Git 101

Introduction to Intelligent System

2023.09.04

DEPARTMENT OF ELECTRICAL AND COMPUTER ENGINEERING
SEOUL NATIONAL UNIVERSITY

RLLAB
http://rllab.snu.ac.kr

Overview

- Introduction : What is Git?
- How does git work?
- Git Tutorial

Introduction

- **What is Git?**

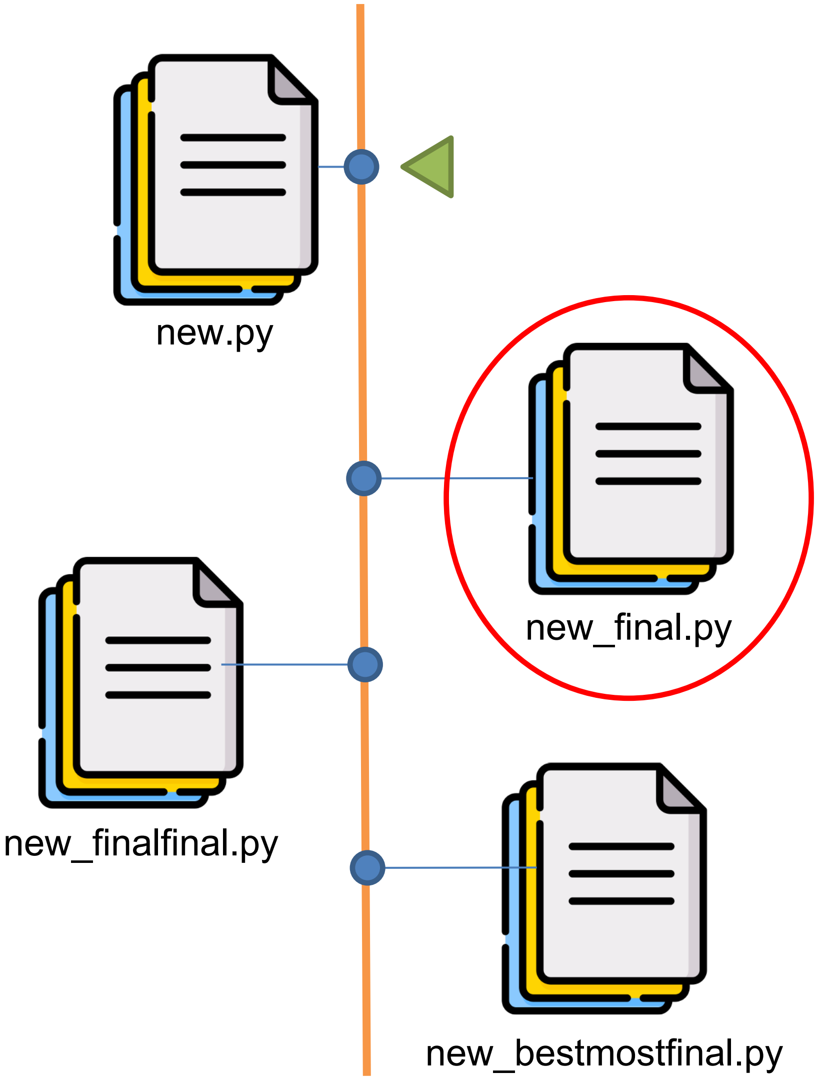
- Git - Version Control System

- Github - Code hosting platform for version control and collaboration.

Introduction

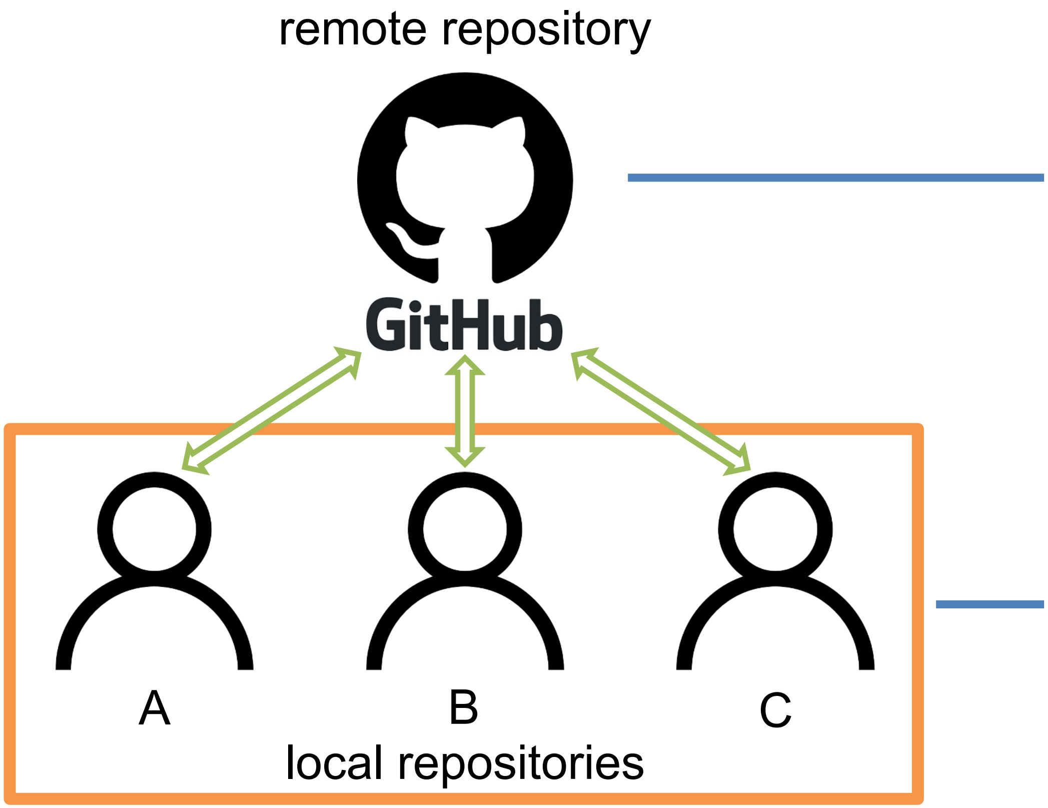
- **Version Control**

- **Version control keeps record of your changes in codes**
- **Allows you to revert any changes and go back to a previous state**
- **We can restore our previous codes!**



How does Git work?

