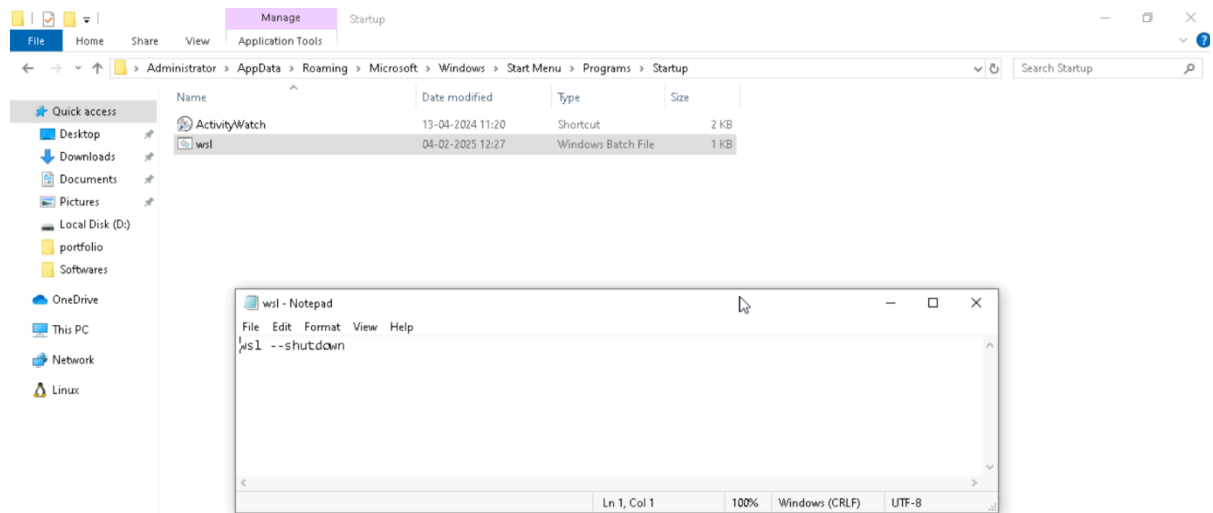
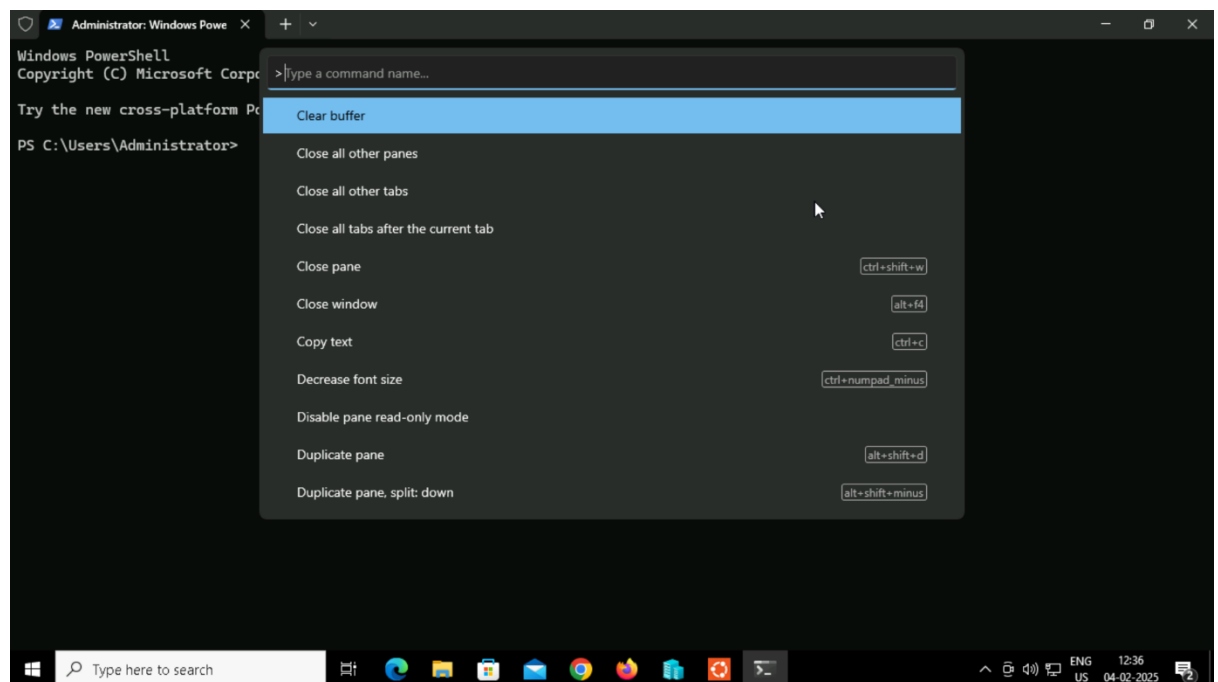


