LINUX commands

Ubuntu desktop customization :

To install themes on UBUNTU system open browser/mozilla firefox type a url **gnome-look.org** We can select and download supported GTK **(GTK (formerly GTK+, GNOME ToolKit) is a free and open-source cross-platform widget toolkit for creating graphical user interfaces (GUIs)).** And we can download supported themes and ICONS for our system.

Unity tweak tool :

Open terminal(press ctrl+alt+T) and type command **sudo apt-get install unity-tweak-tool,** press enter it will ask administrator password, type password and enter it will download the Tweak tool package. **(Unity Tweak Tool is a settings manager for the Unity desktop. It provides users with a fast, simple and easy-to-use interface with which to access many useful and little known features and settings of the desktop environment that one may want to configure)**

- If any error showing 'E: Could not get lock /var/lib/dpkg/lock' like this we will enter these commands in terminal and upgrade the os

- **sudo rm /var/lib/apt/lists/lock**
- **sudo rm /var/cache/apt/archives/lock**
- **sudo rm /var/lib/dpkg/lock***
- **sudo dpkg --configure -a**
- **Sudo apt upgrade**

It will start the update process

Linux command line interface:

Open terminal and enter command

PWD(print working directory)

cd(change directory)

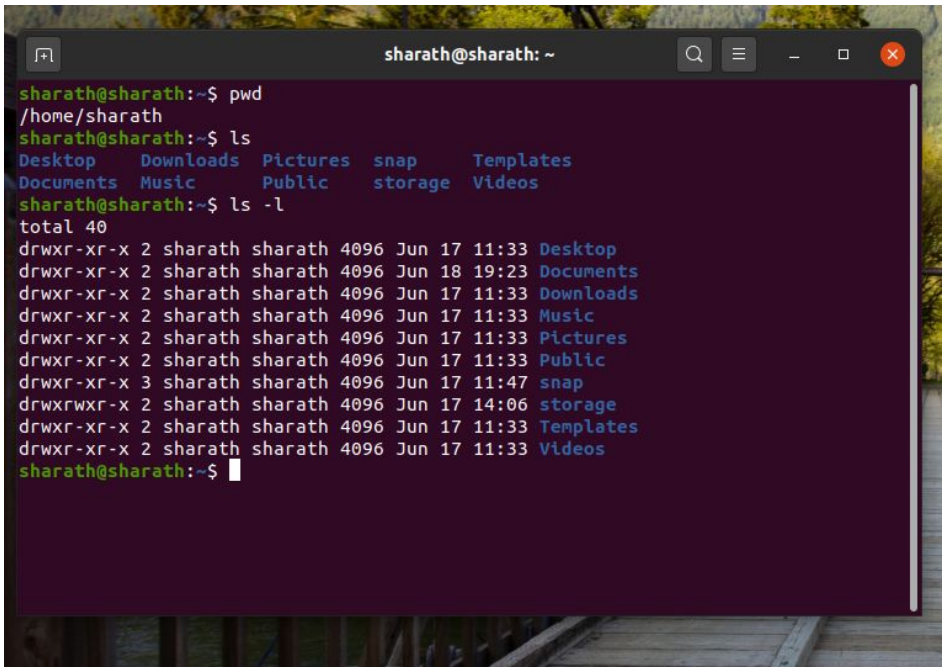
cd / **it will direct from root**

cd ./ **it will continue in current directory**

cd ~ **it will directly take to home wherever you are**

ls **list the contents in the current directory and it will arrange in alphabetical order**

ls -l **it will gives the list in long way that means information about the each and every file showing in below figure**



ls -r **it will shows list in reverse alphabetical order**

ls -p **it will show directories followed by"/" .**

ls -s **soft the list based on the size**

nano followed by **file name** we will edit the file through terminal

Example : nano /documents/file

Sudo su "switch user"

echo "command that write its arguments to standard output"

su user account it will take to default user account

apt list --installed "it will list out the all installed applications "

sudo apt-get install <application name> " command for install the application on computer "

sudo apt-get remove <application name> "command for remove the application on computer "

