WSL ASSIGNMENT

ENABLE WSL2:

DOWNLOAD LINUX:

```
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 12:03:50 PKT 2025

  System load:  0.46                Processes:             65
  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

This message is shown once a day. To disable it please create the
/home/sahil/.hushlogin file.
sahil@18cfbe74344a5b9:~$
```

UPDATE AND UPGRADE LINUX:

```
sahil@18cfbe74344a5b9: ~
sahil@18cfbe74344a5b9:~$ sudo apt update
[sudo] password for sahil:
Hit:1 http://archive.ubuntu.com/ubuntu noble InRelease
Get:2 http://security.ubuntu.com/ubuntu noble-security InRelease [126 kB]
Get:3 http://archive.ubuntu.com/ubuntu noble-updates InRelease [126 kB]
Get:4 http://security.ubuntu.com/ubuntu noble-security/main amd64 Packages [615 kB]
Get:5 http://archive.ubuntu.com/ubuntu noble-backports InRelease [126 kB]
Get:6 http://security.ubuntu.com/ubuntu noble-security/main Translation-en [118 kB]
Get:7 http://archive.ubuntu.com/ubuntu noble-updates/main amd64 Packages [838 kB]
Get:8 http://security.ubuntu.com/ubuntu noble-security/main amd64 Components [8972 B]
Get:9 http://security.ubuntu.com/ubuntu noble-security/universe amd64 Packages [803 kB]
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 Packages [631 kB]
Get:16 http://archive.ubuntu.com/ubuntu noble-updates/restricted Translation-en [121 kB]
Get:17 http://archive.ubuntu.com/ubuntu noble-updates/restricted amd64 Components [212 B]
Get:18 http://security.ubuntu.com/ubuntu noble-security/universe Translation-en [171 kB]
Get:19 http://archive.ubuntu.com/ubuntu noble-updates/multiverse amd64 Packages [16.3 kB]
Get:20 http://security.ubuntu.com/ubuntu noble-security/universe amd64 Components [52.0 kB]
Get:21 http://archive.ubuntu.com/ubuntu noble-updates/multiverse Translation-en [3944 B]
Get:22 http://security.ubuntu.com/ubuntu noble-security/restricted amd64 Packages [620 kB]
Get:23 http://archive.ubuntu.com/ubuntu noble-updates/multiverse amd64 Components [940 B]
Get:24 http://archive.ubuntu.com/ubuntu noble-backports/main amd64 Components [208 B]
Get:25 http://security.ubuntu.com/ubuntu noble-security/restricted Translation-en [119 kB]
Get:26 http://archive.ubuntu.com/ubuntu noble-backports/universe amd64 Components [17.7 kB]
Get:27 http://security.ubuntu.com/ubuntu noble-security/restricted amd64 Components [208 B]
Get:28 http://archive.ubuntu.com/ubuntu noble-backports/restricted amd64 Components [212 B]
Get:29 http://security.ubuntu.com/ubuntu noble-security/multiverse amd64 Components [208 B]
Get:30 http://archive.ubuntu.com/ubuntu noble-backports/multiverse amd64 Components [212 B]
Fetched 6427 kB in 6s (1076 kB/s)
Reading package lists... Done
Building dependency tree... Done
Reading state information... Done
67 packages can be upgraded. Run 'apt list --upgradable' to see them.
sahil@18cfbe74344a5b9:~$
```

```