WSL ASSIGNMENT

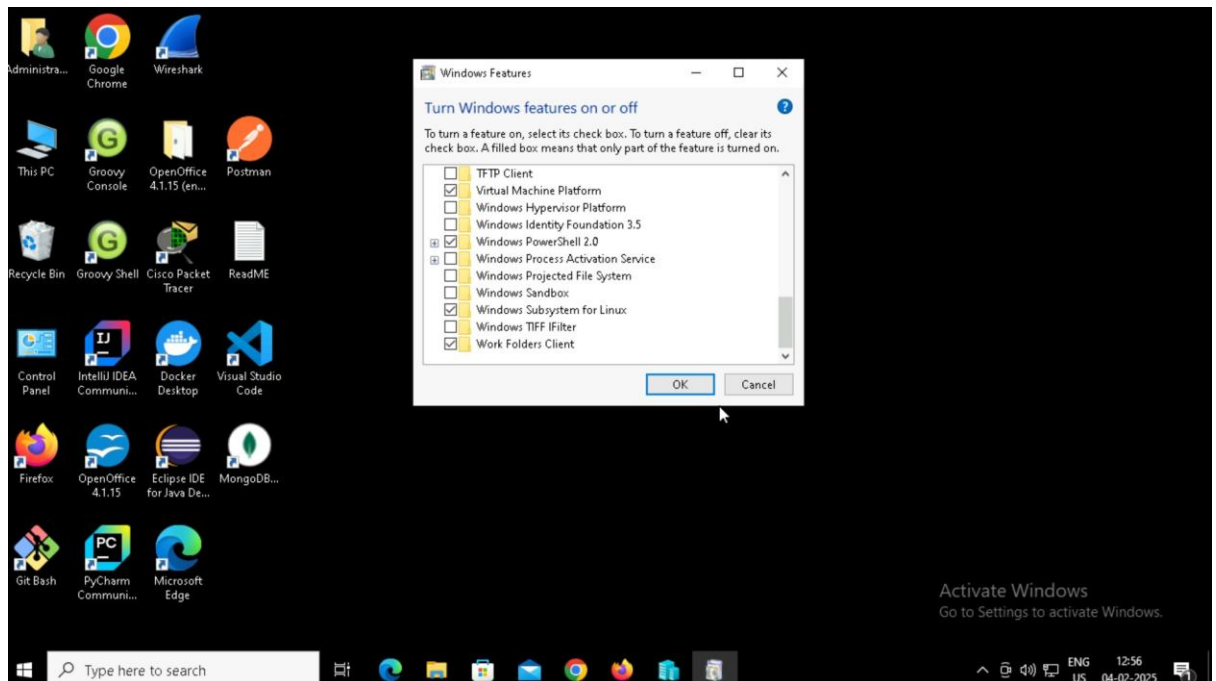
1. Create a wsl.bat file which will shut down WSL after Windows boots but it will restart as soon as you access a Linux distro



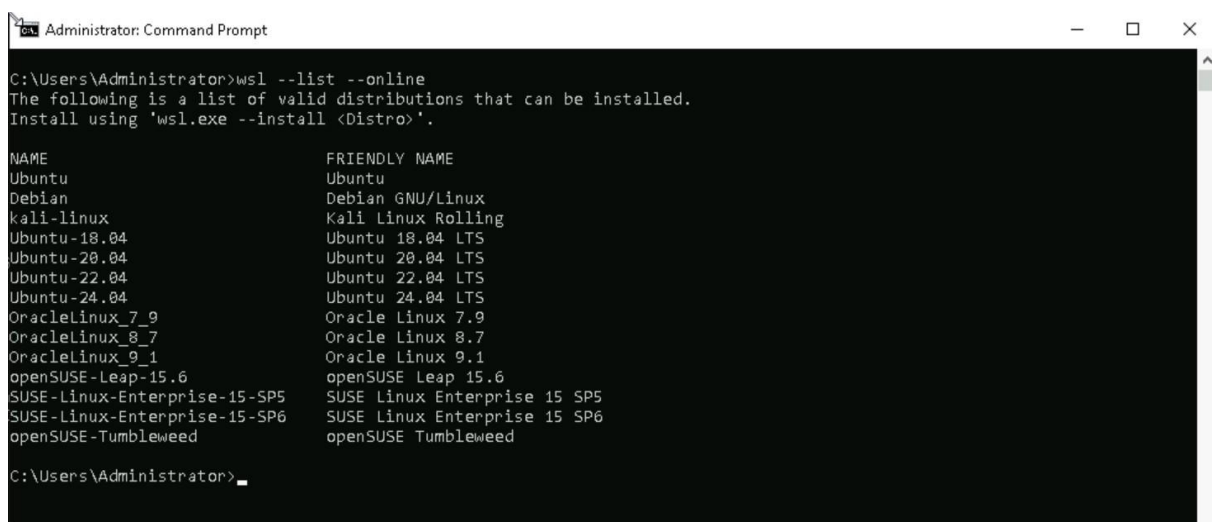
2. Windows Terminal automatically adds WSL2 Linux distros when they're installed and offers a configurable range of options including tabs, split views, themes, transparency, and key bindings.



