Red Hat OpenStack Services on OpenShift Boot Camp (CL740) Training

Duration: **10 Day**

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Overview

Develop the Red Hat OpenShift Container Platform administration skills required to prepare for deploying and operating Red Hat OpenStack Services on OpenShift at enterprise scale.

Red Hat OpenStack Services on OpenShift Boot Camp (CL740) provides an intensive, hands-on learning experience focused on administering **Red Hat OpenShift Container Platform**, Red Hat's enterprise Kubernetes platform.

The boot camp is designed to establish the OpenShift knowledge required before moving into the installation and day-to-day operation of Red Hat OpenStack Services on OpenShift. Beginning with Kubernetes and OpenShift fundamentals, the program progresses through container and pod operations, storage, security, authentication, monitoring, logging, and multicluster management.

Later sections introduce Red Hat Advanced Cluster Management for Kubernetes (RHACM), including multicluster administration, governance policies, and observability, before progressing into OpenStack control plane management.

Enrollment includes **one year of Red Hat Learning Subscription Standard** , providing unlimited online access to Red Hat training courses. Participants can also take up to five different certification exams and use available retake opportunities for exams they do not successfully pass.

This collection of courses is based on**Red Hat OpenShift Container Platform 4.14** and **Red Hat OpenStack Services on OpenShift 18.0**.

Benefits for Organizations

CL740 is intended to provide administrators who are relatively new to containers with the foundational and advanced OpenShift skills required to configure, manage, and automate Red Hat OpenShift Container Platform for Red Hat OpenStack Services on OpenShift.

The skills developed during the boot camp can help technical teams:

- Configure and administer Red Hat OpenShift Container Platform.
- Support OpenShift management with automation practices.
- Manage the platform infrastructure required by Red Hat OpenStack Services on OpenShift.
- Support application portability across different environments.
- Simplify application scaling, administration, and maintenance.
- Improve the operation of cloud-native and adapted applications.

Benefits for Participants

After completing CL740, participants should be able to configure and manage**Red Hat OpenShift Container Platform 4** clusters at enterprise scale.

Participants will develop skills to:

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- Configure security controls for users, applications, and networking.
- Integrate OpenShift with enterprise authentication, storage, and GitOps systems to support operational productivity and organizational standards.
- Apply troubleshooting techniques to identify problems with containerized applications, cluster operators, and compute capacity.
- Manage multiple OpenShift clusters through RHACM.
- Apply multicluster governance policies and observability capabilities.
- Assess the health of OpenStack services running on OpenShift.
- Monitor OpenStack data planes.
- Configure compute nodes using Kubernetes custom resources and Ansible Playbooks.

Together, these capabilities provide a structured path from OpenShift platform administration to the operation of Red Hat OpenStack Services on OpenShift.

Prerequisites

Participants are recommended to:

- Hold the **Red Hat Certified System Administrator (RHCSA)** certification, or
- Have equivalent Linux system administration knowledge and practical experience.

Who Should Attend

CL740 is intended for professionals responsible for the daily administration and operation of Red Hat OpenStack Services on OpenShift environments.

The target audience includes:

- System administrators responsible for Red Hat OpenStack Services on OpenShift,
- OpenStack operators responsible for Day-2 operations,
- OpenStack/OpenShift engineers responsible for the day-to-day management of Red Hat OpenShift Container Platform.

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What You Will Learn

CL740 covers the following key areas:

- Introduction to Kubernetes and OpenShift,
- Kubernetes and OpenShift command-line interfaces and APIs,
- Running applications as containers and pods,
- Storage management for application configuration and persistent data,
- Declarative resource management,
- Authentication and authorization,
- Network security,
- OpenShift updates, logging, and monitoring,
- Multicluster management with Red Hat Advanced Cluster Management,
- OpenStack control plane administration.

Outline

Introduction to Kubernetes and OpenShift

Identify the main Kubernetes cluster services and OpenShift platform services. Learn how to monitor these services through the OpenShift web console.

Kubernetes and OpenShift Command-line Interfaces and APIs

Access an OpenShift cluster from the command line and query Kubernetes API resources to evaluate overall cluster health. Become familiar with CLI-based administration and resource inspection.

Running Applications as Containers and Pods

Run containerized applications as unmanaged Kubernetes pods. Diagnose and troubleshoot common issues affecting pods and containers.

Managing Storage for Application Configuration and Data

Externalize application configuration into Kubernetes resources and provision storage volumes for persistent application data.

Declarative Resource Management

Deploy and update applications from resource manifests. Parameterize manifests so that resources can be adapted to different target environments.

Authentication and Authorization

Configure OpenShift authentication using the HTPasswd identity provider. Assign appropriate roles to users and groups to control access to cluster resources.

Network Security

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Protect network traffic between applications inside the cluster as well as communication entering or leaving the OpenShift environment.

OpenShift Updates, Logging, and Monitoring

Update an OpenShift cluster while minimizing disruption to deployed applications.

Troubleshoot application and cluster performance and availability problems. Deploy OpenShift logging and query log records generated by workloads and cluster nodes.

Managing Clusters with Red Hat Advanced Cluster Management

Use the Red Hat Advanced Cluster Management for Kubernetes (RHACM) web console to import and manage clusters.

Configure user access to managed clusters and troubleshoot common issues that can occur during cluster import.

Deploying and Managing Multicluster Policies with RHACM

Use RHACM governance capabilities to deploy and manage policies across a multicluster environment.

Apply consistent governance and management requirements across multiple managed OpenShift clusters.

Enabling and Customizing RHACM Observability

Use RHACM observability components to monitor a fleet of managed clusters from a centralized environment.

Apply observability capabilities to identify and troubleshoot performance and availability issues across managed clusters.

OpenStack Administration: Control Plane Management

Explore Red Hat OpenShift architecture and resources from an OpenStack administration perspective. Navigate graphical and command-line interfaces and locate relevant command information.

Identify OpenStack services running on OpenShift and assess the health of the OpenStack operator and its dependent resources to support control plane operations.