

# Introducing Gradle



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**Apress®**

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# About the Authors



**Balaji Varanasi** is a software development manager, author, speaker, and technology entrepreneur. He has over 14 years of experience architecting and developing high-performance, scalable Java and .NET mobile applications. During this period, he has worked in the areas of security, web accessibility, search, and enterprise portals. He has a master's degree in computer science from Utah State University and serves as adjunct faculty at the University of Phoenix, teaching programming and information system courses. He shares his insights and experiments at <http://blog.inflinx.com>.



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# About the Technical Reviewer



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# Introduction

*Introducing Gradle* is a quick start-up primer on the Gradle build automation tool. The book starts by explaining the fundamentals behind Gradle and showing you how to set up and test Gradle on your local machine. It explains the basics of Groovy, the language for creating Gradle build scripts. It then delves deeply into concepts such as dependency management, projects, tasks, lifecycle phases, and plugins. It also discusses Gradle's support for multi-projects and publishing artifacts to local and remote repositories. Finally, it concludes with a discussion of continuous integration (CI) and a review of Jenkins support for Gradle.

## How This Book Is Structured

Chapter 1 starts with a gentle introduction to Gradle. It discusses reasons for adopting Gradle, and it provides an overview of its two alternatives: Ant and Maven.

Chapter 2 focuses on setting up Gradle on your machine and testing the installation. It also provides an overview of different files/folders that come as part of the Gradle distribution, and it shows a simple Gradle build script.

Chapter 3 delves into Groovy language basics and reviews its language features needed to build Gradle scripts.

Chapter 4 discusses Gradle's two building blocks—project and tasks. You will learn how to create tasks and declare dependencies between those tasks. You will also review the lifecycle of a Gradle build.

Chapter 5 delves deep into Gradle's support for Java projects. You will learn about the Java and War plugins and use them to build and deploy Java and web applications. The chapter also provides in-depth coverage of Gradle plugins. You will also look at building a custom plugin.

Chapter 6 provides a detailed coverage of dependency management. You will learn about principles behind dependency management and look at Gradle's support for managing those dependencies. You will also learn about the different types of dependencies and how to resolve dependency conflicts.

Chapter 7 reviews the intricacies of Gradle's multi-project builds. You look at the two types of project structures—hierarchical and flat. You also learn how to declare common and project specific behavior in root and subproject build files.

Chapter 8 discusses Gradle's support for publishing artifacts. You learn about archives configuration for declaring artifacts produced by a project. You then install Nexus Maven repository manager and publish artifacts to the repository. You also learn about the configuration needed to deal with additional artifacts.

Chapter 9 reviews continuous integration (CI) flow and explores Jenkins, a popular open source CI server. You look at installing Jenkins and configuring the necessary plugins to run a sample project located on the GitHub repository.

## Target Audience

*Introducing Gradle* is intended for developers and automation engineers who want to get started quickly with Gradle. This book assumes basic knowledge of Java. No prior experience with Gradle is required.

## Downloading the Source Code

The source code for the examples in this book can be downloaded from [www.oreilj.com/9781484210321](http://www.oreilj.com/9781484210321). The source code is also available on GitHub at <https://github.com/bava/intro-gradle>.

Once downloaded, unzip the code and place the contents in the `intro-gradle` folder. The source code is organized by individual chapters. Each folder contains build scripts and project files corresponding to that chapter.

## Questions

We welcome reader feedback. If you have any questions or suggestions, you can contact the authors at [Balaji@influx.com](mailto:Balaji@influx.com) or [Sudha@influx.com](mailto:Sudha@influx.com).