

Name : Tazmeen Afroz

Roll No : 22P-9252

BAI-5A
OS-LAB-TASK-2

ls (List Directory Contents)

The ls command is used to list directory contents.

Basic Usage

This will list all non-hidden files and directories in the current directory.

```
(base) tazmeen@afroz:~$ ls
anaconda3 Desktop Documents Downloads Music Pictures Public snap Templates test Videos
(base) tazmeen@afroz:~$
```

Common Options

ls-a: List all files, including hidden files (those starting with a dot).

```
(base) tazmeen@afroz:~$ ls -a
.          .bash_history .cache Desktop Downloads .jupyter .pam_environment .profile .ssh          test
..         .bash_logout .conda Documents .gnupg   .local  Pictures Public  .sudo_as_admin_successful Videos
anaconda3 .bashrc    .config .dotnet .ipython Music   .pki      snap   Templates .vscode
(base) tazmeen@afroz:~$
```

ls -s : Print the allocated size of each file, in blocks.

```
(base) tazmeen@afroz:~$ ls -s
total 44
4 anaconda3 4 Desktop 4 Documents 4 Downloads 4 Music 4 Pictures 4 Public 4 snap 4 Templates 4 test 4 Videos
(base) tazmeen@afroz:~$
```

ls -i: Print the index number (inode number) of each file.

```
(base) tazmeen@afroz:~$ ls -i
394743 anaconda3 131104 Documents 131105 Music 131103 Public 131102 Templates 131107 Videos
131100 Desktop 131101 Downloads 131106 Pictures 131194 snap 141152 test
(base) tazmeen@afroz:~$
```

cd (Change Directory)

The cd command is used to change the current working directory.

```
(base) tazmeen@afroz:~$ cd Documents/  
(base) tazmeen@afroz:~/Documents$
```

Tree

The tree command displays directory contents in a tree-like format.

Tree Installation

```
sudo: a password is required  
(base) tazmeen@afroz:~$ sudo apt install tree -y  
[sudo] password for tazmeen:  
Reading package lists... Done  
Building dependency tree... Done  
Reading state information... Done  
The following packages were automatically installed and are no longer required:  
  libwpe-1.0-1 libwpebackend-fdo-1.0-1  
Use 'sudo apt autoremove' to remove them.  
The following NEW packages will be installed:  
  tree  
0 upgraded, 1 newly installed, 0 to remove and 67 not upgraded.  
Need to get 47.9 kB of archives.  
After this operation, 116 kB of additional disk space will be used.  
Get:1 http://archive.ubuntu.com/ubuntu jammy/universe amd64 tree amd64 2.0.2-1 [47.9 kB]  
Fetched 47.9 kB in 2s (27.3 kB/s)  
Selecting previously unselected package tree.  
(Reading database ... 209837 files and directories currently installed.)  
Preparing to unpack .../tree_2.0.2-1_amd64.deb ...  
Unpacking tree (2.0.2-1) ...  
Setting up tree (2.0.2-1) ...  
Processing triggers for man-db (2.10.2-1) ...  
(base) tazmeen@afroz:~$
```

```
(base) tazmeen@afroz:~$ cd Downloads
(base) tazmeen@afroz:~/Downloads$ tree
.
├── 22P-9252-ML-Task-1.ipynb
├── Anaconda3-2024.06-1-Linux-x86_64.sh
├── code_1.92.2-1723660989_amd64(1).deb
├── code_1.92.2-1723660989_amd64.deb
├── google-chrome-stable_current_amd64.deb
├── housing.csv
├── kovacs_et_al_labmanual_manuscript.pdf
├── L2_research_write_article.ipynb
├── Lab#01.pdf
├── Lab#02.pdf
├── OS lab 1(1).docx
├── OS lab 1.docx
├── TBW.pdf
├── tesstt.pdf
├── White and Grey Modern Business Research Proposal Presentation-1-1.pdf
├── White and Grey Modern Business Research Proposal Presentation-1-2.pdf
├── White and Grey Modern Business Research Proposal Presentation-1.pdf
├── White and Grey Modern Business Research Proposal Presentation(1).pptx
├── White and Grey Modern Business Research Proposal Presentation.pdf
├── White and Grey Modern Business Research Proposal Presentation.pptx
└── xampp-linux-x64-8.2.12-0-installer.run

0 directories, 21 files
(base) tazmeen@afroz:~/Downloads$
```

sudo (Superuser Do)

The sudo command allows users to run programs with the security privileges of another user, by default the superuser.

```
(base) tazmeen@afroz:~$ cd Documents/
(base) tazmeen@afroz:~/Documents$ sudo apt update
[sudo] password for tazmeen:
```

pwd (Print Working Directory)

The pwd command prints the current/working directory.

