VMware Cloud Foundation: Automate and Operate [V9.0] Training

Duration: **5 Day**

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This five-day course provides you with the knowledge, skills, and abilities to achieve competence in automating and operating a VCF private cloud using VMware Cloud Foundation® Automation and VMware Cloud Foundation® Operations. You will learn about the architecture of VCF Automation, provider and organization management, provider and organization networking, and content library management. The course covers blueprints, catalogs, Supervisor management, and deploying workloads using the Catalog and IaaS portals. You will learn about VCF Operations overview, architecture, and navigating the user interface. You will explore customizing alerts, views, reports, dashboards, and policies. This course also explains VCF logs, storage, and network operations, health and diagnostics, service discovery, and application monitoring concepts.

Prerequisites

Before taking this course, students should take the following courses:

- VMware vSphere: Install, Configure, Manage
- VMware NSX: Install, Configure, Manage

Target Audience

This course is designed for:

- Architects and system administrators

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What You Will Learn

By the end of this course, learners will be able to:

- Describe VCF Automation components and supporting architecture
- Perform infrastructure management as a cloud provider
- Deploy Regions and Organizations as the cloud provider
- Configure networking at the cloud provider and organization levels
- Configure and manage content libraries at the provider and organization levels
- Manage access control in the organization using users and groups
- Create and manage infrastructure blueprints and catalogs
- Describe the use of the embedded orchestrator to create workflows
- Deploy VM workloads using catalog deployment and Kubernetes-based IaaS deployments
- List the key features of VCF Operations
- Outline VCF Operations use cases
- Create custom views and reports
- Describe the functions of dashboards
- Create custom dashboards
- Create custom symptoms and alert definitions
- Outline the role of VCF Health and Diagnostics
- Explain Troubleshooting Workbench
- Describe the VMware Cloud Foundation® Operations for logs overview
- Identify performance and health issues with the Storage clusters using Storage Operations
- Identify performance and health issues with the VCF Network objects
- Create policies to meet the operational needs of your environment
- Configure service discovery and application monitoring

Training Outline

1. VCF Automation Overview and Architecture

- Describe the features, benefits, and purposes of VCF Automation
- Explain the architecture of VCF Automation

2. Provider Infrastructure Management

- Describe the provider management and provider consumption portals
- List the supported options for provider administrator from the provider portal
- Explain managing tasks and events from the provider portal
- Describe the features of the provider consumption organization
- Describe how to discover infrastructure resources
- Explain how to manage IP spaces and provider gateways

3. Provider Identity Management

- Explain how to enable VCF SSO for the Automation appliance
- Discuss configuring VMware Cloud Foundation® Identity Broker as the identity provider
- List the supported IdP (ODIC, SAML, LDAP)
- Discuss how to register a provider-scoped identity provider
- Explain managing VCF Automation roles and rights

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- Discuss managing VCF Automation users and groups
- Discuss provider-scoped service accounts

4. Regions

- Explain the basics of a Region
- Identify the utilization of the Region
- Discuss prerequisites and available options for creating a Region

5. Organizations

- Describe the different Organizations offered in VCF Automation
- Identify the use cases for manual setup and multitenancy
- Identify use cases for Quick Setup
- Create a VCF Automation VM Apps Organization
- Create a VCF Automation All Apps Organization

6. Provider Networking

- Discuss prerequisites for creating the provider network
- Discuss the workflow for configuring the provider network
- Describe IP Spaces
- Discuss Edge nodes, Edge clusters, and the network services it offers
- Configure IP Spaces and verify the configuration
- Configure the Provider Gateway and verify the status
- Synchronize Edge clusters and verify the status
- Configure regional networking for an Organization
- Discuss steps to verify the creation of network resources in VMware NSX®, VMware vCenter®, and VCF Automation.
- Discuss the mapping of resources between VCF Automation, NSX, and vCenter

