



Placement Empowerment Program

Cloud Computing and DevOps Centre

Set Up a Local Git Repository: Initialize a Git repository locally and version control your static website

Name: Venkata Sai M

Department: CSE

Introduction

Version control is a fundamental practice in software development that allows you to manage changes to your code over time. It provides a systematic way to track updates, collaborate with others, and revert to previous versions if needed. Git is one of the most widely used version control systems, known for its efficiency, flexibility, and distributed nature.

In this POC, we'll initialize a local Git repository to version control your static website. By doing so, you'll be able to track changes to your project files, experiment with new features in a controlled way, and easily share your project with others if needed. Setting up a Git repository is a critical step towards maintaining a structured and reliable workflow, especially for developers and teams working on collaborative projects.

Overview

Here's what we will cover in this setup:

- 1. Installing Git:** Ensure Git is installed on your system and properly configured.
- 2. Creating a Local Repository:** Initialize a Git repository in the root folder of your static website
- 3. Staging and Committing Files:** Add your project files to the staging area and commit them to the repository to save a snapshot of your work.
- 4. Reviewing the evolves. Repository State:** Use Git commands to check the status of your repository and verify that everything is tracked properly.

Objectives

By the end of this POC, you will:

- 1. Understand the Basics of Version Control:** Gain insight into the importance of Git for managing and tracking changes in your projects.

2. Set Up a Git Repository: Learn how to initialize a Git repository to version control your static website locally.

3. Track Changes Effectively: Understand how to stage and commit files to ensure every change is logged.

4. Organize Your Project: Maintain a clean and structured workflow for your static website, with the ability to roll back changes when needed.

5. Prepare for Collaboration: Lay the groundwork to share your repository and collaborate with others using Git when required

Importance of Setting Up a Local Git Repository

Track Changes: Git records all modifications, ensuring a clear history of your project.

Rollback: Easily revert to previous versions to recover from mistakes.

Collaboration: Prepares your project for team work, enabling smooth integration of changes.

Step-by-Step Overview

Step 1:


Search for "Git" in Chrome, download it, and click the "Downloads" option on the website.

git - Google Search

google.com/search?q=git&rlz=1C1CHBF_enlN1126IN1126&coq=git+&gs_lcrp=EgZjaHJvbwUqBwgAEAAyJwlyBwgAEAAyJwlyDwgBEC4YChjHARjRAXiAB...

git

All Images Videos News Shopping Web Maps More Tools



Git
https://git-scm.com

Git

Git is easy to learn and has a tiny footprint with lightning fast performance. It outclasses SCM tools like Subversion, CVS, Perforce, and ClearCase with ...


Downloads
Git via Git ... You can also always browse the current contents of ...

Download for Windows
Click here to download the latest (2.47.1(2)) 64-bit version of Git ...

Book
Download Ebook. The entire Pro Git book, written by Scott ...

Documentation
External Links. The External Links section is a curated, ever ...

Download for macOS
There are several options for installing Git on macOS. Note ...



Git
System software

Git is a distributed version control system that tracks versions of files. It is often used to control source code by programmers who are developing software collaboratively. [Wikipedia](#)

Programming languages: Python, C, C++, Perl, Tcl

Initial release date: 7 April 2005


Developer(s): Junio Hamano and others

License: GPL-2.0-only

Operating system: POSIX (Linux, macOS, Solaris, AIX), Windows

Original author(s): Linus Torvalds


Repository: git.kernel.org/pub/scm/git/git.git


 **git** --distributed-is-the-new-centralized


Type / to search entire site...


Git is a **free and open source** distributed version control system designed to handle everything from small to very large projects with speed and efficiency.


Git is **easy to learn** and has a **tiny footprint with lightning fast performance**. It outclasses SCM tools like Subversion, CVS, Perforce, and ClearCase with features like **cheap local branching**, convenient **staging areas**, and **multiple workflows**.



