**COMMANDS:**

**SYSTEM INFO :-**

1. **Date** :- it will show the date.

Ex :- **date +%d-%m-%y / date "+DATE: %m%d%y"** here it will show the date is a particular format.

1. **cal** :- it will show the calendar.

Ex:- cal ,it will show the date.

1. **uptime :-** it will show the time from how much time we are being logged into the system.
2. **who am I :-**  it will show the details of current user
3. **who :-** it will show the details of the logged users.
4. **w** :- it will show the detailed information about the logged user.

When we log into the system

1. **uname –a :-** it will show the details about the system like linux or unix and which version and keranal ect.
2. **Man :-** it will show the manual for command.
3. **Df :-** it will show the disc usage.
4. **Du :-** it will show the directory space usage.
5. **Free :-**  it will show the memory and swap usage.
6. **Where is app :-**  it will show possible location of app.
7. **Which app :-**  it will show which app will be run by default.

**FILE COMMANDS**

1. **Ls :-**  list down the files and directories.
2. **ls -l :-** it will show the long list format.
3. **Ls –**s :- it will show the files with size.
4. **Ls –**h :- human readable files will be displayed.
5. **Ls –**i :- it will show the files with inode numbers.
6. **Ls –**ltr :- it will show the files and directories in the vertically.
7. **ls ma\*.doc :-**

Here .doc filles will be displayed starting with **ma.**

1. **ls \*.txt :-**

here it will be displayed **.txt** files.

1. **ls -d \*/ :-**  list down the all directories from current directory.
2. **Ls –a :-**

Hidden files also will be displayed.

1. **ls –b :-**

here files and directories will be displayed as ascending order.

1. **ls –la :-**

here it will show the directories and files in the long list format.

1. **Ls -1 :-**

Here it will display the files and directories in the ascending order.

1. **Ls -R :-**

files will be opened in recursive mode.

1. **Ls \* : -**  it will display the all files and directories according to directory wise./ list all subdirectories.
2. **ls -lrt \*.log :-**

it will show the **.log files.**

1. **ls -lrt \* /- :-** files will be displayed and after files will be displayed according to directory.
2. **ls -lrt [aeiou]\* :-**

it will show the files starting with **(aeiou)**

1. **ls -a :-** it will show the hidden files.
2. **ls -d $pwd/\* :-** list down the directories full path.
3. **Ls –la /home/maha/mahasai :-** we can sea the files in any path.
4. **ls s\* : -**  here it will show the files and directories starting with **“s”.**
5. **ls ???.txt :-** it will display the 3 letters .txt files.
6. **ls \*.txt :-**  it will display all files ending with .txt.
7. **ls m,s \* : -** it will display the files and directories starting with m&s.
8. **ls [a,e]\* :-**  we can list of the files starting with a and e.
9. **ls -l -d \*/ :-**  only directories will be displayed in long list format.
10. **ls –f :-** it will display only files.
11. **ls -d .\* :-** it will display .files and directories.
12. **Ls –F :-** it will display executable files with \*.

**CP**

**cp :-** it is used to perform below 2 operations.

1. Taking backup of a file.

**Ex :-** existing file name target file name

**cp Abc abc123**

Here the data will be copied from abc to abc123.

1. To copy existing files or directories to another location

**Ex :-** cp abc /home/maha/maha.txt

Here the files will be having new inode numbers which have been copied.

1. cp maha nag
2. cp –r dir1 dar2 :**-**

here the directory will be copied from dir1 to dir2.

**mv**

This command is use to rename the files or directories

1. **mv mahanandhi** **maha** here mahanandhi name will be changed into maha.
2. **mv maha** /home/sai/mahanandhi.txt here the data will be copied to mahanandhi.txt.

**RM :-**

**rm** :- rm is the command to remove the files or directories

1. **rm** :- filename (maha) here maha file will be removed.
2. **Rm –r** :- directory name (Mahanandhi) here Mahanandhi directory will be removed
3. **rm -f** : - maha maha file will be removed forcefully.
4. **rm -rf** :- (directory name) mahanandhi here mahanandhi directory name will be removed reforcefully.

**touch:-**

it will create the number of emty files like testing123 (here file has been created) we can create more files also like touch (we should give space to the each name )ram raghava radha ramesh etc

1. We can create like this also ravi\ kumar here ravi kumar file has been created.

We can create no of files with touch command

1. **Ex:-** touch file{1..200}.txt , here 200 files have been created.

