uCertify

Course Outline

Windows Powershell



28 Mar 2024

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1. Course Objective

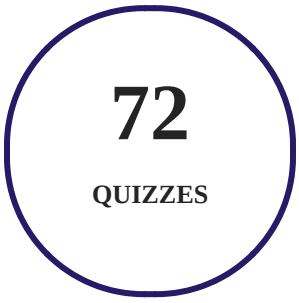
Gain hands-on expertise in Windows PowerShell with Windows PowerShell in 24 Hours course and performance-based labs. Performance-based labs simulate real-world, hardware, software and command line interface environments and can be mapped to any text-book, course & training. This course and lab provide the understanding of PowerShell module, its usage for different functions and give experience in installing and configuring PowerShell, finding and discovering Windows PowerShell commands, managing Windows PowerShell providers, and more.

2. Pre-Assessment

Pre-Assessment lets you identify the areas for improvement before you start your prep. It determines what students know about a topic before it is taught and identifies areas for improvement with question assessment before beginning the course.

3. Quizzes

Quizzes test your knowledge on the topics of the exam when you go through the course material. There is no limit to the number of times you can attempt it.



4. Expert Instructor-Led Training

uCertify uses the content from the finest publishers and only the IT industry's finest instructors. They have a minimum of 15 years real-world experience and are subject matter experts in their fields. Unlike a live class, you can study at your own pace. This creates a personal learning experience and gives you all the benefit of hands-on training with the flexibility of doing it around your schedule 24/7.

5.  ADA Compliant & JAWS Compatible Platform

uCertify course and labs are ADA (Americans with Disability Act) compliant. It is now more accessible to students with features such as:

- Change the font, size, and color of the content of the course
- Text-to-speech, reads the text into spoken words
- Interactive videos, how-tos videos come with transcripts and voice-over
- Interactive transcripts, each word is clickable. Students can clip a specific part of the video by clicking on a word or a portion of the text.

JAWS (Job Access with Speech) is a computer screen reader program for Microsoft Windows that reads the screen either with a text-to-speech output or by a Refreshable Braille display. Student can easily navigate uCertify course using JAWS shortcut keys.

6.  State of the Art Educator Tools

uCertify knows the importance of instructors and provide tools to help them do their job effectively. Instructors are able to clone and customize course. Do ability grouping. Create sections. Design grade scale and grade formula. Create and schedule assessments. Educators can also move a student from self-paced to mentor-guided to instructor-led mode in three clicks.

7.  Award Winning Learning Platform (LMS)

uCertify has developed an award winning, highly interactive yet simple to use platform. The SIIA CODiE Awards is the only peer-reviewed program to showcase business and education technology's finest products and services. Since 1986, thousands of products, services and solutions have been recognized for achieving excellence. uCertify has won CODiE awards consecutively for last 7 years:

- **2014**
    1. Best Postsecondary Learning Solution

- **2015**
    1. Best Education Solution
    2. Best Virtual Learning Solution
    3. Best Student Assessment Solution
    4. Best Postsecondary Learning Solution
    5. Best Career and Workforce Readiness Solution
    6. Best Instructional Solution in Other Curriculum Areas
    7. Best Corporate Learning/Workforce Development Solution

- **2016**
    1. Best Virtual Learning Solution
    2. Best Education Cloud-based Solution
    3. Best College and Career Readiness Solution
    4. Best Corporate / Workforce Learning Solution
    5. Best Postsecondary Learning Content Solution
    6. Best Postsecondary LMS or Learning Platform
    7. Best Learning Relationship Management Solution

- **2017**
    1. Best Overall Education Solution
    2. Best Student Assessment Solution
    3. Best Corporate/Workforce Learning Solution
    4. Best Higher Education LMS or Learning Platform

- **2018**
    1. Best Higher Education LMS or Learning Platform
    2. Best Instructional Solution in Other Curriculum Areas
    3. Best Learning Relationship Management Solution

- **2019**
    1. Best Virtual Learning Solution
    2. Best Content Authoring Development or Curation Solution
    3. Best Higher Education Learning Management Solution (LMS)

- **2020**
    1. Best College and Career Readiness Solution
    2. Best Cross-Curricular Solution
    3. Best Virtual Learning Solution

8. Chapter & Lessons

uCertify brings these textbooks to life. It is full of interactive activities that keeps the learner engaged. uCertify brings all available learning resources for a topic in one place so that the learner can efficiently learn without going to multiple places. Challenge questions are also embedded in the chapters so learners can attempt those while they are learning about that particular topic. This helps them grasp the concepts better because they can go over it again right away which improves learning.

