Linux Basic Commands

Creating, Removing, copying, Moving Files & Directories

Creating a file in Linux using cat command:

➔To create a file

cat > <filename> cat > testfile

```
[root@master-server tmp]# cat > testfile
Hello this is Yalla Reddy
using cat command we can create a file
[root@master-server tmp]#
```

Note: To save the file ctrl+d

➔To display the content of the file

#cat testfile

```
[root@master-server tmp]# cat testfile
Hello this is Yalla Reddy
using cat command we can create a file
[root@master-server tmp]#
```

➔To append the data in the already existing file

#cat >> testfile

root@master-server:/tmp

```
[root@master-server tmp]# cat >> testfile
using this >> we can append the data in a file
[root@master-server tmp]#
```

➔Creating a multiple files at same time using touch command

touch file1 file2 file3

touch file1 file2 file3

root@master-server:/tmp

```
[root@master-server tmp]# touch file1 file2 file3
[root@master-server tmp]# ls
file1  file2  file3  testfile
[root@master-server tmp]#
```

Creating a directory:

#mkdir <dirname>

root@master-server:/tmp

```
[root@master-server tmp]# mkdir dir1
[root@master-server tmp]# ls
dir1  file1  file2  file3  testfile
[root@master-server tmp]#
```

Making multiple directories inside a directory

#mkdir –p dir1/dir2

root@master-server:/tmp/dir1

```
[root@master-server tmp]# mkdir -p dir1/dir2
[root@master-server tmp]# ls -ld dir1/
drwxr-xr-x. 3 root root 4096 Apr 29 01:52 dir1/
[root@master-server tmp]# cd dir1/
[root@master-server dir1]# ls
dir2
[root@master-server dir1]#
```

Copying files into directories:

#cp <source> <destination>

root@master-server:/tmp

```
[root@master-server tmp]# touch copy-a-file
[root@master-server tmp]# pwd
/tmp
[root@master-server tmp]# ls -l /opt/copy-a-file
ls: cannot access /opt/copy-a-file: No such file or directory
[root@master-server tmp]# cp /tmp/copy-a-file /opt/
[root@master-server tmp]# ls -l /opt/copy-a-file
-rw-r--r--. 1 root root 0 Apr 29 01:54 /opt/copy-a-file
[root@master-server tmp]#
```

Copying directories from one location to other location:

#cp –rvfp <dirname> <destinationname>

root@master-server:/tmp

```
[root@master-server tmp]# cp -rvfp /tmp/dir1/ /opt/
`/tmp/dir1/' -> `/opt/dir1'
`/tmp/dir1/dir2' -> `/opt/dir1/dir2'
[root@master-server tmp]# ls -ld /opt/dir1/
drwxr-xr-x. 3 root root 4096 Apr 29 01:52 /opt/dir1/
[root@master-server tmp]#
```

Moving files from one location to other location:

#mv <filename> <destination directory>

```
[root@master-server tmp]# mv copy-a-file /var
[root@master-server tmp]# ls
dir1  file1  file2  file3  testfile
[root@master-server tmp]# ls -l /var/copy-a-file
-rw-r--r--. 1 root root 0 Apr 29 01:54 /var/copy-a-file
[root@master-server tmp]#
```

Moving directories from one location to another location

#mv <dirname> <destinationdirname>

root@master-server:/tmp

```
[root@master-server tmp]# ls
dir1  file1  file2  file3  testfile
[root@master-server tmp]#
[root@master-server tmp]# mv dir1/ /etc/
[root@master-server tmp]# s
-bash: s: command not found
[root@master-server tmp]# ls
file1  file2  file3  testfile
[root@master-server tmp]# ls -ld /etc/
drwxr-xr-x. 114 root root 12288 Apr 29 02:00 /etc/
[root@master-server tmp]# ls -ld /etc/dir1/
drwxr-xr-x. 3 root root 4096 Apr 29 01:52 /etc/dir1/
[root@master-server tmp]#
```