 **About**
The advantages of Git compared to other source control systems.

 **Documentation**
Command reference pages, Pro Git book content, videos and other material.

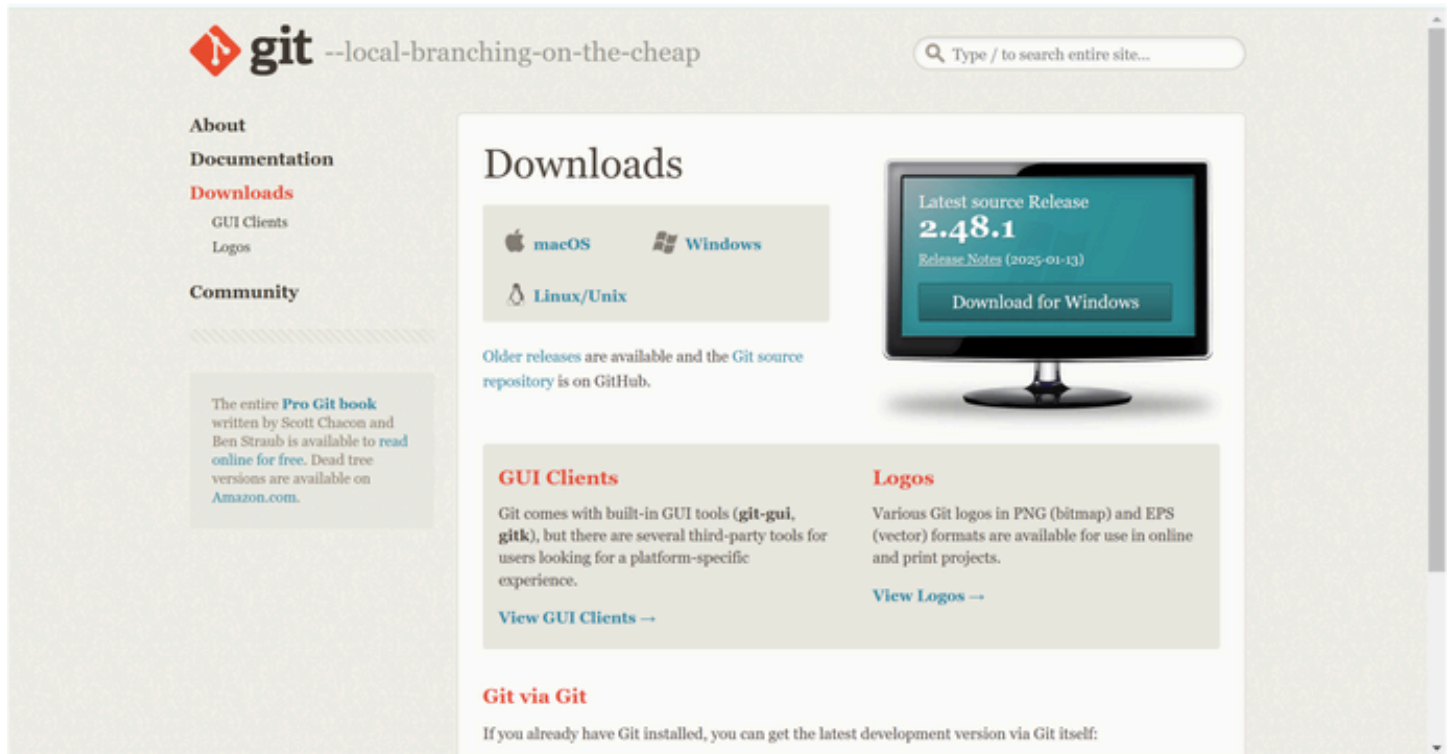
 **Downloads**
GUI clients and binary releases for all major platforms.

