

# VMware vSphere: Install, Configure, Manage (V5)

**Duration: 5 days**

## Overview

This hands-on training course explores installation, configuration, and management of VMware vSphere®, which consists of VMware ESXi™ and VMware vCenter™ Server. The course is based on ESXi 5.0 and vCenter Server 5.0. Completion of this course satisfies the prerequisite for taking the VMware® Certified Professional 5 exam.

Students who complete this course may enroll in any of several more advanced vSphere courses. For advanced course options, see [www.vmware.com/education](http://www.vmware.com/education).

## Course Objectives

- Install and configure ESXi
- Install and configure vCenter Server components
- Configure and manage ESXi networking and storage using vCenter Server
- Deploy, manage, and migrate virtual machines
- Manage user access to the VMware infrastructure
- Use vCenter Server to monitor resource usage
- Use vCenter Server to increase scalability
- Use VMware vCenter Update Manager to apply ESXi patches
- Use vCenter Server to manage higher availability and data protection

## Target Audience

- System administrators
- Systems engineers
- Operators responsible for ESXi and vCenter Server

## Prerequisites

- System administration experience on Microsoft Windows or Linux operating systems

## Course Outline

- 1. Course Introduction**
  - Introductions and course logistics
  - Course objectives
- 2 Introduction to VMware Virtualization**
  - Introduce virtualization, virtual machines, and vSphere components
  - Explain the concepts of server, network, and storage virtualization
  - Describe where vSphere fits into the cloud architecture
  - Install and use vSphere user interfaces
- 3 Virtual Machines**
  - Introduce virtual machines, virtual machine hardware, and virtual machine files
  - Deploy a single virtual machine and virtual machine appliance

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#### **4 VMware vCenter Server**

- Identify vCenter Server and database requirements
- Describe vCenter Server architecture
- Deploy a vCenter Server appliance
- View and create vCenter Server inventory objects

#### **5 Configure and Manage Virtual Networks**

- Describe, create, and manage a standard virtual switch
- Describe and modify standard virtual switch properties

#### **6 Configure and Manage vSphere Storage**

- Configure ESXi with iSCSI, NFS, and Fibre Channel storage
- Create and manage vSphere datastores
- Configure, deploy, and manage the VMware Virtual Storage Appliance

#### **7 Virtual Machine Management**

- Deploy virtual machines using templates, cloning, and VMware vCenter Converter™
- Modify and manage virtual machines
- Create and manage virtual machine snapshots
- Perform VMware vMotion® and Storage vMotion migrations

#### **8 Access and Authentication Control**

- Control user access through roles and permissions
- Configure and manage the ESXi firewall
- Integrate ESXi with Active Directory
- Introduce vShield Zones

#### **9 Resource Management and Monitoring**

- Control virtual machine access to CPU, memory, and I/O resources
- Introduce VMkernel methods for optimizing CPU and memory usage
- Monitor resource usage using vCenter Server performance graphs and alarms

#### **10 Data Protection**

- Discuss strategies for backing up ESXi hosts
- Introduce the backup/recovery APIs
- Discuss strategies for backing up virtual machines

#### **11 High Availability and Fault Tolerance**

- Configure and manage a VMware High Availability (HA) cluster
- Configure fault-tolerant virtual machines using VMware Fault Tolerance

#### **12 Scalability**

- Configure and manage a VMware Distributed Resource Scheduler (DRS) cluster
- Configuring Enhanced vMotion Compatibility
- Using VMware HA and DRS together

#### **13 Patch Management**

- Manage ESXi patching and patch compliance using vCenter Update Manager

#### **14 Installing VMware vSphere 5 Components**

- Introduce ESXi Installable installation
- Introduce vCenter Server installation
- Additional vCenter Server module installation