형상관리 도구

Version Control Revision Control Tool

- 소프트웨어 버전 관리 툴이라고도 한다.

- 소스의 저장용도 또는 하나의 프로젝트를 여러 명이 수정 하는 용도로 쓴다.

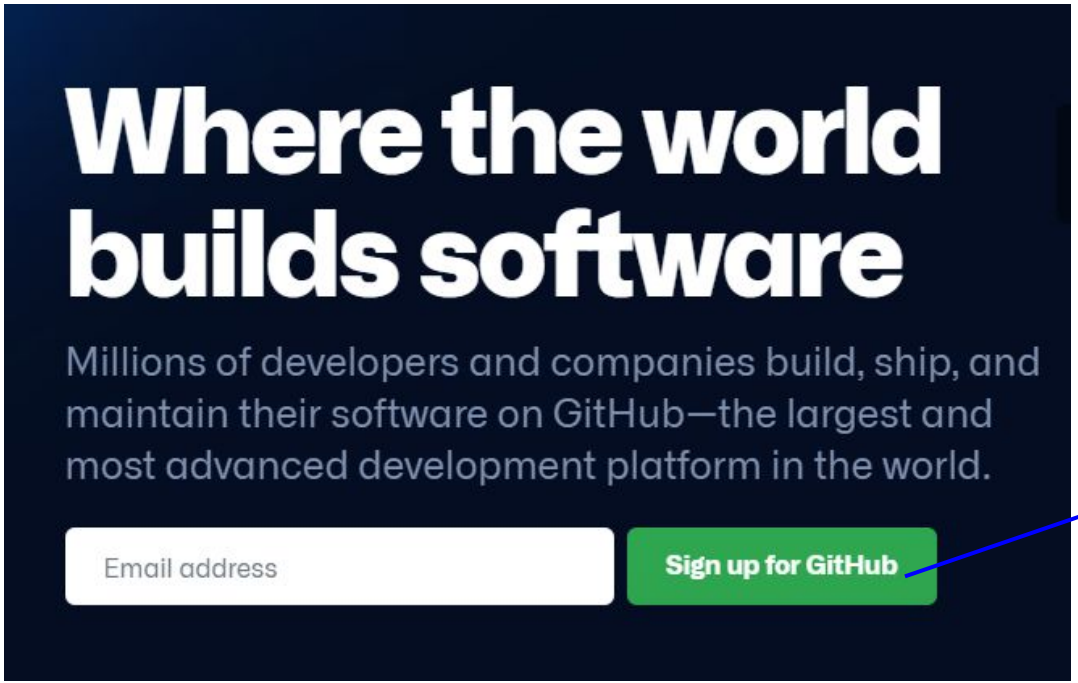
- 소스를 버전 별로 관리할 수 있어서 개발할 때 실수로 소스를 삭제하거나, 수정하기 이전으로 돌아가야되는 경우 유용하게 사용되는 툴.

- 또한 팀 프로젝트에서도 누가 무엇을 어떻게 수정했는지도 알 수 있기 때문에 코드를 병합하거나 수정된 소스를 추적하는 데에도 쓰인다.

형상관리 도구 Git 사용하기

1.GitHub 가입

https://github.com/ 접속 또는 검색사이트에 깃허브 검색



클릭하고 가입 진행

무료버전 선택

2.Git 설치

Git 다운로드 사이트 - Window

https://git-scm.com/download/win

프로그램 다운로드 후 설치 가이드(next만 누르면 됨)

https://goddaehee.tistory.com/216?category=381481

Git 우분투 설치 – windows는 해당 안됨

```
sudo apt-get install git
```

```
sudo apt install git
```

https://coding-factory.tistory.com/502 해당 사이트 확인

- Git Bash에서 깃 버전을 확인 해보자.

git --version

2.12 Git 사용자 등록 및 확인

1. 사용자 등록

```
git config --global user.name "name"
git config --global user.email "god@god.com"
```

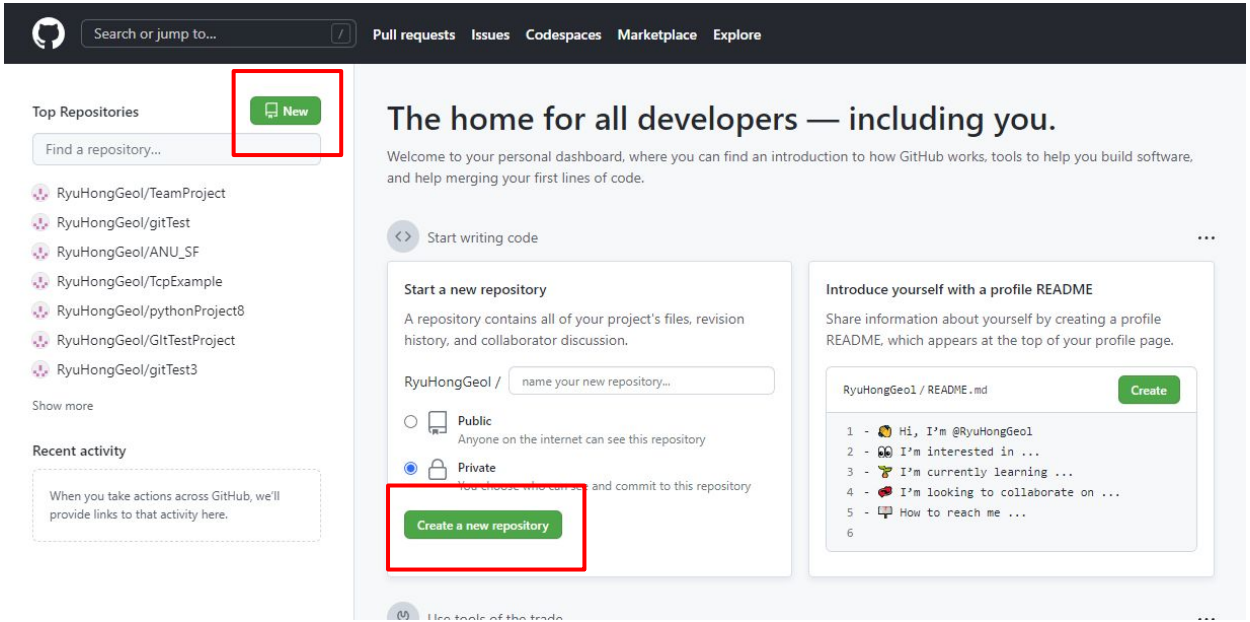
2. 확인

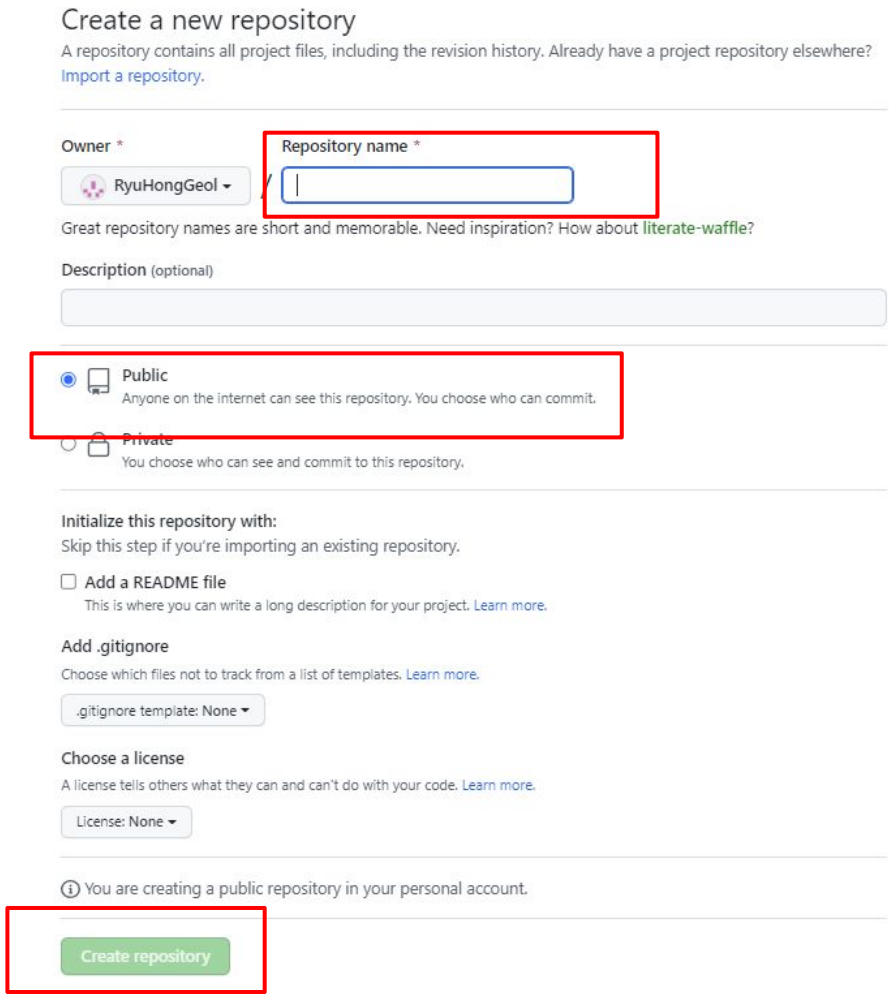
```
git config --list
```

```
dedur@DESKTOP-9F838L4 MINGW64 /c
$ git config --list
diff.astextplain.textconv=astextplain
filter.lfs.clean=git-lfs clean -- %f
filter.lfs.smudge=git-lfs smudge -- %f
filter.lfs.process=git-lfs filter-process
filter.lfs.required=true
http.sslbackend=openssl
http.sslcainfo=C:/Program Files/Git/mingw64/ssl/certs/ca-bundle.crt
core.autocrlf=true
core.fscache=true
core.symlinks=false
credential.helper=manager
user.name=[redacted]
user.email=[redacted]
```

https://github.com/ 사이트에 접속하고 로그인을 한다.

