PowerShell best practices

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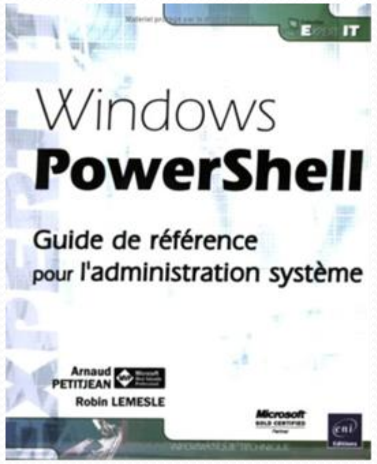
- Founder of Start-Scripting (https://start-scripting.io)

Arnaud Petitjean - Books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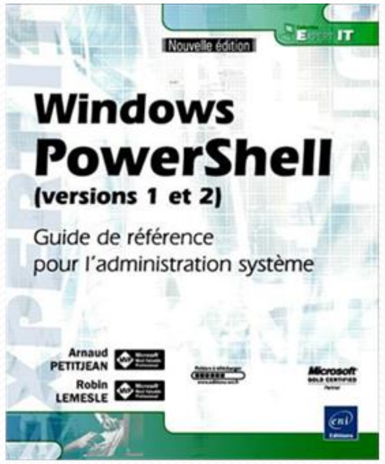
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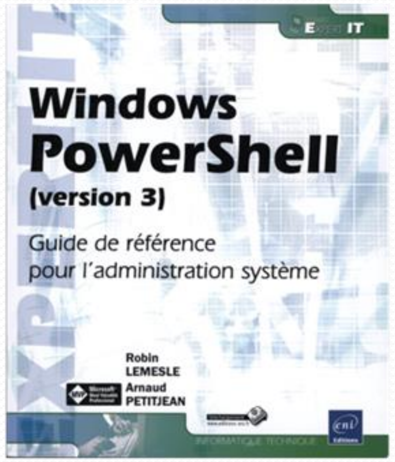
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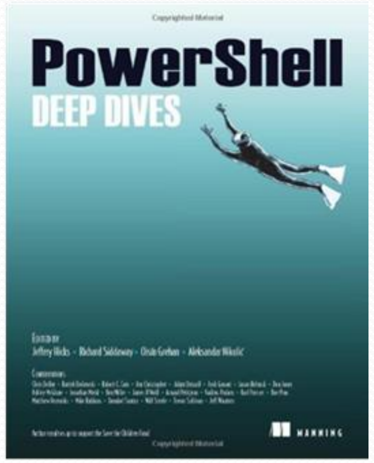
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Les fondamentaux du langage

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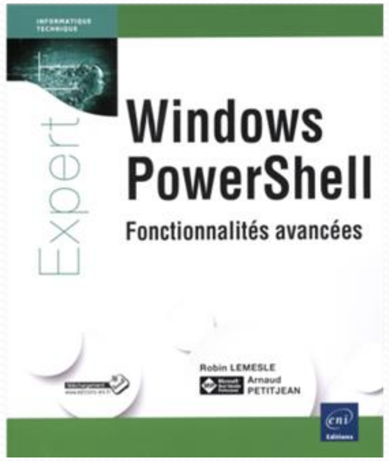
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Fonctionnalités avancées

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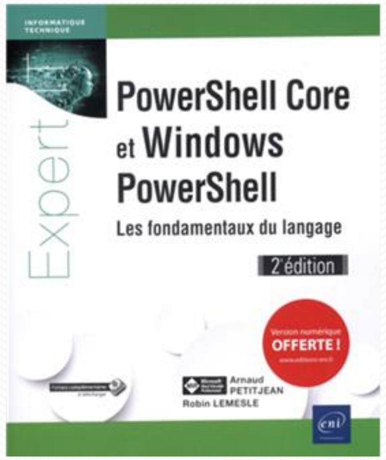
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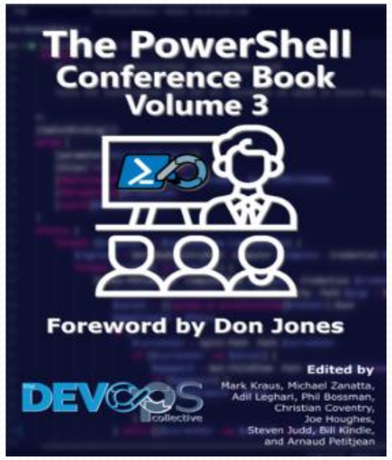

The PowerShell Conference Book Volume 3

Foreword by Don Jones

Edited by Mark Kraus, Michael Zanatta, Adil Leghari, Phil Bossman, Christian Coventry, Joe Houghes, Steven Judd, Bill Kindle, and Arnaud Petitjean

