

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

1 Course Introduction

- Introductions and course logistics
- Course objectives

2 VMware Management Resources

- Configure VMware vSphere® Management Assistant (vMA)
- Understand the esxcli and vicfg commands
- Configure ESXi Tech Support Mode and ssh access
- Understand important ESXi and vCenter Server log files
- Configure a centralized ESXi log host

3 Performance in a Virtualized Environment

- Understand the vSphere performance troubleshooting methodology
- Understand software and hardware virtualization techniques and their impact on performance

4 Network Scalability

- Create, configure, and manage vSphere distributed switches
- Use the command-line for network configuration
- Understand distributed switch features such as PVLANs, Network I/O Control, port mirroring, and NetFlow

5 Network Optimization

- Understand performance features of network adapters
- Understand performance features of vSphere networking
- Monitor key network performance metrics
- Troubleshoot common network performance problems

6 Storage Scalability

- Configure storage multipathing
- Understand VAAI and VASA
- Explain policy-driven storage
- Add a storage policy to a virtual machine storage profile
- Describe Storage DRS operation
- Configure Storage DRS and Storage I/O Control

7 Storage Optimization

- Diagnose storage access problems
- Understand how storage protocols, VMFS configuration, load balancing, and queuing affect performance
- Monitor key storage performance metrics
- Troubleshoot common storage performance problems

8 CPU Optimization

- Understand CPU scheduler and other features that impact CPU performance
- Monitor key CPU performance metrics
- Troubleshoot common CPU performance problems

9 Memory Optimization

- Understand memory reclamation techniques and overcommitment
- Monitor key memory performance metrics
- Troubleshoot common CPU performance problems

10 Virtual Machine and Cluster Optimization

- Understand performance guidelines for DRS clusters, resource pools, and resource allocation settings
- Troubleshoot virtual-machine power-on failures
- Troubleshoot vSphere cluster errors

11 Host and Management Scalability

- Use Image Builder to create an ESXi installation image
- Use Host Profiles to manage ESXi configuration compliance
- Use vCenter Server Linked Mode to manage multiple vCenter Server inventories
- Configure and manage VMware vSphere® Distributed Power Management™
- Understand VMware vSphere® PowerCLI™ and customize scripts
- Use vSphere Auto Deploy to provision ESXi hosts



VMware, Inc. 3401 Hillview Avenue Palo Alto CA 94304 USA Tel 877-486-9273 Fax 650-427-5001 www.vmware.com

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