

Exp .No : 1. Basic Installation of GIT and GITHUB.

Aim : To install the GIT and GITHUB software.

What is Git?

“Git” is a go-to-version control tool that allows developers to access all of the code and efficiently manage their source code and track file changes be it small, medium, or massive application development. It remains the most widely used open-source distributed version control system (DVCS) till date and has been in use for over a decade after its initial release.

Unlike other version control systems that store a project’s full version history in one place, Git gives each developer their repository locally containing the entire history of changes and the entire application.

Git is used to tracking changes in the source code hence tracks history

Git is a distributed version control tool for source code management. It is free and open-source.

Git creates backup automatically, as the developer has a version of the code on the local repository.

Git allows multiple developers to work together; hence is scalable and supports collaboration.

Git supports non-linear development because of its thousands of parallel branches.

This Git cheat sheet can serve as a ready reckoner to essential git commands that you may need to use in your coding career.

Installing Git

Before you start using Git, you have to make it available on your computer. Even Though if it is installed, it is probably a good idea to update to the latest version. You can either install it as a package or via another installer or download the source code and compile it yourself.

Installing on Linux

If you want to install the essential Git tools on Linux via a binary installer, you can generally do so through the package management tool that comes with your distribution. If you are on operating systems such as Fedora, you can use dnf.

Git Cheat Sheet: Quick Guide for Reference

| | | |
|---------------------|--|-----------------------------|
| Installing on Linux | If you want to install the basic Git tools on Linux via a binary installer, you can generally do so through the package management tool that comes with your distribution. If you are on operating systems such as Fedora you can use dnf. | \$ sudo dnf install git-all |
| | If you are on a Debian-based distribution, such as Ubuntu use the | \$ sudo apt install git-all |

| | | |
|-----------------------|--|---|
| | following command | |
| Installing on macOS | There are several ways to install Git on a Mac. The easiest way is to install it from the Github website | https://mac.github.com |
| Installing on Windows | There are also a few ways to install Git on Windows. The most official build is available for download on the Git website. | https://git-scm.com/download/win |

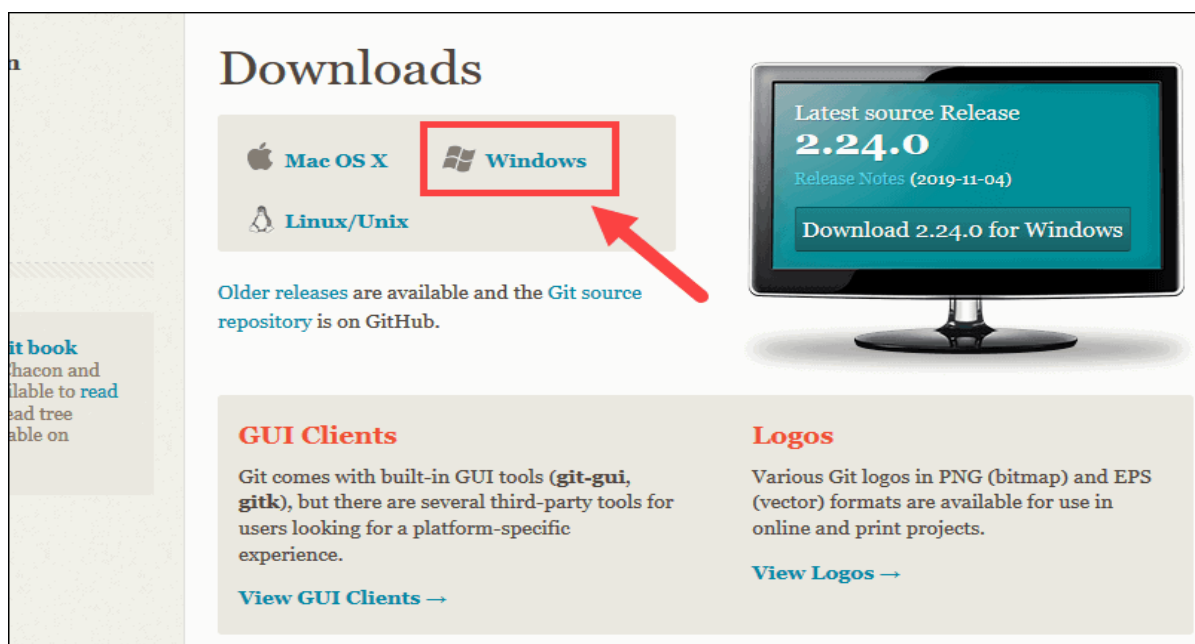
Steps For Installing Git for Windows

Installing Git prompts you to select a text editor. If you don't have one, we strongly advise you to install prior to installing Git. Our roundup of the best text editors for coding may help you decide.

Download Git for Windows

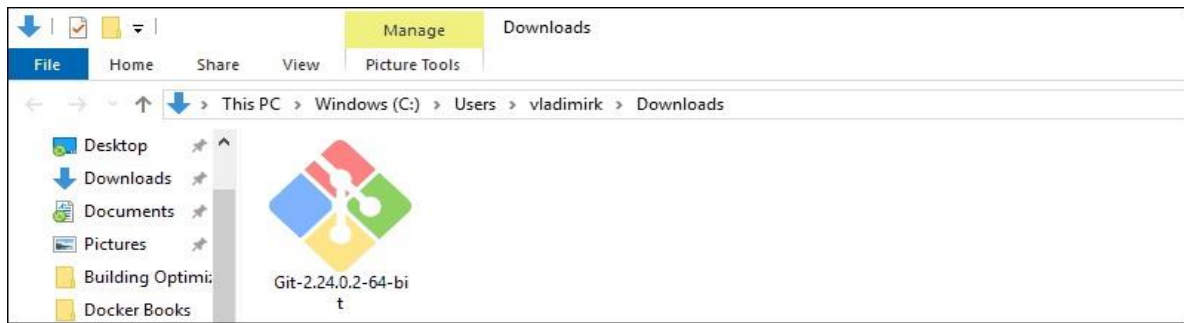
Browse to the official Git website: <https://git-scm.com/downloads>

Click the download link for Windows and allow the download to complete.

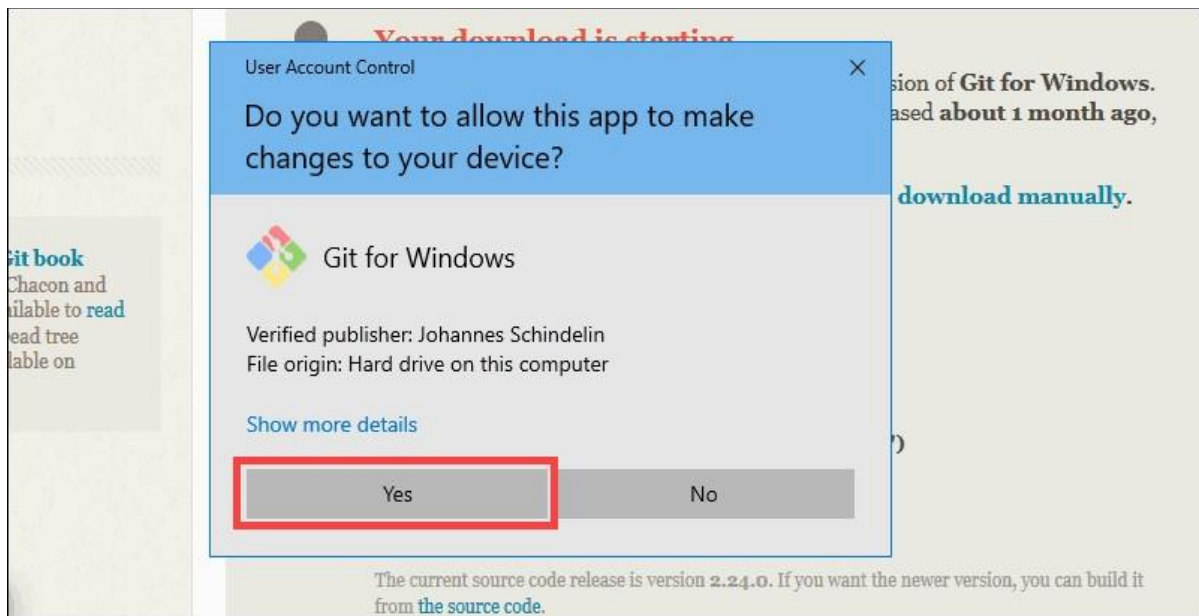


Extract and Launch Git Installer

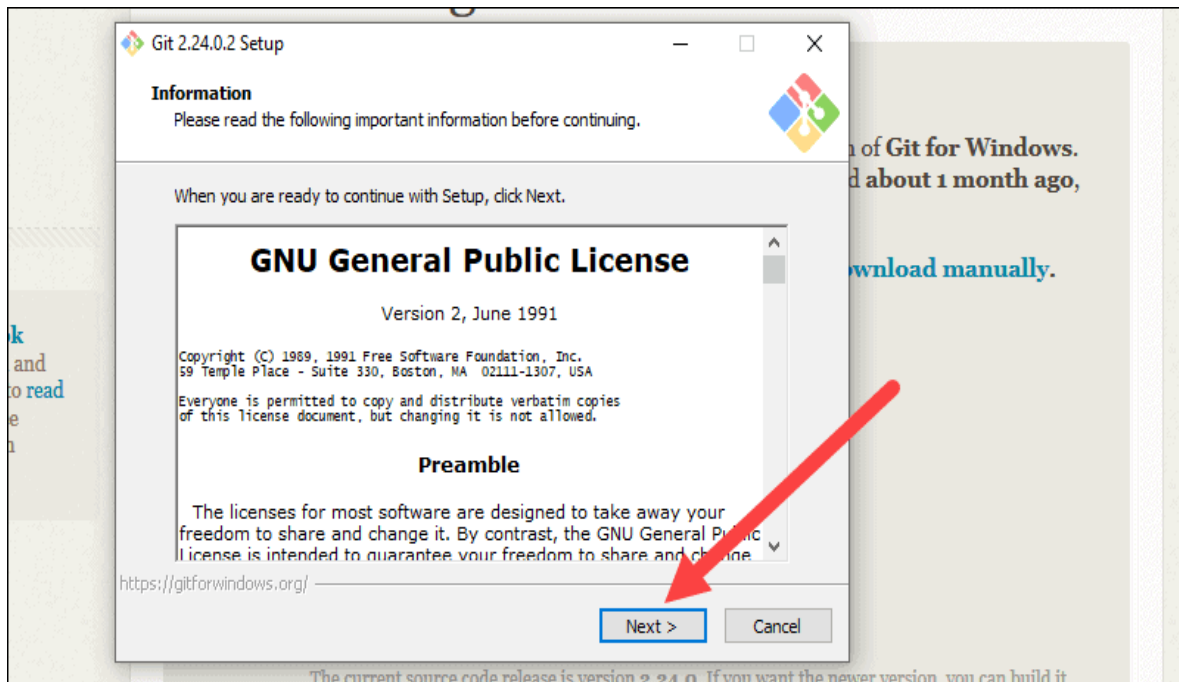
Browse to the download location (or use the download shortcut in your browser). Double-click the file to extract and launch the installer.



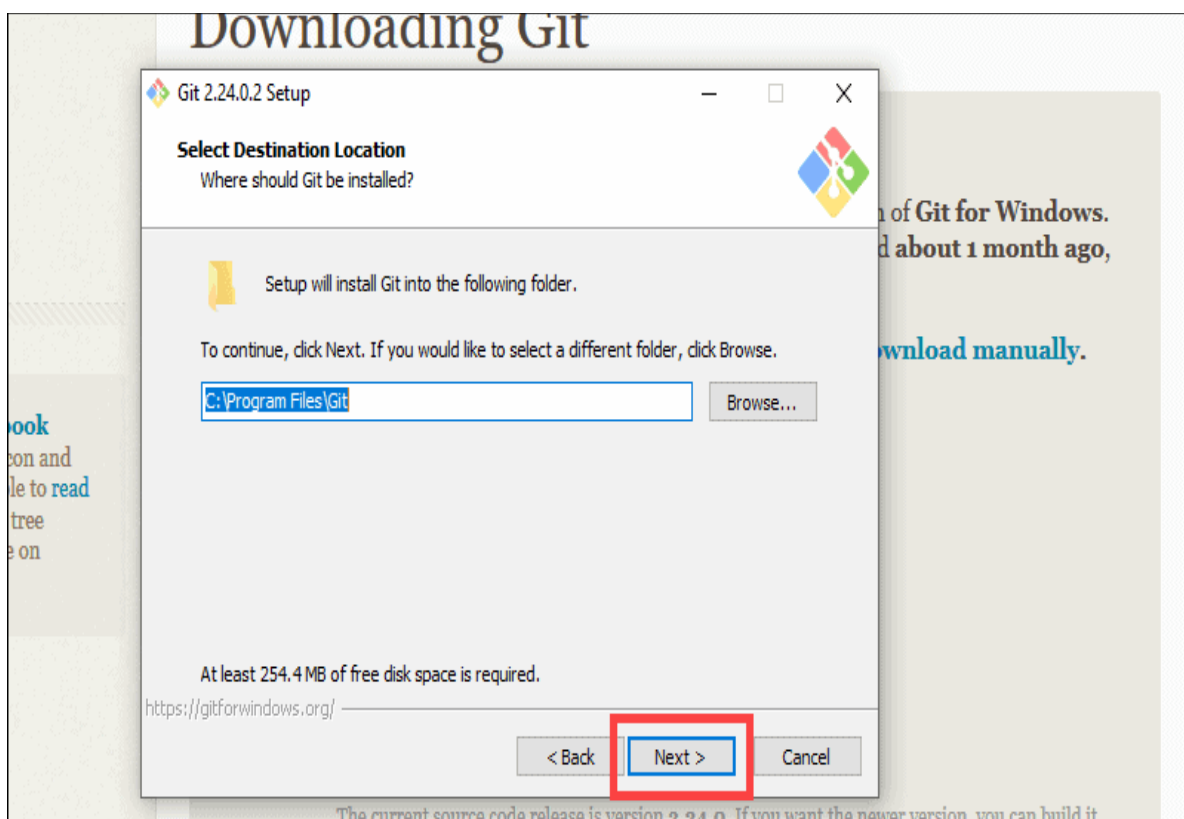
Allow the app to make changes to your device by clicking Yes on the User Account Control dialog that opens.



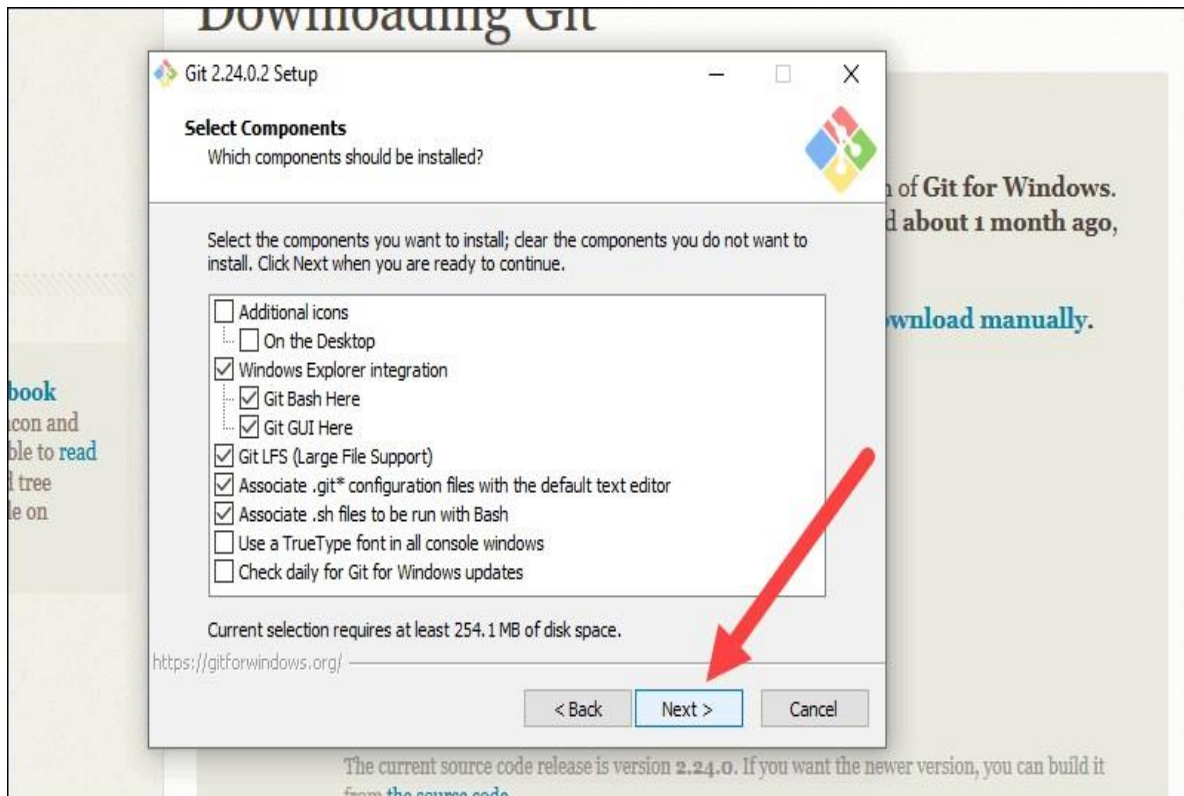
Review the GNU General Public License, and when you're ready to install, click Next.



