

Objetivos

After taking this course, you should be able to:

- Implement routing and switching protocols in Data Center environment
- Implement overlay networks in data center
- Introduce high-level Cisco Application Centric Infrastructure (Cisco ACI™) concepts and Cisco Virtual Machine manager (VMM) domain integration
- Describe Cisco Cloud Service and deployment models
- Implement Fibre Channel fabric
- Implement Fibre Channel over Ethernet (FCoE) unified fabric
- Implement security features in data center
- Implement software management and infrastructure monitoring
- Implement Cisco UCS Fabric Interconnect and Server abstraction
- Implement SAN connectivity for Cisco Unified Computing System™ (Cisco UCS®)
- Describe Cisco HyperFlex™ infrastructure concepts and benefits
- Implement Cisco automation and scripting tools in data center
- Evaluate automation and orchestration technologies

Pre-requisitos

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

- Familiarity with Ethernet and TCP/IP networking
- Familiarity with SANs
- Familiarity with Fibre Channel protocol
- Identify products in the Cisco Data Center Nexus and Cisco MDS families
- Understanding of Cisco Enterprise Data Center architecture
- Understanding of server system design and architecture
- Familiarity with hypervisor technologies (such as VMware)

These Cisco courses are recommended to help you meet these prerequisites:

- **Implementing and Administering Cisco Solutions (CCNA) v1.0**
- **Understanding Cisco Data Center Foundations (DCFNDU) v1.0**
- **Introducing Cisco Data Center Networking (DCICN) v6.2**
- **Introducing Cisco Data Center Technologies (DCICT) v6.2**
- **Interconnecting Cisco Networking Devices: Accelerated (CCNAX) or Interconnecting Cisco Networking Devices Part 1 (ICND1) and Interconnecting Cisco Networking Devices Part 2 (ICND2)**

Implementing and Operating Cisco Data Center Core Technologies (DCCOR) v1.0

Contenido

- Implementing Data Center Switching Protocols*
 - Spanning Tree Protocol
 - Port Channels Overview
 - Virtual Port Channels Overview
- Implementing First-Hop Redundancy Protocols*
 - Hot Standby Router Protocol (HSRP) Overview
 - Virtual Router Redundancy Protocol (VRRP) Overview
 - First Hop Redundancy Protocol (FHRP) for IPv6
- Implementing Routing in Data Center*
 - Open Shortest Path First (OSPF) v2 and Open Settlement Protocol (OSP) v3
 - Border Gateway Protocol
- Implementing Multicast in Data Center*
 - IP Multicast in Data Center Networks
 - Internet Group Management Protocol (IGMP) and Multicast Listener Discovery (MLD)
 - Multicast Distribution Trees and Routing Protocols
 - IP Multicast on Cisco Nexus Switches
- Implementing Data Center Overlay Protocols
 - Cisco Overlay Transport Virtualization
 - Virtual Extensible LAN
- Implementing Network Infrastructure Security*
 - User Accounts and Role Based Access Control (RBAC)
 - Authentication, Authorization, and Accounting (AAA) and SSH on Cisco NX-OS
 - Keychain Authentication
 - First Hop Security
 - Media Access Control Security
 - Control Plane Policing
- Describing Cisco Application-Centric Infrastructure
 - Cisco ACI Overview, Initialization, and Discovery
 - Cisco ACI Management
 - Cisco ACI Fabric Access Policies

Implementing and Operating Cisco Data Center Core Technologies (DCCOR) v1.0

- Describing Cisco ACI Building Blocks and VMM Domain Integration
 - Tenant-Based Components
 - Cisco ACI Endpoints and Endpoint Groups (EPG)
 - Controlling Traffic Flow with Contracts
 - Virtual Switches and Cisco ACI VMM Domains
 - VMM Domain EPG Association
 - Cisco ACI Integration with Hypervisor Solutions
- Describing Packet Flow in Data Center Network*
 - Data Center Traffic Flows
 - Packet Flow in Cisco Nexus Switches
 - Packet Flow in Cisco ACI Fabric
- Describing Cisco Cloud Service and Deployment Models
 - Cloud Architectures
 - Cloud Deployment Models
- Describing Data Center Network Infrastructure Management, Maintenance, and Operations*
 - Time Synchronization
 - Network Configuration Management
 - Software Updates
 - Network Infrastructure Monitoring
- Explaining Cisco Network Assurance Concepts*
 - Need for Network Assurance
 - Cisco Streaming Telemetry Overview
- Implementing Fibre Channel Fabric
 - Fibre Channel Basics
 - Virtual Storage Area Network (VSAN) Overview
 - SAN Port Channels Overview
 - Fibre Channel Domain Configuration Process
- Implementing Storage Infrastructure Services
 - Distributed Device Aliases
 - Zoning
 - N-Port Identifier Virtualization (NPIV) and N-Port Virtualization (NPV)
 - Fibre Channel over IP
 - Network Access Server (NAS) Concepts
 - Storage Area Network (SAN) Design Options

