

1) 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 07:05:25 UTC 2025

System load:  0.16               Processes:           67
Usage of /:   0.2% of 1006.85GB  Users logged in:    0
Memory usage: 6%                IPv4 address for eth0: 172.30.10.97
Swap usage:   0%                IPv4 address for eth0: 172.30.10.100

 * 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/prab/.hushlogin file.
prab@8f7b90438d62516:~$
```

2) Update Linux

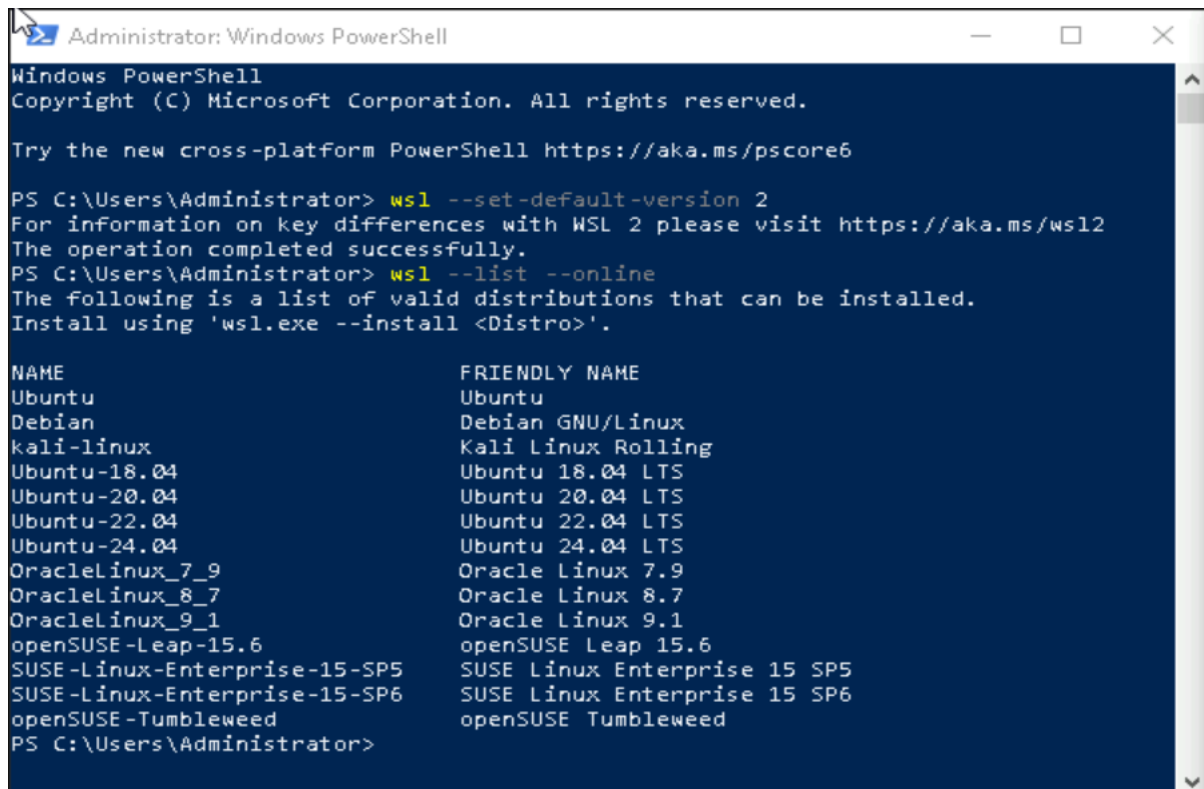
```
prab@8f7b90438d62516:~$ sudo apt update
[sudo] password for prab:
Get:1 http://security.ubuntu.com/ubuntu noble-security InRelease [126 kB]
Hit:2 http://archive.ubuntu.com/ubuntu noble InRelease
Get:3 http://archive.ubuntu.com/ubuntu noble-updates InRelease [126 kB]
Get:4 http://security.ubuntu.com/ubuntu noble-security/main amd64 Packages [615 kB]
Get:5 http://archive.ubuntu.com/ubuntu noble-backports InRelease [126 kB]
Get:6 http://archive.ubuntu.com/ubuntu noble-updates/main amd64 Packages [838 kB]
Get:7 http://security.ubuntu.com/ubuntu noble-security/main Translation-en [118 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://security.ubuntu.com/ubuntu noble-security/universe amd64 Components [52.0 kB]
Get:13 http://archive.ubuntu.com/ubuntu noble-updates/universe amd64 Packages [1003 kB]
Get:14 http://security.ubuntu.com/ubuntu noble-security/restricted amd64 Packages [620 kB]
Get:15 http://security.ubuntu.com/ubuntu noble-security/restricted Translation-en [119 kB]
Get:16 http://archive.ubuntu.com/ubuntu noble-updates/universe Translation-en [250 kB]
Get:17 http://security.ubuntu.com/ubuntu noble-security/restricted amd64 Components [208 B]
Get:18 http://security.ubuntu.com/ubuntu noble-security/multiverse amd64 Components [208 B]
Get:19 http://archive.ubuntu.com/ubuntu noble-updates/universe amd64 Components [315 kB]
Get:20 http://archive.ubuntu.com/ubuntu noble-updates/restricted amd64 Packages [631 kB]
Get:21 http://archive.ubuntu.com/ubuntu noble-updates/restricted Translation-en [121 kB]
Get:22 http://archive.ubuntu.com/ubuntu noble-updates/restricted amd64 Components [212 B]
Get:23 http://archive.ubuntu.com/ubuntu noble-updates/multiverse amd64 Packages [16.3 kB]
Get:24 http://archive.ubuntu.com/ubuntu noble-updates/multiverse Translation-en [3944 B]
Get:25 http://archive.ubuntu.com/ubuntu noble-updates/multiverse amd64 Components [940 B]
Get:26 http://archive.ubuntu.com/ubuntu noble-backports/main amd64 Components [208 B]
Get:27 http://archive.ubuntu.com/ubuntu noble-backports/universe amd64 Components [17.7 kB]
Get:28 http://archive.ubuntu.com/ubuntu noble-backports/restricted amd64 Components [212 B]
Get:29 http://archive.ubuntu.com/ubuntu noble-backports/multiverse amd64 Components [212 B]
Fetched 6256 kB in 8s (778 kB/s)
Reading package lists... Done
Building dependency tree... Done
Reading state information... Done
```

Activate Windows
Go to Settings to activate Windows.

