

Using Objects in the Pipeline



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PowerShell is an interactive management tool that leverages objects in a pipeline.



Objects in the Pipeline



Traditional management and scripting tools are text based

Manipulate and parse text for results

PowerShell originally designed to manage Windows via .NET

PowerShell 7.x runs on .NET Core

It is all about the objects



PowerShell commands create and consume objects

They are passed to the next command in the pipeline

Objects might change in the pipeline

At the end of the pipeline, PowerShell displays whatever is left





An object is a software representation of the *thing* you want to manage

It is a way to describe via *Properties*

- Color
- Count

Some objects can take action or be acted upon via *Methods*

- Peel
- Chop

You typically use cmdlets and not the objects directly



```
PS C:\>
```

PowerShell Commands and Objects

Everything in PowerShell is some type of an object



```
PS C:\> Get-Service -Name bits
```

PowerShell Commands and Objects

Everything in PowerShell is some type of an object

Parameter values



```
PS C:\> Get-Service -Name bits
```

Status	Name	DisplayName
-----	----	-----
Running	bits	Background Intelligent Transfer Servi...

PowerShell Commands and Objects

Everything in PowerShell is some type of an object

Parameter values

Command output



Common Types

String

Int

DateTime

Boolean





View objects with Get-Member

- Has an alias of gm

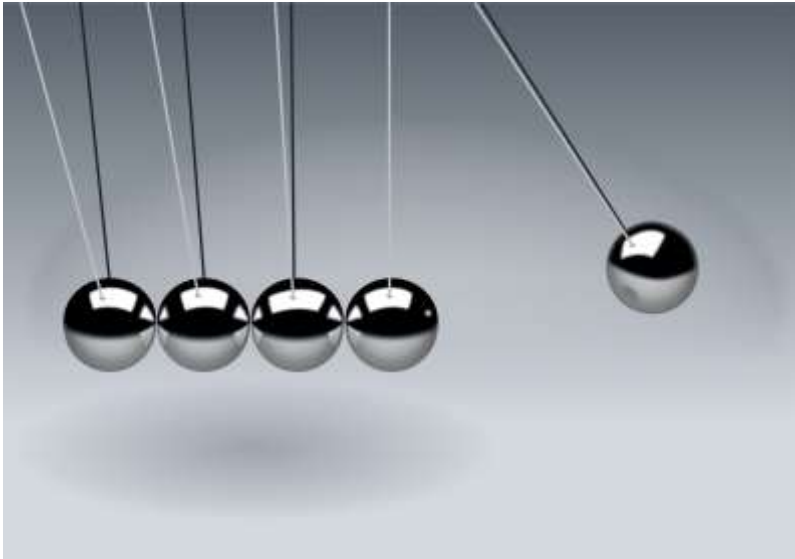
Don't assume what you see on the screen is all there is

You can use any property you discover with Get-Member

Not getting the result you expect?

Pipe your command to Get-Member





PowerShell commands write objects to the pipeline

- Although this isn't a requirement
- -PassThru

Some commands can consume objects

- Use the entire object
- Use a property value

Think “Manage at Scale”

```
PS C:\> Get-Service bits,spooler
```

Pipeline Expression

Get bits and spooler services



```
PS C:\> Get-Service bits,spooler |
```

Pipeline Expression

Get bits and spooler services

Send them to another command in the pipeline



```
PS C:\> Get-Service bits,spooler | Set-Service -startuptype manual
```

Pipeline Expression

Get bits and spooler services

Send them to another command in the pipeline

Do an action on the service objects



```
PS C:\> Get-Service bits,spooler | Set-Service -startuptype manual
```

```
PS C:\>
```

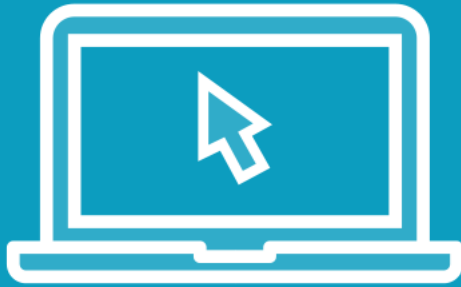
Pipeline Expression

If no other commands, the pipeline finishes

PowerShell will write remaining objects to the console – if any.



Demo



Objects in the Pipeline

