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**By the end of the course, you should be able to meet the following objectives:**

- Configure and manage VMware vSphere® Auto Deploy™ configurations
- Configure advanced system settings
- Deploy and configure core management infrastructure components
- Deploy and configure VMware vSphere® Update Manager™ components
- Perform virtual machine configurations
- Implement complex storage solutions
- Deploy and configure VMware vSANTM
- Troubleshoot complex storage solutions
- Implement and manage vSphere 6.x standard switch and distributed switch networks
- Troubleshoot a vSphere 6.x network implementation
- Implement and maintain vSphere availability solutions
- Implement and manage DRS solutions
- Troubleshoot vSphere clusters
- Manage a vSphere environment using command line tools
- Manage and analyze vSphere log files
- Configure and manage a content library
- Use vSphere performance monitoring tools
- Optimize virtual machine resources
- Backup and recover vSphere configurations
- Configure a vSphere 6.x environment for security
- Manage authentication and end-user security
- Manage SSL certificates
- Secure and encrypt a virtual machine



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## Outline:

### 1. Course Introduction

- Introductions and course objectives

### 2. Create and Deploy vSphere 6.x Infrastructure Components

- Configure and manage host profiles
- Configure and manage a vSphere environment for vSphere Auto Deploy
- Configure advanced system settings on an ESXi host, including syslog, scratch partition, and core dump
- location
- Configure and manage an identity source and root level global permissions
- Use vSphere Update Manager for creating baselines and schedules, staging patches, and remediating
- hosts
- Perform virtual machine (VM) configurations, including adjusting CPU and memory allocations, and
- specifying swap file location

### 3. Deploy and Manage a vSphere 6.x Storage Infrastructure

- Implement complex storage solutions - iSCSI storage, NFS datastores, and Storage I/O Control
- Deploy and configure vSAN, and create a vSAN storage policy
- Investigate and restore access to a VMware vSphere® VMFS datastore

### 4. Deploy and Manage a vSphere 6.x Network Infrastructure

- Migrate a VMkernel network adapter and vmnic from a standard switch to a distributed switch
- Create and configure a custom TCP/IP stack on an ESXi host
- Configure Network I/O Control to support network bandwidth constraint issues



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## 5. Configure a vSphere Deployment for Availability and Scalability

- Enable VMware vSphere® High Availability and configure core components such as admission control, heartbeat datastores, and a custom isolation address
- Enable DRS and configure automation settings, EVC mode, and an affinity rule
- Troubleshoot a VMware vSphere® vMotion® issue within a vSphere cluster

## 6. Configure a vSphere Deployment for Manageability

- Create a VM and generate a report using VMware vSphere® PowerCLI™
- Configure VMware vCenter Server® database log settings and diagnostic logging levels
- Analyze a log file to investigate a network connection problem and remediate the problem
- Import an OVF template and create a subscribed content library for a multi-vCenter Server environment

## 7. Configure a vSphere Deployment for Performance

- Use ESXi command-line utilities to collect vSphere performance metrics and perform VM network packet capture
- Update the configuration on a VM template

## 8. Configure a vSphere 6.x Environment for Recoverability

- Backup and restore a distributed switch configuration
- Backup and restore a resource pool tree
- Schedule vCenter Server backups using the vCenter Server Appliance Management Interface

## 9. Configure a vSphere 6.x Environment for Security

- Register a KMS with vCenter Server, create an encryption storage policy, and create an encrypted VM
- Update advanced certificate parameters and renew an ESXi certificate
- Create a vCenter Server custom role and assign permissions to an identity source user
- Change password restrictions on an ESXi host
- Add an ESXi host to a directory service domain and enable lockdown mode