



Rock Solid Technical

## Mastering VMware vSphere 5 with ESXi and vCenter Accelerated 4 Day Class



### Become a VMware Virtualization Master.

This Rock Solid Mastering VMware vSphere with ESXi and vCenter Class includes the Virtualization Council's Master Infrastructure Architect (VC-MIA) certification; the leading certification in the industry for Virtual Enterprise Architects. This certification validates your skills on designing and optimizing VMware® environments coupled with intensive training on a wealth of third-party applications that are invaluable when designing and building a VMware enterprise.



WinSCP



vizioncore

vmware



Virtualization Council  
Vendor Neutral Certification

VEEAM



# Mastering VMware vSphere with ESXi and vCenter

## Welcome to Rock Solid Technical Services

Today more than ever, business organizations are turning to virtualization deployments in order to help them overcome their operational and capital expenditure challenges. Rock Solid Technical Services delivers powerful VMware training, VMware certification and VMware consulting that help improve our customers IT infrastructure and provide key virtualization knowledge sets to their personnel. Individuals will find our VMware virtualization training and certification invaluable to compete in today's tough job marketplace.

Since 1993, Rock Solid Technical Services has been providing leading edge technology training and consulting to thousands of IT professionals, who need to obtain skills on the most current vendor offerings. We currently specialize in Virtualization Solutions including VMware vSphere ESX/ESXi 5/4.1, vCenter 5/4.1 and the Infrastructure 3 suite of datacenter virtualization products. Find out why our VMware virtualization offerings will make your organization's virtualization of systems and people Rock Solid!

- Sherwood Cornforth, President, Rock Solid Technical Services

## Why Choose a Rock Solid class for your VMware Training?

*We at Rock Solid Technical Services know that you have a choice when choosing a VMware Training Provider, so we thought we would help you differentiate our training from the rest! Our maximum strength Mastering VMware vSphere blows away all other vendor training. Here are just a few of the potent features included in this class:*

- ✓ **Lowest Class Sizes in the Industry** – All Rock Solid Mastering VMware vSphere with ESXi and vCenter classes are limited in class size to effectively give you more hands-on and the ultimate in exposure to expert instructors.
- ✓ **You Will Build Your Own Server:** In a VMware authorized class, multiple students may share one ESXi server that is located off-site. In our Mastering VMware vSphere classes, each student installs, configures, and supports his or her own server throughout the class, from start to finish. This gives you, the student, the best learning environment available, allowing for a true hands on experience, rather than simply observing the technology.
- ✓ **Your Certification Included:** Rock Solid Technical Services now offers independent certifications for virtualization professionals. A passing score will earn you the official certification as a VIP – Virtual Infrastructure Professional or MIA – Master Infrastructure Architect! These certifications will validate your knowledge and set you apart from your peers. More information at [www.virtualizationcouncil.org](http://www.virtualizationcouncil.org)
- ✓ **You'll Work with More Third Party Tools Than Any Other Trainer Provider:** Our Mastering VMware vSphere training not only shows you what is supported by VMware, but also demonstrates what actual administrators in the field are using for solutions. There are many great third party products designed to support VMware products and we train you on them.
- ✓ **Extremely Lab Intensive:** Our Mastering VMware vSphere with ESXi and vCenter class is extremely lab intensive and is never the same twice. We cater to the students in the class to deliver a very enriched, targeted course, to suit the student's needs. In addition, we offer Live Labs where when you break it, you fix it! This is true knowledge transfer at its best. We provide you direct experience from the ground up on real hardware that is all on the VMware Hardware Compatibility list. This is proven to increase your learning experience, reduce problems in class and give you concrete skills for returning to the workplace.

