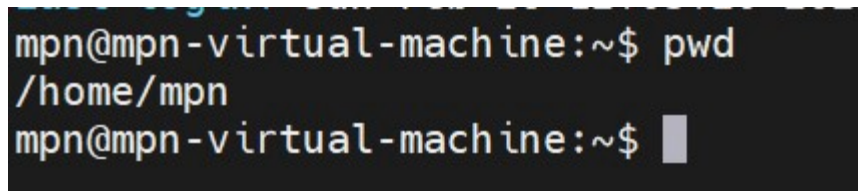


Let's understand MUST LEARN LINUX Commands for Linux admins/users/Developers.

1.pwd

In Linux, the pwd command stands for “print working directory”. It is used to display the current working directory in the terminal. To use pwd command, open a terminal, type pwd, and hit enter. The terminal will display the full path of the current working directory.

For example, if you are currently in the home directory, the output of the pwd command will be:

A terminal window with a dark background. The prompt is 'mpn@mpn-virtual-machine:~\$'. The user has entered 'pwd' and the output is '/home/mpn'. The prompt is now 'mpn@mpn-virtual-machine:~\$' with a cursor.

```
mpn@mpn-virtual-machine:~$ pwd
/home/mpn
mpn@mpn-virtual-machine:~$
```

pwd

If you navigate to a different directory using the cd command and then use the pwd command, it will display the full path of the new directory you are in.

It's a helpful command when you need to know your current location in the Linux file system.

2.ls

In Linux, the ls command stands for “list”. It is used to display the contents of a directory in the terminal. To use the ls command, open a terminal and type ls followed by the path of the directory you want to list, or just ls to list the contents of the current directory.

For example, If you want to list the contents of the current directory, type:

```
mpn@mpn-virtual-machine:~$ ls
Desktop  Documents  Downloads  Music  nihanth  Pictures  Public  snap  Templates  testfolder  Videos
mpn@mpn-virtual-machine:~$
```

ls

The ls command displays the names of all files and directories in the specified directory, one per line. By default, it displays only the names of the files and directories. You can use various options with the ls command to display additional information about the files and directories, such as file permissions, size, owner, and modification time.

3.ls -ltr

The ls -ltr command in Linux is used to list the contents of a directory in long format and sort them by modification time in reverse order so that the newest files or directories are listed last.

Here's what each option in ls -ltr means:

ls is the command to list directory contents.

```
mpn@mpn-virtual-machine:~$ ls -ltr
total 44
drwx----- 3 mpn    mpn    4096 Feb 24 13:17 snap
drwxr-xr-x  2 mpn    mpn    4096 Feb 24 13:17 Videos
drwxr-xr-x  2 mpn    mpn    4096 Feb 24 13:17 Templates
drwxr-xr-x  2 mpn    mpn    4096 Feb 24 13:17 Public
drwxr-xr-x  2 mpn    mpn    4096 Feb 24 13:17 Pictures
drwxr-xr-x  2 mpn    mpn    4096 Feb 24 13:17 Music
drwxr-xr-x  2 mpn    mpn    4096 Feb 24 13:17 Downloads
drwxr-xr-x  2 mpn    mpn    4096 Feb 24 13:17 Documents
drwxr-xr-x  2 mpn    mpn    4096 Feb 24 13:17 Desktop
drwxr-xr-x  2 root   root   4096 Feb 24 18:17 nihanth
drwxr-xr-x  2 mpn    mpn    4096 Feb 24 19:34 testfolder
```

ls -ltr

The `ls -ltr` command in Linux is used to list the contents of a directory in long format and sort them by modification time in reverse order so that the newest files or directories are listed last.

Here's what each option in `ls -ltr` means:

`ls` is the command to list directory contents

4. `ls -al`

The `ls -al` command in Linux is used to list the contents of a directory in a long format, including hidden files and directories.

