

VMware vSphere: Optimize and Scale

Delivery Methods

- Instructor-led training
- Live-online
- [Onsite training](#)

Course Duration

- Five days of instructor-led training
- 60% lecture, 40% hands-on lab

Target Audience

- Experienced system administrators
- Systems engineers
- System integrators

Course Suitability

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

Prerequisites

Completion of one of the following courses:

- VMware vSphere: Install, Configure, Manage [V5.5]
- VMware vSphere: What's New [V5.5]
- VMware vSphere: Fast Track

Or equivalent knowledge and administration experience with ESXi and vCenter Server

Experience working at the command prompt is highly recommended.

Certifications

This course prepares you for the following certification:

- [VCAP5-DCA](#)

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

Pricing

Contact your VMware® representative or 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.



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® ESXi™ 5.5 and VMware® vCenter Server™ 5.5.

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

Course Objectives

By 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

Note: About one-third of the VMware vSphere: What's New [V5.5] course content is repeated in this course. The scalability topics in VMware vSphere: Fast Track are repeated in this course.

Course Modules

1 Course Introduction

- Introductions and course logistics
- Course objectives

2 VMware Management Resources

- Deploy and configure vSphere Management Assistant
- Configure ESXi technical support mode and SSH access
- Use the esxcli, vicfg, and vmware-cmd commands
- Review ESXi and vCenter Server log files

3 Performance in a Virtualized Environment

- Review the vSphere performance troubleshooting methodology
- Explain software and hardware virtualization techniques and their effects on performance
- Use vSphere performance monitoring tools

4 Network Scalability

- Create, configure, and manage vSphere distributed switches
- Migrate virtual machines from standard switches to distributed switches
- Explain distributed switch features such as private VLANs, VMware vSphere® Network I/O Control, port mirroring, LACP, QoS tagging, and NetFlow

5 Network Optimization

- Explain the performance features of network adapters
- Explain the performance features of vSphere networking
- Monitor key network performance metrics
- Use vSphere Management Assistant to manage virtual network configurations
- Troubleshoot common network performance problems

6 Storage Scalability

- Explain vSphere storage APIs for array integration and storage awareness
- Configure and assign virtual machine storage policies
- Configure VMware vSphere® Storage DRS™ and VMware vSphere® Storage I/O Control

7 Storage Optimization

- Diagnose storage access problems
- Explain how storage protocols, VMware vSphere® VMFS configuration, load balancing, and queuing affect performance
- Configure vSphere® Flash Read Cache™
- Monitor key storage performance metrics
- Use vSphere Management Assistant to manage virtual storage
- Troubleshoot common storage performance problems

8 CPU Optimization

- Explain the CPU scheduler operation, NUMA support, and other features that affect CPU performance
- Monitor key CPU performance metrics
- Troubleshoot common CPU performance problems

9 Memory Optimization

- Explain ballooning, memory compression, and host swapping techniques for memory reclamation when memory is overcommitted
- Monitor key memory performance metrics
- Troubleshoot common memory performance problems

10 Virtual Machine and Cluster Optimization

- Describe performance guidelines for virtual machines, resource allocation settings, VMware vSphere® Distributed Resource Scheduler™ clusters, resource pools, and VMware vSphere® High Availability admission control policies
- Troubleshoot virtual machine power-on failures
- Troubleshoot vSphere cluster problems

11 Host and Management Scalability

- Explain VMware vSphere® Distributed Power Management™
- Use Host Profiles to manage ESXi configuration compliance
- Use VMware vSphere® PowerCLI™ to perform vSphere administrative tasks
- Use Image Builder to create an ESXi installation image
- Use vSphere Auto Deploy to provision ESXi hosts



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