DCNDE-10

Data Center Nexus Dashboard Essentials

40 horas | Data Center & Cloud | Cisco

INTRODUÇÃO

The Data Center Nexus Dashboard Essentials (DCNDE) v1.0 course focuses on the Cisco Nexus Dashboard platform, and the Cisco Nexus Dashboard Fabric Controller.

The first part of the course explains the Cisco Nexus Dashboard, a platform that can host several applications, including Cisco Nexus Dashboard Fabric Controller (NDFC), Nexus Dashboard Orchestrator, and Nexus Dashboard Insights.

The second part of the course focuses on NDFC (formerly known as DCNM) and its LAN Controller functionality.

The course is 5 days long and includes several remote lab activities that are running the live software solution in real time.

OBJETIVO DO CURSO

Upon completing this course you will be able to:

• Describe the Cisco Nexus Dashboard platform and the need for Day 2 Operations tools in a modern data center.

• Describe the Cisco Nexus Dashboard licensing options.

• Describe Cisco Nexus Dashboard logical network connectivity for the virtual and physical appliance, and the IP pools and routes used by various Cisco Nexus Dashboard applications.

• Describe the Nexus Dashboard GUI for operation and configuration.

• Describe the software stack of a Cisco Nexus Dashboard cluster and explain different Cisco Nexus Dashboard cluster deployment options and cluster components for scalability and high availability.

• Describe the Cisco Nexus Dashboard installation procedure including how to perform the GUI bootstrap upon installation, how to register nodes to the cluster, how to claim the ND cluster to Intersight, and how to onboard Cisco ACI and Cisco NDFC Sites.

• Describe how to perform Cisco Nexus Dashboard firmware upgrades by considering the prerequisites and guidelines, and learn how to perform a software upgrade of a physical and virtual Cisco Nexus Dashboard appliance.

• Describe application installations on Cisco Nexus Dashboard as well as list CPU and memory requirements for application-specific deployment profiles.

• Describe Cisco Nexus Dashboard roles and permissions. These include the various user roles available within the Cisco Nexus Dashboard, and the procedure of adding a user to the Cisco Nexus Dashboard and assigning roles to that user.

• Configure RADIUS, TACACS+, and LDAP authentication providers on the Cisco Nexus Dashboard platform.

• Describe how to monitor Cisco Dashboard resources, and what the available options are in the System Resources and Resource Utilization menus.

• Describe how to generate a technical support package using both GUI and CLI to submit to Cisco Technical Assistance Center (TAC), and use the CLI commands for basic application management of Cisco Nexus Dashboard.

• Add a Cisco Application Centric Infrastructure (ACI) and a Cisco NDFC site, and perform tasks, such as adding the Cisco NDFC site on the One View map.

• Explore the Cisco Nexus Dashboard web GUI, walk through all of the menus, and experience where specific tasks, such as adding sites, can be accomplished.

• Provide an overview of the Cisco Nexus Dashboard Fabric Controller application.

• Explain various available dashobards within Cisco Nexus Dashboard Fabric Controller.

• Explore the Data Center with Cisco NDFC topology views, LAN Fabric view, LAN Switches view, and credential management.

• Explain Cisco NDFC customizable templates.

• Perform firmware image management using Cisco NDFC.

• Describes license management using Cisco NDFC.

• Use the RBAC model that Nexus Dashboard provides to Cisco NDFC to assign a mix of read-only and read/write privileges to users.

• Exploring the Cisco NDFC dashboards, Topology view, LAN menu, settings, and operations; manage alarms, create reports, configure credentials, add switches, assign licenses to devices and servers.

• Create and deploy a working VXLAN fabric on your Cisco Nexus switches using Cisco NDFC.

• Installing the Cisco Nexus Dashboard cluster and Cisco NDFC.

• Discover existing network devices with Cisco NDFC.

• Deploy a VXLAN EVPN fabric with Cisco NDFC.

• Manage and monitor the data center fabric with Cisco NDFC, including: building fabrics, adding switches, creating multisite domains, configure eBGP peering, set up a border gateway, and administer fabrics.

• Describe APIs for network management via Cisco NDFC, REST architecture and Cisco NDFC REST API, and use Ansible to automate and orchestrate your network management tasks.

• Migrate from Cisco Data Cetner Network Manager (DCNM) to Cisco Nexus Dashboard Fabric Controller

• Configure and execute PowerOn Auto Provisioning (POAP) to discover new switches and add them to the fabric automatically.

• Create a VXLAN EBGP fabric on Cisco Nexus 9000 series switches. VXLAN EVPN fabrics can use underlays where routing is provided by several routing protocols: OSPF, IS-IS, and EBGP. This activity focuses on the latest example. Cisco NDFC lets you create a fabric with

EBGP underlay very quickly and easily. The overlay routing protocol in this case is also BGP, which takes care of reachability of particular endpoints in an EVPN that uses VXLAN encapsulation.

