Course Overview
This five-day, hands-on training course discusses Network Functions Virtualization (NFV), a network architecture concept that specifies how virtualization technologies can be used to virtualize network service functions. This course covers interfacing VMware vCloud Director® with other systems using various APIs and the integration and use of VMware vCloud® Availability for vCloud Director®. You will understand how to manage multisite, cross-VDC (Virtual Data Center) networking for vCloud Director. You will also understand how to configure Central Point of Management (CPOM) to define a software-defined datacenter (SDDC) for tenant and provider users of vCloud Director. This course also discusses how to monitor various vCloud Director objects using VMware vRealize® Operations™, Tenant vApp, and VMware vRealize® Log Insight™.

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

- Describe the VMware vCloud® NFV™ architecture
- Describe the vCloud Director architecture as Virtualized Infrastructure Manager (VIM)
- Secure the deployment of multivendor virtual network functions (VNFs) on the vCloud NFV platform
- Manage vCloud Director to support NFV workloads in a secure, multitenant environment
- Configure VMware vSAN™ to enable multiple tiers in provider virtual data centers
- Create and manage vCloud Director organizations and vApps to satisfy business needs
- Create and manage vCloud Director catalogs
- Use advanced services to manage VMware NSX® from vCloud Director

Target Audience
Customers, cloud architects, systems engineers, data center administrators, and cloud administrators with experience in managed services or managing a service provider environment

Prerequisites
Completion of the following course is required:

- VMware vSphere: Install, Configure, Manage [V6.x] or equivalent knowledge

Completion of the following eLearning courses is recommended:

- VMware vCloud Director: Fundamentals [V8.x]
- VMware vSAN and HCI Fundamentals
- VMware Network Virtualization Fundamentals

Substantial knowledge of TCP/IP networking is helpful.
Course Delivery Options

- Classroom
- Live Online
- Onsite

Product Alignment

- vCloud Director 9.x
- VMware vCloud® Availability for vCloud Director® 3.0
- VMware vSphere® 6.x and later
- NSX 6.x and later
Course Modules

1 Course Introduction
   • Introductions and course logistics
   • Course objectives

2 vCloud NFV Overview
   • Define the benefits of vCloud NFV
   • Describe a sample vCloud NFV solution
   • Describe the vCloud NFV architecture

3 NFV Infrastructure
   • Compare physical and virtual infrastructures
   • Describe the advantages and components of the NFV infrastructure (NFVI)
   • Explain the role of network virtualization in the NFVI
   • Compare physical and virtual infrastructures
   • Describe the vSAN architecture and the differences between the vSAN hybrid and all-flash architectures
   • Explain the purpose of virtual machine storage policies
   • Describe network virtualization with NSX

4 Virtualized Infrastructure Manager (VIM)
   • Describe the VMware products for the VIM layer
   • Explain basic concepts related to vCloud Director
   • Describe the relationship between provider VDCs (Virtual Data Centers) and organization VDCs
   • Describe how vSAN integrates with vCloud Director
   • Create vSAN storage policies
   • Describe the components and basic configuration of the vCloud Director architecture
   • Create resource pools

5 vCloud Providers
   • Describe how compute and storage resources are provided to vCloud Director
   • Describe provider VDC requirements and best practices
   • Create provider VDCs
   • Describe the VNF on-boarding process

6 vCloud Director Organizations
   • Describe and create vCloud Director organizations
   • Discuss vCloud Director HTML5 UI
   • Discuss HTML5-based provider portal
   • Discuss tenant portal
   • Discuss the use cases of a vCloud Director organization VDC
   • Discuss organization VDC allocation models
   • Examine the function and requirements of network pools.
   • Discuss the network types available in vCloud Director (external, organization, and vApp)
   • Discuss the organization network types
   • Create and manage organization VDC networks
   • Add a catalog to an organization
   • Populate, share, and publish catalogs
   • Manage access to vApps and catalogs
   • Modify the configuration of vApps and their virtual machines (VMs)
   • Manage organization VDC networking
   • Create affinity and anti-affinity rules

7 vCloud Director Security
   • Describe role-based access
   • Create custom security roles
   • Integrate Directory Service with vCloud Director
   • Integrate LDAP, SAML, SSL, Kerberos, and OAuth2 with vCloud Director
   • Configure SSO

8 vCloud Director Networking
   • Describe the use and placement of NSX® Edge™ services gateways in relation to vCloud Director
   • Review routing with the distributed logical router and Edge services gateways in combination with vCloud Director
   • Firewall management in vCloud Director with Edge services gateways and the distributed firewall
   • Architecture of VMware NSX-T™ (Basic)
   • vCloud Director supported features of NSX-T
   • Discuss multisite
   • Configure Cross VDC networking
9 Resource Management and Monitoring
- Manage provider and organization VDCs
- Manage VMware vCenter Server® instances and VMware ESXi™ hosts
- Manage vSphere datastores
- Manage resource pools at the vSphere level
- Monitor usage information at provider and organization VDCs
- Use the cell management tool
- Manage provider VDC and Org-VDC
- Monitor vCloud Director environments with VMware vRealize® Operations Manager™
- Monitor vCloud Director environments with vRealize Log Insight
- Describe the components for NVFI operations management
- Use VMware vRealize® Business™ for cost management
- Review historical virtual machine metrics in vCloud Director
- View vCloud Director logs

10 vCloud Extensibility
- Introduce container service extension
- Explore vCloud Director CLI
- Use Python SDK for vApp deployment
- Discuss Terraform vCloud Director capabilities
- Use VMware vRealize® Orchestrator™ Plug-in for vCloud Director

11 Day 2 Operations
- Identify log locations for vCloud Director
- Navigate through vCloud Director logs
- Capture vCloud Director log bundles

Contact
If you have questions or need help registering for this course, click here.