Red Hat Training and Certification

DO378
Red Hat Cloud-native Microservices Development with Quarkus

Develop microservice-based applications with Quarkus and OpenShift.

Many enterprises are looking for a way to take advantage of cloud-native architectures, but many do not know the best approach. Quarkus is an exciting new technology that brings the reliability, familiarity, and maturity of Java Enterprise with a container-ready lightning fast deployment time. 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 4.6 and Quarkus 1.11

Course content summary

- 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 and deploy native Quarkus applications.

Target Audience

This course is designed for Java application developers.

Outline for this course

- **Describe microservice architectures**
  Describe components and patterns of microservice-based application architectures.
- **Implement a microservice with Quarkus**
  Describe the specifications in Quarkus, implement a microservice with some of the specifications, and deploy it to an OpenShift cluster.
- **Deploy microservice-based applications**
  Deploy Quarkus microservices to a Red Hat OpenShift cluster.
- **Build microservice applications with Quarkus**
  Build a persistent and configurable distributed quarkus microservices application.
- **Implement fault tolerance**
  Implement fault tolerance in a microservice architecture.
- **Build and deploy native Quarkus applications**
  Describe Quarkus in native mode and describe its deployment on OpenShift Container Platform.
- **Test microservices**
  Implement unit and integration tests for microservices.
- **Create application health checks**
  Create a health check for a microservice.
- **Secure microservices**
  Secure microservice endpoints and communication.
- **Monitor microservices**
  Monitor the operation of a microservice using metrics and distributed tracing.

Impact on the individual

As a result of attending this course, you will understand how to develop, monitor, test, and deploy microservice-based applications using Quarkus and Red Hat OpenShift.

You should be able to demonstrate these skills:

- Design a microservices-based architecture for an enterprise application.
- Quickly build and test microservices with Quarkus and deploy on to OpenShift Container Platform.
- Implement fault tolerance and health checks for microservices.
- Secure microservices to prevent unauthorized access.
- Monitor and trace microservices.

Course reference https://www.redhat.com/en/services/training/red-hat-cloud-native-microservices-development-quarkus-do378?section=overview