CL110 – Red Hat OpenStack Administration I: Core Operations for Cloud Operators

Red Hat

- **Nível:**
- **Duração:** 40h

Sobre o curso

Learn to operate a Red Hat® OpenStack Platform private cloud and manage domain resources to secure and deploy modern, scalable cloud applications, networks and storage

Red Hat OpenStack Administration I: Core Operations for Domain Operators (CL110) teaches you how to operate and manage a production Red Hat OpenStack Platform (RHOSP) single-site overcloud.

You will learn how to create secure project environments in which to provision resources and manage security privileges that cloud users need to deploy scalable cloud applications. You will learn about OpenShift integration with load balancers, identity management, monitoring, proxies, and storage. You will also develop more troubleshooting and Day 2 operations skills in this course.

This course is based on Red Hat OpenStack Platform 16.1.

SKILLS ASSESSMENT

Utilize o diagnóstico de competências para descobrir quais as oportunidades de formação que mais se adequam a si, ou à sua equipa.

Destinatários

This course is designed for cloud users who deploy application instances and stacks, domain operators who manage resources and security for cloud users, and any other cloud personnel interested in, or responsible for, maintaining applications on private or hybrid OpenStack clouds.

- Any cloud persona, or personnel with roles that include performing technology evaluation, should attend this course to learn RHOSP operation and application deployment methods.

Objetivos

Students in the Red Hat OpenStack Administration I: Core Operations for Domain Operators (CL110) course will focus on performing both routine and specialized tasks that are necessary to manage a production OpenStack overcloud domain. Students will manage OpenStack using both web-based and command-line interfaces. Essential skills covered in the course include the following:

- Launch instances to satisfy various use case examples.
- Manage domains, projects, users, roles, and quota in a multitenant environment.
- Manage networks, subnets, routers, and floating IP addresses.
- Manage instance security with group rules and access keys.
- Create and manage block, object and shared storage within OpenStack.
- Perform instance launch customization with cloud-init.
- Deploy scalable applications using stack templates.

This course is intended to develop the skills needed to utilize and manage 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 by this course, users and operators will be able to create and use project resources built of networks and services running running templated applications, in customizable and adaptable configurations, virtually eliminating the need to build physical systems for any new projects. This release brings major enhancements and stabilization, including service containerization, new installation and management tools, a newly designed application load balancing component, and a significant expansion of features supported by the OpenStack CLI. Also, clients can use various installation tools, most noticeably PackStack, which is completely deprecated.

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.

As a result of attending this course, you will understand the architecture of a private or hybrid OpenStack cloud infrastructure and will be able to create, manage, and troubleshoot software-defined network services, resources, servers, and applications for dynamically scalable business environments.

You should also be able to demonstrate these skills:

- Design and implement on-demand projects, software-defined networks, and virtual machine instances.
- Deploy a proof-of-concept OpenStack installation for practice, development, demonstration, and testing, back in your own home or business computing environment.
- Manage software-defined networks such as subnets, routers, floating IP addresses, images, flavors, security groups/rules, and block and object storage.
- Create and customize advanced VM instances as applications, customize on deploy, and create scalable stacks of multiple VM applications.

Pré-requisitos

Red Hat Certified System Administrator (RHCSA®) in Red Hat Enterprise Linux® certification or equivalent

experience.

Programa

- Introduction to Red Hat OpenStack Platform
- Manage application projects in a multitenant cloud
- Manage OpenStack networking
- Configure resources to launch a non-public instance
- Configure virtual machine system disks
- Provide additional storage strategies
- Configure resources to launch an instance with public access
- Automate customized cloud application launches
- Manage cloud application placement

Introduction to Red Hat OpenStack Platform

- Describe OpenStack personas, launch an instance, and describe the OpenStack components and architecture.

Manage application projects in a multitenant cloud

- Create and configure projects with secure user access and sufficient resources to support cloud user application deployment requirements.

Manage OpenStack networking

- Describe how IP networks are implemented in OpenStack, including fundamental TCP/IP stack behavior, software-defined networking elements, and the common types of networks available to self-service cloud users.

Configure resources to launch a non-public instance

- Configure the requisite resource types for launching a basic non-public instance, including vCPUs, memory, and a system disk image, and launch an instance of an application component that runs in a tenant network with no public access.

Configure virtual machine system disks

- Identify the available choices for configuring, storing and selecting block-based virtual machine (VM) system disks, including the choice of ephemeral or persistent disks for specific use cases.

Provide additional storage strategies

- Identify the available choices for additional cloud storage techniques, including object-based storage, network file sharing, and volumes sourced from a file sharing service.

Configure resources to launch an instance with public access

- Identify and configure the additional resource types required to launch instances with public access for specific use cases, including networking and access security elements.

Automate customized cloud application launches

- Configure and deploy a typical multi-tier cloud application stack, defined as an architected template of scalable VM instances, including per-instance launch customizations.

Manage cloud application placement

- Introduce overcloud layouts more complex than a single site, and explain the management resources to control the placement of launched instances, including segregation elements such as cells and availability zones, and placement attributes such as requisite compute node resources.