Lab - 1

Aim – Basic commands of Linux.

Introduction - Linux is a community of open-source Unix like operating systems that are based on the Linux Kernel. It was initially released by Linus Torvalds on September 17, 1991. It is a free and open-source operating system and the source code can be modified and distributed to anyone commercially or noncommercially under the GNU General Public License. you can get Linux based operating system by downloading one of the Linux distributions and these distributions are available for different types of devices like embedded devices, personal computers, etc.

Some of the popular Linux distributions are:

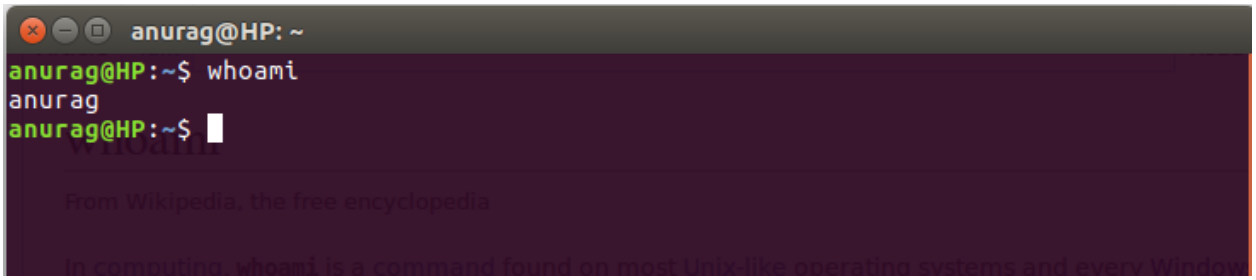
- MX Linux
- Manjaro
- Linux Mint
- elementary
- Ubuntu
- Debian
- Solus
- Fedora
- openSUSE
- Deepin

File Management becomes easy if you know the right basic command in Linux. some basic commands of Linux are listed below.

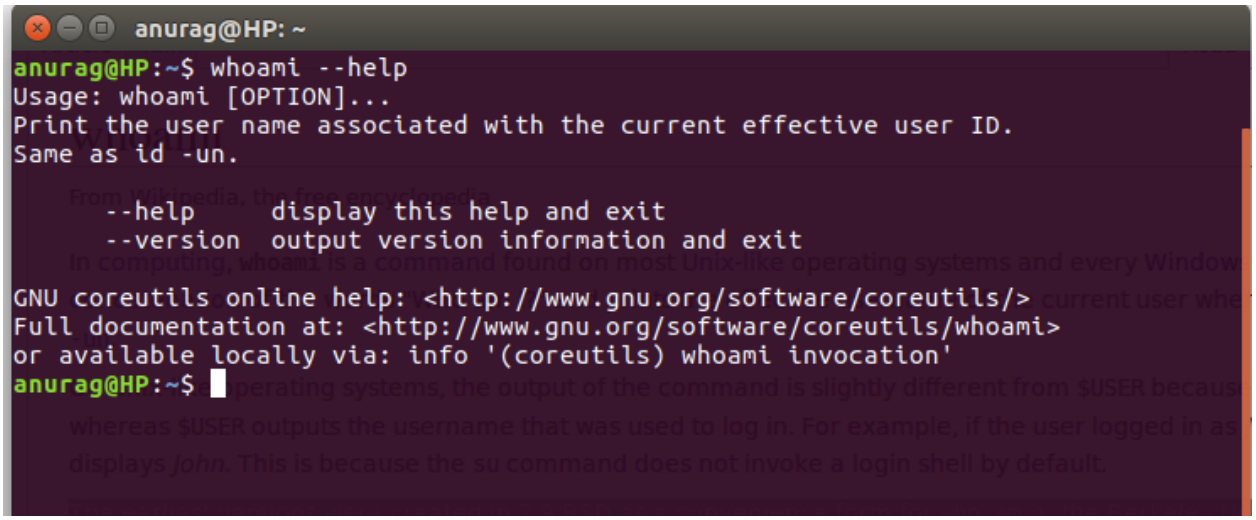
Commands:

