

Course : Optimizing Spring developments with Spring Boot

Practical course - 3d - 21h00 - Ref. SGT

Price : 1650 € E.T.

★★★★☆ 4,3 / 5

BEST

This course will enable you to develop Spring Boot applications with minimal configuration effort. You will learn how to deploy these applications in the traditional way or as stand-alone applications embedded in a docker image. You will also learn about Spring Cloud and microservices architectures.

Teaching objectives

At the end of the training, the participant will be able to:

- ✓ Starting a Spring Boot project
- ✓ Mastering automatic Spring Boot configuration
- ✓ Adapt configuration to specific project needs
- ✓ Simplify test development
- ✓ Packing and deploying a Spring Boot application in different contexts

Intended audience

Java developers, Java/Java EE project managers.

Prerequisites

Experience in creating applications with Spring or knowledge equivalent to that provided by the course "Spring training, developing enterprise applications (ref. SPG)".

Course schedule

PARTICIPANTS

Java developers, Java/Java EE project managers.

PREREQUISITES

Experience in creating applications with Spring or knowledge equivalent to that provided by the course "Spring training, developing enterprise applications (ref. SPG)".

TRAINER QUALIFICATIONS

The experts leading the training are specialists in the covered subjects. They have been approved by our instructional teams for both their professional knowledge and their teaching ability, for each course they teach. They have at least five to ten years of experience in their field and hold (or have held) decision-making positions in companies.

ASSESSMENT TERMS

The trainer evaluates each participant's academic progress throughout the training using multiple choice, scenarios, hands-on work and more.

Participants also complete a placement test before and after the course to measure the skills they've developed.

1 A reminder of the classic Spring configuration

- Configuration via XML files, annotations or configuration classes.
- Setting configuration parameters, using PropertyPlaceholders.
- Configuration of the persistence layer, DataSource and EntityManagerFactory.
- Business layer and transaction configuration.
- Web layer configuration, Controller and RestController, Spring Security.
- Unit and integration testing: SpringTest, MockMvc.

Hands-on work

Appropriation of a classic Spring application that will be converted into a Spring Boot application in the following chapters.

2 Initializing a Spring Boot application

- The Spring ecosystem and its complex configuration.
- Principle of "convention over configuration".
- Starters and auto-configuration.
- Implementation of Spring Initializr, creation of a simple web application.

Hands-on work

Identification of starters corresponding to requirements, production of the skeleton of the future Spring Boot application.

3 Dependency and auto-configuration management

- Organization of Maven dependencies, transparent version management.
- Code structuring, best practices.
- Role of the @SpringBootApplication and @EnableAutoconfiguration annotations, the "application" class.
- Anatomy of an auto-configuration class, role of @Condition annotations.
- Control auto-configuration, using application.properties and application.yml property files.
- Create your own auto-configuration classes.

Hands-on work

Reorganization of existing application packages, creation of an "application" class, control of automatic configuration to the needs of the existing application.

4 Designing a Spring Boot application

- Profile definition.
- Trace configuration: log4j2 versus logback.
- JPA and Spring Data JPA with Spring Boot.
- Spring MVC with Spring Boot.
- Configuration of embedded technical infrastructures (database, servlet container).
- REST API security configuration.
- Make development easier with Spring Boot DevTools.

Hands-on work

Implement technical infrastructures "embedded", maximize auto-configuration.

TEACHING AIDS AND TECHNICAL RESOURCES

- The main teaching aids and instructional methods used in the training are audiovisual aids, documentation and course material, hands-on application exercises and corrected exercises for practical training courses, case studies and coverage of real cases for training seminars.
- At the end of each course or seminar, ORSYS provides participants with a course evaluation questionnaire that is analysed by our instructional teams.
- A check-in sheet for each half-day of attendance is provided at the end of the training, along with a course completion certificate if the trainee attended the entire session.

TERMS AND DEADLINES

Registration must be completed 24 hours before the start of the training.

ACCESSIBILITY FOR PEOPLE WITH DISABILITIES

Do you need special accessibility accommodations? Contact Mrs. Fosse, Disability Manager, at psh-accueil@orsys.fr to review your request and its feasibility.

5 Testing a Spring Boot application

- Test auto-configuration.
- Test persistence with `@DataJpaTest`.
- Integration test with `@SpringBootTest`.
- Test REST APIs with `@AutoConfigureMockMvc`, `@WebMvcTest` and `RestTemplate`.
- Monitor a Spring Boot application with Actuator.

Hands-on work

Upgrade application unit and integration tests to new Spring Boot practices, monitor use of REST endpoints.

6 Packaging and deploying a Spring Boot application

- Creating a war for classic deployment.
- Creation of a "self-contained" executable jar.
- Deployment in a docker image.

Hands-on work

Produce a self-executing jar and deploy it on a docker image.

7 Introduction to Spring Cloud and microservices architectures

- Distributed architecture and microservices, microservices architecture patterns.
- An overview of Spring Cloud.
- Outsource configuration and version management with Spring Cloud Config.
- Register and dynamically locate services with Spring Cloud Netflix.
- Implement load balancing with Spring Cloud LoadBalancer.
- Create an API Gateway with ZUUL and secure access with Spring Security.
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Hands-on work

Reverse engineering of a monolithic application in a microservices architecture.

Dates and locations

REMOTE CLASS

2026 : 10 June, 10 June, 21 Sep., 21 Sep., 9 Dec., 9 Dec.

PARIS LA DÉFENSE

2026 : 10 June, 21 Sep., 9 Dec.