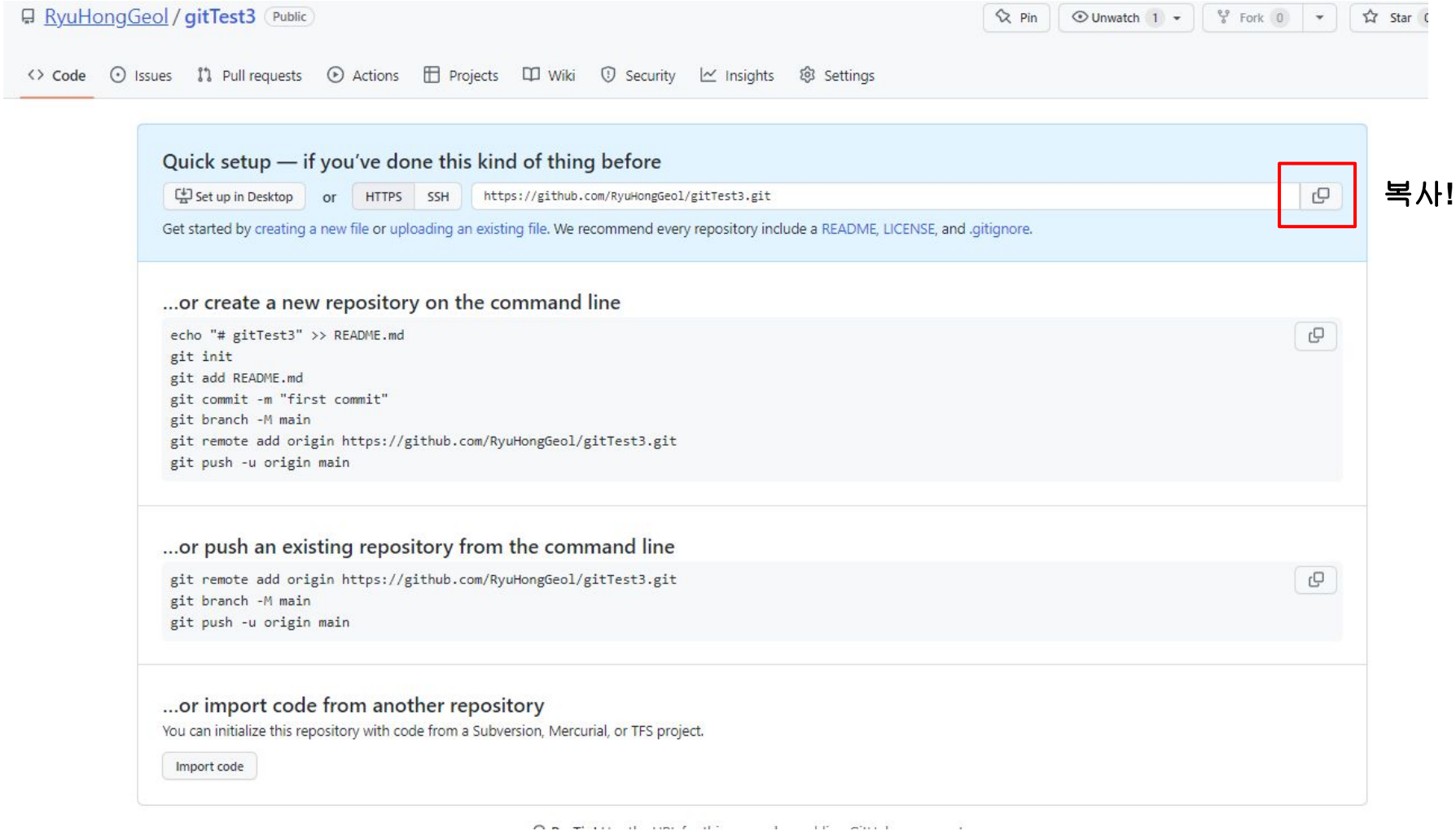
new 또는 Create new repository를 눌러 새로운 repository를 생성한다.





repository name을 작성하고

권한은 public으로 한다.


RyuHongGeol / gitTest3 Public
Pin
Unwatch 1
Fork 0
Star
Code
Issues
Pull requests
Actions
Projects
Wiki
Security
Insights
Settings
Quick setup — if you've done this kind of thing before
Set up in Desktop
or
HTTPS
SSH
https://github.com/RyuHongGeol/gitTest3.git
Get started by creating a new file or uploading an existing file. We recommend every repository include a README, LICENSE, and .gitignore.
...or create a new repository on the command line
echo "# gitTest3" >> README.md
git init
git add README.md
git commit -m "first commit"
git branch -M main
git remote add origin https://github.com/RyuHongGeol/gitTest3.git
git push -u origin main
...or push an existing repository from the command line
git remote add origin https://github.com/RyuHongGeol/gitTest3.git
git branch -M main
git push -u origin main
...or import code from another repository
You can initialize this repository with code from a Subversion, Mercurial, or TFS project.
Import code

복사!

명령 프롬프트

cd \ 리눅스는 cd ~
cd 폴더 경로

c드라이브에 새폴더 생성하고 해당 폴더에서 명령 프롬프트 실행

git clone repository경로

경로는 github에서 복사해 온다.
repository가 복사되어 폴더가 생성된다.

cd 생성된폴더

.git이라는 숨김폴더가 있는 것을 확인한다.
.git은 메타데이터를 저장하는 폴더

해당 폴더에서 메모장을 열어 새로운 document.txt 라는 파일을 만든다.

git add document.txt

staging area에 반영

git commit -m “create new file”

Local Repository에 반영

git push

github인 remote Repository에 반영
github에 해당 Repository에 반영되었는지 확인한다.

```
C:₩Users₩AioT120>cd ₩

C:₩>cd education

C:₩education>git clone https://github.com/RyuHongGeol/gitTest3.git
Cloning into 'gitTest3'...
warning: You appear to have cloned an empty repository.

C:₩education>cd gitTest3

C:₩education₩gitTest3>git add document.txt
```

```
C:₩education₩gitTest3>git commit -m "create new file"
[main (root-commit) 19b78fc] create new file
 1 file changed, 0 insertions(+), 0 deletions(-)
 create mode 100644 document.txt

C:₩education₩gitTest3>git push
Enumerating objects: 3, done.
Counting objects: 100% (3/3), done.
Writing objects: 100% (3/3), 220 bytes | 220.00 KiB/s, done.
Total 3 (delta 0), reused 0 (delta 0), pack-reused 0
To https://github.com/RyuHongGeol/gitTest3.git
 * [new branch]      main -> main
```

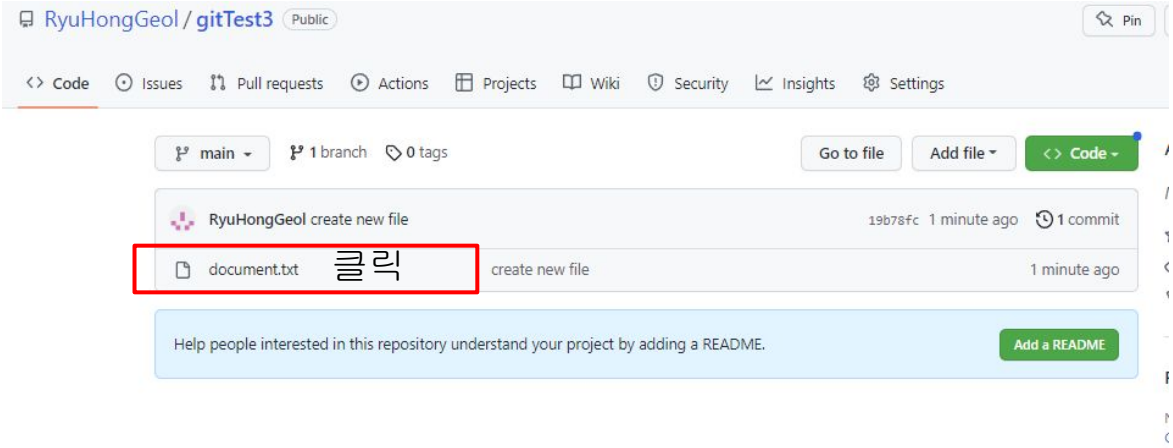
실행 예제 화면

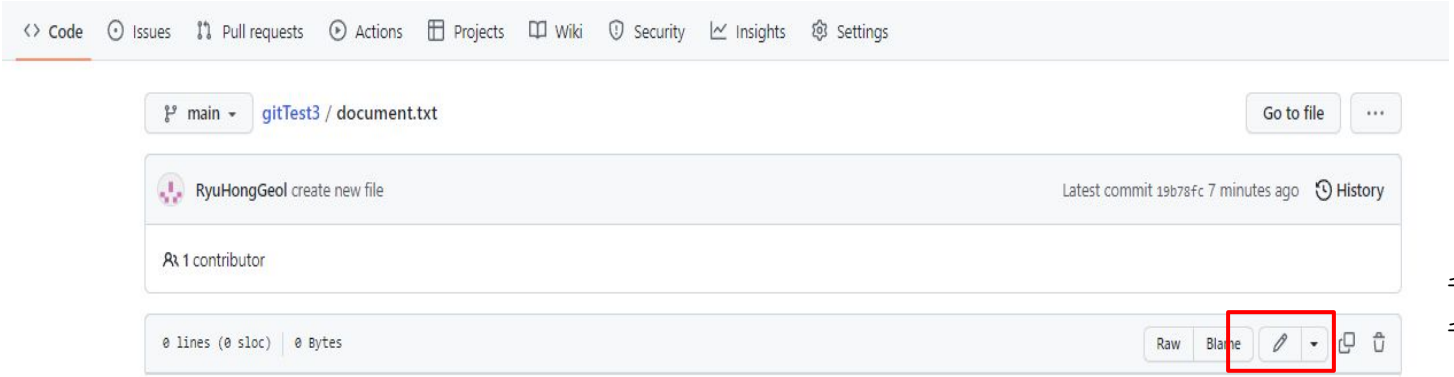
참고

git status

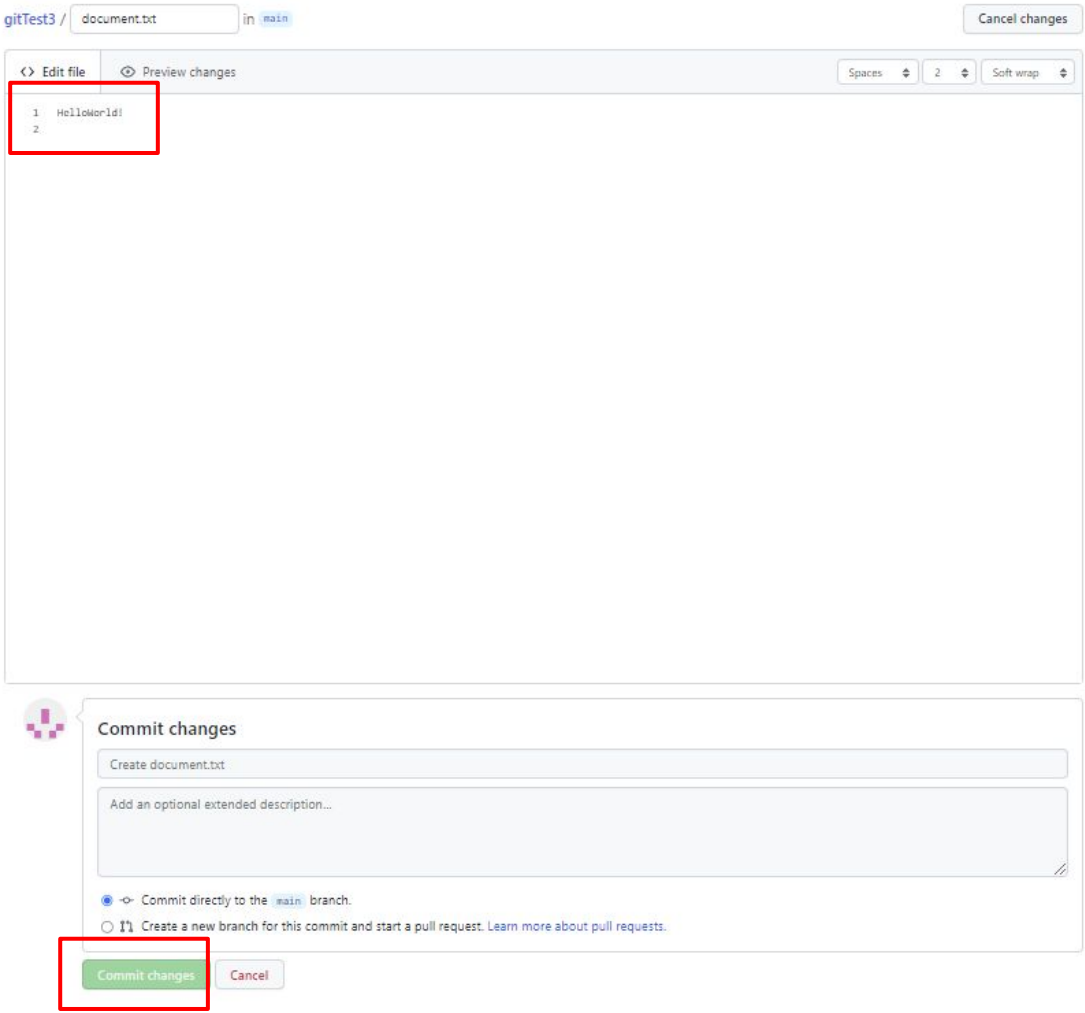
명령어를 사용하면 상태를 확인할 수 있다.

github에 반영되었다.

