

Course Code DCIT
Duration 5 days

Overview

Troubleshooting Cisco Data Center Infrastructure is a skills-building course focused on the 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.

The course is designed to help students prepare for Cisco CCNP Data Center certification and for professional-level data center roles.

Virtual and Classroom learning - V&C Select™

V&C Select™ is a simple concept and a flexible approach to delivery. You can 'select' a course from our public schedule and attend in person or as a virtual delegate. Virtual delegates do not travel to this course, we will send you all the information you need before the start of the course and you can test the logins.

Audience

Engineers involved in the troubleshooting of LAN, SAN, Cisco Data Center Unified Fabric, Cisco Unified Computing System (UCS) and Cisco Application Centric Infrastructure (ACI).

Learning Objectives

By actively participating in this course, you will learn about the following:

- ▶ Outlining the troubleshooting process and highlighting which questions to ask.
- ▶ Describing 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.
- ▶ Identifying and resolving issues related to VLANs and PVLANS.
- ▶ Identifying and resolving issues related to port channels and virtual port channels.
- ▶ Identifying and resolving issues related to Cisco FabricPath.
- ▶ Identifying and resolving issues related to OTV.
- ▶ Identifying and resolving issues related to VXLAN.
- ▶ Identifying and resolving issues related to LISP.
- ▶ Describing troubleshooting of routing protocols, such as OSPF, ISIS, and PIM.
- ▶ Describing troubleshooting of the AAA and RBAC.
- ▶ Identifying and resolving issues related to a single device.
- ▶ Identifying and resolving issues related to Fibre Channel interface operation.
- ▶ Identifying and resolving issues related to Fibre Channel switching when the Cisco NX-OS software switch is used in switched mode (vs. NPV mode).
- ▶ Identifying and resolving issues related to Fibre Channel switching when the NX-OS switch is used in N Port Virtualization (NPV) mode.
- ▶ Identifying and resolving issues related to FIP and FCoE, including FCoE performance.
- ▶ Describing Cisco UCS architecture, initial setup, tools and service aids that are available for Cisco UCS troubleshooting and interpretation of the output.
- ▶ Describing Cisco UCS configuration and troubleshoot related issues.
- ▶ Describing Cisco UCS B-Series operation and troubleshoot related issues.
- ▶ Describing LAN, SAN and Fibre Channel operations, including in depth troubleshooting procedures.



- ▶ Describing Cisco IMC utilities to validate performance and facilitate data-gathering activities for Cisco UCS C-Series troubleshooting, as well troubleshooting approach to hardware and firmware failures.
 - ▶ Defining proper procedures to configure LAN and SAN connectivity and avoid issues with the P81E virtual interface card (VIC).
 - ▶ Troubleshooting integration of Cisco UCS C-Series servers with Cisco UCS Manager.
 - ▶ Identifying tools, protocols and methods to effectively troubleshoot Cisco ACI.
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Pre-Requisites

Attended courses of has existing equivalent knowledge of:

- ▶ DCICN - Introducing Cisco Data Center Networking
- ▶ DCICT - Introducing Cisco Data Center Technologies
- ▶ DCII - Implementing Cisco Data Center Infrastructure
- ▶ DCVAI - Implementing Cisco Data Center Virtualization and Automation
- ▶ DCUCI - Implementing Cisco Data Center Unified Computing

Recommended courses:

- ▶ CCNA - Implementing and Administering Cisco Solutions
 - ▶ DCFNDU - Understanding Cisco Data Center Foundations
 - ▶ DCCOR - Implementing and Operating Cisco Data Center Core Technologies
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Course Contents

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 Service
- ▶ 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



Labs

- ▶ Document the Network Baseline
- ▶ Troubleshoot LAN-RSTP
- ▶ Troubleshoot LAN-LACP
- ▶ Learning Lab: Troubleshoot LAN-vPC
- ▶ Troubleshoot LAN-FabricPath
- ▶ Troubleshoot LAN-OTV
- ▶ Troubleshoot LAN-OSPF
- ▶ Troubleshoot LAN-FHRP
- ▶ Troubleshoot LAN-VRF
- ▶ Troubleshoot LAN-VXLAN
- ▶ Troubleshoot LAN-CFS
- ▶ Troubleshoot LAN-FEX
- ▶ Troubleshoot SAN-FC Interfaces
- ▶ Troubleshoot SAN-FC 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 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 ACI-Bare Metal Hosts
- ▶ Troubleshoot ACI-VMM
- ▶ Troubleshoot ACI-Contracts
- ▶ Troubleshoot ACI-External Layer 3
- ▶ Troubleshoot ACI-External Layer 2

Exam Details

This course leads to the 300-180 Troubleshooting Cisco Data Center Infrastructure (DCIT) exam; this is one of the four exams required to earn the Cisco CCNP Data Centre certification. Other exams required:

- ▶ Implementing Cisco Data Center Unified Computing (DCUCI)
- ▶ Implementing Cisco Data Center Infrastructure (DCII)
- ▶ Implementing Cisco Data Center Virtualization and Automation (DCVAI)

Further Information

For more information or to book this course, please contact our Course Enquiries Team on **01752 227330** (Option 2) or email us at enquiries@skilltec.co.uk.