RED HAT CONTAINER ADOPTION BOOT CAMP FOR DEVELOPERS (DO720)

Course Code: 832003

Learn the adoption of container technology through the development of container-native applications.

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

What You'll Learn

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.
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.

Who Needs to Attend

Developers interested in adopting container technology and developing microservices.

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

Technology considerations

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

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CLASSROOM LIVE	$10,000 USD	10 Day

Classroom Live Outline

Module 1:Introduction to container technology

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

Module 2: Create containerized services

- Provision a service using container technology.

Module 3: Manage containers

- Modify prebuilt container images to create and manage containerized services.

Module 4: Manage container images

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

Module 5: Create custom container images

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

Module 6: Deploy containerized applications

- Deploy applications on OpenShift Container Platform.

Module 7: Deploy multi-container applications

- Deploy applications that are containerized using multiple container images.

Module 8: Troubleshoot containerized applications

- Troubleshoot a containerized application deployed on OpenShift.

Module 9: Deploy and manage applications on an OpenShift cluster

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

Module 10 : Design containerized applications for OpenShift

- Select a containerization method for an application and create a container to

run on an OpenShift cluster.

Module 11: Publish enterprise container images

- Create an enterprise registry and publish container images to it.

Module 12: Build applications

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

Module 13: Create applications from OpenShift templates

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

Module 14: Manage application deployments

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

Module 15:Implement continuous integration and continuous deployment pipelines in OpenShift

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

Module 16: Describe microservice architectures

- Describe components and patterns of microservice-based application architectures.

Module 17: Implement a microservice with Quarkus

- Deploy Red Hat OpenShift Service Mesh on OpenShift Container Platform.

Module 18: Test microservices

- Implement unit and integration tests for microservices.

Module 19: Deploy microservice-based applications

- Deploy Quarkus microservice applications to an OpenShift cluster.

Module 20: Build microservice applications with Quarkus

- Build a persistent and configurable distributed quarkus microservices application.

Module 21: Test microservices

- Implement unit and integration tests for microservices.

Module 22: Secure microservices

- Secure a microservice using OAuth.

Module 23: Monitor microservices

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

Module 24: Introduction to Red Hat OpenShift Service Mesh

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

Module 25: Observe a service mesh

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

Module 26: Control service traffic

- Manage and route traffic with OpenShift Service Mesh

Module 27: Release applications with OpenShift Service Mesh

- Release applications with canary and mirroring release strategies.

Module 28 :Test service resilience with chaos testing

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

Module 29: Build resilient services

- Use OpenShift Service Mesh strategies to create resilient services.

Module 30: Secure an OpenShift Service Mesh

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

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VIRTUAL CLASSROOM LIVE	$10,000 USD	10 Day

Virtual Classroom Live Outline

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PRIVATE GROUP TRAINING	10 Day

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