FIREFLY

CISCO PARTNER Platinum Learning

Understanding Cisco Data Center Foundations • DCFNDU

DURATION: 5 DAYS | **PRICE:** USD 4395 | **CLCs:** 44 | **CE:** 25

COURSE CODE: DCFNDU | **FORMAT:** Lecture & Lab

COURSE DESCRIPTION

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 with configuring features on Cisco Nexus® Operating System (Cisco NX-OS) and Cisco Unified Computing System™ (Cisco UCS®).

WHO SHOULD ATTEND

- Data center administrators
- Data center engineers
- Systems engineers
- Server administrators
- Network managers
- Cisco integrators and partners

THIS COURSE WILL HELP YOU

- Prepare for entry-level job roles in the high-demand area of data center environments
- Prepare for courses that support the Cisco Certified Network Professional Data Center certification exams
- Gain knowledge and hands-on skills through Cisco's unique combination of lessons and hands-on practice using enterprise-grade Cisco learning technologies, data center equipment, and software

PREREQUISITES

- 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®)

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- Introducing Cisco Data Center Networking (DCICN)
- Introducing Cisco Data Center Technologies (DCICT)

LEARNING OBJECTIVES

• 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 Fabric Extender (FEX) connectivity
• Describe Ethernet port channels and virtual port channel (VPCs)
• Introduce switch virtualization, machine virtualization, and 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 N-Port Virtualization (NPV) and N-Port Identifier Virtualization (NPIV)
• Describe data center Ethernet enhancements that provide a lossless fabric
• Describe Fibre Channel over Ethernet FCo
• 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
• 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
  - Virtual Extensible LAN (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
  - Fabric Login (FLOGI) Process
• **Describing Fibre Channel Zone Types and Their Uses**
  - Fibre Channel Zoning
  - Zoning Configuring
• **Describing Cisco NPV Mode and NPV**

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- Cisco NPV MOde
- NPV 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

DISCOVERY LABS

• Explore the Cisco NX-OS CLI
• Explore Topology Discovery
• Configure Hot Standby Router Protocol (HSRP)
• Configure vPCs
• Configure Virtual Routing and Forwarding (VRF)
• Explore the Virtual Device Contexts (VDC) Elements
• Install VMware Elastic Sky X Integrated (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 Server Profile
• Configure Cisco NX-OS with APIs
• Explore the Cisco UCS Manager XML API Management Information Tree
• Explore Cisco ACI

Instructor Led Training

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