

Serverless – Spring Native Cloud Development

Function as a Service (FaaS) on Public Cloud

Course 43583 – 16 Hours

Overview

One of the emerging methodologies, as development shifts to native cloud platforms, is known as Function as a Service. FaaS is an absolute deployment platform encapsulation. Since many IT/Enterprise software are being de-composed these days, FaaS becomes more and more popular and relevant. Serverless allows developers to focus on their fine-grained Microservice functionality with no need to deal with infrastructural resource setting and management – the cloud provider does this part.

The course deep dives into Serverless and FaaS. Streams and reactive streams also discussed. The second part allows the participants to use npm serverless extension in order to create SpringBoot AWS Lambda compatible implementations, deploy and run it on public cloud. The course also details regarding APIGateway configuration and using internal cloud notification services.

On Completion, Delegates will be able to

- Describe FaaS and its relevance for Microservices development
- Implement Serverless development with Spring Framework
- Deploy Serverless application to public cloud

Who Should Attend

- Web developers and integrators that wants to implement Serverless development
- Developers that wants to use FaaS for Serverless development
- Web developers that wants to rapidly create scalable endpoints on cloud platform

Prerequisites

- Experience in REST and Web API development
- Knowledge of Microservice architecture and characteristics
- For the second part – knowledge of Java, SpringMVC & SpringBoot

Course Contents

Part 1 - Serverless & FaaS

- **Introduction**
 - What is Serverless
 - Introduction to FaaS
 - Microservices
 - Nano-services Anti-pattern
 - FaaS Advantages & Disadvantages
- **Serverless Providers**
- **Developing Serverless applications**
 - RESTful Methodology for Functions
 - Reactive Endpoints
 - Flux & Mono
 - Types of Endpoints
 - Function
 - Supplier
 - Consumer
 - Deployment Settings
- **Spring cloud function**
 - Introduction to Spring5 Reactive – WebFlux
 - Creating Reactive REST Endpoints
 - Spring-cloud-function-web & starter-web
 - Packaging and Deploying Functions with AWS Web Console

Part 2 – Working with AWS LAMBDA

- **Introduction**
 - Function entities on AWS
 - Relevant AWS resources – introduction
 - S3 & Buckets
 - CloudFormation
 - IAM Roles
 - Exploring Function events
 - HTTP

- SNS
- SQS
- S3
- CloudWatch
- **AWS pre-configuration**
 - Defining serverless user role
 - Generating access and secret keys
- **NPM Serverless extension**
 - Installing
 - Configuring access keys
 - Creating Maven/Gradle templates
 - Serverless.yml configuration
 - CloudFormation name
 - Functions & endpoints
 - API Gateway for HTTP access
 - SNS events
 - Building, packaging and deploying to AWS
 - Combining SpringBoot
 - Redeploying & removing CloudFormation settings
 - Testing and invoking