Delivery Methods
- Instructor-led
- Live-online

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

Target Audience
Experienced system administrators and system integrators willing to work hard to achieve superior vSphere skills with minimal time away from the office

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

Prerequisites
- Willingness to participate in a demanding, high-intensity training experience
- Comfort with system administration using command-line interfaces
- Have a basic understanding of virtualization concepts

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 intensive, extended-hours training course focuses on installing, configuring, and managing VMware vSphere® 5.1. This course combines the content of the VMware vSphere: Install, Configure, Manage course with advanced tasks and skills for configuring a highly available and scalable virtual infrastructure. The course is based on VMware ESXi™ 5.1 and VMware® vCenter Server™ 5.1. Completion of this course satisfies the prerequisite for taking the VMware Certified Professional 5 exam.

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

Course Objectives
By the end of the course, you should be able to do the following:
- Configure and manage ESXi networking and storage
- Create, configure, migrate, manage, and monitor virtual machines and virtual appliances
- Manage user access to the VMware virtual infrastructure
- Use vCenter Server to monitor resource usage
- Implement VMware vSphere® High Availability and VMware vSphere® Fault Tolerance (FT)
- Use host profiles to manage ESXi configuration compliance
- Use vSphere distributed switches to scale networking
- Use profile-driven storage and VMware vSphere® Storage DRS™ to scale storage
- Use VMware vSphere® Update Manager™ to apply ESXi patches
- Use VMware vSphere® Management Assistant (vMA) to manage vSphere
- Deploy ESXi, vCenter Server, and VMware® vCenter Server™ Appliance™
- Use VMware vSphere® ESXi™ Image Builder CLI to create an ESXi image
- Use VMware vSphere® Auto Deploy to provision ESXi hosts
## Course Modules

### Course Introduction
- Introductions and course logistics
- Course objectives

### Introduction to VMware Virtualization
- Introduce virtualization and vSphere components
- Explain the concepts of server, network, and storage virtualization
- Describe where vSphere fits into the cloud architecture
- Install and use vSphere user interfaces
- Describe the ESXi architecture and configure various ESXi settings

### Creating Virtual Machines
- Introduce virtual machines, virtual machine hardware, and virtual machine files
- Deploy a single virtual machine

### VMware vCenter Server
- Introduce vCenter Server architecture
- Manage vCenter Server inventory objects and licenses

### Configuring and Managing Virtual Networks
- Describe, create, and manage a standard switch
- Describe and modify standard switch properties
- Configure virtual switch load-balancing algorithms

### Configuring and Managing Virtual Storage
- Introduce storage protocols and device names
- Configure ESXi with iSCSI, NFS, and Fibre Channel storage
- Create and manage VMware vSphere® VMFS datastores
- Introduce VMware vSphere® Storage Appliance

### Virtual Machine Management
- Use templates and cloning to deploy virtual machines
- Modify and manage virtual machines
- Create and manage virtual machine snapshots
- Perform VMware vSphere® vMotion® and VMware vSphere® Storage vMotion® migrations
- Create a VMware vSphere® vApp™

### Access and Authentication Control
- Control user access through roles and permissions
- Discuss ESXi host access and authentication
- Integrate ESXi with Active Directory
- Introduce VMware® vShield™ products

### Resource Management and Monitoring
- Introduce virtual CPU and memory concepts
- Describe methods for optimizing CPU and memory usage
- Configure and manage resource pools
- Use vCenter Server performance graphs and alarms to monitor resource usage

### High Availability and Fault Tolerance
- Explain the vSphere HA architecture
- Configure and manage a vSphere HA cluster
- Set vSphere HA advanced parameters
- Enable FT on a virtual machine

### Host Scalability
- Use host profiles to manage ESXi configuration compliance
- Configure and manage a VMware vSphere® Distributed Resource Scheduler™ cluster
- Configure Enhanced vMotion Compatibility
- Use vSphere HA and vSphere DRS together
- Configure and manage VMware vSphere® Distributed Power Management™

### Network Scalability
- Create, configure, and manage vSphere distributed switches, network connections, and port groups
- Discuss distributed switch features, such as private VLANs, discovery protocols, VMware vSphere® Network I/O Control, NetFlow, and port mirroring

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

14 **Data Protection**
- Discuss a strategy for backing up ESXi hosts and vCenter Server
- Introduce VMware vSphere® Data Protection™
- Discuss solutions for efficiently backing up virtual machines

15 **Patch Management**
- Use Update Manager to manage ESXi patching
- Install Update Manager and the Update Manager plug-in
- Create patch baselines
- Scan and remediate hosts

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

17 **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)
- Introduce vCenter Server Appliance
- Install and configure vCenter Server Appliance
- Use Image Builder to create an ESXi installation image
- Use VMware vSphere® Auto Deploy™ to deploy a stateless ESXi host