

# VMware vSphere: Install, Configure, Manage plus Optimize and Scale Fast Track

## Delivery Methods

- Classroom
- Live Online
- [Onsite](#)

## Course Duration

- Five (5) extended days of instructor-led classroom training
- 55% lecture, 45% hands-on lab

## Target Audience

Administrators with foundational knowledge of virtualization along with experienced system administrators, systems engineers, and system integrators willing to work hard to achieve superior vSphere skills with minimal time away from the office

## Course Suitability

- |   |  |
|---|--|
| <input checked="" type="checkbox"/> Administrator | <input type="checkbox"/> Expert                  |
| <input checked="" type="checkbox"/> Engineer      | <input checked="" type="checkbox"/> Advanced     |
| <input checked="" type="checkbox"/> Architect     | <input checked="" type="checkbox"/> Professional |
|   | <input type="checkbox"/> Fundamentals            |

## Prerequisites

- System administration experience on Microsoft Windows or Linux operating systems
- Understanding of concepts presented in the [VMware Data Center Virtualization Fundamentals](#) course or [VCA-DCV certification](#)
- Hands-on experience with vSphere

## Certifications

This course prepares you for the following certification:

- [VCP6-Foundations](#)
- [VCP6-DCV](#)

For more information, go to [VMware Certification](#).

## Pricing

Contact your VMware representative or a VMware Authorized Training Center for pricing information.

## More Information

Courses are conveniently scheduled around the world. Go to [VMware Education](#) to find the class that is right for you.

## Course Overview

This intensive, extended-hours and hands-on lab training course focuses on installing, configuring, managing and mastering VMware vSphere® 6.0, including VMware ESXi™ 6.0 and VMware vCenter™ 6.0. This course combines the content of our best-selling *VMware vSphere: Install, Configure, Manage* course with advanced scalability and performance monitoring tasks and skills needed for configuring highly available and scalable vSphere environments. Students gain practical experience with these concepts through the completion of hands-on labs.

Completion of this course satisfies the prerequisite for taking the VMware Certified Professional 6 – Data Center Virtualization (VCP6-DCV) exam.

Students who complete this course may enroll in any of several more advanced vSphere courses. For advanced course options, go to [www.vmware.com/education](http://www.vmware.com/education).

## Course Objectives

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

- Describe the software-defined data center
- Deploy an ESXi host and create virtual machines
- Describe the VMware vCenter Server™ architecture
- Deploy a vCenter Server instance or VMware vCenter™ Server Appliance™
- Use vCenter Server to manage an ESXi host
- Configure and manage vSphere infrastructure with VMware vSphere® Client™ and VMware vSphere® Web Client
- Configure virtual networks with vSphere standard switches
- Use vCenter Server to manage various types of host storage: VMware vSphere® VMFS, NFS, VMware Virtual SAN™, and VMware vSphere® Virtual Volumes™
- Manage virtual machines, templates, clones, and snapshots
- Create a vApp
- Describe and use the content library
- Migrate virtual machines with VMware vSphere® vMotion®
- Use VMware vSphere® Storage vMotion® to migrate virtual machine storage
- Monitor resource usage and manage resource pools

- Use VMware vRealize® Operations Manager™ to identify and solve issues through analytics and alerts
- Manage VMware vSphere® High Availability 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
- Manage role-based access to the VMware® virtual infrastructure
- Use host profiles to manage ESXi configuration compliance and large-scale deployment
- Use vSphere distributed switches to scale networking
- Use VMware vSphere® Network I/O Control to ensure network service availability
- Use VMware vSphere® Storage I/O Control to ensure storage availability
- Use policy-driven storage and VMware vSphere® Storage DRS™ to scale storage
- Use VMware vSphere® ESXi™ Image Builder CLI to create an ESXi image and use that image with VMware vSphere® Auto Deploy™ to provision ESXi host



