



National Textile University
Department of Computer Science
Subject: Operating System

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Reg number:23-NTU-CS-1201

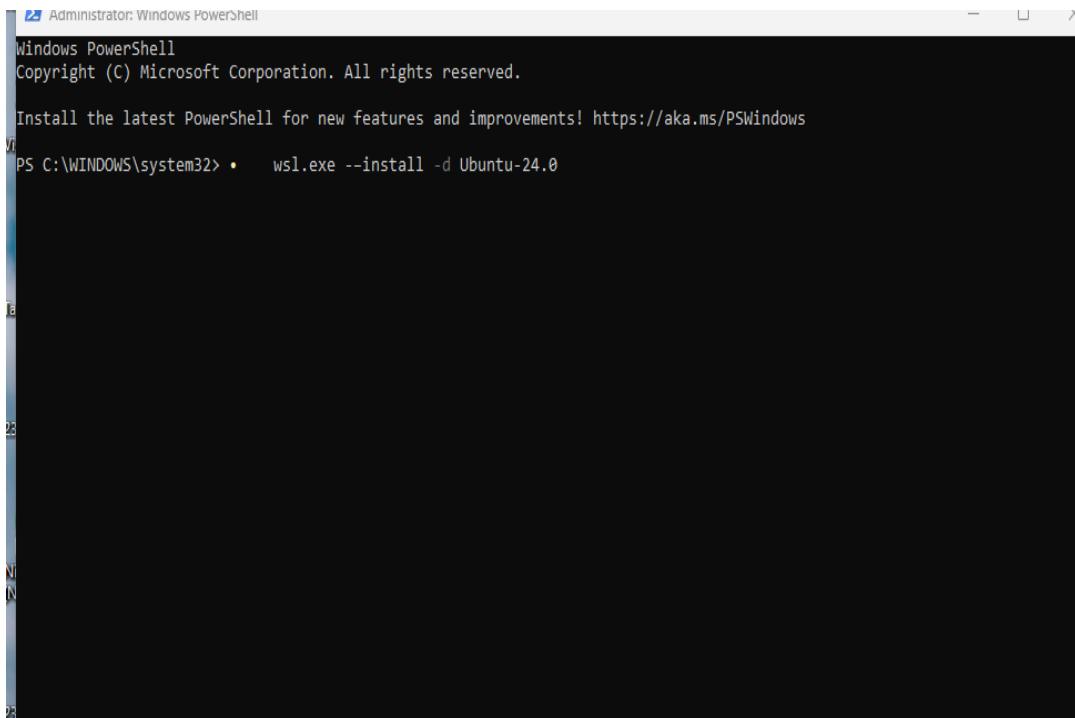
Assignment No.1

Semester:5th

Lab manual

Task 01: Installing WSL2 on Windows

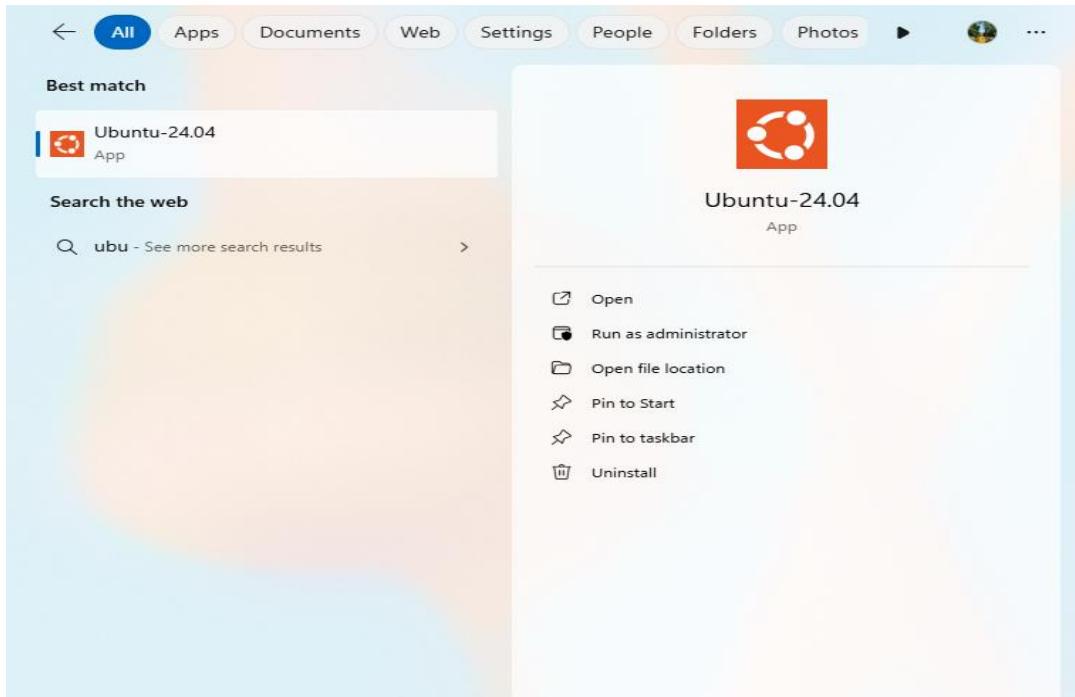
- First, I opened Search bar and opened PowerShell and selected Run as Administrator.
- In PowerShell, I am writing this command to install Ubuntu:
Wsl.exe --install -d Ubuntu-24.04



