

KOENIG SOLUTIONS • COURSE OUTLINE

PowerShell for Administration

Learn to automate Windows, Active Directory, Azure and Microsoft 365 administration tasks using PowerShell scripting and remoting.

7 Days

8 HOURS A DAY

14

MODULES

66

TOPICS

7 days and 8 hours per day. (Lengthy content)

COURSE OVERVIEW

This course covers Windows PowerShell fundamentals, including command syntax, the pipeline, PSProviders and PSDrives, and querying data with CIM and WMI. It progresses through variables, arrays, hash tables, scripting constructs, error handling, functions and modules, and remote administration using PSSessions. It then addresses managing Azure resources, Microsoft 365 services such as Exchange Online, SharePoint Online and Teams, background and scheduled jobs, and advanced Azure automation including Azure Functions and Azure DevOps. It concludes with advanced Active Directory administration, covering users, groups, computers, permissions and automation best practices with PowerShell.

WHO THIS COURSE IS FOR

System Administrators

Active Directory Administrators

Azure Administrators

Microsoft 365 Administrators

IT Support Engineers

DevOps Engineers

TOOLS AND REQUIREMENTS

Lab Platform

- Platform for AZ-040 course will suffice with customized labs

LEARNING OBJECTIVES

- Explain Windows PowerShell command syntax and help resources
- Apply cmdlets for local systems and network administration
- Filter, sort and manipulate objects in the pipeline
- Query and modify management data using CIM and WMI
- Manipulate variables, arrays and hash tables in scripts
- Develop PowerShell scripts with functions and error handling
- Configure remote administration using PSSessions and remoting
- Manage Azure resources, Microsoft 365 services and Active Directory

Certification

Achievement URL

URL for **AZ-040** course is applicable.

COURSE SYLLABUS

14 Modules, 66 Topics

01

Getting Started with Windows PowerShell

TOPICS

- Windows PowerShell overview
- Understand Windows PowerShell command syntax
- Find commands and get help in Windows PowerShell

02

Windows PowerShell for Local Systems Administration

TOPICS

- Active Directory Domain Services administration cmdlets
- Network configuration cmdlets
- Server administration cmdlets
- Windows PowerShell in Windows 10

03

Working with the Windows PowerShell Pipeline

TOPICS

Understand the pipeline · Select, sort, and measure objects · Filter objects out of the pipeline · Enumerate objects in the pipeline · Send and pass pipeline data as output

04

Using PSProviders and PSDrives

TOPICS

Using PSProviders · Using PSDrives

05

Querying Management Information by Using CIM and WMI

TOPICS

Understand CIM and WMI · Query data by using CIM and WMI · Make changes by using CIM and WMI

06

Working with Variables, Arrays, and Hash Tables

TOPICS

Use variables · Manipulate variables · Manipulate arrays and hash tables

07

Windows PowerShell Scripting

TOPICS

- Introduction to scripting with Windows PowerShell
- Script constructs
- Import data from files
- Accept user input
- Troubleshooting and error handling
- Functions and modules

08

Administering Remote Computers with Windows PowerShell

TOPICS

- Use basic Windows PowerShell remoting
- Use advanced Windows PowerShell remoting techniques
- Use PSSessions

09

Managing Azure Resources with PowerShell

TOPICS

Azure PowerShell · Introduce Azure Cloud Shell · Manage Azure VMs with PowerShell · Manage storage and subscriptions

10

Managing Microsoft 365 Services with PowerShell

TOPICS

- Manage Microsoft 365 user accounts, licenses, and groups with PowerShell
- Manage Exchange Online with PowerShell
- Manage SharePoint Online with PowerShell
- Manage Microsoft Teams with PowerShell

11

Using Background Jobs and Scheduled Jobs

TOPICS

Use background jobs · Use scheduled jobs

12

PowerShell and Azure

AZURE - SETTING UP YOUR ENVIRONMENT

- Installing the Azure PowerShell module
- Connecting to Azure

MANAGING AZURE RESOURCES WITH POWERSHELL

- Creating and updating resources
- Deleting resources

MONITORING AZURE RESOURCES WITH POWERSHELL

- Setting up alerts and notifications
- Collecting and analyzing logs

- Using PowerShell with Azure Active Directory

ADVANCED AZURE AUTOMATION TECHNIQUES

- Using PowerShell with Azure automation accounts

AUTOMATING AZURE DEVOPS WITH POWERSHELL

- Version control and testing
- Using PowerShell with Azure Functions

13a

Advanced Active Directory with PowerShell

TOPICS

- Installing the Active Directory PowerShell module

AUTOMATING ACTIVE DIRECTORY USER MANAGEMENT

- Managing users with PowerShell
- Creating, updating, and deleting users
- Modifying user properties
- Managing groups with PowerShell

13b

Advanced Active Directory with PowerShell - cont.

TOPICS

- Creating, updating, and deleting groups
- Modifying group properties

MANAGING COMPUTERS WITH POWERSHELL

- Joining computers to the domain
- Modifying computer properties

AUTOMATING ACTIVE DIRECTORY PERMISSIONS MANAGEMENT

- Managing permissions with PowerShell
- Assigning and removing permissions
- Modifying permission properties

ADVANCED ACTIVE DIRECTORY AUTOMATION TECHNIQUES

- Using PowerShell with Active Directory Web Services
- Automating Active Directory Domain Services with PowerShell
- Using PowerShell with Azure Active Directory

BEST PRACTICES FOR POWERSHELL AND ACTIVE DIRECTORY AUTOMATION

- Writing effective PowerShell scripts
- Managing credentials securely

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

Classroom Training

Live Online Classes (ILO)

Fly-Me-A-Trainer (FMAT)

Flexi (Self-Paced)

1-on-1 Training

Ready to Get Started?

Talk to a learning advisor about schedules, group training and customised delivery.

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