1) whoami command

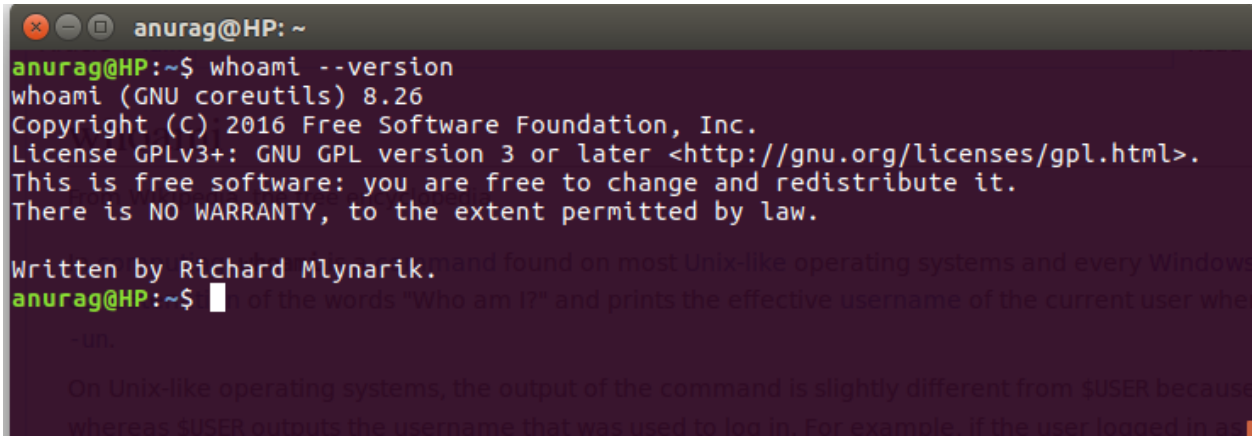
It displays the username of the current user when this command is invoked.



--Help option :-
It gives the help message and exit.
Whoami - - help



--version Option :-
It gives the version information and exit.
Whoami --version

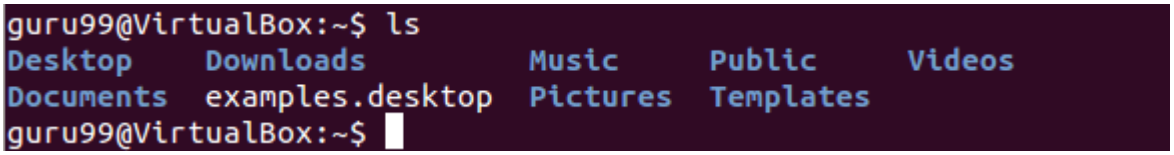


2)PWD =

PWD stands for Present working directory. It will simply print out the current working directory.

3) ls =

It lists the content of a given directory. The peculiarity of this command is that it supports a wide range of arguments.

