



Powershell Help System

Learnings Covered in this Unit



Understand how the Help System works



Update help files



Create comment-based help for your functions and scripts

Using Get-Help

Get-Help <cmdlet name>

<cmdlet name> -?

```
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...
```

```
...
```

Help – Parameters

Parameter	Displayed Topics
<None Specified>	Name, Synopsis, Syntax, Description, Related Links, Remarks
-Examples	Name, Synopsis, Examples
-Detailed	Name, Synopsis, Parameters, Examples
-Full	Name, Synopsis, Syntax, Description, Parameters, Inputs, Outputs, Notes, Remarks, Examples, Related Links
-Online	Launches online help in a browser
-ShowWindow	Shows help in an external window in –Full mode

Help for Specified Parameters

```
PS> 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

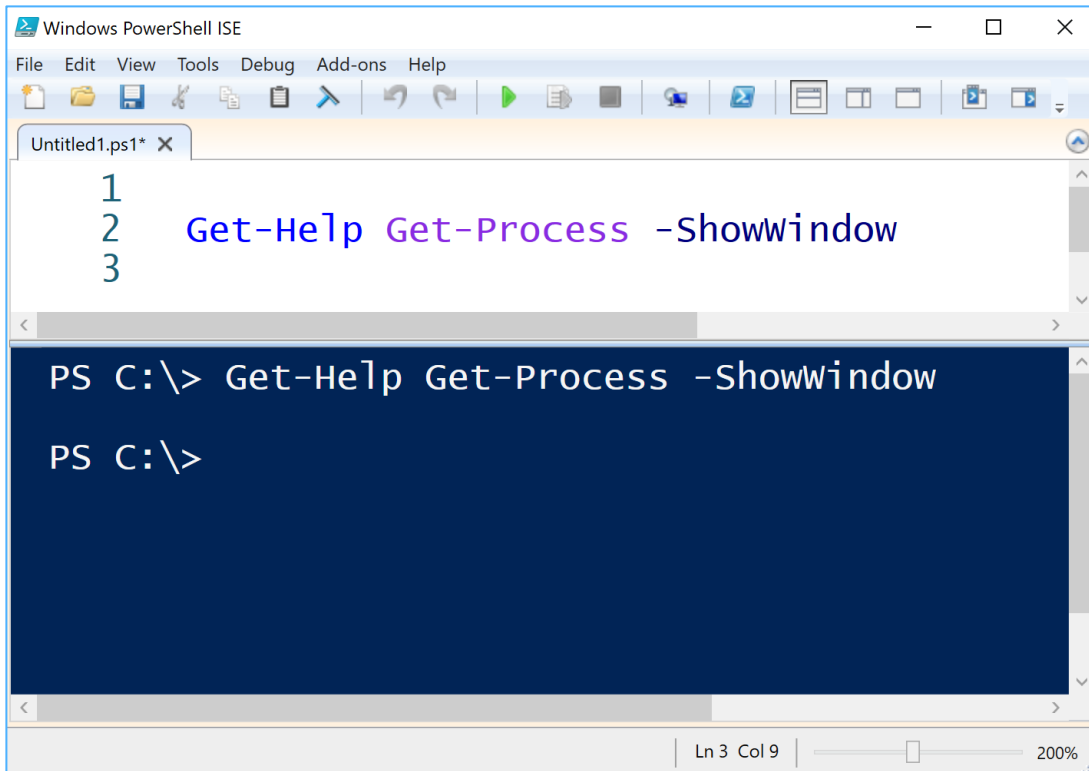
Accept pipeline input?	true (ByValue, ByPropertyName)
