

## Red Hat OpenStack Administration II: Infrastructure Configuration for Cloud Administrators

Course Code: CL210; Course Duration: 4 days;  
Instructor-led

### WHAT YOU WILL LEARN

Introduction to Red Hat OpenStack Platform configuration and administration of private cloud infrastructure using core OpenStack services

Red Hat OpenStack Administration II: Infrastructure Configuration for Cloud Administrators (CL210) teaches you how to implement a full-featured cloud computing environment using OpenStack. You will learn how to configure, administer, and manage Red Hat® OpenStack Platform infrastructure. The lessons and objectives taught in this course will prepare you for the Red Hat Certified System Administrator in Red Hat OpenStack exam (EX210). This course is based on Red Hat OpenStack Platform 13.0 and Red Hat® Enterprise Linux® 7.5.

The focus of this course is on managing and using the OpenStack client command-line interface and the director and dashboard graphical web user interfaces to securely manage server instances, compute and storage resources, and user identities.

- Gain familiarity with overcloud service containerization technology.
- Learn about Open Virtual Networking (OVN) enhancement to OVS.
- Use identity service v3 (keystone) with external Red Hat IdM store.
- Manage the core control plane, including Pacemaker.
- Customize images, with techniques for multiple use cases.
- Manage block and object storage.
- Manage compute nodes, including tuning and hyperconvergence.
- Deploy multi-container stacks.
- Troubleshoot OpenStack.

### AUDIENCE

This course is intended for Linux system administrators, cloud administrators, cloud operators, and infrastructure architects interested in, or responsible for, maintaining a private or hybrid cloud.

### PREREQUISITES

- Be a Red Hat Certified System Administrator (RHCSA), or demonstrate equivalent experience by passing the online skills assessment
- Attend Red Hat OpenStack Administration I: Core Operations for Cloud Operators (CL110), or demonstrate equivalent experience

### METHODOLOGY

This program will be conducted with interactive lectures, PowerPoint presentation, discussion and practical exercise.

### COURSE OBJECTIVES

As a result of attending this course, you will know how to configure and manage an OpenStack installation featuring all of the common, core features and services used by enterprise private/hybrid cloud customers. You will also be able to choose and customize compute, storage, networking, deployment, and application support resources and services tailored to your enterprise needs.

Students should be able to demonstrate the following skills:

- Navigate and manage the control plane on the undercloud and the overcloud.
- Work with containerized overcloud infrastructure services.
- Manage necessary authentication, authorization, and security administration.
- Navigate and describe all network layers in an IaaS and all aspects of SDN design and management.
- Manage compute node and storage resource, including hyperconvergence.
- Troubleshoot typical OpenStack operations.

## OUTLINES

### **Module 1: Navigate the Red Hat OpenStack Platform architecture**

Describe the classroom environment, support systems, functions of the undercloud components, and more.

### **Module 2: Describe the OpenStack control plane**

Identify the shared services running on a controller node and describe service endpoint configuration and security.

### **Module 3: Integrate identity management**

Describe the installation and architecture of a Red Hat Identity Management back end for the OpenStack identity service.

### **Module 4: Perform image operations**

Build an image using diskimage-builder and customize launched instances during deployment using cloud-init.

### **Module 5: Manage storage**

Explain persistent storage options for use in OpenStack, focusing on the expanding capabilities of the default Red Hat® Ceph Storage.

### **Module 6: Manage OpenStack networking**

Explain the different network types available to the OpenStack networking service and improve network performance with Open Virtual Network.

### **Module 7: Manage compute resources**

Perform common compute node administration tasks, including live migration, evacuation, and enabling and disabling compute nodes.

### **Module 8: Automate cloud applications**

Explain the orchestration architecture required to deploy application stacks and write templates using the Heat Orchestration Template (HOT) language.

### **Module 9: Troubleshoot OpenStack operations**

Discuss recommended diagnostic and troubleshooting tools and techniques.

### **Module 10: Comprehensive review**

Build a custom image and launch an instance using the custom image.