Red Hat OpenShift Administration II: Configuring a Production Cluster (DO280) Training

Duration: **4 Day**

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Configure, secure, and manage Red Hat OpenShift clusters for enterprise-grade workloads.

The {*training} equips system and platform administrators with the skills needed to manage production OpenShift clusters that host multiple applications and development teams.

Participants will learn to configure **authentication and authorization**, **multi-tenancy**, **network and application security**, and to manage **OpenShift add-ons** via Operators. The course also covers enabling **developer self-service**, managing **cluster updates**, and deploying applications that require advanced privileges such as CI/CD pipelines, monitoring agents, and security tools.

> *This course is based on Red Hat OpenShift Container Platform 4.18 and applies to all deployment types, including ROSA, ARO, and OpenShift Container Platform.*

Who Should Attend

This course is designed for:

Primary Audience:

- Platform Engineers
- System Administrators
- Cloud Administrators
- Infrastructure Engineers managing OpenShift environments

Secondary Audience:

- Enterprise Architects
- Site Reliability Engineers (SREs)
- DevOps Engineers designing and supporting OpenShift infrastructure

What You Will Learn

By the end of this {*training}, you will have gained knowledge and skills in the following areas:

- Deploy applications using **manifests, Helm, Kustomize, and templates**.
- Configure **user and application authentication and authorization**.
- Secure internal and external **network traffic** with policies and routes.
- Manage **Kubernetes resources declaratively** for predictable deployments.
- Enable **developer self-service** safely within multi-team environments.

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- Manage **Operator and cluster lifecycle updates**.
- Run **privileged or restricted workloads** securely.

Impact on the Organization

Organizations adopting Red Hat OpenShift benefit from a**secure, reliable, and scalable application platform** built on Kubernetes.

This course enables IT teams to:

- Manage **multi-tenant OpenShift environments** efficiently.
- Standardize operational processes across **cloud and on-premise infrastructures**.
- Strengthen **application security and compliance** with Kubernetes-native tools.
- Collaborate with Red Hat SRE teams when using**managed OpenShift services** (e.g., ROSA, ARO).

By mastering these skills, organizations ensure **consistent performance, improved developer productivity, and operational resilience** across all environments.

Impact on the Individual

After completing this course, you will be able to:

- Configure authentication, authorization, and role-based access for OpenShift users.
- Manage and secure multi-tenant environments for multiple teams.
- Deploy, monitor, and update applications using OpenShift's declarative resources.
- Configure and maintain Operator-based add-ons for enhanced functionality.
- Secure workloads that require elevated privileges.
- Perform OpenShift cluster upgrades and maintain high availability during updates.

These skills prepare you to perform the**daily responsibilities of an OpenShift cluster administrator** across on-premise, cloud, or managed environments.

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Training Outline

1. Declarative Resource Management
Deploy and update applications using parameterized manifests to suit different environments.

2. Deploy Packaged Applications
Use templates, Helm charts, and Kustomize to distribute and update reusable application packages.

3. Authentication and Authorization
Configure HTPasswd identity provider and define user roles, groups, and access policies.

4. Network Security
Protect communication between applications inside and outside the cluster using NetworkPolicies and secure routes.

5. Expose Non-HTTP/SNI Applications
Configure external access for TCP/UDP applications that do not use traditional HTTP/SNI ingress.

6. Developer Self-Service
Enable safe project self-service for development teams or restrict it to administrators when necessary.

7. Managing Kubernetes Operators
Install, update, and manage Operators using the Operator Lifecycle Manager (OLM) and Cluster Version Operator (CVO).

8. Application Security
Deploy and manage workloads that require elevated privileges or direct host access securely.

9. OpenShift Cluster Updates
Perform cluster upgrades while minimizing disruption to running workloads and user access.