

What is PowerShell Basic commands in PowerShell

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Surely every computer user knows or has at least used the Command Prompt or CMD, but when it comes to PowerShell, not everyone knows it. First of all, to understand it briefly, PowerShell is a command-line interface similar to CMD, it can do everything CMD can do and even more. PowerShell is gradually becoming the default on Windows 10 instead of the outdated CMD, but PowerShell is still a strange program for ordinary computer users. In the following article, TipsMake.com will answer you the question of what is Powershell and some of your basic commands in Powershell, please refer.



1. What is PowerShell?

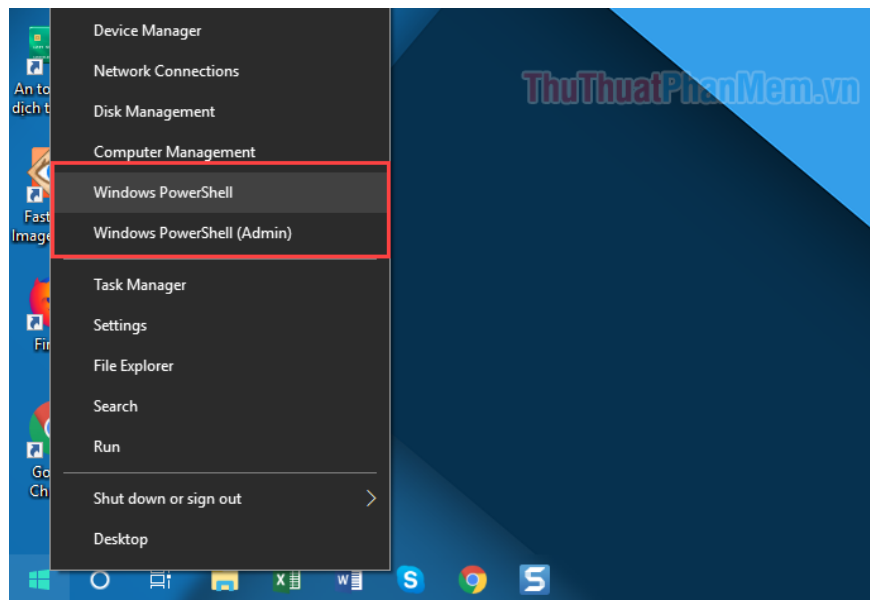
To better understand PowerShell we first need to know what Shell is. In computer science, the shell is basically a user interface that gives you access to various operating system services. A shell may be command line based or it may include a graphical user interface (GUI).

Windows PowerShell is a shell developed by Microsoft for the purpose of automating and configuring tasks. PowerShell will work on .NET and .NET Framework environments including commands and coding languages.

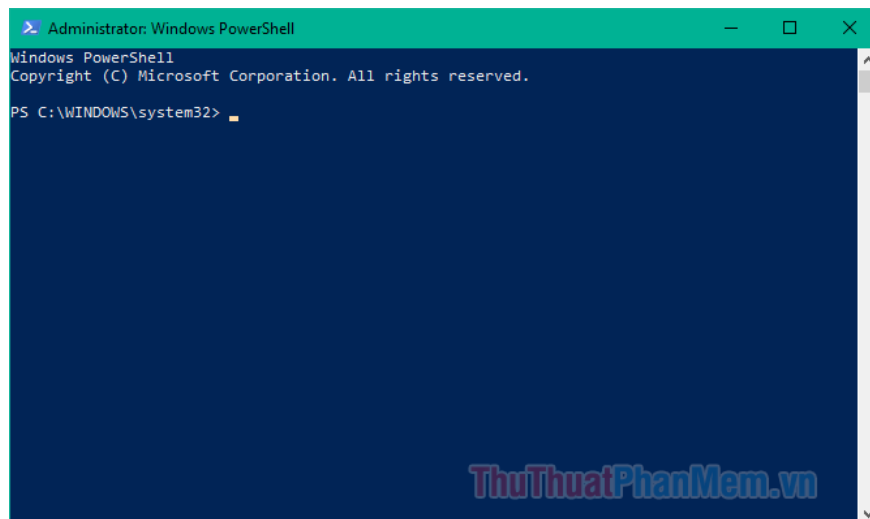
In parallel with PowerShell, Windows has developed Windows Power Shell ISE. ISE stands for integrated coding environment including graphical user interface for advanced programmers and integrates various tools to help you without having to enter all the commands on a single command line.

