Hewlett Packard Enterprise

VMware vSphere: Install, Configure, Manage [V6.7] H9TG1S

This course features intensive hands-on training that focuses on installing, configuring, and managing VMware vSphere® 6.7, which includes VMware ESXi™ 6.7 and VMware vCenter Server® 6.7. This course prepares you to administer a vSphere infrastructure for an organization of any size. It is the foundation for most other VMware technologies in the software-defined data center.

HPE course number	H9TG1S
Course length	5 Days
Delivery mode	ILT, VILT
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Why HPE Education Services?

- IDC MarketScape leader 5 years running for IT education and training*
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*Realize Technology Value with Training, IDC Infographic 2037, Sponsored by HPE, October 2017

Audience

- System administrators
- System engineers

Prerequisites

This course has 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:

- Describe the software-defined data center
- Explain the vSphere components and their function in the infrastructure
- Add ESXi hosts to a VMware vCenter® Server Appliance™ instance
- Manage vCenter Server Appliance
- Use a local content library as an ISO store, and deploy a virtual machine
- Describe vCenter Server architecture
- Use vCenter Server to manage an ESXi host
- Configure and manage vSphere infrastructure with VMware Host Client™ and VMware vSphere® Client™
- Describe virtual networks with vSphere standard switches
- Configure standard switch policies
- Use vCenter Server to manage various types of host storage: VMware vSphere® VMFS, NFS, iSCSI, and RDM
- Examine the features and functions of Fibre Channel and VMware vSAN™
- Manage virtual machines, templates, clones, and snapshots
- Migrate virtual machines with VMware vSphere® vMotion®
- Migrate virtual machine storage with VMware vSphere® Storage vMotion®
- Monitor resource usage, and manage resource pools
- Discuss the VMware vSphere® High Availability cluster architecture
- Configure vSphere HA
- Manage vSphere HA and VMware vSphere® Fault Tolerance
- Use VMware vSphere® Replication™ and VMware vSphere® Data Protection™ to replicate virtual machines and perform data recovery
- Use VMware vSphere® Distributed Resource Scheduler™ clusters to improve host scalability
- Use VMware vSphere® Update Manager ™ to apply patches and perform basic troubleshooting of ESXi hosts, virtual machines, and vCenter Server operations
- Identify troubleshooting methodology to logically diagnose faults and improve troubleshooting efficiency

Detailed course outline

Module 1: Course Introduction	• Introductions and course logistics • Course objectives • Describe the content of the course	• Gain a complete picture of the VMware certification system • Familiarize yourself with the benefits of the VMware Education Learning Zone • Identify additional resources
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 • 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	• Manage VMware Tools • Explain troubleshooting OS installation and VMware Tools
Module 4: vCenter Server	• Describe the vCenter Server architecture • Discuss how ESXi hosts communicate with vCenter Server • Identify the vCenter Server services, components, and modules • Access and configure vCenter Server Appliance • Use vSphere Client to manage the vCenter Server inventory • Describe the rules for applying permissions	• Create a custom role in vCenter Server • Create a backup schedule • Restore vCenter Server Appliance from backup • Monitor vCenter Server Appliance
Module 5: Configuring and Managing Virtual Networks	• Describe, create, and manage standard switches • Configure virtual switch security 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	• Describe the new features of VMFS 6.5 • Identify the advantages of VMware vSAN™ • Describe guest file encryption
Module 7: Virtual Machine Management	• Use templates and cloning to deploy new virtual machines • Modify and manage virtual machines • Clone a virtual machine • Upgrade virtual machine hardware to version 14 • Remove virtual machines from the vCenter Server inventory and datastore	• Use customization specification files to customize a new virtual machine • Perform vSphere vMotion and vSphere Storage vMotion migrations • Create and manage virtual machine snapshots • Create, clone, and export vApps • Identify the types of content libraries and how to deploy and use them

Module 8: Resource Management and Monitoring	• Discuss CPU and memory concepts in a virtualized environment • Describe what overcommitment of a resource means • Identify additional technologies that improve memory usage • 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	• 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 • 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	• Describe the functions of a vSphere DRS cluster • Create a vSphere DRS cluster • View information about a vSphere DRS cluster	• Configure virtual machine affinity, DRS groups, and VM-host affinity rules • Remove a host from a vSphere DRS cluster
Module 11: vSphere Update Manager	• Describe the new architecture, components, and capabilities of vSphere Update Manager • Use vSphere Update Manager to manage the patching of ESXi, virtual machines, and vApps • Install vSphere Update Manager and the vSphere Update Manager plug-in • Create patch baselines	• Use host profiles to manage host configuration compliance • Examine the features and functions of vSphere Update Manager EAM integration • Integrate vSphere Update Manager with vSphere DRS • Scan and remediate hosts
Module 12: vSphere Troubleshooting	• Define the scope of troubleshooting • Use a structured approach to solve configuration and operational problems	• Identify troubleshooting methodology to logically diagnose faults and improve troubleshooting efficiency

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