
Configuring Cisco NX-OS Switches and Fabrics in the Data Center

DURATION: 3 DAYS

COURSE CODE: DCCNX

FORMAT: LECTURE/LAB

COURSE DESCRIPTION

The Configuring Cisco Nexus Switches (DCCNX) v1.0 course shows you how to install, configure, and manage Cisco Nexus Series Switch platforms using Cisco NX-OS to support highly available, secure, scalable virtualized data centers. Through expert instruction 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 gain an introduction to automating Cisco Nexus devices using Cisco NX-OS Software programmability features.

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

PREREQUISITES

Familiarity with Cisco data center technologies

Understand networking protocols, routing, and switching

These are the recommended Cisco courses that may help you meet these prerequisites:

- Implementing and Administering Cisco Solutions (CCNA)
 - Introducing Cisco Data Center Networking (DCICN)
 - Introducing Cisco Data Center Technologies (DCICT)
 - Implementing Cisco Switched Networks (SWITCH)
 - Implementing Cisco IP Routing (ROUTE)
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WHO SHOULD ATTEND

Data center systems engineers

Data center field engineers

Data center architects

Technical decision makers

Network architects

Cisco integrators and partners

LEARNING OBJECTIVES

Describe the Cisco Nexus devices routing and forwarding

Describe OTV

Describe and configure VXLAN

Describe Locator/D separation protocol

Describe the key features of Cisco Nexus devices

Describe Cisco Intelligent Traffic Director

Describe QoS on Cisco Nexus devices

Understand Cisco Nexus storage services

Configure device alliances and zoning

Configure FCoE

Configuring NPIV and 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

COURSE OUTLINE

1. Describing the Cisco NX-OS Routing and Forwarding
2. Routing Overview
3. Multicast Routing
4. Cisco NX-OS Routing and Forwarding
5. Unicast and Multicast RIB and FIB
6. Describing Overlay Transport Virtualization
7. Cisco OTV Overview
8. Cisco OTV Control and Data Planes
9. Failure Isolation
10. Cisco OTV Features
11. Optimizing Cisco OTV
12. Describing Virtual Extensible LAN
13. VXLAN Benefits over VLAN
14. Layer 2 and Layer 3 VXLAN Overlay
15. VXLAN MP-BGP EVPN Control Plane
16. VXLAN Data Plane
17. Describing Locator/ID Separation Protocol
18. Locator/ID Separation Protocol
19. LISP VM Mobility
20. LISP ESM Multihop Mobility
21. LISP VPN Virtualization
22. Cisco Nexus Security Features
23. ACLs
24. Port Security
25. DHCP Snooping
26. Dynamic ARP Inspection
27. IP Source Guard
28. Unicast RPF
29. Traffic Storm Control
30. CoPP
31. Cisco Intelligent Traffic Director
32. Cisco ITD Overview
33. Cisco ITD Deployment Models
34. Cisco ITD Configuration and Verification
35. Describing QoS on Cisco Nexus Devices
36. QoS on Cisco Nexus Devices
37. Configure QoS on Nexus
38. Monitor QoS Statistics
39. Introducing Cisco Nexus Storage Services
40. Fibre Channel
41. Fibre Channel Flow Control
42. Fibre Channel Domain Initialization
43. Fibre Channel Addressing
44. FSPF Protocol
45. Configuring Device Aliases and Zoning
46. Distributed Device Alias Services Overview
47. Zoning Overview
48. Merge Zones Without Disruption
49. Recover from Zone Merge Failures
50. Enhanced Zoning
51. Configuring Fibre Channel Over Ethernet
52. Fibre Channel Over Ethernet
53. FCoE Requirements
54. Data Center Bridging
55. FCoE Addressing Scheme
56. FCoE Initialization Protocol
57. FCoE Port Types
58. Storage VDC
59. Configuring NPIV and NPV Modes
60. Cisco NPV Mode
61. N-Port ID Virtualization
62. Managing Automation and Programmability of Cisco Nexus Devices
63. Cisco NX-OS RESTful API
64. Network Orchestration
65. Programming Cisco NX-OS with Python
66. Configuring System Management and Monitoring
67. System Management Overview
68. System Monitoring Tools
69. Troubleshooting Cisco Nexus Switches
70. Cisco Nexus Troubleshooting Tools
71. Shell Access and Linux Containers
72. Memory and Packet Issues

DISCOVERY LABS

- 1: Configure OSPF
- 2: Configure Cisco OTV
- 3: Configure VXLAN
- 4: Configure Cisco Nexus Security Features
- 5: Configure Basic Fibre Channel Features
- 6: Configure Device Aliases and Zoning
- 7: Configure FCoE
- 8: Configure NPV
- 9: Manage Switch over Cisco NX-API
- 10: Program a Switch with Python
- 11: Configure System Management and Monitoring
- 12: Troubleshoot and Manage Switches Using Bash and Guest Shell