 **Community**
Get involved! Bug reporting, mailing list, chat, development and more.

Latest source Release
2.48.1
[Release Notes \(2025-01-13\)](#)
[Download for Windows](#)

Step 2

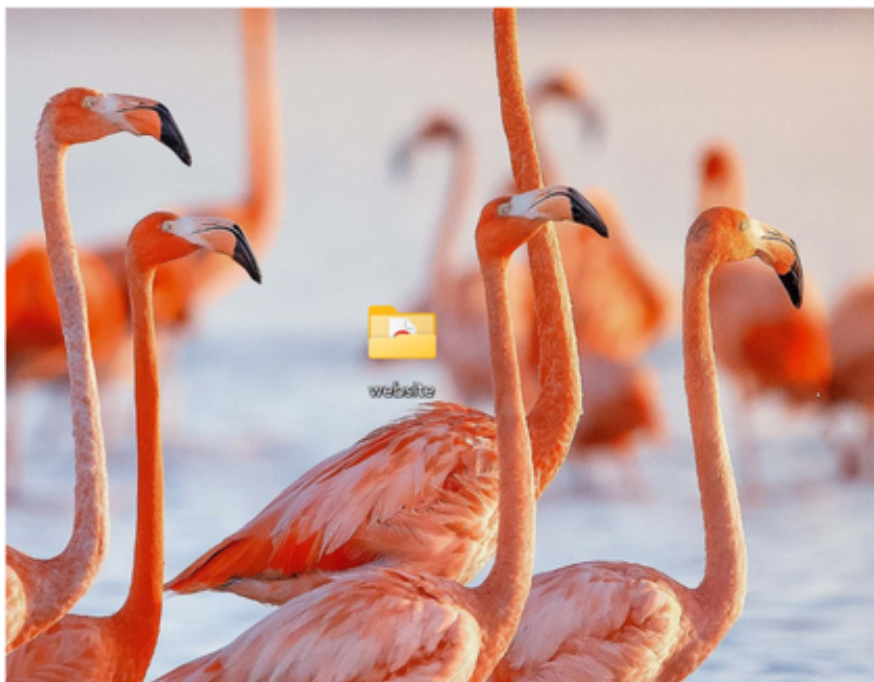
Click the **Windows** option on the download page and follow the installation wizard.

