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Learning Style: Virtual Classroom

Technology: Red Hat

Difficulty: Advanced

Course Duration: 5 Days

Red Hat Cloud-native Microservices Development with Quarkus (DO378)

About This Course:

Red Hat Cloud-native Microservices Development with Quarkus (DO378) emphasizes learning architectural principles and implementing microservices based on Quarkus and OpenShift. You will build on application development fundamentals

and focus on how to develop, monitor, test, and deploy modern microservices applications.This course is based on OpenShift 4.12 and Quarkus 2.13

Course Objectives:

- Deploy microservice applications on Red Hat® OpenShift Container Platform.
- Build a microservice application with Quarkus.
- Implement unit and integration tests for microservices.
- Use the config specification to inject data into a microservice.
- Secure a microservice using OAuth.
- Implement health checks, tracing and monitoring of microservices.
- Build reactive and asynchronous applications using Quarkus.

Audience:

This course is designed for Java application developers.

Prerequisites:

- Experience with Java application development or Red Hat Application Development I: Programming in Java EE (JB183)
- Be proficient in using an IDE such as Visual Studio Code
- Recommended, but not required: experience with Maven and version control.
- Recommended, but not required: experience with OpenShift or Introduction to OpenShift Applications (DO101)

Course Outline:

Introducing the Red Hat Build of Quarkus

Describe the components and patterns of microservice-based application architectures and the features of the Red Hat Build of Quarkus.

Developing Cloud-native Microservices with Quarkus

Implement microservices based applications by using the Red Hat Build of Quarkus runtime and associated developer tooling.

Testing Quarkus Microservices

Implement unit and integration tests for microservices.

Developing Reactive and Asynchronous Microservices

Describe the features of reactive architectures and implement reactive services by

using Quarkus.

ISecuring Quarkus Microservices

Secure microservice communications by applying origin validation, requests authentication and authorization.

Implementing Quarkus Microservices on the Red Hat OpenShift Container Platform

Develop and deploy cloud-native applications on the Red Hat OpenShift Container Platform.

Implementing Fault Tolerance in Microservices

Implement fault tolerance in a microservice architecture.

Monitoring Quarkus Microservices

Monitor the operation of a microservice by using logging, metrics and distributed tracing.