



# WorkshopPLUS - Windows PowerShell: Foundation Skills

Microsoft Services





# PowerShell Built-In Help System

Microsoft Services

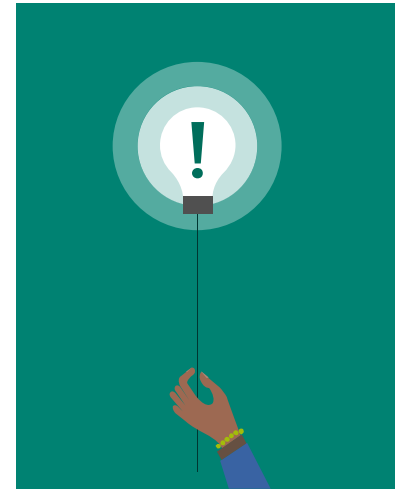


# Using the PowerShell Help System

# 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-He1p Get-Chi1dItem
-Examples	Name, Synopsis, Examples	PS C:\> Get-He1p Get-Chi1dItem -Examplēs
-Detailed	Name, Synopsis, Parameters, Examples	PS C:\> Get-He1p Get-Chi1dItem -Detailēd
-Full	Name, Synopsis, Syntax, Description, Parameters, Inputs, Outputs, Notes, Remarks, Examples, Related Links	PS C:\> Get-He1p Get-Chi1dItem -Full



# Help for Cmdlets – Parameters

Parameter	What you Get	Example
-Parameter <Names>	Parameters Specified Only	PS C:\> Get-He1p Get-Chi1dItem -Parameter Filter
-Path <Path>	Cmdlet help relative to a Path	PS C:\> Get-He1p Get-Chi1dItem -Path C:\
-Online	Displays online help in Internet Browser.	PS C:\> Get-He1p Get-Chi1dItem -Online
-ShowWindow	Shows help in an external Window in –Full mode.	PS C:\> Get-He1p Get-Chi1dItem -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)
------------------------	--------------------------------

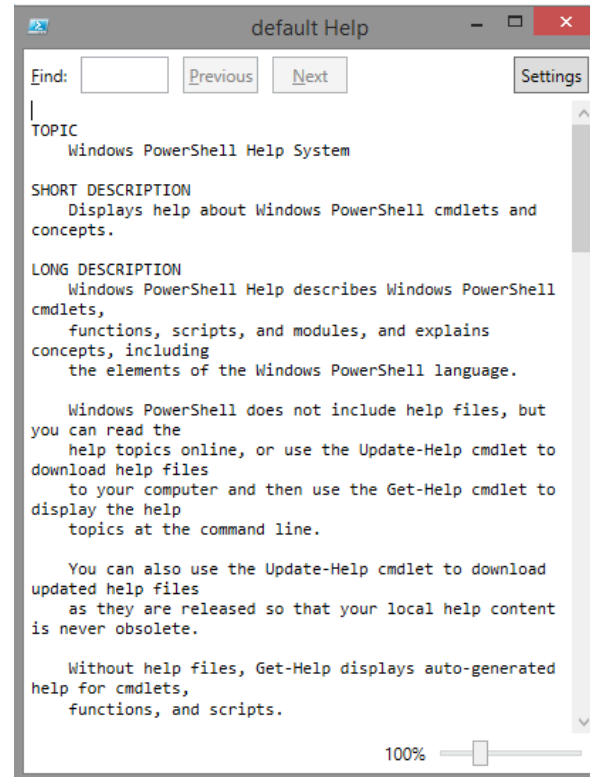
Accept wildcard characters?	True
-----------------------------	------