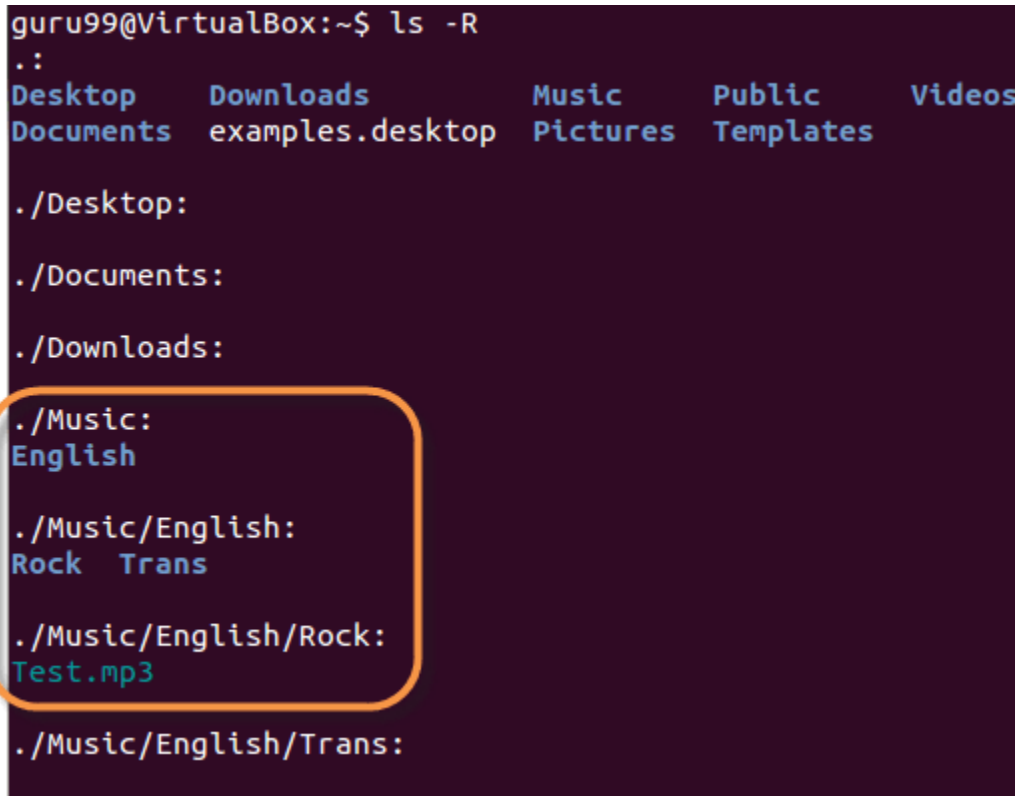


- Directories are denoted in blue color.
- Files are denoted in white.

4) 'ls-R' command

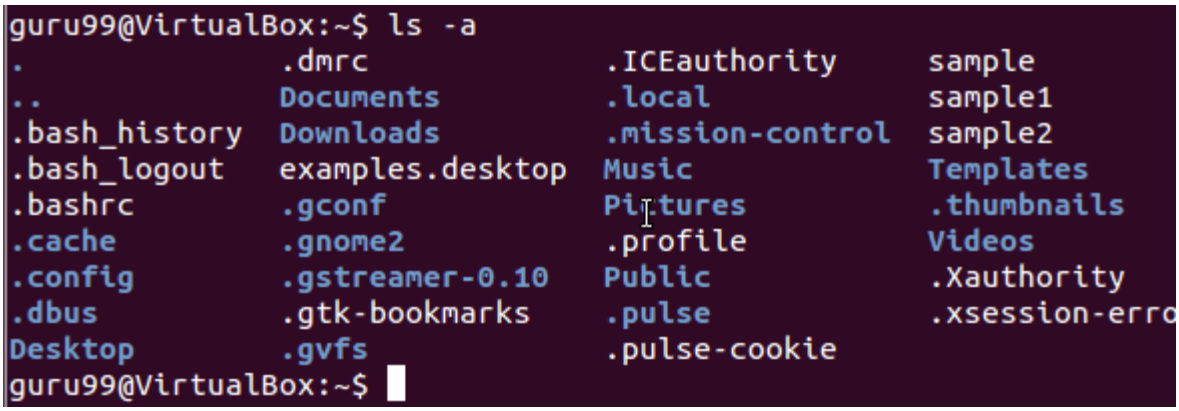
Suppose, the "Music" folder has some sub-directories and files.

You can use **'ls -R'** to show all the files not only in directories but also subdirectories.



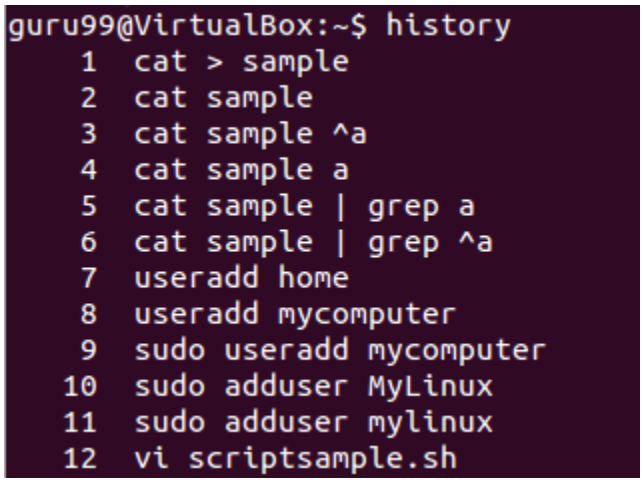
5) "ls -a"=

To view hidden files ls-a command used.