Here's what each option in `ls -al` means

```
mpn@mpn-virtual-machine:~$ ls -al
total 104
drwxr-x--- 19 mpn mpn 4096 Feb 26 12:08 .
drwxr-xr-x  3 root root 4096 Feb 24 18:19 ..
-rw----- 1 mpn mpn  373 Feb 26 12:08 .bash_history
-rw-r--r-- 1 mpn mpn  220 Feb 24 12:29 .bash_logout
-rw-r--r-- 1 mpn mpn 3771 Feb 24 12:29 .bashrc
drwx----- 9 mpn mpn 4096 Feb 24 17:56 .cache
drwx----- 11 mpn mpn 4096 Feb 24 21:17 .config
drwxr-xr-x  2 mpn mpn 4096 Feb 24 13:17 Desktop
drwxr-xr-x  2 mpn mpn 4096 Feb 24 13:17 Documents
drwxr-xr-x  2 mpn mpn 4096 Feb 24 13:17 Downloads
drwx----- 2 mpn mpn 4096 Feb 24 13:24 .gnupg
drwx----- 3 mpn mpn 4096 Feb 24 13:17 .local
drwxr-xr-x  2 mpn mpn 4096 Feb 24 13:17 Music
drwxr-xr-x  2 root root 4096 Feb 24 18:17 nihanth
drwxr-xr-x  2 mpn mpn 4096 Feb 24 13:17 Pictures
-rw-r--r-- 1 mpn mpn  807 Feb 24 12:29 .profile
drwxr-xr-x  2 mpn mpn 4096 Feb 24 13:17 Public
drwx----- 3 mpn mpn 4096 Feb 24 13:17 snap
drwx----- 2 mpn mpn 4096 Feb 24 13:24 .ssh
-rw-r--r-- 1 mpn mpn    0 Feb 24 13:24 .sudo_as_admin_successful
drwxr-xr-x  2 mpn mpn 4096 Feb 24 13:17 Templates
drwxrwxr-x  2 mpn mpn 4096 Feb 24 19:34 testfolder
drwxr-xr-x  2 mpn mpn 4096 Feb 24 13:17 Videos
-rw----- 1 mpn mpn 2669 Feb 24 19:34 .viminfo
drwxr-xr-x  2 mpn mpn 4096 Feb 24 18:06 .vnc
-rw----- 1 mpn mpn  178 Feb 26 12:08 .Xauthority
-rw----- 1 mpn mpn  416 Feb 24 18:00 .xsession-errors
```

`ls -al`

This command can be useful when you want to see all files and directories in a directory, including hidden ones. For example, if you want to see all the configuration files for an application, you can use

the `ls -al` command to list all the files in the directory, including the hidden configuration files that begin with a dot (.).

6.mkdir

The `mkdir` command in Linux is used to create a new directory (folder) within the current working directory or a specified directory.

Here's how to use the `mkdir` command:

`mkdir folder1`

```
mpn@mpn-virtual-machine:~$ mkdir folder1
mpn@mpn-virtual-machine:~$ ls
Desktop  Documents  Downloads  folder1  Music  nihanth  Pictures  Public  snap  Templates  testfolder  Videos
mpn@mpn-virtual-machine:~$ ls -l
total 48
drwxr-xr-x 2 mpn mpn 4096 Feb 24 13:17 Desktop
drwxr-xr-x 2 mpn mpn 4096 Feb 24 13:17 Documents
drwxr-xr-x 2 mpn mpn 4096 Feb 24 13:17 Downloads
drwxrwxr-x 2 mpn mpn 4096 Feb 26 12:20 folder1
drwxr-xr-x 2 mpn mpn 4096 Feb 24 13:17 Music
drwxr-xr-x 2 root root 4096 Feb 24 18:17 nihanth
drwxr-xr-x 2 mpn mpn 4096 Feb 24 13:17 Pictures
drwxr-xr-x 2 mpn mpn 4096 Feb 24 13:17 Public
drwx----- 3 mpn mpn 4096 Feb 24 13:17 snap
drwxr-xr-x 2 mpn mpn 4096 Feb 24 13:17 Templates
drwxrwxr-x 2 mpn mpn 4096 Feb 24 19:34 testfolder
drwxr-xr-x 2 mpn mpn 4096 Feb 24 13:17 Videos
```

