CISC-13 - DCIT - TROUBLESHOOTING CISCO DATA CENTER INFRASTRUCTURE V7.2

Categoria: **Cisco**

INFORMAZIONI SUL CORSO

Durata:	Categoria:	Qualifica Istruttore:	Dedicato a:	Produttore:
5 Giorni	Cisco	Cisco Certified Instructor	Professionista IT	Cisco

OBIETTIVI

After completing this course you should be able to:

- Describe how to troubleshoot the data center network
- Describe the 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; and Virtual Extensible LAN (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 and in N-Port Virtualization (NPV) mode
- Identify and resolve issues that are related to Fibre Channel switching when a Cisco NX-OS switch is used in NPV mode
- 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 UCS B-Series 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 Cisco UCS C-Series LAN and SAN connectivity, avoiding issues with the VIC, troubleshooting connectivity issues
- Troubleshooting Cisco UCS C-Series server integration with Cisco UCS Manager
- Describe Cisco Intersight characteristics
- Explore the Cisco Nexus Dashboard platform
- Explain Cisco Nexus Dashboard cluster connectivity and installation procedures
- Identify the tools, protocols, and methods to effectively troubleshoot Cisco ACI
- Describe how to troubleshoot automation and programmability tools
- Understand functionality provided by the on-box tooling on the Cisco Nexus series switches and implement

simple solutions to improve daily operations

-Describe the use of Python and Ansible to leverage the NX-API to implement and verify configuration state using modern workflows

PREREQUISITI

Attendees should meet the following prerequisites:

-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

Recommended prerequisites:

-CCNA - Implementing and Administering Cisco Solutions

-DCFNDU - Understanding Cisco Data Center Foundations

-DCCOR - Implementing and Operating Cisco Data Center Core Technologies

CONTENUTI

Describing the Troubleshooting Process

-Troubleshooting Overview

-Troubleshooting Overview and Issue Identification

Understanding CLI Troubleshooting Tools

-Ping, Pong, and Traceroute

-Debugging, Event History, and System Monitoring

-SPAN and Encapsulated Remote SPAN

-Ethanalyzer, ELAM and Data Plane Sampling Capture

-Logging

-Cisco Generic Online Diagnostics

-SNMP, Cisco EEM, and RMON

Troubleshooting VLANs and PVLANs

-Troubleshooting VTP

-Troubleshooting Layer 2 Issues

-VLANs and SVIs on Cisco Nexus Series Switches

-Troubleshooting VLANs, PVLANs, and SVIs

-Troubleshooting Rapid PVST+

Troubleshooting Port Channels and Virtual Port Channels

-Port Channel Overview

-vPC Overview

-Troubleshooting vPCs

-Common vPC Issues

Troubleshooting VXLAN

-VXLAN Overlay Features

-VXLAN MP-BGP Ethernet VPN

-Common VXLAN Issues

-TroubleshootingVXLAN

Troubleshooting Routing and High-Availability Protocols

-Troubleshooting Basic Routing Issues
-Troubleshooting OSPFv2 and OSPFv3
-Troubleshooting EIGRP
-Troubleshooting PIM
-Troubleshooting FHRP

Troubleshooting Data Center LAN Security

-Troubleshooting AAA and RBAC
-Troubleshooting First-Hop Security
-Troubleshooting ACLs

Troubleshooting Platform-Specific Issues

-Cisco Fabric Services Overview
-Troubleshooting Cisco Fabric Services
-Troubleshooting Configuration Profiles
-Common VDC Issues
-Troubleshooting VDC
-Troubleshooting VRF
-Cisco FEX Troubleshooting
-Troubleshooting Cisco ISSU

Troubleshooting Fibre Channel Interfaces

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

Troubleshooting Fibre Channel Fabric Services

-Troubleshooting VSANs
-Troubleshooting Fibre Channel Domain and Name Services
-Distributed Device Aliases
-Troubleshooting Zoning and Fabric Merges
-Troubleshooting Cisco Fabric Services

Troubleshooting NPV Mode

-NPIV and NPV Overview
-Troubleshooting NPV Mode

Troubleshooting Cisco UCS Architecture and Initialization

-Troubleshooting Fabric Interconnect in Standalone and Cluster Mode
-Troubleshooting Cisco UCS Management Access
-Troubleshooting Cisco UCS Manager CLI
-Troubleshooting Cisco UCS with Embedded Tools
-Troubleshooting Cisco UCS Hardware Discovery

Troubleshooting Cisco UCS Configuration

-Stateless Computing
-Troubleshooting Service Profile Association Issues Due to Unavailable Addresses
-Cisco UCS Manageability
-Troubleshooting Authentication Failures

Troubleshooting Cisco UCS B-Series Servers

-Troubleshooting Cisco UCS B-Series Blade Servers
-Troubleshooting Firmware Upgrade and Operating System Drivers
-Troubleshooting Remote Access
-Troubleshooting Server Hardware

Troubleshooting Cisco UCS B-Series LAN and SAN Connectivity

-Troubleshooting Link-Level Issues
-Troubleshooting Connectivity Issues for Specific Servers
-Troubleshooting Intermittent Connectivity
-Troubleshooting Disjoint Layer 2 Networks
-Troubleshooting Redundant Connectivity
-Troubleshooting Cisco UCS B-Series SAN Connectivity
-Troubleshooting Directly Attached Storage
-Troubleshooting Server Boot from SAN and iSCSI
-Use SPAN for Troubleshooting
-Analyzing Packet Flow