```
prab@8f7b90438d62516:~$ 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:
liblvm17t64
Use 'sudo apt autoremove' to remove it.
The following NEW packages will be installed:
liblvm19 mesa-libgallium
The following upgrades have been deferred due to phasing:
wsl-setup
The following packages will be upgraded:
attr kmod libattr1 libbsd0 libcap2 libcap2-bin libdrm-amdgpu1 libdrm-common libdrm-intel1 libdrm-nouveau2 libdrm-radeon1 libdrm2 libdw1t64 libegl-mesa0
libelf1t64 libgbm1 libgl1-mesa-dri libglapi-mesa libglx-mesa0 libgmp10 libgpg-error-1.0 libgpg-error0 libidn2-0 libisl23 libkmod2 libmd0 libmpc3
libmpfr6 libnghttp2-14 libnl-3-200 libnl-genl-3-200 libnl-route-3-200 libnss-systemd libpam-cap libpam-systemd libpcre2-8-0 libperl5.38t64 libselinux1
libsqlite3-0 libsystemd-shared libsystemd0 libudev1 libunistring5 liburwind8 mesa-vulkan-drivers perl perl-base perl-modules-5.38 systemd systemd-dev
systemd-resolved systemd-sysv systemd-timesyncd udev
54 upgraded, 2 newly installed, 0 to remove and 1 not upgraded.
Need to get 76.8 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 libperl5.38t64 amd64 5.38.2-3.2build2.1 [4867 kB]
Get:2 http://archive.ubuntu.com/ubuntu noble-updates/main amd64 perl amd64 5.38.2-3.2build2.1 [231 kB]
Get:3 http://archive.ubuntu.com/ubuntu noble-updates/main amd64 perl-base amd64 5.38.2-3.2build2.1 [1823 kB]
Get:4 http://archive.ubuntu.com/ubuntu noble-updates/main amd64 perl-modules-5.38 all 5.38.2-3.2build2.1 [3110 kB]
Get:5 http://archive.ubuntu.com/ubuntu noble-updates/main amd64 libcap2 amd64 1:2.66-5ubuntu2.1 [30.1 kB]
Get:6 http://archive.ubuntu.com/ubuntu noble-updates/main amd64 libnss-systemd amd64 255.4-1ubuntu8.5 [159 kB]
Get:7 http://archive.ubuntu.com/ubuntu noble-updates/main amd64 systemd-dev all 255.4-1ubuntu8.5 [104 kB]
Get:8 http://archive.ubuntu.com/ubuntu noble-updates/main amd64 kmod amd64 31+20240202-2ubuntu7.1 [101 kB]
Get:9 http://archive.ubuntu.com/ubuntu noble-updates/main amd64 libkmod2 amd64 31+20240202-2ubuntu7.1 [51.7 kB]
Get:10 http://archive.ubuntu.com/ubuntu noble-updates/main amd64 libpcre2-8-0 amd64 10.42-4ubuntu2.1 [227 kB]
Get:11 http://archive.ubuntu.com/ubuntu noble-updates/main amd64 libselinux1 amd64 3.5-2ubuntu2.1 [79.7 kB]
Get:12 http://archive.ubuntu.com/ubuntu noble-updates/main amd64 systemd-timesyncd amd64 255.4-1ubuntu8.5 [35.3 kB]
Get:13 http://archive.ubuntu.com/ubuntu noble-updates/main amd64 systemd-resolved amd64 255.4-1ubuntu8.5 [296 kB]
```

