

What is GitHub?

GitHub is a platform for hosting and sharing code. It uses **Git**, a version control system, to track changes to your files. GitHub also allows you to host websites using **GitHub Pages**. (GitHub Pages for static website only)

Setting up Git and GitHub

1. **Create a GitHub Account:**
 - Go to [GitHub](#) and create a free account.
2. **Install Git** (if not already installed):
 - Download Git from [Git's official website](#) and follow the installation instructions.

Configure Git: Open a terminal/command prompt and set up your username and email

```
git config --global user.name "YourName"
git config --global user.email "YourEmail"
```

Creating a Repository on GitHub

1. **Log in to GitHub.**
2. Click the **New** button (+ icon) in the top-right corner and select **New Repository**.
3. Enter:
 - Repository Name (e.g., `MyProject`).
 - Description (optional).
 - Choose **Public** or **Private** visibility.
4. Check **Add a README file** (optional but recommended).
5. Click **Create Repository**.

Uploading Files to GitHub

Method 1: Upload via Web Interface

1. Open your repository.
2. Click **Add File** > **Upload Files**.
3. Drag and drop files or select them from your computer.
4. Click **Commit Changes**.

Method 2: Upload via Git (Command Line)

Open a terminal and clone your repository:

```
git clone https://github.com/YourUsername/YourRepository.git
```

Move into the repository folder:

```
cd YourRepository
```

Add files to the repository:

```
cp /path/to/your/files/* .  
git add .
```

Commit the changes:

```
git commit -m "Initial commit"
```

Push the files to GitHub:

```
git push origin main
```

Hosting a Frontend on GitHub Pages

1. Prepare Your Project:

- Ensure your project has an `index.html` file at the root (this is the default entry point for GitHub Pages).

2. Enable GitHub Pages:

- Open your repository on GitHub.
- Go to **Settings** > **Pages** (in the left-hand menu).
- Under **Source**, select the branch (usually `main`) and the folder (usually `/root`) where your files are stored.
- Click **Save**.

3. Access Your Website:

- Your site will be available at <https://YourUsername.github.io/YourRepositoryName>.

Updating Hosted Files

Make changes to your local project.

Stage and commit changes:

```
git add .
```

```
git commit -m "Updated files"
```

Push changes to GitHub:

```
git push origin main
```

Your GitHub Pages site will automatically update.

Summary of Common Git Commands

Command	Description
<code>git clone <URL></code>	Clone a repository to your local machine.
<code>git add .</code>	Stage all changes for commit.
<code>git commit -m "Message"</code>	Save changes with a message.
<code>git push origin main</code>	Upload changes to GitHub.
<code>git pull origin main</code>	Fetch and merge changes from GitHub.