Configuring Cisco MDS 9000 Series Switches (DCMDS) v3.1

What you'll learn in this course

The **Configuring Cisco MDS 9000 Series Switches** (DCMDS) v3.1 course shows you how to implement, manage, and troubleshoot Cisco® MDS 9000 Series Switches, to build highly available, scalable storage networks. Through expert instruction and extensive hands-on practice, you will learn how to deploy and use capabilities such as Virtual Storage Area Networks (VSANs), Role-Based Access Control (RBAC), N-Port Virtualization (NPV) fabric security, zoning, automation with NX-API, Slow Drain Analysis, SAN analytics, Fibre Channel over TCP/IP (FCIP) tunnels, and more. You will learn how to configure and implement platform features and learn troubleshooting techniques pertaining to Fibre Channel (FC) domains, firmware upgrades, zones, and zone mergers.

This course helps you prepare to take the exam, **Implementing Cisco Storage Area Networking** (300-625 DCSAN), which leads to **CCNP Data Center** and the **Certified Specialist - Data Center SAN Implementation** certifications.

Course duration

- Instructor-led training: 4 days in the classroom with hands-on lab practice
- Virtual instructor-led training: 4 days of web-based classes with hands-on lab practice
- E-learning: Equivalent of 4 days of instruction with hands-on lab practice, videos, and challenges

How you'll benefit

This course will help you:

- Learn how to deploy and troubleshoot the Cisco Nexus® 9000 Series Switches to support performance, resiliency, scalability, and enhanced operations for data centers
- Gain knowledge and skills through Cisco's unique combination of lessons and hands-on practice using enterprise-grade Cisco learning technologies, data center equipment, and software
- Succeed in today's demanding data center operations roles

What to expect in the exam

This exam certifies your knowledge of Cisco MDS 9000 Series Switches including deployment, implementation, management and monitoring, and troubleshooting. The exam will be available beginning February 24, 2020.

After you pass 300-625 DCSAN:

- You earn the **Cisco Certified Specialist - Data Center SAN Implementation** certification.
- You will have satisfied the concentration exam requirement for new **CCNP Data Center**. To complete your CCNP Data Center certification, pass the **Implementing and Operating Cisco Data Center Core Technologies** (350-601 DCCOR) exam or its equivalent.

Who should enroll

- Data center systems engineers
- Data center field engineers
- Data center architects
- Technical decision makers
- Network architects
- Cisco integrators and partners

How to enroll

- For instructor-led training, visit the Cisco Learning Locator.
- For private group training, visit Cisco Private Group Training.
- For digital library access, visit Cisco Platinum Learning Library.
- For individual e-learning, visit the Cisco Learning Network Store.
- For e-learning volume discounts, contact ask_cpll@cisco.com.

Technology areas

- Data center

Course details

Objectives

After taking this course, you should be able to:

- Discover and describe the Cisco Multilayer Director Switch (MDS) platform of multilayer switches and directors. Describe the MDS hardware, NX-OS operating system, Data Center Network Manager (DCNM) management software, and key architectures of the platform, such as FC and Fibre Channel over Ethernet (FCoE)
- Describe key product features of the MDS platform, including VSANs, RBAC, NPV, port channels, zoning, device aliases, Inter-VSAN routing (IVR), and fabric security
- Describe and implement state-of-the-art product features, including NX-API, slow-drain analysis, SAN Analytics, and 32-GB Fibre Channel interfaces
- Configure and implement the Cisco MDS switches and platform features, such as initial configuration, building a fabric, building a SAN extension, and configuring inter-VSAN routing for that purpose
- Configure FCIP tunnels
- Resolve issues and troubleshoot FC domains, zones and zone merges, and switch boot and firmware upgrades

Prerequisites

To fully benefit from this course, you should have the following knowledge and skills:

- Basic understanding of data storage hardware components and protocols, including Small Computer System Interface (SCSI) and Fibre Channel
- Basic understanding of network protocols, including Ethernet and IP
- Basic routing and switching knowledge

These are the recommended Cisco courses that may help you meet these prerequisites:

- **Introducing Cisco Data Center Networking (DCICN)**
- **Introducing Cisco Data Center Technologies (DCICT)**

Outline

- Describing Cisco MDS Platform
  - Cisco MDS 9700/9300/9200/9100 Hardware
  - Cisco NX-OS
  - Cisco DCNM
  - Fibre Channel Architecture
  - FCoE Architecture
- Describing Key Product Features
  - Cisco DCNM 11.x
  - RBAC and Authentication, Authorization, and Accounting (AAA)
  - Virtual SANs
  - NPV and NPIV
  - Port Channels and VSAN Trunking
  - Zoning and Smart Zoning
  - Device Aliases
  - Inter-VSAN Routing
  - Fibre Channel Fabric Security
- Describing New Product Features
  - 32-Gb Fibre Channel
  - Cisco MDS NX-API
  - Power-On Auto-Provisioning
  - Slow Drain Analysis
  - SAN Analytics and Telemetry Streaming
  - Cisco Secure Boot
- Deploying Cisco MDS Features
  - Installation and Initial Setup
  - Building a Fabric: FC Domains and FC Services
  - Building SAN Extensions
- Troubleshooting Common Cisco MDS Issues
  - Fibre Channel Domains
  - Zones and Zone Merges
  - Boot and Upgrade Issues

Lab outline

- Set Up DCNM
- Explore DCNM-SAN Client and DCNM Device Manager
- Configure and Use RBAC
- Configure and Use RBAC with DCNM-SAN Client and Device Manager
- Manage VSANs and Fibre Channel Domain
- Configure NPV and N-Port Identification Virtualization (NPIV)
- Configure Interfaces
- Configure Device Aliases and Zoning
- Explore and Automate with NX-API
- Perform Slow Drain Analysis with Cisco DCNM
- Configure SAN Analysis and SAN Telemetry Streaming
- Configure FCIP Tunnels and FCIP High Availability
- Configure IVR for SAN Extension
- Troubleshoot Zoning and Zone Merges