



Introducing Cisco Data Center Networking

DURATION: 5 DAYS

COURSE CODE: DCICN

FORMAT: LECTURE/LAB

COURSE DESCRIPTION

Introducing Cisco Data Center Networking (DCICN) v6.2 prepares students for the Cisco CCNA® Data Center certification and for associate-level data center roles. The course covers foundational knowledge, skills, and technologies, including data center networking concepts, data center storage networking, and data center physical infrastructure. The training provided in this course is focused on data center basic operations covering the topics needed for today's demanding associate-level positions.

WHO SHOULD ATTEND

Entry-level data center personnel who need to understand the primary technologies used in a Cisco Data Center.

LEARNING OBJECTIVES

After completing this course, you should be able to:

- Describe the characteristics and benefits of the Ethernet protocol. List Ethernet standardization.
- Describe the OSI and TCP/IP models
- Describe IPv4 and IPv6 network layer addressing
- Describe the packet delivery process
- Compare and contrast TCP/IP with the OSI model
- Examine the Cisco Data Center network architectures, the 2- and the 3-tier network design, and the spine/leaf network design.
- Describe Cisco Nexus products and explain basic functionalities and tools of Cisco NX-OS.
- Describe VLANs
- Describe issues with STP
- Describe the routing process on Nexus switches
- Describe Layer 3 first hop redundancy
- Describe and configure user security features

CERTIFICATION

Recommended as preparation for exam:

200-150 -DCICN- Introducing Cisco Data Center Networking.

This is one of two exams required for Cisco's CCNA Data Center Certification.

PREREQUISITES

- Good understanding of networking protocols
- Good understanding of the VMware environment
- Basic computer literacy
- Basic knowledge of Microsoft Windows operating systems
- Basic Internet usage skills

Describe ACL object groups

Describe storage connectivity options in the Data Center. Compare iSCSI, Fibre Channel, and NAS connectivity for remote server storage.

Describe Fibre Channel storage networking

Describe VSANs

Describe communication between the initiator and target

Describe Fibre Channel zone types and their uses

Describe NPV and NPIV

Describe data center Ethernet enhancements that provide a lossless fabric

Describe Fibre Channel over Ethernet

Describe the components of a Cisco UCS server

Describe the Cisco UCS physical connectivity for a Fabric Interconnect cluster

Describe the Cisco UCS Manager interfaces

COURSE OUTLINE

1. Network Protocols and Host-to-Host Communication

- Describing Ethernet
- Describing OSI and TCP/IP Models
- Describing IPv4 and IPv6 Network Layer Addressing
- Describing Packet Delivery on a Hierarchical Network
- Describing the TCP/IP Transport Layer

2. Basic Data Center Networking Concepts

- Describing Data Center Network Architectures
- Describing the Cisco Nexus Family and NX-OS
- Implementing VLANs and Trunks
- Describing Redundant Switched Topologies

3. Advanced Data Center Networking Concepts

- Describing the Routing Process on Nexus Switches
- Describing Layer 3 First Hop Redundancy
- Describing AAA on Nexus Switches
- Describing ACLs on Nexus Switches

4. Basic Data Center Storage

- Describing Storage Connectivity Options in the Data Center
- Describing Fibre Channel Storage Networking
- Describing VSANs

5. Advanced Data Center Storage

- Describing Communication Between Initiator and Target
- Describing Fibre Channel Zone Types and Their Uses
- Describing Cisco NPV Mode and NPIV
- Describing Data Center Ethernet Enhancements
- Describing Fibre Channel over Ethernet

6. Cisco UCS Architecture

- Describing Cisco UCS Server Hardware Components
- Cisco UCS Physical Connectivity for a Fabric Interconnect Cluster
- Describing the Cisco UCS Manager Interfaces

DISCOVERY LABS

- 1: Explore IPv4 and IPv6 Addressing
- 2: Explore LAN Communication
- 3: Explore Protocol Analysis
- 4: Explore TCP and UDP Communication
- 5: Explore the Cisco NX-OS Command Line Interface
- 6: Explore Topology Discovery and Documentation
- 7: Implement VLANs and Trunks
- 8: Map a Spanning Tree and Configure Port Channels
- 9: Implement Multilayer Switching
- 10: Configure OSPF
- 11: Configure EIGRP
- 12: Configure HSRP
- 13: Configure AAA and Secure Remote Administration
- 14: Configure ACLs
- 15: Configure VSANs
- 16: Validate FLOGI and FCNS
- 17: Configure Zoning
- 18: Explore the Cisco UCS Manager GUI