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# VMware Cloud Foundation: Deploy, Configure, Manage

## Course Overview

This five-day course includes instruction on the capabilities of VMware Cloud Foundation™ and how to successfully plan, deploy, manage, and operate hybrid and cloud infrastructures, including customization. The course explains the architecture of VMware Cloud Foundation and explains licensing, certificates, and storage and network management. The course also covers workload domains, availability, life cycle management, and troubleshooting.

## Course Objectives

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

## Target Audience

System architects and system administrators

## Prerequisites

Before taking this course, students should take the following courses or have equivalent knowledge and experience:

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

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## Course Delivery Options

- Classroom
- Live Online
- [Private Training](#)

## Product Alignment

- VMware Cloud Foundation 5.0
- VMware vSphere 8.0
- VMware NSX 4
- vSphere with Tanzu

## Course Modules

1 **Course Introduction**
- Introductions and course logistics
- Course objectives

2 **VMware Cloud Foundation Overview**
- Describe the VMware Cloud Foundation solution
- Describe VMware Cloud Foundation architecture
- Identify VMware Cloud Foundation components
- Describe VMware Cloud Foundation topology

3 **VMware Cloud Foundation+ and VMware Cloud Connectivity**
- Describe the VMware Cloud Foundation+™ architecture
- Identify the pre-requisites for VCF+
- Describe the VCF+ value added features
- Describe subscription-based licensing parameters
- Describe the subscription process
- Describe the VMware Cloud Gateway™ functionality
- Identify the VMware Cloud Gateway components
- Describe the VMware Cloud Gateway architecture
- Describe VMware Cloud Gateway connectivity to VMware Cloud
- Describe the VMware Cloud platform
- Describe the vSphere+ services used in VCF+
- Demonstrate the capabilities of the cloud UI for VCF+

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

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

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 VMware 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

7 **Managing Workload Domains**
- Define workload domains
- List the types of workload domains
- State scale limits for workload domains
- Identify use cases for multiple clusters in a workload domain

- Define network pools
- Size network pools
- Create network pools
- Commission hosts
- Identify workload domain prerequisites
- Create a workload domain
- Scale a workload domain
- Delete a workload domain
- Decommission hosts
- Describe distinctive design decisions for VMware Cloud Foundation components

## 8  vSphere with Tanzu in VMware Cloud Foundation

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

## 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 VMware vSAN architecture and components
- Describe vSAN requirements for the management and workload domains
- Define deduplication and compression
- Discuss how to scale vSAN clusters in VMware Cloud Foundation

- Explain how storage policies work with VMware Cloud Foundation vSAN clusters
- Configure storage policies for vSAN
- Explain storage policy failure tolerance rules
- Identify a virtual machine storage policy compliance status

## 10  Availability and Business Continuity

- Recognize the importance of external service availability
- Describe native vSphere availability options
- 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

## 11  VMware Cloud Foundation Certificate Management

- Learn basics of public key infrastructure (PKI)
- Describe the purpose of certificate signing requests (CSRs)
- Describe the use of subject alternative names (SAN)
- Describe available options in SDDC Manager for certificate authorities
- View certificates
- Generate a CSR
- Replace and install certificates for VMware Cloud Foundation components
- Know the available CA options in SDDC Manager
- Configure the Microsoft CA server
- Add OpenSSL CA in SDDC Manager
- Install certificates issued by Microsoft, OpenSSL, and third-party certificate authorities

## 12  VMware Cloud Foundation Lifecycle Management

- Describe VMware Cloud Foundation Life Cycle Management
- List the products you can upgrade using VMware Cloud Foundation Lifecycle management
- Use online and offline bundle downloads using VMware Cloud Foundation Lifecycle management
- Understand the role of vSphere Lifecycle Management in VMware Cloud Foundation

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- Understand vSphere Lifecycle Manager baseline-based and image-based clusters
- 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
- Upgrade VMware Cloud Foundation software and components

## 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

## Contact

If you have questions or need help registering for this course, click here.