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Module Title : DO380: Red Hat OpenShift Administration II: High Availability

Duration : 4 days

Overview

You will design an OpenShift HA cluster, then build and test it. You will use this cluster to examine more advanced topics in the administration and operation of a robust OpenShift cluster in the remainder of the course.

Course summary

- Learn OpenShift cluster features, architecture, and sizing.
- Investigate OpenShift cluster installation methods.
- Configure storage providers and storage classes.
- Manage OpenShift certificates.
- Configure GlusterFS container-native storage.
- Diagnose cluster health.
- Scale OpenShift clusters.
- Manage OpenShift resources.

Audience

This course is designed for Linux® system administrators who want to deploy and manage a large-scale Red Hat® OpenShift Container Platform environment in their datacenters.

Prerequisites

Red Hat recommends these prerequisites:

- Become a Red Hat Certified System Administrator, or demonstrate equivalent experience
- Attend Introduction to Containers, Kubernetes, and Red Hat OpenShift (DO180) or demonstrate equivalent experience with containers, Kubernetes, and OpenShift
- Attend Red Hat OpenShift Administration I (DO280) or demonstrate equivalent experience with OpenShift
- Recommended, but not required: become a Red Hat Certified Specialist in OpenShift Administration (EX280)

Course Outline

Design a highly available cluster

Design an OpenShift cluster that supports high availability and resiliency.

Prepare to install an HA cluster

Configure the advanced installer and prepare the cluster environment for HA installation.

Configure OpenShift to use custom certificates

Configure the OpenShift cluster to use custom certificates.

Build an HA cluster

Use the advanced installation method to build an HA OpenShift cluster.

Provision persistent storage

Describe storage providers, configure a provider, create a storage class, and test the configuration.

Enable log aggregation

Consolidate useful data for analysis by enabling the log aggregation feature.

Maintain an OpenShift cluster

Perform recurring maintenance activities on an OpenShift cluster.

Manage system resources

Manage operating system and cluster resources for optimal performance.

Configure security providers

Configure security providers and advanced security options.

Configure networking options

Configure various advanced networking features and options.

Impact of this training

Impact on the organization

This course is intended to develop the skills needed to administer and operate large, fault-tolerant OpenShift clusters. You will design and implement a highly available and high-performance OpenShift cluster. These skills will allow the organization to provide and maintain a resilient platform on which developers can deploy production-scale containerized applications.

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 design, install, and configure a highly available and high-performance OpenShift cluster. You will learn how to adapt the OpenShift cluster to work with existing infrastructure, such as security and storage providers. You should be able to perform various Day 2 operational procedures intended to maintain an efficient OpenShift cluster.

Student should be able to demonstrate these skills:

- Design and install a highly available cluster.
- Provision persistent storage using dynamic allocation.
- Install the GlusterFS Container Native Storage solution on an OpenShift cluster.
- Enable log aggregation across the cluster.
- Perform diagnostics on the cluster.
- Back up and restore critical data for the cluster.
- Manage OpenShift and operating system resources to keep the cluster running efficiently.
- Configure the LDAP security provider.
- Describe and install the Open vSwitch multitenant software-defined networking provider.