Red Hat OpenShift Administration

Module 1. Introduction to Red Hat OpenShift

- What is Red Hat OpenShift?
- OpenShift Features
- OpenShift Architecture
- Difference Between Various OpenShift Editions
- Hosted vs Self-Managed OpenShift
- What is OpenShift Control Plane?
- Understanding Cluster Operators

Module 2.Installing and Connecting to an OpenShift Cluster

- UPI vs IPI Installation Methods
- Understanding The Deployment Process
- Upgrading an OpenShift Cluster
- Connecting to a Cluster
- Troubleshooting a Cluster

Module 3.Security Options in OpenShift

- Authentication And Authorization
- What is the Authentication Operator?
- Different Identity Providers
- Using HTPasswd Identity Provider
- Adding Users and Assigning Permissions

Module 4.Configuring Security for Users and Applications

- Difference between Rule, Role, and Binding
- Default Roles in OpenShift
- User Types in OpenShift
- Managing Secrets in OpenShift
- Using Security Context Constraints (SCC)

Module 5.Networking in OpenShift

- What is Software-defined Networking?
- Configuring and Managing Ingress and Route
- Difference between NodePort and Load Balancer

Module 6.Pod Scheduling and Scaling in OpenShift

- How OpenShift Pod Scheduler Works?
- Labeling
- Pod Placement
- Scaling an Application
- Resource Quotas
- Scaling an OpenShift Cluster
- Manual vs Auto Scale

Module 7.Working with Logs

- Configuring Fluentd
- Configuring Kibana
- Configuring Elasticsearch

Module 8. OpenShift Web Console

- Cluster Administration with the Web Console
- Managing Workloads with the Web Console
- Monitoring OpenShift with the Web Console

Module 9:Provision persistent storage

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

Module 10:Enable log aggregation

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

Module 11:Maintain an OpenShift cluster

- Perform recurring maintenance activities on an OpenShift cluster.

Module 12: Manage system resources.

- Manage operating system and cluster resources for optimal performance.

Module 13: Configure security providers.

- Configure security providers and advanced security options.

Module 14: Configure networking options

- Configure various advanced networking features and options.

Labs

Lab 1. Installing, Configuring and Connecting to a Cluster and Executing Troubleshooting commands

Lab 2. Configuring Identity Providers