

Introduction to Microservices Architecture

Duration: 2 Days

Description

Microservices architecture is the method of developing software applications as a collection of independently deployable, small services, that each run a unique process. This technical training explains the benefits of microservices architecture, and provides hands-on experience in the tools most popular for designing, building, monitoring, and maintaining microservices.

Delegates will learn how to

- Identify the characteristics of popular microservices, and understand the design differences
- Decompose a monolithic application on a single server into a containerized application on multiple cloud instances
- Build a simple single-purpose serverless application
- Expose an Application Program Interface for the application
- Review various approaches to infrastructure used in deploying microservices
- Monitor and maintain microservices in large ecosystems and in the cloud

Audience

The technical training has been developed for an audience of experienced programmers, developers, software engineers, and DevOps practitioners.

Outline

The Emergence of Microservices Architecture

- Explore the ideal software development practice
- Learn how a fine-grained Service-Oriented Architecture (SOA) can help to achieve the ideal
- Learn how Microservices attempts to achieve the ideal

Microservice Design Principles

- Designing small microservices
- Designing independent microservices
- Designing resilient microservices

Integrating Microservices

- Understand design goals when integrating microservices
- Explore effective message formats and lightweight inter-service communication approaches
- Review the pros and cons of various service communication patterns

Microservice Technologies

- Learn about popular technologies that enable the development, deployment, and support of microservices

Decomposing the Monolith

- Understand monolithic decomposition as an approach towards application modernization
- Review successful decomposition patterns
- Understand helpful practices when decomposing a monolithic application

Deploying and Maintaining Microservices

- Explore the intersection of DevOps and microservices
- Learn to leverage virtual, cloud, and containerized environments for microservice deployment
- Discover how to monitor a microservices environment and take appropriate action to enable scaling or react to system faults