------------------------	--------------------------------

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

Get-Help -ShowWindow

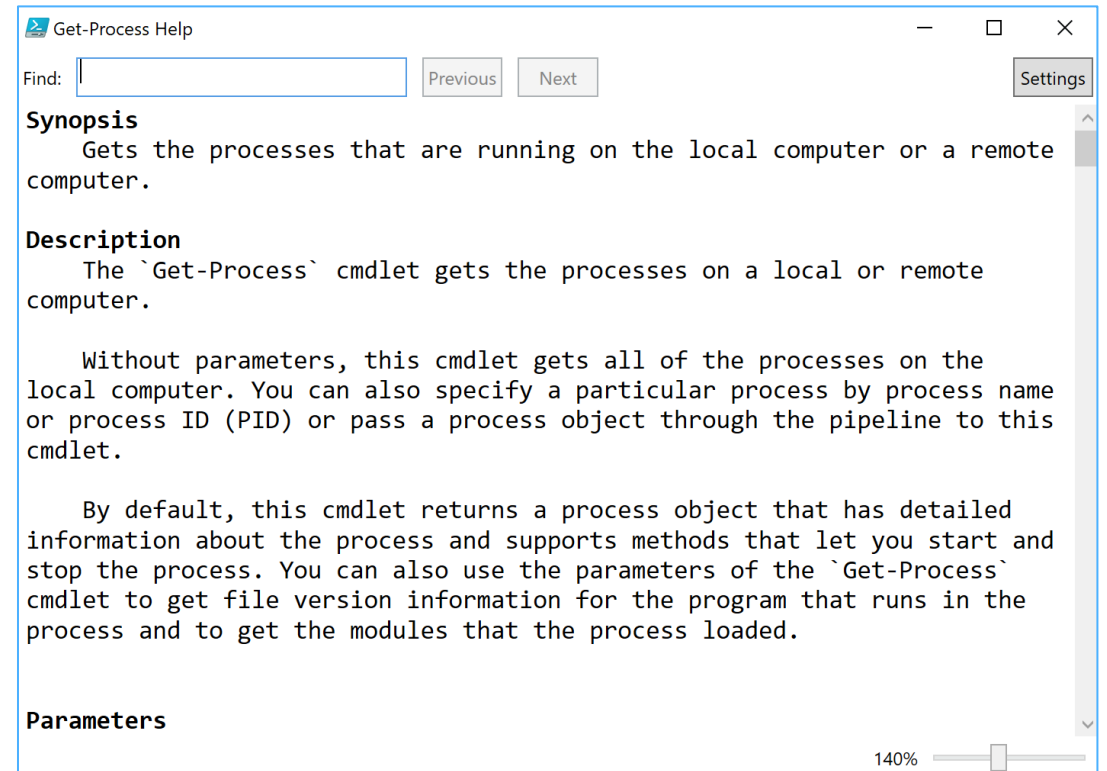
Help output can be displayed in a separate window for easier reading

Use the `-ShowWindow` parameter with `Get-Help`



The screenshot shows the Windows PowerShell ISE interface. The top menu bar includes File, Edit, View, Tools, Debug, Add-ons, and Help. The toolbar contains various icons for file operations and execution. The script editor shows a file named 'Untitled1.ps1*' with three lines of code: 1, 2, and 3. Line 2 contains the command `Get-Help Get-Process -ShowWindow`. The console window at the bottom shows the command being executed: `PS C:\> Get-Help Get-Process -ShowWindow`, followed by a new prompt: `PS C:\>`. The status bar at the bottom indicates 'Ln 3 Col 9' and '200%' zoom.

