PowerShell Fundamentals

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Module 2 – Variables and objects

- Create variables
- Object types
- Accessing methods and properties of an object
- Create objects as a specific type
- Work with strings in PowerShell
- Create arrays and hash tables
- Create custom objects

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Define a variable in PowerShell

- Using the '$Variable = …' notation
- Using the –Variable cmdlets
- Using Tee-Object

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Demo Define a variable

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Object types in PowerShell

- Each value displayed in the console or stored in a variable has an object type
- Get-Member can be used to reveal the object
- Examples of object types:
  - String / Integer / Boolean / Array
  - File / Folder / Registry entry / ACL

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Demo Create a specific type

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Objects in PowerShells

- Each object has set of properties & methods
- These can be discovered by using Get-Member

Properties and methods

- It is possible for a property to have multiple sub properties
- Methods are called using () notation
- To discover the possible arguments for a method try to access with brackets

Demo Access properties&methods

Set an object as a specific type

- PowerShell will determine which type
- Use special notation @() '' $() to indicate type
- Cast the value or variable as a certain type
- Use the –as operator to cast a type

Demo PowerShell Object Type

Strings in PowerShell

- Four different types:
- Expanding strings
  - “”
  - @” …. “@
- Literal strings
  - ‘’
  - @’ …. ‘@

Expanding strings

Displays contents of variables / statement

Useful if variables are included in a string

Literal strings

- Special characters do not have to be escaped

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Demo Working with Strings

Arrays in PowerShell

- Arrays are a collection of objects
- An array can contain any type of object
- PowerShell arrays can be appended to

Hash Tables

- Key-Value pairs
- Value can contain any type of object
- Unstructured, a hash table is not ordered
- Useful for fast lookup
- Can be used to create PSCustomObject

Demo Create an array&hash table

PowerShell Custom Object

- Structured object
- Can be easily created with properties of choice
- Can be converted to any type of output

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Demo Create Custom Object