



DCNX5K v2.1: Configuring Cisco Nexus 5000 Switches

Course ID#: 1575-911-ZZ-W

Hours: 35

Course Content

Course Description:

Configuring Cisco Nexus 5000 Switches (DCNX5K) v2.1 is a 5-day ILT training program that is designed for systems and field engineers, consulting systems engineers, technical solutions architects, and Cisco integrators and partners who implement and configure Cisco Nexus 5000 Series Switches and Cisco Nexus 2000 Series Fabric Extenders. The course provides the key components and procedures that are needed to install, configure, manage, and troubleshoot Cisco Nexus 5000 Series Switches and Cisco Nexus 2000 Series Fabric Extenders in the LAN, SAN, and unified fabric environments.

During the course of instruction, the learner will be exposed to the configuration of advanced technologies, such as Fibre Channel, QoS and FCoE, but will not be required to have experience with these technologies in order to successfully to complete the class.

This course covers initial configuration of Fibre Channel, QoS, and FCoE on Cisco Nexus 5000 Series Switches. For a deeper understanding in Fibre Channel, QoS and FCoE, students are encouraged to explore additional training in those technologies.

Prerequisites:

The knowledge and skills that a learner must have before attending this course are as follows:

- Good understanding of networking protocols.
- Recommended CCNA Certification.
- Good understanding of the Fibre Channel Protocol and the SAN environment Recommended attendance of a Fibre Channel Protocol class or equivalent experience.
- Recommended attendance of the Implementing Cisco Storage Network Solutions (ICSNS) class or equivalent experience

Topics:

Module 1: Cisco Nexus 5000 Series Switch Product Overview

Lesson 1: Introducing the Cisco Nexus 5000 Series Switches

- Cisco Nexus 5000 Series Switch Product Overview
- Cisco Nexus 5000 Series Switch Family

Lesson 2: Cisco Nexus 2000 Series Fabric Extender Product Overview

- Cisco Nexus 2000 Series Fabric Extenders

Lesson 3: High-Level Product Features Overview

- Unified Fabric
- Switch Virtualization
- Virtual Port Channels



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- Cisco FabricPath
- In Service Software Updates
- Adapter FEX
- VM FEX
- Layer 3 Capabilities

Lesson 4: Deployment Considerations

- Deployment Considerations
- ToR/EoR Deployment Models
- FEX Operation
- High Availability Deployment

Module 2: Cisco Nexus 5000 Series Switch Hardware Architecture and Device Administration

Lesson 1: Cisco Nexus 5000 Series Switch Hardware Architecture

- Cisco Nexus 5000 and 2000 System Architecture
- Cisco Nexus 5500 Platform Architecture
- Traffic Forwarding Paths

Lesson 2: Hardware Installation Procedures

- Preparation
- Cabinet and Rack Installation
- Cabling Requirements
- Power Requirements
- Hardware Installation
- Verifying the Hardware Installation

Lesson 3: Configuring User Management

- Feature Overview
- Configuring AAA
- Configuring RBAC
- Configuring SSH
- Configuring ACL

Lesson 4: Graphical Management Tools

- Cisco Prime Data Center Network Manager
- Cisco Device Manager

Lesson 5: Configuring System Management

- Switch Management Methods and Features
- File System Management
- Cisco Fabric Services
- Configure System Message Logging
- Generic Online Diagnostics
- Smart Call Home
- Simple Network Management Protocol
- XML Interface
- Checkpoint and rollback
- Module Pre-provisioning

Lesson 6: Understanding Cisco Nexus High Availability

- Cisco NX-OS Software High Availability Features
- Stateful and Stateless Process Restarts
- In Service Software Updates

Lesson 7: Troubleshooting Tools

- Troubleshooting Overview
- Troubleshooting Tools
- Ethalyzer
- Switched Port Analyzer

Module 3: Cisco Nexus 5000 Series Switch Network Feature Configuration

Lesson 1: The Cisco NX-OS Software Architecture

- The Cisco NX-OS Software Architecture
- The Cisco NX-OS Software CLI
- Licensing Cisco Nexus 5000 Series Switches

Lesson 2: Configuring Layer 2 Switching Features

- Configuring Ethernet interfaces
- Configuring VLANs
- Configuring the Spanning Tree Protocol



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Lesson 3: Troubleshooting Layer 2 Switching

- Troubleshooting Layer 2 Troubleshooting
- Troubleshooting the MAC address table
- Troubleshooting Spanning Tree Protocols
- Troubleshooting VLANs

Lesson 4: Configuring the Cisco Nexus 2000 Series Fabric Extender

- Configuring the Cisco Nexus 2000 Series Fabric Extender
- Configuring Static Pinning
- Configuring Dynamic Pinning

Lesson 5: Configuring Virtual Port Channels and Enhanced vPC

- Configuring Ethernet Port Channels
- Understanding Virtual Port Channels
- Configuring Virtual Port Channels
- Configuring Enhanced Virtual Port Channels

Lesson 6: Configuring Host Virtual Port Channels

- vPC deployment models
- Configuring Host Virtual Port Channels

Lesson 7: Configuring Quality of Service

- Topic 1: Understanding Cisco Nexus QoS
- Topic 2: Configuring QoS

Lesson 8: Configuring Cisco FP

- Understanding Cisco FP
- Configuring Cisco FP

Lesson 9: Understanding the Fibre Channel Protocol

- SCSI Protocol
- Fibre Channel Model
- Fibre Channel Interfaces and Ports
- Fibre Channel Addressing
- Fabric Channel Flow Control
- Fabric Channel Domain Initialization
- Virtual Fabric and Zoning
- Fabric Shortest Path First Protocol
- Fabric Channel Login Procedures

Lesson 10: Understanding the FCoE Protocol

- Unified Fabric I/O Consolidation
- FCoE Adapters
- The FCoE architecture
- FCoE Emulated Node
- FCoE Initialization Protocol
- Multihop FCoE

Lesson 11: Identifying Data Center Bridging Enhancements

- Data Center Bridging
- Priority Flow Control
- Enhanced Transmission Selection
- Bridging Exchange Protocol

Lesson 12: Configuring FCoE

- Configure FCoE
- FCoE VLANs and Virtual Interfaces

Lesson 13: Troubleshooting FCoE

- Troubleshooting DCB
- Troubleshooting FIP
- Troubleshooting CNA
- Troubleshooting PFC



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Lesson 14: Configuring SAN Switching Features

- Fibre Channel interfaces
- Configuring Domain Parameters
- Configuring VSANs
- VSAN trunking
- SAN port channels
- Distributed Device Alias Service
- Zoning
- FSPF Protocol
- FLOGI, FCNS, and RSCN databases

Lesson 15: Implementing Cisco NPV Mode and NPIV

- Understanding Cisco NPV mode
- Configuring Cisco NPV mode
- Understanding NPIV
- Configuring NPIV

Lesson 16: Troubleshooting SAN Switching

- Troubleshooting Cisco NPV mode
- Troubleshooting Zoning
- Troubleshooting SAN port channels
- Troubleshooting VSANs