



300-610 DCID Overview

The **Designing Cisco Data Center Infrastructure (DCID) v7.0** course is the concentration exam for CCNP Data Centre. This course will help you to excel in design and deployment options aim on Cisco data center solutions and technologies across network, compute, automation, storage area networks, virtualization, and security. You will also be able to learn design practices based on C-Series servers and Cisco UCS B-Series, Cisco Unified Fabric and Cisco UCS Manager.

About the training

- **Study Material:-** Live lectures, Streaming Recorded Videos, Online Lab Workbook, and Remote Virtual Lab access.
- **Duration:-** 5 Days (40 Hours)

Requirements

An individual should have knowledge of data center networking, data center storage, data center virtualization, Cisco Unified Computing System, data center automation and orchestration, Cisco Data Center Nexus and Multilayer Director Switch (MDS) families etc.

What you will learn

- How to design choices for optimal data center infrastructure virtualization, security, performance, and automation
- Master the practical and theoretical knowledge necessary to design a scalable, intelligent and reliable data center based on Cisco technologies
- Pass professional-level job roles in the high-demand area of enterprise-class data center environments

About Instructor

The instructor of this training is master in technology and has 14+ years of industrial experience. He has delivered vast and complex project on the same around the globe. In his experienced life, he has conveyed 80+ corporate and retail programs on several Cisco data and wireless products.

Course Outline

- Explaining High Availability on Layer 2
 - Overview of Layer 2 High-Availability Mechanisms
 - Virtual Port Channels

- Cisco Fabric Path
 - Virtual Port Channel+
- Explaining Layer 3 Connectivity
 - First Hop Redundancy Protocols
 - Improve Routing Protocol Performance and Security
 - Enhance Layer 3 Scalability and Robustness
- Explaining Data Center Topologies
 - Data Center Traffic Flows
 - Cabling Challenges
 - Access Layer
 - Aggregation Layer
 - Core Layer
 - Spine-and-Leaf Topology
 - Redundancy Options
- Explaining Data Center Interconnects with Cisco OTV
 - Cisco OTV Overview
 - Cisco OTV Control and Data Planes
 - Failure Isolation
 - Cisco OTV Features
 - Optimize Cisco OTV
 - Evaluate Cisco OTV
- Explaining Locator/ID Separation Protocol
 - Locator/ID Separation Protocol
 - Location Identifier Separation Protocol (LISP) Virtual Machine (VM) Mobility
 - LISP Extended Subnet Mode (ESM) Multihop Mobility
 - LISP VPN Virtualization
- Explaining VXLAN Overlay Networks
 - Describe VXLAN Benefits over VLAN
 - Layer 2 and Layer 3 VXLAN Overlay
 - Multiprotocol Border Gateway Protocol (MP-BGP) Ethernet VPN (EVPN) Control Plane Overview
 - VXLAN Data Plane
- Explaining Hardware and Device Virtualization
 - Hardware-Based High Availability
 - Device Virtualization
 - Cisco UCS Hardware Virtualization
 - Server Virtualization
 - SAN Virtualization
 - N-Port ID Virtualization
- Explaining Cisco FEX Options
 - Cisco Adapter FEX
 - Access Layer with Cisco FEX
 - Cisco FEX Topologies
 - Virtualization-Aware Networking
 - Single Root I/O Virtualization
 - Cisco FEX Evaluation
- Explaining Basic Data Center Security
 - Threat Mitigation
 - Attack and Countermeasure Examples