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

Install the latest PowerShell for new features and improvements! https://aka.ms/PSWindows
PS C:\WINDOWS\system32> • wsl.exe --install -d Ubuntu-24.04
```

- Through this command ubuntu will be starting to download inside the window.



- After finishing installation, I restarted my computer.

Task 02: Verifying the Setup on Windows

- After restart, I opened windows terminal and select ubuntu.
- The first I opened ubuntu ,it said me to set user name and password .
- Ubuntu will finish setting up your new Linux home directory and bring you to a prompt that looks like:
`esha@DESKTOP-XXXX:~$`
That means your Ubuntu 24.04 LTS system is ready.
- After this, I am running followings command that is:
`sudo apt update`
`sudo apt upgrade`

```
Ubuntu-24.04      X + v - □ ×

nimra@DESKTOP-KJ9FT10:~$ •      sudo apt update
•: command not found
nimra@DESKTOP-KJ9FT10:~$ sudo apt update
[sudo] password for nimra:
Hit:1 http://archive.ubuntu.com/ubuntu noble InRelease
Hit:2 http://security.ubuntu.com/ubuntu noble-security InRelease
Get:3 http://archive.ubuntu.com/ubuntu noble-updates InRelease [126 kB]
Hit:4 http://archive.ubuntu.com/ubuntu noble-backports InRelease
Get:5 http://archive.ubuntu.com/ubuntu noble-updates/main amd64 Packages [1415 kB]
Get:6 http://archive.ubuntu.com/ubuntu noble-updates/universe amd64 Packages [1485 kB]
Get:7 http://archive.ubuntu.com/ubuntu noble-updates/universe Translation-en [299 kB]
Fetched 3325 kB in 7s (461 kB/s)
Reading package lists... Done
Building dependency tree... Done
Reading state information... Done
All packages are up to date.
nimra@DESKTOP-KJ9FT10:~$ 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:
  libl LLVM19
Use 'sudo apt autoremove' to remove it.
```

Task 03: Linux filesystem and directory structure:

- In this task i firstly connect the VS code with Ubuntu and then write thses commands on the ubuntu terminal `cd /mnt`

`ls`

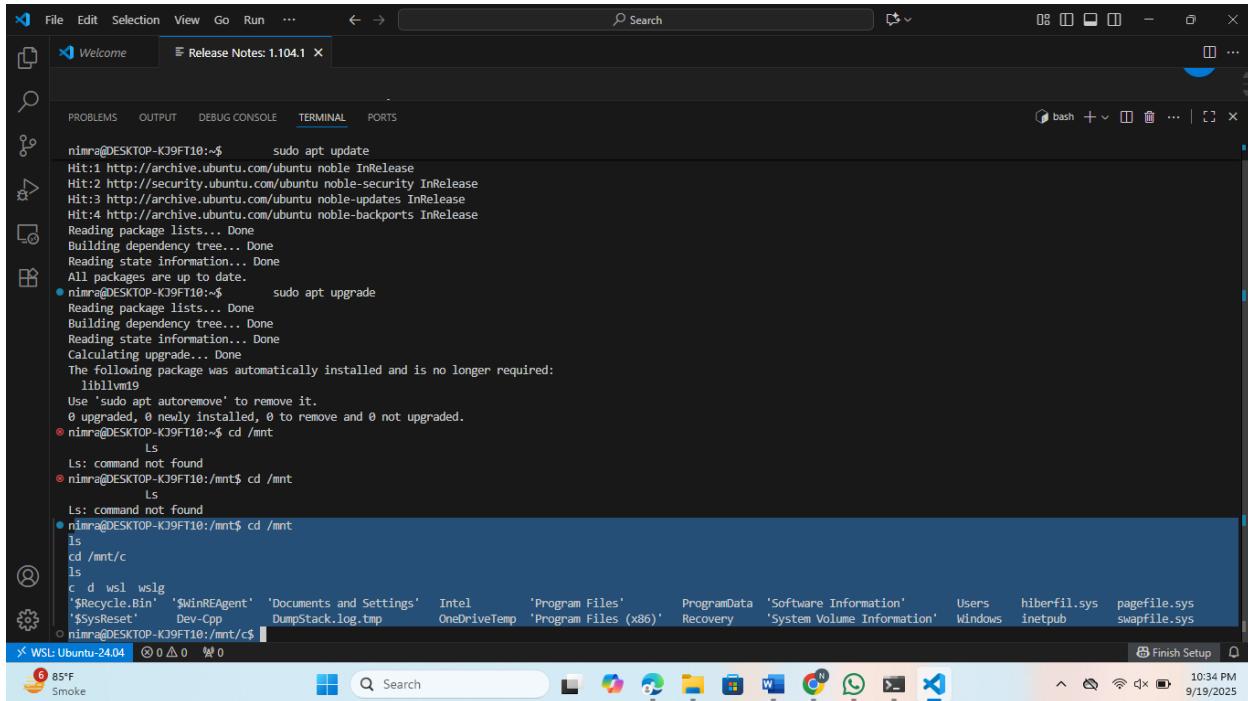
- In this task i write these commands on ubuntu terminal in VS

`cd /mnt`

`ls`

`cd /mnt/c`

ls



