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Red Hat Container Adoption Boot Camp for Developers

Duration: 10 Days   Course Code: DO720

Overview:

Supporting the adoption of container technology through the development of container-native applications
The Container Adoption Boot Camp for Developers (DO720) immerses you in intensive, hands-on development of container-native applications deployed on Red Hat's implementation of Kubernetes, Red Hat® OpenShift® Container Platform. As part of enrollment, you will receive one year of Red Hat Learning Subscription Standard, which gives you unlimited access to all of our courses online, plus up to five certification exams and two retakes. This boot camp is for those seeking to make a quantum leap in their journey toward digital transformation. Making this shift involves developing software in tight iterations so that business value can be realized sooner. In order to accomplish this goal, this offering can facilitate the adoption of container-native applications, including microservices.
This collection of courses is based on Red Hat OpenShift Container Platform 4.10.
Note: This course is five days. Durations may vary based on the delivery. For full course details, scheduling, and pricing, select your location then "get started" on the right hand menu.
Course content summary
- Introduction to containers, Kubernetes, and Red Hat OpenShift
- Deploy and manage applications on an OpenShift cluster
- Build and design containerized applications for OpenShift
- Create microservice-based applications with Quarkus
- Deploy microservices to an OpenShift cluster
- Build resilient services with Red Hat OpenShift Service Mesh
- Secure an OpenShift service mesh

Target Audience:

Developers interested in adopting container technology and developing microservices.

Objectives:

■ **You should be able to demonstrate these skills:**

■ Create and manage custom container images.

■ Deploy applications to OpenShift Container Platform.

■ Develop microservices using Quarkus.

■ Design container images to containerize applications.

■ Customize application builds and implement post-commit build hooks.

■ Create a multi-container application template.

■ Implement health checks to improve system reliability.

■ Implement unit and integration tests for microservices.

■ Use the Config specification to inject data into a microservice.

■ Implement fault tolerance in a microservice using OpenShift Service Mesh.

■ Secure an OpenShift Service Mesh.

Prerequisites:

■ Become a Red Hat Certified System Administrator (RHCSA), or demonstrate equivalent experience
■ Red Hat Application Development I: Programming in Java EE (AD183), or experience with Java EE development
■ DO283 - Red Hat Application Development II: Implementing Microservice Architectures

Follow-on-Courses:
■ EX288 - Certified Specialist in OpenShift Application Development exam

Content:

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.

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

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.

Design containerized applications for OpenShift	an OpenShift cluster.	
		Secure an OpenShift Service Mesh
	Build microservice applications with Quarkus	
Select a containerization method for an application and create a container to run on an OpenShift cluster.		Secure and encrypt services in your application with OpenShift Service Mesh.
	Build a persistent and configurable distributed quarkus microservices application.	

Additional Information:

Technology considerations
Internet access is required for this course in order to access the OpenShift shared and dedicated clusters.

Impact on the organization
This boot camp is intended to provide developers who have basic to intermediate knowledge of containers with the foundational and advanced skills needed to develop, deploy, and troubleshoot microservices applications with Red Hat OpenShift Container Platform. Red Hat OpenShift Container Platform enables rapid application development and deployment, as well as portability of an application across environments. The platform also offers simplified application scaling, administration, and maintenance of adaptive or cloud-native applications.

Impact on the individual
As a result of attending this course, you should be able to install, configure, and manage a Red Hat OpenShift Container Platform cluster and deploy applications on it.

Further Information:

For More information, or to book your course, please call us on 0800/84.009

info@globalknowledge.be

www.globalknowledge.com/en-be/