VMware Cloud Director: Advanced Networking with NSX-T Data Center [V10.2]

Course code: VMW_CDANNSXT

In this five-day course, you focus on deploying, configuring, integrating, designing, and managing VMware Cloud Director™ 10.x network objects with VMware NSX-TTM Data Center. This course also focuses on designing, integrating, configuring, and managing VMware Cloud Director™ 10.x with VMware NSX® Advanced Load Balancer™.This course also focuses on the VMware Cloud Director Migration tool, using which the system administrator can perform the actual migration by migrating the workload and networks of the organization VDC supported by VMware NSX® Data Center for vSphere® to the organization VDC supported by NSX-T Data Center in the same organization. This course also showcases how to monitor VMware Cloud Director networking objects using VMware vRealize® Operations™ and VMware vRealize® Operations Tenant App.Product Alignment• VMware vSphere® 7.0 U1• VMware Cloud Director 10.2.1• VMware NSX-T Data Center 3.0.1• VMware NSX Data Center for vSphere 6.4• VMware NSX Advanced Load Balancer 20.1.1• VMware vRealize® Operations Manager™ 8.2• VMware vRealize Operations Manager Tenant App 2.5• VMware vCloud® Usage Meter™ 4.3

Who is the course for

Service providers, cloud architects, systems engineers, data center administrators, and cloud administrators with

experience in managed services or managing a service provider environment.

What we teach you

By the end of the course, you should be able to meet the following objectives:
• Understand NSX-T Data Center and the VMware Cloud Director fundamentals
• List the various NSX-T Data Center components
• List the use cases and topologies of VMware Cloud Director networks
• Discuss the VMware Cloud Director provider networking configuration
• Discuss the VMware Cloud Director tenant networking configuration
• Discuss the Data Center Group network
• Discuss VMware NSX® Advanced Load Balancer™ and its components
• Discuss NSX Advanced Load Balancer configuration and the integration with VMware Cloud Director
• Enable a layer 2 stretched network that spans across multiple VMware Cloud organization VDCs
• Showcase the importance of the VMware Cloud Director Migration Tool and its functionality
• Manage resources from the VMWare Cloud Director console and use VMware vRealize Operations Manager™ and vRealize Tenant App

Required skills

Completion of the following courses and equivalent knowledge is required:
• VMware Cloud Director: Install, Configure, Manage
• VMware NSX-T Data Center: Install, Configure, Manage
• Strong knowledge on NSX Data Center for vSphere
• Strong understanding in NSX Advanced Load Balancer

The following experience is helpful:
• Working at the Linux command line
• Substantial knowledge of general networking concepts

Course outline

1 Course Introduction
• Introductions and course logistics
• Course objectives
2 VMware Cloud Director and NSX-T Data Center Fundamentals

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- Explain NSX-T Data Center and its architecture
- Discuss various NSX-T Data Center components
- Discuss cluster design for NSX-T Data Center
- Deployment methods for NSX-T Data Center Edge nodes
- Discuss VRF Lite feature
- Describe NSX-T Data Center objects and their creation methods
- Comparing the NSX-T Data Center and NSX Data Center for vSphere functionality
- List the various requirement and maximum configuration details
- Explain Cloud Director and its architecture
- Discuss Cloud Director pre-requisites and deployment
- Discuss the use cases and features of VMware Cloud Director
- Discuss the VMware Validated Designs for Cloud Providers

3 Provider Configuration

- Discuss the integration of vCenter Server with VMware Cloud Director
- Discuss the integration of NSX-T Data Center with VMware Cloud Director
- Explain the Geneve network pool
- Describe the types of provider network and their use cases
- Discuss the edge gateway and its services
- Discuss the external network with the Tier-0 gateway
- Understand the external network with VRF
- Compare the Tier-0 gateway and the VRF supported external gateway
- Discuss the dedicated external network
- Explain distributed routing
- Discuss the BGP configuration in NSX-T Data Center
- Discuss the shared and dedicated external network topologies

4 Tenant Configuration

- Discuss the various types of organization VDC networks and their use cases
- Explain vApp networks and their use cases
- Discuss the different organization VDC networks topology
- Understand the configuration requirements for each organization VDC network
- Differentiate between the imported and direct organization VDC networks
- Explain the imported organization VDC network topology
- Explain the edges services available for each type of organization VDC network
- Discuss SNAT, DNAT, NO SNAT, and NO DNAT
- Discuss IP Allocation Pools
- Discuss Security Groups
- Identify the Security Group objects in NSX-T Data Center

5 Cross VDC Networking Using NSX-T Data Center

- Explain Data Center Groups and their use cases
- Define compute provider scope and network provider scope
- Configure cross-VDC networking and L2 stretched networks
- Manage participating VDCs in a data center group
- Add a data center group edge gateway to a data center group
- Configure the distributed firewall for a data center group

6 NSX Advanced Load Balancer

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- Describe the NSX Advanced Load Balancer components and its main functions
- Explain the NSX Advanced Load Balancer key features, benefits, and its use cases
- Discuss NSX-T Cloud and its configuration requirements
- Integrate NSX Advanced Load Balancer with NSX-T Data Center
- Explain Service Engine Groups and types
- Discuss Virtual Service and its configuration
- Integrate NSX Advanced Load Balancer with VMware Cloud Director
- Understand and apply a load balancing design framework
- Monitor NSX Advanced Load Balancer

7 VMware NSX Migration for VMware Cloud Director
- Understand the use cases and purpose of the NSX Migration for VMware Cloud Director
- Discuss the supported topology and compatibility matrix
- Understand the supported features
- Understand the environmental prerequisites
- Discuss how to prepare the edge cluster for bridging and use for migration
- Build the userInput.yml file by providing the environment details
- Perform a Precheck
- Discuss error handling after Precheck
- Perform the actual migration
- Discuss troubleshooting tips and solutions

8 Monitoring and Billing VMware Cloud Director Networking
- Discuss the methods to manage and monitor networking objects from the VMware Cloud Director portal
- Understand vRealize Operations Manager and the vRealize Operations Manager Tenant App overview
- Discuss how to monitor VMware Cloud Director networking objects using vRealize Operations Manager and vRealize Operations Manager Tenant App
- Create a policy and generate customer bills
- Enable the tenant application plug-in for VMware Cloud Director
- Describe the usage of Usage Meter with VMware Cloud Director