

# VMware vSphere 6.0 Ultimate Bootcamp Series

**Overview:** This series covers everything you need to know about the VMware vSphere 6.0 Ultimate Bootcamp. Students will learn about virtualization, planning and installing ESXi, using tools to administer a VMware environment, vCenter Server 6.0 and licensing, configuring networking, configuring storage, VM creation, configuration, and snapshots, security and permissions, server and VM monitoring, advanced ESXi and vCenter server management, patching and upgrading ESXi, and disaster recovery and backup.

## Course Modules:

### Module 01 -Course Introduction and Methodology

(Duration: 5m)

1. Workbook (Pdf)
2. Learn IT! Do IT! Know IT!
3. Course Methodology
4. Lab Access
5. Certified Virtualization Expert (CVE) Certification
6. Chapter 01 Review
7. **Review Quiz (Number of attempts allowed: Unlimited)**

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## Module 02 – Virtualization Overview

**(Duration: 17m)**

1. Workbook (Pdf)
2. Topic 1: VMware Virtualization
3. The Software-Defined Datacenter (SDDC)
4. vCloud Suite 6.0
5. Class Exercise – Why Virtualize?
6. Why Virtualize? – Simplified Management!
7. VMware TCO Comparison Calculator
8. What is Virtual Infrastructure?
9. VMware vSphere 6.0
10. Type 1 and Type 2 Hypervisors
11. What is a Virtual Machine (VM)?
12. Topic 2: Other VMware & 3rd Party Virtualization Technologies
13. VMware Horizon View 6.0 (Virtual Desktop Infrastructure)
14. VMware Horizon FLEX
15. VMware Workstation Pro 12
16. VMware Fusion 8
17. VMware Workstation Player
18. Windows Server Virtualization Hyper-V (Windows Server 2012 R2)
19. XenServer Enterprise v6
20. XenDesktop & Essentials for XenServer
21. Chapter 02 Review
22. **Review Quiz (Number of attempts allowed: Unlimited)**

## Module 03 -Planning and Installing ESXi

**(Duration: 37m)**

1. Workbook (Pdf)
2. Topic 1: Planning the ESXi Deployment
3. Physical Hardware Requirements
4. vSphere Hypervisor 6.0 (VMware ESXi)
5. VMware ESXi 6.0
6. Booting ESXi from a SAN LUN (Fibre Channel or iSCSI)
7. Booting ESXi from a SAN LUN
8. Linux, Windows & ESX/ESXi
9. Topic 2: vSphere 6.x Deployment Guidelines
10. Overview of Deployment Planning
11. ESXi Compatibility Guides
12. Storage: Capacity and Performance
13. VMware Capacity Planner
14. Topic 3: vSphere Hypervisor (ESXi) Installation
15. vSphere Hypervisor 6.x Installable
16. ESXi Installation Options
17. Demo: Installation of ESXi 6.0
18. Local Configuration of ESXi 6.0 using DCUI
19. UDA 2.0 Script ESXi Installation
20. vSphere 6.x ESXi Image Builder CLI
21. vSphere 5.x/6.x Auto Deploy Architecture
22. vSphere 6.x Auto Deploy for ESXi PXE Boot

23. Topic 4: Configuring Hostname Resolution and NTP
24. Configuring DNS Settings
25. Time Synchronization
26. Topic 5: Troubleshooting ESXi
27. ESXi Host Health Check
28. ESXi Host Boot Process
29. Troubleshooting: hostd
30. Troubleshooting ESXi CIM Management Agents
31. Purple Screen Of Death (PSOD)
32. Chapter 03 Review
33. **Review Quiz (Number of attempts allowed: Unlimited)**

## Module 04 -Using Tools to Administer a VMware Environment

**(Duration: 31m)**

1. Workbook (Pdf)
2. Topic 1: Overview of 3rd Party Tools
3. WinSCP 5.x.x (Free)
4. ISO Programs
5. Xtravirt.com
6. Foglight for Virtualization- Free Edition (Dell Software)
7. RVTools v 3.7
8. Other Tools
9. Topic 2: ESXi Management
10. ESXi Host & vCenter Server Management Overview
11. Direct Console User Interface (DCUI)

