**WSL (Windows Subsystem for Linux)**

# What is WSL?

* Windows Subsystem for Linux (WSL) is a feature of Windows that allows you to run a Linux environment on your Windows machine, without the need for a separate virtual machine or dual booting.
* WSL is designed to provide a seamless and productive experience for developers who want to use both Windows and Linux at the same time.

# Why use WSL?

* Use WSL to install and run various Linux distributions, such as Ubuntu, Debian, Kali, and more. Install Linux distributions and receive automatic updates from the Microsoft Store, import Linux distributions not available in the Microsoft Store, or build your own customer Linux distribution.
* Store files in an isolated Linux file system, specific to the installed distribution.
* Run command-line tools, such as BASH.
* Run common BASH command-line tools such as grep, sed, awk, or other ELF-64 binaries.
* Run Bash scripts and GNU/Linux command-line applications including:
* Tools: vim, emacs, tmux
* Languages: NodeJS, JavaScript, Python, Ruby, C/C++, C# & F#, Rust, Go, etc.
* Services: SSHD, MySQL, Apache, lighttpd, MongoDB, PostgreSQL.
* Install additional software using your own GNU/Linux distribution package manager.
* Invoke Windows applications using a Unix-like command-line shell.
* Invoke GNU/Linux applications on Windows.
* Run GNU/Linux graphical applications integrated directly to your Windows desktop.
* Use your device GPU to accelerate Machine Learning workloads running on Linux.

## Advantages of using WSL

* WSL could be an ideal introduction to Linux for people who know nothing about it. They can get familiar with Linux commands without having to fully install a new operating system.
* Allow developers who were using open source tools to keep developing on Windows.
* Download and install WSL and boom, you have an instant Linux desktop. In the future, "Linux on the desktop" could mean just installing WSL and a Linux distribution from the Microsoft Store instead of a standalone operating system.
* WSL allows for true Windows and Linux interoperability. You can explore the Linux file system from Windows, and vice versa. You can also launch programs from each other's command lines.
* Since WSL already runs in Windows, you don't have to reboot or launch a VM. WSL is much lighter on resources, and can easily interoperate between Windows and Linux.

## Disadvantages of using WSL

* While you can install WSL on Windows Server, the distributions aren't really designed to run as servers. Ubuntu doesn't run system, so it's more difficult to launch servers like Apache or MariaDB.
* Visit this page to check more disadvantages: <https://www.makeuseof.com/pros-cons-windows-subsystem-for-linux/>