

KOENIG SOLUTIONS · COURSE OUTLINE

Advanced Automated Administration with Windows PowerShell (55318A)

Learn to build advanced PowerShell functions, scripts and workflows to automate and manage server configuration and administration.

8

MODULES

23

TOPICS

24

HANDS-ON ACTIVITIES

COURSE OVERVIEW

This course covers converting commands into advanced functions, using .NET Framework and REST API to extend PowerShell functionality, and writing controller scripts with user interfaces or reporting output. It addresses handling script errors, and working with XML, JSON and custom-formatted data. It then covers enhancing server management with Desired State Configuration and Just Enough Administration, before addressing analysing and debugging scripts and understanding Windows PowerShell Workflow.

WHO THIS COURSE IS FOR

Systems Administrators

IT Automation Engineers

Infrastructure Engineers

Server Administrators

DevOps Engineers

LEARNING OBJECTIVES

- Convert a command into an advanced function
- Create a script module with parameter validation
- Apply .NET Framework and REST API in PowerShell
- Write controller scripts with a user interface
- Write controller scripts that create reports
- Handle errors within a script
- Work with XML, JSON and custom-formatted data
- Implement Desired State Configuration and Just Enough Administration

8 Modules, 23 Topics

01

7 Activities

Creating Advanced Functions

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

TOPICS

- Converting a command into an advanced function
- Creating a script module
- Defining parameter attributes and input validation
- Writing functions that accept pipeline input
- Producing complex pipeline output
- Using comment-based Help
- Using Whatif and Confirm parameters

02

2 Activities

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.

TOPICS

Using .NET Framework in PowerShell · Using REST API in PowerShell

03

3 Activities

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.

TOPICS

- Understanding controller scripts
- Writing controller scripts with a user interface
- Writing controller scripts that create reports

04

2 Activities

Handling Script Errors

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

TOPICS

Understanding error handling · Handling errors in a script

05**4 Activities**

Using XML, JSON, and Custom-Formatted Data

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

TOPICS

Working with XML formatted data · Working with JSON formatted data · Working with custom-formatted data

06**2 Activities**

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).

TOPICS

Implementing Desired State Configuration · Implementing Just Enough Administration

07**2 Activities**

Analyzing and Debugging Scripts

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

TOPICS

Debugging in Windows PowerShell · Analyzing and debugging an existing script

08**2 Activities**

Understanding Windows PowerShell Workflow

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

TOPICS

Understanding Windows PowerShell Workflows · Running Windows PowerShell Workflows

Practise What You Learn

#	MODULE	ACTIVITY
01	Creating Advanced Functions	LAB 1: CREATING ADVANCED FUNCTIONS ■ Converting a command into a function ■ Creating a script module ■ Defining parameter attributes ■ Writing functions to accept pipeline input ■ Producing complex function output ■ Using comment-based Help ■ Using Whatif and Confirm parameters
02	Using Microsoft .NET Framework and REST API in Windows PowerShell	LAB 1: USING MICROSOFT .NET FRAMEWORK AND REST API IN WINDOWS POWERSHELL ■ Using .NET Framework in PowerShell ■ Using REST API in PowerShell
03	Writing Controller Scripts	LAB 1: WRITING CONTROLLER SCRIPTS ■ Understanding controller scripts ■ Writing controller scripts with a user interface ■ Writing controller scripts that create reports
04	Handling Script Errors	LAB 1: HANDLING SCRIPT ERRORS ■ Understanding error handling ■ Handling errors in a script
05	Using XML, JSON, and Custom-Formatted Data	LAB 1: WORKING WITH XML AND JSON FORMATTED DATA ■ Working with XML formatted data ■ Working with JSON formatted data ■ Working with custom-formatted data ■ Using PowerShell Core (Optional)
06	Enhancing Server Management with Desired State Configuration and Just Enough Administration	LAB 1: CREATING AND DEPLOYING A DSC CONFIGURATION ■ Implementing Desired State Configuration ■ Implementing Just Enough Administration
07	Analyzing and Debugging Scripts	LAB 1: ANALYZING AND DEBUGGING SCRIPTS ■ Debugging in Windows PowerShell ■ Analyzing and debugging an existing script
08	Understanding Windows PowerShell Workflow	LAB 1: CREATE AND RUN WINDOWS POWERSHELL WORKFLOWS ■ Understanding Windows PowerShell Workflows ■ Running Windows PowerShell Workflows

WHAT IS INCLUDED

Everything You Need to Succeed

- Koenig course material for every module
- Delivery by certified instructors and subject matter experts
- Hands-on exercises throughout the course
- Course completion certificate from Koenig

ABOUT KOENIG

Who We Are

Established in 1993, Koenig Solutions is a globally recognised training provider with 35+ technology partnerships, 5,000+ training programmes and a network of certified instructors and subject matter experts, supporting individuals and enterprise teams worldwide.

FLEXIBLE DELIVERY

Learn the Way That Suits You

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Live Online Classes (ILO)

Fly-Me-A-Trainer (FMAT)

Flexi (Self-Paced)

1-on-1 Training

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