# Mastering VMware vSphere 5 with ESX/ESXi and vCenter

## Why Choose a Rock Solid class for your VMware Training? - cont.

- ✓ **Accelerated Learning Delivery – You Save Time And Money**
  - **Time Savings:** We have taken out all of the overlap and marketing to condense our Mastering VMware vSphere with ESXi and vCenter class down into a 4 day end to end solution.
  - **Cost Savings:** Our accelerated format pulls content from multiple courses, saving you well over \$10,000 in multiple course fees.
- ✓ **Certified Expert “Real World” Instructors:** Our instructors are Certified Virtual Infrastructure Professional and Master Infrastructure Architect Trainers and work hands on with the product on a daily basis, giving them an advantage in the classroom. Rock Solid does consulting as well as training, which sets our trainers apart from others. Our instructors are prepared to answer questions that might not be addressed in a scripted, off the shelf class.
- ✓ **GB’s of Student Downloads:** We provide students with content that is available for download after class.
- ✓ **Access to VMware Student Forum:** We provide our students with post class support via a web forum where students can post questions to our instructor team after class.
- ✓ **Experts in Virtualization:** All we do is virtualization. As the "new technology experts," our entire staff is dedicated to helping your company or organization with its' virtualization needs. Rock Solid Technical specializes in VMware, XenServer and Workstation, Microsoft Virtual Server or Hyper-V, and Virtual Iron.
- ✓ **All Mastering VMware vSphere with ESX/ESXi and vCenter classes are available in 3 different delivery formats**
  - **Classroom Based** - Instructor Led, Fast Track Classes at locations nationwide.
  - **LiveOnLine** - We provide a “remote learning” Mastering VMware vSphere offering each month to meet your needs on a convenient and timely basis.
  - **Custom Onsite** – Dedicated, custom, intensive VMware Training at your facility.
- ✓ **100% Rock Solid GUARANTEE**

## Course Objectives

Upon the completion of Rock Solid’s Mastering VMware vSphere with ESXi and vCenter, students will master:

- All of the new and exciting features of vSphere 5
- Foundational terms and concepts concerning virtualization
- How to install, configure and support ESXi server 5 and vCenter 5
- How to configure Virtual Machines, templates, and clones
- How to configure Virtual Networking and how to support VMotion / Storage VMotion
- P2V , V2V, V2P, and P2P Methods and Techniques
- Server Consolidation Procedures and Reasoning
- Tools to support a virtual infrastructure - VMware, Platespin, Vizioncore, Veeam, and more
- VMotion, Update Manager, Power Management, Guided Consolidation, Clustering –DRS/HA, and more
- Best Practices within a Virtual Enterprise
- How to perform backups in the ESXi Environment - Service Console and Virtual Machines - VCB
- How to use the Command Line Interface for supporting ESXi Servers - ESXi commands

Our Mastering course is intended for students with significant production experience in the vSphere product suite. It is our intention to take your existing knowledge base and expand upon that.

# Mastering VMware vSphere 5 with ESX/ESXi and vCenter

## Mastering VMware vSphere with ESX/ESXi and vCenter Class - Benefits and Goals

Our four (4) day intense Mastering VMware vSphere with ESX/ESXi and vCenter class provides the most comprehensive approach to Virtualization training. This is an intense, accelerated immersion course, designed for computer professionals that require effective, real-world skill-building.

*Only Rock Solid's Mastering VMware vSphere with ESXi and vCenter offers you the following benefits:*

- Rock Solid 's definitive, TOTAL immersion training experience
- Specialized Certification
- Intense instruction with no outside distractions
- Four (4) full days of intense instruction, labs and review with an expert virtualization instructor/consultant
- The typical day includes:
  - **Expert Led Instruction**, bringing real world expertise into the classroom
  - **Hands-on Labs with in-class equipment**
  - **Group Reinforcement Activities** to help students retain the information for use in the field
- In class students:
  - will use either 2 PC's
    - 1<sup>st</sup> Workstation – each student uses his own server to manage his/her environment
    - 2<sup>nd</sup> ESX – each student works hands-on with his/her own ESX server throughout class
  - or use Dual Monitors using extended desktop
- Pod Access available 24/7 for the 4 days
- CD full of tools used in optimizing your Virtual Infrastructure
- Pre and post mentoring by top rated VMware instructors
- Opportunity to re-sit a classroom-based or distance learning course for up to one year
- Tangible evidence of career growth for potential salary increase and/or promotion
- Lower TCO for your Virtualization Environment

## Prerequisites

This class is for IT professionals with 1 or more years of server and infrastructure experience including System Administrators with experience on Microsoft Windows and Linux operating systems, ESX/ESXi Server familiarity, vCenter or vSphere usage and vCenter or vSphere administration.

## VMware vSphere VC-MIA Certification

The Mastering VMware vSphere class is capped off with a challenging certification, the VC-MIA (Virtualization Council - Master Infrastructure Architect). This certification requires passing a demanding exam that has been developed by an expert team of Virtualization Professionals. So not only do you leave trained, you leave TESTED by the top Virtualization Experts in the Industry!