Learners can do Flashcards, Exercises, Quizzes and Labs related to each chapter. At the end of every lesson, uCertify courses guide the learners on the path they should follow.

Syllabus

Chapter 1: Introduction

- Who Should Take This Course
- How This Course Is Organized
- Conventions Used in This Course
- System Requirements
- Design Elements Used in This Course

Chapter 2: Getting to Know Windows PowerShell

- Why You Should Learn Windows PowerShell
- Brief History of Windows PowerShell
- Understanding the Windows PowerShell Components
- Investigating the Power and Simplicity of Windows PowerShell
- Try it Yourself
- Summary
- Q&A

Chapter 3: Installing and Configuring Windows PowerShell

- Determining Your Windows PowerShell Environment
- Installing the Latest Version of Windows PowerShell
- Customizing the Windows PowerShell Console
- Try it Yourself
- Customizing the Windows PowerShell ISE
- Summary
- Q&A

Chapter 4: Mastering the Windows PowerShell Help System

- Anatomy of a Windows PowerShell Cmdlet

- Updating the Windows PowerShell Help Library
- Understanding Windows PowerShell Help Syntax
- Try it Yourself
- Accessing Additional Command Help
- Try it Yourself
- Summary
- Q&A

Chapter 5: Finding and Discovering Windows PowerShell Commands

- How Windows PowerShell Commands Are Packaged
- Installing RSAT Tools on Windows 8.1
- Try it Yourself
- Locating Windows PowerShell Commands
- Try it Yourself
- Running External Commands
- Summary
- Q&A

Chapter 6: Thinking in Terms of Objects

- The Problem with UNIX/Linux
- What Is an Object?
- Discovering Object Members
- Putting Objects into Action
- Try it Yourself
- Summary
- Q&A

Chapter 7: Mastering the Windows PowerShell Pipeline

- Understanding How the Pipeline Works from a High Level
- Understanding in Depth How the Pipeline Works
- Try it Yourself
- Passing Data Through the Pipeline
- Try it Yourself
- "Forcing" Objects Through the Pipeline
- Summary
- Q&A

Chapter 8: Sorting, Filtering, and Measuring Windows PowerShell Output

- Sorting Output
- Filtering Output
- Try it Yourself
- Measuring Objects
- Summary
- Q&A

Chapter 9: Managing Windows PowerShell Providers

- What Are Providers?
- Introduction to Default PSDrives
- Using the FileSystem Provider
- Try it Yourself
- Using the Alias Provider
- Using the Registry Provider
- Using Extended Providers
- Summary
- Q&A

Chapter 10: Formatting, Exporting, and Converting Windows PowerShell Output

- How the PowerShell Formatting Subsystem Works
- Formatting PowerShell Output
- Exporting PowerShell Output
- Converting PowerShell Output
- Try it Yourself
- Summary
- Q&A

Chapter 11: Implementing One-to-One Windows PowerShell Remoting

- Understanding Classic Windows PowerShell Remote Access
- Introducing "True" PowerShell Remoting
- Enabling Windows PowerShell Remoting
- Creating a Windows PowerShell Remote Session
- Sending Scripts over the Network
- Try it Yourself
- Summary
- Q&A

Chapter 12: Implementing One-to-Many Windows PowerShell Remoting

- One-to-Many Remote Access in the Classic Scenario
- One-to-Many Remoting with Persistent Sessions
- Managing Session Configurations
- One-to-Many Remoting with the Windows PowerShell ISE
- Try it Yourself
- Passing Input to Remote Commands
- Summary
- Q&A

Chapter 13: Deploying Windows PowerShell Web Access

- Introducing Windows PowerShell Web Access
- Setting Up the Windows PSWA Gateway
- Testing the Windows PSWA User Experience
- Managing the Gateway
- Try it Yourself
- Summary
- Q&A

