**VMware vSphere® - Install, Configure, Manage v6.7**

**Overview**

This five-day course features intensive hands-on training that focuses on installing, configuring, and managing VMware vSphere 6.7, which includes VMware ESXi™ 6.7 and VMware vCenter Server 6.7. This course prepares you to administer a vSphere infrastructure for an organization of any size.

**Prerequisite Comments**

System administration experience on Microsoft Windows or Linux operating systems

**Target Audience**

System administrators  
System engineers

**Course Objectives**

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

- Describe the software-defined data center
- Explain the vSphere components and their function in the infrastructure
- Add ESXi hosts to a VMware vCenter® Server Appliance™ instance
- Manage vCenter Server Appliance
- Use a local content library as an ISO store, and deploy a virtual machine
- Describe vCenter Server architecture
- Use vCenter Server to manage an ESXi host
- Configure and manage vSphere infrastructure with VMware Host Client™ and VMware vSphere® Client™
- Describe virtual networks with vSphere standard switches
- Configure standard switch policies
- Use vCenter Server to manage various types of host storage: VMware vSphere® VMFS, NFS, iSCSI, and RDM
- Examine the features and functions of Fibre Channel and VMware vSAN™
- Manage virtual machines, templates, clones, and snapshots
- Migrate virtual machines with VMware vSphere® vMotion®
- Migrate virtual machine storage with VMware vSphere® Storage vMotion®
- Monitor resource usage, and manage resource pools
- Discuss the VMware vSphere® High Availability (vSphere HA) cluster architecture Configure vSphere HA
- Manage vSphere HA and VMware vSphere® Fault Tolerance
- Use VMware vSphere® Replication™ and VMware vSphere® Data Protection™ to replicate virtual machines and perform data recovery
- Use VMware vSphere® Distributed Resource Scheduler™ clusters to improve host scalability
- Use VMware vSphere® Update Manager™ to apply patches and perform basic troubleshooting of ESXi hosts, virtual machines, and vCenter Server operations
- Identify troubleshooting methodology to logically diagnose faults and improve troubleshooting efficiency

**Course Outline**
Course Introduction

Introductions and course logistics
Course objectives
Describe the content of the course
Gain a complete picture of the VMware certification system
Familiarize yourself with the benefits of the VMware Education Learning Zone
Identify additional resources

Introduction to vSphere & the Software-Defined Data Center

Describe how vSphere fits into the software-defined data center and the cloud infrastructure
Explain how vSphere interacts with CPUs, memory, networks, and storage
Use vSphere Client to access and manage your vCenter Server system and ESXi host
Compare virtual machine hardware version 14 to other versions
Identify the virtual network adapters, and describe the enhanced VMXNET3
Compare the types of virtual disk provisioning
Install and configure ESXi host settings
Identify the advantages of ESXi Quick Boot

Creating Virtual Machines

Create, provision, and remove a virtual machine
Explain the importance of VMware Tools™
Describe how to import a virtual appliance OVF template

vCenter Server

Describe the vCenter Server architecture
Discuss how ESXi hosts communicate with vCenter Server
Access and configure vCenter Server Appliance
Use vSphere Client to manage the vCenter Server inventory
Add data center, organizational objects, and hosts to vCenter Server
Create custom inventory tags
Describe the rules for applying permissions
Create a custom role in vCenter Server
Create a vCenter Server Appliance backup schedule
Restore vCenter Server Appliance from a backup
Monitor vCenter Server Appliance

Configuring & Managing Virtual Networks

Describe, create, and manage standard switches
Configure virtual switch security and loadbalancing policies
Contrast and compare vSphere distributed switches and standard switches
Describe the virtual switch connection types
Describe the new TCP/IP stack architecture
Use VLANs with standard switches
Configuring & Managing Virtual Storage

- Identify storage protocols and storage device types
- Discuss ESXi hosts using iSCSI, NFS, and Fibre Channel storage
- Create and manage VMware vSphere® VMFS and NFS datastores
- Explain how multipathing works with iSCSI, NFS, and Fibre Channel storage
- Identify the advantages of VMware vsAN™

Virtual Machine Management

- Use templates and cloning to deploy new virtual machines
- Modify and manage virtual machines
- Create an instant clone of a virtual machine
- Identify the types of content libraries and how to deploy and use them
- Add a hot-pluggable device
- Dynamically increase the size of a virtual disk
- Use customization specification files to customize a new virtual machine
- Perform vSphere vMotion and vSphere Storage vMotion migrations
- Create and manage virtual machine snapshots

Resource Management & Monitoring

- Discuss CPU and memory concepts in a virtualized environment
- Describe what over commitment of a resource means
- Identify additional technologies that improve memory usage
- Configure and manage resource pools
- Describe methods for optimizing CPU and memory usage
- Use various tools to monitor resource usage
- Create and use alarms to report certain conditions or events

vSphere HA & vSphere Fault Tolerance

- Explain the vSphere HA architecture
- Configure and manage a vSphere HA cluster
- Use vSphere HA advanced parameters
- Enforce infrastructural or intra-app dependencies during failover
- Describe vSphere HA heartbeat networks and datastore heartbeats
- Examine the features and functions of vSphere Fault Tolerance
- Enable vSphere Fault Tolerance on virtual machines
- Support vSphere Fault Tolerance interoperability with vSAN
- Examine enhanced consolidation of vSphere Fault Tolerance virtual machines
- Examine the features and functions of vSphere Replication

vSphere DRS

- Describe the functions of a vSphere DRS cluster
- Create a vSphere DRS cluster
- View information about a vSphere DRS cluster
- Configure virtual machine affinity, DRS groups, and VM-host affinity rules
- Remove a host from a vSphere DRS cluster
vSphere Update Manager

Describe the architecture, components, and capabilities of vSphere Update Manager
Use vSphere Update Manager to manage the patching of ESXi, virtual machines, and vApps
Examine the features and functions of vSphere Update Manager EAM integration
Integrate vSphere Update Manager with vSphere DRS

vSphere Troubleshooting

Apply a troubleshooting methodology to logically diagnose faults and improve troubleshooting efficiency
Review troubleshooting tools
Find important log files
Use vSphere Syslog Collector