Red Hat Container Adoption Boot Camp for Administrators

Duration: 10 Days   Course Code: DO700

Overview:

The Container Adoption Boot Camp (DO700) 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.
- Introduction to Containers, Kubernetes, and Red Hat OpenShift
- Configuring a Red Hat OpenShift cluster
- Describing advanced features of Red Hat OpenShift
- Containerizing software applications
- Developing microservices with MicroProfile
- Developing microservices with Red Hat® OpenShift Application Runtimes

Target Audience:

This collection of courses is designed for application developers and software architects interested in adopting container technology and container-native applications.

Objectives:

■ Impact on the organization

■ Microservices are a new alternative to designing modern applications, focused on working with less hardware resources and, therefore, reducing infrastructure costs. Many organizations are struggling with how to make the move from monolithic applications to applications based on microservices, as well as how to reorganize their development paradigm to reap the benefits of microservice development in a DevOps economy. In particular, many organizations are invested in Java programming frameworks and OpenShift.

■ This curriculum is intended to develop the skills needed to create microservices architectures using Red Hat OpenShift Container Platform, a cloud solution that leverages the usage of microservices running on containers. The curriculum develops the skills needed to install, configure, and manage OpenShift to deploy containerized applications that are highly available, resilient, and scalable. You will learn to containerize software applications and efficiently deploy them to an OpenShift cluster, allowing you to take advantage of a platform and architecture that fosters DevOps principles in your organization.

■ Red Hat has created this course in a way intended to benefit our customers, but each company and infrastructure is unique, and actual results or benefits may vary.

■ Impact on the individual

■ As a result of attending this course, you should be able to configure and manage a Red Hat OpenShift Container Platform cluster and know how to develop, monitor, test, and deploy microservice-based Java EE applications using Wildfly Swarm and OpenShift.

■ You should be able to demonstrate these skills:

■ Secure Red Hat OpenShift with a simple internal authentication mechanism.

■ Control access to resources on Red Hat OpenShift.

■ Deploy applications on Red Hat OpenShift using source-to-image facility.

■ Configure and manage Red Hat OpenShift pods, services, routes, secrets, and other resources.

■ Deploy applications to a Red Hat OpenShift cluster and manage them with the command-line client and the web console.

■ Design and build containers for applications for successful deployment to a Red Hat OpenShift cluster.

■ Publish container images to an enterprise registry.

■ Build containerized applications using the source-to-image facility.

■ Create applications using Red Hat OpenShift templates.

■ Extract a service from a monolithic application and deploy it to the cluster as a microservice.

■ Migrate applications to run on a Red Hat OpenShift cluster.

■ Design a microservices-based architecture for an enterprise application.

■ Implement fault tolerance and health checks for microservices.

■ Secure microservices to prevent unauthorized access.

- Create containerized services using Docker.

- Manage containers and container images.

- Create custom container images.

- Deploy containerized applications on Red Hat OpenShift.

- Deploy multi-container applications.

- Install Red Hat OpenShift Container Platform to create a simple cluster.

- Configure and manage Red Hat OpenShift masters and nodes.

Prerequisites:

- Be able to use a Linux terminal session and issue operating system commands
- Become a Red Hat Certified System Administrator (RHCSA), or demonstrate equivalent experience
- Have experience with web application architectures and their corresponding technologies
- Have a comfort level with the Red Hat Enterprise Linux command-line interface and bash scripting

Content:

Create custom container images

Create containers, manage containers, and manage container images.

Deploy containerized applications

Customize containers and deploy on Red Hat OpenShift.

Troubleshoot containerized applications

Troubleshoot Red Hat OpenShift deployments.

Explore Red Hat OpenShift networking concepts

Describe Red Hat OpenShift networking concepts and troubleshoot with CLI.

Manage Red Hat OpenShift resources

Control access to Red Hat OpenShift resources, implement persistent storage, and manage application deployments.

Containerize applications

Understand deployment methods, designing containers, and integrated registry and image streams.

Manage application deployments

Manage advanced application deployments and Red Hat OpenShift templates.

Design a highly available cluster

Design and install a highly available cluster, custom certificates, and log aggregation, in addition to gaining an understanding of Gluster container-native storage, managing system resources, and configuring advanced networking.

Implement microservice architecture

Describe microservice architectures, deploy microservices, and implement with MicroProfile.

Test microservices

Run microservices, inject configuration data, and perform health checks.

Implement fault tolerance

Apply fault tolerance, develop an API gateway for a series of microservices, and secure with JWT.

Secure microservices with JWT

Use the JSON Web Token specification to secure a microservice.

Create microservices with Red Hat OpenShift Application Runtimes

Receive an introduction to OpenShift Application Runtimes and Fabric8.

Install Red Hat OpenShift Container Platform

Install, monitor, and manage OpenShift Container Platform.

Customize source-to-image builds

Tailor source-to-image builds and migrate applications to Red Hat OpenShift.

Develop and deploy runtimes

Employ the WildFly Swarm, Vert.x, and Spring Boot runtimes to develop and deploy microservices.

Monitor microservices

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

Further Information:

For More information, or to book your course, please call us on Head Office 01189 123456 / Northern Office 0113 242 5931

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