

**VMware vSphere: Install, Configure, Manage**

**Course Number:** VM-100
**Duration:** 5 days

**Overview**

This VMware vSphere training course provides intensive hands-on training on installing, configuring, and managing VMware vSphere® 8, which includes VMware ESXi™ 8 and VMware vCenter Server® 8. This course prepares you to administer a vSphere infrastructure for an organization of any size. This course is the foundation for most other VMware technologies in the software-defined data center.

**Prerequisites**

System administration experience on the Microsoft Windows or Linux operating systems.

**Materials**

All attendees receive the official VMware courseware for this course.

**Software Needed on Each Student PC**

A modern web browser and an Internet connection free of restrictive firewalls, so that the student can connect by SSH and Remote Desktop (RDP) into the virtual environment for the training.

**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

**Outline**

* Course Introduction
	+ Introductions and course logistics
	+ Course objectives
* vSphere and Virtualization Overview
	+ Explain basic virtualization concepts
	+ Describe how vSphere fits in the software-defined data center and the cloud infrastructure
	+ Recognize the user interfaces for accessing vSphere
	+ Explain how vSphere interacts with CPUs, memory, networks, storage, and GPUs
* Installing and Configuring ESXi
	+ Install an ESXi host
	+ Recognize ESXi user account best practices
	+ Configure the ESXi host settings using the DCUI and VMware Host Client
* Deploying and Configuring vCenter
	+ Recognize ESXi hosts communication with vCenter
	+ Deploy vCenter Server Appliance
	+ Configure vCenter settings
	+ Use the vSphere Client to add and manage license keys
	+ Create and organize vCenter inventory objects
	+ Recognize the rules for applying vCenter permissions
	+ View vCenter logs and events
* Configuring vSphere Networking
	+ Configure and view standard switch configurations
	+ Configure and view distributed switch configurations
	+ Recognize the difference between standard switches and distributed switches
	+ Explain how to set networking policies on standard and distributed switches
* Configuring vSphere Storage
	+ Recognize vSphere storage technologies
	+ Identify types of vSphere datastores
	+ Describe Fibre Channel components and addressing
	+ Describe iSCSI components and addressing
	+ Configure iSCSI storage on ESXi
	+ Create and manage VMFS datastores
	+ Configure and manage NFS datastores
* Deploying Virtual Machines
	+ Create and provision VMs
	+ Explain the importance of VMware Tools
	+ Identify the files that make up a VM
	+ Recognize the components of a VM
	+ Navigate the vSphere Client and examine VM settings and options
	+ Modify VMs by dynamically increasing resources
	+ Create VM templates and deploy VMs from them
	+ Clone VMs
	+ Create customization specifications for guest operating systems
	+ Create local, published, and subscribed content libraries
	+ Deploy VMs from content libraries
	+ Manage multiple versions of VM templates in content libraries
* Managing Virtual Machines
	+ Recognize the types of VM migrations that you can perform within a vCenter instance and across vCenter instances
	+ Migrate VMs using vSphere vMotion
	+ Describe the role of Enhanced vMotion Compatibility in migrations
	+ Migrate VMs using vSphere Storage vMotion
	+ Take a snapshot of a VM
	+ Manage, consolidate, and delete snapshots
	+ Describe CPU and memory concepts concerning a virtualized environment
	+ Describe how VMs compete for resources
	+ Define CPU and memory shares, reservations, and limits
* Deploying and Configuring vSphere Clusters
	+ Create a vSphere cluster enabled for vSphere DRS and vSphere HA
	+ View information about a vSphere cluster
	+ Explain how vSphere DRS determines VM placement on hosts in the cluster
	+ Recognize use cases for vSphere DRS settings
	+ Monitor a vSphere DRS cluster
	+ Describe how vSphere HA responds to various types of failures
	+ Identify options for configuring network redundancy in a vSphere HA cluster
	+ Recognize vSphere HA design considerations
	+ Recognize the use cases for various vSphere HA settings
	+ Configure a vSphere HA cluster
	+ Recognize when to use vSphere Fault Tolerance
* Conclusion