```
File Edit Selection View Go Run ... ← → ⌂ Search ⌂ ... PROBLEMS OUTPUT DEBUG CONSOLE TERMINAL PORTS nimra@DESKTOP-KJ9FT10:~$ sudo apt update Hit:1 http://archive.ubuntu.com/ubuntu noble InRelease Hit:2 http://security.ubuntu.com/ubuntu noble-security 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 Building dependency tree... Done Reading state information... Done All packages are up to date. ● nimra@DESKTOP-KJ9FT10:~$ 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: libl1m19 Use 'sudo apt autoremove' to remove it. 0 upgraded, 0 newly installed, 0 to remove and 0 not upgraded. ◉ nimra@DESKTOP-KJ9FT10:~$ cd /mnt
    Ls
Ls: command not found
◉ nimra@DESKTOP-KJ9FT10:/mnt$ cd /mnt
    Ls
Ls: command not found
● nimra@DESKTOP-KJ9FT10:/mnt$ cd /mnt
    ls
cd /mnt/c
    ls
    c d wsl wslg
'$Recycle.Bin' '$WinREAgent' 'Documents and Settings' Intel 'Program Files' ProgramData 'Software Information' Users hiberfil.sys pagefile.sys swapfile.sys
    '$SysReset' Dev-Cpp DumpStack.log.tmp OneDriveTemp 'Program Files (x86)' Recovery 'System Volume Information' Windows inetpub
    nimra@DESKTOP-KJ9FT10:/mnt/c$ 
× WSL:Ubuntu-24.04 ◉ 0 △ 0 % 0
85°F Smoke
Finish Setup
Search
10:34 PM
9/19/2025
```

All commands shows in c drive.

Firstly i create a txt file in the folder of ubuntu in the path of my respective Repository of Github .In content file is displayed on the ubuntu terminal by using these commands .

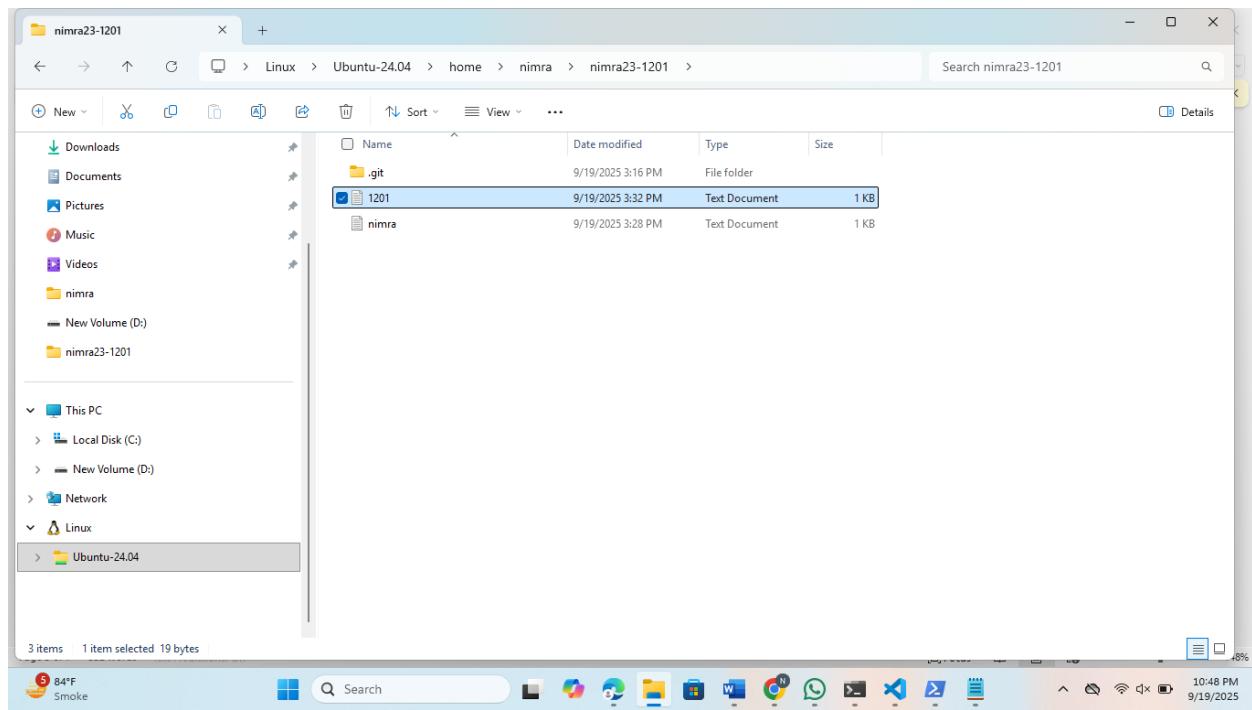
cat nimra.txt

