

**VMware NSX: Install, Configure, Manage**

**Course Number:** VM-106  
**Duration:** 5 days

**Overview**

This VMware NSX training teaches attendees how to install, configure, and manage a VMware NSX® environment. Participants learn how to leverage the key features and functionality offered in NSX, including infrastructure, logical switching, logical routing, networking and security services, firewalls, advanced threat prevention, and more.

**Prerequisites**

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

**Materials**

All attendees receive the official VMware courseware for this course.

**Software Needed on Each Student PC**

A modern web browser and an Internet connection free of restrictive firewalls, so that the student can connect by SSH and Remote Desktop (RDP) into the virtual environment for the training.

**Objectives**

* Describe the architecture and main components of NSX
* Explain the features and benefits of NSX
* Deploy the NSX Management cluster and VMware NSX Edge™ nodes
* Prepare VMware ESXi™ hosts to participate in NSX 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
* 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

**Outline**

* Introduction
* VMware Virtual Cloud Network and VMware NSX
  + Introduce the VMware Virtual Cloud Network vision
  + Describe the NSX product portfolio
  + Discuss NSX features, use cases, and benefits
  + Explain NSX architecture and components
  + Explain the management, control, data, and consumption planes and their functions
* Preparing the NSX Infrastructure
  + Deploy VMware NSX® ManagerTM nodes on ESXi hypervisors
  + Navigate through the NSX UI
  + Explain data plane components such as N-VDS/VDS, transport nodes, transport zones, profiles, and more
  + Perform transport node preparation and configure the data plane infrastructure
  + Verify transport node status and connectivity
  + Explain DPU-based acceleration in NSX
  + Install NSX using DPUs
* NSX 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 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
* NSX 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 single-tier and multitier packet flows
  + Configure static routing and dynamic routing, including BGP and OSPF
  + Enable ECMP on a Tier-0 gateway
  + Describe NSX Edge HA, failure detection, and failback modes
  + Configure VRF Lite
* NSX 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
* NSX 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
* NSX Advanced Threat Prevention
  + Explain NSX IDS/IPS and its use cases
  + Configure NSX IDS/IPS
  + Deploy 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 VMware 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
* NSX 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 UI
* NSX User and Role Management
  + Describe the function and benefits of VMware Identity Manager™ in NSX
  + Integrate VMware Identity Manager with NSX
  + Integrate LDAP with NSX
  + Identify the various types of users, authentication policies, and permissions
  + Use role-based access control to restrict user access
  + Explain object-based access control in NSX
* NSX Federation
  + Introduce the NSX Federation key concepts, terminology, and use cases
  + Explain the onboarding process of NSX Federation
  + Describe the NSX Federation switching and routing functions
  + Describe the NSX Federation security concepts
* Conclusion