Intro to PowerShell Scripting

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SQL Saturday Baton Rouge 2023

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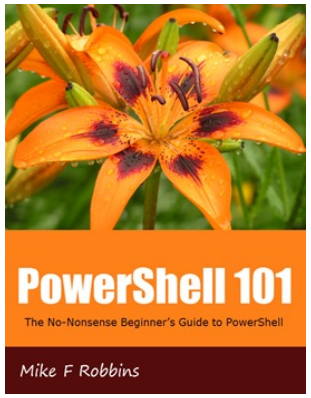
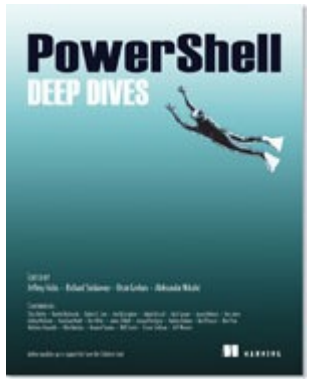
Get-Help –Name ‘about_Presenter’

- Mike F. Robbins
- Lead docs writer for Azure PowerShell at Microsoft





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Write-Output ‘Questions for Attendees’

- PowerShell
- Visual Studio Code (VS Code)
- One-Liners
- Scripts
- Functions
- Modules
- Source Control

Set-Content ‘Information to Cover’

- Getting Started with PowerShell
- The Help System
- Discovering objects, properties, and methods
- One-liners and the pipeline
- Formatting, aliases, and comparison operators
- Flow Control
- Remoting
- Functions
- Script Modules

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Start-Process ‘Demo’

- Demo Code: github.com/mikefrobbins/Presentations

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Why PowerShell?

- Ease of Use
  - Discoverable Commands
    - Verb-Noun Syntax
- Object-Oriented
- Cross-Platform
- Remoting
- Security
- Community and Support

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Getting Started with PowerShell

- What do I need to get started with PowerShell?
- Where do I find PowerShell?
- How do I launch PowerShell?
  - User Access Control (UAC)
- What version of PowerShell am I running?
- Execution Policy
  - Restricted – Windows client operating systems
  - Remote Signed – Windows server operating systems

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The Help System

- Discoverability
  - Verb-Noun syntax
- The three core cmdlets
  - Get-Help (help)
  - Get-Command
  - Get-Member
- Updating help
- Extend the functionality of PowerShell
  - PowerShellGet (PSResourceGet in the future)
  - $env:PSModulePath

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Windows PowerShell vs PowerShell7

- PowerShell 7 installs side-by-side
  - Help
  - Modules
    - $env:PSModulePath

Discovering objects, properties, and methods

- Get-Member
  - Properties
  - Methods
  - Type of object

Tips

- Tabbed Expansion
- Control + Space
- History

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One-liners and the pipeline

- One-Liners
- The pipeline
- Finding pipeline input the easy way
- Filtering Left
- Format right
- Avoid the backtick (grave accent)
  - Natural line break characters
  - Splatting

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Formatting, aliases, and comparison operators

- Aliases
- Comparison Operators
- Variables

Flow Control

- If
- Range Operator
- Looping
  - ForEach-Object
  - foreach
  - For
  - Do
    - Do While
    - Do Until
  - While
  - Break, Continue, and Return

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Remoting

- WinRM
- SSH
- One-To-One
- One-To-Many
- PowerShell sessions

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Functions

- Naming
- Parameters
- Functions vs Advanced Functions
- Parameter Validation
- Verbose Output
- Pipeline input
- Error Handling
- Comment-based help

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Script Modules

- Dot-Sourcing functions
- Script modules
- Module manifests
- Private and public functions

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Select-Object –Property ‘Resources’

- The PowerShell Best Practices and Style Guide: github.com/PoshCode/PowerShellPracticeAndStyle
- The Official Product Documentation for PowerShell: learn.microsoft.com/powershell/
- PowerShell.org
- PowerShell Podcast: powershellpodcast.podbean.com/

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