mkdir

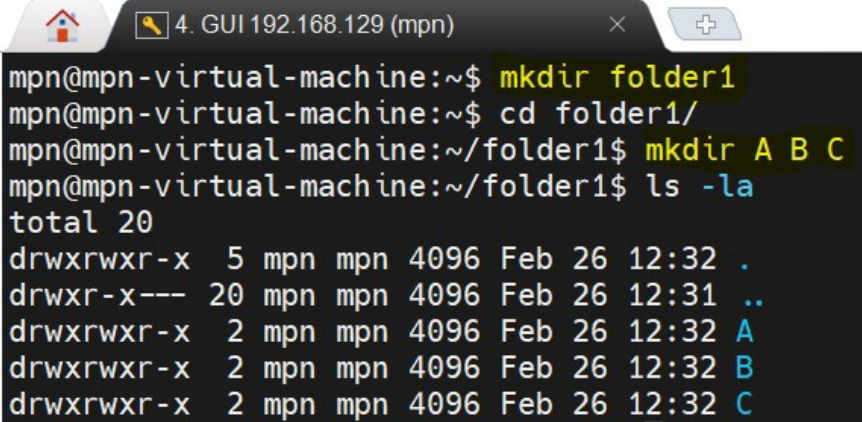
Navigate to the directory where you want to create the new directory, using the `cd` command.

Type `mkdir` followed by the name of the new directory you want to create.

For example, to create a directory named “folder1” in your current working directory, type:

`mkdir folder1`

`mkdir A B C`

A terminal window titled "4. GUI 192.168.129 (mpn)" with a home icon and a plus icon. The terminal shows the following commands and output:

```
mpn@mpn-virtual-machine:~$ mkdir folder1
mpn@mpn-virtual-machine:~$ cd folder1/
mpn@mpn-virtual-machine:~/folder1$ mkdir A B C
mpn@mpn-virtual-machine:~/folder1$ ls -la
total 20
drwxrwxr-x  5 mpn mpn 4096 Feb 26 12:32 .
drwxr-x--- 20 mpn mpn 4096 Feb 26 12:31 ..
drwxrwxr-x  2 mpn mpn 4096 Feb 26 12:32 A
drwxrwxr-x  2 mpn mpn 4096 Feb 26 12:32 B
drwxrwxr-x  2 mpn mpn 4096 Feb 26 12:32 C
```

mkdir A B C

This will create three directories named “A”, “B”, and “C” in your current working directory.

The mkdir command can be useful when you want to create a new directory to organize your files or to store new files.

7.rmdir

The rmdir command in Linux is used to remove (delete) an empty directory from the file system.

Here’s how to use the rmdir command:

Open a terminal in Linux.

Navigate to the parent directory of the directory you want to remove, using the cd command.

Type rmdir followed by the name of the directory you want to remove.

