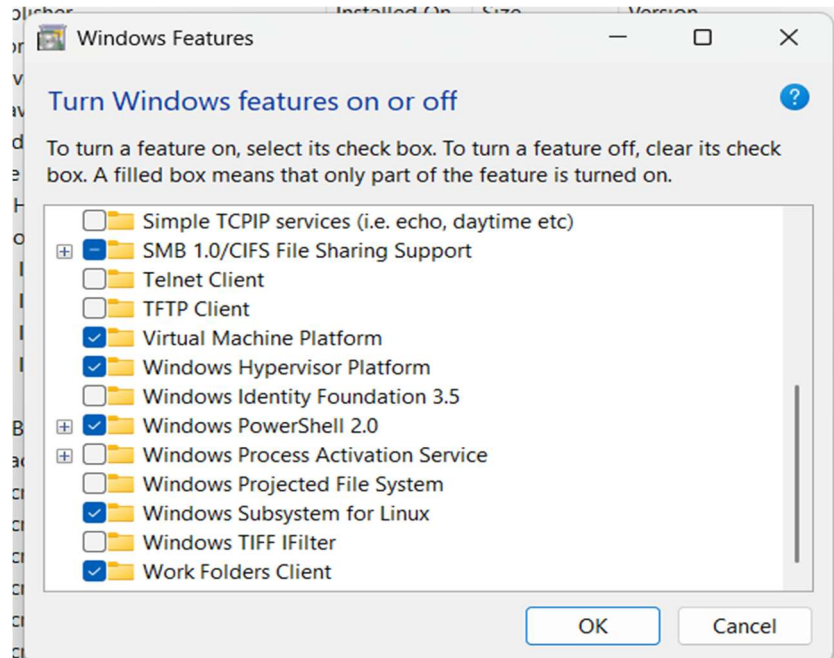


AIM: Installation of Java on Unix/Linux Machine (Without Virtual Box)

Step 1:

Enable WSL (Windows Sub System for Linux) from Control Panel



Step 2: Power Shell (Run As Administrator)

Command: wsl --install

```
Administration: Windows PowerShell
Windows PowerShell
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Install the latest PowerShell for new features and improvements! https://aka.ms/PSWindows

PS C:\WINDOWS\system32> wsl --install
Downloading: Windows Subsystem for Linux 2.5.10
Installing: Windows Subsystem for Linux 2.5.10
Windows Subsystem for Linux 2.5.10 has been installed.
The operation completed successfully.
Downloading: Ubuntu
[===== 16.5% ]
```

