VMware vSphere Foundation: Build, Manage, and Operate [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, configuring and managing VMware vSphere Foundation. You will learn about the architecture of vSphere Foundation, compute, storage, networks and licensing. This course prepares you to administer a vSphere Foundation, which includes VCF Operations 9.0, vCenter9.0, and ESX 9.0.

Objectives

- Deploy and configure VMware vSphere Foundation environments.
- Manage compute, storage, and networking resources.
- Administer VMware vSphere Foundation for operational excellence.
- Troubleshoot and optimize vSphere Foundation for maximum efficiency.

Who Should Attend

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

Prerequisites

Course Outline

Course Introduction

1. Introduction and course logistics.
2. Course objectives.

VMware vSphere Foundation Overview and Architecture

3. Define the vSphere Foundation key features.
4. Explain vSphere Foundation use cases.
5. Explain the architecture of vSphere Foundation.
6. Explore the components of vSphere Foundation.
7. Introduction to VCF Operations.
8. List the steps to navigate the VCF Operations UI and vSphere UI.

License Management

9. Describe the process for managing and assigning licenses.
10. Enable VCF Operations integration for vCenter.
11. Explain license usage by product.

vSphere Foundation Compute

12. Explain basic virtualization concepts.
13. Describe how vSphere fits in the software-defined data center.
14. Describe vSphere architecture and use cases.
15. Recognize the user interfaces for accessing vSphere.
16. Install and configure ESXi host.
17. Create and organize vCenter inventory objects

vSphere Foundation Networking

18. Create and configure standard switch.
19. Create and configure distributed switch.
20. Differentiate between standard and distributed switches.
21. Explain how to set networking policies.

vSphere Foundation Storage

22. Recognize vSphere storage technologies.
23. Identify the types of vSphere datastores.
24. Describe Fibre Channel components and addressing.
25. Describe iSCSI components and addressing.
26. Configure iSCSI storage on ESXi.
27. Create and manage VMFS datastores.
28. Configure and manage NFS datastores.

Deploying Virtual Machines

29. Create and provision VMs.
30. Explain the importance of VMware Tools.
31. Manage a virtual machine from the vSphere client.
32. Manage virtual machine resources.
33. List the steps to deploy virtual machines.
34. Clone VMs and create customization specifications for guest operating systems.
35. Create local, published, and subscribed content libraries.

Virtual Machine Management

36. Migrate VMs using vSphere vMotion and Storage vMotion.

37. Perform snapshots operations.
38. Specify CPU and memory shares, reservations, and limits.

Deploying and Configuring vSphere Clusters

39. Create a vSphere cluster enabled for vSphere DRS and vSphere HA.
40. Explain how vSphere DRS determines VM placement on hosts in the cluster.
41. Recognize use cases for vSphere DRS settings.
42. Describe how vSphere HA responds to various types of failures.
43. Identify options for configuring network redundancy in a vSphere HA cluster.
44. Recognize vSphere HA design considerations.
45. Recognize the use cases for various vSphere HA settings.
46. Configure a vSphere HA cluster.

vSAN Management

47. Identify the features of vSAN.
48. Understand the key differences between vSAN OSA and vSAN ESA.
49. Explain the role of the performance leg and the capacity leg in vSAN ESA.
50. Examine vSAN ESA Object health states.
51. Compare how RAID-0/1/5/6 space consumption.
52. Identify vSAN component states.

vSphere Kubernetes Service Overview

53. Describe vSphere Supervisor Architecture and use cases.
54. Explain vSphere Supervisor Deployment Options.
55. Install vSphere Supervisor.
56. Explain Supervisor Storage vSphere Zones, Networking, and Storage.
57. Configuring and managing a supervisor.
58. Configuring vSphere Namespaces for Hosting VKS Clusters.
59. Managing vSphere Kubernetes Service Clusters.

VCF Operations Metrics

60. Outline the role of metrics in VCF Operations.
61. Create and configure views in VCF Operations.
62. Create and configure reports in VCF Operations.
63. Create and configure dashboards in VCF Operations.
64. Configure widget interactions.
65. Describe the purpose of using alerts.
66. Identify the components of an alert definition.
67. Create static symptom definitions.

vSphere Foundation Deployment

68. Prepare the infrastructure for VMware vSphere Foundation.
69. Identify the information required for the Planning and Preparation Workbook.
70. Explain the high-level steps to deploy vSphere Foundation.
71. Describe the procedure for downloading the software using online and offline modes.
72. Describe the vSphere Foundation workflow using the VCF Installer UI and JSON spec file.
73. Deploy and enable VCF Operations collector, VCF Operations for Logs, and VCF Operations Orchestrator
74. Deploy vCenter Server Appliance.

Managing the vSphere Foundation Lifecycle

75. Describe features of the vCenter Update Planner.
76. Run vCenter upgrade prechecks and interoperability reports.
77. Recognize features of VMware vSphere Lifecycle Manager
78. Validate and update ESXi hosts using vSphere Lifecycle Manager
79. Use vSphere Lifecycle Manager to upgrade VMware Tools and VM hardware