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# VMware Tanzu for Kubernetes Operations Professional

## Exam Details (Last Updated: 03/14/2023)

The VMware Tanzu for Kubernetes Operations Professional (2V0-71.23) exam, which leads to VMware Certified Professional - Tanzu for Kubernetes Operations 2023 (VCP-TKO 2023) certification is a 63-item exam, with a passing score of 300 using a scaled method. Candidates are given 130 minutes to complete the exam, which includes adequate time to complete the exam for non-native English speakers.

## Exam Delivery

This is a proctored exam delivered through Pearson VUE. For more information, visit the Pearson VUE website.

## Certification Information

For details and a complete list of requirements and recommendations for attainment, please reference the VMware Learning Services – Certification website.

## Minimally Qualified Candidate

The Minimally Qualified Candidate (MQC) is recommended to have at least 6 to 12 months of experience working with components of VMware Tanzu for Kubernetes Operations. They generally understand and describe features and capabilities of VMware Tanzu for Kubernetes Operations components including VMware Tanzu Mission Control (TMC), VMware Tanzu Kubernetes Grid (TKG), VMware Tanzu Service Mesh (TSM), VMware Aria Operations for Applications (formerly Tanzu Observability) and VMware NSX Advanced Load Balancer (NSX ALB). The MQC can generally explain the VMware Tanzu portfolio and has hands-on experience with containerization, Kubernetes, and concepts of microservices and modern applications platforms. The MQC can generally perform common operational and administrative tasks in an environment where Tanzu for Kubernetes Operations components are present, including basic deployment and operation of TKG clusters. The MQC can generally identify the primary functionality and features of TMC including but not limited to cluster lifecycle management, role-based access controls (RBAC), security policies, cluster inspections and data protection. In addition, the MQC can generally understand and describe the steps for installation and setup of Tanzu for Kubernetes Operations components.

## Exam Sections

### Sections Included in this Exam

Section 1 – Architecture and Technologies

- Objective 1.1 Describe Kubernetes Lifecycle Management Concepts
- Objective 1.2 Describe Application Modernization Concepts
- Objective 1.3 Describe Kubernetes logical objects
- Objective 1.4 Describe Kubernetes Platform and Service Administration Concepts
- Objective 1.5 Describe Kubernetes Cluster and Application Security Concepts
- Objective 1.6 Describe Kubernetes Application Deployment and Lifecycle Management Concepts
- Objective 1.7 Describe Kubernetes networking and storage concepts
- Objective 1.8 Describe the concepts of service mesh



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- Objective 1.9 Describe the concept of observability for Kubernetes
- Objective 1.10 Describe the concept of application package management for Kubernetes
- Objective 1.11 Describe the concept of Cluster API

Section 2 – VMware Products and Solutions

- Objective 2.1 Understand and Explain Common Administration Requirements for Tanzu Kubernetes Grid
- Objective 2.2 Understand and Explain Common Administration Requirements for vSphere with Tanzu
- Objective 2.3 Understand and Explain Common Administration Requirements for Tanzu Mission Control
- Objective 2.4 Describe the features and benefits of Aria Operations for Applications
- Objective 2.5 Describe the features and benefits of Tanzu Service Mesh

Section 3 – VMware Tanzu for Kubernetes Operations

Tanzu for Kubernetes Operations Common

- Objective 3.1 Describe the role of cert-manager
- Objective 3.2 Describe the role of Harbor image registry
- Objective 3.3 Describe the role of Fluent Bit
- Objective 3.4 Describe the role of Contour ingress controller
- Objective 3.5 Describe the role of External DNS
- Objective 3.6 Describe the role of Prometheus and Grafana
- Objective 3.7 Describe the role of Velero
- Objective 3.8 Describe the role of Multus Container Network Interface (CNI)

Tanzu Mission Control (TMC)

- Objective 3.9 Describe the steps to attach a management or supervisor cluster
- Objective 3.10 Deploy a workload cluster
- Objective 3.11 Attach a Kubernetes cluster
- Objective 3.12 Describe the steps to upgrade the Kubernetes version on a workload cluster
- Objective 3.13 Understand the role of the policies
- Objective 3.14 Define Cluster Groups and Workspaces
- Objective 3.15 Describe access policies and roles
- Objective 3.16 Describe network policies
- Objective 3.17 Describe image registry policies
- Objective 3.18 Backup and restore a cluster
- Objective 3.19 Deploy an application to a workload cluster using the TMC Catalog