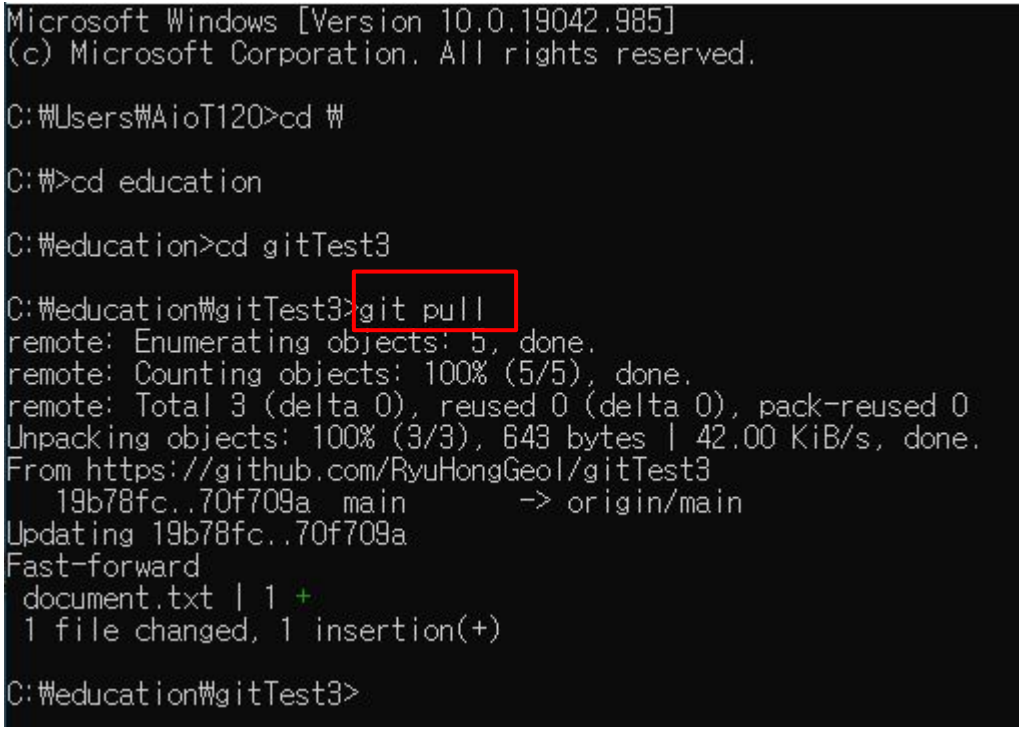




수정 표시 눌러서
수정해보자



수정하고 아래 **Commit** 버튼 눌러서 반영



명령 프롬프트

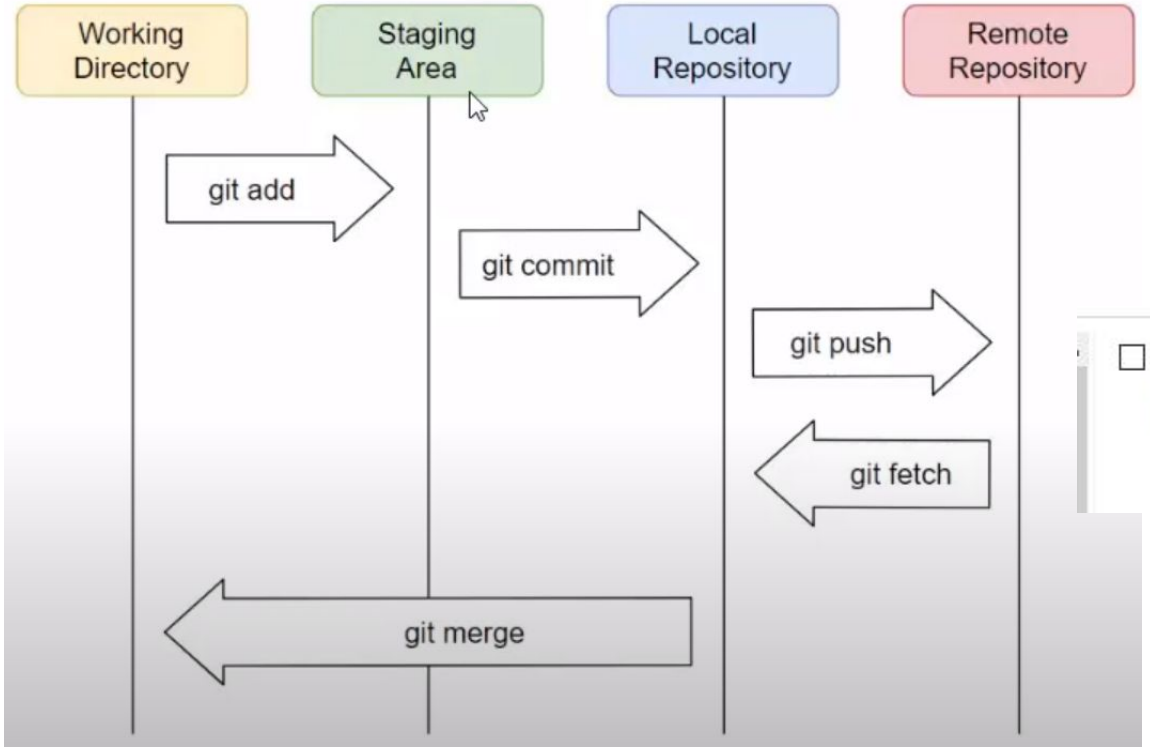
git pull

->github에서 수정된 내용이
LocalRepository에 반영된다.
pull은 fetch, merge 명령어를 합친 기능

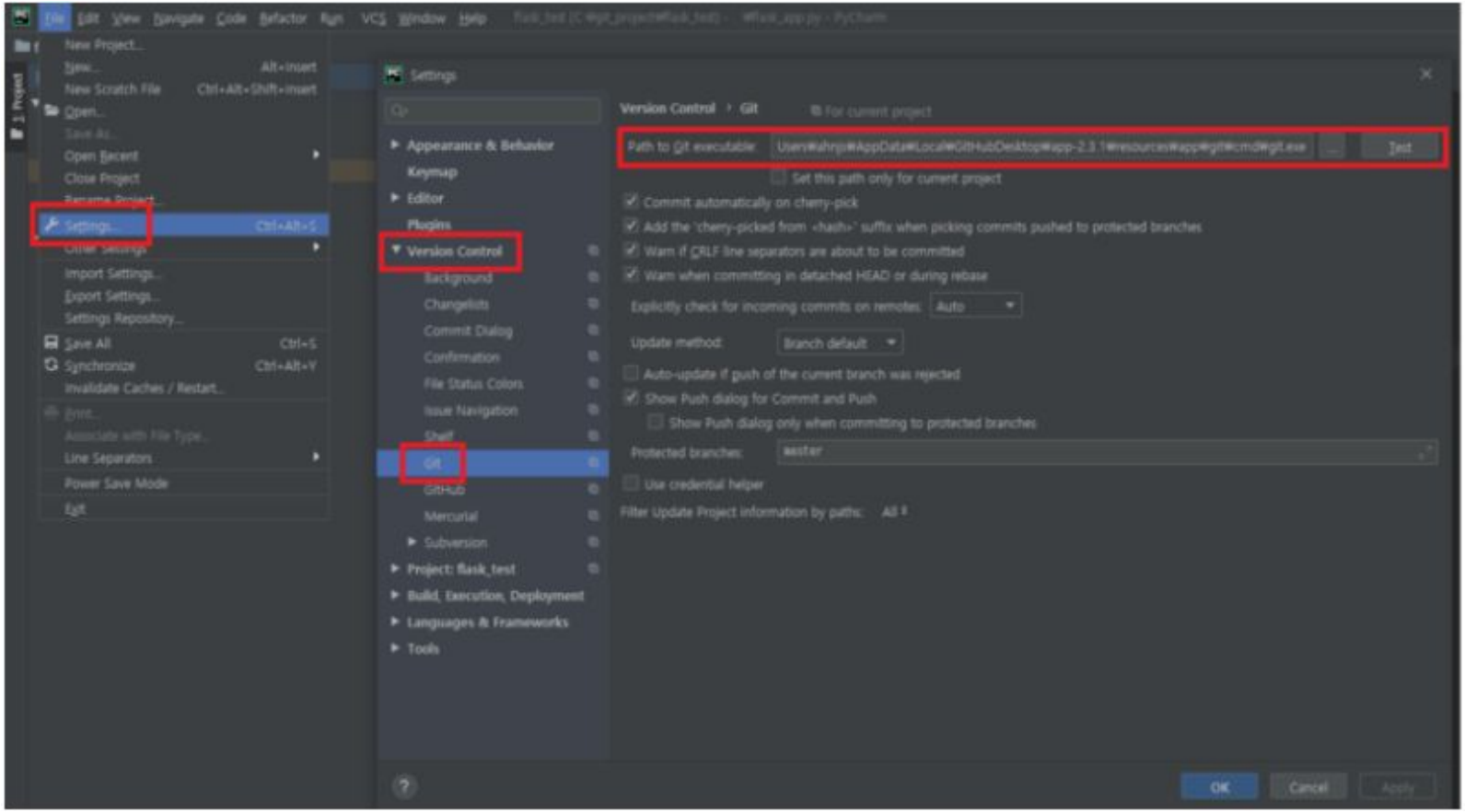
작업한 파일

커밋을 수행할
파일이 있는 영역

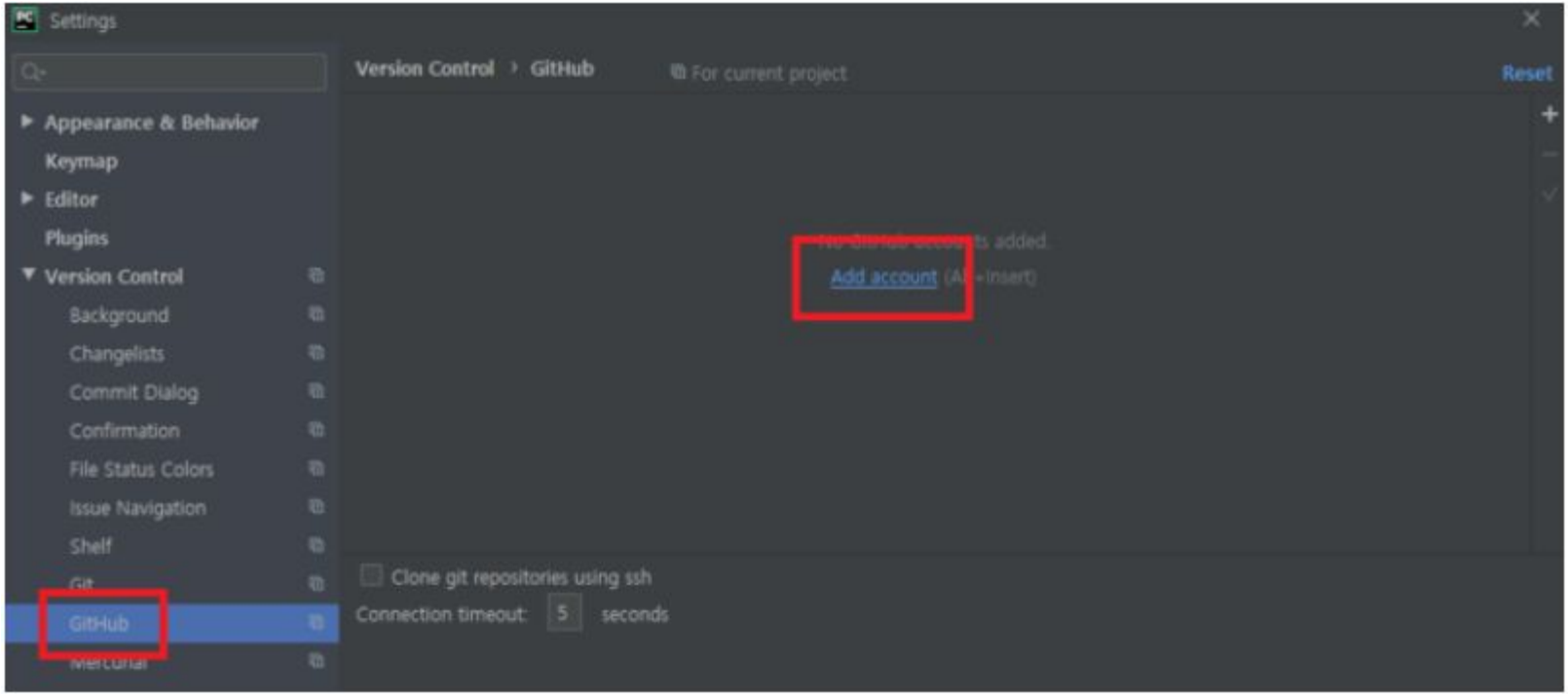
Git 프로젝트의
메타 데이터와
데이터 정보 저장



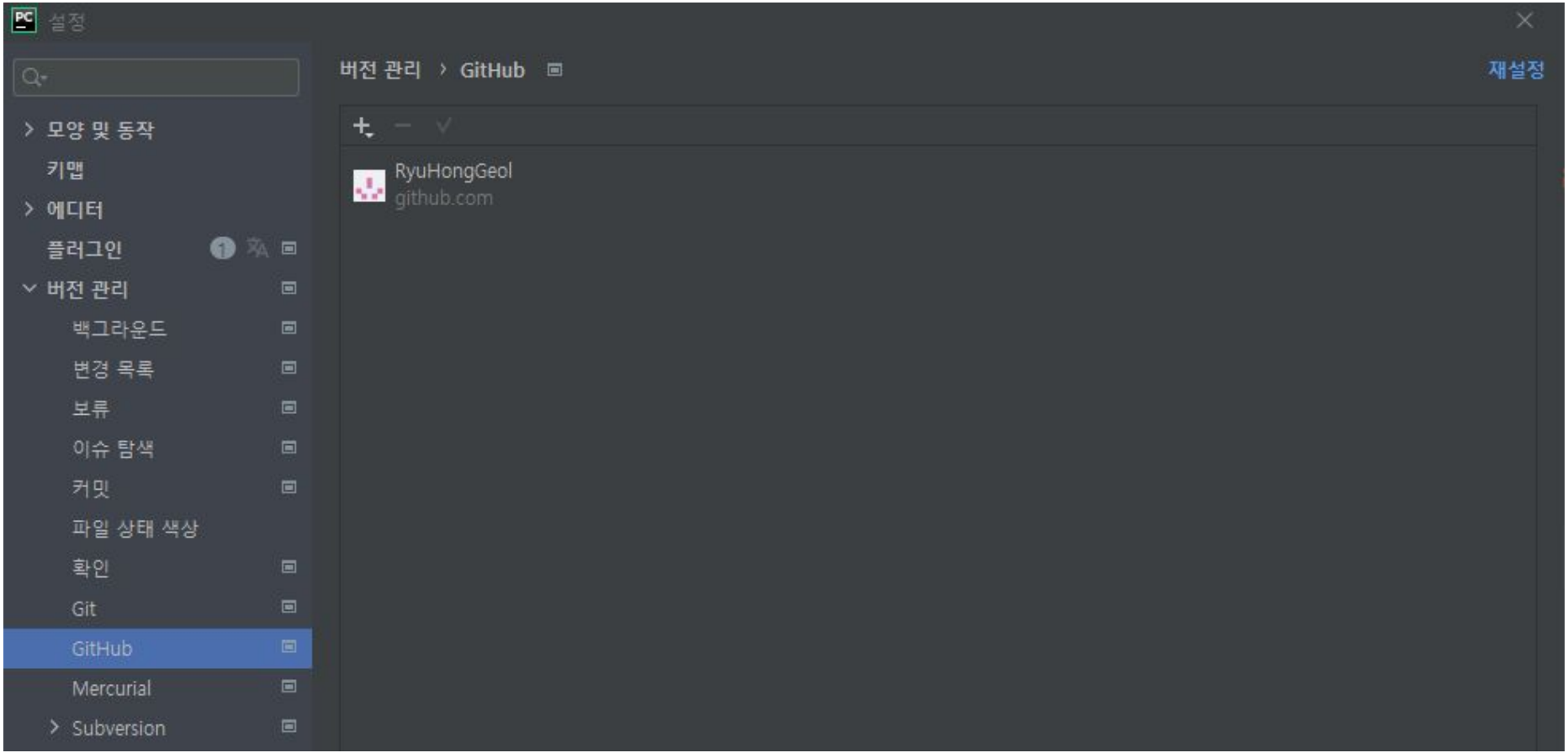
3.GitHub에 내 프로젝트 올리기 - Pycharm



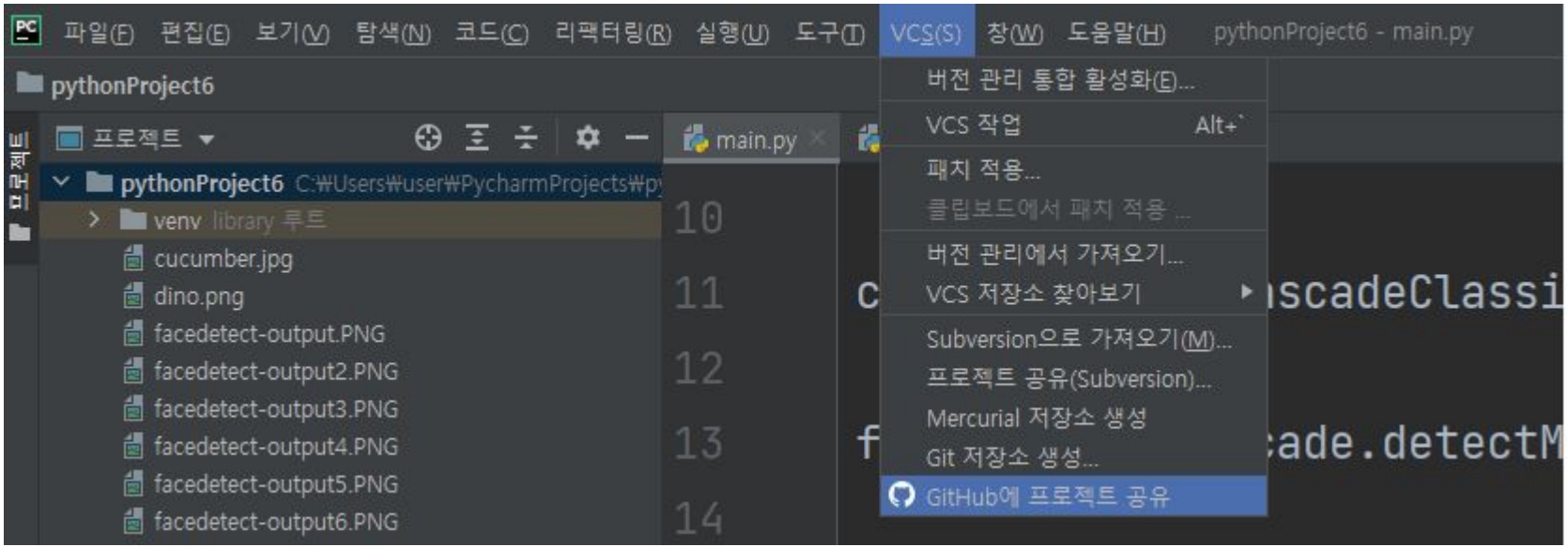
3.GitHub에 내 프로젝트 올리기 - Pycharm



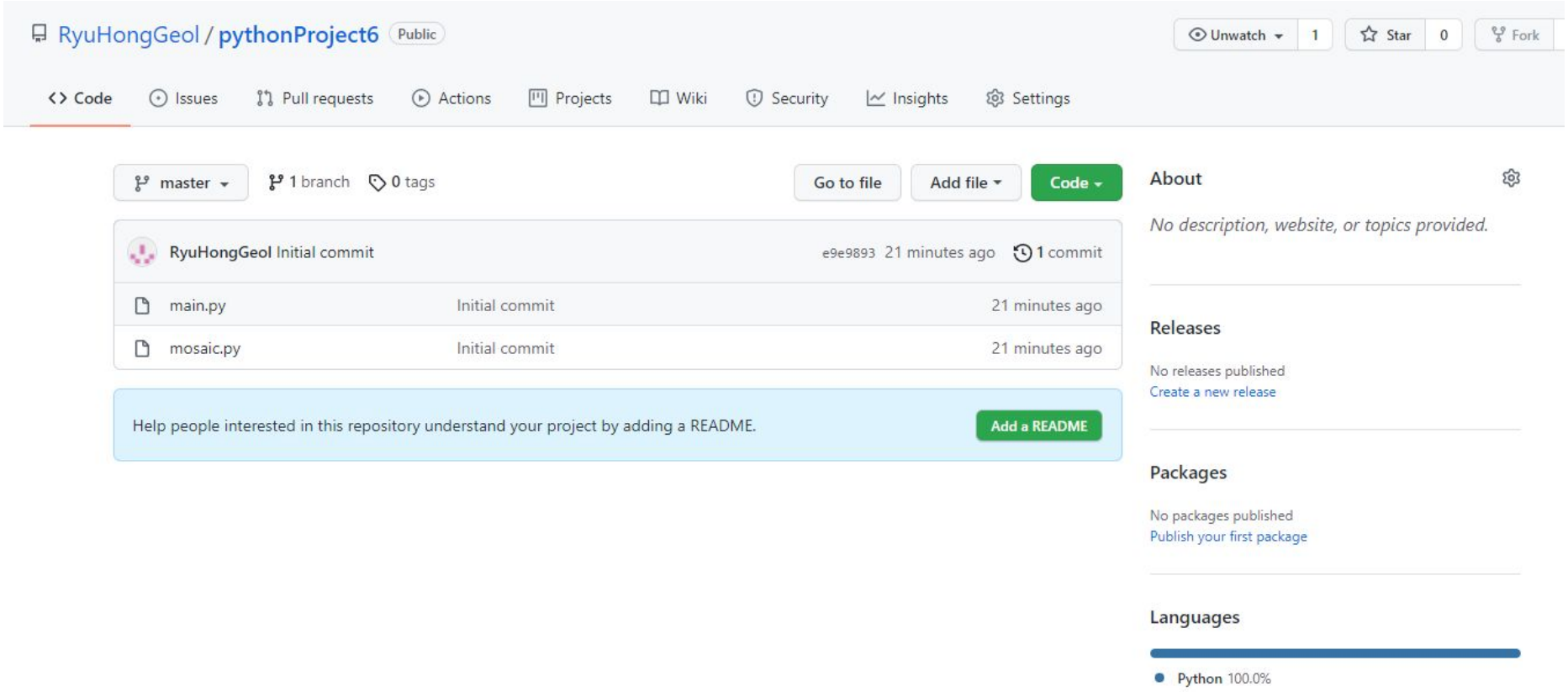
3.GitHub에 내 프로젝트 올리기 - Pycharm



3.GitHub에 내 프로젝트 올리기 - Pycharm



3.GitHub에 내 프로젝트 올리기 - Pycharm



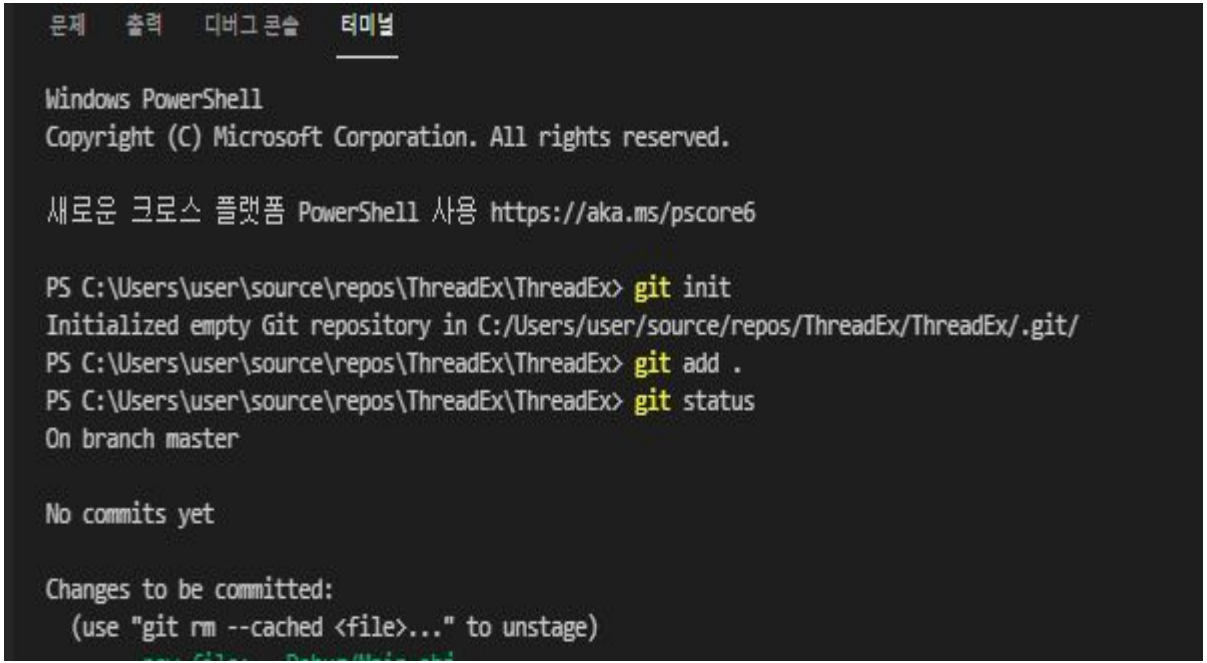
참고 자료

3.GitHub에 내 프로젝트 올리기 - VS Code , Terminal

VsCode 실행 후 터미널 창 실행

입력<< git init

3.GitHub에 내 프로젝트 올리기 - VS Code , Terminal



입력<<git add .

‘.’은 전부다 올리겠다는 뜻

