

VMware vSphere: Fast Track [V6.7] H9TG4S

HPE course number	H9TG4S
Course length	5 Days
Delivery mode	ILT, VILT
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This intensive course takes you from introductory to advanced VMware vSphere® management skills. Building on the installation and configuration content from our best selling course, you will also develop advanced skills needed to manage and maintain a highly available and scalable virtual infrastructure. Through a mix of lecture and hands-on labs, you will install, configure and manage vSphere 6.7. You will explore the features that build a foundation for a truly scalable infrastructure, and discuss when and where these features have the greatest effect. This course prepares you to administer a vSphere infrastructure for an organization of any size using vSphere 6.7, which includes VMware ESXi™ 6.7 and VMware vCenter Server® 6.7.

Audience

- System administrators
- System engineers

Prerequisites

This course requires completion of one of the following prerequisites:

- System administration experience on Microsoft Windows or Linux operating systems

Course objectives

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

- Install and configure ESXi hosts
- Deploy and configure VMware vCenter® Server Appliance™
- Use VMware Host Client™, VMware vSphere® Web Client, and VMware vSphere® Client™ to manage the vCenter Server inventory and the vCenter Server configuration
- 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 vSphere Client to create virtual machines, templates, clones, and snapshots
- Create a content library for deploying virtual machines

- Migrate virtual machines with VMware vSphere® vMotion® and VMware vSphere® Storage vMotion®
- Describe the methods for protecting and recovering virtual machine data
- Create and manage a vSphere cluster that is enabled with VMware vSphere® High Availability and VMware vSphere® Distributed Resource Scheduler™
- Create virtual networks with VMware vSphere® Distributed Switch™ and enable distributed switch features
- Use VMware vSphere® Update Manager™ to apply patches and perform upgrades to ESXi hosts and virtual machines
- Use host profiles to manage ESXi configuration compliance
- Describe how vSphere storage APIs help storage systems integrate with vSphere
- Configure and use virtual machine storage policies
- Configure VMware vSphere® Storage I/O Control and VMware vSphere® Storage DRS™
- Encrypt virtual machines for additional security

Detailed course outline

Module 1: Course Introduction

- Introductions and course logistics
- Course objectives
- Describe the content of this course
- Gain a complete picture of the VMware certification system
- Familiarize yourself with the benefits of the VMware Education Learning Zone
- Identify additional resource

Module 2: Introduction to vSphere and the Software-Defined Data Center

- Describe how vSphere fits into the software-defined data center and the cloud infrastructure
- Explain how vSphere interacts with CPUs, memory, networks, and storage
- Use vSphere Client to access and manage your vCenter Server system and ESXi host
- Compare virtual machine hardware version 14 to other versions
- Identify the virtual network adapters, and describe the enhanced VMXNET3
- Compare the types of virtual disk provisioning
- Install and configure ESXi host settings
- Identify the advantages of ESXi Quick Boot

Module 3: Creating Virtual Machines

- Create, provision, and remove a virtual machine
- Explain the importance of VMware Tools™
- Describe how to import a virtual appliance OVF template

Module 4: vCenter Server

- Describe the vCenter Server architecture
- Discuss how ESXi hosts communicate with vCenter Server
- Access and configure vCenter Server Appliance
- Use vSphere Client to manage the vCenter Server inventory
- Add data center, organizational objects, and hosts to vCenter Server
- Create custom inventory tags
- Describe the rules for applying permissions
- Create a custom role in vCenter Server
- Create a vCenter Server Appliance backup schedule
- Restore vCenter Server Appliance from a backup
- Monitor vCenter Server Appliance

Module 5: Configuring and Managing Virtual Networks

- Describe, create, and manage standard switches
- Configure virtual switch security, traffic-shaping and load-balancing policies
- Compare vSphere distributed switches and standard switches
- Describe the virtual switch connection types
- Describe the new TCP/IP stack architecture
- Use VLANs with standard switches

Module 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 VMware vSphere® VMFS and NFS datastores
- Explain how multipathing works with iSCSI, NFS, and Fibre Channel storage
- Identify the advantages of VMware vSAN™

Module 7: Virtual Machine Management

- Use templates and cloning to deploy new virtual machines
 - Modify and manage virtual machines
 - Create an instant clone of a virtual machine
 - Identify the types of content libraries and how to deploy and use them
 - Add a hot-pluggable device
 - 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
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Module 8: Resource Management and Monitoring	<ul style="list-style-type: none"> • Discuss CPU and memory concepts in a virtualized environment • Describe what over commitment of a resource means • Identify additional technologies that improve memory usage 	<ul style="list-style-type: none"> • Configure and manage resource pools • Describe methods for optimizing CPU and memory usage • Use various tools to monitor resource usage • Create and use alarms to report certain conditions or events
Module 9: vSphere HA, vSphere Fault Tolerance, and Protecting Data	<ul style="list-style-type: none"> • Explain the vSphere HA architecture • Configure and manage a vSphere HA cluster • Use vSphere HA advanced parameters • Enforce infrastructural or intra-app dependencies during failover • Describe vSphere HA heartbeat networks and datastore heartbeats 	<ul style="list-style-type: none"> • Examine the features and functions of vSphere Fault Tolerance • Enable vSphere Fault Tolerance on virtual machines • Support vSphere Fault Tolerance interoperability with vSAN • Examine enhanced consolidation of vSphere Fault Tolerance virtual machines • Examine the features and functions of vSphere Replication
Module 10: vSphere DRS	<ul style="list-style-type: none"> • Describe the functions of a vSphere DRS cluster • Create a vSphere DRS cluster • View information about a vSphere DRS cluster 	<ul style="list-style-type: none"> • Configure virtual machine affinity, DRS groups, and VM-host affinity rules • Remove a host from a vSphere DRS cluster
Module 11: Network Scalability	<ul style="list-style-type: none"> • Configure and manage vSphere distributed switches • Explain distributed features such as port mirroring, LACP, QoS tagging, and NetFlow 	<ul style="list-style-type: none"> • Configuring port mirroring on a distributed switch
Module 12: vSphere Update Manager and Host Maintenance	<ul style="list-style-type: none"> • Describe the architecture, components, and capabilities of vSphere Update Manager • Use vSphere Update Manager to manage the patching of ESXi, virtual machines, and vApps • Examine the features and functions of vSphere Update Manager EAM integration 	<ul style="list-style-type: none"> • Integrate vSphere Update Manager with vSphere DRS • Describe and use host profiles
Module 13: Storage Scalability	<ul style="list-style-type: none"> • Explain VMware vSphere® Storage APIs - Array Integration, VMware vSphere® API for Storage Awareness™, and vSphere APIs for I/O Filtering 	<ul style="list-style-type: none"> • Configure and assign virtual machine storage policies • Configure vSphere Storage DRS and Storage I/O Control
Module 14: Securing Virtual Machines	<ul style="list-style-type: none"> • Set up encryption in your vSphere environment • Encrypt virtual machines • Encrypt core dumps 	<ul style="list-style-type: none"> • Enable encrypted vSphere vMotion • Describe support for virtual machine security features, such as UEFI secure boot, vTPM, and virtualization-based security

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