

VMware vSphere: Automation Fast Track [V4.1]

Course Code: VMAFTV4

Duration: Five days; Instructor-Led

Overview

This fast-paced, extended-hour training course includes the content of the VMware vSphere: Install, Configure, Manage and VMware vSphere: Automation with vSphere PowerCLI courses. This hands-on course explores installation, configuration, and management of VMware vSphere™ using the VMware vSphere Client and VMware vSphere PowerCLI. vSphere PowerCLI automation can reduce your IT costs while improving efficiency, availability, flexibility, and manageability. The course is based on VMware ESX™/ESXi 4.1 and VMware vCenter™ Server 4.1 and includes a prepaid voucher for the VMware Certified Professional 4 examination. Students who complete this course should be prepared for any of several additional vSphere courses. See www.vmware.com/education for additional course options.

Prerequisites

- System administration experience on Microsoft Windows or Linux operating systems
- Scripting experience in Windows PowerShell, VBScript, Perl, UNIX, or other languages featuring variables and control structures

Target Audience

- Systems administrators
- Systems engineers
- IT managers
- Operators responsible for VMware ESX™, ESXi, and VMware vCenter™ Server

Course Objectives

At the end of the course, you should gain an understanding of vSphere 4 and vSphere PowerCLI and be able to do the following:

- Install and manually configure and manage ESX/ESXi or vCenter Server components
- Manually deploy, manage, and migrate virtual machines
- Use vCenter Server to manage higher availability and data protection
- Automate ESX/ESXi, virtual machine, and cluster configuration
- 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 ESX/ESXi patches
- Automate reporting of ESX/ESXi and virtual machine properties

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Course Outline

Install, Configure, Manage Modules

1 Course Introduction

- Introductions and course logistics
- Course objectives

2 Introduction to VMware Virtualization

- Introduce virtualization, virtual machines, and vSphere components

3 VMware ESX and ESXi

- Introduce the architecture of ESX and ESXi
- Manually configure ESX/ESXi

4 VMware vCenter Server

- Install and configure vCenter Server components
- Manage vCenter Server inventory objects

5 Networking

- Create, configure, and manage vNetwork standard switches, network connections, and port groups

6 Storage

- Configure ESX/ESXi with iSCSI, NFS, and Fibre Channel storage
- Create and manage vSphere datastores

7 Virtual Machines

- Deploy virtual machines using the Create New Virtual Machine wizard, templates, cloning, and VMware vCenter Converter
- Modify and manage virtual machines
- Perform Storage vMotion migrations

8 Access Control

- Control user access through roles and permissions

9 Resource Monitoring

- Control virtual machine access to CPU, memory, and I/O resources
- Introduce VMkernel methods for optimizing CPU and memory usage
- Monitor resource usage using vCenter Server performance graphs and alarms

10 Data Protection

- Back up and recover virtual machines using VMware Data Recovery

11 Scalability

- Manage multiple vCenter Server inventories using VMware vCenter Linked Mode
- Manage ESX/ESXi configuration compliance using Host Profiles
- Create, configure, and manage vNetwork distributed switches, network connections, and port groups
- Perform VMware vMotion™ migrations
- Configure and manage a VMware Distributed Resource Scheduler cluster
- Configure and manage VMware Distributed Power Management

12 High Availability

- Configure and manage a VMware High Availability cluster
- Configure fault-tolerant virtual machines using VMware Fault Tolerance

13 Patch Management

- Manage patching and patch compliance using vCenter Update Manager

14 Installing VMware ESX and ESXi

- Introduce ESX

installation

and ESXi Installable

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Automation with vSphere PowerCLI Modules

1 Course Introduction

- Introductions and course logistics
- Course objectives

2 Introduction to vSphere PowerCLI

- Define the main vSphere PowerCLI object
- Define the main commandlets in vSphere PowerCLI
- Connect to a vSphere infrastructure
- Get help for commandlets

3 Automating ESX Host Configuration

- Automate configuration of virtual switches on ESXi hosts
- Automate configuration of datastores on ESXi hosts

4 Virtual Machine Provisioning, Configuration, and Protection

- Automate creation of virtual machines
- Change virtual machine settings programmatically
- Run vSphere PowerCLI scripts in virtual machines
- Automate virtual machine protection

5 Automating Cluster Operations

- Automate virtual machine storage migration
- Automate VMware vMotion™
- Create a VMware Distributed Resource Scheduler/VMware High Availability cluster
- Automate cluster configuration
- Automate resource pool creation and configuration

6 Automating Reporting

- Automate reporting about virtual machines
- Automate reporting about ESXi hosts
- Automate reporting about clusters

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