For example, to remove a directory named “folder1” in your current working directory, type:

```
rmdir folder1
```



```

mpn@mpn-virtual-machine:~$ ls -l
total 48
drwxr-xr-x 2 mpn mpn 4096 Feb 24 13:17 Desktop
drwxr-xr-x 2 mpn mpn 4096 Feb 24 13:17 Documents
drwxr-xr-x 2 mpn mpn 4096 Feb 24 13:17 Downloads
drwxrwxr-x 2 mpn mpn 4096 Feb 26 12:36 folder1
drwxr-xr-x 2 mpn mpn 4096 Feb 24 13:17 Music
drwxr-xr-x 2 root root 4096 Feb 24 18:17 nihanth
drwxr-xr-x 2 mpn mpn 4096 Feb 24 13:17 Pictures
drwxr-xr-x 2 mpn mpn 4096 Feb 24 13:17 Public
drwx----- 3 mpn mpn 4096 Feb 24 13:17 snap
drwxr-xr-x 2 mpn mpn 4096 Feb 24 13:17 Templates
drwxrwxr-x 2 mpn mpn 4096 Feb 24 19:34 testfolder
drwxr-xr-x 2 mpn mpn 4096 Feb 24 13:17 Videos
mpn@mpn-virtual-machine:~$ rmdir folder1/
mpn@mpn-virtual-machine:~$ ls -l
total 44
drwxr-xr-x 2 mpn mpn 4096 Feb 24 13:17 Desktop
drwxr-xr-x 2 mpn mpn 4096 Feb 24 13:17 Documents
drwxr-xr-x 2 mpn mpn 4096 Feb 24 13:17 Downloads
drwxr-xr-x 2 mpn mpn 4096 Feb 24 13:17 Music
drwxr-xr-x 2 root root 4096 Feb 24 18:17 nihanth
drwxr-xr-x 2 mpn mpn 4096 Feb 24 13:17 Pictures
drwxr-xr-x 2 mpn mpn 4096 Feb 24 13:17 Public
drwx----- 3 mpn mpn 4096 Feb 24 13:17 snap
drwxr-xr-x 2 mpn mpn 4096 Feb 24 13:17 Templates
drwxrwxr-x 2 mpn mpn 4096 Feb 24 19:34 testfolder
drwxr-xr-x 2 mpn mpn 4096 Feb 24 13:17 Videos
mpn@mpn-virtual-machine:~$ █

```

rmdir

If the directory is not empty, you will receive an error message and the directory will not be removed. In this case, you will need to remove the contents of the directory first before attempting to remove the directory itself.

Note that the `rmdir` command can only remove empty directories. If a directory contains files or other directories, you will need to use the `rm` command with the `-r` (recursive) option to remove it and all its contents. However, be very careful when using the `rm` command, as it can permanently delete your files and directories without confirmation.

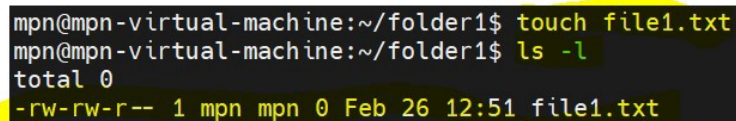
The `rmdir` command can be useful when you want to remove an empty directory that you no longer need.

7.Touch

The touch command in Linux is used to create a new file or update the modification time of an existing file.

touch file1.txt

Here's how to use the touch command:

A terminal window screenshot showing the execution of the touch command. The prompt is 'mpn@mpn-virtual-machine:~/folder1\$'. The command 'touch file1.txt' is entered and executed. Then 'ls -l' is entered, showing the output: 'total 0' and '-rw-rw-r-- 1 mpn mpn 0 Feb 26 12:51 file1.txt'.

```
mpn@mpn-virtual-machine:~/folder1$ touch file1.txt
mpn@mpn-virtual-machine:~/folder1$ ls -l
total 0
-rw-rw-r-- 1 mpn mpn 0 Feb 26 12:51 file1.txt
```

touch

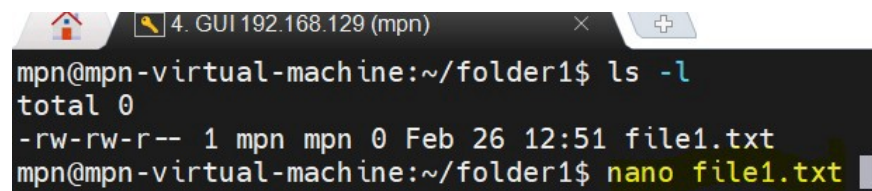
Open a terminal in Linux.

Navigate to the directory where you want to create the new file or update an existing file, using the cd command.

8.nano

nano is a text editor in Linux that allows you to create and edit text files in the terminal.

