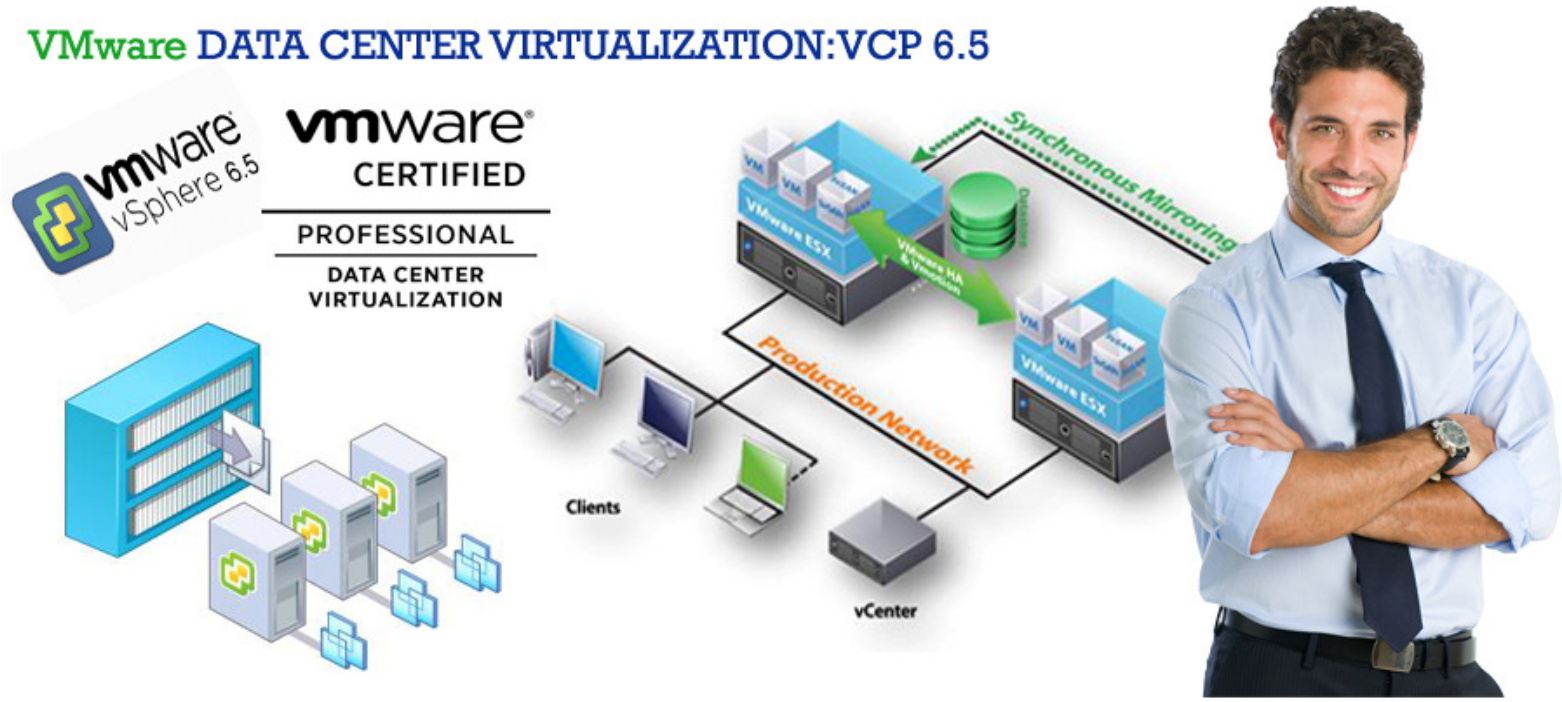
VMware DATA CENTER VIRTUALIZATION:VCP 6.5



VMware Certified Professional – Data Center Virtualization (VCP6.5-DCV)

Overview:

This 40 Hours course features intensive hands-on training that focuses on installing, configuring, and managing VMware vSphere® 6.5, which includes VMware ESXi™ 6.5 and VMware vCenter Server® 6.5. This course prepares you to administer a vSphere infrastructure for an organization of any size. It is the foundation for most other VMware technologies in the software-defined data center.

Prerequisites: This course requires the following prerequisites:-
System administration experience on Microsoft Windows or Linux operating systems

Objectives: By the end of the course, you should be able to meet the following objectives:-
Describe the software-defined data center

- Explain the vSphere components and their function in the infrastructure
- Deploy an ESXi host
- Deploy VMware vCenter® Server Appliance™
- Use a local content library as an ISO store and deploy a virtual machine
- Describe vCenter Server architecture
- Use vCenter Server to manage an ESXi host
- Configure and manage vSphere infrastructure with VMware Host Client™ and VMware vSphere® Web Client