‘.’대신 특정 파일 지정 가능

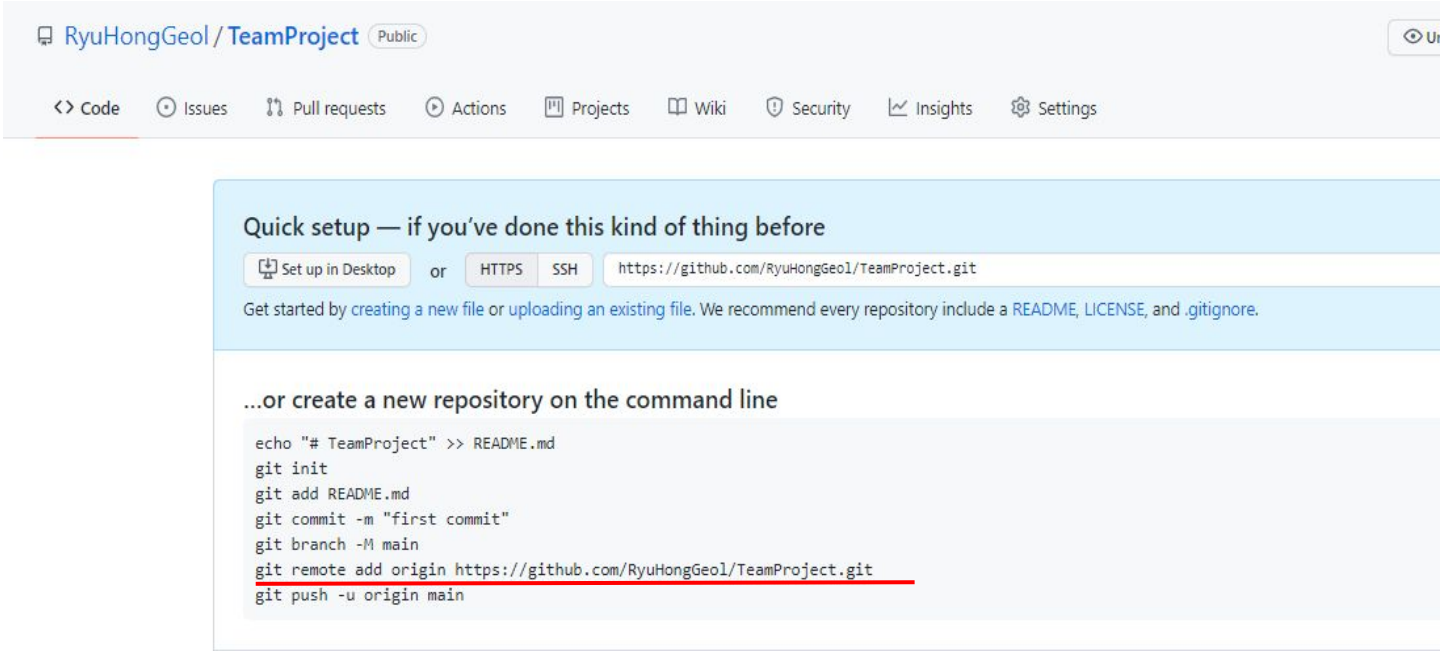
입력<<git status

상태 확인

```
PS C:\Users\user\source\repos\ThreadEx\ThreadEx> git commit -m "first commit"
[master (root-commit) 4191a4f] first commit
 19 files changed, 230 insertions(+)
 create mode 100644 Debug/Main.obj
 create mode 100644 Debug/ThreadEx.Build.CppClean.log
 create mode 100644 Debug/ThreadEx.exe.recipe
 create mode 100644 Debug/ThreadEx.ilk
 create mode 100644 Debug/ThreadEx.log
 create mode 100644 Debug/ThreadEx.tlog/CL.command.1.tlog
 create mode 100644 Debug/ThreadEx.tlog/CL.read.1.tlog
 create mode 100644 Debug/ThreadEx.tlog/CL.write.1.tlog
 create mode 100644 Debug/ThreadEx.tlog/ThreadEx.lastbuildstate
 create mode 100644 Debug/ThreadEx.tlog/link.command.1.tlog
 create mode 100644 Debug/ThreadEx.tlog/link.read.1.tlog
 create mode 100644 Debug/ThreadEx.tlog/link.write.1.tlog
