

VMware vSphere with Tanzu: Deploy and Manage



Course Description

During this 3-day course, you focus on deploying and managing VMware vSphere® with Tanzu. You learn about how vSphere with Tanzu can be used to orchestrate the delivery of Kubernetes clusters and containerized applications in a vSphere environment.

Course Duration:

3 days

Prerequisites:

This course requires completion of the following courses:

- VMware vSphere: Install, Configure, Manage OR VMware vSphere: Optimize and Scale

AND

- VMware NSX-T Data Center: Install, Configure, Manage

Experience working at the command line is helpful.

This course requires that a student be able to perform the following tasks with no assistance or guidance before enrolling in this course:

- Create VMware vCenter Server® objects, such as data centers and folders
- Create a virtual machine using a wizard or a template
- Modify a virtual machine's hardware
- Migrate a virtual machine with VMware vSphere® vMotion®
- Migrate a virtual machine with VMware vSphere Storage vMotion
- Configure and manage a vSphere DRS cluster with resource pools
- Configure and manage a VMware vSphere® High Availability cluster

If you cannot perform all of these tasks, VMware recommends that you complete one of the prerequisite courses before enrolling in VMware vSphere with Tanzu: Deploy & Manage.

Objectives:

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

- Describe vSphere with Tanzu and use cases in on-premises environments
- Deploy vSphere with Tanzu
- Describe VMware Tanzu Mission Control
- Describe the VMware NSX® networking requirements for vSphere with Tanzu.
- Describe vSphere with Tanzu on NSX-T Data Center
- Describe vSphere with Tanzu on vSphere Distributed Switch
- Create and manage vSphere with Tanzu namespaces
- Deploy and run container applications on vSphere with Tanzu
- Deploy and configure Harbor
- Describe the VMware Tanzu™ Kubernetes Grid™ service
- Deploy a Tanzu Kubernetes Grid cluster
- Deploy and run container applications on a Tanzu Kubernetes Grid cluster
- Describe the vSphere with Tanzu lifecycle

- Use logs and CLI commands to monitor and troubleshoot vSphere with Tanzu

Course Outline:

1. Course Introduction
 - Introductions and course logistics
 - Course objectives
2. Introduction to Containers and Kubernetes
 - Describe virtual machines and containers
 - Describe container hosts
 - Describe container engines
 - Describe Dockerfile
 - Describe container images
 - Describe image registry
 - Describe the purpose and functionality of Kubernetes
 - Describe YAML manifest files
 - Explain pods
 - Explain Replica Sets
 - Explain services
 - Explain deployments
 - Explain network policies
3. Introduction to vSphere with Tanzu
 - Introduce the Cloud Native Computing Foundation
 - Introduce the VMware Tanzu™ portfolio
 - Describe the purpose and functionality of vSphere with Tanzu
 - Describe the capabilities of vSphere with Tanzu
 - Describe the components of vSphere with Tanzu
 - Contrast vSphere with Tanzu to traditional Kubernetes
 - Describe the requirements for vSphere with Tanzu
 - Describe the NSX components required for vSphere with Tanzu
 - Describe the network topology of vSphere with Tanzu
 - Explain the networking requirements of vSphere with Tanzu
 - Compare NSX networking objects with Kubernetes networking objects
 - Describe the kubectl command line interface
4. vSphere with Tanzu Core Services
 - Explain the architecture of the vSphere with Tanzu core services
 - Describe the use cases of vSphere with Tanzu
 - Enable vSphere with Tanzu
 - Deploy Harbor Registry
 - Describe a vSphere with Tanzu namespace
 - Describe resource quotas
 - Explain authentication and authorization to vSphere with Tanzu
 - Create a namespace
 - Use kubectl to interact with vSphere with Tanzu
 - Describe using kubectl pod deployment
 - Explain scaling a pod deployment
 - Explain deleting pods
 - Use kubectl to deploy a pod
 - Use kubectl to scale a pod
 - Describe a Container Storage Interface

- Explain VM Storage Policies and Persistent Volumes
 - Monitor Cloud Native Storage
 - Create a Persistent Volume
 - Describe the NSX Container Plugin
 - Explain Supervisor Cluster Network Topology
 - Explain Container Objects in NSX
 - Describe Kubernetes Services
 - Describe Kubernetes Network Policies
 - Describe vSphere with Tanzu on vSphere Distributed Switch
 - Describe Harbor Image Registry
 - Explain Harbor integration with vSphere with Tanzu
 - Enable Harbor
 - Push container images to Harbor
 - Deploy containers from Harbor
5. VMware Tanzu Kubernetes Grid service
- Introduce Kubernetes Cluster API
 - Explain Tanzu Kubernetes Grid service
 - Describe the use cases for Tanzu Kubernetes Grid clusters
 - Describe enabling Tanzu Kubernetes Clusters
 - Deploy a Tanzu Kubernetes Cluster
 - Scale a Tanzu Kubernetes Cluster
 - Explain the life cycle of Tanzu Kubernetes Clusters
 - Deploy pods to a Tanzu Kubernetes Cluster
 - Describe monitoring of Tanzu Kubernetes Clusters
6. Monitoring and Troubleshooting
- Describe the monitoring tools for vSphere with Tanzu
 - Describe the troubleshooting tools for vSphere with Tanzu
 - Describe VMware vRealize® Operations Manager™ integration
 - Describe VMware Tanzu Mission Control
 - Describe the integration between vSphere with Tanzu and VMware Tanzu Mission Control
 - Describe vCenter Server events
 - Describe vSphere with Tanzu events
 - Describe gathering vSphere with Tanzu support log bundles
7. vSphere with Tanzu Life Cycle
- Introduce Kubernetes version
 - Explain Kubernetes release cadence
 - Describe vSphere with Tanzu life cycle
 - Describe NSX component life cycle
 - Describe vSphere with Tanzu Certificate Management

Who Should Attend

Experienced system administrators and system integrators responsible for designing and implementing vSphere with Tanzu