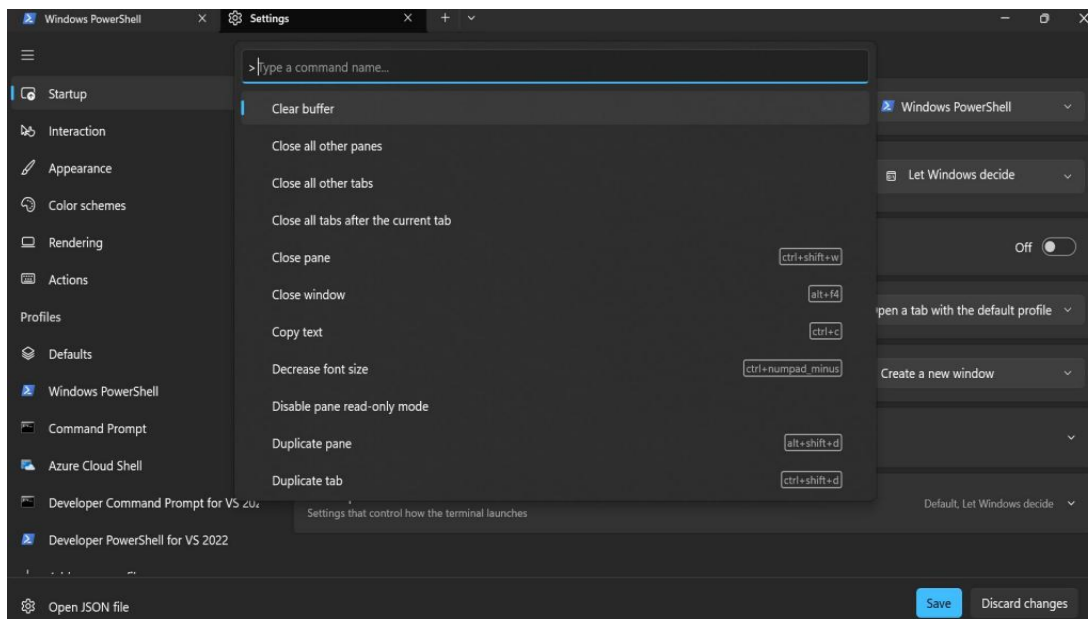


Windows Subsystem for Linux Assignment

Install Windows Terminal :



Download Linux :

- Run the 'wsl --list --online' command to display the list of available Linux distros.

```
root@9a4a8a5799315e0: ~
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
```

- To install the default Ubuntu 20.04 distro, enter:
- wsl --install

```
PS C:\Users\Administrator> wsl --install
Ubuntu is already installed.
Launching Ubuntu...
```

Update and Upgrade the Linux :

- Run the following commands as 'sudo apt update' and 'sudo apt upgrade'

- `sudo apt update`

```
root@9a4a8a5799315e0:~# sudo apt update
Hit:1 http://archive.ubuntu.com/ubuntu noble InRelease
Hit:2 http://archive.ubuntu.com/ubuntu noble-updates InRelease
Hit:3 http://security.ubuntu.com/ubuntu noble-security InRelease
Hit:4 http://archive.ubuntu.com/ubuntu noble-backports InRelease
Ign:5 http://91.189.88.152/ubuntu noble InRelease
Ign:6 http://91.189.88.152/ubuntu noble-updates InRelease
Ign:7 http://91.189.88.152/ubuntu noble-security InRelease
Ign:5 http://91.189.88.152/ubuntu noble InRelease
Ign:6 http://91.189.88.152/ubuntu noble-updates InRelease
Ign:7 http://91.189.88.152/ubuntu noble-security InRelease
Ign:5 http://91.189.88.152/ubuntu noble InRelease
Ign:6 http://91.189.88.152/ubuntu noble-updates InRelease
Ign:7 http://91.189.88.152/ubuntu noble-security InRelease
```

- `sudo apt upgrade`

```
root@9a4a8a5799315e0:~# 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:
  wsl-setup
0 upgraded, 0 newly installed, 0 to remove and 1 not upgraded.
```

Check for Linux kernel updates from Powershell

- check the updates by running the command as `'wsl --update'`

```
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

- Run the command as `'wsl --list --verbose'` to display the installed Linux distros and their WSL version.

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

- To switch Ubuntu to WSL2, enter: `wsl --set-version Ubuntu 2`

```
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.
```

- To switch back to WSL1, enter: `wsl --set-version Ubuntu 1`

```
PS C:\Users\Administrator> wsl --set-version Ubuntu 1
Conversion in progress, this may take a few minutes.
The operation completed successfully.
```

Set a Default Linux Distribution:

- To set the default distro, list the Linux installations:

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

- set a default distribution by using the command ‘wsl --setdefault Ubuntu’.

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

Run Linux as a Specific User:

- To run the default distribution as a specific user, enter the command in a Windows Powershell terminal.