 create mode 100644 Debug/ThreadEx.vcxproj.FileListAbsolute.txt
 create mode 100644 Debug/vc142.idb
 create mode 100644 Debug/vc142.pdb
 create mode 100644 Main.cpp
 create mode 100644 ThreadEx.vcxproj
 create mode 100644 ThreadEx.vcxproj.filters
 create mode 100644 ThreadEx.vcxproj.user
PS C:\Users\user\source\repos\ThreadEx\ThreadEx>
```

입력<<git commit -m “first commit”

“first commit”이라는 이름으로
이 파일의 버전을 만듬



새로 Repository 생성한 후 생기는 Command line 복사 후 붙여넣기

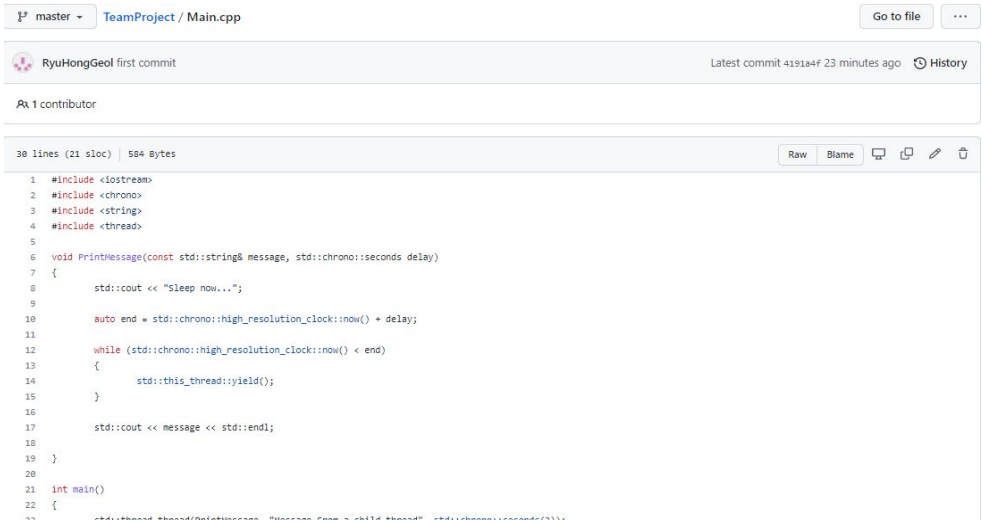
```
PS C:\Users\user\source\repos\ThreadEx\ThreadEx> git remote add origin https://github.com/RyuHongGeol/TeamProject.git
PS C:\Users\user\source\repos\ThreadEx\ThreadEx> git remote -v
origin  https://github.com/RyuHongGeol/TeamProject.git (fetch)
origin  https://github.com/RyuHongGeol/TeamProject.git (push)
PS C:\Users\user\source\repos\ThreadEx\ThreadEx>
```

