Microsoft

WorkshopPLUS - Windows PowerShell: Foundation Skills

Microsoft Services

Microsoft

PowerShell Built-In Help System

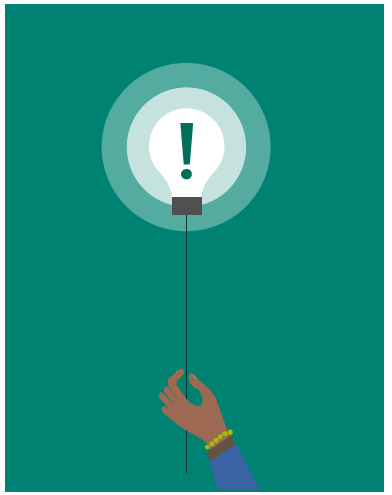
Microsoft Services

Using the PowerShell Help System

Objectives

After completing Using the PowerShell Help System, you will be able to:

- Understand how the help system works
- Update help files



Get help using Get-Help

PowerShell get-help

- PowerShell has a building help system via command “Get-Help”

- PowerShell help per concept: (About_)
  - https://docs.microsoft.com/en-us/powershell/module/microsoft.powershell.core/about/

Help for Cmdlets – Default Short View

```
PS C:\> Get-Help Get-ChildItem
#or
PS C:\> Get-ChildItem -?

NAME
    Get-ChildItem
SYNOPSIS
    Gets the files and folders in a file system drive.
SYNTAX
    Get-ChildItem [[-Path] <String[]>] [[-Filter] <String>]...
...
DESCRIPTION
    The Get-ChildItem cmdlet gets the items in one or more...
...
RELATED LINKS
    Online version: http://technet.microsoft.com/library/h...
...
REMARKS
    To see the examples, type: "get-help Get-ChildItem ...
...
```

Help for Cmdlets – Parameters

Parameter	What you Get	Example
<None Specified>	Command Name, Synopsis, Syntax, Description, Related Links, Remarks	`PS C:\> Get-Help Get-ChildItem`
-Examples	Name, Synopsis, Examples	`PS C:\> Get-Help Get-ChildItem -Examples`
-Detailed	Name, Synopsis, Parameters, Examples	`PS C:\> Get-Help Get-ChildItem -Detailed`
-Full	Name, Synopsis, Syntax, Description, Parameters, Inputs, Outputs, Notes, Remarks, Examples, Related Links	`PS C:\> Get-Help Get-ChildItem -Full`

Help for Cmdlets – Parameters

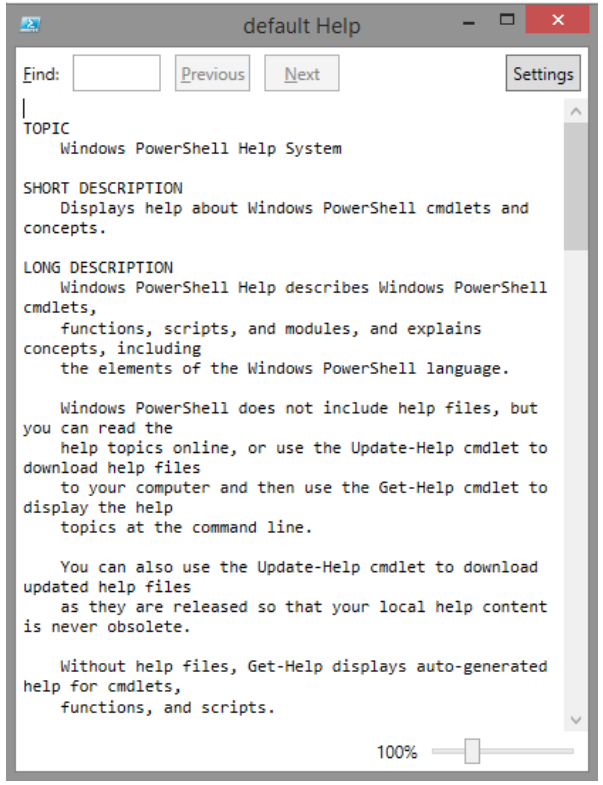
Parameter	What you Get	Example
-Parameter <Names>	Parameters Specified Only	`PS C:\> Get-Help Get-ChildItem -Parameter Filter`
-Path <Path>	Cmdlet help relative to a Path	`PS C:\> Get-Help Get-ChildItem -Path C:\`
-Online	Displays online help in Internet Browser.	`PS C:\> Get-Help Get-ChildItem -Online`
-ShowWindow	Shows help in an external Window in –Full mode.	`PS C:\> Get-Help Get-ChildItem -ShowWindow`

Help for Specified Cmdlet Parameter(s)

```
PS C:\> Get-Help Get-Counter -Parameter Counter

 -Counter <String[]>
  Gets data from the specified performance counters. Enter one
  or more
  ...

  Each counter path has the following format:

  "[\\<ComputerName>]\<CounterSet>(<Instance>)\<CounterName>"

  ...
  Required?                    false
  Position?                    1
  Default value
  Accept pipeline input?       true (ByValue, ByPropertyName)
  Accept wildcard characters?  True
```

