VMware vSphere: Install, Configure, Manage v6.0

Course Details

Course Outline

1. **Software-Defined Data Center**
   - Introduce Components of the Software-Defined Data Center
   - Where vSphere Fits into the Cloud Architecture
   - Install and Use vSphere Client
   - Overview of ESXi

2. **Creating Virtual Machines**
   - Introduce Virtual Machines, Virtual Machine Hardware, and Virtual Machine Files
   - Create and Work with Virtual Machines

3. **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

4. **Configuring and Managing Virtual Networks**
   - Create and Manage Standard Switches
   - Modify Standard Switch Properties
   - Configure Virtual Switch Load-Balancing Algorithms
   - Create, Configure, and Manage vSphere Distributed Switches, Network Connections, and Port Groups

5. **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

6. **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

7. **Resource Management and Monitoring**

- Introduce Virtual CPU and Memory Concepts

- 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

8. **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

9. **Host Scalability**

- 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

10. **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

11. **Installing VMware Components**

- ESXi Installation

- Boot-from-SAN Requirements

- Introduce vCenter Server Deployment Options

- vCenter Server Hardware, Software, and Database Requirements

- Installation of vCenter Server Appliance and a vCenter Server Instance

12. Lab 1: Installing vSphere Client

- Access Your Student Desktop System
- Install vSphere Client

13. Lab 2: Configuring ESXi Hosts

- Examine the ESXi Host Hardware Configuration
- Configure the DNS and Routing Information for an ESXi Host
- Configure an ESXi Host to Use Directory Services

14. Lab 3: Working with Virtual Machines

- Create a Virtual Machine
- Install a Guest Operating System in a Virtual Machine
- Identify the Virtual Machine's Disk Format and View Storage Metrics
- Install VMware Tools on a Virtual Machine Installed with a Windows OS

15. Lab 4: Working with vCenter Server

- Access vCenter Server Appliance
- Install vCenter Server Appliance and Host License Keys
- Create a Data Center Object
- Add Your ESXi Host to the vCenter Server Inventory
- Configure Your ESXi Host as an NTP Client

16. Lab 5: Using vSphere Web Client

- Navigate vSphere Web Client
- Pin and Unpin Panes
- Hide the Getting Started Tabs
- Upgrade the Virtual Machine's Hardware

17. Lab 6: Creating Folders in vCenter Server Appliance

- Create a Host and Cluster Folder
- Create Virtual Machine and Template Folders

18. Lab 7: Using Standard Switches

- View the Standard Switch Configuration
- Create a Standard Switch with a Virtual Machine Port Group
- Attach Your Virtual Machine to the New Virtual Machine Port Group

19. Lab 8: Using vSphere Distributed Switches

- Create a Distributed Switch
- Add the ESXi Hosts to the New Distributed Switch

- Examine Your Distributed Switch Configuration
- Migrate the Virtual Machines to a Distributed Switch Port Group

20. Lab 9: Accessing iSCSI Storage

- Add a VMkernel Port Group to a Standard Switch
- Configure the iSCSI Software Adapter and Connect It to the Storage

21. Lab 10: Accessing NFS Storage

- Configure Access to NFS Datastores
- View NFS Storage Information

22. Lab 11: Managing VMFS Datastores

- Change the Name of a VMFS Datastore
- Create VMFS Datastores for the ESXi Host
- Expand a VMFS Datastore to Consume Unused Space on a LUN
- Remove a VMFS Datastore
- Extend a VMFS Datastore

23. Lab 12: Using Templates and Clones

- Create a Virtual Machine Template
- Create Customization Specifications
- Deploy a Virtual Machine from a Template
- Clone a Powered-On Virtual Machine

24. Lab 13: Modifying Virtual Machines

- Increase the Size of a VMDK File
- Adjust Memory Allocation on a Virtual Machine
- Rename a Virtual Machine in the vCenter Server Inventory
- Add and Remove a Raw LUN on a Virtual Machine
- Expand a Thin-Provisioned Virtual Disk

25. Lab 14: Migrating Virtual Machines

- Migrate Virtual Machine Files from the Local Storage to the Shared Storage
- Create a Virtual Switch and a VMkernel Port Group for vSphere vMotion Migration
- Perform a vSphere vMotion Migration of a Virtual Machine on a Shared Datastore
- Perform a Cross-Host vSphere Storage vMotion Migration to a Local Datastore

26. Lab 15: Managing Virtual Machines

- Unregister a Virtual Machine from the vCenter Server Appliance Inventory
- Register a Virtual Machine in the vCenter Server Appliance Inventory
- Unregister and Delete a Virtual Machine from the Disk

- Take Snapshots of a Virtual Machine

- Revert to a Snapshot

- Delete an Individual Snapshot

- Use the Delete All Function in the Snapshot Manager

27. Lab 16: Managing vApps

- Create a vApp

- Power On a vApp

- Remove a vApp

28. Lab 17: Managing Resource Pools

- Create CPU Contention

- Create Resource Pools

- Verify Resource Pool Functionality

29. Lab 18: Monitoring Virtual Machine Performance

- Create CPU Workload

- Use Performance Charts to Monitor CPU Utilization

- Undo Changes Made to the Virtual Machines

30. Lab 19: Using Alarms

- Create a Virtual Machine Alarm to Monitor a Condition

- Create a Virtual Machine Alarm to Monitor an Event

- Trigger Virtual Machine Alarms and Acknowledge the Alarms

- Disable Virtual Machine Alarms

31. Lab 20: Using vSphere HA

- Create a Cluster Enabled for vSphere HA

- Add Your ESXi Host to a Cluster

- Test vSphere HA Functionality

- View the vSphere HA Cluster Resource Usage

- Manage vSphere HA Slot Size

- Configure a vSphere HA Cluster with Strict Admission Control

32. Lab 21: Implementing a vSphere DRS Cluster

- Create a Load Imbalance

- Create a vSphere DRS Cluster

- Verify Proper vSphere DRS Cluster Functionality

- Create, Test, and Disable a VM-VM Affinity Rule

- Create, Test, and Disable an Anti-Affinity Rule

- Create, Test, and Disable a VM-Host Affinity Rule

33. Lab 22: Using vSphere Update Manager

- Install the vSphere Update Manager Server
- Install vSphere Update Manager
- Modify the Cluster Settings
- Configure vSphere Update Manager
- Create a Patch Baseline
- Attach a Baseline and Scan for Updates
- Stage the Patches onto the ESXi Hosts
- Remediate the ESXi Hosts