

Command Line Basics

1. Introduction

The **Command Line Interface (CLI)** is a text-based way to interact with your computer's operating system. Unlike the graphical interface (mouse, icons, windows), the CLI allows you to type commands directly to perform tasks faster and more efficiently.

As web developers, understanding the command line is important for:

- Navigating folders and files quickly.
- Running scripts (JavaScript, PHP, Node.js, etc.).
- Managing projects with Git & GitHub.
- Deploying websites on servers.
- Installing packages and dependencies (npm, composer, etc.).

2. Opening the Command Line

- **Windows:** Open *Command Prompt* (cmd) or *PowerShell*. Developers often install **Git Bash** for Unix-style commands.
- **Mac/Linux:** Open the *Terminal* app.

3. Basic Commands

Navigation

- `pwd` → Print working directory (shows your current folder).
- `ls` (Linux/Mac) or `dir` (Windows) → List files and folders in the current directory.
- `cd foldername` → Change directory into foldername.
- `cd ..` → Go up one directory level.
- `cd /` → Go to the root directory.
- `cd ~` → Go to your home directory.

File & Folder Management

- `mkdir project` → Make a new directory named *project*.
- `touch index.html` (Linux/Mac) → Create a new empty file.
- `echo Hello > hello.txt` → Create a file with text inside.
- `rm file.txt` → Delete a file.
- `rm -r foldername` → Delete a folder and its contents.
- `cp file.txt copy.txt` → Copy file.

- `mv file.txt newname.txt` → Move/rename a file.

Viewing Files

- `cat file.txt` → Display file contents.
- `less file.txt` → View file contents one page at a time.
- `nano file.txt` (Linux/Mac) → Open file in a text editor.

4. Useful Shortcuts

- `Tab` → Auto-complete file/folder names.
- `↑` (Up arrow) → Cycle through previous commands.
- `Ctrl + C` → Cancel/stop a running command.
- `clear` or `cls` (Windows) → Clear the screen.

5. Practical Use Cases for Web Dev

- Navigate to your project folder:

```
cd Documents/my-portfolio
```

- Initialize Git:

```
git init
```

- Run a local server (Node.js or PHP):

```
php -S localhost:8000
```

- Install dependencies with npm:

```
npm install
```

6. Assignment

Create a new folder using the command line called **my-first-cli-project** and do the following:

1. Inside the folder, create a file called `readme.txt`.
2. Add the text:

```
This is my first project created with the command line.
```

3. Create another file called `index.html` with this content:

```
<!DOCTYPE html>
<html>
<head>
  <title>My CLI Project</title>
</head>
```

```
<body>
  <h1>Hello from the Command Line!</h1>
</body>
</html>
```

4. Use `ls` (or `dir` on Windows) to confirm both files exist.
5. Upload this project to your GitHub account and add a **README.md** explaining what you did.

7. Practice Quiz

1. What command shows the current working directory?
2. Which command is used to make a new folder?
3. How do you move one step up from the current directory?
4. Which command deletes a file?
5. What does `Ctrl + C` do in the command line?
6. If you are inside a folder called `portfolio`, what command takes you back to your home directory?

Answer Key:

1. `pwd`
2. `mkdir foldername`
3. `cd ..`
4. `rm file.txt`
5. Stops a running command.
6. `cd ~`