

Apache Maven

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Agenda

- What is Maven?
- Simple web application mavenized
- Maven configuration details
- Multitier application mavenized
- Summary

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What is Maven?

- Written in Java
- Open-source
- Java project development tool
- Java project quality assurance tool
- Java project management tool



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Development tool

- Well defined project structure
- Uniform build system
- Ant functionality...
- ... and something more with **Jelly**



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Development tool

Jelly example:

```
<echo>You have folowing releases: </echo>
<fileScanner var="releases">
  <fileset dir="${basedir}/${releaseHome}">
    <patternset>
      <include name="*" />
    </patternset>
  </fileset>
</fileScanner>
<j:forEach var="releaseL" items="${releases.directories()}">
  <j:if test="${!releaseL.getName().equals
(releaseHome.getExpressionText())}">
    <echo>${releaseL.getName()}</echo>
  </j:if>
</j:forEach>
<input message="Please enter name for a new release:"
  addproperty="release.name" />
<echo>
  Thanx :-)
</echo>
```



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Quality assurance tool

- Helps in testing practices
- Prepares reports from automatic code inspections
- Provides various code metrics



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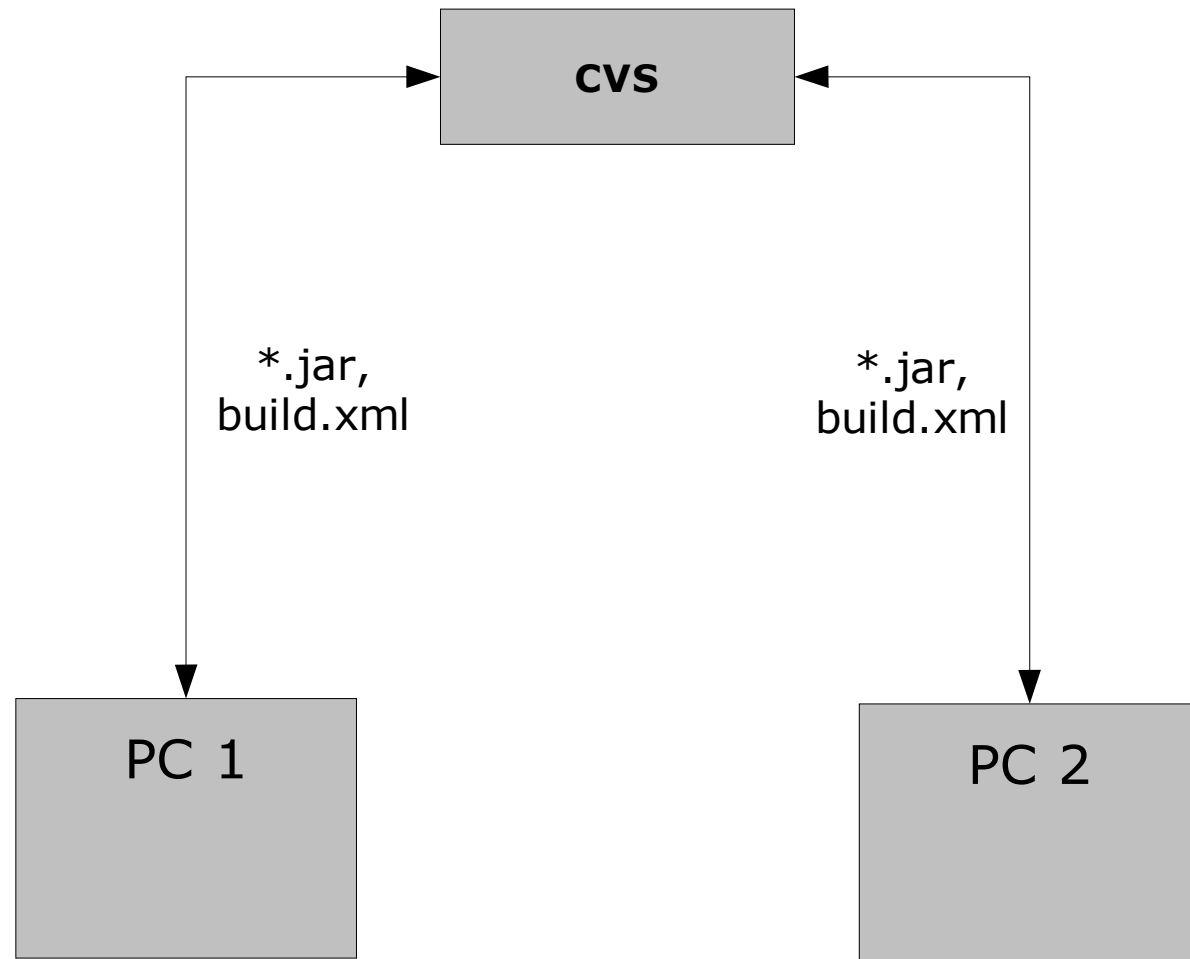
Management tool