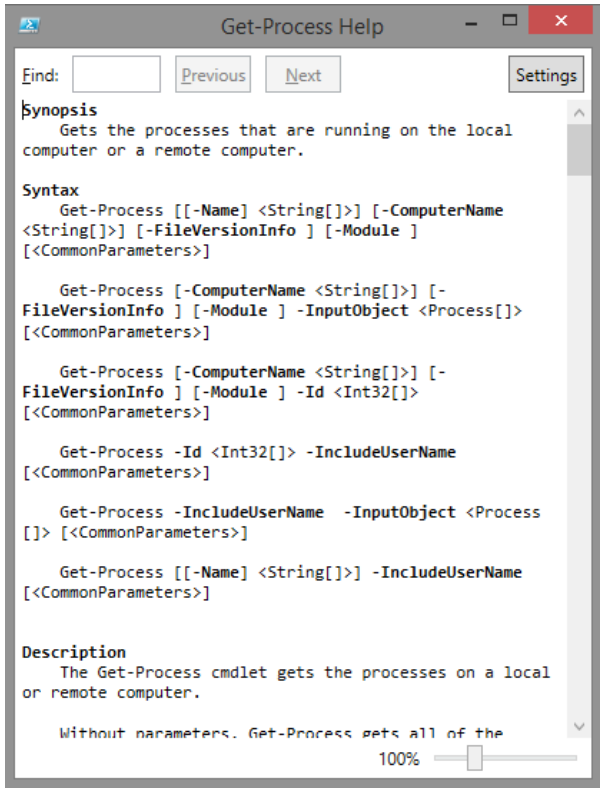
Get-Help -ShowWindow

Display Help in floating window



PowerShell Help Window

```
PS C:\> Get-Help -ShowWindow
```



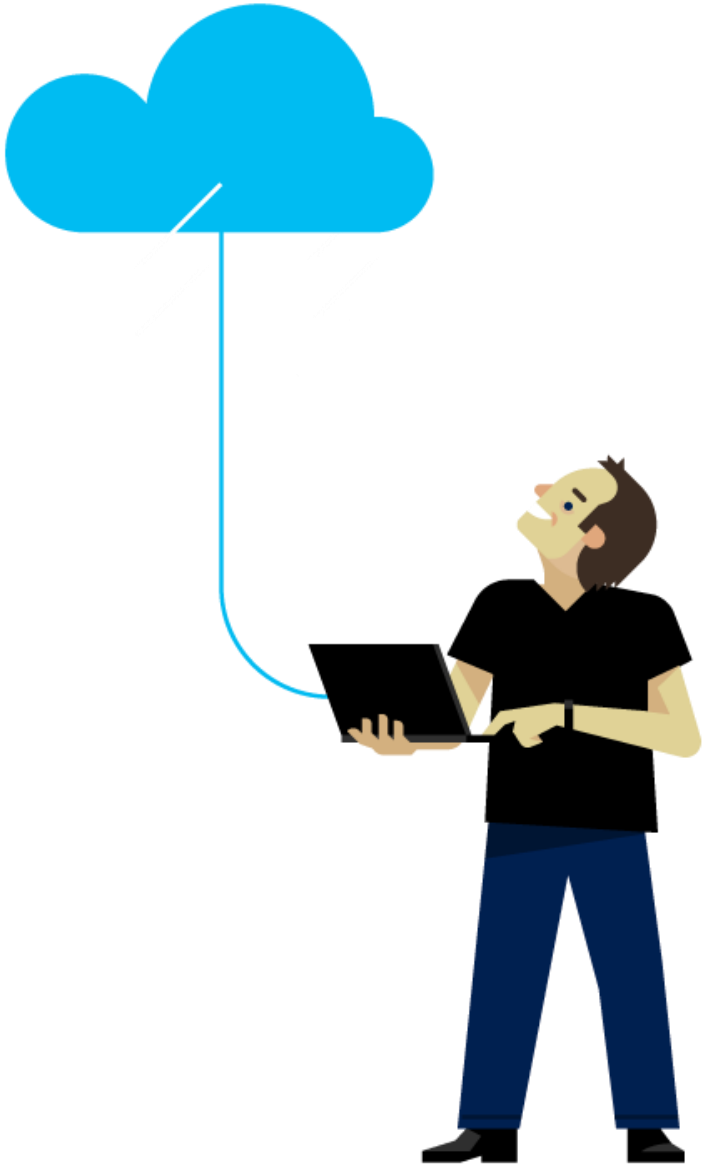
Cmdlet-specific Help Window

```
PS C:\> Get-Help Get-Process -ShowWindow
```

Demonstration

Help About General Topics

Questions?



