

**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