Windows PowerShell has been in development for a long time by Microsoft, but a new version with improved features has been introduced since Windows 8.1 and Windows Server 2012.

On Windows 10 you can open PowerShell by right-clicking on the Windows icon and selecting **Windows PowerShell** or **Windows PowerShell (Admin)**



PowerShell interface:



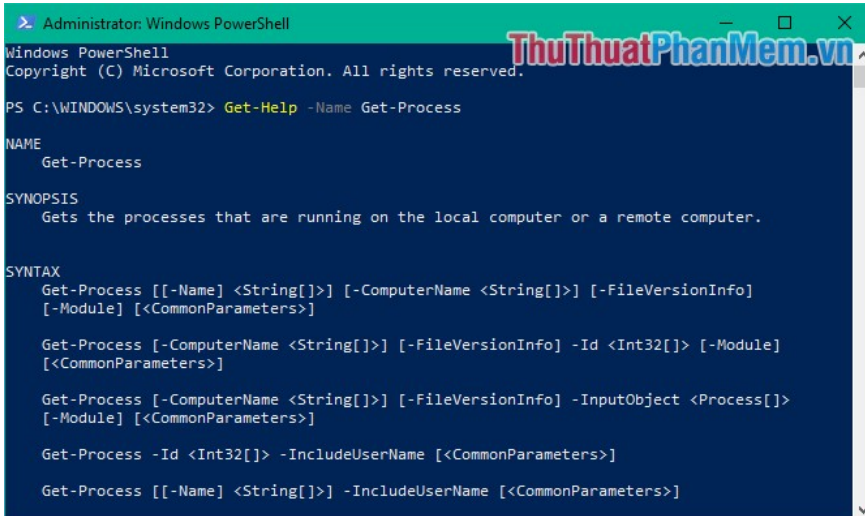
2. Basic commands in PowerShell

- Get Help

This command allows users to learn basic syntax and information about commands used in Windows PowerShell.

For example: If the user wants to know what the Get Process command is and how the syntax is, you will type the command

Get-Help -Name Get-Process



```
Administrator: Windows PowerShell
Windows PowerShell
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PS C:\WINDOWS\system32> Get-Help -Name Get-Process

NAME
    Get-Process

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

SYNTAX
    Get-Process [[-Name] <String[]>] [-ComputerName <String[]>] [-FileVersionInfo]
    [-Module] [<CommonParameters>]

    Get-Process [-ComputerName <String[]>] [-FileVersionInfo] -Id <Int32[]> [-Module]
    [<CommonParameters>]

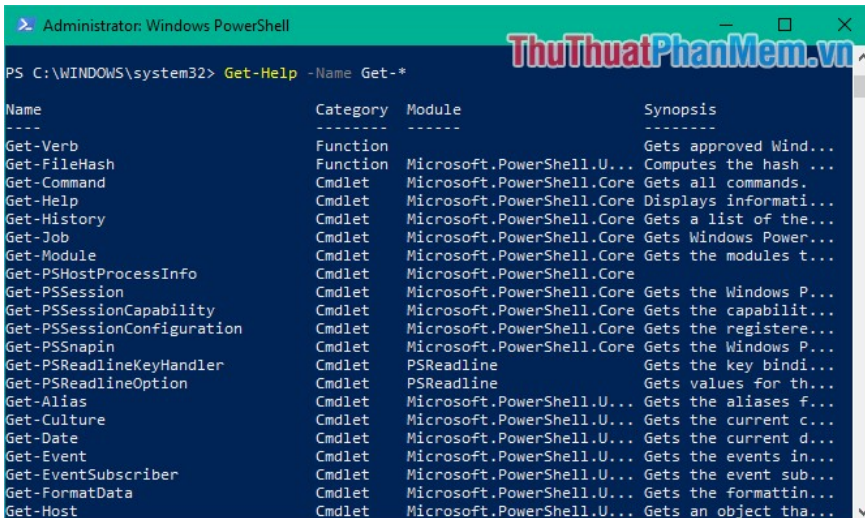
    Get-Process [-ComputerName <String[]>] [-FileVersionInfo] -InputObject <Process[]>
    [-Module] [<CommonParameters>]

    Get-Process -Id <Int32[]> -IncludeUserName [<CommonParameters>]

    Get-Process [[-Name] <String[]>] -IncludeUserName [<CommonParameters>]
```

