DCNML (MANAGING LAN INFRASTRUCTURE WITH CISCO DATA CENTER NETWORK MANAGER) 1.0

Objetivo

After taking this course, you should be able to: â¢ Describe the components and functionality of DCNM; â¢ Describe the software define network protocols of VXLAN, eVPN and BGP; â¢ Deploy a DCNM environment in high-availability environment; â¢ Operate the DCNM discovery process to acquire management of all devices; â¢ List high lever navigation features of DCNM and utilize the DCNM GUI (Graphical User Interface) to optimize data center topologies; â¢ Manage and monitor data center LAN fabric from DCNM; â¢ Program RESTful APIs native to DCNM to perform any network management task; â¢ Troubleshoot and monitor the network using DCNM troubleshooting tools; â¢ Describe the benefits of DCNM Network Insights.

PÃºblico Alvo

This course is ideal for the following professionals: â¢ Data Network Engineers and Administrators â¢ Data Center Technical Managers

PrÃ©-Requisitos

Before enrolling in this course, you should have knowledge in the following areas: â¢ Understanding of Cisco routing and switching in a data center; â¢ CCNA certification recommended; â¢ Fundamentals of network management.

Carga HorÃ¡ria

24 horas (3 dias).

ConteÃºdo ProgramÃ¡tico

Course Introduction
Course Outline
Course Goals & Objectives

Introducing Cisco DCNM LAN
Cisco DCNM Introduction
Cisco DCNM LAN Solution Overview
Cisco DCNM LAN Features
End-to-End Visibility with Cisco DCNM
Cisco DCNM Simplified Configuration and Provisioning
Monitor Resources and Manage Events and Alarms

Deploying VXLAN EVPN with Cisco DCNM LAN
Describe the software define network protocols of VXLAN, EVPN and BGP
VXLAN Overlays and Underlays
Easy Fabric VXLAN EVPN Underlay Model
Configuration Policy and How It Is Used
Configuration Compliance in Cisco DCNM
Cisco DCNM to deploy Easy Fabric Virtual Port Channels
Easy Fabric Save and Deploy Diffs and Configuration Troubleshooting

Deploying Cisco DCNM
Cisco DCNM High Availability
Deployment Options Upon Installation
Cisco DCNM Installation Requirements
Install Cisco DCNM
Verify the Installation
Cisco DCNM Server Cluster
Manage Cisco DCNM Licensing
Supported Upgrade Path
POAP Preprovisioning

Discovering Existing Network Devices with Cisco DCNM
Operate the DCNM Discovery Process to Acquire Management of All Devices
Configure Switches for Discovery

Exploring the Data Center with Cisco DCNM Topology
Utilize DCNM GUI to Optimize Data Center Topologies
Access Topology View in the GUI
Navigate the Map Views and Layouts
Use the Topology Toolbar Search Function
Access Other Topology Features

Managing and Monitoring the Data Center with Cisco DCNM LAN
Manage and Monitor Data Center LAN fabric from DCNM
Manage the Configuration Archive
Deploy Changes to the Fabric
Enable Freeform Configurations on Fabric Switches
Cisco DCNM Fabric Builder VXLAN-EVPN Fabrics
Cisco DCNM MSD Fabric Creation
Deploy EBGP Peering Session from Fabric
Cisco DCNM Templates Library
Modify and Create New Cisco DCNM Templates
Border Gateway Setup as Part of MSD
Back Up and Restore Fabric Configurations
Create Programmable Reports for Auditing
Software Upgrades and Downgrades
Cisco DCNM Snapshots
Set Up Alarms and Alerts and Monitor Device and Fabric Health

Automating Cisco DCNM Programmatically
Program RESTful APIs Native to DCNM to Perform Any Network Management Task
Explore APIs for the Network
REST API Tool
REST, JSON, and Postman
Cisco DCNM REST APIs for Automation

Troubleshooting and Monitoring Cisco DCNM
Troubleshoot and Monitor the Network Using DCNM Troubleshooting Tools
Troubleshoot and Monitor Cisco DCNM

Describing Network Insights
Describe the Benefits of DCNM Network Insights
Network Insights Advisor
Network Insights Resource Analysis

Lab outline

Lab 1: Access the Lab Devices
Access lab environment and test connection to all lab devices/Topology
Task 1: Connect to Your Assigned Student Pod
Task 2: Conditional: Remote Desktop Connection

Lab 2: Explore and Test DCNM Lab Topology
Validate Basic Configuration of Spine-and-Leaf Topology
Task 1: Initial Leaf1 Configuration
Task 2: Initial Spine Configuration
Task 3: Initial Leaf2 Configuration
Task 4: Wireshark Packet Decodes in Your Pod
Task 5: NX-OS Checkpoints and Rollbacks

Lab 3: Configure NX-OS VXLAN with BGP Control Plane Using CLI
Configure Spine-and-Leaf Network: VXLAN, OSPF, and EVPN EBGP using CLI
Task 1: Configure VXLAN with a BGP Control Plane
Task 2: Configure Leaf1 for VXLAN and OSPF
Task 3: Configure Leaf2 for VXLAN and OSPF
Task 4: Enable OSPF on the Spine Router
Task 5: Configure EVPN BGP Without Route Reflectors for VXLAN Control Plane
Task 6: Verify EVPN BGP Without Route Reflectors for VXLAN Control Plane

Lab 4: Configure and Execute DCNM POAP
Task 1: Verify Cisco NX-OS Serial Numbers
Task 2: Explore the DCNM Web Interface
Task 3: Configure DCNM POAP

Lab 5: Managing the Network Using DCNM
Perform Network Configuration Changes on Leaf-and-Spine Network Using Cisco DCNM
Task 1: Explore the DCNM Inventory

Task 2: Configure Access Port with DCNM
Task 3: Configure a Routed Port with DCNM
Task 4: Configure a Trunk Port with DCNM
Task 5: Configure DCNM Challenge Task
Task 6: Enable Performance Collection
Task 7: Explore the Topology View

Lab 6: Managing the Data Center Using DCNM Templates
Perform Network Configuration Changes on Spine-and-Leaf Nexus Devices using Templates
Task 1: Explore the Template Library
Task 2: Deploy Show Templates
Task 3: Inspect Result of Easy Fabric Template Deployment
Task 4: Deploy DCNM Templates to Change Configurations on Leaf1
Task 5: Deploy Templates to Change Configurations on Leaf2 from DCNM
Task 6: Verify Full VXLAN EVPN BGP Functionality

Lab 7: Troubleshooting VXLAN with DCNM
Troubleshoot a VXLAN with BGP and Route Reflectors with a New Configuration
Task 1: Troubleshoot VXLAN in DCNM