3. The **Virtual Machine Platform** and **Windows Subsystem for Linux** features must be enabled in **Turn Windows features on or off** option. The panel is accessed by hitting Start and typing “features” or from the **Programs and Features** icon in the classic **Control Panel**.



4. Search for or locate **PowerShell** in the Start menu, right-click the icon, and choose **Run as administrator**.



```

igris@2b4579b9c7125f2: ~
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 07:29:41 UTC 2025

System load:  0.4               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

This message is shown once a day. To disable it please create the
/home/igris/.hushlogin file.
igris@2b4579b9c7125f2:~$

```

- There are likely to be several Linux updates. To update Ubuntu applications, enter the following commands in the Linux terminal:

```

igris@2b4579b9c7125f2:~$ sudo apt update
[sudo] password for igris:
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://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://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://security.ubuntu.com/ubuntu noble-security/restricted amd64 Components [208 B]
Get:17 http://security.ubuntu.com/ubuntu noble-security/multiverse amd64 Components [208 B]
Get:18 http://archive.ubuntu.com/ubuntu noble-updates/universe Translation-en [250 kB]
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 16s (398 kB/s)
Reading package lists... Done
Building dependency tree... Done
Reading state information... Done
70 packages can be upgraded. Run 'apt list --upgradable' to see them.
igris@2b4579b9c7125f2:~$

```

```

igris@2b4579b9c7125f2: ~
Reading state information... Done
70 packages can be upgraded. Run 'apt list --upgradable' to see them.
igris@2b4579b9c7125f2:~$ 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
The following packages will be upgraded:
  attr bsdxattrutils 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 libisl23
  libkmod2 libmd0 libmount1 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 libsmartcols1 libsqlite3-0
  libsystemd-shared libsystemd0 libudev1 libunistring5 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 wsl-setup
69 upgraded, 2 newly installed, 0 to remove and 1 not upgraded.
3 standard LTS security updates
Need to get 78.9 MB/80.0 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 bsdxattrutils amd64 1:2.39.3-9ubuntu6.2 [95.2 kB]
Get:2 http://archive.ubuntu.com/ubuntu noble-updates/main amd64 libperl5.38t64 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]

```


```

igris@2b4579b9c7125f2:~$ wsl --update
Command 'wsl' not found, but can be installed with:
sudo apt install wsl
igris@2b4579b9c7125f2:~$ sudo apt install wsl
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:
  libxml2-utils xsltproc
The following NEW packages will be installed:
  libxml2-utils wsl xsltproc
0 upgraded, 3 newly installed, 0 to remove and 1 not upgraded.
Need to get 73.1 kB of archives.
After this operation, 379 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/universe amd64 wsl all 0.2.1-3 [18.7 kB]
Get:3 http://archive.ubuntu.com/ubuntu noble/main amd64 xsltproc amd64 1.1.39-0exp1build1 [15.0 kB]
Fetched 73.1 kB in 2s (35.4 kB/s)
Selecting previously unselected package libxml2-utils.
(Reading database ... 59189 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 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 xsltproc (1.1.39-0exp1build1) ...
Setting up libxml2-utils (2.9.14+dfsg-1.3ubuntu3.1) ...
Setting up wsl (0.2.1-3) ...
Processing triggers for man-db (2.12.0-4build2) ...
igris@2b4579b9c7125f2:~$

```


6. Existing WSL1 distros can be converted to WSL2. For that, enter the following command in a Windows Powershell terminal to display the installed Linux distros and their WSL version
7. Try switching between WSL1 and WSL2 and also setup a default version

```
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 --install
Ubuntu is already installed.
Launching Ubuntu...
igris@2b4579b9c7125f2: $ sudo apt update
[sudo] password for igris:
Hit:1 http://archive.ubuntu.com/ubuntu noble InRelease
Get:2 http://archive.ubuntu.com/ubuntu noble-updates InRelease [126 kB]
Hit:3 http://security.ubuntu.com/ubuntu noble-security InRelease
Hit:4 http://archive.ubuntu.com/ubuntu noble-backports InRelease
Fetched 126 kB in 1s (93.4 kB/s)
Reading package lists... Done
Building dependency tree... Done
Reading state information... Done
1 package can be upgraded. Run 'apt list --upgradable' to see it.
igris@2b4579b9c7125f2: $ 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 upgrades have been deferred due to phasing:
  libunwind8
0 upgraded, 0 newly installed, 0 to remove and 1 not upgraded.
igris@2b4579b9c7125f2: $ wsl --update
Unknown command: --update
```

 Administrator: Windows PowerShell

```
ndingException
+ FullyQualifiedErrorId : PositionalParameterNotFound,Microsoft.PowerShell
1.Commands.GetProcessCommand
```

```
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 --list
Windows Subsystem for Linux Distributions:
docker-desktop (Default)
Ubuntu
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 --list --verbose
  NAME                STATE      VERSION
* docker-desktop     Stopped      2
  Ubuntu              Stopped      1
PS C:\Users\Administrator>
```

Administrator: Windows PowerShell

```
igris@2b4579b9c7125f2: $ exit
logout
The operation completed successfully.
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>
```