- **Repository**

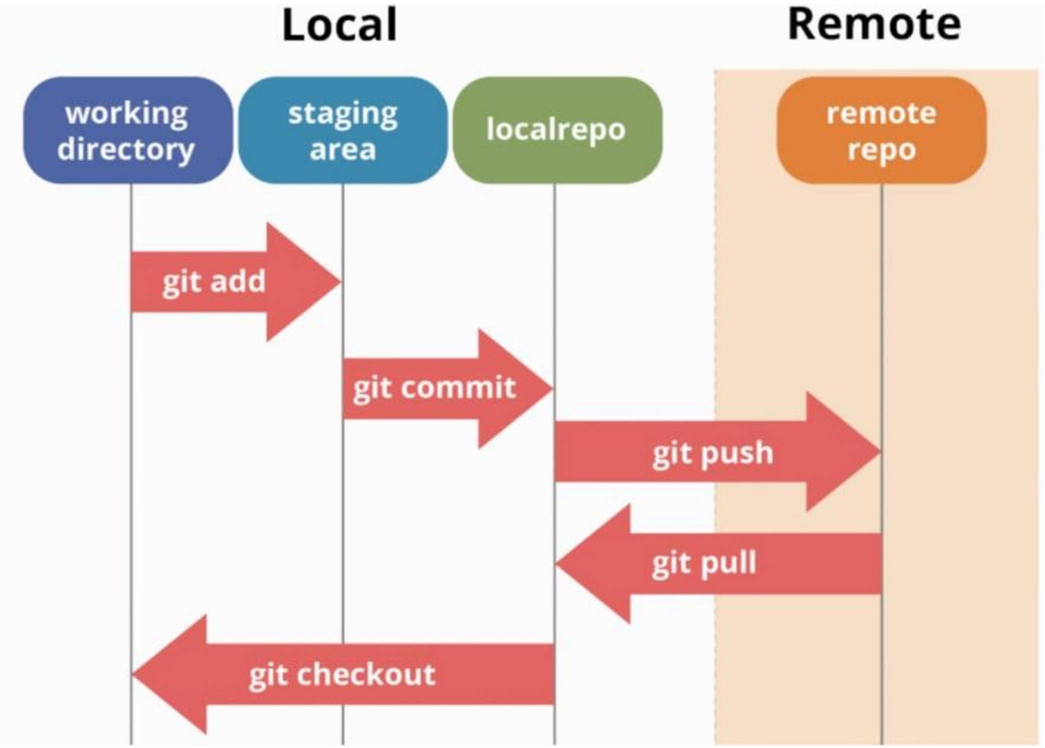


Files are managed in remote server. Users can push(upload)/pull(download) files to this repository.

Local repository stores files in my local PC.

How does Git work?

- **Basic Git commands**



git init
create a new local repository

git remote add origin <server>
connect to a remote repository

git add [file]
adds a file to the staging area

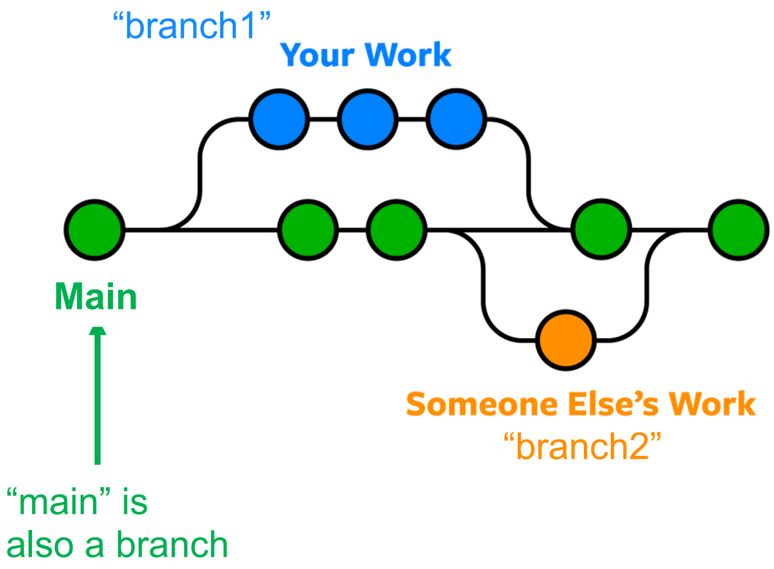
git commit –m “commit message”
records staged files in version history

git push origin <branchname>
sends commited changes of your branch to your remote repository

git pull origin <branchname>
update from the remote repository

How does Git work?

- **What is Branch?**



git branch
lists all the branches in your repo and show your current branch

git checkout –b <branchname>
create a new branch and switch to it

git checkout <branchname>
switch from one branch to another

git merge <branchname1> <branchname2>
adds a file to the staging area

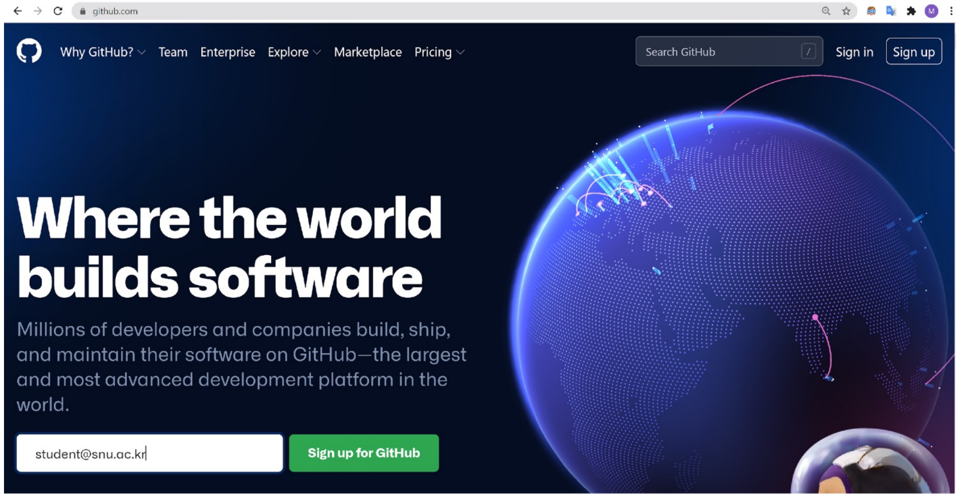
1) Install Git and create Github account

