

DCIT

Cisco Network Certification



Troubleshooting Cisco Data Center Infrastructure v6.0

Duration

5 days

Prerequisites

The knowledge and skills that a learner must have before attending this course are:

- Introducing Cisco Data Center Networking (DCICN) v6.0
- Introducing Cisco Data Center Technologies (DCICT) v6.0
- Implementing Cisco Data Center Infrastructure (DCII) v6.0
- Implementing Cisco Data Center Virtualization and Automation (DCVAI) v6.0
- Implementing Cisco Data Center Unified Computing (DCUCI) v6.0

Who Should Attend

This course is targeted for:

- Learners who are preparing for Cisco CCNP Data Center certification and those in professional-level data center roles.

Benefits Realized

Upon completing this course, the learner will be able to:

- Troubleshoot Layer 2 technologies, such as STP, port channels, vPC, Cisco FabricPath, and FEX
- Troubleshoot first-hop redundancy, routing, and CFS in the data center
- Troubleshoot virtualization solutions, such as OTV, VRF, and VXLAN
- Troubleshoot storage area networks, including Fibre Channel, FCoE, zoning, NPV, and NPIV
- Troubleshoot data center unified computing

Course Content

This instructor-led course is designed to help learners prepare for the Cisco CCNP® Data Center certification and for professional-level data center roles. The focus of this skills-building course is troubleshooting of LAN, SAN, Cisco Data Center Unified Fabric, Cisco Unified Computing System (UCS), and Cisco Application Centric Infrastructure (ACI). The course provides rich, hands-on experience in resolving problems on Cisco MDS switches, Cisco Nexus switches, Cisco fabric extenders (FEXs), Cisco UCS, and Cisco ACI.

Course Outline

- **Module 1: 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 Platform-Specific Issues

- **Module 2: Troubleshooting Data Center SAN**

- Troubleshooting Fibre Channel Interfaces
- Troubleshooting Fibre Channel Fabric Service
- Troubleshooting NPV Mode
- Troubleshooting FCoE
- Troubleshooting DCBX

- **Module 3: Troubleshooting Data Center Unified Computing**

- Troubleshooting Cisco UCS B-Series Architecture and Initialization
- Troubleshooting Cisco UCS B-Series Configuration
- Troubleshooting Cisco UCS B-Series Operation
- Troubleshooting Cisco UCS B-Series LAN and SAN Connectivity
- Troubleshooting Cisco UCS B-Series Hardware
- Troubleshooting Cisco UCS C-Series Architecture and Configuration
- Troubleshooting Cisco UCS C-Series Hardware and Firmware
- Troubleshooting Cisco UCS C-Series LAN and SAN Connectivity
- Troubleshooting Cisco UCS C-Series and UCS Manager Integration

- **Module 4: Troubleshooting Data Center ACI**

- Exploring the Tools and Methodology of Troubleshooting

- **Labs**

- Lab 1-1: Document the Network Baseline
- Lab 1-2: Troubleshoot LAN—RSTP
- Lab 1-3: Troubleshoot LAN—LACP
- Lab 1-4: Troubleshoot LAN—Vpc
- Lab 1-5: Troubleshoot LAN—FabricPath
- Lab 1-6: Troubleshoot LAN—OTV
- Lab 1-7: Troubleshoot LAN—OSPF
- Lab 1-8: Troubleshoot LAN—FHRP

- Lab 1-9: Troubleshoot LAN—VRF
- Lab 1-10: Troubleshoot LAN—VXLAN
- Lab 1-11: Troubleshoot LAN—CFS
- Lab 1-12: Troubleshoot LAN—FEX

- Lab 2-1: Troubleshoot SAN—FC Interfaces
- Lab 2-2: Troubleshoot SAN—FC VSANs, Zones, and Domain Services
- Lab 2-3: Troubleshoot SAN—NPV Mode
- Lab 2-4: Troubleshoot SAN—FCoE
- Lab 2-5: Troubleshoot SAN—DCB

- Lab 3-1: Troubleshoot Compute—Cisco UCS Management and Service Profile Deployment
- Lab 3-2: Troubleshoot Compute—Cisco UCS B-Series Server Boot from SAN
- Lab 3-3: Troubleshoot Compute—LAN Connectivity, Part 1
- Lab 3-4: Troubleshoot Compute—LAN Connectivity, Part 2
- Lab 3-5: Troubleshoot Compute—Failover Connectivity, Part 1
- Lab 3-6: Troubleshoot Compute—Failover Connectivity, Part 2
- Lab 3-7: Troubleshoot Compute—Cisco UCS C-Series Server Boot from SAN
- Lab 3-8: Troubleshoot Compute—Network Connectivity

- Lab 4-1: Troubleshoot ACI—Bare Metal Hosts
- Lab 4-2: Troubleshoot ACI—VMM
- Lab 4-3: Troubleshoot ACI—Contracts
- Lab 4-4: Troubleshoot ACI—External Layer 3
- Lab 4-5: Troubleshoot ACI—External Layer 2