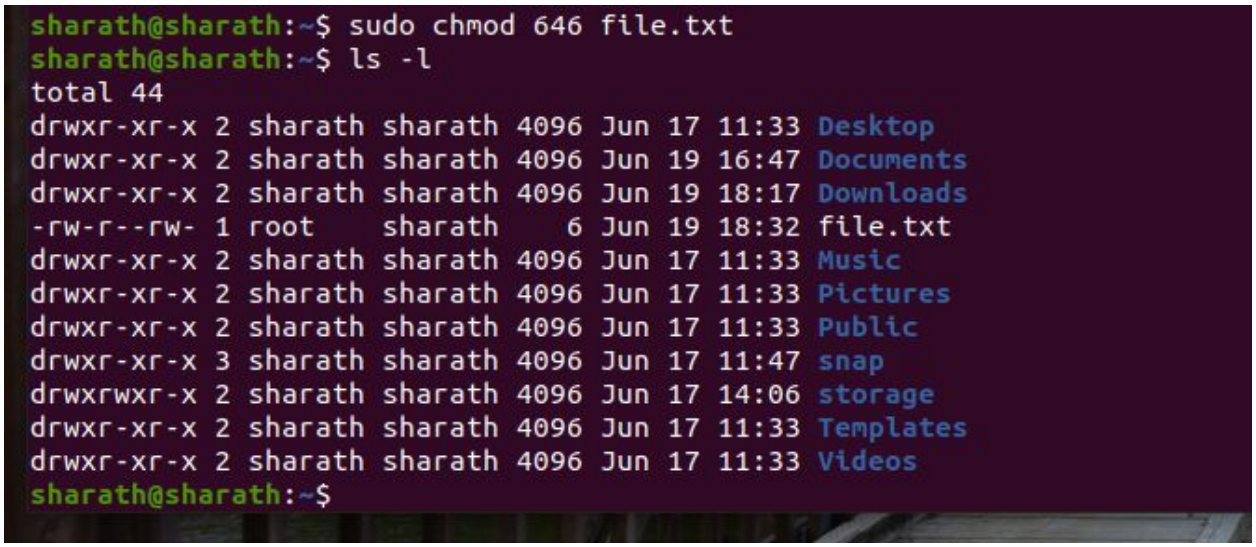
apt-cache policy <application name> " used to weather the application is installed or not "

sudo dpkg -i /filepath **"** used to install package through terminal "

sudo apt-get upgrade " it will update latest versions of the each and every application in the repository and allow to packages to upgrade"

sudo chown user:group file.txt " it allows change ownership of the files "

In below picture column3 -user and column -group



sudo chmod 664 " change the permissions of the file like read and write"

Here 6 is for read and write(rw in user/group)
4 is for read (r)
7 is directory of the file

Chmod g=rw/r-x/--x <directory name> "change the permissions of the directory which is user/group/other users"

nano <filename> **“** after change the permissions we will able to read and write the file by using this command “

rm **<filename>** **“** delete the file”

Create a directory:

sudo mkdir <directory name> “ used to create a directory and permissions on this owned by root “

mkdir <directory name> “make directory with user permission”

Mkdir -p <number of folders/directories> “ we can create number of subdirectories in side parent directory”

Mkdir -p <directory name >/ {number of folders/directories}

Example : mkdir -p f2/{folder1,folder2,folder3}

sudo chown -R user:group /<directory name> “ it will change the ownership of the directory and files in the directory

touch <filename> <filename> “used to create a files”

rm <directory name>/* “ it will remove all the files in directory”

rm <directory name>/*.<extinction> “ it will remove files with specified extinction in the directory “

rm -rf <directory name> “ remove entire directory”

cp <source file> <destination file > “ used to copy the files if destination file is in directory specify the directory before the destination file”

mv <source file> <directory name> / <file name > “move the file from one directory to another we can also save in same directory with another name”

find . -type f -name “.<extinction>” “ find the files in the directory with specified extinction”.

Example: find . -type f -name- “.txt”

find . -type f -iname “.<extinction>” “ find the files in the directory in case sensitive manner “ .

