DCIT - TROUBLESHOOTING CISCO DATA CENTER INFRASTRUCTURE V7.1

Course Code: 100490

Learn to diagnose LAN, SAN, Cisco Data Center Unified Fabric, Cisco Unified Computing System and Cisco Application-Centric Infrastructure.

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 MDS switches, Cisco Nexus switches, Cisco Fabric Extenders (FEXs), Cisco UCS, Cisco ACI, and more. This course helps prepare you to take the exam, Troubleshooting Cisco Data Center Infrastructure (300-615 DCIT), which leads to CCNP Data Center and the Cisco Certified Specialist - Data Center Operations certifications.

This course is eligible for 50 Continuing Education Credits (ILT & ELT Modality).

What You'll Learn

This course 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

After taking this course, you should be able to:

- Describe how to troubleshoot the data center network
- Describe the troubleshooting tools and methodologies that are available from the CLI and 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; port channels and virtual port channels; OTV; and VXLAN
- Describe troubleshooting of routing protocols such as OSPF, EIGRP, and PIM.
- 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, and in NPV mode
- Identify and resolve issues that are related to FIP and FCoE, including 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 troubleshoot related issues
- Describe Cisco UCS B-Series Blade Server operation and troubleshoot related issues
- Describe LAN, SAN, and Fibre Channel operations, including in-depth troubleshooting procedures
- Describe Cisco 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 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, scripting tools, and programmability

Who Needs to Attend

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

Prerequisites

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

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CLASSROOM LIVE	$4,495 USD	5 Day

Classroom Live Outline

- Describing the Troubleshooting Process
  - Troubleshooting Overview
  - Narrow Down the Cause of the Problem
- Understanding CLI Troubleshooting Tools
  - Ping, Pong, and Traceroute
  - Debugging, Event History, and System Monitoring
  - SPAN and Encapsulated Remote SPAN
  - Ethanalyzer and Data Plane Sampling Capture
  - Logging
  - Cisco Generic Online Diagnostics
  - SNMP, Cisco EEM, and RMON
- Troubleshooting VLANs and PVLANs
  - Troubleshoot VTP
  - Troubleshoot Layer 2 Issues
  - VLANs and SVIs on Cisco Nexus Series Switches
  - Troubleshoot VLANs, PVLANs, and SVIs
  - Troubleshoot Rapid PVST+
- Troubleshooting Port Channels and Virtual Port Channels
  - Port Channel Overview
  - vPC Overview
  - Common vPC Issues
- Troubleshooting Cisco OTV
  - Cisco OTV Features
  - Common Cisco OTV Issues
  - Cisco OTV Troubleshooting
  - HSRP Isolation Between Data Centers Using Cisco OTV
- Troubleshooting VXLAN

- VXLAN Overlay Features
- VXLAN MP-BGP Ethernet VPN
- Common VXLAN Issues
- VXLAN Troubleshooting

- Troubleshooting Routing and High-Availability Protocols
  - Troubleshoot Basic Routing Issues
  - Troubleshoot OSPFv2 and OSPFv3
  - Troubleshoot EIGRP
  - Troubleshoot PIM
  - Troubleshoot FHRP
  - Troubleshoot Data Center LAN Security
  - Troubleshoot AAA and RBAC
  - Troubleshoot First-Hop Security
  - Troubleshoot CoPP
  - Troubleshoot ACLs
- Troubleshooting Platform-Specific Issues
  - Cisco Fabric Services Overview
  - Troubleshoot Cisco Fabric Services
  - Configure and Troubleshoot Configuration Profiles
  - Common VDC Issues
  - Troubleshoot VDC
  - Troubleshoot VRF
  - Cisco FEX Troubleshooting
  - Troubleshoot Cisco ISSU
- Troubleshooting Fibre Channel Interfaces
  - Fibre Channel Overview
  - Troubleshoot Fibre Channel Interfaces and Device Registration
  - Troubleshoot SAN Port Channels
  - Troubleshoot Port Security and Fabric Binding
- Troubleshooting Fibre Channel Fabric Services
  - Troubleshoot VSANs
  - Troubleshoot Fibre Channel Domain and Name Services
  - Troubleshoot Zoning and Fabric Merges
  - Troubleshoot Cisco Fabric Services
- Troubleshooting NPV Mode
  - NPIV and NPV Overview
  - Troubleshoot NPV Mode
  - Troubleshooting FCoE
  - FCoE and FIP Overview
  - Troubleshoot FIP
  - Troubleshoot FCoE- and QoS-Related Issues
  - Troubleshoot DCB
- 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
- Troubleshooting Cisco UCS Configuration
    - Stateless Computing
    - Troubleshoot Service Profile Association Issues
    - Cisco UCS Manageability
    - Troubleshoot Authentication Failures
- Troubleshooting Cisco UCS B-Series Servers
    - Troubleshoot Cisco UCS B-Series Server Boot
    - Troubleshoot Operating System Drivers
    - Troubleshoot Remote Access
    - Troubleshoot Server Hardware
- 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
- Troubleshooting Cisco UCS C-Series Servers
    - Troubleshoot Cisco UCS C-Series Initialization and Cisco IMC
    - Troubleshoot Cisco UCS C-Series Hardware and Firmware
    - 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 LUN
    - Troubleshoot Cisco UCS C-Series iSCSI Boot
- 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
- 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

- Troubleshoot Automation and Scripting Tools
  - Troubleshoot Cisco IOS EEM
  - Troubleshoot the Cisco NX-OS Scheduler
- Troubleshooting Programmability
  - Troubleshoot Bash Shell and Guest Shell for NX-OS
  - Troubleshoot REST API, JSON, and XML Encodings

Classroom Live Labs

- Document the Network Baseline
- Troubleshoot Rapid PVST+
- Troubleshoot LACP
- Troubleshoot vPC
- Troubleshoot OTV
- Troubleshoot VXLAN
- Troubleshoot OSPF
- Troubleshoot FHRP
- Troubleshoot Cisco Fabric Services
- Troubleshoot VRF
- Troubleshoot Cisco FEX
- Troubleshoot Fibre Channel Interfaces
- Troubleshoot Fibre Channel VSANs, Zones, and Domain Services
- Troubleshoot NPV Mode
- Troubleshoot FCoE
- Troubleshoot DCB
- Troubleshoot Cisco UCS Management and Service Profile Deployment
- Troubleshoot Cisco UCS C-Series Server LAN Connectivity
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- Troubleshoot Cisco UCS C-Series Server iSCSI Boot
- Troubleshoot Cisco UCS C-Series Server Management Connectivity
- Troubleshoot Bare-Metal Hosts Connectivity Through Cisco ACI
- Troubleshoot Cisco ACI Integration with VMware vCenter
- Troubleshoot Contracts in Cisco ACI
- Troubleshoot Cisco ACI External Layer 3 Connectivity
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Nov 10 - 14, 2025 | 8:30 AM - 4:30 PM EST

Jan 5 - 9, 2026 | 8:30 AM - 4:30 PM EST

Mar 9 - 13, 2026 | 8:30 AM - 4:30 PM EDT

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ON-DEMAND	$1,500 USD

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Course Code: 100490

PRIVATE GROUP TRAINING	5 Day

Visit us at www.globalknowledge.com or call us at 1-866-716-6688.

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