



# Cisco Mainframe Storage Solutions

**Length**  
1 day

**Format**  
Lecture/lab

**Track**  
Support

**Version**  
3.2

## Course Description

This course is designed for storage network engineers who need to implement FICON storage networks using the Cisco MDS 9000 Multilayer Switch family. The course includes coverage of storage and channel terminology in a mainframe environment, along with detailed coverage of FICON protocols. Students will learn how to fully configure a MDS 9000 switch for FICON support, including basic configuration steps, CUP configuration, cascaded directors, and Fibre Channel-over-IP (FCIP) support.

## Who Should Attend

This course provides in-depth technical training for system engineers, network engineers, and field engineers who need to deploy, configure, and manage MDS 9000 Family switches in IBM mainframe storage environments. Enrollment is open to all Cisco SEs, Cisco channel partners, and customers.

## Recommended Prerequisites

Basic knowledge of MDS 9000 implementation and operations is required before attending this course. You may take either of the following courses:

- MDS Configuration and Operations (MDSCO)
- Implementing Cisco Storage Networking Solutions (ICSNS)

## Related Training

- Implementing Advanced Cisco Storage Networking Solutions (IASNS)

# CMSS

## Learning Objectives

After you complete this course, you will be able to:

- Describe FICON channel terminology and topologies
- Describe the characteristics and applications of the FICON protocol
- List typical applications for FICON
- Implement FICON solutions with Cisco MDS 9000 Family switches
- Verify the correct configuration of a FICON environment on Cisco MDS 9000 switches
- Configure FICON port attributes and perform basic troubleshooting in a single-switch environment
- Configure cascaded directors, PortChannels, and FCIP for FICON

## Course Topics

- Introduction to Mainframe Storage Technologies
- Implementing Cisco FICON Solutions





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## Course Outline

### Module 1: Mainframe Storage Technologies

#### Lesson 1: IBM Mainframe Architecture

##### Overview

- IBM Mainframe Systems
- Evolution of Mainframe Storage
- Mainframe Terminology
- Channels and Control Units

#### Lesson 2: FICON Concepts

- FICON Standards
- FICON Components
- FICON Bridge and Native Modes
- FICON Cascade
- FICON and ESCON Comparison
- IOCP/HCD Configurations

#### Lesson 3: FICON Applications

- CTC and Peripheral Connectivity
- Disaster Recovery Applications
- XRC
- Tivoli Storage Manager
- Sysplex
- GDPS

#### Lesson 3: The FC-SB-3 Protocol

- Overview of FC-SB-3
- Frame Format and Addressing
- Read and Write Operations
- Flow Control
- Port Initialization
- FICON and FCP Comparison

### Module 2: Implementing Cisco FICON Solutions

#### Lesson 1: FICON Fabric Configuration

- Intermix Fabrics
- Requirements
- Configuring a FICON VSAN
- CHPID and CNTLUNIT Macros
- FICON Port Addressing
- CUP Overview
- TSO Overview

#### Lesson 2: FICON Port Configuration

- FICON Port Addresses
- Port Swap
- Port Attributes
- MDS FICON Configuration Files
- Additional Configuration Requirements

#### Lesson 3: Troubleshooting

- Verifying the Basic FICON Configuration
- Displaying Logs and Performance Data
- TSO Commands

#### Lesson 4: FICON Cascade

- Defining Channel Paths
- Fabric Binding
- PortChannels
- Preferred Path
- FCIP Configuration
- FICON Tape Acceleration



Learning Solutions