Renaming a file:

#mv <oldname> <newname>

root@master-server:/tmp

```
[root@master-server tmp]# ls
file1  file2  file3  testfile
[root@master-server tmp]#
[root@master-server tmp]# mv file1 new-file1
[root@master-server tmp]# ls
file2  file3  new-file1  testfile
[root@master-server tmp]#
```

Renaming a directory:

#mv <oldname> <newname>

root@master-server:/tmp

```
[root@master-server tmp]# ls
dir1  file2  file3  new-file1  testfile
[root@master-server tmp]#
[root@master-server tmp]# mv dir1/ new-dir1
[root@master-server tmp]# ls
file2  file3  new-dir1  new-file1  testfile
[root@master-server tmp]#
```

Removing a file:

#rm <file name> or rm –rf <file name> without prompt

root@master-server:/tmp

```
[root@master-server tmp]# ls
file2  file3  new-dir1  new-file1  testfile
[root@master-server tmp]# rm file2
rm: remove regular empty file `file2'? y
[root@master-server tmp]#
```

root@master-server:/tmp

```
[root@master-server tmp]# ls
file3  new-dir1  new-file1  testfile
[root@master-server tmp]# rm -rf file3
[root@master-server tmp]#
```

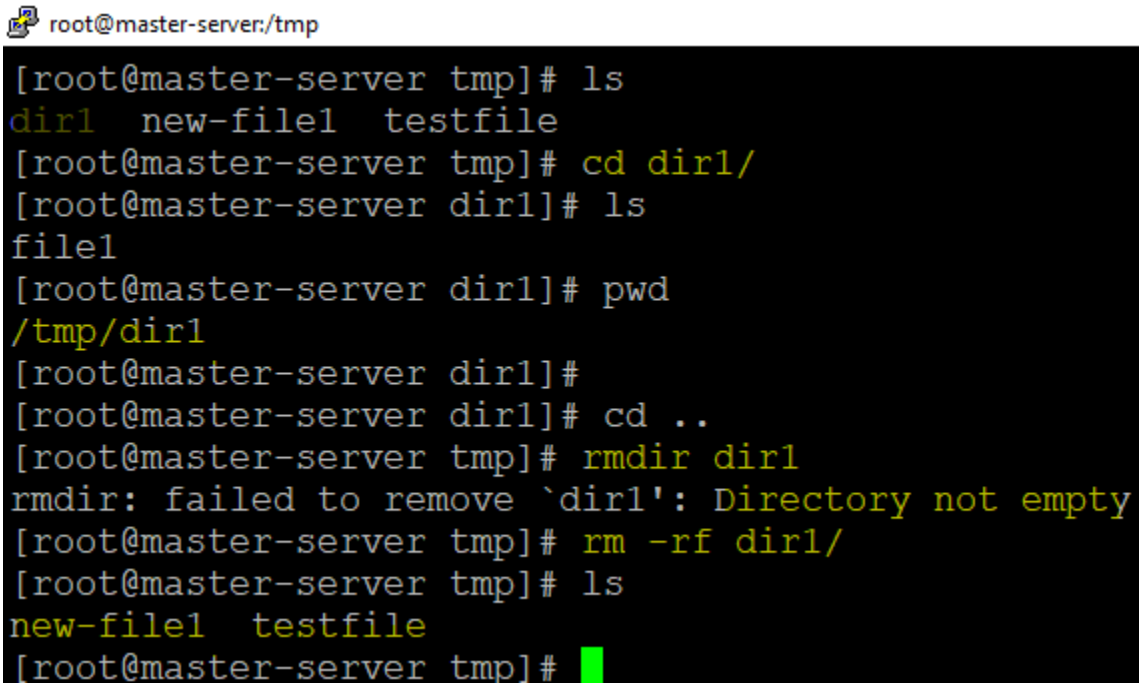
Removing an empty directory:

#rmdir <dirname>

root@master-server:/tmp

```
[root@master-server tmp]# ls
new-dir1  new-file1  testfile
[root@master-server tmp]# rmdir new-dir1/
[root@master-server tmp]#
```

Removing a directory with files or directories inside:



VI-Editor:

Vi – stands for visual editor

Vim – visual display editor improved

Vi editor has 3 modes

1. Commandmode 2. Insert mode 3.extended command mode

Insertmode:

I – to begin the insertmode

- to insert a new line

commandmode:

gg – to go the beginning of the page

G – to go to the end of the page

Yy – to copy a line

Dd – to delete the line

Extended Mode:

Esc+:w -- to save the file

Esc+:q -- to quit the file

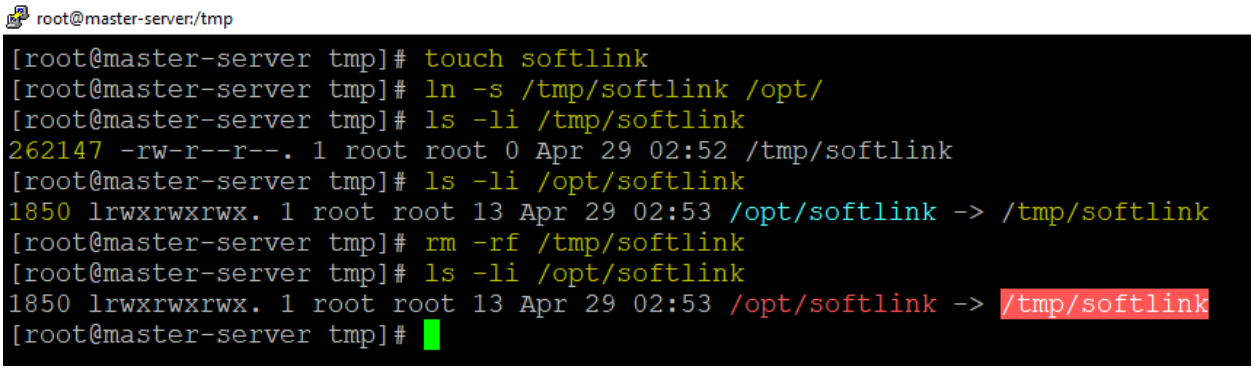
Esc+:wq – save and exit

Symbolic Link: or softlink:

1. Size of link file is equal to no.of characters in the name of original file.
2. Can be created across the partitions.
3. Inode number of source and link file is different.
4. If original file is deleted, link is broken and data is lost.
5. Shortcuts.

Creating a softlink:

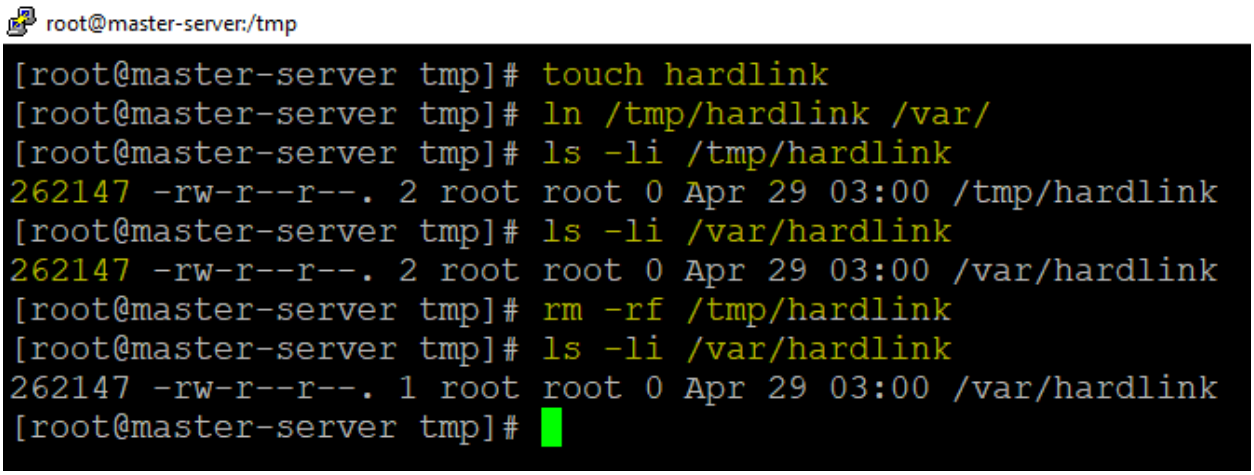
#ln –s <sourcefile> <destinationfile>



Hardlink:

1. Size of the both file is same
2. Cannot be created across the partitions.
3. Inode number of both file is different.
4. If original file is deleted then also link will contain the data
5. Backup file.

#ln <sourcefile> <destinationfile>



Regular expressions, pipelines & I/O Directions:

Grep:

Grep is a global regular expression Print. It is used to pickout the required expression from the file and print the output.

grep root /etc/passwd

root@master-server:~

```
[root@master-server ~]# grep root /etc/passwd
root:x:0:0:root:/root:/bin/bash
operator:x:11:0:operator:/root:/sbin/nologin
[root@master-server ~]#
```

To avoid case sensitive use can use -i

root@master-server:~

```
[root@master-server ~]# grep -i root /etc/passwd
root:x:0:0:root:/root:/bin/bash
operator:x:11:0:operator:/root:/sbin/nologin
[root@master-server ~]#
```

Less: is used to see the output line wise or page wise

More: more is same like less only

Head: it is used to display the top 10 Lines of the file.

root@master-server:~

```
[root@master-server ~]# head /etc/passwd
root:x:0:0:root:/root:/bin/bash
bin:x:1:1:bin:/bin:/sbin/nologin
daemon:x:2:2:daemon:/sbin:/sbin/nologin
adm:x:3:4:adm:/var/adm:/sbin/nologin
lp:x:4:7:lp:/var/spool/lpd:/sbin/nologin
sync:x:5:0:sync:/sbin:/bin/sync
shutdown:x:6:0:shutdown:/sbin:/sbin/shutdown
halt:x:7:0:halt:/sbin:/sbin/halt
mail:x:8:12:mail:/var/spool/mail:/sbin/nologin
uucp:x:10:14:uucp:/var/spool/uucp:/sbin/nologin
[root@master-server ~]#
```

#head -2 /etc/passwd

root@master-server:~

```
[root@master-server ~]# head -2 /etc/passwd
root:x:0:0:root:/root:/bin/bash
bin:x:1:1:bin:/bin:/sbin/nologin
[root@master-server ~]#
```

Tail: is used to display the last 10 lines

#tail /etc/passwd

root@master-server:~

```
[root@master-server ~]# tail /etc/passwd
saslauth:x:498:496:"Saslauthd user":/var/empty/saslauth:/sbin/nologin
postfix:x:89:89::/var/spool/postfix:/sbin/nologin
avahi:x:70:70:Avahi mDNS/DNS-SD Stack:/var/run/avahi-daemon:/sbin/nologin
rpcuser:x:29:29:RPC Service User:/var/lib/nfs:/sbin/nologin
nfsnobody:x:65534:65534:Anonymous NFS User:/var/lib/nfs:/sbin/nologin
pulse:x:497:495:PulseAudio System Daemon:/var/run/pulse:/sbin/nologin
gdm:x:42:42::/var/lib/gdm:/sbin/nologin
sshd:x:74:74:Privilege-separated SSH:/var/empty/sshd:/sbin/nologin
tcpdump:x:72:72::/:/sbin/nologin
dev:x:500:500:dev:/home/dev:/bin/bash
[root@master-server ~]#
```

Cut command:

The cut command is used to pick the given expression in columns and display the output.

