

From Cmdlet to Function – A Beginners' Guide to PowerShell

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Mike Nelson

Solutions Architect

Microsoft MVP, Azure Advisor, VMware vExpert, Citrix CTA

@nelmedia

mike@mikenelson.io



Get-Content

- PowerShell Basics
- Functions & More
- The Demo
 - Creating a script
 - Your first Function
 - Morphing into a Module

HOW IT STARTED

Jeffrey Snover, Bruce Payette, &
James Truher

Project Monad in 2002

Monad Manifesto (2002)



Snover Quotes

"This is rock science, not rocket science."

"I took a demotion to create PowerShell."

"PowerShell is a such a great product
because I am a deeply flawed human being."



The Debate?

Is PowerShell considered a programming language?



Jim Moyle @JimMoyle

Mar 3

Replying to @nelmedia @adbertram

It's just another way to access the dotnet API, use and or abuse at your convenience.



Joe Gasper

Mar 3

Replying to @nelmedia @adbertram

Narrator: Javascript was last seen on its way to a therapist.

 1



Adam the Automator @adber... Mar 3

Mar 3

Replying to [@ryanyates1990](#) [@nelmedia](#)

I always enjoy a good debate whether or not it makes any sense. I classify this along the same lines as tabs v spaces or brace on the same line arguments.

1



VERSIONS



5.1



~~Core~~

PowerShell 7



Coming
Jan 2020!

5.1

```
PS C:\Windows\system32> $M=Get-Command * | Measure
PS C:\Windows\system32> $M.Count
2526
PS C:\Windows\system32> $M=Get-Module -ListAvailable | Measure
PS C:\Windows\system32> $M.Count
79
```

6.2.2

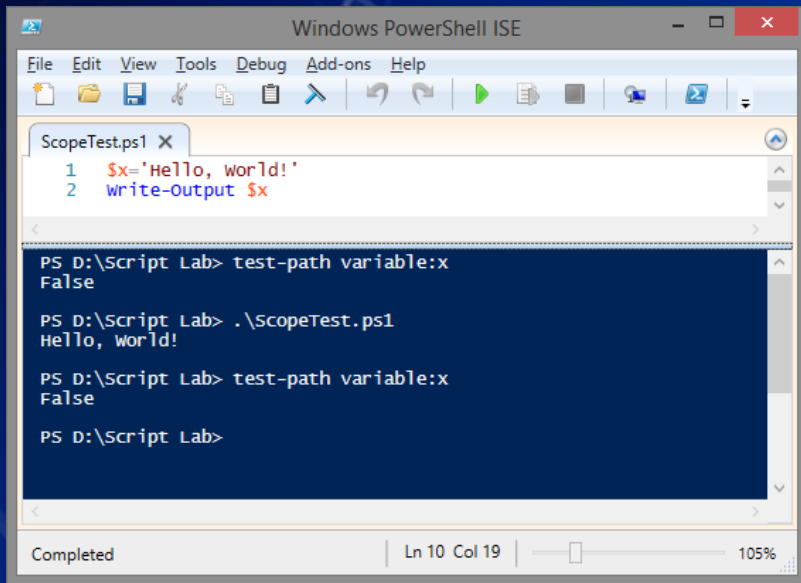
July 2019

```
PS C:\Program Files\PowerShell\6> $M=Get-Command * | Measure
PS C:\Program Files\PowerShell\6> $M.Count
2606
PS C:\Program Files\PowerShell\6> $M=Get-Module -ListAvailable | Measure
PS C:\Program Files\PowerShell\6> $M.Count
66
```

7.0p6

```
PS C:\Program Files\PowerShell\7-preview> $M=Get-Command * | Measure
PS C:\Program Files\PowerShell\7-preview> $M.Count
10951
PS C:\Program Files\PowerShell\7-preview> $M=Get-Module -ListAvailable | Measure
PS C:\Program Files\PowerShell\7-preview> $M.Count
653
```