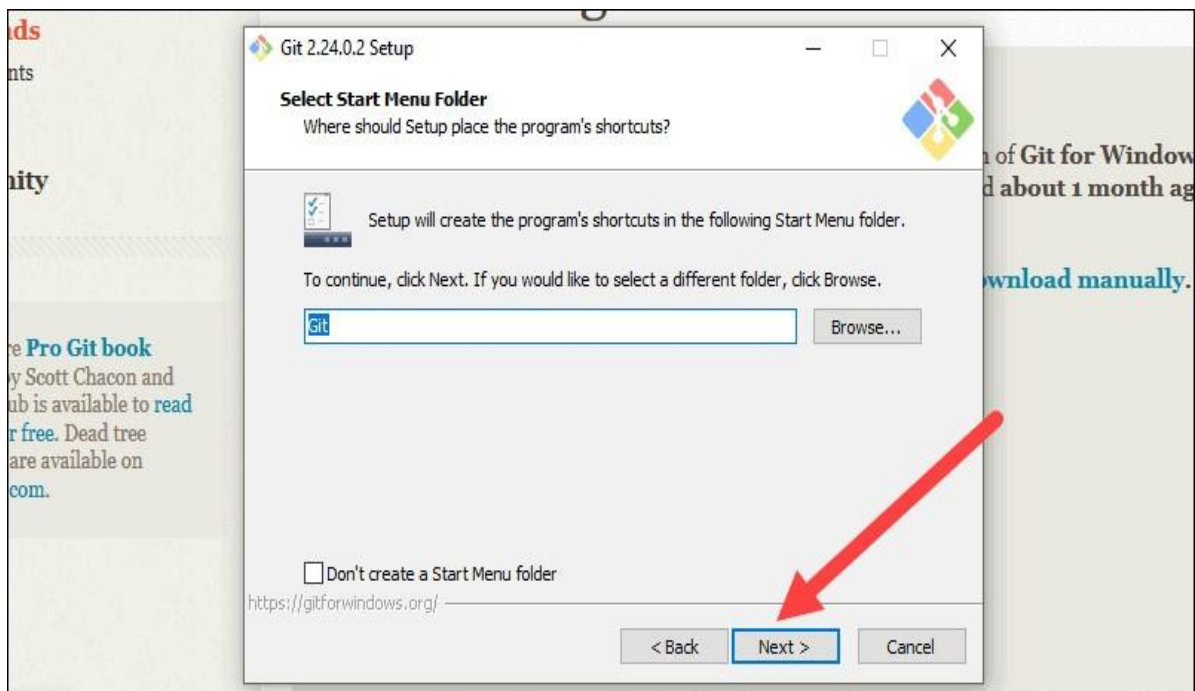
The installer will ask you for an installation location. Leave the default, unless you have reason to change it, and click Next.



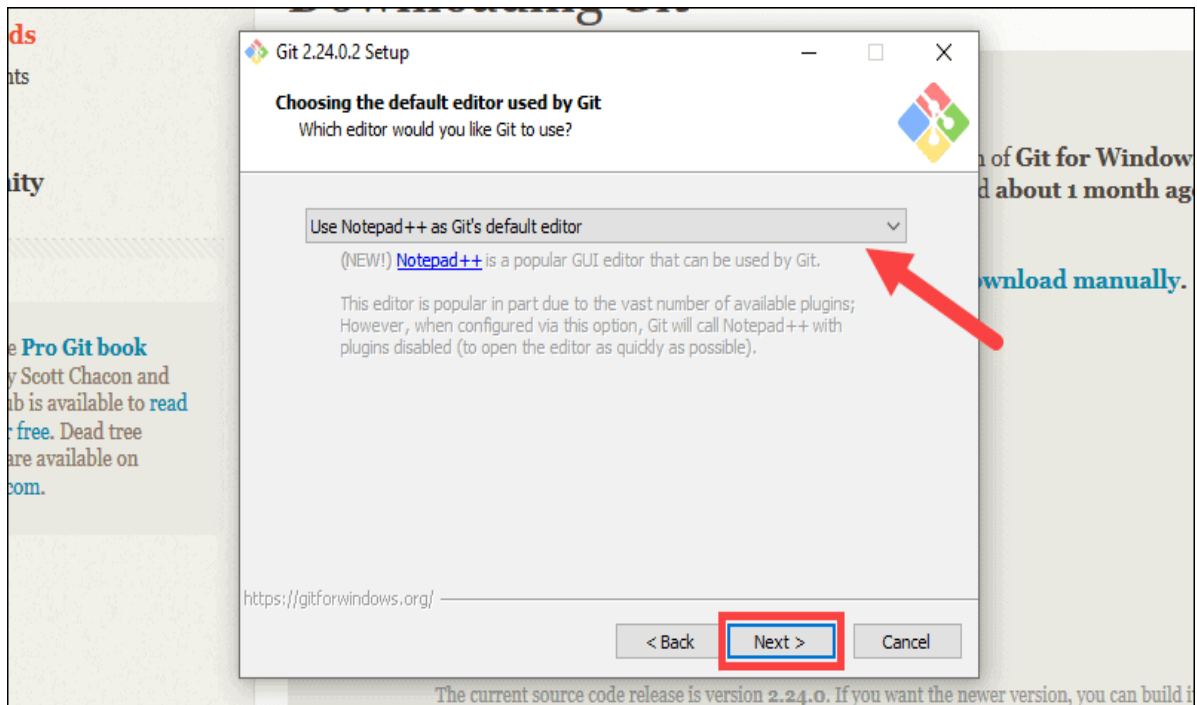
A component selection screen will appear. Leave the defaults unless you have a specific need to change them and click Next.



The installer will offer to create a start menu folder. Simply click Next.



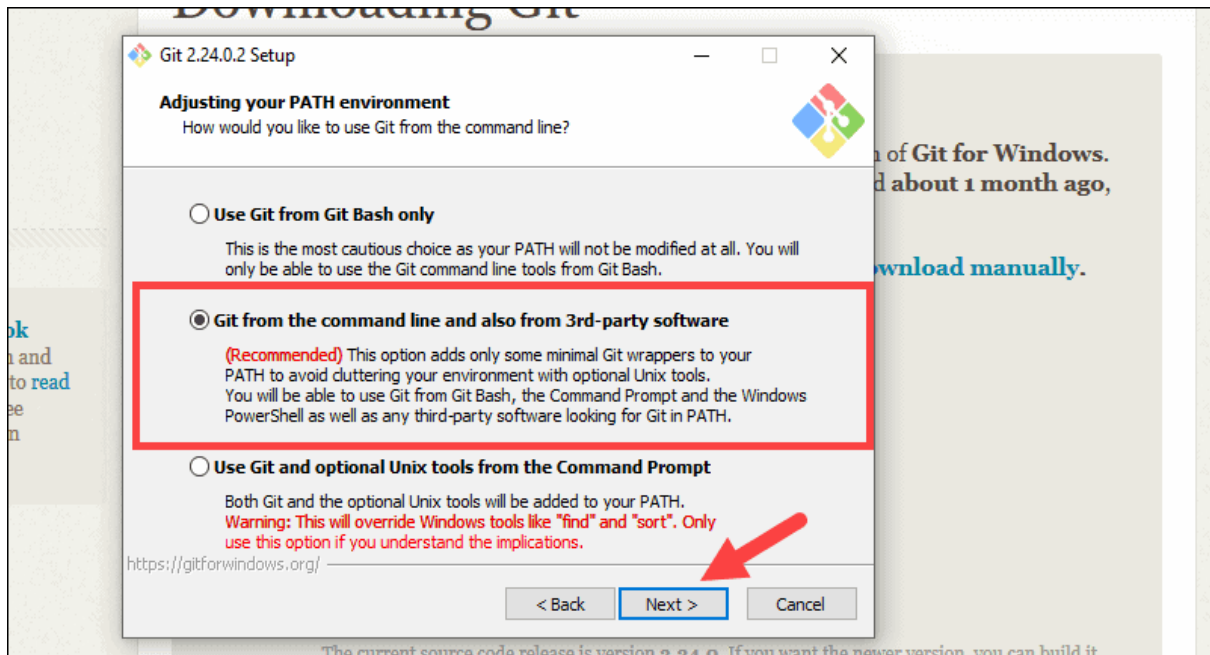
Select a text editor you'd like to use with Git. Use the drop-down menu to select Notepad++ (or whichever text editor you prefer) and click Next.



The next step allows you to choose a different name for your initial branch. The default is 'master.' Unless you're working in a team that requires a different name, leave the default option and click Next.

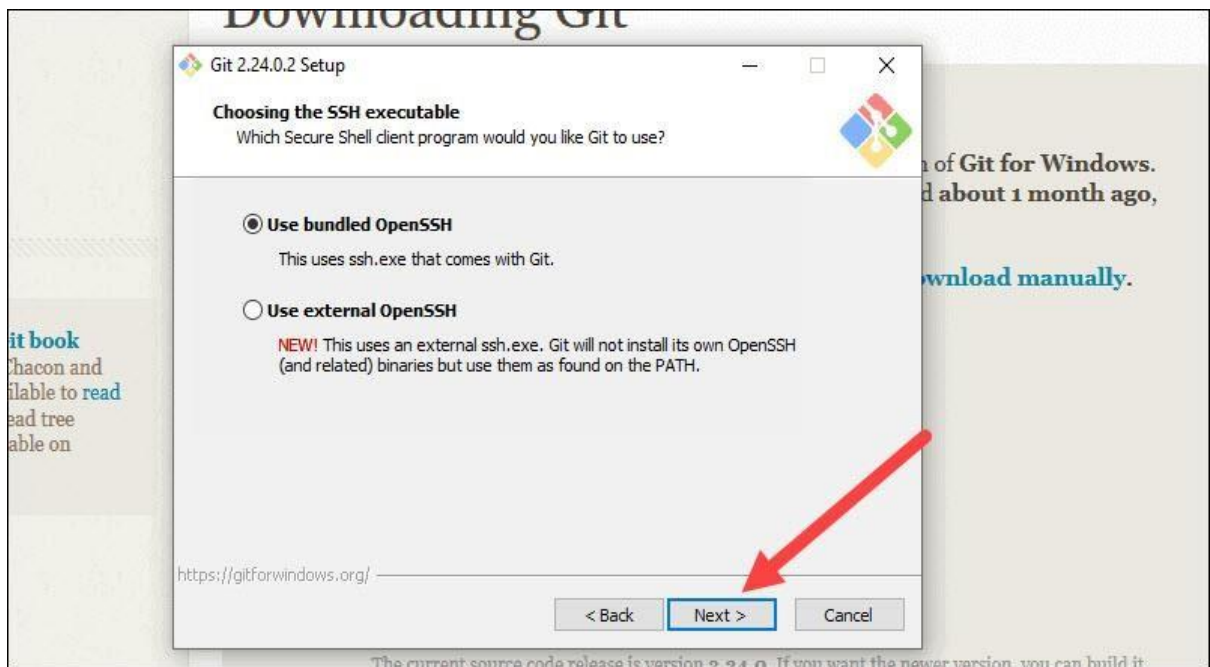


This installation step allows you to change the PATH environment. The PATH is the default set of directories included when you run a command from the command line. Leave this on the middle (recommended) selection and click Next.

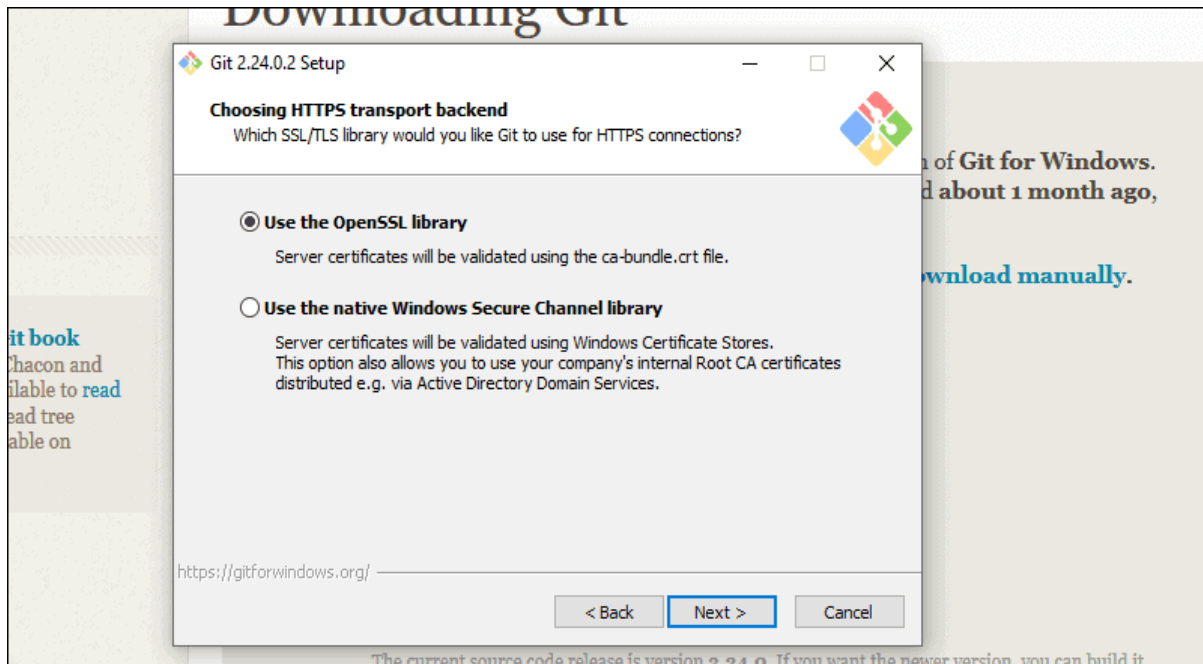


Server Certificates, Line Endings and Terminal Emulators

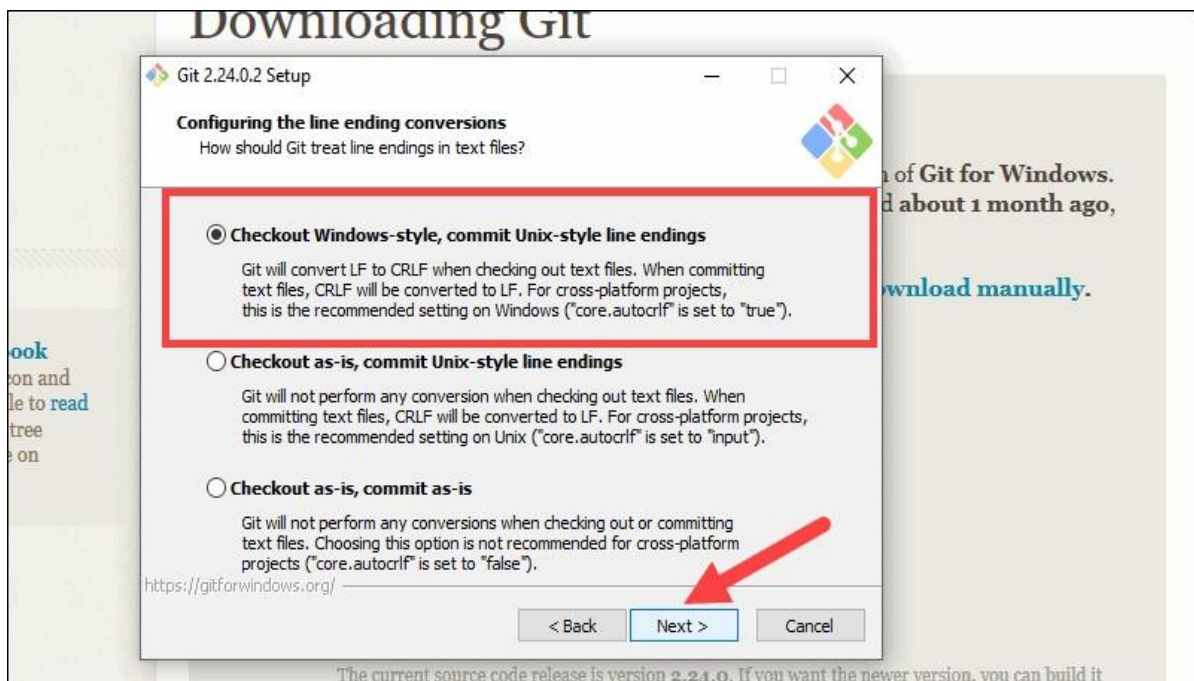
The installer now asks which SSH client you want Git to use. Git already comes with its own SSH client, so if you don't need a specific one, leave the default option and click Next.