```
root@9a4a8a5799315e0:/mnt/c/Users/Administrator# adduser mamatha
Adding user `mamatha' ...
Adding new group `mamatha' (1000) ...
Adding new user `mamatha' (1000) with group `mamatha (1000)' ...
Creating home directory `/home/mamatha' ...
Copying files from `/etc/skel' ...
New password:
Retype new password:
passwd: password updated successfully
Changing the user information for mamatha
Enter the new value, or press ENTER for the default
  Full Name []:
  Room Number []:
  Work Phone []:
  Home Phone []:
  Other []:
Is the information correct? [Y/n] Y
Adding new user `mamatha' to supplemental / extra groups `users' ...
Adding user `mamatha' to group `users' ...
```

Create a Directory :

- Use the command ‘mkdir D:\backup

```
mamu@9a4a8a5799315e0:/mnt/c/Users/Administrator$ mkdir D:\backup
```

- export one by name to a backup .tar file

```
mamu@9a4a8a5799315e0:/mnt/c/Users/Administrator$ wsl.exe --export Ubuntu D:\backup\ubuntu.tar
E
```

- Unregister that distro to remove it from the drive:

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

- Enter ‘wsl --list’ to verify the distro has been removed or not.

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

- Import the backup into a new WSL2 distro, such as ‘D:\wsl’:

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

Directory: D:\

Mode                LastWriteTime         Length Name
----                -
d-----          04-02-2025      15:58         wsl
```

```
PS C:\Users\Administrator> dir D:\

Directory: D:\

Mode                LastWriteTime         Length Name
----                -
d-----          17-12-2024         16:48      apache-jmeter-5.6.3
d-----          04-02-2025         16:11      backup
d-----          13-04-2024          09:32      Selenium
d-----          24-12-2024          13:02      Softwares
d-----          17-12-2024          16:39      spring-tool-suite-4-4.27.0.RELEASE-e4.
34.0-win32.win32.x86_64
d-----          24-12-2024          12:28      Ubuntu VM
d-----          04-02-2025          15:58      wsl
-a----          04-02-2025          15:56      0 backupubuntu.tar
```

- Run the command ‘wsl --import Ubuntu D:\wsl\ D:\backup\ubuntu.tar’

```
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.
```

- Ubuntu will use root as the default user. To revert to the user account, enter the following command: ‘ubuntu config --default-user <username>’

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

- Define a user by logging on to the distro and creating/editing /etc/wsl.conf.

```
mamatha@9a4a8a5799315e0: ~
<3>WSL (11) ERROR: CreateProcessParseCommon:800: getpwnam(<mamatha>) failed 17
mamatha@9a4a8a5799315e0:~$ sudo vi /etc/wsl.conf
[sudo] password for mamatha:

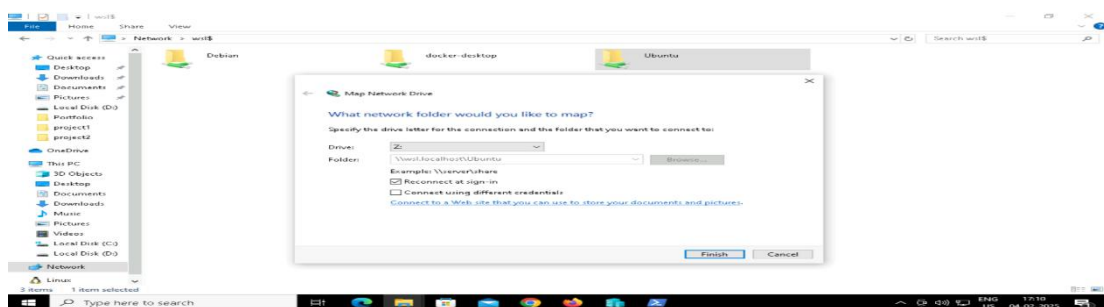
Select mamatha@9a4a8a5799315e0: ~
[user]
default=<mamatha>
```

