VMware vSphere: Install, Configure, Manage V6.7

Duration: **5 Days**

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 organisation of any size.

This course is the foundation for the most of the other VMware technologies in the software-defined data center

Target Audience:

- System Administrators
- System Engineers

Pre-requisites:

This course has the following prerequisites:

- System administration experience on Microsoft Windows or Linux operating systems

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 and ESXi host

Module 1: Course Introduction

Lessons:

- 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

Module 2: Introduction to vSphere and the Software-Defined Data Center

Lessons:

- 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

Module 3: Creating Virtual Machines

Lessons:

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

Module 4: vCenter Server

Lessons:

- 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, organisational objects, and hosts to vCenter Server
- 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

Module 5: Configuring and Managing Virtual Networks

Lessons:

- Describe, create, and manage standard switches
- Configure virtual switch security, traffic-shaping and load-balancing policies
- 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

Module 6: Configuring and Managing Virtual Storage

Lessons:

- 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™

Module 7: Virtual Machine Management

Lessons:

- Use templates and cloning to deploy new virtual machines
- Modify and manage virtual machines
- Create and 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 customisation specification files to customise a new virtual machine
- Perform vSphere vMotion and vSphere Storage vMotion migrations
- Create and manage virtual machine snapshots

- 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, iSCI 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
- User VMware vSphere® Replication™ and VMware vSphere® Data protection™ to replicate virtual machines and perform data recovery
- Use VMware vSphere® distributed resource schedule™ clusters to improve host scalability
- Use VMware vSphere® Update Manager™ to apply patches and perform basic troubleshooting ESXi hosts, virtual machines, and vCenter Server operations
- Identify troubleshooting methodology to logically diagnose faults and improve troubleshooting efficiency

Module 8: Resource Management and Monitoring

Lessons:

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

Module 9: vSphere HA, vSphere Fault Tolerance, and Protecting Data

Lessons:

- 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

Module 10: vSphere DRS

Lessons:

- 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.

Module 11: vSphere Update Manager

Lessons:

- 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

Module 12: vSphere Troubleshooting

Lessons:

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