The next option relates to server certificates. Most users should use the default. If you're working in an Active Directory environment, you may need to switch to Windows Store certificates. Click Next.



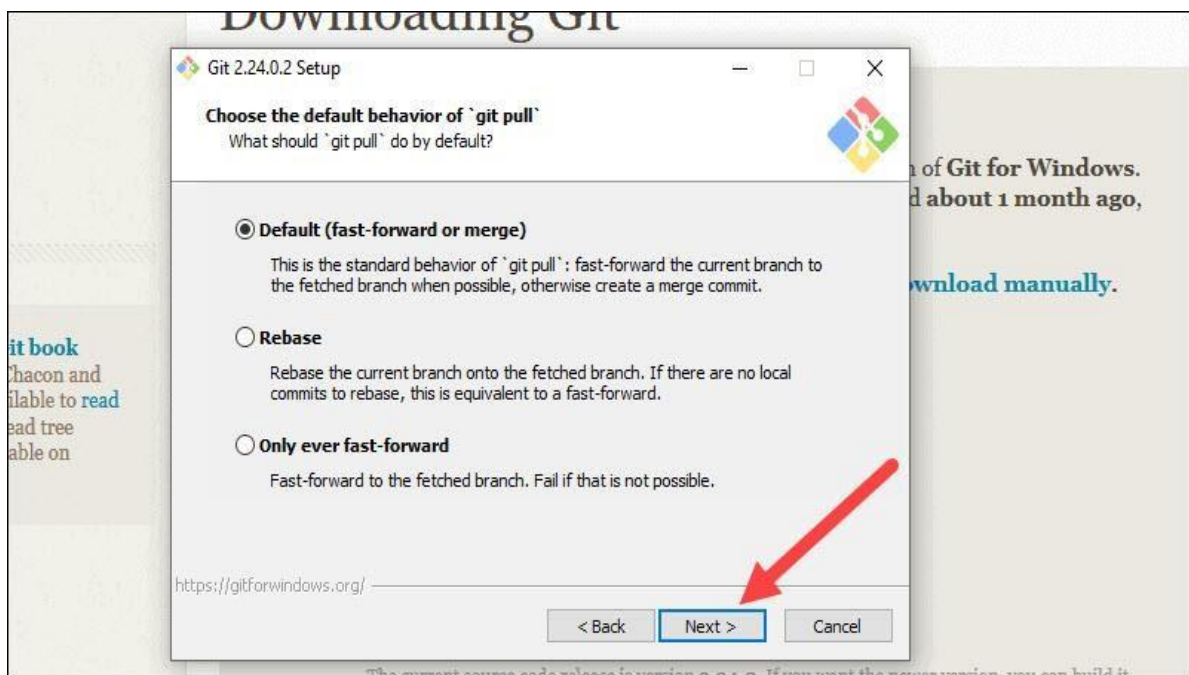
The next selection converts line endings. It is recommended that you leave the default selection. This relates to the way data is formatted and changing this option may cause problems. Click Next.



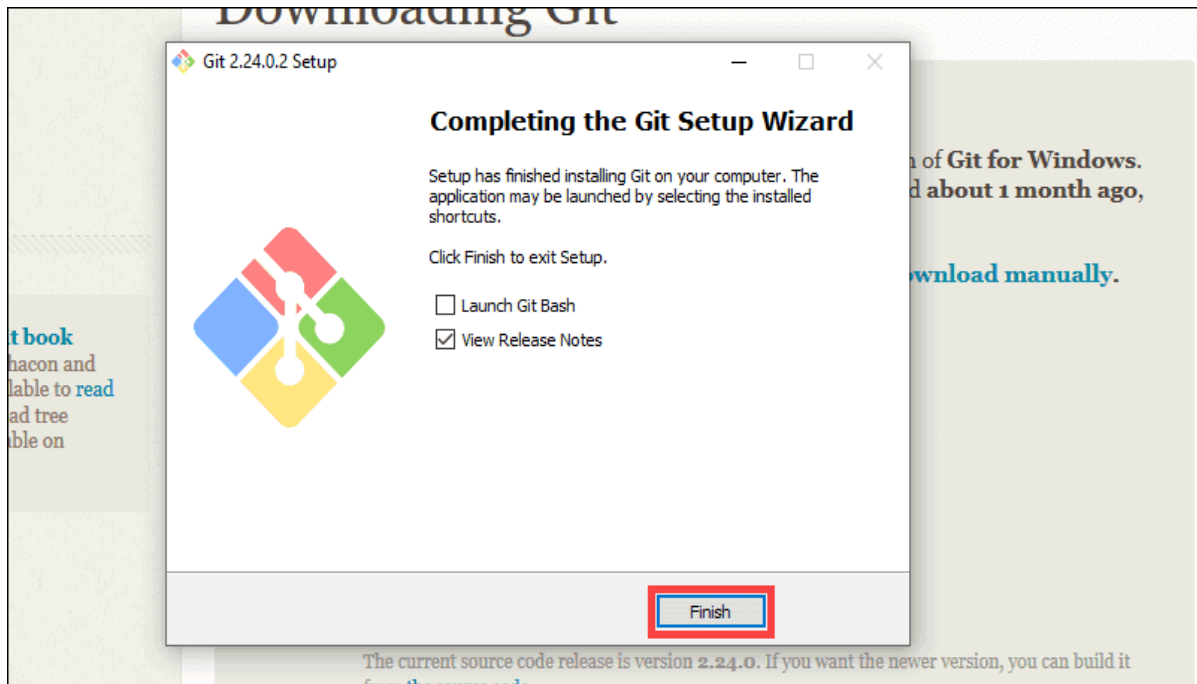
Choose the terminal emulator you want to use. The default MinTTY is recommended, for its features. Click Next.



The installer now asks what the git pull command should do. The default option is recommended unless you specifically need to change its behaviour. Click Next to continue with the installation.

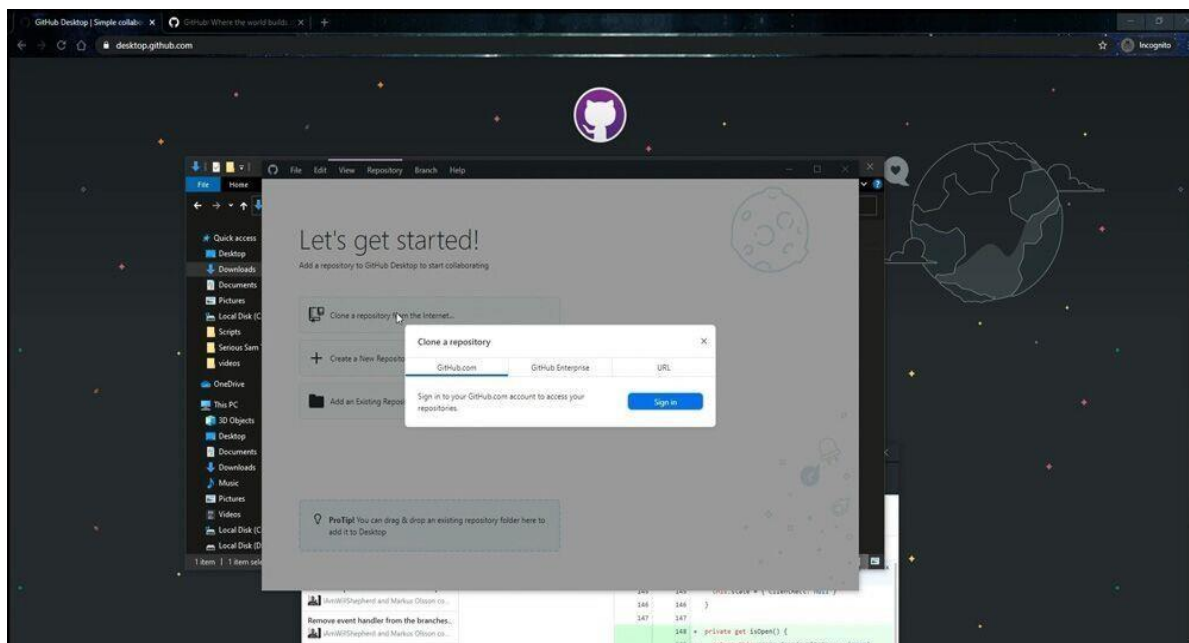


Once the installation is complete, tick the boxes to view the Release Notes or Launch Git Bash, then click Finish.

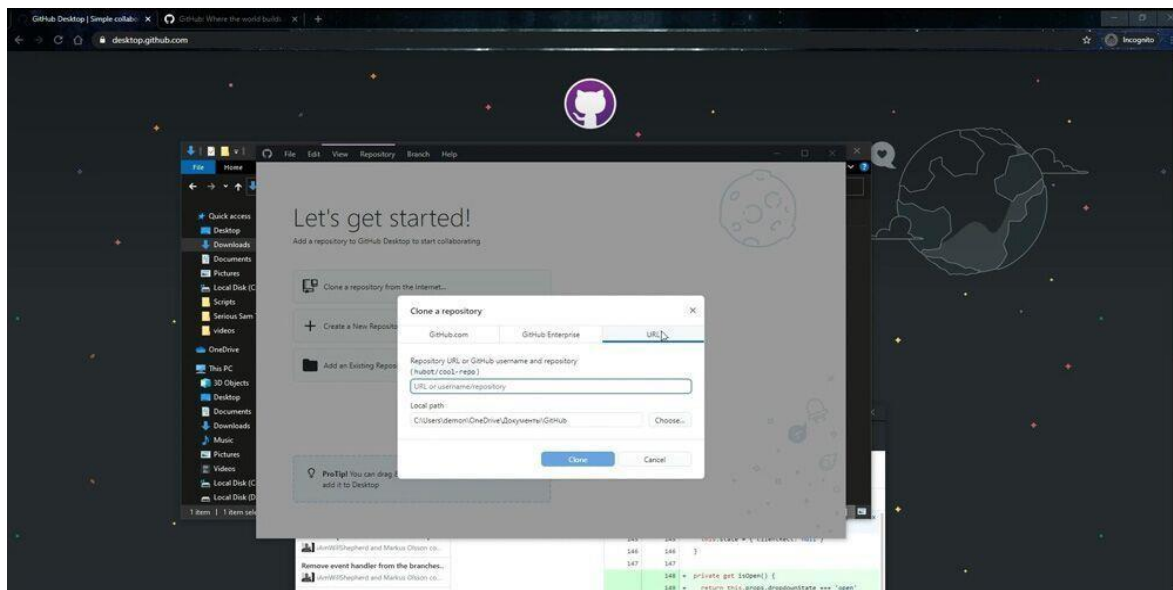


Installing GITHUB

1. Open Google and search for github desktop. Go to the website with the Github distribution kit. You can find the link in the description. Click on the Download for Windows button. The downloading will start automatically, and the file will be saved in the specified folder. After that, go to the folder with the downloaded file and run it. The installation will be automatic. Now, let's try to clone the repository from Github. In the Github Desktop window, click on the Clone a repository from the Internet.



You can log in to your Github account via the popup window Clone a repository and easily use your own repositories. In case you need to download some other repository, go to the URL tab.



Now, you need to paste a link to the repository.

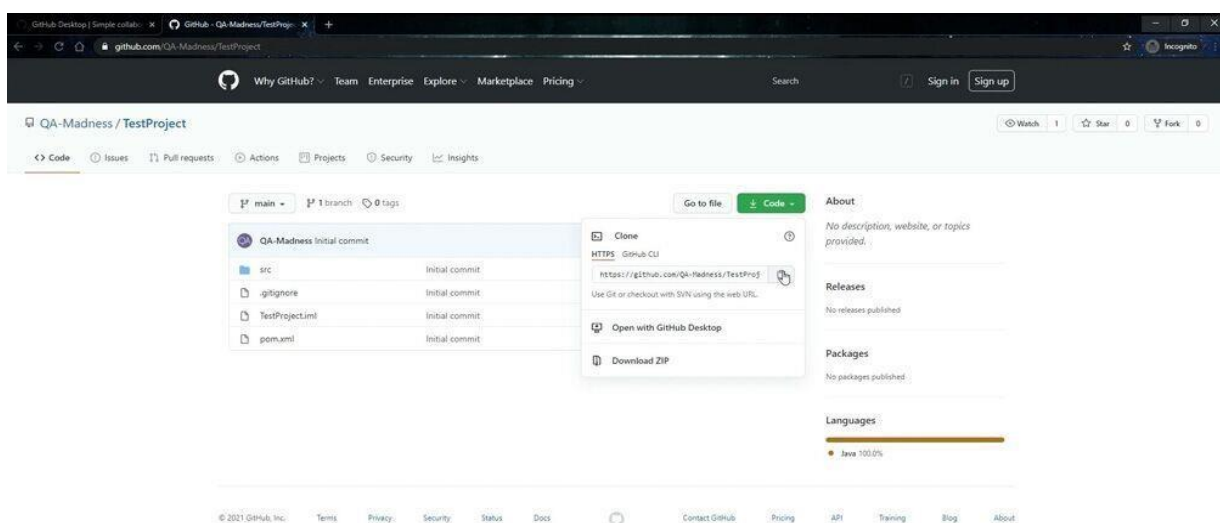
Let's use our repository as an example. You can find the link to it in the description.

The repository is also available through the search functionality on the GitHub website. Just type QA-Madness in the search bar and press Enter. Select Users in the menu on the results page. You will see QA Madness. Click on it to open the account. You can also subscribe to our page using the Follow button.

Click on the Repositories tab on the account page.

Select TestProject from the list of repositories.

Click on the Code button on the repository page. You will see the link to the repository in the drop-down box. Click to copy it.

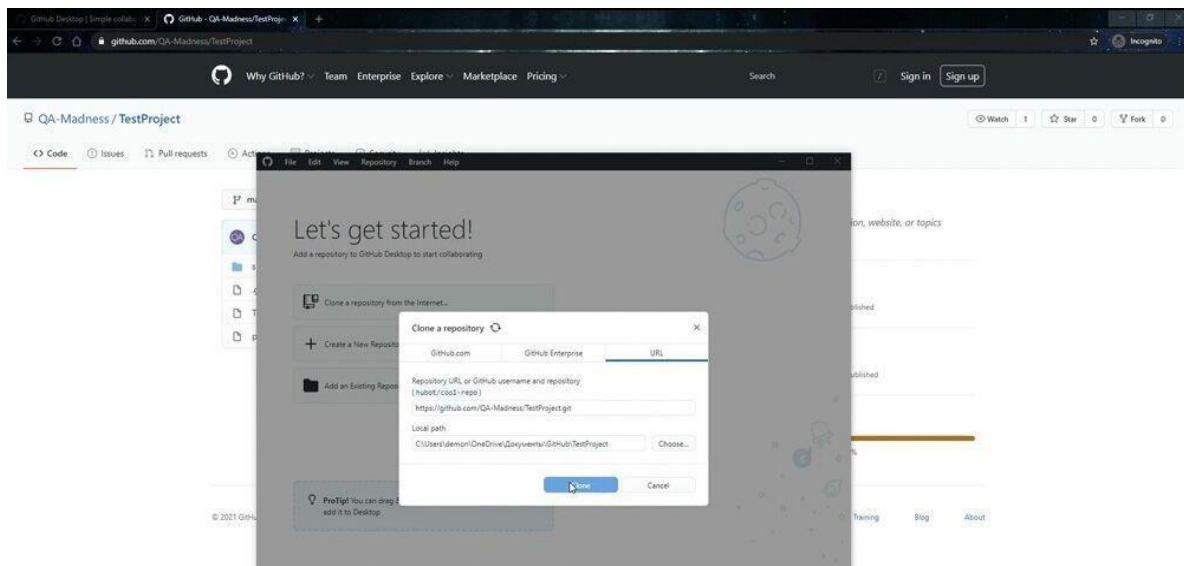


Now, go back to the Github Desktop window.