```
1  
2  Get-Help Get-Process -ShowWindow  
3  
  
PS C:\> Get-Help Get-Process -ShowWindow  
  
PS C:\>
```



The screenshot shows the 'Get-Process Help' window. It has a search bar labeled 'Find:' and buttons for 'Previous', 'Next', and 'Settings'. The content is organized into sections: 'Synopsis', 'Description', and 'Parameters'. The 'Synopsis' section states: 'Gets the processes that are running on the local computer or a remote computer.' The 'Description' section states: 'The `Get-Process` cmdlet gets the processes on a local or remote computer.' It then explains that without parameters, the cmdlet gets all processes on the local computer, and you can specify a process by name, PID, or pass a process object through the pipeline. It also mentions that by default, the cmdlet returns a process object with detailed information and supports methods to start and stop the process, as well as get file version information and loaded modules. The 'Parameters' section is currently empty. The status bar at the bottom right indicates '140%' zoom.

Synopsis
Gets the processes that are running on the local computer or a remote computer.

Description
The `Get-Process` cmdlet gets the processes on a local or remote computer.

Without parameters, this cmdlet gets all of the processes on the local computer. You can also specify a particular process by process name or process ID (PID) or pass a process object through the pipeline to this cmdlet.

By default, this cmdlet returns a process object that has detailed information about the process and supports methods that let you start and stop the process. You can also use the parameters of the `Get-Process` cmdlet to get file version information for the program that runs in the process and to get the modules that the process loaded.

Parameters



Demonstration

Help About General Topics



Questions?



Getting Help for PowerShell Concepts

Concept Help in the Console

Conceptual help topics begin with **About_**

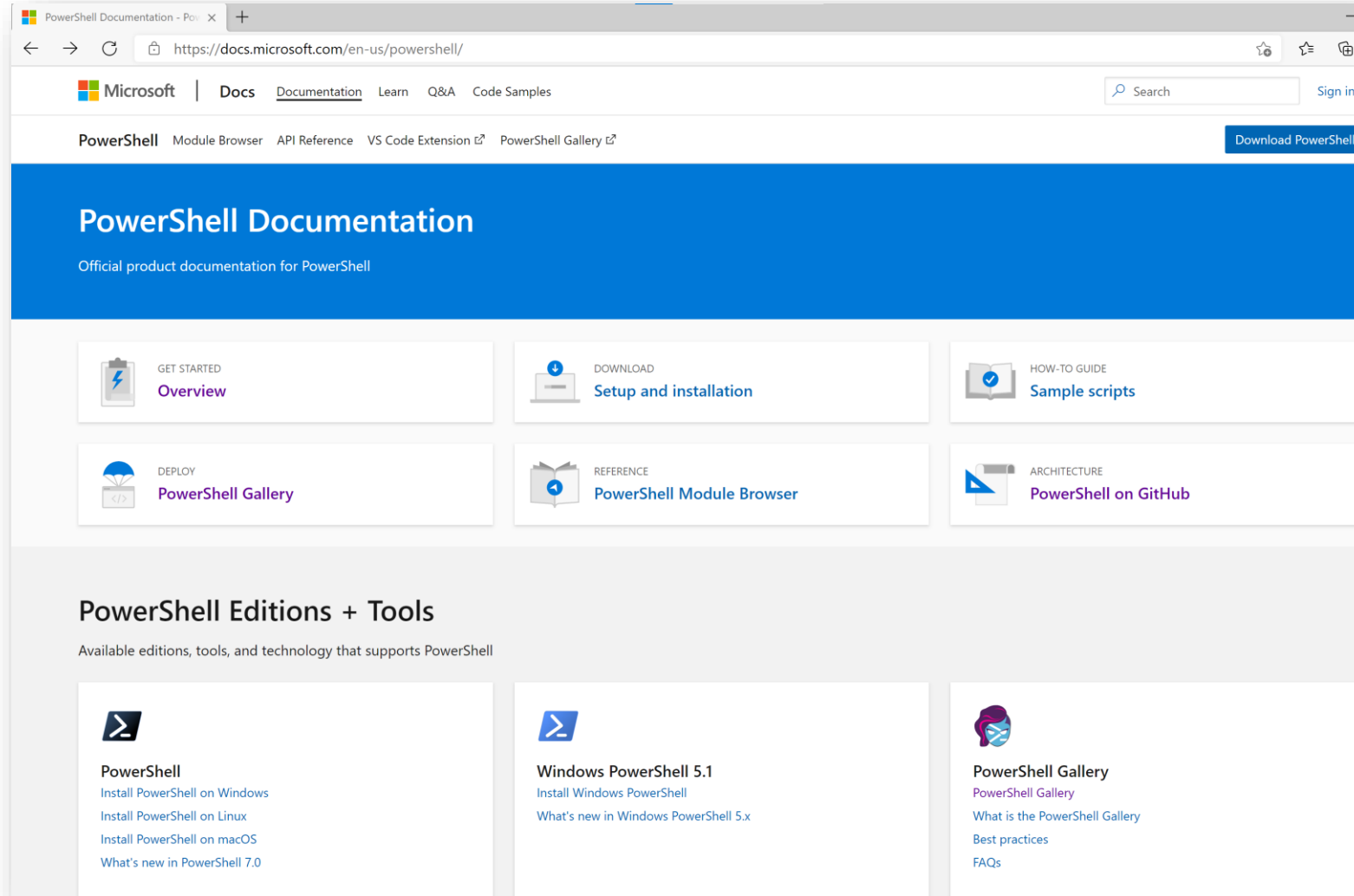
All help topics are available on **Microsoft Docs**

```
PS> 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...
...			