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12. Managing ESXi with the vSphere Client (VIC)
13. The Management User Interface (MUI) (ESXi or vCenter)
14. Managing with the vSphere Web Client
15. Customizing the vSphere Web Client 6.0 Login UI
16. SSH Access: PuTTY, SecureCRT, WinSCP, etc.
17. Datastore Browser
18. Configuration of Troubleshooting Options in ESXi 6.x
19. Troubleshooting Options: ESXi 6.x
20. CLI Commands Overview
21. CLI Commands
22. esxcli, vimsh, vim
23. -cmd, "commands"
24. vSphere Command Line Interface (vCLI)
25. Managing ESX/ESXi with the vSphere CLI (vCLI)
26. vCLI Command Syntax
27. vSphere Perl SDK for vSphere 6.0
28. vSphere Management Assistant (vMA 6.0)
29. PowerCLI 6.0 Release 1
30. PowerGUI (Dell/Quest, Free)
31. Topic 3: Linux Command Review
32. Windows Commands vs. Linux Commands
33. Common Command Line Interface (CLI) Options
34. Working at the Command Line (CLI)
35. ESXi 6.0 Text Editor
36. Topic 4: Troubleshooting the vSphere Client (VIC)
37. vSphere Client (VIC) Logs
38. Cannot Login Using vSphere Client (VIC)
39. Chapter 04 Review
40. **Review Quiz (Number of attempts allowed: Unlimited)**

## Module 05 -vCenter Server 6.0 and Licensing

**(Duration: 1h 28m)**

1. Workbook (Pdf)
2. Topic 1: Licensing
3. vCenter Server 6 & ESXi Host Licensing Model
4. vSphere Essentials 6.0 for Small Business
5. vSphere 6.0 License Types and Pricing
6. Features Added in vSphere 5.1 & Still Exist in 5.5 & 6.0
7. Windows Licensing Calculator
8. Topic 2: Planning vCenter Server Deployment
9. vCenter Server 6.x Summary
10. vCenter Server 6.0 Specifications
11. vCenter Server Database Overview
12. vCenter Server Virtual Appliance (vCSA) Specifications
13. Comparing Windows vCenter 6.0 to vCSA 6.0
14. vCenter Server 6.0 Host Functionality
15. vCenter Server 5.1/5.5 Managing Multiple Locations
16. vCenter Server 6.0 Managing Multiple Locations
17. vCenter Server 6.0 Architecture
18. Components of vCenter 6.0- Platform Services Controller (PSC)
19. Components of vCenter 6.0- vCenter Server
20. Topologies for vCenter 6.0
21. vCenter Server 6.x Database Sizing
22. Backup Strategy for vCenter Server



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23. Topic 3: vCenter Server Installation
24. vCenter 6.0 Installation (Windows or VCSA)
25. Windows vCenter 6.0 Installation
26. vCenter Server 6.0 Single Server (Windows)
27. External Platform Services Controller (PSC) Only (Windows)
28. vCenter Server 6.0 for External PSC (Windows)
29. vCenter Server Appliance 6.0 for Embedded PSC (Linux)
30. vCenter Server 6.0 Post Install
31. VIC Plug
32. -ins Post UM Install
33. Topic 4: vSphere Web Client
34. vSphere Web Client
35. vSphere Web Client- Requirements
36. Using vSphere Web Client 6.0
37. Topic 5: vCenter Server Inventory
38. vCenter Server Home Page
39. Hosts and Clusters: Datacenters
40. Hosts and Clusters: Folders and Clusters
41. VMs and Templates: Subfolders
42. vCenter Inventory: VMs/Templates Additional Information
43. Storage: Folders and Datastores
44. Networking: Portgroups & Distributed Switches (vDS)
45. Content Library Basics
46. Create a Content Library
47. Topic 6: Managing vCenter Server
48. Scheduled Tasks
49. Events
50. Sessions
51. Tasks/Alarms/Work in Progress & Logged On As
52. System Logs
53. Flings at VMware Labs
54. Topic 7: Troubleshooting vCenter Server and Database
55. Refreshing vCenter Server