7. Organization Networking with VPC

- Discuss Organization Networking
- Discuss the architecture of the VPC
- Discuss access modes and subnet types in VPC
- Describe the scope of different subnet types in VPC
- Discuss Outbound Routing and Network Address Translations in VPC
- Configure VPC with a default, custom connectivity profile and verify its status
- Configure Private-TGW IP Block, associate it with a VPC, and verify its status

8. Provider Content Library

- Describe the Provider Content Library creation workflow
- Explain publishing and subscribing to a Content Library

9. Organization Management

- Identify the key components of an All Apps Organization
- Explain namespace classes
- Explain creating and managing Projects
- Discuss Chargeback for Organizations
- Integrate identity providers into Organizations
- Manage users and groups in an Organization

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- Create and manage deployment-centric policies
- Create and manage Supervisor resource-centric policies

10. Organization Content Management

- Identify and manage the different content available in Content Hub
- Differentiate between catalog self-service versus IaaS self-service
- Publish content to Catalog for end-user consumption
- Deploy and modify Catalog items
- Configure and use custom forms
- Explain the role of YAML in configuring and managing infrastructure as code
- Publish Content to Catalog for End User Consumption
- Discuss the use of the embedded orchestrator
- Discuss the use cases of an external orchestrator
- Describe orchestrator workflows

11. IaaS Platform Architecture and Deployment

- Explain Supervisor architecture
- Discuss Supervisor requirements
- List Supervisor use cases
- Discuss the vSphere administrator workflow
- List the components of the Supervisor
- Discuss the types of Supervisor deployment
- Discuss the requirements of Supervisor deployment
- Describe Supervisor deployment during the VI Workload Domain creation

12. Deploying Modern Apps with IaaS

- Discuss self-service consumption with IaaS services in VCF 9
- Discuss the features of the IaaS console
- Describe how to get instance information from the console
- Explain the YAML Spec for the VM service
- Discuss VCF CLI commands

13.VCF Operations Overview

- List the key features of VCF Operations
- Outline VCF Operations use cases
- Navigate the VCF Operations console
- Identify the components of a VCF Operations node
- Describe the different roles of the node in a VCF Operations cluster

14. VCF Metrics, Views, and Reports

- Outline the role of metrics in VCF Operations
- Outline the role of views in VCF Operations
- List the steps to create a basic custom view and configure view settings
- Outline the roles of reports in VCF Operations
- List the steps to create a basic report and configure report settings

15.VCF Dashboards

- Describe the functions of dashboards

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- Create dashboards that use predefined and custom widgets
- Manage dashboards by grouping and sharing with users
- Explain the use cases of predefined dashboards and custom dashboards
- List VCF Operations use cases

16.VCF Symptoms and Alerts

- Describe the purpose of using alerts
- Identify the components of an alert definition
- Create symptom definitions
- View and manage triggered alerts in the VCF Operations console
- Configure a custom alert using the Create Alert Definition workflow

17.VCF Health and Diagnostics

- Outline the role of VCF Health and Diagnostics
- Describe the VCF Health and Diagnostic Findings features
- Monitor the operational state of VCF instances
- Explain Troubleshooting Workbench
- Enable support teams with full context using Log Assist

18.VCF Logs, Storage, and Network Operations

- Describe the VCF Operations for logs overview
- Describe the key benefits of the VCF Operations for logs
- Describe the capabilities of VCF Operations for logs
- Describe the VCF Storage Operations overview
- Identify performance and health issues with the Storage clusters
- Describe the benchmarking and optimization tool to detect issues for a new cluster
- Describe the VCF Network Operations overview
- Discuss the different widgets available in VCF Network Operations
- Identify the performance and health issues with the VCF Network object

19.VCF Operations Policies

- Describe the purposes of policies in VCF Operations
- Configure policies and other components

20.VCF Centralized Monitoring

- Describe the infrastructure services monitoring capabilities
- Describe the application monitoring capabilities
- Describe the different types of application metrics
- Outline the requirements to enable service discovery and application monitoring
- Describe the different types of service metrics
- Use collected metrics to interpret the status of services

Exams and Assessments

There is no certification associated with this course.

Hands-On Learning

- This course is delivered through a combination of presentations, demonstrations and practical

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