Similarly, when a user wants to list all Get related statements, you will type the command

Get-Help -Name Get-*



```
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Windows PowerShell
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PS C:\WINDOWS\system32> Get-Help -Name Get-*

Name                Category  Module                Synopsis
----                -
Get-Verb             Function  Microsoft.PowerShell.U...  Gets approved Wind...
Get-FileHash         Function  Microsoft.PowerShell.U...  Computes the hash ...
Get-Command          Cmdlet   Microsoft.PowerShell.Core  Gets all commands.
Get-Help             Cmdlet   Microsoft.PowerShell.Core  Displays informati...
Get-History          Cmdlet   Microsoft.PowerShell.Core  Gets a list of the...
Get-Job              Cmdlet   Microsoft.PowerShell.Core  Gets Windows Power...
Get-Module           Cmdlet   Microsoft.PowerShell.Core  Gets the modules t...
Get-PSHostProcessInfo Cmdlet   Microsoft.PowerShell.Core
Get-PSSession        Cmdlet   Microsoft.PowerShell.Core  Gets the Windows P...
Get-PSSessionCapability Cmdlet   Microsoft.PowerShell.Core  Gets the capabilit...
Get-PSSessionConfiguration Cmdlet   Microsoft.PowerShell.Core  Gets the registere...
Get-PSSnapin         Cmdlet   Microsoft.PowerShell.Core  Gets the Windows P...
Get-PSReadlineKeyHandler Cmdlet   PSReadline                Gets the key bindi...
Get-PSReadlineOption Cmdlet   PSReadline                Gets values for th...
Get-Alias            Cmdlet   Microsoft.PowerShell.U...  Gets the aliases f...
Get-Culture          Cmdlet   Microsoft.PowerShell.U...  Gets the current c...
Get-Date             Cmdlet   Microsoft.PowerShell.U...  Gets the current d...
Get-Event            Cmdlet   Microsoft.PowerShell.U...  Gets the events in...
Get-EventSubscriber Cmdlet   Microsoft.PowerShell.U...  Gets the event sub...
Get-FormatData       Cmdlet   Microsoft.PowerShell.U...  Gets the formattin...
Get-Host             Cmdlet   Microsoft.PowerShell.U...  Gets an object tha...
```

- Get-Service

This command will list all services running and installed on the system.

```
Administrator: Windows PowerShell
ThuThuatPhanMem.vn
PS C:\WINDOWS\system32> Get-Service

Status Name DisplayName
-----
Stopped AJRouter AllJoyn Router Service
Stopped ALG Application Layer Gateway Service
Running AMD External Ev... AMD External Events Utility
Stopped AppIDSvc Application Identity
Running Appinfo Application Information
Stopped AppMgmt Application Management
Stopped AppReadiness App Readiness
Stopped AppVClient Microsoft App-V Client
Stopped AppXSvc AppX Deployment Service (AppXSVC)
Stopped AssignedAccessM... AssignedAccessManager Service
Running AudioEndpointBu... Windows Audio Endpoint Builder
Running Audiosrv Windows Audio
Running AVP18.0.0 Di.ch vu. Kaspersky Anti-Virus 18.0.0
Stopped AxInstSV ActiveX Installer (AxInstSV)
Stopped BcastDVRUserSer... BcastDVRUserService_38050
Stopped BDESVC BitLocker Drive Encryption Service
Running BFE Base Filtering Engine
Stopped BITS Background Intelligent Transfer Ser...
Stopped BluetoothUserSe... BluetoothUserService_38050
Running BrokerInfrastru... Background Tasks Infrastructure Ser...
```

If you need to learn more about any of these services, you can add the -Service name after the Get-Service statement

- ConvertTo-HTML

When you need to see the system information in the most intuitive way, you can use the ConvertTo-HTML command to export the information into an html file located on the hard drive partition.

