5.1 Version Control

Version Control is a system that help to user to get a copy of the latest software and modify without changing the original software. With version control, the user could download the current version of the system if the developer have issue when modifying the copied software. Git is one of the well-known version control system that is commonly use when developing a software.

The important of using Version Control system in a organization is because each developer can modify the system without modifying the master file and also conflict with other developer. After the developer have finish their part, the developer can replace the modify file with the master file and the other developer could get the latest version of the system.

Git

In order to fully use the Git function correctly, the steps below will cover the basic function when using git

1. The user have to login/create account in the Git website https://github.com/.
2. After that the user have to create a repository so that the master file will be added.
3. Once the file have been added to the repository, the owner of the repository will have to add user to the project so that they could get the master file from the repository and this will be known as “Clone” where the user get the master file into their local device.
4. After the user have finish modifying the master file. The user could use the “Add” function where the master file will be “Add” to the staging index but not repository.
5. In order to change the master file in the local repository, the user have to “Commit” where the master file will be replace by the modify file in the local repository
6. After “Commit”, the user could than “Push” the file where the file in the local repository will than replace the file in the main repository
7. When other user want to edit the latest file, the user could use “Pull” to get the latest modify file in the repository

Branching

Branching is one the way when doing continuous changes to the file. When using branching, the user could upload the modify file into the repository while the master file will not be replace.

For example, V1 is the current master file. If the user want to modify the file without changing the master file. The user could create a branch by entering a git commend:

$ git checkout –b username

By enter the code, a new branch will be create with a copy of the master file. If the user want to commit his branch or change the branch position like changing the position to other file repository. The user could use:

$ git commit –a –m 'made changes in [username]'

After enter the code, the position for the branch will change but the master branch will not change.

Merge Code

There are many way of merging a file, Fast-Forward Merge is one of the most common way. This merge is where a branch wants to merge with another branch.

For example, if the user branch wants to implement a fix position which is the master branch. The user could user:

$git checkout master

$git merge newMaster

By enter the code, the user first will login to the master branch and then merge with newMaster branch where the file in newMaster will than pass to master branch.

Merge Conflicts

Sometimes there will be error when merging the file. In order to know which file is causing the conflict. The user could use:

$git status

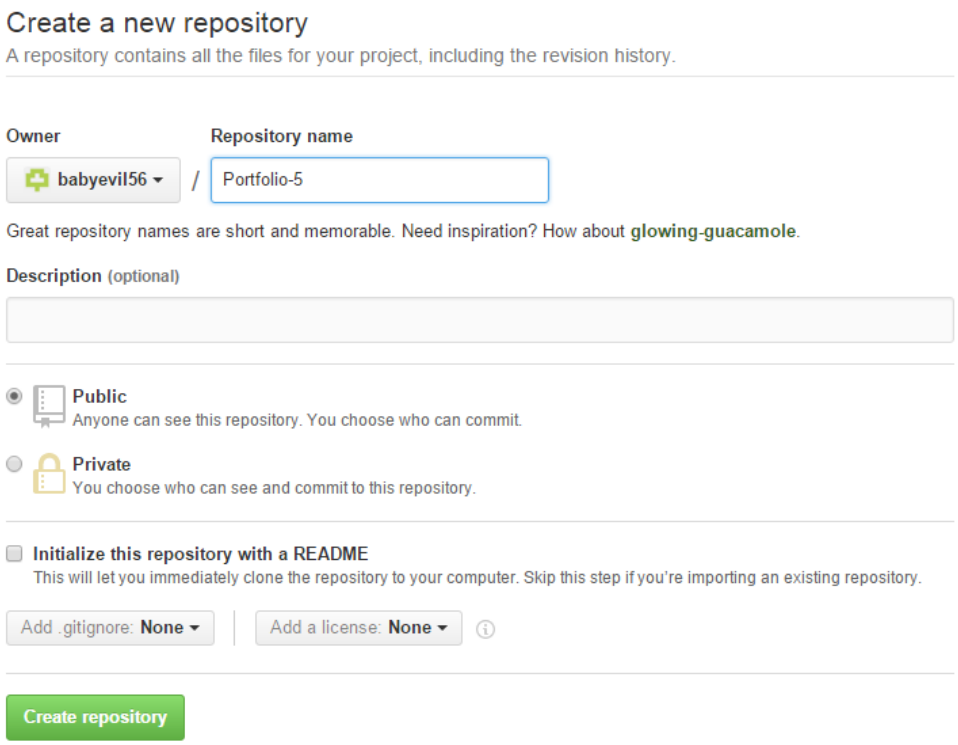
The file that cause conflict will than listed as unmerge file. One of the solution to solve the conflict, the user could use the mergetool where the user could choose which file to keep and delete. The tools also able to check the different between the same file.

