

# Data Center Automation with vRealize Orchestrator and vSphere PowerCLI

## Course Overview

This five-day course teaches experienced VMware vSphere® administrators how to use the powerful automation tools that all vSphere customers have access to. Using real-world use cases and examples, you learn how to automate day-to-day administration tasks with VMware vSphere® PowerCLI™ and VMware vRealize® Orchestrator™. During class, you use these tools to automate tasks in a realistic lab environment.

## Course Objectives

By the end of the course, you should be able to meet the following objectives:

- Describe the features and benefits of automation in a vSphere environment
- Understand the role of the vSphere Web Services API in automation
- Use the Managed Object Browser (MOB) to view the structure of VMware vSphere® API and VMware vCenter Server® inventory
- Use vSphere PowerCLI to deploy and manage virtual machines and virtual infrastructure
- Run and manage library vRealize Orchestrator workflows
- Design, develop, and run custom reusable vRealize Orchestrator workflows
- Incorporate JavaScript into vRealize Orchestrator workflows
- Use the vRealize Orchestrator PowerShell plug-in in a custom workflow
- Manage Guest Operations using vRealize Orchestrator and vSphere PowerCLI
- Describe VMware vSphere® Client™ code capture

## Target Audience

Experienced vSphere administrators who want to use available tools to automate day-to-day tasks

## Prerequisites

Completion of the following course or equivalent experience with vSphere deployments:

- [VMware vSphere: Install, Configure, Manage \[V7.0\]](#)

## Course Delivery Options

- Classroom
- Live Online
- [Onsite](#)

## Product Alignment

- VMware vSphere PowerCLI 12.0
- VMware vRealize Orchestrator 8.1

## Course Modules

### 1 Course Introduction

- Introductions and course logistics
- Course objectives

### 2 Automation in vSphere

- Identify the tools available to vSphere administrators for automation
- Understand the benefits of automation
- Understand the function of black boxes in programming

### 3 vSphere Web Services API

- Identify the function of an API
- Recognize the components of the vSphere Web Services API
- Understand how the vSphere Web Services API is used by automation tools
- Understand object-oriented terminology relevant to the vSphere Web Services API
- Use the MOB to explore the vSphere object model and invoke methods

### 4 vSphere PowerCLI Basics

- Describe features of vSphere PowerCLI
- List common tasks to perform with vSphere PowerCLI
- Connect vSphere PowerCLI to vCenter Server and VMware ESXi™ hosts
- Define variables to use in vSphere PowerCLI
- Use basic vSphere PowerCLI cmdlets
- Describe features of the command pipeline
- Examine vSphere PowerCLI objects
- View vSphere PowerCLI object properties
- Invoke vSphere PowerCLI object methods

### 5 vSphere PowerCLI Use Cases

- Perform day-to-day management tasks
- Manage clusters, hosts, and virtual machines
- Display performance metrics

### 6 Advanced vSphere PowerCLI Concepts

- Examine View objects with the Get-View cmdlet
- Convert View objects to VIOjects
- Invoke vSphere Web Services API methods

### 7 vRealize Orchestrator Overview

- Describe the vRealize Orchestrator architecture and interfaces
- Describe the components of a workflow

### 8 vRealize Orchestrator Basics

- Understand inputs, outputs, and variables in workflows
- Describe variable types: string, number, and more
- Create variables in workflows
- Implement variable binding in workflows

### 9 Invoking Scheme Elements

- Invoke JavaScript from workflows
- Invoke a workflow from workflows
- Invoke an action from workflows
- Manage user workflow inputs on the input form
- Invoke a user interaction element from workflows

### 10 Branching and Looping

- Use decision elements in workflows
- Use switch elements in workflows
- Create decision loops in workflows
- Use a for-each loop in workflows

### 11 vRealize Orchestrator Advanced

- Handle exceptions in workflows
- Perform logging in workflows
- Debug workflows

### 12 vRealize Orchestrator Assets

- Use configuration elements in workflows
- Use resource elements in workflows
- Create, import, and export vRealize Orchestrator packages

### 13 vRealize Orchestrator PowerShell Plug-In

- Add PowerShell hosts to the vCenter Server inventory
- Invoke scripts on PowerShell hosts
- Create custom workflows using the PowerShell plug-in



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#### 14 Guest Operations with vRealize Orchestrator and vSphere PowerCLI

- Understand the architecture of virtual machine guest operations
- Identify the requirements for using guest operations
- Perform guest operations with vRealize Orchestrator and vSphere PowerCLI

#### 15 Leveraging vSphere Client Code Capture

- Understand how to capture code in the vSphere Client
- Use that code in a vRealize Orchestrator workflow or vSphere PowerCLI script

### Contact

If you have questions or need help registering for this course, click [here](#).



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