# Get-Help -ShowWindow

Display Help in floating window

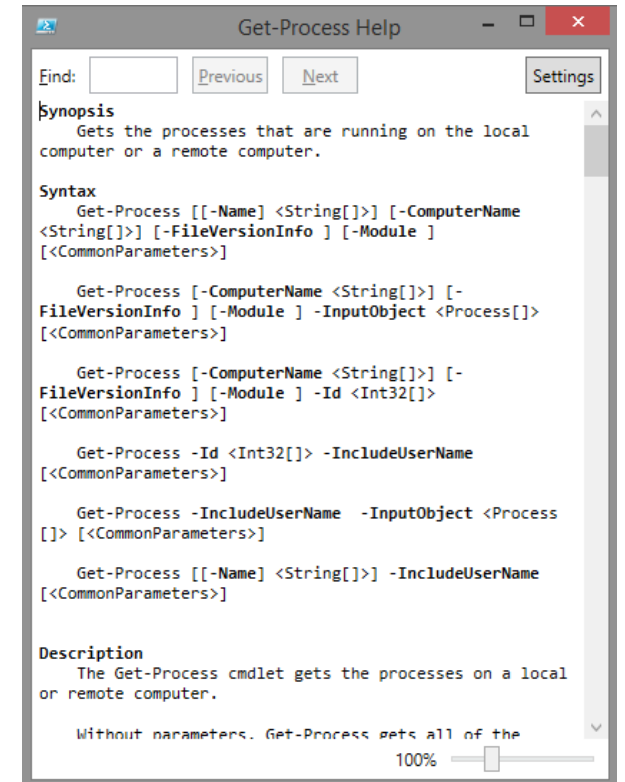
PowerShell Help Window

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



Cmdlet-specific Help Window

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

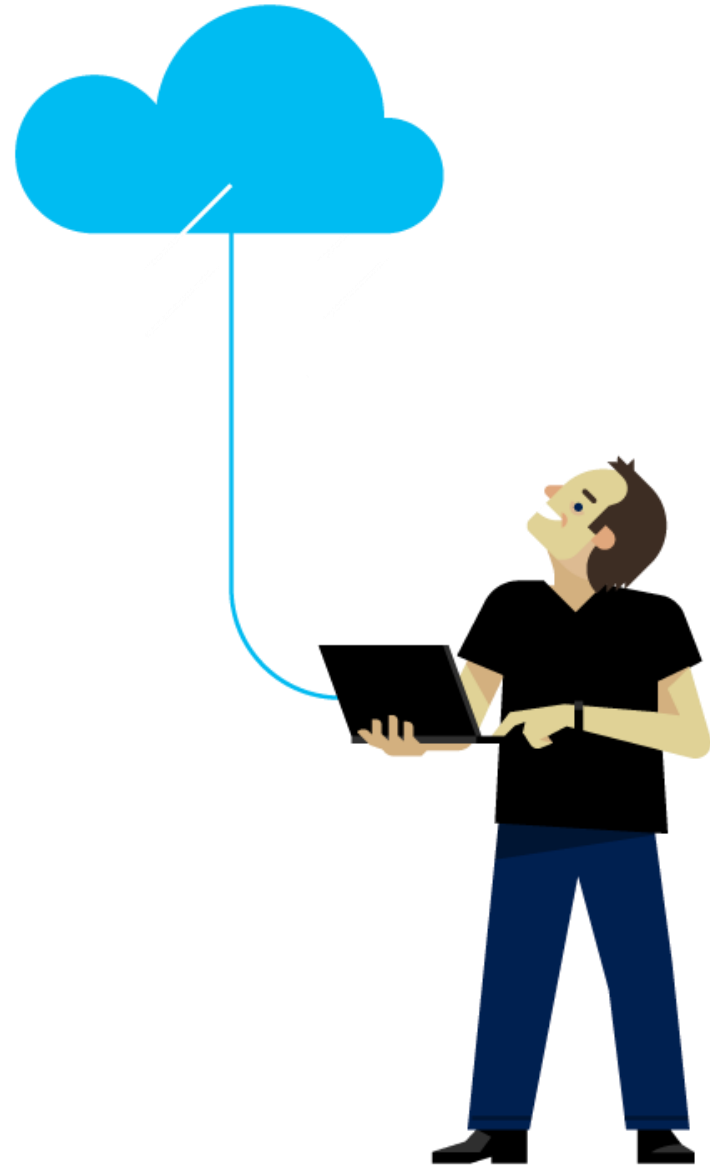


# Demonstration

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

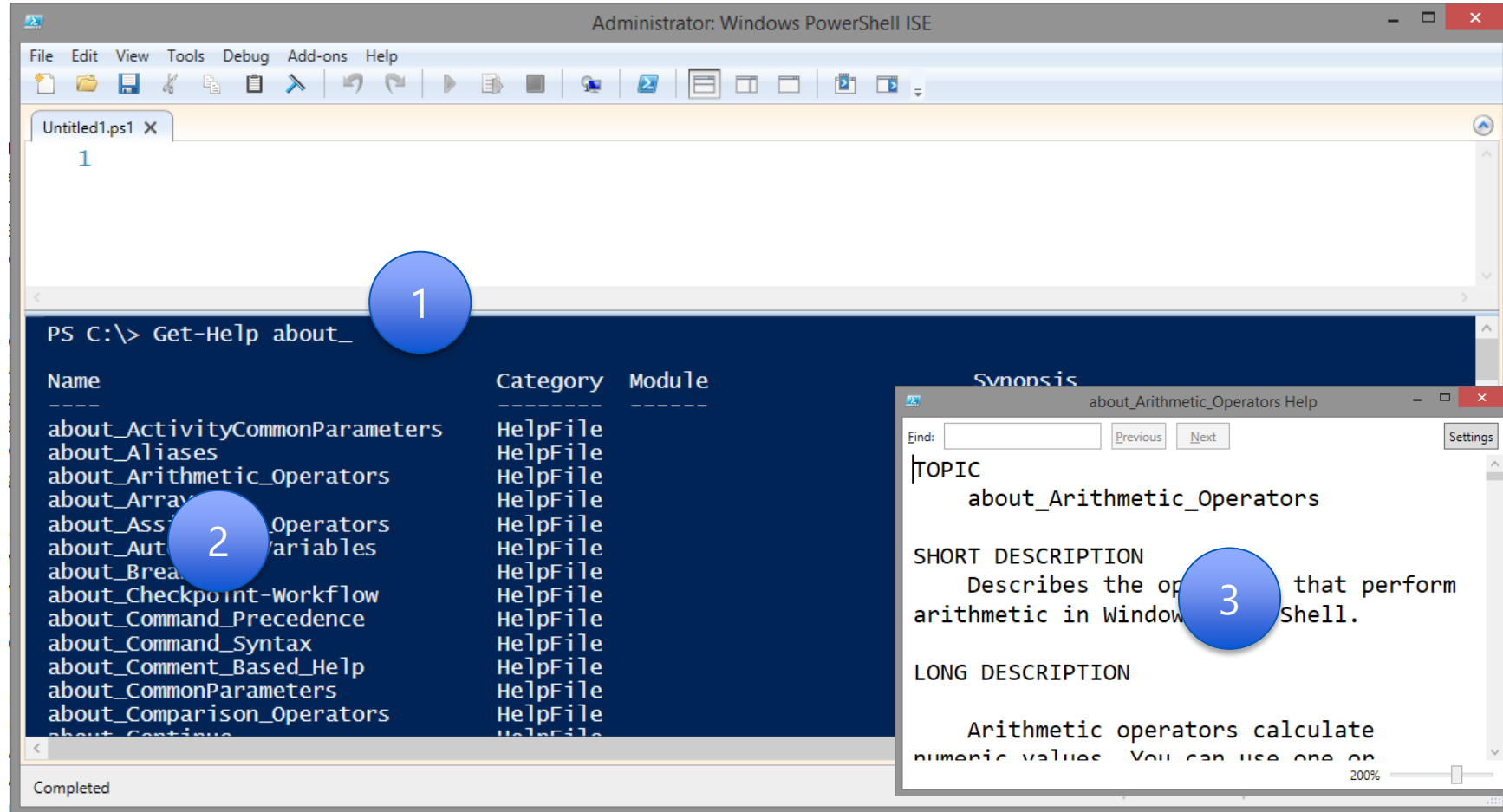
Conceptual help topic names start with "about\_"

```
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...
...			

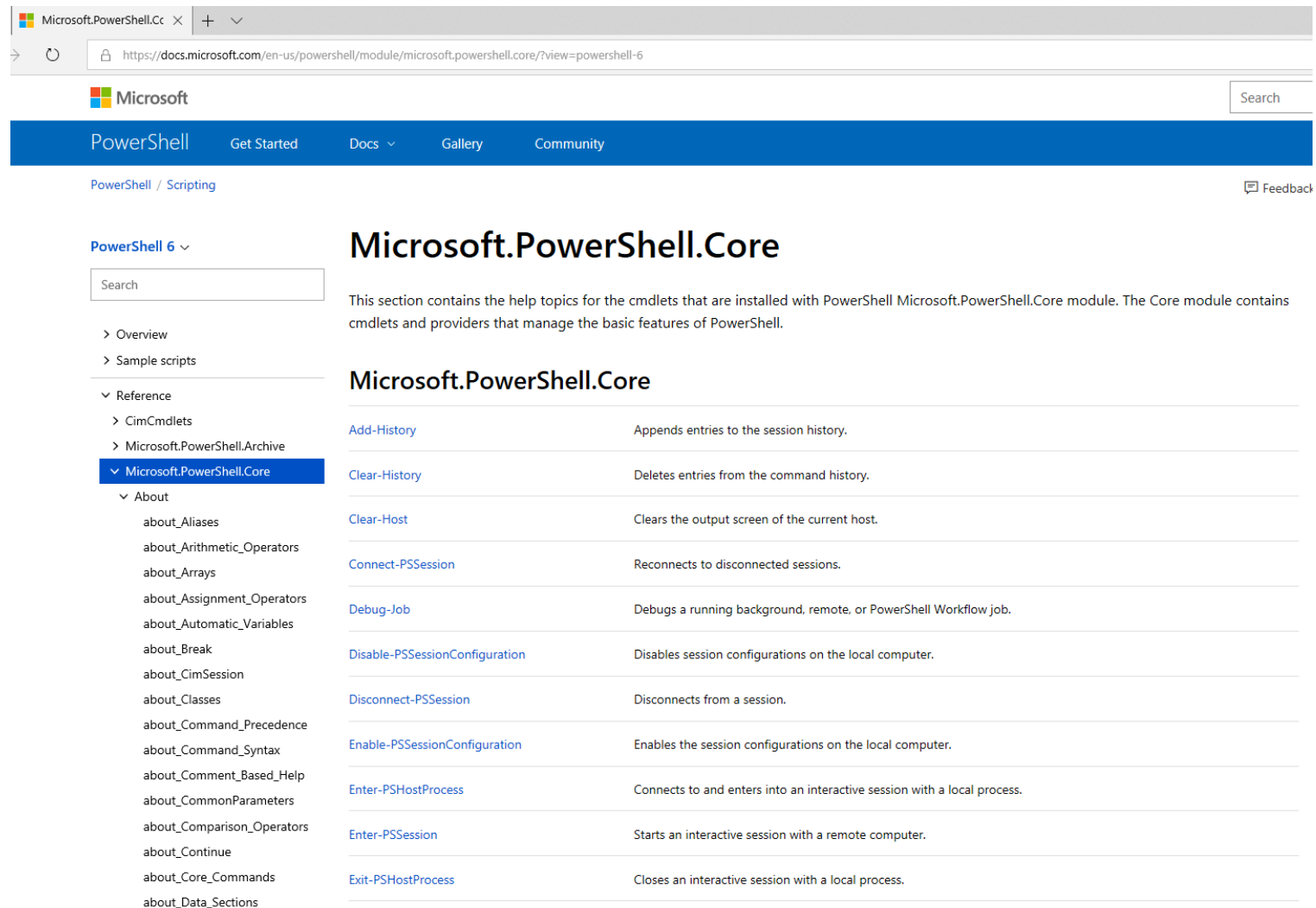