Here's how to use the nano command:

A terminal window screenshot showing the execution of the nano command. The prompt is 'mpn@mpn-virtual-machine:~/folder1\$'. The command 'ls -l' is entered, showing the output: 'total 0' and '-rw-rw-r-- 1 mpn mpn 0 Feb 26 12:51 file1.txt'. Then 'nano file1.txt' is entered. The terminal window has a title bar with a home icon, a search icon, and the text '4. GUI 192.168.129 (mpn)'.

```
mpn@mpn-virtual-machine:~/folder1$ ls -l
total 0
-rw-rw-r-- 1 mpn mpn 0 Feb 26 12:51 file1.txt
mpn@mpn-virtual-machine:~/folder1$ nano file1.txt
```

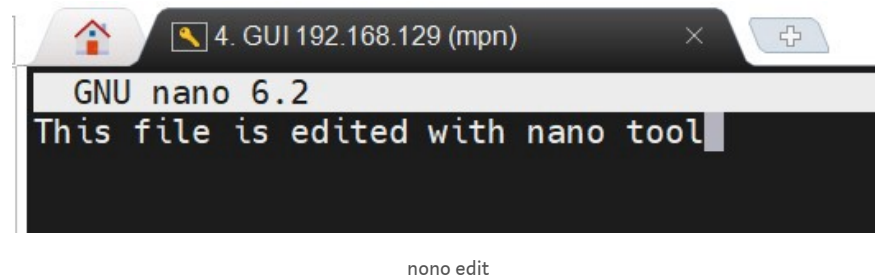
nano

Open a terminal in Linux.

Type nano followed by the name of the file you want to edit, or type nano and a new file name to create a new file.

For example, to open a file named “myfile.txt” for editing, type:

```
nano file1.txt
```



If the file does not exist, it will be created when you save your changes.

Once you have opened a file in nano, you can use various keyboard shortcuts to navigate and edit the text. Here are some common shortcuts:

Ctrl + O: save the file

Ctrl + X: exit nano

Ctrl + G: show the help screen

Ctrl + K: cut a line of text

Ctrl + U: paste a cut line of text

Ctrl + W: search for text

Ctrl + \: replace text

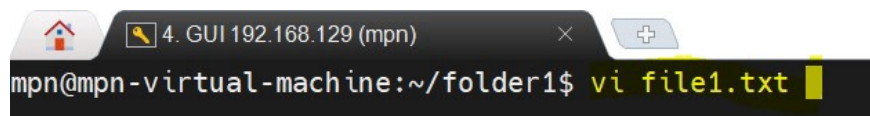
Ctrl + C: show the cursor position

nano is a simple and user-friendly text editor that is ideal for beginners or for editing text files in the terminal

9.VI

vi is a text editor in Linux that allows you to create and edit text files in the terminal. It is a powerful and versatile editor, but it can be difficult to learn for beginners.

Here's how to use the vi command:



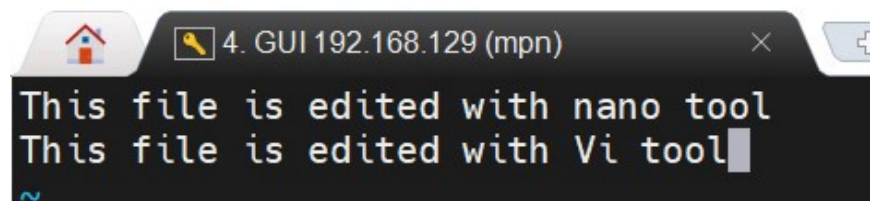
vi

Open a terminal in Linux.

Type vi followed by the name of the file you want to edit, or type vi and a new file name to create a new file.

For example, to open a file named "file1.txt" for editing, type:

vi file1.txt



with vi tool

If the file does not exist, it will be created when you save your changes.