입력<<git remote -v
연결된 repository 주소 확인

3.GitHub에 내 프로젝트 올리기 - VS Code , Terminal

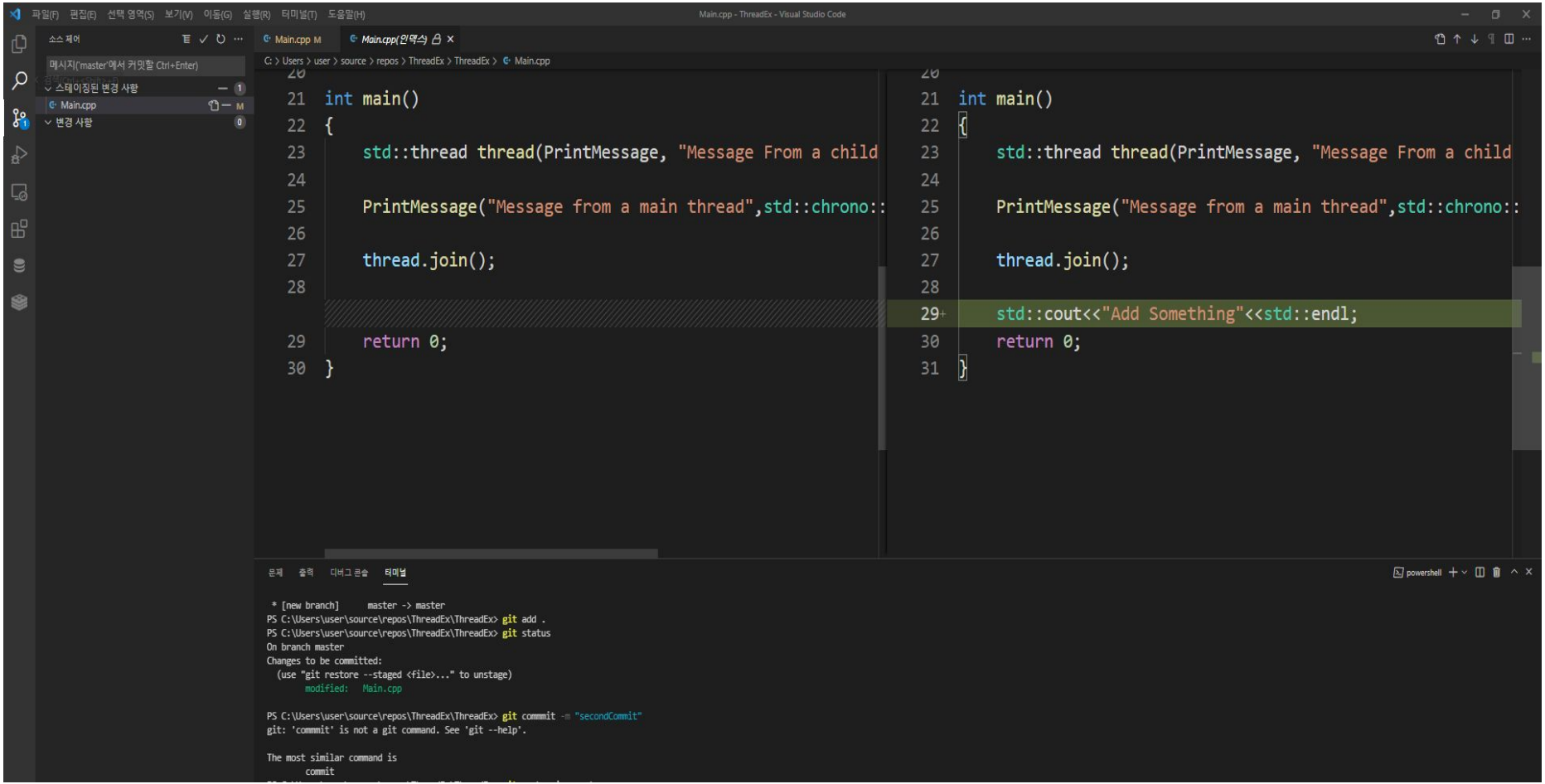
```
PS C:\Users\user\source\repos\ThreadEx\ThreadEx> git push origin master
Enumerating objects: 23, done.
Counting objects: 100% (23/23), done.
Delta compression using up to 8 threads
Compressing objects: 100% (22/22), done.
Writing objects: 100% (23/23), 287.98 KiB | 3.13 MiB/s, done.
Total 23 (delta 3), reused 0 (delta 0), pack-reused 0
remote: Resolving deltas: 100% (3/3), done.
To https://github.com/RyuHongGeol/TeamProject.git
 * [new branch]      master -> master
PS C:\Users\user\source\repos\ThreadEx\ThreadEx>
```

입력<<git push origin master
mater에 내 프로젝트 push(밀어넣기) 하기



Git hub에서 올라간 코드 확인

3.GitHub에 내 프로젝트 올리기 - VS Code , Terminal

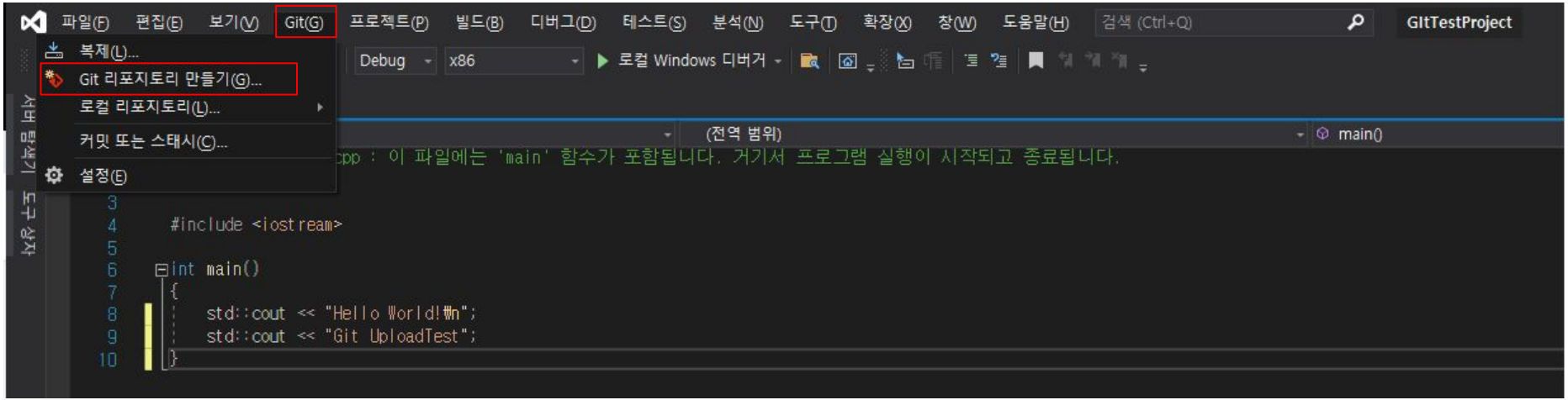


3.GitHub에 내 프로젝트 올리기 - VS Code , Terminal

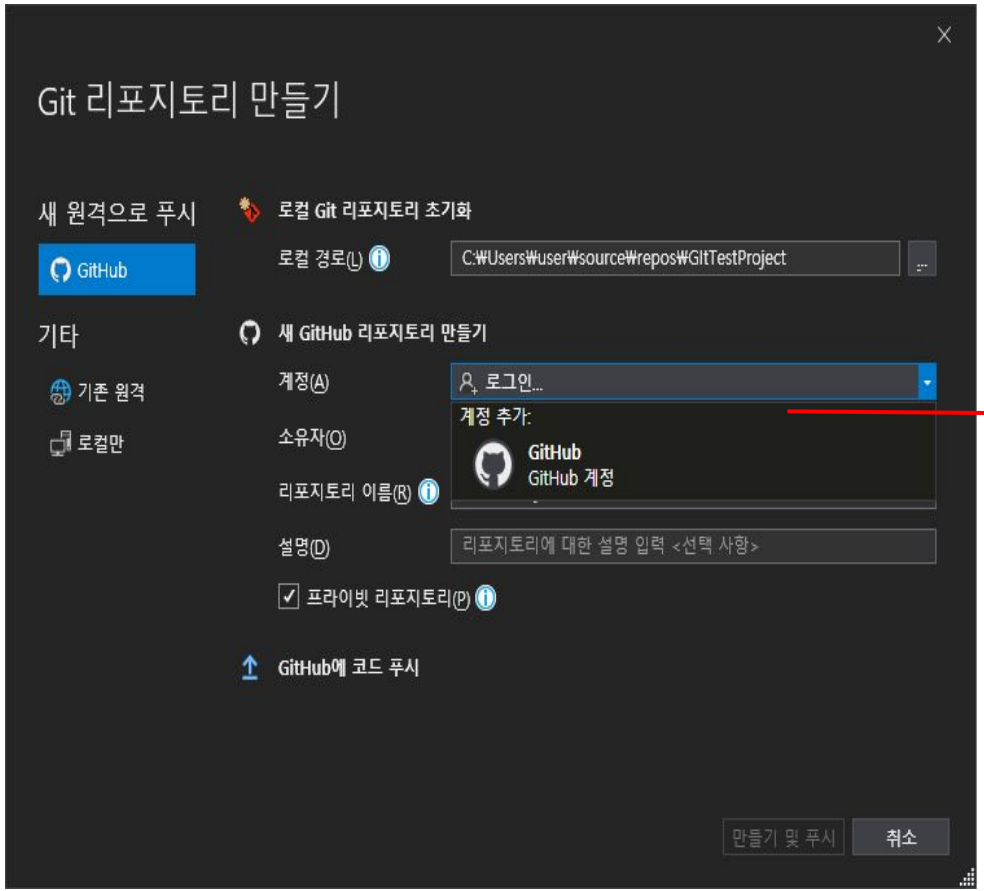
```
 * [new branch]      master -> master
PS C:\Users\user\source\repos\ThreadEx\ThreadEx> git add .
PS C:\Users\user\source\repos\ThreadEx\ThreadEx> git status
On branch master
Changes to be committed:
  (use "git restore --staged <file>..." to unstage)
        modified:   Main.cpp
```

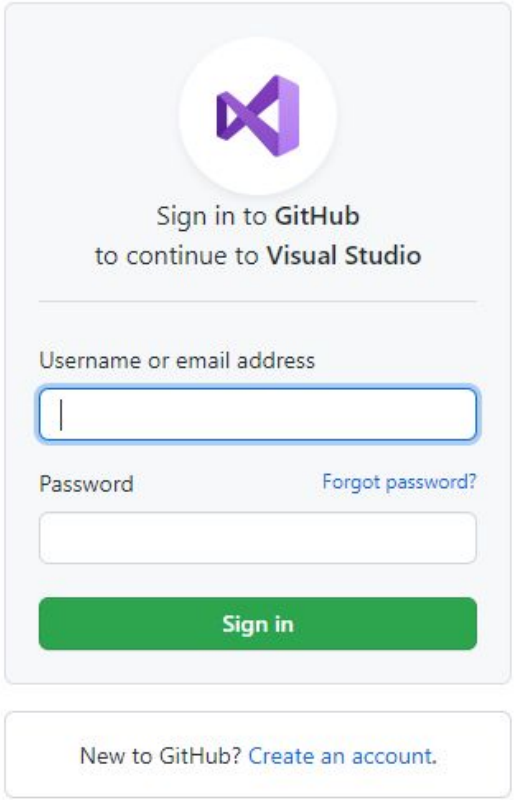
```
PS C:\Users\user\source\repos\ThreadEx\ThreadEx> git commit -m "secondCommit"
[master 251c669] secondCommit
 1 file changed, 1 insertion(+)
PS C:\Users\user\source\repos\ThreadEx\ThreadEx> git push origin master
Enumerating objects: 5, done.
Counting objects: 100% (5/5), done.
Delta compression using up to 8 threads
Compressing objects: 100% (3/3), done.
Writing objects: 100% (3/3), 335 bytes | 335.00 KiB/s, done.
Total 3 (delta 2), reused 0 (delta 0), pack-reused 0
remote: Resolving deltas: 100% (2/2), completed with 2 local objects.
To https://github.com/RyuHongGeol/TeamProject.git
   4191a4f..251c669  master -> master
PS C:\Users\user\source\repos\ThreadEx\ThreadEx>
```