- Provides general project information
- Provides project progress information
- Helps in configuration management



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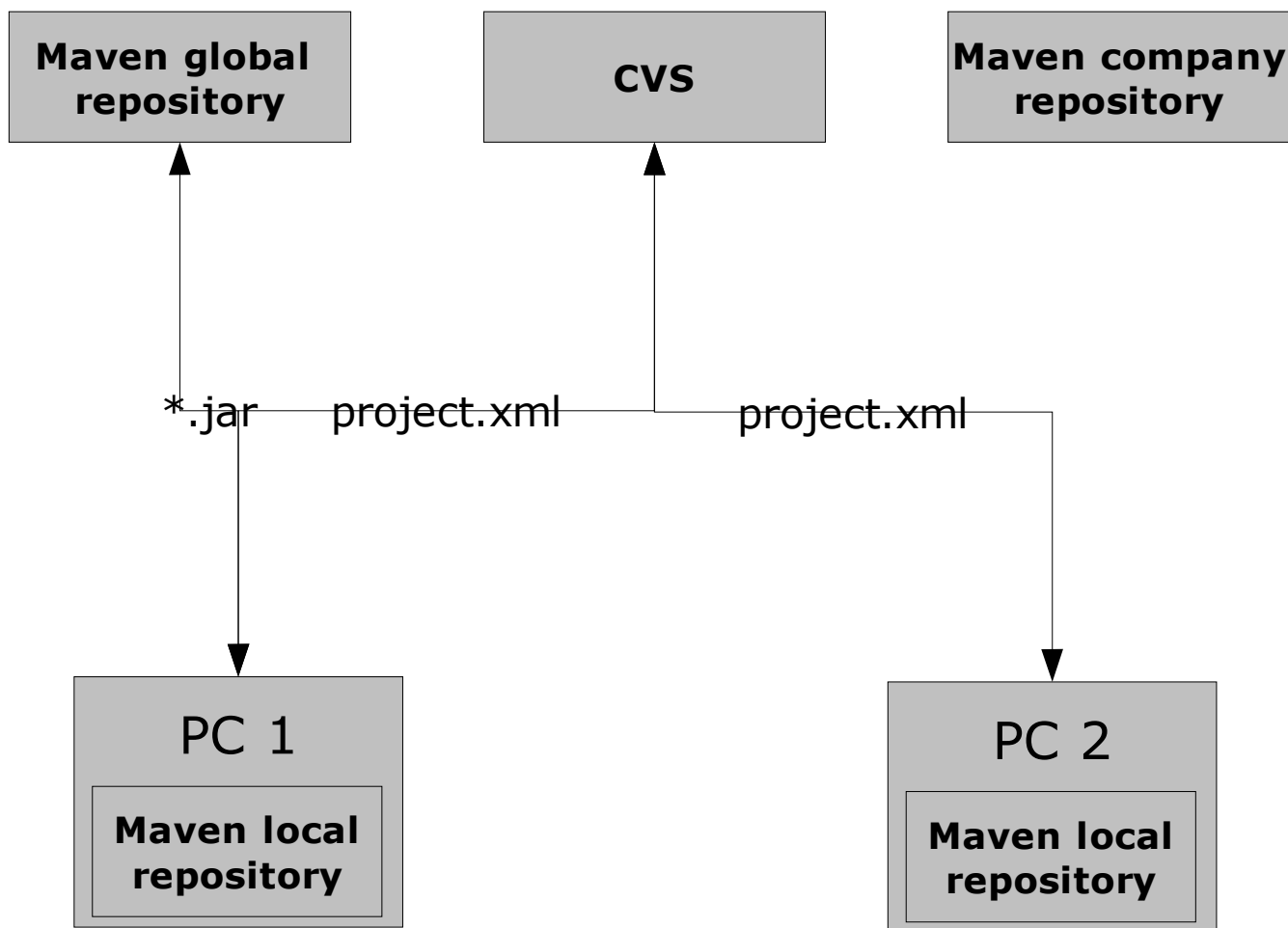
External dependencies





