Updated on 26/06/2024

Sign up

Gradle training

2 days (14 hours)

Presentation

Our Gradle training course will help you automate the building, testing and deployment of your code. Gradle supports many programming languages, including Groovy, Kotlin, Scala and C++, but is best known for its use with Java. It's a tool that offers a very high level of flexibility.

This program shows you how to install Gradle on different operating systems and configure the Gradle Wrapper to ensure consistent development environments. You'll be guided through the creation of your first Gradle project.

Our training covers the fundamental structure of Gradle build scripts as well as the domain-specific language. You'll also explore basic plugins and configure multi-project builds.

Like all our training courses, it will be run on the latest version of the tool: Gradle V8.

Objectives

- Understanding Gradle scripts
- Automate code deployment
- Optimize and maintain deployed code

Target audience

- **Mobile developers**
- Web developers

Prerequisites

Knowledge of Java

OUR GRADLE TRAINING PROGRAM

INTRODUCTION TO GRADLE AND INSTALLATION

- Introduction to Gradle and comparison with other build systems such as Maven and Ant
- How to install Gradle on different operating systems
- Introduction and configuration of Gradle Wrapper for consistent development environments
- Creating a first simple project with Gradle
- Exploring the Gradle command line interface

UNDERSTANDING BUILD SCRIPTS WITH GRADLE

- Basic structure of a Gradle build script and introduction to DSL (Domain-Specific Language)
- Defining and configuring tasks in Gradle.
- Project dependency management and build file configuration
- Using basic plugins and configuring multiprojects
- Best practices for structuring and organizing complex projects

EXECUTING AND DEBUGGING BUILDS

- Techniques for executing and customizing task runs
- Debugging Gradle build scripts and solving common problems
- Use logs and --info/--debug mode to trace build processes
- Transitive dependency management and conflict resolution
- Introduction to Gradle hooks and lifecycle events

TESTING AND CONTINUOUS INTEGRATION

- Setting up test environments with Gradle
- Integration and execution of unit and integration tests with JUnit and other frameworks
- Creation of test reports and integration with CI/CD systems such as Jenkins or GitLab CI
- Strategies for maintaining code quality and automating testing and deployment

PUBLISHING AND MANAGING ARTIFACTS

- Methods for publishing artifacts in local and remote repositories
- Configuring artifact publishing with Gradle publishing plugins
- Version management and release strategies with Gradle
- Best practices for managing internal and external dependencies

OPTIMIZATION AND ADVANCED WITH GRADLE

- Techniques for optimizing build performance with Gradle
- Build profiling to identify and resolve bottlenecks
- Writing custom build scripts using Kotlin DSL or Groovy
- Explore Gradle's advanced features and latest updates
- Discussion of real-life use cases and community best practices

Companies concerned

This course is aimed at both individuals and companies, large or small, wishing to train their teams in a new advanced computer technology, or to acquire specific business knowledge or modern methods.

Positioning on entry to training

Positioning at the start of training complies with Qualiopi quality criteria. As soon as registration is finalized, the learner receives a self-assessment questionnaire enabling us to assess his or her estimated level of proficiency in different types of technology, as well as his or her expectations and personal objectives with regard to the training to come, within the limits imposed by the selected format. This questionnaire also enables us to anticipate any connection or security difficulties within the company (intra-company or virtual classroom) which could be problematic for the follow-up and smooth running of the training session.

Teaching methods

Practical course: 60% Practical, 40% Theory. Training material distributed in digital format to all participants.

Organization

The course alternates theoretical input from the trainer, supported by examples, with brainstorming sessions and group work.

Validation

At the end of the session, a multiple-choice questionnaire verifies the correct acquisition of skills.

Sanction

A certificate will be issued to each trainee who completes the course.