

# RED HAT OPENSTACK ADMINISTRATION III: NETWORKING & FOUNDATIONS OF NFV CL310

Manage Red Hat OpenStack networking for performance tuning

COURSE DURATION : 4 DAYS  
DATASHEET



## COURSE CONTENT SUMMARY

- Network functions virtualization (NFV)
- Distributed virtual router (DVR)
- Open vSwitch with Data Plane Development Kit (OVS-DPDK) datapath
- IPv6 networking
- Single-root I/O Virtualization (SR-IOV)\*
- Software-defined networking (SDN) with OpenDaylight (ODL)
- VLAN, VXLAN, and GRE networks

**THIS OFFERING IS BASED ON RED HAT OPENSTACK VERSION 10.0 AND RED HAT ENTERPRISE LINUX 7.4.**

Red Hat OpenStack Administration III: Networking & Foundations of NFV (CL310) teaches network engineers, network operators, cloud operators, and cloud administrators how to manage and tune Red Hat® OpenStack Platform for network performance.

This course can also help you prepare for the Red Hat® Certified Engineer (RHCE®) in Red Hat OpenStack exam (EX310).

You will learn how to manage the OpenStack networking service (Neutron) with network functions virtualization to enhance network performance. You will configure distributed virtual routers, Open vSwitch with Data Plane Development Kit datapath, and IPv6 networking in OpenStack. You will also deploy software-defined networking with OpenDaylight.

## AUDIENCE

This course is designed for network engineers, network operators, cloud administrators, and cloud operators.

## PREREQUISITES FOR THIS COURSE

- Become a Red Hat® Certified System Administrator (RHCSA), or demonstrate equivalent experience
- Complete the Red Hat® Certified System Administrator in Red Hat OpenStack exam (EX210), or demonstrate equivalent experience

## WAYS TO TRAIN/TEST

Red Hat offers a method of training that is convenient to you - classroom, online, or at your site

## COURSE OUTLINE

### MANAGE NETWORKS IN LINUX

Administer network interfaces, bridges, and virtual networking devices.

### MANAGE OPENSTACK NETWORKING AGENTS

Manage the L2, L3, DHCP, and other OpenStack networking agents.

### DEPLOY IPV6 NETWORKS

Set up IPv6 networks in OpenStack.

### PROVISION OPENSTACK NETWORKS

Provision tenant networks and provider networks.

### IMPLEMENT DISTRIBUTED VIRTUAL ROUTING

Enable distributed virtual routing (DVR) to provide scaling and performance.

### TUNE NFV PERFORMANCE

Tune OpenStack networking performance.

### IMPLEMENT NFV DATA PATHS

Execute network functions virtualization (NFV) data paths.

### BUILD SOFTWARE-DEFINED NETWORKS WITH OPENDAYLIGHT

Create software-defined networks with OpenDaylight (ODL).



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#### ABOUT RED HAT

Red Hat is the world's leading provider of open source software solutions, using a community-powered approach to provide reliable and high-performing cloud, Linux, middleware, storage, and virtualization technologies. Red Hat also offers award-winning support, training, and consulting services. As a connective hub in a global network of enterprises, partners, and open source communities, Red Hat helps create relevant, innovative technologies that liberate resources for growth and prepare customers for the future of IT.

Learn more at [redhat.com](http://redhat.com).

#### COMPREHENSIVE REVIEW OF RED HAT OPENSTACK ADMINISTRATION III

Configure advanced networking on Red Hat® OpenStack Platform.

#### AFTER THE COURSE

##### RED HAT CERTIFIED ENGINEER IN RED HAT OPENSTACK EXAM (EX310)

Red Hat recommends that you earn both RHCSA and RHCE in Red Hat OpenStack credentials before attempting this exam, but it is not required. Note that to earn the RHCE in Red Hat OpenStack credential, you must be an RHCSA in Red Hat OpenStack and also pass the RHCE in Red Hat OpenStack exam. While it is possible to take these exams out of sequence, Red Hat strongly recommends earning the RHCSA in Red Hat OpenStack credential first.

#### IMPACT OF THIS TRAINING

##### IMPACT ON THE ORGANIZATION

This course is intended to develop the skills needed to design and configure OpenStack for high performance networking environments. These skills are suitable for organizations seeking to virtualize their network infrastructure and to provide rapid implementation, innovation, and scaling for both core networking and end-to-end consumer services.

Network virtualization eliminates capital expenditures for dedicated, limited-capability hardware requiring labor-intensive maintenance, operating procedures, and physical expansion. Instead, network virtualization provides scalable, automated, resilient core and custom service deployment, resulting in significant operational efficiencies, resource pooling, global service provider interoperability, and accurate demand-matched utilization.

This course includes recommended practices for high-performance throughput and utilization for both infrastructure resources and deployed services in a dynamically scalable and distributable modular configuration.

##### IMPACT ON THE INDIVIDUAL

As a result of attending this course, you should be able to design and tune a Red Hat® OpenStack Platform environment meeting the high-network performance requirements of your organization.

You should be able to demonstrate these skills:

- Design and implement high-performing software-defined networks.
- Provide higher-performing networks using enhanced platform awareness (EPA), Open vSwitch Data Plane Development Kit (OVSDPDK), and network functions virtualization (NFV)



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