VMware vSphere with Tanzu: Deploy and Manage

COURSE DETAILS

Course Code:	VM-VSKDM
Delivery Type:	Instructor-Led
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.

COURSE CONTENT

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 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

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Tel: (+971 4) 42 89 440   Fax: (+971 4) 42 89 441
training@fastlane-mea.com   **www.flane.ae**

- 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