Implementing and Operating Cisco Data Center Core Technologies (DCCOR) v1.0

- Implementing FCoE Unified Fabric
 - Fibre Channel over Ethernet
 - Describing FCoE
 - FCoE Topology Options
 - FCoE Implementation
- Implementing Storage Infrastructure Security*
 - User Accounts and RBAC
 - Authentication, Authorization, and Accounting
 - Fibre Channel Port Security and Fabric Binding
- Describing Data Center Storage Infrastructure Maintenance and Operations*
 - Time Synchronization
 - Software Installation and Upgrade
 - Storage Infrastructure Monitoring
- Describing Cisco UCS Server Form Factors*
 - Cisco UCS B-Series Blade Servers
 - Cisco UCS C-Series Rack Servers
- Implementing Cisco Unified Computing Network Connectivity
 - Cisco UCS Fabric Interconnect
 - Cisco UCS B-Series Connectivity
 - Cisco UCS C-Series Integration
- Implementing Cisco Unified Computing Server Abstraction
 - Identity Abstraction
 - Service Profile Templates
- Implementing Cisco Unified Computing SAN Connectivity
 - iSCSI Overview
 - Fibre Channel Overview
 - Implement FCoE
- Implementing Unified Computing Security
 - User Accounts and RBAC
 - Options for Authentication
 - Key Management
- Introducing Cisco HyperFlex Systems*
 - Hyperconverged and Integrated Systems Overview
 - Cisco HyperFlex Solution

Implementing and Operating Cisco Data Center Core Technologies (DCCOR) v1.0

- Cisco HyperFlex Scalability and Robustness
- Describing Data Center Unified Computing Management, Maintenance, and Operations*
 - Compute Configuration Management
 - Software Updates
 - Infrastructure Monitoring
 - Cisco Intersight™
- Implementing Cisco Data Center Automation and Scripting Tools*
 - Cisco NX-OS Programmability
 - Scheduler Overview
 - Cisco Embedded Event Manager Overview
 - Bash Shell and Guest Shell for Cisco NX-OS
 - Cisco Nexus API
- Describing Cisco Integration with Automation and Orchestration Software Platforms
 - Cisco and Ansible Integration Overview
 - Cisco and Puppet Integration Overview
 - Python in Cisco NX-OS and Cisco UCS
- Describing Cisco Data Center Automation and Orchestration Technologies*
 - Power On Auto Provisioning
 - Cisco Data Center Network Manager Overview
 - Cisco UCS Director Fundamentals
 - Cisco UCS PowerTool

* This section is self-study material that can be done at your own pace after the instructor-led portion of the course.

Laboratorio

- Configure Overlay Transport Visualization (OTV)
- Configure Virtual Extensible LAN (VXLAN)
- Explore the Cisco ACI Fabric
- Implement Cisco ACI Access Policies and Out-of-Band Management
- Implement Cisco ACI Tenant Policies
- Integrate Cisco ACI with VMware
- Configure Fibre Channel
- Configure Device Aliases
- Configure Zoning
- Configure NPV

Implementing and Operating Cisco Data Center Core Technologies (DCCOR) v1.0

- Configure FCoE
 - Provision Cisco UCS Fabric Interconnect Cluster
 - Configure Server and Uplink Ports
 - Configure VLANs
 - Configure a Cisco UCS Server Profile Using Hardware Identities
 - Configure Basic Identity Pools
 - Configure a Cisco UCS Service Profile Using Pools
 - Configure an Internet Small Computer Systems Interface (iSCSI) Service Profile
 - Configure Cisco UCS Manager to Authenticate Users with Microsoft Active Directory
 - Program a Cisco Nexus Switch with Python
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