Welcome to PowerShell Basics

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Radion Barakov - Background

Objectives & Expectations

- Familiarize with PowerShell & its flows
- Fit to read and write simple queries
- Develop interest for further use

Topics

- History
- Core logics
- Language Basics
- Best Practice
- Conditions & Loops
- Summary

History

- PS1.0 - 2006
- PS2.0 - 2009 – Most seen, part of Win7
- PS3.0 - 2012 – ISE & Tab Completion
- PS4.0 - 2013 – DSC
- PS5.0 - 2014 – Package Management
- PS6.0 - 2016 – Core, Cross Platform
- PS7.0 - 2019 – TBD - https://bit.ly/2JEI3Wo

Core Logics

- Verb-Noun
- Verbs are categorised and nouns are descriptive.

  I.e.: Add-Computer
  Install-Module
  Connect-AzureAD
  Block-FileShareAccess
  Test-Connection

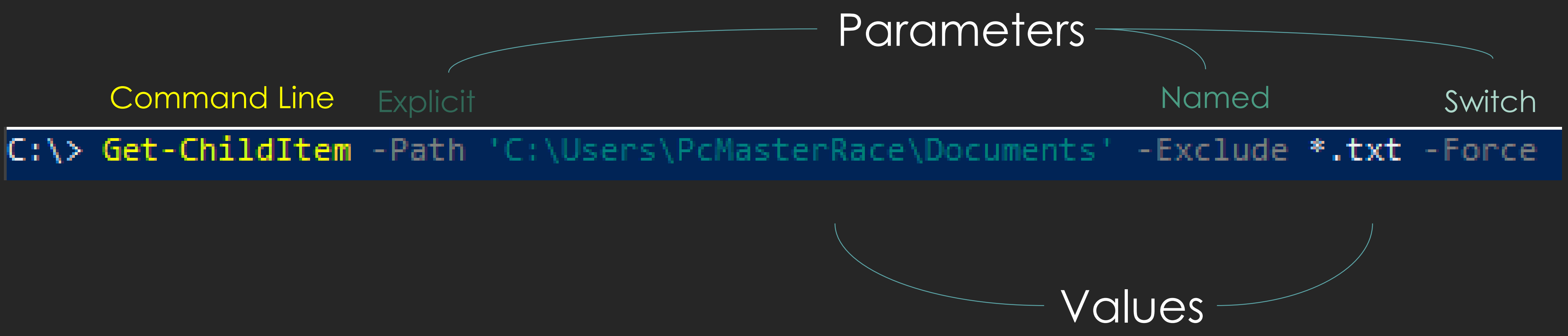
Language Basics

How to start:

- Get-Help – About anything
- Get-Command – Command Specific
- Get-Member – For Objects

Language Basics

- Command line
- Parameters – Explicit, Named, Switch



Parameters

Command Line

Explicit

Named

Switch

```
C:\> Get-ChildItem -Path 'C:\Users\PcMasterRace\Documents' -Exclude *.txt -Force
```

Values

Language Basics

Cmdlets:

- PowerShell built-in (Core)
- Easily found with the help commands
- Command description & Examples

Language Basics

Modules:

- Integrated with existing Cmdlets
- Do not always follow the standards
- Output modification

Language Basics

Functions:

- Cmdlet like
- Customisable Parameters
- Can contain personalised Variables etc.

Language Basics

Objects:

- Output of a Cmdlet
- Structured Data
- Contains properties
- Can be manually created
- Easily convertible & sorted

Language Basics

Properties & Methods:

- Object Attributes (Characteristics)
- Property – Information
- Method – Action

Language Basics

Variables:

- Storing Objects & Values
- Fine-graining
- Types: Manual – Auto – Preference

Language Basics

Aliases:

- Customisable
- Understandable
- Built-in Aliases

Language Basics

Pipelines:

- Output Transfer
- Object Transfer
- Output Modification

Language Basics

Arrays:

- Collection of items
- Contains all types
- Expandable

Language Basics

Hash Tables:

- Key = Value
- Value can be anything
- Not ordered (Unless [Ordered])
- Convertible to Custom Objects

Conditions & Loops

ForEach:

- Variable assignment
- No Pipeline support
- Refinable (If,Else,Elseif - conditions)

Conditions & Loops

ForEach-Object:

- Different than ForEach
- ScriptBlock
- Preferred with Arrays, (I/O pipeline)

Conditions & Loops

Until. While - Do:

- Time conditions
- Script pausing
- Used when waiting for something to start

Best Practice

Hands-on:

- PowerShell Profile
- Modules
- Repositories

Best Practice

- Nalias – NO ALIAS!
- Filter | Format
- $DefaultParameters = $DEF:Parameters
- #Comment

#[1 minute writing] > [3 minutes figuring] x [X amount]

- Remember-Rule (Verb-Noun)
- Readable?

Summary

Key points:

- PowerShell is Object Oriented
- Starting PowerShell 6 it works on all Platforms
- Benefitial for lazy people

Summary

Q&A