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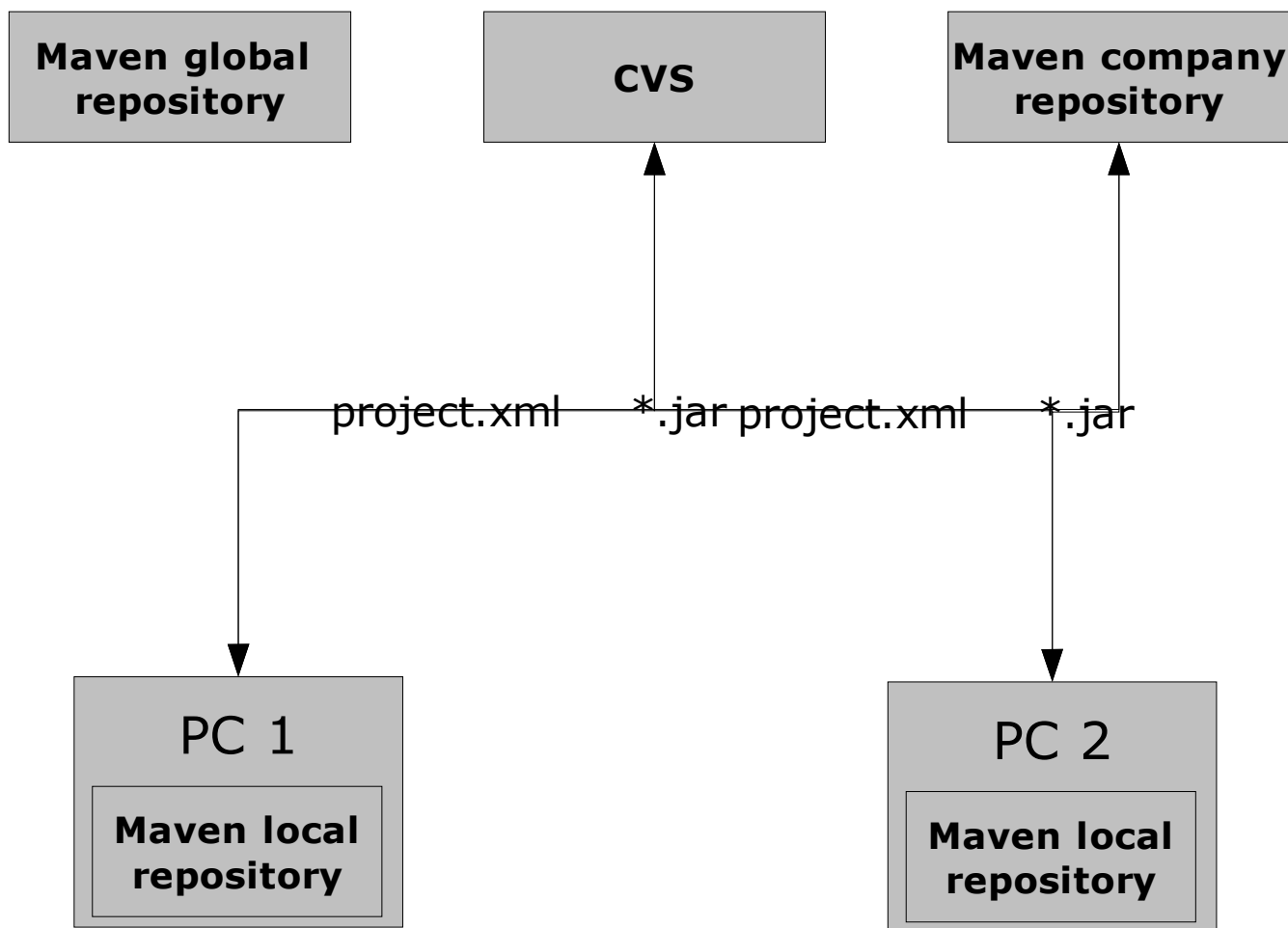
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Simple web application...

