PORTFOLIO 5

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Version Control

Version control or known as source control, is a management of changes and modification to documents, project and other files. Every modification is recorded with timestamp and the person who did the modification, and edited files can be compare with the original files. These modification files/ original files are stored and able to recover, which means when some error was found in the latest version of modified file, we can revert the unwanted version back to the previous version. For some of the files types, there are able to perform merged action, and we will talk about this later.

Version control is important and useful when we have a bundle of files or projects to be deal with. As we always need to modify our old projects and that might be some old features we removed in the latest version will be need to use again, this means we have to store different version of the project and this will be a messy jobs if we just save it on the local. So comes up with those version control software such as git hub that might help a lots in our work or study. And your project can be share with others by giving them certain privilege that they can work with the project together, and all modification and changes are recorded.

Branching

Branching is the duplication of a project (or others) that able a modification work can be done in the same time. Branching allow user to make a new copy of files then perform the modification on the copied files without affect the main files. For example you have a stored program and you found some error on it. You want to make the modification on the project but you do not want to affect the others to access to the program, or do another modification, then you can create a new branch to do your modification and update the modification to the main program using merged.

Merged

Since we talk about merge quite often before, but what is really is? Merging is an operation that allow modified file done in the branch attach to the main file. Let's say if two branches are carry out different modification, which "modification 1" adding "cout << "Hello" << endl;" and "modification 2" adding "cout << "Good day!" << endl;" to the program, then when the two branches done the merging the new program will contains both of these changes.

Check-in, Edit and Check-out

In version control, check-in is an operation that files (or projects) are upload to the repository, either fresh upload or push back after modified. Edit is update or modify action that perform on the files which get from the host, which this phase is happen between check-in and check-out. When we pull or cloning files from a host that is called check-out.

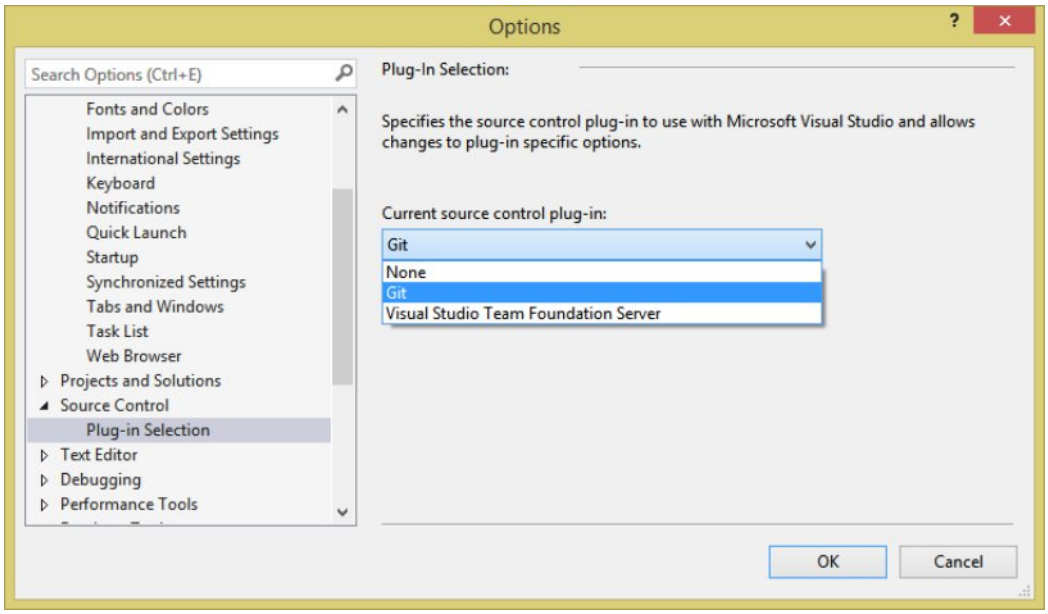
II – Source Control Management: Example

Check-out (cloning) a project from github repository using Microsoft Visual Studio and check-in to the host after edit.

Step:

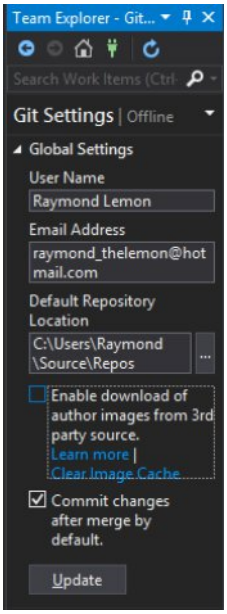
First of all, setting up the Options in Visual Studio.

