

Hands-On

# VMware vSphere: Install, Configure, Manage V5.0



## Course Description

This Hands-On training course explores installation, configuration, and management of VMware vSphere, which consists of VMware ESXi and VMware vCenter Server. The course is based on ESXi 5.0 and vCenter Server 5.0.

## Students Will Learn

- **Install and configure ESXi**
- **Install and configure vCenter Server components**
- **Configure and manage ESXi networking and storage using vCenter Server**
- **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 vCenter Update Manager to apply ESXi patches**
- **Use vCenter Server to manage higher availability and data protection**

## Target Audience

System administrators  
Systems engineers  
Operators responsible for ESXi and vCenter Server

## Prerequisites

System administration experience on Microsoft Windows or Linux operating systems

## Course Outline

## **1 Course Introduction**

Introductions and course logistics  
Course objectives

## **2 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

## **3 Create Virtual Machines**

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

## **4 VMware vCenter Server**

Introduce vCenter Server architecture  
Introduce vCenter Server appliance  
Configure and manage vCenter Server appliance  
Manage vCenter Server inventory objects and licenses

## **5 Configure and Manage Virtual Networks**

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

## **6 Configure and Manage 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 the VMware vSphere Storage Appliance

## **7 Virtual Machine Management**

Deploy virtual machines using templates and cloning  
Modify and manage virtual machines  
Create and manage virtual machine snapshots  
Perform VMware vSphere vMotion and Storage vMotion migrations  
Create a vSphere vApp

## **8 Data Protection**

Discuss a strategy for backing up ESXi hosts and vCenter Server  
Introduce the VMware Data Recovery appliance  
Discuss solutions for backing up virtual machines efficiently

## **9 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  
Introduce VMware vShield Zones

#### **10 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

#### **11 High Availability and Fault Tolerance**

Introduce new vSphere High Availability (HA) architecture  
Configure and manage a vSphere High Availability cluster  
Introduce VMware Fault Tolerance

#### **12 Scalability**

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

#### **13 Patch Management**

Manage ESXi patching using vCenter Update Manager  
Install Update Manager and Update Manager plug-in  
Create patch baselines  
Scan and remediate hosts

#### **14 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)

### **Delivery Method**

Instructor-Led with numerous Hands-On labs and exercises.

### **Equipment Requirements**

**(This apply's to our hands-on courses only)**

BTS always provides equipment to have a very successful Hands-On course. BTS also encourages all attendees to bring their own equipment to the course. This will provide attendees the opportunity to incorporate their own gear into the labs and gain valuable training using their specific equipment.

## Course Length

5 Days