

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: Dhamini B

Department: IT

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.

Objectives

By the end of this POC, you will:

- 1. Understand the Basics of Version Control**
- 2. Set Up a Git Repository**
- 3. Track Changes Effectively**
- 4. Organize Your Project**
- 5. Prepare for Collaboration**

Importance of Setting Up a Local Git Repository

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

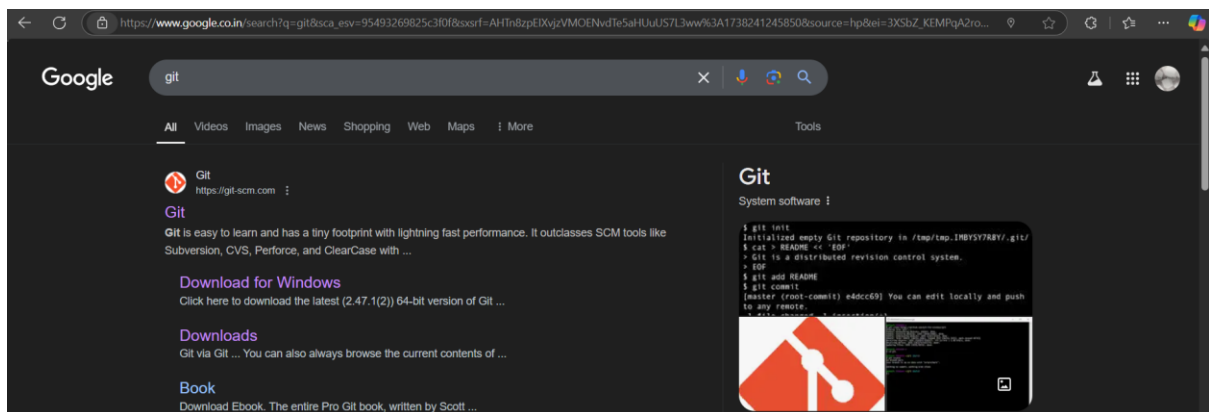
Rollback: Easily revert to previous versions to recover from mistakes.

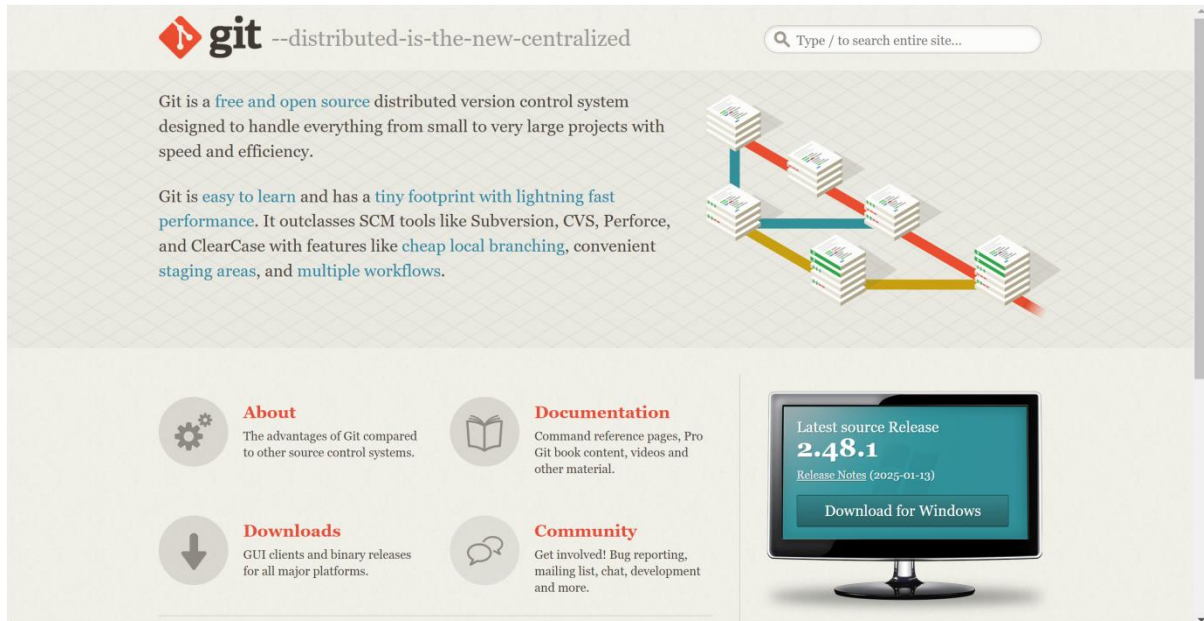
Collaboration: Prepares your project for team work, enabling smooth integration of changes.