3.GitHub에 내 프로젝트 올리기 - VisualStudio

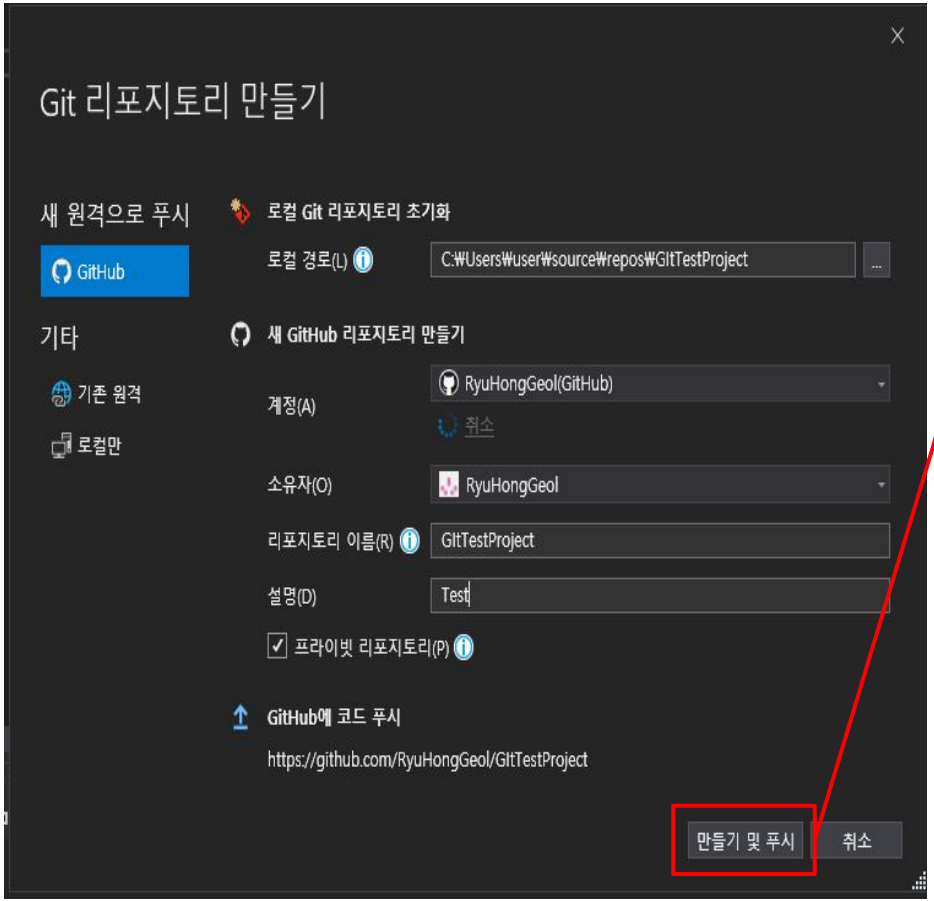


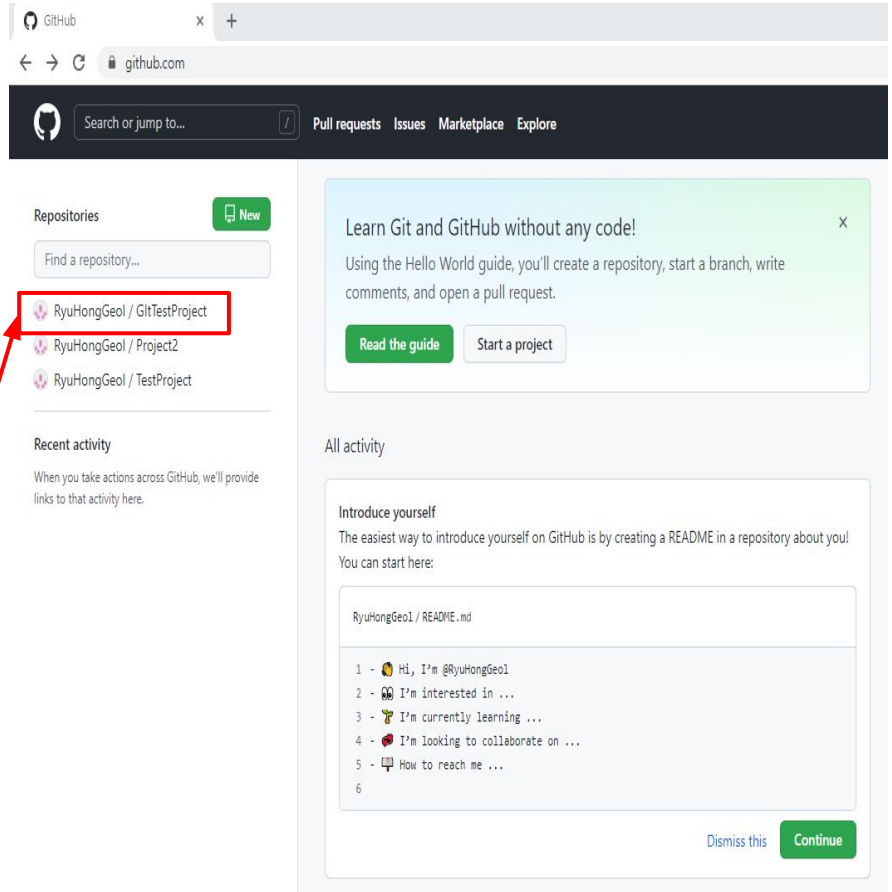
3.GitHub에 내 프로젝트 올리기 - VisualStudio



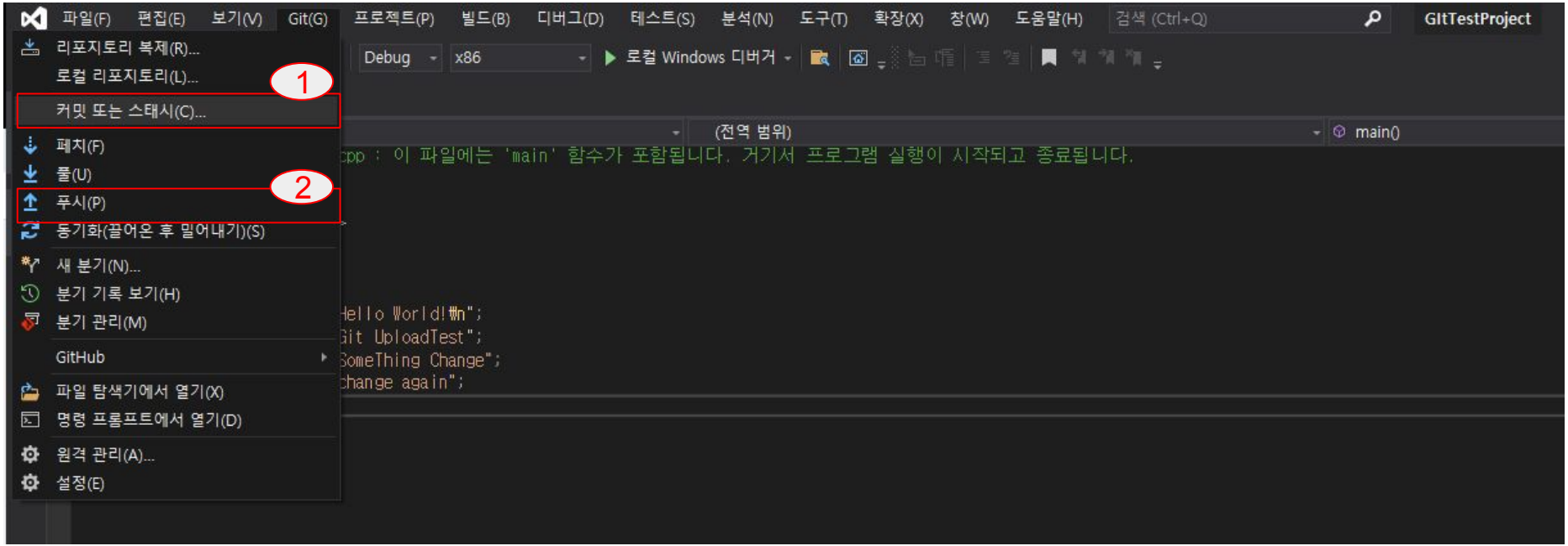


3.GitHub에 올라 간 것 확인





4.GitHub에 내 프로젝트 업데이트하기 - VisualStudio



1.커밋해서 로컬에 업데이트 후

2.GitHub의 Repository에 Push하여 업데이트

second commit

Browse files

master

RyuHongGeol committed 11 minutes ago 1 parent a6fbaef commit b3c823eb4b195826c5b2fbc877053a3a05e63f77

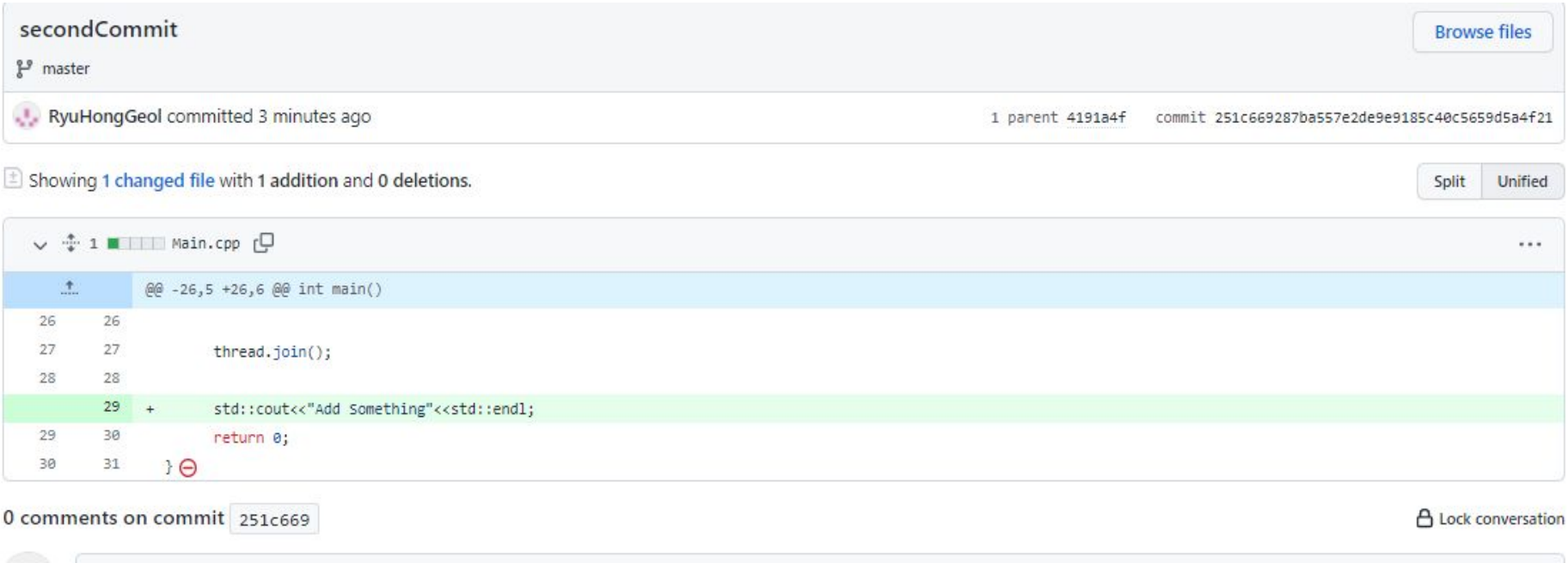
Showing 1 changed file with 1 addition and 0 deletions. Split | Unified