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- 56. Monitoring- Hardware Status
- 57. Monitoring- vCenter Server Status
- 58. ESXi Host Agent (hostd) Hangs
- 59. vCenter Server Log Files
- 60. vCenter Server Service (vpxd) Errors
- 61. vCenter Server Standalone Mode
- 62. vSphere Client Session Errors
- 63. Chapter 05 Review
- 64. **Review Quiz (Number of attempts allowed: Unlimited)**

## Module 06 -Configuring Networking

**(Duration: 1h 22m)**

- 1. Workbook (Pdf)
- 2. Topic 1: Creating & Modifying Virtual Networks
- 3. Networking Terms
- 4. vSphere 6.0 Virtual Switch Types
- 5. Network Connections in ESXi
- 6. Add/Edit Networking
- 7. Standard Virtual Switches (vSS)
- 8. Virtual Switch & Connection Type Identification
- 9. VMware Assigned MAC Addresses
- 10. Custom MAC Address
- 11. Virtual Switch Physical NIC Configurations
- 12. NIC Teaming
- 13. Cisco Discovery Protocol on vSS
- 14. Modifying vSS Properties (Ports Tab in vSphere Client (VIC))
- 15. Ports- 5.5 & Higher





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16. Modifying vSwitch Properties (Network Adapters Tab)
17. VLAN Overview
18. VLAN Implementations
19. Standard vSwitch VLAN Configuration
20. Standard vSwitch Protection and VLANs
21. Standard vSwitch & Port Group Policy Settings: Security
22. Standard vSwitch and Port Group Policy Exceptions: Traffic Shaping
23. Standard vSwitch and Port Group Policy Exceptions: NIC Teaming
24. Network Failure and NIC Teaming Options
25. Load Balancing Method: Route Based on the Originating Virtual Port ID (Default)
26. Load Balancing Method: Route Based on Source MAC Hash
27. Load Balancing Method: Route Based on IP Hash (Source + Destination)
28. Requirements for IP Hash
29. Port Group: Override vSwitch Failover Order
30. Multiple Policies Applied to a Single Team
31. Physical Switch Configuration
32. Topic 2: vSphere Distributed Switches
33. vSphere Distributed vSwitch (vDS) Overview
34. vSphere Distributed Switch (vDS) New Features in vSphere 5.0
35. vSphere Distributed Switch (vDS) New Features in vSphere 5.1
36. vSphere Distributed Switch (vDS) New Features in vSphere 5.5
37. vSphere Distributed Switch (vDS) New Features in vSphere 6.0
38. Creating a vSphere Distributed Switch
39. Edit vDS Settings
40. Edit vDS Uplink Settings
41. Edit vDS Port Group Settings
42. Private VLAN (PVLAN) Tagging
43. Private VLANs
44. Migrating VMkernel Port to vDS
45. Network I/O Control (NIOC)
46. Network I/O Control (NIOC) – Best Practices
47. Create NetFlow
48. Using Port Mirroring

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49. vDS Health Check
50. Traffic Filtering and Marking
51. Configure LACP on vDS 5.5
52. Per VM NIOC 3 Settings
53. Topic 3: 3rd Party Distributed Switches
54. Cisco Nexus 1000v Virtual Switch
55. Nexus 1000v Editions Compared
56. Nexus 1000v Architecture
57. IBM System Networking Distributed Virtual Switch 5000V
58. Networking Review
59. Chapter 06 Review
60. **Review Quiz (Number of attempts allowed: Unlimited)**

## Module 07 -Configuring Storage

**(Duration: 1h 30m)**

1. Workbook (Pdf)
2. Topic 1: Storage Concepts
3. Storage Terms
4. SAN vs NAS in vSphere
5. Device and Path Naming
6. vSphere's Family of Storage APIs
7. Storage APIs – Array Integration
8. Multipathing
9. Storage APIs – Multipathing

