

## Understanding Cisco Data Center Foundations (DCFNDU)

- **Formato do curso:** Presencial e Live Training
- **Localidade:** Lisboa
- **Data:** 05 Abr. 2021 a 09 Abr. 2021
- **Preço:** 3695€
- **Horário:** Laboral - das 9h00 às 17h00
- **Duração:** 35 horas

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).

This course does not lead directly to a certification exam, but it does cover foundational knowledge that can help you prepare for several CCNP and other professional-level data center courses and exams.

### **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
- Earn 30 CE credits toward recertification

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## Destinatários

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

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## Pré-requisitos

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 \(CCNA\)](#)
- Introducing Cisco Data Center Networking (DCICN)
- Introducing Cisco Data Center Technologies (DCICT)

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## Objetivos

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

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## Programa

- **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
- **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
- **Describing Layer 3 First-Hop Redundancy**
  - Default Gateway Redundancy
  - Hot Standby Router Protocol
  - Virtual Router Redundancy Protocol
  - Gateway Load Balancing Protocol
- **Describing Cisco FEX**
  - Server Deployment Models
  - Cisco FEX Technology
  - Cisco FEX Traffic Forwarding
  - Cisco Adapter FEX
- **Describing Port Channels and vPCs**
  - Ethernet Port Channels
  - Virtual Port Channels
  - Supported vPC Topologies
- **Describing Switch Virtualization**
  - Cisco Nexus Switch Basic Components
  - Virtual Routing and Forwarding
  - Cisco Nexus 7000 VDCs
  - VDC Types
  - VDC Resource Allocation
  - VDC Management
- **Describing Machine Virtualization**
  - Virtual Machines
  - Hypervisor
  - VM Manager
- **Describing Network Virtualization**
  - Overlay Network Protocols
  - VXLAN Overlay
  - VXLAN BGP EVPN Control Plane
  - VXLAN Data Plane
  - Cisco Nexus 1000VE Series Virtual Switch
  - VMware vSphere Virtual Switches
- **Introducing Basic Data Center Storage Concepts**
  - Storage Connectivity Options in the Data Center
  - Fibre Channel Storage Networking
  - VSAN Configuration and Verification
- **Describing Fibre Channel Communication Between the Initiator Server and the Target Storage**
  - Fibre Channel Layered Model

- FLOGI Process
- Fibre Channel Flow Control
- **Describing Fibre Channel Zone Types and Their Uses**
  - Fibre Channel Zoning
  - Zoning Configuration
  - Zoning Management
- **Describing Cisco NPV Mode and NPIV**
  - Cisco NPV Mode
  - NPIV Mode
- **Describing Data Center Ethernet Enhancements**
  - IEEE Data Center Bridging
  - Priority Flow Control
  - Enhanced Transmission Selection
  - DCBX Protocol
  - Congestion Notification
- **Describing FCoE**
  - Cisco Unified Fabric
  - FCoE Architecture
  - FCoE Initialization Protocol
  - FCoE Adapters
- **Describing Cisco UCS Components**
  - Physical Cisco UCS Components
  - Cisco Fabric Interconnect Product Overview
  - Cisco IOM Product Overview
  - Cisco UCS Mini
  - Cisco IMC Supervisor
  - Cisco Intersight
- **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
- **Using APIs**
  - Common Programmability Protocols and Methods
  - How to Choose Models and Processes
- **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
- **Describing Cloud Computing**
  - Cloud Computing Overview
  - Cloud Deployment Models
  - Cloud Computing Services

## **Lab outline**

- Explore the Cisco NX-OS CLI
- Explore Topology Discovery
- Configure HSRP
- Configure the Cisco Nexus 2000 FEX
- Configure vPCs
- Configure vPCs with Cisco FEX
- Configure VRF
- Explore the VDC Elements
- Install VMware 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