

VMware NSX 4.x Professional V2

Exam Details (Last Updated: 2/23/2024)

The VMware NSX 4.x Professional V2 exam (2V0-41.24) which leads to VMware Certified Professional – Network Virtualization 2024 (VCP-NV 2024) is a 55-item exam, with a passing score of 300 using a scaled method. Candidates are given an appointment time of 135 minutes, which includes adequate time to complete the exam for non-native English speakers. This exam may contain a variety of item types including multiple-choice, multiple-selection multiple-choice, build-list, matching, drag-and-drop, point-and-click and hot-area. Additional item types may be used but will appear less frequently than those previously mentioned.

Exam Delivery

This is a proctored exam delivered through Pearson VUE. For more information, visit the [Pearson VUE website](#).

Certification Information

For details and a complete list of requirements and recommendations for attainment, please reference the [VMware Learning Services – Certification website](#).

Minimally Qualified Candidate

The candidate can install, configure, manage, and troubleshoot NSX solutions, but occasionally needs to research topics. The candidate should have 6 months or more of experience working with VMware NSX solutions. The candidate should have 2 years of experience working in IT. The candidate is knowledgeable of the features, functions, and architectures of NSX but occasionally needs to research topics. The candidate has experience working in IT and with VMware vSphere and its command line but occasionally needs to research topics. The candidate may require assistance or supervision with some tasks. The candidate may need to research some network virtualization related topics. The candidate possesses most of the knowledge shown in the exam sections (blueprint).

Exam Sections

VMware exam blueprint sections are now standardized to the five sections below, some of which may NOT be included in the final exam blueprint depending on the exam objectives.

- Section 1 – IT Architectures, Technologies, Standards
- Section 2 – VMware Solution
- Section 3 – Plan and Design the VMware Solution
- Section 4 – Install, Configure, Administrate the VMware Solution
- Section 5 – Troubleshoot and Optimize the VMware Solution

If a section does not have testable objectives in this version of the exam, it will be noted below, accordingly. The objective numbering may be referenced in your score report at the end of your testing event for further preparation should a retake of the exam be necessary.

Sections Included in this Exam

Section 1 – IT Architectures, Technologies, Standards

Not Applicable

Section 2 – VMware Solution

Objective 2.1 - Demonstrate knowledge of VMware Virtual Cloud Network and NSX

Objective 2.1.1 - Describe the purpose of VMware Virtual Cloud Network and its framework

Objective 2.1.2 - Identify the benefits and recognize the use cases for NSX

Objective 2.1.3 - Describe how NSX fits into the NSX product portfolio

Objective 2.1.4 - Recognize features and the main elements in the NSX architecture

Objective 2.1.5 - Describe NSX policy and centralized policy management

Objective 2.1.6 - Describe the NSX management cluster and the management plane

Objective 2.1.7 - Identify the functions of control plane components, data plane components, and communication channels

Objective 2.2 - Demonstrate knowledge of NSX Management Cluster

Objective 2.2.1 - Explain the deployment workflows for the NSX infrastructure

Objective 2.3 - Demonstrate knowledge of the NSX UI

Objective 2.3.1 - Distinguish between the Policy and the Manager UI

Objective 2.4 - Demonstrate knowledge of the data plane

Objective 2.4.1 - Describe the functions of transport zones, transport nodes, VDS, and N-VDS

Objective 2.4.2 - Explain the relationships among transport nodes, transport zones, VDS, and N-VDS

Objective 2.4.3 - Describe NSX VDS

Objective 2.4.4 - Describe uplink profiles

Objective 2.5 - Demonstrate knowledge of logical switching

Objective 2.5.1 - Describe the functions of NSX segments

Objective 2.5.2 - Recognize different types of segments

Objective 2.5.3 - Explain tunneling and the Geneve encapsulation protocol

Objective 2.5.4 - Describe the interaction between components in logical switching

Objective 2.5.5 - Describe the function of kernel modules and NSX agents installed on ESXi

Objective 2.5.6 - Describe the function of the management plane in logical switching

Objective 2.5.7 - Describe the function of the control plane in logical switching