#cut –d: -f1 /etc/passwd

root@master-server:~

```
[root@master-server ~]#
[root@master-server ~]# cut -d: -f1 /etc/passwd | tail -2 /etc/passwd
tcpdump:x:72:72::/:/sbin/nologin
dev:x:500:500:dev:/home/dev:/bin/bash
[root@master-server ~]#
[root@master-server ~]# cut -d: -f1 /etc/passwd
root
bin
daemon
adm
lp
```

Sed: stand for stream editor which is used to search a word in the file and replace it with the word required to be in the output.

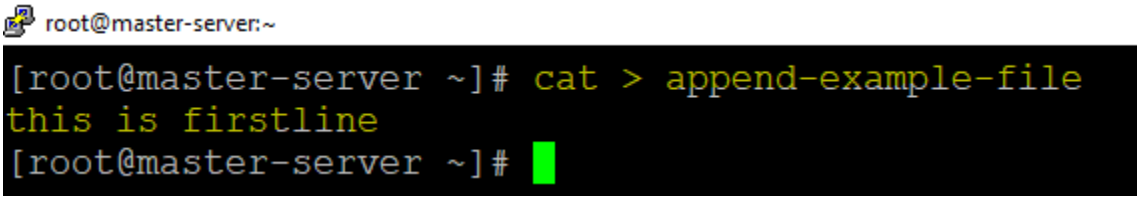
Note: search examples in the google and paste the output

I/O Directions:

Redirection is a process where we can copy the output of any commands ,files into a new file.

There are two ways of redirecting the output into a file.

Using > or >> filename



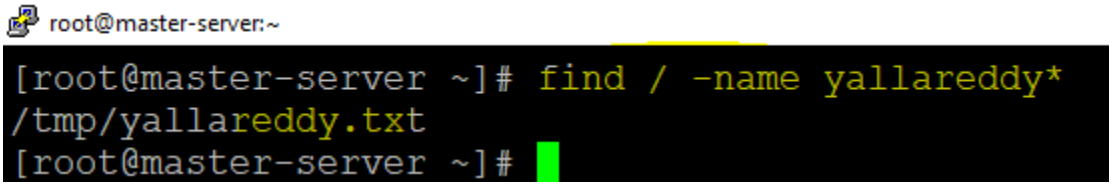
Find command:

Find command is used to find the files or directories path.

Syntax: find / - option <filename>

Findings file name

Find / -name yallareddy.txt



Note: check in google about find commands and paste screen shorts here.

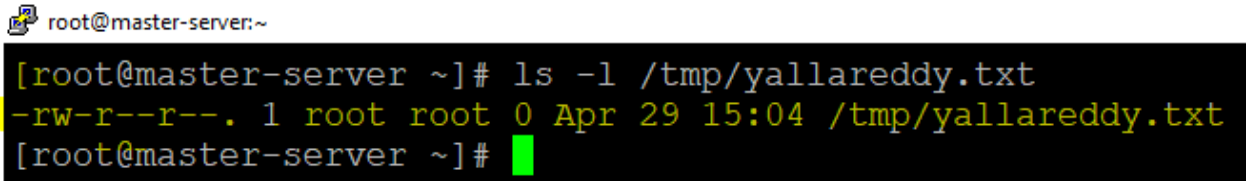
File Permissions:

Permissions are applied on 3 levels.

