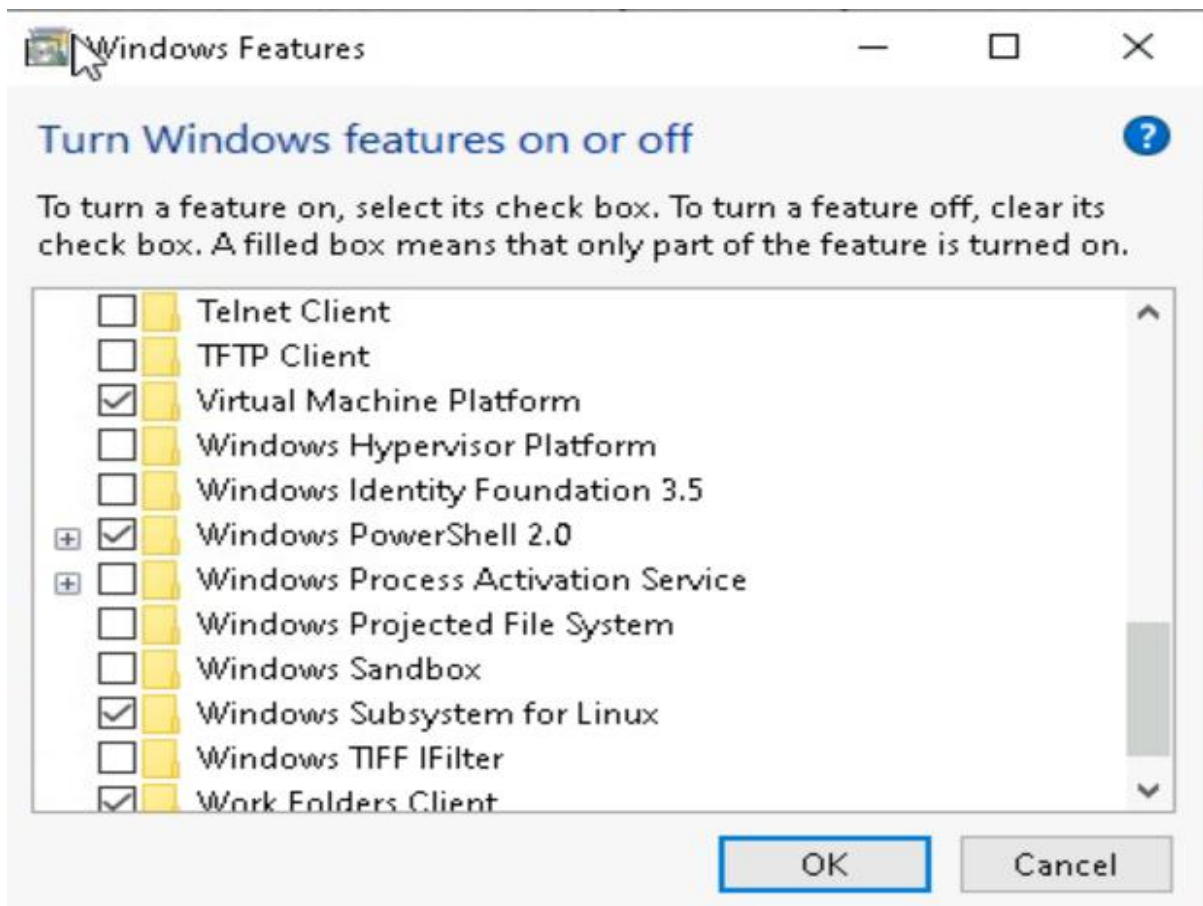


WSL ASSIGNMENT

Enable WSL2 on Windows 10

Step 1: Enable Windows Features

1. Access Turn Windows features on or off:
 - Press the Start button and type “features.”
 - Select Turn Windows features on or off.
2. Enable Virtual Machine Platform and Windows Subsystem for Linux:
 - In the features window, check Virtual Machine Platform and Windows Subsystem for Linux.
 - Click OK to apply.