Getting help for PowerShell concepts

PowerShell Concept Help

- PowerShell Concept help is available in Shell and ISE
- Concept help is also documented on MS docs
- All topics start with About_

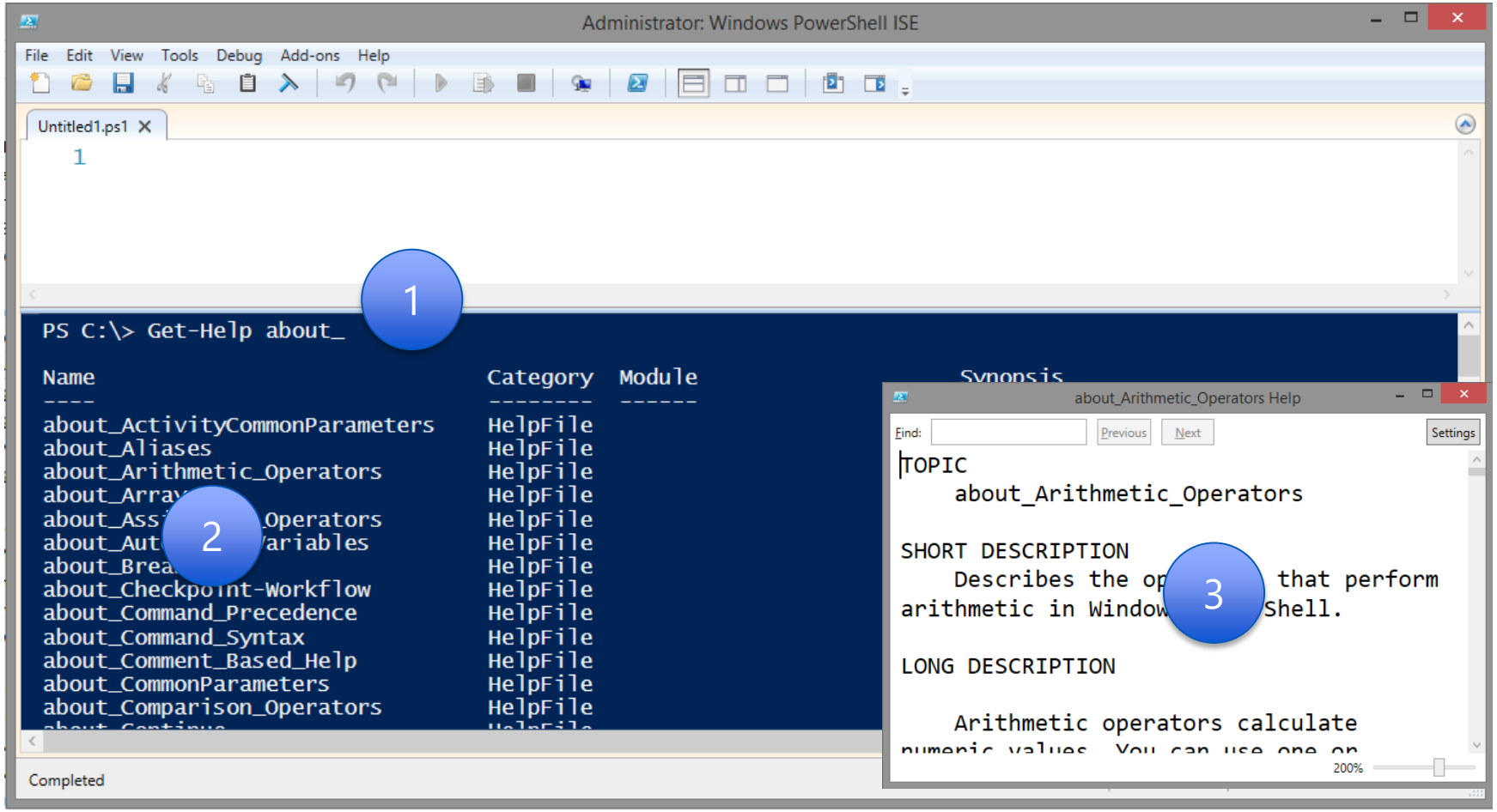
Concept Help in the Console

Conceptual help topic names start with “about_”

```
PS C:\> Get-Help about_

Name                              Category Module Synopsis
----                              -------- ------ --------
about_Aliases                     HelpFile        Describes how to...
about_Arithmetic_Operators HelpFile        Describes the op...
about_Arrays                      HelpFile        Describes arrays...
about_Assignment_Operators HelpFile        Describes how tp...
about_Automatic_Variables  HelpFile        Describes variab...
...
```