Chapter 14: Multitasking Windows PowerShell

- Investigating the PowerShell Job Architecture
- Controlling Job Behavior
- Understanding Parent and Child Jobs
- Introducing the –AsJob Parameter
- Scheduling Jobs
- Reviewing What We've Learned
- Try it Yourself
- Summary
- Q&A

Chapter 15: Harnessing Windows PowerShell Workflow

- Understanding How Windows PowerShell Workflow Works
- Try it Yourself
- Writing Your First Windows PowerShell Workflow
- Running a Workflow as a Job
- Understanding Workflow Activities
- Tying Everything Together
- Try it Yourself

- Summary
- Q&A

Chapter 16: Introducing WMI and CIM

- Defining WMI and CIM
- Getting Comfortable with WMI
- Try it Yourself
- Using Windows PowerShell WMI Commands
- Using Windows PowerShell CIM Commands
- Try it Yourself
- Summary
- Q&A

Chapter 17: Searching and Filtering with Regular Expressions

- Revisiting the Wildcard Operators
- Understanding Regular Expressions
- Using the –Match Parameter
- Using Select-String

- Try it Yourself
- Using the RegEx Type Accelerator
- Summary
- Q&A

Chapter 18: Managing Software with Windows PowerShell OneGet

- Understanding IT-Related Terminology
- Preparing Your Environment
- Browsing Package Repositories
- Installing Software from the Command Line
- Try it Yourself
- Managing Providers and Packages
- Hosting a Private OneGet Repository
- Summary
- Q&A

Chapter 19: Desired State Configuration Basics

- Historical Background of DSC
- Basic Tenets of DSC

- DSC Authoring Environment
- Configuring the DSC Environment
- Writing Your First Configuration Script
- Try it Yourself
- A Word on DSC Push Configuration
- Summary
- Q&A

Chapter 20: Introduction to Windows PowerShell Scripting

- Managing Execution Policy
- Writing Our First Script: The User Profile
- Writing a PowerShell Function
- Adding Programming Logic
- Running Scripts
- Try it Yourself
- Pointers to Master PowerShell Scripting
- Summary
- Q&A

Chapter 21: Making PowerShell Code Portable with Modules

- Understanding Snap-Ins
- Introducing PowerShell Modules
- Creating Your First PowerShell Script Module
- Using Module Manifests
- Adding Comment-Based Help
- Try it Yourself
- Finding Modules Easily
- Summary
- Q&A

Chapter 22: Managing Active Directory with Windows PowerShell

- Installing Active Directory
- Creating Common Active Directory Objects
- Try it Yourself
- Understanding Various AD Administrative Tasks
- Summary

- Q&A

Chapter 23: Managing SQL Server with Windows PowerShell

- Running PowerShell Using SQL Server Tools
- Interacting with SQL Server Using PowerShell
- Automating Common SQL Server DBA Tasks
- Try it Yourself
- Summary
- Q&A

Chapter 24: Managing SharePoint Server with Windows PowerShell

- Understanding the Environment
- Deploying a Service Application
- Deploying a Web Application
- Deploying a Site Collection
- Setting Permissions on a Site Collection
- Reporting on a SharePoint Farm
- Try it Yourself
- Summary

- Q&A

Chapter 25: Managing Microsoft Azure with Windows PowerShell

- Defining Microsoft Azure
- Preparing Your Azure-PowerShell Environment
- Working with Azure Virtual Machines
- Try it Yourself
- Managing Office 365 and SharePoint Online with Azure
- Summary
- Q&A

Videos and How To

uCertify course includes videos to help understand concepts. It also includes How Tos that help learners in accomplishing certain tasks.

23	04:38
VIDEOS	HOURS

9. Practice Test

Here's what you get

64	2	100
PRE-ASSESSMENTS QUESTIONS	FULL LENGTH TESTS	POST-ASSESSMENTS QUESTIONS

Features

Each question comes with detailed remediation explaining not only why an answer option is correct but also why it is incorrect.

Unlimited Practice

Each test can be taken unlimited number of times until the learner feels they are prepared. Learner can review the test and read detailed remediation. Detailed test history is also available.