Example: find . -type f -iname- “.txT”

find . -type d -iname “.<extinction>” “ find the directories “

find . -type f not -name “.<extinction>” **“** used to find all the files that are not with specified extinction”.

grep “function” ./* “ used to find all the functions in the current directory”

grep -i “function” ./* “ case sensitive “

grep -n -i “function” ./* “ show the line number the function is present in the file “ .

ls >output.txt “All the list of files present in the output files “.

top “ To know the information about the processor ” .

PID means process id.

Pgrep <application name> “ used to find the processor id of the application which is running real time”.

Kill -9 <processor id> “kill the entire processor”.

killall <process name> “ kill all the application process”.

crontab -e “ schedule the process” .

ps aux | grep -i apt **“** it will be the current process or application is running “.

Sudo apt-get install <jdk version> **“**install java packages in linux”

sudo gedit .bashrc “used to change the path of the environmental variables”

source .bashrc “linking terminal with updated environmental variables”

sudo apt-get install git git-extras “ used to install git-Hub “ .

git remote add origin https://github.com/sharathU1902/python-examples.git **“** add github account to particular directory for remote “

git pull origin master **“** used to access files from github account manually “.

git branch --set-upstream-to=origin/master “Branch 'master' set up to track remote branch 'master' from 'origin’ “.

git add <filename> “ we can add if any changes made in a current file “

git add -A “ we can directly add all changed files to github “

git commit -m "updated readme added main.py" “ add comment from terminal to github”

git push " push or update all files to github through terminal "

git rm -r venv " remove the directory in github"

sudo apt install curl " install curl for redirect to browser "

curl https://install.meteor.com/ | sh **" i**nstall meteor, "

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Meteor is a full-stack **JavaScript** platform for developing modern web and mobile applications. Meteor includes a key set of technologies for building connected-client reactive applications, a build tool, and a curated set of packages from the Node. js and general **JavaScript** community

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sudo apt-get install php5.6 libapache2-mod-php5.6 **"** install php in system"

sudo apt-get install apache2 mysql-server **"** install apache and my spl"

sudo systemctl start apache2 **"** to start apache2 "

Networking commands:

ping <website> - " ping the ip address of the website" and press ctrl+c , escape from ping

Ifconfig - "to know the information of the networks"

sudo tcpdump - **"Tcpdump** is a **command** line utility that allows you to capture and analyze network traffic going through your system. "

Sudo tcpdump -c <number of packets> " it will give the information about that particular packets"

```
sharath@sharath:~$ sudo tcpdump -c 10
tcpdump: verbose output suppressed, use -v or -vv for full protocol decode
listening on enp0s3, link-type EN10MB (Ethernet), capture size 262144 bytes
14:19:41.484847 IP sharath.51075 > maa03s23-in-f14.1e100.net.443: UDP, length 33
14:19:41.485925 IP sharath.40359 > 192.168.55.1.domain: 30651+ [1au] PTR? 15.2.0.10.in-addr.arpa. (51)
14:19:41.487775 IP sharath.58336 > maa05s09-in-f14.1e100.net.443: UDP, length 33
14:19:41.489272 IP 192.168.55.1.domain > sharath.40359: 30651 NXDomain 0/0/1 (51)
14:19:41.489448 IP sharath.40359 > 192.168.55.1.domain: 30651+ PTR? 15.2.0.10.in-addr.arpa. (40)
14:19:41.492267 IP 192.168.55.1.domain > sharath.40359: 30651 NXDomain 0/0/0 (40)
14:19:41.493021 IP sharath.39456 > 192.168.55.1.domain: 63892+ [1au] PTR? 1.55.168.192.in-addr.arpa. (54)
14:19:41.497962 IP 192.168.55.1.domain > sharath.39456: 63892 NXDomain 0/0/1 (54)
14:19:41.498124 IP sharath.39456 > 192.168.55.1.domain: 63892+ PTR? 1.55.168.192.in-addr.arpa. (43)
14:19:41.501544 IP 192.168.55.1.domain > sharath.39456: 63892 NXDomain 0/0/0 (43)
```