6) History Command

History command shows all the basic commands in Linux that you have used in the past for the current terminal session. This can help you refer to the old commands you have entered and re-used them in your operations again.



7) Clear command

This command clears all the clutter on the terminal and gives you a clean window to work on, just like when you launch the terminal.

8) Echo command

The echo command in Linux is used to display a string provided by the user.

Syntax: echo [string]

```
test@test:~$ echo Hello, World!
Hello, World!
test@test:~$
```

9) touch command

touch command is used to create a file. It can be anything, from an empty txt file to an empty zip file. For example, “touch new.txt”.

```
nayso@Alok-Aspire:~/Desktop$ ls
nayso@Alok-Aspire:~/Desktop$ touch new.txt
nayso@Alok-Aspire:~/Desktop$ ls
new.txt
```

10) ‘rm’ command

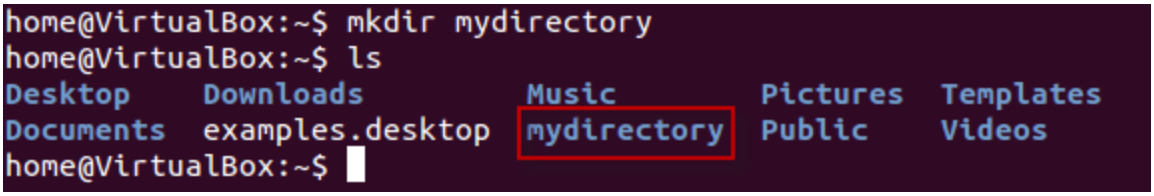
The ‘rm’ command removes files from the system without confirmation.

```
Syntax: rm [OPTION]... FILE...
```

11) ‘mkdir’ command

Directories can be created using mkdir command.

```
Syntax: mkdir [options...] [directories ...]
```



12) ‘rmdir’ command

Directories can be removed using rmdir command.

```
Syntax: rmdir [-p] [-v | –verbose] [–ignore-fail-on-non-empty] directories …
```

```
home@VirtualBox:~$ rmdir mydirectory
home@VirtualBox:~$ ls
Desktop  dir2  Documents  examples.desktop  Pictures  Templates
dir1     dir3  Downloads  Music             Public    Videos
home@VirtualBox:~$
```

13) ‘mv’ command

The ‘mv’ (move) command can also be used for renaming directories.

```
Syntax: mv [Option] source destination
```

```
home@VirtualBox:~$ mv mydirectory newdirectory
home@VirtualBox:~$ ls
Desktop    Downloads         Music        Pictures  Templates
Documents  examples.desktop  newdirectory  Public    Videos
home@VirtualBox:~$
```

14) cd command

Cd stands for Change Directory. It changes the current working directory.

```
Syntax: $ cd [directory]
```

Some cd option are shown below:

1. (cd ~) ~ stands for home directory

2. (cd .) . stands for the current directory
3. (cd ..) .. stands for parent directory
4. (cd /) / It takes you to the system's root directory.

```
infolinux@infolinux:~$ pwd
/home/infolinux
infolinux@infolinux:~$ cd /home/infolinux/Desktop/
infolinux@infolinux:~/Desktop$ pwd
/home/infolinux/Desktop
infolinux@infolinux:~/Desktop$
```

15) cmp command

cmp command is used to compare the two files byte by byte and helps you to find out whether the two files are identical or not.

For example, we have these text files are shown below:

File 1= List.txt

File 2= List2.txt

Syntax: Cmp File1 File2

We have replaced File1 with List.txt and File2 with List2.txt.

```
kbuzdar@kbuzdar-VirtualBox:~$ cmp List.txt List2.txt
cmp: EOF on List.txt after byte 83, line 9
kbuzdar@kbuzdar-VirtualBox:~$
```

The output of this command reveals that our two specified text files are different from each other.

16) cat command

cat command reads data from the file and gives their content as output. It helps us to create, view, concatenate files.

