Designing Cisco Data Center Infrastructure (DCID)

Duration: 5 days

Who should attend?

1. Network Designer
2. Network Administrator
3. Network Engineer
4. Systems Engineer
5. Consulting Systems Engineer
6. Technical Solutions Architect
7. Cisco Integrators/Partners

Certifications

This course is part of the following Certifications:

1. **Cisco Certified Network Professional Data Center** (CCNP DATA CENTER)

Prerequisites

Before taking this course, you should understand the following:

1. Implement data center networking [local area network (LAN) and storage area network (SAN)]
2. Describe data center storage
3. Implement data center virtualization
4. Implement Cisco Unified Computing System (Cisco UCS)
5. Implement data center automation and orchestration with the focus on Cisco Application Centric Infrastructure (ACI) and Cisco UCS Director
6. Describe products in the Cisco Data Center Nexus and Multilayer Director Switch (MDS) families

To fully benefit from this course, you should have completed the following courses or obtained the equivalent level of knowledge:

It is recommended, but not required, to have the following skills and knowledge before attending this course:

1. Describe data center networking concepts
2. Describe data center storage concepts
3. Describe data center virtualization
4. Describe Cisco UCS
5. Describe data center automation and orchestration with a focus on Cisco ACI and Cisco UCS Director

6. **Identify products in the Cisco data center Nexus and Cisco MDS families**
7. **Describe network fundamentals and build simple LANs, including switching and routing**

Course Objectives

After taking this course, you will be able to:

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

Course Benefits

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

Course Content

The Designing Cisco Data Center Infrastructure (DCID) v7.0 course helps you master design and deployment options focused on Cisco® data center solutions and technologies across network, compute, virtualization, storage area networks, automation, and security. You will learn design practices for the

Cisco Unified Computing System™ (Cisco UCS®) solution based on Cisco UCS B-Series and C-Series servers, Cisco UCS Manager, and Cisco Unified Fabric. You will also gain design experience with network management technologies including Cisco UCS Manager, Cisco Data Center Network Manager (DCNM), and Cisco UCS Director. You can expect theoretical content as well as design-oriented case studies in the form of activities.

This course helps you prepare to take the exam, Designing Cisco Data Center Infrastructure (300-610 DCID), which leads to the new CCNP® Data Center and Cisco Certified Specialist - Data Center Design certifications. The exam will be available beginning February 24, 2020.