

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



## Course Description

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 3.2 release, including the overall infrastructure, logical switching, logical routing, networking and security services, firewalls and advanced threat prevention, and more.

## Course Duration:

5 days

## Prerequisites:

- Good understanding of TCP/IP services and protocols
- Knowledge and working experience of computer networking, including switching and routing technologies (L2-L3) and L2-L7 firewall
- Knowledge and working experience with VMware vSphere® environments
- Knowledge and working experience with Kubernetes or vSphere with VMware Tanzu™ environments

Solid understanding of concepts presented in the following courses:

- VMware Virtual Cloud Network Core Technical Skills
- VMware Data Center Virtualization: Core Technical Skills
- Kubernetes Fundamentals

## Objectives:

By the end of the course, you should be able to meet the following objectives:

- Describe the architecture and main components of NSX-T Data Center
- Explain the features and benefits of NSX-T Data Center
- Deploy the NSX Management cluster and VMware NSX® Edge™ nodes
- Prepare VMware ESXi™ and KVM hosts to participate in NSX-T Data Center networking
- Create and configure segments for layer 2 forwarding
- Create and configure Tier-0 and Tier-1 gateways for logical routing
- Use distributed and gateway firewall policies to filter east-west and north-south traffic in NSX-T Data Center
- Configure Advanced Threat Prevention features
- Configure network services on NSX Edge nodes
- Use VMware Identity Manager and LDAP to manage users and access
- Explain the use cases, importance, and architecture of Federation

## Course Outline:

1. Course Introduction
  - Introductions and course logistics
  - Course objectives

2. VMware Virtual Cloud Network and NSX-T Data Center
  - Introduce the VMware Virtual Cloud Network vision
  - Discuss NSX-T Data Center solutions, use cases, and benefits
  - Explain NSX-T Data Center architecture and components
  - Describe the VMware NSXTM product portfolio and features
  - Explain the management, control, data, and consumption planes and function
3. Preparing the NSX-T Data Center Infrastructure
  - Describe NSX Management Cluster
  - Deploy VMware NSXTM ManagerTM nodes on VMware ESXi and KVM hypervisors
  - Navigate through the NSX Manager UI
  - Explain data-plane components such as N-VDS/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 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, including BGP and OSPF
  - Enable ECMP on Tier-0 Gateway
  - Describe NSX Edge HA, failure detection, and failback modes
  - Configure VRF Lite
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 Firewalls
  - Describe NSX segmentation
  - Identify the steps to enforce Zero-Trust with NSX segmentation
  - Describe the Distributed Firewall architecture, components, and function

- Configure Distributed Firewall sections and rules
  - Configure the Distributed Firewall on VDS
  - Describe the Gateway Firewall architecture, components, and function
  - Configure Gateway Firewall sections and rules
8. NSX-T Data Center Advanced Threat Prevention
    - Explain NSX IDS/IPS and its use cases
    - Configure NSX IDS/IPS
    - Deploy the NSX Application Platform
    - Identify the components and architecture of NSX Malware Prevention
    - Configure NSX Malware Prevention for east-west and north-south traffic
    - Describe the use cases and architecture of NSX Intelligence
    - Identify the components and architecture of VMware NSX® Network Detection and Response™
    - Use NSX Network Detection and Response to analyze network traffic events.
  9. NSX-T Data Center Services
    - Describe NSX-T Data Center services
    - Explain and configure Network Address Translation (NAT)
    - Explain and configure DNS and DHCP services
    - Describe VMware NSX® Advanced Load Balancer™ architecture, components, topologies, and use cases.
    - Configure NSX Advanced Load Balancer
    - Discuss the IPSec VPN and L2 VPN function and use cases
    - Configure IPSec VPN and L2 VPN using the NSX Manager UI
  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
  11. NSX-T Data Center Federation
    - Introduce the NSX-T Data Center Federation key concepts, terminology, and usecases.
    - 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.

## Who Should Attend

Experienced security administrators or network administrators.