

TROUBLESHOOTING CISCO DATA CENTER INFRASTRUCTURE (DCIT) V7.1

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The Troubleshooting Cisco Data Center Infrastructure (DCIT) V7.0 course shows you how to troubleshoot LAN, SAN, Cisco® Data Center Unified Fabric, Cisco Unified Computing System™ (Cisco UCS®), and Cisco Application-Centric Infrastructure (Cisco ACI®). You will learn methodologies and tools to identify issues that may occur in data center network architecture. You will get extensive hands-on practice troubleshooting installation, configuration and interconnectivity issues on Cisco Multilayer Director Switch (MDS) switches, Cisco Nexus® switches, Cisco Fabric Extenders (FEXs), Cisco UCS, Cisco ACI, and more.

This course helps prepare you to take the exam: 300-615 Troubleshooting Cisco Data Center Infrastructure (DCIT)

How you'll benefit

This class will help you:

- Learn how to deploy and troubleshoot various components of Cisco data center infrastructure to support performance, resiliency, scalability needs
- Gain knowledge and skills through Cisco's unique combination of lessons and hands-on practice using enterprise-grade Cisco learning technologies, data center equipment, and software
- Qualify for professional-level job roles
- Earn 50 CE credits toward recertification

Why Attend with Current Technologies CLC

- Our Instructors are in the top 10% rated by Cisco
- Our Lab has a dedicated 1 Gig Fiber Connection for our Labs
- Our Labs run up to Date Code for all our courses

Who Should Attend

The primary audience for this course is as follows:

- Network Designers
- Network Administrators
- Network Engineers
- System Engineers
- Data Center Engineers
- Consulting Systems Engineers
- Technical Solutions Architects
- Server Administrators
- Network Managers
- Cisco Integrators and Partners

Course Duration

5 days

Course Price

\$4,595.00 or 46 CLCs

Methods of Delivery

- Instructor Led
- Virtual ILT
- On-Site

OUTLINE

Module 1: Describing the Troubleshooting Process

- Troubleshooting Overview
- Narrow Down the Cause of the Problem

Module 2: Understanding CLI Troubleshooting Tools

- Ping, Pong, and Traceroute
- Debugging, Event History, and System Monitoring
- Switched Port Analyzer (SPAN) and Encapsulated Remote SPAN
- Ethalyzer, Embedded Logic Analyzer Module (ELAM), and Data Plane Sampling Capture
- Logging
- Cisco Generic Online Diagnostics
- Simple Network Management Protocol (SNMP), Cisco Embedded Event Manager (EEM), and Remote Network Monitor (RMON)

Module 3: Troubleshooting VLANs and PVLANS

- Troubleshoot VLAN Trunking Protocol (VTP)
- Troubleshoot Layer 2 Issues
- VLANs and Switched Virtual Interfaces (SVIs) on Cisco Nexus Series Switches
- Troubleshoot VLANs, PVLANS, and SVIs
- Troubleshoot Rapid Per VLAN Spanning Tree+ (PVST+)

Module 4: Troubleshooting Port Channels and Virtual Port Channels

- Port Channel Overview
- Virtual Port Channel (vPC) Overview
- Troubleshoot vPCs
- Common vPC Issues

Module 5: Troubleshooting Virtual Extensible LAN (VXLAN)

- VXLAN Overlay Features
- VXLAN Multiprotocol Border Gateway Protocol (MP-BGP) Ethernet VPN
- Common VXLAN Issues
- VXLAN Troubleshooting

Module 6: Troubleshooting Routing and High-Availability Protocols

- Troubleshoot Basic Routing Issues
- Troubleshoot OSPFv2 and OSPFv3
- Troubleshoot EIGRP
- Troubleshoot PIM
- Troubleshoot First Hop Redundancy Protocol (FHRP)

Module 7: Troubleshoot Data Center LAN Security

- Troubleshoot Authentication, Authorization, and Accounting (AAA) and Role-Based Access Control (RBAC)
- Troubleshoot First-Hop Security
- Troubleshoot Control Plane Policing (CoPP)
- Troubleshoot Access Control Lists (ACLs)

Module 8: Troubleshooting Platform-Specific Issues

- Cisco Fabric Services Overview
- Troubleshoot Cisco Fabric Services
- Configure and Troubleshoot Configuration Profiles
- Common Virtual Device Contexts (VDC) Issues

- Troubleshoot VDC
- Troubleshoot Virtual Routing and Forwarding (VRF)
- Cisco FEX Troubleshooting
- Troubleshoot Cisco In-Service Software Upgrade (ISSU)

Module 9: Troubleshooting Fibre Channel Interfaces

- Fibre Channel Overview
- Troubleshoot Fibre Channel Interfaces and Device Registration
- Troubleshoot Fibre Channel Port Channels
- Troubleshoot Port Security and Fabric Binding

Module 10: Troubleshooting Fibre Channel Fabric Services

- Troubleshoot Virtual Storage Area Networks (VSANs)
- Troubleshoot Fibre Channel Domain and Name Services
- Troubleshoot Zoning and Fabric Merges
- Troubleshoot Cisco Fabric Services

