

VMware vSphere: Install, Configure, Manage V7

Course Outline

1. Course Introduction
 - a. Introductions and course logistics
 - b. Course objectives
2. Introduction to vSphere and the Software-Defined Data Center
 - . Explain basic virtualization concepts
 - a. Describe how vSphere fits into the software-defined data center and the cloud infrastructure
 - b. Explain how vSphere interacts with CPUs, memory, networks, and storage
 - c. Recognize the user interfaces for accessing the vCenter Server system and ESXi hosts
 - d. Describe the ESXi host architecture
 - e. Navigate the Direct Console User Interface (DCUI) to configure an ESXi host
 - f. Recognize ESXi host user account best practices
 - g. Install an ESXi host
 - h. Use VMware Host Client™ to configure ESXi host settings
3. Virtual Machines
 - . Create and provision a virtual machine
 - a. Explain the importance of VMware Tools™
 - b. Install VMware Tools
 - c. Identify the files that make up a VM
 - d. Recognize the components of a VM
 - e. Recognize virtual devices supported by a VM
 - f. Describe the benefits and use cases for containers
 - g. Identify the parts of a container system
4. vCenter Server
 - . Describe the vCenter Server architecture
 - a. Discuss how ESXi hosts communicate with vCenter Server
 - b. Deploy and configure vCenter Server Appliance
 - c. Use vSphere Client to manage the vCenter Server inventory
 - d. Add data center, organizational objects, and hosts to vCenter Server
 - e. Use roles and permissions to enable users to access objects in the vCenter Server inventory

- f. Back up vCenter Server Appliance
 - g. Monitor vCenter Server tasks, events, and appliance health
 - h. Use VMware vCenter Server® High Availability to protect a vCenter Server Appliance
- 5. Configuring and Managing Virtual Networks
 - . Create and manage standard switches
 - a. Describe the virtual switch connection types
 - b. Configure virtual switch security, traffic-shaping, and load-balancing policies
 - c. Compare vSphere distributed switches and standard switches
- 6. Configuring and Managing Virtual Storage
 - . Identify storage protocols and storage device types
 - a. Discuss ESXi hosts using iSCSI, NFS, and Fibre Channel storage
 - b. Create and manage VMFS and NFS datastores
 - c. Explain how multipathing works with iSCSI, NFS, and Fibre Channel storage
 - d. Recognize the components of a VMware vSAN™ configuration
- 7. Virtual Machine Management
 - . Use templates and cloning to deploy new virtual machines
 - a. Modify and manage virtual machines
 - b. Create a content library and deploy virtual machines from templates in the library
 - c. Use customization specification files to customize a new virtual machine
 - d. Perform vSphere vMotion and vSphere Storage vMotion migrations
 - e. Describe the Enhanced vMotion Compatibility feature
 - f. Create and manage virtual machine snapshots
 - g. Examine the features and functions of VMware vSphere® Replication™
 - h. Describe the benefits of VMware vSphere® Storage APIs – Data Protection
- 8. Resource Management and Monitoring
 - . Discuss CPU and memory concepts in a virtualized environment
 - a. Describe what overcommitment of a resource means
 - b. Describe methods for optimizing CPU and memory usage
 - c. Use various tools to monitor resource use
 - d. Create and use alarms to report certain conditions or events
- 9. vSphere Clusters
 - . Describe the functions of a vSphere DRS cluster
 - a. Create a vSphere DRS cluster

- b. Monitor a vSphere cluster configuration
- c. Describe options for making a vSphere environment highly available
- d. Explain the vSphere HA architecture
- e. Configure and manage a vSphere HA cluster
- f. Examine the features and functions of VMware vSphere® Fault Tolerance

10. vSphere Lifecycle Management

- . Recognize the importance of vCenter Server Update Planner
 - a. Describe how VMware vSphere® Lifecycle Manager™ works
 - b. Describe how to update ESXi hosts using baselines
 - c. Validate ESXi host compliance using a cluster image
 - d. Describe how to upgrade VMware Tools and VM hardware