

## **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:**

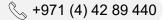
By the end of the course, you should be able to meet the following objectives:

- Describe virtualization and virtual machines
- Describe vSphere components and the software-defined data center (SDDC)
- Explain the concepts of server, network, and storage virtualization
- 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

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- 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

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- 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<sup>™</sup> and VMware vCenter Server®