- Linux

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

- Create Github account

  https://github.com/



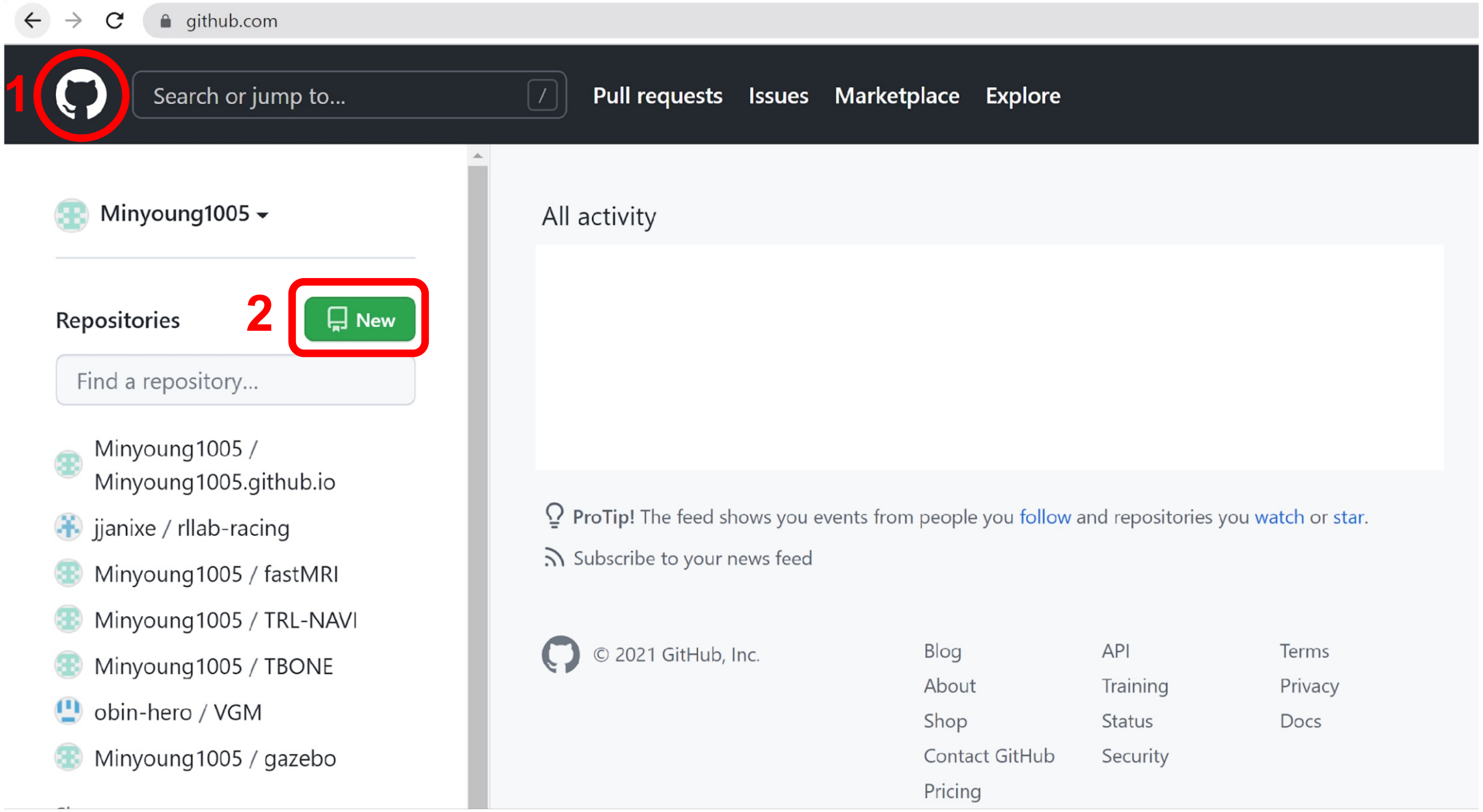
Where the world builds software

Millions of developers and companies build, ship, and maintain their software on GitHub—the largest and most advanced development platform in the world.

student@snu.ac.kr

2) Make your own private repository

Github web page -> new repository



github.com

1

Search or jump to...

Pull requests Issues Marketplace Explore

Minyoung1005

Repositories

2

New

Find a repository...

- Minyoung1005 / Minyoung1005.github.io
- jjanixe / rllab-racing
- Minyoung1005 / fastMRI
- Minyoung1005 / TRL-NAVI
- Minyoung1005 / TBONE
- obin-hero / VGM
- Minyoung1005 / gazebo

All activity

ProTip! The feed shows you events from people you follow and repositories you watch or star.

Subscribe to your news feed

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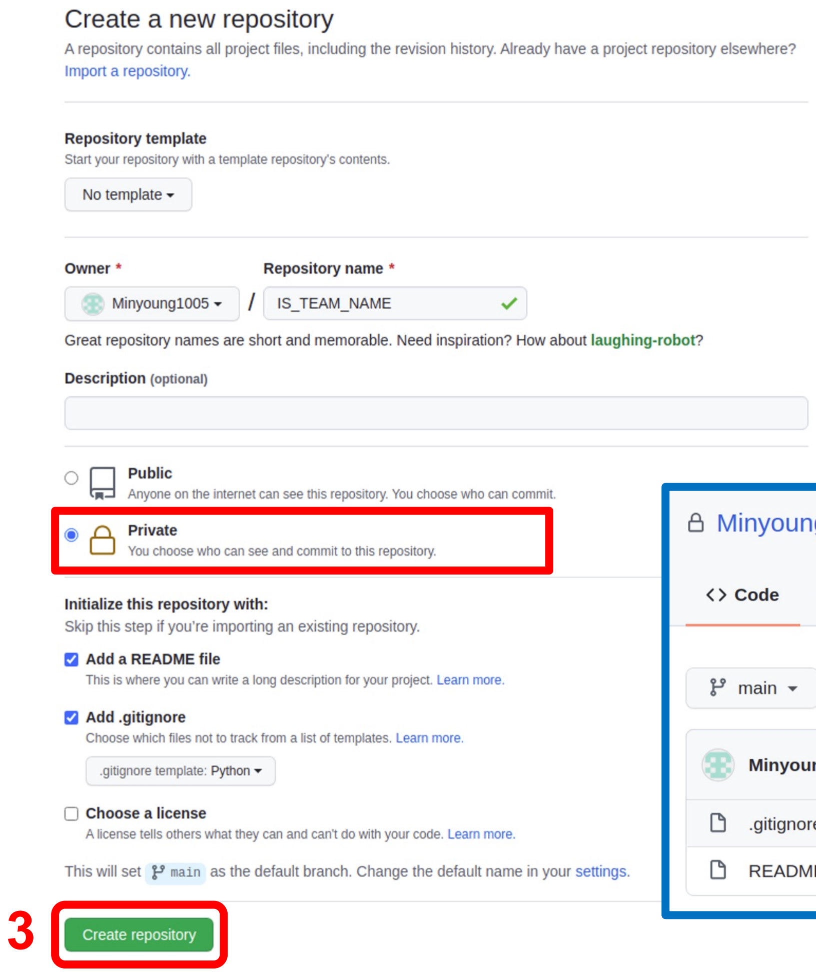
2) Make your own private repository



Create a new repository

A repository contains all project files, including the revision history. Already have a project repository elsewhere? Import a repository.

Repository template

Start your repository with a template repository's contents.

No template ▾

Owner * Minyoung1005 ▾ / **Repository name** * IS_TEAM_NAME ✓

Great repository names are short and memorable. Need inspiration? How about **laughing-robot**?

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:

Skip this step if you're importing an existing repository.

☑ **Add a README file** This is where you can write a long description for your project. Learn more.

☑ **Add .gitignore** Choose which files not to track from a list of templates. Learn more.

