vmware EDUCATION SERVICES

VMware vSphere: Bootcamp

Delivery Methods

- Classroom
- Live Online
- Onsite

Course Duration

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

Target Audience

- Experienced system administrators
- Systems engineers
- System integrators

Course Suitability

☒ Administrator	☐ Expert
☒ Engineer	☒ Advanced
☐ Architect	☒ Professional
	☐ Fundamentals

Prerequisites

- System administration experience on Microsoft Windows or Linux operating systems
- Understanding of concepts presented in the VMware Data Center Virtualization Fundamentals course for VCA-DCV certification

Certifications

This course qualifies you for both the VCP6 Foundations and VCP6-DCV certifications. 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

VMware vSphere®: Bootcamp is an intensive combination of our best-selling vSphere courses. This course is a hands-on training course delivered in two parts across five days of extended hours. Part one focuses on installing, configuring, and managing vSphere 6, which includes VMware ESXi™ 6.0 and VMware vCenter Server™ 6.0. Part two builds advanced skills for configuring and maintaining a highly available and scalable virtual infrastructure.

Course Objectives

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

Part 1

- Describe the software-defined data center
- Deploy an ESXi host and create virtual machines
- Describe 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, virtual SAN, and 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 vSphere distributed switches to improve network scalability
- Use VMware vSphere® Update Manager™ to apply patches and perform basic troubleshooting of ESXi hosts, virtual machines, and vCenter Server operations

Part 2

- 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
- Harden the vSphere environment against security threats
- 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

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Course Modules
Part 1: Install, Configure, and Manage

1 Course Introduction
- Introductions and course logistics
- Course objectives
- References and resources

2 Software-Defined Data Center
- Introduce components of the software-defined data center
- Describe where vSphere fits into the cloud architecture
- Install and use vSphere Client
- Overview of ESXi

3 Creating Virtual Machines
- Introduce virtual machines, virtual machine hardware, and virtual machine files
- Create and work with virtual machines and templates

4 vCenter Server
- Introduce the vCenter Server architecture
- Deploy and configure vCenter Server Appliance
- Use vSphere Web Client
- Manage vCenter Server inventory objects and licenses

5 Configuring and Managing Virtual Networks
- Describe, create, and manage standard switches
- Configure virtual switch security and load-balancing policies
- Create, configure, and manage vSphere distributed switches, network connections, and port groups

6 Configuring and Managing Virtual Storage
- Introduce storage protocols and storage device types
- Discuss ESXi hosts using iSCSI and NFS storage
- Create and manage VMFS and NFS datastores
- Introduce VMware Virtual SAN™
- Introduce Virtual Volumes

7 Virtual Machine Management
- Use templates and cloning to deploy new virtual machines
- Modify and manage virtual machines
- Perform vSphere vMotion and vSphere Storage vMotion migratio
- Create and manage virtual machine snapshots
- Create vApps
- Introduce the types of content libraries and how to deploy and use them

8 Resource Management and Monitoring
- Introduce virtual CPU and memory concepts
- 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
- Identify and troubleshoot virtual machine resource issues
- Introduce vRealize Operations Manager for data center monitoring and management

9 vSphere HA and vSphere Fault Tolerance
- Explain the vSphere HA architecture
- Configure and manage a vSphere HA cluster
- Use vSphere HA advanced parameters
- Introduce vSphere Fault Tolerance
- Enable vSphere Fault Tolerance on virtual machines
- Introduce vSphere Replication
- Use vSphere Data Protection to back up and restore data

10 Host Scalability
- Describe the functions and benefits of a vSphere DRS cluster
- Configure and manage a vSphere DRS cluster
- Work with affinity and anti-affinity rules
- Use vSphere HA and vSphere DRS together for business continuity

11 vSphere Update Manager and Host Maintenance
- Use vSphere Update Manager to manage ESXi patching
- Install vSphere Update Manager and the vSphere Update Manager plug-in
- Create patch baselines
- Use host profiles to manage host configuration compliance
- Scan and remediate hosts

12 Installing vSphere Components
- Install ESXi
- Introduce vCenter Server deployment options
- Describe vCenter Server hardware, software, and database requirements
- Discuss installation of vCenter Server Appliance and a vCenter Server instance
- Demonstrate vCenter Server installation

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Part 2: Optimize and Scale

1 Course Introduction
- Introductions and course logistics
- Course objectives
- Additional resources

2 vSphere Security
- Describe the features and benefits of VMware Platform Services Controller™
- Configure ESXi host access and authorization
- Secure ESXi, vCenter Server, and virtual machines
- Upgrade ESXi and vCenter Server instances

3 VMware Management Resources
- Understand the purpose of VMware vSphere® Command-Line Interface commands
- Discuss options for running vSphere CLI commands
- Deploy and configure vSphere Management Assistant
- Use vmware-cmd for virtual machine operations

4 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

5 Network Scalability
- Configure and manage vSphere distributed switches
- Migrate virtual machines from standard switches to distributed switches
- Explain distributed switch features such as port mirroring, LACP, QoS tagging, and NetFlow

6 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

7 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
- Create and use virtual volumes in vSphere

8 Storage Optimization
- Diagnose storage access problems
- Configure VMware vSphere® Flash Read Cache™
- Monitor key storage performance metrics
- Troubleshoot common storage performance problems

9 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

10 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

11 Virtual Machine and Cluster Optimization
- Describe guidelines for optimizing virtual machine configuration
- Discuss how vGPU usage affects virtual machine performance
- Discuss guidelines for using resource allocation settings
- Discuss guidelines for using resource pools
- Discuss guidelines for using vSphere DRS clusters
- Troubleshoot common vSphere cluster problems

12 Host and Management Scalability
- Describe and use host profiles
- Define and use content libraries
- Use VMware vSphere® PowerCLI™
- Use Virtual Machine Converter
- Use VMware vSphere® ESXi™ Image Builder CLI and vSphere Auto Deploy

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