



Firefly CCIE® Storage KickStart

Length
10 days

Format
Lecture/lab

Tracks
Support
& CCIE

Version
3.2

Course Description

The Firefly CCIE Storage KickStart is an intensive 10-day training program designed especially for experienced SAN professionals. The CCIE Storage KickStart covers everything you need to become a Cisco MDS 9000 expert.

After you complete the KickStart, you will be ready for the Cisco Storage Networking Support Specialist (CSSSS) certification exam—Cisco's first-level storage networking certification. It's also your first step on the path to becoming a Cisco Certified Internetwork Engineer (CCIE) in Storage Networking.

Who Should Attend

The KickStart is designed for SAN Systems Engineers, SAN Architects, and SAN Support Engineers who have been working with storage networking technologies for at least 2 years.

Recommended Prerequisites

You don't need to know anything about the Cisco MDS 9000 to take this class, but you will gain the most from the KickStart if you have some experience working with at least one SAN platform and a fundamental understanding of storage networking technologies.

The CCIE KickStart Instructor Team

Only the most highly qualified Firefly instructors deliver the CCIE Storage KickStart. All of our CCIE KickStart instructors are respected, seasoned professionals who years of industry experience and have passed the CCIE Storage Written Examination.

CCIE

What's Covered

The Firefly CCIE Storage KickStart covers all of the topics in the Cisco Storage Networking Support Specialist curriculum (ICSNS and IASNS), rewritten with an emphasis on passing the CCIE Written Exam. The Firefly CCIE Storage KickStart also includes additional content and labs (FICON, DMM, and more) that are required for the CCIE exam but not covered anywhere in the CSNSS curriculum.

What You Will Learn

This course covers all of the technologies that are emphasized by the Cisco Storage Networking certification program:

- SCSI, Fibre Channel, FICON
- FCIP and iSCSI
- Installation and configuration of MDS 9000 switches using both CLI and GUI tools.
- Configuration of switch interfaces, VSANs, zones, and PortChannels
- Configuration of advanced FC services, including Inter-VSAN Routing, traffic engineering, security, AAA, IPFC, and interoperability
- Advanced fabric management, performance management, and security
- Configuration of highly available FCIP and iSCSI environments
- MDS 9000 troubleshooting, including the FC Analyzer, SPAN, and GUI analysis tools



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Course Outline

Week 1

Lesson 1: Fibre Channel Protocol Addressing

Fibre Channel Layers and Addressing
World Wide Names

Lesson 2: MDS 9000 Overview

The MDS 9000 Platform and Linecard Modules
SAN Scalability Features
Fabric-Based Application Services
FAIS Overview
SANTap Overview
NASB Overview
Storage Media Encryption (SME)
Data Mobility Manager
SAN Device Virtualization
N-Port Virtualizer (NPV)

Lesson 3: Installing Switch Hardware

Installation Guidelines
Configuring Power Supplies
Supervisor/Line Card Modules Installation

Lesson 4: Initial Switch Configuration

Completing the Initial Setup
Installing Cisco Fabric Manager

Lesson 5: Management Infrastructure Implementation

The Command Line Interface
CLI Commands
CLI Variables and Aliases
Cisco Fabric Manager
Fabric Manager Server
Overlay VSANs
Fabric-Device Management Interface Implementation
Cisco Discovery Protocol
CiscoWorks Resource Manager Essentials Implementation

Lesson 6: Installing and Licensing SAN-OS

Software Licensing
Installation and Upgrade Prerequisites
Software Upgrade Methods
Version Downgrade Procedure

Lesson 7: Using Call Home

Call Home Services
Call Home Messages
Call Home Output Options
Configuring Call Home
Customized Alert Group Messages

Lesson 8: Configuring VSANs

VSAN Overview
Creating VSANs
Displaying VSAN Information
VSAN Recommended Practices
Domain ID Assignment
Configuring the Principal Switch priority
CFS Distribution of Allowed Domain ID Lists

Lesson 9: Configuring Dynamic VSANs

DPVM Overview
Configuring DPVM Entries
Using DPVM Autolearning
Configuring DPVM Distribution

Lesson 10: Configuring Interfaces

Configuring Fibre Channel Interfaces
Configuring Advanced Parameters

Lesson 11: FSPF and Port Tracking

Implementing Traffic Engineering
Configuring Load Balancing
In-Order Delivery
Tracking and Redirecting Traffic

Lesson 12: Configuring PortChannels

PortChannel Overview
Creating PortChannels
The PortChannel Protocol
PortChannel Autocreation
Modifying PortChannel Links

Lesson 13: Configuring Cisco Fabric Services

Cisco Fabric Services
Cisco Fabric Services Architecture
Cisco Fabric Services Applications
Configuring Cisco Fabric Services
Configuring Cisco Fabric Services
Distribution over IP
Distributed Device Alias Services



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Course Outline

Week 2

Lesson 14: Implementing Zones

- Zoning Overview
- Creating Zones and Zonesets
- Verifying Zone Configuration
- Configuring Zoneset Distribution
- Merging Zones without Disruption
- Recovering from Zone Merge Failures
- Managing Zonesets
- Recommended Practices for Zoning

Lesson 15: Enhanced Zones

- Enhanced Zoning Features
- Modifying the Enhanced Zone Database
- Creating Attribute Groups
- Configuring Read-Only Zones
- Configuring LUN Zones
- Configuring Broadcast Zoning

Lesson 16: FICON Overview

- IBM Mainframe Architecture
- Mainframe Terminology

Lesson 17: FICON Configuration

- FICON Configuration Overview
- Configuring FICON Port Numbering
- Configuring Port Swap
- FICON Port Attributes
- FICON Boot Files: IPL

Lesson 18: VoQ, QoS, and FCC

- Virtual Output Queues
- Configuring QoS
- Configuring FCC
- QoS Behavior with Generation-1 and Generation-2 Switching Modules
- Zone-Based QoS

Lesson 19: ACL, SSH, and RBAC

- Securing Management Ports
- Configuring SSH
- Using Digital Certificates
- Implementing RBAC
- Configuring RBAC and User Accounts
- Distributing RBAC Configurations

Lesson 20: AAA Services and NTP

- Centralizing Security Management
- Implementing AAA Services
- AAA Service Options
- Distributing AAA Configurations
- Configuring NTP

Appendix A: The SCSI Protocol

Appendix B: FC Protocol Concepts

Appendix C: FC Layers

Appendix D: FC Flow Control

Appendix E: FC Login

Appendix F: FC Error Recovery

Appendix G: FC Switched Fabric

Week 1 Labs

- Initial Switch Configuration
- Upgrading Switch Software
- Configuring VSANs
- Configuring Interfaces
- Configuring PortChannels
- Configuring Zones
- Configuring FSPF
- Configuring Role Based Access Control
- Implementing Fabric and Port Security
- Configuring Management Services
- Managing Performance
- Configuring AAA Services

Week 2 Labs

- Implementing FCIP with the IPS Module
- Configuring FCIP High Availability
- Configuring IVR for SAN Extension
- Tuning FCIP Performance
- Troubleshooting FCIP Connectivity
- Implementing iSCSI with the IPS Module
- Implementing Static Initiators and Targets
- Implementing VSANs and Zones for iSCSI
- Implementing iSCSI Access Control
- Implementing High-Availability iSCSI
- Implementing iSNS Server
- Troubleshooting iSCSI Connectivity
- Using RSPAN and the Port Analyzer Adapter
- Using fcanalyzer
- Port and Host Diagnostics
- Troubleshooting Switch Connectivity
- Troubleshooting Advanced Services



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