VCFDCM- VMware Cloud Foundation: Deploy, Configure, Manage

Days: 5

Prerequisites: Operational capabilities with VMware vSphere processes and architecture; Operational capabilities with VMware NSX; Operational knowledge of vSAN.

Audience: Experienced security administrators or network administrators.

Description: This five-day training course provides you with the knowledge, skills, and abilities to achieve competence with VMware Cloud Foundation 5.2. This course teaches you how deploy VMware Cloud Foundation, and perform the tasks required for the initial configuration and ongoing operation after deployment.

Course Objectives: Upon completing this course, the learner will be able to meet these overall objectives:
- Plan a deployment for VMware Cloud Foundation
- Understand VMware Cloud Foundation and supporting architecture
- Configure VMware Cloud Foundation for VMware Cloud Connectivity
- Understand the VMware Cloud Foundation subscription licensing model
- Perform Day-Zero tasks
- Perform VMware Cloud Foundation platform onboarding
- Manage user credentials in VMware Cloud Foundation
- Configure NSX networking in VMware Cloud Foundation
- Deploy and manage Workload Domains
- Deploy vSphere with Tanzu on VMware Cloud Foundation
- Understand and implement storage solutions and related policies
- Perform maintenance tasks for the VMware Cloud Foundation platform
- Manage certificates for VMware Cloud Foundation and connected technologies
- Manage the lifecycle for VMware Cloud Foundation
- Engage with VMware Cloud Foundation Technical Support

OUTLINE:

MODULE 1: COURSE INTRODUCTION
- Introductions and course logistics
- Course objectives

MODULE 2: VMWARE CLOUD FOUNDATION OVERVIEW
- Describe the VMware Cloud Foundation solution
- Describe VMware Cloud Foundation architecture
- Identify VMware Cloud Foundation components
- Describe the VMware Cloud Foundation topology

MODULE 3: VMWARE CLOUD FOUNDATION+ AND VMWARE CLOUD CONNECTIVITY
- Describe the VMware Cloud Foundation+ architecture
- Identify the pre-requisites for VMware Cloud Foundation+
- Describe VMware Cloud Foundation+ value added features
- Configure subscription-based licensing parameters
- Describe the vCenter Cloud Gateway functionality
- Identify the vCenter Cloud Gateway components
- Describe the vCenter Cloud Gateway architecture
- Connect the vCenter Cloud Gateway to VMware Cloud
- Describe the VMware Cloud platform
- Describe the VMware vSphere+ services used in VMware Cloud Foundation+

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- Demonstrate the capabilities of the VMware Cloud user interface for VMware Cloud Foundation+

MODULE 4: DAY ZERO TASKS

- Identify the requirements for deploying VMware Cloud Foundation
- Describe the VMware Cloud Foundation bring-up process
- Identify the information required for the Planning and Preparation Workbook
- Complete the Deployment Parameter Workbook
- Describe how VMware Cloud Builder automates the deployment process
- Identify the configuration validation process performed by VMware Cloud Builder
- Describe the deployment of the management domain

MODULE 5: POST-DEPLOYMENT OPERATIONS

- Complete the Onboarding Wizard
- Understand VMware Cloud Foundation integration with VMware Single Sign-On
- Configure user access to VMware Cloud Foundation
- Describe the importance of user roles in vSphere
- Configure identity sources for VMware Cloud Foundation
- Perform the SDDC Manager backup and restore process
- Identify steps in the NSX backup and restore process
- Manage passwords in VMware Cloud Foundation
- Explain the importance of using VMware Cloud Foundation to manage passwords for vSphere components
- Manage and secure a primary password list
- Describe the process for rotating passwords not managed by VMware Cloud Foundation

MODULE 6: VMWARE CLOUD FOUNDATION NETWORKING WITH NSX

- Describe network virtualization with NSX
- Recognize NSX operational planes
- Identify NSX components
- Describe logical switching
- Describe NSX Data Center deployment in VMware Cloud Foundation
- Explain how logical routing works in NSX
- Identify NSX Edge functions
- Describe data plane preparation for NSX Edge nodes in a workload domain
- Recognize Tier-0 and Tier-1 gateway topologies
- Define application virtual networks
- Describe management domain rack options
- List NSX Edge cluster requirements for vSphere with Tanzu
- Discuss NSX Edge cluster placement considerations