# Concept Help in the ISE

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/>



The screenshot shows the Microsoft Docs website for PowerShell. The browser address bar displays the URL `https://docs.microsoft.com/en-us/powershell/module/microsoft.powershell.core/?view=powershell-6`. The page features a blue navigation bar with the PowerShell logo and links to 'Get Started', 'Docs', 'Gallery', and 'Community'. A search bar is located in the top right corner. The left sidebar contains a 'PowerShell 6' dropdown menu with a search field and a list of topics including Overview, Sample scripts, Reference, CimCmdlets, Microsoft.PowerShell.Archive, and Microsoft.PowerShell.Core. The 'Microsoft.PowerShell.Core' item is selected and highlighted. The main content area is titled 'Microsoft.PowerShell.Core' and includes an introductory paragraph: 'This section contains the help topics for the cmdlets that are installed with PowerShell Microsoft.PowerShell.Core module. The Core module contains cmdlets and providers that manage the basic features of PowerShell.' Below this, a table lists various cmdlets and their functions.

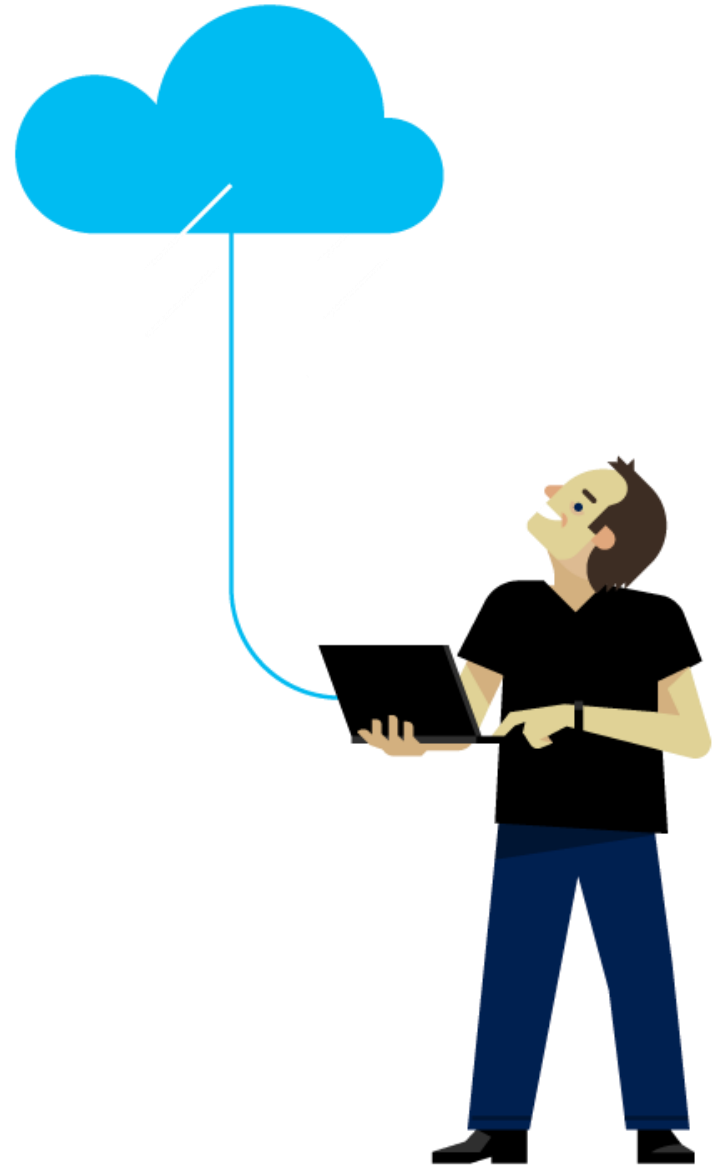
Microsoft.PowerShell.Core	
<a href="#">Add-History</a>	Appends entries to the session history.
<a href="#">Clear-History</a>	Deletes entries from the command history.
<a href="#">Clear-Host</a>	Clears the output screen of the current host.
<a href="#">Connect-PSSession</a>	Reconnects to disconnected sessions.
<a href="#">Debug-Job</a>	Debugs a running background, remote, or PowerShell Workflow job.
<a href="#">Disable-PSSessionConfiguration</a>	Disables session configurations on the local computer.
<a href="#">Disconnect-PSSession</a>	Disconnects from a session.
