

## VMware vSphere: What's New [V5.5 to V6.5]

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<b>Code:</b>	EDU-VSWN65
<b>Length:</b>	3 days
<b>URL:</b>	<a href="#">View Online</a>

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In this three-day, hands-on training course, you will explore the new features and enhancements in VMware vCenter Server® 6.5 and VMware ESXi™ 6.5. Real-world use case deployment scenarios, hands-on lab exercises, and lectures will teach you the skills that you need to effectively implement and configure VMware vSphere® 6.5. This class is recommended for customers who want to deploy vSphere 6.5 into their existing vSphere environment.

### Skills Gained

- List and describe key enhancements in vSphere 6.5
- Use the user interface of the new VMware vSphere® Client™, the new VMware Host Client™, and the appliance shell of VMware vCenter® Server Appliance™
- Add users to the lockdown exception users list and test the lockdown mode
- Configure virtual machines to check for and install newer versions of VMware Tools™
- Upgrade virtual machines to the current hardware
- Create a multisite content library for synchronizing virtual machine templates, vApps, ISO images, and scripts across vCenter Server instances
- Enable the VMware vSphere® Authentication Proxy service to automatically add new hosts to the Active Directory domain
- Configure NFS- and iSCSI-backed virtual volumes to provide a common storage platform, independent of the underlying storage hardware
- Create storage policies and use these policies with virtual machines and virtual volume datastores
- Work with VMware vSphere® Network I/O Control to create and configure a distributed switch
- Use VMware vSphere® vMotion® to migrate virtual machines across vCenter Server instances
- Activate the high availability feature of vCenter Server Appliance
- Back up vCenter Server Appliance by using a file-based backup solution from the vCenter Server Appliance Management Interface
- Set up your environment to encrypt and decrypt virtual machines
- Set up your environment to use encrypted vSphere vMotion to securely migrate encrypted virtual machines
- Migrate from Windows vCenter Server to vCenter Server Appliance

- Configure vCenter Server and associated services to use VMware Platform Services Controller™ high availability

## Who Can Benefit

System architects, system administrators, IT managers, VMware partners, and individuals responsible for implementing and managing vSphere architectures

## Prerequisites

This course requires completion of one the following courses or equivalent knowledge and administration experience with VMware ESX®/ESXi and vCenter Server:

- VMware vSphere: Install, Configure, Manage [V5.5 or V6]
- VMware vSphere: Fast Track [V5.5 or V6]
- VMware vSphere: What's New [V5.5 or V6]
- VMware vSphere: Troubleshooting [V5.5 or V6]
- Experience with working at the command line is helpful
- The course material presumes that you can perform the following tasks with no assistance or guidance before enrolling in this course:
  - Install and configure ESX or ESXi
  - Install vCenter Server
  - Create vCenter Server objects, such as data centers and folders
  - Create and manage vCenter Server roles and permissions
  - Create and modify a standard switch
  - Create and modify a distributed switch
  - Connect an ESX/ESXi host to NAS, iSCSI, or Fibre Channel storage
  - Create a VMware vSphere® VMFS datastore
  - Enable vSphere vMotion on an ESX/ESXi host
  - Use a wizard or a template to create a virtual machine
  - Modify a virtual machine's hardware
  - Migrate a virtual machine with vSphere vMotion.
  - Migrate a virtual machine with VMware vSphere® Storage vMotion®
  - Configure and manage a VMware vSphere® Distributed Resource Scheduler™ cluster with resource pools
  - Configure and manage a VMware vSphere® High Availability cluster
- If you cannot complete all of these tasks, then VMware recommends that you instead take the VMware vSphere: Install, Configure, Manage [V6.5] course.