sahil@18cfbe74344a5b9: $ 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:
  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
  libdwlt64 libegl-mesa0 libelflt64 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 libper15.38t64 libselinux1 libsmartcols1 libsqlite3-0
  libsystemd-shared libsystemd0 libudev1 libunistring5 libunwind8 libuuid1 libxml2 mesa-vulkan-drivers mount perl perl-base perl-modules-5.38 python3-jinja2 systemd systemd-dev
  systemd-resolved systemd-sysv systemd-timesyncd tzdata udev util-linux uuid-runtime
66 upgraded, 2 newly installed, 0 to remove and 1 not upgraded.
3 standard LTS security updates
Need to get 79.3 MB of archives.
After this operation, 159 MB 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 bsdutils amd64 1:2.39.3-9ubuntu6.2 [95.2 kB]
Get:2 http://archive.ubuntu.com/ubuntu noble-updates/main amd64 libper15.38t64 amd64 5.38.2-3.2build2.1 [4867 kB]
Get:3 http://archive.ubuntu.com/ubuntu noble-updates/main amd64 perl amd64 5.38.2-3.2build2.1 [231 kB]
Get:4 http://archive.ubuntu.com/ubuntu noble-updates/main amd64 perl-base amd64 5.38.2-3.2build2.1 [1823 kB]
Get:5 http://archive.ubuntu.com/ubuntu noble-updates/main amd64 perl-modules-5.38 all 5.38.2-3.2build2.1 [3110 kB]
Get:6 http://archive.ubuntu.com/ubuntu noble-updates/main amd64 util-linux amd64 2.39.3-9ubuntu6.2 [1127 kB]
Get:7 http://archive.ubuntu.com/ubuntu noble-updates/main amd64 mount amd64 2.39.3-9ubuntu6.2 [118 kB]
Get:8 http://archive.ubuntu.com/ubuntu noble-updates/main amd64 libcap2 amd64 1:2.66-5ubuntu2.1 [30.1 kB]
Get:9 http://archive.ubuntu.com/ubuntu noble-updates/main amd64 libnss-systemd amd64 255.4-1ubuntu8.5 [159 kB]
Get:10 http://archive.ubuntu.com/ubuntu noble-updates/main amd64 systemd-dev all 255.4-1ubuntu8.5 [104 kB]
Get:11 http://archive.ubuntu.com/ubuntu noble-updates/main amd64 libblkid1 amd64 2.39.3-9ubuntu6.2 [123 kB]
Get:12 http://archive.ubuntu.com/ubuntu noble-updates/main amd64 kmod amd64 31+20240202-2ubuntu7.1 [101 kB]
Get:13 http://archive.ubuntu.com/ubuntu noble-updates/main amd64 libkmod2 amd64 31+20240202-2ubuntu7.1 [51.7 kB]
Get:14 http://archive.ubuntu.com/ubuntu noble-updates/main amd64 libpcre2-8-0 amd64 10.42-4ubuntu2.1 [227 kB]
Get:15 http://archive.ubuntu.com/ubuntu noble-updates/main amd64 libselinux1 amd64 3.5-2ubuntu2.1 [79.7 kB]
Get:16 http://archive.ubuntu.com/ubuntu noble-updates/main amd64 systemd-timesyncd amd64 255.4-1ubuntu8.5 [35.3 kB]
Get:17 http://archive.ubuntu.com/ubuntu noble-updates/main amd64 systemd-resolved amd64 255.4-1ubuntu8.5 [296 kB]
Get:18 http://archive.ubuntu.com/ubuntu noble-updates/main amd64 libsystemd-shared amd64 255.4-1ubuntu8.5 [2069 kB]
Get:19 http://archive.ubuntu.com/ubuntu noble-updates/main amd64 libsystemd0 amd64 255.4-1ubuntu8.5 [433 kB]
Get:20 http://archive.ubuntu.com/ubuntu noble-updates/main amd64 systemd-sysv amd64 255.4-1ubuntu8.5 [11.9 kB]
```

