

Git and Github

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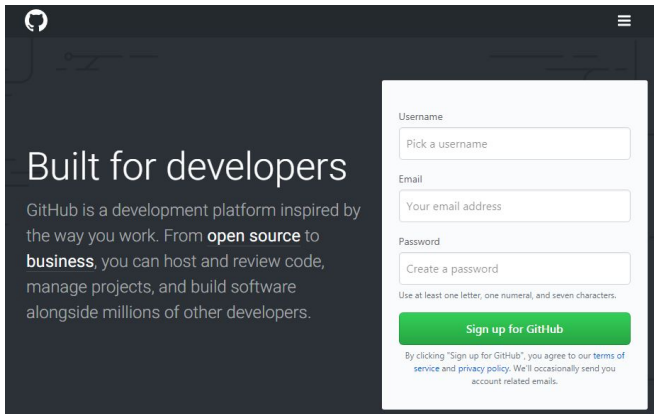
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
January 29, 2018

- Version control: a task for managing the history of code editing.
- Git: a version control application for documents in the local computer.
 - When someone wish to track the history of correcting documents, Git is very useful.
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 - With several branches (individual code history), the code file can be merged after checking their confliction.
 - In this class, students can use the Git to manage the code history.
- Github: remote repository for version control. Note that the Git is a local repository system.

Sign up Github

URL: <https://github.com/>

A screenshot of the GitHub sign-up page. The page has a dark background on the left with the GitHub logo and the text "Built for developers". On the right, there is a white sign-up form with fields for Username, Email, and Password, a green "Sign up for GitHub" button, and a disclaimer about terms of service and privacy policy.

Built for developers

GitHub is a development platform inspired by the way you work. From **open source** to **business**, you can host and review code, manage projects, and build software alongside millions of other developers.

Username
Pick a username

Email
Your email address

Password
Create a password

Use at least one letter, one numeral, and seven characters.

[Sign up for GitHub](#)

By clicking "Sign up for GitHub", you agree to our [terms of service](#) and [privacy policy](#). We'll occasionally send you account related emails.

Create Github repository

After verifying of email, the following screen can be seen. Input the name of Repository, and click the button of 'create repository'

Create a new repository

A repository contains all the files for your project, including the revision history.

Owner

 jenjong1 ▾

Repository name

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

Description (optional)

Public

Anyone can see this repository. You choose who can commit.

Private

You choose who can see and commit to this repository.

Initialize this repository with a README

This will let you immediately clone the repository to your computer. Skip this step if you're importing an existing repository.

Add .gitignore: **None** ▾

Add a license: **None** ▾ ⓘ

Create repository

Create Github repository

Confirm the url address of the remote repository in github.

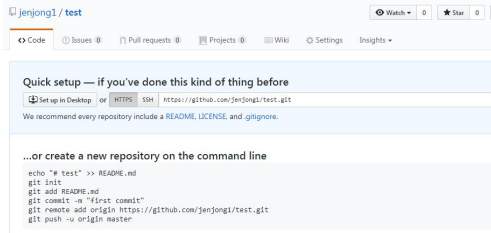
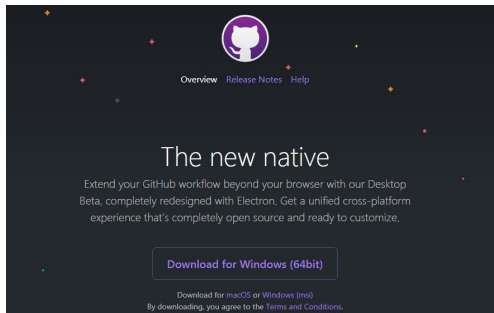


Figure: <https://github.com/jenjong1/test>

Installation of Github desktop

- Github desktop is an application that manages the local repository of git and fetch (update) the code in the local repository to the remote repository.
- URL: <https://desktop.github.com/>
- Download the app and install it.



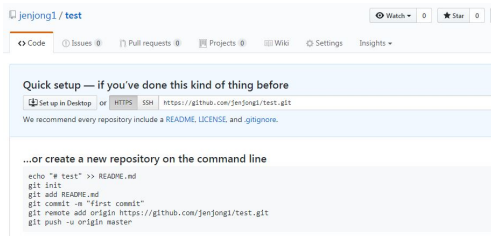
Installation of Github desktop

Information of login

- File → Options
- Resiter the login information of github here.
- It is not recommended to use Github Desktop in the public computer.
- Remove the github at the end of class.

Sync between local and remote repository

- clone: download contents from the remote repository to the local repository and synchronize the contents
- The simplest initial cloning is to click the button of 'Set up in Desktop' in the github.

