

CCIE Data Center Expert Level Certification (350-601 DCCOR)

Duration: 80 Hours

Certification Level: Expert

Course Overview

The **CCIE Data Center Expert Level Certification (350-601 DCCOR)** is designed for professionals looking to demonstrate their expertise in advanced data center networking, including design, implementation, and troubleshooting. This course covers a wide range of topics, such as data center networking, storage solutions, automation, virtualization, and security. It prepares candidates for the **CCIE Data Center** exam and is intended for individuals who aim to take on expert-level roles in data center management.

Course Objectives

Upon completing this course, participants will:

- Gain a deep understanding of data center architectures and designs
 - Learn to configure and manage data center networking, storage, and virtualization
 - Understand and implement automation and orchestration tools in data center environments
 - Implement security best practices for data centers
 - Prepare for the **CCIE Data Center 350-601 DCCOR** certification exam
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Course Modules

Module 1: Data Center Architecture (12 Hours)

- Understanding data center design principles
- Core and aggregation layer design
- Cisco Unified Computing System (UCS) architecture
- Cisco ACI (Application Centric Infrastructure) and its implementation
- Network design and topologies: Spine-Leaf, Dual-Homed

Module 2: Data Center Networking (12 Hours)

- Layer 2 and Layer 3 networking technologies in the data center
- Virtual Extensible LAN (VXLAN) and Ethernet VPN (EVPN)
- Cisco Nexus switching and configurations
- Implementing and troubleshooting BGP, OSPF, and IS-IS in data centers
- Bridging between data center networks and enterprise networks

Module 3: Data Center Storage Networking (10 Hours)

- Storage area networks (SAN) and Fibre Channel
- Fibre Channel over Ethernet (FCoE)
- iSCSI and NFS (Network File System) in data centers
- Cisco MDS series switches and storage configurations
- Storage virtualization technologies and strategies

Module 4: Data Center Virtualization (12 Hours)

- Virtualization concepts and technologies
- Cisco UCS and VMware integration
- Network Function Virtualization (NFV)
- Hypervisor architecture and configuration
- Virtual machine mobility and high availability

Module 5: Automation and Orchestration in Data Centers (10 Hours)

- Introduction to automation tools for data centers
- Cisco Data Center Network Manager (DCNM) and automation tools
- Orchestrating data center services with Cisco ACI
- Implementing automation using Ansible, Puppet, and Python
- Integration of Cisco SDN (Software Defined Networking) and automation

Module 6: Data Center Security (10 Hours)

- Securing data center environments
- Implementing security for network devices (e.g., firewalls, routers)
- Configuring access control, role-based access, and network segmentation
- Security protocols in data center communication
- Data center firewalls and VPN solutions

Module 7: Troubleshooting and Maintenance (8 Hours)

- Advanced troubleshooting for data center networks
- Using diagnostic tools to monitor and analyze performance
- Fault detection and resolution in data center environments
- Troubleshooting network and storage solutions
- Best practices for ongoing data center maintenance

Module 8: CCIE Lab and Exam Preparation (8 Hours)

- Hands-on practice with real-world data center scenarios
 - Mock exams and practical exercises
 - Final exam preparation tips and strategies
 - Understanding the CCIE Data Center exam structure
 - Review of key concepts and exam objectives
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Target Audience

This course is ideal for:

- Data center engineers and administrators
- Network engineers and architects
- IT professionals responsible for managing enterprise data centers
- Professionals looking to take the **CCIE Data Center** certification exam