

DCUFT


Length:

3 Days

Format:

Lecture/Lab

Course
Version:

5.0

Track:

CCNP DC

Course Description

The Troubleshooting Cisco Data Center Unified Fabric (DCUFT) v5.0 is a three-day instructor-led course designed for systems and field engineers, consulting systems engineers, and Cisco integrators and partners who install, implement, maintain, and troubleshoot the Cisco Nexus 7000 and 5000 Series Switches, the Cisco Nexus 2000 Series Fabric Extenders, and Cisco MDS Multilayer Fabric Switches. The course covers the key components and procedures that are needed to troubleshoot and resolve common issues with the Cisco Nexus 7000, 5000, and MDS switches and the Nexus 2000 Series Fabric Extenders in the network and SAN environments.

Who Should Attend

The primary audience for this course is data center administrators and engineers, network administrators and engineers, consulting systems engineers, and Cisco integrators and partners.

The secondary audience for this course is data center designers and managers, network designers and managers, and systems engineers.

The tertiary audience for this course is program and project managers.

Prerequisites

The knowledge and skills that a learner must have before attending this course are as follows:

- Recommended attendance of the Implementing Cisco Data Center Unified Fabric (DCUFI) course
- Recommended attendance of Cisco Nexus 7000, 5000 and MDS product courses
- Recommended CCNA or CCNP certification
- Recommended attendance of a Fibre Channel Protocol class or equivalent experience
- Recommended attendance of the Implementing Cisco Storage Network Solutions (ICSNS) course or equivalent experience

Learning Objectives

- Describe the troubleshooting tools and methodologies that are available from the CLI and in Cisco DCNM that are used to identify and resolve issues in a Cisco Data Center network architecture
- Identify and resolve issues that are related to VLANs and PVLANS
- Identify and resolve issues that are related to port channels and vPCs
- Identify and resolve issues that are related to Cisco FabricPath
- Identify and resolve issues that are related to OTV
- Identify and resolve issues that are related to Fibre Channel interface operation
- Identify and resolve issues that are related to Fibre Channel switching when a Cisco Nexus switch is used in switched mode or in NPV mode
- Identify and resolve issues that are related to FCoE in the Cisco Data Center architecture
- Identify and resolve issues that are related to Cisco Nexus 7000 Series Switches
- Identify and resolve issues that are specific to Cisco Nexus 5000 Series Switches
- Identify and resolve issues that are specific to Cisco Nexus 2000 Series Fabric Extenders
- Identify and resolve issues that are specific to Cisco MDS Switches



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Module 1: Tools and Methodologies of Troubleshooting

Lesson 1: Understanding CLI Troubleshooting Tools

- Troubleshooting Methodology
- Ping, Pong, and Traceroute
- Monitor System, Processes, and CPU
- Switched Port Analyzer
- Ethalyzer
- Logging
- Cisco Generic Online Diagnostics
- Blink or Beacon
- SNMP and RMON
- CLI Debug

Lesson 2: Understanding Cisco DCNM Troubleshooting Tools

- Cisco DCNM for LAN
- Cisco DCNM for SAN

Module 2: Layer 2 Issue Troubleshooting

Lesson 1: Troubleshooting VLANs and PVLANS

- Troubleshooting VLANs and PVLANS
- Troubleshooting VTP

Lesson 2: Troubleshooting Port Channels

- Troubleshooting LACP
- Troubleshooting vPCs

Lesson 3: Troubleshooting Cisco FabricPath

- Cisco FabricPath Control Plane
- Cisco FabricPath Data Plane
- Troubleshooting Cisco FabricPath

Lesson 4: Troubleshooting OTV

- OTV Review
- Troubleshooting OTV
- HSRP Isolation Between Data Centers Using OTV

Module 3: SAN Switching Issue Troubleshooting

Lesson 1: Troubleshooting Fibre Channel Interfaces

- Troubleshooting Fibre Channel Port Interfaces
- Troubleshooting SAN Port Channel Interfaces

Lesson 2: Troubleshooting Fibre Channel Fabric Services

- Troubleshooting VSANs
- Troubleshooting Fibre Channel Domain
- Troubleshooting Fibre Channel Name Services
- Troubleshooting Fibre Channel Zoning
- Troubleshooting Cisco Fabric Services on Cisco MDS Series and Cisco Nexus Switches

Lesson 3: Troubleshooting NPV Mode

- NPIV and NPV Mode FLOGI Processes
- Troubleshooting NPV Mode

Module 4: FCoE Troubleshooting

Lesson 1: Troubleshooting FCoE

- Troubleshooting FIP
- Troubleshooting FCoE Performance

Lesson 2: Troubleshooting DCBX

- Troubleshooting DCBX
- Troubleshooting PFC

Module 5: Platform-Specific Issue Troubleshooting

Lesson 1: Troubleshooting the Cisco Nexus 7000

- Troubleshooting Licensing
- Troubleshooting Installs, Upgrades, and Reboots
- Troubleshooting Cisco Fabric Services
- Troubleshooting VDCs
- Troubleshooting Routing
- Troubleshooting Unicast Traffic
- Troubleshooting Memory
- Troubleshooting CPU
- Troubleshooting Switch Fabric
- Troubleshooting CoPP and Data Plane Rate Limiters

Lesson 2: Troubleshooting Cisco Nexus 5000 Series and Nexus 5500 Platform Switches

- Troubleshooting Licensing
- Troubleshooting Cisco IOS ISSU
- Troubleshooting Configuration Synchronization
- Troubleshooting QoS
- Troubleshooting CRC Errors
- Troubleshooting CPU
- Troubleshooting Unified Ports

Lesson 3: Troubleshooting Cisco Nexus 2000 Series Fabric Extenders

- Troubleshooting Fabric-Extender Configuration and Management
- Troubleshooting Fabric-Extender Queuing and Packet Drops

Lesson 4: Troubleshooting Cisco MDS Switches

- Troubleshooting Licensing
- Troubleshooting Installs, Upgrades, and Reboots
- Troubleshooting Ports
- Troubleshooting Cisco Fabric Services
- Troubleshooting VSANs
- Troubleshooting Zones and Zone Sets

Lab 1-1: Network Baseline Documentation

Lab 2-1: Troubleshoot vPCs

Lab 2-2: Troubleshoot Cisco FabricPath

Lab 2-3: Troubleshoot OTV Issues

Lab 3-1: Troubleshoot Fibre Channel Interfaces

Lab 3-2: Troubleshoot Fibre Channel VSANs, Zones, and Domain Services

Lab 3-3: Troubleshoot NPV Mode

Lab 4-1: Troubleshoot FCoE—Part 1

Lab 4-2: Troubleshoot FCoE—Part 2

Lab 5-1: Troubleshoot VDCs

Lab 5-2: Troubleshoot Cisco Fabric Services

Lab 5-3: Troubleshoot the Fabric Extender