

## Red Hat OpenShift Administration III: Scaling Deployments in the Enterprise with Exam

Duration: 5 Days    Course Code: DO381

### Overview:

#### Plan, implement, and manage OpenShift clusters at scale

Red Hat OpenShift Administration III and exam (DO381) expands upon the skills required to plan, implement, and manage OpenShift® clusters in the enterprise. You will learn how to support a growing number of stakeholders, applications, and users to achieve large-scale deployments. This offering is based on Red Hat® OpenShift Container Platform 4.10. The Red Hat Certified Specialist in Scaling OpenShift Deployments exam (EX380) is included.

### Target Audience:

Cluster engineers (systems administrators, cloud administrators, or cloud engineers) focused on planning, designing, and implementing production-grade OpenShift clusters. Cluster engineers require automation skills to scale their manpower to provision and manage an increasing population of clusters, applications, and users, at the same time ensuring these clusters remain in compliance with corporate standards. Site reliability engineers (SREs) focused on keeping OpenShift clusters and applications running without disruption. SREs are interested in troubleshooting infrastructure and application issues with OpenShift clusters and require automation skills to reduce the time to identify, diagnose, and remediate issues.

### Objectives:

- Manage OpenShift cluster operators and add operators.
- Automate OpenShift management tasks using Ansible playbooks.
- Create and schedule cluster administration jobs.
- Implement GitOps workflows using Jenkins.
- Integrate OpenShift with enterprise authentication.
- Query and visualize cluster-wide logs, metrics, and alerts.
- Manage both shared, file-based storage and non-shared, block-based storage.
- Manage machine pools and machine configurations.

### Prerequisites:

- Complete Red Hat OpenShift Administration II: Operating a Production Kubernetes Cluster (DO280) and become a Red Hat Certified Specialist in OpenShift Administration.
- Complete Red Hat System Administration II (RH134) and become a Red Hat Certified System Administrator.
- Recommended, but not required: become a Red Hat Certified Systems Engineer or a Red Hat Certified Specialist in Ansible Automation. Basic knowledge about writing and running Ansible playbooks is desired.
- DO180 - Red Hat OpenShift I: Containers & Kubernetes
- DO280 - Red Hat OpenShift Administration II: Configuring a Production Cluster

### Follow-on-Courses:

- DO425 - Red Hat Security: Securing Containers and OpenShift

## Content:

|                                                                                                    |                                                                                                             |                                                                                                                     |
|----------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------|
| Move from Kubernetes to OpenShift                                                                  | Configure enterprise authentication                                                                         | Manage cluster monitoring and metrics                                                                               |
| Demonstrate that OpenShift is Kubernetes by deploying Kubernetes-native applications on OpenShift. | Integrate OpenShift with enterprise identity providers.                                                     | Configure and manage the OpenShift monitoring stack.                                                                |
| Introduce automation on OpenShift                                                                  | Configure trusted TLS certificates                                                                          | Provision and inspect cluster logging                                                                               |
| Automate OpenShift administration tasks using bash scripts and Ansible playbooks.                  | Configure OpenShift with trusted TLS certificates for external access to cluster services and applications. | Deploy, query, and troubleshoot cluster-wide logging.                                                               |
| Manage operators with OpenShift                                                                    | Configure dedicated node pools                                                                              | Recover failed worker nodes                                                                                         |
| Deploy Kubernetes Operators and configure OpenShift cluster operators.                             | Configure a subset of the cluster nodes for special workloads.                                              | Inspect, troubleshoot, and remediate worker nodes in a variety of failure scenarios.                                |
| Implement GitOps with Jenkins                                                                      | Configure persistent storage                                                                                | Note: Course outline is subject to change with technology advances and as the nature of the underlying job evolves. |
| Implement a GitOps workflow using containerized Jenkins to administer an OpenShift cluster.        | Configure storage providers and storage classes to ensure cluster user access to persistent storage.        |                                                                                                                     |

## Additional Information:

**Technology requirements** This offering requires internet access to access the cloud-based classroom environment that provides an OpenShift cluster and a remote administrator's workstation. This offering also requires that the classroom environment can access the Red Hat registry, Red Hat Quay, and GitHub. You are also required to have personal, free accounts at GitHub.

### Impact on the organization

This offering supports IT operations teams that are in the prepare and expand stages of their Container Adoption Journey. The curriculum enables companies to innovate faster, scale based on customer demand, and proactively manage a growing number of OpenShift clusters that host cloud-native and cloud-compatible applications.

Red Hat has created this offering in a way intended to benefit our customers, but each company and infrastructure is unique, and actual results or benefits may vary.

### Impact on the individual

This offering builds upon the essential skills required to configure and manage an OpenShift 4.x cluster, teaching the enhanced skills needed to operate production environments at scale, including: Automating Day 2 tasks to establish production clusters with higher performance and availability. Integrating OpenShift with enterprise authentication, storage, CI/CD, and GitOps systems to improve productivity of IT operations and compliance with organization's standards. Troubleshooting techniques to identify issues with cluster operators and compute capacity.

## Further Information:

For More information, or to book your course, please call us on 00 971 4 446 4987

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