Container Adoption Boot Camp for Developers

Duration: 10 Days

Course Description:

The Container Adoption Boot Camp for Developers (DO720) immerses you in intensive, hands-on development of cloud-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 5 certification exams and 2 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 cloud-native applications, including microservices.

This collection of courses is based on Red Hat OpenShift Container Platform 4.14 and Red Hat Build of Quarkus 3.8.

Target Audience:

- Developers interested in adopting container technology and developing microservices

Course Outlines:

Introduction and Overview of Containers
- Describe how containers facilitate application development

Podman Basics
- Manage and run containers with Podman

Container Images
- Navigate container registries to find and manage container images

Custom Container Images
- Build custom container images to containerize applications

Persisting Data
- Run database containers with persistence

Troubleshooting Containers
- Analyze container logs and configure a remote debugger

Multi-container Applications with Compose
- Run multi-container applications with Podman Compose

Red Hat OpenShift Container Platform for Developers
- Define the Red Hat OpenShift architecture, concepts and terminology, and set up the developer environment

Deploying Simple Applications
- Deploy simple applications by using the Red Hat OpenShift web console and command-line tools

Building and Publishing Container Images
- Build, deploy, and manage the lifecycle of container images by using a container registry

Managing Red Hat OpenShift Builds
- Describe the Red Hat OpenShift build process and build container images

Managing Red Hat OpenShift Deployments
- Describe the different Red Hat OpenShift deployment strategies and how to monitor the health of applications

Deploying Multi-container Applications
- Deploy multi-container applications by using Red Hat OpenShift Templates, Helm Charts and Kustomize

Introducing the Red Hat Build of Quarkus
- Describe the components and patterns of microservices-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

Securing Quarkus Microservices
- Secure microservice communications by applying origin validation, request 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 metrics and distributed tracing