Step 2: Download a Linux Distro


1. Open PowerShell and list available Linux distros with the following command:

```
wsl --list --online
```

2. Install the default Linux distro (Ubuntu 20.04):

```
wsl --install
```

```
wsl --install -d Debian
```

 Administrator: Windows PowerShell

```
PS C:\Users\Administrator> wsl --install --online
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For privacy information about this product please visit https://aka.ms/privacy.

Usage: wsl.exe [Argument] [Options...] [CommandLine]

Arguments for running Linux binaries:

    If no command line is provided, wsl.exe launches the default shell.

    --exec, -e <CommandLine>
        Execute the specified command without using the default Linux shell.

    --shell-type <standard|login|none>
        Execute the specified command with the provided shell type.

    --
        Pass the remaining command line as-is.


Options:

    --cd <Directory>
        Sets the specified directory as the current working directory.
        If ~ is used the Linux user's home path will be used. If the path begins
        with a / character, it will be interpreted as an absolute Linux path.
        Otherwise, the value must be an absolute Windows path.

    --distribution, -d <Distro>
        Run the specified distribution.

    --user, -u <UserName>
        Run as the specified user.

    --system
        Launches a shell for the system distribution.
```

 Administrator: Windows PowerShell

```
PS C:\Users\Administrator> wsl --install
Ubuntu is already installed.
Launching Ubuntu...
Welcome to Ubuntu 24.04.1 LTS (GNU/Linux 5.15.167.4-microsoft-standard-WSL2 x86_64)

 * Documentation:  https://help.ubuntu.com
 * Management:    https://landscape.canonical.com
 * Support:       https://ubuntu.com/pro

System information as of Tue Feb  4 06:58:43 UTC 2025

System load:  0.08               Processes:    66
Usage of /:   0.2% of 1006.85GB  Users logged in: 0
Memory usage: 5%                IPv4 address for eth0: 172.30.10.97
Swap usage:   0%

 * Strictly confined Kubernetes makes edge and IoT secure. Learn how MicroK8s
  just raised the bar for easy, resilient and secure K8s cluster deployment.

https://ubuntu.com/engage/secure-kubernetes-at-the-edge
```

Step 3: Launch the Linux Distro

1. After installation, you can launch the Linux distro:
 - From the Start menu (search for the Linux distro).
 - From Windows Terminal (if installed).
 - From PowerShell by typing wsl or bash
2. Install the default Linux distro (Ubuntu 20.04):
wsl --install

```
Administrator: Windows PowerShell
srirakar@528014aa64d7583: ~$ sudo apt install wsl
[sudo] password for srirakar:
Reading package lists... Done
Building dependency tree... Done
Reading state information... Done
The following additional packages will be installed:
  libxml2-utils libxslt1.1 xsltproc
The following NEW packages will be installed:
  libxml2-utils libxslt1.1 wsl xsltproc
0 upgraded, 4 newly installed, 0 to remove and 62 not upgraded.
Need to get 240 kB of archives.
After this operation, 806 kB of additional disk space will be used.
Do you want to continue? [Y/n] y
Get:1 http://archive.ubuntu.com/ubuntu noble-updates/main amd64 libxml2-utils amd64 2.9.14+dfsg-1.3ubuntu3.1 [39.4 kB]
Get:2 http://archive.ubuntu.com/ubuntu noble/main amd64 libxslt1.1 amd64 1.1.39-0exp1build1 [167 kB]
Get:3 http://archive.ubuntu.com/ubuntu noble/universe amd64 wsl all 0.2.1-3 [18.7 kB]
Get:4 http://archive.ubuntu.com/ubuntu noble/main amd64 xsltproc amd64 1.1.39-0exp1build1 [15.0 kB]
Fetched 240 kB in 2s (117 kB/s)
Selecting previously unselected package libxml2-utils.
(Reading database ... 46121 files and directories currently installed.)
Preparing to unpack .../libxml2-utils_2.9.14+dfsg-1.3ubuntu3.1_amd64.deb ...
Unpacking libxml2-utils (2.9.14+dfsg-1.3ubuntu3.1) ...
Selecting previously unselected package libxslt1.1:amd64.
Preparing to unpack .../libxslt1.1_1.1.39-0exp1build1_amd64.deb ...
Unpacking libxslt1.1:amd64 (1.1.39-0exp1build1) ...
Selecting previously unselected package wsl.
Preparing to unpack .../archives/wsl_0.2.1-3_all.deb ...
Unpacking wsl (0.2.1-3) ...
Selecting previously unselected package xsltproc.
Preparing to unpack .../xsltproc_1.1.39-0exp1build1_amd64.deb ...
Unpacking xsltproc (1.1.39-0exp1build1) ...
Setting up libxslt1.1:amd64 (1.1.39-0exp1build1) ...
Setting up libxml2-utils (2.9.14+dfsg-1.3ubuntu3.1) ...
Setting up wsl (0.2.1-3) ...
Setting up xsltproc (1.1.39-0exp1build1) ...
Processing triggers for libc-bin (2.39-0ubuntu8.3) ...
Processing triggers for man-db (2.12.0-4build2) ...
```

