



# Managing LAN Networks with Cisco Nexus Dashboard (MNDFC)

## COURSE OVERVIEW

This 5-day class on Nexus Dashboard covers data center and campus operations with VXLAN and EVPN, then dives into Nexus Dashboard Fabric Controller (NDFC) to deploy and manage VXLAN and EVPN.

## WHO WILL BENEFIT FROM THIS COURSE?

The primary audience for this course is as follows:

- Systems Architects
- Systems Engineers
- Systems Administrators
- Technical Decision Makers
- Channel Partners

## PREREQUISITES

The knowledge and skills that a learner should have before attending this course are as follows:

- Familiarity with Cisco Ethernet switching products
- Understanding of routing protocols
- Understanding of Cisco Data Center architecture

## COURSE OBJECTIVES

Upon completing this course, the learner will be able to meet these overall objectives:

- Understand, configure and troubleshoot VXLAN with EVPN
- Operate and Configure Nexus Dashboard
- Install and Operate Nexus Dashboard Apps
- Configure Nexus Fabric Controller
- Explore Fabric Telemetry with Nexus Insights
- Explore Nexus Dashboard APIs

## COURSE OUTLINE

Module 1: VXLAN EVPN with MP-BGP

- Spine and Leaf Fabric
- VXLAN as an Overlay
- BGP, OSPF and IS-IS
- EVPN MP-BGP
- Multicast Control Plane



- BGP Control Plane
- Distributed IP Anycast-Gateway
- Forwarding with Dual-Homed Endpoint (vPC)
- Inter-Subnet Forwarding (Routing)
- Non-IP Forwarding (Bridging)
- Cisco VXLAN QoS Configuration
- Multitenancy
- External Fabrics
- Troubleshooting Commands

#### Module 2: Nexus Dashboard Overview

- Introduction to Cisco Nexus Dashboard
- Introduction to Nexus Dashboard Architecture
- Nexus Dashboard Federation/SPOG
- Nexus Dashboard Installation, Configuration, and Deployment
- Cisco Nexus Dashboard Orchestrator

#### Module 3: Nexus Dashboard Fabric Controller (NDFC)

- Introduction to NDFC
- DCNM Migration to Nexus Dashboard
- Cisco NDFC LAN Solution Overview

#### Module 4: Discovering Existing Network Devices with Cisco NDFC

- Configure Switches for Discovery

#### Module 5: Nexus Dashboard for Multi-Site

- NDFC Multi-Site Architecture
- NDFC VRF Management

#### Module 6: Managing and Monitoring the Data Center with Cisco NDFC

- Access Topology View
- Navigate the Map Views and Layout
- Deploy Changes to the Fabric

#### Module 7: Nexus Dashboard Fabric Controller Templates

- NDFC Templates
- Configuration Changes with Templates

#### Module 8: Nexus Dashboard Insights

- Introduction to Nexus Dashboard Insights
- GUI Overview
- Insight Explorer
- Connectivity Analysis Tool for NX-OS Based Fabrics
- Insight Resource Browser/Bug Advisory
- Flow Telemetry
- Delta Analysis
- Firmware Update Analysis
- Licensing



#### Module 9: Nexus Dashboard Integrations

- Nexus Dashboard API
- Splunk Integration
- AppDynamics (AppD) Integration
- ServiceNow Integration
- NDFC SAN

#### Module 10: Accessing Nexus Dashboard Programmatically

- RESTful API
- JSON
- REST API Tools
- Python Programming Fundamentals
- Python Programming with RESTful API to Nexus Dashboard

#### Module 11: Nexus Dashboard Troubleshooting

- NDFC Backup and Restore
- NDFC Alarms
- Fabric Troubleshooting Tools
- NDFC Command Execution

#### Lab Outline:

Labs are designed to assure learners a whole practical experience, through the following practical activities:

- Discovery Lab 0: Access the NterOne Lab Devices
- Discovery Lab 1: Explore and Test the Nexus and Catalyst Lab Topology
- Discovery Lab 2: Configure NX-OS VXLAN with Multicast Control Plane Using CLI
- Discovery Lab 3: Configure EVPN BGP with Unicast Forwarding
- Discovery Lab 4: Configure EVPN BGP with Multicast Routing
- Discovery Lab 5: Configure EVPN BGP with Route Reflectors
- Discovery Lab 6: Configuring VXLAN Routing
- Discovery Lab 7: Adding an External Router
- Discovery Lab 8: Troubleshoot VXLAN with EVPN and BGP in the CLI
- Discovery Lab 9: Nexus Dashboard Admin Console
- Discovery Lab 10: Introduction to Nexus Dashboard Fabric Controller (NDFC)
- Discovery Lab 11: NDFC Bootstrap New NX-OS Data Center Fabric
- Discovery Lab 12: Nexus Dashboard Fabric Controller Templates
- Discovery Lab 13: Nexus Dashboard External Fabric with IOS XE
- Discovery Lab 14: NDFC Multi-Site Configuration with Multisite Domain (MSD) Template
- Discovery Lab 15: Managing and Monitoring the Network Using NDFC
- Discovery Lab 16: Nexus Dashboard Role-Based Access Control (RBAC)
- Discovery Lab 17: Nexus Dashboard and NDFC RESTful API
- Discovery Lab 18: Python Programming to Nexus Dashboard and NDFC

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