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

8. Move or Clone Your Linux Disk Image

Administrator: Windows PowerShell

+ FullyQualifiedErrorId : CommandNotFoundException

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

Directory: D:\

Mode	LastWriteTime	Length	Name
----	-----	-----	----
d-----	04-02-2025 15:40		backup

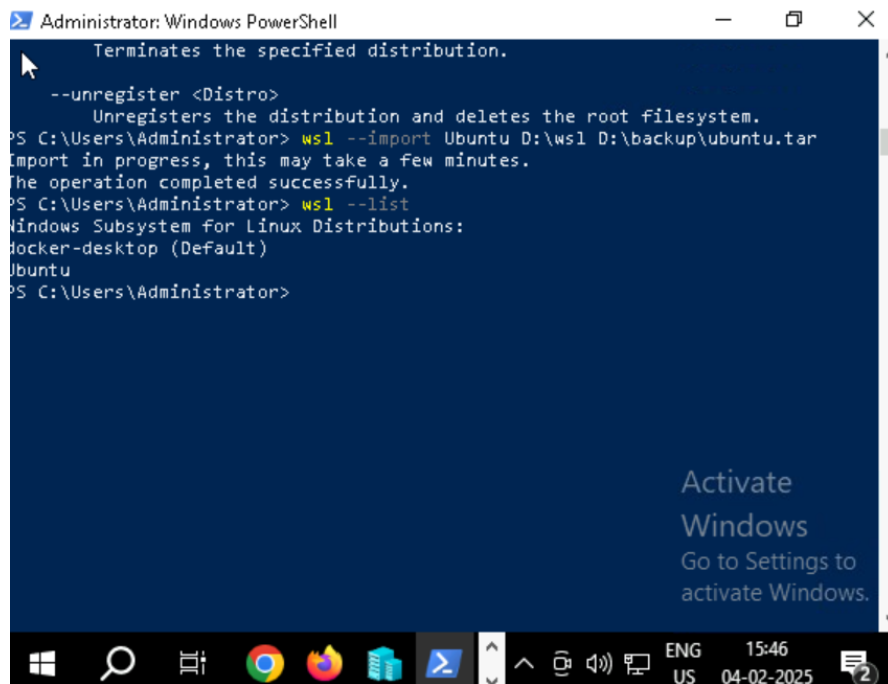
```
PS C:\Users\Administrator> wsl --export Ubuntu D:\backup\ubuntu.tar
Export in progress, this may take a few minutes.
The operation completed successfully.
```

```
PS C:\Users\Administrator> wsl --unregister Ubuntu
Unregistering.
```

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

Activate
Windows
Go to Settings to
activate Windows.





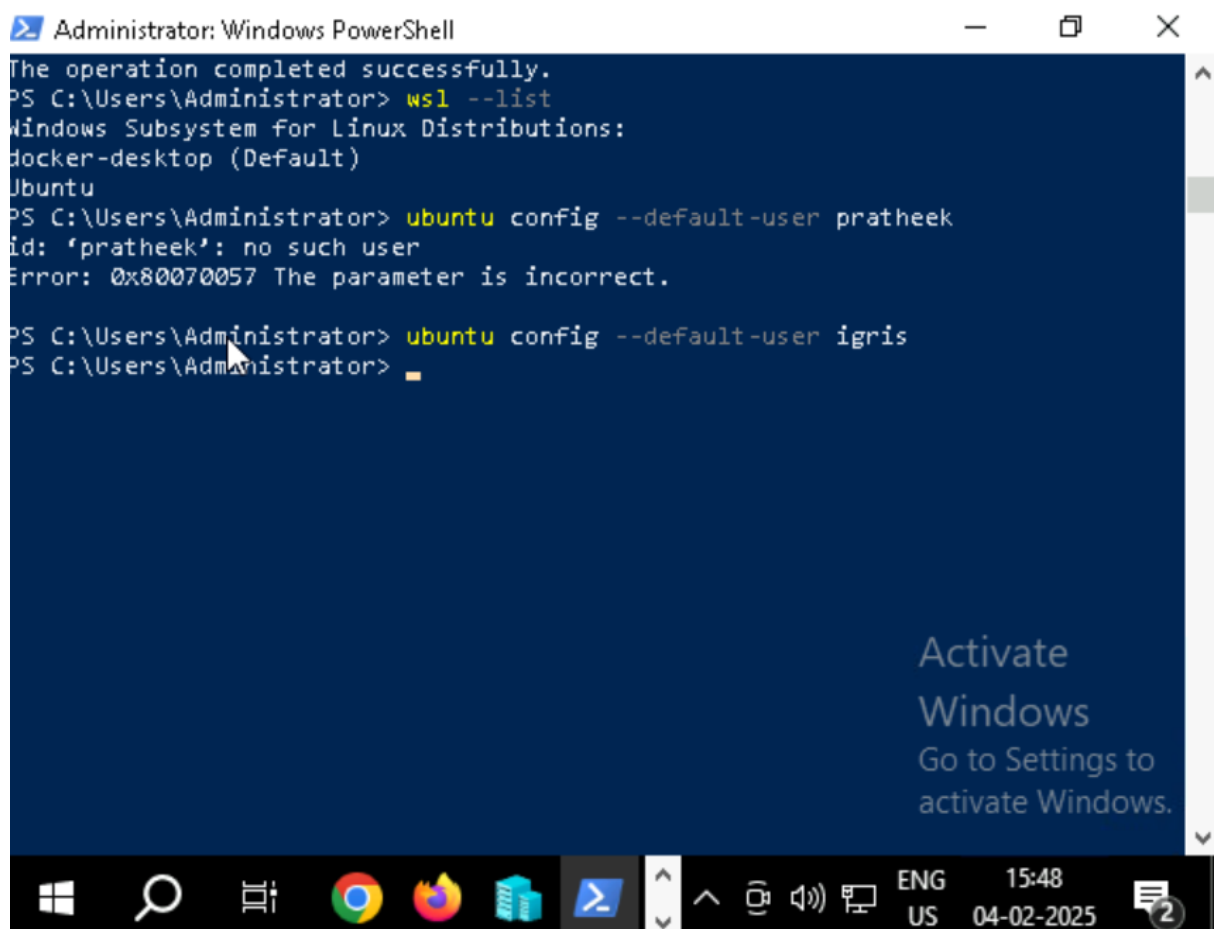
```
Administrator: Windows PowerShell

Terminates the specified distribution.

--unregister <Distro>
    Unregisters the distribution and deletes the root filesystem.
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 --list
Windows Subsystem for Linux Distributions:
docker-desktop (Default)
Ubuntu
PS C:\Users\Administrator>
```