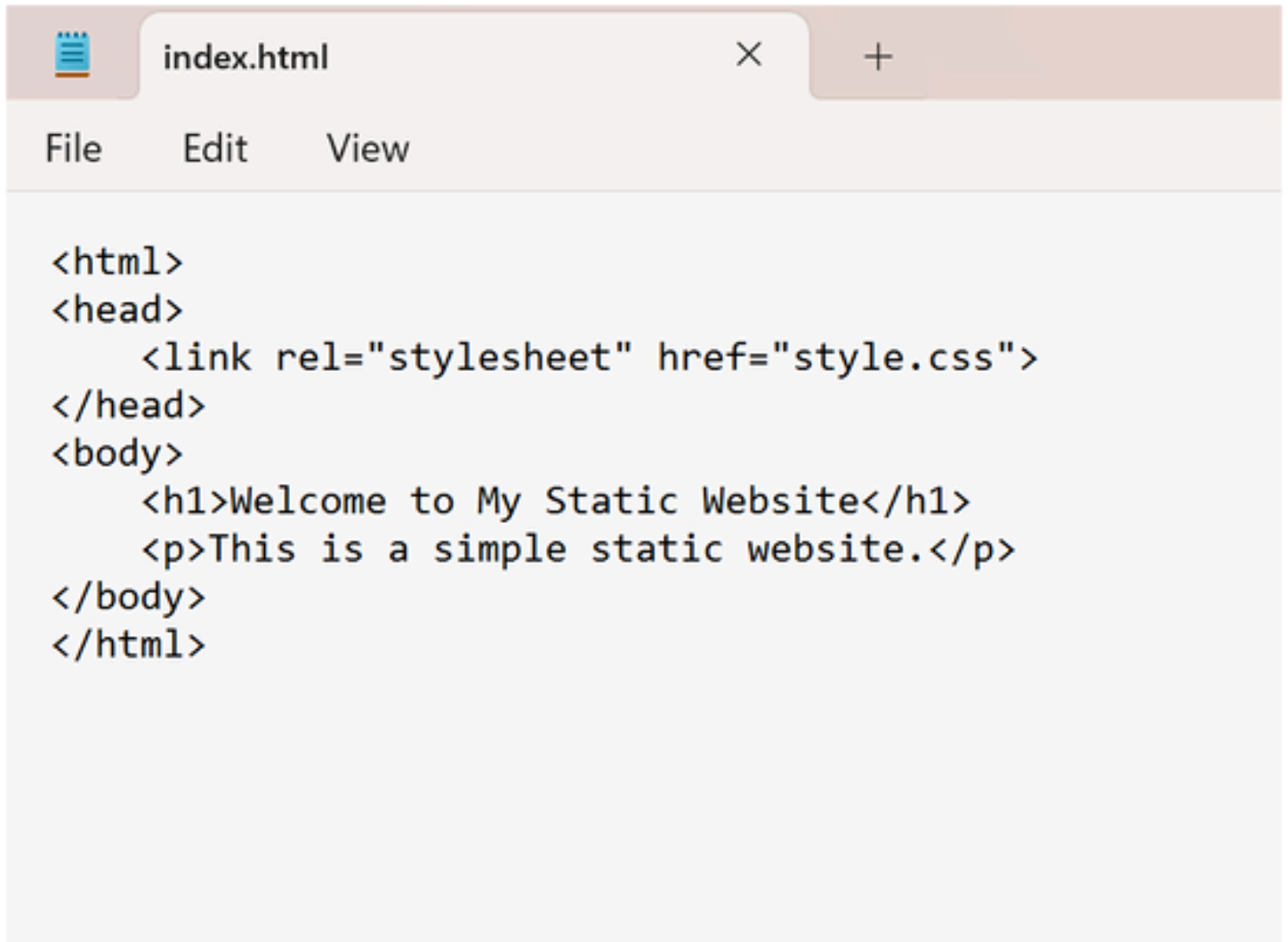


Step 3

In your Desktop Create a folder named website for your static website

Inside that folder, create a simple HTML file named index.html. You can write some basic HTML

