VMware Tanzu Kubernetes Grid: Install, Configure, Manage [V2.0]

ID TKGICM2 **Price** 2,760.— €(excl. VAT) **Duration** 4 days

Who should attend

Platform operators who are responsible for deploying and managing Tanzu Kubernetes clusters

Prerequisites

- Understanding of Kubernetes and the Kubernetes cluster architecture
- Experience deploying and managing multiple Kubernetes clusters

Course Objectives

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

- Describe how Tanzu Kubernetes Grid fits in the VMware Tanzu® portfolio
- Describe the Tanzu Kubernetes Grid architecture
- Deploy and manage Tanzu Kubernetes Grid management and supervisor clusters
- Deploy and manage Tanzu Kubernetes Grid workload clusters
- Deploy, configure, and manage Tanzu Kubernetes Grid packages
- Perform basic troubleshooting

Course Content

Course Introduction

- Introductions and course logistics
- Course objectives

Introducing VMware Tanzu Kubernetes Grid

- Identify the VMware Tanzu products responsible for Kubernetes life cycle management and describe the main differences between them
- Explain the core concepts of Tanzu Kubernetes Grid, including bootstrap, Tanzu Kubernetes Grid management, supervisor, and workload clusters
- List the components of a Tanzu Kubernetes Grid instance

VMware Tanzu Kubernetes Grid CLI and API

- Illustrate how to use the Tanzu CLI
- Define the Carvel Tool set
- Define Cluster API
- Identify the infrastructure providers
- List the Cluster API controllers
- Identify the Cluster API custom resource definitions

Authentication

- Explain how Kubernetes manages authentication with Management clusters
- Explain how Kubernetes manages authentication with supervisor clusters
- Define Pinniped
- Define Dex
- Describe the Pinniped authentication workflow

Load Balancers

- Illustrate how load balancing works for the Kubernetes control plane
- Illustrate how load balancing works for application workload
- Explain how Tanzu Kubernetes Grid integrates with VMware NSX Advanced Load Balancer
- List load balancing options available on public clouds

VMware Tanzu Kubernetes Grid on vSphere

- List the requirements for deploying a supervisor cluster
- List the steps to install a Tanzu Kubernetes Grid supervisor cluster
- Summarize the events of a supervisor cluster creation
- List the requirements for deploying a management cluster
- List the steps to install a Tanzu Kubernetes Grid management cluster
- Summarize the events of a management cluster creation
- Demonstrate how to use commands when working with management clusters

VMware Tanzu Kubernetes Grid on Public Clouds

- List the requirements for deploying a management cluster on AWS and Microsoft Azure

- List the configuration options to install a Tanzu Kubernetes Grid a management cluster on AWS and Azure

Tanzu Kubernetes Workload Clusters

- List the steps to build a custom image
- Describe the available customizations
- Identify the options for deploying Tanzu Kubernetes Grid clusters
- Explain the difference between the v1alpha3 and v1beta1 APIs
- Explain how Tanzu Kubernetes Grid clusters are created
- Discuss which VMs compose a Tanzu Kubernetes Grid cluster
- List the pods that run on a Tanzu Kubernetes Grid cluster
- Describe the Tanzu Kubernetes Grid core add-ons that are installed on a cluster

Tanzu Kubernetes Grid Packages

- Define the Tanzu Kubernetes Grid packages
- Explain the difference between Auto-Managed and CLI-Managed packages
- Define packages repositories

Configuring and Managing Tanzu Kubernetes Grid Operation and Analytics Packages

- Describe Cert-Manager
- Describe the Harbor Image Registry
- Describe Fluent Bit
- Identify the logs that Fluent Bit collects
- Explain basic Fluent Bit configuration
- Describe Prometheus and Grafana

Configuring and Managing Tanzu Kubernetes Grid Networking Packages

- Describe the Contour ingress controller
- Demonstrate how to install Contour on a Tanzu Kubernetes Grid cluster
- Describe ExternalDNS
- Demonstrate how to install Service Discovery with ExternalDNS
- Describe Multus CNI

