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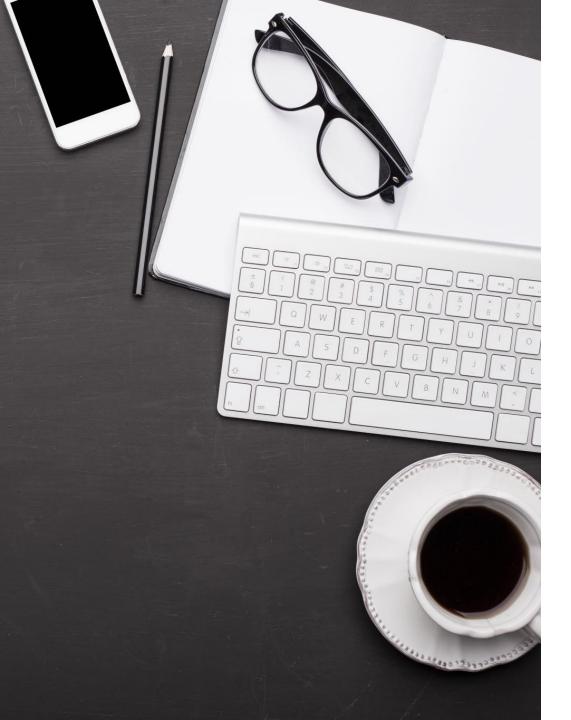sean.wheeler@microsoft.com   sdwheeler   @sdwheeler   swsamwa

Profile basics

In PowerShell, the profile script is used to customize the shell environment and define functions, aliases, and variables. The profile is a PowerShell script file that is executed when you start a PowerShell session, whether it's an interactive session or a script execution.

There are different profile scripts, in different locations, for the current user and all users on the system. PowerShell runs the profile scripts in the following order.

- All Users, All Hosts
- All Users, Current Host
- Current User, All Hosts
- Current user, Current Host

No profiles in remote sessions

about Profiles - PowerShell | Microsoft Learn

Version differences

- [Differences between Windows PowerShell 5.1 and PowerShell 7.x](#)
- [about Special Characters](#)
- [about_ANSI_Terminals](#)

Feature	Windows PowerShell 5.1	PowerShell 7+
Special characters	[char]0x1b, [char]0xA9	`e, `u{A9}
ANSI coloring	Hand-crafted escape sequences	$PSStyle
New cmdlets		*-Markdown Get-Error Get-Uptime Remove-Alias Remove-Service
Removed cmdlets	*-Wmi* New-PSWorkflowSession New-PSWorkflowExecutionOption Invoke-AsWorkflow	Use CimCmdlets module instead No workflows
Changed cmdlets	Type information for CSV cmdlets Web cmdlets	Test-Connection Invoke-RestMethod Invoke-WebRequest ForEach-Object -Parallel
Experimental features	No	Yes
New operators		null, ternary, and chain operators
Encoding defaults	ASCII	UTF8

Feature	Windows	Non-Windows
Modules & cmdlets		No CimCmdlets module Many Windows-only cmdlets
Graphical elements	Out-GridView -ShowWindow parameter	Not available
Execution Policy	Requires configuration	Not used or supported – no Authenticode
Case-sensitivity	Only in rare cases	Filesystem and environment variables
Aliases	Aliases that mimic Unix native commands	No aliases for native commands
Job Control	PowerShell jobs	PowerShell jobs only – no backgrounding
Path and directory separators	Path = ';' Directory = '\'	Path = ':' Directory = '/'

Platform differences

- [Release history of modules and cmdlets](#)
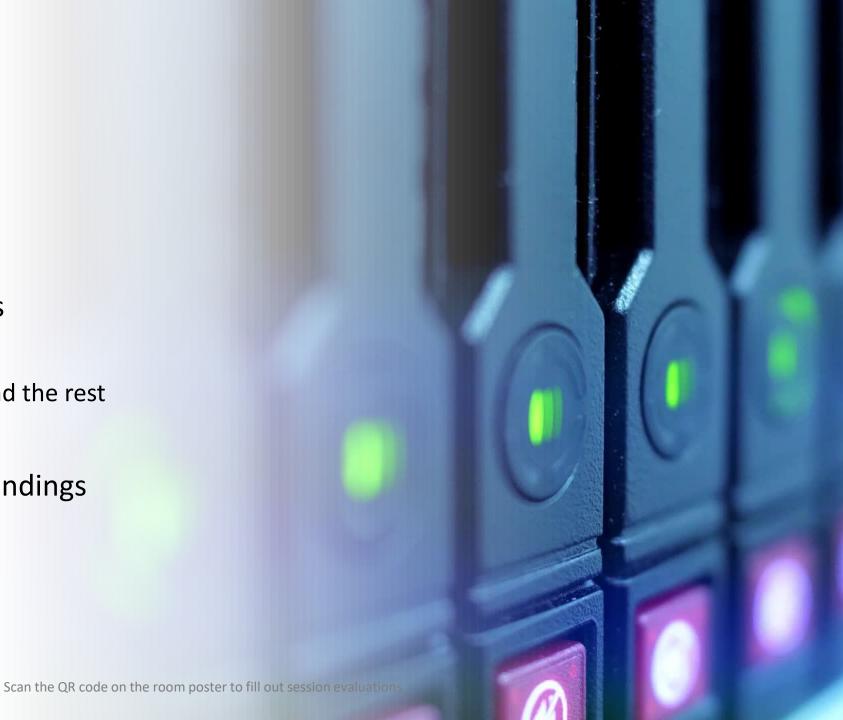- [PowerShell differences on non-Windows platforms](#)

Host differences

- VS Code is not the same as ConsoleHost or ISE
  - What does Azure Data Studio show?
- Don't use $Host.Version when you want $PSVersionTable.PSVersion
- $Host can't be replaced

Setting up your environment

- Tool and application settings
- Loading modules
  - Only the most used – autoload the rest
- Adding helper functions
- Configuring colors and keybindings
- $PSDefaultParameterValues
- Custom prompts

Other tips

- Sync your profile scripts using OneDrive or GitHub
  - Use symlinks to link runtime location to source location
  - Don't sync modules using OneDrive
- Use profile hierarchy to separate configuration items
- Move utility functions to a module
  - They load on demand, no need to include in profile

Resources & links

- Modules
    - PSStyle
    - CompletionPredictor
    - Microsoft.PowerShell.UnixTabCompletion
- Docs
    - about Profiles
    - Differences between Windows PowerShell 5.1 and PowerShell 7.x
    - about Special Characters
    - about_ANSI_Terminals
    - Release history of modules and cmdlets
    - PowerShell differences on non-Windows platforms
    - about_Operators

Get the scripts and slides

https://github.com/sdwheeler/Presentations/tree/main/SQLSaturday/2023-BatonRouge

Thanks for coming!

Scan the QR code on the room poster to fill out session evaluations