



## **Module 1: Deploying the Cisco Nexus 7000**

### **Lesson 1: Overview of the Nexus 7000**

Cisco Nexus 7000 Series Chassis Overview  
Supervisor Engine and Line Cards  
Fabric Modules  
Virtual Output Queuing Overview  
VoQ Operation  
Power Supplies and Cooling  
Connectivity Management Processor  
Site Preparation

### **Lesson 2: Overview of NX-OS**

Introducing NX-OS  
NX-OS Process Recovery  
NX-OS Supervisor Redundancy  
ISSU

### **Lesson 3: Introduction to Virtual Device Contexts**

Introducing Virtualization  
VDC Design  
VDC Configuration  
High Availability

### **Lesson 4: Managing the Nexus 7000**

SNMP and XML  
Generic OnLine Diagnosis  
Embedded Event Manager  
SMART Call Home  
Data Center Network Manager  
System Message Logging  
AAA  
Role-Based Access Control  
Configuration Rollback

### **Lesson 5: Layer 2 Protocols and Features**

Nexus 7000/NX-OS Layer 2 Overview  
VLANs and PVLANs  
Spanning-Tree Protocols  
Port-Channels  
Virtual Port-Channels (vPC)  
IGMP Snooping  
Unidirectional Link Detection  
Overlay Transport Protocol (OTV)  
FabricPath (L2MP)  
Nexus 2248TP

### **Lesson 6: Layer 3 Protocols and Features**

Layer 3 Unicast Routing Overview  
First-Hop Routing Protocols  
Object Tracking  
Routing Virtualization  
Routing Protocols  
Bidirectional Forwarding Detection (BFD)  
Policy Routing  
Tunnels  
Layer 3 Multicast

### **Lesson 7: Quality of Service**

Nexus 7000 Series QoS Overview  
Port QoS  
Forwarding Engine QoS  
Modular QoS CLI Overview  
Table Maps  
Class Map  
Policy Map  
Service Policy

### **Lesson 8: Security**

Introduction to Nexus/NX-OS Security  
Traffic Integrity  
Storm Control  
Control Plane Protection  
Hardware Rate Limiting  
Access Control  
Admission Control  
Data Confidentiality

### **Lesson 9: Troubleshooting Tools**

Etheralyzer: Wireshark in NX-OS  
SPAN and RSPAN  
Troubleshooting Checklist

### **Lesson 10: Troubleshooting Process**

Cisco NX-OS Software Troubleshooting Process



# Implementing and Configuring the Cisco Nexus 5000 and 7000

## Module 2: Introduction to the Cisco Nexus 5000

### Lesson 1: Overview of the Nexus 5000

Challenges in the Data Center  
I/O Consolidation  
Cisco Nexus 5000 Switch Products  
Cisco NX-OS Software Architecture  
Network Design  
FCoE Adapters and Software Stack  
Cisco Nexus 5000 Switch Management Tools  
Managing a Cisco Nexus 5000 Switch with Cisco Device Manager  
Monitoring an FCoE Network with Cisco Fabric Manager

### Lesson 2: Overview of the Nexus 2000

Cisco Nexus 2000 Fabric Extender  
Cisco Nexus 2000 Forwarding

### Lesson 3: FC Protocol Primer

Fibre Channel Layering and Services  
Fibre Channel Addressing  
Fibre Channel Frames  
Fibre Channel Flow Control  
Zoning Overview  
Fibre Channel Routing  
The RSCN Process

### Lesson 4: Understanding the FCoE Protocol

Current FCOE Architecture  
FCOE Enode MAC Addresses  
FCOE Initialization Protocol

### Lesson 5: Data Center Architecture

Access Layer and DC Design  
Cisco Nexus 5000 vPC  
Nexus Supported Layer 2 and FCOE Topologies Summary

### Lesson 6: Understanding Ethernet Enhancements

Converged Enhanced Ethernet  
Priority Flow Control  
Bandwidth Management  
Data Center Bridging Exchange  
Congestion Management

### Lesson 7: Configuring NPV Mode

N\_Port Identifier Virtualization  
Understanding NPV Mode  
Configuring NPV Mode

### Lesson 8: Configuring the Cisco Nexus 5000 in Switch Mode

Switch Configuration Overview  
Configuring Connectivity and Administrative Access  
Configuring Nexus 5K Interfaces  
Configuring Ethernet Uplink Ports  
Configuring the FC Uplink Ports  
Verifying the Configuration  
Additional Configuration Components  
Configuring the Cisco Nexus 2000

### Lesson 9: Managing Traffic Flow

Understanding QoS Policy Management  
Tuning the MTU Value  
Configuring Priority Flow Control  
Nexus 5000 QoS from 4.1(3)N1(1)  
IGMP Snooping

### Lesson 10: Configuring HA

High Availability in an FCoE Network  
Configuring Server-Side HA  
Understanding Port-Channels  
Configuring Ethernet PortChannels  
Configuring Fibre Channel PortChannels  
Configuring Virtual PortChannels





# Implementing and Configuring the Cisco Nexus 5000 and 7000

## Course Labs

### **Cisco Nexus 7000 Labs**

- Lab 1: Exploring the Nexus 7000 Hardware Platform
- Lab 2: Create and Configure VDCs
- Lab 3: First-Hop Redundancy Protocols
- Lab 4: Configuring Routing Protocols
- Lab 5: Configuring OTV
- Lab 6: VDC and VRF Interoperation
- Lab 7: QoS on the Cisco Nexus 7000
- Lab 8: Security
- Lab 9: Troubleshooting the Nexus Control Plane

### **Cisco Nexus 5000 Labs**

- Lab 1: Configuring the Switch for Administrative Access
- Lab 2: Configuring the Cisco Nexus 5000 Switch for FCoE Connectivity
- Lab 3: Configuring the Cisco Nexus 5000 in NPV Mode
- Lab 4: Traffic Engineering
- Lab 5: Configuring the Nexus 2000 as a Remote Line Card
- Lab 6: Configuring Nexus 2000 with VPC



Learning  
Solutions