# File Ownership and Permissions:

- To provide security, all files in a Linux style file system have certain access permissions.

- The files are accessed by:
    - User who owns the file
    - Group(of users) to which the file belongs.
    - Others

- There are three basic actions that are performed on files:
    - Read: Just viewing the file content
    - Write: Changing(add/delete) the file content
    - Execute: Run the file if it is an executable program.

- The access to perform these actions by the user, group and others could be controlled by defining permissions.

Defining Permissions

- The permissions are represented as symbols.
  - Read – 'r'
  - Write – 'w'
  - Execute – 'x'
- The access permissions (r,w,x) are defined for the three categories in the order – [user][group][others]
- Example:
  - If the permissions are: rwxrwxrw-
  - This means 'rwx' for user, 'rwx' for group and only 'rw' for others.
  - 'r' – read, 'w' – write, 'x' – execute.

File Type
'-' general file
'd' directory
'l' link

User

Group

Others

$$-rwxrwxrwx-$$

Sticky Bit
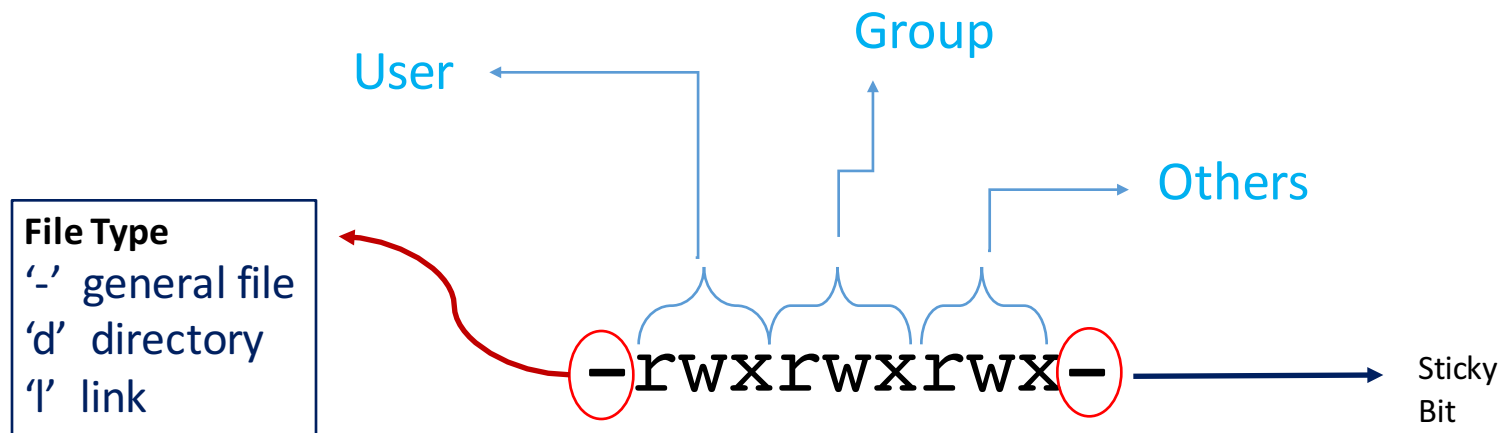
Example:

Command to display information of File-A

$ ls -ali File-A

Number of Links pointing to this Inode

Size

1069911 -rw-r--r-- 1 root root 48 Nov 19 18:52 File-A

File name

Inode number

Permissions

User

Group

Time of Modification