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VMware vSphere 7 Training - Introduction

3 days (21 hours)

Presentation

VMware vSphere 7, the version named Tanzu, uses virtualization to transform individual data centers into aggregated IT infrastructures including CPU, storage and networking resources. VMware vSphere manages these infrastructures in the form of a unified operating environment, and provides the tools to administer the data centers that participate in this environment.

The VMware vSphere stack comprises virtualization, management and interface layers. The two main components of vSphere are ESXi and vCenter Server. ESXi is the virtualization platform on which you create and run virtual machines and devices. vCenter Server is the service that lets you manage multiple hosts connected in a network and host resources in a pool.

With VMWare with vSphere introductory training you'll be able to:- Consolidate processing and storage resources from multiple physical hosts.- Benefit from centralized management of multiple hosts via VMware vCenter Server.- Improve service levels and operational efficiency.- Perform hot migration of virtual machines.- Take advantage of automatic load balancing and business continuity features, and advanced backup and restore capabilities for your virtual machines.

Objectives

- Describing the Software-Defined Data Center
- Describe vCenter Server architecture
- Install and configure VMware vSphere 7 virtual infrastructure components
- Use vCenter Server to manage an ESXi host
- Configuring and managing virtual networks in vSphere
- Configure, manage and optimize storage in VMware vSphere
- Manage virtual machines, templates, clones and snapshots
- Migrate virtual machines with VMware vSphere® vMotion®.
- Migrate virtual machine storage with VMware vSphere® Storage vMotion®.
- Monitor resource usage and manage resource pools

Target audience

- Administrators and Architects

Prerequisites

- Basic knowledge of Linux/Unix or Windows system administration.

To find out more:

- Strengthen your knowledge with our [VMware Intermediate](#) course
- Discover VMware vSphere High Availability with our [VMware Advanced](#) course

Program of our VMware Vsphere 7 - Introduction course Module 1:

Introduction to the course

Module 2: Introduction to vSphere and Software-Defined Data Center

- Introduction to virtualization
- Virtualization domains
- Types of virtualization
- Virtual machine
- Datacenter topologies: Physical & virtual
- About the Software-Defined Data Center
- Introduction to Cloud Computing
- VMware vSphere 6.7 product overview
- vSphere 6.7 distributed infrastructure services
- Networking with vSphere 6.7
- Storage with vSphere 6.7
- vSphere 6.7 Hypervisor architecture
- VMware vSphere 6.7 licensing

Module 3: Introduction to Vsphere and Software-Defined Data Center

- Create, provision and delete a virtual machine
- VMware Tools
- Identify virtual machine files
- Import an OVF/OVA virtual appliance model

Practical work

- Installing and configuring an ESXi server
- Creating a standard virtual switch
- VM creation
- VMware tools installation
- Import an OFV model

Module 4: vCenter Server

- Describe the architecture of vCenter Server and the Platform Services Controller (PSC).
- vCenter and PSC deployment topologies
- vCenter HA cluster
- vCenter Server Appliance
- vSphere Web Client
- Create data centers, clusters, hosts and organizational objects
- Authorization application rules
- Customized roles
- vCenter Server Backup/Restore
- Infrastructure access security

Practical work

- 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
- Creating folders for datacenter objects

Module 5: Configuring and managing virtual networks

- Standard switches (VSS) vs. distributed switches
- Virtual switch security, traffic shaping and load balancing policies
- Virtual switch connection types
- Describe the new TCP/IP stack architecture
- Using VLANs and PVLANS with virtual switches

Practical work

- Creating and configuring a distributed switch
- Add ESXi hosts to the new distributed switch
- Examine your distributed switch configuration
- Migrate virtual machines to a distributed switch port group

Module 6: Configuration and management of virtual networks

- Present storage protocols and types of storage architectures
- Introducing ESXi hosts via iSCSI, NFS and Fibre Channel storage
- Create and manage VMFS and NFS datastores
- Describe the new features of VMFS 6.7
- Benefits of virtual SAN

Practical work

- Creating, configuring and managing NFS and iSCSI datastores
- Creating and configuring vSAN

Module 7: Configuration and management of virtual networks

- Using Templates and cloning to deploy new virtual machines
- Modify and manage virtual machines
- Cloning a virtual machine
- Update virtual machine hardware
- Delete virtual machines from the vCenter inventory
- Customize a new virtual machine by customizing specification files
- Enhancing vSphere vMotion and vSphere Storage vMotion migrations
- Create and manage virtual machine snapshots
- Create, clone and export vApps
- Present the different types of content libraries, how to deploy and use them

Practical work

- VM and template creation
- Cloning, backup and cold migration of VMs
- Monitoring and managing resource use

Module 8: Resource management and monitoring

- Introducing virtual CPUs and memory concepts
- Describe memory over-allocation and resource competition
- Configuring and managing resource pools
- Describe methods for optimizing CPU and memory usage
- Use various tools to monitor resource use
- Create and use alarms to report on certain conditions or events

Practical work

- Creating resource pools
- Check resource pool functionality
- Alarm implementation
- Monitor CPU consumption on a VM

- Create an event-related alarm

Companies concerned

This course is aimed at both individuals and companies, large or small, wishing to train their teams in a new advanced computer technology, or to acquire specific business knowledge or modern methods.

Teaching methods

Practical course: 60% Practical, 40% Theory. Training material distributed in digital format to all participants.

Organization

The course alternates theoretical input from the trainer, supported by examples, with brainstorming sessions and group work.

Validation

At the end of the session, a multiple-choice questionnaire verifies the correct acquisition of skills.

Sanction

A certificate will be issued to each trainee who completes the course.