Spring Boot: Developer



Course Description

This 2-day course offers experience with Spring Boot and its major features, including autoconfiguration, Actuator, Spring Boot testing framework and more. On completion, participants will have a foundation for creating enterprise and cloud-ready applications. Please note that this course is a subset of the material in our 4-day Spring: Core Training course - there is no need to take both courses.

Course Duration:

2 days

Prerequisites:

- A good working knowledge on web application development using Java and an IDE (Eclipse, STS or IntelliJ).
- Basic understanding of Spring: Java Config, component- scanning, Spring driven testing and Spring data-management (JdbcTemplate, @Transactional).
- Experience using Java and build tools such as Maven or Gradle

Objectives:

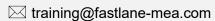
By the end of the course, you should be able to meet the following objectives:

- Describe the benefits provided by Spring Boot
- Initialize a project using Spring Boot Starters
- Leverage Spring Boot's auto configuration features
- Create simplified backing-store solutions using Spring Data JPA
- Build a simple MVC application using Spring Boot, embedded Web Server and fat JARs or classic WARs
- Build a RESTful Web application
- Utilize Spring Boot enhancements to testing
- Use Spring Security to secure Web and REST endpoints
- Enable and extend metrics and monitoring capabilities using Spring Boot actuator
- Leverage advance configuration capabilities

Course Outline:

- Introduction to Spring Essentials
 - Why Spring
 - Configuration using Spring
 - Bean creation
 - Data Management
- 2. Spring Boot Introduction
 - Introduction to Spring Boot Features
 - Value Proposition of Spring Boot
 - Creating a simple Boot application using Spring Initializr website
- 3. Spring Boot A Closer Look
 - Dependency management using Spring Boot starters
 - How auto-configuration works











- Configuration properties
- Overriding auto-configuration
- Using CommandLineRunner
- 4. Spring Boot Spring Data JPA
 - Quick introduction to ORM with JPA
 - · Benefits of using Spring with JPA
 - JPA configuration in Spring
 - Configuring Spring JPA using Spring Boot
 - Spring Data JPA dynamic repositories
- 5. Web Applications with Spring Boot
 - Introduction to Spring MVC and request processing
 - Controller method signatures
 - Using @Controller, @RestController and @GetMapping annotations
 - Configuring Spring MVC with Spring Boot
 - Spring Boot packaging options, JAR or WAR
- 6. RESTful Application with Spring Boot
 - An introduction to the REST architectural style
 - Controlling HTTP response codes with @ResponseStatus
 - Implementing REST with Spring MVC, @RequestMapping, @RequestBody and @ResponseBody
 - Spring MVC's HttpMessageConverters and automatic content negotiation
- 7. Spring Boot Testing
 - Spring Boot testing overview
 - Integration testing using @SpringBootTest
 - Web slice testing with MockMvc framework
 - Slices to test different layers of the application
- 8. Securing REST Application with Spring Security
 - What problems does Spring Security solve?
 - Configuring authentication
 - Implementing authorization by intercepting URLs
 - Authorization at the Java method level
 - Understanding the Spring Security filter chain
 - Spring security testing
- 9. Actuators, Metrics and Health Indicators
 - Exposing Spring Boot Actuator endpoints
 - Custom Metrics
 - Health Indicators
 - Creating custom Health Indicators
 - External monitoring systems

Who Should Attend

Application developers who want to increase their understanding of Spring and Spring Boot and a focus on fundamentals.