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10. Path Selection Considerations
11. Viewing Multipathing from VIC
12. Viewing Multipathing – Web Client
13. Example of 3rd Party Multipathing Plugin Installation (NMP) using VIC
14. All Paths Down (APD)
15. Storage I/O Control (SIOC)
16. SIOC Enhancements
17. SIOC Setup in Web Client
18. SIOC Monitoring
19. Scanning LUNs – iSCSI/Fibre Channel
20. Topic 2: iSCSI Storage
21. Internet Small Computers Systems Interface (iSCSI) Overview
22. iSCSI Terms for ESX / ESXi
23. ESX / ESXi and iSCSI SAN Environment and Addressing
24. Hardware vs. Software Initiators
25. Multipathing with iSCSI
26. Setup Steps – Multipathing with Software iSCSI
27. iSCSI Software Initiator Networking
28. Configuring iSCSI
29. Jumbo Frames
30. Configure Software Initiator: CHAP Authentication
31. iSCSI Software Initiator Troubleshooting
32. iSCSI Vendors and Products
33. Topic 3: Fibre Channel Storage
34. What is Fibre Channel?
35. Fibre Channel Terms for ESXi
36. ESX / ESXi and Fibre Channel SAN Environment and Addressing
37. Multipathing with Fibre Channel
38. Fibre Channel Vendors and Products
39. Network/Storage Architecture Review
40. Topic 4: VMFS Datastores
41. Virtual Machine File System (VMFS-5)
42. Virtual Machine File System (Updates in vSphere 5.5)

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43. Upgrade VMFS-3 to VMFS-5
44. Viewing and Creating a VMFS-5 Datastore
45. Extending your VMFS Datastore using Extents
46. Add an Extent to Existing VMFS
47. Expand an ESXi 6.0 VMFS Volume
48. Disk Defragmentation
49. VMFS Operations – vmkfstools
50. Topic 5: NAS Storage and NFS Datastores
51. Network Attached Storage (NAS)
52. NFS v4.1
53. NFS Components, Addressing and Access Control with NFS on Linux
54. NFS Target on Windows 2003 R2 & Higher
55. Mount an NFS Datastore to Host
56. Topic 6: Raw Device Mapping (RDM)
57. Raw Device Mapping (RDM)
58. RDM Compatibility Modes
59. Raw Device Mapping Benefits
60. Raw Device Mapping
61. Topic 7: Solid State Disks (SSD)
62. Solid State Disks (SSD)
63. When ESXi Fails to Identify Solid State Disks
64. Using SMART with SSD
65. Host Cache Configuration
66. vSphere Virtual Flash
67. Configure a Virtual Flash Resource
68. Configure Virtual Flash Host Swap
69. Virtual Flash Read Cache
70. Topic 8: Storage & Management Solutions
71. vFoglight Storage – Dell/Quest
72. vOptimizer Pro (vOPS Storage Optimizer) – Dell Software
73. Topic 9: VMware Virtual SAN (VSAN)
74. VSAN Overview
75. VSAN Device Configuration

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- 76. VSAN Cluster Configuration
- 77. VSAN Architecture
- 78. VSAN 6.0 – What’s New
- 79. Topic 10: vSphere Virtual Volumes (VVols)
- 80. vSphere Virtual Volumes (VVols) – Concepts
- 81. vSphere Virtual Volumes (VVols) – Architecture
- 82. vSphere Virtual Volumes (VVols) – Characteristics
- 83. vSphere Virtual Volumes (VVols) – Considerations, Limitations & Guidelines
- 84. VVols Certified Storage Vendors
- 85. Chapter 07 Review
- 86. **Review Quiz (Number of attempts allowed: Unlimited)**

## Module 08 - VM Creation, Configuration, and Snapshots

**(Duration: 1h 58m)**

- 1. Workbook (Pdf)
- 2. Topic 1: Create a VM
- 3. VM Virtual Hardware
- 4. Types of Virtual NICs (vNIC)
- 5. Virtual Machine Files
- 6. VMDK Stub File Creation
- 7. VMDK Disk Provisioning
- 8. Virtual Disk
- 9. VM Properties HW v9 via vSphere Web Client
- 10. VM Properties HW v10 via vSphere Web Client
- 11. VM Properties HW v11 via vSphere Web Client
- 12. Larger 62 TB Virtual Disks
- 13. AHCI SATA Controller