- Secure the Management Plane
 - Protect the Control Plane
 - RBAC and Authentication, Authorization, and Accounting (AAA)
- Explaining Advanced Data Center Security
 - Cisco TrustSec in Cisco Secure Enclaves Architecture
 - Cisco TrustSec Operation
 - Firewalling
 - Positioning the Firewall Within Data Center Networks
 - Cisco Firepower® Portfolio
 - Firewall Virtualization
 - Design for Threat Mitigation
- Explaining Management and Orchestration
 - Network and License Management
 - Cisco UCS Manager
 - Cisco UCS Director
 - Cisco Intersight
 - Cisco DCNM Overview
- Explaining Storage and RAID Options
 - Position DAS in Storage Technologies
 - Network-Attached Storage
 - Fibre Channel, FCoE, and Internet Small Computer System Interface (iSCSI)
 - Evaluate Storage Technologies
- Explaining Fibre Channel Concepts
 - Fibre Channel Connections, Layers, and Addresses
 - Fibre Channel Communication
 - Virtualization in Fibre Channel SAN
- Explaining Fibre Channel Topologies
 - SAN Parameterization
 - SAN Design Options
 - Choosing a Fibre Channel Design Solution
- Explaining FCoE
 - FCoE Protocol Characteristics
 - FCoE Communication
 - Data Center Bridging
 - FCoE Initialization Protocol
 - FCoE Design Options
- Explaining Storage Security
 - Common SAN Security Features
 - Zones
 - SAN Security Enhancements
 - Cryptography in SAN
- Explaining SAN Management and Orchestration
 - Cisco DCNM for SAN
 - Cisco DCNM Analytics and Streaming Telemetry
 - Cisco UCS Director in the SAN
 - Cisco UCS Director Workflows
- Explaining Cisco UCS Servers and Use Cases
 - Cisco UCS C-Series Servers
 - Fabric Interconnects and Blade Chassis
 - Cisco UCS B-Series Server Adapter Cards

- Stateless Computing
- Cisco UCS Mini
- Explaining Fabric Interconnect Connectivity
 - Use of Fabric Interconnect Interfaces
 - VLANs and VSANs in a Cisco UCS Domain
 - Southbound Connections
 - Northbound Connections
 - Disjoint Layer 2 Networks
 - Fabric Interconnect High Availability and Redundancy
- Explaining Hyperconverged and Integrated Systems
 - Hyperconverged and Integrated Systems Overview
 - Cisco HyperFlex™ Solution
 - Cisco HyperFlex Scalability and Robustness
 - Cisco HyperFlex Clusters
 - Cluster Capacity and Multiple Clusters on One Cisco UCS Domain
 - External Storage and Graphical Processing Units on Cisco HyperFlex
 - Cisco HyperFlex Positioning
- Explaining Cisco UCS Manager Systemwide Parameters
 - Cisco UCS Setup and Management
 - Cisco UCS Traffic Management
- Explaining Cisco UCS RBAC
 - Roles and Privileges
 - Organizations in Cisco UCS Manager
 - Locales and Effective Rights
 - Authentication, Authorization, and Accounting
 - Two-Factor Authentication
- Explaining Pools for Service Profiles
 - Global and Local Pools
 - Universally Unique Identifier (UUID) Suffix and Media Access Control (MAC) Address Pools
 - World Wide Name (WWN) Pools
 - Server and iSCSI Initiator IP Pools
- Explaining Policies for Service Profiles
 - Global vs. Local Policies
 - Storage and Basic Input/Output System (BIOS) Policies
 - Boot and Scrub Policies
 - Intelligent Platform Management Interface (IPMI) and Maintenance Policies
- Explaining Network-Specific Adapters and Policies
 - LAN Connectivity Controls
 - SAN Connectivity Controls
 - Virtual Access Layer
 - Connectivity Enhancements
- Explaining Templates in Cisco UCS Manager
 - Cisco UCS Templates
 - Service Profile Templates
 - Network Templates
- Explaining Data Center Automation
 - Model-Driven Programmability
 - Cisco NX-API Overview
 - Programmability Using Python

- Cisco Ansible Module
- Use the Puppet Agent

Lab outline

- Create Virtual Port Channels
- Create First Hop Redundancy Protocol (FHRP)
- Create Routing Protocols
- Create Data Center Topology for a Customer
- Create Data Center Interconnect Using Cisco OTV
- Create Your VXLAN Network
- Describe Cisco FEX Design
- Create Management and Orchestration in a Cisco UCS Solution
- Create a Fibre Channel Network
- Create and Integrate an FCoE Solution
- Create a Secure SAN
- Create Cisco UCS Director for Storage Networking
- Create a Cisco UCS Domain and Fabric Interconnect Cabling
- Create a Cisco UCS C-Series Server Implementation
- Create Cisco UCS Fabric Interconnect Network and Storage Connectivity
- Create Systemwide Parameters in a Cisco UCS Solution
- Create an LDAP Integration with a Cisco UCS Domain
- Create Pools for Service Profiles in a Cisco UCS Solution
- Create Network-Specific Adapters and Policies in a Cisco UCS Solution

Note: ***Most of the course topics are covered with hands-on lab exercises and others are theoretical

Thank You
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