Troubleshooting Cisco Data Center Infrastructure

Code: DCIT-FL
Length: 5 days
URL: View Online

Skills Gained

Upon completion of this course, you will be able to:

- Describe how to troubleshoot the data center network
- Describe the troubleshooting tools and methodologies that are available from the Command-Line Interface (CLI) and are used to identify and resolve issues in a Cisco Data Center network architecture
- Identify and resolve issues that are related to Virtual LANs (VLANs) and private VLANs (PVLANs)
- Identify and resolve issues that are related to port channels and virtual port channels
- Identify and resolve issues that are related to VXLAN
- Describe troubleshooting of routing and high-availability protocols
- Describe troubleshooting of the LAN security features
- Identify and resolve issues that are related to a single device
- Identify and resolve issues that are related to Fibre Channel interface operation
- Identify and resolve Fibre Channel switching issues when the Cisco NX-OS Software is used in switched mode
- Identify and resolve issues that are related to Fibre Channel switching when a Cisco NX-OS switch is used in N-Port Virtualization (NPV) mode
- Identify and resolve issues that are related to FIP and FCoE, including Fibre Channel over Ethernet (FCoE) performance
- Describe Cisco UCS architecture, initial setup, tools, and service aids that are available for Cisco UCS troubleshooting and interpretation of the output
- Describe Cisco UCS configuration and troubleshooting
- Describe Cisco UCS B-Series Blade Server operation and troubleshoot related issues
- Describe Cisco UCS B-Series LAN, SAN, and Fibre Channel operations, including in-depth troubleshooting procedures
- Describe Cisco Integrated Management Controller (IMC) tools for validating performance and facilitating data-gathering activities for Cisco UCS C-Series server troubleshooting, and the troubleshooting approach for hardware and firmware failures
- Define the proper procedures for configuring Cisco UCS C-Series LAN and SAN connectivity, avoiding issues with the

VIC, and troubleshooting connectivity issues

- Troubleshoot Cisco UCS C-Series server integration with Cisco UCS Manager
- Identify the tools, protocols, and methods to effectively troubleshoot Cisco ACI
- Describe how to troubleshoot automation and scripting tools
- Describe how to troubleshoot programmability

Who Can Benefit

- Network designers
- Network administrators
- Network engineers
- System engineers
- Consulting systems engineers
- Technical solutions architects
- Server administrators
- Network managers
- Cisco integrators and partners

Prerequisites

Students considered for this training should have attended the following classes or obtained equivalent level of knowledge:

- To fully benefit from this course, you should have the following knowledge and skills:
- Configure, secure, and maintain LAN and SAN based on Cisco Nexus and MDS switches
- Configure, secure, and maintain Cisco Unified Computing System
- Configure, secure, and maintain Cisco ACI

Course Details

Follow On Courses

- Designing Cisco Data Center Infrastructure (DCID)
- Implementing Cisco Data Center Infrastructure (DCII)
- Implementing Cisco Data Center Unified Computing (DCUCI)
- Implementing Cisco Data Center Virtualization and Automation (DCVAI)

Troubleshooting Cisco Data Center Infrastructure

Module 1: Troubleshooting the Data Center LAN Network

- Section 1: Describing the Troubleshooting Process
- Section 2: Understanding CLI Troubleshooting Tools
- Section 3: Troubleshooting VLANs and PVLANs
- Section 4: Troubleshooting Port Channels and Virtual Port Channels