EDITORS



Windows PowerShell ISE

File Edit View Tools Debug Add-ons Help

ScopeTest.ps1 X

```
1 $x='Hello, world!'  
2 Write-Output $x
```

PS D:\Script Lab> test-path variable:x
False

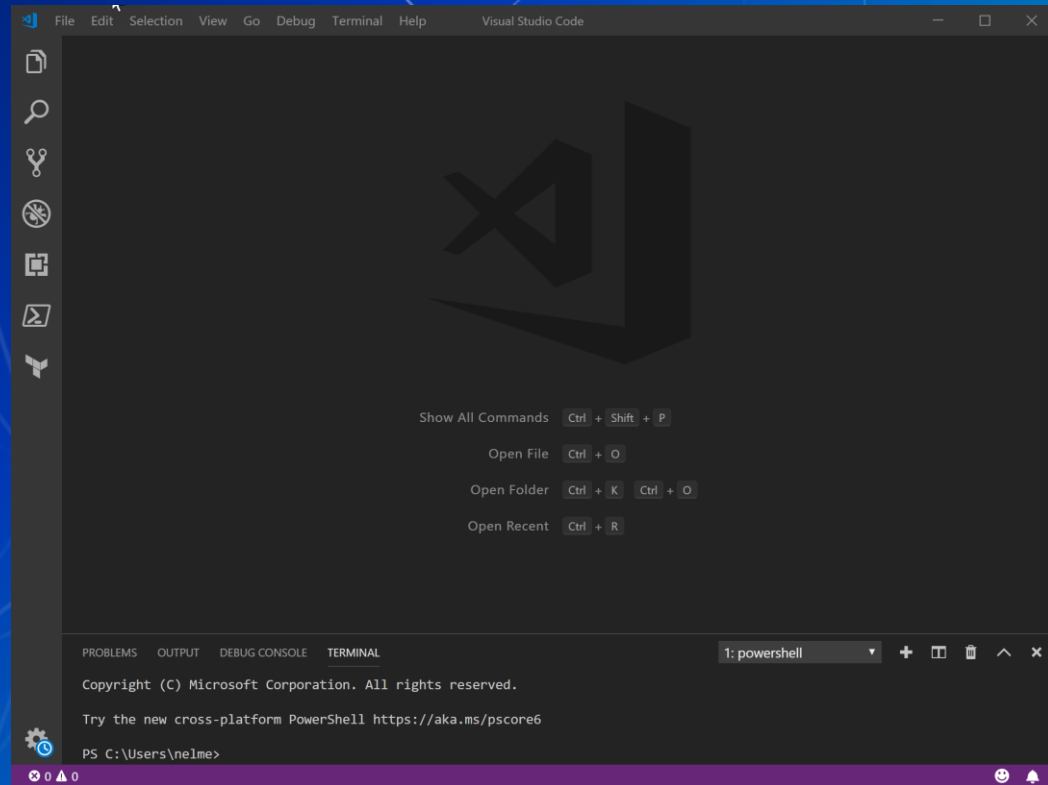
PS D:\Script Lab> .\ScopeTest.ps1
Hello, world!

