DCFNDU (UNDERSTANDING CISCO DATA CENTER FOUNDATIONS) 1.0

Objetivo

After taking this course, you should be able to: â□¢ Describe the foundations of data center networking; â□¢ Describe Cisco Nexus products and explain the basic Cisco NX-OS functionalities and tools; â□¢ Describe Layer 3 first-hop redundancy; â□¢ Describe Cisco FEX connectivity; â□¢ Describe Ethernet port channels and vPCs; â□¢ Introduce switch virtualization, machine virtualization, and describe network virtualization; â□¢ Compare storage connectivity options in the data center; â□¢ Describe Fibre Channel communication between the initiator server and the target storage; â□¢ Describe Fibre Channel zone types and their uses; â□¢ Describe NPV and NPIV; â□¢ Describe data center Ethernet enhancements that provide a lossless fabric; â□¢ Describe FCoE; â□¢ Describe data center server connectivity; â□¢ Describe Cisco UCS Manager; â□¢ Describe the purpose and advantages of APIs; â□¢ Describe Cisco ACI; â□¢ Describe the basic concepts of cloud computing.

PÃºblico Alvo

Professionals interested in implementing, configuring, operating and management Cisco Data Center solutions. This course also helps prepare student to take CCNPÂ® Data Center exams and training.

PrÃ©-Requisitos

To fully benefit from this course, you should have the following knowledge and skills: â□¢ Good understanding of networking protocols; â□¢ Good understanding of the VMware environment; â□¢ Basic knowledge of Microsoft Windows operating systems.

Carga HorÃ¡ria

40 horas (5 dias).

ConteÃºdo ProgramÃ¡tico

Course Introduction
Course Outline
Course Goals & Objectives

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 Trafic 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 Trafic in Cisco ACI
Multicast Trafic 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
Lab 1: Explore the Cisco NX-OS CLI
Lab 2: Explore Topology Discovery
Lab 3: Configure HSRP
Lab 4: Configure the Cisco Nexus 2000 FEX
Lab 5: Configure vPCs
Lab 6: Configure vPCs with Cisco FEX
Lab 7: Configure VRF
Lab 8: Explore the VDC Elements
Lab 9: Install VMware ESXi and vCenter
Lab 10: Configure VSANs
Lab 11: Validate FLOGI and FCNS
Lab 12: Configure Zoning
Lab 13: Configure Unified Ports on a Cisco Nexus Switch and Implement FCoE
Lab 14: Explore the Cisco UCS Server Environment
Lab 15: Configure a Cisco UCS Server Profile
Lab 16: Configure Cisco NX-OS with APIs
Lab 17: Explore the Cisco UCS Manager XML API Management Information Tree