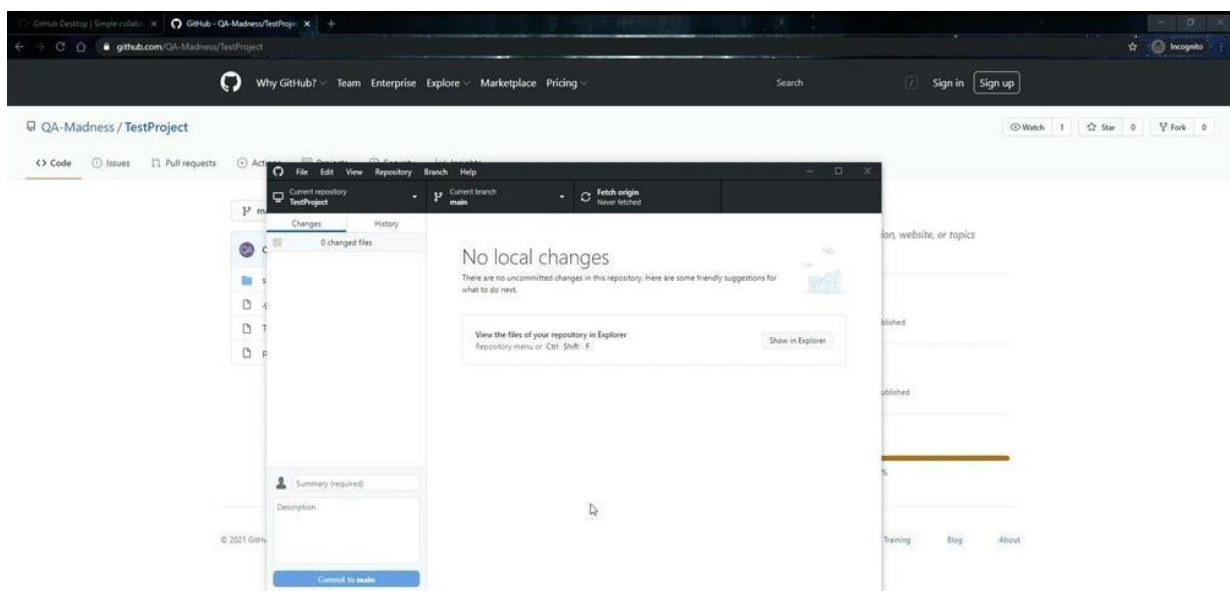
Paste the copied link in the URL or username/repository bar.

Select the folder for the download.

Click on the Clone.



After this, you can then open the folder with the downloaded repository and make sure it is there.



Result : The Software GIT and GITHUB has been installed successfully.

Exp. No : 2. Basic Commands on GIT (GIT cheat sheet)

Aim: To Learn and execute the various Basic commands on GIT cheat sheet.

Command: git init

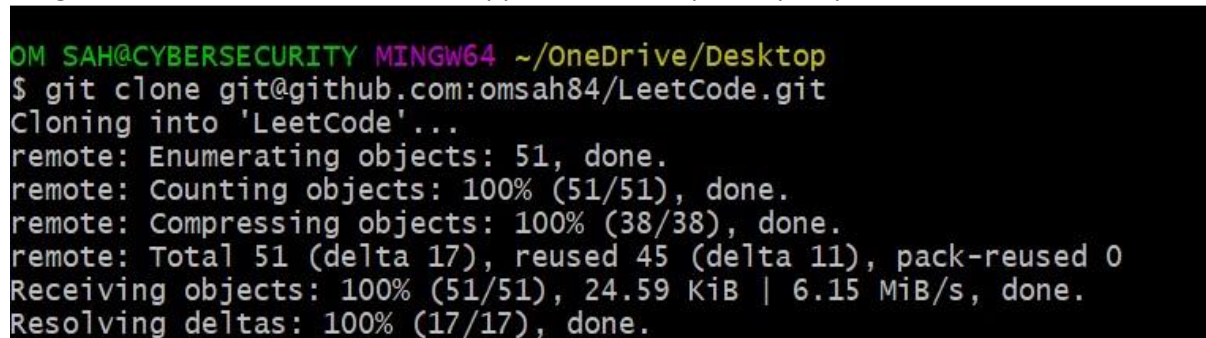
Usage: Run this command in the root directory of your project to start tracking changes.

A screenshot of a terminal window titled 'MINGW64:/d/Program On GitHub/CPP-OmSah'. The prompt is 'OM SAH@CYBERSECURITY MINGW64 /d/Program On GitHub/CPP-OmSah (master)'. The command '\$ git init' has been entered, and the output is 'Reinitialized existing Git repository in D:/Program On GitHub/CPP-OmSah/.git/'.

```
MINGW64:/d/Program On GitHub/CPP-OmSah
OM SAH@CYBERSECURITY MINGW64 /d/Program On GitHub/CPP-OmSah (master)
$ git init
Reinitialized existing Git repository in D:/Program On GitHub/CPP-OmSah/.git/
```

Command: git clone <repository-url>

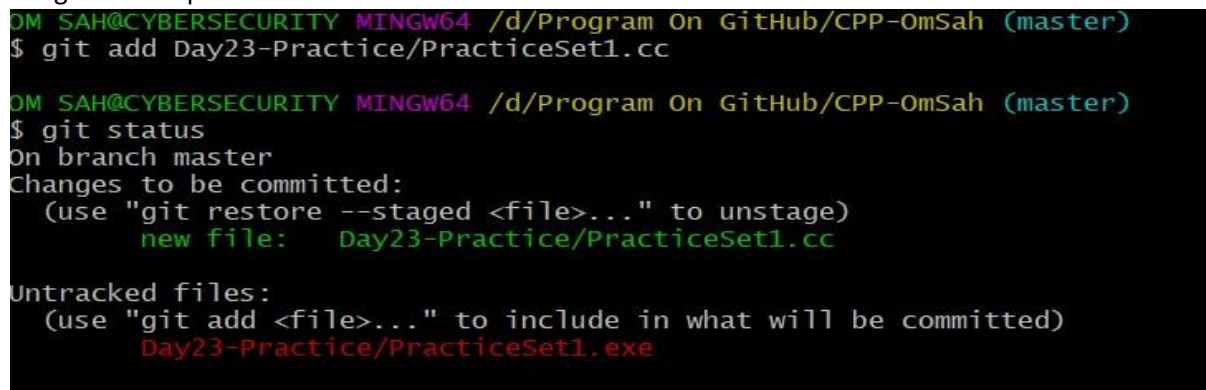
Usage: Use this command to create a copy of a remote repository on your local machine.

A screenshot of a terminal window showing the execution of 'git clone' command. The prompt is 'OM SAH@CYBERSECURITY MINGW64 ~/OneDrive/Desktop'. The command '\$ git clone git@github.com:omsah84/LeetCode.git' has been entered. The output shows the cloning process: 'Cloning into 'LeetCode'...', 'remote: Enumerating objects: 51, done.', 'remote: Counting objects: 100% (51/51), done.', 'remote: Compressing objects: 100% (38/38), done.', 'remote: Total 51 (delta 17), reused 45 (delta 11), pack-reused 0', 'Receiving objects: 100% (51/51), 24.59 KiB | 6.15 MiB/s, done.', and 'Resolving deltas: 100% (17/17), done.'.

```
OM SAH@CYBERSECURITY MINGW64 ~/OneDrive/Desktop
$ git clone git@github.com:omsah84/LeetCode.git
Cloning into 'LeetCode'...
remote: Enumerating objects: 51, done.
remote: Counting objects: 100% (51/51), done.
remote: Compressing objects: 100% (38/38), done.
remote: Total 51 (delta 17), reused 45 (delta 11), pack-reused 0
Receiving objects: 100% (51/51), 24.59 KiB | 6.15 MiB/s, done.
Resolving deltas: 100% (17/17), done.
```

Command: git add <file> or git add . (to add all changes)

Usage: Select specific files or all files to be included in the next commit.

A screenshot of a terminal window showing the execution of 'git add' and 'git status' commands. The prompt is 'OM SAH@CYBERSECURITY MINGW64 /d/Program On GitHub/CPP-OmSah (master)'. The command '\$ git add Day23-Practice/PracticeSet1.cc' has been entered. The output is 'On branch master' and 'Changes to be committed: (use "git restore --staged <file>..." to unstage) new file: Day23-Practice/PracticeSet1.cc'. The command '\$ git status' has been entered, and the output is 'On branch master' and 'Untracked files: (use "git add <file>..." to include in what will be committed) Day23-Practice/PracticeSet1.exe'.

```
OM SAH@CYBERSECURITY MINGW64 /d/Program On GitHub/CPP-OmSah (master)
$ git add Day23-Practice/PracticeSet1.cc

OM SAH@CYBERSECURITY MINGW64 /d/Program On GitHub/CPP-OmSah (master)
$ git status
On branch master
Changes to be committed:
  (use "git restore --staged <file>..." to unstage)
    new file:   Day23-Practice/PracticeSet1.cc

Untracked files:
  (use "git add <file>..." to include in what will be committed)
    Day23-Practice/PracticeSet1.exe
```

Command: git commit -m "Your commit message"

Usage: Save staged changes with a descriptive commit message.


```
OM SAH@CYBERSECURITY MINGW64 /d/Program On GitHub/CPP-OmSah (master)
$ git commit -m "Commit message"
[master be9042d] Commit message
1 file changed, 44 insertions(+)
create mode 100644 Day23-Practice/PracticeSet1.cc
```

Command: git status

Usage: Check the current state of your working directory and staging area.

```
OM SAH@CYBERSECURITY MINGW64 /d/Program On GitHub/CPP-OmSah (master)
$ git status
On branch master
Untracked files:
  (use "git add <file>..." to include in what will be committed)
    Day23-Practice/PracticeSet1.cc
    Day23-Practice/PracticeSet1.exe

nothing added to commit but untracked files present (use "git add" to track)
```

Command: git checkout <branch-name> or git checkout -- <file>

Usage: Move between branches or discard changes in the working directory.

```
OM SAH@CYBERSECURITY MINGW64 /d/Program On GitHub/CPP-OmSah (master)
$ git checkout -b newBranch
Switched to a new branch 'newBranch'
```

Result : The various GIT cheat sheet commands has been executed successfully.

Exp. No : 3. Basic Commands on GITHUB (GITHUB Cheat sheet)

Aim: To Learn basic commands on GitHub for version control and collaboration.

Procedure:

Creating a Repository:

Command: git init

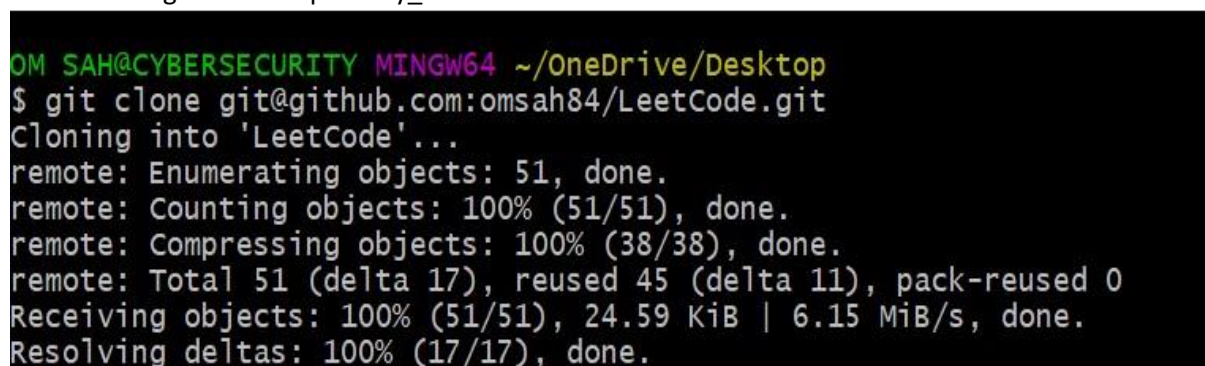
A terminal window titled 'MINGW64:/d/Program On GitHub/CPP-OmSah' showing the execution of the 'git init' command. The prompt is 'OM SAH@CYBERSECURITY MINGW64 /d/Program On GitHub/CPP-OmSah (master)'. The command '\$ git init' is entered, and the output is 'Reinitialized existing Git repository in D:/Program On GitHub/CPP-OmSah/.git/'.

```
OM SAH@CYBERSECURITY MINGW64 /d/Program On GitHub/CPP-OmSah (master)
$ git init
Reinitialized existing Git repository in D:/Program On GitHub/CPP-OmSah/.git/
```

Result: Initializes a new Git repository in the current directory.

Cloning a Repository:

Command: git clone <repository_url>

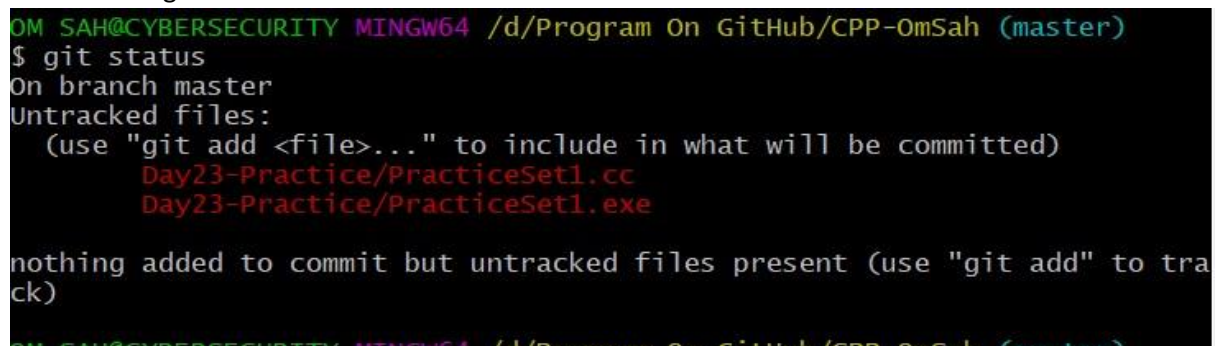
A terminal window showing the execution of the 'git clone' command. The prompt is 'OM SAH@CYBERSECURITY MINGW64 ~/OneDrive/Desktop'. The command '\$ git clone git@github.com:omsah84/LeetCode.git' is entered. The output shows the cloning process: 'Cloning into 'LeetCode'...', 'remote: Enumerating objects: 51, done.', 'remote: Counting objects: 100% (51/51), done.', 'remote: Compressing objects: 100% (38/38), done.', 'remote: Total 51 (delta 17), reused 45 (delta 11), pack-reused 0', 'Receiving objects: 100% (51/51), 24.59 KiB | 6.15 MiB/s, done.', and 'Resolving deltas: 100% (17/17), done.'.

```
OM SAH@CYBERSECURITY MINGW64 ~/OneDrive/Desktop
$ git clone git@github.com:omsah84/LeetCode.git
Cloning into 'LeetCode'...
remote: Enumerating objects: 51, done.
remote: Counting objects: 100% (51/51), done.
remote: Compressing objects: 100% (38/38), done.
remote: Total 51 (delta 17), reused 45 (delta 11), pack-reused 0
Receiving objects: 100% (51/51), 24.59 KiB | 6.15 MiB/s, done.
Resolving deltas: 100% (17/17), done.
```

Result: Creates a copy of a remote repository on your local machine.

Checking Repository Status:

Command: git status

A terminal window showing the execution of the 'git status' command. The prompt is 'OM SAH@CYBERSECURITY MINGW64 /d/Program On GitHub/CPP-OmSah (master)'. The command '\$ git status' is entered. The output shows 'On branch master', 'Untracked files:', '(use "git add <file>..." to include in what will be committed)', 'Day23-Practice/PracticeSet1.cc', 'Day23-Practice/PracticeSet1.exe', and 'nothing added to commit but untracked files present (use "git add" to track)'.

```
OM SAH@CYBERSECURITY MINGW64 /d/Program On GitHub/CPP-OmSah (master)
$ git status
On branch master
Untracked files:
  (use "git add <file>..." to include in what will be committed)
    Day23-Practice/PracticeSet1.cc
    Day23-Practice/PracticeSet1.exe

nothing added to commit but untracked files present (use "git add" to track)
```

Result: Shows the status of changes as untracked, modified, or staged.

Adding Changes to Staging Area:

Command: git add <file_name>

```
OM SAH@CYBERSECURITY MINGW64 /d/Program On GitHub/CPP-OmSah (master)
$ git add Day23-Practice/PracticeSet1.cc

OM SAH@CYBERSECURITY MINGW64 /d/Program On GitHub/CPP-OmSah (master)
$ git status
On branch master
Changes to be committed:
  (use "git restore --staged <file>..." to unstage)
    new file:   Day23-Practice/PracticeSet1.cc

Untracked files:
  (use "git add <file>..." to include in what will be committed)
    Day23-Practice/PracticeSet1.exe
```

Result: Stages changes, ready for commit.

