

Practical No.1

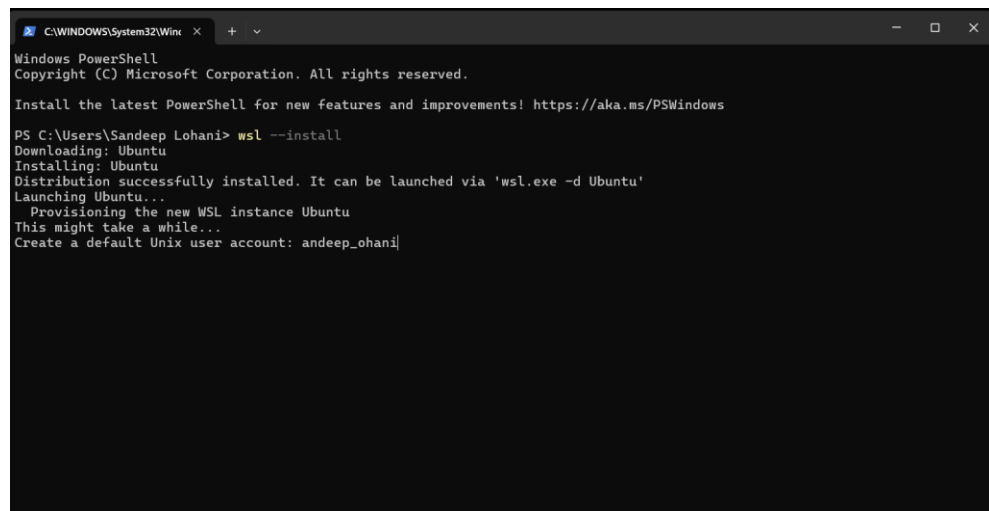
Aim: Installation of Java on Unix/Linux Machine(Without VirtualBox).

We use WSL(Windows Subsystem for Linux) to simulate a Linux environment directly on Windows.

Step 1: Enable WSL

1. Open PowerShell as Administrator
2. Run the following command:

`wsl --install`



```
C:\WINDOWS\System32\Win...
Windows PowerShell
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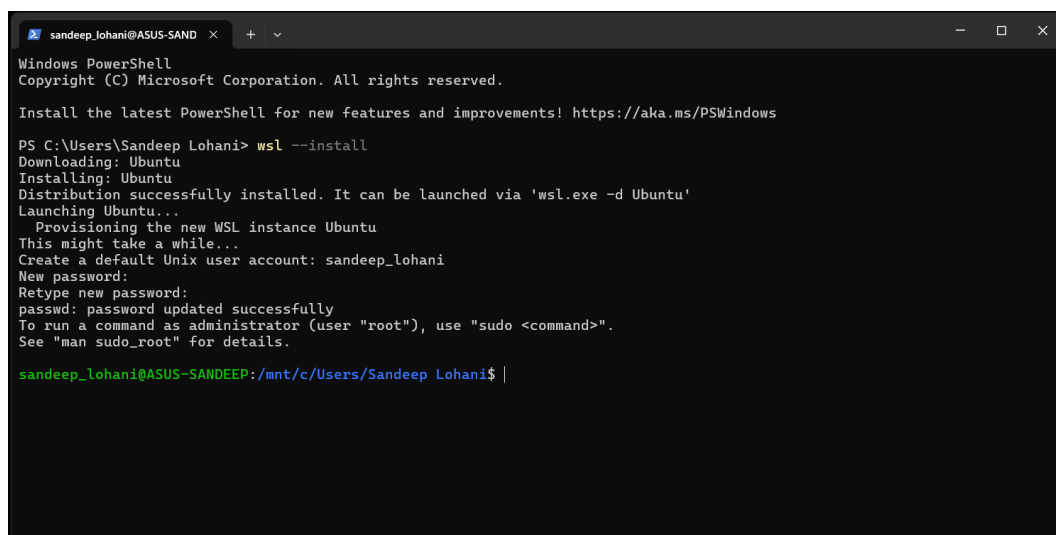
Install the latest PowerShell for new features and improvements! https://aka.ms/PSWindows

PS C:\Users\Sandeep Lohani> wsl --install
Downloading: Ubuntu
Installing: Ubuntu
Distribution successfully installed. It can be launched via 'wsl.exe -d Ubuntu'
Launching Ubuntu...
Provisioning the new WSL instance Ubuntu
This might take a while...
Create a default Unix user account: andeep_ohani|
```

3. Restart your computer when prompted.
4. After restart, choose Ubuntu or install it from the Microsoft Store.

Step 2: Open Ubuntu (WSL)

- Search for 'Ubuntu' in Start Menu and open it.
- It will initialize and ask for a username and password.



```
sandeep_lohani@ASUS-SAND...
Windows PowerShell
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Install the latest PowerShell for new features and improvements! https://aka.ms/PSWindows

PS C:\Users\Sandeep Lohani> wsl --install
Downloading: Ubuntu
Installing: Ubuntu
Distribution successfully installed. It can be launched via 'wsl.exe -d Ubuntu'
Launching Ubuntu...
Provisioning the new WSL instance Ubuntu
This might take a while...
Create a default Unix user account: sandeep_lohani
New password:
Retype new password:
passwd: password updated successfully
To run a command as administrator (user "root"), use "sudo <command>".
See "man sudo_root" for details.

sandeep_lohani@ASUS-SANDEEP:/mnt/c/Users/Sandeep Lohani$ |
```

Step 3: Update the Package List

Run the following command:

`sudo apt update`

```
sandeep_lohani@ASUS-SANDEEP:~$ sudo apt update
[sudo] password for sandeep_lohani:
Hit:1 http://archive.ubuntu.com/ubuntu noble InRelease
Get:2 http://security.ubuntu.com/ubuntu noble-security InRelease [126 kB]
Get:3 http://security.ubuntu.com/ubuntu noble-security/main amd64 Components [21.5 kB]
Get:4 http://archive.ubuntu.com/ubuntu noble-updates InRelease [126 kB]
0% [Waiting for headers] [Waiting for headers]
```

Step 4: Install Java (OpenJDK 11)

`sudo apt install openjdk-11-jdk -y`

```
sandeep_lohani@ASUS-SANDEEP:~$ sudo apt install openjdk-11-jdk -y
All packages are up to date.
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 libgif7 libice-dev libice6 libnspr4 libnss3 libpcsclite1
  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 libxxf86dgal 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-demos
  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 libgif7 libice-dev libice6 libnspr4 libnss3 libpcsclite1
  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 libxxf86dgal 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]
1% [3 libasound2t64 265 kB/399 kB 67%] 49.7 kB/s 41min 3
```

Step 5: Verify Java Installation

Run: `java -version`

```
auto mode
update-alternatives: using /usr/lib/jvm/java-11-openjdk-amd64/bin/jaotc to provide /usr/bin/
update-alternatives: using /usr/lib/jvm/java-11-openjdk-amd64/bin/jhsdb to provide /usr/bin/
Setting up openjdk-11-jdk:amd64 (11.0.28+6-1ubuntu1~24.04.1) ...
update-alternatives: using /usr/lib/jvm/java-11-openjdk-amd64/bin/jconsole to provide /usr/b
to mode
sandeep_lohani@ASUS-SANDEEP:~$ 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)
sandeep_lohani@ASUS-SANDEEP:~$ |
```