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

COURSE OVERVIEW:

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.

WHO WILL BENEFIT FROM THIS COURSE?
- Data center systems engineers
- Data center field engineers
- Data center architects
- Technical decision makers
- Network architects
- Cisco integrators and partners

PREREQUISITES:

To fully benefit from this course, you should have the following knowledge and skills:
- 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)

COURSE OBJECTIVES:

After completion of this course, students will be able to...
- 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:

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

Lab Outline

- Configure OSPF
- Configure Cisco OTV
- Configure VXLAN
- Configure Cisco Nexus Security Features
- Configure Basic Fibre Channel Features
- Configure Device Aliases and Zoning
- Confgure FCoE
- Configure NPV
- Manage Switch over Cisco NX-API
- Program a Switch with Python
- Configure System Management and Monitoring
- Troubleshoot and Manage Switches Using Bash and Guest Shell

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Sunset Learning Institute (SLI) has been an innovative leader in developing and delivering authorized technical training since 1996. Our goal is to help our customers optimize their cloud technology investments by providing convenient, high quality technical training that our customers can rely on. We empower students to master their desired technologies for their unique environments.

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- Sunset Learning has won numerous Instructor Excellence and Instructor Quality Distinction awards since 2012

Enhanced Learning Experience

- The goal of our instructors during class is ensure students understand the material, guide them through our labs and encourage questions and interactive discussions.

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- All Sunset Learning Institute classes are guaranteed to run – you can count on us to deliver the training you need when you need it!

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- Enthusiastic Student Services team available to answer any questions and ensure a quality training experience