PÚBLICO-ALVO

This course is ideal for the following professionals:

• Data Network Engineers and Administrators

• Data Center Technical Managers

PRÉ-REQUISITOS

Before enrolling in this course, you should have knowledge in the following areas:

• Understanding of Cisco routing and switching in a data center.

• CCNA certification recommended.

• Fundamentals of network management.

CONTEÚDO PROGRAMÁTICO

Course Introduction

Course Outline

Course Goals & Objectives

Cisco Nexus Dashboard Platforms

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 OneView

Cisco Nexus Dashboard Licensing Options

Cisco Nexus Dashboard Licenses

Licensing the Cisco Nexus Dashboard

Cisco Nexus Dashboard Cluster Connectivity

Cisco Nexus Dashboard Logical Network Connectivity

Physical Cisco Nexus Dashboard Cluster Connection

IP Pools for Services Configuration

Connection Mode Comparison

Cisco Nexus Dashboard GUI Overview

One View

Admin Console

Sites Menu

Services Menu

System Resources Menu

Operations and Infrastructure Menus

Administrative Menu

Cisco Nexus Dashboard Software Stack

Cisco Nexus Dashboard Installation Procedures

User Interface Bootstrap

Node Registration

Connection to Cisco Intersight

Onboarding Sites

Cisco Nexus Dashboard Firmware Upgrades

Firmware Upgrade Prerequisites and Guidelines

pND Platform Upgrade

vND Platform Upgrade

Application Installation on Cisco Nexus Dashboard

Installation from the App Store

Installation Using a Downloaded Application Package

Cisco Nexus Dashboard Roles and Permissions

User Roles Configuration

Adding a Local User

Cisco Nexus Dashboard Remote Authentication

Remote Authentication Configuration

Cisco Nexus Dashboard Resource Monitoring

Introduction to Resource Monitoring

System Resources Menu

Resource Utilization Dashboards

Cisco Nexus Dashboard Tech Support and Troubleshooting

Generating a Tech Support Package

Using Basic CLI (rescue-user)

Cisco Nexus Dashboard Fabric Controller

Cisco NDFC Overview

Cisco NDFC Features

Cisco NDFC Use Cases

Cisco NDFC High Availability

Cisco NDFC Connectivity

Cisco NDFC Automation and REST APIs

Cisco Nexus Dashboard Fabric Controller Dashboards

Dashboard Overview

Endpoint Locator Dashboard

VM Dashboards

Data Center Exploration with Cisco NDFC Topology

Topology Window

LAN Fabrics

LAN Credential Management

LAN Switches

Cisco NDFC Customizable Templates

Customizable Templates

Using Templates in Cisco NDFC

Image Management Using Cisco NDFC

Image Management Overview

Upgrading Switches with New Images

License Management Using Cisco NDFC

Licensing of Cisco NDFC Fabrics

License Management in Cisco NDFC

Enhanced RBAC for Fabric Objects

Cisco NDFC Role-Based Access Control

Cisco NDFC Roles

Enhanced RBAC Use Cases

Cisco NDFC Integration with External AAA

Deploying Cisco Nexus Dashboard Fabric Controller

Cisco NDFC Form Factors

Cisco NDFC Deployment and Connectivity Options

Co-Hosting Cisco NDI and Cisco NDFC

Discovering Network Devices with Cisco NDFC

Configuring Switches for Discovery

Using Cisco NDFC to Discover Network Devices

Deploy VXLAN EVPN with Cisco NDFC

VXLAN Overlays and Underlays

Data Center VXLAN EVPN Fabric Underlay Model

Configuration Policy

Configuration Compliance

Deploy vPCs Fabric Peering

Fabric Recalculate, Deploy Diffs & Configuration Troubleshooting

Managing and Monitoring the Data Center with Cisco NDFC

Deploying Changes to the Fabric

Enabling Freeform Switch Config

Fabric Builder for VXLAN EVPN Fabrics

Adding Switches to Fabric with POAP

MSD VXLAN EVPN Fabric Creation

EBGP Peering Session from Fabric

Border Gateway Setup as Part of MSD

Backup and Restore Fabric Configurations

Create Programmable Reports

Alarms, Alerts, and Monitoring Health

Cisco Nexus Dashboard Fabric Controller REST API

Exploring APIs for Network Management

REST, JSON, and Postman

Cisco NDFC REST API

Automating Cisco NDFC with Ansible

Cisco Data Center Network Manager to Cisco NDFC Migration

Migration Guidelines and Prerequisites

Backing Up a Cisco DCNM Configuration with Upgrade Tool

Migrating a Cisco DCNM Configuration to Cisco NDFC

Post-Migration Steps

Labs

Discovery 1: Add Sites to Cisco Nexus Dashboard

Discovery 2: Explore Cisco Nexus Dashboard

Discovery 3: Explore Cisco Nexus Dashboard Fabric Controller

Discovery 4: Manage the Network with Cisco NDFC

Discovery 5: Configure and Execute Cisco NDFC POAP