LINUX FILE SYSTEM PERMISSIONS	
DESCRIPTION	**COMMANDS / OPTIONS**
Shows detailed information about permissions and ownership	**ls [options] location** -l Long list -a hidden files and directories in the listing. -t Sort files and directories by their last modification time, displaying the most recently modified ones first. -r known as reverse order -S Sort files and directories by their sizes -R List files and directories recursively -i known as inode -g known as group -h Print file sizes in human-readable format -d List directories themselves, rather than their contents.
Type of files in linux	**Type of files in linux** -i inode number - is a regular file d is a directory l is a symbolic link c is a character device file b is a block device file p is a named pipe file s is a local socket file
changes file and directory permissions	**chmod [mode] [permission] [File_name]** u user g group o other a all **Symbolic permission** r Read w Write x Execute X Special Permission **Numberic permission** 4 Read 2 Write 1 Execute + add permission - remove permission = set - R Recurcivly

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Special permission	**Set & remove Special Permissions** **Set-user-ID (SUID)** chmod u+s FileName s S **remove SUID** chmod u-s FileName **Set-group-ID bit** chmod g+s FileName **remove SGID** chmod g-s FileName **The Sticky Bit** chmod +t FileName t T **remove Sticky Bit** chmod -t FileName
Change file Directory ownership	**chown [options] new_owner[:new_group] file** -c To report when a file change is made -v enhances the verbosity of the `chown` -f to suppress most error messages and forcefully or silently change ownership **To File Ownership in Linux** chown owner_name file_name **To change the group ownership of a file** chown :group1 file1.txt
To set default permissions for files or directories	**umask[options]** =max permission - UMASK file = 777 - 111 =**666** effective =666-022=**644** DIR = 777-022=**755** **The default permissions config file** /userHome/bashrc /etc/login.defs /etc/profile.d/ **source .bashrc**
To change the group ownership of a file or directory	**chgrp [OPTION] GROUP FILE** -R To recursively change the group ownership -c The action for each File whose group actually changes -f To suppress error messages

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ACCESS CONTROL LIST (ACL)	**To get details about permission** getfacl[file/dir] **To set permission** setfacl[options][ugo]:Name : [Permission]File/Dir -m (modify) -x (remove) -d (defaults) -b To remove all entries
Attributes of a file in a directory	**To list the attributes of files or directories** lsattr [options] [files/directories] -a: Lists all files and directories, including hidden -d: If the argument is a directory, list the attributes of the directory itself rather than its contents. -R: Recursively lists the attributes of directories and their contents. **To changing the attributes of a file in a directory** chattr [-RVf] [-v version] [mode] files... -R: It is used to display the list attributes of directories and their contents recursively. -V: It will display the version of the program. -a: Used to list all the files of a directory which also includes the whose name starts with a Period('.'). -d: This option will list the directories as regular files instead of listing their contents. -v: Used to display the file's version/generation number etc.
operators	'+' : Adding selected attributes to the existing attributes of the files. '–' : Causes selected attributes to be removed. '=' : Causes selected attributes to be the only attributes that the files have.