MODULE 7: MANAGING WORKLOAD DOMAINS

- Define workload domains
- List the types of workload domains
- Identify workload domain prerequisites
- Understand the scalability limits for workload domains
- Identify use cases for multiple clusters in a workload domain
- Create network pools
- Size network pools
- Commission hosts with SDDC Manager
- Create workload domains
- Scale workload domains
- Decommission hosts from a workload domain
- Remove workload domains
- Describe distinctive design decisions for VMware Cloud Foundation components

MODULE 8: VSPHERE WITH TANZU IN VMWARE CLOUD FOUNDATION

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- Explain vSphere with Tanzu
- Define the role of the Spherelet
- Describe the supervisor cluster control plane
- Create vSphere with Tanzu namespaces
- Describe the role of NSX networking components in vSphere with Tanzu
- Discuss vSphere with Tanzu networking topology
- Describe control plane VM management networking requirements
- Plan appropriate IP address ranges for pod, ingress, and egress networking
- Describe prerequisites for vSphere with Tanzu cluster compatibility
- Deploy vSphere with Kubernetes
- Create a vSphere namespace
- Configure limits and permissions for a vSphere namespace

MODULE 9: VMWARE CLOUD FOUNDATION STORAGE MANAGEMENT

- Identify storage use cases in VMware Cloud Foundation
- Determine the most appropriate storage option for a workload domain
- Describe different vSphere-native storage design options
- Identify vSAN architecture and components
- Describe vSAN requirements for the management and workload domains
- Configure deduplication and compression
- Discuss how to scale vSAN clusters in VMware Cloud Foundation
- Configure storage policies for vSAN
- Explain storage policy failure tolerance rules
- Identify a virtual machine storage policy compliance status
- Explain how vSAN storage policies protect VMware Cloud Foundation components

MODULE 10: AVAILABILITY AND BUSINESS CONTINUITY

- Explain the importance of external service availability
- Describe availability options native to VMware vSphere
- Identify stretched cluster use cases
- Identify stretched cluster components
- Recognize stretched cluster requirements in VMware Cloud Foundation
- Prepare and deploy a vSAN stretched cluster using APIs

MODULE 11: VMWARE CLOUD FOUNDATION CERTIFICATE MANAGEMENT

- Learn the basics of public key infrastructure (PKI)
- Describe the purpose of certificate signing requests (CSRs)
- Describe available options in SDDC Manager for certificate authorities
- View certificates for VMware Cloud Foundation components
- Install and replace certificates for VMware Cloud Foundation components
- Configure the integrated Certificate Authorities in SDDC Manager
- Configure a certificate template in Microsoft Certificate Authority server
- Configure the OpenSSL certificate authority in SDDC Manager
- Install certificates issued by Microsoft, OpenSSL, and third-party certificate authorities

MODULE 12: VMWARE CLOUD FOUNDATION LIFECYCLE MANAGEMENT

- Describe VMware Cloud Foundation Life Cycle Management
- List the products managed by VMware Cloud Foundation Lifecycle management
- Use online and offline bundle downloads using VMware Cloud Foundation Lifecycle management

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- Understand the role of vSphere Lifecycle Management in VMware Cloud Foundation
- Understand vSphere Lifecycle Manager features
- Understand how and when to use cluster images
- Describe the importance of Hardware Support Managers
- Describe the upgrade prerequisites
- Outline the upgrade precheck process
- Describe the order of upgrade for VMware Cloud Foundation components

MODULE 13: VMWARE CLOUD FOUNDATION TROUBLESHOOTING

- Use the SoS command-line tool to create log bundles, perform health checks, and check password validity
- List VMware Cloud Foundation services
- Identify VMware Cloud Foundation log files
- Use token IDs to troubleshoot failed workflows