- Run the command in the powershell ‘wsl --terminate <distroname>’

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

Access Linux Files from Windows:

- Mount the network drive ‘\\wsl\$\Ubuntu\home\<username>’



Accessing Windows Files from Linux:

- WSL2 allows to access Windows files through the /mnt/ directory in Linux.
- Create a Symbolic Link to Windows Folder.
- Navigate to the Linux home directory.
- Access the Windows Folder from Linux using 'cd ~/code'.

```
Select mamatha@9a4a8a5799315e0: ~
<3>WSL (11) ERROR: CreateProcessParseCommon:800: getpwnam(<mamatha>) failed 17
mamatha@9a4a8a5799315e0:~$ sudo vi /etc/wsl.conf
[sudo] password for mamatha:
mamatha@9a4a8a5799315e0:~$ cd /mnt/c/Users
mamatha@9a4a8a5799315e0:/mnt/c/Users$ cd ~
mamatha@9a4a8a5799315e0:~$ ln -s /mnt/c/projects/code
```

Run Linux Commands from Windows:

- Linux (bash) shell commands can be run from a Windows Powershell or command-line terminal using wsl.

```
PS C:\Users\Administrator> wsl ls
'3D Objects'      eclipse
AppData           eclipse-workspace
'Application Data' Favorites
Contacts         file1.txt
Cookies          file2.txt
D:\backup         file3.txt
Desktop          Links
Documents        'Local Settings'
Downloads        Music
'My Documents'   NTUSER.DAT
NetHood          NTUSER.DAT(53b39e88-18c4-11ea-a811-000d3aa4692b).TM.b1f
NTUSER.DAT(53b39e88-18c4-11ea-a811-000d3aa4692b).TM.Container000000000000000001.regtrans-ms
NTUSER.DAT(53b39e88-18c4-11ea-a811-000d3aa4692b).TM.Container000000000000000002.regtrans-ms
ntuser.dat.LOG1
ntuser.dat.LOG2
ntuser.ini
OneDrive
Pictures
SendTo           'Start Menu'
Templates
Postman          PrintHood
PrintHood        README.md
Recent           'WPS Cloud Files'
Recipe-App
'Saved Games'
Searches
```

Run Windows Applications from Linux:

- To open the Windows File Explorer from WSL2, run the following command as 'explorer.exe'

```
mamatha@9a4a8a5799315e0: ~
<3>WSL (11) ERROR: CreateProcessParseCommon:800: getpwnam(<mamatha>) failed 17
mamatha@9a4a8a5799315e0:~$ explorer.exe
```

Install Applications:

- Configure Git to Handle Line Endings:

```
mamatha@9a4a8a5799315e0:~$ git config --global core.autocrlf input
```

- Update Package Lists

```
mamatha@9a4a8a5799315e0:~$ sudo apt update
[sudo] password for mamatha:
Get:1 http://security.ubuntu.com/ubuntu noble-security InRelease [126 kB]
Hit:2 http://security.ubuntu.com/ubuntu noble InRelease
Get:3 http://archive.ubuntu.com/ubuntu noble-updates InRelease [126 kB]
Get:4 http://archive.ubuntu.com/ubuntu noble-backports InRelease [126 kB]
Get:5 http://security.ubuntu.com/ubuntu noble-security/main amd64 Packages [615 kB]
Get:6 http://archive.ubuntu.com/ubuntu noble/universe amd64 Packages [15.0 MB]
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 [8964 B]
Get:9 http://security.ubuntu.com/ubuntu noble-security/universe amd64 Packages [803 kB]
Get:10 http://archive.ubuntu.com/ubuntu noble/universe Translation-en [5982 kB]
Get:11 http://security.ubuntu.com/ubuntu noble-security/universe Translation-en [171 kB]
Get:12 http://security.ubuntu.com/ubuntu noble-security/universe amd64 Components [52.0 kB]
Get:13 http://security.ubuntu.com/ubuntu noble/universe amd64 Components [3871 kB]
Get:14 http://security.ubuntu.com/ubuntu noble-security/universe amd64 c-n-f Metadata [13.5 kB]
Get:15 http://security.ubuntu.com/ubuntu noble-security/restricted amd64 Packages [620 kB]
Get:16 http://archive.ubuntu.com/ubuntu noble/universe amd64 c-n-f Metadata [301 kB]
Get:17 http://security.ubuntu.com/ubuntu noble-security/restricted Translation-en [119 kB]
Get:18 http://security.ubuntu.com/ubuntu noble-security/restricted amd64 Components [212 B]
Get:19 http://security.ubuntu.com/ubuntu noble-security/multiverse amd64 Packages [12.4 kB]
Get:20 http://security.ubuntu.com/ubuntu noble-security/multiverse Translation-en [2940 B]
92% [10 Translation-en store 0 B] [10 Commands-amd64 50.4 kB/301 kB 17%] [Waiting for headers]
```