**Wc ;-**

It is used to count the no of **lines, words, characters** from a file **.**

1. **Ex :- wc maha111**

Here it will count lines characters and words for a file.

* 6 = lines
* 32 = words
* 162 = characters

1. **Wc –l** :- it will show the line numbers.
2. **Wc** –w :- it will show no of words.
3. **Wc** –c ;- it will show the no characters.

**Links:-**

**hard link :-**

it is used to extract 1 file information in to another file

1. ln sai111 maha111

here sai111 file information will extract to maha111.

* If you change any modifications in any file but both files will be reflected the same information.
* If you delete parent file but child file will be not be effected and if you delete child file parent file will not be effected.
* Inode numbers will be same to the both files.

**Soft link :-**

It is used to extract 1 file information in to another file.

1. ln –s maaha111 /home/nag/ kittu111

here maaha111 file information will extract to kittu111.

* If you change any modifications in any child file it will not be reflected to the parent file. but if you do any modifications in parent file it will be reflected to the same information in the child file.
* If you delete parent file but child file will be be effected and if you delete child file parent file will not be effected.
* Inode numbers will be different to the both files.

**CAT:-**

1. **Cat** :- it will create the file and we can write something here

**Ex :**- cat > mahanandhi then enter and write the text and press ctrl+d now file will be saved and came to previous promt. We can see the file like ..… cat mahanandhi, now file will be opened and shown the data.

1. **Cat >> kittu (existing filename)**  here we have created kittu file and written something. But with this command we can add something in that existing file.
2. **Cat jana kittu nagendra**  here 3 files information will be shown in 1 terminal.
3. **Cat maha1>maha2** here the data will be copied from maha1 to maha2 but existing data will be erased.
4. **cat maha1 >> maha2** here the data will be copied from maha1 t maha2 but existing data will be there only.
5. **Cat –n or Cat –**b **or cat < maha -n** (kittu) filename it will show the no of lines in the particular file.
6. **cat -e maha :-** it will show the $ symbol in the end of the lines.
7. **cat \*.txt :-** it will display all the information from .txt files.
8. **cat ???.txt :-**  it will open the files information starting with 3 letters.txt.
9. **cat ?? :-** here files data will be opened which are 2 letter files.
10. **cat [m,s] \* :-** it will display the files information starting with m&s.

**grep :-**

it defines as globally search for regular expression and printings.

1. **grep -i "kittu" sai123123 :-** here kittu name lines will be displayed in a file.
2. **grep -c "kittu" sai123123** :- here it will show the number how many lines are with kittu.
3. **grep -n "kittu" sai123123**:- here it will show the line numbers with lines**.**
4. **grep -v "kittu" sai123123 :-** here it will show the lines except ‘’**kittu string names’’**
5. **grep -w "kittu" sai123123 :-** here it will match the exact word.
6. **grep –l (yal) "kittu" \* :-** here it will show the file names which contain the string name “**kittu”**.
7. **grep -A +2 "kittu" sai123123 :-** here it will show the 2 lines after kittu line.
8. **grep -B +2 "kittu" sai123123 :-** here it will show the 2 lines before kittu line.
9. **egrep -i "kittu|nag" sai123123 :-** here we can search multiple strings at time.
10. **egrep -i "kittu|nag" kgf king :-** Here we can search multiple strings from multiple files.

Ex :-

kgf:i am kittu

kgf:i am nag

king:I am kittu

**CUT :-**

It extracts the characters according to the requirement in a specific file.

1. **cut -b 1,2,3 maha :-**  it will show the upto 3 characters in a specified file.
2. **cut -b 5-7 maha :-** it will show the line 5 character to 7th characters.
3. **cut -f 3,5 maha :-**
4. **cut -d '|' -f '2,7' maha :-**
5. **cut -c '1-10' nag11 :-** it will show the 1 to 10 characters in 10 lines in a specified file.

**SORT :-**

It is used to sort the files in ascending or descending order.

1. **sort maha :-** we can sort the information in ascending order in a file.
2. **sort -r maha :-** the information will come in descending order.
3. sort –r maha>>sai :- the information from maha to sai will be appended.
4. sort -k3 -nr maha

**TAR :-**

we can create files into tar

1. **tar -cvf maaha.tar Krishna**

here Krishna file becomes maaha.tar file.

1. **tar -cvf mahanandhi.tar sai krishna maha :-**

we can create a tar file with multiple files or directories.