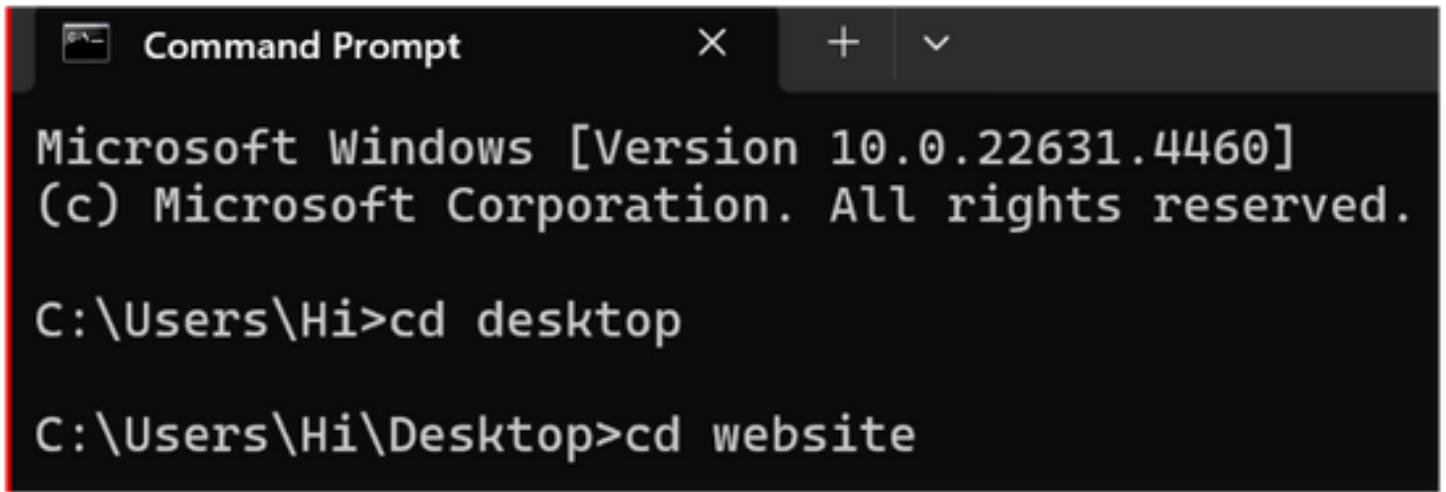


A screenshot of a web browser window. The browser has a single tab titled 'index.html'. The address bar is empty. The page content is a simple HTML document with a white background. It features a heading 'Welcome to My Static Website' and a paragraph 'This is a simple static website.' The browser's menu bar shows 'File', 'Edit', and 'View'.

```
<html>
<head>
  <link rel="stylesheet" href="style.css">
</head>
<body>
  <h1>Welcome to My Static Website</h1>
  <p>This is a simple static website.</p>
</body>
</html>
```

Step 5

Open the Command prompt and set the path to the folder named website we created

A screenshot of a Windows Command Prompt window. The title bar says "Command Prompt" with standard window controls. The text inside shows the Windows version and copyright information, followed by two directory change commands: "cd desktop" and "cd website".

```
Microsoft Windows [Version 10.0.22631.4460]
(c) Microsoft Corporation. All rights reserved.

C:\Users\Hi>cd desktop

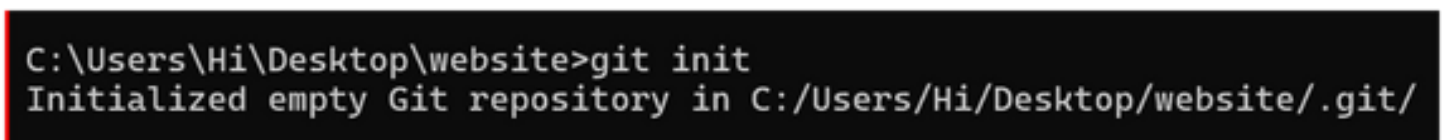
C:\Users\Hi\Desktop>cd website
```

Step 6

Now, initialize Git by typing this command:

git init

This command will create a .git folder inside your project folder, which tells Git to start tracking your files.

A screenshot of a Windows Command Prompt window showing the successful execution of the 'git init' command. The output message indicates that an empty Git repository has been initialized in the specified directory.

```
C:\Users\Hi\Desktop\website>git init
Initialized empty Git repository in C:/Users/Hi/Desktop/website/.git/
```

Step 7

Next, we need to tell Git to start tracking your website files.

To tell Git which files to track, use the git add command. If you want to track all the files in your folder, type

git add .

This command adds all the files to Git's tracking system.

```
C:\Users\Hi\Desktop\website>git add .
```

Step 8

Set Up Your Name and Email Globally Git doesn't know who is making the commit because you haven't configured your name and email yet. Git uses this information to track who made the changes.

```
C:\Users\Hi\Desktop\website>git config --global user.name "Saravana Krishnan J"  
C:\Users\Hi\Desktop\website>git config --global user.email "saravanakrishnan16@gmail.com"
```

Step 9

Now, we need to save these changes in Git. When you "commit" changes, Git takes a snapshot of your files.

Type the following command to commit your changes:

git commit -m "Initial commit of my static website"

The -m flag allows you to add a message about your changes. In this case, we're saying this is the "initial commit," meaning the first time we're saving our work.

```
C:\Users\Hi\Desktop\website>git commit -m "Initial commit of my static website"  
[master (root-commit) 3afb24] Initial commit of my static website  
1 file changed, 9 insertions(+)  
create mode 100644 index.html
```