- Install Git using the apt package manager. The git-all package includes all Git-related tools.

```
namathag@44a0a5799315e0:~$ sudo apt install git-all
Reading package lists... Done
Building dependency tree... Done
Reading state information... Done
The following additional packages will be installed:
  apache2 apache2-bin apache2-data apache2-utils cvs cvsps git git-cvs git-doc git-email git-gui git-man git-mediawiki git-svn gitk gitweb
  libalgorithm-c3-perl libapr1t64 libaprutil1-dbd-sqlite3 libaprutil1-ldap libaprutil1t64 libauthen-sasl-perl libb-hooks-endofscope-perl
  libb-hooks-op-check-perl libbgl-fast-perl libbgl-pm-perl libbclass-c3-perl libbclass-c3-xs-perl libbclass-data-inheritable-perl libbclass-inspector-perl
  libbclass-method-modifiers-perl libbclass-singleton-perl libbclass-xaccessor-perl libclone-perl libcommon-sense-perl libdate-dump-perl libdate-optlist-perl
  libdatetime-builder-perl libdatetime-format-is8601-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 libdynamloader-functions-perl libemail-valid-perl libencode-locale-perl libeval-closure-perl
  libexception-class-perl libfcgi-bin libfcgi-perl libfcgi8t64 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 libidn2 libio-html-perl libio-socket-ssl-perl libjson-perl libjson-xs-perl liblua5.4-0
  liblwp-mediatypes-perl liblwp-parser-perl liblwp-tagset-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 libserf-1-1 libspecio-perl libsub-exporter-perl libsub-exporter-progressive-perl libsub-identify-perl
  libsub-install-perl libsub-name-perl libsub-quote-perl libsvn-perl libsvn1 libtc8.6 libterm-readkey-perl libtime-date-perl libtk8.6 libtry-tiny-perl
  libtypes-serialisr-perl liburi-perl libutf8proc3 libvariable-magic-perl libwww-perl libwww-robotrules-perl libxft2 libxss1 libxstring-perl
  libyaml-libyaml-perl libyaml-perl perl-openssl-defaults ssl-cert tcl tcl8.6 tk tk8.6
Suggested packages:
  apache2-doc apache2-suexec-pristine | apache2-suexec-custom www-browser ufw mksh rcs git-daemon-run | git-daemon-sysvinit aspell meld mediawiki
  subversion libbssdl-perl libldap-perl libnet-daemon-perl libssl-statement-perl libgcr-commons-brctl-perl libncurses5-perl libncurses6-perl
  libncurses7-perl
```

Steps for Installing Node.js on Ubuntu:

- Before installing Node.js, we need to install the build-essential package.

```
namathag@44a0a5799315e0:~$ sudo apt-get install build-essential
Reading package lists... Done
Building dependency tree... Done
Reading state information... Done
The following additional packages will be installed:
  bzip2 cpp cpp-13 cpp-13-x86-64-linux-gnu cpp-x86-64-linux-gnu dpkg-dev fakeroot g++ g++-13 g++-13-x86-64-linux-gnu g++-x86-64-linux-gnu gcc gcc-13
  gcc-13-base gcc-13-x86-64-linux-gnu gcc-x86-64-linux-gnu libalgorithm-diff-perl libalgorithm-diff-xs-perl libalgorithm-merge-perl libao3 libasan8
  libatomic1 libc-dev-bin libc-devtools libc6-dev libc6-i386 libcrypt-dev libdeb265-0 libdpkg-perl libfakeroot libfile-fcntllock-perl libgcc-13-dev libgd3
  libgomp1 libhelf-plugin-aomdec libhelf-plugin-aomenc libhelf-plugin-libde265 libhelf1 libhwasa0 libisl23 libitm1 liblsan0 libmpc3 libquadmath0
  libstdc++-13-dev libstdc++13 libubsan1 libxpm4 linux-libc-dev lto-disabled-list make manpages-dev rpcsvc-proto
Suggested packages:
  bzip2-doc cpp-doc gcc-13-locales cpp-13-doc debconf-keyring g++-multilib g++-13-multilib gcc-13-doc gcc-multilib autoconf automake libtool flex bison gdb
  gcc-doc gcc-13-multilib g++-x86-64-linux-gnu glibc-doc bzip2-dev libhelf-plugin-jpegdec libhelf-plugin-jpegdec libhelf-plugin-jpegdec libhelf-plugin-jpegdec
  libhelf-plugin-jpegdec libhelf-plugin-j2kdec libhelf-plugin-j2kdec libhelf-plugin-j2kdec libhelf-plugin-j2kdec libhelf-plugin-j2kdec libhelf-plugin-j2kdec
The following NEW packages will be installed:
  build-essential bzip2 cpp cpp-13 cpp-13-x86-64-linux-gnu cpp-x86-64-linux-gnu dpkg-dev fakeroot g++ g++-13 g++-13-x86-64-linux-gnu g++-x86-64-linux-gnu
  gcc gcc-13 gcc-13-base gcc-13-x86-64-linux-gnu gcc-x86-64-linux-gnu libalgorithm-diff-perl libalgorithm-diff-xs-perl libalgorithm-merge-perl libao3
  libasan8 libatomic1 libc-dev-bin libc-devtools libc6-dev libc6-i386 libcrypt-dev libdeb265-0 libdpkg-perl libfakeroot libfile-fcntllock-perl libgcc-13-dev
  libgd3 libgomp1 libhelf-plugin-aomdec libhelf-plugin-aomenc libhelf-plugin-libde265 libhelf1 libhwasa0 libisl23 libitm1 liblsan0 libmpc3 libquadmath0
  libstdc++-13-dev libstdc++13 libubsan1 libxpm4 linux-libc-dev lto-disabled-list make manpages-dev rpcsvc-proto
0 upgraded, 54 newly installed, 0 to remove and 82 not upgraded.
Need to get 71.3 MB of archives.
After this operation, 242 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 libc-dev-bin amd64 2.39-0ubuntu8.3 [68.8 kB]
Get:2 http://archive.ubuntu.com/ubuntu noble-updates/main amd64 linux-libc-dev amd64 6.8.0-52.53 [1768 kB]
Get:3 http://archive.ubuntu.com/ubuntu noble/main amd64 libcrypt-dev amd64 1:4.4.36-4build1 [112 kB]
Get:4 http://archive.ubuntu.com/ubuntu noble/main amd64 rpcsvc-proto amd64 1.4.2-0ubuntu7 [67.4 kB]
```

- Set Up Node.js Repository

```
namathag@44a0a5799315e0:~$ curl -sL https://deb.nodesource.com/setup_18.x | sudo -E bash -
2025-02-04 12:06:08 - Installing pre-requisites
Hit:1 http://security.ubuntu.com/ubuntu noble-security InRelease
Hit:2 http://archive.ubuntu.com/ubuntu noble InRelease
Hit:3 http://archive.ubuntu.com/ubuntu noble-updates InRelease
Hit:4 http://archive.ubuntu.com/ubuntu noble-backports InRelease
Reading package lists... Done
Reading package lists... Done
Building dependency tree... Done
Reading state information... Done
ca-certificates is already the newest version (20240203).
ca-certificates set to manually installed.
curl is already the newest version (8.5.0-2ubuntu10.6).
curl set to manually installed.
gnupg is already the newest version (2.4.4-2ubuntu17).
gnupg set to manually installed.
The following NEW packages will be installed:
  apt-transport-https
0 upgraded, 1 newly installed, 0 to remove and 82 not upgraded.
Need to get 3974 B of archives.
After this operation, 35.8 kB of additional disk space will be used.
Get:1 http://archive.ubuntu.com/ubuntu noble/universe amd64 apt-transport-https all 2.7.14build2 [3974 B]
Fetched 3974 B in 1s (6906 B/s)
Selecting previously unselected package apt-transport-https.
(Reading database ... 53429 files and directories currently installed.)
Preparing to unpack .../apt-transport-https_2.7.14build2_all.deb ...
Unpacking apt-transport-https (2.7.14build2) ...
Setting up apt-transport-https (2.7.14build2) ...
Get:1 https://deb.nodesource.com/node_18.x nodistro InRelease [12.1 kB]
Get:2 https://deb.nodesource.com/node_18.x nodistro/main amd64 Packages [11.2 kB]
Hit:3 http://archive.ubuntu.com/ubuntu noble InRelease
Hit:4 http://archive.ubuntu.com/ubuntu noble-updates InRelease
Hit:5 http://archive.ubuntu.com/ubuntu noble-backports InRelease
Hit:6 http://security.ubuntu.com/ubuntu noble-security InRelease
Fetched 23.4 kB in 3s (6792 B/s)
Reading package lists... Done
2025-02-04 12:06:22 - Repository configured successfully.
2025-02-04 12:06:22 - To install Node.js, run: apt-get install nodejs -y
2025-02-04 12:06:22 - You can use Nixsolid Runtime as a node.js alternative
```