## VC-MIA (Virtualization Council - Master Infrastructure Architect) Certification - Exam Details

### Exam Quick facts:

- Exam Length: 60-minutes
- # of exam items: 100
- Benefits: Certification for wall mounting, proof of knowledge-level
- Multiple choice
- Multiple answer
- Cut Rate: 72%

# Mastering VMware vSphere 5 with ESX/ESXi and vCenter

## Mastering VMware vSphere with ESXi and vCenter Schedule

In our 4 day class, Rock Solid's expert instructors will immerse you in unparalleled knowledge transfer. You will learn, participate in labs, test and certify. The typical daily schedule rolls out as follows:

Schedule	DAY 1 MON	DAY 2 TUES	DAY 3 WED	DAY 4 THURS
8:00am to 12:00pm	Creating ESXi servers, Configuring ESXi servers and Virtual Networking ESXi server Architecture	Connecting to iSCSI SAN and Advanced vCenter Configuration and Clustering	VMware Data Recovery, Upgrading and Patching ESXi Hosts and vDS	Log File Analysis and Session Management, Command Line Tools and Critical ESXi and Virtual Machine Files
12:00pm - 1:00pm	Lunch Break	Lunch Break	Lunch Break	Lunch Break
1:00pm - 5:00pm	Hardening the ESX iserver and ESXi Storage Architecture	Infrastructure upgrade to vSphere, Virtual Machines and Appliances and Advanced 3 <sup>rd</sup> Party Tools	Host Profiles, Linking vCenter Servers and VM Fault Tolerance	Runlevels and Services, Disaster Recovery and Course review
5:00pm - 10:00pm	Access to Lab Room and time for Practice	Access to Lab Room and time for Practice	Access to Lab Room and time for Practice	

\*The above schedule is an example and is subject to change.

## Mastering VMware vSphere with ESXi and vCenter - Website Schedule

To view our current VMware Install and Configure Beyond course schedule and locations, visit Rock Solid online [here](#)

## Mastering VMware vSphere with ESXi and vCenter - Follow-on Courses

**VMware View 4.6:** Rock Solid Technical has many specialized courses for the virtualization professional, including VMware View 4.6. [Click Here](#) to Learn More

# Mastering VMware vSphere 5 with ESX/ESXi and vCenter

## Mastering VMware vSphere with ESXi and vCenter - Course Breakdown

### DAY ONE

#### Module 1: Creating Enterprise ESXi Servers

- Understanding VMFS
- VMFS Limits
- ESXi Server Memory
- Required Partitions
- Optional Partitions
- ESX Installation
- Post-installation tasks
- Scripted Installations

#### Module 2: Configuring ESX Servers for the first time

- Download and install vSphere client
- Log in to ESXi Server
- Configure VMKernel Port Group
- Make changes to ESXi Firewall
- Create VMFS volume(s)
- Configure NTP services
- Verify ESXi server security

#### Module 3: Virtual Networking and ESXi Server Security Architecture

- Understanding ESXi Server Security
- The Virtualization Layer
- Service Console Security
- Virtual Networking
  - Virtual Switch Security
  - Virtual Switch Isolation
  - VLAN's
- Security Recommendations

#### Module 4: Hardening the ESXi Server

- The ESXi Server Firewall
  - XML Configuration for Port Access
  - CLI Configuration

#### Module 5: ESXi Storage Architecture

- ESXi Storage Architecture
- ESXi Storage Systems
- Local Storage
- NAS
- iSCSI
- SAN Overview
- SAN Components
- SAN Reliability
- ESX Storage Comparison

### DAY TWO

#### Module 6: Connecting To iSCSI SAN

- Create VMKernel Connection Type
- Enable iSCSI and configure targets

- Attach ESXi Servers to iSCSI

#### Module 7: Advanced vCenter Configuration and Clustering

- Cluster Types
- DRS
- Distributed Power Management
- VMware High Availability
- HA Advanced Options
- Cluster Strategy
- VMotion
- Storage VMotion

#### Module 8: Infrastructure Upgrade to vSphere

- Review Phases of upgrade
- Upgrading Virtual Center
- Upgrading VIC
- Use of Update Manager for upgrade
- Upgrading vCenter Plugins
- Upgrading VMware tools

#### Module 9: Virtual Machines and Appliances

- Virtual Appliances
- Exporting Virtual Machines
- Importing Virtual Machines
- OVF – Open Virtualization Format
- 3<sup>rd</sup> Party Tools
- Summary

#### Module 10: Advanced 3<sup>rd</sup> Party Tools

- vCenter Plug-ins
- VM Disk Partitioning Tools
- Diagnostic Tools
- Performance Monitoring Tools
- Reporting Tools
- Backup, DR and HA
- USB and Dongle Support Tools
- PDA/Smart Phone Tools

