

Configuring Cisco NX-OS Switches and Fabrics in the Data Center (DCCNX) v1.0 - On Demand

Modality: On Demand

Duration: 40 Hours

CLC: 10 Units

Course Information

About this course:

This course teaches you to use Cisco Nexus Operating System (Cisco NX-OS) to install, configure, and manage Cisco Nexus® Series Switch platforms, resulting in highly available, secure, scalable virtualized data centers.

Through instructor video and hands-on practice, you will learn how to deploy Cisco NX-OS software features, including networking, virtualization, security, storage services, system management, and monitoring. You will also learn to use Cisco NX-OS software programmability features to automate Cisco Nexus devices.

You may consider taking Introducing Cisco NX-OS Switches and Fabrics in the Data Center (DCINX) v1.0 along with this course, to have a technical overview of the Cisco Nexus Switches.

Course Objective:

You will have the following skills after taking this course:

- Describe the Cisco Nexus devices' routing and forwarding
- Describe Overlap Transport Virtualization (OTV)
- Configure device alliances and zoning
- Configure Fibre Channel over Ethernet (FCoE)
- Configure N-Port Identifier Virtualization (NPIV) and N-Port Virtualization (NPV) Modes
- Describe NX-API and network orchestration solutions, and program Cisco NX-OS with Python
- Explain system management, monitoring, and troubleshooting processes
- Explain the troubleshooting processes
- Describe and configure Virtual Extensible LAN (VXLAN)
- Describe Locator/ID Separation Protocol (LISP)
- Describe the key features of Cisco Nexus devices
- Describe Cisco Intelligent Traffic Director
- Describe Quality of Service (QoS) on Cisco Nexus devices
- Understand Cisco Nexus storage services

Audience:

- Network architects

- Cisco integrators and partners
- Data center systems engineers, field engineers, and architects
- Technical decision makers

Prerequisite:

You should have the following knowledge and skills to fully benefit from this course,:

- Understanding of networking protocols, routing, and switching
- Familiarity with Cisco data center technologies

These Cisco courses are recommended to take to help you meet these prerequisites:

- Introducing Cisco Data Center Networking (DCICN)
- Introducing Cisco Data Center Technologies (DCICT)
- Introducing Cisco Nexus Series Switches (DCINX)
- Implementing Cisco Switched Networks (SWITCH)
- Implementing and Administering Cisco Solutions (CCNA)
- Understanding Cisco Data Center Foundations (DCFNDU)
- Implementing and Operating Cisco Data Center Core Technologies (DCCOR)
- Implementing Cisco IP Routing (ROUTE)

Course Outline:

Describing the Cisco NX-OS Routing and Forwarding

Routing Overview
Multicast Routing
Cisco NX-OS Routing and Forwarding
Unicast and Multicast RIB and FIB

Describing Overlay Transport Virtualization

Cisco OTV Overview
Cisco OTV Control and Data Planes
Failure Isolation
Cisco OTV Features
Optimizing Cisco OTV

Describing Virtual Extensible LAN

VXLAN Benefits over VLAN
Layer 2 and Layer 3 VXLAN Overlay
VXLAN MP-BGP EVPN Control Plane
VXLAN Data Plane

Describing Locator/ID Separation Protocol

- Locator/ID Separation Protocol
- LISP VM Mobility
- LISP ESM Multihop Mobility
- LISP VPN Virtualization

Cisco Nexus Security Features

- ACLs
- Port Security
- DCHP Snooping
- Dynamic ARP Inspection
- IP Source Guard
- Unicast RPF
- Traffic Storm Control
- CoPP

Cisco Intelligent Traffic Director

- Cisco ITD Overview
- Cisco ITD Deployment Models
- Cisco ITD Configuration and Verification

Describing QoS on Cisco Nexus Devices

- QoS on Cisco Nexus Devices
- Configure QoS on Nexus
- Monitor QoS Statistics

Introducing Cisco Nexus Storage Services

- Fibre Channel
- Fibre Channel Flow Control
- Fibre Channel Domain Initialization
- Fibre Channel Addressing
- FSPF Protocol

Configuring Device Aliases and Zoning

- Distributed Device Alias Services Overview
- Zoning Overview
- Merge Zones Without Disruption
- Recover from Zone Merge Failures
- Enhanced Zoning

Configuring Fibre Channel Over Ethernet

- Fibre Channel Over Ethernet
- FCoE Requirements

- Data Center Bridging
- FCoE Addressing Scheme
- FCoE Initialization Protocol
- FCoE Port Types
- Storage VDC

Configuring NPIV and NPV Modes

- Cisco NPV Mode
- N-Port ID Virtualization

Managing Automation and Programmability of Cisco Nexus Devices

- Cisco NX-OS RESTful API
- Network Orchestration
- Programming Cisco NX-OS with Python

Configuring System Management and Monitoring

- System Management Overview
- System Monitoring Tools

Troubleshooting Cisco Nexus Switches

- Cisco Nexus Troubleshooting Tools
- Shell Access and Linux Containers
- Memory and Packet Issues