

PRAGATHI TECHNOLOGIES

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Course Overview

This hands-on training course explores installation, configuration, and management of VMware vSphere®, which consists of VMware vSphere® ESXi™ and VMware® vCenter Server™. This course is based on prerelease versions of ESXi 5.1 and vCenter Server 5.1.

Course Objectives

By the end of the course, you should understand vSphere 5.1 functions and features and be able to do the following:

- Install and configure ESXi
- Install and configure vCenter Server components
- Use vCenter Server to configure and manage ESXi networking and storage
- Deploy, manage, and migrate virtual machines
- Manage user access to the VMware infrastructure
- Use vCenter Server to monitor resource usage
- Use vCenter Server to increase scalability
- Use VMware vSphere® Update Manager™ to apply ESXi patches
- Use vCenter Server to manage higher availability and data protection

Course Introduction

- Introductions and course logistics
- Course objectives

Introduction to VMware Virtualization

- Introduce virtualization, virtual machines, 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

Creating Virtual Machines

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

VMware vCenter Server

- Introduce the vCenter Server architecture
- Introduce VMware® vCenter™ Server Appliance™
- Configure and manage vCenter Server Appliance
- Manage vCenter Server inventory objects and licenses

Configuring and Managing Virtual Networks

- Describe, create, and manage a standard virtual switch
- Describe and modify standard virtual switch properties
- Configure virtual switch load-balancing algorithms

Configuring and Managing Virtual Storage

- Introduce storage protocols and device names
- Configure ESXi with iSCSI, NFS, and Fibre Channel storage
- Create and manage vSphere datastores
- Deploy and manage VMware vSphere® Storage Appliance

Virtual Machine Management

- Use templates and cloning to deploy virtual machines
- 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™

Data Protection

- Discuss a strategy for backing up ESXi hosts and vCenter Server
- Discuss solutions for backing up virtual machines efficiently

Access and Authentication Control

- Control user access through roles and permissions
- Configure and manage the ESXi firewall
- Configure ESXi lockdown mode
- Integrate ESXi with Active Directory
- Explain VMware® vShield Endpoint™ integration in vSphere

Resource Management and Monitoring

- Introduce virtual CPU and memory concepts

- Describe methods for optimizing CPU and memory usage
- Configure and manage resource pools
- Monitor resource usage using vCenter Server performance graphs and alarms

High Availability and Fault Tolerance

- Introduce the new VMware vSphere® High Availability architecture
- Configure and manage a vSphere HA cluster
- Introduce VMware vSphere® Fault Tolerance
- Describe VMware vSphere® Replication

Scalability

- Configure and manage a VMware vSphere® Distributed Resource Scheduler™ (DRS) cluster
- Configure Enhanced vMotion Compatibility
- Use vSphere HA and DRS together

Patch Management

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

Installing VMware Components

- Introduce ESXi installation
- Describe boot-from-SAN requirements
- Introduce vCenter Server deployment options
- Describe vCenter Server hardware, software, and database requirements
- Install vCenter Server (Windows-based)