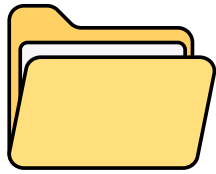# BEGINNER'S
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Basic Navigation Commands
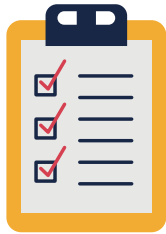
pwd 📂

(Print Working Directory)

What it does: Shows you the folder you're currently in.

ls 📋

(list)

What it does:

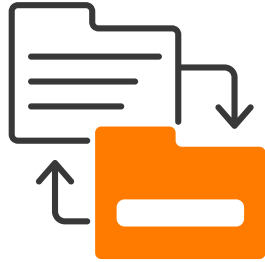Lists the files and folders in the current location.

Options:

- **ls -a**: Shows hidden files (those that start with .).
- **ls -l**: Shows detailed information like permissions, size, and date.

Basic Navigation Commands

cd

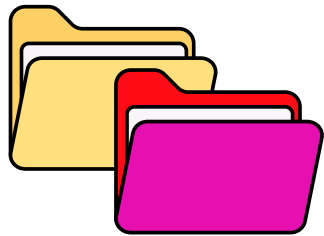*(Change Directories)*

What it does:

Moves you to a different folder.

Examples:

- **cd Documents**: Go to the "Documents" folder.
- **cd ..** : Move up one folder level.

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File and Folder Management

mkdir

(Make Directory)
What it does:
Creates a new folder.
- Example: **mkdir my_folder**

touch

(Touch)
What it does:
Makes a new, empty file.
- Example: **touch myfile.txt**

cp

(Copy)
What it does:
Copies a file or folder to another location.
Examples:
- **cp file.txt copy_file.txt**: Copies file.txt to copy_file.txt.
- **cp -r folder1/ folder2/**: Copies everything inside folder1 to folder2.

File and Folder Management

mv »»»

(Move/Rename)

What it does:

Moves or renames files and folders.

Examples:

- **mv file.txt /home/user/**: Moves file.txt to the /home/user folder.
- **mv old_name.txt new_name.txt**: Renames old_name.txt to new_name.txt.

rm 🗑

(Remove)

- **What it does:**
- Deletes files or folders.
- Examples:
  - **rm file.txt**: Deletes file.txt.
  - **rm -r folder/**: Deletes the folder and everything inside it.

⚠️ **Warning: Deleted files are gone for good when using this command. No "trash" to restore from.**
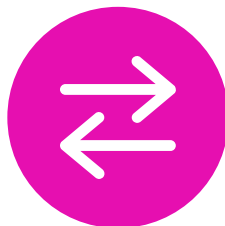
Viewing Content and Permissions

cat

(Concatenate and Display)

What it does:

Shows the contents of a file.
- Example: **cat file.txt**

chmod

(Change Mode)

What it does:

Changes the permissions of a file or folder.
- Example: **chmod 755 file.txt**
- **7 =** full permissions (read, write, execute)
- **5 =** read and execute only

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Permissions Breakdown

In Linux, permissions are shown as **rwx (letters)** or as **numbers**. Here's a simple breakdown:

Each letter represents a different type of permission:

- *r = Read (can open and see the contents of a file or folder)*
- *w = Write (can edit or delete the file or add/remove files from a folder)*
- *x = Execute (can run the file if it's a program or script, or "enter" a folder)*

If a letter is missing (like r--), it means that permission is not allowed.

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Permissions Breakdown

Structure of Permissions

The permissions are grouped into three sets:
1. ***Owner** (the person who created the file or folder)*
2. ***Group** (other users in the same group as the owner)*
3. ***Others** (everyone else)*

Example

-rwxr-xr--

- **rwx (Owner):** Read, write, and execute permissions
- **r-x (Group):** Read and execute, but no write permission
- **r-- (Others):** Only read permission

Numbers for Permissions

Numbers for Permissions

Each permission has a number assigned to it:

- ***r (read)** = 4*
- ***w (write)** = 2*
- ***x (execute)** = 1*
- ***- (no permission)** = 0*

To set permissions, you add the numbers for the permissions you want.

Examples of Permission Numbers

0 = --- (no permissions)

1 = --x (only execute)

2 = -w- (only write)

3 = -wx (write and execute: 2 + 1)

4 = r-- (only read)

5 = r-x (read and execute: 4 + 1)

6 = rw- (read and write: 4 + 2)

7 = rwx (read, write, and execute: 4 + 2 + 1)

Numbers for Permissions

When you use chmod, you set permissions for owner, group, and others in that order.

Example ↙

chmod 755 file.txt

What it means:
7 (Owner) = rwx (full permission: 4 + 2 + 1)
5 (Group) = r-x (read and execute: 4 + 1)
5 (Others) = r-x (read and execute: 4 + 1)

Common Permission Numbers 👇

777 = rwxrwxrwx (everyone has full permission)
755 = rwxr-xr-x (owner has full permission, others can only read and execute)
700 = rwx------ (only the owner has full permission)
644 = rw-r--r-- (owner can read and write, others can only read)
600 = rw------- (only the owner can read and write, no one else can access)

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