The sample command is as follows:

```
Get-Service | ConvertTo-HTML -Property Name, Status> C: filename.htm
```

Get-Service: It means that you will output the Service information running into HTML, you can also replace the Service with the information you want according to the command form listed in the Get Help section above.

C: The name of the hard drive partition

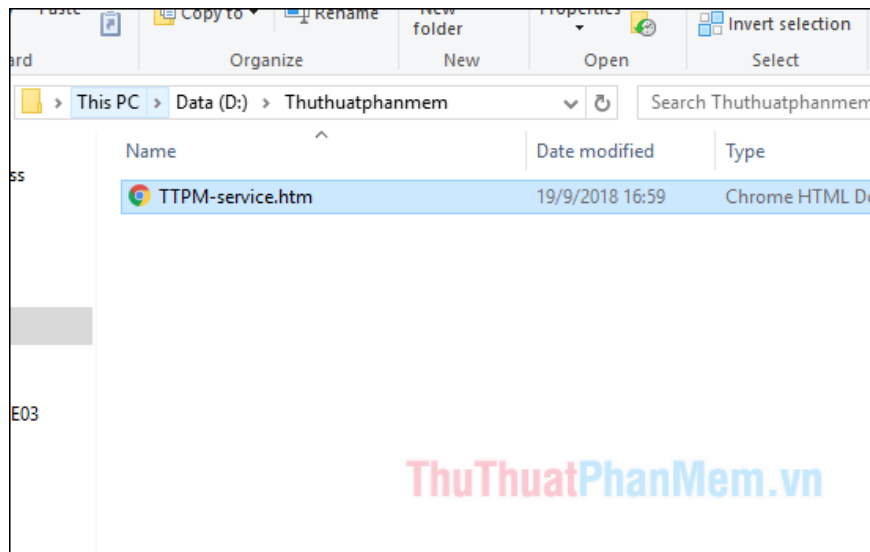
Filename: The file name you set

For example: Export the running information to TTPM-service.htm file located in D: Thuthuatphanmem partition, you will type the command:

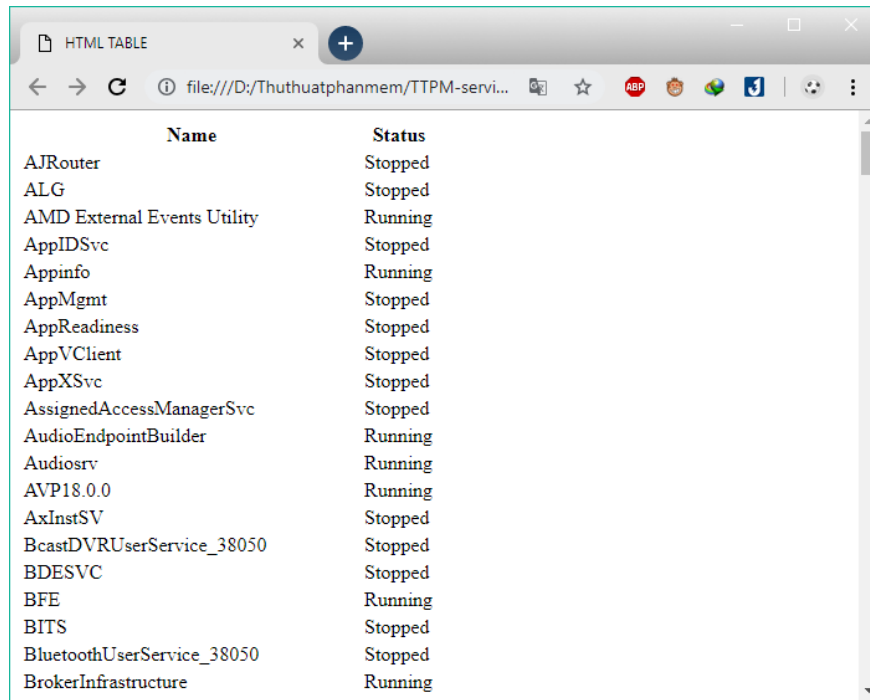
```
Get-Service | ConvertTo-HTML -Property Name, Status> D: ThuthuatphanmemTTPM-service.htm
```

```
Administrator: Windows PowerShell
PS C:\WINDOWS\system32> Get-Service | ConvertTo-HTML -Property Name, Status > D:\Thuthuatphanmem\TPM-service.htm
PS C:\WINDOWS\system32>
```

