

VMware NSX Advanced Load Balancer: Install, Configure, Manage [V21.x]

1 Course Introduction

- Introduction and course logistics
- Course objectives

2 Introduction to NSX Advanced Load Balancer

- Introduce NSX Advanced Load Balancer
- Discuss NSX Advanced Load Balancer use cases and benefits
- Explain NSX Advanced Load Balancer architecture and components
- Explain the management, control, data, and consumption planes and their respective functions

3 Virtual Services Configuration Concepts

- Explain Virtual Service components
- Explain Virtual Service types
- Explain and configure basic Virtual Service components such as Application Profiles and Network Profiles

4 Virtual Services Configuration Advanced Concepts

- Explain Virtual Service Advanced components such as Wildcard VIP, Server Name Identification (SNI), and Enhanced Virtual Hosting (EVH)
- Explain the concept of Virtual Service VIP Sharing
- Explain different authentication mechanisms used for a Virtual Service such as LDAP, SAML, JSON Web Token, and OAUTH

5 Profiles and Policies

- Explain Application Profiles and types such as L4, DNS, Syslog, HTTP, and Horizon VDI
- Explain and configure advanced application HTTP profile options

- Describe Network Profiles and types
- Explain and configure SSL profiles and Certificates
- Explain and configure HTTP, network, and DNS policies

6 Pools Configuration Concepts

- Explain Pools configuration options
- Describe the available load balancing algorithms
- Explain multiple Health monitor types
- Explain multiple Persistence profiles
- Explain and configure Pool groups

7 Modifying Application Behavior

- Design and apply application solutions by using application profiles
- Design and apply application solutions by using Network, HTTP Policies, and DataScripts
- Explain DataScript fundamentals
- Explain and use NSX Advanced Load Balancer analytics to understand application behavior
- Describe and configure Client SSL Certificate Validation
- Describe and configure Virtual Service DDoS, Rate limiting, and Throttling capabilities
- Modify Network profiles properties such as TCP connection properties
- Design and apply application solutions by using Persistence profiles

8 NSX Advanced Load Balancer Infrastructure Architecture

- Explain management, control, data, and consumption planes and functions
- Describe Control Plane Clustering and High Availability
- Describe Controller Sizing and Process Sharing

- Describe Service Engine CPU and NIC Architecture
- Explain Tenants
- Configure properties of Service Engine groups
- Explain Service Engine Group High Availability Modes
- Describe and configure Active-Standby High Availability Mode
- Explain Service Engine Placement in multiple availability zones for Public Clouds
- Describe and configure Elastic HA High Availability Mode (Active/Active, N+M)
- Explain Service Engine Failure Detection and Self-Healing
- Describe Service Engine as a Router
- Explain Virtual Service scale out options such as Layer 2 (Native), Layer 3 (BGP), and DNS-based
- Describe how to upgrade NSX Advanced Load Balancer

9 Introduction to Cloud Connector

- Explain Cloud Connectors
- Review Cloud Connector integration modes
- List Cloud Connector types
- Review the different Service Engine Image types in different ecosystems

10 Installing, Configuring, and Managing NSX Advanced Load Balancer in No-Access Cloud

- Explain No Access Cloud concepts
- Configure No Access Cloud integration
- Explain and configure Linux Server Cloud
- Explain and configure VMware No Orchestrator
- Describe the Advanced Configuration options available in bare metal (Linux Server Cloud)

11 Installing, Configuring, and Managing NSX Advanced Load Balancer in VMware Environment: Cloud Configuration

- Introduce VMware integration options
- Explain and configure VMware Write Access Cloud Connector
- Explain NSX Advanced Load Balancer integration options in VMware NSX environment
- Explain and configure NSX Cloud Connector for Overlay and VLAN-backed segments

12 AWS Cloud Configuration

- Describe NSX Advanced Load Balancer Public Cloud integrations
- Explain different AWS components
- Explain and demonstrate AWS Public Cloud Integration
- Deploy NSX Advanced Load Balancer Controller, SEs, and Virtual Services in AWS Cloud
- Review Multi-AZ Support for Virtual Services in AWS cloud

13 GCP Cloud Configuration

- Explain different GCP components
- Explain and demonstrate GCP Public Cloud Integration
- Deploy NSX Advanced Load Balancer Controller, SEs, and Virtual Services in GCP Cloud

14 Azure Cloud Configuration

- Describe NSX Advanced Load Balancer Public Cloud integrations
- Explain different Azure components
- Explain and demonstrate Azure Public Cloud integration
- Deploy NSX Advanced Load Balancer Controller, SEs, and Virtual Services in Azure Cloud

15 NSX Advanced Load Balancer Enterprise with Cloud Services (Avi Pulse)

- Describe NSX Advanced Load Balancer Public Cloud Services
- Explain different features of NSX Advanced Load Balancer Cloud Services
- Registering Controller with Cloud Services

16 DNS Foundations

- Review, discuss, and explain DNS fundamentals
- Describe NSX Advanced Load Balancer DNS and IPAM providers

17 Global Server Load Balancing (GSLB)

- Introduce Global Server load balancing concepts and benefits
- Explain and configure the NSX Advanced Load Balancer infrastructure
- Explain and configure the DNS Virtual Service components
- Explain and configure GSLB Service Engine Group
- Describe and configure GSLB Sites
- Explain and configure basic GSLB Services to include pools and health monitors
- Describe GSLB Service Load Balancing algorithms
- Explain and configure Data and Control Plane-based Health Monitors
- Describe GSLB Health Monitor Proxy
- Explain GSLB Site-Cookie Persistence
- Explain the different GSLB replication methods

18 Role-Based Access Control (RBAC)

- Introduce Local Authentication in NSX Advanced Load Balancer
- Introduce Remote Authentication in NSX Advanced Load Balancer
- Review the different types of Remote Authentication
- Explain Granular RBAC using labels

19 NSX Advanced Load Balancer: Troubleshooting

- Introduce infrastructure and application troubleshooting concepts
- Describe Control Plane and Data Plane-based Troubleshooting
- Explain Application Analytics and Logs
- Describe client logs analysis
- Explain Headers troubleshooting and Packet Capture mechanism
- Describe how to use CLI for detailed data plane troubleshooting
- Explain Service Engine Logs
- Explain Health Monitors troubleshooting
- Explain BGP session troubleshooting
- Describe Control Plane Troubleshooting, Clustering, and Cloud Connector issues

20 Events and Alerts

- Describe NSX Advanced Load Balancer events
- Describe and configure NSX Advanced Load Balancer alerts
- Describe NSX Advanced Load Balancer monitoring capabilities with SNMP, Syslog, and Email

21 Introduction to NSX Advanced Load Balancer Rest API

- Introduce the NSX Advanced Load Balancer REST API interface
- Describe REST API Object Schema
- Explain and interact with REST API interface with browser and command-line utility
- Explain Swagger-based API documentation
- Review the different types of SDKs available in NSX Advanced Load Balancer
- Explain and configure VMware Write Access Cloud Connector

- Explain NSX Advanced Load Balancer integration options in VMware NSX environment
- Explain and configure NSX Cloud Connector for Overlay and VLAN-backed segments
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