Important of Merging

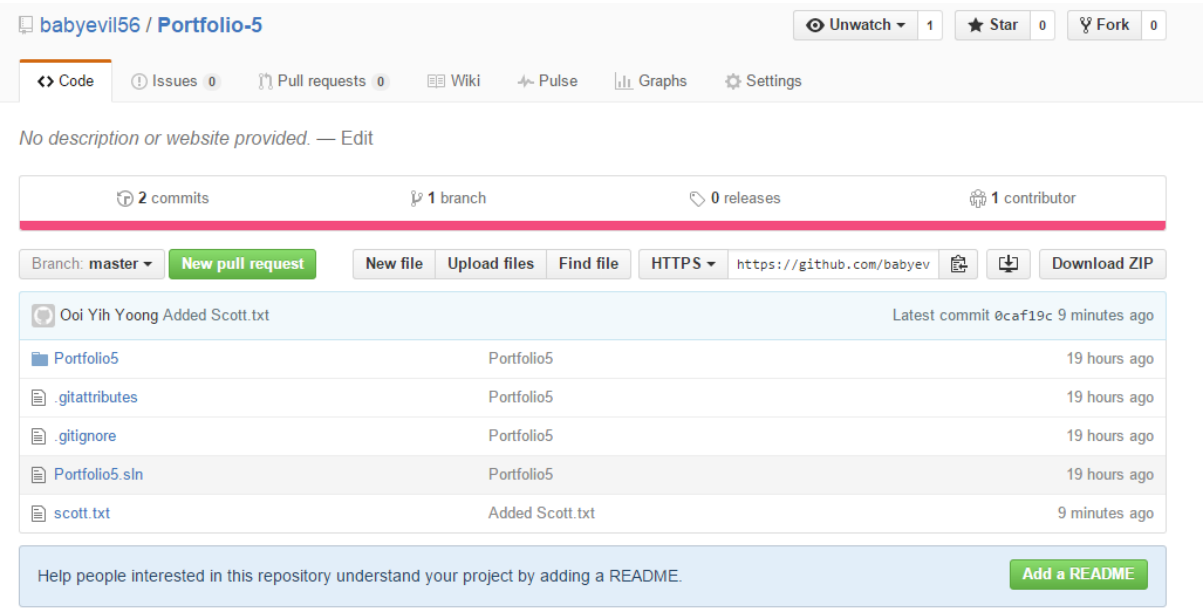
If the user did not merge for example merge with the master branch. The user branch could not change the master branch file other than login to master branch. If the user merge with the master branch, the user branch and also the master branch could change the file which will be the latest finalize work.

