Updated on 12/29/2023

Sign up

Spring Cloud Training
3 days (21 hours)

Presentation

The course aims to present the stack's tools for dealing with the issues raised by microservice architecture.

The training focuses on two components of the Spring stack. Spring Boot for unitary implementation of microservices. Spring Cloud for linking all these services.

The practical exercise aims to develop an entire distributed platform that meets all the constraints imposed by a distributed system.

As with all our training courses, this one will introduce you to the latest version of Spring Cloud (Finchley SR2 2.0.x at the time of writing).

The components presented in the training are as follows:

- Discovery service with **Netflix Eureka**
- Configuration management with **Spring Cloud Config**
- Inter-service communication with **Netflix Ribbon and Netflix Feign**
- Error and failover management with **Netflix Hystrix**
- External API exposure with **Netflix Zuul**
- Real-time tracking with **Zipkin**
- Real-time monitoring with **Spring Cloud Dashboard**
- Security with **Spring Security**
- Leader Election with **Spring Cloud Cluster**

Objectives

- Setting up a Microservices architecture
- Discover the advantages and disadvantages of Spring Cloud
- Building Spring Cloud applications: Web interface, REST, Data and HATEOAS
- Mastering the various sub-projects: config server & Bus, Eureka, Ribbon, Feign and Hystrix

Target audience

Developers, Architects

Prerequisites

- Mastery of Java (version 11 minimum)
- IDE skills (Intellij, Netbeans, Eclipse, etc.)
- Experience in Maven or Gradle
- Knowledge of Git is a plus
- Knowledge of Docker and Docker-Compose is recommended

Further information

If you're a .NET developer, don't be unhappy - we've got training on Steeltoe & .NET microservices too!

Spring Cloud training program

Introduction to microservices architectures

- Principles
- Automated testing
- Versioning
- HATEOAS
- Documentation
- Implementation: Spring Boot, Spring MVC, Spring HATEOAS, Swagger, Spring REST Docs
- Bounded context cutting
- Advantages and disadvantages

Modern Spring: Spring Boot, Spring Data, and Spring Data REST

- The fundamentals
- Spring Boot web applications, WAR deployment, Thymeleaf templating
- Spring Boot web applications using JSPs, RESTful services, JSON, and XML
- Creating a Spring Boot application
- Add Spring Data to your Spring Boot application
- Add Spring Data REST to your Spring Boot application

Spring Cloud Configuration

- Introduction Spring Cloud Config
- Step-by-step instructions for creating your own Spring Cloud server
- Rated configuration Customer
- Repository organization

- YML vs Propery Files
- Detail and explanation of the Spring application startup process

Service Discovery

- How to create a Eureka server
- Register a Eureka customer
- Spring Cloud Ribbon
- Spring Cloud Feign: REST Client, declarative style
- Spring Cloud Hystrix: circuit breakers
- Spring Cloud Bus: dynamic configuration changes
- Building a resilient application

API Gateway

- Spring Cloud Zuul
- Caching Options
- Resource Expansion
- Protocol Conversion
- Zuul and ETags

Companies concerned

This course is aimed at both individuals and companies, large or small, wishing to train their teams in a new advanced computer technology, or to acquire specific business knowledge or modern methods.

Positioning on entry to training

Positioning at the start of training complies with Qualiopi quality criteria. As soon as registration is finalized, the learner receives a self-assessment questionnaire which enables us to assess his or her estimated level of proficiency in different types of technology, as well as his or her expectations and personal objectives for the training to come, within the limits imposed by the selected format. This questionnaire also enables us to anticipate any connection or security difficulties within the company (intra-company or virtual classroom) which could be problematic for the follow-up and smooth running of the training session.

Teaching methods

Practical course: 60% Practical, 40% Theory. Training material distributed in digital format to all participants.

Organization

The course alternates theoretical input from the trainer, supported by examples, with brainstorming sessions and group work.

Validation

At the end of the session, a multiple-choice questionnaire verifies the correct acquisition of skills.

Sanction

A certificate will be issued to each trainee who completes the course.