

**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**

**Course Duration**

5 days

**Course Price**

$4,595.00 or 46 CLCs

**Methods of Delivery**

 Instructor Led

 Virtual ILT

 On-Site

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

**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
* Ethanalyzer, 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**