Step 3: Package Update

Command: sudo apt update

```
anurag@Auspecious: ~$ sudo apt update
[sudo] password for anurag:
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 Components [21.6 kB]
Get:5 http://archive.ubuntu.com/ubuntu noble-backports InRelease [126 kB]
Get:6 http://security.ubuntu.com/ubuntu noble-security/universe amd64 Packages [878 kB]
Get:7 http://security.ubuntu.com/ubuntu noble-security/universe Translation-en [194 kB]
Get:8 http://security.ubuntu.com/ubuntu noble-security/universe amd64 Components [52.2 kB]
Get:9 http://security.ubuntu.com/ubuntu noble-security/universe amd64 c-n-f Metadata [17.0 kB]
Get:10 http://security.ubuntu.com/ubuntu noble-security/restricted amd64 Components [212 B]
Get:11 http://security.ubuntu.com/ubuntu noble-security/multiverse amd64 Packages [18.5 kB]
Get:12 http://security.ubuntu.com/ubuntu noble-security/multiverse Translation-en [4288 B]
Get:13 http://security.ubuntu.com/ubuntu noble-security/multiverse amd64 Components [212 B]
Get:14 http://security.ubuntu.com/ubuntu noble-security/multiverse amd64 c-n-f Metadata [380 B]
Get:15 http://archive.ubuntu.com/ubuntu noble/universe amd64 Packages [15.0 MB]
Get:16 http://archive.ubuntu.com/ubuntu noble/universe Translation-en [5982 kB]
Get:17 http://archive.ubuntu.com/ubuntu noble/universe amd64 Components [3871 kB]
Get:18 http://archive.ubuntu.com/ubuntu noble/universe amd64 c-n-f Metadata [301 kB]
Get:19 http://archive.ubuntu.com/ubuntu noble/multiverse amd64 Packages [269 kB]
Get:20 http://archive.ubuntu.com/ubuntu noble/multiverse Translation-en [118 kB]
Get:21 http://archive.ubuntu.com/ubuntu noble/multiverse amd64 Components [35.0 kB]
Get:22 http://archive.ubuntu.com/ubuntu noble/multiverse amd64 c-n-f Metadata [8328 B]
Get:23 http://archive.ubuntu.com/ubuntu noble-updates/main amd64 Packages [1315 kB]
Get:24 http://archive.ubuntu.com/ubuntu noble-updates/main Translation-en [264 kB]
Get:25 http://archive.ubuntu.com/ubuntu noble-updates/main amd64 Components [163 kB]
Get:26 http://archive.ubuntu.com/ubuntu noble-updates/universe amd64 Packages [1120 kB]
Get:27 http://archive.ubuntu.com/ubuntu noble-updates/universe Translation-en [287 kB]
Get:28 http://archive.ubuntu.com/ubuntu noble-updates/universe amd64 Components [377 kB]
Get:29 http://archive.ubuntu.com/ubuntu noble-updates/universe amd64 c-n-f Metadata [26.0 kB]
Get:30 http://archive.ubuntu.com/ubuntu noble-updates/restricted amd64 Packages [1650 kB]
Get:31 http://archive.ubuntu.com/ubuntu noble-updates/restricted Translation-en [361 kB]
Get:32 http://archive.ubuntu.com/ubuntu noble-updates/restricted amd64 Components [212 B]
Get:33 http://archive.ubuntu.com/ubuntu noble-updates/multiverse amd64 Packages [33.2 kB]
Get:34 http://archive.ubuntu.com/ubuntu noble-updates/multiverse Translation-en [6772 B]
Get:35 http://archive.ubuntu.com/ubuntu noble-updates/multiverse amd64 Components [940 B]
Get:36 http://archive.ubuntu.com/ubuntu noble-updates/multiverse amd64 c-n-f Metadata [592 B]
```