- After setting up the repository, install Node.js using the apt-get package manager

```
mamatha@9a448a5799315e0:~$ sudo apt-get install -y nodejs
Reading package lists... Done
Building dependency tree... Done
Reading state information... Done
The following NEW packages will be installed:
  nodejs
0 upgraded, 1 newly installed, 0 to remove and 82 not upgraded.
Need to get 29.7 MB of archives.
After this operation, 187 MB of additional disk space will be used.
Get:1 https://deb.nodesource.com/node_18.x nodistro/main amd64 nodejs amd64 18.20.6-1nodesource1 [29.7 MB]
Fetched 29.7 MB in 1s (33.3 MB/s)
Selecting previously unselected package nodejs.
(Reading database ... 53433 files and directories currently installed.)
Preparing to unpack .../nodejs_18.20.6-1nodesource1_amd64.deb ...
Unpacking nodejs (18.20.6-1nodesource1) ...
Setting up nodejs (18.20.6-1nodesource1) ...
Processing triggers for man-db (2.12.0-4build2) ...
```

Installing Graphical Linux Applications:

- Install a Graphical Linux Application. To install the GNOME text editor run ‘sudo apt install gedit’.
- After the installation is complete, launch the application directly from your WSL2 terminal.

```

root@arch04:~# sudo apt install gedit
Reading package lists... Done
Building dependency tree... Done
Reading state information... Done

The following additional packages will be installed:
  alsa-topology-conf alsa-ucm-conf aspell aspell-en bubblewrap dictionaries-common docbook-xsl emacs-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-telepathy-glib-networking glib-networking-common glib-networking-services gstreamer1.0-glib gstreamer1.0-plugins-base gstreamer1.0-plugins-good
  gstreamer1.0-x hunspell-en-us libasii libadwaita-1.0 libasound2-data libasound2t64 libaspell15 libasyncns0 libavc1394-0 libbcas0
  libcairo-script-interpretor libcdparanoia0 libcd4t64 libcchant-2 libcdev1264 libgedit-amtk-5-0 libgedit-amtk-5-common
  libglib2.0-0 libglib2.0-gtksource-view-300-common libglac2 libhyphen0 libiberty1.0 libiberty1-2 libiberty1-3 libiberty1-4 libiberty1-5 libiberty1-6
  libiberty1-7 libiberty1-8 libiberty1-9 libiberty1-10 libiberty1-11 libiberty1-12 libiberty1-13 libiberty1-14 libiberty1-15 libiberty1-16 libiberty1-17
  libiberty1-18 libiberty1-19 libiberty1-20 libiberty1-21 libiberty1-22 libiberty1-23 libiberty1-24 libiberty1-25 libiberty1-26 libiberty1-27 libiberty1-28
  libiberty1-29 libiberty1-30 libiberty1-31 libiberty1-32 libiberty1-33 libiberty1-34 libiberty1-35 libiberty1-36 libiberty1-37 libiberty1-38 libiberty1-39
  libiberty1-40 libiberty1-41 libiberty1-42 libiberty1-43 libiberty1-44 libiberty1-45 libiberty1-46 libiberty1-47 libiberty1-48 libiberty1-49 libiberty1-50
  libiberty1-51 libiberty1-52 libiberty1-53 libiberty1-54 libiberty1-55 libiberty1-56 libiberty1-57 libiberty1-58 libiberty1-59 libiberty1-60 libiberty1-61
  libiberty1-62 libiberty1-63 libiberty1-64 libiberty1-65 libiberty1-66 libiberty1-67 libiberty1-68 libiberty1-69 libiberty1-70 libiberty1-71 libiberty1-72
