

OVERVIEW

This course is intended for individuals who will perform SAN management activities using vendor or EMC tools. The Connectrix family of switches are managed to provide connectivity to host and storage through a SAN. SAN switches are administered through their CLI and GUI management tools for configuration in a multi-switch fabric and to enable communication between the hosts and storage. Fibre Channel, FCIP, iSCSI and FCoE environments are presented for management and switch configuration along with NPIV and NPV. The concepts of EMC SAN best practices, performance monitoring, basic troubleshooting and security are also addressed.

AUDIENCE

This course is intended for anyone who presently plans to manage Storage Area Networks in an EMC storage environment.

PREREQUISITE KNOWLEDGE/SKILLS

To understand the content and successfully complete this course, a student must have a suitable knowledgebase/skill set. The student must have an understanding of:

- SAN protocols and devices
- EMC Storage Area Network (SAN) concepts
- Familiarity with operating system and storage array administration

COURSE OBJECTIVES

- Identify SAN components and list current EMC Connectrix connectivity options, and management tools
- Perform basic maintenance and configuration tasks on EMC Connectrix B-Series and MDS-Series switches
- Describe security options for a SAN
- Show the software licensing options for each Connectrix family of switches
- Configure virtualization features in a SAN, including VSANs, Virtual Fabrics, NPIV, NPV and Access Gateway
- Manage zoning
- Describe the components of a Fibre Channel fabric
- Expand a Fibre Channel fabric by merging switches
- Extend a Fibre Channel Fabric using a FCIP tunnel
- Configure a native iSCSI SAN
- Describe a basic FCoE configuration
- Perform basic troubleshooting using SAN Management tools

COURSE OUTLINE

Module 1: SAN Management Overview

- Host SAN Concepts
- SAN Storage
- SAN Connectivity
- SAN Management

Module 2: B-Series Switch Tools

- B-Series Management Tools
- Licensing
- Management Tools Installation and usage
- Switch Configuration
- Maintenance Tasks
- Security for B-Series SANs

Module 3: MDS-Series Switch Tools

- MDS-Series Management Tools
- Licensing
- Management Tools Installation and usage
- Switch Configuration
- Maintenance Tasks
- Security for MDS-Series SANs

Module 4: Fabric Virtualization

- B-Series Virtual Fabrics
- MDS-Series Virtual SANs
- Fibre Channel Addressing and Logins

Module 5: Zoning and Storage Allocation

- Zoning Overview
- B-Series Switch Zoning
- MDS-Series Switch Zoning
- VNX Storage Provisioning
- VMAX Storage Provisioning

Module 6: Merging Fibre Channel Fabrics

- Fibre Channel Fabric Overview
- B-Series Fabric Merge
- MDS-Series Fabric Merge
- Interoperability Overview

Module 7: Managing IP SANs

- FCIP Configuration
- iSCSI Fabric Configuration

Module 8: Port Virtualization

- N_Port ID Virtualization
- B-Series NPIV and Access Gateway Configuration
- MDS-Series NPIV and NPV Configuration

Module 9: IT Transformation

- Trends Driving IT Transformation
- Converged Networks Overview
- FCoE Overview

Module 10: Troubleshooting and Monitoring

- Troubleshooting SAN
- B-Series Troubleshooting and monitoring
- MDS-Series Troubleshooting and monitoring