PS D:\Script Lab> test-path variable:x
False

PS D:\Script Lab>

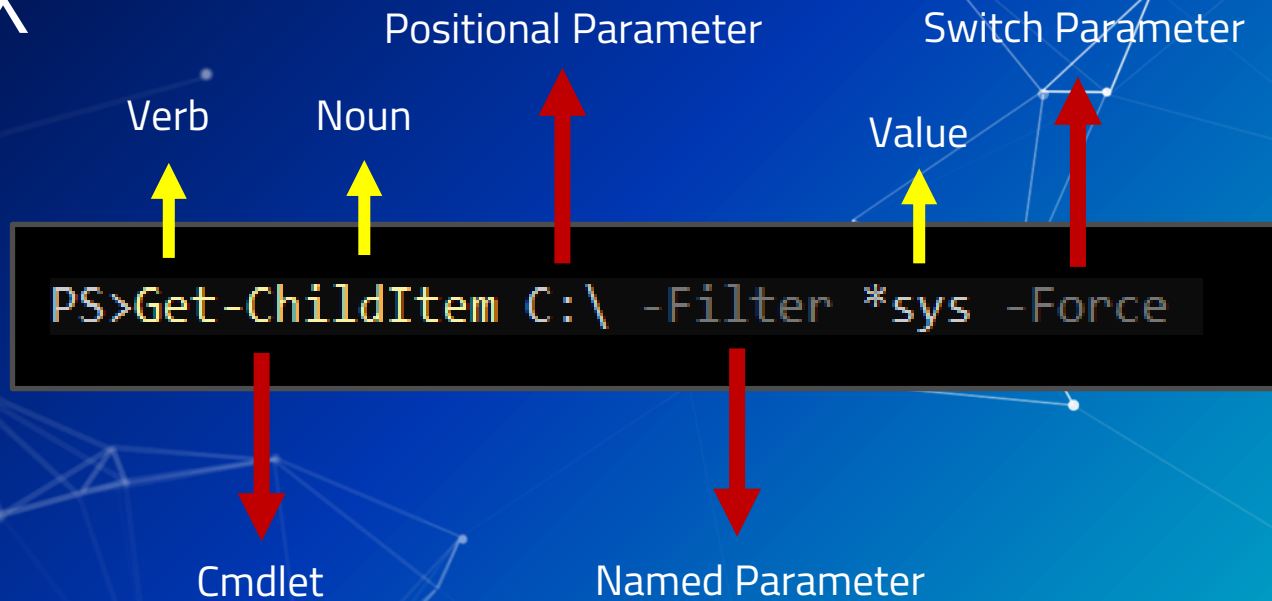
Completed | Ln 10 Col 19 | 105%

ISE



VSCode

SYNTAX



4 CORE CMDLETS TO HELP LEARN

Get-Command

Get-Help

Update-Help

Get-Member

Show-Command

LET'S MAKE IT EASY



PowerShell Gallery

Easy find, install, & update of Modules

Chocolatey

Easy updating of Core (and more)

Github search

Always give credit

//

"Create documented and reusable code, you will."

- PowerShell Yoda

FUNCTION

A list of statements you define

```
function helloworld {  
    Write-Host 'Hello World!'  
}
```

You then simply call the function

Statements then just run like you typed them

Functions can be in scripts, modules, profiles, and
"called" from scripts

MODULE

A package of commands in a .psm1 file

■ *PS>New-Module* is one way

■ 3 kinds

■ Script – **psm1** files that contain any valid PowerShell code

■ Binary – compiled DLL's

■ Dynamic – only available in memory

■ Manifest (optional) – **.psd1** file that describes a module, syntax & requirements, & how it is to be processed

PS>New-ModuleManifest

PS>Test-ModuleManifest

When would you / should you create a module?

PIPELINE

Connecting commands together

- `PS>Get-Process | Out-Host -Verbose`
- Reduce the effort of writing long, complex commands
- Can utilize pipeline variables (`$_` or `$PSItem`)
- Commonly used in "one-liners"

PROFILES

A script that runs when PowerShell starts.

```
Clear-Host  
Write-Output "Hello World! This is my PowerShell profile!"  
  
Import-Module MyModule  
  
Set-Location 'C:\PowerShell\Scripts'  
  
Set-Alias -Name ls -Value Get-ChildItem -Verbose
```

\$profile



Let's Create a Module!

What are we going to do?

- Start by seeing some basics
- Create a script that runs an alarm clock
- Turn that script into a function
- Take that function & create a module

But before we get to that...

THANKS!

Any questions?

You can find me at

■ @nelmedia

■ mike@mikenelson.io