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## Course Modules

<p><b>1 Course Introduction</b></p> <ul style="list-style-type: none"> <li>• Introductions and course logistics</li> <li>• Course objectives</li> <li>• References and resources</li> </ul>	<p><b>7 Virtual Machine Management</b></p> <ul style="list-style-type: none"> <li>• Use templates and cloning to deploy virtual machines</li> <li>• Modify and manage virtual machines</li> <li>• Create and manage virtual machine snapshots</li> <li>• Perform vSphere vMotion and vSphere Storage vMotion migrations</li> <li>• Create VMware vSphere® vApp(s)<sup>™</sup></li> <li>• Introduce content libraries</li> </ul>
<p><b>2 Software-Defined Data Center</b></p> <ul style="list-style-type: none"> <li>• Introduce components of the software-defined data center</li> <li>• Describe where vSphere fits into the cloud architecture</li> <li>• Install and use vSphere Client</li> <li>• Overview of ESXi</li> </ul>	<p><b>8 Access and Authentication Control</b></p> <ul style="list-style-type: none"> <li>• Control user access through roles and permissions</li> <li>• Discuss ESXi host access and authentication</li> <li>• Integrate ESXi with Active Directory</li> </ul>
<p><b>3 Creating Virtual Machines</b></p> <ul style="list-style-type: none"> <li>• Introduce virtual machines, virtual machine hardware, and virtual machine files</li> <li>• Deploy a single virtual machine</li> </ul>	<p><b>9 Resource Management and Monitoring</b></p> <ul style="list-style-type: none"> <li>• Introduce virtual CPU and memory concepts</li> <li>• Describe methods for optimizing CPU and memory usage</li> <li>• Configure and manage resource pools</li> <li>• Use vCenter Server performance graphs and alarms to monitor resource usage</li> </ul>
<p><b>4 vCenter Server</b></p> <ul style="list-style-type: none"> <li>• Introduce the vCenter Server architecture</li> <li>• Deploy and configure vCenter Server Appliance</li> <li>• Use vSphere Web Client</li> <li>• Manage vCenter Server inventory objects and licenses</li> </ul>	<p><b>10 vSphere HA and vSphere Fault Tolerance</b></p> <ul style="list-style-type: none"> <li>• Explain the vSphere HA architecture</li> <li>• Configure and manage a vSphere HA cluster</li> <li>• Use vSphere HA advanced parameters</li> <li>• Introduce vSphere Fault Tolerance</li> <li>• Enable vSphere Fault Tolerance on virtual machines</li> <li>• Introduce VMware vSphere® Replication<sup>™</sup></li> <li>• Use vSphere Data Protection to back up and restore data</li> </ul>
<p><b>5 Configuring and Managing Virtual Networks</b></p> <ul style="list-style-type: none"> <li>• Describe, create, and manage a standard switch</li> <li>• Describe and modify standard switch properties</li> <li>• Describe the NIC teaming of a standard switch port group</li> </ul>	<p><b>11 Network Scalability</b></p> <ul style="list-style-type: none"> <li>• Create, configure, and manage vSphere distributed switches, network connections, and port groups</li> <li>• Discuss distributed switch features, such as private VLANs, discovery protocols, Network I/O Control, NetFlow, and port mirroring</li> </ul>
<p><b>6 Configuring and Managing Virtual Storage</b></p> <ul style="list-style-type: none"> <li>• Introduce storage protocols and device names</li> <li>• Configure ESXi with iSCSI and NFS storage</li> <li>• Create and manage VMFS datastores</li> <li>• Introduce Virtual SAN datastores</li> <li>• Introduce Virtual Volumes</li> </ul>	<p><b>12 Host Scalability</b></p> <ul style="list-style-type: none"> <li>• Use host profiles to manage ESXi configuration compliance</li> <li>• Configure and manage a vSphere DRS cluster</li> <li>• Configure Enhanced vMotion Compatibility</li> <li>• Use vSphere HA and vSphere DRS together</li> </ul>



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**13 Storage Scalability**

- Describe VMware vSphere® Storage APIs - Array Integration and VMware vSphere® API for Storage Awareness™
- Explain policy-driven storage
- Add a storage policy to a virtual machine storage profile
- Introduce vSphere Storage I/O Control
- Create a datastore cluster
- Configure vSphere Storage DRS

**14 Patch Management**

- Use vSphere Update Manager to manage ESXi patching
- Install vSphere Update Manager and the vSphere Update Manager plug-in
- Create patch baselines
- Scan and remediate hosts

**15 VMware Management Resources**

- Describe VMware vSphere® Management Assistant
- Configure vSphere Management Assistant
- Discuss the VMware vSphere® Command-Line Interface command set
- Perform command-line operations for host management, network management, storage management, and performance monitoring

**16 Installing VMware Components**

- Describe vCenter Linked Mode to manage multiple vCenter Server inventories
- Introduce ESXi installation
- Describe boot-from-SAN requirements
- Describe vCenter Server hardware, software, and database requirements
- Install vCenter Server (Windows-based)

**17 Host and Management Scalability**

- Configure and manage VMware vSphere® Distributed Power Management™
- Use VMware vSphere® PowerCLI™
- Use vSphere ESXi Image Builder CLI to create an ESXi installation image
- Use vSphere Auto Deploy to deploy a stateless ESXi host



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