Syntax: Cat test1.txt

```
sofija@sofija-VirtualBox:~$ cat test1.txt
This is test file #1.
```

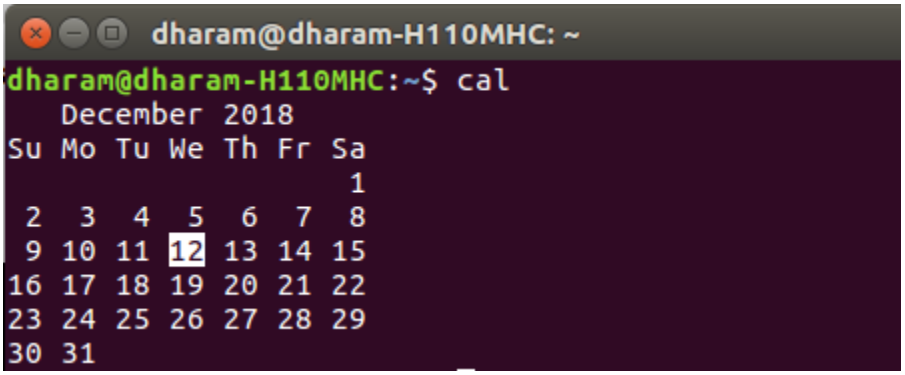
For multiple files :

Syntax: Cat test1.txt test2.txt

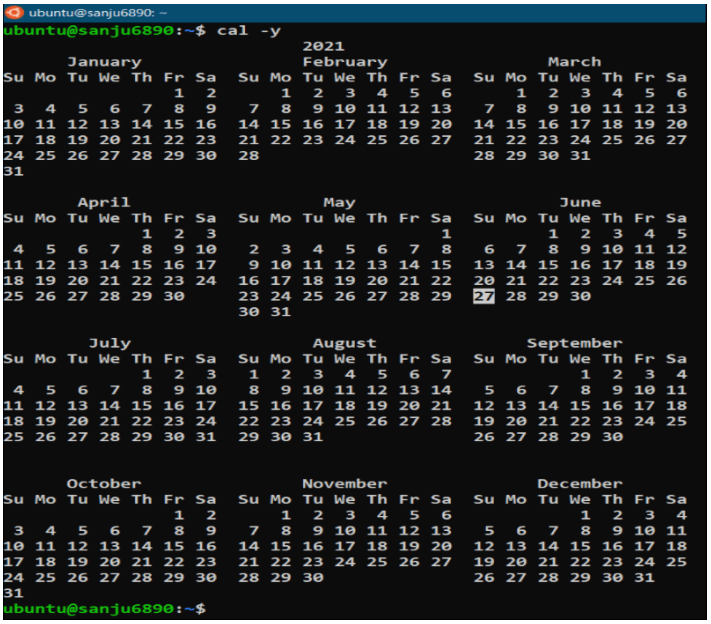
```
sofija@sofija-VirtualBox:~$ cat test1.txt test2.txt
This is test file #1.
This is test file #2.
```

17) cal command

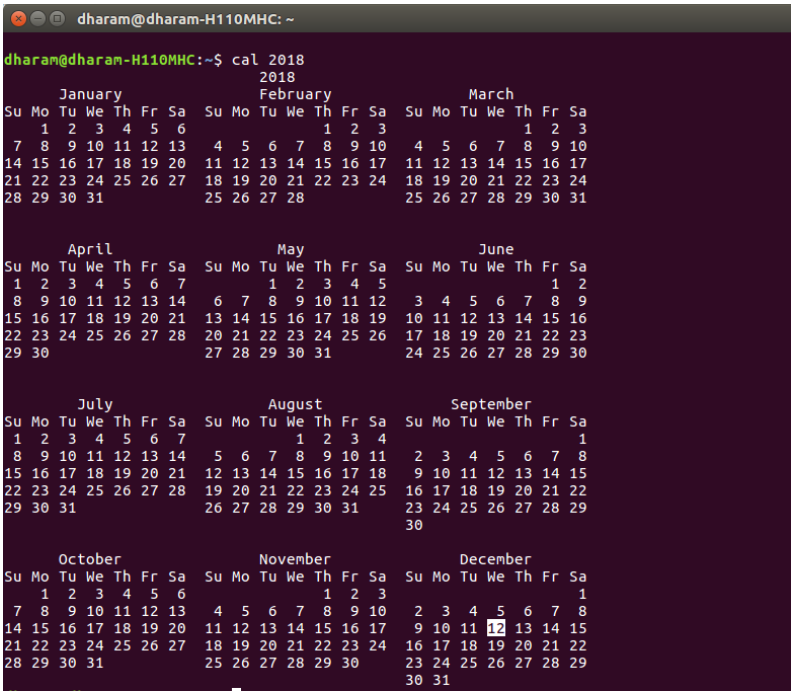
cal command is a calendar command in Linux which is used to see the calendar of a specific month or a whole year.



cal -y command: Shows the calendar of the complete current year with the current date highlighted.