Tanzu Kubernetes Grid (TKG)

- Objective 3.20 Describe the benefits of Tanzu Kubernetes Grid
- Objective 3.21 Describe the components that run in Tanzu Kubernetes Grid
- Objective 3.22 Describe cluster lifecycle management in Tanzu Kubernetes Grid

- Objective 3.23 Describe the steps to scale a cluster up/down
- Objective 3.24 Describe package management
- Objective 3.25 Describe authentication and authorization methods for Tanzu Kubernetes Clusters
- Objective 3.26 Describe Container Network Interface (CNI) options
- Objective 3.27 Describe Container Storage Interface (CSI)

vSphere with Tanzu

- Objective 3.28 Describe the Supervisor Cluster
- Objective 3.29 Describe the steps to provision a Supervisor Cluster
- Objective 3.30 Describe vSphere Namespaces
- Objective 3.31 Describe Tanzu Kubernetes Grid Service
- Objective 3.32 Describe Tanzu Kubernetes Grid workload clusters
- Objective 3.33 Describe Virtual Machine (VM) Class in vSphere with Tanzu
- Objective 3.34 Describe Storage Policies in vSphere with Tanzu
- Objective 3.35 Describe vSphere with Tanzu shared datastores types

Tanzu Service Mesh Advanced

- Objective 3.36 Describe the purpose of Global Namespaces
- Objective 3.37 Describe application connectivity services and traffic control benefits
- Objective 3.38 Describe applications autoscaling functionality
- Objective 3.39 Describe the benefits of Tanzu Service Mesh user interface

Aria Operations for Applications (Observability)

- Objective 3.40 Describe Aria Operations for Applications capabilities and features
- Objective 3.41 Describe the components of Aria Operations for Applications
- Objective 3.42 Describe Aria Operations for Applications integration with Tanzu Mission Control

NSX Advanced Load Balancer

- Objective 3.43 Describe NSX Advanced Load Balancer capabilities and features
- Objective 3.44 Describe the components of NSX Advanced Load Balancer
- Objective 3.45 Explain how Tanzu Kubernetes Grid integrates with NSX Advanced Load Balancer

Section 4 – VMware Tanzu for Kubernetes Operations Security

- Objective 4.1 Describe registry Policies for deploying images
- Objective 4.2 Explain registry scanning policies for identifying CVE's in images & blocking critical CVE's

## Recommended Courses/Training Materials

VMware vSphere with Tanzu: Deploy and Manage [V7]

VMware vSphere with Tanzu: Deploy and Manage [V7] - On Demand

VMware Tanzu Kubernetes Grid: Install, Configure, Manage [V1.5]

VMware Tanzu Kubernetes Grid: Install, Configure, Manage [V1.5] - On Demand

VMware Tanzu Mission Control: Management and Operations 2022

VMware Tanzu Mission Control: Management and Operations 2022 - On Demand

Kubernetes Fundamentals and Cluster Operations

Kubernetes Fundamentals and Cluster Operations - On Demand

## References*

In addition to the recommended courses, item writers use the following references for information when writing exam questions. It is recommended that you study the reference content as you prepare to take the exam, in addition to any recommended training.

| Name | Products |
|---|---|
| http://www.vmware.com | VMware Tanzu for Kubernetes Operations |
| http://kb.vmware.com | VMware Tanzu for Kubernetes Operations |
| https://blogs.vmware.com | VMware Tanzu for Kubernetes Operations |
| https://docs.vmware.com | VMware Tanzu for Kubernetes Operations |
| https://www.vmware.com/support/pubs/ | VMware Tanzu for Kubernetes Operations |
| https://www.vmware.com/techpapers.html | VMware Tanzu for Kubernetes Operations |
| http://pubs.vmware.com | VMware Tanzu for Kubernetes Operations |
| *Content in this exam is based on VMware Tanzu for Kubernetes Operations. Review all Basic edition release notes and material for features and function. | |

## Exam Contributors

Matthieu Joannic
Michael Rebmann
Michael Fleisher
Ryan Conley
Kevin Brady
Art Fewell
Darin Zook
Pawel Piotrowski
Stefan Stamov
Sascha Schwunk



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