Objective 2.6 - Demonstrate knowledge of logical switching packet forwarding

Objective 2.6.1 - Describe the functions of each table used in packet forwarding

Objective 2.6.2 - Describe how BUM traffic is managed in switching

Objective 2.6.3 - Explain how ARP suppression is achieved

Objective 2.7 - Demonstrate knowledge of segments and segment profiles

Objective 2.7.1 - Define what a segment is

Objective 2.7.2 - Describe the purpose of segment profiles

- Objective 2.7.3 - Identify the functions of the segment profiles in NSX
- Objective 2.8 - Demonstrate knowledge of logical routing
 - Objective 2.8.1 - Explain the function and features of logical routing
 - Objective 2.8.2 - Describe the architecture of NSX two-tier routing
 - Objective 2.8.3 - Differentiate between north-south and east-west routing
 - Objective 2.8.4 - Describe the gateway components
 - Objective 2.8.5 - Recognize the various types of gateway interfaces
- Objective 2.9 - Demonstrate knowledge of NSX Edge and Edge Clusters
 - Objective 2.9.1 - Explain the main functions and features of the NSX Edge node
 - Objective 2.9.2 - Describe the functions of the NSX Edge cluster
 - Objective 2.9.3 - Identify the NSX Edge node form factors and sizing options
 - Objective 2.9.4 - Describe the different NSX Edge node deployment methods
- Objective 2.10 - Demonstrate knowledge of Tier-0 and Tier-1 Gateways
 - Objective 2.10.1 - Explain how to configure a Tier-0 gateway and Tier-1 gateway
 - Objective 2.10.2 - Explain Active/Active Tier-0 and Tier-1 configurations
 - Objective 2.10.3 - Explain Active standby Tier-0 and Tier-1 configurations
 - Objective 2.10.4 - Explain Stateful Active/Active Tier-0 and Tier-1 configurations
 - Objective 2.10.5 - Explain multi-tenancy use in a Tier-0 gateway
- Objective 2.11 - Distinguish between static and dynamic routing
 - Explain OSPF and BGP configurations
- Objective 2.12 - Demonstrate knowledge of ECMP and high availability
 - Objective 2.12.1 - Explain the purpose of ECMP routing
 - Objective 2.12.2 - Identify the active-active and active-standby modes for high availability
 - Objective 2.12.3 - Recognize failure conditions and explain the failover process
- Objective 2.13 - Demonstrate knowledge of logical routing packet walk
 - Objective 2.13.1 - Describe the datapath of single-tier routing
 - Objective 2.13.2 - Explain the datapath of multitier routing
- Objective 2.14 - Demonstrate knowledge of VRF Lite
 - Objective 2.14.1 - Describe VRF Lite
 - Objective 2.14.2 - Explain the benefits of VRF Lite
- Objective 2.15 - Demonstrate knowledge of bridging
 - Objective 2.15.1 - Describe the purpose and function of bridging
 - Objective 2.15.2 - Distinguish between routing and bridging
- Objective 2.16 - Demonstrate knowledge of NAT and how it is used with NSX
 - Objective 2.16.1 - Explain the role of network address translation (NAT)
 - Objective 2.16.2 - Distinguish between source and destination NAT
 - Objective 2.16.3 - Describe how reflexive NAT works
 - Objective 2.16.4 - Explain how NAT64 facilitates communication between IPv6 and IPv4 networks

- Objective 2.16.5 - Describe stateful active-active NAT operation
- Objective 2.17 - Demonstrate knowledge of DHCP and DNS
 - Objective 2.17.1 - Explain how DHCP and DHCP Relay are used for IP address allocation
 - Objective 2.17.2 - Configure DHCP services in NSX
 - Objective 2.17.3 - Describe how to use a DNS forwarder service
- Objective 2.18 - Demonstrate knowledge of IPSec VPN
 - Objective 2.18.1 - Explain how IPSec-based technologies are used to establish VPNs
 - Objective 2.18.2 - Compare policy-based and route-based IPSec VPN
 - Objective 2.18.3 - Describe IPSec VPN requirements in NSX
- Objective 2.19 - Demonstrate knowledge of L2 VPN
 - Objective 2.19.1 - Describe L2 VPN technologies in an NSX
 - Objective 2.19.2 - Identify various supported L2 VPN endpoints
- Objective 2.20 - Demonstrate knowledge of integrating NSX with VMware Identity Manager
 - Objective 2.20.1 - Describe the purpose of VMware Identity Manager
 - Objective 2.20.2 - Identify the benefits of integrating NSX with VMware Identity Manager
- Objective 2.21 - Demonstrate knowledge of integrating NSX with LDAP
 - Objective 2.21.1 - Identify the benefits of integrating NSX with LDAP
 - Objective 2.21.2 - Describe the LDAP authentication architecture
- Objective 2.22 - Demonstrate knowledge of managing users and configuring RBAC
 - Objective 2.22.1 - Identify the different types of users in NSX
 - Objective 2.22.2 - Recognize permissions and roles available in NSX
 - Objective 2.22.3 - Understand the use of orgs and projects in multi-tenancy
- Objective 2.23 - Demonstrate knowledge of Federation Architecture, needed prerequisites, Federation Networking, and Federation Security
 - Objective 2.23.1 - Describe Federation and its use cases
 - Objective 2.23.2 - Describe the requirements and limitations of Federation
 - Objective 2.23.3 - Describe the Federation configuration workflow
 - Objective 2.23.4 - Describe the prerequisites for Federation
 - Objective 2.23.5 - Describe the onboarding of Local Manager configurations and workloads
 - Objective 2.23.6 - Describe the stretched networking concepts in Federation
 - Objective 2.23.7 - Explain the supported Tier-0 and Tier-1 stretched topologies
 - Objective 2.23.8 - Explain Layer 2 concepts related to NSX Federation
 - Objective 2.23.9 - Explain the Federation security use cases
 - Objective 2.23.10 - Describe the Federation security components
 - Objective 2.23.11 - Explain the security configuration workflows
- Objective 2.24 - Demonstrate knowledge of DPU-based acceleration for NSX

