

# Mastering File Manipulation in Linux

In Linux, the command line interface (CLI) provides several commands and utilities for file manipulation. Familiarizing yourself with these commands is essential for working efficiently in Linux. Here are some of the most commonly used file manipulation commands.

```
ayank/Study
ayank/Study/
Study$ ls -l

3 23:20 131026
3 23:22 131026.zip
5 2015 2bba7caff301510c5056f12f
0 04:58 config.bin
8 11:41 Entertainment
9 21:06 Games
9 21:12 Nirav
7 10:36 Programing
9 2014 $RECYCLE.BIN
8 21:08 Sem-1
8 16:19 Sem-2
5 2015 Sem-3
9 08:21 Sem-4
7 18:08 Sem-5
4 2015 Sets.pdf
0 23:02 Side Readings
0 10:42 Software
7 19:29 Sohum Backup
9 2014 System Volume Information
3 07:36 trysht
5 2015 vcredist-MSI_vc_red.msi.txt
Study$ █
```

# **Listing Files and Directories with ls**

## **Command**

ls

## **Functionality**

Lists files and directories in a given directory. Use ls -l for a long format and ls -a to include hidden files.

## **Searches**

terminal screen, linux file listing



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# Moving and Renaming Files with mv



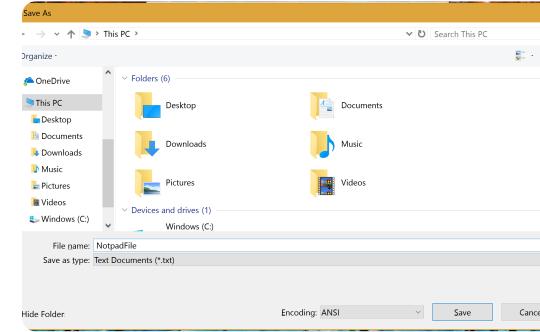
## Command

```
mv old_name new_name
```

A screenshot of a terminal window showing the mv command being used to move files. The terminal shows the command 'mv' followed by file paths and names, with the output showing the files being moved.

## Functionality

Moves or renames files and directories. Use mv file\_or\_directory target\_directory to move a file or directory to another directory.