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14. Virtual SCSI Controller Type
15. Install Guest OS into VM
16. VM Console & Menus – VIC
17. VM Console – Web Client
18. VM Remote Console (VMRC)
19. VMware Tools
20. VMware Tools 5.0 & Earlier vs. 5.1/5.5/6.0
21. Topic 2: Create Multiple VMs, Templates & Clones
22. Clones & Templates
23. Deploy VM from Template
24. Customizing the OS in a Virtual Machine
25. Customization Specification Manager
26. Content Library – Store Template
27. Use Template from Library
28. Customize Existing VM
29. Deploying Across Datacenters
30. Topic 3: Virtual Appliances
31. Virtual Appliances
32. Import Virtual Appliances
33. Export VM to OVF Format
34. Topic 4: Configuration and Use of vApps
35. vApp Overview
36. Creating and Using vApps
37. Topic 5: VMware Converter (P2V – V2V)
38. VMware Converter 6.0
39. VMware Converter 6.0 What's New
40. VMware Converter 6.0 Sources
41. VMware vCenter Converter 6.0
42. Pre Conversion Tasks
43. Hot Cloning – 4 Step Process
44. Post Conversion Steps
45. VMware vCenter Converter 6.0 Standalone
46. Troubleshooting VMware Converter

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47. NetIQ – PlateSpin Migrate 9.3
48. Topic 6: Manage VMs
49. Hot and Cold VM Migrations
50. Hot Add Memory and CPUs
51. VM Properties – Hardware Tab
52. Adding USB Devices to VM
53. VM Properties – Options Tab
54. Resize a Virtual Disk
55. Extend VMDK
56. Dell's extpart – NO REBOOT
57. Extend Partitions using gparted
58. vOptimizer Pro
59. Thin Provisioned Disk Reclamation
60. SDelete – Zero Free Space in VM
61. VMware GuestReclaim Fling
62. Raxco PerfectStorage
63. Renaming a Virtual Machine
64. Topic 7: Virtual Machine Startup / Shutdown
65. Startup/Shutdown of VMs
66. Enabling VM Startup/Shutdown
67. Topic 8: Virtual Machine Snapshots
68. Virtual Machine Snapshots
69. Files used by Snapshots
70. Taking Snapshots
71. Snapshot Manager
72. Reverting to a Snapshot
73. Deleting Snapshots
74. Consolidating Snapshots
75. Topic 9: Virtual Machine Troubleshooting & Best Practices
76. Troubleshooting VM Problems
77. Differences between VMs and Physical Servers (Best Practices)
78. Chapter 08 Review
79. **Review Quiz (Number of attempts allowed: Unlimited)**

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## Module 09 -Security and Permissions

**(Duration: 25m)**

1. Workbook (Pdf)
2. Topic 1: Controlling User Access and Passwords
3. Types of Users
4. ESXi Account Security
5. ESXi Account Security Configuration
6. ESXi Security Enhancements
7. Lockdown Modes in vSphere 6.0
8. vCenter/ESXi Host Security Model
9. Permissions
10. Global Permissions
11. Roles
12. Privileges Explained
13. ESXi Host Permissions
14. Windows vCenter Permissions
15. vCSA Permissions
16. Multiple Group Permissions No Conflicts- Groups Only
17. Multiple Group Permissions No Conflicts- Users and Groups
18. Multiple Group Permissions Conflicting Permissions
19. Multiple Group Permissions User Overrides and Unions
20. Multiple User Permissions Explicit vs. Inherited
21. Multiple User Permissions Explicit vs. Inherited #2
22. Topic 2: ESXi Active Directory (AD) Integration