Activate Windows
Go to Settings to activate Windows.

9. Access Linux Files from Windows and Map a Network Drive

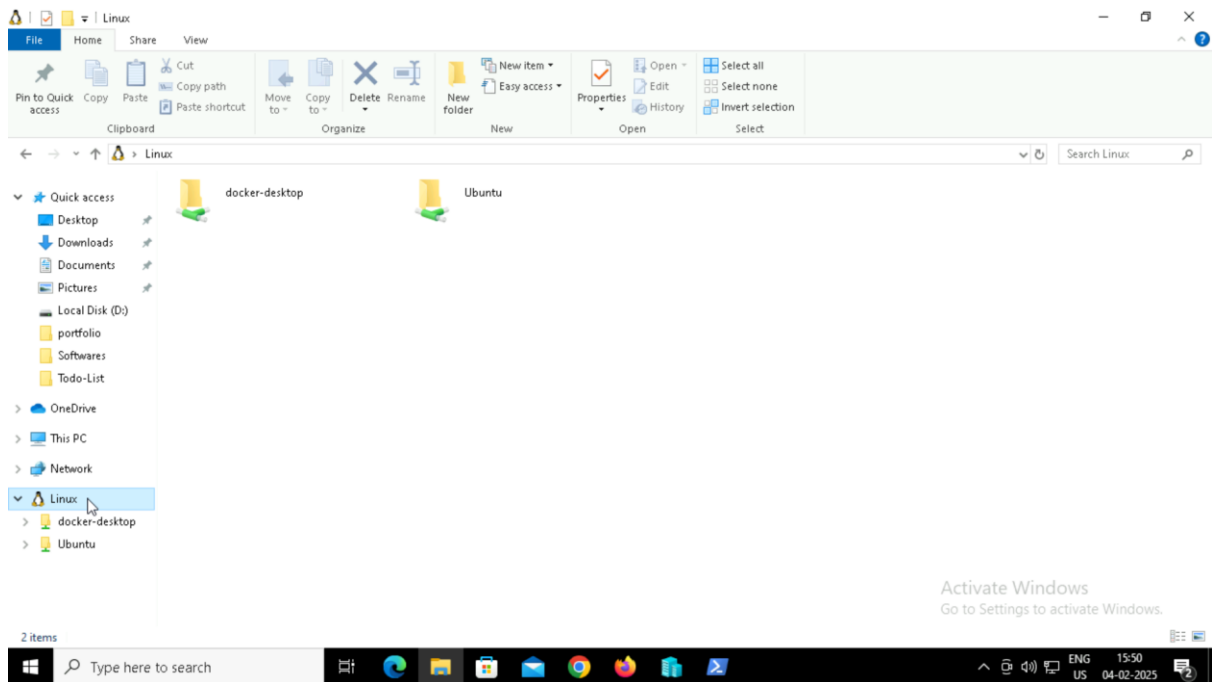


```
Administrator: Windows PowerShell

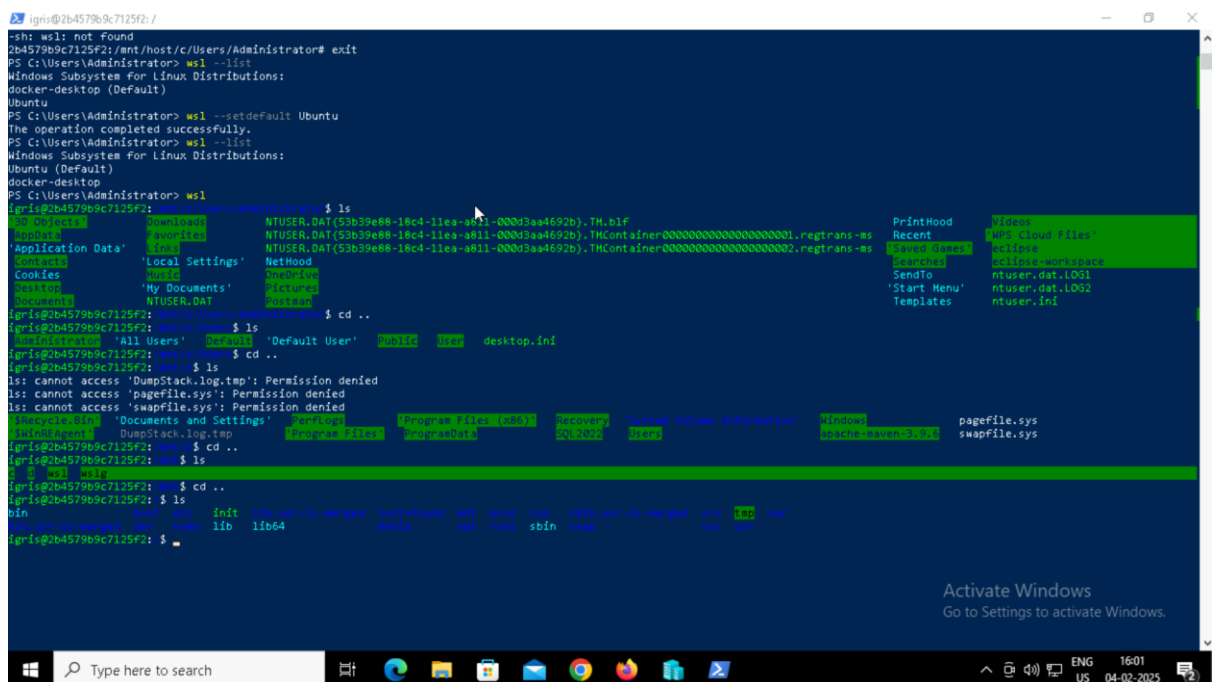
The operation completed successfully.
PS C:\Users\Administrator> wsl --list
Windows Subsystem for Linux Distributions:
docker-desktop (Default)
Ubuntu
PS C:\Users\Administrator> ubuntu config --default-user pratheek
id: 'pratheek': no such user
Error: 0x80070057 The parameter is incorrect.

PS C:\Users\Administrator> ubuntu config --default-user igris
PS C:\Users\Administrator>
```

