

# Red Hat Certified Specialist in OpenShift Automation and Integration exam

Course code: EX380

The Red Hat Certified Specialist in OpenShift Automation and Integration exam (EX380) tests the knowledge, skills, and ability to plan, implement, and manage large-scale OpenShift Container Platform deployments in the enterprise. By passing this exam, you become a Red Hat Certified Specialist in OpenShift Automation and Integration that also counts towards earning a Red Hat Certified Architect (RHCA®). Objectives listed for this exam are based on the most recent Red Hat product version available.

## Who is the course for

- 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.

## Required skills

- Take our free assessment
- to find the course that best supports your preparation for this exam.
- Red Hat OpenShift Administration II: Operating a Production Kubernetes Cluster (DO280) and
- Red Hat OpenShift Administration III: Scaling Kubernetes Deployments in the Enterprise (DO380)

## Study points for the exam

To help you prepare, the exam objectives highlight the task areas you can expect to see covered in the exam. Red Hat reserves the right to add, modify, and remove exam objectives. Such changes will be made public in advance.

As part of this exam, you should be able to perform these tasks:

### Deploy Kubernetes applications on OpenShift

- Assemble an application from Kubernetes components
- Understand and use Kustomize
- Use an image stream with a Kubernetes deployment

### Configure and automate OpenShift tasks

- Create a simple script to automate a task
- Deploy an existing script to automate a task
- Troubleshoot and correct a script
- Understand and query the REST API using CLI tools
- Create a custom role
- Create a cron job
- Create a simple Ansible playbook

### Work with and manage OpenShift Operators

- Install an operator
- Update an operator
- Delete an operator
- Subscribe an operator
- Troubleshoot an operator

### Work with registries

- Pull/push content from remote registries
- Tag images in remote registries

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## Implement GitOps with Jenkins

- Deploy a Jenkins master
- Create a Jenkins pipeline to remediate configuration drift

## Configure Enterprise Authentication

- Configure an LDAP identity provider
- Configure RBAC for an LDAP provided user account
- Synchronize OpenShift groups with LDAP

## Understand and manage ingress

- Use the `oc route` command to expose services
- Understand how ingress components relate to OpenShift deployments and projects
- Configure trusted TLS Certificates
- Work with certificates using the web and CLI interfaces
- Renew and apply a certificate

## Work with machine configurations

- Understand MachineConfig object structure
- Create custom machine configurations

## Configure Dedicated Node Pools

- Add a worker node
- Create custom machine config pools

## Configure Persistent Storage

- Provision shared storage for applications
- Provision block storage
- Configure and use storage quotas, classes, and policies
- Troubleshoot storage issues

## Manage Cluster Monitoring and Metrics

- Manage OpenShift alerts
- Use monitoring to troubleshoot cluster issues

## Provision and Inspect Cluster Logging

- Deploy cluster logging
- Query cluster logs
- Diagnose cluster logging problems

## Recover Failed Worker Nodes

- Diagnose worker node failures
- Recover a node that has failed

## What you need to know

### Preparation

Red Hat encourages you to consider taking Red Hat OpenShift Administration II: Operating a Production Kubernetes Cluster (D0280) and Red Hat OpenShift Administration III: Scaling Kubernetes Deployments in the Enterprise (D0380) help prepare for this exam. 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.

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## Exam format

This exam consists of a single section lasting four hours. The exam is a performance based evaluation of candidates' abilities to implement and manage tasks related to large-scale OpenShift Container Platform deployments in the enterprise. Candidates perform a number of routine tasks associated with automation and integration similar to those they would be expected to perform in a large-scale OpenShift Container Platform environment and are evaluated on whether those tasks meet specific objective criteria.

## 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.

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