23. AD-ESX/ESXi Authentication Services
24. Assign ESXi Permissions Directly to AD Users
25. Topic 3: Managing Firewalls
26. ESXi Firewall
27. TCP & UDP Ports
28. ESXi Firewall Configuration via vSphere Web Client
29. Topic 4: Managing Security Certificates
30. Data Encryption
31. Certificate Changes in vSphere 6.0 VMware Certificate Management
32. Additional Certificate Information
33. Chapter 09 Review
34. **Review Quiz (Number of attempts allowed: Unlimited)**

## Module 10 -Server and VM Monitoring

**(Duration: 56m)**

1. Workbook (Pdf)
2. Topic 1: Optimizing Resources
3. Transparent Memory Page Sharing
4. TPS Modified – ESXi 5.0 – 6.0
5. Memory Overcommitment
6. Balloon-Driver: vmmemctl
7. Memory Compression
8. VMkernel Swap
9. VM Swap Files
10. Memory Overhead
11. VMkernel Swap Location
12. Host System Swap File



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13. Memory Usage
14. Virtual CPUs (vCPUs)
15. VMkernel CPU Load Balancing
16. VMs' CPU & Memory Resource Setting Terms
17. CPU Resource Settings
18. Memory Resource Settings
19. ESXi 6.0 Utilization per VM
20. Resource Shares
21. Topic 2: Resource Pools
22. Resource Pools Overview
23. Resource Pool Configuration
24. Resource Pool Example Summary
25. Resource Pool Example: CPU Limits
26. Best Practices for VM Resources
27. Topic 3: Latency Sensitive Applications
28. Deploying Extremely Latency-Sensitive Applications
29. Latency-Sensitive Feature
30. Topic 4: Performance Monitoring
31. Performance Monitoring – Overview
32. Performance Monitoring – Advanced
33. Customize Performance Chart
34. Troubleshooting Performance
35. esxtop
36. Performance Snapshots from CLI
37. VMware vRealize Operations (Formerly vCenter Operations Management Suite)
38. Veeam ONE 8 for VMware
39. Veeam Management Pack for System Center (Formerly nworks)
40. Dell Software Foglight for Virtualization – 2 Paid Editions
41. Solarwinds Virtualization Manager
42. VMTurbo Virtual Health Monitor
43. Topic 5: Configuring Alarms
44. vCenter Alarms
45. Default Alarms in vCenter

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- 46. Alarm Settings
- 47. Configure vCenter Notifications
- 48. Topic 6: ESXi & vCenter Logs
- 49. ESXi 5.x/6.0 Log Files from DCUI
- 50. ESXi 6.0 Log File Locations
- 51. ESXi 6.0 Log Files
- 52. Collecting Windows vCenter Log Files
- 53. Collecting vCSA Log Files
- 54. Collecting vCenter Diagnostics Data
- 55. Configuring Syslog on ESXi (GUI)
- 56. syslog servers
- 57. Chapter 10 Review
- 58. **Review Quiz (Number of attempts allowed: Unlimited)**

## Module 11 -Advanced ESXi and vCenter Server Management

**(Duration: 1h 6m)**

- 1. Workbook (Pdf)
- 2. Topic 1: Storage Reports
- 3. vCenter Storage Reports
- 4. Topic 2: Storage vMotion
- 5. Storage vMotion Migration
- 6. Requirements for Storage vMotion

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7. Storage vMotion Architecture
8. Storage vMotion in vSphere 5.x/6.0
9. Topic 3: Configuring vMotion
10. vMotion Migration
11. How vMotion Works
12. vMotion: Host Requirements
13. vMotion Errors and Warnings
14. VM Map View
15. Advanced vMotion Errors
16. vMotion Enhancements
17. Cross vSwitch vMotion
18. Cross vCenter vMotion
19. Long Distance vMotion
20. Topic 4: Enhanced vMotion
21. Enhanced vMotion Migration
22. Topic 5: Distributed Resource Scheduler (DRS) Cluster
23. vCenter Host Cluster
24. Distributed Resource Scheduler (DRS) Overview
25. DRS Cluster in the vCenter Inventory
26. Retaining Host Resource Pools
27. Configure Automation Level
28. Initial Placement
29. DRS Recommendations, History, & Utilization
30. Virtual Machine Rules
31. Groups & Rules – Virtual Machine to Host
32. VM Overrides
33. Distributed Power Management (DPM)
34. Enhanced vMotion Compatibility (EVC)
35. VM Swapfile Location
36. Planned Downtime: Maintenance Mode
37. Topic 6: DRS Cluster Monitoring
38. Monitor Cluster Objects State
39. Monitoring the DRS Cluster – Resource Allocation