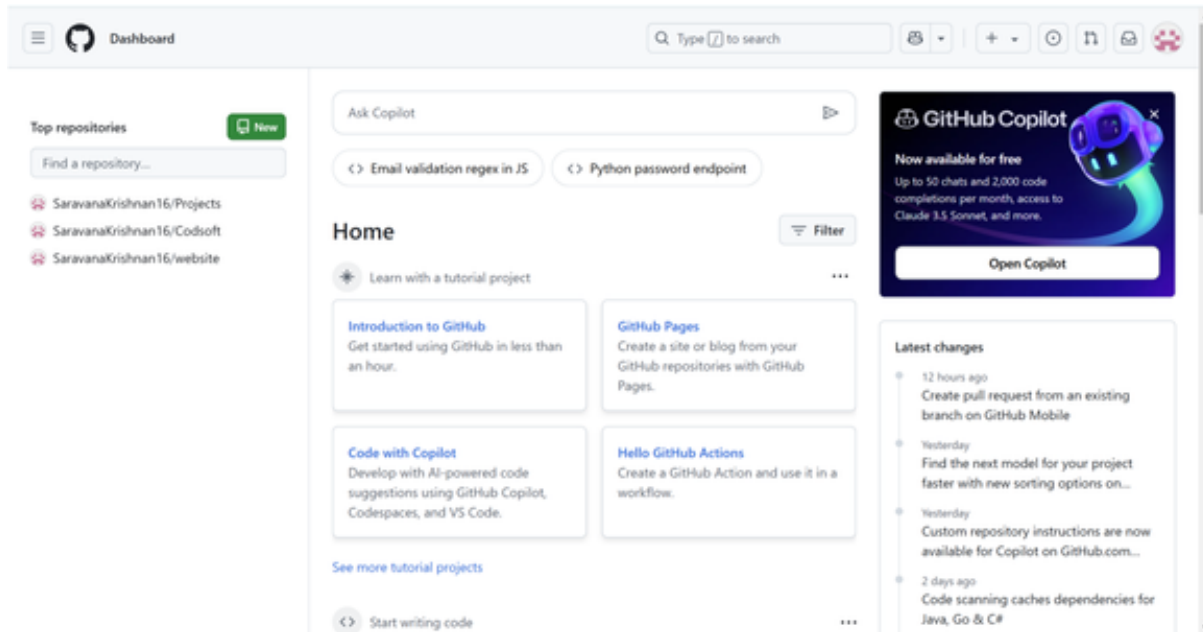
Step 10

Create a New Repository:

Once you're logged in, click the green "New" button on the top-right of your GitHub homepage to create a new repository.

Give your repository a name, for example, my-website.

Leave the other settings as default, and click "**Create repository**".



Step 11

Add the Remote Repository URL to Your Local Repository:

Go back to your Command Line and type the following:

```
git remote add origin https://github.com/yourusername/my-website.git
```

Replace yourusername with your GitHub username and my-website with the name of your GitHub repository.

```
C:\Users\Hi\Desktop\website>git remote add origin https://github.com/SaravanaKrishnan16/website.git
```

Step 12

The **git branch -M** main command is used to **rename the current branch** to main. Here's what it does:

-M: This flag forces the renaming, even if a branch named main already exists. It will overwrite the existing main branch.

main: This is the new name for the current branch.

```
C:\Users\Hi\Desktop\website>git branch -M main
```

Step 13

The command `git push -u origin main` is used to push your local **main** branch to the remote repository (**origin**) and set it as the upstream branch

```
C:\Users\Hi\Desktop\website>git push -u origin main
info: please complete authentication in your browser...
Enumerating objects: 3, done.
Counting objects: 100% (3/3), done.
Delta compression using up to 16 threads
Compressing objects: 100% (2/2), done.
Writing objects: 100% (3/3), 359 bytes | 359.00 KiB/s, done.
Total 3 (delta 0), reused 0 (delta 0), pack-reused 0 (from 0)
To https://github.com/SaravanaKrishnan16/website.git
 * [new branch]      main -> main
branch 'main' set up to track 'origin/main'.
```