<a href="#">Enable-PSSessionConfiguration</a>	Enables the session configurations on the local computer.
<a href="#">Enter-PSHostProcess</a>	Connects to and enters into an interactive session with a local process.
<a href="#">Enter-PSSession</a>	Starts an interactive session with a remote computer.
<a href="#">Exit-PSHostProcess</a>	Closes an interactive session with a local process.

# Demonstration

Get-Help



# Questions?



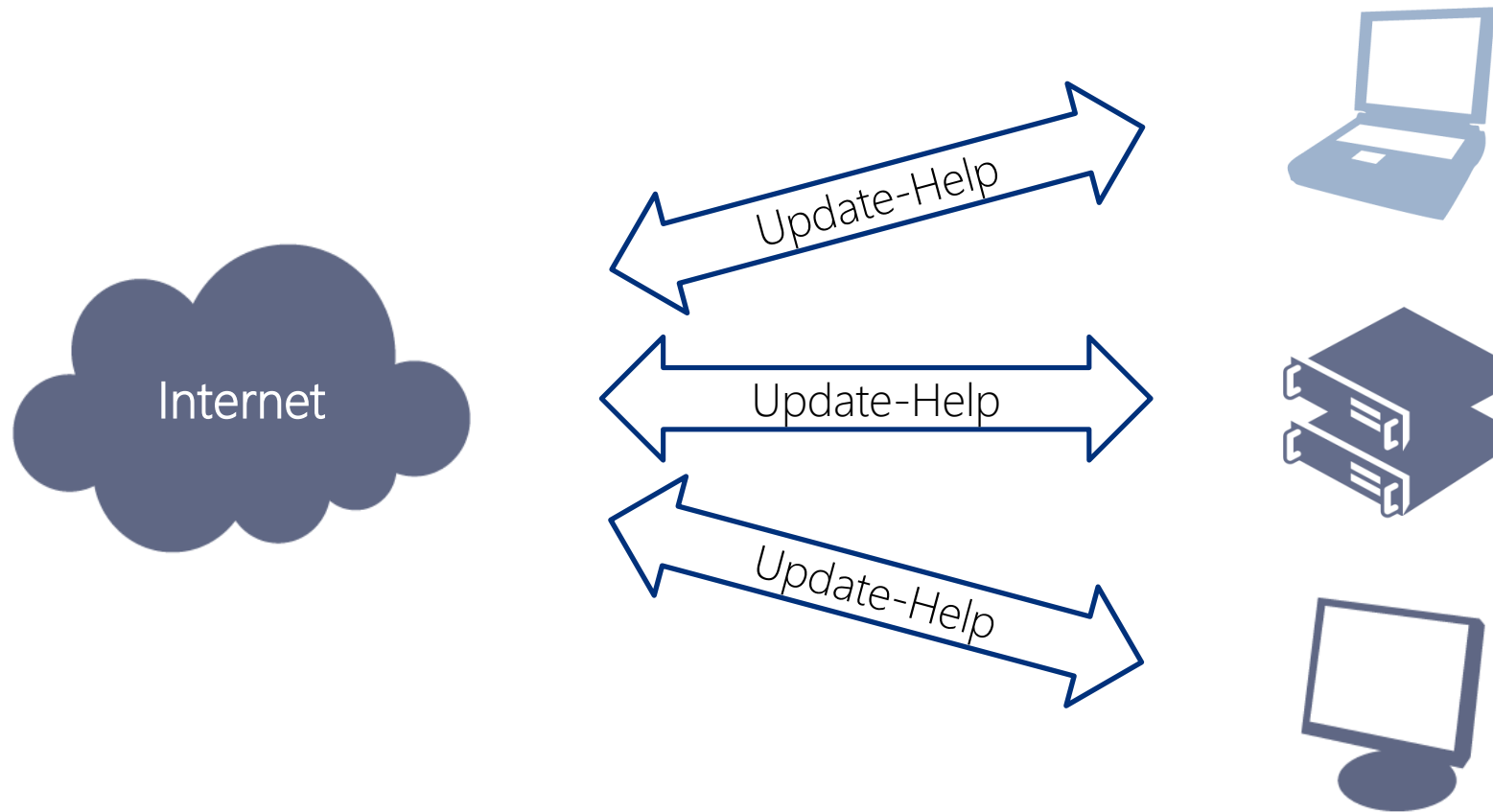
# Updatable Help

# 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
```

