

## Course Description

This five-day, extended hour course takes you from introductory to advanced VMware vSphere® 8 management skills. Building on the installation and configuration content from our best-selling course, you will also develop advanced skills needed to manage and maintain a highly available and scalable virtual infrastructure. Through a mix of lecture and hands-on labs, you will install, configure, and manage vSphere 7. You will explore the features that build a foundation for a truly scalable infrastructure and discuss when and where these features have the greatest effect. This course prepares you to administer a vSphere infrastructure for an organization of any size using vSphere 8, which includes VMware ESXi™ 8 and VMware vCenter Server® 8.

## Course Duration:

5 days

## Prerequisites:

This course has the following prerequisites:

- System administration experience on Microsoft Windows or Linux operating systems

## Objectives:

By the end of the course, you should be able to meet the following 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
- Configure vCenter High Availability
- Create and configure 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
- Configure and manage a VMware Tools Repository
- Create content libraries for managing templates and deploying virtual machines
- Manage virtual machine resource use
- Migrate virtual machines with vSphere vMotion and vSphere Storage vMotion
- Create and configure a vSphere cluster that is enabled with vSphere High Availability and vSphere Distributed Resource Scheduler
- Manage the life cycle of vSphere to keep vCenter, ESXi hosts, and virtual machines up to date
- Configure and manage vSphere networking and storage for a large and sophisticated enterprise
- Use host profiles to manage VMware ESXi host compliance
- Monitor the vCenter, ESXi, and VMs performance in the vSphere client

## Course Outline:

1. Course Introduction
  - Introductions and course logistics
  - Course objectives

2. 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
  - Install an ESXi host
3. vCenter Management
  - 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 vSphere tasks and events
  - Create a vCenter backup schedule
  - Recognize the importance of vCenter High Availability
  - Explain how vCenter High Availability works
4. Configure and Manage 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
5. Configure and Manage 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
  - Discuss vSphere support for NVMe and iSER technologies
6. 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
7. 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 in relation to a virtualized environment
  - Describe how VMs compete for resources
  - Define CPU and memory shares, reservations, and limits
  - Recognize the role of a VMware Tools Repository
  - Configure a VMware Tools Repository
  - Recognize the backup and restore solution for VMs
8. vSphere Cluster Management
- Use Cluster Quickstart to enable vSphere cluster services and configure the cluster
  - 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 different types of failures
  - Identify options for configuring network redundancy in a vSphere HA cluster
  - Recognize the use cases for various vSphere HA settings
  - Configure a cluster enabled for vSphere DRS and vSphere HA
  - Recognize when to use vSphere Fault Tolerance
  - Describe the function of the vCLS
  - Recognize operations that might disrupt the healthy functioning of vCLS VMs
9. Managing the vSphere Lifecycle
- Generate vCenter interoperability reports
  - Recognize features of vSphere Lifecycle Manager
  - Describe ESXi images and image depots
  - Enable vSphere Lifecycle Manager in a vSphere cluster
  - Validate ESXi host compliance against a cluster image and remediate ESXi hosts using vSphere Lifecycle Manager
  - Describe vSphere Lifecycle Manager automatic recommendations
  - Use vSphere Lifecycle Manager to upgrade VMware Tools and VM hardware
10. Network Operations
- Configure and manage vSphere distributed switches
  - Describe how VMware vSphere Network I/O Control enhances performance
  - Define vSphere Distributed Services Engine
  - Describe the use cases and benefits of vSphere Distributed Services Engine
11. Storage Operations
- Describe the architecture and requirements of vSAN configuration
  - Describe storage policy-based management
  - Recognize components in the vSphere Virtual Volumes architecture
  - Configure Storage I/O Control
12. ESXi Operations
- Use host profiles to manage ESXi configuration compliance
  - Recognize the benefits of using configuration profiles
13. vSphere Monitoring
- Monitor the key factors that can affect a virtual machine's performance
  - Describe the factors that influence vCenter performance

- Use vCenter tools to monitor resource use
- Create custom alarms in vCenter Describe the benefits and capabilities of VMware Skyline
- Recognize uses for Skyline Advisor Pro

## Who Should Attend

- System administrators
- System engineers