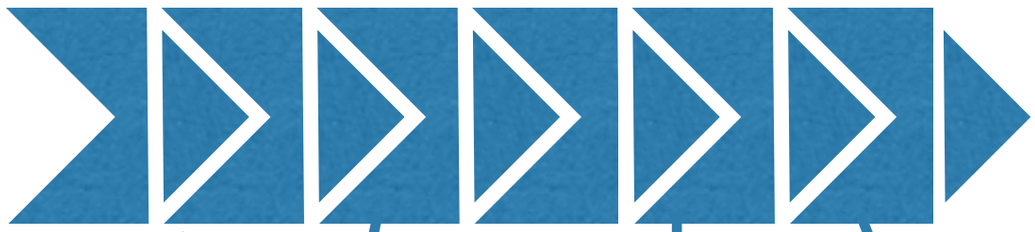

Artifact

Plugins

Useful Links

Create a maven project:

http://maven.apache.org/archetype/maven-archetype-plugin/usage.html

Maven in 5 mins:

http://maven.apache.org/guides/getting-started/maven-in-five-minutes.html

Understand the build process:

https://maven.apache.org/guides/introduction/introduction-to-the-lifecycle.html

A Good Tutorial:

https://www.youtube.com/playlist?list=PL92E89440B7BFD0F6