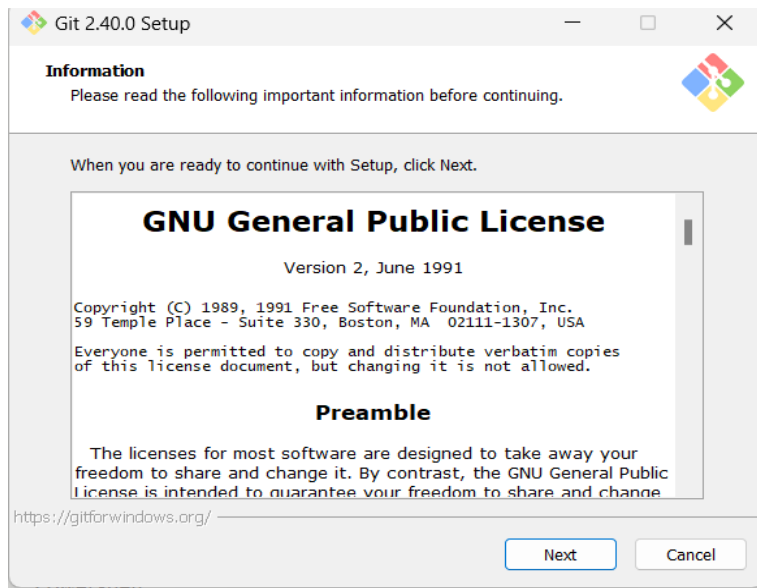# 1. Git Installation

2. Configure Git


```
Aryan@LAPTOP-P4OVNQ3U MINGW64 ~
$ git --version
git version 2.40.0.windows.1

Aryan@LAPTOP-P4OVNQ3U MINGW64 ~
$ git config --global user.name "ARYAN-JAIN"

Aryan@LAPTOP-P4OVNQ3U MINGW64 ~
$ git config --global user.email "demonftw18@gmail.com"
```

3. Creating a Git Folder (Starting a Project)

```
Aryan@LAPTOP-P4OVNQ3U MINGW64 ~
$ mkdir myproject

Aryan@LAPTOP-P4OVNQ3U MINGW64 ~
$ cd myproject

Aryan@LAPTOP-P4OVNQ3U MINGW64 ~/myproject
$ git init
Initialized empty Git repository in C:/Users/Aryan/myproject/.git/

Aryan@LAPTOP-P4OVNQ3U MINGW64 ~/myproject (master)
$ git clone https://github.com/aryanjain1809/devops_practical.git
Cloning into 'devops_practical'...
warning: You appear to have cloned an empty repository.
```

4. Day to day Work

```
Aryan@LAPTOP-P4OVNQ3U MINGW64 ~/myproject/devops_practical (main)
$ ls
Hello.txt

Aryan@LAPTOP-P4OVNQ3U MINGW64 ~/myproject/devops_practical (main)
$ git status
On branch main

No commits yet

Untracked files:
  (use "git add <file>..." to include in what will be committed)
        Hello.txt

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

Aryan@LAPTOP-P4OVNQ3U MINGW64 ~/myproject/devops_practical (main)
$ git add Hello.txt

Aryan@LAPTOP-P4OVNQ3U MINGW64 ~/myproject/devops_practical (main)
$ git diff --staged
diff --git a/Hello.txt b/Hello.txt
new file mode 100644
index 0000000..86b0f2f
--- /dev/null
+++ b/Hello.txt
@@ -0,0 +1,16 @@
+#include <iostream>
+using namespace std;
+
+int main()
+{
+    float x;
+    float y;
+    cout<<"Enter the value of x : ";
+    cin>>x;
+    cout<<"Enter the value of y : ";
+    cin>>y;
+    cout<<"TOTAL SUM IS : " <<x+y <<endl;
+    cout<<"DIFFERENCE IS : " <<x-y <<endl;
+    cout<<"PRODUCT IS : " <<x*y <<endl;
+    cout<<"FRACTION VALUE IS : " <<x/y <<endl;
+}
\ No newline at end of file

Aryan@LAPTOP-P4OVNQ3U MINGW64 ~/myproject/devops_practical (main)
$ git rm Hello.txt -f
rm 'Hello.txt'
```