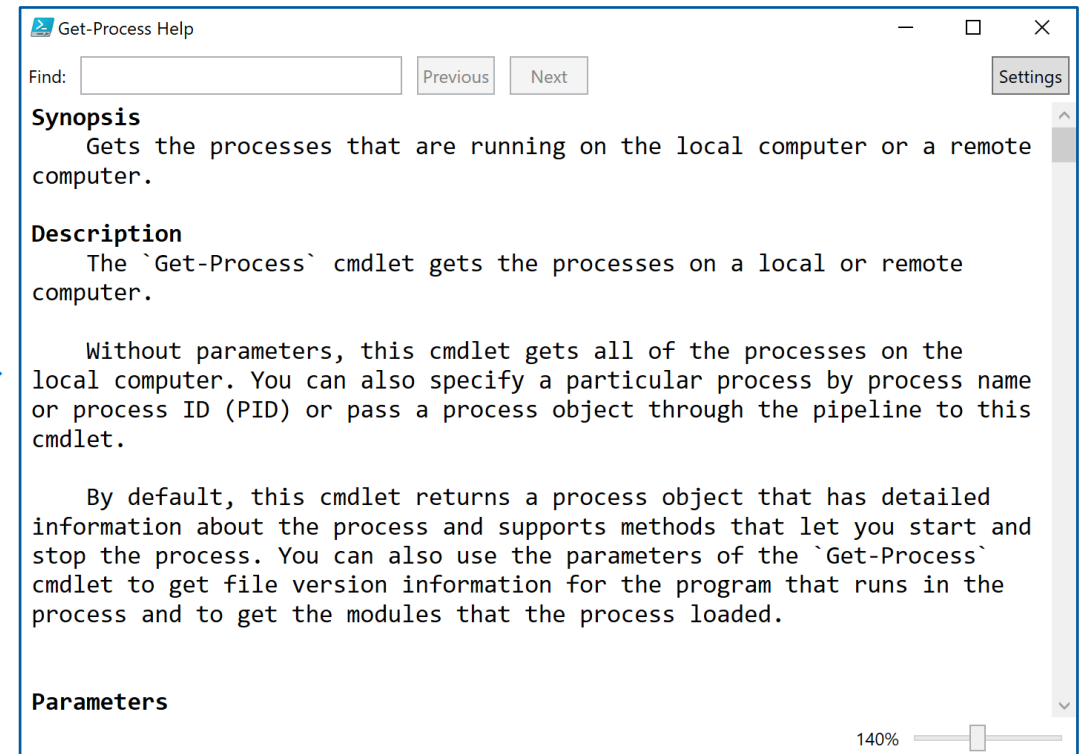
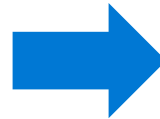
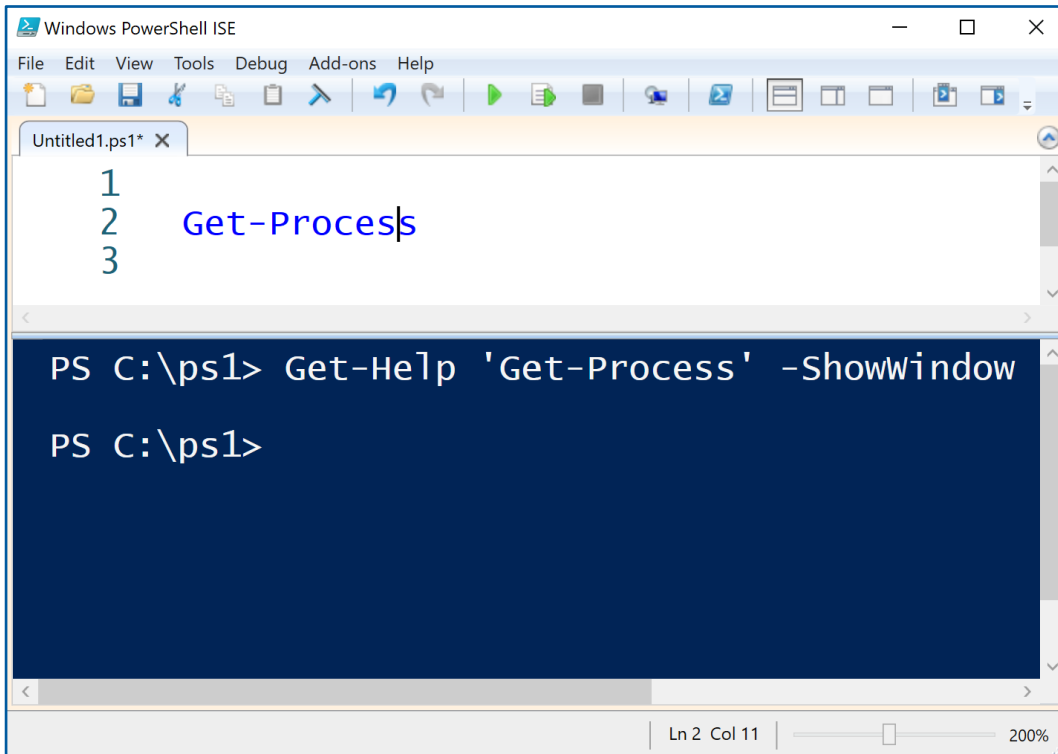
Microsoft Docs

