Red Hat Container Adoption Boot Camp for Developers (DO720)

ID DO720 **Price** 10,200.— €(excl. tax) **Duration** 10 days

Course Overview

Supporting the adoption of container technology through the development of cloud-native applications.

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 4.12 and Red Hat Build of Quarkus 2.13.

Who should 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)

Course Objectives

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 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:

- Design container images to containerize applications.
- Build and manage custom container images.
- Persisting Data in container based applications.
- Deploy applications to OpenShift Container Platform.
- Develop microservices using Quarkus.
- Implement health checks in microservices to improve system reliability.
- Implement unit and integration tests for Quarkus microservices.
- Implement fault tolerant Quarkus microservices
- Secure Quarkus microservices using JWT and OAuth

Course Content

- 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 Quarkus and Node.js based microservices to an OpenShift cluster
- Learn how to test, secure, and monitor Quarkus microservices
- Make Quarkus microservices fault tolerant

Detailed Course Outline

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

About Fast Lane

Fast Lane is a global, award-winning specialist in technology and business training as well as consulting services for digital transformation. As the only global partner of the three cloud hyperscalers- Microsoft, AWS and Google- and partner of 30 other leading IT vendors, Fast Lane offers qualification solutions and professional services that can be scaled as needed. More than 4,000 experienced Fast Lane professionals train and advise customers in organizations of all sizes in 90 countries worldwide in the areas of cloud, artificial intelligence, cyber security, software development, wireless and mobility, modern workplace, as well as management and leadership skills, IT and project management.

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