

Chapter 11 –  
Configuration  
Management,  
Integration, and Builds

# Software Engineering

# Software Configuration Management

Need to decide:

- What artifacts to manage and relationships between artifacts
- Processes for adding, removing and modifying artifacts
- Policies - naming conventions, permissions, etc.

# Artifacts

Artifacts may include:

- Requirements specification
- Design specification
- Source code
- Executable code
- Test cases
- Usability reports
- Help texts
- Database initialization data

# Intra-Artifact Relations

Artifacts may relate to other artifacts:

- Requirements and test cases
- Design and code segment
- Usability report and code version
- Database script and code version

# Configuration Management Tools

Tiers	Provide	Examples
3 <sup>rd</sup> tier	Add support for development	<ul style="list-style-type: none"><li>• GitLab</li><li>• GitHub</li><li>• ClearCase</li><li>• PVCS (Serena Change Man)</li><li>• Visual SourceSafe</li></ul>
2 <sup>nd</sup> tier	Adds build support	<ul style="list-style-type: none"><li>• Odin, Cons, SCons, Ant (Apache Ant)</li><li>• Mavne, Gradle, Bazel</li></ul>
1 <sup>st</sup> tier	Provide version and change control	<ul style="list-style-type: none"><li>• Revision Control System (RCS)</li><li>• Source Code Control System (SCCS)</li><li>• Concurrent Version System (CVS)</li><li>• Project Revision Control System (PRCS)</li><li>• Subversion (SVN replacement for CVS)</li></ul>