



# VMware NSX-T Data Center: Install, Configure, Manage [V3]

**Course 4474 – 40 Hours**

## Overview

This five-day, fast-paced course provides comprehensive training on how to install, configure, and manage a VMware NSX-T™ Data Center environment. This course covers key NSX-T Data Center features and functionality offered in the NSX-T Data Center 3.0 release, including the overall infrastructure, logical switching, logical routing, networking and security services, micro-segmentation and firewalls, and more.

## On Completion, Delegates will be able to

- Describe VMware Virtual Cloud Network and the NSX-T Data Center architecture
- Describe the NSX-T Data Center components and main functions
- Explain the NSX-T Data Center key features and benefits
- Deploy and configure NSX-T Data Center infrastructure
- Configure layer 2 logical switching and bridging
- Explain the tiered routing architecture and configure gateways
- Configure advanced services such as VPN and load balancing
- Describe the NSX-T Data Center security model with micro-segmentation
- Configure Distributed Firewall and Gateway Firewall to protect east-west and north-south traffic
- Explain advanced security enforcement with URL analysis, IDS, and partner service insertion
- Integrate VMware Identity Manager™ or LDAP with NSX-T Data Center and configure role-based access control
- Describe NSX-T Data Center Federation use-cases and architecture for switching, routing, and security.

## Who Should Attend

- Experienced system administrators or network administrators

## Prerequisites

- Good understanding of TCP/IP services
- Working experience of enterprise switching and routing
- Good understanding of network security and working experience with firewalls
- Solid understanding of concepts presented in the following courses:
  - [VMware Data Center Virtualization Fundamentals](#)
  - [VMware Introduction to Network Virtualization with NSX](#)
  - [VMware Network Virtualization Fundamentals](#)



## Course Contents

- 1 Course Introduction**
  - Introductions and course logistics
  - Course objectives
- 2 VMware Virtual Cloud Network and NSX-T Data Center**
  - Introduce VMware's Virtual Cloud Network vision
  - Discuss NSX-T Data Center solutions, use cases, and benefits
  - Explain NSX-T Data Center architecture and components
  - Describe VMware NSX® product portfolio and features
  - Explain the management, control, data, and consumption planes and function
- 3 Deployment Preparing the NSX-T Data Center Infrastructure**
  - Describe NSX Management Cluster
  - Deploy VMware NSX® Manager™ nodes on VMware ESXi and KVM hypervisors
  - Navigate through the NSX Manager UI
  - Explain data-plane components such as N-VDS, transport nodes, transport zones, profiles, and more
  - Perform transport node preparation and establish the data center infrastructure
  - Verify transport node status and connectivity
- 4 NSX-T Data Center Logical Switching**
  - Introduce key components and terminology in logical switching
  - Describe the function and types of L2 segments
  - Explain tunneling and the GENEVE encapsulation
  - Configure logical segments and attach hosts using NSX Manager UI
  - Describe the function and types of segment profiles
  - Create segment profiles and apply them to segments and ports
  - Explain the function of MAC, ARP, and TEP tables used in packet forwarding
  - Demonstrate L2 unicast packet flow
  - Explain ARP suppression and BUM traffic handling
- 5 NSX-T Data Center Logical Routing**
  - Describe the logical routing function and use cases
  - Introduce the two-tier routing architecture, topologies, and components
  - Explain the Tier-0 and Tier-1 Gateway functions
  - Describe the logical router components: Service Router and Distributed Router
  - Discuss the architecture and function of VMware NSX® Edge™ nodes
  - Discuss deployment options of NSX Edge nodes
  - Configure NSX Edge nodes and create NSX Edge clusters
  - Configure Tier-0 and Tier-1 Gateways
  - Examine the single-tier and multitier packet flow
  - Configure static routing and dynamic routing
  - Enable ECMP on Tier-0 Gateway
  - Describe NSX Edge HA, failure detection, and failback modes
- 6 NSX-T Data Center Bridging**
  - Describe the function of logical bridging
  - Discuss the logical bridging use cases



- Compare routing and bridging solutions
  - Explain the components of logical bridging
  - Create bridge clusters and bridge profiles
- 7 NSX-T Data Center Security**
- Introduce the NSX-T Data Center security approach and model
  - Describe the micro-segmentation benefits and use cases
  - Describe the Distributed Firewall architecture, components, and function
  - Configure Distributed Firewall sections and rules
  - Describe the Gateway Firewall architecture, components, and function
  - Configure Gateway Firewall sections and rules
  - Describe URL analysis and distributed intrusion system importance and use-cases.
  - Describe the service insertion functionality for east-west and north-south security
  - Discuss the integration and benefits of partner security solutions with NSX-T Data Center
- 8 NSX-T Data Center Services**
- Describe NSX-T Data Center services
  - Explain and configure Network Address Translation (NAT) and NAT 64
  - Explain and configure DNS and DHCP services
  - Describe the load-balancing function, topologies, components, and use cases
  - Configure L4-L7 load balancing
  - Discuss the IPsec VPN and L2 VPN function and use cases
  - Configure IPsec VPN and L2 VPN using NSX Manager UI
- 9 NSX-T Data Center Monitoring**
- Explain the importance and functionality of VMware NSX® Intelligence™
  - Navigate through the NSX Topology UI and identify the various key elements in the UI
  - Discuss the importance and use-cases of alarms and events
- 10 NSX-T Data Center User and Role Management**
- Describe the function and benefits of VMware Identity Manager in NSX-T Data Center
  - Integrate VMware Identity Manager with NSX-T Data Center
  - Integrate LDAP with NSX-T Data Center
  - Identify the various types of users, authentication policies, and permissions
  - Use role-based access control to restrict user access
  - Explain the built-in roles in VMware Identity Manager and role assignment to users
- 11 NSX-T Data Center Federation**
- Introduce the NSX-T Data Center Federation key concepts, terminology, and use-cases.
  - Explain the onboarding process of NSX-T Data Center Federation
  - Describe the NSX-T Data Center Federation switching and routing functions.
  - Describe the NSX-T Data Center Federation security concepts and routing functions