

The training provides you with knowledge and skills for troubleshooting LANs, SANs, Cisco Unified Fabric, Cisco Unified Computing System (Cisco UCS) and Cisco Application-Centric Infrastructure (Cisco ACI). You will learn methods and tools to identify and troubleshoot problems that can occur in data center network architecture. You will perform extensive hands-on exercises in solving problems with Cisco Multilayer Director Switch (MDS) switches, Cisco Nexus switches, Cisco Fabric Extenders (FEXs), Cisco UCS, Cisco ACI and more.

Course Contents

- 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
- Identify and resolve issues that are related to port channels and virtual port channels
- Identify and resolve issues that are related to VXLAN
- Describe troubleshooting of routing and high-availability protocols
- 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
- Identify and resolve issues that are related to Fibre Channel switching when a Cisco NX-OS switch is used 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 troubleshooting
- Describe Cisco UCS B-Series Blade Server operation and troubleshoot related issues
- Describe Cisco UCS B-Series 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 Cisco UCS C-Series 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 and scripting tools
- Describe how to troubleshoot programmability
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E-Book You will receive the original course documentation from Cisco in English language as a Cisco E-Book. In the Cisco Digital Learning Version, the content of the courseware is integrated into the learning interface instead.

Target Group

This course is aimed at administrators and technicians who want to expand their knowledge of data centers with troubleshooting skills.

- Network Designer
- Network Administrator
- Network Engineer
- Systems Engineer
- Data Center Engineer
- Consulting Systems Engineer
- Technical Solutions Architect
- Cisco Integrators/Partners
- Server Administrator
- Network Manager

Prerequisites

You should have the following prior knowledge:

- Configuration, protection and maintenance of LAN and SAN based on Cisco Nexus and MDS switches
- Configuration, protection and maintenance of the Cisco Unified Computing System
- Configuration, protection and maintenance of Cisco ACIs

The following Cisco training courses can help you meet these requirements:

- Implementing and Administering Cisco Solutions (CCNA)
- Understanding Cisco Data Center Foundations (DCFNDU)
- Implementing and Operating Cisco Data Center Core Technologies (DCCOR)
- Implementing Cisco Application Centric Infrastructure (DCACI)
- Implementing Cisco NX-OS Switches and Fabrics in the Data Center (DCNX)
- Introducing Cisco Unified Computing System (DCIUCS)
- Configuring Cisco Unified Computing System (DCCUCS)

Course Target

This course prepares you for the Troubleshooting Cisco Data Center Infrastructure exam, which is part of the CCNP Data Center® certification and also leads to the Cisco Certified Specialist - Data Center Operations specialization.

Processing time

approx. 30 hours

This Course in the Web



You can find the up-to-date information and options for ordering under the following link:

www.expertech-training.com/go/DCIT

Reservation

On our Website, you can reserve a course seat for 7 days free of charge and in a non-committal manner. This can also be done by phone under +49 6074/4868-0.

Guaranteed Course Dates

To ensure reliable planning, we are continuously offering a wide range of guaranteed course dates.

Your Tailor-Made Course!

We can precisely customize this course to your project and the corresponding requirements.

Cisco Digital Learning

This course is available in the Cisco Digital Learning Library. These recently developed, multi-modal training events include HD videos moderated by lecturers with stored searchable text and subtitles, as well as exercises, labs, and explanatory text and graphics. We provide this offer to you via our myExpertech learning portal. Effective of the activation of the account, access to the courses will be granted for a duration of 6 months. In the case of packet solutions (Cisco Digital Learning Subscriptions), this time period will amount to 12 months.

Cisco Digital Learning	Prices, excl. of V.A.T.
365 Tage Freischaltung (Version 6.2)	€ 1,500

Training	Prices, excl. of V.A.T.
Classes in Germany	5 Days € 3,795
Online Training	5 Days € 3,795
Date/course venue	Course language German
14/07-18/07/25	12/01-16/01/26
14/07-18/07/25	12/01-16/01/26

Status 04/25/2025



Table of Contents

DCIT – Troubleshooting Cisco Data Center Infrastructure

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
- Ethalyzer 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
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Troubleshooting Platform-Specific Issues

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- Troubleshoot Port Security and Fabric Binding

Troubleshooting Fibre Channel Fabric Services

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Troubleshooting NPV Mode

- NPV and NPV Overview
- Troubleshoot NPV Mode

Troubleshooting FCoE

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- 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
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- 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

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- 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

Lab Outline

- Document the Network Baseline
- Troubleshoot Rapid PVST+
- Troubleshoot LACP
- Troubleshoot vPC
- Troubleshoot OTV
- Troubleshoot VXLAN
- Troubleshoot OSPF
- Troubleshoot FHRP
- Troubleshoot Cisco Fabric Services
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