Cognixia

A Collabera LEARNING SOLUTIONS COMPANY

Red Hat OpenStack Administration III Networking & Foundations of NFV (CL310)

In association with : redhat

DESCRIPTION:

Course overview

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.

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

[*]**SR-IOV** is covered in the course as a lecture and a video. The specification is not covered as a hands-on exercise because it requires special hardware.

AUDIENCE AND PREREQUISITES:

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

OUTLINE:

Outline for this course

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).

Comprehensive review of Red Hat OpenStack Administration III

Configure advanced networking on Red Hat® OpenStack Platform.

OUTCOMES:

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.

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 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 (OVS-DPDK), and network functions virtualization (NFV).

Thank You

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