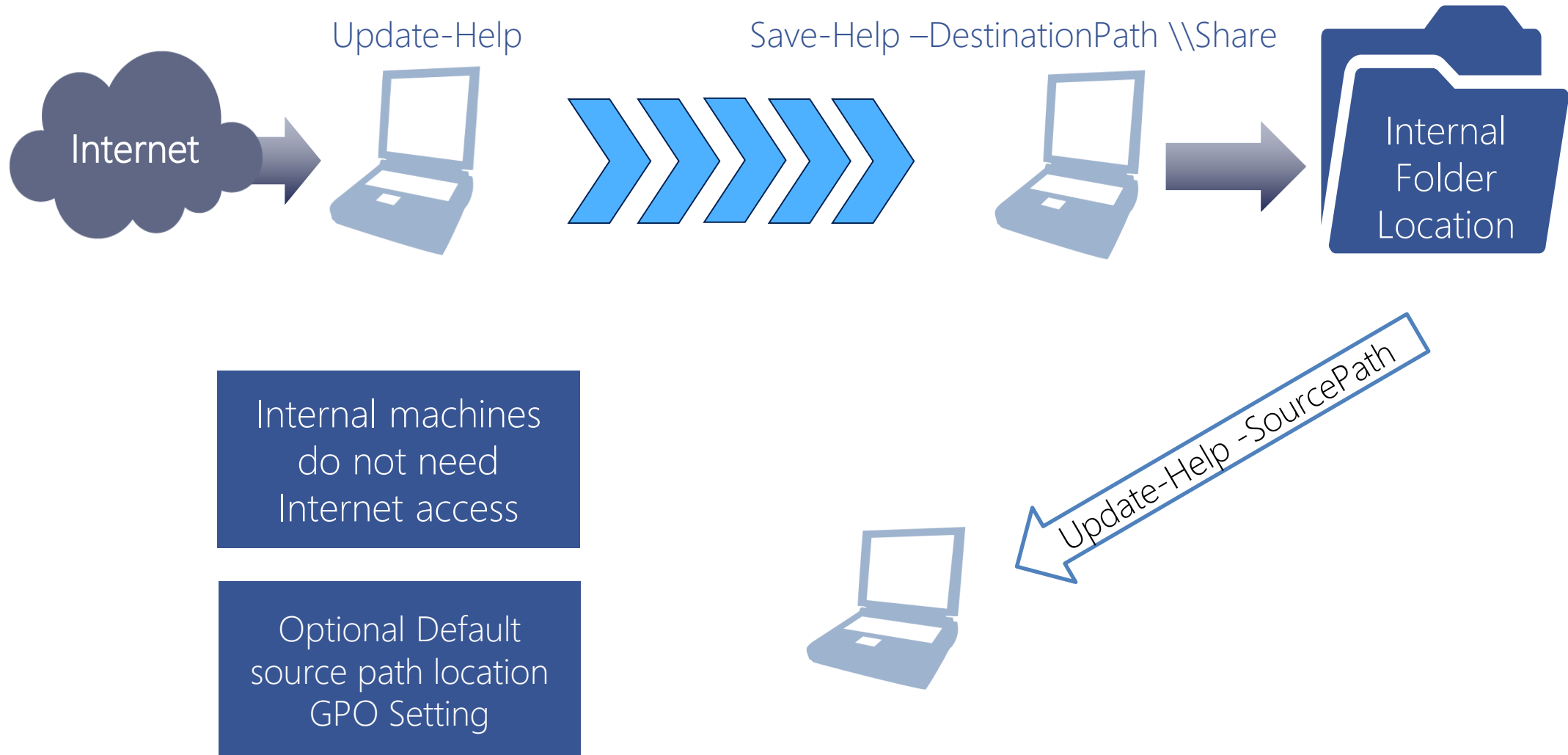
- On computers without Internet Access (with GPO source path):