Section 3 – Plan and Design the VMware Solution

Not Applicable

Section 4 – Install, Configure, Administrate the VMware Solution

Objective 4.1 - Prepare an NSX infrastructure for deployment

Objective 4.1.1 - Create Transport Zones

Objective 4.1.2 - Create IP Pools

Objective 4.1.3 - Prepare ESXi Hosts

Objective 4.2 - Configure segments

Objective 4.2.1 - Create segments

Objective 4.2.2 - Attach VMs to segments

Objective 4.2.3 - Use network topology to validate the logical switching configuration

Objective 4.3 - Deploy and configure NSX Edge Nodes

Objective 4.3.1 - Deploy NSX Edge Nodes

Objective 4.3.2 - Configure an Edge Cluster

Objective 4.4 - Configure the Tier-1 gateway

Objective 4.1.1 - Create a Tier-1 gateway

Objective 4.1.2 - Connect segments to the Tier-1 gateway

Objective 4.1.3 - Use network topology to validate the Tier-1 gateway configuration

Objective 4.5 - Create and configure a Tier-0 gateway with OSPF

Objective 4.5.1 - Create uplink segments

Objective 4.5.2 - Create a Tier-0 gateway

Objective 4.5.3 - Connect the Tier-0 and Tier-1 gateways

Objective 4.5.4 - Use network topology to validate the Tier-0 gateway configuration

Objective 4.6 - Configure the Tier-0 gateway with BGP

Objective 4.6.1 - Create uplink segments

Objective 4.6.2 - Create a Tier-0 gateway

Objective 4.6.3 - Connect the Tier-0 and Tier-1 gateways

Objective 4.6.4 - Use network topology to validate the Tier-0 gateway configuration

Objective 4.7 - Configure VRF Lite

Objective 4.7.1 - Create the uplink trunk segment

Objective 4.7.2 - Deploy and configure the VRF gateways

Objective 4.7.3 - Deploy and connect the Tier-1 gateways to the VRF gateways

Objective 4.7.4 - Create and connect segments to the Tier-1 gateways

Objective 4.7.5 - Attach VMs to segments on each VRF

Objective 4.7.6 - Review the routing tables in each VRF

Objective 4.8 - Configure Network Address Translation (NAT)

Objective 4.8.1 - Create a Tier-1 gateway for Network Address Translation

Objective 4.8.2 - Create a segment

- Objective 4.8.3 - Attach a VM to NAT segment
- Objective 4.8.4 - Configure NAT
- Objective 4.8.5 - Configure NAT route redistribution
- Objective 4.9 - Deploy Virtual Private Networks
 - Objective 4.9.1 - Deploy a new NSX Edge Node to support a VPN deployment
 - Objective 4.9.2 - Configure a new Edge Cluster
 - Objective 4.9.3 - Deploy and configure a new Tier-0 gateway and segments for VPN support
 - Objective 4.9.4 - Create an IPSec VPN service
 - Objective 4.9.5 - Create an L2 VPN server and session
 - Objective 4.9.6 - Configure a pre-deployed autonomous Edge as an L2 VPN client
- Objective 4.10 - Manage users and roles
 - Objective 4.10.1 - Add an Active Directory Domain as an identity source
 - Objective 4.10.2 - Assign NSX roles to domain users and validate permissions
 - Objective 4.10.3 - Modify an existing role and validate the role permissions
- Objective 4.11 - Perform operations tasks in a VMware NSX environment (syslog, backup/restore etc.)
- Objective 4.12 - Monitor a VMware NSX implementation
- Objective 4.13 - Use NSX Intelligence
 - Objective 4.13.1 - Generate network flows and visualize traffic
 - Objective 4.13.2 - Use recommendations to create security policies
 - Objective 4.13.3 - Enable detection of suspicious traffic

Section 5 – Troubleshoot and Optimize the VMware Solution

- Objective 5.1 - Use log files to troubleshoot issues
 - Objective 5.1.1 - Identify the default log file locations of NSX components
- Objective 5.1.2 - Generate Log Bundles
 - Objective 5.1.3 - Use log files to help identify NSX issues
- Objective 5.2 - Identify Tools Available for Troubleshooting Issues
 - Objective 5.2.1 - Use traceflow, traffic analysis, dashboard for troubleshooting
- Objective 5.3 - Troubleshoot Common NSX Issues
 - Objective 5.3.1 - Troubleshoot Common NSX Installation/Configuration Issues
 - Objective 5.3.2 - Troubleshoot Common NSX Component Issues
 - Objective 5.3.3 - Troubleshoot Common Connectivity Issues
 - Objective 5.3.4 - Troubleshoot Common logical infrastructure Issues
 - Objective 5.3.4 - Troubleshoot Common physical infrastructure Issues

Courses used to develop this exam and strongly recommended to you for exam preparation:

[VMware NSX: Install, Configure, Manage 4.X](#)

Certification Requirements

[VCP-NV 2024](#)

References

No additional resources.

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