Step 4: Update Linux

1. To ensure your Linux distro is up to date, run the following commands in the Linux terminal:

```
Administrator: Windows PowerShell
srirakar@528014aa64d7583: ~$ sudo apt update
Hit:1 http://archive.ubuntu.com/ubuntu noble InRelease
Get:2 http://archive.ubuntu.com/ubuntu noble-updates InRelease [126 kB]
Get:3 http://security.ubuntu.com/ubuntu noble-security InRelease [126 kB]
Get:4 http://security.ubuntu.com/ubuntu noble-security/main amd64 Components [8972 B]
Get:5 http://archive.ubuntu.com/ubuntu noble-backports InRelease [126 kB]
Get:6 http://security.ubuntu.com/ubuntu noble-security/universe amd64 Components [52.0 kB]
Get:7 http://security.ubuntu.com/ubuntu noble-security/restricted amd64 Components [208 B]
Get:8 http://archive.ubuntu.com/ubuntu noble-updates/main amd64 Packages [838 kB]
Get:9 http://security.ubuntu.com/ubuntu noble-security/multiverse amd64 Components [208 B]
Get:10 http://archive.ubuntu.com/ubuntu noble-updates/main Translation-en [191 kB]
Get:11 http://archive.ubuntu.com/ubuntu noble-updates/main amd64 Components [151 kB]
Get:12 http://archive.ubuntu.com/ubuntu noble-updates/universe amd64 Packages [1003 kB]
Get:13 http://archive.ubuntu.com/ubuntu noble-updates/universe Translation-en [250 kB]
Get:14 http://archive.ubuntu.com/ubuntu noble-updates/universe amd64 Components [315 kB]
Get:15 http://archive.ubuntu.com/ubuntu noble-updates/restricted amd64 Components [212 B]
Get:16 http://archive.ubuntu.com/ubuntu noble-updates/multiverse amd64 Components [940 B]
Get:17 http://archive.ubuntu.com/ubuntu noble-backports/main amd64 Components [208 B]
Get:18 http://archive.ubuntu.com/ubuntu noble-backports/universe amd64 Components [17.7 kB]
Get:19 http://archive.ubuntu.com/ubuntu noble-backports/restricted amd64 Components [212 B]
Get:20 http://archive.ubuntu.com/ubuntu noble-backports/multiverse amd64 Components [212 B]
Fetched 3207 kB in 10s (324 kB/s)
Reading package lists... Done
Building dependency tree... Done
Reading state information... Done
64 packages can be upgraded. Run 'apt list --upgradable' to see them.
```