```
Administrator: Windows PowerShell
PS C:\Users\Administrator> wsl --update
Checking for updates.
The most recent version of Windows Subsystem for Linux is already installed.
PS C:\Users\Administrator> wsl --list --verbose
  NAME                STATE      VERSION
* docker-desktop    Stopped      2
  Ubuntu              Running      2
PS C:\Users\Administrator>
```

3) Switch Between WSL1 and WSL2

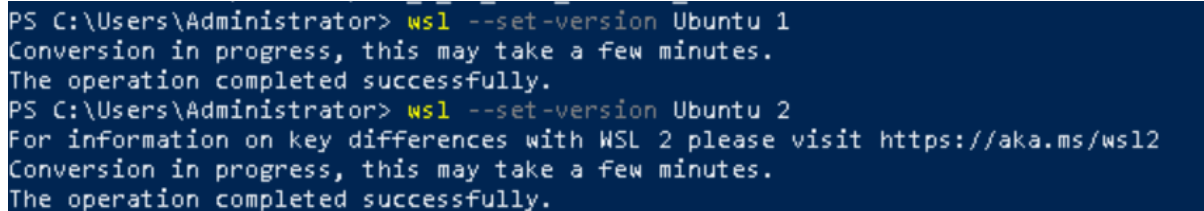


```
Administrator: Windows PowerShell
Windows PowerShell
Copyright (C) Microsoft Corporation. All rights reserved.

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

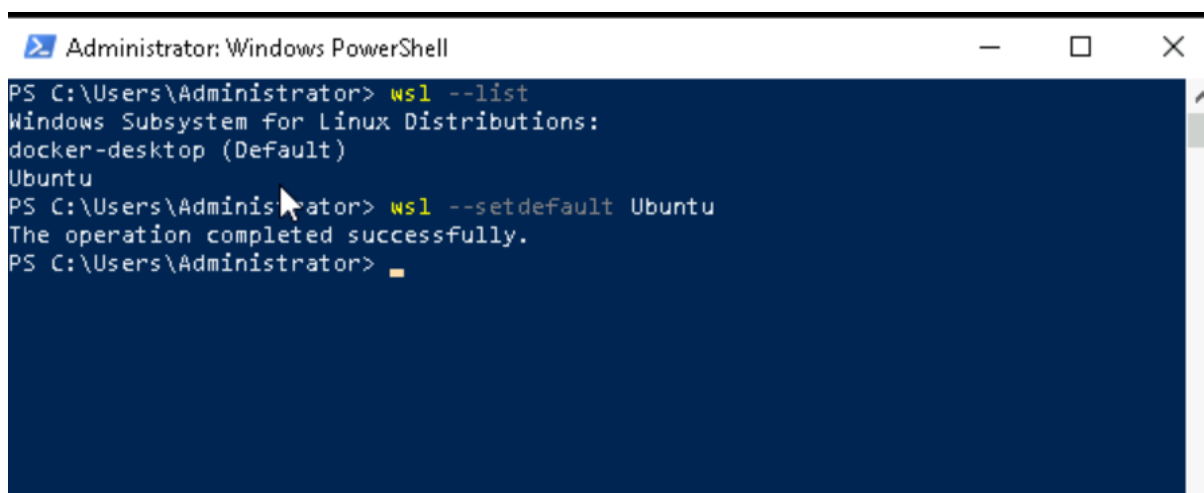
PS C:\Users\Administrator> wsl --set-default-version 2
For information on key differences with WSL 2 please visit https://aka.ms/wsl2
The operation completed successfully.
PS C:\Users\Administrator> wsl --list --online
The following is a list of valid distributions that can be installed.
Install using 'wsl.exe --install <Distro>'.