DEVOPS collective

Best practices

- Initialize variables before using them
- Use **`Set-StrictMode`**
- Give a type to each of your parameters
- Do not accept passwords in clear text, but support the **`PSCredential`** type
- Do not store passwords in a script
- Do not use the **`Invoke-Expression`** command
- Indent your code
- Comment code

Best practices

- Give variables clear names (in English)
- A variable must never change his type during its lifetime
- Make use of advanced functions
- Never code function input data validation yourself
- Make parameters mandatory and set default values
- Add help to your functions (structured comments at least)
- Create modules and version them
- Only use approved verbs

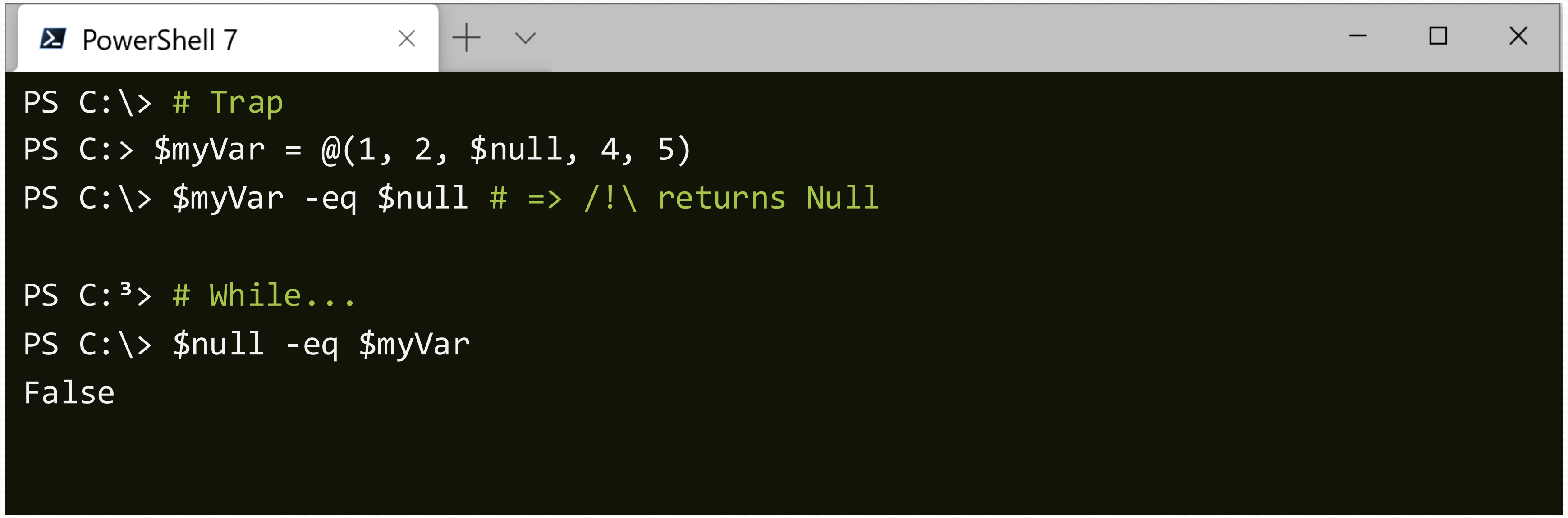
Best practices

- Use `Write-Verbose`, `Write-Debug`, and `Write-Error`
- Use single quotes if double quotes are not needed
- Give understandable names to parameters (without using plurals)
- Use the `#Requires` directive

Best practices

- Managing errors
- Test, test and test the code! TESTING can be a valuable ally
- Developing in TDD mode
- Do not use `Write-Host`
- Never use aliases in scripts
- Naming parameters when using them
- Compare $null -eq $myVariable rather than the other way round

Test the nullity of a variable



```
PS C:\> # Trap
PS C:> $myVar = @(1, 2, $null, 4, 5)
PS C:\> $myVar -eq $null # => /!\ returns Null

PS C:³> # While...
PS C:\> $null -eq $myVar
False
```

PowerShell Script Analyzer

PSScriptAnalyzer module

- Module designed to help improve code quality
- Can analyze DSC scripts, modules and resources
- Based on a set of predefined rules
- Rules based on best practices identified by Microsoft and the PowerShell community
- Generates a result object (errors and warnings) and points out potential improvements and problems
- Types of feedback: uninitialized variables, plaintext passwords, Invoke-Expression, etc.

PSScriptAnalyzer module

- Installation:

```
Install-Module -Name PSScriptAnalyzer
```

- How to use :
  - **`Get-ScriptAnalyzerRule`**: List rules
  - **`Invoke-ScriptAnalyzer`**: Launches analysis

https://github.com/PowerShell/PSScriptAnalyzer