```
nimra@DESKTOP-KJ9FT10:~/nimra23-1201$ cat nimra.txt
i am nimra
nimra@DESKTOP-KJ9FT10:~/nimra23-1201$ echo "hi!whats up guyzzz">>1201.txt
bash: !whats: event not found
nimra@DESKTOP-KJ9FT10:~/nimra23-1201$ echo "hi! how are you ? " >>1201.txt
nimra@DESKTOP-KJ9FT10:~/nimra23-1201$
```

In next step i just write

echo "hi!how are you? " >> 1201.txt

this will create a new file of txt in the same folder where our previous file of “nimra” located .



Task of this lab :

In this lab ,we basically checks the ubuntu setup is running or not and check the version of ubuntu by typing these commands on terminal of ubuntu .

Gcc -l –version.

The screenshot shows a Windows desktop environment with a WSL terminal window open in the Visual Studio Code interface. The terminal tab is active, displaying the output of a package installation process:

```
Setting up dpkg-dev (1.22.6ubuntu6.2) ...
Setting up libgcc-13-dev:amd64 (13.3.0-6ubuntu2~24.04) ...
Setting up libc6-dev:amd64 (2.39-0ubuntu8.5) ...
Setting up libstdc++-13-dev:amd64 (13.3.0-6ubuntu2~24.04) ...
Setting up cpp-x86-64-linux-gnu (4:13.2.0-7ubuntu1) ...
Setting up cpp-13 (13.3.0-6ubuntu2~24.04) ...
Setting up gcc-13-x86-64-linux-gnu (13.3.0-6ubuntu2~24.04) ...
Setting up gcc-13 (13.3.0-6ubuntu2~24.04) ...
Setting up g++ (4:13.2.0-7ubuntu1) ...
Setting up g++-13-x86-64-linux-gnu (13.3.0-6ubuntu2~24.04) ...
Setting up g++-13 (13.3.0-6ubuntu2~24.04) ...
Setting up g++ (4:13.2.0-7ubuntu1) ...
update-alternatives: using /usr/bin/g++ to provide /usr/bin/c++ (c++) in auto mode
Setting up build-essential (12.1ubuntu1) ...
Setting up libheif1:amd64 (1.17.6-1ubuntu4.1) ...
Setting up libgd3:amd64 (2.3.3-9ubuntu5) ...
Setting up libc-devtools (2.39-0ubuntu8.5) ...
Setting up libheif-plugin-aomenc:amd64 (1.17.6-1ubuntu4.1) ...
                               (1.17.6-1ubuntu4.1) ...
                               -0ubuntu8.5) ...
Command executed 47 secs ago and took 8ms -4build2) ...
```

The command `gcc --version` was run, showing the version 13.3.0. The terminal also displays the standard copyright notice from the Free Software Foundation.