.gitignore template: Python ▾

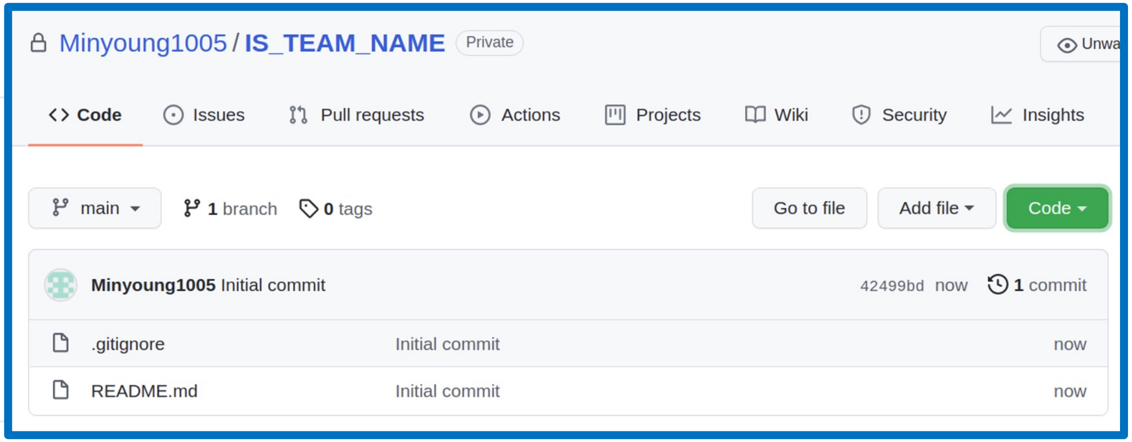
□ **Choose a license** A license tells others what they can and can't do with your code. Learn more.

This will set `main` as the default branch. Change the default name in your settings.

3 Create repository

Make sure to make your repository "private" so that other teams cannot view your team's code. Repository name should follow IS_{TEAM_NAME} format. (e.g. IS_RLLAB)

Main page of your repository

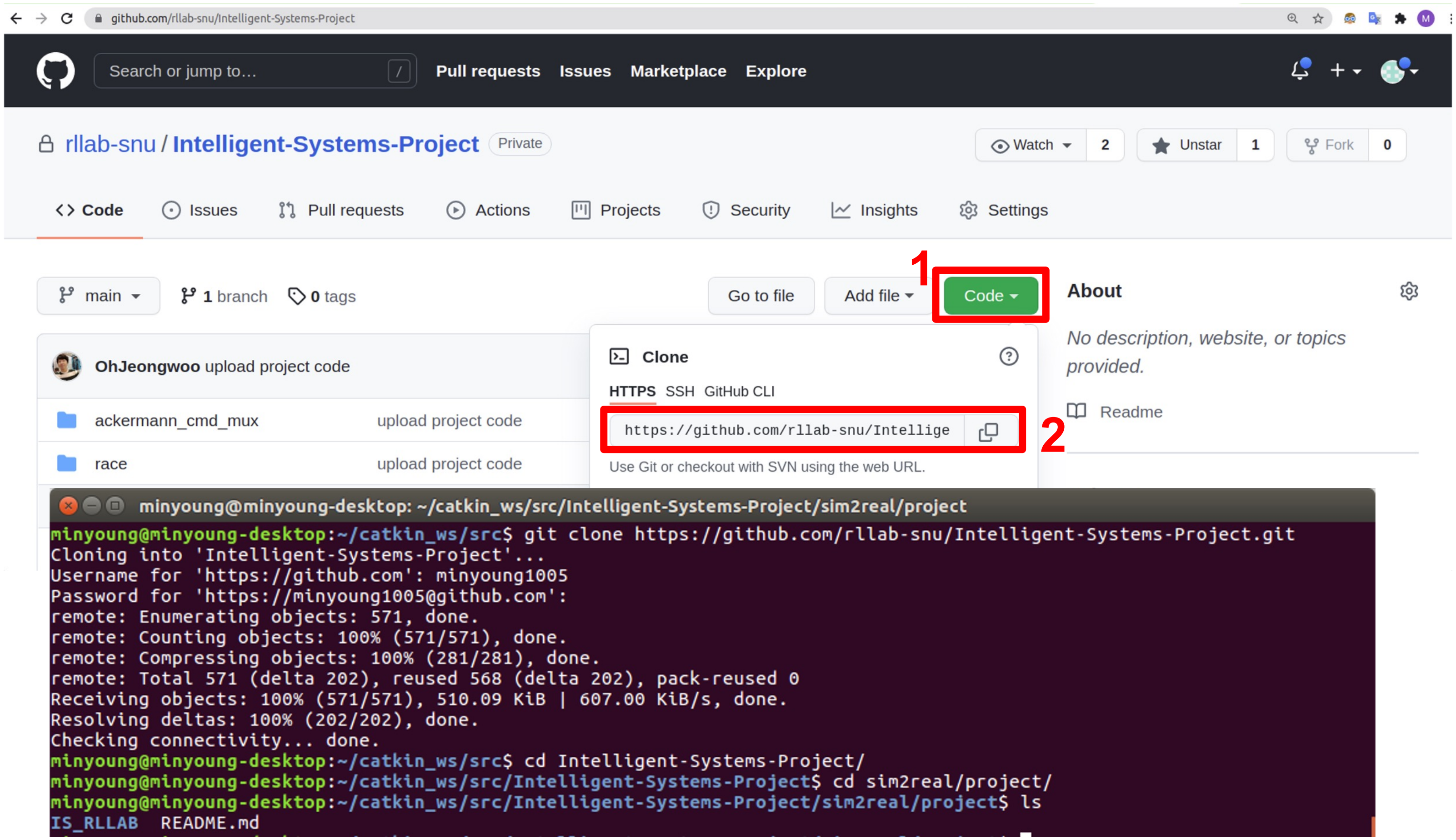


Minyoung1005 / **IS_TEAM_NAME** Private

Minyoung1005 Initial commit	42499bd now	1 commit
.gitignore	Initial commit	now
README.md	Initial commit	now

3) Clone IS-Project repository on your local PC

git clone https://github.com/rllab-snu/Intelligent-Systems-Project.git



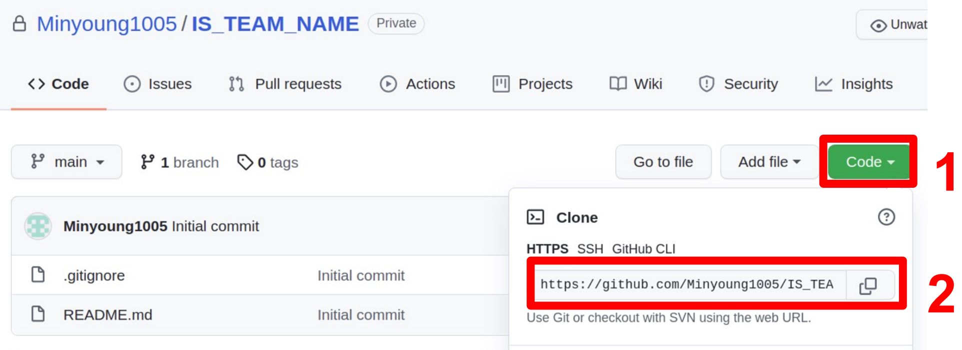
Use Git or checkout with SVN using the web URL.

No description, website, or topics provided.

