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

Durée: 180 Jours **Réf de cours: DCNX** **Version: 1.1** **Méthodes d'apprentissage: E-learning**

Résumé:

The Implementing Cisco NX-OS Switches and Fabrics in the Data Center (DCNX) course gives you a detailed understanding of the Cisco® Nexus switch platform and teaches you how to install, configure, and manage Cisco Nexus® switch platforms in a scalable, highly available environment. Learn how to describe various aspects of the Cisco Nexus product families and platforms, including implementation, management, security, programmability and storage. Additionally, you will learn how to configure device aliases and zoning, Fibre Channel over Ethernet (FCoE), and N-Port Identifier Virtualization (NPIV), and N-Port Virtualization (NPV) modes.

This training is worth 40 Continuing Education (CE) Credits towards recertification

Public visé:

Engineers using the Cisco Nexus Series Switch Platforms.

Objectifs pédagogiques:

- **After completing this course you should be able to:**
- Describe the platforms that make the Cisco Nexus 9000, 7000, 3000, and 2000 product families
- Describe Cisco Nexus platform implementations
- Explain Cisco Nexus platform management
- Describe Port Channels and Virtual Port Channels
- Configure First Hop Redundancy protocols
- Configure security features of Cisco Nexus devices
- Describe the Cisco Nexus devices routing and forwarding
- Describe Virtual Extensible LAN (VXLAN)
- Describe Quality of Service (QoS) on Cisco Nexus Devices
- Explain system management and monitoring processes
- Describe Cisco NX-OS programmability
- Describe Cisco Nexus storage services
- Configure device aliases and zoning
- Configure FCoE
- Configure NPIV and NPV modes

Pré-requis:

Attendees should meet the following prerequisites:

- Be familiar with Cisco data center technologies
- Understand networking protocols, routing, and switching
- CCNA - Mettre en oeuvre et administrer des solutions réseaux Cisco
- DCFNDU - Comprendre les bases du DataCenter Cisco®

Test et certification

Recommended as preparation for the following exams:

- There are no exams currently aligned to this course

Contenu:

Cisco Nexus Series Switches

- Describe Cisco Nexus 9000 Series Switches
- Describe Cisco Nexus 7000 Series Switches
- Describe Cisco Nexus 3000 Series Switches
- Describe Cisco Nexus 2000 Series Fabric Extenders

Cisco Nexus Platforms Implementation

- Describe Cisco Nexus in the Data Center Architecture
- Describe Cisco NX-OS Software
- Describe the Licensing Model

Cisco Nexus Platforms Management

- Describe Cisco Nexus CLI and GUI Management Interfaces
- Describe Cisco NX-OS Setup Utility
- Describe Virtual Device Context on Cisco Nexus 7000 Series
- Describe PowerOn Auto Provisioning
- Describe Cisco NX-OS User Management
- Describe Cisco NX-OS AAA Services

Port Channels and Virtual Port Channels

- Describe Port Channel Operation
- Describe vPC Concepts and Benefits
- Describe vPC Architecture
- Describe vPC Control and Data Plane

First Hop Redundancy Protocols

- Describe HSRP
- Describe VRRP

Cisco Nexus Security Features

- Configure Access Control Lists
- Configure Port Security
- Configure DHCP Snooping
- Configure Dynamic ARP Inspection
- Configure IP Source Guard
- Configure Unicast RPF
- Configure Keychain Management
- Configure Control Plane Policing
- Configure MACsec

Cisco NX-OS Routing and Forwarding

- Describe Routing in Cisco NX-OS
- Describe Multicast Routing in Cisco NX-OS
- Describe Unicast and Multicast RIB and FIB in NX-OS
- Describe Layer 3 Best Practices for vPC

Virtual Extensible LAN

- Describe VXLAN Benefits over VLAN
- Describe VXLAN Overlay
- Describe VXLAN MP-BGP EVPN Control Plane
- Describe VXLAN Data Plane

QoS on Cisco Nexus Devices

- Describe QoS on Cisco Nexus Devices
- Configure QoS on Cisco Nexus Devices
- Describe Monitoring of QoS Statistics

System Management and Monitoring

- Configure System Management
- Configure System Monitoring and Troubleshooting Tools

Cisco NX-OS Programmability

- Describe On-Box Programmability on Cisco NX-OS
- Describe Ansible for Cisco NX-OS

Cisco Nexus Storage Services

- Describe IP Storage on Cisco Nexus Switches
- Describe Fibre Channel
- Describe Fibre Channel Flow Control
- Describe Fibre Channel Domain Initialization
- Describe Fibre Channel Addressing

Fibre Channel Over Ethernet

- Describe Fibre Channel over Ethernet
- Describe FCoE Requirements
- Describe Data Center Bridging
- Describe FCoE Addressing Scheme
- Describe FCoE Initialization Protocol
- Describe FCoE Port Types

Device Aliases and Zoning

- Describe Distributed Device Alias Services
- Describe Zoning
- Describe Zone Merging
- Describe Recovering from Zone Merge Failures
- Describe Enhanced Zoning

NPIV and NPV Modes

- Describe N-Port ID Virtualization
- Describe Fibre Channel NPV Mode
- Describe FCoE NPV Mode

Labs

- Discovery Lab 1: Test Cisco Nexus Platforms
- Discovery Lab 2: Configure User Management
- Discovery Lab 3: Configure vPC
- Discovery Lab 4: Configure First Hop Redundancy Protocol (FHRP) Protocols
- Discovery Lab 5: Configure Cisco Nexus Security Features
- Discovery Lab 6: Configure Open Shortest Path First (OSPF)
- Discovery Lab 7: Configure VXLAN
- Discovery Lab 8: Configure QoS
- Discovery Lab 9: Configure System Management
- Discovery Lab 10: Configure Cisco NX-OS On-Box Programmability
- Discovery Lab 11: Configure Containers on Cisco NX-OS
- Discovery Lab 12: Configure Cisco NX-OS Using Ansible
- Discovery Lab 13: Configure Basic Fibre Channel Features
- Discovery Lab 14: Configure FCoE
- Discovery Lab 15: Configure Fiber Channel Device Aliases and Zoning
- Discovery Lab 16: Configure NPV