Understanding Cisco Data Center Foundations (DCFNDU)

COURSE OVERVIEW

The Understanding Cisco Data Center Foundations (DCFNDU) v1.1 course helps you prepare for entry-level data center roles. In this course, you will learn the foundational knowledge and skills you need to configure Cisco® data center technologies including networking, virtualization, storage area networking, and unified computing. You will get an introduction to Cisco Application Centric Infrastructure (Cisco ACI), automation, and cloud computing. You will get hands-on experience configuring features on Cisco Nexus Operating System (Cisco NX-OS) and Cisco Unified Computing System (Cisco UCS). This course also earns you 30 Continuing Education (CE) credits towards recertification.

WHO WILL BENEFIT FROM THIS COURSE?

- Data center administrators
- Data center engineers
- Systems engineers
- Server administrators
- Network managers
- Cisco integrators and partners
- Data center designers
- Technical solutions architects
- Network architects

PREREQUISITES

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

- Good understanding of networking protocols
- Good understanding of the VMware environment
- Basic knowledge of Microsoft Windows operating systems

These are the recommended Cisco courses that may help you meet these prerequisites:

- Implementing and Administering Cisco Solutions (CCNA)

COURSE OBJECTIVES

After taking this course, you should be able to:

- Describe the foundations of data center networking
- Describe Cisco Nexus products and explain the basic Cisco NX-OS functionalities and tools
- Describe Layer 3 first-hop redundancy
- Describe Cisco FEX connectivity
- Describe Ethernet port channels and vPCs
- Introduce switch virtualization, machine virtualization, and describe network virtualization
- Compare storage connectivity options in the data center

- Describe Fibre Channel communication between the initiator server and the target storage
- Describe Fibre Channel zone types and their uses
- Describe NPV and NPIV
- Describe data center Ethernet enhancements that provide a lossless fabric
- Describe FCoE
- Describe data center server connectivity
- Describe Cisco UCS Manager
- Describe the purpose and advantages of APIs
- Describe Cisco ACI
- Describe the basic concepts of cloud computing

COURSE OUTLINE

Describing the Data Center Network Architectures
- Cisco Data Center Architecture Overview
- Three-Tier Network: Core, Aggregation, and Access

Describing the Cisco Nexus Family and Cisco NX-OS Software
- Cisco Nexus Data Center Product Overview
- Cisco NX-OS Software Architecture

Describing Layer 3 First-Hop Redundancy
- Default Gateway Redundancy
- Hot Standby Router Protocol

Describing Port Channels and vPCs
- Ethernet Port Channels
- Virtual Port Channels

Describing Switch Virtualization
- Cisco Nexus Switch Basic Components
- Virtual Routing and Forwarding

Describing Machine Virtualization
- Virtual Machines
- Hypervisor

Describing Network Virtualization
- Overlay Network Protocols
- VXLAN Overlay

Introducing Basic Data Center Storage Concepts
- Storage Connectivity Options in the Data Center
- Fibre Channel Storage Networking

Describing Fibre Channel Communication Between the Initiator Server and the Target Storage
- Fibre Channel Layered Model
- FLOGI Process

Describing Fibre Channel Zone Types and Their Uses
- Fibre Channel Zoning
- Zoning Configuration

Describing Cisco NPV Mode and NPIV

- Cisco NPV Mode
- NPIV Mode

Describing Data Center Ethernet Enhancements

- IEEE Data Center Bridging
- Priority Flow Control

Describing FCoE

- Cisco Unified Fabric
- FCoE Architecture

Describing Cisco UCS Components

- Physical Cisco UCS Components
- Cisco Fabric Interconnect Product Overview

Describing Cisco UCS Manager

- Cisco UCS Manager Overview
- Identity and Resource Pools for Hardware Abstraction

Using APIs

- Common Programmability Protocols and Methods
- How to Choose Models and Processes

Automating the Data Center
Describing Cisco ACI

- Cisco ACI Overview
- Multitier Applications in Cisco ACI

Describing Cloud Computing

- Cloud Computing Overview
- Cloud Deployment Models

Lab outline

- Explore the Cisco NX-OS CLI
- Explore Topology Discovery
- Configure HSRP
- Configure vPCs
- Configure VRF
- Explore the VDC Elements
- Install ESXi and vCenter
- Configure VSANs
- Validate FLOGI and FCNS
- Configure Zoning
- Configure Unified Ports on a Cisco Nexus Switch and Implement FCoE
- Explore the Cisco UCS Server Environment
- Configure a Cisco UCS Service Profile
- Configure Cisco NX-OS with APIs
- Explore the Cisco UCS Manager XML API Management Information Tree
- Explore Cisco ACI

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