

## [VMICMV7]: VMware vSphere: Install, Configure, Manage [V7]

Length : 5 Days  
Delivery Method : Flexi

### Course Overview

This five-day course features intensive hands-on training that focuses on installing, configuring, and managing VMware vSphere® 7, which includes VMware ESXi™ 7 and VMware vCenter Server® 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.

### Audience Profile

- System Administrators
- System Engineer

### At Course Completion

- Describe the software-defined data center (SDDC)
- Explain the vSphere components and their function in the infrastructure
- Install and configure ESXi hosts
- Deploy and configure VMware vCenter® Server Appliance™
- Use VMware vSphere® Client™ to manage the vCenter Server inventory and the vCenter Server configuration
- Manage, monitor, back up, and protect vCenter Server Appliance
- Create virtual networks with vSphere standard switches
- Describe the storage technologies supported by vSphere
- Configure virtual storage using iSCSI and NFS storage
- Create and manage VMware vSphere® VMFS datastores
- Use the vSphere Client to create virtual machines, templates, clones, and snapshots
- Create a content library and deploy virtual machines from templates in the library
- Manage virtual machine resource use
- Migrate virtual machines with VMware vSphere® vMotion® and VMware vSphere® Storage vMotion®
- Create and manage a vSphere cluster that is enabled with VMware vSphere® High Availability and VMware vSphere® Distributed Resource Scheduler™
- Discuss solutions for managing the vSphere life cycle
- Use VMware vSphere® Lifecycle Manager™ to perform upgrades to ESXi hosts and virtual machines

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**Pre-Requisites**

System administration experience on Microsoft Windows or Linux operating systems

**Certifications**

Attending this course meets the training requirement to achieve the following certification:

- **VMware Certified Professional – Data Center Virtualization (VCP-DCV)**

**Course Outline****Module 1: Course Introduction****Lessons**

- Introductions and course logistics
- Course objectives

**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
- Explain basic virtualization concepts
- Describe how vSphere fits into the software-defined data center and the cloud infrastructure
- Explain how vSphere interacts with CPUs, memory, networks, and storage
- Recognize the user interfaces for accessing the vCenter Server system and ESXi hosts
- Describe the ESXi host architecture
- Navigate the Direct Console User Interface (DCUI) to configure an ESXi host
- Recognize ESXi host user account best practices
- Install an ESXi host
- Use VMware Host Client™ to configure ESXi host settings

**Module 3: 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
- Install VMware Tools
- Identify the files that make up a VM

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- Recognize the components of a VM
- Recognize virtual devices supported by a VM
- Describe the benefits and use cases for containers
- Identify the parts of a container system

#### **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, 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
- Describe the vCenter Server architecture
- Discuss how ESXi hosts communicate with vCenter Server
- Deploy and configure vCenter Server Appliance
- Use vSphere Client to manage the vCenter Server inventory
- Add data center, organizational objects, and hosts to vCenter Server
- Use roles and permissions to enable users to access objects in the vCenter Server inventory
- Back up vCenter Server Appliance
- Monitor vCenter Server tasks, events, and appliance health
- Use VMware vCenter Server® High Availability to protect a vCenter Server Appliance

#### **Module 5: Configuring and Managing Virtual Networks**

##### **Lessons**

- Create and manage standard switches
- Describe the virtual switch connection types
- Configure virtual switch security, traffic-shaping, and load-balancing policies
- Compare vSphere distributed switches and 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 VMFS and NFS datastores
- Explain how multipathing works with iSCSI, NFS, and Fibre Channel storage
- Identify the advantages of VMware vSAN™ configuration

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**Module 7: Virtual Machine Management****Lessons**

- Use templates and cloning to deploy new virtual machines
- Modify and manage virtual machines
- Create a content library and deploy virtual machines from templates in the library
- Use customization specification files to customize a new virtual machine
- Perform vSphere vMotion and vSphere Storage vMotion migrations
- Describe the Enhanced vMotion Compatibility feature
- Create and manage virtual machine snapshots
- Examine the features and functions of VMware vSphere® Replication™
- Describe the benefits of VMware vSphere® Storage APIs – Data Protection

**Module 8: Resource Management and Monitoring****Lessons**

- Discuss CPU and memory concepts in a virtualized environment
- Describe what overcommitment of a resource means
- 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

**Module 9: vSphere Clusters****Lessons**

- Explain the vSphere HA architecture
- Describe the functions of a vSphere DRS cluster
- Create a vSphere DRS cluster
- Monitor a vSphere cluster configuration
- Describe options for making a vSphere environment highly available
- Explain the vSphere HA architecture
- Configure and manage a vSphere HA cluster
- Examine the features and functions of VMware vSphere® Fault Tolerance

**Module 10: vSphere Lifecycle Management****Lessons**

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

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