Tools -> Options -> Source Control -> Plug-in Selection -> Current source control plug-in -> Select Git/ Microsoft Git Provider

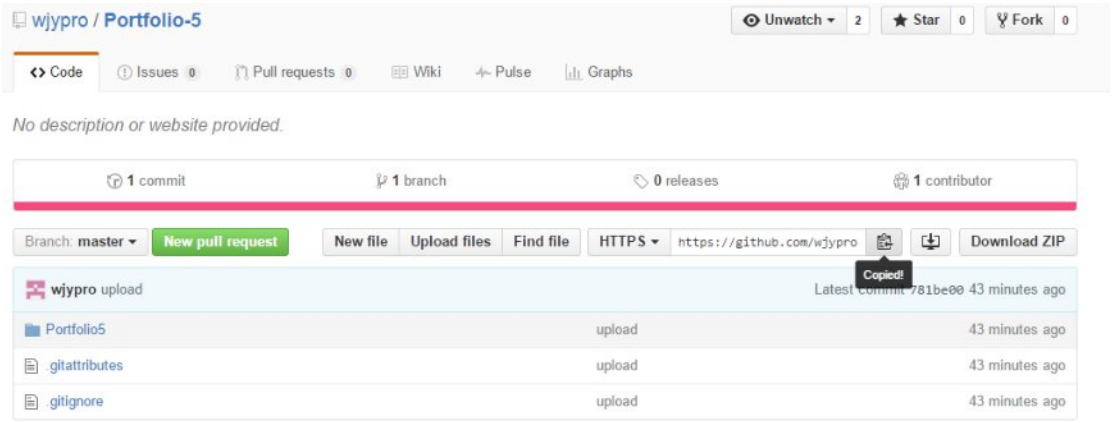


Then setup the git setting on the team explorer panel.

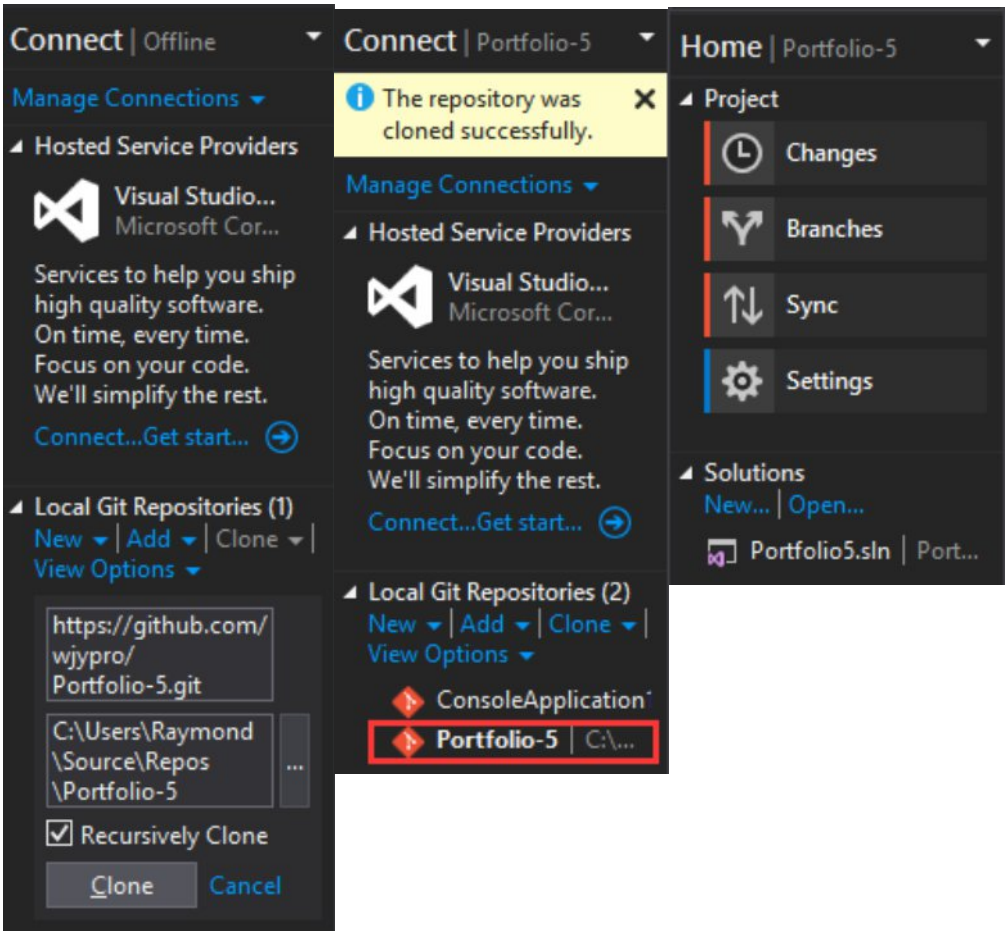
Team Explorer -> Home -> Settings -> Global Settings -> Setup your user name and password, then update.