We will get an HTML file as shown:



Here is the content of the html file:



The screenshot shows a web browser window with a single tab titled "HTML TABLE". The address bar shows the file path: "file:///D:/Thuthuatphanmem/TTPM-servi...". The browser's toolbar includes navigation buttons (back, forward, refresh), a search icon, and several extension icons (ABP, a globe, and a Facebook icon). The main content area displays a table with two columns: "Name" and "Status". The table lists various services and their current status.

Name	Status
AJRouter	Stopped
ALG	Stopped
AMD External Events Utility	Running
AppIDSvc	Stopped
Appinfo	Running
AppMgmt	Stopped
AppReadiness	Stopped
AppVClient	Stopped
AppXSvc	Stopped
AssignedAccessManagerSvc	Stopped
AudioEndpointBuilder	Running
Audiosrv	Running
AVP18.0.0	Running
AxInstSV	Stopped
BcastDVRUserService_38050	Stopped
BDESVC	Stopped
BFE	Running
BITS	Stopped
BluetoothUserService_38050	Stopped
BrokerInfrastructure	Running

- Export-CSV

Similar to extracting information into an HTML file, PowerShell also allows you to export information to an Excel file. The statement is as follows:

```
Get-Service | Export-CSV X: filename.csv
```

Get-Service: It means that you will output the Service information running into HTML, you can also replace the Service with the information you want according to the command form listed in the Get Help section above.

X: Name of hard drive partition

Filename: The file name you set

Name	Required	CanPause	CanShutdown	CanStop	Display Name	Dependencies	Machine Name	Service Name	Services	Service Start Type	Status	Site
#TYPE System.ServiceProcess.ServiceController												
AJRouter	System.Se	FALSE	FALSE	FALSE	Alljoyn R	System.Se	AJRouter	System.Se	SafeServic	Stopped	Win32Sha	Manual
ALG	System.Se	FALSE	FALSE	FALSE	Applicati	System.Se	ALG	System.Se	SafeServic	Stopped	Win32Ow	Manual
AMD Exte	System.Se	FALSE	TRUE	TRUE	AMD Exte	System.Se	AMD Exte	System.Se	SafeServic	Running	Win32Ow	Automatic
AppIDsvc	System.Se	FALSE	FALSE	FALSE	Applicati	System.Se	AppIDsvc	System.Se	SafeServic	Stopped	Win32Sha	Manual
AppInfo	System.Se	FALSE	FALSE	TRUE	Applicati	System.Se	AppInfo	System.Se	SafeServic	Running	Win32Ow	Manual
AppMgmt	System.Se	FALSE	FALSE	FALSE	Applicati	System.Se	AppMgmt	System.Se	SafeServic	Stopped	Win32Sha	Manual
AppReadI	System.Se	FALSE	FALSE	FALSE	App ReadI	System.Se	AppReadI	System.Se	SafeServic	Stopped	Win32Sha	Manual
AppVClie	System.Se	FALSE	FALSE	FALSE	Microsoft	System.Se	AppVClie	System.Se	SafeServic	Stopped	Win32Ow	Disabled
AppXSvc	System.Se	FALSE	FALSE	FALSE	AppX Dep	System.Se	AppXSvc	System.Se	SafeServic	Stopped	Win32Ow	Manual
AssignedI	System.Se	FALSE	FALSE	FALSE	AssignedI	System.Se	AssignedI	System.Se	SafeServic	Stopped	Win32Sha	Manual
AudioEnd	System.Se	FALSE	FALSE	TRUE	Windows	System.Se	AudioEnd	System.Se	SafeServic	Running	Win32Ow	Automatic
Audioosrv	System.Se	FALSE	FALSE	TRUE	Windows	System.Se	Audioosrv	System.Se	SafeServic	Running	Win32Ow	Automatic
AVP18.0.0	System.Se	FALSE	TRUE	FALSE	Di7ch vu?	System.Se	AVP18.0.0	System.Se	SafeServic	Running	Win32Ow	Automatic
Axinstsv	System.Se	FALSE	FALSE	FALSE	ActiveX In	System.Se	Axinstsv	System.Se	SafeServic	Stopped	Win32Sha	Manual
BcastDVRI	System.Se	FALSE	FALSE	FALSE	BcastDVRI	System.Se	BcastDVRI	System.ServiceProce	Stopped	224	Manual	
BDESVC	System.Se	FALSE	FALSE	FALSE	BitLocker	System.Se	BDESVC	System.ServiceProce	Stopped	Win32Sha	Manual	
BFE	System.Se	FALSE	FALSE	TRUE	Base Filte	System.Se	BFE	System.ServiceProce	Running	Win32Sha	Automatic	
BITS	System.Se	FALSE	FALSE	FALSE	Backgrou	System.Se	BITS	System.Se	SafeServic	Stopped	Win32Sha	Manual
Bluetooth	System.Se	FALSE	FALSE	FALSE	Bluetooth	System.Se	Bluetooth	System.Se	SafeServic	Stopped	224	Manual
BrokerInfr	System.Se	FALSE	FALSE	FALSE	BrokerInfr	System.Se	BrokerInfr	System.ServiceProce	Running	Win32Sha	Automatic	
Browser	System.Se	FALSE	FALSE	TRUE	Comouter	System.Se	Browser	System.Se	SafeServic	Running	Win32Ow	Manual