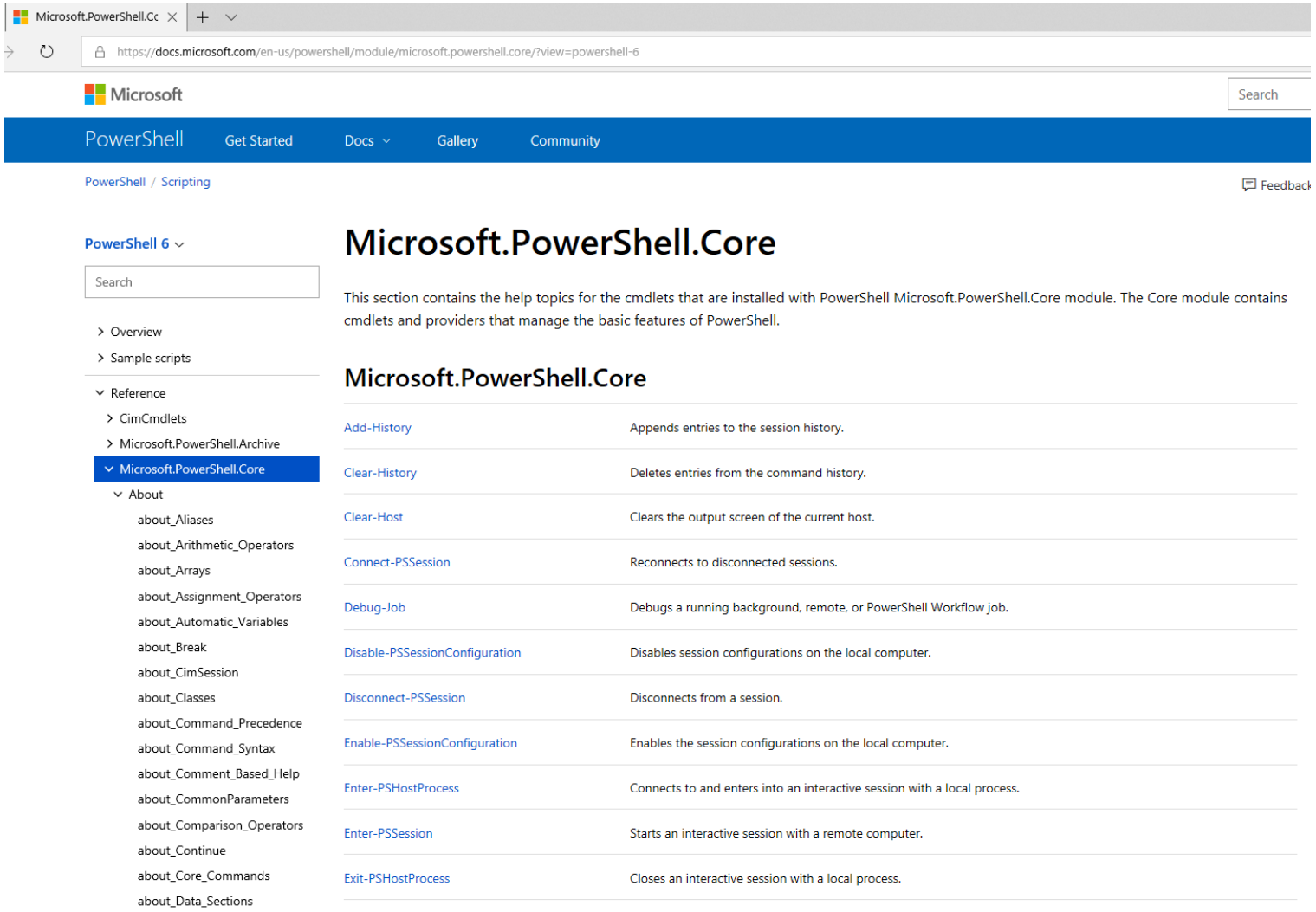
Concept Help in the ISE

1. Type Get-Help about_ in the console pane
2. Click on an item in the result set
3. Press F1



About Help on Microsoft Docs

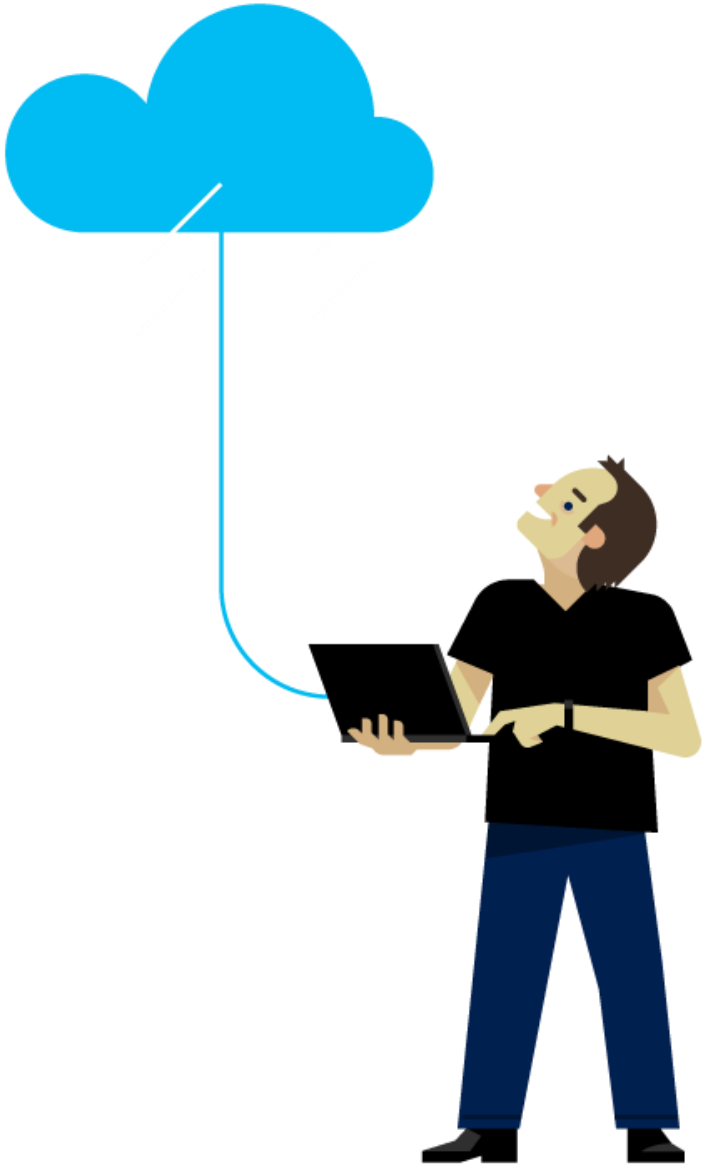
https://docs.microsoft.com/en-us/powershell/



