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Learning Style: Virtual Classroom

Technology: Cisco

Difficulty: Intermediate

Course Duration: 2 Days

Introducing Cisco NX-OS Switches and Fabrics in the Data Center (DCINX)



About this course:

In this course, you will learn about the first deployment option, known as Standalone Mode. This mode offers significant extensions to NX-OS in the area of programmability, including:

- A RESTful API, Python scripting, Linux BASH access, and direct ASIC-level access for traffic flow monitoring
- Support for open-systems automation and orchestration DevOps platforms, including Puppet, Chef, and Cisco's own onePK
- Support for software-defined networking (SDN) and emerging overlay network technologies, including VXLAN, OpenFlow, and the OpenDaylight Controller

Through lecture and hands-on labs, you'll learn about the hardware architecture of the Nexus 9000 and the new programmability features and interfaces that have been added to NX-OS. We highly recommend that you have prior knowledge of NX-OS and the Nexus 5000, 6000, or 7000 platforms.

The average salary for Cisco Systems IT Engineer is **\$118,045** per year.

Course Objectives:

After completing this course, students will be able to:

- How the Nexus 9000 platform addresses current trends in data center architecture and management
- Nexus 9000 platform components
- Nexus 9000 hardware architecture, including line card architecture and packet forwarding
- The new NX-OS features available on the Nexus 9000 Series Switches
- Operation and configuration details of VXLAN
- Programmability, automation, and monitoring options available on the Nexus 9000 Series Switches
- Design possibilities with the Nexus 9000 Series Switches

Audience:

This course is intended for:

- System engineers
- Network engineers
- Architects
- Data center architects who design, implement, and manage data center networks using the Cisco Nexus 9000.

Prerequisites:

- Experience with Cisco NX-OS Understanding of Cisco Data Center network architecture Knowledge of the Nexus 5000, 6000, or 7000 platforms is highly recommended.

Suggested prerequisites courses:

- [Designing Cisco Data Center Unified Computing v5.x \(DCUCD\)](#)
- [Introducing Cisco Data Center Networking v1.x \(DCICN\)](#)

Course Outline:

Module 1: Cisco Nexus 9000 Solution Overview

- Data Center Trends
- Nexus 9000 Overview
- NX-OS Enhancements

Module 2: Hardware Overview

- Nexus 9500 Chassis
- Line Card Modules
- Supervisors
- Fabric Modules
- Power Supplies
- System Controllers
- Nexus 9300 Switches
- FEX Support
- 40G and 100GE Networking
- Supported Optics

Module 3: Hardware Architecture

- 9500 Architecture
- Line Card Architecture
- 9300 Architecture
- Packet Forwarding

Module 4: Nexus 9000 NX-OS Enhancements

- Nexus 9000 NX-OS Feature Overview
- High Availability
- Management

Module 5: VXLAN

- Overlay Networks
- VXLAN Overview
- VXLAN Control Plane
- VXLAN Forwarding Plane
- Configuring VXLAN

Module 6: Programmability and Automation

- Programming Features
- Automation Features
- Visibility and Monitoring Features

Module 7: Nexus 9000 Topology Designs

- Traditional Data Center
- Topologies Spine and Leaf Topologies
- Overlay Topologies

Lab Outline

- Lab 1: Nexus 9000 Initial Configuration
- Lab 2: Configuring VXLAN
- Lab 3: Using NX-OS API
- Lab 4: Python Scripting
- Lab 5: XMPP Management

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