Once you have opened a file in vi, you can use various keyboard commands to navigate and edit the text. Here are some common

commands:

: enter insert mode to insert text

Esc: exit insert mode and return to command mode

:w: save the file

:q: exit vi

:wq! save the file and exit vi

:help: show the help screen

dd: delete a line of text

p: paste a deleted line of text

/: search for text

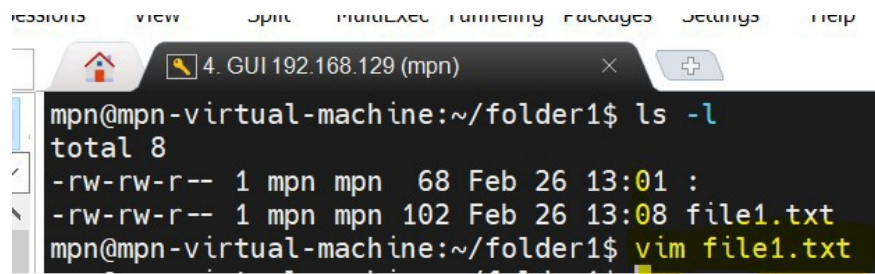
:s/old/new/g: replace text

vi has a steep learning curve, but it is a powerful and versatile text editor that can be used for a wide range of text editing and programming tasks. If you are new to vi, it can be helpful to start with a tutorial or guide to learn the basics.

10.vim

vim (Vi IMproved) is a popular and powerful text editor in Linux that is an extended version of the vi editor. It is a versatile and customizable editor that can be used for a wide range of text editing and programming tasks.

Here's how to use the vim command:

A terminal window titled "4. GUI 192.168.129 (mpn)" showing a Linux shell prompt. The user has run the command `ls -l` in the directory `~/folder1`. The output shows three files: a directory `.` with permissions `-rw-rw-r--`, size 68, and a file `file1.txt` with permissions `-rw-rw-r--`, size 102. The user then runs `vim file1.txt`, which is highlighted in yellow in the original image.

```
mpn@mpn-virtual-machine:~/folder1$ ls -l
total 8
-rw-rw-r-- 1 mpn mpn  68 Feb 26 13:01 :
-rw-rw-r-- 1 mpn mpn 102 Feb 26 13:08 file1.txt
mpn@mpn-virtual-machine:~/folder1$ vim file1.txt
```

Open a terminal in Linux.

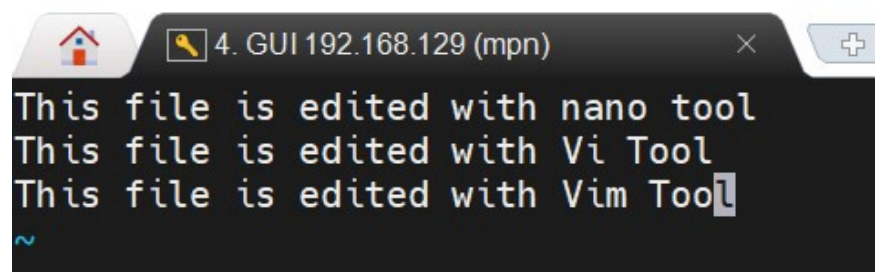
Type vim followed by the name of the file you want to edit, or type vim and a new file name to create a new file.

For example, to open a file named file1.txt” for editing, type:

Vim file1.text

If the file does not exist, it will be created when you save your changes.

Once you have opened a file in vim, you can use various keyboard commands to navigate and edit the text. Here are some common commands

A terminal window titled "4. GUI 192.168.129 (mpn)" showing the output of a vim command. The text displayed is:

```
This file is edited with nano tool
This file is edited with Vi Tool
This file is edited with Vim Tool
```

The cursor is at the end of the third line.

vim tool

i: enter insert mode to insert text

Esc: exit insert mode and return to command mode

:w: save the file

:q: exit vim

`:wq`: save the file and exit vim

`:help`: show the help screen

`dd`: delete a line of text

`p`: paste a deleted line of text

`/:` search for text

`:s/old/new/g`: replace text

`:set number`: display line numbers

vim has many features and customization options and can be used for a variety of programming languages and file types. It can be difficult to learn at first, but there are many resources available to help you get started, including tutorials, documentation, and online forums.

