Optimizing your PowerShell profile

Supporting multiple versions and platforms

Presented by Sean Wheeler

BRUG
BATON ROUGE USER GROUPS

SQLSATURDAY

Please scan the QR code on the room schedule to fill out your session evaluation.

SQL Saturday Baton Rouge 2023

Thank you, Sponsors!

Sean Wheeler

Principal Content Developer – PowerShell + Cloud Shell
Microsoft - Cloud + AI | C+E Skilling

sean.wheeler@microsoft.com   sdwheeler   @sdwheeler   swsamwa
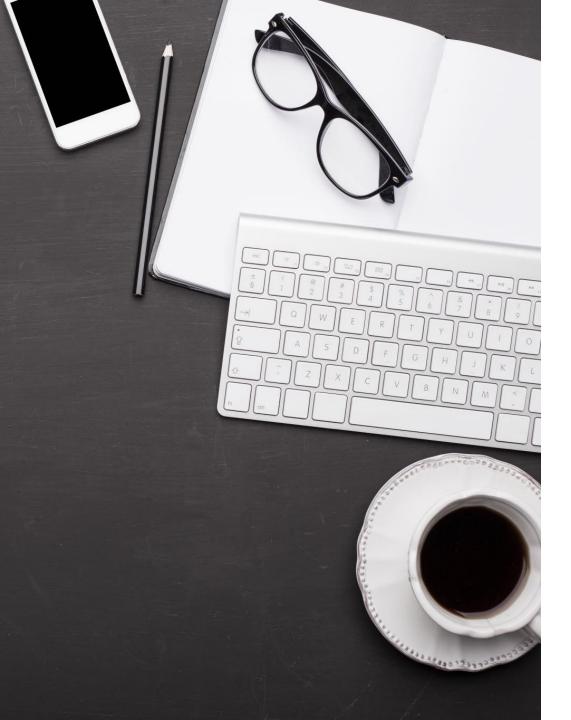
Profile basics

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

Platform differences

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 = '/'

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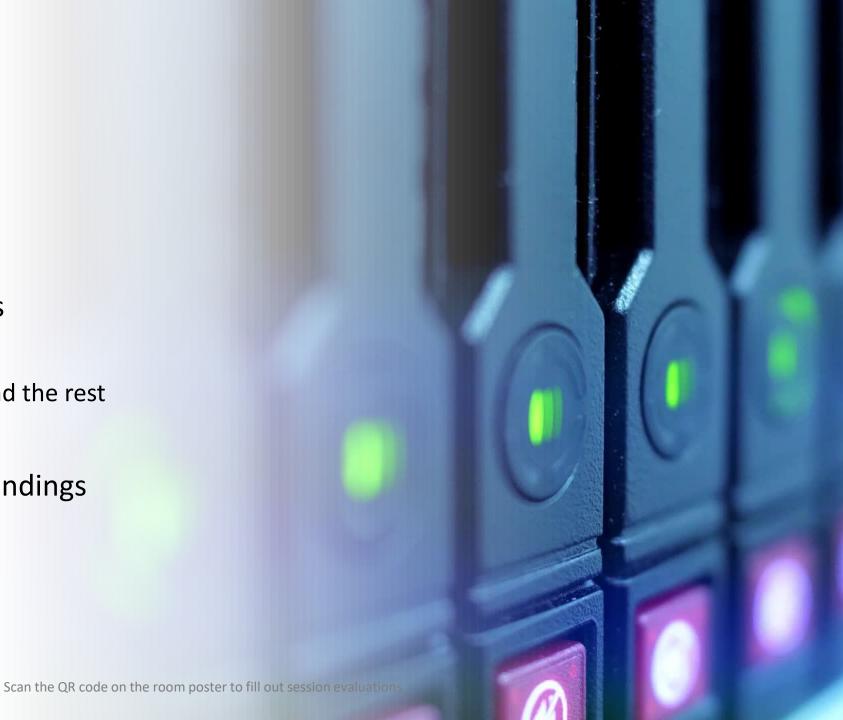- [PowerShell differences on non-Windows platforms](#)

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

SQL Saturday Baton Rouge 2023

Thank you, Sponsors!