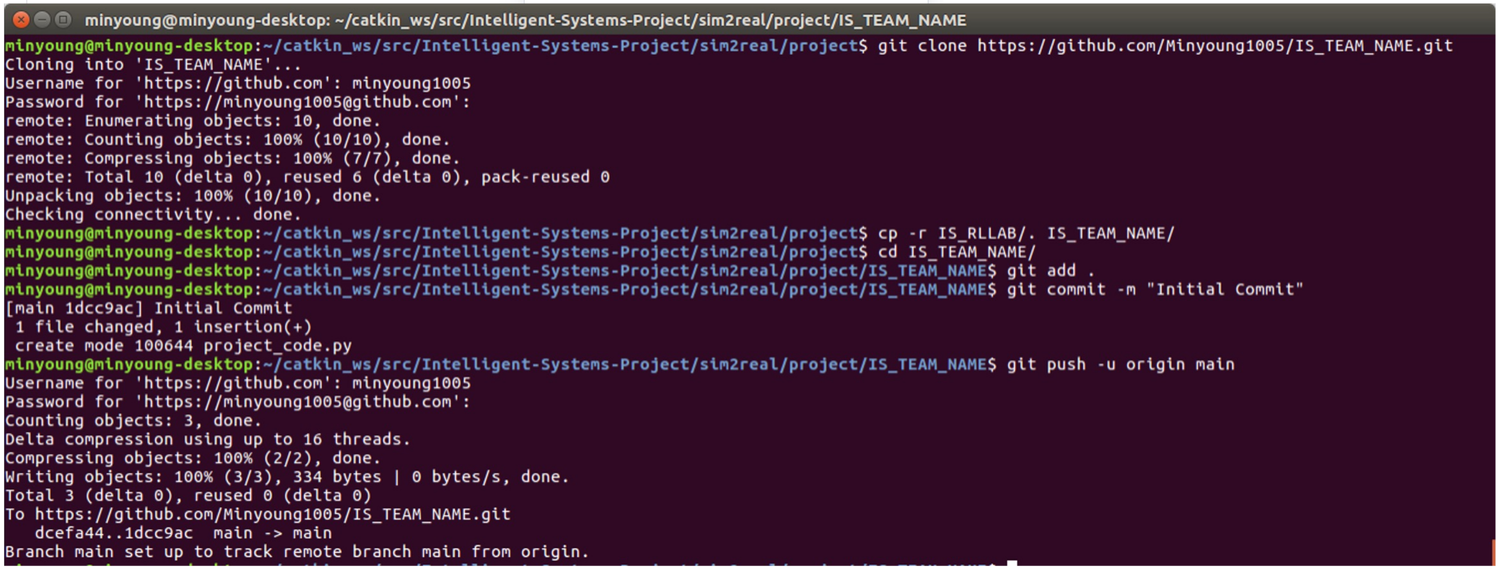
```
minyoung@minyoung-desktop:~/catkin_ws/src$ git clone https://github.com/rllab-snu/Intelligent-Systems-Project.git
Cloning into 'Intelligent-Systems-Project'...
Username for 'https://github.com': minyoung1005
Password for 'https://minyoung1005@github.com':
remote: Enumerating objects: 571, done.
remote: Counting objects: 100% (571/571), done.
remote: Compressing objects: 100% (281/281), done.
remote: Total 571 (delta 202), reused 568 (delta 202), pack-reused 0
Receiving objects: 100% (571/571), 510.09 KiB | 607.00 KiB/s, done.
Resolving deltas: 100% (202/202), done.
Checking connectivity... done.
minyoung@minyoung-desktop:~/catkin_ws/src$ cd Intelligent-Systems-Project/
minyoung@minyoung-desktop:~/catkin_ws/src/Intelligent-Systems-Project$ cd sim2real/project/
minyoung@minyoung-desktop:~/catkin_ws/src/Intelligent-Systems-Project/sim2real/project$ ls
IS_RLLAB  README.md
```

4) Clone your private IS_{TEAM_NAME} repo

git clone https://github.com/{username}/IS_{TEAM_NAME}.git

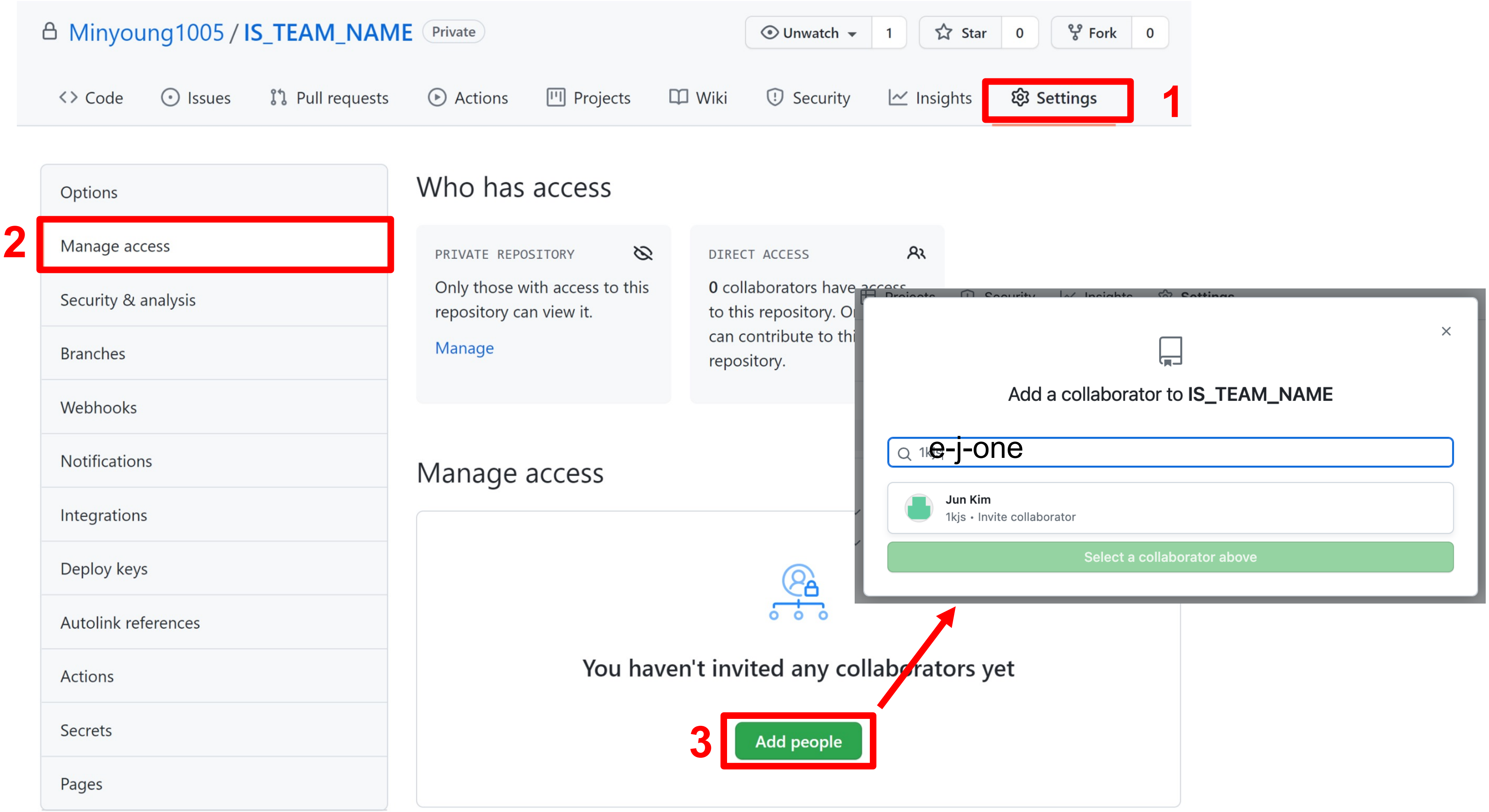


```
cp –r IS_RLLAB/. IS_TEAM_NAME/
cd IS_TEAM_NAME/
git add .
git commit –m “Initial Commit”
git push –u origin main
```



```
minyoung@minyoung-desktop: ~/catkin_ws/src/Intelligent-Systems-Project/sim2real/project/IS_TEAM_NAME
minyoung@minyoung-desktop:~/catkin_ws/src/Intelligent-Systems-Project/sim2real/project$ git clone https://github.com/Minyoung1005/IS_TEAM_NAME.git
Cloning into 'IS_TEAM_NAME'...
Username for 'https://github.com': minyoung1005
Password for 'https://minyoung1005@github.com':
remote: Enumerating objects: 10, done.
remote: Counting objects: 100% (10/10), done.
remote: Compressing objects: 100% (7/7), done.
remote: Total 10 (delta 0), reused 6 (delta 0), pack-reused 0
Unpacking objects: 100% (10/10), done.
Checking connectivity... done.
minyoung@minyoung-desktop:~/catkin_ws/src/Intelligent-Systems-Project/sim2real/project$ cp -r IS_RLLAB/. IS_TEAM_NAME/
minyoung@minyoung-desktop:~/catkin_ws/src/Intelligent-Systems-Project/sim2real/project$ cd IS_TEAM_NAME/
minyoung@minyoung-desktop:~/catkin_ws/src/Intelligent-Systems-Project/sim2real/project/IS_TEAM_NAME$ git add .
minyoung@minyoung-desktop:~/catkin_ws/src/Intelligent-Systems-Project/sim2real/project/IS_TEAM_NAME$ git commit -m "Initial Commit"
[main 1dcc9ac] Initial Commit
 1 file changed, 1 insertion(+)
 create mode 100644 project_code.py
minyoung@minyoung-desktop:~/catkin_ws/src/Intelligent-Systems-Project/sim2real/project/IS_TEAM_NAME$ git push -u origin main
Username for 'https://github.com': minyoung1005
Password for 'https://minyoung1005@github.com':
Counting objects: 3, done.
Delta compression using up to 16 threads.
Compressing objects: 100% (2/2), done.
Writing objects: 100% (3/3), 334 bytes | 0 bytes/s, done.
Total 3 (delta 0), reused 0 (delta 0)
To https://github.com/Minyoung1005/IS_TEAM_NAME.git
   dcefa44..1dcc9ac  main -> main
Branch main set up to track remote branch main from origin.
```