Module 11: Troubleshooting NPV Mode

- N-Port ID Virtualization (NPIV) and NPV Overview
- Troubleshoot NPV Mode

Module 12: Troubleshooting FCoE

- FCoE and FIP Overview
- Troubleshoot FIP
- Troubleshoot FCoE- and QoS-Related Issues
- Troubleshoot Data Center Bridging (DCB)

Module 13: Troubleshooting Cisco UCS Architecture and Initialization

- Troubleshoot Fabric Interconnect in Standalone and Cluster Mode
- Troubleshoot Cisco UCS Management Access
- Troubleshoot Cisco UCS Manager CLI
- Troubleshoot Cisco UCS with Embedded Tools
- Troubleshoot Cisco UCS Hardware Discovery

Module 14: Troubleshooting Cisco UCS Configuration

- Stateless Computing
- Troubleshoot Service Profile Association Issues Due to Unavailable Addresses
- Other Service Profile Association Issues
- Cisco UCS Manageability
- Troubleshoot Authentication Failures

Module 15: Troubleshooting Cisco UCS B-Series Servers

- Troubleshoot Cisco UCS B-Series Blade Server
- Troubleshoot Firmware Upgrade and Operating System Drivers
- Troubleshoot Remote Access
- Troubleshoot Server Hardware

Module 16: Troubleshooting Cisco UCS B-Series LAN and SAN Connectivity

- Troubleshoot Link-Level Issues
- Troubleshoot Connectivity Issues for Specific Servers
- Troubleshoot Intermittent Connectivity
- Troubleshoot Disjoint Layer 2 Networks
- Troubleshoot Redundant Connectivity
- Troubleshoot Cisco UCS B-Series SAN Connectivity

- Troubleshoot Directly Attached Storage
- Troubleshoot Server Boot from SAN and iSCSI
- Use SPAN for Troubleshooting
- Analyze Packet Flow

Module 17: Troubleshooting Cisco UCS C-Series Servers

- Troubleshoot Cisco UCS C-Series Initialization and Cisco IMC
- Troubleshoot Cisco UCS C-Series Hardware and Firmware

Module 18: Troubleshooting Cisco UCS C-Series LAN and SAN Connectivity

- Troubleshoot the Cisco UCS C-Series VIC Module and Connectivity to Cisco IMC
- Troubleshoot Cisco UCS C-Series LAN Connectivity
- Troubleshoot Cisco UCS C-Series SAN Connectivity
- Use SPAN to Capture Cisco UCS C-Series Server Traffic
- Troubleshoot Cisco UCS C-Series Boot from the Fibre Channel Logical Unit Number LUN
- Troubleshoot Cisco UCS C-Series iSCSI Boot

Module 19: Troubleshooting Cisco UCS C-Series and Cisco UCS Manager Integration

- Integrate Cisco UCS C-Series Servers with Cisco UCS Manager
- Troubleshoot FEX Discovery and VIC Issues

Module 20: Exploring the Tools and Methodologies for Troubleshooting Cisco ACI

- Troubleshoot the Fabric Discovery Process
- Traditional Troubleshooting Methods in Cisco ACI Atomic Counters, Faults, and Health Scores
- Troubleshoot Tenant-Based Policies
- Packet Flow Through Cisco ACI Fabric
- Troubleshoot AAA and RBAC

Module 21: Troubleshoot Automation and Scripting Tools

- Troubleshoot Cisco Internetwork Operating System (IOS) EEM
- Troubleshoot the Cisco NX-OS Scheduler

Module 22: Troubleshooting Programmability

- Troubleshoot Bash Shell and Guest Shell for NX-OS
- Troubleshoot Representational State Transfer (REST) API, JavaScript Object Notation (JSON), and Extensible Markup Language (XML) Encoding

LAB OUTLINE

- **Lab 1: Document the Network Baseline**
- **Lab 2: Troubleshoot Rapid PVST+**
- **Lab 3: Troubleshoot LACP**
- **Lab 4: Troubleshoot vPC**
- **Lab 5: Troubleshoot VXLAN**
- **Lab 6: Troubleshoot OSPF**
- **Lab 7: Troubleshoot FHRP**
- **Lab 8: Troubleshoot Cisco Fabric Services**

- **Lab 9: Troubleshoot VRF**
- **Lab 10: Troubleshoot Cisco FEX**
- **Lab 11: Troubleshoot Fibre Channel Interfaces**
- **Lab 12: Troubleshoot Fibre Channel VSANs, Zones, and Domain Services**
- **Lab 13: Troubleshoot NPV Mode**
- **Lab 14: Troubleshoot FCoE**
- **Lab 15: Troubleshoot DCB**
- **Lab 16: Troubleshoot Cisco UCS Management and Service Profile Deployment**
- **Lab 17: Troubleshoot Cisco UCS C-Series Server LAN Connectivity**
- **Lab 18: Troubleshoot Cisco UCS C-Series Server Boot from the Fibre Channel LUN**
- **Lab 19: Troubleshoot Cisco UCS C-Series Server Management Connectivity**
- **Lab 20: Troubleshoot Cisco ACI Integration with VMware vCenter**
- **Lab 21: Troubleshoot Contracts in Cisco ACI**
- **Lab 22: Troubleshoot Cisco ACI External Layer 3 Connectivity**
- **Lab 23: Troubleshoot Cisco ACI External Layer 2 Connectivity**