  libiberty1-73 libiberty1-74 libiberty1-75 libiberty1-76 libiberty1-77 libiberty1-78 libiberty1-79 libiberty1-80 libiberty1-81 libiberty1-82 libiberty1-83
  libiberty1-84 libiberty1-85 libiberty1-86 libiberty1-87 libiberty1-88 libiberty1-89 libiberty1-90 libiberty1-91 libiberty1-92 libiberty1-93 libiberty1-94
  libiberty1-95 libiberty1-96 libiberty1-97 libiberty1-98 libiberty1-99 libiberty1-100 libiberty1-101 libiberty1-102 libiberty1-103 libiberty1-104 libiberty1-105
  libiberty1-106 libiberty1-107 libiberty1-108 libiberty1-109 libiberty1-110 libiberty1-111 libiberty1-112 libiberty1-113 libiberty1-114 libiberty1-115
  libiberty1-116 libiberty1-117 libiberty1-118 libiberty1-119 libiberty1-120 libiberty1-121 libiberty1-122 libiberty1-123 libiberty1-124 libiberty1-125
  libiberty1-126 libiberty1-127 libiberty1-128 libiberty1-129 libiberty1-130 libiberty1-131 libiberty1-132 libiberty1-133 libiberty1-134 libiberty1-135
  libiberty1-136 libiberty1-137 libiberty1-138 libiberty1-139 libiberty1-140 libiberty1-141 libiberty1-142 libiberty1-143 libiberty1-144 libiberty1-145
  libiberty1-146 libiberty1-147 libiberty1-148 libiberty1-149 libiberty1-150 libiberty1-151 libiberty1-152 libiberty1-153 libiberty1-154 libiberty1-155
  libiberty1-156 libiberty1-157 libiberty1-158 libiberty1-159 libiberty1-160 libiberty1-161 libiberty1-162 libiberty1-163 libiberty1-164 libiberty1-165
  libiberty1-166 libiberty1-167 libiberty1-168 libiberty1-169 libiberty1-170 libiberty1-171 libiberty1-172 libiberty1-173 libiberty1-174 libiberty1-175
  libiberty1-176 libiberty1-177 libiberty1-178 libiberty1-179 libiberty1-180 libiberty1-181 libiberty1-182 libiberty1-183 libiberty1-184 libiberty1-185
  libiberty1-186 libiberty1-187 libiberty1-188 libiberty1-189 libiberty1-190 libiberty1-191 libiberty1-192 libiberty1-193 libiberty1-194 libiberty1-195
  libiberty1-196 libiberty1-197 libiberty1-198 libiberty1-199 libiberty1-200 libiberty1-201 libiberty1-202 libiberty1-203 libiberty1-204 libiberty1-205
  libiberty1-206 libiberty1-207 libiberty1-208 libiberty1-209 libiberty1-210 libiberty1-211 libiberty1-212 libiberty1-213 libiberty1-214 libiberty1-215
  libiberty1-216 libiberty1-217 libiberty1-218 libiberty1-219 libiberty1-220 libiberty1-221 libiberty1-222 libiberty1-223 libiberty1-224 libiberty1-225
  libiberty1-226 libiberty1-227 libiberty1-228 libiberty1-229 libiberty1-230 libiberty1-231 libiberty1-232 libiberty1-233 libiberty1-234 libiberty1-235
  libiberty1-236 libiberty1-237 libiberty1-238 libiberty1-239 libiberty1-240 libiberty1-241 libiberty1-242 libiberty1-243 libiberty1-244 libiberty1-245
  libiberty1-246 libiberty1-247 libiberty1-248 libiberty1-249 libiberty1-250 libiberty1-251 libiberty1-252 libiberty1-253 libiberty1-254 libiberty1-255
  libiberty1-256 libiberty1-257 libiberty1-258 libiberty1-259 libiberty1-260 libiberty1-261 libiberty1-262 libiberty1-263 libiberty1-264 libiberty1-265
  libiberty1-266 libiberty1-267 libiberty1-268 libiberty1-269 libiberty1-270 libiberty1-271 libiberty1-272 libiberty1-273 libiberty1-274 libiberty1-275
