

Course duration

- 2 days

Course Benefits

- Download and install Maven
- Build a project
- Work with Maven's directory structure, plugins, repositories, and more
- Understand the Project Object Model (POM)
- Build a complete web application using Maven
- Build and activate profiles
- Use Maven from Eclipse via the m2eclipse plugin

Course Outline

1. Introduction to Apache Maven
 1. Build Tools for Java
 2. Build Tools for Java (cont'd)
 3. History of Build Tools
 4. Traditional Scripting
 5. 'make'
 6. Problems with Make
 7. Manual Build with JavaC
 8. ANT
 9. Pros and Cons of Ant
 10. Apache Maven
 11. Goals of Maven
 12. What is Apache Maven?
 13. What is Apache Maven (cont'd)
 14. Why Use Apache Maven?
 15. The Maven EcoSystem
 16. Consistent Easy-to-Understand Project Layout
 17. Convention Over Configuration
 18. Maven is Different
 19. Maven Projects have a Standardized Build
 20. Effect of Convention Over Configuration
 21. Importance of Plugins
 22. A Key Point on Maven!
 23. Summary - Key Features of Maven
2. Installing and Running Apache Maven
 1. Downloading Maven

2. Installing Maven
3. Run From Command Line
4. Running Inside an IDE
5. Settings.xml
6. Local Repository
7. Summary
3. Getting Started With Maven
 1. Terminology and Basic Concepts
 2. Artifacts
 3. Lifecycle
 4. Default Lifecycle
 5. Plugins
 6. Running Maven - the Story So Far
 7. Running Maven from an IDE
 8. Common Goals
 9. pom.xml
10. Example
11. Example (cont'd)
12. Artifact Coordinates
13. Standard Layout for Sources
14. Summary
4. A Web Application in Maven
 1. A More Complex Project
 2. Putting it Together With Maven
 3. Packaging the Target Artifact
 4. The Source Tree
 5. Dependencies
 6. Transitive Dependencies
 7. Dependency Scope
 8. Working With Servers
 9. Declaring and Configuring Plugins
10. Running the Plugin
11. Binding a Plugin Goal to the Lifecycle
12. Archetypes
13. Summary
5. Commonly Used Plugins
 1. Maven Plugins
 2. Declaring and Configuring Plugins
 3. Running the Plugin
 4. Binding a Plugin Goal to the Lifecycle
 5. Maven Surefire Test Plugin
 6. Failsafe Plugin
 7. Site Plugin
 8. JavaDoc Plugin
 9. PMD Plugin
 10. Code Coverage - Cobertura
11. Summary

6. Multi-Module Builds
 1. Introduction
 2. The Reactor
 3. Reactor Sorting
 4. Multi-Module Build by Example
 5. Summary
7. POM Projects
 1. Project Object Model (POM)
 2. The overall POM structure
 3. Storing POM
 4. Summary
8. Writing Plugins (Maven)
 1. What is Maven Plugin
 2. Example of Using a Plugin
 3. Create a Custom Plugin
 4. Create a Custom Plugin (cont.)
 5. Plugin Management
 6. Summary
9. Creating Archetypes
 1. Introduction to Maven Archetypes
 2. Introduction to Maven Archetypes (cont.)
 3. Using Interactive Mode to generate Goal
 4. Common Maven Archetypes
 5. Summary
10. Repository Management
 1. Maven's Approach to Artifacts
 2. Publishing Artifacts
 3. Summary of Maven's Artifact Handling
 4. Repository
 5. Repository Manager
 6. Proxy Remote Repositories
 7. Types of Artifacts
 8. Release Artifacts
 9. Snapshot Artifacts
 10. Reasons to Use a Repository Manager
 11. Repository Coordinates
 12. Addressing Resources in a Repository
 13. Summary
11. Release Management
 1. What is release Management?
 2. Release Management with Nexus
 3. Release Management with Maven
 4. Summary

Class Materials

Each student will receive a comprehensive set of materials, including course notes and all the class examples.

Class Prerequisites

Experience in the following *is required* for this Maven class:

- Core Java and Java web programming experience