

INTRODUCTION TO SPRING BOOT 2 (3 Days)

This Introduction to Spring Boot 2 training class introduces Spring Boot from the ground up, including overviews of building blocks such as maven. It covers the key features and capabilities of Spring Boot, and teaches experienced Spring developers the skills they need to use Spring Boot productively.

This course covers Spring Boot 2 and Spring 5, the current releases of these frameworks.

The standard platform does all labs with the Eclipse IDE, and the lab instructions include detailed directions for setting up and using it. The course can be made available for all major development environments, including IBM RAD and IntelliJ.

Goals

1. Get an overview of Spring Core (focus on @Configuration) and maven/gradle - building blocks for Spring Boot
2. Understand the needs that Spring Boot fulfills
3. Use Spring Boot starters and start.spring.io to easily create new applications
4. Understand and use Spring Boot's auto-configuration
5. Customize your application configuration
6. Understand and use Spring Boot's Spring Data / Spring Data JPA capabilities
7. Understand and use Spring Boot's Web capabilities (focusing on Spring REST), including embedded servlet containers
8. Become familiar with Spring Boot Data REST
9. Use Spring Security with Spring Boot
10. Understand and use Spring Boot's Actuator
11. Use Actuator endpoints to monitor and manage applications
12. Become familiar with and work with Spring DevTools
13. Become familiar with the Spring CLI

Class Materials

Each student in our Live Online and our Onsite classes receives a comprehensive set of materials, including course notes and all the class examples.

Class Prerequisites

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

- Good working knowledge of Java programming.
- Basic knowledge of Spring framework.

Course Outline

Spring Configuration Overview

- Spring Review - XML and @Component
- Dependency Injection
- Java-based Configuration (@Configuration)
- Integrating Configuration of Different Types

Introduction to Spring

- Brief maven Overview
- Intro to Spring Boot - What is Spring Boot and What It Does
- Spring Boot Hello World / SpringApplication
- SpringBootApplication / CommandLineRunner / ApplicationRunner

Configuration and Customization

- Working with Properties - YAML and .properties
- Logging and its Configuration
- Spring TestContext Framework
- Auto-configuration Overview
- Customization

Spring Boot Database Support

- Basic Auto-configuration - Datasource and Pooling
- Configuration Properties
- Spring Boot's JPA Support - spring-boot-starter-data-jpa
- Spring Boot Data (with Data-JPA in Detail)
- Using Spring Boot Data - CrudRepository/JpaRepository
- Defining Queries with Spring Boot Data

Spring Boot Web/REST and Security

- DispatcherServlet Review
- Web Starters and Configuration spring-boot-starter-web
- Using Embedded Servers (Tomcat, Netty)
- Deploying to an External Server
- Spring Security Overview (Web)
- spring-boot-starter-security - Auto-configuration and Customization
- Spring Boot Data Rest - Generated Web Services from Repositories

Actuator and Devtools

- Actuator Overview and Capabilities
- Actuator Endpoints
- Custom Actuators and Health Checks
- Devtools Overview
- Other Tools and Features

Spring Boot CLI

- Overview and Capabilities
- Grabbing / @Grab
- Other Capabilities