Committing Changes:

Command: git commit -m "Commit message"

```
OM SAH@CYBERSECURITY MINGW64 /d/Program On GitHub/CPP-OmSah (master)
$ git commit -m "Commit message"
[master be9042d] Commit message
1 file changed, 44 insertions(+)
create mode 100644 Day23-Practice/PracticeSet1.cc
```

Result: Records changes to the repository along with a descriptive message.

Pushing Changes to Remote Repository:

Command: git push origin <branch_name>

```
OM SAH@CYBERSECURITY MINGW64 /d/Program On GitHub/CPP-OmSah (master)
$ git push origin master
Enumerating objects: 6, done.
Counting objects: 100% (6/6), done.
Delta compression using up to 8 threads
Compressing objects: 100% (4/4), done.
Writing objects: 100% (4/4), 830 bytes | 830.00 KiB/s, done.
Total 4 (delta 2), reused 0 (delta 0), pack-reused 0
remote: Resolving deltas: 100% (2/2), completed with 2 local objects.
To github.com:omsah84/CPP-By-OMSAH.git
   fa6dbd8..be9042d  master -> master
```

Result: Uploads local branch commits to the remote repository.

Pulling Changes from Remote Repository:

Command: git pull origin <branch_name>

```
OM SAH@CYBERSECURITY MINGW64 /d/Program On GitHub/CPP-OmSah (master)
$ git pull origin master
From github.com:omsah84/CPP-By-OMSAH
 * branch            master      -> FETCH_HEAD
Already up to date.
```

Result: Fetches changes from a remote repository and merges them into the current branch.

Creating a New Branch:

Command: git checkout -b <new_branch_name>

```
OM SAH@CYBERSECURITY MINGW64 /d/Program On GitHub/CPP-OmSah (master)
$ git checkout -b newBranch
Switched to a new branch 'newBranch'
```

Result: Creates a new branch and switches to it.

Switching Branches:

Command: git checkout <branch_name>

```
OM SAH@CYBERSECURITY MINGW64 /d/Program On GitHub/CPP-OmSah (newBranch)
$ git checkout master
Switched to branch 'master'
```

Result: Switches to an existing branch.

Merging Branches:

Command: git merge <branch_name>

```
OM SAH@CYBERSECURITY MINGW64 /d/Program On GitHub/CPP-OmSah (master)
$ git merge newBranch
Already up to date.
```

Result: Combines changes from one branch into another.

Viewing Commit History:

Command: git log

```
OM SAH@CYBERSECURITY MINGW64 /d/Program On GitHub/CPP-OmSah (master)
$ git log
commit be9042d12c8706b4517f71b4ff986533a8bbade7 (HEAD -> master, origin/m
aster, newBranch)
Author: OM SAH <huncyoms@gmail.com>
Date: Mon Nov 6 10:09:02 2023 -0500

    Commit message

commit fa6dbd8441cb6c2c32384e624df34cf574b25370
Author: OM SAH <huncyoms@gmail.com>
Date: Sun Nov 5 10:53:41 2023 -0500

    commit

commit 5e410cf6d5d7fefac9c5694b7d21817bc9d88982
Author: OM SAH <huncyoms@gmail.com>
Date: Sun Nov 5 10:52:37 2023 -0500

    init

commit a849bff065e727a0cd405b04642f615f6c2f7019
:...skipping...
commit be9042d12c8706b4517f71b4ff986533a8bbade7 (HEAD -> master, origin/m
aster, newBranch)
Author: OM SAH <huncyoms@gmail.com>
Date: Mon Nov 6 10:09:02 2023 -0500

    Commit message

commit fa6dbd8441cb6c2c32384e624df34cf574b25370
Author: OM SAH <huncyoms@gmail.com>
Date: Sun Nov 5 10:53:41 2023 -0500

    commit
```

Result: Displays a log of all commits in the current branch.

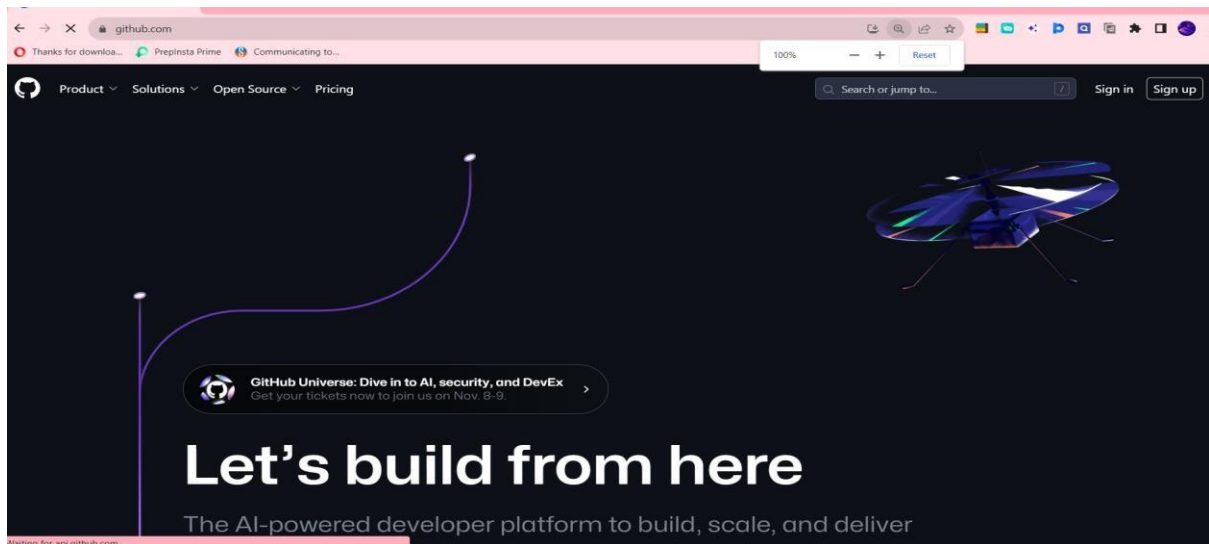
Result : Various commands on GitHub for version control and collaboration has been executed successfully.

Exp. No : 4. Create a "repository" (project) with a git hosting tool.

Aim: Create a repository (project) on a GitHub to facilitate collaborative version control and project management.

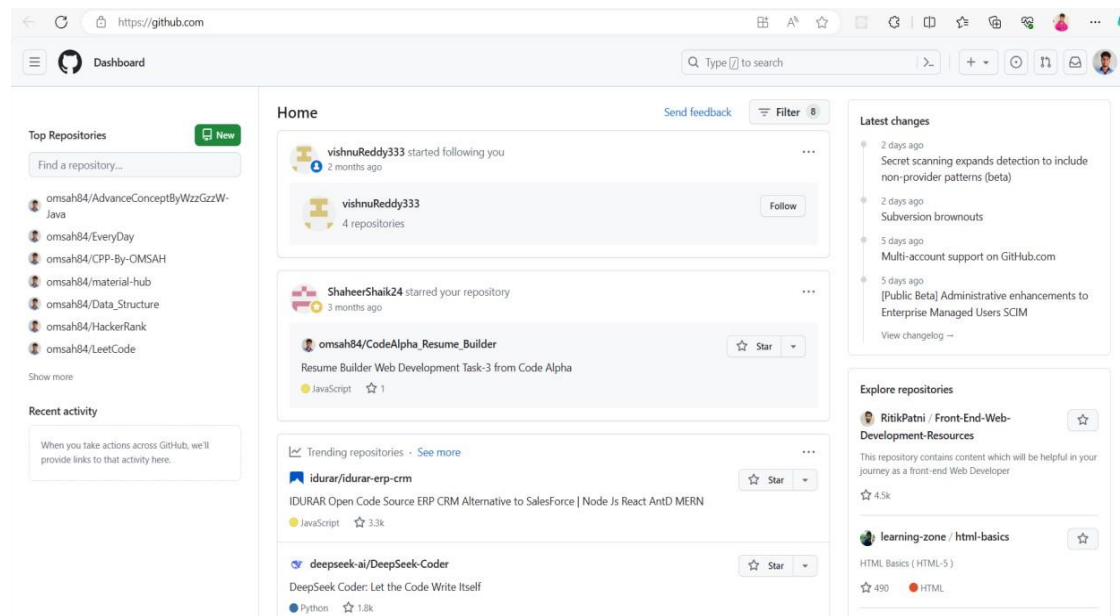
Procedure:

Sign in or Create an Account: If you don't have a GitHub account, you'll need to sign up. If you already have an account, sign in to your GitHub account.



Create a New Repository:

On the top right corner of the GitHub homepage, you will find a "+" icon. Click on it, and from the dropdown menu, select "New repository".



Fill out the Repository Details:

Give your repository a name.

Add a description to explain what your project is about (optional) Choose the visibility of your repository (public or private).

Initialize this repository with a README if you want to create a README file for your project. It's a good practice to have a README file explaining your project.

https://github.com/new

Create a new repository

A repository contains all project files, including the revision history. Already have a project repository elsewhere? [Import a repository.](#)

Required fields are marked with an asterisk (*).

Owner * omsah84 / Repository name * RepositoryName
RepositoryName is available.

Great repository names are short and memorable. Need inspiration? How about [miniature-telegram](#)?

Description (optional)

☒ Public
Anyone on the internet can see this repository. You choose who can commit.

☐ Private
You choose who can see and commit to this repository.

Initialize this repository with:

☐ Add a README file
This is where you can write a long description for your project. [Learn more about READMEs.](#)

Add .gitignore
.gitignore template: None

Choose which files not to track from a list of templates. [Learn more about ignoring files.](#)

Choose a license
License: None

A license tells others what they can and can't do with your code. [Learn more about licenses.](#)

[Create repository](#)

Choose a License and .gitignore File (Optional):

You can choose license for your project. GitHub provides several open-source licenses you can select from.

You can also add a .gitignore file. This file specifies intentionally untracked files that Git should ignore.

Create Repository:

Click on the "Create repository" button to create your repository.

Initialize this repository with:

☐ Add a README file

This is where you can write a long description for your project. [Learn more about READMEs.](#)

Add .gitignore

.gitignore template: None

Choose which files not to track from a list of templates. [Learn more about ignoring files.](#)

Choose a license

License: None

A license tells others what they can and can't do with your code. [Learn more about licenses.](#)

ⓘ You are creating a public repository in your personal account.

[Create repository](#)

Result : Created a repository for a project on a GitHub to facilitate collaborative version control and project management that has been executed successfully.

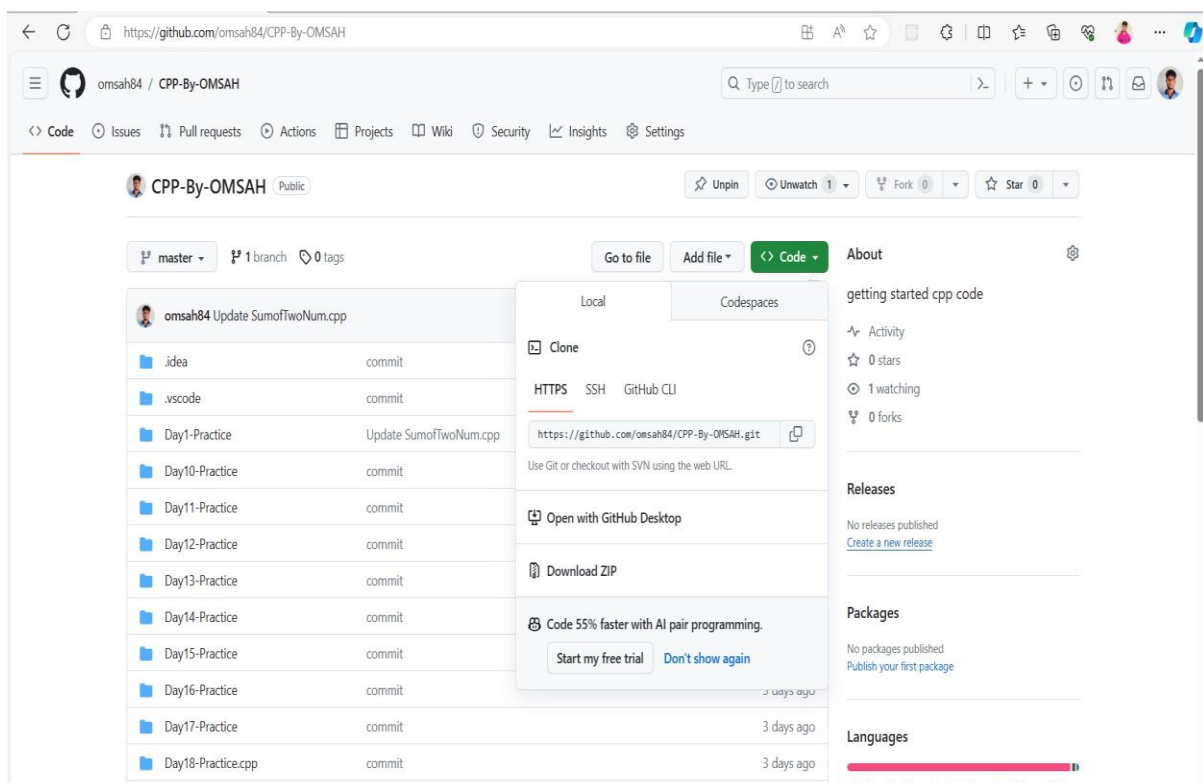
Exp. No : 5. Copy (or clone) the repository to your local machine

Aim: Creating a Copy (or Clone) the Repository to Your Local Machine.

Definition: The aim of this step is to create a local copy of the repository that exists on the Git hosting platform (such as GitHub) onto your personal computer. This local copy allows you to work on the project, make changes, and collaborate without directly modifying the original repository on the remote server.

Clone the Repository:

Definition: Cloning a repository means creating an identical copy of the remote repository on your local machine. It not only copies the files but also sets up the necessary Git configuration, such as remote tracking branches, enabling you to work seamlessly with the repository locally.



How to Clone:

Use the following Git command in your terminal or command prompt:

```
OM SAH@CYBERSECURITY MINGW64 ~/OneDrive/Desktop
$ git clone git@github.com:omsah84/LeetCode.git
Cloning into 'LeetCode'...
remote: Enumerating objects: 51, done.
remote: Counting objects: 100% (51/51), done.
remote: Compressing objects: 100% (38/38), done.
remote: Total 51 (delta 17), reused 45 (delta 11), pack-reused 0
Receiving objects: 100% (51/51), 24.59 KiB | 6.15 MiB/s, done.
Resolving deltas: 100% (17/17), done.
```

Navigate to the Cloned Repository:

Definition: After cloning, use the `cd` command in your terminal or command prompt to navigate into the directory created by the cloning process. This directory contains all the project files and the entire Git repository history.

How to Navigate:

Use the `cd` command followed by the repository name to enter the repository directory. example:

A terminal window with a dark background. The top bar is dark gray and contains the text 'bash' in white. The main area is black and shows the command 'cd repository' in a light blue monospaced font. The 'cd' part is highlighted in a lighter blue color.

```
bash  
  
cd repository
```

Result : Created and executed a Copy (or Clone) the Repository to the Local Machine that has been done successfully.

Exp. No : 6. Add a file to your local repo and "commit" (save) the changes.

Aim: To Add a File to Your Local Repository and Commit the Changes

Definition: The aim of this step is to make changes to the files in your local Git repository and save those changes as a snapshot in Git's version history. This allows you to track and manage the project's development over time.

Add a File to Your Local Repository:

Definition: Before committing, you need to stage the changes you want to include in the next commit. Staging means marking specific files to be included in the commit. You can stage new files or changes to existing files.

How to Stage a File:

Use the git add command to stage one or more files. For example, to stage a single file:

```
OM SAH@CYBERSECURITY MINGW64 /d/Program On GitHub/CPP-OmSah (master)
$ git add Day23-Practice/PracticeSet1.cc

OM SAH@CYBERSECURITY MINGW64 /d/Program On GitHub/CPP-OmSah (master)
$ git status
On branch master
Changes to be committed:
  (use "git restore --staged <file>..." to unstage)
    new file:   Day23-Practice/PracticeSet1.cc

Untracked files:
  (use "git add <file>..." to include in what will be committed)
    Day23-Practice/PracticeSet1.exe
```

Commit the Changes:

Definition: Committing records the staged changes as a new snapshot in the project's version history. Each commit has a unique identifier and a commit message that describes the changes made in that snapshot.