Step-by-Step Overview

Step 1:

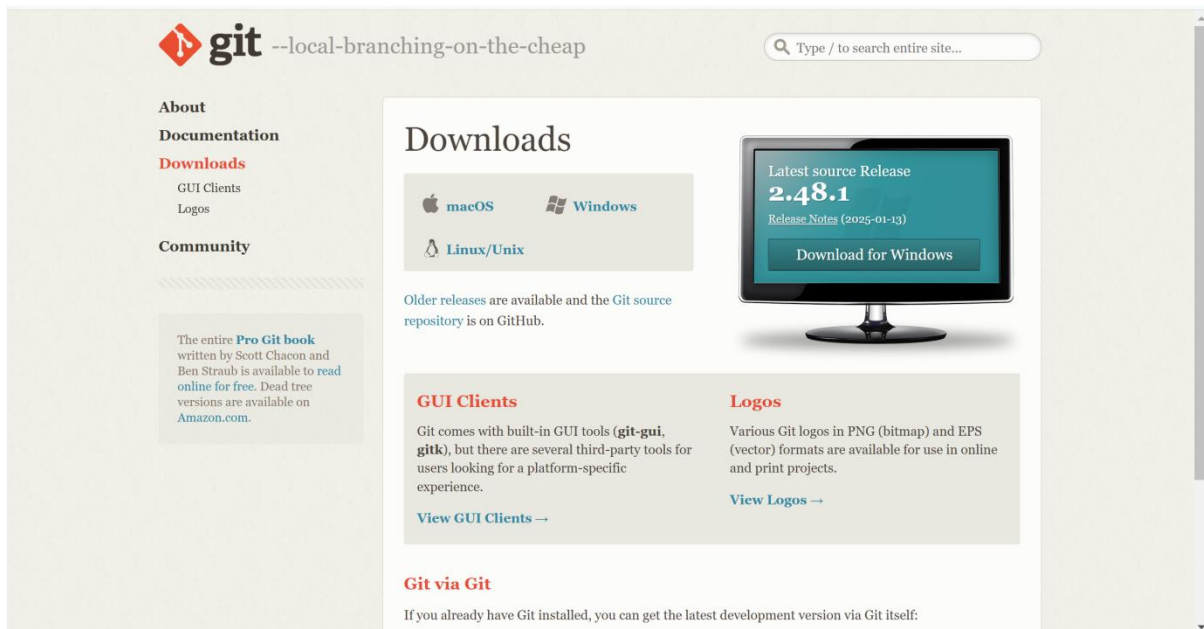
Search for "Git" in Chrome, download it, and click the "Downloads" option on the website.





Step 2

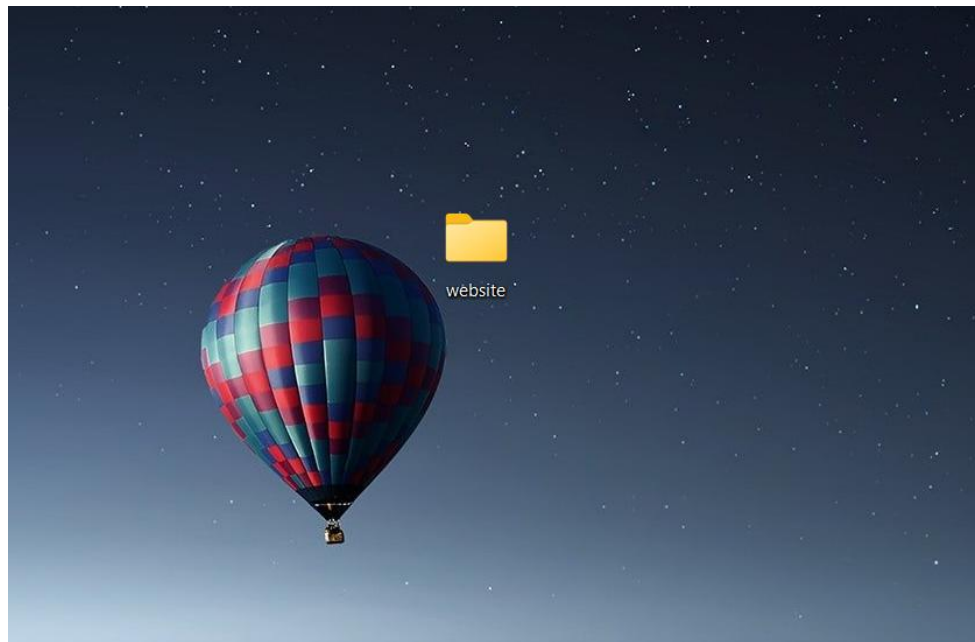
Click the **Windows** option on the download page and follow the installation wizard.



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



```
Hi ) index.html
File Edit 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

```
Command Prompt
Microsoft Windows [Version 10.0.26100.2894]
(c) Microsoft Corporation. All rights reserved.

C:\Users\chenn>cd "C:\Users\chenn\OneDrive\Desktop\website"

C:\Users\chenn\OneDrive\Desktop\website>
C:\Users\chenn\OneDrive\Desktop\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.

