Red Hat Application Development II: Implementing Microservice Architectures

Course#:JB283
Duration:4 Days
Price:0.00

Course Description

Building onRed Hat Application Development I: Programming in Java EE (JB183), the introductory course for Java EE application development, Red Hat Application Development II: Implementing Microservice Architectures (JB283) emphasizes learning architectural principles and implementing microservices in Java EE, primarily based on MicroProfile with WildFly Swarm and OpenShift.

This course is based on Red Hat Enterprise Application Platform 7.4 and Wildfly Swarm 2018.3.3.

You will build on Java EE application development fundamentals and focus on how to develop, monitor, test, and deploy modern microservices applications. Many enterprises are looking for a way to take advantage of cloud-native architectures, but many do not know the best way to go about it. These enterprises have monolithic applications written in Java Enterprise Edition (JEE).

Objectives

Deploy and monitor microservice-based applications.
Implement a microservice with MicroProfile.
Implement unit and integration tests for microservices.
Use the config specification to inject data into a microservice.
Create a health check for a microservice.
Implement fault tolerance in a microservice.
Secure a microservice using the JSON Web Token (JWT) specification.

Audience

This course is designed for Java developers.

Prerequisites

AttendIntroduction to OpenShift Applications (DO101)or demonstrate equivalent experience
AttendRed Hat Application Development I: Programming in Java EE (JB183)or demonstrate equivalent experience
Be proficient in using an integrated development environment such as Red Hat Developer Studio or Eclipse
Experience with Maven is recommended, but not required

Content

Describe microservice architectures

Describe components and patterns of microservice-based application architectures.

Deploy microservice-based applications

Deploy portions of the course case study applications on an OpenShift cluster.

Implement a microservice with MicroProfile

Describe the specifications in MicroProfile, implement a microservice with some of the specifications, and deploy it to an OpenShift cluster.

Test microservices

Implement unit and integration tests for microservices.

Inject configuration data into a microservice

Inject configuration data from an external source into a microservice.

Create application health checks

Create a health check for a microservice.

Implement fault tolerance

Implement fault tolerance in a microservice architecture.

Develop an API gateway

Describe the API gateway pattern and develop an API gateway for a series of microservices.

Secure microservices with JWT

Secure a microservice using the JSON Web Token specification.

Monitor microservices

Monitor the operation of a microservice using metrics, distributed tracing, and log aggregation.