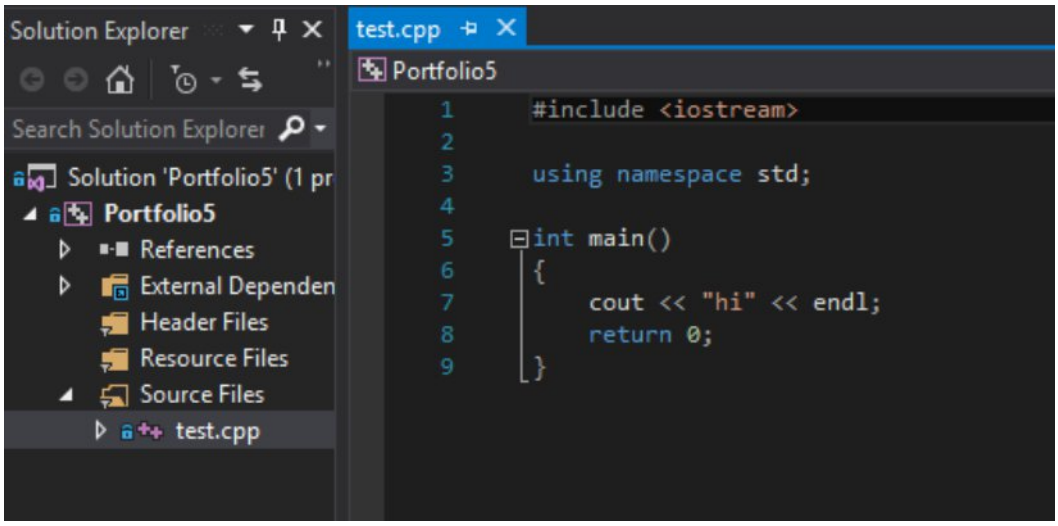
Copy the links of the repository



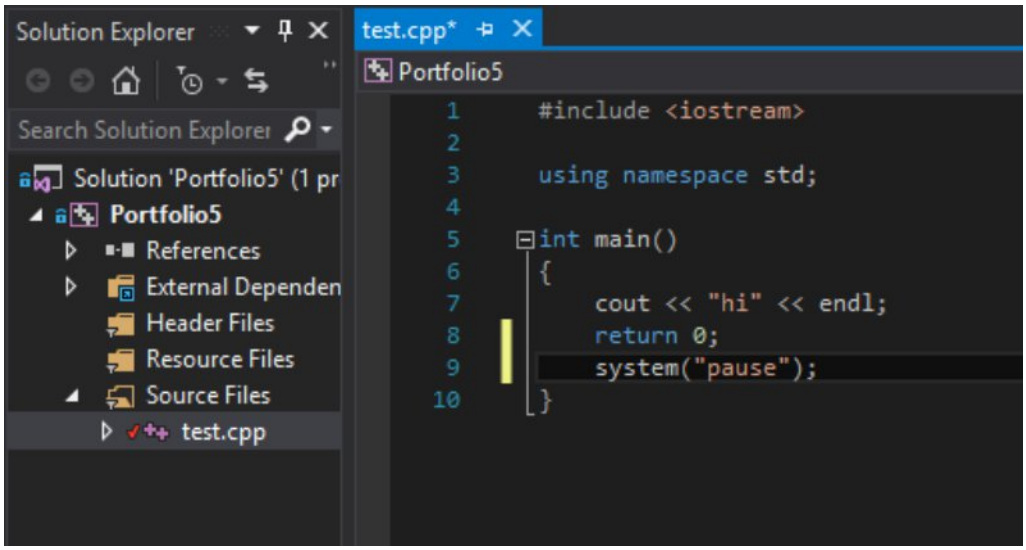
Click on the green plug icon on the team explorer, then in the Local Git Repositories panel, click on Clone and paste the copied link into the yellow box, then press Clone button. This will create a local repository on your computer. Double click the repo name to open. Double click on the solution to open solution.