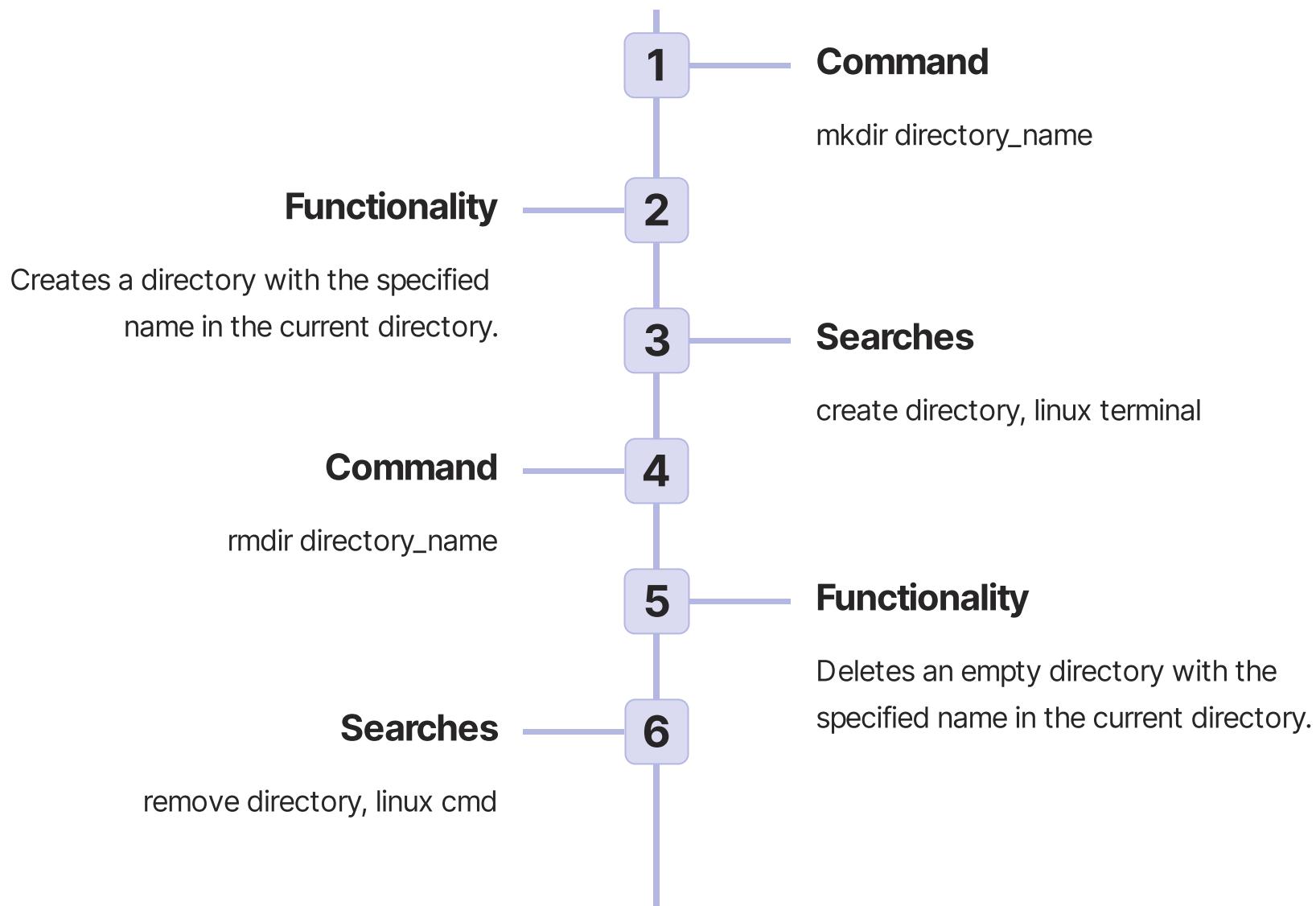


## Example Usage

Rename a file: mv old\_name new\_name

Move a file: mv file\_to\_move target\_directory

# Creating and Deleting Directories with mkdir and rmdir



# Copying Files and Directories with cp

## 1 Command

`cp source destination`

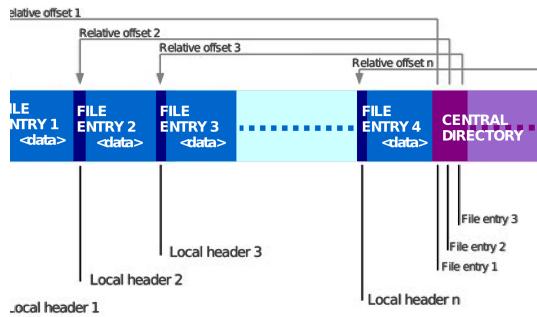
## 2 Functionality

Copies files and directories from the source to the destination. Use `cp -r source_directory destination_directory` to recursively copy a directory.

## 3 Searches

copy file, linux command line

# Archiving Files and Directories with tar



## Command

```
tar -cvzf archive.tar.gz  
directory_to_compress
```

## Functionality

Compresses files and directories into an archive. Use tar -xvzf archive.tar.gz to extract files from an archive.

## Example Usage

```
Create an archive: tar -cvzf  
archive.tar.gz  
directory_to_compress  
Extract files: tar -xvzf  
archive.tar.gz
```



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# Searching for Files with `find` and `grep`

## Find

Command: `find /path/to/search -name "filename"`

Functionality: Searches recursively for files and directories in a given directory hierarchy.

Searches: linux find files, command line utilities

## Grep

Command: `grep "pattern" filename`

Functionality: Searches for specific text patterns within files.

Searches: linux grep command, search for text in files

# Updating File Timestamps with touch

Command	Functionality	Searches
touch filename	Creates an empty file or updates the timestamp of an existing file.	change file timestamp, linux touch command

# Displaying File Contents with cat, more, and less

## Command

cat filename

```
pacman transmitted, I received. 9% packet loss, time 0ms
rtt min/avg/max/mdev = 540.528/540.528/540.528/9.869 ms
root@localhost ~# pwd
root@localhost ~#
root@localhost ~# cd /var
root@localhost var# ls -la
total 0
root@localhost var# cat file
root@localhost var#
```

## Command

more filename

## Functionality

Displays the contents of a file.

## Searches

display file content, linux cat command

### COMMANDS WE LEARNED

- cd – change directory
- ls – list directory contents
- pwd – print working directory
- touch – create new file
- rm – remove file (carefull!)
- mkdir – make directory
- cp – copy file
- mv – move file
- man – help page

### Tips/Tricks

up arrow – previous command  
tab – auto completes things in command line

<b>FILES</b>	<pre>cat &gt; host           ==&gt;Create file host ls -n host          ==&gt;List files for the name host=192.168.1.1    ==&gt;Lookup local ip address wget file          ==&gt;Download file netstat -lp         ==&gt;List all active listening ports</pre>
<b>COMPRESSION / ARCHIVES</b>	<pre>tar &gt; host.tgz      ==&gt;Create tar archive host containing home tar -xvf host.tgz   ==&gt;Extract files from the tar tar cf file.gz     ==&gt;Create a tar with gzip compression gzip file          ==&gt;Compress file and renames it to file.gz</pre>
<b>INSTALL PACKAGE</b>	<pre>rpm -i package.rpm ==&gt;Install rpm based package rpm -q package      ==&gt;Pkg info</pre>
<b>INSTALL FROM SOURCE</b>	<pre>./configure          ==&gt;Configure package make install        ==&gt;Make and install</pre>
<b>SEARCH</b>	<pre>grep pattern files ==&gt;Search for pattern in files grep -r pattern dir ==&gt;Search recursively for pattern in dir find / -name Index* ==&gt;Find files names that start with "Index" find home-size +10000k ==&gt;Find files larger than 10000k in /home</pre>
<b>LOGIN (SSH AND TELNET)</b>	<pre>ssh user@host      ==&gt;Connect to host as user ssh -p port user@host ==&gt;Connect to host using specific port telnet host         ==&gt;Connect to the system using telnet port</pre>

## Command

less filename

## Functionality

Paginates through large files, allowing you to view the contents one page at a time.