



Length: 35 Hours (5 days)
Price: Call for pricing

Introduction: This hands-on training course explores installation, configuration, and management of VMware vSphere® 6.7, which includes VMware ESXi 6 and VMware® vCenter Server 6.7. This course will give you a solid understanding of how to administer a vSphere infrastructure for an organization of any size. You will learn how to administer a vSphere infrastructure for all sizes of organizations. It is the foundation for most other VMware technologies in the software-defined data center.

Prerequisites: In addition to their professional experience, students who attend should have the following technical knowledge:

- System administration experience on Microsoft Windows or Linux operating systems

Objectives: Students will learn:

- 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

I. Course Introduction

II. Software-Defined Data Center

- 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. Use vSphere Client to access and manage your vCenter Server system and ESXi host
- D. Compare virtual machine hardware version 14 to other versions
- E. Identify the virtual network adapters, and describe the enhanced VMXNET3
- F. Compare the types of virtual disk provisioning
- G. Install and configure ESXi host settings
- H. Identify the advantages of ESXi Quick Boot

III. Creating Virtual Machines

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

IV. vCenter Server

- A. Describe the vCenter Server architecture
- B. Discuss how ESXi hosts communicate with vCenter Server
- C. Access and configure vCenter Server Appliance
- D. Use vSphere Client to manage the vCenter Server inventory
- E. Add data center, organizational objects, and hosts to vCenter Server
- F. Create custom inventory tags
- G. Describe the rules for applying permissions
- H. Create a custom role in vCenter Server
- I. Create a vCenter Server Appliance backup schedule
- J. Restore vCenter Server Appliance from a backup
- K. Monitor vCenter Server Appliance

V. Configuring and Managing Virtual Networks

- A. Describe, create, and manage standard switches
- B. Configure virtual switch security, traffic-shaping and load-balancing policies
- C. Compare vSphere distributed switches and standard switches
- D. Describe the virtual switch connection types
- E. Describe the new TCP/IP stack architecture
- F. Use VLANs with standard switches

VI. Configuring and Managing Virtual Storage

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

VII. Virtual Machine Management

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



VIII. Resource Management and Monitoring

- A. Discuss CPU and memory concepts in a virtualized environment
- B. Describe what overcommitment of a resource means
- C. Identify additional technologies that improve memory usage
- D. Configure and manage resource pools
- E. Describe methods for optimizing CPU and memory usage
- F. Use various tools to monitor resource usage
- G. Create and use alarms to report certain conditions or events

IX. vSphere HA and vSphere Fault Tolerance

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

X. vSphere DRS

- A. Describe the functions of a vSphere DRS cluster
- B. Create a vSphere DRS cluster
- C. View information about a vSphere DRS cluster
- D. Configure virtual machine affinity, DRS groups, and VM-host affinity rules
- E. Remove a host from a vSphere DRS cluster

XI. vSphere Update Manager

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

XII. vSphere Troubleshooting

- A. Review troubleshooting tools
- B. Find important log files
- C. Use vSphere Syslog Collector