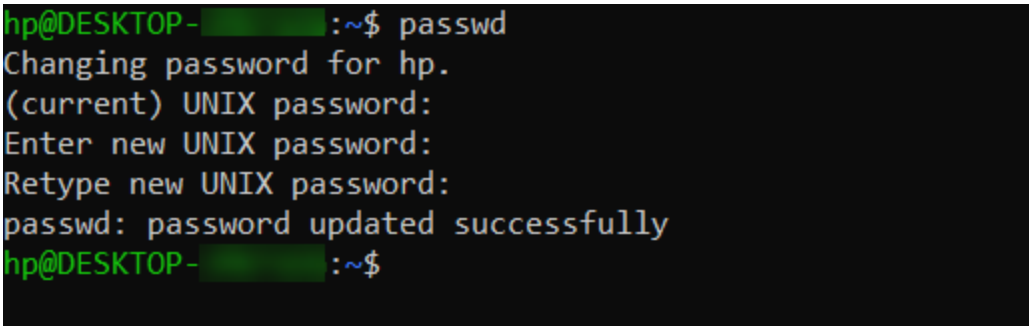


cal 2018 : Shows the whole calendar of the year.



18) passwd command

passwd command is used to change the user account passwords.

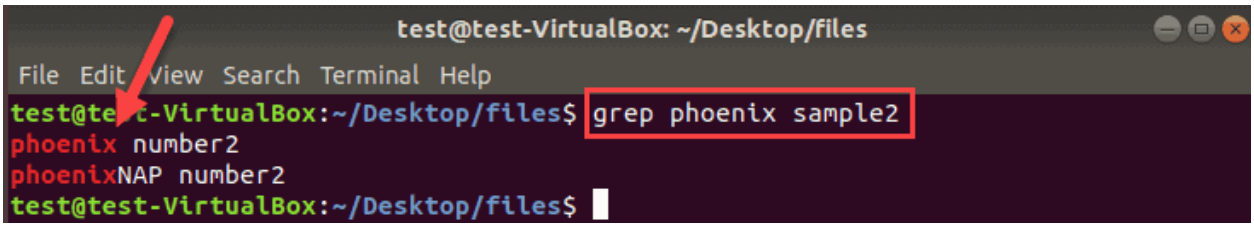


19) grep command

Grep command used to search for a string of characters in a specified file. The text search pattern is called a regular expression. When it finds a match, it prints the line with the result. The grep command is handy when searching through large log files.

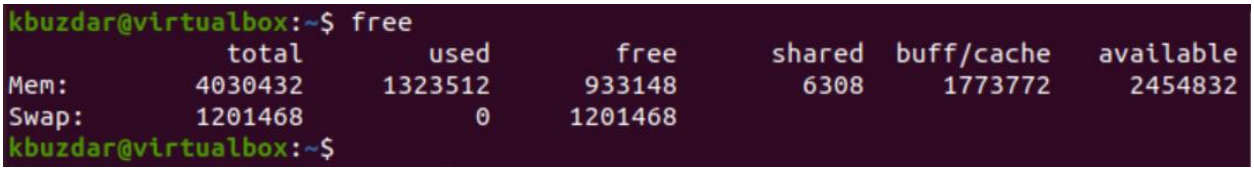
Syntax: grep [options] pattern [files]

Exa: grep phoenix sample2



20) free command

Free command shows the system memory usage (free, used , swaped , cached etc). This field shows the total amount of memory and how much is installed on your system.



