

## Working with Apache Ant

### Course Summary

#### Description

The Working with Apache Ant training course teaches developers the skills and knowledge needed to use Ant as an automated build tool.

The Automating Builds with Apache Ant training course begins with an overview of automated build concepts and motivations. It then moves into a discussion about Ant as a build tool, in terms of its architecture, implementation, and operation.

With the foundation laid, the course then examines how to setup an Ant build.xml file, externalize build configuration information through properties files, and define and execute tasks. The Working with Apache Ant course concludes with a discussion of common Ant tasks, like continuous integration tasks, packaging tasks, etc. The Apache Ant training course can include a discussion on Apache Ivy if desired. Just let us know during the customization process.

#### Objectives

**At the end of this course, students will be able to:**

- Describe the differences between Ant and other build tools like Maven and Make
- Create a basic build.xml file from scratch
- Working with embedded properties and external properties using properties files
- Integrate ANT with your IDE
- Modify the build file to execute common tasks, like unit tests, jar, etc.
- Modify the build file the integrate the build process with a version control system like SVN
- Describe the capabilities of extending Ant through custom tasks

#### Topics

- Introduction to Ant
- Installing Ant
- Ant concepts and terminologies
- Working with Ant
- Integrating ANT into your IDE
- Ant in the Real-World
- Ant Tasks
- Automating your build and testing through Ant tasks
- Using Ant for automated deployment
- Integrating Ant with a version control system
- Creating Custom Ant tasks

#### Audience

This course is designed for developers

#### Prerequisites

There are no prerequisites for this course.

#### Duration

Two days

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### Course Outline (cont'd)

#### I. Introduction to Ant

- A. What is Ant
- B. How did we get here
- C. Ant v. Make v. Maven v. Ivy

#### II. Installing Ant

- A. System requirements
- B. Getting the software
- C. "installing the software"
- D. Dealing with library dependencies
- E. Gotchas on different platforms

#### III. Building hello world with Ant

- A. A simple hello world Java application
- B. A quick and dirty build file
- C. Command line options
- D. Environment variables and system properties

#### IV. Ant concepts and terminologies

- A. Projects
- B. Targets
- C. Properties
- D. Working with Built in properties
- E. Adding polish to 'quick and dirty' build file

#### V. Working with Ant

- A. Filters
- B. Pathing
- C. References
- D. Logging

#### VI. Ant Tasks

- A. Archive Tasks
- B. File Tasks
- C. Compile Tasks
- D. Execution Tasks
- E. Properties Tasks

#### VII. Integrating ANT into your IDE

#### VIII. Automating your build and testing through Ant tasks

- A. Testing Tasks
- B. Ant and continuous integration servers
- C. Archiving Tasks
- D. Deployment tasks
- E. Integrating Ant with a version control system

#### IX. Creating Custom Ant tasks