Understanding Cisco Data Center Foundations (DCFNDU)

Price	Duration	Delivery Methods
$4,195.00	5 Days	VILT, Private Group

The Understanding Cisco Data Center Foundations (DCFNDU) v1.0 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

Course 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

Upcoming Class Dates and Times

Click Here to View Course Online and Enroll

May 6, 7, 8, 9, 10 9:00 AM - 5:00 PM Virtual: Online - CST	$4,195.00
Jul 29, 30, 31, Aug 1, 2 9:00 AM - 5:00 PM Virtual: Online - CST	$4,195.00

(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 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

Sep 30, Oct 1, 2, 3, 4 9:00 AM - 5:00 PM Virtual: Online - CST	$4,195.00
Nov 18, 19, 20, 21, 22 9:00 AM - 5:00 PM Virtual: Online - CST	$4,195.00

Agenda

1 - DESCRIBING THE DATA CENTER NETWORK ARCHITECTURES

- Cisco Data Center Architecture Overview
- Three-Tier Network: Core, Aggregation, and Access
- Spine-and-Leaf Network
- Two-Tier Storage Network

2 - DESCRIBING THE CISCO NEXUS FAMILY AND CISCO NX-OS SOFTWARE

- Cisco Nexus Data Center Product Overview
- Cisco NX-OS Software Architecture
- Cisco NX-OS Software CLI Tools
- Cisco NX-OS Virtual Routing and Forwarding

3 - DESCRIBING LAYER 3 FIRST-HOP REDUNDANCY

- Default Gateway Redundancy
- Hot Standby Router Protocol
- Virtual Router Redundancy Protocol
- Gateway Load Balancing Protocol

4 - DESCRIBING CISCO FEX

- Server Deployment Models

- Cisco FEX Technology
- Cisco FEX Traffic Forwarding
- Cisco Adapter FEX

5 - DESCRIBING PORT CHANNELS AND VPCS

- Ethernet Port Channels
- Virtual Port Channels
- Supported VPC Topologies

6 - DESCRIBING SWITCH VIRTUALIZATION

- Cisco Nexus Switch Basic Components
- Virtual Routing and Forwarding
- Cisco Nexus 7000 Virtual Device Contexts (VDCs)
- VDC Types
- VDC Resource Allocation
- VDC Management

7 - DESCRIBING MACHINE VIRTUALIZATION

- Virtual Machines
- Hypervisor
- VM Manager

8 - DESCRIBING NETWORK VIRTUALIZATION

- Overlay Network Protocols
- Virtual Extensible LAN (VXLAN) Overlay
- VXLAN Border Gateway Protocol (BGP) Ethernet VPN (EVPN) Control Plane
- VXLAN Data Plane
- Cisco Nexus 1000VE Series Virtual Switch
- VMware vSphere Virtual Switches

9 - INTRODUCING BASIC DATA CENTER STORAGE CONCEPTS

- Storage Connectivity Options in the Data Center
- Fibre Channel Storage Networking
- Virtual Storage Area Network (VSAN) Configuration and Verification

10 - DESCRIBING FIBRE CHANNEL COMMUNICATION BETWEEN THE INITIATOR SERVER AND THE TARGET STORAGE

- Fibre Channel Layered Model
- Fabric Login (FLOGI) Process

- Fibre Channel Flow Control

11 - DESCRIBING FIBRE CHANNEL ZONE TYPES AND THEIR USES

- Fibre Channel Zoning
- Zoning Configuration
- Zoning Management

12 - DESCRIBING CISCO NPV MODE AND NPIV

- Cisco NPV Mode
- NPIV Mode

13 - DESCRIBING DATA CENTER ETHERNET ENHANCEMENTS

- Institute of Electrical and Electronic Engineers (IEEE) Data Center Bridging
- Priority Flow Control
- Enhanced Transmission Selection
- Data Center Bridging Exchange (DCBX) Protocol
- Congestion Notification

14 - DESCRIBING FCOE

- Cisco Unified Fabric
- FCoE Architecture
- FCoE Initialization Protocol
- FCoE Adapters

15 - DESCRIBING CISCO UCS COMPONENTS

- Physical Cisco UCS Components
- Cisco Fabric Interconnect Product Overview
- Cisco I/O Module (IOM) Product Overview
- Cisco UCS Mini
- Cisco Integrated Management Controller (IMC) Supervisor
- Cisco Intersight™

16 - DESCRIBING CISCO UCS MANAGER

- Cisco UCS Manager Overview
- Identity and Resource Pools for Hardware Abstraction
- Service Profiles and Service Profile Templates
- Cisco UCS Central Overview
- Cisco HyperFlex™ Overview

17 - USING APIS

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

18 - DESCRIBING CISCO ACI

- Cisco ACI Overview
- Multitier Applications in Cisco ACI
- Cisco ACI Features
- VXLAN in Cisco ACI
- Unicast Traffic in Cisco ACI
- Multicast Traffic in Cisco ACI
- Cisco ACI Programmability
- Common Programming Tools and Orchestration Options

19 - DESCRIBING CLOUD COMPUTING

- Cloud Computing Overview
- Cloud Deployment Models
- Cloud Computing Services

20 - LAB OUTLINE

- Explore the Cisco NX-OS CLI
- Explore Topology Discovery
- Configure Hot Standby Router Protocol (HSRP)
- Configure the Cisco Nexus 2000 FEX
- Configure VPCs
- Configure VPCs with Cisco FEX
- 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