Activate Windows

```
PS C:\Users\Administrator> wsl --update
Checking for updates.
The most recent version of Windows Subsystem for Linux is already installed.
```

SWITCH BETWEEN WSL1 AND WSL2:

```
PS C:\Users\Administrator> wsl --list --verbose
  NAME              STATE           VERSION
* docker-desktop    Stopped         2
  Ubuntu            Running         2
PS C:\Users\Administrator>
```

```
PS C:\Users\Administrator> wsl --set-version Ubuntu 2
For information on key differences with WSL 2 please visit https://aka.ms/wsl2
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>
```

SET A DEFAULT LINUX DISTRIBUTION:

```
PS C:\Users\Administrator> wsl --list
Windows Subsystem for Linux Distributions:
docker-desktop (Default)
Ubuntu
PS C:\Users\Administrator>
```

```
PS C:\Users\Administrator> wsl --setdefault Ubuntu
The operation completed successfully.
PS C:\Users\Administrator> wsl --list
Windows Subsystem for Linux Distributions:
Ubuntu (Default)
docker-desktop
```

MOVE OR CLONE YOUR LINUX DISK IMAGE:

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


    Directory: D:\


Mode                 LastWriteTime         Length Name
----                 -------------         ------ ----
d-----        04-02-2025     13:41                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.
PS C:\Users\Administrator>
```

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

```
PS C:\Users\Administrator> mkdir D:\wsl


    Directory: D:\


Mode                 LastWriteTime         Length Name
----                 -------------         ------ ----
d-----        04-02-2025     13:49                wsl


PS 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>
```

```
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>
```

ACCESS LINUX FILES FROM WINDOWS:

```
sahil@18cfbe74344a5b9:~$ sudo touch /etc/wsl.conf
[sudo] password for sahil:
sahil@18cfbe74344a5b9:~$ nano /etc/wsl.conf
sahil@18cfbe74344a5b9:~$
sahil@18cfbe74344a5b9:~$ sudo nano /etc/wsl.conf
sahil@18cfbe74344a5b9:~$
```

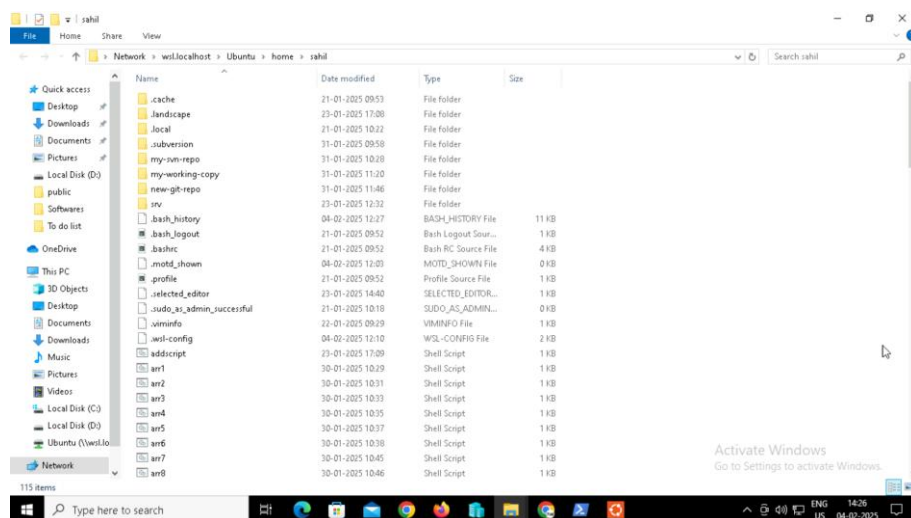sahil@18cfbe74344a5b9: ~

```
  GNU nano 7.2
[boot]
systemd=true
[user]
default=sahil
```

```
sahil@18cfbe74344a5b9:~$ explorer.exe .
sahil@18cfbe74344a5b9:~$
```

RUN LINUX COMMANDS FROM WINDOWS

```
PS C:\Users\Administrator> wsl touch abc.txt
PS C:\Users\Administrator> wsl ls
3D Objects
AppData
Application Data
Contacts
Cookies
D:backup
Desktop
Documents
Downloads
Favorites
```

INSTALLING GRAPHICAL LINUX APPLICATION:

