Designing Cisco Data Center Infrastructure Training

Duration: **5 Day**

BILGINÇ IT Academy
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Overview

The Designing Cisco Data Center Infrastructure (DCID) course provides in-depth training on designing modern data centers using Cisco technologies. Participants will explore network design with virtualisation technologies, Layer 2 and Layer 3 networking, routing protocols, and data center interconnect solutions.

The course covers design practices for Cisco Unified Computing System (Cisco UCS) solutions, including Cisco UCS B-Series and C-Series servers, Cisco UCS Manager, and Cisco Unified Fabric. Learners will also gain experience with Cisco Data Center Network Manager (DCNM) and Cisco UCS Director.

This course awards 40 Continuing Education (CE) credits for Cisco recertification and supports preparation for the 300-610 DCID certification exam.

Prerequisites

To fully benefit from this course, participants should have:

- Experience with data center networking, including LAN and SAN
- Knowledge of data center storage concepts
- Familiarity with data center virtualisation technologies
- Understanding of Cisco UCS implementation
- Experience with data center automation and orchestration using Cisco ACI and Cisco UCS Director
- Awareness of Cisco Nexus and MDS product families

Recommended Cisco courses:

- Understanding Cisco Data Center Foundations (DCFNDU)
- Implementing and Operating Cisco Data Center Core Technologies (DCCOR)

Target audience

This course is designed for IT professionals with five to eight years of experience, including:

- Data center engineers
- Network designers
- Network administrators
- Network engineers
- Systems engineers
- Consulting systems engineers
- Technical solutions architects
- Server administrators
- Network managers
- Cisco integrators and partners

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What You Will Learn

- Describe the Layer 2 and Layer 3 forwarding options and protocols used in a data center
- Describe the rack design options, traffic patterns, and data center switching layer access, aggregation, and core
- Describe the Cisco Overlay Transport Virtualization (OTV) technology that is used to interconnect data centers
- Describe Locator/ID separation protocol
- Design a solution that uses Virtual Extensible LAN (VXLAN) for traffic forwarding
- Describe hardware redundancy options; how to virtualize the network, compute, and storage functions; and virtual networking in the data center
- Describe solutions that use fabric extenders and compare Cisco Adapter Fabric Extender (FEX) with single root input/output virtualization (SR-IOV)
- Describe security threats and solutions in the data center
- Describe advanced data center security technologies and best practices
- Describe device management and orchestration in the data center
- Describe the storage options for compute function and different Redundant Array of Independent Disks (RAID) levels from a high-availability and performance perspective
- Describe Fibre Channel concepts, topologies, architecture, and industry terms
- Describe Fibre Channel over Ethernet (FCoE)
- Describe security options in the storage network
- Describe management and automation options for storage networking infrastructure
- Describe Cisco UCS servers and use cases for various Cisco UCS platforms
- Explain the connectivity options for fabric interconnects for southbound and northbound connections
- Describe the hyperconverged solution and integrated systems
- Describe the systemwide parameters for setting up a Cisco UCS domain
- Describe role-based access control (RBAC) and integration with directory servers to control access rights on Cisco UCS Manager
- Describe the pools that may be used in service profiles or service profile templates on Cisco UCS Manager
- Describe the different policies in the service profile
- Describe the Ethernet and Fibre Channel interface policies and additional network technologies
- Describe the advantages of templates and the difference between initial and updated templates
- Describe data center automation tools