**Ownership & Permissions**

**$ ls -l <ENTER>**

**-rw-r—r-- . 1 alnafi alnafi 0 Jan 7 20:58 test.txt**

(-) ((rw-)(r--)(r--)) (.) (1) (alnafi) (alnafi) (0) (Jan 7 20:58) (test.txt)

Total 9 parts of a file properities

1. (-) type of file
2. \*((rw-)(r--)(r--)) permissions
   1. 1st 3 bits are for user
   2. 2nd 3 bits are for group
   3. 3rd 3 bits are for others (apart from users and groups)
3. (.) Selinux
4. (1) link count
5. (alnafi) owner
6. (alnafi) group name
7. (0) size in bytes
8. (Jan 7 20:58) access time
9. (test.txt) file name

**\* r = read, w = write, x = execute**

**-**

To change owner command “chown”

**$ chown <new\_user> <file\_name>**

To change group of a file the command is “chgrp”

**$ chgrp <group\_name> <file\_name>**

**FOR USER - CHANGING PERMISSIONS**

1st 3 bits changing permissions

$ chmod u+rwx <file\_name> to assign permissions (full permission in this case)

$ chmod u-rwx <file\_name> to remove permissions

**FOR GROUP - CHANGING PERMISSIONS**

2nd 3 bits

$ chmod g+rwx <file\_name> to assign permissions (full in this case)

$ chmod g-rwx <file\_name> to remove permissions

**FOR OTHERS - CHANGING PERMISSIONS**

3rd 3 bits

$ chmod o+rwx <file\_name> to assign permissions (full in this case)

$ chmod o-rwx <file\_name> to remove permissions

**COMMAND FOR ALL (USER, GROUP AND OTHERS)**

$ chmod ugo+rwx <file\_name>

$ chmod ugo-rwx <file\_name>

**FILE TYPES**

There 7 types of files

|  |  |  |
| --- | --- | --- |
| **Sr. #** | **Symbol** | **Description** |
|  | - | Regular files |
|  | d | Directory |
|  | l | Symlink files |
|  | b | Block files |
|  | c | Character files |
|  | s | Socket files |
|  | p | Pipe device files |

**LINK COUNT**

* It mostly remains “1” for all types of files and **“more than 1”** in case of a “Hard Link”
* But this number increases for directory and **“depends upon sub directories”**

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(root㉿HP-Laptop)-[/home] ls -a /home

. .. alnafi

Here “.”means present directory

And

“..” means parent directory

\* these r hidden directories and present in every directory