

# Red Hat OpenShift Administration II: Configuring a Production Cluster with Exam

Course code: D0281

Configure, manage, and troubleshoot OpenShift clusters and containerized applications. Red Hat OpenShift Administration II: Operating a Production Kubernetes Cluster with exam (D0281) teaches you how to configure, troubleshoot, and manage Red Hat® OpenShift® Container Platform. This hands-on, lab-based course shows you how to verify the successful installation of a cluster, manage it on a day-to-day basis, and troubleshoot the deployment of containerized applications. This course is based on Red Hat OpenShift Container Platform 4.10. The Red Hat Certified Specialist in OpenShift Administration exam (EX280) is included.

## What we teach you

- Describe the Red Hat OpenShift Container Platform cluster installation and update processes
- Troubleshoot application deployments
- Configure authentication using local users
- Control access to projects using role-based access control (RBAC)
- Expose applications to clients external to the cluster using TLS encryption
- Configure network isolation between services and applications using network policies
- Configure application scheduling using labels and selectors
- Limit compute resource usage of applications with resource limits and quotas
- Manage a cluster and deployed applications with the Web Console
- Install Kubernetes Operators with the Web Console

## Required skills

- Become a Red Hat Certified System Administrator, or demonstrate equivalent Red Hat Enterprise Linux system administration experience
- Complete Red Hat OpenShift I: Containers & Kubernetes (D0180), or demonstrate equivalent experience with containers, Kubernetes, and OpenShift basics

## Course outline

### Describe the Red Hat OpenShift Container Platform

- Describe the architecture of the Red Hat OpenShift Container Platform (RHOC).

### Verify the health of a cluster

- Describe OpenShift installation methods and verify the health of a newly installed cluster.

### Configure authentication and authorization

- Configure authentication with the HTTPasswd identity provider and assign roles to users and groups.

### Configure application security

- Restrict permissions of applications using security context constraints and protect access credentials using secrets.

### Configure OpenShift networking for applications

- Troubleshoot OpenShift software-defined networking (SDN) and configure network policies.

### Control pod scheduling

- Control which nodes a pod runs on.

### Describe cluster updates

- Describe how to perform a cluster update

### Manage a cluster with the web console

- Manage a Red Hat OpenShift cluster using the web console.

Note: Course outline is subject to change with technology advances and as the nature of the underlying job evolves.

## What you should know

### Impact on the organization

This course is intended to develop the skills needed to install, configure, and manage the Red Hat OpenShift Container

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Platform to deploy containerized applications that are highly available, resilient, and scalable. Red Hat OpenShift Container Platform enables rapid application development and deployment, as well as portability of an application across environments. The platform also offers simplified application scaling, administration, and maintenance of adapted or cloud-native applications.

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

## Impact of this training

After completing this course, you should be able to demonstrate the skills to establish a new OpenShift cluster, perform initial configuration of the cluster, and manage the cluster on a day-to-day basis. One major focus of the course is troubleshooting common problems that will be encountered beyond day one.

You should be able to demonstrate these skills:

- Install OpenShift Container Platform to create a simple cluster.
- Configure and manage OpenShift masters and nodes.
- Secure OpenShift with a simple internal authentication mechanism.
- Control access to resources on OpenShift.
- Deploy applications on OpenShift using Source-to-Image (S2I).
- Configure and manage OpenShift pods, services, routes, secrets, and other resources.

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