PowerShell documentation: <https://docs.microsoft.com/powershell/>



Context-Sensitive Help

In the PowerShell ISE, placing the cursor on a cmdlet and pressing the **F1** key will open the help information in a **separate** window





Demonstration

Get-Help

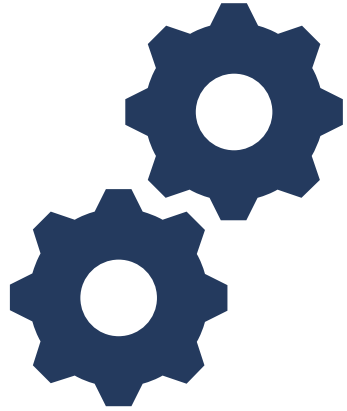


Questions?



Updatable Help

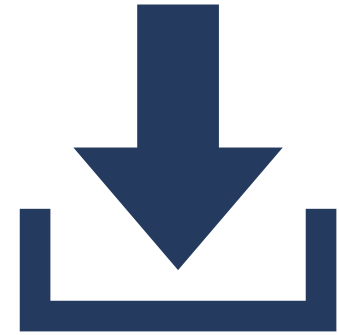
Updatable Help



Updated help is not
initially available



Update-Help
Is used to update to
the current help files



Save-Help
Is used to store help
files at an alternate
location

Updatable Help



Only **downloads** help content for **out-of-date** modules



Updating help is **throttled** to only allow once every **24 hours** by default

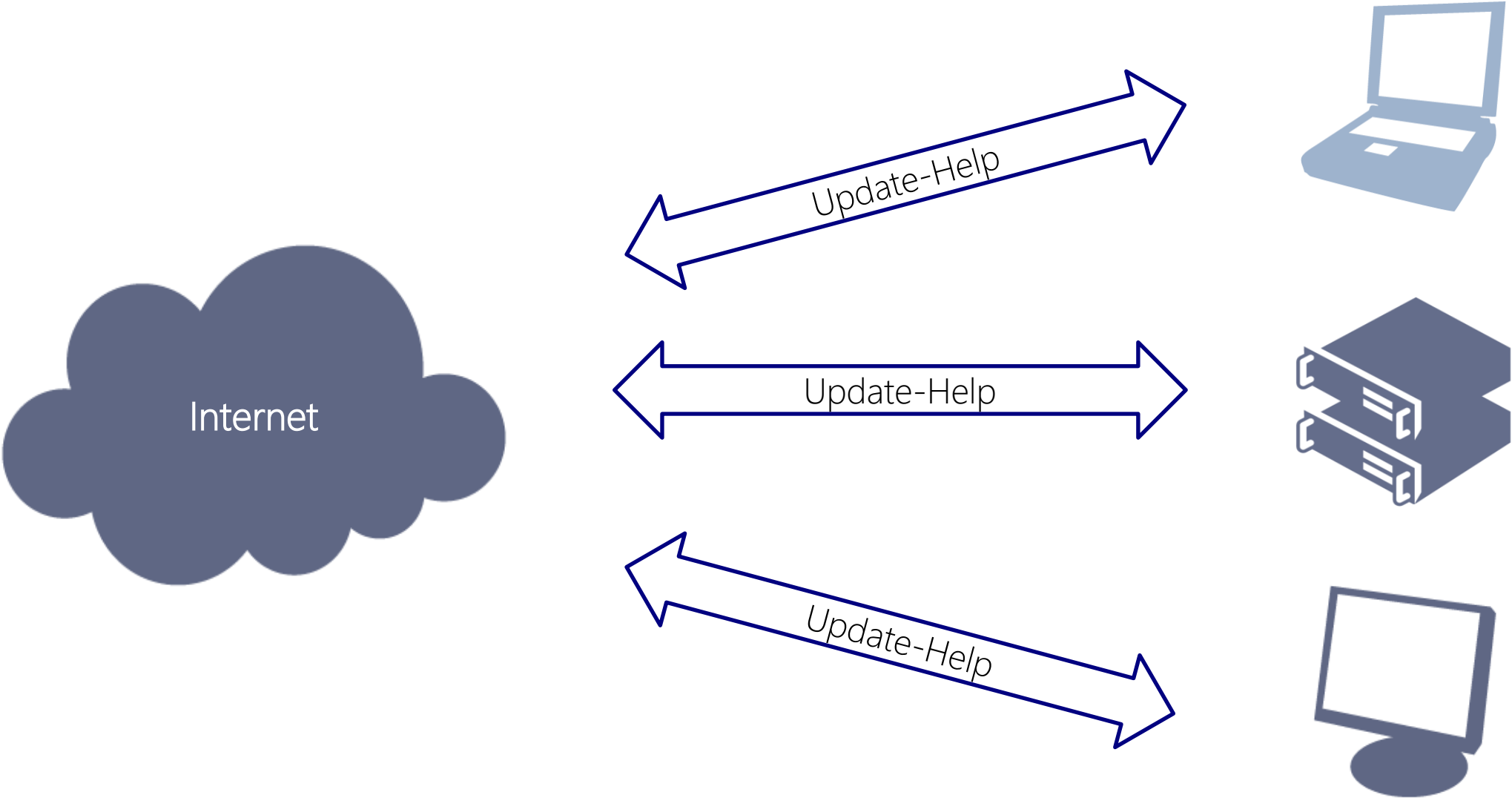


Requires **elevated** permissions for **many** modules to be updated



Help data may **not** be available for **every** module

Update-Help Diagram (Internet Connected)