Activate Windows
Go to Settings to activate Windows.



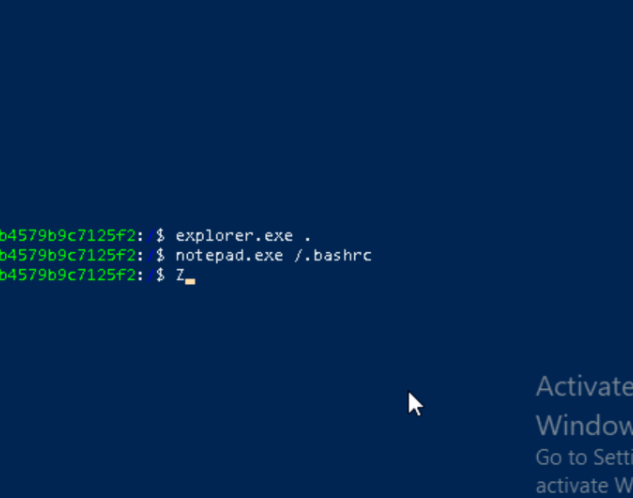
10. Accessing Windows files from Linux



11. Run Linux commands from Windows

[illegible]

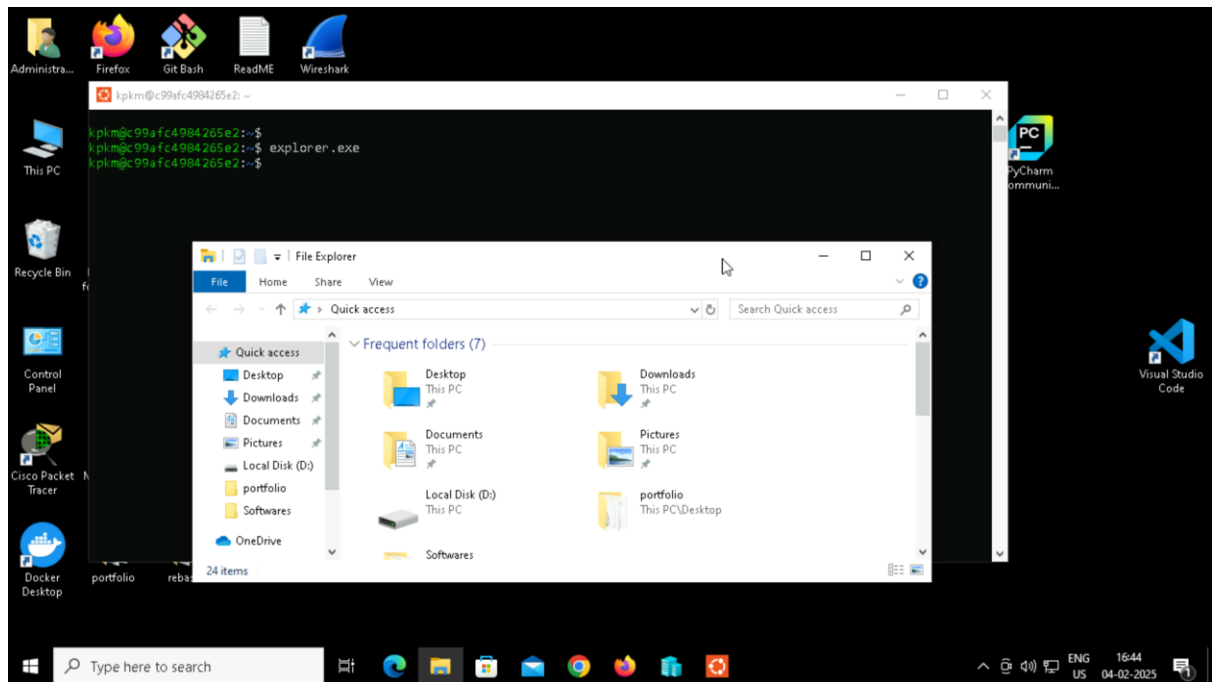
12. Run Windows applications from Linux