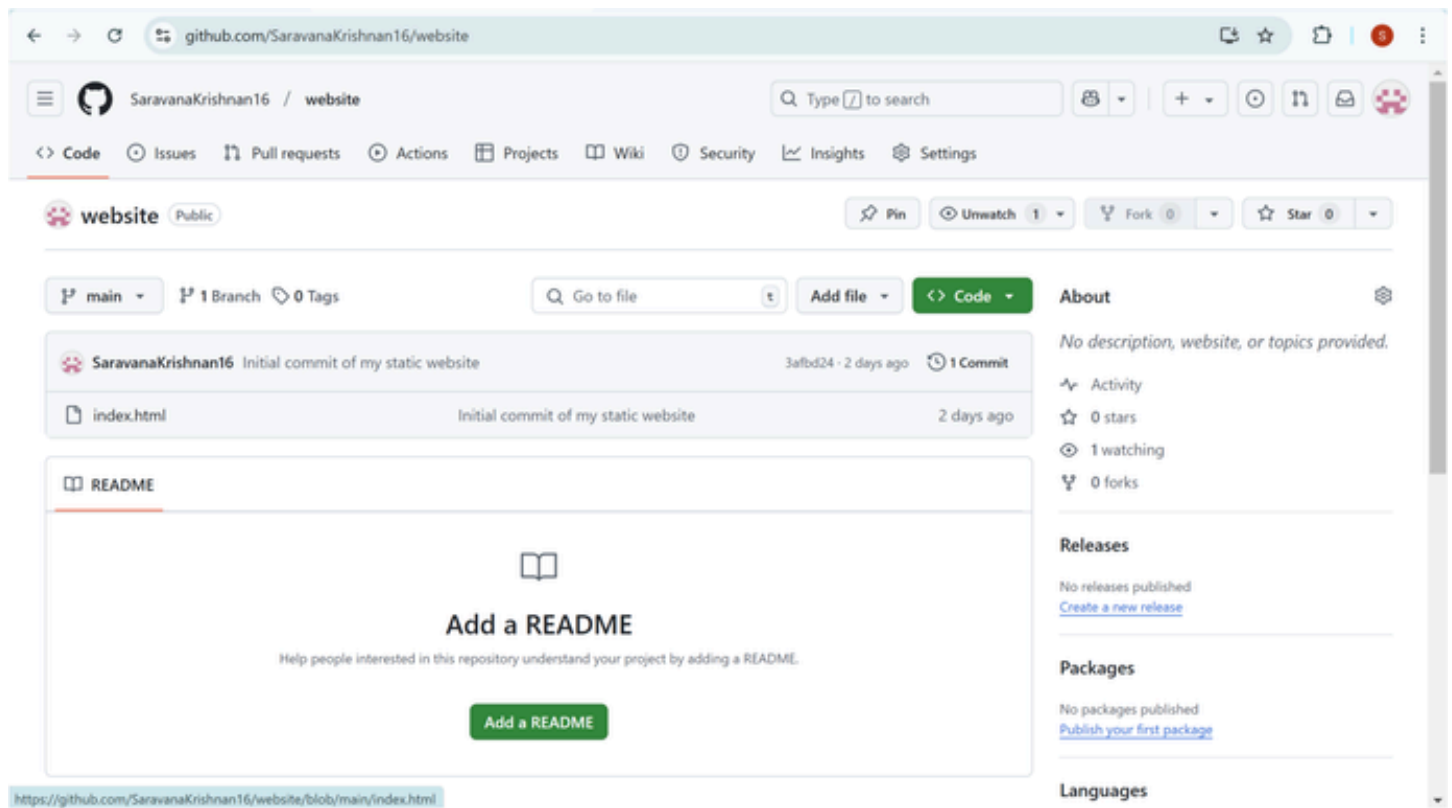
Step 14

Verify Your Files on GitHub

Go to your GitHub Repository:

Open your web browser and navigate to your GitHub repository (e.g., <https://github.com/yourusername/my-website>).

You should see your website files there!



Outcome

By completing this PoC of setting up a local Git repository, you will:

1. Successfully initialize a Git repository in your local static website folder.
2. Track changes made to your website files (HTML, CSS, etc.) using Git version control.
3. Understand the basic Git commands (git init, git add, git commit) for version control.
4. Commit your changes locally with a descriptive commit message.
5. Gain hands-on experience with Git and how it helps manage and track website file changes.