Introducing Cisco Data Center Networking v6.2 (DCICN)

COURSE OVERVIEW:

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 WILL BENEFIT FROM THIS COURSE?

The introductory level of knowledge that is taught in this course is targeted for individuals that will perform only the more basic configuration tasks. The course lab exercises focus on viewing configurations, with some configuration changes made by the student.

PREREQUISITES:

To fully benefit from this course, students should have the following prerequisite skills and knowledge:

- 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

COURSE OBJECTIVES:

Upon completion of this course, you will 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
- 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 interfacesGUI

COURSE OUTLINE:

Module 1: Network Protocols and Host-to-Host Communication

- Lesson 1: Describing Ethernet
- Lesson 2: Describing OSI and TCP/IP Models
- Lesson 3: Describing IPv4 and IPv6 Network Layer Addressing
- Lesson 4: Describing Packet Delivery on a Hierarchical Network
- Lesson 5: Describing the TCP/IP Transport Layer

Module 2: Basic Data Center Networking Concepts

- Lesson 1: Describing Data Center Network Architectures
- Lesson 2: Describing the Cisco Nexus Family and NX-OS
- Lesson 3: Implementing VLANs and Trunks
- Lesson 4: Describing Redundant Switched Topologies

Module 3: Advanced Data Center Networking Concepts

- Lesson 1: Describing the Routing Process on Nexus Switches
- Lesson 2: Describing Layer 3 First Hop Redundancy
- Lesson 3: Describing AAA on Nexus Switches
- Lesson 4: Describing ACLs on Nexus Switches

Module 4: Basic Data Center Storage

- Lesson 1: Describing Storage Connectivity Options in the Data Center
- Lesson 2: Describing Fibre Channel Storage Networking
- Lesson 3: Describing VSANs

Module 5: Advanced Data Center Storage

- Lesson 1: Describing Communication Between Initiator and Target
- Lesson 2: Describing Fibre Channel Zone Types and Their Uses
- Lesson 3: Describing Cisco NPV Mode and NPIV
- Lesson 4: Describing Data Center Ethernet Enhancements
- Lesson 5: Describing Fibre Channel over Ethernet

Module 6: Cisco UCS Architecture

- Lesson 1: Describing Cisco UCS Server Hardware Components
- Lesson 2: Cisco UCS Physical Connectivity for a Fabric Interconnect Cluster
- Lesson 3: Describing the Cisco UCS Manager Interfaces

Lab Outline

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

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