Each test set comes with learn, test and review modes. In learn mode, learners will attempt a question and will get immediate feedback and complete remediation as they move on to the next question. In test mode, learners can take a timed test simulating the actual exam conditions. In review mode, learners can read through one item at a time without attempting it.

10. Live Labs

The benefits of live-labs are:

- Exam based practical tasks
- Real equipment, absolutely no simulations

- Access to the latest industry technologies
- Available anytime, anywhere on any device
- Break and Reset functionality
- No hardware costs

Lab Tasks

Getting to Know Windows PowerShell

- Determining Windows PowerShell version
- Displaying the Identity of the Current Windows PowerShell Host
- Getting event log information with Windows PowerShell
- Creating and Opening a Text Log File in Notepad

Installing and Configuring Windows PowerShell

- Determining Windows version
- Determining .NET Framework version
- Observing Windows PowerShell Commands
- Adding Grouping to the Mix

Mastering the Windows PowerShell Help System

- Retrieving AD Commands on a Windows server Domain Controller
- Retrieving a sorted list of verbs
- Fetching the help article from Microsoft web servers
- Updating help library of a module
- Viewing help content
- Saving help files on an online system
- Understanding Windows PowerShell help syntax
- Investigating Windows PowerShell help
- Taking Windows PowerShell help to the next level

- Displaying command options in a graphical window

Finding and Discovering Windows PowerShell Commands

- Viewing registered snap-ins
- Adding a registered snap-in
- Retrieving a list of available modules
- Importing an available module
- Showing number of commands contained in the PsReadline module
- Discovering Windows PowerShell commands
- Opening Internet Explorer using PowerShell
- Opening the PDF directly using Windows PowerShell

Thinking in Terms of Objects

- Retrieving metadata
- Retrieving properties available with get-process
- Retrieving methods available with get-process
- Retrieving particular data
- Working with objects and members

Mastering the Windows PowerShell Pipeline

- Introducing hash tables
- Investigating the Windows PowerShell Pipeline
- Stopping the print spooler service
- Using array object
- Experimenting with Pipeline Parameter Binding

Sorting, Filtering, and Measuring Windows PowerShell Output

- Sorting output in ascending order
- Sorting on multiple criteria
- Playing with PowerShell comparison operators
- Filtering the output displaying the name, status and display name
- Understanding measure-object

Managing Windows PowerShell Providers

- Viewing PSDrives on the system

Formatting, Exporting, and Converting Windows PowerShell Output

- Displaying the results in an interactive table
- Formatting the result as a table
- Exporting and converting Windows PowerShell output

Implementing One-to-One Windows PowerShell Remoting

- Enabling remoting using Windows PowerShell
- Establishing a remote session
- Setting execution policy

Deploying Windows PowerShell Web Access

- Managing gateway

Multitasking Windows PowerShell

- Creating a new job
- Creating a scheduled PowerShell job
- Retrieving help files as a job and output them in a three-column wide display

Harnessing Windows PowerShell Workflow

- Writing a simple Windows PowerShell script file

Introducing WMI and CIM

- Using the PowerShell CIM commands
- Using Get-WMI object

Managing Software with Windows PowerShell OneGet

- Installing an application from a subdirectory
- Installing software with OneGet
- Verifying that the WinRar archiver is installed on your system

Desired State Configuration Basics

- Viewing that options are available for the Windows Feature DSC resource
- Creating and updating a DSC configuration

Introduction to Windows PowerShell Scripting

- Understanding loop and iteration
- Writing a PowerShell Function

Making PowerShell Code Portable with Modules

- Adding a PSSnapin to your session
- Getting recent event log

Managing Active Directory with Windows PowerShell

- Creating organizational units
- Creating groups
- Creating domain user accounts in bulk

Managing SQL Server with Windows PowerShell

- Creating a new database
- Creating a new table
- Inserting data into a table

Managing SharePoint Server with Windows PowerShell

- Viewing site collections

Here's what you get

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LIVE LABS

11. Post-Assessment

After completion of the uCertify course Post-Assessments are given to students and often used in conjunction with a Pre-Assessment to measure their achievement and the effectiveness of the exam.

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