- Get-EventLog

The command allows you to look up changes in the system through the log file. User can use the command

Get-EventLog -Log "Application"

To look up the Application change log

- Get-Process

With this command, the user can list Processes running on the computer. Actions to extract html file, csv file, get event log can be applied to this get process command

```

Administrator: Windows PowerShell
Windows PowerShell
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PS C:\WINDOWS\system32> Get-Process

Handles  NPM(K)  PM(K)  WS(K)  CPU(s)  Id  SI  ProcessName
-----  -
236      15      4132   18864  0.10938  4680  1  ApplicationFrameHost
243      12      2432   9964   19.40625  14788  1  atieclxx
172      8        1412   5520   0.03125  13412  0  atiesrxx
3637     516     307140  146124  657.76563  3472  0  avp
1213     102     109584  6896   14.90625  5860  1  avpui
264      22     18016   19216  0.26563  2972  1  chrome
297      40     70952  90884  13.57813  5632  1  chrome
266      31     50092  60424  25.21875  6952  1  chrome
345      34     57604  77460  54.39063  7584  1  chrome
321      26     31744  53272  3.96875  8308  1  chrome
284      29     33784  43836  12.14063  8320  1  chrome
320      35     59780  82896  9.62500  9292  1  chrome
285      14      2788   9492  0.07813  9556  1  chrome
265      27     38116  48828  37.20313  9912  1  chrome
316      35     52296  80856  3.89063  10540  1  chrome
306      65     177608  194448  44.64063  11524  1  chrome
334      35     52276  84536  20.57813  11604  1  chrome
2347     126     135332  202968  531.85938  12888  1  chrome
182      14      2708   9880  0.14063  12900  1  chrome
489      25     18660  24912  0.81250  13592  1  chrome
157      11      2160   1108  0.03125  10776  1  CocCocCrashHandler
  
```

- Stop-Process:

Sometimes, there are services in the system that are 'suspended'. For such cases, use the Get-Process command to determine the exact name or ID of the process, and turn off the process with the Stop-Process command. For example, to turn off NotePad activity, type the following command:

Stop-Process -Name notepad

Above is an introduction to PowerShell and basic commands used in PowerShell. Hopefully through the article you will know more about the PowerShell command line interface and know how to use it. Thank you for watching!

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