

VMware vSphere with Tanzu : Deploy and Manage (V7)

Course Outline

1. Course Introduction

- Introductions and Course Logistics
- Course Objectives

2. Introduction to Containers and Kubernetes

- **Virtual Machines and Containers**
 - Understand the differences and use cases.
- **Container Hosts & Engines**
 - Overview of container hosts and engines.
- **Dockerfile and Container Images**
 - Define and create Dockerfiles; understand container images.
- **Image Registry**
 - Discuss the purpose and types of image registries.
- **Kubernetes Overview**
 - Purpose and functionality of Kubernetes.
 - YAML Manifest Files - Structure and usage.
- **Kubernetes Concepts**
 - Explain pods, Replica Sets, services, deployments, and network policies.

3. Introduction to vSphere with Tanzu

- **Cloud Native Computing Foundation**
 - Overview and relevance.
- **VMware Tanzu™ Portfolio**
 - Introduction to VMware Tanzu offerings.
- **vSphere with Tanzu**
 - Purpose, functionality, and capabilities.
 - Components and comparison with traditional Kubernetes.
- **Requirements and NSX Components**
 - Necessary components for implementation.
- **Networking in vSphere with Tanzu**
 - Networking topology and requirements.
 - Comparison of NSX and Kubernetes networking objects.
- **kubectl Command Line Interface**
 - Overview and usage.

4. vSphere with Tanzu Core Services

- **Architecture of Core Services**
 - Key architectural components.
- **Use Cases of vSphere with Tanzu**
- **Enabling vSphere with Tanzu**
 - Steps to enable and configure.
- **Deploying Harbor Registry**
 - Integration and usage of Harbor.

- **Namespaces and Resource Quotas**
 - Creating and managing namespaces.
- **Authentication and Authorization**
 - Managing access and security.
- **kubectl Deployment and Scaling**
 - Interacting with pods and managing deployments.
- **Storage Management**
 - Container Storage Interface and Persistent Volumes.
- **Networking and NSX Integration**
 - Overview of network policies and container objects.

5. VMware Tanzu Kubernetes Grid Service

- **Kubernetes Cluster API**
 - Introduction and key concepts.
- **Tanzu Kubernetes Grid Service**
 - Use cases and deployment steps.
- **Cluster Lifecycle Management**
 - Scaling and managing the lifecycle of clusters.
- **Monitoring**
 - Tools and practices for monitoring clusters.

6. Monitoring and Troubleshooting

- **Monitoring Tools**
 - Overview of available monitoring tools.
- **Troubleshooting Tools**
 - Tools for diagnosing issues.
- **VMware vRealize® Operations Manager™ Integration**
 - Overview of integration with vSphere.
- **VMware Tanzu Mission Control**
 - Functions and integration with vSphere.
- **Log Management**
 - Gathering support log bundles and event monitoring.

7. vSphere with Tanzu Life Cycle

- **Kubernetes Versioning**
 - Understanding release cadence and versioning.
- **Lifecycle Management**
 - Overview of the lifecycle management process.
- **Certificate Management**
 - Managing certificates within vSphere with Tanzu.