

Red Hat - Cloud

CEPH125: Red Hat Ceph Storage Architecture and Administration

Learn to administer Red Hat Ceph Storage and integrate with Red Hat OpenStack Platform. Red Hat® Ceph Storage Architecture and Administration (CEPH125) is part of the Emerging Technology series of courses from Red Hat Training. This five-day course is designed for storage administrators or cloud operators who want to deploy Red Hat Ceph Storage in their production environment as well as their OpenStack® environment.

\$3,600.00

- 5 Days

Upcoming Dates

Course Description

Learn how to deploy, manage, and scale out a Ceph storage cluster

Red Hat Ceph Storage Architecture and Administration (CEPH125) helps you provide unified storage for enterprise servers and Red Hat® OpenStack Platform with Red Hat Ceph Storage. Learn to use a Ceph storage cluster to provide servers and cloud resources with object storage compatible with the Amazon S3 or OpenStack Swift APIs, Ceph-native or iSCSI-based block storage, and file storage using CephFS.

This course is based on Red Hat Ceph Storage 3.0, Red Hat Enterprise Linux 7.4/7.5, and Red Hat OpenStack Platform 10.0.

Course content summary

Red Hat Ceph Storage Architecture and Administration (CEPH125) is designed for storage administrators or cloud operators who intend to deploy Red Hat Ceph Storage to their production data center environment or OpenStack installation.

- Deploying and managing a Red Hat Ceph Storage cluster on commodity servers using Ansible.
- Creating, expanding, and controlling access to storage pools provided by the Ceph cluster.
- Accessing Red Hat Ceph Storage from clients using object, block, and file-based methods.
- Analyzing and tuning Red Hat Ceph Storage performance.
- Integrating OpenStack image, object, block, and file storage with a Red Hat Ceph Storage cluster.

Course Outline

Prepare for Red Hat Ceph Storage

Identify challenges faced by traditional storage and explain how Ceph addresses them.

Deploy Red Hat Ceph Storage

Deploy and expand the storage capacity of a new Red Hat Ceph Storage cluster.

Configure Red Hat Ceph Storage

Manage how Ceph stores data with pools, configure Red Hat Ceph Storage using its configuration file, and configure users for Ceph clients that may access the Ceph storage cluster.

Provide block storage with RBD

Configure Ceph to provide block storage for clients by using RADOS block devices (RBDs).

Provide object storage with RADOSGW

Configure Ceph to provide object storage for clients by using a RADOS gateway (RADOSGW or RGW).

Provide file storage with CephFS

Configure Ceph to provide file storage for clients using the Ceph Filesystem (CephFS).

Configure the CRUSH map

Adjust the CRUSH map—which controls how data is stored, replicated, and distributed across OSDs in the Ceph cluster—in order to optimize resiliency and performance.

Manage and update the cluster maps

Explain how the monitor and OSD maps are managed in order to maintain cluster operation, quorum, and consistency.

Manage a Red Hat Ceph Storage cluster

Check Ceph cluster status, troubleshoot Ceph daemon problems, and upgrade Ceph software.

Tune and troubleshoot Red Hat Ceph Storage

Identify the key performance metrics for a Ceph cluster and use them to help tune and troubleshoot the operating system and Ceph software for optimal performance.

Integrate Red Hat Ceph Storage with OpenStack

Configure an OpenStack cloud to use Ceph to provide image, block, object, and file storage.

Note: Course outline is subject to change with technology advances and as the nature of the underlying job evolves. For questions or confirmation on a specific objective or topic, please contact a training specialist online.

Audience

This course is intended for storage administrators, cloud operators, and cloud developers who want to learn how to deploy and manage Red Hat Ceph Storage for use by servers in an enterprise data center or within a Red Hat OpenStack Platform environment.

Prerequisites

- Be certified as a Red Hat Certified System Administrator (RHCSA), or demonstrate equivalent experience
- Some experience with storage administration is recommended, but not required

What You Will Learn

Impact on the organization

This course is intended to develop the skills needed to deploy a software-defined storage system on commodity hardware, permitting distributed, scalable, fault-tolerant object, block, and file data storage. Such a deployment provides a storage infrastructure that can grow at the same pace as your compute infrastructure, allowing a gradual investment to accommodate business growth.

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 on the individual

As a result of attending this course, you should be able to deploy and operate a Red Hat Ceph Storage cluster and configure it as backend storage for Red Hat OpenStack Platform.

You should be able to demonstrate these skills:

- Explain the architecture of a Ceph cluster.
- Deploy a Red Hat Ceph Storage cluster using Ansible.
- Manage operations on a Red Hat Ceph Storage cluster.
- Provide servers with storage from the Ceph cluster using block, object, and file-based access methods.
- Integrate Red Hat Ceph Storage as backend storage for Red Hat OpenStack Platform.