1. Owner/ user level 2. Group level 3. Others level

Access modes are 3 levels

R: read only w: write/edit/delete/append x: execute/run a command



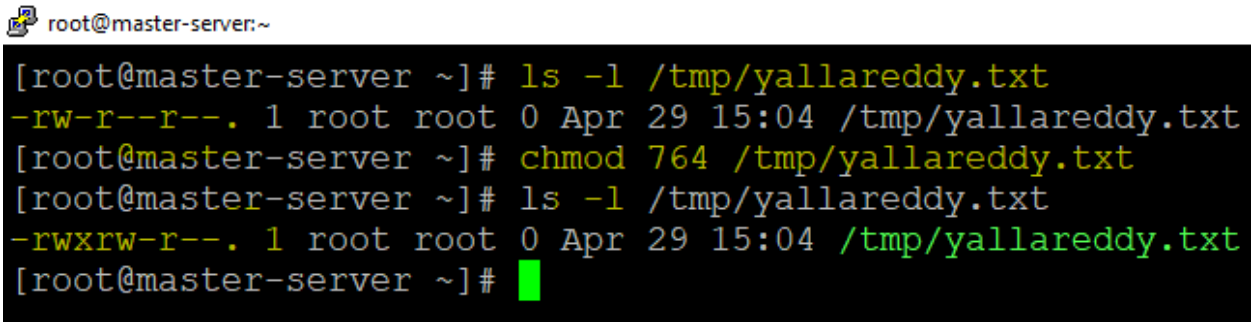
Absolute Method:

In absolute method we can use numbers instead of using symbols.

R = 4 ; W = 2; X = 1

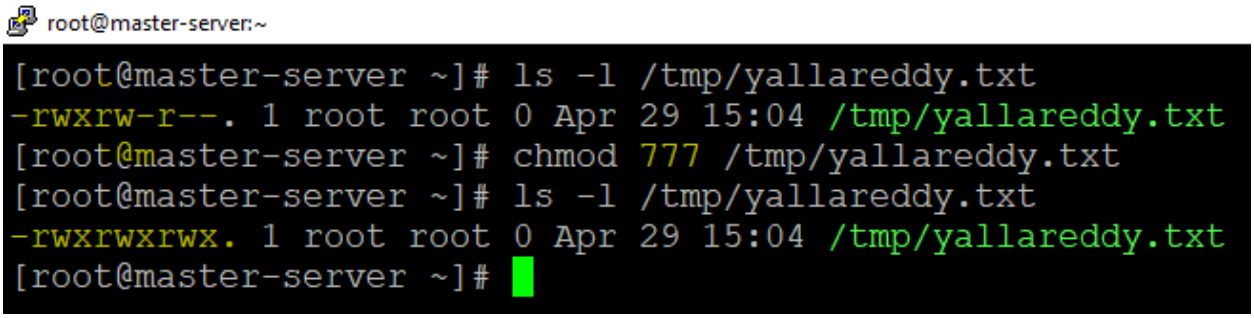
Assigning different permissions to the file (user=rwx , group=rw, others=r

#chmod 764 yallareddy.txt



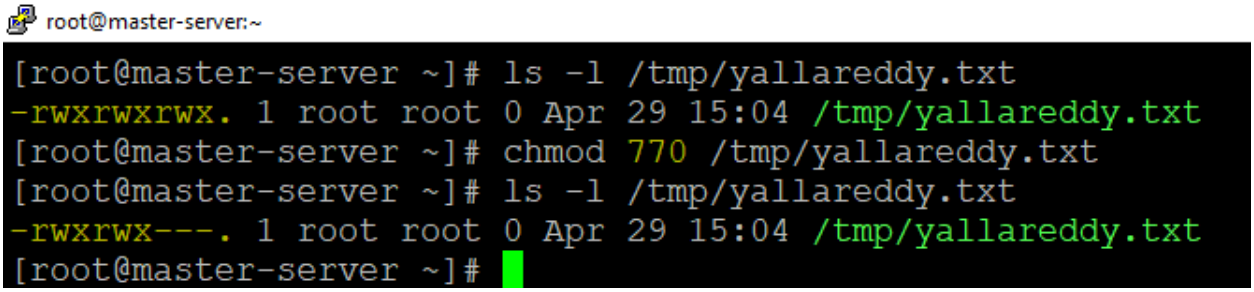
If you want to give full permissions: use below commnd

#chmod 777 yallareddy.txt



Removing all permissions from others

#chmod 770 /tmp/yallareddy.txt



Umask: user file creation mask

Umask value is : 0022