netstat -nr **"**to see the actual ip address "

```
sharath@sharath:~$ netstat -nr
Kernel IP routing table
Destination     Gateway         Genmask         Flags   MSS Window  irtt Iface
0.0.0.0         10.0.2.2        0.0.0.0         UG        0 0          0 enp0s3
10.0.2.0        0.0.0.0         255.255.255.0   U         0 0          0 enp0s3
169.254.0.0     0.0.0.0         255.255.0.0     U         0 0          0 enp0s3
```

netstat -i - it will show output

```
sharath@sharath:~$ netstat -i
Kernel Interface table
Iface      MTU    RX-OK RX-ERR RX-DRP RX-OVR    TX-OK TX-ERR TX-DRP TX-OVR Flg
enp0s3    1500     9929      0      0 0          8629      0      0      0 BMRU
lo       65536      417      0      0 0           417      0      0      0 LRU
```

netstat -ta

```
sharath@sharath:~$ netstat -ta
Active Internet connections (servers and established)
Proto Recv-Q Send-Q Local Address           Foreign Address         State
tcp        0      0 localhost:mysql         0.0.0.0:*               LISTEN
tcp        0      0 0.0.0.0:sunrpc          0.0.0.0:*               LISTEN
tcp        0      0 localhost:domain        0.0.0.0:*               LISTEN
tcp        0      0 localhost:ipp           0.0.0.0:*               LISTEN
tcp        0      0 sharath:52512           sc-in-f188.1e100.n:5228 ESTABLISHED
tcp       57      0 sharath:58614           maa03s31-in-f10.1:https CLOSE_WAIT
tcp        1      0 sharath:56378           maa05s02-in-f14.1e:http CLOSE_WAIT
tcp        1      0 sharath:48824           103.211.110.209:http    CLOSE_WAIT
tcp6       0      0 [::]:33060              [::]:*                  LISTEN
tcp6       0      0 [::]:sunrpc             [::]:*                  LISTEN
tcp6       0      0 [::]:http               [::]:*                  LISTEN
tcp6       0      0 ip6-localhost:ipp       [::]:*                  LISTEN
```

netstat -tan **“**it shows ip addresses instead of hostname”

```
sharath@sharath:~$ netstat -tan
Active Internet connections (servers and established)
Proto Recv-Q Send-Q Local Address           Foreign Address         State
tcp        0      0 127.0.0.1:3306          0.0.0.0:*               LISTEN
tcp        0      0 0.0.0.0:111             0.0.0.0:*               LISTEN
tcp        0      0 127.0.0.53:53           0.0.0.0:*               LISTEN
tcp        0      0 127.0.0.1:631           0.0.0.0:*               LISTEN
tcp        0      0 10.0.2.15:52512         74.125.68.188:5228      ESTABLISHED
tcp       57      0 10.0.2.15:58614         216.58.196.170:443      CLOSE_WAIT
tcp        1      0 10.0.2.15:56378         172.217.163.78:80       CLOSE_WAIT
tcp        1      0 10.0.2.15:48824         103.211.110.209:80      CLOSE_WAIT
tcp6       0      0 :::33060                :::*                    LISTEN
tcp6       0      0 :::111                  :::*                    LISTEN
tcp6       0      0 :::80                   :::*                    LISTEN
tcp6       0      0 ::1:631                 :::*                    LISTEN
```

*** **sudo apt install traceroute** ***

Traceroute- Traceroute is a command which can show you the path a packet of information takes from your computer to one you specify. It will list all the routers it passes through until it reaches its destination, or fails to and is discarded. In addition to this, it will tell you how long each 'hop' from router to router takes.

After install type a command “traceroute” in terminal it will fetch all repositories installed for us

*** **Sudo apt install nmap** ***

NMAP- Nmap, short for Network Mapper, is a free, open-source tool for vulnerability scanning and network discovery. Network administrators use Nmap to identify what devices are running on their systems, discovering hosts that are available and the services they offer, finding open ports and detecting security risks