

Container Adoption Boot Camp for Developers (DO720)

Course Outline

Introduction to container technology

Describe how software can run in containers orchestrated by OpenShift Container Platform.

Create containerized services

Provision a service using container technology.

Manage containers

Modify prebuilt container images to create and manage containerized services.

Manage container images

Manage the life cycle of a container image from creation to deletion.

Create custom container images

Design and code a Dockerfile to build a custom container image.

Deploy containerized applications

Deploy applications on OpenShift Container Platform.

Deploy multi-container applications

Deploy applications that are containerized using multiple container images.

Troubleshoot containerized applications

Troubleshoot a containerized application deployed on OpenShift.

Deploy and manage applications on an OpenShift cluster

Deploy applications using various application packaging methods to an OpenShift cluster and manage their resources.

Design containerized applications for OpenShift

Select a containerization method for an application and create a container to run on an OpenShift cluster.

Publish enterprise container images

Create an enterprise registry and publish container images to it.

Build applications

Describe the OpenShift build process, build triggers, and manage builds.

Create applications from OpenShift templates

Describe the elements of a template and create a multi-container application template.

Manage application deployments

Monitor application health and implement various deployment methods for cloud-native applications.

Implement continuous integration and continuous deployment pipelines in OpenShift

Create and deploy Jenkins pipelines to facilitate continuous integration and deployment with OpenShift.

Describe microservice architectures

Describe components and patterns of microservice-based application architectures.

Implement a microservice with Quarkus

Deploy Red Hat OpenShift Service Mesh on OpenShift Container Platform.

Test microservices

Implement unit and integration tests for microservices.

Deploy microservice-based applications

Deploy Quarkus microservice applications to an OpenShift cluster.

Build microservice applications with Quarkus

Build a persistent and configurable distributed quarkus microservices application.

Test microservices

Implement unit and integration tests for microservices.

Secure microservices

Secure a microservice using OAuth.

Monitor microservices

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

Introduction to Red Hat OpenShift Service Mesh

Describe the basic concepts of microservice architecture and OpenShift Service Mesh.

Observe a service mesh

Trace and visualize an OpenShift Service Mesh with Jaeger and Kiali.

Control service traffic

Manage and route traffic with OpenShift Service Mesh

Release applications with OpenShift Service Mesh

Release applications with canary and mirroring release strategies.

Test service resilience with chaos testing

Test the resiliency of an OpenShift Service Mesh with chaos testing.

Build resilient services

Use OpenShift Service Mesh strategies to create resilient services.

Secure an OpenShift Service Mesh

Secure and encrypt services in your application with OpenShift Service Mesh.