

# VMware vSphere: Optimize and Scale

## Delivery Methods

- Instructor-led
- Live-online

## Course Duration

- Five (5) days of instructor-led classroom training
- 60% lecture, 40% hands-on lab

## Target Audience

Experienced system administrators and system integrators

## Prerequisites

Required prerequisites include completion of one of the following courses:

- VMware vSphere: Install, Configure, Manage [V5]
- VMware vSphere: What's New [V5]
- VMware vSphere: Fast Track [V5] (*Fast Track scalability topics are repeated in this course.*)
- Equivalent knowledge and administration experience with ESXi and vCenter Server

Experience working at the command prompt is highly recommended.

## 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 <http://www.vmware.com/education> to find the class that is right for you.

Onsite training is also available for customers who prefer to bring a VMware Certified Instructor to their own facilities. For additional information about onsite classes, including facility requirements, go to <http://www.vmware.com/education>.

## Course Overview

This training course, for experienced VMware vSphere® personnel, teaches advanced skills for configuring and maintaining a highly available and scalable virtual infrastructure. The course is based on VMware vSphere® ESXi™ 5.0 and VMware® vCenter™ Server 5.0.

This course prepares the student for the *VMware Certified Advanced Professional – Data Center Administration [V5]* certification (VCAP5-DCA). Completion of this course also satisfies the prerequisite for taking the *VMware Certified Professional 5* exam.

## Course Objectives

At the end of the course, you should be able to do the following:

- Configure and manage ESXi networking and storage for a large and sophisticated enterprise.
- Manage changes to the vSphere environment.
- Optimize the performance of all vSphere components.
- Troubleshoot operational faults and identify their root causes.
- Use VMware vSphere® ESXi™ Shell and VMware vSphere® Management Assistant to manage vSphere.
- Use VMware vSphere® Auto Deploy to provision ESXi hosts.

## 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> </ul>	<p><b>7 Storage Optimization</b></p> <ul style="list-style-type: none"> <li>• Diagnose storage access problems</li> <li>• Understand how storage protocols, VMFS configuration, load balancing, and queuing affect performance</li> <li>• Monitor key storage performance metrics</li> <li>• Troubleshoot common storage performance problems</li> </ul>
<p><b>2 VMware Management Resources</b></p> <ul style="list-style-type: none"> <li>• Configure VMware vSphere® Management Assistant (vMA)</li> <li>• Understand the esxcli and vicfg commands</li> <li>• Configure ESXi Tech Support Mode and ssh access</li> <li>• Understand important ESXi and vCenter Server log files</li> <li>• Configure a centralized ESXi log host</li> </ul>	<p><b>8 CPU Optimization</b></p> <ul style="list-style-type: none"> <li>• Understand CPU scheduler and other features that impact CPU performance</li> <li>• Monitor key CPU performance metrics</li> <li>• Troubleshoot common CPU performance problems</li> </ul>
<p><b>3 Performance in a Virtualized Environment</b></p> <ul style="list-style-type: none"> <li>• Understand the vSphere performance troubleshooting methodology</li> <li>• Understand software and hardware virtualization techniques and their impact on performance</li> </ul>	<p><b>9 Memory Optimization</b></p> <ul style="list-style-type: none"> <li>• Understand memory reclamation techniques and overcommitment</li> <li>• Monitor key memory performance metrics</li> <li>• Troubleshoot common CPU performance problems</li> </ul>
<p><b>4 Network Scalability</b></p> <ul style="list-style-type: none"> <li>• Create, configure, and manage vSphere distributed switches</li> <li>• Use the command-line for network configuration</li> <li>• Understand distributed switch features such as PVLANs, Network I/O Control, port mirroring, and NetFlow</li> </ul>	<p><b>10 Virtual Machine and Cluster Optimization</b></p> <ul style="list-style-type: none"> <li>• Understand performance guidelines for DRS clusters, resource pools, and resource allocation settings</li> <li>• Troubleshoot virtual-machine power-on failures</li> <li>• Troubleshoot vSphere cluster errors</li> </ul>
<p><b>5 Network Optimization</b></p> <ul style="list-style-type: none"> <li>• Understand performance features of network adapters</li> <li>• Understand performance features of vSphere networking</li> <li>• Monitor key network performance metrics</li> <li>• Troubleshoot common network performance problems</li> </ul>	<p><b>11 Host and Management Scalability</b></p> <ul style="list-style-type: none"> <li>• Use Image Builder to create an ESXi installation image</li> <li>• Use Host Profiles to manage ESXi configuration compliance</li> <li>• Use vCenter Server Linked Mode to manage multiple vCenter Server inventories</li> <li>• Configure and manage VMware vSphere® Distributed Power Management™</li> <li>• Understand VMware vSphere® PowerCLI™ and customize scripts</li> <li>• Use vSphere Auto Deploy to provision ESXi hosts</li> </ul>
<p><b>6 Storage Scalability</b></p> <ul style="list-style-type: none"> <li>• Configure storage multipathing</li> <li>• Understand VAAI and VASA</li> <li>• Explain policy-driven storage</li> <li>• Add a storage policy to a virtual machine storage profile</li> <li>• Describe Storage DRS operation</li> <li>• Configure Storage DRS and Storage I/O Control</li> </ul>	



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