5.2 Demonstrations

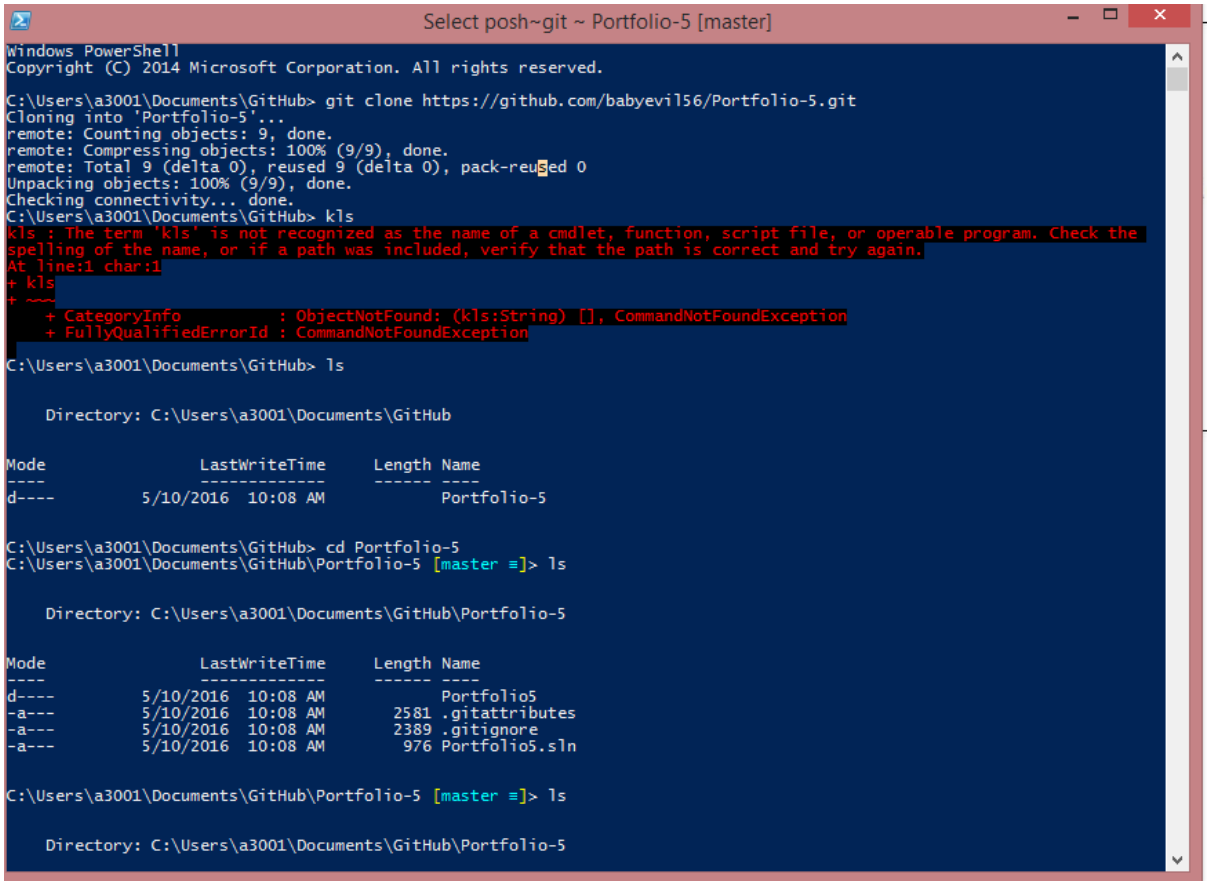
Before downloading and uploading the file, the users have to register and create a repository.



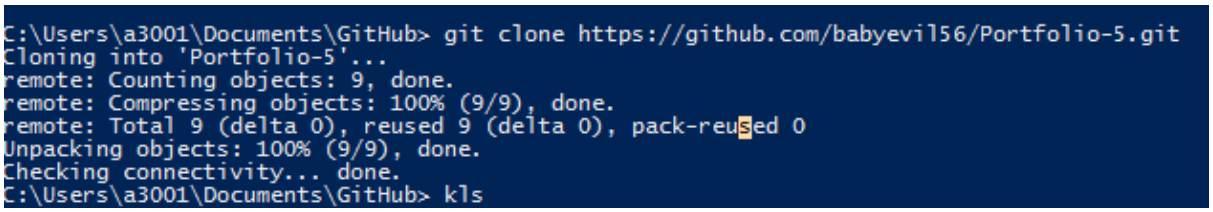
After creating the repository, the user than have to get the HTTPS link where the user can download and upload the file from the repository.



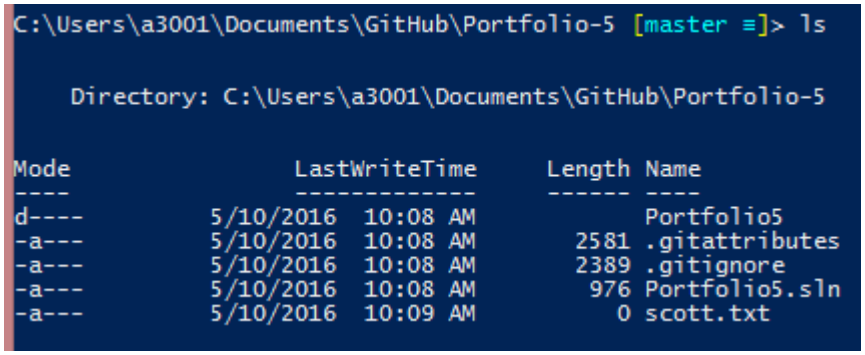
The diagram above is to show the current or the latest master file in the repository. After that, the user have to download and install github software and then run the “Git Shell” programme.