NAME                                FRIENDLY NAME
Ubuntu                              Ubuntu
Debian                              Debian GNU/Linux
kali-linux                          Kali Linux Rolling
Ubuntu-18.04                        Ubuntu 18.04 LTS
Ubuntu-20.04                        Ubuntu 20.04 LTS
Ubuntu-22.04                        Ubuntu 22.04 LTS
Ubuntu-24.04                        Ubuntu 24.04 LTS
Oraclelinux_7_9                    Oracle Linux 7.9
Oraclelinux_8_7                    Oracle Linux 8.7
Oraclelinux_9_1                    Oracle Linux 9.1
openSUSE-Leap-15.6                 openSUSE Leap 15.6
SUSE-Linux-Enterprise-15-SP5       SUSE Linux Enterprise 15 SP5
SUSE-Linux-Enterprise-15-SP6       SUSE Linux Enterprise 15 SP6
openSUSE-Tumbleweed                openSUSE Tumbleweed
PS C:\Users\Administrator>
```



```
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> 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 operation completed successfully.
```

4) Set a Default Linux Distribution



```
Administrator: Windows PowerShell

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

5) Run Linux as a Specific User

```
prab@8f7b90438d62516: /mnt/c/Users/Administrator
PS C:\Users\Administrator> wsl --user prab
prab@8f7b90438d62516: /mnt/c/Users/Administrator$
```

6) Move or Clone Your Linux Disk Image

```
Administrator: Windows PowerShell
PS C:\Users\Administrator> wsl -list
Invalid command line argument: -list
Please use 'wsl.exe --help' to get a list of supported arguments.
PS C:\Users\Administrator> wsl --list
Windows Subsystem for Linux Distributions:
Ubuntu (Default)
docker-desktop
PS C:\Users\Administrator> mkdir D:\backup

Directory: D:\

Mode                LastWriteTime         Length Name
----                -
d-----          04-02-2025   12:45             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> 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   14:27             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> 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>
```

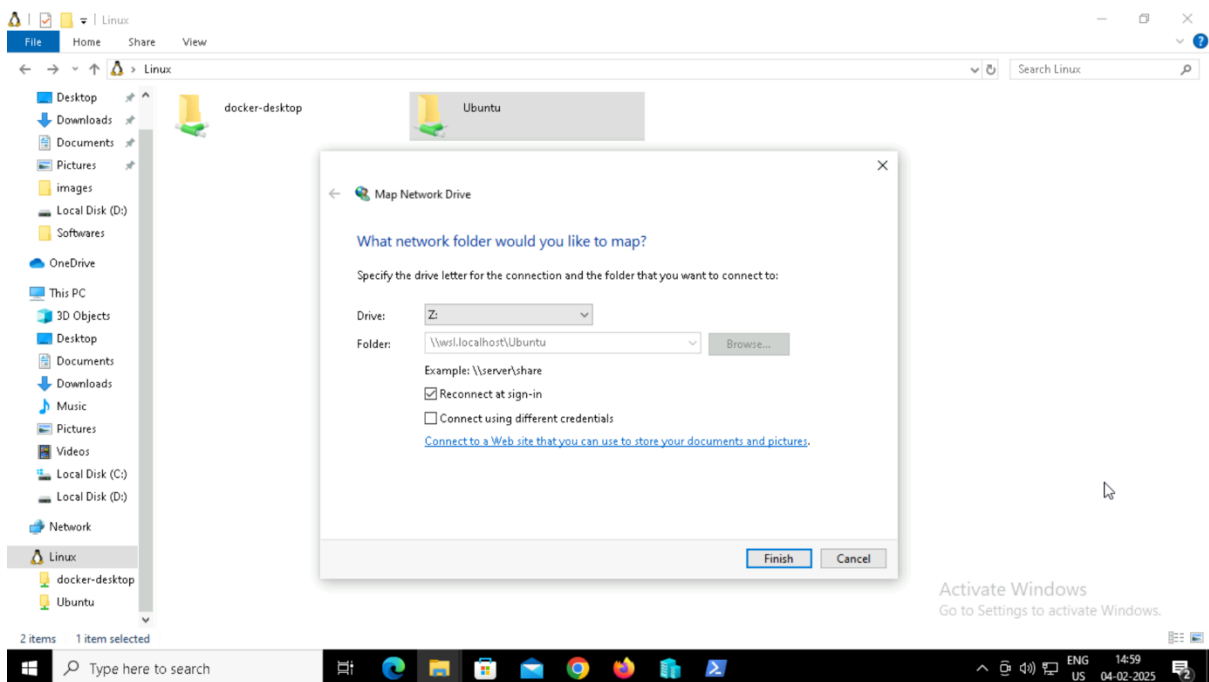
```
Administrator: Windows PowerShell

prab@8f7b90438d62516:/mnt/c/Users/Administrator$ sudo touch /etc/wsl.conf
prab@8f7b90438d62516:/mnt/c/Users/Administrator$ sudo nano /etc/wsl.conf
prab@8f7b90438d62516:/mnt/c/Users/Administrator$ exit
logout
PS C:\Users\Administrator> wsl --terminate prab2
```

```
Administrator: Windows PowerShell

prab@8f7b90438d62516:/mnt/c/Users/Administrator$ exit
logout
PS C:\Users\Administrator> wsl --list --verbose
NAME                STATE              VERSION
* Ubuntu             Running            2
docker-desktop       Stopped            2
PS C:\Users\Administrator> wsl --terminate docker-Desktop
The operation completed successfully.
PS C:\Users\Administrator>
```

