VMware Cloud Foundation: Automate and Operate [9.0] - FT

Duration: 3 Days

Overview
This course provides you with the knowledge, skills, and abilities to achieve competence in automating and operating a VMware Cloud Foundation® (VCF) private cloud using VMware Cloud Foundation® Automation and VMware Cloud Foundation® Operations. You 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. This course also covers VCF Operations, architecture, and navigating the user interface. You explore customizing alerts, views, reports, dashboards, and policies. You also learn about VCF logs, storage, and network operations, health and diagnostics, service discovery, and application monitoring concepts.

Audience

This course is ideal for system architects and system administrators.

Prerequisites

Before attending this course, you should take the following courses:

VMware vSphere: Install, Configure, Manage

VMware NSX: Install, Configure, Manage

Objectives

After completing this course, you should 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

Certifications and related exams

This course is one of two courses recommended for the **VMware Certified Professional – VMware Cloud Foundation Administrator** certification.

Course outline

Module 1: VCF Automation Overview and Architecture

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

Module 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

Module 3: Provider Identity Management

- Explain how to enable VCF SSO for the VCF 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
- Discuss managing VCF Automation users and groups
- Discuss provider-scoped service accounts

Module 4: Regions

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

Module 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

Module 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

Module 7: Organization Networking with Virtual Private Cloud (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

Module 8: Provider Content Library

- Describe the provider content library creation workflow
- Explain publishing and subscribing to a content library

Module 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
- Create and manage deployment-centric policies
- Create and manage supervisor resource-centric policies

Module 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

Module 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

Module 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

Module 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

Module 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

Module 15: VCF Dashboards

- Describe the functions of dashboards

- 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

Module 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

Module 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

Module 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

Module 19: VCF Operations Policies

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

Module 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