5) Add team members and TA(e-j-one) as collaborators



Minyoung1005 / IS_TEAM_NAME Private

Unwatch 1 | Star 0 | Fork 0

Code | Issues | Pull requests | Actions | Projects | Wiki | Security | Insights | Settings

1 Settings

Options

2 Manage access

Security & analysis

Branches

Webhooks

Notifications

Integrations

Deploy keys

Autolink references

Actions

Secrets

Pages

Who has access

PRIVATE REPOSITORY

Only those with access to this repository can view it.

Manage

DIRECT ACCESS

0 collaborators have access to this repository. O… can contribute to thi… repository.

Manage access

You haven't invited any collaborators yet

3 Add people

Add a collaborator to IS_TEAM_NAME

1kjs e-j-one

Jun Kim
1kjs • Invite collaborator

Select a collaborator above

Git Tutorial - Summary

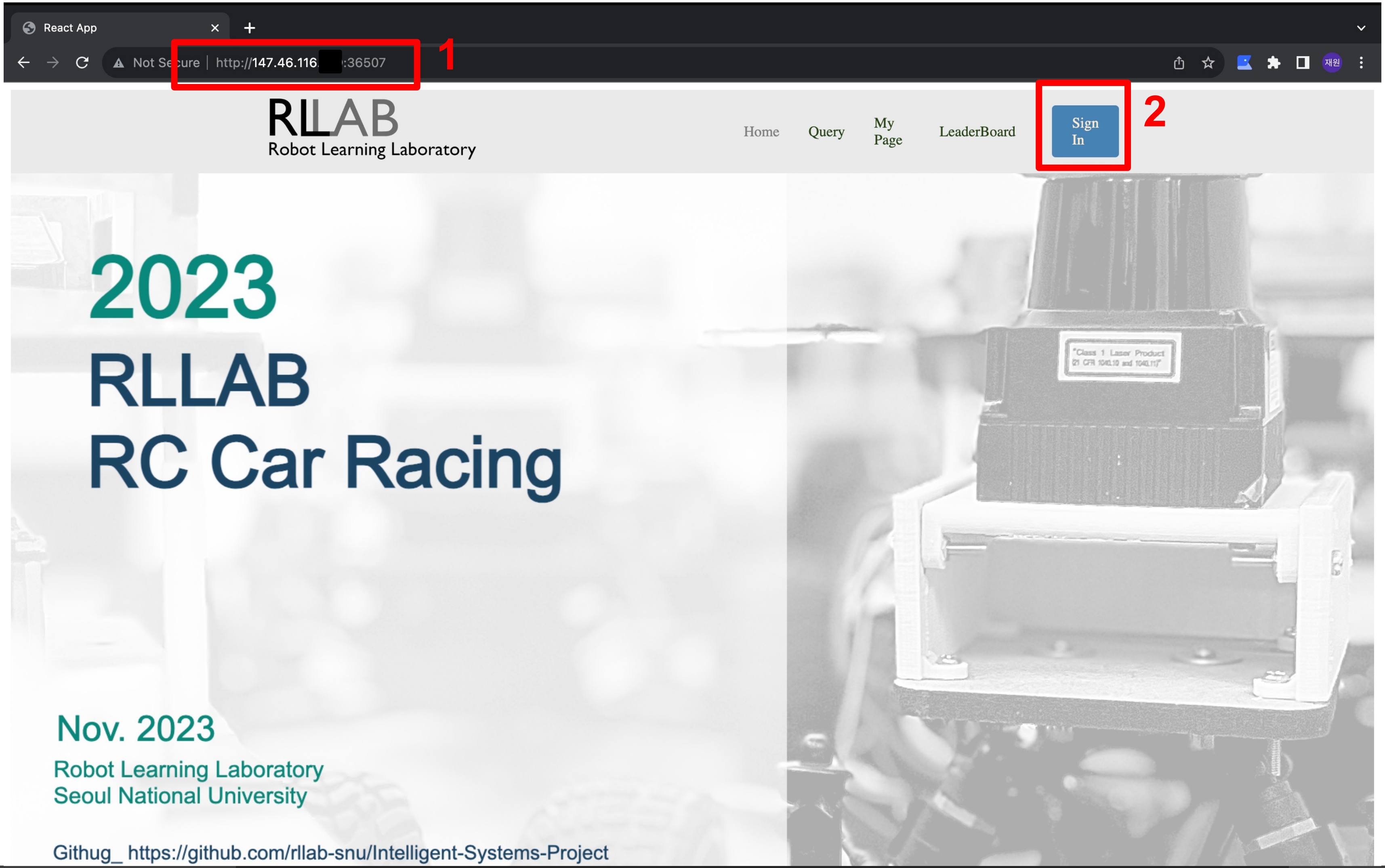
6) Modify your codes!

```
# Upload your local codes to remote repository
git add .
git commit –m “commit message”
git push –u origin main

# Download remote repository’s codes to local PC
git pull origin main

# make branch
git checkout –b <branchname>
git merge <branchname1> <branchname2>

# undo local changes
git fetch origin
git reset –-hard origin/main
```

