# Tytuł szkolenia: VMware NSX-T Data Center - Install Configure Manage [V3.0] (EDU-NSXTICM3)

## Kod szkolenia: EDU-NSXTICM3

## Wprowadzenie

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.

Access to a software-defined data center environment is provided through hands-on labs to reinforce the skills and concepts presented in the course.

## Adresaci szkolenia

Experienced system administrators or network administrators

## Cel szkolenia

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

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.

**Prerequisites**

Good understanding of TCP/IP services and network security and working experience with firewalls
Working experience of enterprise switching and routing
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

## Czas i forma szkolenia

- 35 godzin (5 dni x 7 godzin), w tym wykłady i warsztaty praktyczne.

# Plan szkolenia

**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