

Troubleshooting Cisco Data Center Infrastructure (DCIT) 6.2

✓ Prerequisites

It is recommended that a learner should have attended the following classes or obtained an equivalent level of knowledge before attending this course:

- Configure, secure, and maintain LAN and SAN based on Cisco Nexus and MDS switches
- Configure, secure, and maintain Cisco UCS
- Configure, secure, and maintain Cisco ACI
- Introducing Cisco Data Center Networking (DCICN) v6.0 or higher
- Introducing Cisco Data Center Technologies (DCICT) v6.0 or higher
- Implementing Cisco Data Center Infrastructure (DCII) v6.0 or higher
- Implementing Cisco Data Center Virtualization and Automation (DCVAI) v6.0 or higher
- Implementing Cisco Data Center Unified Computing (DCUCI) v6.0 or higher

Course Content & Objectives

The Troubleshooting Cisco Data Center Infrastructure (DCIT) v6.2 course helps you prepare for the Cisco CCNP® Data Center certification and for professional-level data center roles. In this course, you will master the professional-level skills and technologies needed to configure and troubleshoot Cisco® data center infrastructure, including LAN and SAN protocols, network virtualization, Cisco Application Centric Infrastructure (Cisco ACI™), and compute platforms.

IT professionals with Cisco CCNP Data Center training and certification are uniquely qualified for professional-level or higher roles in enterprise-class data center environments. The Cisco CCNP certification equips you with skills in a broad range of technologies and industry best practices to help you succeed in these in-demand roles.

This course will help you:

- Identify, troubleshoot, and fix problems in Cisco data center infrastructure, including issues with networking, compute, virtualization, storage, and security
- Master the practical and theoretical knowledge necessary to troubleshoot LANs, SANs, Cisco Unified Fabric, Cisco Unified Computing System™ (Cisco UCS™), and Cisco ACI

- Prepare for the Cisco CCNP Data Center certification through a combination of lessons and practice that enables you to validate your skills
- Qualify for professional-level job roles in the high-demand area of enterprise-class data center environments
- Outline the troubleshooting process and highlight which questions to ask
- Describe 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 related to VLANs and private VLANs, port channels and virtual port channels, Cisco FabricPath, Overlay Transport Virtualization (OTV), Virtual Extensible LAN (VXLAN), and Locator/ID Separation Protocol (LISP)
- Describe troubleshooting routing protocols such as Open Shortest Path First (OSPF), Intermediate System to Intermediate System (IS-IS), and Protocol Independent Multicast (PIM)
- Describe troubleshooting Authentication, Authorization, and Accounting (AAA) and Role-Based Access Control (RBAC)
- Identify and resolve issues related to a single device
- Identify and resolve issues related to Fibre Channel interface operation
- Identify and resolve issues related to Fibre Channel switching when the Cisco NX-OS software switch is in switched mode
- Identify and resolve issues related to Fibre Channel switching when the Cisco NX-OS software is in N-Port Virtualization (NPV) mode
- Identify and resolve issues related to FCoE Initialization Protocol (FIP) and Fibre Channel over Ethernet (FCoE), including FCoE performance
- Describe the Cisco UCS architecture, initial setup, tools, and service aids that are available for Cisco UCS troubleshooting and output interpretation
- Describe Cisco UCS configuration and troubleshoot related issues
- Describe Cisco UCS B-Series operation and troubleshoot related issues
- Describe LAN, SAN, and Fibre Channel operations, including in-depth troubleshooting procedures
- Describe Cisco Integrated Management Controller (IMC) utilities to validate performance and facilitate data-gathering activities for Cisco UCS C-Series troubleshooting, as well as troubleshooting hardware and firmware failures
- Define proper procedures to configure LAN and SAN connectivity and avoid issues with the P81E Virtual Interface Card (VIC)
- Troubleshoot integration of Cisco UCS C-Series servers with Cisco UCS Manager
- Identify tools, protocols, and methods to troubleshoot Cisco ACI

Course Outline

- Troubleshooting the Data Center LAN Network
 - Overview of the Troubleshooting Process
 - Understanding CLI Troubleshooting Tools
 - Troubleshooting VLANs and Private VLANs
 - Troubleshooting Port Channels and Virtual Port Channels
 - Troubleshooting Cisco FabricPath
 - Troubleshooting Cisco OTV
 - Troubleshooting VXLAN
 - Troubleshooting LISP
 - Troubleshooting Routing Protocols
 - Troubleshooting Data Center LAN Security
 - Troubleshooting Platform-Specific Issues
- Troubleshooting Data Center SAN
 - Troubleshooting Fibre Channel Interfaces
 - Troubleshooting Fibre Channel Fabric Services
 - Troubleshooting NPV Mode
 - Troubleshooting FCoE
- Troubleshooting Data Center Unified Computing
 - Troubleshooting Cisco UCS Architecture and Initialization
 - Troubleshooting Cisco UCS Configuration
 - Troubleshooting Cisco UCS B-Series Servers
 - Troubleshooting Cisco UCS B-Series LAN and SAN Connectivity
 - Troubleshooting Cisco UCS C-Series Servers
 - Troubleshooting Cisco UCS C-Series LAN and SAN Connectivity
 - Troubleshooting Cisco UCS C-Series and Cisco UCS Manager Integration
- Troubleshooting Data Center ACI
 - Exploring the Tools and Methodology of Troubleshooting Cisco ACI

Lab outline

- Document the Network Baseline
- Troubleshoot LAN—RSTP
- Troubleshoot LAN—LACP
- Troubleshoot LAN—vPC
- Troubleshoot LAN—FabricPath
- Troubleshoot LAN—OTV
- Troubleshoot LAN—VXLAN

- Troubleshoot LAN—OSPF
- Troubleshoot LAN—FHRP
- Troubleshoot LAN—CFS
- Troubleshoot LAN—VRF
- Troubleshoot LAN—FEX
- Troubleshoot SAN—Fibre Channel Interfaces
- Troubleshoot SAN—Fibre Channel VSANs, Zones, and Domain Services
- Troubleshoot SAN—NPV Mode
- Troubleshoot SAN—FCoE
- Troubleshoot SAN—DCB
- Troubleshoot Compute—Cisco UCS Management and Service Profile Deployment
- Troubleshoot Compute—Cisco UCS Integrated C-Series Server Boot from SAN
- Troubleshoot Compute—LAN Connectivity, Part 1
- Troubleshoot Compute—LAN Connectivity, Part 2
- Troubleshoot Compute—Cisco UCS C-Series Server Boot from SAN
- Troubleshoot Compute—Network Connectivity
- Troubleshoot Cisco ACI—Bare-Metal Hosts
- Troubleshoot Cisco ACI—VMM
- Troubleshoot Cisco ACI—Contracts
- Troubleshoot Cisco ACI—External Layer 3
- Troubleshoot Cisco ACI—External Layer 2

Who Should Attend

- Channel Partners
- Customers
- Employees
- Entry-level to experienced Network Administrator
- Senior Network Engineer
- Presales Engineer
- Design Engineer

- Data Center Administrator
- Senior Systems Engineer
- Senior Technical Solutions Architect