Demonstration

Get-Help

Questions?



Updatable Help

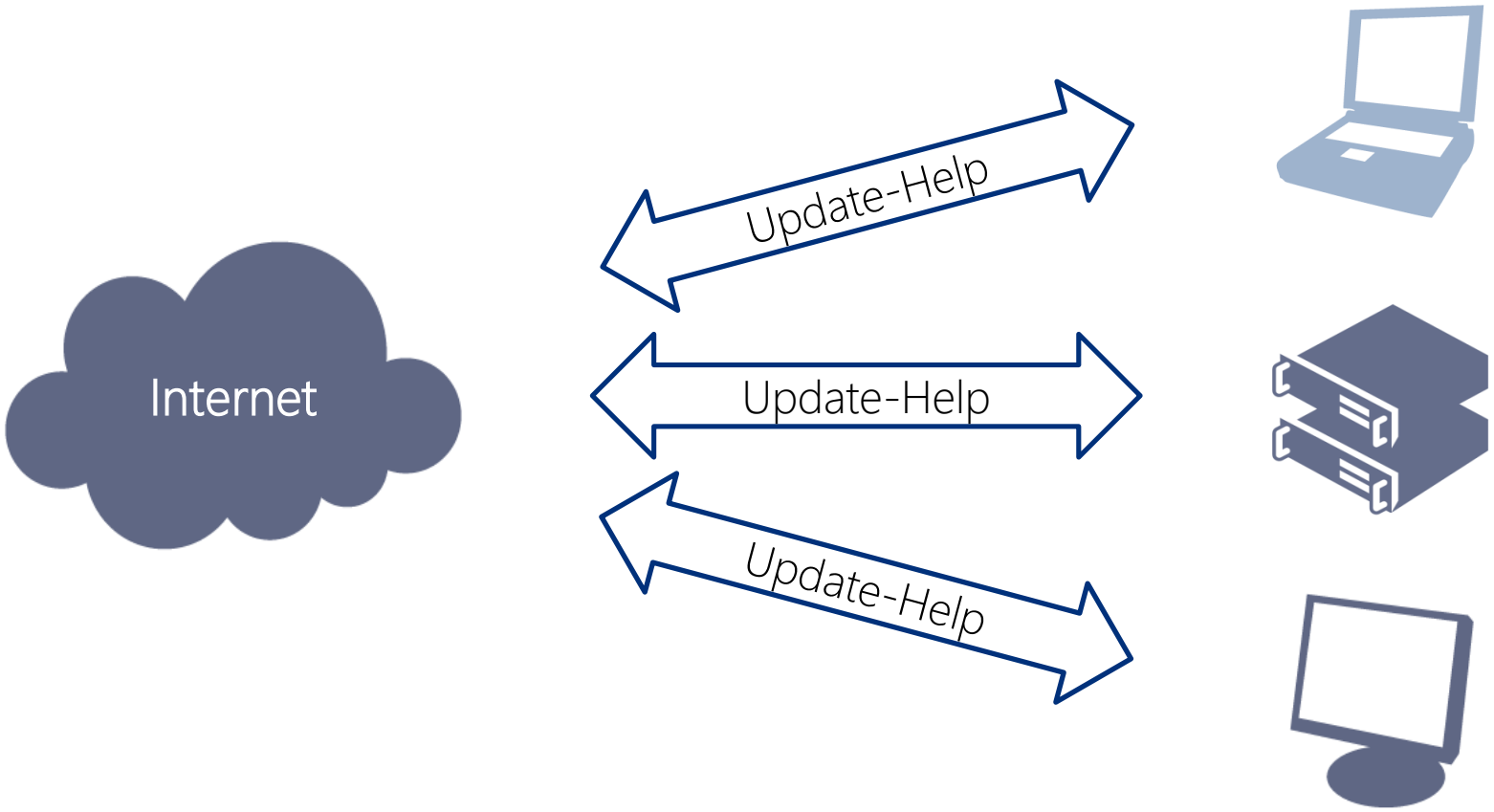
Updatable Help

- Help contents not shipped with v3.0+

- Help topics must be downloaded before they can be used locally
  - Update-Help (pulls from direct Internet access or offline copies)
  - Save-Help (allows help to be re-distributed)

