DCIT (TROUBLESHOOTING CISCO DATA CENTER INFRASTRUCTURE) 7.0

Objetivo

After taking this course, you should be able to: â□¢ 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; â□¢ 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); â□¢ 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; â□¢ Identify and resolve issues that are related to a single device; â□¢ Identify and resolve issues that are related to Fibre Channel interface operation; â□¢ 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; â□¢ Identify and resolve issues that are related to Fibre Channel over Ethernet (FCoE) and FCoE Initialization Protocol (FIP), including FCoE performance; â□¢ Describe Cisco UCS architecture, initial setup, tools, and service aids that are available for Cisco UCS troubleshooting and interpretation of the output; â□¢ Describe Cisco UCS configuration, Cisco UCS B-Series Blade Server operation and troubleshoot related issues; â□¢ Describe LAN, SAN, and Fibre Channel operations, including in-depth troubleshooting procedures; â□¢ 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; â□¢ 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; â□¢ Identify the tools, protocols, and methods to effectively troubleshoot Cisco ACI; â□¢ Describe how to troubleshoot automation, scripting tools, and programmability.

PÃºblico Alvo

Professionals interested in supporting and troubleshooting Cisco Data Center Solutions. This course also helps prepare student to take the 300-615 Troubleshooting Cisco Data Center Infrastructure (DCIT) exam, which is part of the new CCNPÂ® Data Center.

PrÃ©-Requisitos

To fully benefit from this course, you should have the following knowledge and skills: â□¢ Configure, secure, and maintain LAN and SAN based on Cisco Nexus and MDS switches; â□¢ Configure, secure, and maintain Cisco Unified Computing System; â□¢ Configure, secure, and maintain Cisco ACI. For reference the following Cisco courses may help you meet these prerequisites: â□¢ Implementing and Administering Cisco Networking Technologies (CCNAÂ®); â□¢ Understanding Cisco Data Center Foundations (DCFNDU); â□¢ Implementing and Operating Cisco Data Center Core Technologies (DCCOR); â□¢ Introducing Cisco NX-OS Switches and Fabrics in the Data Center (DCINX); â□¢ Configuring Cisco NX-OS Switches and Fabrics in the Data Center (DCCNX); â□¢ Introducing Cisco Unified Computing System (DCIUCS); â□¢ Configuring Cisco Unified Computing System (DCCUCS);

Carga HorÃiria

40 horas (5 dias).

ConteÃºdo ProgramÃitico

Course Introduction
Course Outline
Course Goals & Objectives

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
Ethanalyzer 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
Troubleshoot FHRP
Troubleshoot Data Center LAN Security
Troubleshoot AAA and RBAC
Troubleshoot First-Hop Security
Troubleshoot CoPP
Troubleshoot ACLs

Troubleshooting Platform-Specific Issues
Cisco Fabric Services Overview
Troubleshoot Cisco Fabric Services
Configure and Troubleshoot Configuration Profiles
Common VDC Issues
Troubleshoot VDC
Troubleshoot VRF
Cisco FEX Troubleshooting
Troubleshoot Cisco ISSU

Troubleshooting Fibre Channel Interfaces
Fibre Channel Overview
Troubleshoot Fibre Channel Interfaces and Device Registration
Troubleshoot SAN Port Channels
Troubleshoot Port Security and Fabric Binding

Troubleshooting Fibre Channel Fabric Services
Troubleshoot VSANs
Troubleshoot Fibre Channel Domain and Name Services
Troubleshoot Zoning and Fabric Merges
Troubleshoot Cisco Fabric Services

Troubleshooting NPV Mode
NPIV and NPV Overview
Troubleshoot NPV Mode
Troubleshooting FCoE
FCoE and FIP Overview
Troubleshoot FIP
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
Troubleshoot Cisco UCS B-Series SAN Connectivity
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
Troubleshoot Cisco UCS C-Series LAN Connectivity
Troubleshoot Cisco UCS C-Series SAN Connectivity
Use SPAN to Capture Cisco UCS C-Series Server Tra?c
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
Lab 0: Document the Network Baseline
Lab 1: Troubleshoot Rapid PVST+
Lab 2: Troubleshoot LACP
Lab 3: Troubleshoot vPC
Lab 4: Troubleshoot OTV
Lab 5: Troubleshoot VXLAN
Lab 6: Troubleshoot OSPF
Lab 7: Troubleshoot FHRP
Lab 8: Troubleshoot Cisco Fabric Services
Lab 9: Troubleshoot VRF
Lab 10: Troubleshoot Cisco FEX
Lab 11: Troubleshoot Fibre Channel Interfaces
Lab 12: Troubleshoot Fibre Channel VSANs, Zones, and Domain Services
Lab 13: Troubleshoot NPV Mode
Lab 14: Troubleshoot FCoE
Lab 15: Troubleshoot DCB
Lab 16: Troubleshoot Cisco UCS Management and Service Profile Deployment
Lab 17: Troubleshoot Cisco UCS C-Series Server LAN Connectivity
Lab 18: Troubleshoot Cisco UCS C-Series Server Boot from the Fibre Channel LUN
Lab 19: Troubleshoot Cisco UCS C-Series Server iSCSI Boot
Lab 20: Troubleshoot Cisco UCS C-Series Server Management Connectivity
Lab 21: Troubleshoot Bare-Metal Hosts Connectivity Through Cisco ACI
Lab 22: Troubleshoot Cisco ACI Integration with VMware vCenter
Lab 23: Troubleshoot Contracts in Cisco ACI
Lab 24: Troubleshoot Cisco ACI External Layer 3 Connectivity
Lab 25: Troubleshoot Cisco ACI External Layer 2 Connectivity