For more git commands, go to this link
https://confluence.atlassian.com/bitbucketserver/basic-git-commands-776639767.html

Webserver Submission

1) Access 147.46.116.112:36507 and login


React App
Not Secure | http://147.46.116.[redacted]:36507
1
RLLAB
Robot Learning Laboratory
Home
Query
My Page
LeaderBoard
Sign In
2

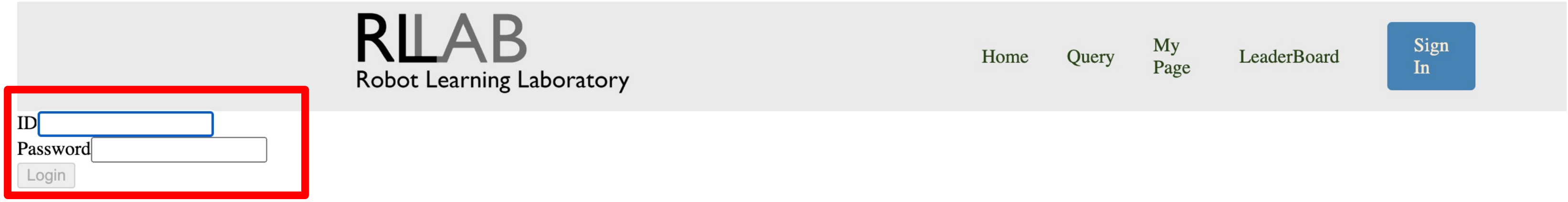
2023
RLLAB
RC Car Racing

Nov. 2023
Robot Learning Laboratory
Seoul National University

Githug_ https://github.com/rllab-snu/Intelligent-Systems-Project

Webserver Submission

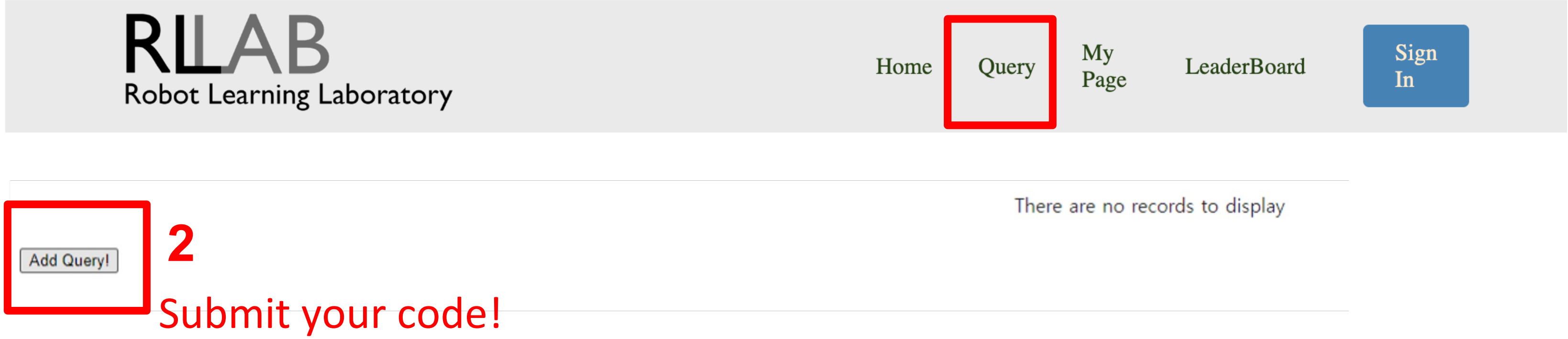
2) Login with your team name and pw



Webserver Submission

3) Submit the code uploaded to your repository.

Click ‘Add Query!’ and refresh the page.



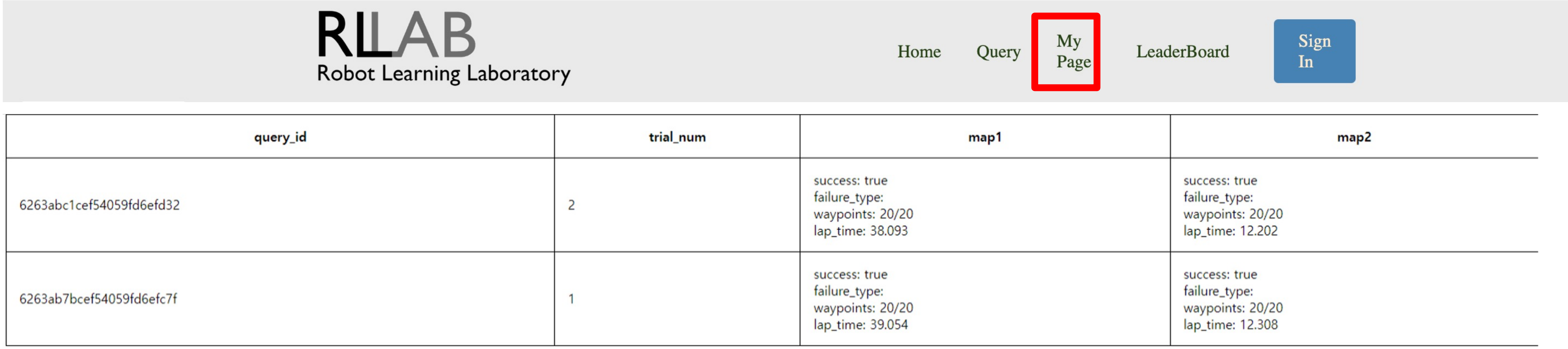
There are no records to display

1 Go to the Query Section

2 Submit your code!

Webserver Submission

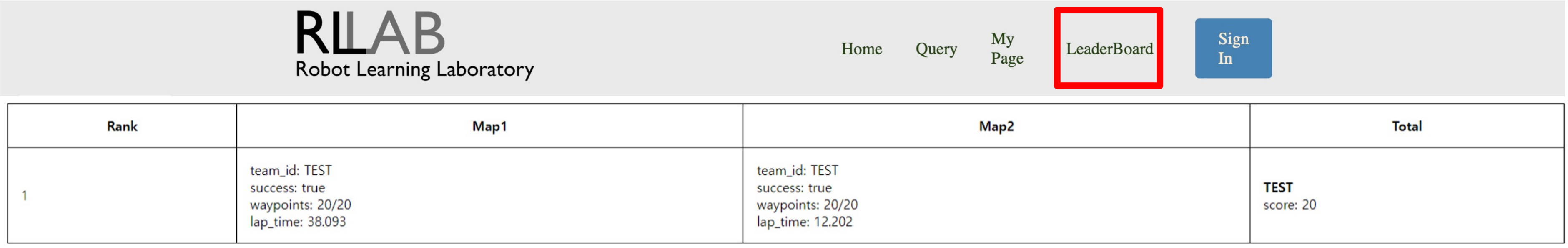
3) Check your results through MyPage.