Step 4: Java Installation

Command: sudo apt install openjdk-11-jdk -y

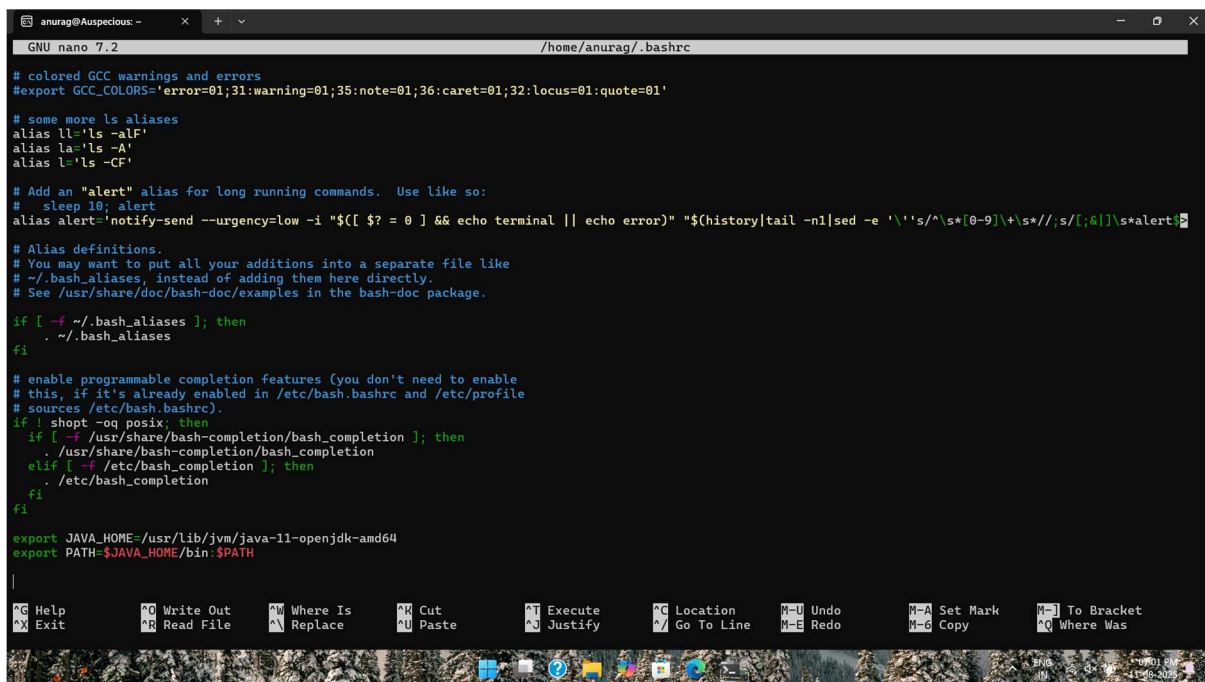
```
anurag@Auspecious: ~$ sudo apt install openjdk-11-jdk -y
Get:41 http://archive.ubuntu.com/ubuntu noble-backports/universe amd64 Packages [28.9 kB]
Get:42 http://archive.ubuntu.com/ubuntu noble-backports/universe Translation-en [17.4 kB]
Get:43 http://archive.ubuntu.com/ubuntu noble-backports/universe amd64 Components [30.8 kB]
Get:44 http://archive.ubuntu.com/ubuntu noble-backports/universe amd64 c-n-f Metadata [1304 B]
Get:45 http://archive.ubuntu.com/ubuntu noble-backports/restricted amd64 Components [216 B]
Get:46 http://archive.ubuntu.com/ubuntu noble-backports/restricted amd64 c-n-f Metadata [116 B]
Get:47 http://archive.ubuntu.com/ubuntu noble-backports/multiverse amd64 Components [212 B]
Get:48 http://archive.ubuntu.com/ubuntu noble-backports/multiverse amd64 c-n-f Metadata [116 B]
Fetched 32.9 MB in 1min 21s (407 kB/s)
Reading package lists... Done
Building dependency tree... Done
Reading state information... Done
All packages are up to date.
anurag@Auspecious: ~$ sudo apt install openjdk-11-jdk -y
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 ca-certificates-java fonts-dejavu-extra java-common libasound2-data libasound2t64 libatk-wrapper-java
  libatk-wrapper-java-jni libglib2.0-0 libice-dev libice6 libnspr4 libnss3 libpcsc-lite libpthread-stubs0-dev libsm-dev libsm6 libx11-dev libxau-dev libxaw7
  libxcb-shape0 libxcb1-dev libxdmcp-dev libxft2 libxkbfile1 libxmu6 libxpm4 libxt-dev libxt6t64 libxv1 libxxf86dga1 openjdk-11-jdk-headless
  openjdk-11-jre openjdk-11-jre-headless x11-utils x11proto-dev xorg-sgml-doctools xtrans-dev
Suggested packages:
  default-jre alsa-utils libasound2-plugins libice-doc pcscd libsm-doc libx11-doc libxcb-doc libxt-doc openjdk-11-demo openjdk-11-source visualvm
  libnss-mdns fonts-ipafont-gothic fonts-ipafont-mincho fonts-wqy-microhei fonts-wqy-zenhei fonts-indic mesa-utils
Recommended packages:
  luit
The following NEW packages will be installed:
  alsa-topology-conf alsa-ucm-conf ca-certificates-java fonts-dejavu-extra java-common libasound2-data libasound2t64 libatk-wrapper-java
  libatk-wrapper-java-jni libglib2.0-0 libice-dev libice6 libnspr4 libnss3 libpcsc-lite libpthread-stubs0-dev libsm-dev libsm6 libx11-dev libxau-dev libxaw7
  libxcb-shape0 libxcb1-dev libxdmcp-dev libxft2 libxkbfile1 libxmu6 libxpm4 libxt-dev libxt6t64 libxv1 libxxf86dga1 openjdk-11-jdk
  openjdk-11-jdk-headless openjdk-11-jre openjdk-11-jre-headless x11-utils x11proto-dev xorg-sgml-doctools xtrans-dev
0 upgraded, 40 newly installed, 0 to remove and 0 not upgraded.
Need to get 125 MB of archives.
After this operation, 284 MB of additional disk space will be used.
Get:1 http://archive.ubuntu.com/ubuntu noble/main amd64 alsa-topology-conf all 1.2.5.1-2 [15.5 kB]
Get:2 http://archive.ubuntu.com/ubuntu noble-updates/main amd64 libasound2-data all 1.2.11-1ubuntu0.1 [21.1 kB]
Get:3 http://archive.ubuntu.com/ubuntu noble-updates/main amd64 libasound2t64 amd64 1.2.11-1ubuntu0.1 [399 kB]
Get:4 http://archive.ubuntu.com/ubuntu noble-updates/main amd64 alsa-ucm-conf all 1.2.10-1ubuntu5.7 [66.4 kB]
Get:5 http://archive.ubuntu.com/ubuntu noble/main amd64 ca-certificates-java all 20240118 [11.6 kB]
3% [Waiting for headers]
```