- Help is updated per Module:
  - Help readily updated by authors
  - No need to ship updates with Service Packs or new module download
  - Module authors designate URL for help download in module manifest
  - Module author provides web site URL targets

Update-Help Diagram (Internet Connected)



Updatable Help – With Internet Access

- Automatically downloads Help content for Cmdlets and modules in current session (including discoverable modules)
- Only downloads updated help topics
- For system modules, administrative elevation required
  - Run PS window as admin, then run update-help
- Only updates Help once per day even if run multiple times
  - -Force can be used to update each time
- HelpinfoURI property of modules indicates URL for download

Updatable Help – No Internet Access

- Save-Help cmdlet saves help files locally for later use:
  - On computer with Internet Access:

```
PS C:\> Save-Help -DestinationPath \\SomeServer\SomeShare
```

  - On computers without Internet Access (no GPO source path):

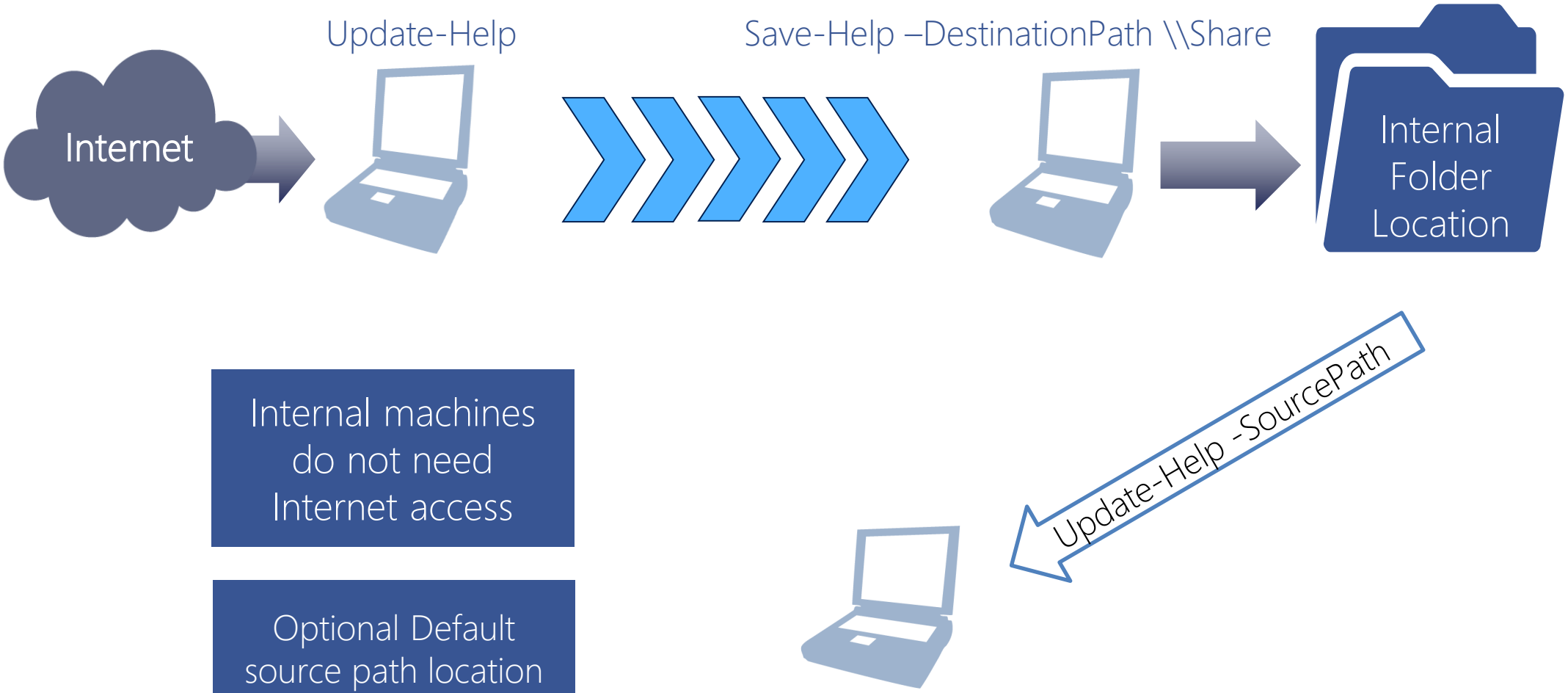
```
PS C:\> Update-Help -SourcePath \\SomeServer\SomeShare
```

  - On computers without Internet Access (with GPO source path):

```
PS C:\> Update-Help
```

GPO Setting:
- Computer > Policies > Administrative Templates > Windows Components > Windows PowerShell
- Enable "Set the default source path for Update-Help."

