Red Hat Training and Certification

CL170
OpenStack Administration: Control Plane Management

Course Description

Use Red Hat OpenShift to manage OpenStack services and RHEL compute nodes that run VM-based workloads.

OpenStack Administration: Control Plane Management (CL170) helps Red Hat OpenStack cluster administrators to manage the health and performance of OpenStack control plane services, to troubleshoot issues by inspecting Kubernetes operators and workloads, and to configure OpenStack control plane services by using Kubernetes custom resources.

This course is based on Red Hat OpenShift Services on OpenStack 18.

Course content summary

- Check the health of OpenStack operators and workloads and identify disabled or misconfigured services
- Collect troubleshooting information from OpenStack control and data planes for customer support requests
- Enable and customize OpenStack control plane services by configuring the control plane custom resource
- Check the health of OpenStack compute notes and identify missing or misconfigured data plane services
- Remove and replace or reprovision failed compute nodes

Audience for this course

- Platform Engineers, Cloud Administrators, and System Administrators interested in managing, tuning, and troubleshooting Red Hat OpenStack clusters

Recommended training

- Successful completion of Red Hat System Administration I (RH124) is recommended
- Recommended, but not required: Red Hat System Administration II (RH134) and Red Hat Enterprise Linux Automation with Ansible (RH294) or demonstrate equivalent skills
- Basic data center storage concepts: storage protocols, NAS, and SAN

- Data center networking concepts: ISO model, VLANs, firewalls, and Internet protocols, including but not limited to ICMP, IP, and HTTP
- Basic object storage concepts, such as experience with AWS S3, are useful but not required
- Ceph administration skills are useful but not required

Outline for this course

- **Introduction to Red Hat OpenShift Container Platform**
  Identify the Red Hat OpenShift architecture and resources, navigate the graphical and command-line interfaces, and find information about commands.

- **Inspecting OpenStack Services on OpenShift**
  Identify OpenStack services on OpenShift and assess the health of the OpenStack operator and its dependent resources.

- **Customizing OpenStack Services**
  Enable and disable OpenStack services and customize them.

- **Verifying OpenStack API Connectivity**
  Identify the resources that connect an OpenStack control plane to its data plane.

- **Verifying Connectivity to OpenStack Cell Services**
  Verify that an OpenStack cell is connected to its database and messaging services, and validate the additional services that enable connections to it from compute nodes.

- **Accessing Storage Resources in OpenStack**
  Verify the status and connectivity of OpenStack storage resources.

- **Verifying Reliable OpenStack Services**
  Configure and assess high availability of an OpenStack control plane and its supporting services.

- **Verifying Network Encryption for OpenStack Services**
  Inspect the configuration of OpenStack components and verify that the network communication uses certificate-based encryption.

- **Inspecting Data Plane Services and Compute Nodes**
  Identify OpenStack data plane resources and assess their health.

- **Customizing an OpenStack Data Plane**
  Apply custom configuration to data plane node sets and verify the applied settings.

As a result of taking this course, Red Hat OpenStack administrators will be empowered to monitor the health of OpenStack data planes and configure compute nodes by using the transformative capabilities of Kubernetes custom resources and Ansible Playbooks

Course reference: https://www.redhat.com/en/services/training/cl170-openstack-administration-control-plane-management