ADVANCED AUTOMATED ADMINISTRATION WITH WINDOWS POWERSHELL

Course Code: 821594

Course 55318A was designed as an update and replacement for course 10962C. It will help individuals who use PowerShell scripting for domain, network, and application administration.

The primary focus of the exercises and labs is Windows PowerShell but much of the material may also be used with PowerShell Core. The examples and demonstrations cover a wide range of services that PowerShell can be used with. Students will be able to practice using PowerShell with Active Directory, IIS, .NET resources, SMTP, SQL Server, and various file formats used for input / output operations such as JSON, XML and CSV. The virtual machines used for the class are built with PowerShell and the scripts are made available to students so they can build their own lab environment in Microsoft Azure or Hyper-V using the skills they learn in class.

What You'll Learn

At Course Completion

- Create advanced functions.
- Use Microsoft .NET Framework and REST API in Windows PowerShell.
- Handle script errors.
- Use XML, JSON, and custom formatted data.
- Manage Microsoft Azure resources
- Analyze and debug scripts
- Understand Windows PowerShell workflow.

Who Needs to Attend

This course is intended for IT professionals who are experienced in general Windows Server and Windows Client administration. Students should have a foundational knowledge of Windows PowerShell, which they can obtain by taking course 10961C: Automating Administration with Windows PowerShell.

In addition, this course provides scripting guidance for Microsoft Azure administrators and developers who support development environments and

deployment processes.

Prerequisites

- Experience as a Windows System Administrator
- Prior scripting or programming experience
- All the prerequisites can be met by successfully taking the 10961 – Automating Administration with Windows PowerShell course

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CLASSROOM LIVE	$2,095 CAD	3 Day

Classroom Live Outline

Module 1: Creating advanced functions

This module explains how to parameterize a command into an advanced function.

Lessons

- Lesson 1: Converting a command into an advanced function
- Lesson 2: Creating a script module
- Lesson 3: Defining parameter attributes and input validation
- Lesson 4: Writing functions that accept pipeline input
- Lesson 5: Producing complex pipeline output
- Lesson 6: Using comment-based Help
- Lesson 7: Using Whatif and Confirm parameters

Module 2: Using Microsoft .NET Framework and REST API in Windows PowerShell

This module explains how to use Microsoft .NET Framework and REST API to supplement functionality that Windows PowerShell commands provide.

Lessons

- Lesson 1: Using .NET Framework in PowerShell
- Lesson 2: Using REST API in PowerShell

Module 3: Writing controller scripts

This module explains how to combine advanced functions that perform a specific task and a controller script that provides a user interface or automates a business process.

Lessons

- Lesson 1: Understanding controller scripts
- Lesson 2: Writing controller scripts with a user interface
- Lesson 3: Writing controller scripts that create reports

Module 4: Handling script errors

This module explains how to perform basic error handling in scripts.

Lessons

- Lesson 1: Understanding error handling
- Lesson 2: Handling errors in a script

Module 5: Using XML, JSON, and custom-formatted data

This module explains how to read, manipulate, and write data in XML and JSON format.

Lessons

- Lesson 1: Working with XML formatted data
- Lesson 2: Working with JSON formatted data
- Lesson 3: Working with custom-formatted data

Module 6: Enhancing server management with Desired State Configuration and Just Enough Administration

This module explains how to write Desired State Configuration (DSC) configuration files, deploy those files to servers, and monitor server's configurations. This module also explains how to restrict administrative access with Just Enough Administration (JEA).

Lessons

- Lesson 1: Implementing Desired State Configuration
- Lesson 2: Implementing Just Enough Administration

Module 7: Analyzing and debugging scripts

This module explains how to use native Windows PowerShell features to analyze and debug existing scripts

Lessons

- Lesson 1: Debugging in Windows PowerShell
- Lesson 2: Analyzing and debugging an existing script

Module 8: Understanding Windows PowerShell Workflow

This module explains the features of the Windows PowerShell Workflow technology.

Lessons

- Lesson 1: Understanding Windows PowerShell Workflows
- Lesson 2: Running Windows PowerShell Workflows

Classroom Live Labs

Lab: Creating advanced functions

- Exercise 1: Converting a command into a function
- Exercise 2: Creating a script module
- Exercise 3: Defining parameter attributes
- Exercise 4: Writing functions to accept pipeline input
- Exercise 5: Producing complex function output
- Exercise 6: Using comment-based Help
- Exercise 7: Using Whatif and Confirm parameters

Lab: Using Microsoft .NET Framework and REST API in Windows PowerShell

- Exercise 1: Using .NET Framework in PowerShell
- Exercise 2: Using REST API in PowerShell

Lab: Writing controller scripts

- Exercise 1: Understanding controller scripts
- Exercise 2: Writing controller scripts with a user interface
- Exercise 3: Writing controller scripts that create reports

Lab: Handling script errors

- Exercise 1: Understanding error handling
- Exercise 2: Handling errors in a script

Lab: Working with XML and JSON formatted data

- Exercise 1: Working with XML formatted data
- Exercise 2: Working with JSON formatted data
- Exercise 3: Working with custom-formatted data
- Exercise 4: Using PowerShell Core (Optional)

Lab: Creating and deploying a DSC configuration

- Exercise 1: Implementing Desired State Configuration
- Exercise 2: Implementing Just Enough Administration

Lab: Analyzing and debugging scripts

- Exercise 1: Debugging in Windows PowerShell
- Exercise 2: Analyzing and debugging an existing script

Lab: Create and run Windows PowerShell Workflows

- Exercise 1: Understanding Windows PowerShell Workflows
- Exercise 2: Running Windows PowerShell Workflows

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VIRTUAL CLASSROOM LIVE	$2,095 CAD	3 Day

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Virtual Classroom Live Labs

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Oct 6 - 8, 2025 | 9:00 AM - 5:00 PM EDT

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PRIVATE GROUP TRAINING	3 Day

Visit us at www.globalknowledge.com or call us at 1-866-716-6688.