Update-Help Diagram



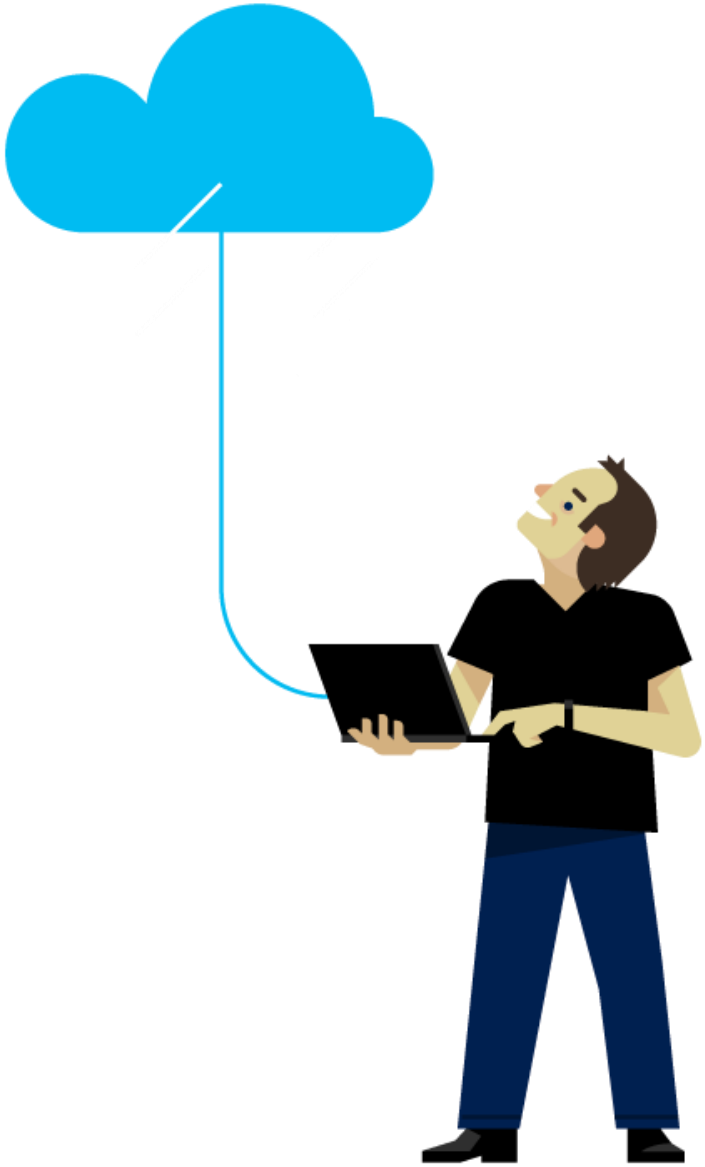
Internal machines do not need Internet access

Optional Default source path location GPO Setting

Updatable Help – Modules

- Update-Help can be targeted at individual modules
- Update-Help –Module ModuleName
- Update-Help –Module *
- Get-Module ActiveDirectory | Update-Help

Questions?



Comment-based help topics for functions and scripts

Comment Based Help

- Used by the help system to create output of get-help
- Other people should be able to understand what your code does
- Every script / function you share should have help

Function/Script Comment-Based Help

Special help comment keywords can be used to write Get-Help topics for functions and scripts

Syntax

```
# .< help keyword>
# <help content>

    -or -

<#
    .< help keyword>
     < help content>
#>
```

Keywords

.SYNOPSIS

.DESCRIPTION

.PARAMETER <parameter name>

.EXAMPLE

.INPUTS

.OUTPUTS

.NOTES

.LINK

.COMPONENT

.ROLE

.FUNCTIONALITY

Function Help - Code

```
function Get-SysLogNN
  {
    <#
     .SYNOPSIS
        Function that returns the most recent system event log entries.
     .DESCRIPTION
        Function that returns the most recent system event log entries.
        The number of items returned is determined by the parameter.
     .PARAMETER  NumberOfEvents
        Number of newest events to return.
     .EXAMPLE
        PS C:\> Get-SysLogNN -Log System -NumberOfEvents 10
     .EXAMPLE
        PS C:\> Get-SysLogNN -Log Application -NumberOfEvents 20
    #>
    Param ($Log, $NumberOfEvents)
    Get-EventLog -LogName $Log -Newest $NumberOfEvents
  }
```

Function Help – Shell Output

```
PS C:\> Get-Help Get-SysLogNN -Full

NAME
    Get-SysLogNN

SYNOPSIS
    Function that returns the most recent system event log entries.

SYNTAX
    Get-SysLogNN [[-Log] <Object>] [[-NumberOfEvents] <Object>]
    [<CommonParameters>]
...
```