--

11.rm and rm -rf

`rm` is a command in Linux that is used to remove or delete files and directories. Here's how to use the `rm` command:

To remove a file:

For example, to remove a file named `file1.txt`, you would enter:

```
mpn@mpn-virtual-machine:~/folder1$ ls -l
total 8
-rw-rw-r-- 1 mpn mpn 68 Feb 26 13:01 :
-rw-rw-r-- 1 mpn mpn 102 Feb 26 13:11 file1.txt
mpn@mpn-virtual-machine:~/folder1$ rm file1.txt
mpn@mpn-virtual-machine:~/folder1$ ls -l
total 4
-rw-rw-r-- 1 mpn mpn 68 Feb 26 13:01 :
```

To remove a directory and all its contents:

For example, to remove a directory named folder1 and all its contents, you would enter:

```
rm -r folder1
```

```
mpn@mpn-virtual-machine:~$ cd folder1/
mpn@mpn-virtual-machine:~/folder1$ ls
file1.txt  file2.txt
mpn@mpn-virtual-machine:~/folder1$ cd
mpn@mpn-virtual-machine:~$ rm folder1/
rm: cannot remove 'folder1/': Is a directory
mpn@mpn-virtual-machine:~$ rm -r folder1/
mpn@mpn-virtual-machine:~$ ls -l
total 44
drwxr-xr-x 2 mpn mpn 4096 Feb 24 13:17 Desktop
drwxr-xr-x 2 mpn mpn 4096 Feb 24 13:17 Documents
drwxr-xr-x 2 mpn mpn 4096 Feb 24 13:17 Downloads
drwxr-xr-x 2 mpn mpn 4096 Feb 24 13:17 Music
drwxr-xr-x 2 root root 4096 Feb 24 18:17 nihanth
drwxr-xr-x 2 mpn mpn 4096 Feb 24 13:17 Pictures
drwxr-xr-x 2 mpn mpn 4096 Feb 24 13:17 Public
drwx----- 3 mpn mpn 4096 Feb 24 13:17 snap
drwxr-xr-x 2 mpn mpn 4096 Feb 24 13:17 Templates
drwxrwxr-x 2 mpn mpn 4096 Feb 24 19:34 testfolder
drwxr-xr-x 2 mpn mpn 4096 Feb 24 13:17 Videos
```

rm -r

It's *important to use the rm command carefully*, as it permanently deletes files and directories and does not move them to the trash or recycle bin. Be sure to double-check the files and directories you want to delete before running the rm command. Additionally, be cautious when using the -r option to remove directories, as it can remove a large number of files and directories at once.

12.Useradd or deleteuser.

In Linux, the useradd command is used to add new user accounts to the system. Here's how to use the user add command:

To add a new user:

For example, to add a user named john, you would enter:

sudo useradd john

```
root@mpn-virtual-machine:/home/mpn# adduser john
Adding user `john' ...
Adding new group `john' (1001) ...
Adding new user `john' (1001) with group `john' ...
Creating home directory `/home/john' ...
Copying files from `/etc/skel' ...
New password:
Retype new password:
passwd: password updated successfully
Changing the user information for john
Enter the new value, or press ENTER for the default
    Full Name []:
    Room Number []:
    Work Phone []:
    Home Phone []:
    Other []:
Is the information correct? [Y/n] y
root@mpn-virtual-machine:/home/mpn#
```

useradd

By default, the useradd command creates a new home directory for the user in /home/username and sets their login shell to /bin/bash. You can also specify additional options to customize the user account creation process. Some common options include:

To remove a user in Linux, you can use the userdel command. Here are the steps:

Open a terminal window.

Type the following command to remove the user:

sudo userdel john


```
root@mpn-virtual-machine:/home/mpn# deluser john
Removing user `john' ...
Warning: group `john' has no more members.
Done.
root@mpn-virtual-machine:/home/mpn# █
```

Happy Learning :-)