VMware® vSphere: Install, Configure, Manage

Duration: 5 Days	Language: English
Course Delivery: Classroom	

COURSE OBJECTIVES:

By the end of the course, you should be able to meet the following objectives:
- 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
- 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
- Perform basic troubleshooting of ESXi hosts, virtual machines, and vCenter Server operations

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

Course Outline:

1 - COURSE INTRODUCTION

Introductions and course logistics
Course objectives

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

4 - VCENTER SERVER

? Introduce the vCenter Server architecture
Deploy and configure vCenter Server Appliance
Install and use vSphere Web Client
Manage vCenter Server inventory objects and licenses
Explain the benefits of Enhanced vMotion Compatibility

5 - CONFIGURING AND MANAGING VIRTUAL NETWORKS

Describe, create, and manage standard switches
Describe and modify standard switch properties
Configure virtual switch load-balancing algorithms
Create, configure, and manage vSphere distributed switches, network connections, and port groups

6 - CONFIGURING AND MANAGING VIRTUAL STORAGE

Introduce storage protocols and storage device names
Discuss ESXi with iSCSI, NFS, and Fibre Channel storage
Create and manage VMware vSphere® VMFS datastores
Introduce VMware Virtual SAN™

7 - VIRTUAL MACHINE MANAGEMENT

Use templates and cloning to deploy virtual machines
Modify and manage virtual machines
Perform vSphere vMotion and vSphere Storage vMotion migrations
Create and manage virtual machine snapshots
Create a vApp
Introduce the various 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 vCenter Server performance graphs and alarms to monitor resource usage
Create and use alarms to report certain conditions or events
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 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

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 ESXi configuration compliance
Scan and remediate hosts

12 - INSTALLING VMWARE COMPONENTS

Introduce ESXi installation
Describe boot-from-SAN requirements
Introduce vCenter Server deployment options
Describe vCenter Server hardware, software, and database requirements
Discuss installation of vCenter Server Appliance and a vCenter Server instance