VMware Cloud Foundation: Build, Manage, and Secure [V9.0]

Duration: *5 Day(s)*

Course Overview

This five-day course provides you with the knowledge, skills, and abilities to achieve competence in deploying, managing, operating and securing private cloud using VMware Cloud Foundation® (VCF). You will learn about the architecture of VCF, storage and network management, licensing, and certificates. In addition to workload domains, availability, and life cycle management, the course also covers upgrade scenarios.

Objectives

- Define VCF and its key features
- Describe the use cases of VCF
- Explain the architecture of the VCF private cloud
- Recognize the components of the VCF private cloud

Who Should Attend

- System Administrators
- Solution Engineers
- Consultants
- Architects
- Support Personnel

Prerequisites

Working experience and knowledge of VMware vSphere, VMware NSX and vSAN environments

Course Outline

Course Introduction

1. Introduction and course logistics
2. Course objectives

VCF Private Cloud: Overview and Architecture

3. Define VCF and its key features
4. Describe the use cases of VCF
5. Explain the capabilities of VCF
6. Describe the integrated security across all layers in VCF
7. Explain the advanced services of VCF
8. Explain the architecture of the VCF private cloud
9. Recognize the components of the VCF private cloud

10. Distinguish between VCF fleet-level components and VCF instance-level components
11. Describe the various roles in VCF private cloud

VCF Private Cloud Deployment

12. Identify the VCF fleet deployment considerations
13. Describe the process for planning and preparing a VCF deployment
14. Identify the information required for the Planning and Preparation Workbook
15. Explain the high-level steps to deploy VCF private cloud
16. Outline the sequence for deploying the VCF private cloud
17. Describe the deployment configuration of VCF instance core components
18. Explain the deployment configuration of VCF fleet management components
19. Use the VCF Installer deployment wizard to deploy a new VCF fleet
20. Use a deployment specification JSON file to deploy a new VCF fleet

VCF Post-deployment Tasks

21. Navigate the VCF Operations user interface
22. Navigate the VMware Cloud Foundation® Automation user interface
23. Navigate the vSphere Client user interface
24. Explain VCF Operations for networks, VCF Operations for logs, and VCF Identity Broker
25. Deploy VCF Operations for networks, VCF Operations for logs, and VCF Identity Broker

VCF Fleet Management

26. Describe the VCF licensing model
27. Assign and manage VCF licenses
28. Identify key log files to troubleshoot licensing issues
29. Discuss single sign-on in VCF
30. Describe the single sign-on architecture in VCF
31. Discuss VCF Identity Broker in VCF
32. Identify the steps to configure single sign-on in VCF
33. List the supported directories and IDPs in VCF
34. Configure SSO and enablement for all components in a VCF Instance
35. Manage users and user groups in VCF
36. Outline the steps to manage passwords

VCF Workload Domain

37. Explain VCF domains
38. Describe the management of the workload domains
39. List design considerations for workload domains
40. Describe design prerequisites for a workload domain
41. Outline the steps to create a workload domain
42. Describe vCenter Groups

43. Configure vCenter linked groups
44. Import vCenter as a workload domain using VCF Operations

VCF Networking

45. Describe the role of VMware NSX in VCF
46. Describe the default NSX objects that are created during the VCF deployment
47. Discuss the Workload domain networking options
48. Describe the networking constructs in NSX
49. Explain Virtual Private Cloud concepts and constructs
50. Differentiate between Centralized and Distributed Network Connectivity
51. Configure Distributed Network Connectivity
52. Configure Centralized Network Connectivity
53. Identify key CLI commands to determine the NSX Edge cluster status and BGP peering
54. Create a Virtual Private Cloud
55. Create subnets within a virtual private cloud

VCF Storage Management

56. Define the key components involved in Fibre Channel storage systems
57. Describe the process for configuring Fibre Channel storage
58. Identify the components of an iSCSI storage system
59. Explain how iSCSI addressing works
60. Describe the benefits and considerations of using multipathing with iSCSI storage
61. List the requirements to use NFS as principal and supplemental storage
62. Outline the process of provisioning NFS storage to ESX hosts
63. Describe the steps involved in deploying a vSAN cluster
64. Identify and use built-in tools to validate a successful vSAN deployment
65. Apply a custom storage policy to an individual virtual machine or virtual disk
66. Compare the various tools used to monitor a vSAN cluster
67. Explain the types of vSAN reports available in VCF Operations
68. Compare different maintenance mode options and their impact on object health
69. Summarize the steps to power down a vSAN cluster in a workload domain

VCF Certificate Management

70. Describe public key infrastructure
71. Explain the purpose of certificate signing requests
72. Outline the steps to integrate certificates in VCF
73. List the available CA options in SDDC Manager
74. Integrate VCF Operations with Microsoft CA and OpenSSL CA
75. Manage certificates in VCF

VCF Life Cycle Management

76. Discuss life cycle management in VCF
77. Explain the life cycle management of VCF fleet management
78. Describe how to configure software depots
79. Describe how to upgrade and patch fleet management components
80. Explain the life cycle management of VCF components
81. Describe how to upgrade and patch the VCF management components
82. Explain the process for backing up and restoring fleet-level management components
83. Explain the process for backing up and restoring VCF management components

VCF Security

84. Define security, compliance and resilience in VCF
85. Describe the integrated security features across all layers in VCF
86. Explain the advanced networking and security capabilities of VCF
87. Outline the steps to monitor User and Infrastructure Security
88. Explain how Compliance Benchmark works
89. Outline the steps to monitor Configuration Drift

VCF Upgrade Paths

90. Identify the supported upgrade paths to VCF 9.0
91. Explain the upgrade key consideration
92. Evaluate both existing and future compatibility assessments
93. Explain the upgrade sequence to the VCF 9 fleet using the existing vSphere
94. Explain the upgrade sequence to the VCF 9 fleet using the existing vSphere and VCF Operations
95. Explain the upgrade sequence to the VCF 9 fleet using the existing VCF 5.2 with multiple Aria components