How to Commit:

Use the git commit command to create a commit. You should also include a meaningful commit message to describe message to changes you made in this commit.

```
OM SAH@CYBERSECURITY MINGW64 /d/Program On GitHub/CPP-OmSah (master)
$ git commit -m "Commit message"
[master be9042d] Commit message
1 file changed, 44 insertions(+)
create mode 100644 Day23-Practice/PracticeSet1.cc
```

Result : Added a File to the Local Repository and Committed the Changes made successfully.

Exp. No : 7. "Push" your changes to your main branch

Aim: Synchronize Changes Made Locally with Remote Repository's Main Branch

Definition: Pushing changes refers to the action of sending committed changes from your local repository to the remote repository, specifically to a specified branch, often the main or master branch. This process ensures that the changes you made locally become visible to others collaborating on the project. Pushing is a fundamental operation in Git-based version control systems and is essential for collaborative development.

How to Push Changes:

After making changes to files in your local repository, you need to commit those changes to the local repository. Use the following Git command to commit changes.

```
OM SAH@CYBERSECURITY MINGW64 /d/Program On GitHub/CPP-OmSah (master)
$ git commit -m "Commit message"
[master be9042d] Commit message
1 file changed, 44 insertions(+)
 create mode 100644 Day23-Practice/PracticeSet1.cc
```

Replace "Your commit message here" with a descriptive message explaining the changes made in the commit.

Once changes are committed, you can push them to the main branch of the remote repository using the following Git command.

```
OM SAH@CYBERSECURITY MINGW64 /d/Program On GitHub/CPP-OmSah (master)
$ git push origin master
Enumerating objects: 6, done.
Counting objects: 100% (6/6), done.
Delta compression using up to 8 threads
Compressing objects: 100% (4/4), done.
Writing objects: 100% (4/4), 830 bytes | 830.00 KiB/s, done.
Total 4 (delta 2), reused 0 (delta 0), pack-reused 0
remote: Resolving deltas: 100% (2/2), completed with 2 local objects.
To github.com:omsah84/CPP-By-OMSAH.git
 fa6dbd8..be9042d  master -> master
```

In this command, origin represents the default name of the remote repository, and main is the name of the branch you want to push the changes to. If your main branch has a different name (such as master), replace main with the appropriate branch name.

Result : Synchronize Changes Made Locally with Remote Repository's Main Branch successfully.

Exp. No : 8. Make a change to your file with a git hosting tool and Commit.

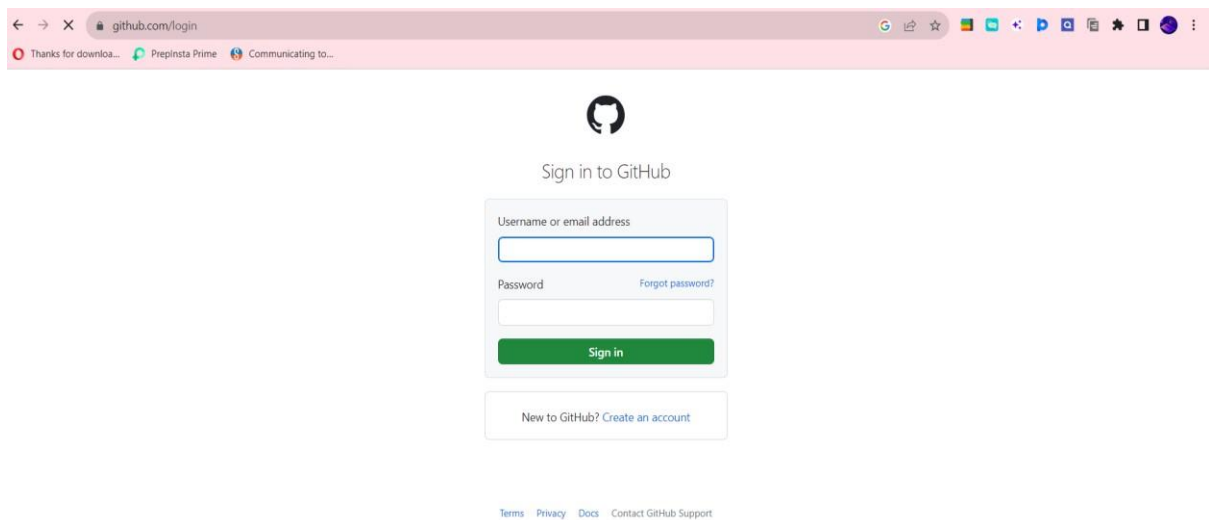
Aim: To modify a file stored in a Git repository hosted on a remote platform, such as GitHub, and then create a commit to record these changes in the repository's history.

Definition: Making changes and committing them in a Git hosting tool involves the process of updating a file's content, adding new files, or deleting files directly within the web interface of the Git hosting platform. After making the changes, you create a commit to document and track these modifications in the project's version history.

Procedure:

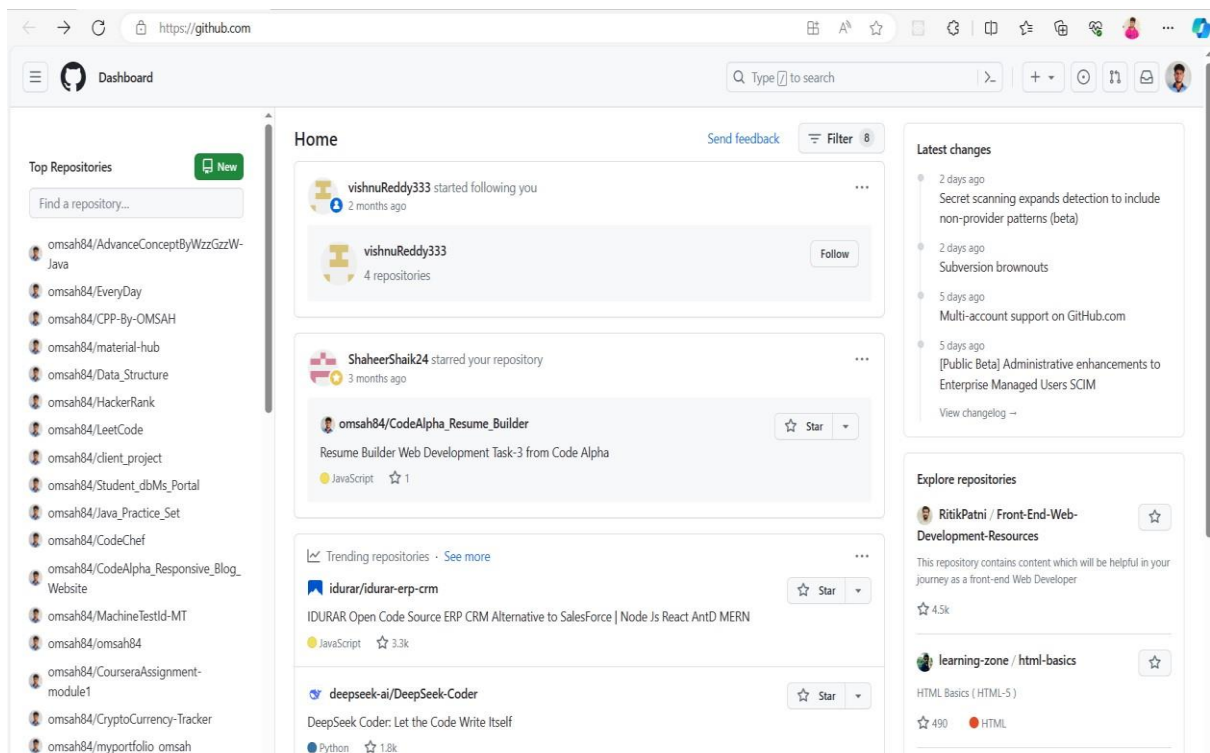
Log In to Your Git Hosting Tool:

Start by logging in to the Git hosting platform where your repository is hosted. For example, if your repository is on GitHub, visit GitHub and sign in to your account.



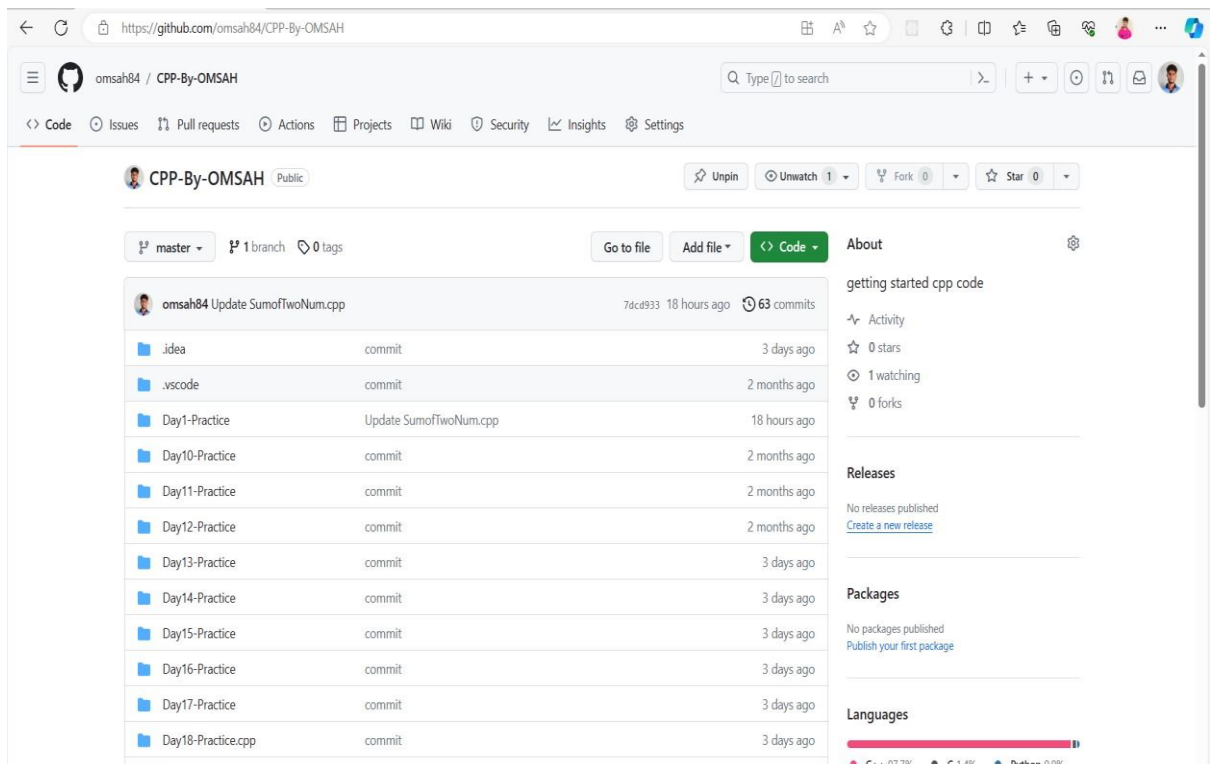
Navigate to the Repository:

Locate and select the repository in which you want to make changes. .



Find the File to Modify:

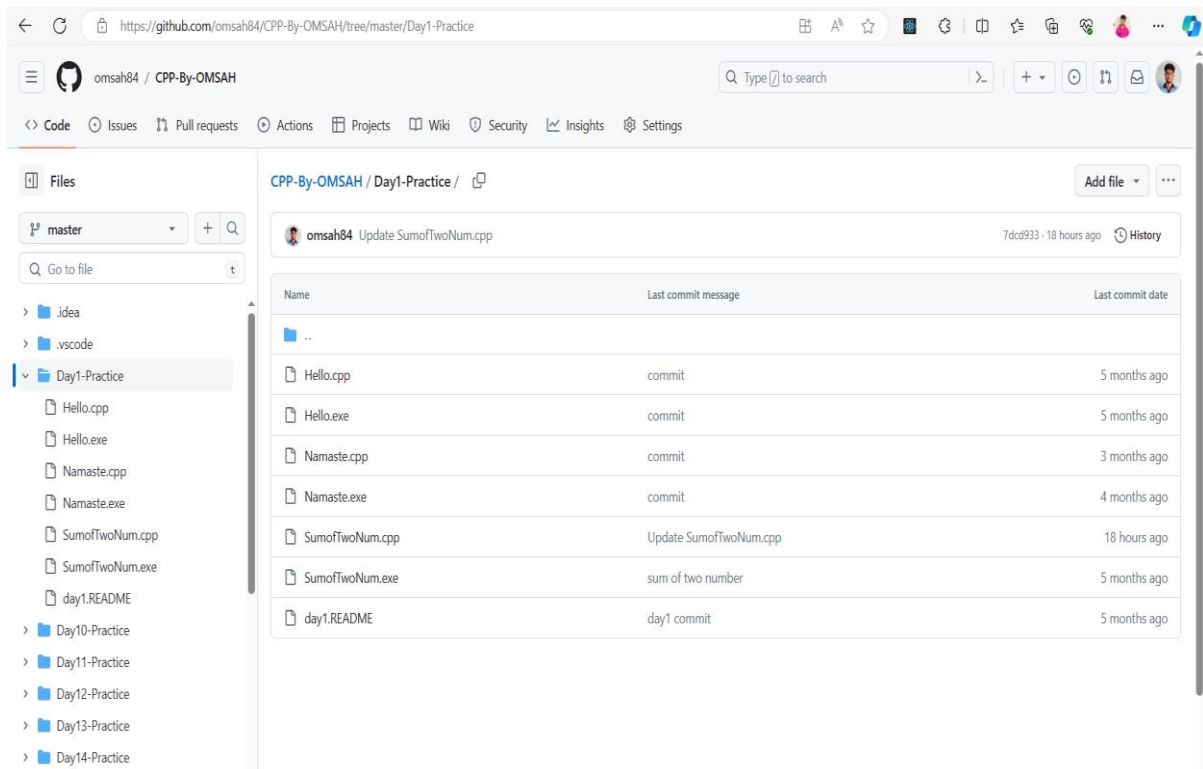
Use the platform's file navigation to locate the specific file you wish to modify.



Edit the File:

Click on the file's name to open it in an editor provided by the hosting platform.

Make the necessary changes to the file's content. You can use the platform's built-in text editor to make edits.

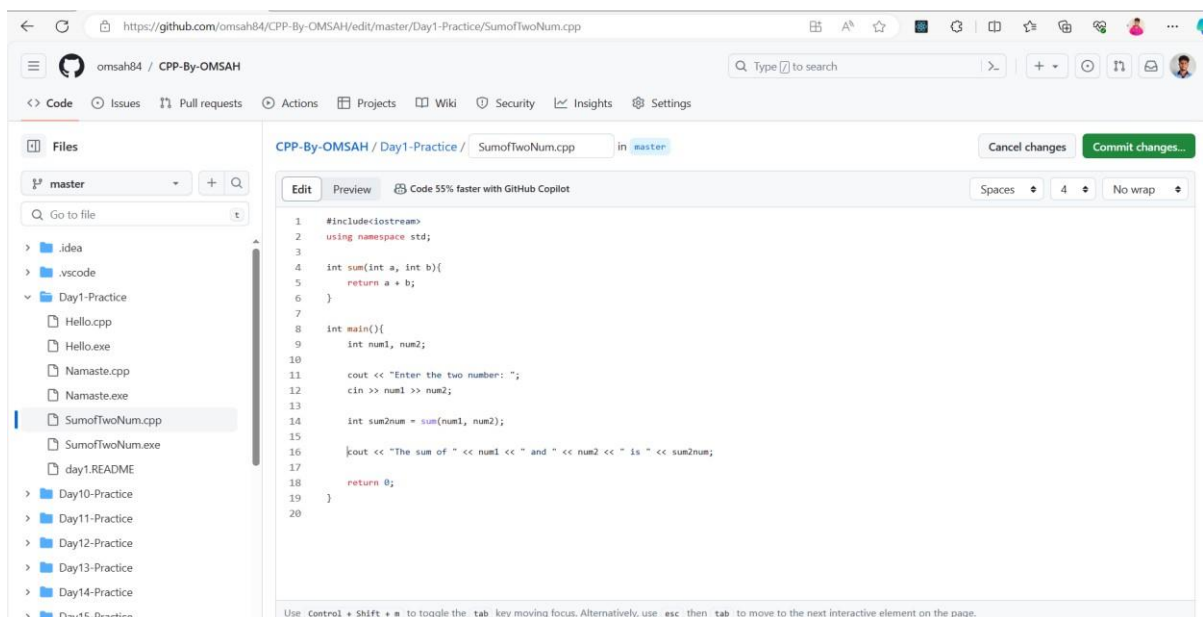


The screenshot shows the GitHub repository page for 'omsah84 / CPP-By-OMSAH'. The left sidebar shows the file tree with 'Day1-Practice' selected. The main area displays the commit history for 'Day1-Practice'. The commit history table is as follows:

| Name | Last commit message | Last commit date |
|-----------------|------------------------|------------------|
| .. | | |
| Hello.cpp | commit | 5 months ago |
| Hello.exe | commit | 5 months ago |
| Namaste.cpp | commit | 3 months ago |
| Namaste.exe | commit | 4 months ago |
| SumofTwoNum.cpp | Update SumofTwoNum.cpp | 18 hours ago |
| SumofTwoNum.exe | sum of two number | 5 months ago |
| day1.README | day1 commit | 5 months ago |

Add a Commit Message:

After making your changes, you'll typically find an option to add a commit message. This message should describe the purpose of your changes. It's essential to provide a clear and informative message.



