

# Enterprise Kubernetes Storage with Red Hat OpenShift Data Foundation and exam

Course code: D0371

Traditional storage options available to Kubernetes administrators are limited and lack versatility. Red Hat OpenShift Data Foundation provides real advantages, even when backed by cloud storage such as AWS EBS or legacy datacenter storage arrays. Many companies rely on third-party solutions to manage backup and disaster recovery in production. However, proper planning to implement these solutions requires knowledge of the Kubernetes CSI and OAPD APIs. This course walks the student through the recommended steps of configuring and managing storage services for container and Kubernetes services. The Red Hat Certified Specialist in OpenShift Data Foundation exam (EX370) is included in this offering.

## Who is the course for

The intended audience for this course includes:

- Cluster administrators (systems administrators, cloud administrators, cloud engineers)
- Cluster engineers (systems administrators, cloud administrators, cloud engineers)
- Site reliability engineers (SREs)

## What we teach you

- Deploy Red Hat OpenShift Data Foundation in internal and external mode.
- Provision non-shareable block storage to applications like databases.
- Provision shareable block storage to applications like virtual machines.
- Provision shareable file storage to such applications as CI/CD pipelines and AI/ML.
- Provision shareable object storage to applications, such as AI/ML and media streaming.
- Provision storage for Red Hat OpenShift cluster services, such as monitoring and registry.
- Monitor and expand storage capacity and performance
- Attach and detach storage from an application for backup and archiving.
- Create and access volume snapshots and clones.
- Troubleshoot internal Ceph components of Red Hat OpenShift Data Foundation.

## Required skills

- Red Hat Certified Specialist in OpenShift Administration certification (EX280) or equivalent knowledge for the roles of Red Hat OpenShift cluster engineer or SRE.
- Red Hat Certified Systems Administrator certification (EX200) or equivalent knowledge of Linux system administration is recommended for all roles.
- While not required, students who have completed Red Hat OpenShift Administration III: Scaling Kubernetes Deployments in the Enterprise (D0380) will have advanced knowledge of the Red Hat OpenShift platform in preparation for implementing and working with Red Hat OpenShift Data Foundation (formerly Red Hat OpenShift Container Storage).
- Basic knowledge of Red Hat Ansible Automation Platform is recommended but not required.
- Basic knowledge of storage technologies, such as disk types, SAN, and NAS is recommended.

## Course outline

- Describing Red Hat OpenShift Data Foundation deployment architectures
- Deploying OpenShift Data Foundation on Red Hat OpenShift using Internal, Converged Mode
- Configuring Red Hat OpenShift Cluster Services to use OpenShift Data Foundation
- Configuring application workloads to use OpenShift Data Foundation block and file storage
- Monitoring and expanding OpenShift Data Foundation block and file storage capacity
- Troubleshooting Ceph components from OpenShift Data Foundation
- Expanding OpenShift Data Foundation block and file storage volumes
- Performing backup and restore of OpenShift Data Foundation block and file volumes
- Configuring application workloads to use OpenShift Data Foundation object storage

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- Monitoring and expanding OpenShift Data Foundation object storage capacity
- Performing backup and restore of OpenShift Data Foundation object buckets
- Deploying OpenShift Data Foundation on Red Hat OpenShift using external mode

## What you need to know

### Impact on the organization

Enterprise Kubernetes Storage with Red Hat OpenShift Data Foundation supports IT operations teams whose organizations are expanding upon their container adoption journeys. The curriculum enables companies to quickly and automatically provision storage to applications meeting varying requirements crucial to support their organization's digital transformation initiatives and expand their portfolio of containerized applications.

### Impact on the individual

Enterprise Kubernetes Storage with Red Hat OpenShift Data Foundation teaches the essential skills required to provision and manage storage that fits the availability and performance requirements of applications, such as: Deploying Red Hat OpenShift Data Foundation on a Red Hat OpenShift cluster using local or cloud storage.

Selecting and configuring storage classes based on workload requirements.

Monitoring and proactively expanding storage capacity.

Creating and attaching snapshots and clones of persistent volumes.

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