Publication date : 03/07/2024

Course : Spring 5: Developing enterprise apps

Practical course - 5d - 35h00 - Ref. SPG
Price : 2530 € E.T.

4,3 / 5

BEST

Teaching objectives

At the end of the training, the participant 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

Practical details

Hands-on work

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

Course schedule

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.

PARTICIPANTS

PREREQUISITES

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.

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.

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.

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 and locations

REMOTE CLASS
2026 : 1 June, 1 June, 8 June, 3 Aug., 3 Aug., 21 Sep., 12 Oct., 30 Nov., 30 Nov., 30 Nov.

PARIS LA DÉFENSE
2026 : 1 June, 3 Aug., 12 Oct., 30 Nov.