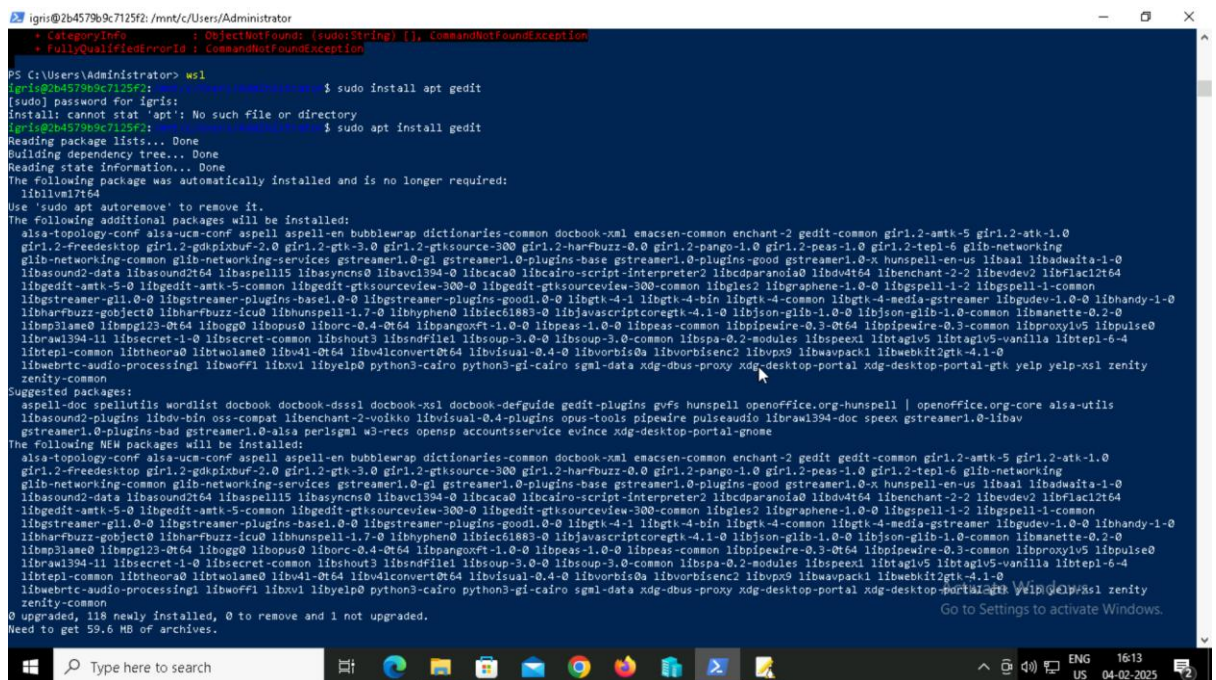
The screenshot shows a Windows terminal window with a dark blue background. The title bar at the top reads "igris@2b4579b9c7125f2: /". The terminal displays the following commands and their outputs:

