

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

Code:	EDU-VSWN65
Length:	3 days
URL:	View Online

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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