

Implementing Cisco NX-OS Switches and Fabrics in the Data Center (DCNX) v1.0 Course

Course Duration: 40 Hours

Course Code: DCNX v1.0

1. Course Overview

The **Implementing Cisco NX-OS Switches and Fabrics in the Data Center (DCNX) v1.0** course provides an in-depth understanding of Cisco Nexus Series Switches in a data center environment. It focuses on the fundamental concepts, configuration, verification, and troubleshooting of NX-OS features, Virtual Port Channels (vPCs), VXLAN, OSPF, BGP, and security features. Participants gain the expertise to deploy and manage modern data center infrastructure based on Cisco Nexus switches.

2. What You'll Learn?

After completing this course, you will be able to:

- Describe the Cisco Nexus product family and NX-OS architecture.
- Configure and troubleshoot key NX-OS features.
- Implement Layer 2 and Layer 3 connectivity in a data center environment.
- Deploy Virtual Port Channels (vPC) for redundancy and high availability.
- Configure Overlay Transport Virtualization (OTV) and VXLAN with MP-BGP EVPN.
- Implement routing protocols such as OSPF and BGP in a data center fabric.

- Secure Cisco Nexus switches using RBAC, CoPP, and other mechanisms.
- Perform management, monitoring, and troubleshooting of Cisco NX-OS-based fabrics.

3. Target Audience

This course is designed for:

- Data Center Engineers
- Network Engineers and Administrators
- Network Designers and Architects
- Systems Engineers and Field Engineers
- Professionals preparing for Cisco Data Center certifications

4. Pre-Requisites

To get the most benefit from this course, participants should have:

- Knowledge of networking protocols (LAN, WAN, TCP/IP)
- Understanding of routing protocols (OSPF, BGP)
- Familiarity with basic Cisco data center architecture
- Completion of **Implementing and Operating Cisco Data Center Core Technologies (DCCOR)** is recommended

5. Course Content

Module 1: Cisco Nexus Product Family and NX-OS Architecture

- Overview of Cisco Nexus hardware and software
- NX-OS architecture and features

Module 2: Layer 2 Connectivity

- VLANs and trunking
- Spanning Tree Protocol (STP) enhancements
- Cisco FabricPath

Module 3: Virtual Port Channels (vPC)

- vPC concepts, configuration, and verification
- Troubleshooting vPC deployments

Module 4: Layer 3 Connectivity

- Inter-VLAN routing
- OSPF and BGP configuration and troubleshooting

Module 5: Overlay Technologies

- VXLAN fundamentals
- VXLAN with MP-BGP EVPN
- Overlay Transport Virtualization (OTV)

Module 6: Security Features in NX-OS

- Role-Based Access Control (RBAC)
- Control Plane Policing (CoPP)
- Security best practices

Module 7: Management and Operations

- Monitoring and logging with NX-OS
- Network management tools
- Troubleshooting data center fabrics