VMware vSphere: Fast Track [V6.5]

Code:	EDU-VSFT65
Length:	5 days
URL:	View Online

This extended hours, five-day course features intensive, hands-on training that focuses on installing, configuring, managing, and troubleshooting VMware vSphere® 6.5, which includes VMware ESXi™ 6.5 and VMware vCenter Server® 6.5. This course prepares you to administer a vSphere infrastructure for an organization of any size. It is the foundation for most other VMware technologies in the software-defined data center. The material is presented in the Fast Track format.

Skills Gained

- Describe the software-defined data center

- Explain the vSphere components and their function in the infrastructure

- Deploy an ESXi host

- Deploy VMware vCenter® Server Appliance™

- Use a local content library as an ISO store and deploy a virtual machine

- Describe vCenter Server architecture

- Use vCenter Server to manage an ESXi host

- Configure and manage vSphere infrastructure with VMware Host Client™ and VMware vSphere® Web Client

- Troubleshoot vSphere environments with VMware vSphere® Management Assistant and command-line commands

- Describe virtual networks with vSphere standard switches

- Configure standard switch policies

- Troubleshoot virtual networks

- Use vCenter Server to manage various types of host storage: VMware vSphere® VMFS, NFS, iSCSI, and RDM

- Examine the features and functions of Fibre Channel and VMware vSAN™

- Manage virtual machines, templates, clones, and snapshots

- Create, clone, and deploy a vApp

- Describe and use the content library

- Migrate virtual machines with VMware vSphere® vMotion®

- Troubleshoot virtual machines

- Use VMware vSphere® Storage vMotion® to migrate virtual machine storage

- Troubleshoot vSphere storage
- Monitor resource usage and manage resource pools
- Use esxtop to identify and solve performance issues
- Troubleshoot ESXi hosts and vCenter Server
- Discuss the VMware vSphere® High Availability cluster architecture
- Configure vSphere HA
- Manage vSphere HA and VMware vSphere® Fault Tolerance
- Troubleshoot vSphere HA
- 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
- Troubleshoot vSphere DRS clusters
- Use VMware vSphere® Update Manager™ to apply patches and perform basic troubleshooting of ESXi hosts, virtual machines, and vCenter Server operations

Who Can Benefit

- System administrators
- System engineers

Prerequisites

- System administration experience on Microsoft Windows or Linux operating systems

Course Details

Course Introduction
- Introductions and course logistics
- Course objectives
- Describe the content of this course
- Gain a complete picture of the VMware certification system
- Familiarize yourself with the benefits of the VMware Education Learning Zone
- Identify additional resources

Introduction to vSphere and the Software-Defined Data Center
- Describe the topology of a physical data center
- Explain the vSphere virtual infrastructure
- Define the files and components of virtual machines
- Describe the benefits of using virtual machines
- Explain the similarities and differences between physical architectures and virtual architectures
- Define the purpose of ESXi

- Define the purpose of vCenter Server
- Explain the software-defined data center
- Describe private, public, and hybrid clouds

Creating Virtual Machines

- Introduce virtual machines, virtual machine hardware, and virtual machine files
- Identify the files that make up a virtual machine
- Discuss the latest virtual machine hardware and its features
- Describe virtual machine CPU, memory, disk, and network resource usage
- Explain the importance of VMware Tools™
- Discuss PCI pass-through, Direct I/O, remote direct memory access, and NVMe
- Deploy and configure virtual machines and templates
- Identify the virtual machine disk format

vCenter Server

- Introduce the vCenter Server architecture
- Deploy and configure vCenter Server Appliance
- Use vSphere Web Client
- Back up and restore vCenter Server
- Examine vCenter Server permissions and roles
- Explain the vSphere HA architectures and features
- Examine the new vSphere authentication proxy
- Manage vCenter Server inventory objects and licenses
- Access and navigate the new vSphere clients

Troubleshooting vSphere

- Use command-line commands with vSphere
- Use vSphere Management Assistant
- Describe the troubleshooting methodology for vSphere
- Identify the location of vSphere log files

Configuring and Managing Virtual Networks

- Describe, create, and manage standard switches
- Configure virtual switch security and load-balancing policies
- Compare and contrast vSphere distributed switches and standard switches
- Describe the virtual switch connection types
- Describe the new TCP/IP stack architecture
- Use VLANs with standard switches
- Troubleshoot networks

Configuring and Managing Virtual Storage

- Identify storage protocols and storage device types

- Discuss ESXi hosts using iSCSI, NFS, and Fibre Channel storage

- Create and manage VMFS and NFS datastores

- Describe the new features of VMFS6.5

- Describe guest file encryption

- Describe storage connectivity and configuration

- Describe storage multipathing

- Discuss the use of vSAN and VMware vSphere® Virtual Volumes™

Virtual Machine Management

- Use templates and cloning to deploy new virtual machines

- Modify and manage virtual machines

- Clone a virtual machine

- Upgrade virtual machine hardware to version 13

- Remove virtual machines from the vCenter Server inventory and datastore

- Customize a new virtual machine using customization specification files

- Perform vSphere vMotion and vSphere Storage vMotion migrations

- Create and manage virtual machine snapshots

- Create, clone, and export vApps

- Identify the types of content libraries and how to deploy and use them

Resource Management and Monitoring

- Explain virtual CPU and memory concepts

- Explain virtual memory reclamation techniques

- Describe virtual machine overcommitment and resource competition

- 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

- Describe and deploy resource pools

- Set reservations, limits, and shares

- Describe expandable reservations

- Schedule changes to resource settings

- Create, clone, and export vApps

- Use vCenter Server performance charts and esxtop to analyze vSphere performance

- Troubleshoot vCenter Server and ESXi hosts

vSphere HA, vSphere Fault Tolerance, and Protecting Data

- Explain the vSphere HA architecture

- Configure and manage a vSphere HA cluster

- Use vSphere HA advanced parameters

- Define clusterwide restart ordering capabilities

- Enforce infrastructural or intra-app dependencies during failover

- Describe vSphere HA heartbeat networks and datastore heartbeats

- Introduce vSphere Fault Tolerance

- Enable vSphere Fault Tolerance on virtual machines

- Support vSphere Fault Tolerance interoperability with vSAN

- Examine enhanced consolidation of vSphere Fault Tolerance virtual machines

- Introduce vSphere Replication

- Use vSphere Data Protection to back up and restore data

- Troubleshoot vSphere HA

vSphere DRS

- Describe the functions and benefits of a vSphere DRS cluster

- Configure and manage a vSphere DRS cluster

- Work with affinity and anti-affinity rules

- Describe the new capabilities for what-if analysis and Predictive DRS

- Describe the evolution of vSphere DRS using predictive data from VMware vRealize® Operations Manager™

- Perform preemptive actions to prepare for CPU or memory changes

- Describe the vCenter Server embedded vSphere Update Manager, VMware vSphere® ESXi™ Image Builder CLI, and
   VMware vSphere® Auto Deploy™ capabilities

- Use vSphere HA and vSphere DRS together for business continuity

- Troubleshoot vSphere DRS

vSphere Update Manager

- Describe the new vSphere Update Manager architecture, components, and capabilities

- Use vSphere Update Manager to manage the patching of ESXi, virtual machines, and vApps

- 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