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

## GPO Setting:

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

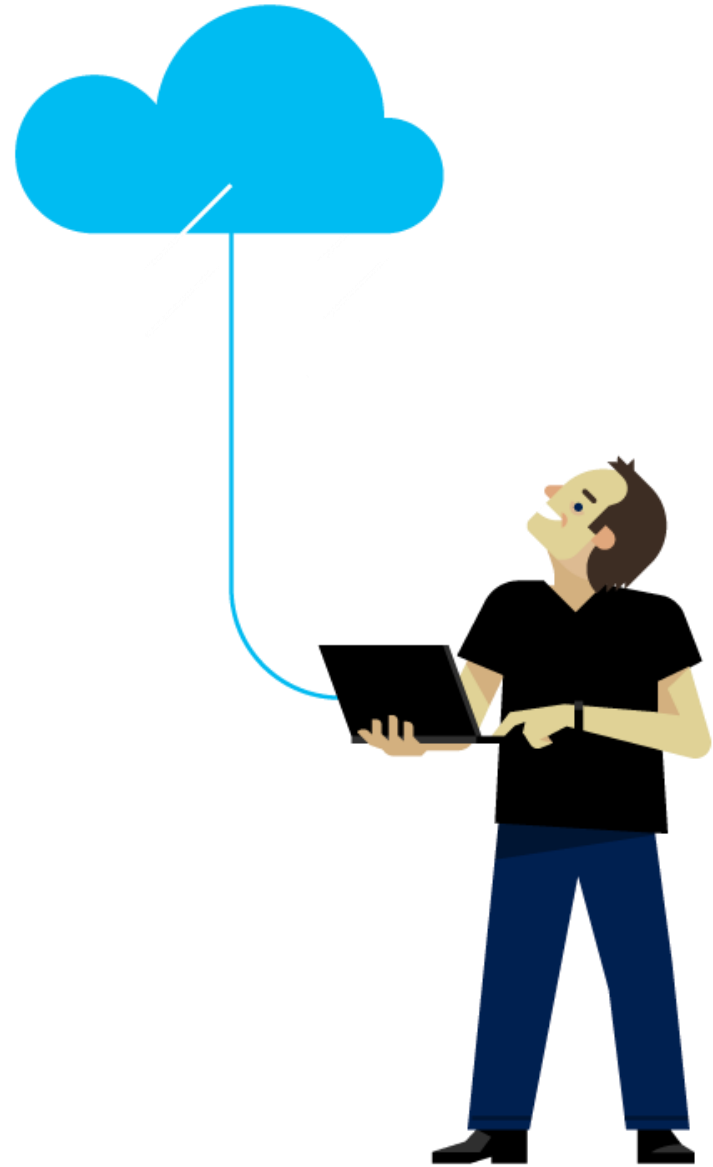
# Update-Help Diagram



# 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>]
```

```
. . .
```

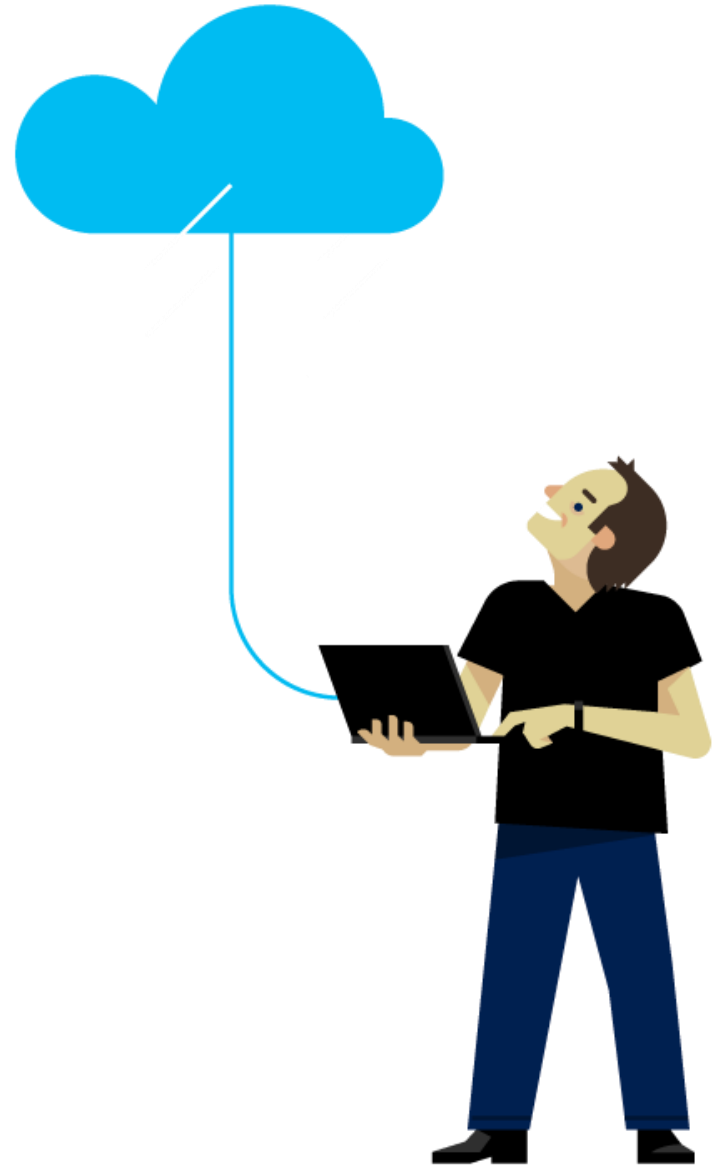


# Demonstration

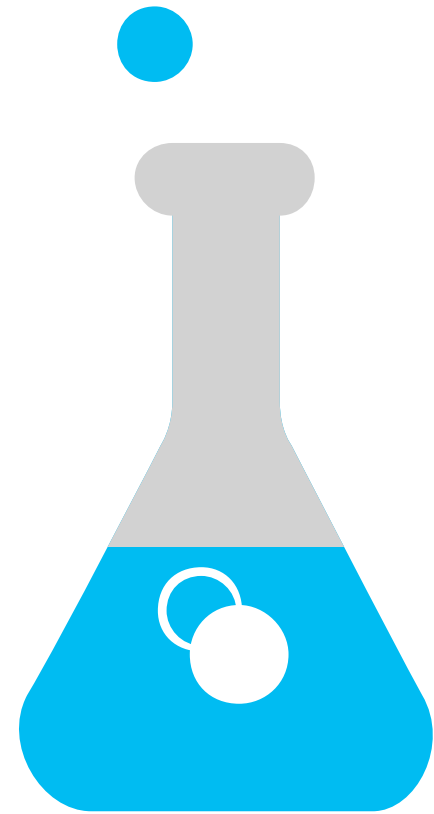
Comment Based Help in  
Scripts and Functions



# Questions?



# Using the PowerShell Help System



**LAB**