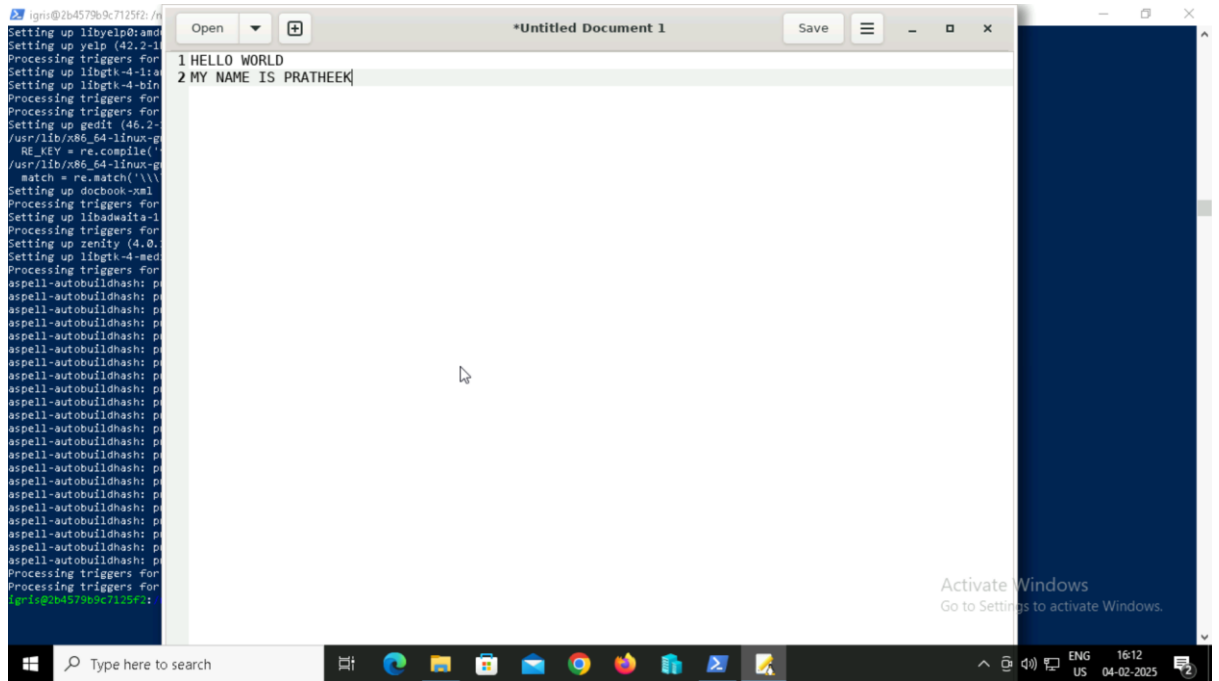
```
igris@2b4579b9c7125f2: $ explorer.exe .
igris@2b4579b9c7125f2: $ notepad.exe /.bashrc
igris@2b4579b9c7125f2: $ Z
```

At the bottom of the terminal window, there is a Windows taskbar. It includes the Start button, a search icon, and several application icons: File Explorer, Google Chrome, Firefox, and a blue icon. The system tray on the right shows the language set to "ENG US", the date "04-02-2025", and the time "16:03". A watermark in the bottom right corner of the terminal area reads "Activate Windows Go to Settings to activate Windows."



13. Installing Graphical Linux applications





The screenshot shows a Windows 10 desktop environment. On the left, a terminal window is open, displaying the output of a series of commands used to install and configure various software packages, including yelp, libgtk-4, zenity, and docbook-xsl. The terminal text is as follows:

```
Setting up libyelp0:amd64 (42.2-1)
Setting up yelp (42.2-1)
Processing triggers for libc-bin (2.34-1)
Setting up libgtk-4-1:amd64 (4.8.2-1)
Setting up libgtk-4-bin (4.8.2-1)
Processing triggers for libc-bin (2.34-1)
Setting up gedit (46.2-1)
Setting up /usr/lib/x86_64-linux-gnu/glib/glib_2.78.4-1
Setting up /usr/lib/x86_64-linux-gnu/glib/glib_2.78.4-1
Setting up docbook-xsl (1:1.02.90-2)
Processing triggers for libc-bin (2.34-1)
Setting up libadwaita-1 (1.3.0-1)
Processing triggers for libc-bin (2.34-1)
Setting up zenity (4.0.0-1)
Setting up libgtk-4-med (4.8.2-1)
Processing triggers for libc-bin (2.34-1)
aspell-autobuildhash: p
aspell-autobuildhash: p
aspell-autobuildhash: p
aspell-autobuildhash: p
aspell-autobuildhash: p
aspell-autobuildhash: p
aspell-autobuildhash: p
aspell-autobuildhash: p
aspell-autobuildhash: p
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aspell-autobuildhash: p
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aspell-autobuildhash: p
aspell-autobuildhash: p
aspell-autobuildhash: p
aspell-autobuildhash: p
aspell-autobuildhash: p
aspell-autobuildhash: p
aspell-autobuildhash: p
aspell-autobuildhash: p
Processing triggers for libc-bin (2.34-1)
Processing triggers for libc-bin (2.34-1)
lgiris@2b4579b9c7125f2:~$
```

On the right, a text editor window titled "Untitled Document 1" is open, showing two lines of text:

```
1 HELLO WORLD
2 MY NAME IS PRATHEEK
```

The Windows taskbar at the bottom shows the search bar, task view button, and several application icons. The system tray on the right indicates the language is English (US), the time is 16:12, and the date is 04-02-2025. An "Activate Windows" watermark is visible on the right side of the screen.