Administrator: Windows PowerShell

```
srikar@528014aa64d7583:~$ sudo apt upgrade
Reading package lists... Done
Building dependency tree... Done
Reading state information... Done
Calculating upgrade... Done
The following package was automatically installed and is no longer required:
  libllvm17t64
Use 'sudo apt autoremove' to remove it.
The following NEW packages will be installed:
  libllvm19 mesa-libgallium
The following upgrades have been deferred due to phasing:
  libunwind8 wsl-setup
The following packages will be upgraded:
  attr bsdextrautils bsdutils eject fdisk kmod libattr1 libblkid1 libbsd0 libcap2 libcap2-bin libdrm-amdgpu1
  libdrm-common libdrm-intel1 libdrm-nouveau2 libdrm-radeon1 libdrm2 libdw1t64 libegl-mesa0 libelf1t64 libfdisk1
  libgbm1 libgl1-mesa-dri libglapi-mesa libglx-mesa0 libgmp10 libgpg-error-l10n libgpg-error0 libidn2-0 libkmod2
  libmd0 libmount1 libmpfr6 libnghttp2-14 libnl-3-200 libnl-route-3-200 libnss-systemd libpam-cap libpam-systemd
  libpcre2-8-0 libperl5.38t64 libsasl2-modules-gssapi-mit libsasl2-modules-libidn2 libsasl2-modules-mdns libsasl2-modules-sasl
  libsystemd-shared libsystemd0 libudev1 libunistring5 libuuid1 mesa-vulkan-drivers mount perl perl-base perl-modules-5.38 systemd systemd-dev
  systemd-resolved systemd-sysv systemd-timesyncd udev util-linux uuid-runtime
62 upgraded, 2 newly installed, 0 to remove and 2 not upgraded.
Need to get 78.1 MB of archives.
After this operation, 159 MB of additional disk space will be used.
Do you want to continue? [Y/n] y
```

Step 5: Switch Between WSL1 and WSL2

Administrator: Windows PowerShell

```
srikar@528014aa64d7583:~$ exit
logout
The operation completed successfully.
PS C:\Users\Administrator> wsl --list --verbose
  NAME                STATE      VERSION
* docker-desktop     Stopped    2
  Ubuntu              Stopped    2
PS C:\Users\Administrator> wsl --set-version Ubuntu 2
For information on key differences with WSL 2 please visit https://aka.ms/ws12
Conversion in progress, this may take a few minutes.
The distribution is already the requested version.
Error code: Wsl/Service/WSL_E_VM_MODE_INVALID_STATE
PS C:\Users\Administrator> wsl --set-version Ubuntu 1
Conversion in progress, this may take a few minutes.
The operation completed successfully.
PS C:\Users\Administrator>
```

Administrator: Windows PowerShell

```
Windows PowerShell
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Try the new cross-platform PowerShell https://aka.ms/pscore6

PS C:\Users\Administrator> mkdir D:\backup

Directory: D:\

Mode                LastWriteTime         Length Name
----                -
d-----          04-02-2025     14:31         backup

PS C:\Users\Administrator> wsl --export Ubuntu D:\backup\ubuntu.tar
Export in progress, this may take a few minutes.
The operation completed successfully.
```

Select Administrator: Windows PowerShell

```
PS C:\Users\Administrator> wsl --unregister Ubuntu
Unregistering.
The operation completed successfully.
PS C:\Users\Administrator> mkdir D:\wsl

Directory: D:\

Mode                LastWriteTime         Length Name
----                -
d-----          04-02-2025         14:35         wsl
```

Step 6: Move or Clone Your Linux Disk Image

Administrator: Windows PowerShell

```
C:\Users\Administrator> wsl --import Ubuntu D:\wsl\ D:\backup\ubuntu.tar
Import in progress, this may take a few minutes.
The operation completed successfully.
PS C:\Users\Administrator> wsl --import Clone01 D:\wsl\ D:\backup\ubuntu.tar
Import in progress, this may take a few minutes.
The supplied install location is already in use.
Error code: Wsl/Service/RegisterDistro/ERROR_FILE_EXISTS
PS C:\Users\Administrator> wsl --import Another D:\wsl\ D:\backup\ubuntu.tar
Import in progress, this may take a few minutes.
The supplied install location is already in use.
Error code: Wsl/Service/RegisterDistro/ERROR_FILE_EXISTS
PS C:\Users\Administrator> ubuntu config --default-user srikar
```

Step 7: Set the Default User for Other Distros

