Spring 5: Developing enterprise apps

Hands-on course of 5 days - 35h
Ref.: SPG - Price 2025: 3 030 (excl. taxes)

EDUCATIONAL OBJECTIVES

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

Understand the layers of an N-tier application.

Create a REST and MVC web front-end

Ensure the persistence of data

Secure an application

Understand the relationship between Spring and the Java EE APIs

HANDS-ON WORK

A "common thread" exercise will accompany the training, each step of which will be validated by unit tests.

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.

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.

THE PROGRAMME

last updated: 03/2024

1) The Spring container

- Essential components: core, data access, webmvc, webflux.
- Integration with other technologies.
- Deployment strategies.
- Beyond the Spring Framework.
- Development environment.
- Design practices.
- Spring in the Java EE ecosystem.
- Beyond Spring Framework: security, boot, data.

2) Bean management with Spring Core

- Interceptors and aspect-oriented programming.
- Planned invocations. Profiles. Testing Spring beans.
- Caching and monitoring with JMX.
- Breakdown into layers, the POJO approach.
- State management Dependency injection.

Hands-on work : Creating an n-tier application with Spring Core.

3) Access to data and transaction management

- Support for transactions within tests.
- Spring Data.
- Couplings with different technologies: JDBC, JPA, NoSQL.
- Transaction management.

Hands-on work : Implementation of a persistence layer with JPA and Spring.

4) Packaging and deployment with Spring Boot

- Automatic configuration
- The execution environment.
- Packaging (jar, war, OCI image).
- Dependency management.
- Starters.
- Deployment.

Hands-on work : Create a Spring Boot deliverable from the previously created REST API.

5) Spring Security
- Application security.
- Securing the routes.
- Choosing a user repository.
- Authentication modes (session, JWT)
- Hands-on work
- Create security for the web project.

Hands-on work : REST API: best practices.

6) The basics of the HTTP protocol.
- Setting up a REST API.
- The Bean validation API.
- Exception management.
- Reactive programming with Spring Webflux.

Hands-on work : Develop a web façade that demonstrates the services described above, consumption of RESTful web services by an html/javascript client.

7) Exchanging messages with Spring Websocket
- Theory, design patterns, the pub/sub principle.
- Overview of STOMP and SockJS.
- Support and fallback mechanisms.
- Server- and client-side implementation.

Hands-on work : Creating a publish/subscribe mechanism.

8) Web HMI with Spring MVC
- Refresher on the MVC pattern.
- Views: model access, validation, internationalization, exception handling.
- Validation with the Bean validation API.

Hands-on work : Creating a web application demonstrating the business layer developed previously.

DATES

REMOTE CLASS
2025 : 21 juil., 20 oct.