  libiberty1-276 libiberty1-277 libiberty1-278 libiberty1-279 libiberty1-280 libiberty1-281 libiberty1-282 libiberty1-283 libiberty1-284 libiberty1-285
  libiberty1-286 libiberty1-287 libiberty1-288 libiberty1-289 libiberty1-290 libiberty1-291 libiberty1-292 libiberty1-293 libiberty1-294 libiberty1-295
  libiberty1-296 libiberty1-297 libiberty1-298 libiberty1-299 libiberty1-300 libiberty1-301 libiberty1-302 libiberty1-303 libiberty1-304 libiberty1-305
  libiberty1-306 libiberty1-307 libiberty1-308 libiberty1-309 libiberty1-310 libiberty1-311 libiberty1-312 libiberty1-313 libiberty1-314 libiberty1-315
  libiberty1-316 libiberty1-317 libiberty1-318 libiberty1-319 libiberty1-320 libiberty1-321 libiberty1-322 libiberty1-323 libiberty1-324 libiberty1-325
  libiberty1-326 libiberty1-327 libiberty1-328 libiberty1-329 libiberty1-330 libiberty1-331 libiberty1-332 libiberty1-333 libiberty1-334 libiberty1-335
  libiberty1-336 libiberty1-337 libiberty1-338 libiberty1-339 libiberty1-340 libiberty1-341 libiberty1-342 libiberty1-343 libiberty1-344 libiberty1-345
  libiberty1-346 libiberty1-347 libiberty1-348 libiberty1-349 libiberty1-350 libiberty1-351 libiberty1-352 libiberty1-353 libiberty1-354 libiberty1-355
  libiberty1-356 libiberty1-357 libiberty1-358 libiberty1-359 libiberty1-360 libiberty1-361 libiberty1-362 libiberty1-363 libiberty1-364 libiberty1-365
  libiberty1-366 libiberty1-367 libiberty1-368 libiberty1-369 libiberty1-370 libiberty1-371 libiberty1-372 libiberty1-373 libiberty1-374 libiberty1-375
  libiberty1-376 libiberty1-377 libiberty1-378 libiberty1-379 libiberty1-380 libiberty1-381 libiberty1-382 libiberty1-383 libiberty1-384 libiberty1-385
  libiberty1-386 libiberty1-387 libiberty1-388 libiberty1-389 libiberty1-390 libiberty1-391 libiberty1-392 libiberty1-393 libiberty1-394 libiberty1-395
  libiberty1-396 libiberty1-397 libiberty1-398 libiberty1-399 libiberty1-400 libiberty1-401 libiberty1-402 libiberty1-403 libiberty1-404 libiberty1-405
  libiberty1-406 libiberty1-407 libiberty1-408 libiberty1-409 libiberty1-410 libiberty1-411 libiberty1-412 libiberty1-413 libiberty1-414 libiberty1-415
  libiberty1-416 libiberty1-417 libiberty1-418 libiberty1-419 libiberty1-420 libiberty1-421 libiberty1-422 libiberty1-423 libiberty1-424 libiberty1-425
  libiberty1-426 libiberty1-427 libiberty1-428 libiberty1-429 libiberty1-430 libiberty1-431 libiberty1-432 libiberty1-433 libiberty1-434 libiberty1-435
  libiberty1-436 libiberty1-437 libiberty1-438 libiberty1-439 libiberty1-440 libiberty1-441 libiberty1-442 libiberty1-443 libiberty1-444 libiberty1-445
  libiberty1-446 libiberty1-447 libiberty1-448 libiberty1-449 libiberty1-450 libiberty1-451 libiberty1-452 libiberty1-453 libiberty1-454 libiberty1-455
  libiberty1-456 libiberty1-457 libiberty1-458 libiberty1-459 libiberty1-460 libiberty1-461 libiberty1-462 libiberty1-463 libiberty1-464 libiberty1-465
  libiberty1-466 libiberty1-467 libiberty1-468 libiberty1-469 libiberty1-
```

