

# Red Hat OpenStack Administration II: Day 2 Operations for Cloud Operators

Course code: CL210

Build advanced skills for performing Red Hat OpenStack Platform day 2 operations and management of hybrid cloud infrastructure. Red Hat OpenStack Administration II: Day 2 Operations for Cloud Operators (CL210) is designed for cloud operators, service administrators, and automation engineers who operate and manage a full-featured hybrid and private cloud-computing environment using Red Hat OpenStack Platform. You will learn how to manage, monitor, troubleshoot, and scale a Red Hat OpenStack Platform infrastructure. This course focuses on using the OpenStack Client command-line user interface to configure metrics, policies, and architecture in order to support enterprise cloud applications and daily operations. This course is based on Red Hat OpenStack version 16.1 and Red Hat Enterprise Linux version 8.2

## Who is the course for

- Cloud operators responsible for managing daily operations and automation.
- Infrastructure architects interested in or responsible for maintaining a large-scale private or hybrid cloud.

## What we teach you

- Managing overcloud service containerization technology.
- Providing metrics for performance tuning and governance.
- Monitoring and troubleshooting Open Virtual Networking (OVN) network flow.
- Configuring Identity service using an external Red Hat IdM store.
- Managing the core control plane, including Pacemaker.
- Customizing images, with techniques for multiple use cases.
- Managing block and object storage back-ends.
- Managing compute nodes, including tuning and hyperconverged.
- Troubleshooting Red Hat OpenStack Platform.

## Required skills

- Be a Red Hat Certified Engineer (RHCE), Red Hat Certified Specialist in Ansible Automation, or demonstrate equivalent experience.
- Attend Red Hat OpenStack Administration I: Core Operations for Domain Operators (CL110), or demonstrate equivalent experience.

## Course outline

### Navigate the Red Hat OpenStack Platform architecture

Describe the undercloud and overcloud architecture and service components.

### Operate the control plane

Describe and manage the critical core services of the Red Hat OpenStack Platform control plane.

### Manage infrastructure security

Protect the Red Hat OpenStack Platform infrastructure by securing service component files and endpoints.

### Manage user security

Configure secure user privileges using domain-based identity management, scoped roles, and project organization.

### Manage application deployment resources

Create and manage the common, shared deployment resources including custom images, flavors, and metadata services.

### Manage storage

Describe and manage storage architecture and components, with an emphasis on Red Hat Ceph Storage back ends.

### Manage networking

Create, manage, and troubleshoot data center and virtual network infrastructure.

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## Manage compute node operations

Describe the architecture and management processes for normal and hyperconverged compute nodes. Perform common operational tasks for compute nodes to support workload uptime and scaling.

## Monitor Red Hat OpenStack Platform operations

Describe the monitoring framework and architecture to gather, store, and use operational metrics.

## Automate cloud applications

Implement and deploy complex and scalable applications using automation technologies.

## Troubleshoot operations

Describe and practice the tools and methods for diagnosing and troubleshooting issues encountered during deployment and management operations.

## Comprehensive review

Review tasks from Red Hat OpenStack Platform Administration II: Day 2 Operations for Cloud Operators.

## What you need to know

### Impact on the organization

This course is intended to develop the skills needed for the daily operation of a private cloud. A private cloud can reduce costs through fine-grained resource control, simplifying regulatory compliance, and permitting easier integration with legacy systems. Using the skills taught in this course, cloud operators will be able to manage and operate hybrid cloud Red Hat OpenStack Platform infrastructure.

Customer organizations will find this version to be easier to install and manage while handling more diverse types of cloud and legacy workloads with an expanding portfolio of flexible resource configuration. Enhancements in the RHOSP 16 version address evolving customer requirements for enterprise cloud infrastructures: Industry-popular Ansible Automation for installation, upgrading, and patching.

Open Virtual Networking (OVN), an advanced SDN framework evolved from Open vSwitch.

Hyperconverged technology, combining storage and compute resources for lower latency and higher performance.

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

Course attendees will learn how to operate and manage a Red Hat OpenStack Platform installation using all of the common core features and services used by enterprise private/hybrid cloud customers. Successful attendees will be able to monitor, troubleshoot, and automate operations handling compute, storage, networking, deployment, and application support resources and services tailored to their enterprise needs.

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