

DCCOR (IMPLEMENTING AND OPERATING CISCO DATA CENTER CORE TECHNOLOGIES) 1.0

Objetivo

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.

Público Alvo

Professionals interested in implementing, configuring, operating and management Cisco Data Center solutions. This course also helps prepare student to take 350-601 Implementing Cisco Data Center Core Technologies (DCCOR) exam, which is part of the new CCNP® Data Center.

Pré-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). For reference, these Cisco courses are recommended to help you meet these prerequisites:
- Implementing and Administering Cisco Solutions (CCNA);
- Understanding Cisco Data Center Foundations (DCFNDU).

Carga Horária

40 horas (5 dias).

Conteúdo Programático

Course Introduction

Course Outline

Course Goals & Objectives

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

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 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 BSeries Blade Servers

Cisco UCS CSeries Rack Servers

Implementing Cisco Unified Computing Network Connectivity

Cisco UCS Fabric Interconnect
Cisco UCS BSeries Connectivity
Cisco UCS CSeries 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
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

Lab Outline

Lab 1: Configure Overlay Transport Visualization (OTV)

Lab 2: Configure Virtual Extensible LAN (VXLAN)
Lab 3: Explore the Cisco ACI Fabric
Lab 4: Implement Cisco ACI Access Policies and Out-of-Band Management
Lab 5: Implement Cisco ACI Tenant Policies
Lab 6: Integrate Cisco ACI with VMware
Lab 7: Configure Fibre Channel
Lab 8: Configure Device Aliases
Lab 9: Configure Zoning
Lab 10: Configure NPV
Lab 11: Configure FCoE
Lab 12: Provision Cisco UCS Fabric Interconnect Cluster
Lab 13: Configure Server and Uplink Ports
Lab 14: Configure VLANs
Lab 15: Configure a Cisco UCS Server Profile Using Hardware Identities
Lab 16: Configure Basic Identity Pools
Lab 17: Configure a Cisco UCS Service Profile Using Pools
Lab 18: Configure an Internet Small Computer Systems Interface (iSCSI) Service Profile
Lab 19: Configure Cisco UCS Manager to Authenticate Users with Microsoft Active Directory Program a Cisco Nexus Switch with Python