7) Map a Network Drive

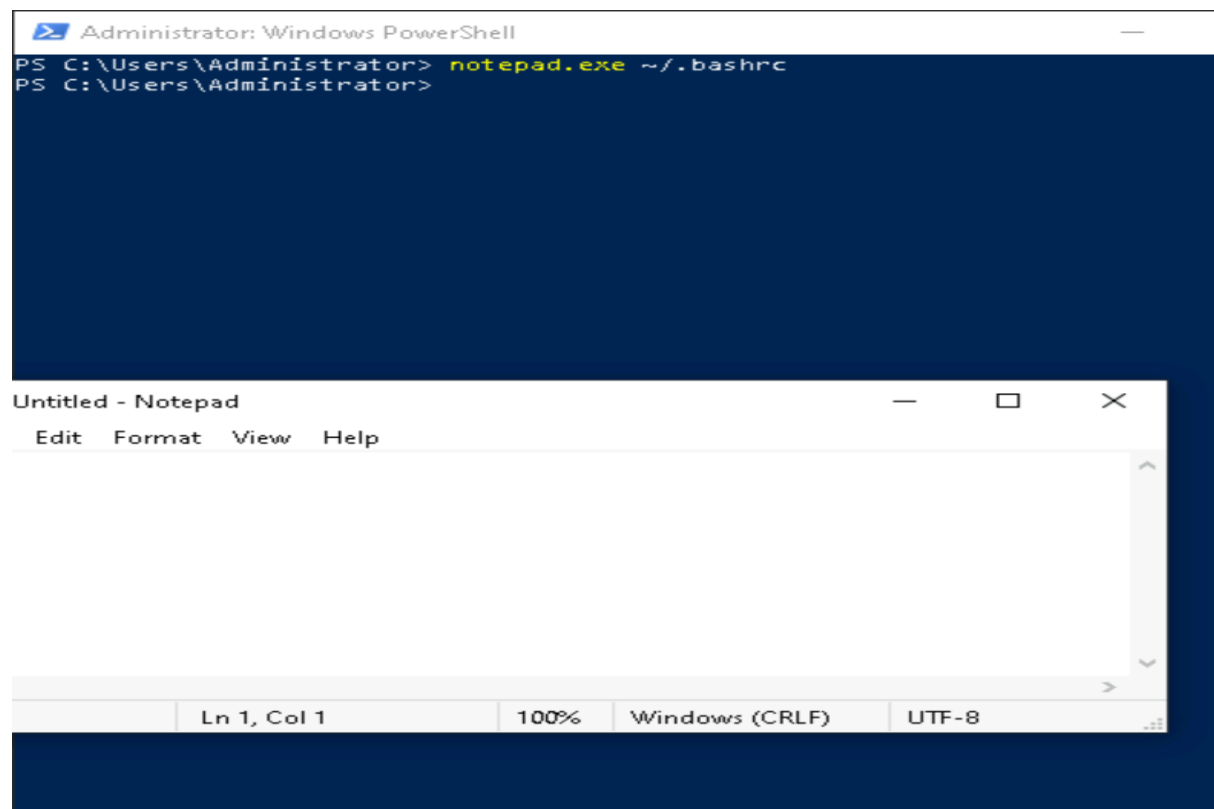