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- List of movies, 1 developer :-)
- Simple Velocity servlet which reads and writes data from database
- Using Ant (82 lines of build.xml) to:
 - Compiling, cleaning
 - Running tests
 - Building WAR
 - Generating JavaDocs



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...mavenized

- 2 hours of work
- Project structure modified
- 122 lines in 2 config files
- Full previous Ant functionality + ...

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Configuration details

- **Project Object Model** (project.xml)
 - Basic project information (version, company, description, ...)
 - Teamwork information (team members, repository, issue tracking, ...)
 - Dependencies description
 - Build description
 - Project reports list



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Configuration details

- `project.properties`
 - Project specific file
 - Maven configuration
 - Plugins configuration
- `build.properties`
 - Developer specific file
 - Local paths, usernames, passwords etc.



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Project structure

- src/
 - src/java/, src/xsl/, ...
 - src/test/
 - src/webapp/
- xdocs/
 - xdocs/changes.xml
 - xdocs/navigation.xml
- project.properties
- build.properties
- LICENSE.txt
- target/

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Architecture

- RMI server
- Swing clients
- WWW client (servlet)
- Database



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Used software

- Eclipse
- NetBeans
- Maven
- CruiseControl



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CruiseControl

- Continuous integration tool
- Build loop application
- Web application
- Build only after CVS changes
- E-mail notification
- Ant and Maven compatible



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Introducing Maven

- Initial work: 1-2 weeks
- Now: 5h/week
(Maven + configuration management)
- 1397 lines in 4 files
- Local jars repository



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Step 2: multiproject

- Good practice: one artifact per project
- Seven subprojects
- POM inheritance
- Multiproject and Reactor plugins
- Configuration is simpler now



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Maven introduced

- Cleans, compiles, runs tests
- Builds all jars, war and project .exe installers
- Makes releases
- Creates and drops system database
- Generates per developer config files from templates



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Maven introduced

- Generates JavaDocs, project documentation and user manuals (from XDoc and DocBook)
- Generates internal and external project site
- And a lot of other simpler functionalities

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Any bad sides?

- Still beta/RC version
- Poor information about changes between releases
- Medium quality documentation
- Problems with migration between releases
- Short command line buffer



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Other software

- Eclipse plug-in
- CruiseControl support
- External companies
Maven plug-ins



Links

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- Maven
 - <http://maven.apache.org/>
- Maven plug-ins
 - <http://maven-plugins.sourceforge.net/>
- CruiseControl
 - <http://cruisecontrol.sourceforge.net/>



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Questions?



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Thank you