```
sahil@18cfbe74344a5b9:~$ sudo apt install gedit
[sudo] password for sahil:
Reading package lists... Done
Building dependency tree... Done
Reading state information... Done
The following package was automatically installed and is no longer required:
  libllvm17t64
Use 'sudo apt autoremove' to remove it.
The following additional packages will be installed:
  alsa-topology-conf alsa-ucm-conf aspell aspell-en bubblewrap dictionaries-common docbook-xml emacsen-common enchant-2 gedit-common gir1.2-amtk-5
  gir1.2-atk-1.0 gir1.2-freedesktop gir1.2-gdkpixbuf-2.0 gir1.2-gtk-3.0 gir1.2-gtksource-300 gir1.2-harfbuzz-0.0 gir1.2-pango-1.0 gir1.2-peas-1.0
  gir1.2-tepl-6 glib-networking glib-networking-common glib-networking-services gstreamer1.0-gl gstreamer1.0-plugins-base gstreamer1.0-plugins-good
  gstreamer1.0-x hunspell-en-us libaa1 libadwaita-1-0 libasound2-data libasound2t64 libaspell15 libasyncns0 libatomic1 libavc1394-0 libcaca0
  libcairo-script-interpreter2 libcdparanoia0 libdv4t64 libenchant-2-2 libevdev2 libflac12t64 libgedit-amtk-5-0 libgedit-amtk-5-common
  libgedit-gtksourceview-300-0 libgedit-gtksourceview-300-common libgles2 libgraphene-1.0-0 libgspell-1-2 libgspell-1-common libgstreamer-gl1.0-0
  libgstreamer-plugins-base1.0-0 libgstreamer-plugins-good1.0-0 libgtk-4-1 libgtk-4-bin libgtk-4-common libgtk-4-media-gstreamer libgudev-1.0-0
  libhandy-1-0 libharfbuzz-gobject0 libharfbuzz-icu0 libhunspell-1.7-0 libhyphen0 libiec61883-0 libjavascriptcoregtk-4.1-0 libjson-glib-1.0-0
  libjson-glib-1.0-common libmanette-0.2-0 libmp3lame0 libmpg123-0t64 libogg0 libopus0 liborc-0.4-0t64 libpangoxft-1.0-0 libpeas-1.0-0 libpeas-common
  libpipewire-0.3-0t64 libpipewire-0.3-common libproxy1v5 libpulse0 libraw1394-11 libsecret-1-0 libsecret-common libshout3 libsndfile1 libsoup-3.0-0
  libsoup-3.0-common libspa-0.2-modules libspeex1 libtag1v5 libtag1v5-vanilla libtepl-6-4 libtepl-common libtheora0 libtwolame0 libv4l-0t64
  libv4lconvert0t64 libvisual-0.4-0 libvorbis0a libvorbisenc2 libvpx9 libwavpack1 libwebkit2gtk-4.1-0 libwebpdemux2 libwebpmux3 libwebrtc-audio-proces
  libwoff1 libxft2 libxv1 libyelp0 python3-cairo python3-gi-cairo sgml-data xdg-dbus-proxy xdg-desktop-portal xdg-desktop-portal-gtk yelp yelp-xsl zen
  zenity-common
Suggested packages:
  aspell-doc spellutils wordlist docbook docbook-dsssl docbook-xsl docbook-defguide gedit-plugins gvfs hunspell openoffice.org-hunspell
  | openoffice.org-core alsa-utils libasound2-plugins libdv-bin oss-compat libenchant-2-voikko libvisual-0.4-plugins opus-tools pipewire pulseaudio
  libraw1394-doc speex gstreamer1.0-libav gstreamer1.0-plugins-bad gstreamer1.0-alsa perlsgml w3-recs opensp accountsservice evince
  xdg-desktop-portal-gnome
The following NEW packages will be installed:
  alsa-topology-conf alsa-ucm-conf aspell aspell-en bubblewrap dictionaries-common docbook-xml emacsen-common enchant-2 gedit gedit-common gir1.2-amtk
  gir1.2-atk-1.0 gir1.2-freedesktop gir1.2-gdkpixbuf-2.0 gir1.2-gtk-3.0 gir1.2-gtksource-300 gir1.2-harfbuzz-0.0 gir1.2-pango-1.0 gir1.2-peas-1.0
```