

# VMware vSphere: Install, Configure, Manage (vSphere ICM v8)

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

## WHO WILL BENEFIT FROM THIS COURSE?

- System Administrators
- System Engineers

## PREREQUISITES

The knowledge and skills that a learner should have before attending this course are as follows:

- System administration experience on Microsoft Windows or Linux operating systems

## COURSE OBJECTIVES

Upon completing this course, the learner will be able to meet these overall objectives:

- Install and configure ESXi hosts
- Deploy and configure vCenter
- Use the vSphere Client to create the vCenter inventory and assign roles to vCenter users
- Create virtual networks using vSphere standard switches and distributed switches
- Create and configure datastores using storage technologies supported by vSphere
- Use the vSphere Client to create virtual machines, templates, clones, and snapshots
- Create content libraries for managing templates and deploying virtual machines
- Manage virtual machine resource allocation
- Migrate virtual machines with vSphere vMotion and vSphere Storage vMotion
- Create and configure a vSphere cluster that is enabled with vSphere High Availability (HA) and vSphere Distributed Resource Scheduler
- Manage the life cycle of vSphere to keep vCenter, ESXi hosts, and virtual machines up to date

## 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 and 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 and Managing Virtual Networks

- 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

## Configuring and 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 and Monitoring

- Discuss CPU and memory concepts in a virtualized environment
- Describe what overcommitment 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, and Protecting Data

- 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
- 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
- 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

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- An enthusiastic student services team is available to answer any questions and ensure a quality training experience

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