FIREFLY

Implementing and Operating Cisco Data Center Core Technologies

DURATION: 5 DAYS   COURSE CODE: DCCOR   FORMAT: LECTURE/LAB

COURSE DESCRIPTION

The Implementing and Operating Cisco Data Center Core Technologies (DCCOR) v1.1 course helps you prepare for the Cisco CCNP Data Center and CCIE Data Center certifications and for advanced-level data center roles.

This course should help you learn the skills and technologies you need to implement data center compute, LAN, and SAN infrastructure. You will also learn the essentials of automation and security in data centers. You will get hands-on experience with deploying, securing, operating, and maintaining Cisco data center infrastructure including: Cisco MDS Switches and Cisco Nexus Switches; Cisco Unified Computing System™ (Cisco UCS®) B-Series Blade Servers, and Cisco UCS C-Series Rack Servers.

This course helps prepare you to take the Implementing Cisco Data Center Core Technologies (350-601 DCCOR) exam, which leads to the new CCNP Data Center, CCIE Data Center, and the Cisco Certified Specialist - Data Center Core certifications.

WHO SHOULD ATTEND

Network designers, administrators, engineers, and managers

Systems engineers

Data center engineers

Consulting systems engineers

Technical solutions architects

Field engineers

Cisco integrators and partners

Server administrator

PREREQUISITES

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
- Ability to 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)
- Understanding Cisco Data Center Foundations
  (DCFNDU)
- Introducing Cisco Data Center Networking
  (DCICN)
- Introducing Cisco Data Center Technologies
  (DCICT)
- Interconnecting Cisco Networking Devices Part 1
  (ICND1)
- Interconnecting Cisco Networking Devices Part 2
  (ICND2)

LEARNING OBJECTIVES

- Implement routing and switching protocols in a 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 UCS
- Describe Cisco HyperFlex™ infrastructure concepts and benefits
- Implement Cisco automation and scripting tools in data center
- Evaluate automation and orchestration technologies

COURSE OUTLINE

- Implementing Data Center Switching Protocols*
  - Spanning Tree Protocol
  - Port Channels Overview
- Implementing First-Hop Redundancy Protocols*
  - Hot Standby Router Protocol (HSRP) Overview
  - Virtual Router Redundancy Protocol (VRRP) Overview
- 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)
- 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
- Describing Cisco Application-Centric Infrastructure
  - Cisco ACI Overview, Initialization, and Discovery
  - Cisco ACI Management
- Describing Cisco ACI Building Blocks and VMM Domain Integration
  - Tenant-Based Components
  - Cisco ACI Endpoints and Endpoint Groups (EPG)

- Describing Packet Flow in Data Center Network*
  - Data Center Traffic Flows
  - Packet Flow in Cisco Nexus Switches
- 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
- Explaining Cisco Network Assurance Concepts*
  - Need for Network Assurance
  - Fibre Channel Basics
  - Virtual Storage Area Network (VSAN) Overview
- Implementing Storage Infrastructure Services
  - Distributed Device Aliases
  - Zoning
- Implementing FCoE Unified Fabric
  - Fibre Channel over Ethernet
  - Describing FCoE
- Implementing Storage Infrastructure Security
  - User Accounts and RBAC
  - Authentication, Authorization, and Accounting
- Describing Data Center Storage Infrastructure Maintenance and Operations*
  - Time Synchronization
  - Software Installation and Upgrade

COURSE OUTLINE

- 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
- Implementing Cisco Unified Computing Server Abstraction
  - Identity Abstraction
  - Service Profile Templates
- Implementing Cisco Unified Computing SAN Connectivity
  - iSCSI Overview
  - Fibre Channel Overview
- Implementing Unified Computing Security
  - User Accounts and RBAC
  - Options for Authentication
- Introducing Cisco HyperFlex Systems*
  - Hyperconverged and Integrated Systems Overview
  - Cisco HyperFlex Solution
- Describing Data Center Unified Computing Management, Maintenance, and Operations*
  - Compute Configuration Management
  - Software Updates
- Implementing Cisco Data Center Automation and Scripting Tools*
  - Cisco NX-OS Programmability
  - Scheduler Overview
- Describing Cisco Integration with Automation and Orchestration Software Platforms
  - Cisco and Ansible Integration Overview
  - Cisco and Puppet Integration Overview
- Describing Cisco Data Center Automation and Orchestration Technologies*
  - Power On Auto Provisioning
  - Cisco Data Center Network Manager Overview

DISCOVERY LABS

- 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
- 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
- Configure Cisco Nexus Switches with Ansible
- Program a Cisco Nexus Switch with Python
- Automate Cisco Application-Centric Infrastructure Configuration

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