- Section 5: Troubleshooting VXLAN
- Section 6: Troubleshooting Routing and High-Availability Protocols
- Section 7: Troubleshooting Data Center LAN Security
- Section 8: Troubleshooting Platform-Specific Issues
- Section 9: Troubleshooting Fibre Channel Interfaces
- Section 10: Troubleshooting Fibre Channel Fabric Services
- Section 11: Troubleshooting NPV Mode
- Section 12: Troubleshooting FCoE
- Section 13: Troubleshooting Cisco UCS Architecture and Initialization
- Section 14: Troubleshooting Cisco UCS Configuration
- Section 15: Troubleshooting Cisco UCS B-Series Servers
- Section 16: Troubleshooting Cisco UCS B-Series LAN and SAN Connectivity
- Section 17: Troubleshooting Cisco UCS C-Series Servers
- Section 18: Troubleshooting Cisco UCS C-Series LAN and SAN Connectivity
- Section 19: Troubleshooting Cisco UCS C-Series and Cisco UCS Manager Integration
- Section 20: Exploring the Tools and Methodologies for Troubleshooting Cisco ACI
- Section 21: Troubleshooting Automation and Scripting Tools
- Section 22: Troubleshooting Programmability

Module 2: Troubleshooting Data Center SAN

- Lesson 1: Troubleshooting Fibre Channel Interfaces
- Lesson 2: Troubleshooting Fibre Channel Fabric Service
- Lesson 3: Troubleshooting NPV Mode
- Lesson 4: Troubleshooting FCoE

Module 3: Troubleshooting Data Center Unified Computing

- Lesson 1: Troubleshooting Cisco UCS Architecture and Initialization
- Lesson 2: Troubleshooting Cisco UCS Configuration
- Lesson 3: Troubleshooting Cisco UCS B-Series Servers
- Lesson 4: Troubleshooting Cisco UCS B-Series LAN and SAN Connectivity
- Lesson 5: Troubleshooting Cisco UCS C-Series Servers
- Lesson 6: Troubleshooting Cisco UCS C-Series LAN and SAN Connectivity
- Lesson 7: Troubleshooting Cisco UCS C-Series and Cisco UCS Manager Integration

Module 4: Troubleshooting Data Center ACI

- Lesson 1: Exploring the Tools and Methodology of Troubleshooting Cisco ACI

Lab Outline

- Guided Lab 1: Document the Network Baseline
- Guided Lab 2: Troubleshoot LAN—RSTP

- Guided Lab 3: Troubleshoot LAN—LACP
- Guided Lab 4: Troubleshoot LAN—vPC
- Guided Lab 5: Troubleshoot LAN—FabricPath
- Guided Lab 6: Troubleshoot LAN—OTV
- Guided Lab 7: Troubleshoot LAN—VXLAN
- Guided Lab 8: Troubleshoot LAN—OSPF
- Guided Lab 9: Troubleshoot LAN—FHRP
- Guided Lab 10: Troubleshoot LAN—CFS
- Guided Lab 11: Troubleshoot LAN—VRF
- Guided Lab 12: Troubleshoot LAN—FEX
- Guided Lab 13: Troubleshoot SAN—Fibre Channel Interfaces
- Guided Lab 14: Troubleshoot SAN—Fibre Channel VSANs, Zones, and Domain Services
- Guided Lab 15: Troubleshoot SAN—NPV Mode
- Guided Lab 16: Troubleshoot SAN—FCoE
- Guided Lab 17: Troubleshoot SAN—DCB
- Guided Lab 18: Troubleshoot Compute—Cisco UCS Management and Service Profile Deployment
- Guided Lab 19: Troubleshoot Compute—Cisco UCS Integrated C-Series Server Boot from SAN
- Guided Lab 20: Troubleshoot Compute—LAN Connectivity, Part 1
- • Guided Lab 21: Troubleshoot Compute—LAN Connectivity, Part 2
- Guided Lab 22: Troubleshoot Compute—Cisco UCS C-Series Server Boot from SAN
- Guided Lab 23: Troubleshoot Compute—Network Connectivity
- Guided Lab 24: Troubleshoot ACI—Bare-Metal Hosts
- Guided Lab 25: Troubleshoot ACI—VMM
- Guided Lab 26: Troubleshoot ACI—Contracts
- Guided Lab 27: Troubleshoot ACI—External Layer 3
- Guided Lab 28: Troubleshoot ACI—External Layer 2

Schedule (as of 3)

Date	Location	
Jun 3, 2024 – Jun 7, 2024	Virtual	Enroll
Jun 3, 2024 – Jun 7, 2024	Virtual	Enroll

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