

# VMware Data Center Virtualization: Core Technical Skills



## Course Description

This four-day, hands-on training course is an introduction to VMware vSphere®. In this course, you acquire the skills needed to perform Day 2 operational tasks that are typically assigned to the roles of operator or junior administrator in a vSphere environment.

## Course Duration:

4 days

## Prerequisites:

- Working knowledge of operating systems
- Understanding of basic network, storage, and computer hardware concepts

## Objectives:

By the end of the course, you should be able to meet the following objectives:

- Describe virtualization and virtual machines
- Describe vSphere components and the software-defined data center (SDDC)
- Explain the concepts of server, network, and storage virtualization
- Monitor network and datastore configurations in VMware vSphere® Client™
- Deploy, configure, and clone virtual machines
- Migrate, monitor, and manage virtual machines
- Monitor tasks and events in VMware vSphere® Client™
- Recognize how vSphere DRS and VMware vSphere® High Availability improve performance and availability of a vSphere cluster

## Course Outline:

1. Course Introduction
  - Introductions and course logistics
  - Course objectives
2. Virtualization and vSphere Concepts
  - Describe how virtual machines (VMs) work
  - Recognize the purpose of a hypervisor
  - Describe how VMs share resources in a virtualized environment
  - Recognize the components of an SDDC
  - Describe the relationship between vSphere, the SDDC, and cloud computing
  - Recognize the functions of the components in a vSphere environment
  - Access and view vSphere graphical user interfaces
  - Identify VMware solutions that integrate with vSphere in the SDDC
3. Navigating the vSphere Client
  - View and organize the inventory objects managed by vCenter Server
  - Add and assign vSphere licenses
  - Change the log level of vCenter Server
  - Edit the startup policy of ESXi services

- Describe how vCenter Server roles and permissions work
  - Add permissions to virtual machines
4. Lifecycle of Virtual Machines
    - Add and remove VM virtual hardware components
    - Identify the purpose of different VM files
    - Configure VM settings
    - Create and delete virtual machines
    - Recognize the benefits of installing VMware Tools™
    - Install VMware Tools into a guest operating system
    - Upgrade VMware Tools and VM hardware compatibility
  5. vSphere Networking
    - Describe virtual networking
    - Recognize ways that virtual switches connect VMs and ESXi hosts to the network
    - View components and properties of a vSphere standard switch configuration
    - View a vSphere distributed switch configuration in vSphere Client
    - Recognize when and how to use the settings for the security networking policy
    - Recognize when and how to use the settings for the traffic shaping networking policy
    - Describe how the NIC teaming and failover policy helps maintain network connectivity
    - Perform basic checks to diagnose VM connectivity issues
  6. vSphere Storage
    - Describe the function of a datastore
    - Recognize types of vSphere datastores
    - View datastore information in vSphere Client
    - Monitor datastore usage in vSphere Client
  7. Virtual Machine Management
    - Recognize the benefits of using VM templates
    - Create and update a VM template
    - Deploy a VM from an existing template
    - Clone a virtual machine
    - Recognize how to use guest OS customization specifications
    - Deploy VMs from a content library
    - Deploy a virtual appliance from an OVF template
    - Perform a hot and cold migrations of VMs
    - Identify requirements for using VMware vSphere® Storage vMotion®
    - Perform a vSphere Storage vMotion migration
    - Identify use cases for VM snapshots
    - Create and manage snapshots of a virtual machine
  8. Resource Monitoring
    - Recognize the purpose of each type of VM resource control
    - Configure the resource allocation settings of a VM
    - Observe the behavior of virtual machines with different share values
    - Manage and acknowledge vSphere alarms
    - Use performance charts to monitor VM CPU and memory usage
    - Monitor tasks and events in vSphere Client
  9. vSphere Clusters
    - View information about the services that a vSphere cluster offers
    - Recognize how vSphere HA responds to different types of failures
    - Monitor vSphere HA during a host failure

- Describe how vSphere DRS works
- Interpret DRS scores given to VMs
- Recognize how to apply the appropriate vSphere DRS automation and migration threshold levels
- Describe how vSphere Fault Tolerance works
- Recognize how Enhanced vMotion Compatibility works

## Who Should Attend

Technical professionals with basic system administration skills and operators responsible for managing virtual machines using VMware ESXi™ and VMware vCenter Server®