### DAY THREE

#### Module 11: VMware Consolidated Backup

- VCB at a Glance
- Architecture
- Installation
- Configuration
- Integration

#### Module 12: Upgrading and Patching ESXi Hosts

- Command line Patches
- Patch Manager

# Mastering VMware vSphere 5 with ESX/ESXi and vCenter

## Module 13: vDS

- Create vNetwork Distributed Switch (vDS)
- vDS Architecture
- Add Ports
- Add Hosts
- Migrate VM's
- Connect vNics

## Module 14: Host Profiles

- Host Profiles Usage Model
- Access Host Profiles View
- Creating a Host Profile
- Edit a Host Profile
- Associate with Additional Hosts/Cluster
- Checking Compliance
- Benefits

## Module 15: Linking vCenter Servers

- Defining Linking Mode
- Linked Mode Prerequisites
- Joining a Linked Mode Group during and after Installation
- vCenter Maximums

## Module 16: Fault Tolerance

- Fault Tolerance and Virtualization
- Fault Tolerance in the Physical World
- Benefits of VMware Fault Tolerance
- Implementing FT

## DAY FOUR

## Module 17: Log File Analysis and Session Management

- ESXi Server Log Files
- vCenter Server Log Files
- Virtual Machine Log Files
- Session Management

## Module 18: Command Line Tools

- ESXi CLI Commands
  - esxcfg commands
  - vmkftools command
  - vmkping
  - vmware-cmd
  - top
  - esxtop
  - vm-support
  - esxupdate
- ISO and FLP Images
- VMware Remote CLI

## Module 19: Critical ESXi and Virtual Machine Files

- Critical ESXi Files
- Virtual Machine Files
  - Resilient
  - Non-Resilient

## Module 20: Runlevels and Services

- Runlevels defined
- ESXi Runlevels
- The inittab file
- Services available on ESXi
- ESXi Specific services
- /etc/rcX.d
- Summary

## Module 21: Disaster Recovery

- Virtual Infrastructure Architecture
- Planning for DR
- Asynchronous Mirroring Defined
- DR Models
- DR Components
- Redundancy and Rebuilding

EXAM CRAM /REVIEW SESSION

TAKE VC-MIA EXAM

**Go Home Certified!!**

# Mastering VMware vSphere 5 with ESX/ESXi and vCenter

## You're protected with a "Rock Solid" Guarantee

Rock Solid is committed to you having the best possible training experience available. If during the first day of any classroom-based or distance learning course, the student is not fully satisfied and wishes to withdraw, the student will receive a 100% refund, less any applicable fees. We also offer students the opportunity to re-sit a classroom-based or distance learning course, tuition-free, for up to one year or until the student obtains certification, whichever comes first. Our *Human Capital Guarantee* ensures a successful return on investment for employers and individuals, alike. If an employer has paid the cost of a class for an employee who leaves within three (3) months of obtaining certification, Rock Solid will train an additional employee of the company with no tuition cost to the employer (other costs will apply). The employee taking advantage of the *Human Capital Guarantee* must take training within 6 months of the original employee's class end date.\*

## Testimonials

*"The VMware class was extremely value added and the remote learning was great; a very desirable way to take a course. The instructor, was absolutely one of the best instructors I have had."*

- Elizabeth Anderson - Boeing

*"Great class! I highly recommend the instructors."*

- Peter Fountain, Orion Computer Services Inc.

*"I learned more in this one week of virtualization training than any course I have taken. I want all of my future training to come from Rock Solid!"*

- Anthony Masters, FAA

## Realize substantial savings with a Custom On-Site Delivery

Want to learn where you work? Rock Solid specializes in custom on-site solutions. Your company will realize substantial discounts and experience the greatest return on investment through our custom on-sites! We deliver training at your site, where we customize the content 100% to suit your needs. You and your team become the experts throughout the week, saving time and money on consultant fees later on. In fact, our instructors serve as an expert consultant during the engagement, allowing you collaboration on planning and implementation ideas with leading virtualization experts, while also being trained by them.

## About Rock Solid Technical Services

Rock Solid is the recognized leader in VMware training, certification and consulting. Our expert instructors possess strong consulting, implementation and training expertise. Rock Solid's virtualization professionals come from diverse roles including positions in consulting, product development and project management. Our training team has supported public and private corporations, technology vendors, telecommunications companies, US Government and Military, and professional services organizations around the world.



\*All terms & conditions located on [www.rocksolidtechnical.com](http://www.rocksolidtechnical.com)