5. Git Branching Model

```
MINGW64:/c/Users/Aryan/myproject
Aryan@LAPTOP-P4OVNQ3U MINGW64 ~/myproject (main)
$ git branch sigma

Aryan@LAPTOP-P4OVNQ3U MINGW64 ~/myproject (main)
$ git branch
* main
  sigma

Aryan@LAPTOP-P4OVNQ3U MINGW64 ~/myproject (main)
$ git checkout sigma
Switched to branch 'sigma'

Aryan@LAPTOP-P4OVNQ3U MINGW64 ~/myproject (sigma)
$ git status
On branch sigma
Changes not staged for commit:
  (use "git add/rm <file>..." to update what will be committed)
  (use "git restore <file>..." to discard changes in working directory)
        deleted:    Factorial.class
        deleted:    Factorial.java

Untracked files:
  (use "git add <file>..." to include in what will be committed)
        alpha.html

no changes added to commit (use "git add" and/or "git commit -a")

Aryan@LAPTOP-P4OVNQ3U MINGW64 ~/myproject (sigma)
$ git add .

Aryan@LAPTOP-P4OVNQ3U MINGW64 ~/myproject (sigma)
$ git commit -m "sigma commit"
[sigma 86ff7a0] sigma commit
 3 files changed, 9 insertions(+), 15 deletions(-)
 delete mode 100644 Factorial.class
 delete mode 100644 Factorial.java
 create mode 100644 alpha.html
```

```
Aryan@LAPTOP-P4OVNQ3U MINGW64 ~/myproject (sigma)
$ git status
On branch sigma
nothing to commit, working tree clean

Aryan@LAPTOP-P4OVNQ3U MINGW64 ~/myproject (sigma)
$ git push origin sigma
Enumerating objects: 4, done.
Counting objects: 100% (4/4), done.
Delta compression using up to 8 threads
Compressing objects: 100% (2/2), done.
Writing objects: 100% (3/3), 357 bytes | 357.00 KiB/s, done.
Total 3 (delta 0), reused 0 (delta 0), pack-reused 0
remote:
remote: Create a pull request for 'sigma' on GitHub by visiting:
remote:        https://github.com/aryanjain1809/devops2/pull/new/sigma
remote:
To https://github.com/aryanjain1809/devops2.git
 * [new branch]      sigma -> sigma


Aryan@LAPTOP-P4OVNQ3U MINGW64 ~/myproject (sigma)
$ git merge bravo
Updating 86ff7a0..61e0a9b
Fast-forward
 alpha.html => bravo.html | 2 +-
 1 file changed, 1 insertion(+), 1 deletion(-)
 rename alpha.html => bravo.html (81%)

Aryan@LAPTOP-P4OVNQ3U MINGW64 ~/myproject (sigma)
$ git status
On branch sigma
nothing to commit, working tree clean

Aryan@LAPTOP-P4OVNQ3U MINGW64 ~/myproject (sigma)
$ git push --set-upstream origin sigma
Total 0 (delta 0), reused 0 (delta 0), pack-reused 0
To https://github.com/aryanjain1809/devops2.git
   86ff7a0..61e0a9b  sigma -> sigma
branch 'sigma' set up to track 'origin/sigma'.
```
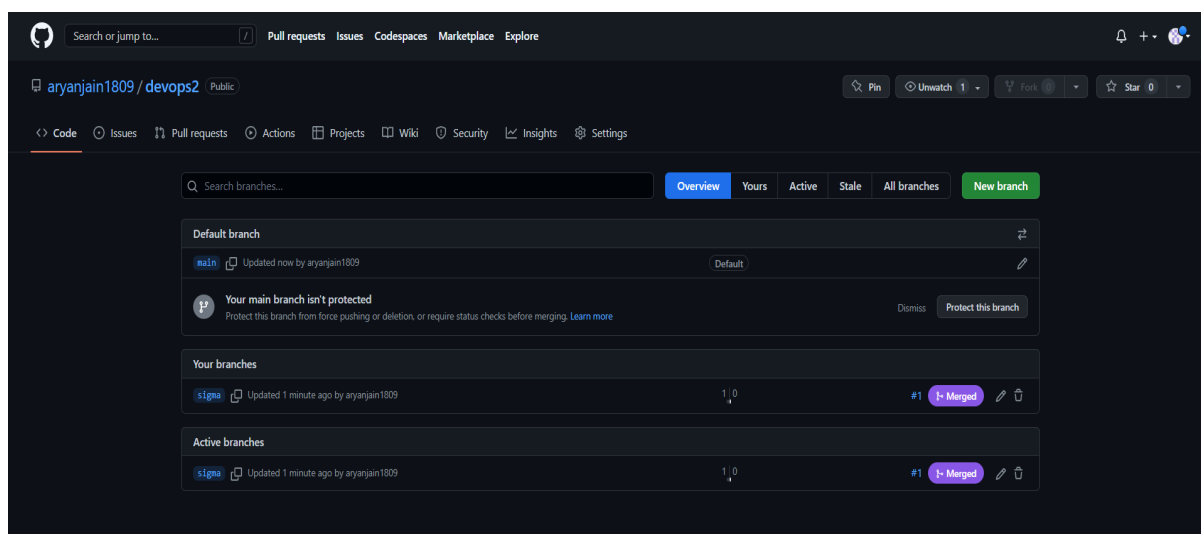
6. Review your work

```
Aryan@LAPTOP-P4OVNQ3U MINGW64 ~/myproject (sigma)
$ git log
commit 61e0a9bc2caf1c076bb4c15b421cc4972e37eace (HEAD -> sigma, origin/sigma, origin/bravo, bravo)
Author: aryanjain1809 <demonftw18@gmail.com>
Date:   Tue Mar 28 01:32:45 2023 +0530

    bravo

commit 86ff7a0a940feeb94f3e89378560e73cce13af10 (main)
Author: aryanjain1809 <demonftw18@gmail.com>
Date:   Tue Mar 28 01:20:10 2023 +0530

    sigma commit

commit 617024a67f9a1e08bf83e11c0bb0f9de0a7ecd97 (origin/main)
Author: ARYAN-JAIN <demonftw18@gmail.com>
Date:   Tue Mar 28 00:42:09 2023 +0530

    java code

Aryan@LAPTOP-P4OVNQ3U MINGW64 ~/myproject (sigma)
$ git log --oneline --graph --decorate
* 61e0a9b (HEAD -> sigma, origin/sigma, origin/bravo, bravo) bravo
* 86ff7a0 (main) sigma commit
* 617024a (origin/main) java code
```