1 GItTestProject/GItTestProject.cpp

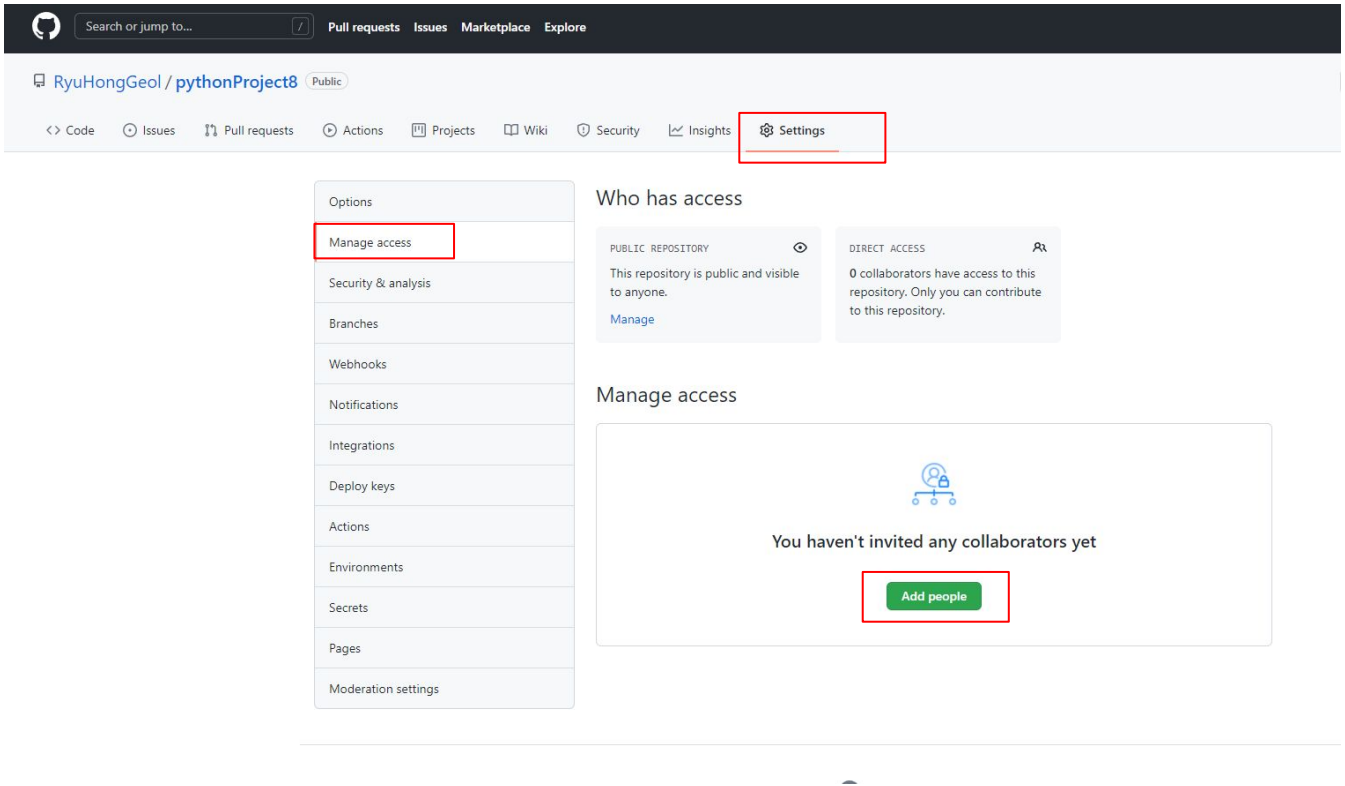
```
@@ -8,4 +8,5 @@ int main()
8  8      std::cout << "Hello World!\n";
9  9      std::cout << "Git UploadTest";
10 10     std::cout << "SomeThing Change";
   11 +   std::cout << "change again";
11 12  }
```

Update 된 부분 확인 가능

3.GitHub에 내 프로젝트 올리기 - VS Code , Terminal



4.Git 소스코드 공유하기



4.Git 소스코드 공유하기

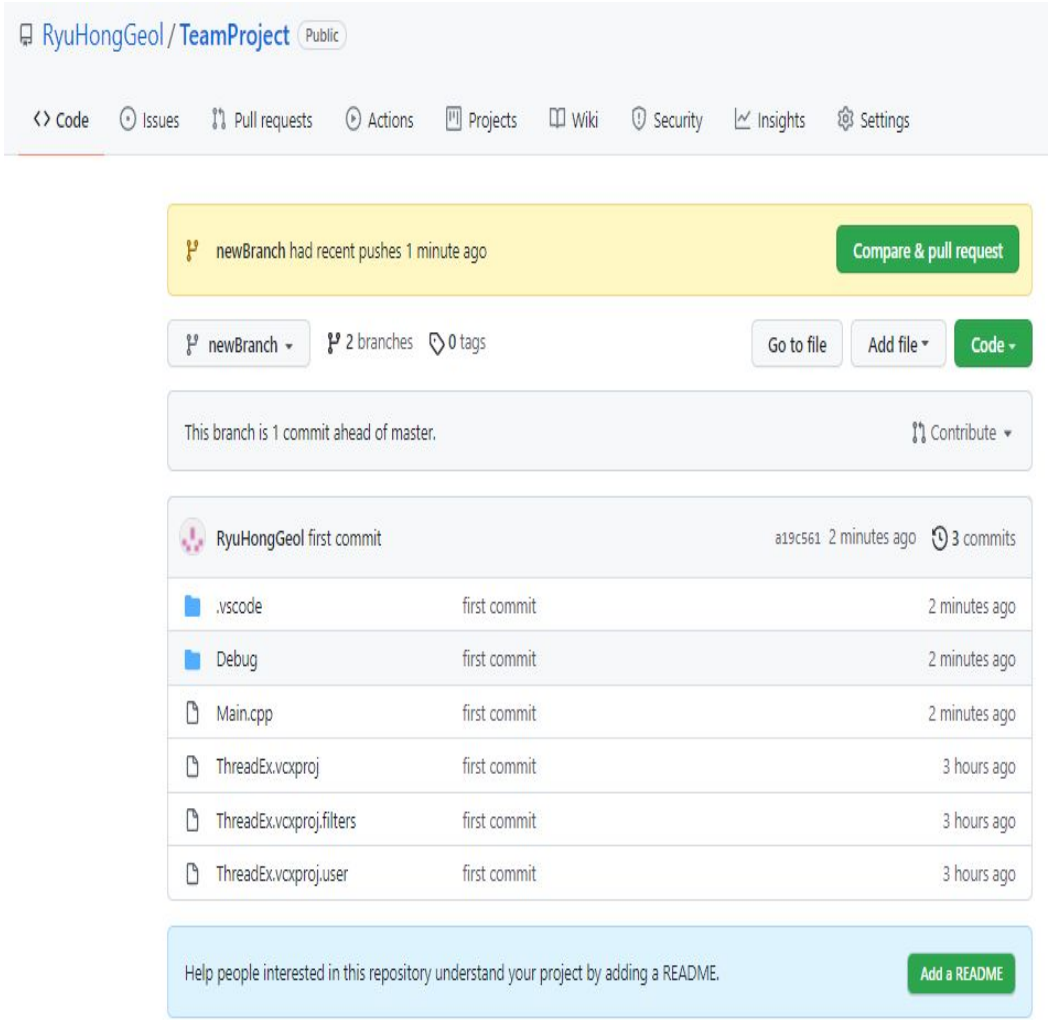
1) Github에서 소스코드 다운로드

`git clone 주소 폴더이름`

- 주소는 깃허브에서 들고와야함
- 폴더이름은 선택사항이다 (즉 없어도됨) 폴더이름을 줄경우에는 그 폴더가 새로 생성이 되면서 그 안에 코드들이 다운로드가 되고, 폴더이름을 안줄경우엔 깃허브 프로젝트 이름으로 폴더가 자동으로 생기고 그안에 코드들이 다운로드된다.

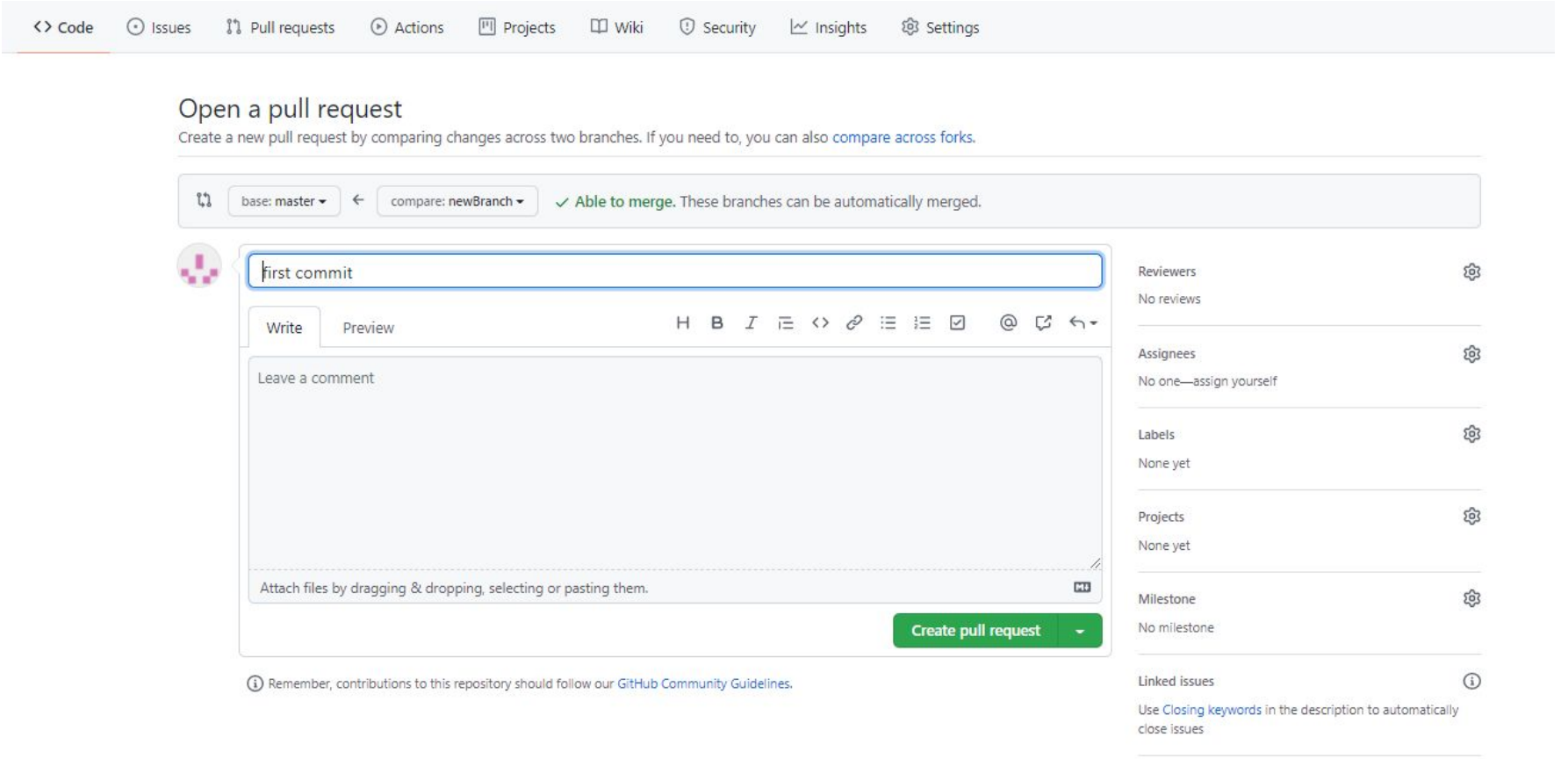
2) Github에서 내 브렌치(branch)만들기

`git checkout -b 브렌치이름`



3)내 브렌치에 소스코드 업데이트하기

```
git add .
git commit -m "first commit"
git push origin 브렌치이름
```


Code
Issues
Pull requests
Actions
Projects
Wiki
Security
Insights
Settings
Open a pull request
Create a new pull request by comparing changes across two branches. If you need to, you can also compare across forks.
base: master
compare: newBranch
Able to merge. These branches can be automatically merged.
first commit
Write
Preview
Leave a comment
Attach files by dragging & dropping, selecting or pasting them.
Create pull request
Remember, contributions to this repository should follow our GitHub Community Guidelines.
Reviewers
No reviews
Assignees
No one—assign yourself
Labels
None yet
Projects
None yet
Milestone
No milestone
Linked issues
Use Closing keywords in the description to automatically close issues

first commit #1

Open RyuHongGeol wants to merge 1 commit into `master` from `newBranch`

Conversation 0 | Commits 1 | Checks 0 | Files changed 6

RyuHongGeol commented now — Owner

No description provided.

first commit a19c561

Add more commits by pushing to the `newBranch` branch on **RyuHongGeol/TeamProject**.

Continuous integration has not been set up

GitHub Actions and several other apps can be used 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.

first commit #1

Merged RyuHongGeol merged 1 commit into `master` from `newBranch` now

Conversation 0 | Commits 1 | Checks 0 | Files changed 6

RyuHongGeol commented 43 seconds ago — Owner

No description provided.

first commit a19c561

RyuHongGeol merged commit `5f22c9d` into `master` now — Revert

Pull request successfully merged and closed

You're all set—the `newBranch` branch can be safely deleted. — Delete branch

Write | Preview

Leave a comment

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

Comment