Kubernetes and OpenShift Command-line Interfaces and APIs

No slides for module

- Pls refer to pdf guide

Guided Exercise: The Kubernetes and OpenShift Command-line Interfaces

- Use the OpenShift web console to locate the installation file for the oc OpenShift command-line interface.
- Get and use a token from the web console to access the cluster from the command line.
- Identify key differences between the kubectl and oc command-line tools.
- Identify the main components of OpenShift and Kubernetes.

Guided Exercise: Inspect Kubernetes Resource

- List and explain the supported API resources for a cluster.
- Identify resources from specific API groups.
- Format command outputs in the YAML and JSON formats.
- Use filters to parse command outputs.
- Use JSONPath and custom columns to extract information from resources.

Guided Exercise: Monitor an OpenShift Cluster

- Explore and show the monitoring features and components.
- Explore the Overview page to inspect the cluster status.
- Use a terminal connection to the master01 node to view the crio and kubelet services.
- Explore the Monitoring page, alert rule configurations, and the etcd service dashboard.
- Explore the events page, and filter events by resource name, type, and message.

Lab: Introduction to Kubernetes and OpenShift

You should be able to :

- Navigate the Red Hat OpenShift Container Platform web console to find various information items and configuration details.
- As the student user on the workstation machine, use the lab command to prepare your system for this exercise.
- This command ensures that the Red Hat OpenShift Container Platform is deployed and ready for the lab.

Chapter Summary

In this chapter, you learned:

- Containers are an isolated application runtime created with very little overhead.
- A container image packages an application with all of its dependencies, making it easier to run the application in different environments.
- Applications such as Podman create containers using features of the standard Linux kernel.
- Container image registries are the preferred mechanism for distributing container images to multiple users and hosts.
- OpenShift orchestrates applications composed of multiple containers using Kubernetes.
- Kubernetes manages load balancing, high availability, and persistent storage for containerized applications.
- OpenShift adds to Kubernetes multitenancy, security, ease of use, and continuous integration and continuous development features.
- OpenShift routes enable external access to containerized applications in a manageable way.