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 TM 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
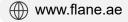- Kubernetes Fundamentals

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.