Script Help - Code

```
<#
 .SYNOPSIS
    Function that returns the most recent system event log entries.
 .DESCRIPTION
    Function that returns the most recent system event log entries.
    The number of items returned is determined by the parameter.
 .PARAMETER  NumberOfEvents
    Number of newest events to return.
 .EXAMPLE
    PS C:\> Get-SysLogNN -Log System -NumberOfEvents 10
 .EXAMPLE
    PS C:\> Get-SysLogNN -Log Application -NumberOfEvents 20
#>
Param ($Log, $NumberOfEvents)
Get-EventLog -LogName $Log -Newest $NumberOfEvents
```

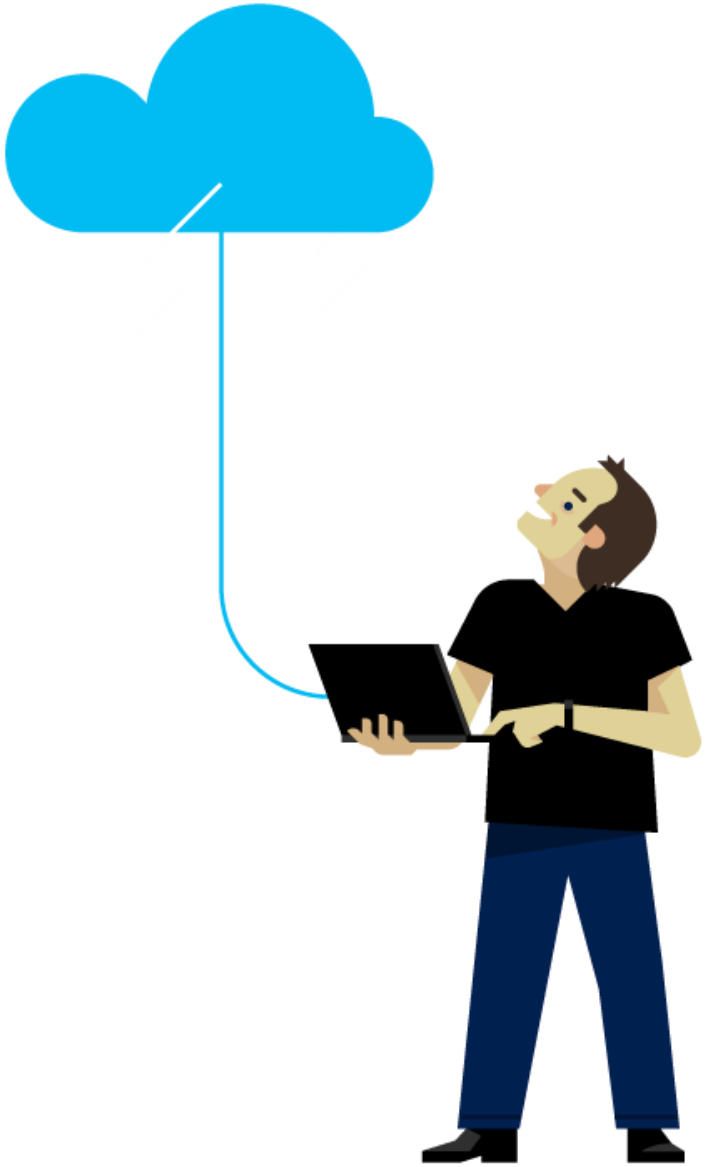
Script Help – Shell Output

```
PS C:\> Get-Help .\ScriptHelpExample.ps1 -Full

NAME
    C:\scripts\ScriptHelpExample.ps1

SYNOPSIS
    Script returns the most recent system event log entries.

SYNTAX
    C:\scripts\ScriptHelpExample.ps1 [[-Log] <Object>] [[-
NumberOfEvents] <Object>] [<CommonParameters>]
...
```

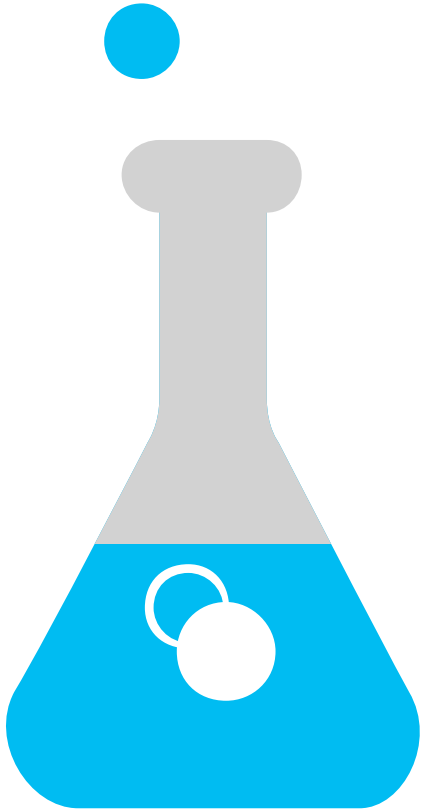
Demonstration

Comment Based Help in Scripts and Functions

Questions?



Using the PowerShell Help System



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