PowerShell-2

Advanced Automated Administration with Windows PowerShell

Description:

Learn how to automate and streamline day to day management and administration tasks and functions in your Windows Server Infrastructure.

This two-day course is a follow on course from the 10961B: Automating Administration with Windows PowerShell course. It is built on Windows Server 2016 and Windows 10 and while it is specifically focussed on Windows PowerShell v4.0, is also relevant in v2.0 and v3.0 Windows PowerShell environments. Expand and build upon the knowledge already acquired in course 10961B and focus on building more scalable and usable Windows PowerShell scripts for use in your organization by building your own Windows PowerShell tools. Learn about areas such as the creation of advanced functions, script modules, advanced parameters attributes and controller scripts. Also learn how to make your scripts more robust by learning about handling script errors and the analysis and debugging Windows PowerShell scripts. The course will also cover the use of Windows PowerShell cmdlets with .NET Framework as well as teaching how to configure your Windows Servers using Desired State Configuration and providing an understanding of Windows PowerShell workflow. The detailed hands on labs and in depth content and learning will help remove manual tasks that you may currently have to perform as an Administrator, allowing you to make your own Windows PowerShell tools for automated, repeated, accurate management and provisioning of your Windows Server infrastructure.

Students will be able to:

- Create Advanced Functions
- Use Cmdlets and Microsoft .NET Framework in Windows PowerShell
- Write Controller Scripts
- Handle Script Errors
- Use XML Data Files
- Manage Server Configurations by Using Desired State Configuration
- Analyze and Debugging Scripts
- Understand Windows PowerShell Workflow

Course requirements:

- Knowledge and experience working with Windows PowerShell or knowledge equivalent to the content covered in course 10961B: Automating Administration with Windows PowerShell
- Experienced in general Windows Server and Windows Client administration or already experience in administering and supporting Application servers and services including applications like Exchange, SharePoint, and SQL

This course is intended for:

- This course is intended for IT Professionals already experienced in general Windows Server and Windows Client administration or already experienced in administering and supporting Application servers and services including applications such as Exchange, SharePoint, and SQL. System, Infrastructure and Application

Administrators working in a Windows or Windows hybrid environment will all find this course relevant to their day to day jobs and future career and skills development.
- The course is also intended for IT Professionals who want to build upon existing Windows PowerShell knowledge and skill to learn how to build their own tools for broader general use in their organization, using any Microsoft or independent software vendor (ISV) product that supports Windows PowerShell manageability.

Literature:

All participants will get original Microsoft student materials.

Hardware:

Classrooms are equipped with high-performance computers with Internet access and the possibility of wireless connection.

Syllabus:

Chapter 1: Creating Advanced Functions

- Converting a Command into an Advanced Function
- Creating a Script Module
- Defining Parameter Attributes and Input Validation
- Writing Functions that use Multiple Objects
- Writing Functions that Accept Pipeline Input
- Producing Complex Function Output
- Documenting Functions by using Content-Based Help
- Supporting -Whatif and -Confirm
- Lab : Converting a Command into an Advanced Function
- Converting a Command into an Advanced Function
- Lab : Creating a Script Module
- Creating a Script Module
- Lab : Defining Parameter Attributes and Input Validation
- Defining Parameter Attributes and Input Validation
- Lab : Writing Functions that use Multiple Objects
- Writing Functions that use Multiple Objects
- Lab : Writing Functions that Accept Pipeline Input
- Writing Functions that Accept Pipeline Input
- Lab : Producing Complex Function Output
- Producing Complex Function Output
- Lab : Documenting Functions by using Content-Based Help
- Documenting Functions by using Content-Based Help
- Lab : Supporting -Whatif and -Confirm
- Supporting -Whatif and -Confirm

Chapter 2: Using Cmdlets and Microsoft .NET Framework in Windows PowerShell

- Running Windows PowerShell Commands
- Using Microsoft .NET Framework in Windows PowerShell
- Lab : Using .NET Framework in Windows PowerShell
- Using Static and Instance Members

Chapter 3: Writing Controller Scripts

- Understanding Controller Scripts
- Writing Controller Scripts that Show a User Interface
- Lab : Writing Controller Scripts that Display a User Interface
- Write Functions to be Used in the Controller Script
- Write a Controller Script that Implements a Text-Based Menu

Chapter 4: Handling Script Errors

- Understanding Error Handling
- Handling Errors in a Script
- Lab : Handling Errors in a Script
- Handling Errors in a Script

Chapter 5: Using XML Data Files

- Reading, Manipulating and Writing Data in XML
- Lab : Reading, Manipulating and Writing Data in XML
- Test the Provided Tools
- Update an XML Inventory Document

Chapter 6: Managing Server Configurations by Using Desired State Configuration

- Understanding Desired State Configuration
- Creating and Deploying a DSC Configuration
- Lab : Creating and Deploying a DSC Configuration
- Write, Run and Push a DSC Configuration

Chapter 7: Analyzing and Debugging Scripts

- Debugging in Windows PowerShell
- Analyzing and Debugging and Existing Script
- Lab : Analyzing and Debugging and Existing Script
- Analyzing and Debugging and Existing Script

Chapter 8: Understanding Windows PowerShell Workflow

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