query_id	trial_num	map1	map2
6263abc1cef54059fd6efd32	2	success: true failure_type: waypoints: 20/20 lap_time: 38.093	success: true failure_type: waypoints: 20/20 lap_time: 12.202
6263ab7bcef54059fd6efc7f	1	success: true failure_type: waypoints: 20/20 lap_time: 39.054	success: true failure_type: waypoints: 20/20 lap_time: 12.308

Webserver Submission

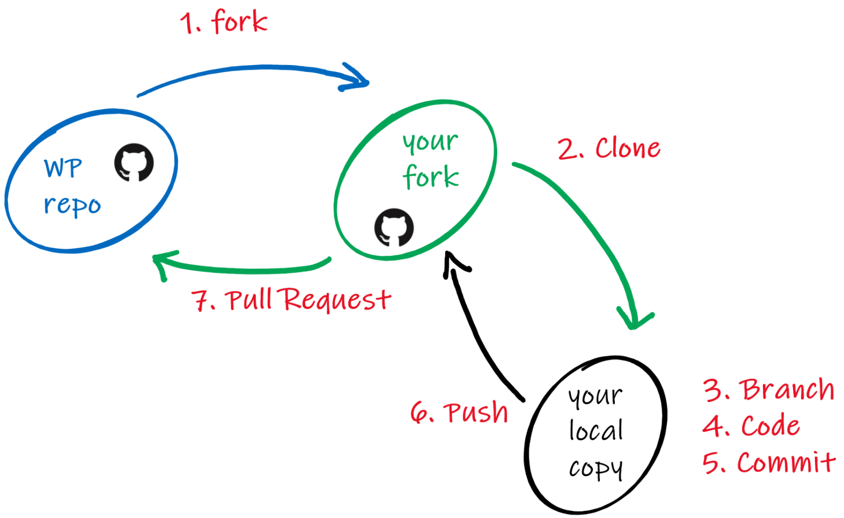
4) Check how well you are doing via Leaderboard!

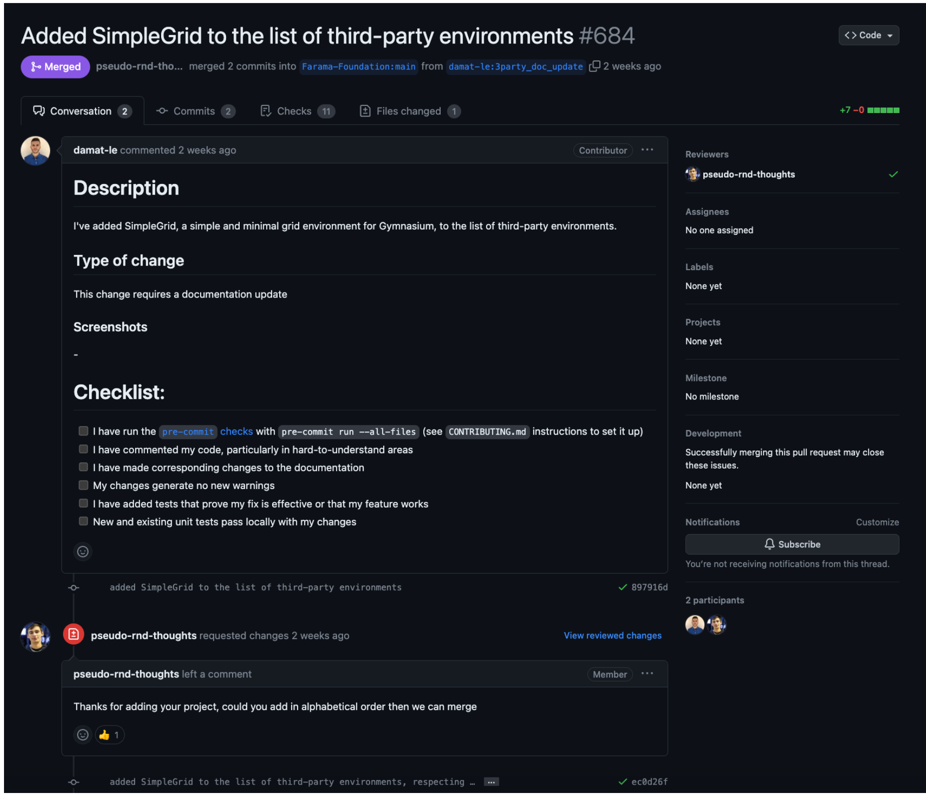


Rank	Map1	Map2	Total
1	team_id: TEST success: true waypoints: 20/20 lap_time: 38.093	team_id: TEST success: true waypoints: 20/20 lap_time: 12.202	**TEST** score: 20

Collaborate with Fork & Pull Request Workflow

Instead of directly pushing commits to the main branch, use Pull Requests!




Added SimpleGrid to the list of third-party environments #684

Merged pseudo-rnd-tho... merged 2 commits into `Farama-Foundation:main` from `damat-le:3party_doc_update` 2 weeks ago

damat-le commented 2 weeks ago — Contributor

Description

I've added SimpleGrid, a simple and minimal grid environment for Gymnasium, to the list of third-party environments.

Type of change

This change requires a documentation update

Screenshots

-

Checklist:

- □ I have run the `pre-commit` checks with `pre-commit run --all-files` (see `CONTRIBUTING.md` instructions to set it up)
- □ I have commented my code, particularly in hard-to-understand areas
- □ I have made corresponding changes to the documentation
- □ My changes generate no new warnings
- □ I have added tests that prove my fix is effective or that my feature works
- □ New and existing unit tests pass locally with my changes

`added SimpleGrid to the list of third-party environments` ✓ 897916d

pseudo-rnd-thoughts requested changes 2 weeks ago — View reviewed changes

pseudo-rnd-thoughts left a comment — Member

Thanks for adding your project, could you add in alphabetical order then we can merge

👍 1

`added SimpleGrid to the list of third-party environments, respecting …` ✓ ec0d26f

Reviewers
pseudo-rnd-thoughts ✓

Assignees
No one assigned

Labels
None yet

Projects
None yet

Milestone
No milestone

Development
Successfully merging this pull request may close these issues.
None yet

Notifications — Customize

You're not receiving notifications from this thread.

2 participants

For more information, go to this link
https://developer.nvidia.com/blog/benefits-of-using-pull-requests-for-collaboration-and-code-review/

RLLAB
http://rllab.snu.ac.kr

Thank you