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40. Monitoring the DRS Cluster – What to look for ...
41. Topic 7: Profile Driven Storage, Datastore Clusters & Storage DRS (SDRS)
42. Profile-Driven Storage
43. vSphere Storage API for Storage Awareness (VASA)
44. Manage Storage Capabilities
45. Enable VM Storage Policy
46. Create VM Storage Policies
47. Apply VM Storage Policy to VMs Datastore Clusters
48. Storage DRS (SDRS)
49. Create a Datastore Cluster for SDRS
50. Datastore Cluster Information
51. Edit a Datastore Cluster
52. Topic 8: Host Profiles
53. Host Profiles Overview
54. Host Profile Updates
55. Create Host Profile
56. Edit Host Profile
57. Attach Host Profile
58. Check Compliance from Host Profile
59. Check Compliance from Cluster
60. Apply Host Profile
61. Export a Host Profile
62. Topic 9: Linked Mode Group of vCenter Servers
63. Linked vCenter Servers Overview
64. – vSphere 5.1/5.5
65. Linked Mode Group Prerequisites
66. – vSphere 5.1/5.5
67. Create a Linked Mode Group
68. – vSphere 5.1/5.5
69. Manage Multiple vCenters
70. – vSphere 5.1/5.5
71. Enhanced Linked Mode
72. Chapter 11 Review

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73. Review Quiz (Number of attempts allowed: Unlimited)

## Module 12 -Patching and Upgrading ESXi

**(Duration: 56m)**

1. Workbook (Pdf)
2. Topic 1: Patching ESXi Standalone Hosts & vCSA 6.0
3. ESXi Standalone Patch Installation
4. vCSA Patch/Update Installation
5. Topic 2: Patching the vCenter Environment
6. Update Manager 6.0 Patching
7. Shavlik Protect (Standard & Advanced)
8. Update Manager Terms
9. Install Update Manager 6.0
10. Update Manager vSphere Client Plug-in
11. Update Manager Baselines
12. Update Manager Remediation Defaults and Configuration Options
13. Update Manager Events
14. Update Manager Notifications
15. Patch Repository
16. Update Manager Download Service
17. Update Manager Sizing Estimator
18. Update Manager Tab
19. Update Manager in the Web Client
20. Remediation
21. Topic 3: Upgrades and Migrations
22. vCenter Upgrade Methodology- Older Versions to 5.x
23. Upgrade vCenter 5.0 to 6.0



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24. Upgrade vCenter 5.1/5.5 to 6.0
25. Upgrade vCSA 5.1U3/5.5 to 6.0
26. Services Migrated during Upgrade vCenter to 6.0
27. Upgrade of Multiple vSphere Products to Use vCenter 6.0
28. Upgrade vCenter SSO 5.1 for External Deployment
29. Upgrade vCenter SSO 5.5 for External Deployment
30. Upgrade Embedded SSO 5.1/5.5 to External SSO 6.0 (Windows)
31. Upgrade vCenter 4.1 to 5.5
32. Upgrade vCenter 5.0 to 6.0- All in One
33. Upgrade vCSA 5.1U3/5.5 to 6.0
34. Upgrade Update Manager 4.1 to 5.5
35. Upgrade Update Manager 5.5 to 6.0
36. Migrate SQL Express to Full SQL Server
37. Upgrade Error: Incompatible MSSQL Version
38. Upgrade Host to ESXi 6.0 using Media
39. ESXi Upgrade using Update Manager (5.x- 6.0)
40. ESXi Migration to New Hardware
41. Upgrade Distributed Switch to 6.0
42. Upgrade the Virtual Machines
43. Use the Web Client to Upgrade the VMware Tools
44. Use vSphere (web) Client to Upgrade Virtual Machine Hardware V11
45. Use Update Manager to Upgrade Virtual Machines
46. Chapter 12 Review
47. **Review Quiz (Number of attempts allowed: Unlimited)**