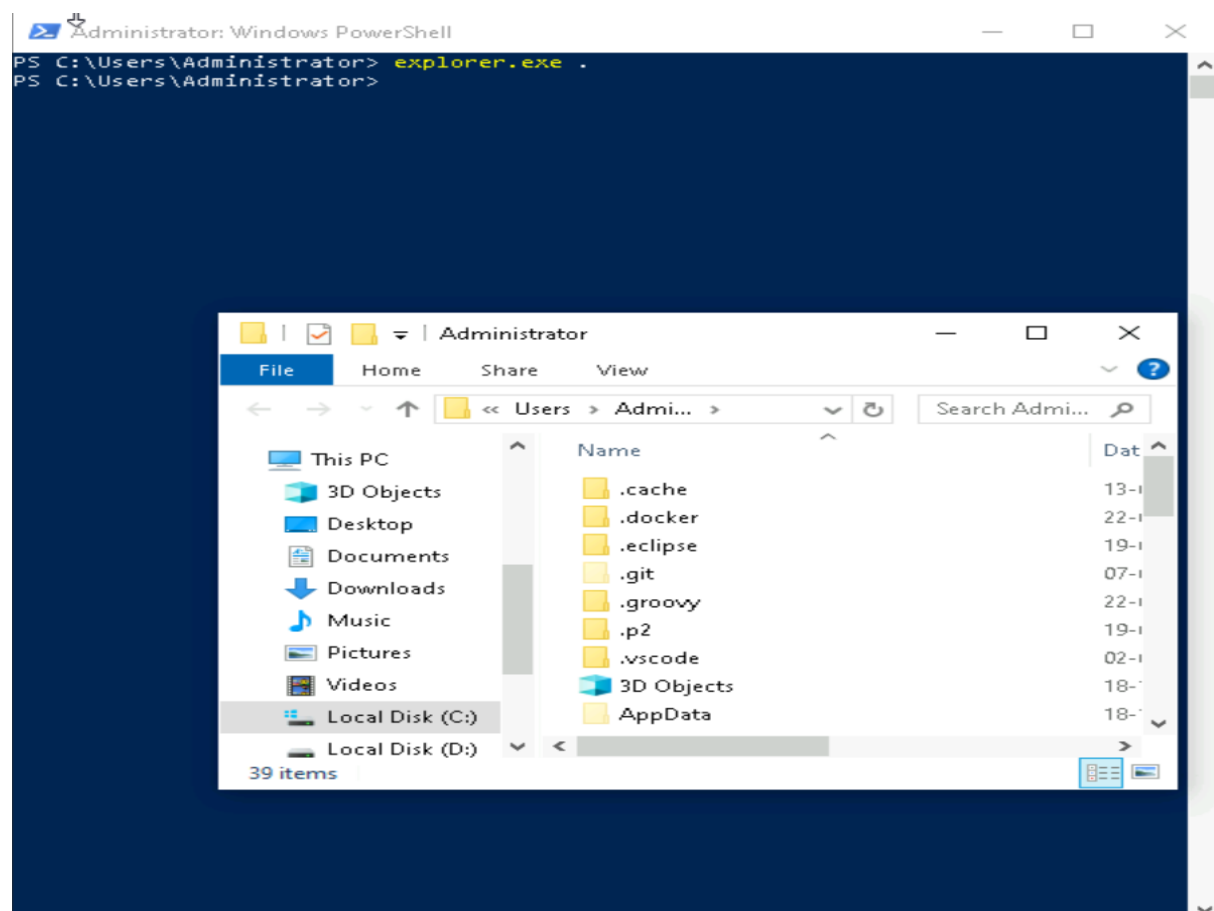