1. **tar -tvf maaha.tar :-**

it will list down the files in a tar file with full details.

1. **Tar –tf mahanandhi.tar:-**

we can see the file names only.

1. **tar -xvf mahanandhi.tar :-**

here we can extract files from tar file

**ZIP: -**

It is used to compres the files.

1. **Gzip maha**

here maha file or directory has zgiped. Extension is like **maha.gz**

1. **Gunzip maha.gz**

Here maha.gz file has become the ungzipped.

1. **zip ssss.zip maha**

here maha file is going to become zip file as **ssss.zip**

1. **unzip ssss.zip**

here ssss.zip file is going to become unzip as maha (old file name)

**HEAD :-**

It will show the lines from head of the file.

1. **head -6 maha**:- it will show the 6 lines from the head of the file.

**TAIL :-**

It will show the lines from bottom of the file.

1. **tail -3 maha :-** it will show the 3 lines from the bottom of the file.

**MORE:-**

It will show the line by line.

1. **more maha :-** here we need to press enter for going to next line.

**LESS :-**

Here it is similar to more but here we can use navigation keys.

1. **less maha**

**FIND COMMANDS :-**

1. **find . –type f –empty** :- empty files will be displayed in a current directory.
2. **Find . –type d -empty** :- empty directories will be displayed in a current directory.
3. **Find . –type f –empty | (pipe) wc –l (yal)** :- it will show the empty files number.
4. **Find . –type d –empty | wc –l** :- it will show the empty directories in a current directory.
5. **Find . –type f –empty –delete :-** empty files will be deleted.
6. **Find . –type d – empty –delete:-** empty directories will be deleted.
7. **Find /home/maha/mahasai –empty –type f –delete :-** empty files will be deleted in a particular path (directory).
8. **Find /home/maha/mahasai/ -empty –type d | wc –l :-**

it will display the number that how many directories are empty in a current directory.

1. **Find/home/maha/mahasai/ -empty –type f | wc –l :-**

It will display the number of files which are empty in a current directory

1. **Find/home/maha/mahasai/ -empty –type d – delete**

Here it will delete the empty directories in a current directory.

1. **Find . –type f -name “krishna”**

It will show the path of a particular file.

( Or)

Find . – name “Krishna”

1. **Find / - type d - name “Krishna”**

It will show the path of a particular directory.

**116.Find . – name Krishna**

Krishna file path will be displayed.

1. **Find /home/maha/mahasai –name Krishna**

It will them list of paths of Krishna name

Ex: /home/maha/Krishna

1. **Find /home/maha/mahasai –name mahanandhi**

It will show list of mahanandhi directory paths

Ex: /home/maha/mahanandhi

1. **Find /home/maha/mahasai –iname mahanandhi**

Capital small names will be displayed.

1. **Find . – type f -name Krishna**

It will show the krishna files paths from current directory.

1. **Find . – type f - perm 777**

777 permissions files will be displayed.

1. **Find . – type d - perm 777**

777 permissions files will be displayed.

1. **Find / - type d ! - perm 777**

Find directories without 777 permission

1. **Find / - type f ! - perm 777**

Find files without 777 permission.

1. **Find /home/maha/mahasai – mtime -2**

Search for the files which have modified last 2 days.

1. **Find /home/maha/nag perm - 777**

777 permission files will be displayed.

**SPLIT:-**

1. **Split - l 5 rama**

Rama file will split in to 5 pieces.

1. **Csplit sai 10**

Here two files will be displayed

* 9 lines will be having
* Remaining lines will be having

1. **Split - b 100 sai**

Here sai file will be divided according to 100 bytes.

1. **Esc:%s/sai/maha/g**

Here the sai name replace with maha in the entire data.

1. **Esc:1,20s/sai/maha/g**

Here the range (1-20) sai will be change as maha.

1. **/maha**

Find the word.

1. **Esc: set nu:-**

It assigns line number for each line

1. **Esc: 1,10 co 25:-**

1,10 lines will be copied & paste from 26th-35th.

1. **Esc : q :-**

Quit

(or)

**Esc : q !**

**Uniq**

1. **Clear** :- this is the command where we can clear the screen.

If you want to see the particular year calendar then we should use like this

Ex:- cal 11 2000 here it will show the particular year calendar.

1. **Cat -**b days :-

Here numbers will be displayed to the each line in a file.