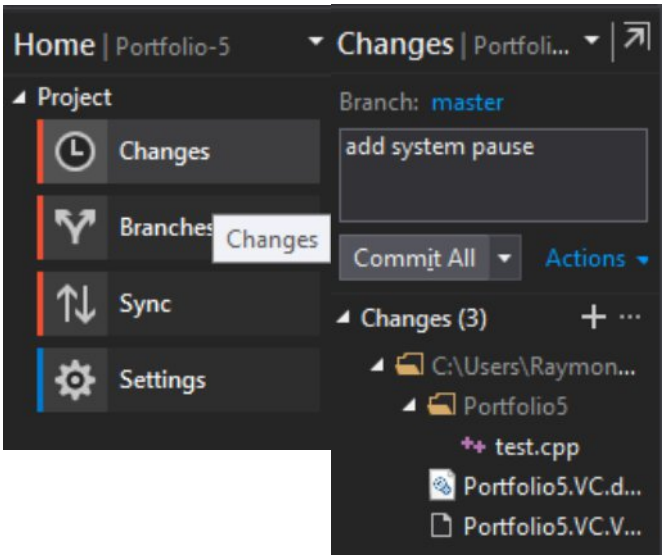
Open the .cpp file in Solution Explorer.



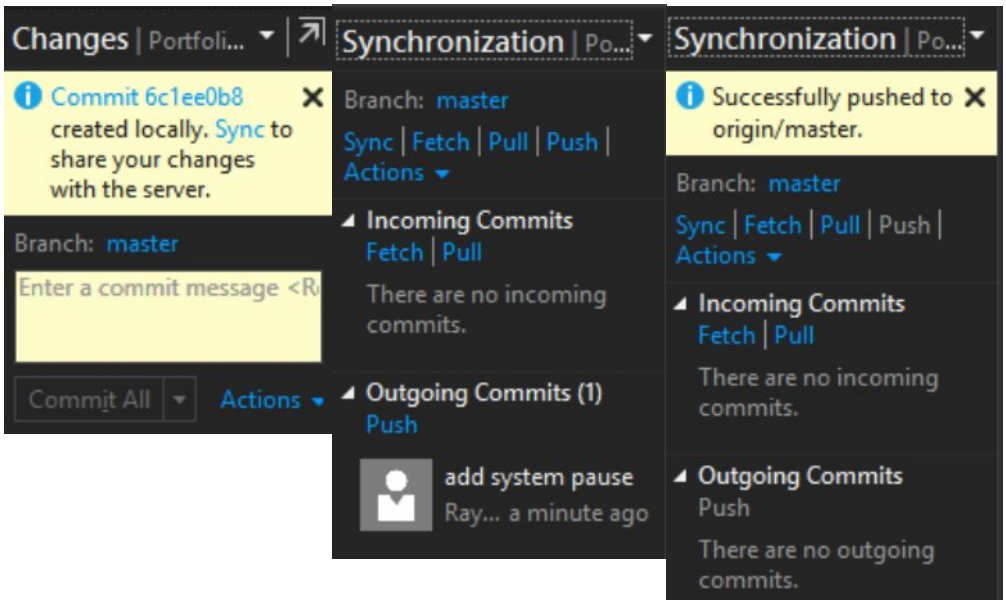
Modify the code and save.



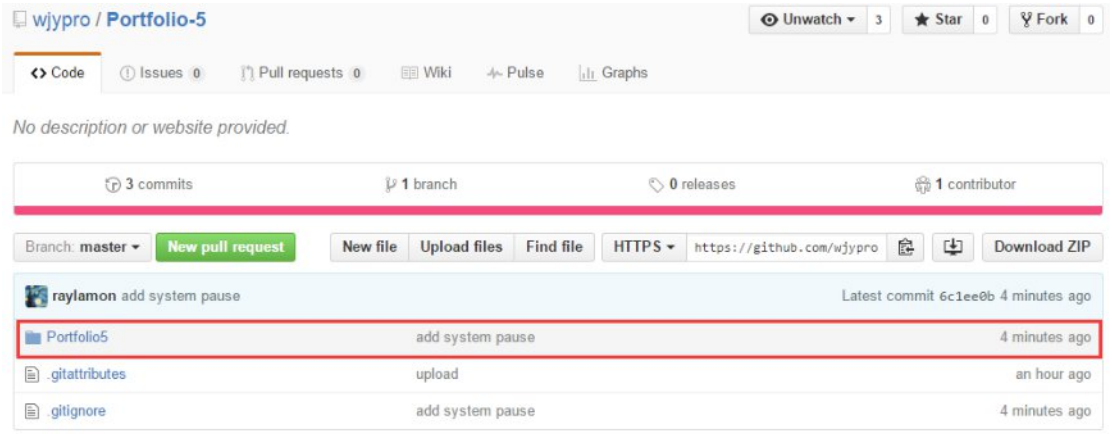
Go to Team Explorer again, select Changes button. Write commit message in the yellow box, then press Commit All.



Click on the blue colour sync, on the Outgoing Commits you will see the commit message you just added. Click on the Push to push the project back.



Open the repo page again and you will see commit message is changed



Open the .cpp file and the modification done on your end had been successfully uploaded.