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

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\chenn\OneDrive\Desktop\website>git add .
C:\Users\chenn\OneDrive\Desktop\website>
```

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\chenn\OneDrive\Desktop\website>git config --global user.name "Dhamini"
C:\Users\chenn\OneDrive\Desktop\website>git config --global user.email "dhaminibalaa@gmail.com"
C:\Users\chenn\OneDrive\Desktop\website>
```

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) 3afbd24] Initial commit of my static website
1 file changed, 9 insertions(+)
create mode 100644 index.html
```

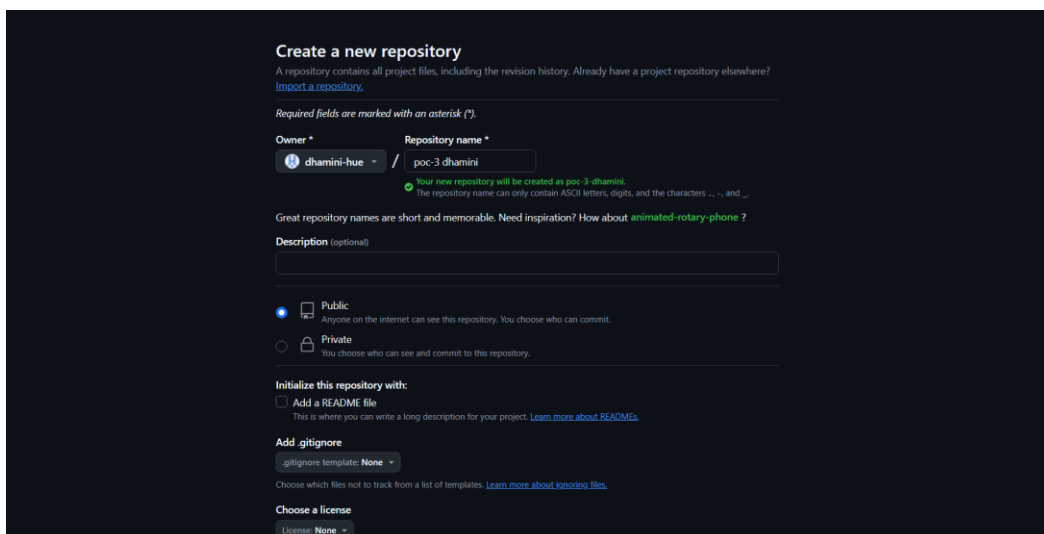
Step 10

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".



The screenshot shows the GitHub 'Create a new repository' page. At the top, it says 'Create a new repository' and 'A repository contains all project files, including the revision history. Already have a project repository elsewhere? [Import a repository.](#)'. Below this, it states 'Required fields are marked with an asterisk (*)'. The 'Owner' field is set to 'dhamini-hue' with a dropdown arrow. The 'Repository name' field is 'poc-3 dhamini' with a dropdown arrow. A green message says 'Your new repository will be created as poc-3-dhamini. The repository name can only contain ASCII letters, digits, and the characters ., -, and _'. Below this, it says 'Great repository names are short and memorable. Need inspiration? How about [animated-rotary-phone](#) ?'. The 'Description (optional)' field is empty. The 'Public' radio button is selected, with the text 'Anyone on the internet can see this repository. You choose who can commit.' Below it, the 'Private' radio button is unselected, with the text 'You choose who can see and commit to this repository.'. The 'Initialize this repository with:' section has 'Add a README file' checked, with the text 'This is where you can write a long description for your project. [Learn more about READMEs.](#)'. The 'Add .gitignore' section has 'gitignore template: None' selected. Below this, it says 'Choose which files not to track from a list of templates. [Learn more about ignoring files.](#)'. The 'Choose a license' section has 'License: None' selected.

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.

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\chenn\OneDrive\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'.
```

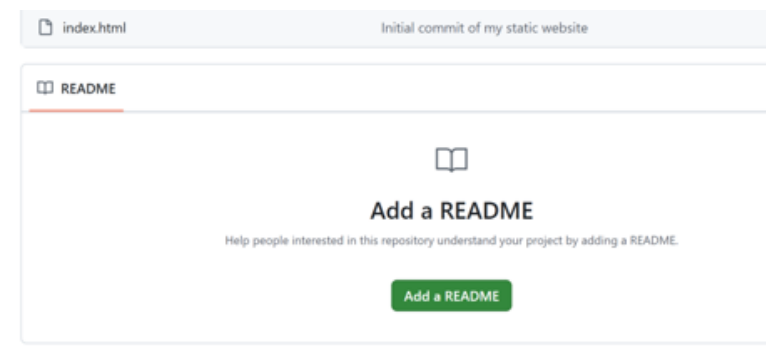
Step 14

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!



Expected 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.