**Linux Commands to master**

* mkdir -> creating directory
* touch -> creating a text file
* cat -> read the content of file
* less -> read the content , it is little bit differ from cat becuase in this you can scroll up down to read for larger file content
* grep -> search for content in file
* grep -R <word to search> /dir1/\* -> inside dir1 containing all files will send the content or word that the user has searched for
* grep -vi <search for word> dir1 -> will not show the word you have searched for in the entire file and show all the rest of content
* sudo -i dpkg <package file in .deb> -> used to install the package
* rm -> delete a text file
* rmdir -> delete an empty directory
* rm -r -> delete the directory with inside content
* rm -rf -> delete the with inside content without asking for permission
* sudo -i -> get into the root user
* cp source\_file destination\_directory -> copy paste
* mv source\_file destination\_directory -> cut paste or move to
* head -<no of line to search> filename -> read the first lines for given no
* tail -<no of line to search> filename -> read the last lines for given no
* sed ‘s/word to replace/replace with new word/g -> globally

example : sed ‘s/hello/hello man’g -> now hello in whole file will replaced by hello man

**note**: one more thing it will just change the word in terminal if you again read the actual file the old word will be there

**note**: sed is in for terminal if you want in vim editor then use below command  
  
-> %s/hello/hello man/g -> for vim editor users

if you permenantly want to change the word with sed command use -i

* cut -d, f3 <filename> -> this will print the 3rd column in file , you can use nay column to print it is just for explanation

cat /etc/os-release -> give details regarding os

**I/O Redirections in Linux**

for example if i run uptime command , it will show the output to the terminal but if i use > <filename> it will redirect the output to that file

ex:

uptime > /tmp/sysinfo.txt

now the output is redirected to sysinfo.txt file

>> this symbol is used to append content

ex:

their is some content in /tmp/sysinfo.txt file i run this command   
uptime >> /tmp/sysinfo.txt -----> now the uptime info is also appended with the content of /tmp/sysinfo.txt file

**&>> is to redirect & append all the output to file (Output & Error both)**

* free -m -> shows the memory utilization
* df -h -> shows the hardisk partition utilization
* wc -l <filename> -> count total no of lines in file

**Piping in linux**

**|** -> symbol

basically pipe gives the output as input to other command

ex:

root/etc: ls | wc -l

* **find** command is used to find the files

syntax:

find /path to your file -name <file name to search for>

ex:

find /tmp/sysinfo.txt -name host\*

**cut -d',' -f2 your\_file.txt**

· -d',' specifies the delimiter (in this case, a comma for CSV).

· -f2 selects the second column (replace 2 with the desired column number).

· your\_file.txt is the file you're extracting the column from.

**Users and Groups in Linux**

useradd <username> -> this command will add user

groupadd <groupname> -> this command will add group

basically useradd command is for centos , it probably dont run in ubuntu for ubuntu we user **adduser** command

etc/passwd -> this directory contains all the users

etc/group -> this directory will contain all groups

The **visudo** command is used to safely edit the /etc/sudoers file in Linux and Unix systems.

**usermod** command will add the user in group

ex:

usermod -aG <group-name> <user>

usermod -aG devops syed

**example for above:**

root@talha-ThinkPad-W530:~# groupadd devops

root@talha-ThinkPad-W530:~# usermod -aG devops syed

root@talha-ThinkPad-W530:~# id syed

uid=1001(syed) gid=1001(syed) groups=1001(syed),**1002(devops)**

su - syed -> now im in the syed user

**passwd** command is used to set the password for a user

**lsof -u <username>**  -> this command will tell you about the files which user has opened

**userdel -r <username>** -> completey delete the user

**Files Permissions in Linux**

r => read

w => write

x => execute

drwxr-xr-x 2 root root 4096 Aug 31 15:32 Templates

^ ^ ^

Permissions user group

read-write-execute OR rwx => root user

read-execute OR rx => for group

3rd read-execute OR rx => for others

example to change user

root@talha-ThinkPad-W530:~# ls -ld /opt/devops

drwxr-xr-x 2 root root 4096 Sep 2 12:53 /opt/devops

root@talha-ThinkPad-W530:~# **chown** ansible:devopsdir /opt/devops

root@talha-ThinkPad-W530:~# ls -ld /opt/devops

drwxr-xr-x 2 ansible devopsdir 4096 Sep 2 12:53 /opt/devops

**chown** command is change the ownership of file

now to remove the permissions for any user like i have to remove the permissions for other users so i can use chmod command

ex:

chmod o-r /opt/devops

chmod o-w /opt/devops

so i just had remove the permission of read and write for others users

**chmod** command is to change the mod of file (like permission for example)

* o: Refers to others (users who are neither the owner nor in the group).
* +: Adds the specified permissions.
* r: Read permission.
* w: Write permission.

**Processes in Linux System**

**Top** command basically shows the active linux processes

**ps aux**  -> it is similar to top command but it displays the information and quit as **top** doesnt quit by default

**ps -ef** will give all the process with their parent process also

parent process started other child processes is called **Forking**

Altough in linux we can stop any process using **systemctl** command but what in case we dont have that command so then we use **kill** command

syntax:

**kill <pid>**

orphan process will not server much purpose it will still consume resources so we have to kill all process

process which is dead but the entry is still in process table is called zombie process

kill -9 PID command is to stop process forcefully and kill PID  is to stop process gracefully, child processes also will be stopped if parent process is stopped gracefully.

**Some more interesting things regarding ubuntu linux**

visudo command open bydefault in nano in ubuntu but if you want to open it on vim editor you can run this:

root@talha-ThinkPad-W530:~# export EDITOR=vim

root@talha-ThinkPad-W530:~# visudo

visudo: /etc/sudoers.tmp unchanged

**dpkg -l**  -> list all the debian install packages in your linux system

in centos we have httpd web server but in ubuntu we have apache2

**apt update** -> check and just update the list

**apt upgrade** -> actually upgrade all the packages in list

**apt remove** -> just remove the package but not configuration and its data

if you want to remove permanently and clearely the package from entire system use below command

**apt purge** <package name>