This command prints the absolute path of the current working directory.

```
(base) tazmeen@afroz:~$ cd Documents/
(base) tazmeen@afroz:~/Documents$ pwd
/home/tazmeen/Documents
(base) tazmeen@afroz:~/Documents$
```

Absolute path

Absolute paths always start with the root directory and provide the full path to the file or directory.

```
(base) tazmeen@afroz:~$ cd /home/tazmeen/Documents  
(base) tazmeen@afroz:~/Documents$
```

Relative path

A relative path is a path to a file or directory that is relative to the current directory.

```
(base) tazmeen@afroz:~/Documents$ cd ../  
(base) tazmeen@afroz:~$ cd ./Documents/  
(base) tazmeen@afroz:~/Documents$
```

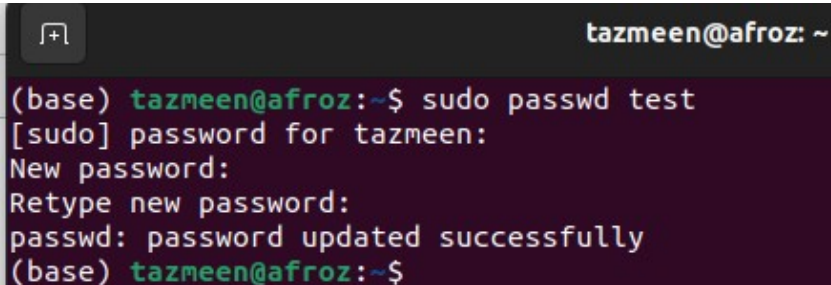
Add User

To add a new user:

```
(base) tazmeen@afroz:~$ sudo -i
[sudo] password for tazmeen:
root@afroz:~# adduser test
Adding user `test' ...
Adding new group `test' (1002) ...
Adding new user `test' (1001) with group `test' ...
Creating home directory `/home/test' ...
Copying files from `/etc/skel' ...
New password:
BAD PASSWORD: The password is shorter than 8 characters
Retype new password:
Sorry, passwords do not match.
New password:
Retype new password:
passwd: password updated successfully
Changing the user information for test
Enter the new value, or press ENTER for the default
    Full Name []: User Test
    Room Number []: 7
    Work Phone []: 1
    Home Phone []: 2
    Other []: 2
Is the information correct? [Y/n] y
root@afroz:~#
```

Change User Password

To change a user's password:

A terminal window titled 'tazmeen@afroz: ~' with standard window controls. The terminal shows the command 'sudo passwd test' being executed. It prompts for the user's password, then asks for a new password and its confirmation. The password is successfully updated, and the prompt returns to the user.

```
(base) tazmeen@afroz:~$ sudo passwd test
[sudo] password for tazmeen:
New password:
Retype new password:
passwd: password updated successfully
(base) tazmeen@afroz:~$
```

Network Commands

ifconfig

The ifconfig command is used to configure network interfaces.

This will display information about all active network interfaces.

```
(base) tazmeen@afroz:~$ sudo apt install net-tools
Reading package lists... Done
Building dependency tree... Done
Reading state information... Done
The following packages were automatically installed and are no longer required:
  libwpe-1.0-1 libwpebackend-fdo-1.0-1
Use 'sudo apt autoremove' to remove them.
The following NEW packages will be installed:
  net-tools
0 upgraded, 1 newly installed, 0 to remove and 67 not upgraded.
Need to get 204 kB of archives.
After this operation, 819 kB of additional disk space will be used.
Get:1 http://archive.ubuntu.com/ubuntu jammy/main amd64 net-tools amd64 1.60+git20181103.0eebece-1ubuntu5 [204 kB]
Fetched 204 kB in 27s (7,610 B/s)
Selecting previously unselected package net-tools.
(Reading database ... 209845 files and directories currently installed.)
Preparing to unpack .../net-tools_1.60+git20181103.0eebece-1ubuntu5_amd64.deb ...
Unpacking net-tools (1.60+git20181103.0eebece-1ubuntu5) ...
Setting up net-tools (1.60+git20181103.0eebece-1ubuntu5) ...
Processing triggers for man-db (2.10.2-1) ...
(base) tazmeen@afroz:~$ ifconfig
enp0s25: flags=4099<UP,BROADCAST,MULTICAST> mtu 1500
    ether 68:f7:28:fc:c6:1d txqueuelen 1000 (Ethernet)
    RX packets 0 bytes 0 (0.0 B)
    RX errors 0 dropped 0 overruns 0 frame 0
    TX packets 0 bytes 0 (0.0 B)
    TX errors 0 dropped 0 overruns 0 carrier 0 collisions 0
    device interrupt 20 memory 0xf1200000-f1220000

lo: flags=73<UP,LOOPBACK,RUNNING> mtu 65536
    inet 127.0.0.1 netmask 255.0.0.0
    inet6 ::1 prefixlen 128 scopeid 0x10<host>
    loop txqueuelen 1000 (Local Loopback)
    RX packets 23141 bytes 2205717 (2.2 MB)
    RX errors 0 dropped 0 overruns 0 frame 0
    TX packets 23141 bytes 2205717 (2.2 MB)
```

iwconfig

The iwconfig command is part of the wireless-tools package in Linux and is used to configure and display information about wireless network interfaces.

```
TX errors 0 dropped 0 overruns 0 carrier 0 collisions 0
(base) tazmeen@afroz:~$ iwconfig
lo        no wireless extensions.

enp0s25   no wireless extensions.

wwan0     no wireless extensions.

wlp3s0    IEEE 802.11 ESSID:"....."
Mode:Managed Frequency:2.417 GHz Access Point: C2:FE:5B:29:CC:71
Tx-Power=22 dBm
Retry short limit:7 RTS thr:off Fragment thr:off
Power Management:on
Link Quality=51/70 Signal level=-59 dBm
Rx invalid nwid:0 Rx invalid crypt:0 Rx invalid frag:0
Tx excessive retries:0 Invalid misc:47 Missed beacon:0

(base) tazmeen@afroz:~$
```