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## Module 13-Disaster Recovery and Backup

**(Duration: 1h 15m)**

1. Workbook (Pdf)
2. Topic 1: vSphere Replication 6
3. vSphere Replication v5.5
4. What's New in vSphere Replication v5.5 (vR)
5. What's New in vSphere Replication v6.0 (vR)
6. VR v6.0 Deploy Appliance
7. VR v6.0 Configure Replication
8. VR v6.0 Recovery
9. Topic 2: Site Recovery Manager (SRM)
10. VMware Site Recovery Manager (SRM) V5.5
11. VMware Site Recovery Manager (SRM) V5.5- Features
12. VMware Site Recovery Manager (SRM) V5.5- What's New
13. VMware Site Recovery Manager (SRM) V6.0- What's New
14. SRM Architecture Overview
15. Topic 3: High Availability (HA)
16. VMware High Availability
17. New vSphere 5.0 HA Features
18. New vSphere 5.1 HA Features
19. New vSphere 5.5 HA Features
20. New vSphere 6.0 HA Features
21. vSphere 6.0 HA in Action
22. Configure HA Cluster

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23. VMware HA: Host Monitoring
24. Configure Datastore Heartbeat
25. Host Isolation
26. Guidelines for Isolation Response Setting
27. VMware HA: Virtual Machine Overrides
28. Configure HA Admission Control
29. HA VM Monitoring
30. Viewing your HA Cluster
31. Topic 4: VM Fault Tolerance
32. Fault Tolerance Overview
33. Demo – Fault Tolerance VM
34. Fault Tolerance Requirements
35. Fault Tolerance Differences
36. Configure Fault Tolerance
37. Topic 5: Microsoft Clustering
38. Virtualizing Microsoft Clusters
39. vSphere 5.5 Updates for MSCS/WSFC
40. vSphere 6.0 Updates for MSCS/WSFC
41. Topic 6: Backup Strategies
42. Backup Strategies for VMs
43. Topic 7: vSphere Data Protection
44. What's New VDP 6
45. vSphere Data Protection 5.8
46. vSphere Data Protection 5.8.0 Installation & Features
47. vSphere Data Protection 5.8.0 – What's New ...
48. vSphere Data Protection Advanced 5.8.0
49. vDP 5.8.0 – Configure Settings
50. Using VDP to Backup a VM
51. VDP 6.0 – Create Application Backup Job
52. Using VDP to Restore a VM
53. File Level Restore (FLR)
54. Replication to/from Avamar
55. Direct-to-Host Restore

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56. Topic 8: Third Party Backups
57. Unitrends Virtual Backup 8.0 (Formerly PHD Virtual Backup)
58. Unitrends Enterprise Backup 8.0 (Formerly PHD Virtual Backup)
59. Unitrends FREE vs Enterprise
60. Unitrends Virtual Backup 8.0
61. Dell/Quest vRanger (Pro) 7.0.2
62. vRanger Pro – Screenshots
63. Veeam Backup & Replication
64. Veeam Backup and Recovery
65. What's New Veeam V8 Update 2
66. Veeam Backup – Screenshots
67. VeeamZip and Veeam Backup Free Edition
68. VeeamZip – Screenshots
69. Symantec NetBackup v 7.5
70. What's New NetBackup 7.6
71. NetBackup 7.6 Feature Comparison
72. Certified Virtualization Expert (CVE) Certification
73. Chapter 13 Review
74. Course Closure
75. **Review Quiz (Number of attempts allowed: Unlimited)**

### **This course includes**

- about 12.29hours on-demand video
- 13 downloadable Pdf Workbooks
- Unlimited time access (During Membership)
- Access on mobile and Desktop
- Certificate of Completion

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