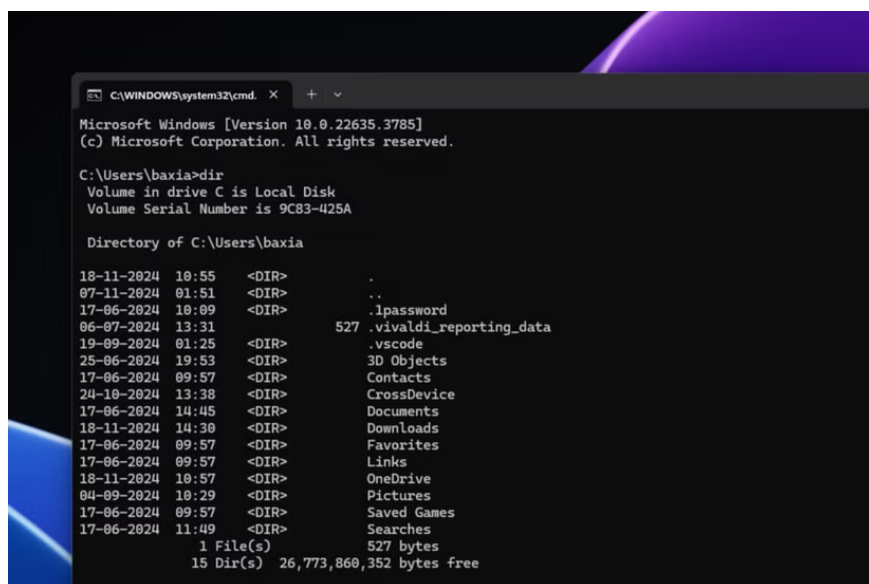


# Should I use PowerShell or Command Prompt?

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For advanced Windows users, the command line has long been a powerful tool for managing and interacting with the operating system. But PowerShell enhances automation and scripting capabilities. So, which tool should you use? Let's find out in the following article!

## History of Command Prompt



Command Prompt, also known as cmd.exe, originated from MS-DOS, the dominant operating system for IBM-compatible personal computers before Windows.

As computers evolved, it continued to be a key component of the Windows operating system, eventually achieving the graphical user interface (GUI) we know today.

Command Prompt is a command-line interpreter that allows you to interact with the operating system by entering commands. You can use a simple text-based interface to manage files, run programs, and perform basic system tasks through Command Prompt.

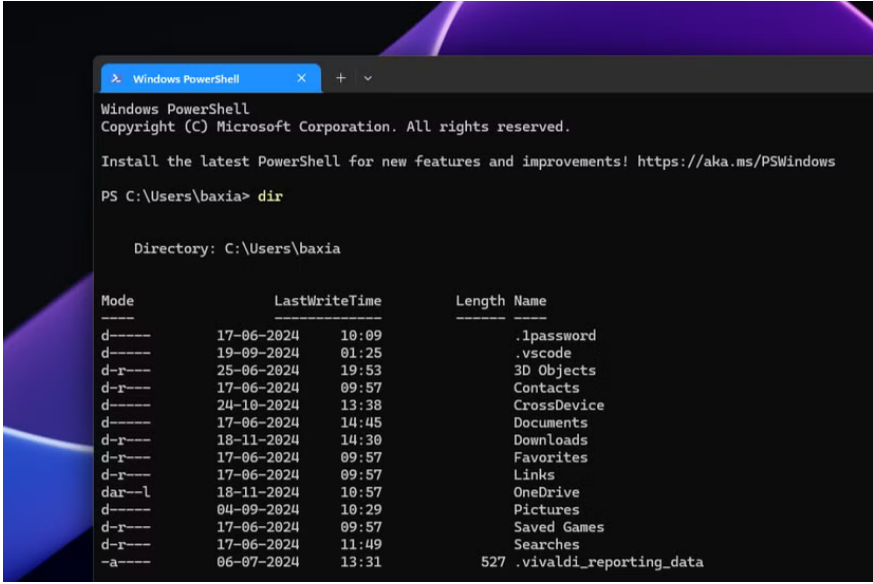
The advent of the GUI has made everyday operations on Windows easier and more intuitive. However, the Command Prompt still provides a way to perform tasks that may not be easily accessible through the GUI in a more efficient way.

Over time, it has become a valuable tool for system administrators and power users, and has served Windows users well for decades. However, the Command Prompt has limitations in terms of functionality and flexibility.

While it understands simple commands, like "dir" (to list files) and "cd" (to change directory), it lacks the sophistication of a modern tool.

This led to the development of PowerShell, a more modern and powerful command-line shell.