**6.pwd :**  print working directory it means what is our current location.

**WC**

**7. Wc days(file name) :-**

Here it will count the (**lines, words, characters)**

**8. wc days college heros**

here it will count the details of 3 files.

15.  **cd** :- cd is change directory we can change from one directory to another directory

Ex : - cd maha nag here directory changed from maha to nag directory.

We can change directories also by giving path

Ex :- cd / home / nag / maha / Desktop / files

16. **mkdir** :- this command is used to make a directory.

Mkdir –p 1/2/3/4/5/6

Ex :- mkdir maha nag kittu venkey

17.**cp :-**

**CP** MAHA NANDHI here content copied from maha to nandhi existing data will be erased.

* **mv**
* **mv** maha sai here maha data move to sai and existing data would be erased.

**18. Reboot:-** it will reboot the system

Init 6 this command also works for same purpose

**Systemctl reboot:-** it will work for latest unix

**19. poweroff** :- this is the command to switch of the system

Init 0 this command also works for same purpose.

**USER CREATIONS**

There are three types of users in unix. They are 1.root users 2.system users 3. Local users.

20. **create user:-** su - then enter it will ask your password then enter password. Here $ symbol will be changed in to (#)hash symbol.

useradd sanju then enter here sanju user has been created

**cat /etc/passwd** then enter here it will show the details of user.

**Create password** for user

Ex:- passwd sanju then enter

It will ask you password type password (maha123)

Then retype the password (maha123)

Now password has been created for the sanju user.

Passwd kittu

Kittu123

Kittu123

**Cat /etc/shadow** :- here we can see which users are having passwords.

**Create user in particular path**

**Useradd -d /root/ svkrishna svkrishna**

Useradd -s /sbin/nologin ramana

The user has been created but not log in to system. Stp services can be used.

**how to create a user with group id and uid**

**useradd -u 1010 -g 1002**

**create a user with account expiry date**

ex:- useradd –e 2020-07-10 raja here raja named user has been created.

**How to see the particular user when his expiry date comes**

**Ex :-** chage -l raja

**\*\*\*** we can create users for a purpose

Ex :-useradd -c “security user” suresh

We can see him **cat /etc/passd**

**Create a user with password expiry date**

Ex :- useradd -e 2020-07-10 –f 22 (days) rammy

**Delete the user**

Userdel rammy (username)

Here username will be deleted

**HOW TO MAKE PERMISSIONS IN LINUX**

Permissions depends on the three types of users

**Owner**

**Group**

**Others**

THERE ARE THREE TYPES OF PERMISSIONS

1. Read (r)
2. Write (w)
3. Execution(x)

* 4 = READ
* 5 = READ EXECUTE
* 6 = READ WRITE
* 7 = READ WRITE EXECUTION

There are two types of methods to assign permissions

1. Absolute (Numeric)
2. Symbolic (Alphabet)

Ex :- ls –l then press enter here we can see which directories are having which permissions. If ram has only r,w/r,x/xw. We can give it permissions like

Ex :- chmod 777 ram now it will be changed in to w,r,x/w,r,x/w,r,x

**2.Symbolic method:-**

Chmod u=rwx,g=wrx,o=wx | media | we can give permissions manually.

**ACL (ACCESS CONTROL LIST)**

Used to assign more flexible permissions to file/directories.

Getfacl : to check ACL permissions

Setfacl : to assign ACL permissions

-U : to set ACL permissions for user

-G : to set ACL permissions for group

-m: to Modify ACL permissions

-x : to remove ACL permissions

-b : to completely remove ACL permissions

There will be users like 1.java2.php3.net

1. We need to use **SU** command then it will ask you password like (unix to maha) now it has been changed from $ to # symbol. It is used to create directories like below

We need to create a directory as my projects in that we should create below files.

So here we need to create 3 team leads like t1 t2 t3

And we should create j1 j2 , n1 n2 , Zp1 p2

1. Here we should give permissions to the **(my projects)**
2. then use **chmod** command to give permissions

ex :- chmod 770 myprojects/

1. now we should see the (my project) permissions

ex :- getfacl myprojects/

here it will show the permissions like

user : rwx

user : rwx

user : ---

**give permissions to teams like t1,t2,t3**

ex :- setfacl –m u:t2:rw myprojects/java

setfacl –m u:t3:rw myprojects/java

now check the given facl permissions

getfacl myprojects/java

**LVM (LOGICAL VALUME MANAGER)**