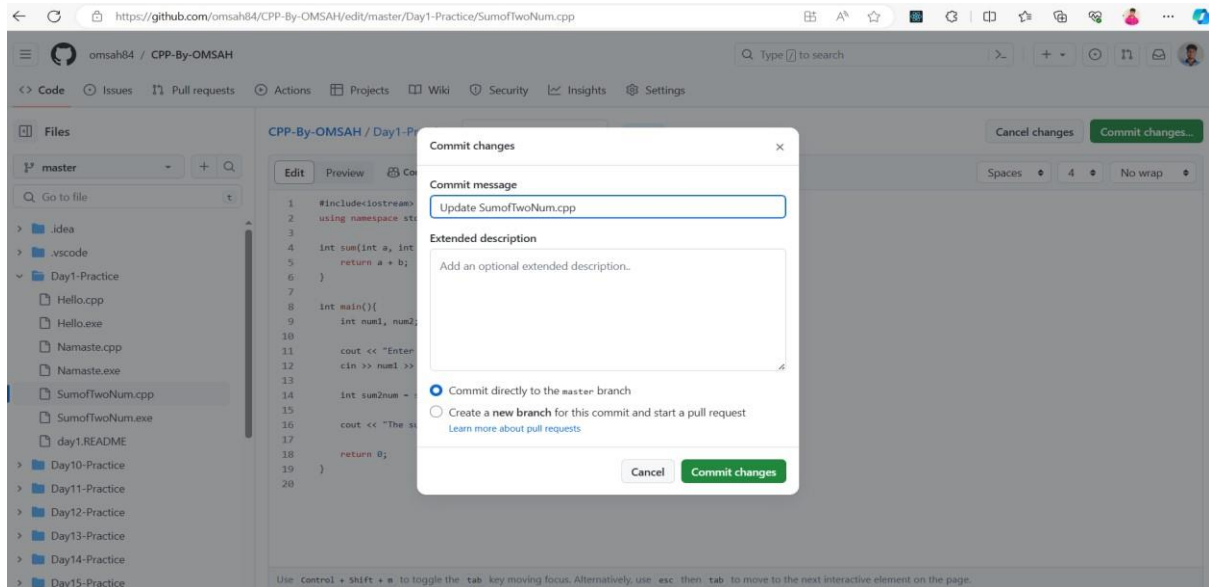
The screenshot shows the GitHub repository page for 'omsah84 / CPP-By-OMSAH' with the file 'SumofTwoNum.cpp' open in the code editor. The code is as follows:

```
1 #include<iostream>
2 using namespace std;
3
4 int sum(int a, int b){
5     return a + b;
6 }
7
8 int main(){
9     int num1, num2;
10
11     cout << "Enter the two number: ";
12     cin >> num1 >> num2;
13
14     int sum2num = sum(num1, num2);
15
16     cout << "The sum of " << num1 << " and " << num2 << " is " << sum2num;
17
18     return 0;
19 }
20
```

Commit the Changes:

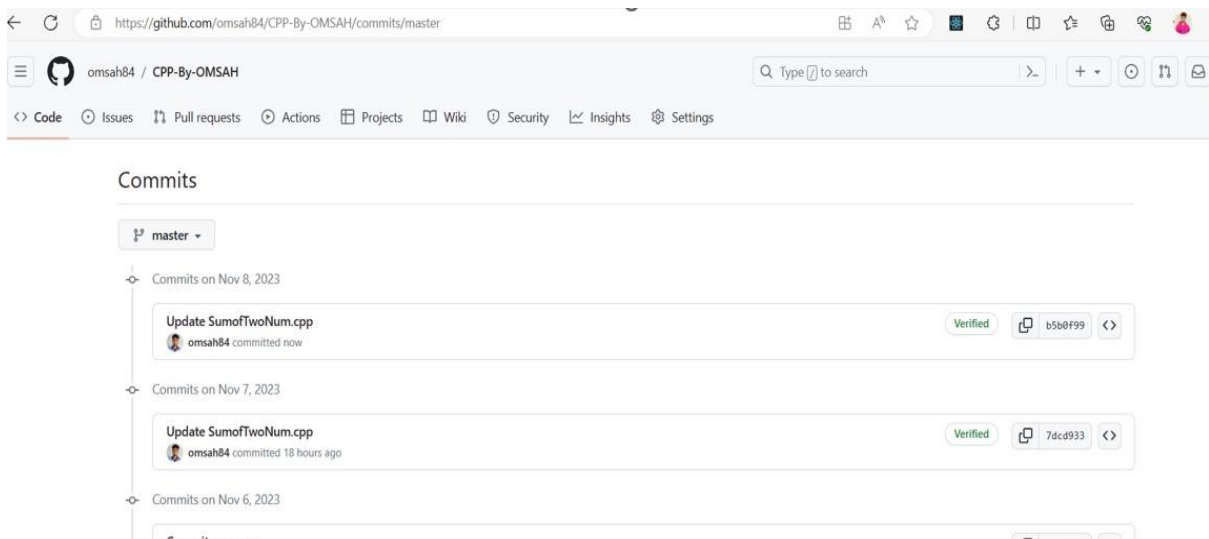
Look for a “Commit” or “Save” button within the web interface.

Click this button to commit the changes to the remote repository.



Verify the Commit:

After committing, you can usually view the commit details, including the commit message and a unique commit hash, in the platform's interface.



Result : Changes in the file with a git hosting tool and commit has been executed successfully.

Exp. No : 9. "Pull" the changes to your local machine.

Aim: Update Your Local Repository with Changes from the Remote Repository.

Definition: Pulling changes in Git refers to the process of fetching and merging changes from a remote repository into your local repository. When other collaborators make changes to the remote repository (for example, by pushing their changes), pulling allows you to incorporate these updates into your own local working copy. This ensures that your local files are up-to-date with the latest changes made by others.

Procedure to Pull Changes:

Navigate to Your Local Repository:

Open your terminal or command prompt and navigate to the local repository directory using the `cd` command. For example:

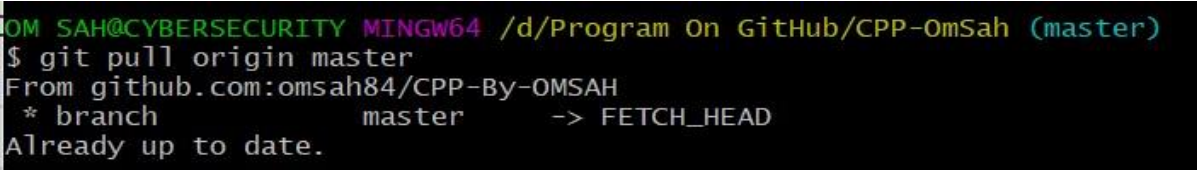


```
bash
cd path/to/your/repository
```

A terminal window with a dark background. The title bar says 'bash' and 'Copy code'. The command `cd path/to/your/repository` is entered.

Pull Changes from the Remote Repository:

Use the following Git command to pull changes from the remote repository into your local branch (e.g., main):



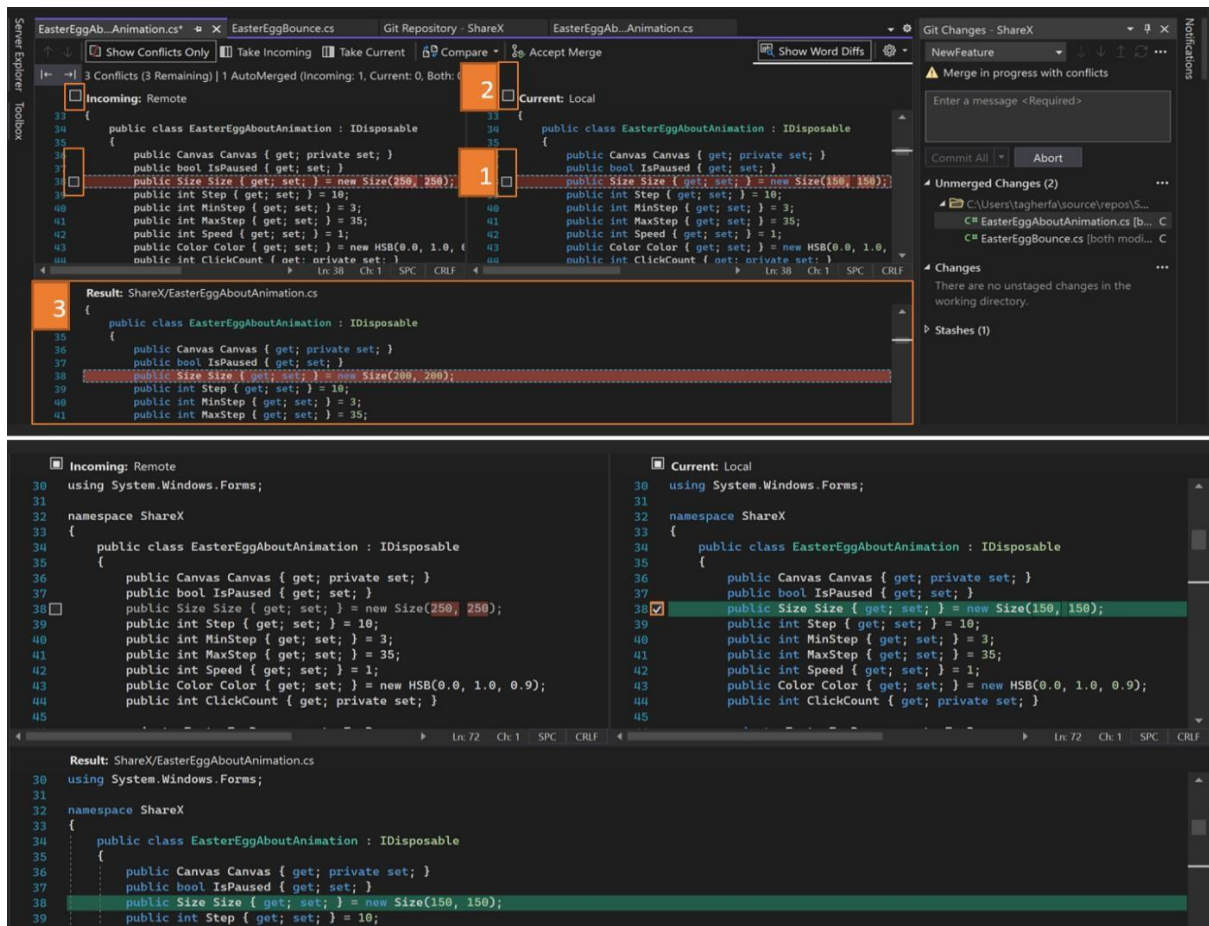
```
OM SAH@CYBERSECURITY MINGW64 /d/Program On GitHub/CPP-OmSah (master)
$ git pull origin master
From github.com:omsah84/CPP-By-OMSAH
 * branch      master      -> FETCH_HEAD
Already up to date.
```

A terminal window showing the output of the `git pull` command. The prompt is `OM SAH@CYBERSECURITY MINGW64 /d/Program On GitHub/CPP-OmSah (master)`. The command is `$ git pull origin master`. The output is `From github.com:omsah84/CPP-By-OMSAH`, `* branch master -> FETCH_HEAD`, and `Already up to date.`

In this command, `origin` represents the default name of the remote repository, and `main` is the branch from which you want to pull changes. If your main branch has a different name (such as `master`), replace `main` with the appropriate branch name.

Resolve any Merge Conflicts (if necessary):

If Git detects that there are conflicting changes between your local branch and the remote branch, you'll need to resolve these conflicts manually before you can complete the pull operation. Git will mark the conflicting files, and you'll need to edit them to resolve the differences.



Commit the Merged Changes (if conflicts were resolved):

After resolving merge conflicts, you need to commit the merged changes locally before you can continue working. Use the git commit command to commit the resolved changes.

```
OM SAH@CYBERSECURITY MINGW64 /d/Program On GitHub/CPP-OmSah (master)
$ git commit -m "Commit message"
[master be9042d] Commit message
1 file changed, 44 insertions(+)
create mode 100644 Day23-Practice/PracticeSet1.cc
```

Result : Updating the Local Repository with Changes from the Remote Repository has been done successfully.

Exp. No : 10. Create a "branch" (version), make a change, commit the change.

Aim: Create an isolated development environment for a specific task, make changes to project files, and commit those changes to track the task's progress.

Definition: Create a Branch: In Git, a branch is a separate line of development. Creating a branch allows you to work on a specific task or feature without affecting the main project until the task is complete and ready to be integrated. Branching helps in parallel development and collaboration.

Make a Change: This involves modifying or adding code, files, or content within the project. The aim is to implement a specific task or feature as part of the development process.

Commit the Change: Committing changes in Git is the act of saving your work and creating a record of the modifications made in a branch. Each commit represents a point in the project's history and includes a commit message describing the changes made.

Procedure:

Create a Branch:

Use the following Git command to create a new branch. Replace <branch_name> with a descriptive name for your branch:

```
OM SAH@CYBERSECURITY MINGW64 /d/Program On GitHub/CPP-OmSah (master)
$ git checkout -b newBranch
Switched to a new branch 'newBranch'
```

Make a Change:

Modify or add files as necessary to implement the specific task or feature you're working on. You can use text editors or integrated development environments (IDEs) to make these changes.

Stage Changes:

Use the git add command to stage the changes you've made. This prepares the changes for the next commit.

```
OM SAH@CYBERSECURITY MINGW64 /d/Program On GitHub/CPP-OmSah (master)
$ git add Day23-Practice/PracticeSet1.cc

OM SAH@CYBERSECURITY MINGW64 /d/Program On GitHub/CPP-OmSah (master)
$ git status
On branch master
Changes to be committed:
  (use "git restore --staged <file>..." to unstage)
    new file:   Day23-Practice/PracticeSet1.cc

Untracked files:
  (use "git add <file>..." to include in what will be committed)
    Day23-Practice/PracticeSet1.exe
```

Commit the Change:

Commit the staged changes with a descriptive commit message. This records the changes made to the branch.

```
OM SAH@CYBERSECURITY MINGW64 /d/Program On GitHub/CPP-OmSah (master)
$ git commit -m "Commit message"
[master be9042d] Commit message
1 file changed, 44 insertions(+)
 create mode 100644 Day23-Practice/PracticeSet1.cc
```

Result : Created a "branch", make a change, commit the change has been successfully completed.

Exp. No : 11. Open a "pull request" (propose changes to the main branch).

Aim: To create Propose and Discuss Changes Made in a Feature or Topic Branch with the Repository's Maintainers and Collaborators.

Definition: A pull request (PR) is a way to request that changes you've made in a feature or topic branch be reviewed, discussed, and potentially merged into the main branch of a Git repository. It serves as a formal mechanism for collaborating on code changes and allows maintainers and collaborators to provide feedback and ensure code quality before integrating the changes.

Procedure:

Create a Feature Branch:

Before making changes, create a new branch from the main branch of the repository. This feature branch will contain the changes you want to propose in the pull request.

Use the following Git command to create a new branch:

```
OM SAH@CYBERSECURITY MINGW64 /d/Program On GitHub/CPP-OmSah (master)
$ git checkout -b newBranch
Switched to a new branch 'newBranch'
```

Make and Commit Changes:

Make the necessary code changes in your feature branch.

