VMware vSphere: Install, Configure, Manage [V6]

Overview:

VMware vSphere: Install, Configure, Manage features intensive hands-on training that focuses on installing, configuring, and managing VMware vSphere® 6, which includes VMware ESXi™ 6 and VMware vCenter Server™ 6. This course prepares you to administer a vSphere infrastructure for an organization of any size and forms the foundation for most other VMware technologies in the software-defined data center.

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: 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

Intended Audience:
- System administrators
- Systems engineers

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

Outline:
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,

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 migrations
   - 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