



## Syllabus For VMware

### ➤ Course Introduction

- Introduction and course logistics
- Course objectives

### ➤ Software-Defined Data Center

- 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 setting

### ➤ Creating Virtual Machines

- Introduce virtual machines, virtual machine hardware, and virtual machine files
- Deploy a single virtual machine

### ➤ VM ware vCenter Server

- Introduce vCenter server architecture
- Introduce vCenter server Appliance
- Using the VMware vSphere® Web Client
- Configuring VMware® vCenter™ Single Sign-On™
- 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
- Describe the NIC teaming of a standard switch port group

### ➤ 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® Virtual SAN™ datastores

### ➤ **Virtual Machine Management**

- Use templates and cloning to deploy virtual machine
- 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

### ➤ **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 vSphere FT on a virtual machine
- Describe VMware vSphere® Replication

### ➤ **Network Scalability**

- Create, configure, and manage vSphere distributed switches, network connections, and port groups



- Discuss distributed switch feature, such as private VLANs, discovery protocols, VMware vSphere® Network I/O Control, NetFlow, and port mirroring

#### ➤ **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

#### ➤ **Storage Scalability**

- Describe VMware vSphere® Storage APIs - Array Integration and Storage Awareness
- Explain policy-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

#### ➤ **Patch Management**

- Use vSphere Update Manager to manage ESXi patching
- Install vSphere Update Manager and the vSphere Update Manager plug-in
- Create patch baselines
- Scan and remediate hosts

#### ➤ **VMware Management Resources**

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

#### ➤ **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)

➤ **Host and Management Scalability**

- Configure and manage VMware vSphere® Distributed Power Management™
- Use VMware vSphere® PowerCLI™
- Use vSphere ESXi Image Builder CLI to create an ESXi installation image
- Use vSphere Auto Deploy to deploy a stateless ESXi host



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