

Course Training

Troubleshooting Cisco Data Center Infrastructure [DCIT] [300-615]

Course Content

The Troubleshooting Cisco Data Center Infrastructure (DCIT) training 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

Course Objectives

After taking this training, you should be able to:

- Describe how to troubleshoot the data center network, troubleshooting tools and methodologies available from the Command-Line Interface (CLI) that are used to identify and resolve issues in a Cisco data center network architecture
- Identify and resolve issues that are related to: Virtual LANs (VLANs) and private VLANs (PVLANS); port channels and virtual port channels; Overlay Transport Virtualization (OTV); and Virtual Extensible LAN (VXLAN)
- Describe troubleshooting of routing protocols such as Open Shortest Path First (OSPF), Enhanced Interior Gateway Routing Protocol (EIGRP), Protocol-Independent Multicast (PIM), and 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 N-Port Virtualization (NPV) mode
- Identify and resolve issues that are related to Fibre Channel over Ethernet (FCoE) and FCoE Initialization Protocol (FIP), 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, 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 Integrated Management Controller (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, troubleshooting connectivity issues and 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

Course Prerequisite

- To fully benefit from this training, 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

The following Cisco trainings may help you meet these prerequisites:

- Implementing and Administering Cisco Networking Technologies (CCNA®)
- Understanding Cisco Data Center Foundations (DCFNDU)
- Implementing and Operating Cisco Data Center Core Technologies (DCCOR)
- Introducing Cisco NX-OS Switches and Fabrics in the Data Center (DCINX)
- Configuring Cisco NX-OS Switches and Fabrics in the Data Center (DCCNX)
- Introducing Cisco Unified Computing System (DCIUCS)
- Configuring Cisco Unified Computing System (DCCUCS)

Who should attend

- 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 Outline

- Designing Enterprise Connectivity

- Designing an Enterprise Network with BGP Internet Connectivity
- Designing an Enterprise Campus LAN
- Designing Resilient Enterprise WAN
- Designing QoS in an Enterprise Network
- Designing an Enterprise IPv6 NetworkDescribe the system wide parameters for setting up a Cisco UCS domain
- Describe role-based access control (RBAC) and integration with directory servers to control access rights on Cisco UCS Manager
- Describe the pools that may be used in service profiles or service profile templates on Cisco UCS Manager
- Describe the different policies in the service profile
- Describe the Ethernet and Fibre Channel interface policies and additional network technologies
- Describe the advantages of templates and the difference between initial and updated templates
- Describe data center automation tools