- Describe virtual networks with vSphere standard switches
- Configure standard switch policies
- Use vCenter Server to manage various types of host storage: VMware vSphere® VMFS, NFS, iSCSI, and RDM
- Examine the features and functions of Fibre Channel and VMware vSAN™
- Manage virtual machines, templates, clones, and snapshots
- Create, clone, and deploy 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 esxtop to identify and solve performance issues
- Discuss the VMware vSphere® High Availability cluster architecture
- Configure vSphere HA
- Manage vSphere HA 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 VMware vSphere® Update Manager™ to apply patches and perform basic troubleshooting of ESXi hosts, virtual machines, and vCenter Server operations

1. **Course Introduction**
   - Introductions and course logistics
   - Course objectives
   - Describe the content of this course
   - Gain a complete picture of the VMware certification system
   - Familiarize yourself with the benefits of the VMware Education Learning Zone
   - Identify additional resources

2. **Introduction to vSphere and the Software-Defined Data Center**
   - Describe the topology of a physical data center
   - Explain the vSphere virtual infrastructure
   - Define the files and components of virtual machines
   - Describe the benefits of using virtual machines
   - Explain the similarities and differences between physical architectures and virtual architectures
   - Define the purpose of ESXi
   - Define the purpose of vCenter Server
   - Explain the software-defined data center
   - Describe private, public, and hybrid clouds

3. **Creating Virtual Machines**
   - Introduce virtual machines, virtual machine hardware, and virtual machine files
   - Identify the files that make up a virtual machine
   - Discuss the latest virtual machine hardware and its features

- Describe virtual machine CPU, memory, disk, and network resource usage
- Explain the importance of VMware Tools™
- Discuss PCI pass-through, Direct I/O, remote direct memory access, and NVMe
- Deploy and configure virtual machines and templates
- Identify the virtual machine disk format

4. **vCenter Server**
   - Introduce the vCenter Server architecture
   - Deploy and configure vCenter Server Appliance
   - Use vSphere Web Client
   - Back up and restore vCenter Server
   - Examine vCenter Server permissions and roles
   - Explain the vSphere HA architectures and features
   - Examine the new vSphere authentication proxy
   - Manage vCenter Server inventory objects and licenses
   - Access and navigate the new vSphere clients

5. **Configuring and Managing Virtual Networks**
   - Describe, create, and manage standard switches
   - Configure virtual switch security and load-balancing policies
   - Contrast and compare vSphere distributed switches and standard switches
   - Describe the virtual switch connection types
   - Describe the new TCP/IP stack architecture
   - Use VLANs with standard switches

6. **Configuring and Managing Virtual Storage**
   - Introduce storage protocols and storage device types
   - Discuss ESXi hosts using iSCSI, NFS, and Fibre Channel storage
   - Create and manage VMFS and NFS datastores
   - Describe the new features of VMFS 6.5
   - Introduce vSAN
   - Describe guest file encryption

7. **Virtual Machine Management**
   - Use templates and cloning to deploy new virtual machines
   - Modify and manage virtual machines
   - Clone a virtual machine
   - Upgrade virtual machine hardware to version 12
   - Remove virtual machines from the vCenter Server inventory and datastore
   - Customize a new virtual machine using customization specification files
   - Perform vSphere vMotion and vSphere Storage vMotion migrations
   - Create and manage virtual machine snapshots
   - Create, clone, and export 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
- Explain virtual memory reclamation techniques
- Describe virtual machine over commitment and resource competition
- 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
- Describe and deploy resource pools
- Set reservations, limits, and shares
- Describe expandable reservations
- Schedule changes to resource settings
- Create, clone, and export vApps
- Use vCenter Server performance charts and esxtop to analyze vSphere performance

9. vSphere HA, vSphere Fault Tolerance, and Protecting Data

- Explain the vSphere HA architecture
- Configure and manage a vSphere HA cluster
- Use vSphere HA advanced parameters
- Define clusterwide restart ordering capabilities
- Enforce infrastructural or intra-app dependencies during failover
- Describe vSphere HA heartbeat networks and datastore heartbeats
- Introduce vSphere Fault Tolerance
- Enable vSphere Fault Tolerance on virtual machines
- Support vSphere Fault Tolerance interoperability with vSAN
- Examine enhanced consolidation of vSphere Fault Tolerance virtual machines
- Introduce vSphere Replication
- Use vSphere Data Protection to back up and restore data

10. vSphere DRS

- Describe the functions and benefits of a vSphere DRS cluster
- Configure and manage a vSphere DRS cluster
- Work with affinity and anti-affinity rules
- Describe the new capabilities for what-if analysis and proactive vSphere DRS
- Highlight the evolution of vSphere DRS using predictive data from VMware vRealize® Operations Manager™
- Perform preemptive actions to prepare for CPU or memory changes
- Describe the vCenter Server embedded vSphere Update Manager, VMware vSphere® ESXi™ Image Builder CLI, and VMware vSphere® Auto Deploy capabilities
- Use vSphere HA and vSphere DRS together for business continuity

11. vSphere Update Manager

- Describe the new vSphere Update Manager architecture, components, and capabilities
- Use vSphere Update Manager to manage ESXi, virtual machine, and vApp 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

Contact Us

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