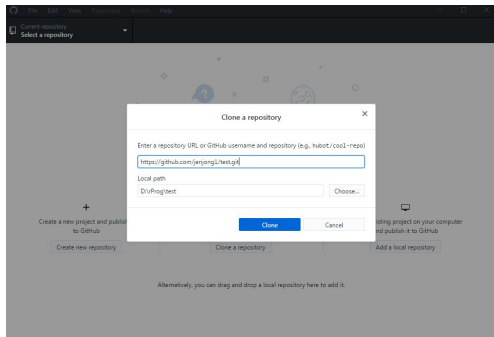


The screenshot shows the GitHub interface for a repository named 'jenjong1/test'. At the top, there are navigation tabs for 'Code', 'Issues', 'Pull requests', 'Projects', 'Wiki', 'Settings', and 'Insights'. Below the navigation, there are buttons for 'Watch' and 'Star'. The main content area features a 'Quick setup' section with the heading 'Quick setup — if you've done this kind of thing before'. Under this heading, there are two options: 'Set up in Desktop' (highlighted with a blue border) and 'HTTPS SSH'. The 'HTTPS SSH' option shows the URL 'https://github.com/jenjong1/test.git'. Below the cloning options, there is a recommendation: 'We recommend every repository include a README, LICENSE, and .gitignore.' At the bottom of the screenshot, there is a section titled '...Or create a new repository on the command line' with a list of terminal commands:

```
echo "# test" >> README.md
git init
git add README.md
git commit -m "first commit"
git remote add origin https://github.com/jenjong1/test.git
git push -u origin master
```


Sync between local and remote repository

- Set Remote repository
- Set Local path and clone the remote repository in local repository
- Check the local repository



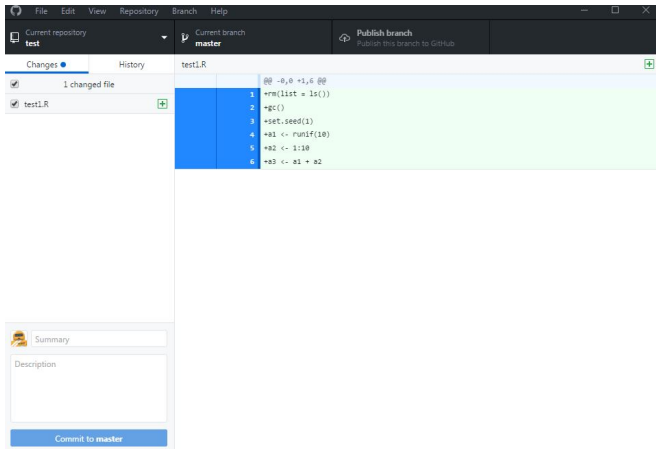
use of github app

- create test1.R file and save it in the local repository
- For example, test1.R is a simple R code as follows:

```
> rm(list = ls())  
> gc()  
> set.seed(1)  
> a1 <- runif(10)  
> a2 <- 1:10  
> a3 <- a1 + a2
```

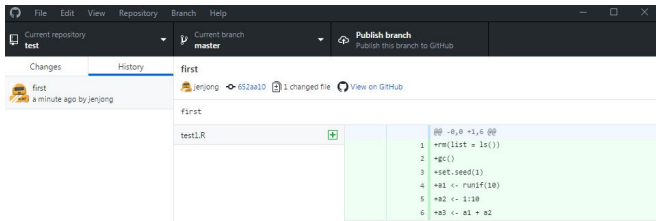
Github desktop

We can see a blue dot on Changes tab, which means that there is a change in the local repository



Github desktop

- Fill in the summary and description and click the button of 'Commit to master'.
- The change point is recorded in the local repository.
- Go to the History tab.



Github desktop

- Commit is shown in the history tab.
- Text on the green background is added one. The text on the red is deleted one.
- Clicking button of 'Fetch origin' is to sync to the remote repository.
- Check the remote repository.

Github desktop

jenjong1 / test

Watch 0 Star 0 Fork 0

Code Issues 0 Pull requests 0 Projects 0 Wiki Settings Insights

No description, website, or topics provided. [Edit](#)

[Add topics](#)

1 commit 1 branch 0 releases 1 contributor

Branch: master [New pull request](#) [Create new file](#) [Upload files](#) [Find file](#) [Clone or download](#)

jenjong first	Latest commit 652aa10 7 minutes ago
test1.R	first 7 minutes ago

Help people interested in this repository understand your project by adding a README. [Add a README](#)

Github desktop

jenjong1 / test

Watch 0 Star 0 Fork 0

Code Issues 0 Pull requests 0 Projects 0 Wiki Settings Insights

Branch: master test / test1.R Find file Copy path

jenjong first 652aa10 9 minutes ago

1 contributor

7 lines (6 sloc) 74 Bytes Raw Blame History

```
1 rm(list = ls())
2 gc()
3 set.seed(1)
4 a1 <- runif(10)
5 a2 <- 1:10
6 a3 <- a1 + a2
```

Github desktop

- Correct the code and update code in the remote repository.