

## **VMware vSphere: Install, Configure, Manage [v7.0]**

### **Summary**

Length: 40 hours Level: Experienced

This five-day course features intensive hands-on training that focuses on installing, configuring, and managing VMware vSphere 7, which includes VMware ESXi 7 and VMware vCenter Server 7. This course prepares you to administer a vSphere infrastructure for an organization of any size. This course is the foundation for most of the other VMware technologies in the software-defined data center

### **Learning Objectives**

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

Describe the software-defined data center (SDDC)

Explain the vSphere components and their function in the infrastructure

Install and configure VMware ESXi hosts

Deploy and configure VMware vCenter Server Appliance

Use VMware vSphere Client to manage the vCenter Server inventory and the vCenter Server configuration

Manage, monitor, back up, and protect vCenter Server Appliance

Create virtual networks with vSphere standard switches

Describe the storage technologies supported by vSphere

Configure virtual storage using iSCSI and NFS storage

Create and manage VMware vSphere VMFS datastores

Use the vSphere Client to create virtual machines, templates, clones, and snapshots

Create a content library and deploy virtual machines from templates in the library

Manage virtual machine resource use

Migrate virtual machines with VMware vSphere vMotion and VMware vSphere Storage vMotion

Create and manage a vSphere cluster that is enabled with VMware vSphere High Availability and VMware vSphere Distributed Resource Scheduler

Discuss solutions for managing the vSphere life cycle

Use VMware vSphere Update Manager to apply patches and perform upgrades to ESXi hosts and virtual machines

### **Course Outline**

#### **1. 1 - COURSE INTRODUCTION**

Introductions and course logistics

Course objectives

#### **2. 2 - INTRODUCTION TO VSPHERE AND THE SOFTWARE-DEFINED DATA CENTER**

Explain basic virtualization concept

Describe how vSphere fits into the software-defined data center and the cloud infrastructure

Explain how vSphere interacts with CPUs, memory, networks, and storage

Recognize the user interfaces for accessing the vCenter Server system and ESXi hosts

Use VMware Host Client to access and manage ESXi host

#### **3. 3 - VIRTUAL MACHINES**

Provision a virtual machine with virtual devices

Identify the files that make up a virtual machine

Explain the importance of VMware Tools

4. 4 - VCENTER SERVER

Describe the vCenter Server architecture

Discuss how ESXi hosts communicate with vCenter Server

Deploy and configure vCenter Server Appliance

Use the vSphere Client to manage the vCenter Server inventory

Add data center, organizational objects, and hosts to vCenter Server

Use roles and permissions to enable users to access objects in the vCenter Server inventory

Back up vCenter Server Appliance

Monitor vCenter Server tasks, events, and appliance health

Use vCenter Server High Availability to protect a vCenter Server Appliance

5. 5 - CONFIGURING AND MANAGING VIRTUAL NETWORKS

Create and manage standard switches

Describe the virtual switch connection types

Configure virtual switch security, traffic-shaping and load-balancing policies

Compare vSphere distributed switches and standard switches

6. 6 - CONFIGURING AND MANAGING VIRTUAL STORAGE

Identify storage protocols and storage device types

Discuss ESXi hosts using iSCSI, NFS, and Fibre Channel storage

Create and manage VMFS and NFS datastores

Explain how multipathing works with iSCSI, NFS, and Fibre Channel storage

Deploy virtual machines on a VMware vSAN datastore

7. 7 - VIRTUAL MACHINE MANAGEMENT

Use templates and cloning to deploy new virtual machines

Modify and manage virtual machines

Create a content library and deploy virtual machines from templates in the library

Dynamically increase the size of a virtual disk

Use customization specification files to customize a new virtual machine

Perform vSphere vMotion and vSphere Storage vMotion migrations

Create and manage virtual machine snapshots

Examine the features and functions of VMware vSphere Replication

8. 8 - RESOURCE MANAGEMENT AND MONITORING

Discuss CPU and memory concepts in a virtualized environment

Describe what overcommitment of a resource means

Describe methods for optimizing CPU and memory usage

Use various tools to monitor resource use

Create and use alarms to report certain conditions or events

9. 9 - VSPHERE CLUSTERS

Describe options for making a vSphere environment highly available

Explain the vSphere HA architecture

Configure and manage a vSphere HA cluster

Examine the features and functions of VMware vSphere® Fault Tolerance

Configure a vSphere cluster using ESXi Cluster Quickstart

Describe the functions of a vSphere DRS cluster

Create a vSphere DRS cluster

10. 10 - VSPHERE LIFECYCLE MANAGEMENT

Describe how VMware vSphere Lifecycle Manager works

Use vSphere Lifecycle Manager to update ESXi hosts in a cluster

**Audience**

This course is ideal for Software Engineers, Senior Software Engineers, Java Developers, DevOps Engineers, Software Developers, .NET Developers, Systems Engineers, Full Stack Developers, Full Stack Java Developers, Data Scientists.

**Prerequisites**

System administration experience on Microsoft Windows or Linux operating systems