Troubleshooting Cisco UCS C-Series Servers

-Troubleshooting Cisco UCS C-Series Initialization and Cisco IMC
-Troubleshooting Cisco UCS C-Series Hardware and Firmware

Troubleshooting Cisco UCS C-Series LAN and SAN Connectivity

-Troubleshooting the Cisco UCS C-Series VIC Module and Connectivity to Cisco IMC
-Troubleshooting Cisco UCS C-Series LAN Connectivity
-Troubleshooting Cisco UCS C-Series SAN Connectivity
-Using SPAN to Capture Cisco UCS C-Series Server Traffic
-Troubleshooting Cisco UCS C-Series iSCSI Boot

Troubleshooting Cisco UCS C-Series and Cisco UCS Manager Integration

-Integrating Cisco UCS C-Series Servers with Cisco UCS Manager
-Troubleshooting FEX Discovery and VIC Issues

Cisco Intersight Overview

-Cisco Intersight
-Cisco Intersight Architecture
-Flexible Deployment Models
-Cisco Intersight Security
-Cisco Intersight Authentication Options
-Setup Cisco Intersight SaaS Account
-Cisco Intersight Role-Based Access Control
-Connected Cisco Technical Assistance Center
-Cisco Intersight Tagging
-Cisco Intersight Dashboard, Inventory and Faults

-Firmware Management
-Hardware Compatibility List (HCL) Feature
-Best Practices for Updating Firmware using Cisco Intersight
-Cisco Intersight Managed Operating System Installation
-Context Launch and KVM

Cisco Nexus Dashboard Overview
-The Need for Day-2 Operations Tools
-Cisco Nexus Dashboard Insights Application Use Cases
-Cisco Nexus Dashboard Orchestrator Application Use Cases
-Cisco Nexus Dashboard Fabric Controller Application Use Cases
-Cisco Nexus dashboard Data Broker Application Use Cases
-Physical and Virtual Cisco Nexus Dashboard Platforms
-Cisco Nexus Dashboard Cluster Node Roles
-Deployment and Placement of Nodes Across Sites
-Cisco Nexus Dashboard One-View
-Cisco Nexus Dashboard Software Stack

Cisco Nexus Dashboard Connectivity and Installation
-Cisco Nexus Dashboard Logical Network Connectivity
-Physical Cisco Nexus Dashboard Cluster Connection
-IP Pools for Services Configuration
-Connection Mode Comparison
-Cisco Nexus Dashboard Installation Procedures
-User Interface Bootcamp
-Node Registration
-Connection to Cisco Intersight
-Onboarding Sites

Exploring theTools and Methodologies for Troubleshooting Cisco ACI
-Troubleshooting the Fabric Discovery Process
-Traditional Troubleshooting Methods in Cisco ACI
-Atomic Counters, Faults, and Health Scores
-Troubleshooting Tenant-Based Policies
-Packet Flow Through the Cisco ACI Fabric
-Troubleshoot AAA and RBAC

Troubleshooting Automation and Programmability Tools
-Troubleshooting the Cisco NX-OS Scheduler
-Troubleshooting REST API,JSON, and XML Encodings
-Cisco NX-OS Programmability

On-Box Programmability and Automation with Cisco NX-OS
-Working with Cisco NX-OS Bash
-Linux Containers and Guest Shell
-Python API
-Embedded Event Manager
-Docker Containers on Cisco NX-OS

Off-Box Programmability and Automation with Cisco NX-OS

- -NX-API Enhancement
- -Model-Driven Programmability on Cisco NX-OS
- -Ansible for Cisco NX-OS
- -Introduction to Terraform
- -Utilization of Terraform
- -Terraform for Cisco NX-OS

Labs

- -Discovery Lab 1: Document the Network Baseline
- -Discovery Lab 2: Troubleshoot Rapid PVST+
- -Discovery Lab 3: Troubleshoot LACP
- -Discovery Lab 4: Troubleshoot vPC
- -Discovery Lab 5: Troubleshoot VXLAN
- -Discovery Lab 6: Troubleshoot OSPF
- -Discovery Lab 7: Troubleshoot FHRP
- -Discovery Lab 8: Troubleshoot Cisco Fabric Services
- -Discovery Lab 9: Troubleshoot VRF
- -Discovery Lab 10: Troubleshoot Cisco Fibre Channel Interfaces
- -Discovery Lab 11: Troubleshoot Fibre Channel VSANs, Zones, and Domain Services
- -Discovery Lab 12 Troubleshoot NPV Mode
- -Discovery Lab 13: Troubleshoot Cisco UCS Management and Service Profile Deployment
- -Discovery Lab 14: Troubleshoot Cisco UCS C-Series Server LAN Connectivity
- -Discovery Lab 15: Troubleshoot Cisco UCS C-Series Server Boot from the Fibre Channel LUN
- -Discovery Lab 16: Troubleshoot Cisco UCS C-Series Server Management Connectivity
- -Discovery Lab 17: Troubleshoot Cisco ACI Integration with VMware vCenter
- -Discovery Lab 18 Troubleshoot Contracts in Cisco ACI
- -Discovery Lab 19: Troubleshoot Cisco ACI External Layer 3 Connectivity
- -Discovery Lab 20: Troubleshoot Cisco ACI External Layer 2 Connectivity

INFO

Esame: 300-615 - Troubleshooting Cisco Data Center Infrastructure
Materiale didattico: Materiale didattico ufficiale Cisco in formato digitale
Costo materiale didattico: incluso nel prezzo del corso a Calendario
Natura del corso: Operativo (previsti lab su PC)