## PowerShell and its benefits



```
Windows PowerShell
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PS C:\Users\baxia> dir

Directory: C:\Users\baxia

Mode                LastWriteTime         Length Name
----                -
d-----          17-06-2024    10:09             .ipassword
d-----          19-09-2024     01:25             .vscode
d-r-----        25-06-2024    19:53             3D Objects
d-r-----          17-06-2024    09:57             Contacts
d-----          24-10-2024    13:38             CrossDevice
d-----          17-06-2024    14:45             Documents
d-r-----        18-11-2024    14:30             Downloads
d-r-----          17-06-2024    09:57             Favorites
d-r-----          17-06-2024    09:57             Links
dar--l          18-11-2024    10:57             OneDrive
d-----          04-09-2024    10:29             Pictures
d-r-----        17-06-2024    09:57             Saved Games
d-r-----          17-06-2024    11:49             Searches
-a-----          06-07-2024    13:31             527 .vivaldi_reporting_data
```

Microsoft first released PowerShell in 2006. Many envisioned it as a more powerful and flexible tool for managing Windows systems, and it was designed to address the limitations that Command Prompt often faced.

PowerShell is a configuration management and task automation framework that combines a command-line shell similar to Command Prompt with a scripting language built on the .NET Framework.

Unlike Command Prompt, which only outputs text, PowerShell works with objects. This means that the output of a command is not just a string of characters, but instead a structured object with properties and methods.

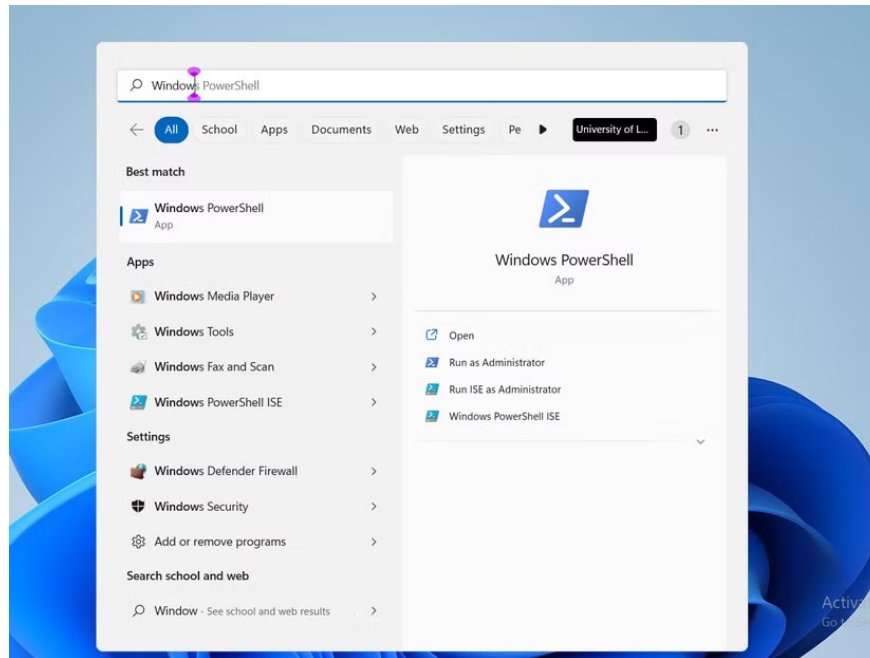
This allows for more complex data manipulation and analysis. Object-based output also enables powerful output piping capabilities. You can pipe the output of one command to another, allowing for complex automation and workflows.

The beauty of PowerShell is that it's more than just a command-line shell; it's also a full-fledged scripting language. This allows you to write complex PowerShell scripts to automate tasks, manage configurations, and perform advanced system administration.

It's also highly extensible. You can create your own cmdlets (specialized commands designed to perform specific tasks, pronounced "command-let"), modules, and scripts to extend PowerShell's functionality and customize it to your specific needs.

PowerShell is an essential tool for system administrators. It allows you to remotely manage computers or servers and has a module for almost everything!

## Key Differences Between Command Prompt and PowerShell



While both Command Prompt and PowerShell are command-line tools for interacting with the Windows operating system, they differ significantly in their capabilities, underlying architecture, and intended use cases.

PowerShell may seem more complex at first, but its benefits in terms of power, flexibility, and efficiency make it a valuable tool for power users. This is especially true if you are looking to automate your daily tasks.

Command Prompt is suitable for basic tasks like navigating folders, running simple commands, and executing batch files. It uses simple commands without any fancy elements.

Commands are essentially one-man guns. However, PowerShell is designed for more complex tasks, including system administration, automation, scripting, and remote management.

That's because PowerShell's object-based output allows for more complex manipulation, filtering, and analysis of data. Cmdlets essentially act like small programs to perform specific tasks.

Additionally, the Command Prompt's batch scripting capabilities are limited in terms of logic, error handling, and data manipulation. In contrast, PowerShell provides a full scripting language that allows you to write complex scripts (.ps1 files) with advanced logic, loops, conditional statements, error handling, and functions.

PowerShell also provides much more sophisticated error handling mechanisms. These include structured error objects with detailed information. However, Command Prompt only provides basic error messages, which can be difficult to understand and not easy to troubleshoot.

While Command Prompt is still a useful tool for basic command-line operations, PowerShell provides a more modern, powerful, and flexible environment for managing Windows systems.

Therefore, if you are a system administrator, developer, or power user looking for more features than Command Prompt, PowerShell is the right choice.

See also:

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