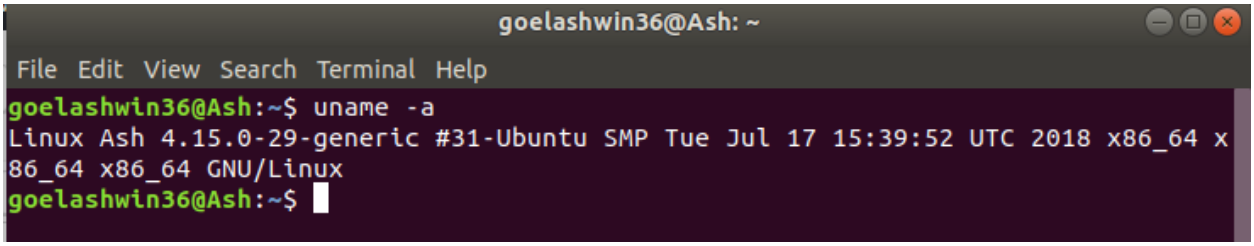
21) uname command

The command ‘uname‘ displays the information about the system.

Syntax: **uname [OPTION]**

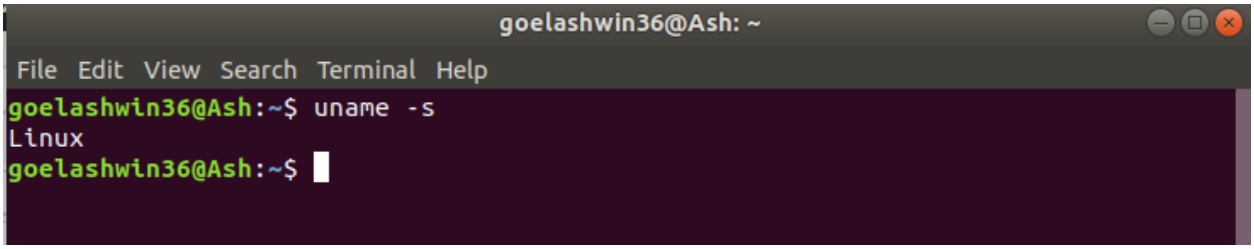
-a option: It prints all the system information in the following order: Kernel name, network node hostname, kernel release date, kernel version, machine hardware name, hardware platform, operating system.

Syntax:$uname -a



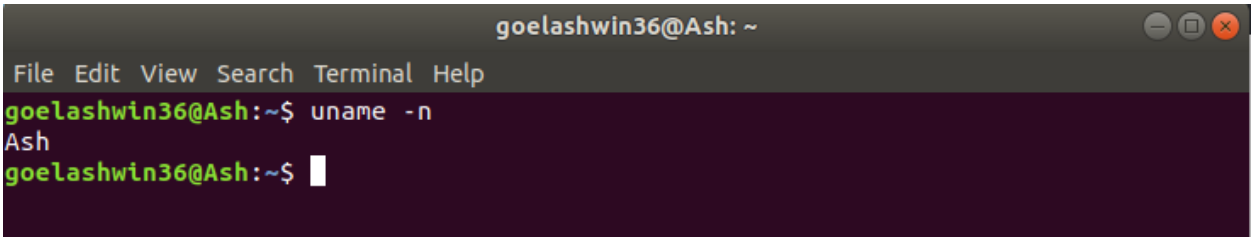
-s option: It prints the kernel name.

Syntax: $uname -s



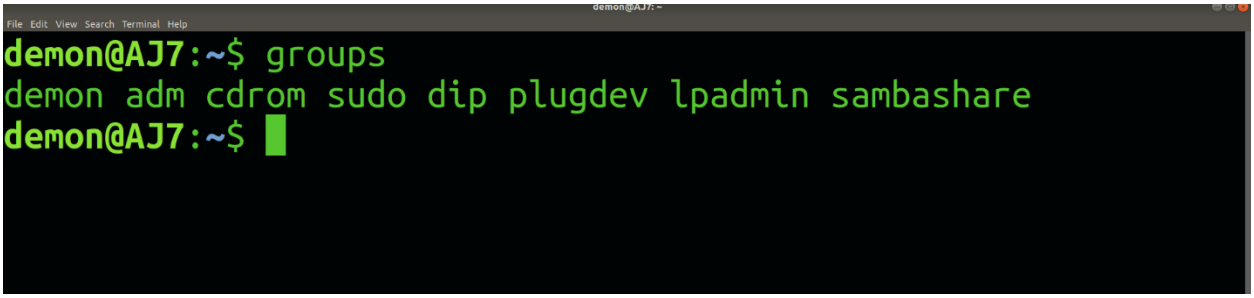
-n option: It prints the hostname of the network node(current computer).

