VMware Tanzu Kubernetes Grid : Install, Configure, Manage (V2.0)

Content

- **Course Introduction**
  - Introductions and course logistics
  - Course objectives
- **Introducing Tanzu Kubernetes Grid**
  - Overview of Tanzu Kubernetes Grid
  - VMware vSphere® with VMware Tanzu®
  - VMware Tanzu® Mission ControlTM
  - VMware Tanzu® for Kubernetes Operations
  - Tanzu Kubernetes Grid components
  - Bootstrapping multiple instances
  - vSphere Namespaces
  - Benefits of VMware Tanzu Mission Control registration
- **CLI Tools and Cluster API**
  - Tanzu CLI and plug-ins
  - Kubernetes CLI Tools for vSphere
  - Carvel tool set
  - Overview of Cluster API
  - Infrastructure providers and controllers
  - Cluster API custom resource definitions
- **Authentication**
  - Kubernetes roles and RBAC API
  - Pinniped and OpenID Connect
  - Dex and LDAP authentication
  - vCenter® Single Sign-On integration
  - Management cluster authentication components
  - Pinniped workflow in management clusters
  - vSphere Namespace permissions and roles
  - Authentication options for kubectl and Tanzu CLI
- **Load Balancers**
  - Load balancing in Tanzu Kubernetes Grid
  - Integration with different load balancers
  - Public cloud load balancing
  - Components of VMware NSX® Advanced Load BalancerTM
  - Integration with NSX Advanced Load Balancer

- **VMware Tanzu Kubernetes Grid on vSphere**

    - Requirements for deploying a supervisor cluster
    - Deployment options for the supervisor cluster
    - Licensing requirements
    - Installation steps and status retrieval
    - Applying a full license to the supervisor cluster
    - Management cluster requirements
    - Bootstrap machine requirements
    - Internet-restricted environment requirements
    - OVA version relation to Tanzu Kubernetes Grid version
    - Optional configurations for management cluster deployment
    - Steps for installing a management cluster
    - Registering management clusters with VMware Tanzu Mission Control

- **VMware Tanzu Kubernetes Grid on Public Clouds**

    - Requirements for management clusters on AWS and Azure
    - Process for creating management clusters on public clouds

- **Tanzu Kubernetes Grid Workload Clusters**

    - Options for deploying workload clusters
    - Types of workload clusters
    - Creation process for Tanzu Kubernetes Grid clusters
    - Components of a workload cluster
    - Difference between machine images and custom images
    - Available customizations and building custom images
    - Commands for working with workload clusters
    - Scaling workload clusters and machine health checks

- **Tanzu Kubernetes Grid Packages**

    - Usage of packages in Tanzu Kubernetes Grid
    - Different package repositories and types
    - Auto-managed and CLI-managed packages
    - Installation and configuration of packages using the Tanzu CLI

- **Configuring and Managing Tanzu Kubernetes Grid Networking Packages**

    - Overview of cert-manager and installation
    - Contour ingress controller and installation
    - Service discovery and ExternalDNS configuration
    - Installation of Multus and Whereabouts

- **Configuring and Managing Tanzu Kubernetes Grid Operation and Analytics Packages**

    - Overview of Fluent Bit and logs collection
    - Installation of Fluent Bit, Prometheus, Grafana, and Harbor

- Harbor vulnerability scanning

- **Tanzu Kubernetes Grid Day 2 Operations**

  - Authenticating workload clusters
  - Role-based access within workload clusters
  - NSX Advanced Load Balancer integration for ingress
  - VMware Tanzu® Application PlatformTM installation steps
  - Upgrading and updating Tanzu Kubernetes Grid instances
  - Velero Plugin for vSphere and workload cluster backup/restore

- **Troubleshooting Tanzu Kubernetes Grid**

  - Overview of Tanzu Kubernetes Grid logs
  - Reviewing Cluster API controller logs
  - Troubleshooting package installation errors