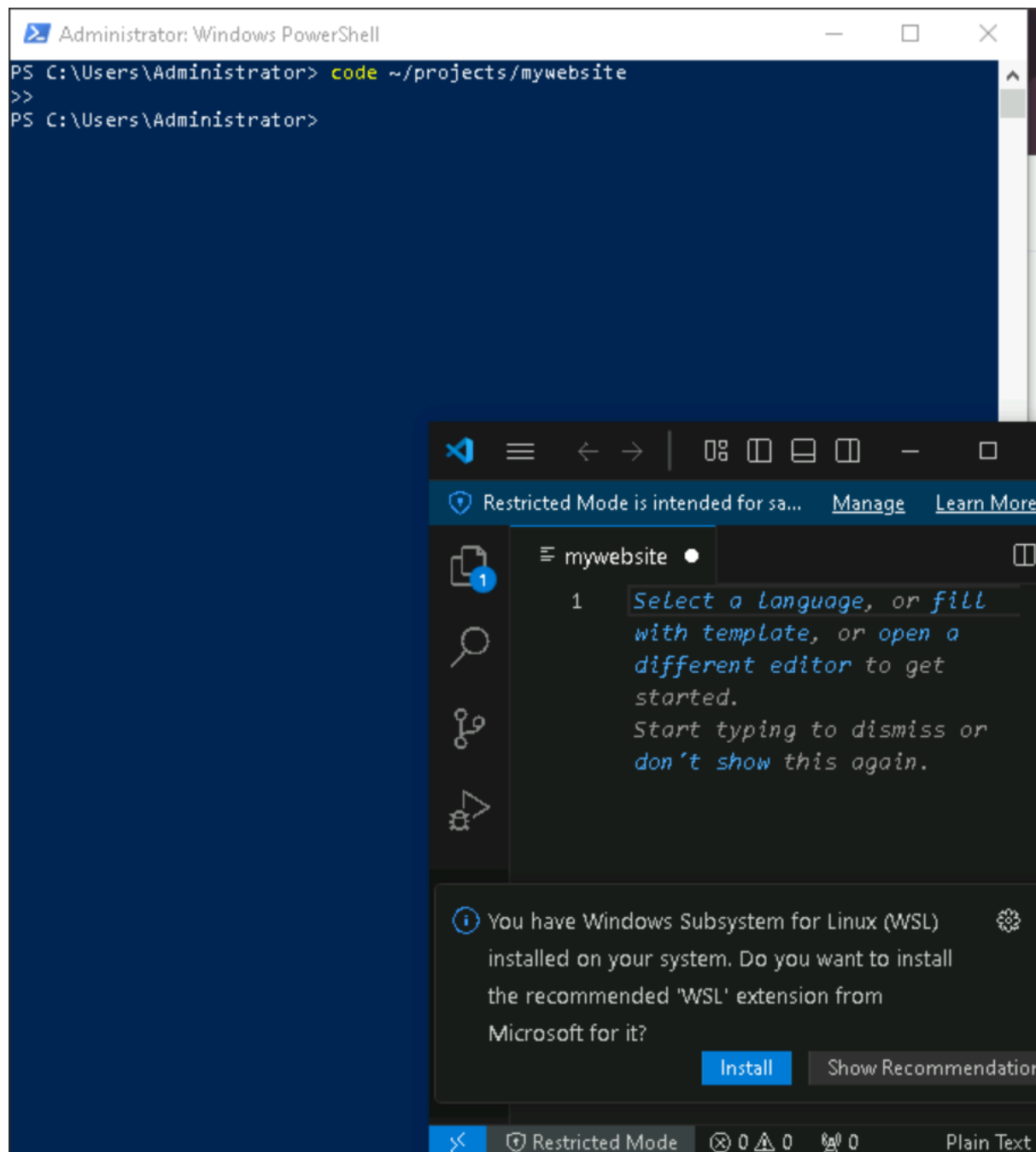
8) Run Linux Commands from Windows

```
Administrator: Windows PowerShell

PS C:\Users\Administrator> wsl pwd
/mnt/c/Users/Administrator
PS C:\Users\Administrator>
```