Syntax: $uname -n



22) Groups command

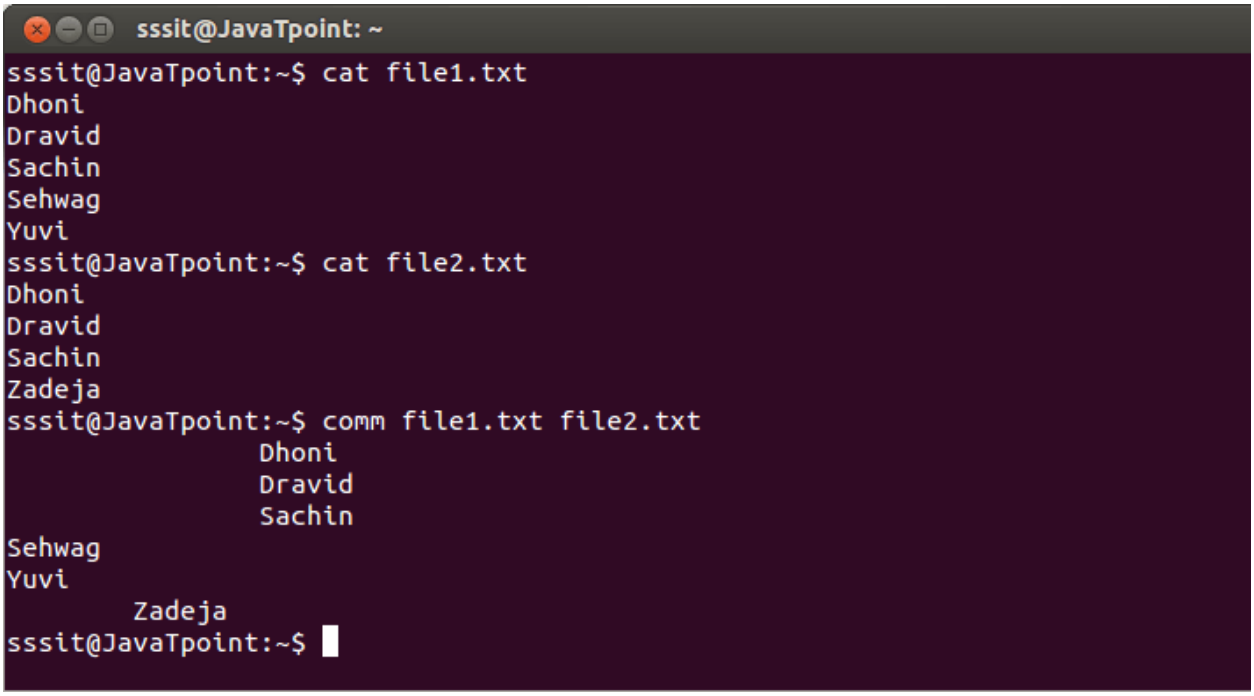
Groups command displays all the names of group a user is part of.



23) comm commands

The 'comm' command compares two files or streams.

Syntax: comm [file1] [file2]



24) date command

date command displays and sets the system date and time. This command also allows users to print the time in different formats and calculate future and past dates.

Syntax: date [option]... [+format]

To show the current system time and date,

```
andreja@andreja-test:~$ date
Wed 30 Sep 2020 04:51:04 PM CEST
```

-d option: this option allows user to operate on a specific date. For example,

```
andreja@andreja-test:~$ date -d "2000-11-22 09:10:15"
Wed 22 Nov 2000 09:10:15 AM CET
```

--date command: To display the given date string in the format of a date. This command does not affect the system's actual date and time.

```
andreja@andreja-test:~$ date --date="09/10/1960"
Sat 10 Sep 1960 12:00:00 AM CET
```