Tanzu Kubernetes Grid Day 2 Operations

- List the load balancer configuration options in vSphere to load balance applications
- Demonstrate how to configure Ingress with the NodePortLocal Mode
- Explain how to install VMware Tanzu Application Platform
- Describe life cycle management in Tanzu Kubernetes Grid
- Explain how backup and restore are implemented in Tanzu Kubernetes Grid
- Describe Velero and Restic
- List the steps to back up a Workload cluster using Velero and Restic

Troubleshooting Tanzu Kubernetes Grid

- Discuss the various Tanzu Kubernetes Grid logs
- Identify the location of Tanzu Kubernetes Grid logs
- Explain the purpose of crash diagnostics
- Demonstrate how to check the health of a Tanzu Kubernetes Grid cluster
- Explain packages cleanup procedures
- Explain management recovery procedures

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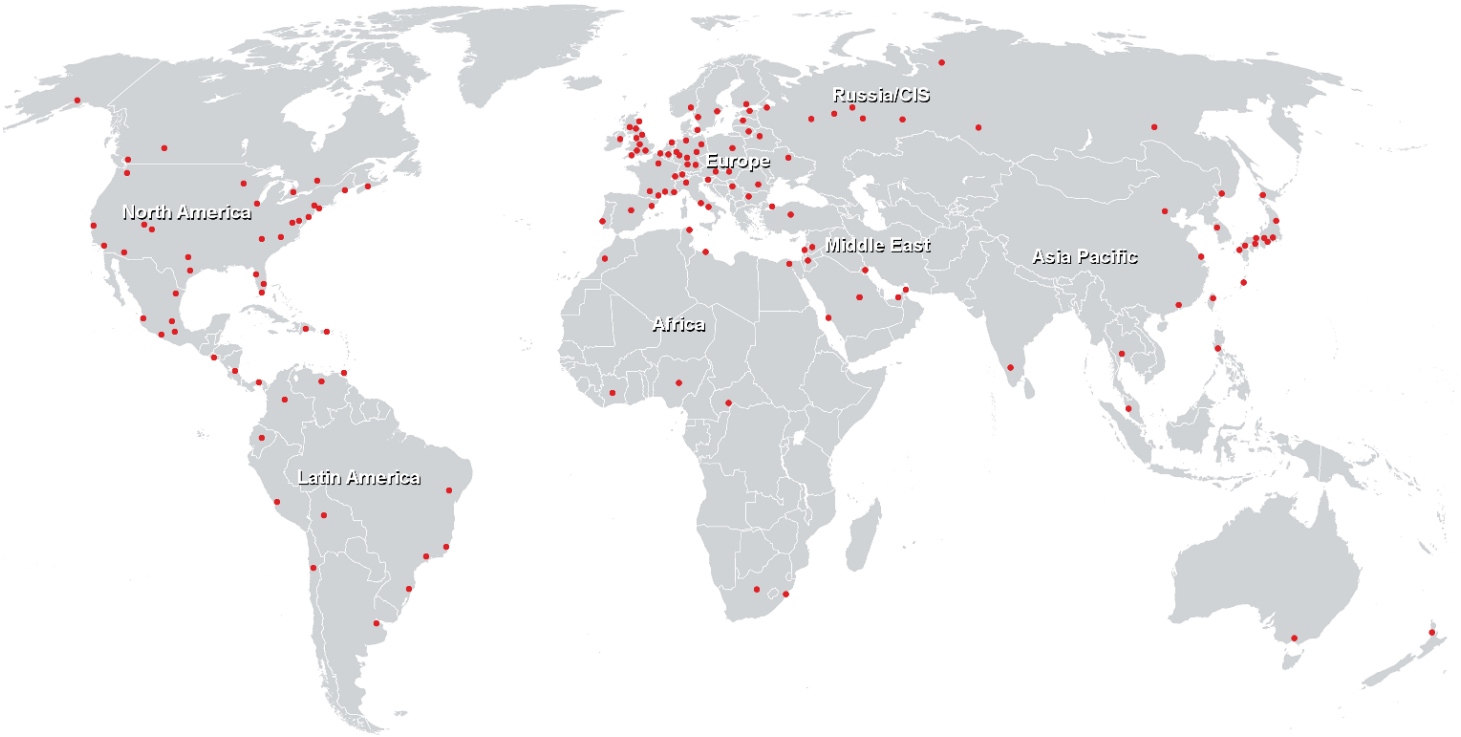

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