Updatable Help – No Internet Access

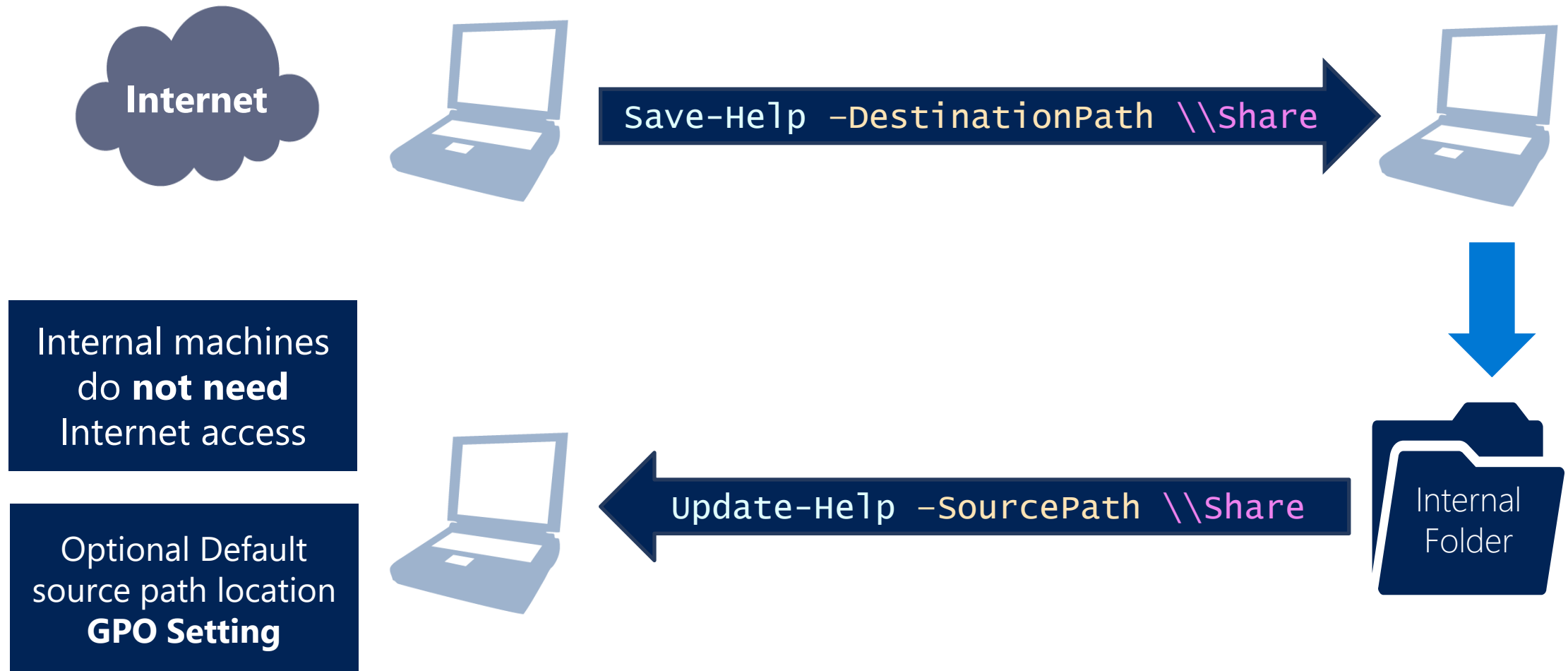
Save-Help cmdlet saves help files locally for later use:

- On a computer **with** Internet Access:
`Save-Help -DestinationPath \\SomeServer\SomeShare`
- On computers **without** Internet Access (no GPO source path):
`Update-Help -SourcePath \\SomeServer\SomeShare`
- On computers without Internet Access (with **GPO** source path):
`Update-Help`

GPO Setting:

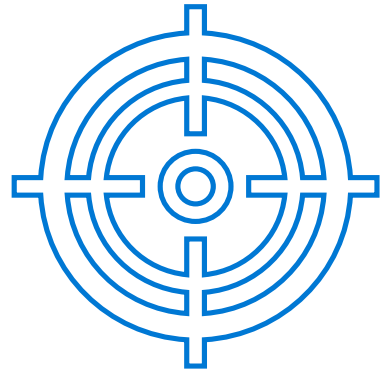
- Computer > Policies > Administrative Templates > Windows Components > Windows PowerShell
- Enable "Set the default source path for Update-Help"

Update-Help Diagram (No internet)



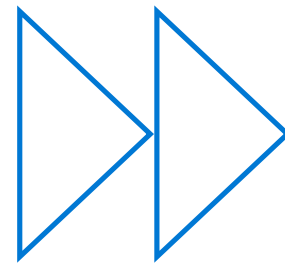
Updating Specific Modules

```
PS> Update-Help -Module ActiveDirectory
```



Update-Help can target
specific modules

Get-Module can **pipe** into
Update-Help



Questions?



Comment-based Help for Functions and Scripts

Comment-Based Help

Used by the help system to generate Get-Help output

Improves documentation

Best practice is to include help with every script & function

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

.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 recent 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> 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  
    Number of recent 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> 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?



Lab 5: Help System

30 Minutes