Step 5: Verify Java Installation

Command: java -version

```
anurag@Auspecious:~$ java -version
openjdk version "11.0.28" 2025-07-15
OpenJDK Runtime Environment (build 11.0.28+6-post-Ubuntu-1ubuntu124.04.1)
OpenJDK 64-Bit Server VM (build 11.0.28+6-post-Ubuntu-1ubuntu124.04.1, mixed mode, sharing)
anurag@Auspecious:~$ |
```

Step 6: Set JAVA_HOME Environment Variable



```
anurag@Auspecious: ~
GNU nano 7.2 /home/anurag/.bashrc
# colored GCC warnings and errors
#export GCC_COLORS='error=01;31:warning=01;35:note=01;36:caret=01;32:locus=01:quote=01'

# some more ls aliases
alias ll='ls -alF'
alias la='ls -A'
alias l='ls -CF'

# Add an "alert" alias for long running commands. Use like so:
# sleep 10; alert
alias alert='notify-send --urgency=low -i "${[ $? = 0 ] && echo terminal || echo error}" "${history|tail -n1|sed -e '\''s/\s*[0-9]\+\s*//;s/[:;&]\s*alert$'\'"}'

# Alias definitions.
# You may want to put all your additions into a separate file like
# ~/.bash_aliases, instead of adding them here directly.
# See /usr/share/doc/bash-doc/examples in the bash-doc package.

if [ -f ~/.bash_aliases ]; then
    . ~/.bash_aliases
fi

# enable programmable completion features (you don't need to enable
# this, if it's already enabled in /etc/bash.bashrc and /etc/profile
# sources /etc/bash.bashrc).
if ! shopt -oq posix; then
    if [ -f /usr/share/bash-completion/bash_completion ]; then
        . /usr/share/bash-completion/bash_completion
    elif [ -f /etc/bash_completion ]; then
        . /etc/bash_completion
    fi
fi

export JAVA_HOME=/usr/lib/jvm/java-11-openjdk-amd64
export PATH=$JAVA_HOME/bin:$PATH

|
```

```
anurag@Auspecious:~$ nano ~/.bashrc
anurag@Auspecious:~$ source ~/.bashrc
anurag@Auspecious:~$ echo $JAVA_HOME
/usr/lib/jvm/java-11-openjdk-amd64
anurag@Auspecious:~$ |
```