Red Hat Certification Red Hat Certified OpenShift Administrator

An IT professional who is a Red Hat Certified OpenShift Administrator has demonstrated the skills, knowledge, and abilities needed to create, configure, and manage a cloud application platform using Red Hat® OpenShift. The skills and knowledge associated with this certification can be applied to both self-managed editions of OpenShift as well as managed services editions like Red Hat OpenShift on AWS (ROSA) and Azure Red Hat OpenShift.

Certification details

**Skills**

Prove your skills and knowledge

An IT professional who is a Red Hat Certified OpenShift Administrator is able to:

* Manage OpenShift Container Platform
* Manage users and policies
* Control access to resources
* Configure networking components
* Create and manage applications
* Configure pod scheduling
* Configure cluster scaling

Test your skills and knowledge

The Red Hat Certified OpenShift Administrator exam (EX280) will test your ability to:

* Perform ‘Day 2’ operations on OpenShift Container Platform
* Manage users and control access to resources
* Configure networking components
* Configure application deployment
* Manage features of cluster operations such as pod scheduling and cluster scaling

The best way to learn is to do

In preparation to becoming a Red Hat Certified OpenShift Administrator, Red Hat recommends the following courses:

* Red Hat OpenShift I: Containers & Kubernetes (DO180)
* Red Hat OpenShift Administration II: Operating a Production Kubernetes Cluster (DO280)
* EX280
* Red Hat Certified OpenShift Administrator exam

**Overview**

**Objectives**

**What you need to know**

The Red Hat Certified OpenShift Administrator exam (EX280) tests the knowledge, skills, and ability to create, configure, and manage a cloud application platform using Red Hat OpenShift Container Platform.

By passing this exam, you become a Red Hat Certified OpenShift Administrator that also counts towards earning a Red Hat Certified Architect (RHCA®).

Objectives listed for this exam are based on the most recently released version of the exam. Once you have purchased the exam you may have older versions available.

Audience for this exam

* **System and Software Architects** who need an understanding of the features and functionality of an OpenShift Container Platform cluster
* **System Administrators** who need to support the initial establishment of an OpenShift cluster
* **Cluster Operators** who need to support ongoing maintenance of an OpenShift cluster
* **Site Reliability Engineers** who need to support the ongoing maintenance and troubleshooting of an OpenShift cluster
* **System administrators** who want to demonstrate their OpenShift Container Platform skills
* Red Hat Certified Engineers who wish to become a Red Hat Certified Architect (RHCA)
* **System administrators** or **developers** who are working in a DevOps environment using Red Hat OpenShift Container Platform

Prerequisites for this exam

Candidates for this exam should:

* Have taken Red Hat System Administration I (RH124) or have comparable experience. Red Hat Certified System Administrator (RHCSA) is strongly recommended but not required
* Have taken Red Hat OpenShift Administration I: Containers & Kubernetes (DO180) course or have comparable work experience using OpenShift Container Platform
* Have taken Red Hat OpenShift Administration II: Operating a Production Kubernetes Cluster (DO280) course or have comparable work experience using OpenShift Container Platform
* Review the Red Hat Certified OpenShift Administrator exam (EX280) objectives
* Experience with container technology is recommended

In preparation

**Study points for the exam**

As with all Red Hat performance-based exams, configurations must persist after reboot without intervention.

* Manage OpenShift Container Platform
  + Use the web console to manage and configure an OpenShift cluster
  + Use the command-line interface to manage and configure an OpenShift cluster
  + Query, format, and filter attributes of Kubernetes resources
  + Import, export, and configure Kubernetes resources
  + Locate and examine container images
  + Create and delete projects
  + Examine resources and cluster status
  + View logs
  + Monitor cluster events and alerts
  + Assess the health of an OpenShift cluster
  + Troubleshoot common container, pod, and cluster events and alerts
  + Use product documentation
* Deploy Applications
  + Deploy applications from resource manifests
  + Use Kustomize overlays to modify application configurations
  + Deploy applications from images, OpenShift templates, and Helm charts
  + Deploy jobs to perform one-time tasks
  + Manage application deployments
  + Work with replica sets
  + Work with labels and selectors
  + Configure services
  + Expose both HTTP and non-HTTP applications to external access
  + Work with operators such as MetalLB and Multus
* Manage Storage for Application Configuration and Data
  + Create and use secrets
  + Create and use configuration maps
  + Provision Persistent Storage volumes for block and file-based data
  + Use storage classes
  + Manage non-shared storage with StatefulSets
* Configure Applications for Reliability
  + Configure and use health probes
  + Reserve and limit application compute capacity
  + Scale applications to meet increased demand
* Manage Application Updates
  + Identify images using tags and digests
  + Roll back failed deployments
  + Manage image streams
  + Use triggers to manage images
* Manage Authentication and Authorization
  + Configure the HTPasswd identity provider for authentication
  + Create and delete users
  + Modify user passwords
  + Create and manage groups
  + Modify user and group permissions
* Configure Network Security
  + Configure networking components
  + Troubleshoot software defined networking
  + Create and edit external routes
  + Control cluster network ingress
  + Secure external and internal traffic using TLS certificates
  + Configure application network policies
* Enable Developer Self-Service
  + Configure cluster resource quotas
  + Configure project quotas
  + Configure project resource requirements
  + Configure project limit ranges
  + Configure project templates
* Manage OpenShift Operators
  + Install an operator
  + Delete an operator
* Configure Application Security
  + Configure and manage service accounts
  + Run privileged applications
  + Create service accounts
  + Manage and apply permissions using security context constraints
  + Create and apply secrets to manage sensitive information
  + Configure application access to Kubernetes APIs
  + Configure Kubernetes CronJobs

Preparation

Red Hat encourages you to consider taking Red Hat OpenShift Administration I: Containers & Kubernetes and Red Hat OpenShift Administration II: Operating a Production Kubernetes Cluster to help prepare. Attendance in these classes is not required; students can choose to take just the exam.

While attending Red Hat classes can be an important part of your preparation, attending class does not guarantee success on the exam. Previous experience, practice, and native aptitude are also important determinants of success.

Many books and other resources on system administration for Red Hat products are available. Red Hat does not endorse any of these materials as preparation guides for exams. Nevertheless, you may find additional reading helpful to deepen your understanding.

Exam format

This exam is a performance-based evaluation of skills and knowledge required to configure and manage a cloud application platform. Candidates perform routine configuration and administrative tasks using Red Hat OpenShift Container Platform and are evaluated on whether they have met specific objective criteria. Performance-based testing means that candidates must perform tasks similar to what they perform on the job.

Scores and reporting

Official scores for exams come exclusively from Red Hat Certification Central. Red Hat does not authorize examiners or training partners to report results to candidates directly. Scores on the exam are usually reported within 3 U.S. business days.

Exam results are reported as total scores. Red Hat does not report performance on individual items, nor will it provide additional information upon request.