Commit your changes with descriptive commit messages using the git commit command:

```
OM SAH@CYBERSECURITY MINGW64 /d/Program On GitHub/CPP-OmSah (master)
$ git commit -m "Commit message"
[master be9042d] Commit message
1 file changed, 44 insertions(+)
create mode 100644 Day23-Practice/PracticeSet1.cc
```

Push the Feature Branch:

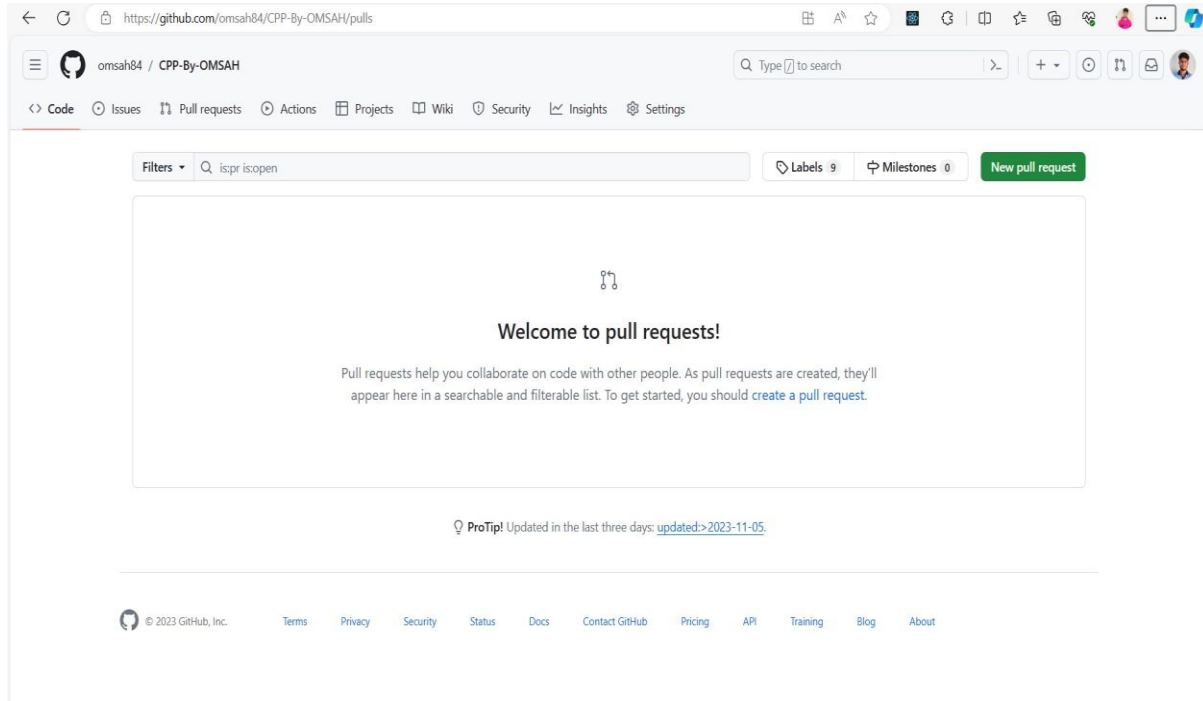
Push your feature branch with the changes to the remote repository using:

```
OM SAH@CYBERSECURITY MINGW64 /d/Program On GitHub/CPP-OmSah (master)
$ git push origin master
Enumerating objects: 6, done.
Counting objects: 100% (6/6), done.
Delta compression using up to 8 threads
Compressing objects: 100% (4/4), done.
Writing objects: 100% (4/4), 830 bytes | 830.00 KiB/s, done.
Total 4 (delta 2), reused 0 (delta 0), pack-reused 0
remote: Resolving deltas: 100% (2/2), completed with 2 local objects.
To github.com:omsah84/CPP-By-OMSAH.git
fa6dbd8..be9042d master -> master
```

Open a Pull Request:

Visit the repository's page on the Git hosting platform (e.g., GitHub) where you cloned the repository.

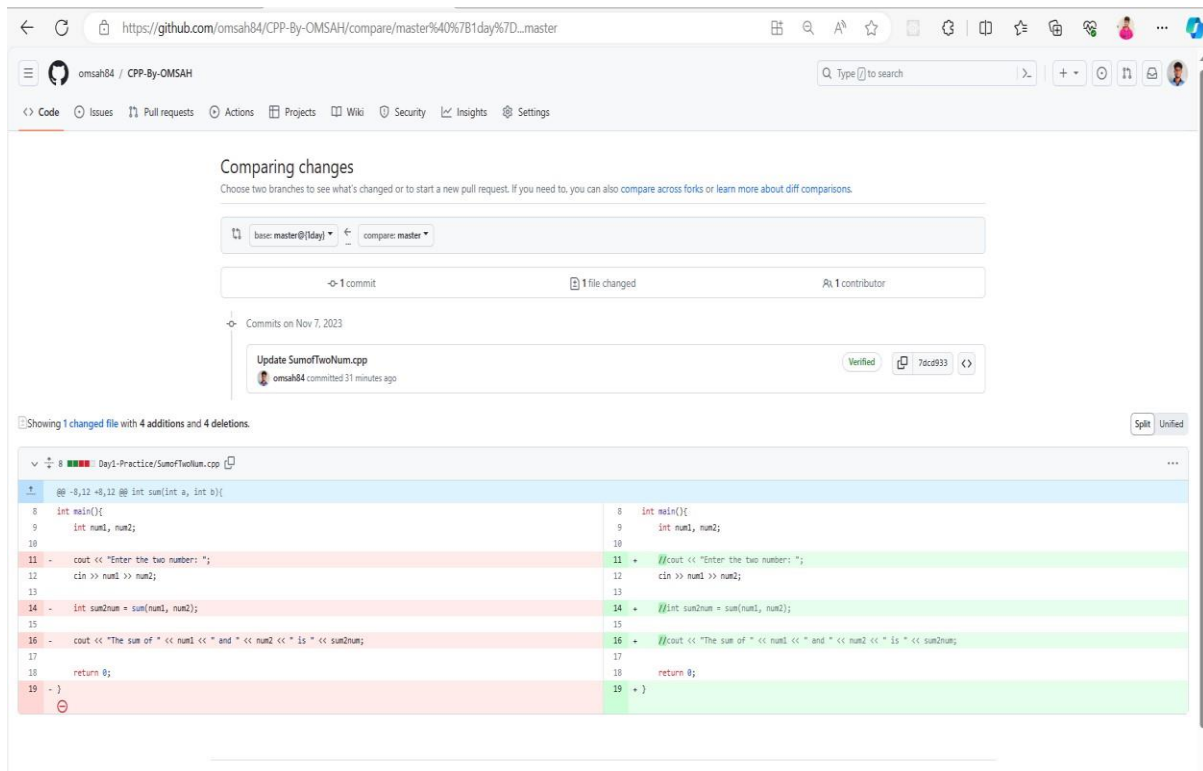
There should be an option to "Create a Pull Request" or "New Pull Request." Click on it.



Compare and Review:

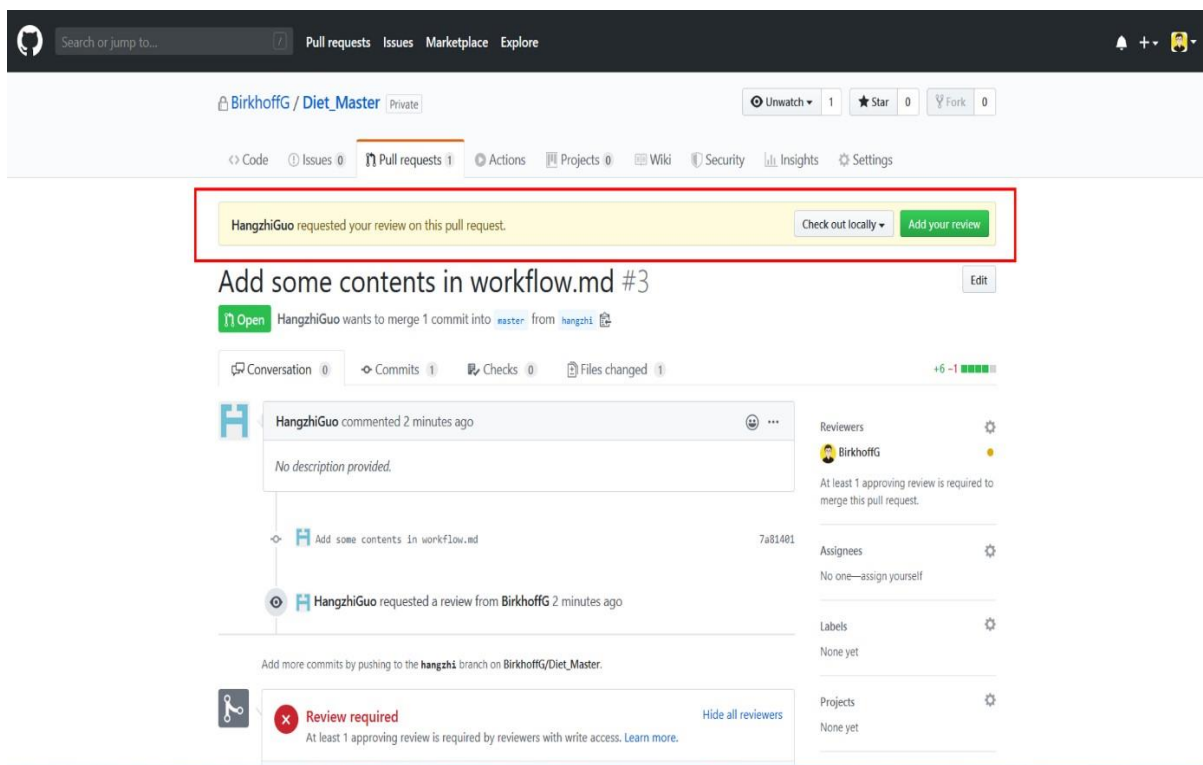
In the pull request interface, select the base branch (usually the main branch) and the compare branch (your feature branch).

Describe the changes you've made and the purpose of the pull request.



Request Reviewers:

If you want specific individuals to review your code, you can request their review on the pull request.



Submit the Pull Request:

Finally, submit the pull request. This will notify the repository's maintainers and collaborators of the proposed changes.

nraboy / ng-cordova
forked from driftyco/ng-cordova

Unwatch 1 Star 1 Fork 291

driftyco:master ... nraboy:master Edit

Create pull request Discuss and review the changes in this comparison with others.

1 commit 8 files changed 0 commit comments 1 contributor

Commits on Dec 21, 2014

nraboy add merge salesforce and strava from ng-cordova-oauth repository. add... e0795ce

Showing 8 changed files with 379 additions and 16 deletions. Unified Split

27 demo/www/app/oauth/oauth.ctrl.js View

```
@@ -101,5 +101,32 @@ angular.module('demo.oauth.ctrl', [])
101 | 101 | });
102 | 102 | };
103 | 103 |
104 | + $scope.foursquareLogin = function () {
105 | +   $cordovaOAuth.foursquare("CLIENT_ID_HERE").then(function (result) {
106 | +     $scope.oauthResult = result;
107 | +   }, function (error) {
108 | +     $scope.oauthResult = "OAUTH ERROR (see console)";
```

Discuss and Review:

Reviewers will examine the code changes, leave comments, and have discussions with you about the proposed modifications.

Conversation 0
Commits 1
Checks 0
Files changed 1
+6 -6

Changes from all commits
File filter
Conversations
Jump to
0 / 1 files viewed
Review changes

12
labs/acik8s-devsetup/2-tools.md

@@ -2,7 +2,7 @@

2 2 The DevBox in your pod is based on a minimal CentOS 7 installation with only minor configuration completed. You still need to install common development tools and utilities.
3 3
4 4 1. Open an SSH connection to your development workstation.
5 - 1. Install 'wget' and 'git' tools, along with Python 3.6.8 using 'yum'.
5 + 1. Use 'yum' to install 'wget', 'git' tools, and Python 3.
6 6
7 7 ```bash
8 8 sudo yum install -y wget git nano python3
@@ -17,34 +17,34 @@ The DevBox in your pod is based on a minimal CentOS 7 installation with only min
17 17 pip3 install virtualenv
18 18 ```
19 19
20 - 2. Clone the sandbox code sample directory from GitHub into the home directory for the 'developer' user.
20 + 1. Clone the Sandbox code sample directory from GitHub into the home directory for the 'developer' user.

Write
Preview

Leave a comment

Attach files by dragging & dropping, selecting or pasting them.

Cancel
Add single comment
Start a review

21 21 ```bash
22 22

Make Necessary Changes:

Address any feedback or comments provided during the review process by making additional commits in the feature branch.

Merge the Pull Request:

Once the reviewers are satisfied with the changes and have approved the pull request, it can be merged into the main branch.

Add more commits by pushing to the **develop** branch on **zelliwk2/project**.



Continuous integration has not been set up

Several [apps are available](#) to automatically catch bugs and enforce style.



This branch has no conflicts with the base branch

Merging can be performed automatically.

Merge pull request



You can also [open this in GitHub Desktop](#) or view [command line instructions](#).

Result : Pull request command has been executed successfully.

Exp. No : 12. "Merge" your branch to the main branch.

Aim: Integrate Changes Made in a Feature or Topic Branch into the Main Codebase.

Definition: Merging is the process of combining the changes made in a feature or topic branch back into the main branch (or any target branch). It integrates the new code, commits, and file changes from the source branch into the destination branch. Merging is a fundamental operation in Git, allowing teams to collaborate on different branches and consolidate their work into a unified codebase.

Procedure:

Ensure Your Branch is Up to Date:

Before merging, it's a good practice to ensure your feature branch is up to date with the latest changes from the main branch. You can do this by switching to your feature branch and pulling the latest changes from the master branch:

```
OM SAH@CYBERSECURITY MINGW64 /d/Program On GitHub/CPP-OmSah (master)
$ git checkout -b feature-branch
Switched to a new branch 'feature-branch'

OM SAH@CYBERSECURITY MINGW64 /d/Program On GitHub/CPP-OmSah (feature-branch)
$ git pull origin master
Warning: Permanently added the ECDSA host key for IP address '20.207.73.82' to t
he list of known hosts.
remote: Enumerating objects: 7, done.
remote: Counting objects: 100% (7/7), done.
remote: Compressing objects: 100% (4/4), done.
remote: Total 4 (delta 3), reused 0 (delta 0), pack-reused 0
Unpacking objects: 100% (4/4), 753 bytes | 3.00 KiB/s, done.
From github.com:omsah84/CPP-By-OMSAH
 * branch          master      -> FETCH_HEAD
  be9042d..7dcd933 master      -> origin/master
Updating be9042d..7dcd933
Fast-forward
 Day1-Practice/SumofTwoNum.cpp | 8 ++++----
 1 file changed, 4 insertions(+), 4 deletions(-)
```

Resolve Conflicts (If Any):

If there are conflicts between your changes and the changes in the master branch, Git will notify you. You need to resolve these conflicts manually by editing the conflicted files, marking the conflicts as resolved, and committing the changes.

Commit Your Changes (If Any Conflicts Were Resolved): After resolving conflicts, commit the changes using:

```
OM SAH@CYBERSECURITY MINGW64 /d/Program On GitHub/CPP-OmSah (master)
$ git commit -m "Commit message"
[master be9042d] Commit message
1 file changed, 44 insertions(+)
create mode 100644 Day23-Practice/PracticeSet1.cc
```

Switch to the Main Branch:

Return to the master branch using the git checkout command:

```
OM SAH@CYBERSECURITY MINGW64 /d/Program On GitHub/CPP-OmSah (feature-branch)
$ git checkout master
switched to branch 'master'
```

Merge the Feature Branch:

Merge your feature branch into the main branch using the git merge command:

```
OM SAH@CYBERSECURITY MINGW64 /d/Program On GitHub/CPP-OmSah (master)
$ git merge feature-branch
Updating be9042d..7dcd933
Fast-forward
 Day1-Practice/SumofTwoNum.cpp | 8 ++++----
1 file changed, 4 insertions(+), 4 deletions(-)
```

Resolve Final Conflicts (If Any):

If there are any conflicts during the merge process, repeat the conflict resolution steps mentioned earlier.

Commit the Merge:

After resolving conflicts, commit the merge changes. Git will automatically generate a merge commit message summarizing the changes.

Push the Main Branch:

Finally, push the merged changes to the remote repository's main branch:

```
OM SAH@CYBERSECURITY MINGW64 /d/Program On GitHub/CPP-OmSah (master)
$ git push origin master
Enumerating objects: 6, done.
Counting objects: 100% (6/6), done.
Delta compression using up to 8 threads
Compressing objects: 100% (4/4), done.
Writing objects: 100% (4/4), 830 bytes | 830.00 KiB/s, done.
Total 4 (delta 2), reused 0 (delta 0), pack-reused 0
remote: Resolving deltas: 100% (2/2), completed with 2 local objects.
To github.com:omsah84/CPP-By-OMSAH.git
fa6dbd8..be9042d master -> master
```

Result : Merging the branch to your Main branch has been done successfully.