NETLOGIC TRAINING CENTER

Course Training

VMware vSphere: Install, Configure, Manage [V6.5]

Course Content

This five-day 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.This course is also available in an On Demand format. For more information, select this link: VMware vSphere: Install, Configure, Manage [V6.5] - On Demand

Course Objective

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

Course Prerequisite

This course requires the following prerequisites:

- System administration experience on Microsoft Windows or Linux operating system

Course Pre-Test

Not Required

Course Details

Day 1

Item	Subject	Details	Personal Lab and devices	Workgroup Lab and devices
1	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	Theory and Lecture	
		Break		
2	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	Theory and Lecture	
	Summary challenge advance lab for Create Virtual Machine	Lab 1 - factory default network device for new configuration Lab 2 - Installation ESXi 6.5 on Bare Metal - Configuration and testing ESXi 6.5 and Enterprise Network via console ESXi - Installation vSphere and check compatibility - Fine tune and Monitoring ESXi 6.5 operations via vSphere	(Lab 1 and Lab 2) **Real Device** Catalyst 3560-CX 1 Unit Cisco UCS Server C-Series ESXi 6.5 trial version VMWare vSphere	

Day 2

Item	Subject	Details	Trainee Lab and devices	Workgroup Lab and devices
3	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	Theory and Lecture	
		Break		
4	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	Theory and Lecture	
	Summary challenge advance lap for vCenter	Lab 1 - Installation vCenter Appliance - Configuration vCenter via vSphere Web Client Lab 2 - Create Cluster for virtual machine - Configuration VMWare Clustering via vCenter - Fine tune Clustering via vCenter Lab 3 - Create VLAN on standard vSwitch and Enterprise Switch - configuration VLAN for virtual machine and management	(Lab 1,2 and Lab 3) **Real Device** Catalyst 3560-CX 1 Unit Cisco UCS Server C-Series ESXi 6.5 trial version VMWare vSphere	

Day 3

Item	Subject	Details	Trainee Lab and devices	Workgroup Lab and devices
5	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	Theory and Lecture	
		Break		
6	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	Theory and Lecture	
	Summary challenge advance lap for vCenter (Continuous) and vApp	Lab 1 - Management virtual machine via vCenter - Perform and Management virtual machine via vMotion Lab 2 - Installation and configuration vApp - management virtual machine via vApp	(Lab 1 and Lab 2) **Real Device** Catalyst 3560-CX 1 Unit Cisco UCS Server C-Series ESXi 6.5 trial version VMWare vSphere	

Day 4

Item	Subject	Details	Trainee Lab and devices	Workgroup Lab and devices
7	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	Theory and Lecture	
		Break		
8	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 •	Theory and Lecture	
	Summary challenge advance lap for vSphere HA clustering	Lab 1 - Configuration vSphere HA Cluster - Management vSphere HA Cluster - Monitoring vSphere HA Cluster	(Lab 1) **Real Device** Catalyst 3560-CX 1 Unit Cisco UCS Server C-Series ESXi 6.5 trial version VMWare vSphere	

Day 5

Item	Subject	Details	Trainee Lab and devices	Workgroup Lab and devices
9	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	Theory and Lecture	
		Break		
10	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	Theory and Lecture	
	Summary challenge advance lap for DRS and dVS	Lab 1 - Configuration and manage a vSphere DRS Cluster - Install vSphere Update Manager and the vSphere Update Manager plug-in Lab 2 - Install and configure distribute virtual switch	(Lab 1 and Lab2) **Real Device** Catalyst 3560-CX 1 Unit Cisco UCS Server C-Series ESXi 6.5 trial version VMWare vSphere	

Course Post-Test

Not Required

Course Materials

Not include in this class training (but you can requested from sale team)

Course Devices Training (Per 1 Person)

Cisco Server UCS C-Series

Cisco Catalyst 3560-CX

Storage QNAP

vmware