

VMware® vSphere - Install, Configure, Manage v6.7

Course Overview

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This is a 5-day class

This five-day 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.

Who Should Attend

System Administrators and System Engineers

Course Objectives

By the end of the course, you should be able to meet the following objectives: (a) Describe the software-defined data center; (b) Explain the vSphere components and their function in the infrastructure; (c) Add ESXi hosts to a VMware vCenter® Server Appliance™ instance; (d) Manage vCenter Server Appliance; (e) Use a local content library as an ISO store, and deploy a virtual machine; (f) Describe vCenter Server architecture; (g) Use vCenter Server to manage an ESXi host; (h) Configure and manage vSphere infrastructure with VMware Host Client™ and VMware vSphere® Client™; (i) Describe virtual networks with vSphere standard switches; (j) Configure standard switch policies; (k) Use vCenter Server to manage various types of host storage: VMware vSphere® VMFS, NFS, iSCSI, and RDM; (l) Examine the features and functions of Fibre Channel and VMware vSAN™; (m) Manage virtual machines, templates, clones, and snapshots; (n) Migrate virtual machines with VMware vSphere® vMotion®; (o) Migrate virtual machine storage with VMware vSphere® Storage vMotion®; (p) Monitor resource usage, and manage resource pools; (q) Discuss the VMware vSphere® High Availability cluster architecture; (r) Configure vSphere HA; (s) Manage vSphere HA and VMware vSphere® Fault Tolerance; (t) Use VMware vSphere® Replication™ and VMware vSphere® Data Protection™ to replicate virtual machines and perform data recovery; (u) Use VMware vSphere® Distributed Resource Scheduler™ clusters to improve host scalability; (v) Use VMware vSphere® Update Manager™ to apply patches and perform basic troubleshooting of ESXi hosts, virtual machines, and vCenter Server operations; and (w) Identify troubleshooting methodology to logically diagnose faults and improve troubleshooting efficiency.

Course Outline

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

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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

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

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

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

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

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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

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

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

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

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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

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