In order for the user to clone or get the file from the repository, the users have to the github code

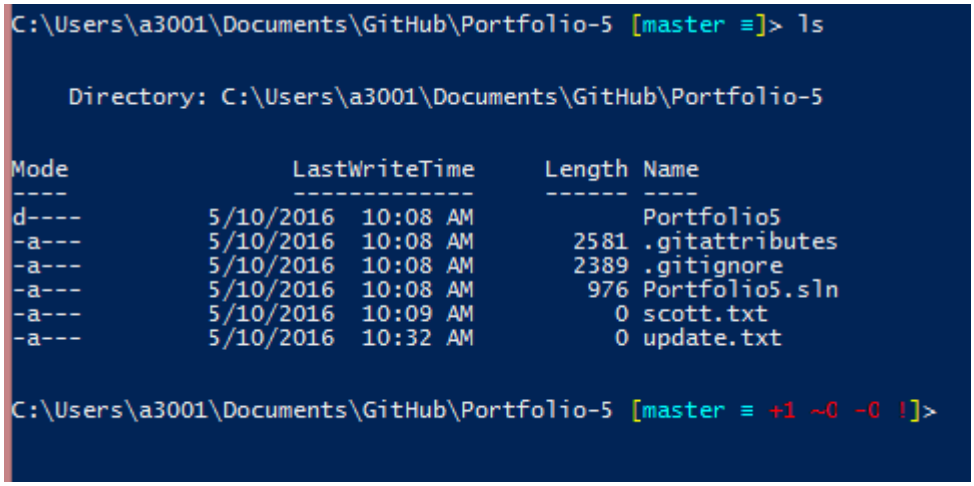


After cloning the file from the repository, the user can enter “ls” to check the file that have taken from the repository.

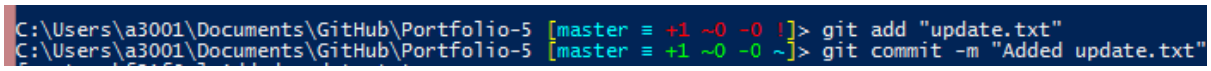


If the local directory has the same file as the repository, it means the clone is success and the user could use and modify the code.

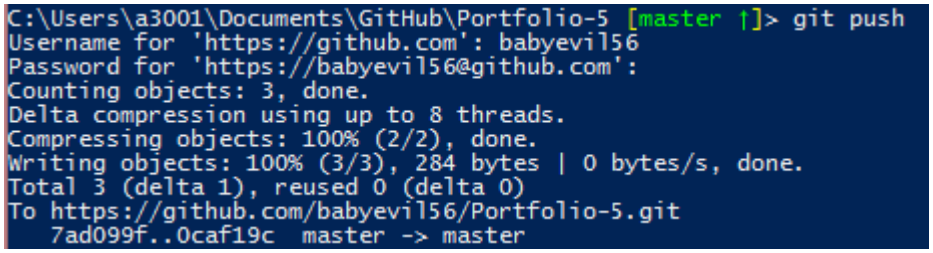
After modify, the user could enter “ls” again to check the modify and in this case will be updata.txt



To pass “update.txt” to the main repository, the user have to enter “git add “update.txt”” to add the file to a local repository and then enter “git commit –m “Added Update.txt”” to add a description about what have been modify and also the file to the local repository.



In order to overwrite the main repository, the users have to enter git push where the local repository will than replace the main repository. During the process, the programme will ask for the username and password to login to the github server and then replace the repository.



In order to check is the main repository have been update, the user have to refresh the main repository. If the repository have the update file, the main repository have been replace.

babyevil56 / **Portfolio-5**

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3 commits | 1 branch | 0 releases | 1 contributor

Branch: master | New pull request | New file | Upload files | Find file | HTTPS | https://github.com/babyev | Download ZIP

Ooi Yih Yoong Added update.txt — Latest commit bf31f9a 15 minutes ago

Portfolio5	Portfolio5	19 hours ago
.gitattributes	Portfolio5	19 hours ago
.gitignore	Portfolio5	19 hours ago
Portfolio5.sln	Portfolio5	19 hours ago
scott.txt	Added Scott.txt	38 minutes ago
update.txt	Added update.txt	15 minutes ago

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