## Course Details

### Course Introduction

- Introductions and course logistics
- Course objectives

## Introduction to vSphere 6.5

- Discuss vSphere 6.5 feature enhancements
- Use vSphere Client, VMware Host Client, and the appliance shell of vCenter Server Appliance

## Installation and Upgrade

- Describe new vCenter Server architecture features
- Choose between a distributed configuration and an embedded configuration based on your requirements
- Describe the enhancements to vCenter Server Appliance
- Describe the vCenter Server Appliance deployment
- Describe the hardware requirements for installing vCenter Server Appliance
- Identify the information that is needed before you begin the installation
- Deploy a Platform Services Controller appliance
- Describe how to upgrade vCenter Server Appliance 5.x to vCenter Server Appliance 6.5
- Describe how to upgrade an ESXi 5.x host to an ESXi 6.5 host
- List the benefits of using the content library
- Create a basic content library
- Synchronize a content library across vCenter Server instances

## Compute Enhancements

- Discuss the enhancements to vSphere 6.5 scalability and performance
- Discuss the additional features to support hotplug and SMART solid-state drives
- Describe new capabilities of host profiles introduced in vSphere 6.5
- Discuss the improvements to lockdown settings
- Describe the addition of smart-card authentication
- Explain the changes that enhance user accountability
- Discuss how virtual hardware 12 extends virtual machine resource configurations
- Describe how using large receive offload reduces CPU-associated costs for network packet processing
- Discuss how hot-add memory is distributed across NUMA nodes in vSphere 6.5

## Storage Enhancements

- Discuss the benefits of using VMFS 6 with vSphere
- Upgrade from VMFS 5 to VMFS 6
- Discuss the benefits of using VMFS 6 with vSphere
- Discuss the benefits of using NFS v4.1 with vSphere
- Identify the differences between NFS v3 and NFS v4.1
- Describe the implications of using NFS v4.1
- Describe the advantages of the new VMware Virsto™ on-disk file system
- Describe the advantages of the vsanSparse snapshot format
- Describe the advantages of fault domains to withstand rack-local failures
- Describe the benefits of applying different default policies to different VMware Virtual SAN™ datastores
- Describe the benefits of using virtual volumes

- Describe per virtual machine, policy-based policy management
- Describe how VMDK data operations are offloaded to storage arrays through the use of VMware vSphere® API for Storage Awareness™

## Network Enhancements

- Work with Network I/O Control
- Upgrade Network I/O Control to version 3
- Enable network resource management on VMware vSphere® Distributed Switch™
- Configure bandwidth allocation for system and virtual machine traffic based on shares and reservations.
- Discuss IPv6 support in vSphere 6.5

## Management Enhancement

- List the core security modules that are part of Platform Services Controller
- List the VMware certificate management components
- Describe certificate use changes in vSphere 6.5
- List the certificate management components that are part of Platform Services Controller
- Describe the primary services provided by the VMware Certificate Authority component
- Describe the primary services provided by the VMware Endpoint Certificate Store component
- Define VMware CA certificate replacement options
- Describe ESXi certificate replacement options
- Discuss certificate-based guest authentication

## Availability Enhancements

- Describe the new TCP/IP stack for vSphere vMotion
- Explain the changes that make vSphere vMotion migrations across high-latency networks possible
- Discuss the requirements for migrating a virtual machine across vCenter Server instances
- Explain how VMware vSphere® Fault Tolerance supports virtual machines with multiple virtual CPUs
- Describe how vSphere Fault Tolerance maintains the secondary virtual machine in a ready state
- Explain the mechanism by which the primary virtual machine is determined
- Discuss the improvements made in handling all paths down and permanent device lost conditions
- Describe the increased scalability of vSphere HA
- Explain the additional compatibility supported by vSphere HA

## Security Enhancements

- Plan for secure boot support for ESXi host
- Deploy enhanced vCenter Server events and alarms, and vSphere logging
- Evaluate virtual machine encryption
- Enable encrypted vSphere vMotion
- Use encrypted core dumps

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# Schedule (as of 4 )

**Date**

**Location**

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