9) Run Windows Applications from Linux





10) Install Applications

```
prab@8f7b90438d62516: /mnt/c/Users/Administrator
PS C:\Users\Administrator> git config --global core.autocrlf input
PS C:\Users\Administrator> wsl --user prab
prab@8f7b90438d62516: /mnt/c/Users/Administrator$ sudo apt install git-all
[sudo] password for prab:
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:
  cvs cvsps git-cvs git-doc git-email git-gui git-mediawiki gitk gitweb
  libalgorithm-c3-perl libauthen-sasl-perl libb-hooks-endofscope-perl
  libb-hooks-op-check-perl libcgi-fast-perl libcgi-pm-perl libclass-c3-perl
  libclass-c3-xs-perl libclass-data-inheritable-perl libclass-inspector-perl
  libclass-method-modifiers-perl libclass-singleton-perl libclass-xsaccessor-perl
  libclone-perl libcommon-sense-perl libdata-dump-perl libdata-optlist-perl
  libdatetime-format-builder-perl libdatetime-format-iso8601-perl
  libdatetime-format-strptime-perl libdatetime-locale-perl libdatetime-perl
  libdatetime-timezone-perl libdbd-sqlite3-perl libdbi-perl
  libdevel-callchecker-perl libdevel-caller-perl libdevel-lexalias-perl
  libdevel-stacktrace-perl libdigest-bubblebabble-perl libdigest-hmac-perl
  libdynaloader-functions-perl libemail-valid-perl libencode-locale-perl
  libeval-closure-perl libexception-class-perl libfcgi-bin libfcgi-perl
  libfcgi0t64 libfile-listing-perl libfile-sharedir-perl libfont-afm-perl
  libhtml-form-perl libhtml-format-perl libhtml-parser-perl libhtml-tagset-perl
  libhtml-tree-perl libhttp-cookies-perl libhttp-daemon-perl libhttp-date-perl
  libhttp-message-perl libhttp-negotiate-perl libidn12 libio-html-perl
  libio-socket-ssl-perl libjson-perl libjson-xs-perl liblwp-mediatypes-perl
  liblwp-protocol-https-perl libmailtools-perl libmediawiki-api-perl
  libmodule-implementation-perl libmodule-runtime-perl libmro-compat-perl
  libnamespace-autoclean-perl libnamespace-clean-perl libnet-dns-perl
  libnet-dns-sec-perl libnet-domain-tld-perl libnet-http-perl libnet-libidn-perl
  libnet-smtp-ssl-perl libnet-ssleay-perl libpackage-stash-perl
  libpackage-stash-xs-perl libpadwalker-perl libparams-classify-perl
  libparams-util-perl libparams-validate-perl libparams-validationcompiler-perl
  libperl4-corelibs-perl libreadonly-perl libref-util-perl libref-util-xs-perl
  librole-tiny-perl libspecio-perl libsub-exporter-perl
  libsub-exporter-progressive-perl libsub-identify-perl libsub-install-perl
  libsub-name-perl libsub-quote-perl libtimedate-perl libtry-tiny-perl
  libtypes-serialiser-perl liburi-perl libvariable-magic-perl libwww-perl
  libwww-robotrules-perl libxstring-perl perl-openssl-defaults tcl tcl8.6 tk
  tk8.6
Suggested packages:
  mksh rcs git-daemon-run | git-daemon-sysvinit aspell meld mediawiki
  libgssapi-perl libmdbm-perl libnet-daemon-perl libsql-statement-perl
```


11) Installing Graphical Linux Applications

```
prab@8f7b90438d62516: /mnt/c/Users/Administrator
prab@8f7b90438d62516:/mnt/c/Users/Administrator$ sudo apt install gedit
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 emacs-en-common enchant-2 gedit-common
  gir1.2-atk-1.0 gir1.2-freedesktop gir1.2-gdkpixbuf-2.0
  gir1.2-gtk-3.0 gir1.2-gtksource-3.0 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 libavc1394-0 libcacat
  libcairo-script-interpreter2 libcdparanoia0 libdv4t64 libenchant-2-2 libevdev2
  libflac12t64 libgedit-atk-5-0 libgedit-atk-5-common
  libgedit-gtksourceview-3.0-0 libgedit-gtksourceview-3.0-common libgles2
  libgraphene-1.0-0 libgspell-1-2 libgspell-1-common libgstreamer-glib-1.0-0
  libgstreamer-plugins-base-1.0-0 libgstreamer-plugins-good-1.0-0 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 libmpeg123-0t64 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 libwebrtc-audio-processing1 libwoff1 libxv1 libyelp0
  python3-cairo python3-gi-cairo sgml-data xdg-dbus-proxy xdg-desktop-portal
  xdg-desktop-portal-gtk yelp yelp-xsl zenity 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:
```

