Course Overview

This hands-on training course introduces the most compelling features of VMware® vSphere® 5.1, which is the foundational component of the cloud infrastructure suite of software from VMware®. This course demonstrates vSphere features that help reduce your IT costs while improving efficiency, availability, scalability, flexibility, and manageability. The course is based on VMware ESXi™ 5.1 and VMware® vCenter Server™ 5.1.

For students who want more in-depth vSphere training, VMware Education offers a variety of other courses. For advanced course options, go to http://www.vmware.com/education.

Course Objectives

By the end of the course, you should be able to explain vSphere 5.1 storage, network, and virtualization concepts and have hands-on experience with the following:

- Using the VMware vSphere® Client™ to deploy and manage virtual machines
- Using VMware vSphere® vMotion® to migrate live virtual machines
- Using vSphere® Storage vMotion® to migrate live virtual machine data
- Configuring ESXi clusters to automatically balance virtual machine workloads
- Hierarchically allocating CPU and memory resources to specific business functions
- Using vCenter Server alarms and performance graphs to actively monitor the datacenter
# Course Modules

## 1. Course Introduction
- Understand the course goals
- Understand the course objectives
- Become familiar with the course outline

## 2. Virtual Infrastructure Overview
- Describe server virtualization concepts
- Identify vSphere components, including vCenter Server, ESXi, and the vSphere Client
- View and describe virtual network and storage components
- Learn to use the vSphere Client management interface

## 3. Creating Virtual Machines
- Describe virtual machine virtual hardware components
- Create and use templates to deploy virtual machines
- Describe the functionality and benefits of installing VMware Tools on virtual machines
- Automate guest operating system customization

## 4. Allocating Resources to Business Functions
- Describe CPU and memory resource management techniques used in ESXi
- Use virtual machine resource controls to allocate CPU and memory resources
- Use resources pools to hierarchically allocate CPU and memory resources

## 5. Migrating Virtual Machines
- Describe the operation and benefits of vSphere vMotion and vSphere Storage vMotion
- Use vSphere vMotion to migrate a live virtual machine
- Use vSphere Storage vMotion to migrate a live virtual machine’s data

## 6. Distributing Virtual Machine Workloads
- Describe the operation and scalability benefits of VMware vSphere® Distributed Resource Scheduler™
- Configure a vSphere DRS cluster and resource pools
- Describe the operation and scalability benefits of VMware vSphere® Storage DRS™
- Configure a vSphere Storage DRS cluster
- Describe the operation and cost benefits of VMware vSphere® Distributed Power Management™

## 7. Monitoring the Virtual Datacenter
- Describe vCenter Server monitoring capabilities, including performance graphs and alarms
- Use performance graphs to monitor ESXi hosts
- Configure ESXi host and virtual machine alarms

## 8. High Availability and Fault Tolerance
- Describe the operation and availability benefits of VMware vSphere® High Availability
- Configure a vSphere HA cluster
- Describe the operation and availability benefits of VMware vSphere® Fault Tolerance
- Configure a virtual machine for fault tolerance

## 9. Extending VMware vSphere Capabilities
- Discuss how VMware products and features work together to reduce the costs and improve the efficiency, availability, flexibility, and manageability of your datacenter