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## Introduction to Maven 3

Course Length:  
2 Days

### Course Description:

This course introduces the latest version of Maven, a popular open-source build automation and software comprehension tool. Core Maven concepts are demonstrated in a series of hands-on lab exercises.

### Who Should Attend:

This course is designed for software developers, configuration management specialists, and project managers with no previous experience using Maven.

### Benefits of Attendance:

Upon completion of this course, students will be able to:

- Describe the objectives and benefits of Maven
- Create, locate, and utilize Maven projects by using Maven project coordinates
- Create projects from Maven archetypes
- Use and distinguish between local and remote Maven repositories
- Understand the Maven Project Object Model (POM)
- Create and manage multi-module projects
- Use features of Maven dependency management
- Generate a project Web site

### Prerequisites:

Students should have some familiarity with the Java programming language.

### Course Outline:

- Chapter 1: Getting Started with Maven 3
  1. What is Maven?
  2. Maven's Objectives
  3. Comparing Maven and Ant
  4. Installing Maven
  5. Installation Details
  6. Compatibility with Maven 2
  7. Updating Maven
- Chapter 2: Maven Core Concepts
  1. Maven Repositories
  2. Project Coordinates
  3. Version Identifiers
  4. Standard Project Directory Structure
  5. Plugins and Goals
  6. Maven Default Lifecycle
  7. The target Directory
  8. Lifecycle Bindings
  9. The Clean Lifecycle
  10. Archetypes



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- Chapter 3: The Project Object Model (POM)
    1. The pom.xml File
    2. Describing Your Project
    3. Customizing Plugin Behavior
    4. Property References
    5. Multi-Module Projects
    6. Project Inheritance
    7. The Super POM
    8. The Effective POM
  
  - Chapter 4: Dependency Management
    1. Maven's Dependency Mechanism
    2. Dependency Version Ranges
    3. Dependency Scope
    4. System Dependencies
    5. Viewing Dependencies
    6. Transitive Dependencies
    7. Optional Dependencies
    8. Excluding Dependencies
    9. Inheriting Dependencies
  
  - Chapter 5: Customizing Maven Builds
    1. The settings.xml File
    2. Mirrors
    3. Servers
    4. Proxies
    5. Plugin Groups
    6. Properties
    7. User-Defined Properties
    8. Resource Filtering
  
  - Chapter 6: Site Generation and Reports
    1. The Site Lifecycle
    2. Site Directory Structure
    3. Almost Plain Text (APT)
    4. FAQ Markup Language (FML)
    5. Customizing the Site Descriptor
    6. Default Reports
    7. Other Reporting Plugins
  
  - Appendix A: Reference
    1. Resources
    2. Maven Command Line Options
    3. Integration with Eclipse
    4. Testing with JUnit
    5. Maven Plugin for C/C++ Development

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