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CSEN 704/DMET 706, Advanced Computer/Media Lab
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Github & SourceTree Manual

Github Overview

Github is a Git repository web-based hosting service that offers source code management (SCM) functionality of Git as well as adding own features. Unlike Git, which is strictly a command-line tool, Github provides a web-based graphical interface and desktop.

Projects on Github can be accessed and manipulated using the standard Git command-line interface and all of the standard Git commands work with it. Github also allows registered and non-registered users to browse public repositories on the site.

The site provides social networking functionality such as feeds, followers, wikis and a social network graph to display how developers work on their versions ("forks") of a repository and which fork is newest.

A user must create a profile in order to contribute content to the site, but public repositories can be browsed and downloaded by anyone. With a registered user account, users are able to discuss, manage, create repositories, submit contributions to others' repositories, and review changes to code.

You can create an account on Github through this link https://github.com.

SourceTree Overview

SourceTree is a free Git Client for Windows and Mac that provides a graphical interface for your Git repositories.

SourceTree simplifies how you interact with Git repositories so you can focus on coding. You can manage all your repositories – hosted or local – through SourceTree's simple interface.

SourceTree is perfect for newbies. It is very simple for your team. It can bring everyone up to speed with Git. Commit, push, pull, and merge changes easily with a click of a button. It organizes your repos with the intuitive bookmarks window. It visualizes how your work changes over time with SourceTree's log view.

SourceTree is powerful for experts. It makes advanced Git developers even more productive. It reviews your outgoing and incoming change-sets.

Git-flow out of the box. It uses Git-flow with ease. It keeps your repositories cleaner and your development more efficient with SourceTree's intuitive interface to Git. It is a consistent development process, right out of the box.

You can install "SourceTree" on your machine through this link http://www.sourcetreeapp.com.

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Connection

Now, after you have created an account on Github and installed SourceTree on your machine, three tasks have to be done.

1. **Some "ssh" commands have to be written in the terminal to create a private key. So, open the terminal and write these commands:**

   a) To create your public/private key pair and then upload your generated public key (~/.ssh/id_rsa.pub) to Github, type:

   ssh-keygen -t rsa -C "your email address"

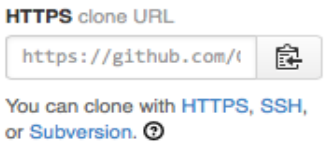
   b) To allow using SourceTree in the GUC, you have to configure Git's proxy. Remember to remove it from (~/.gitconfig) when you need non-proxied access, type:

   git config --global http.proxy 50.0.0.5:8080

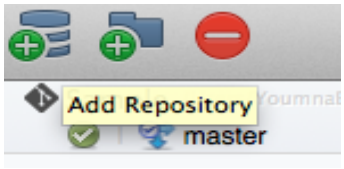
2. **Clone the repository to your local machine:**

   Cloning makes a local copy of the repository for you.

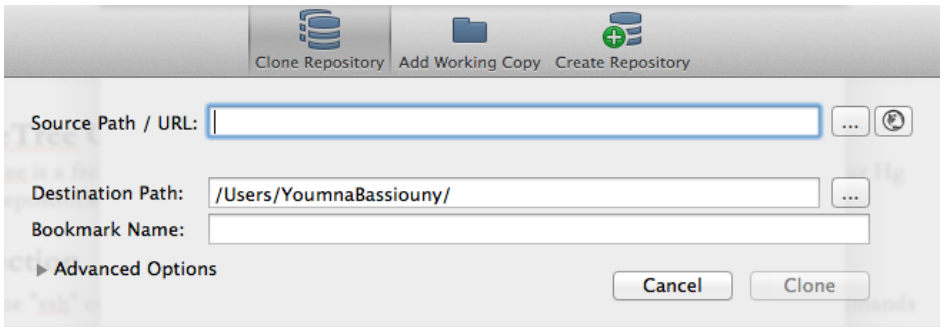
   a) On Github, copy the **HTTPs clone URL**. The system selects the URL for you.



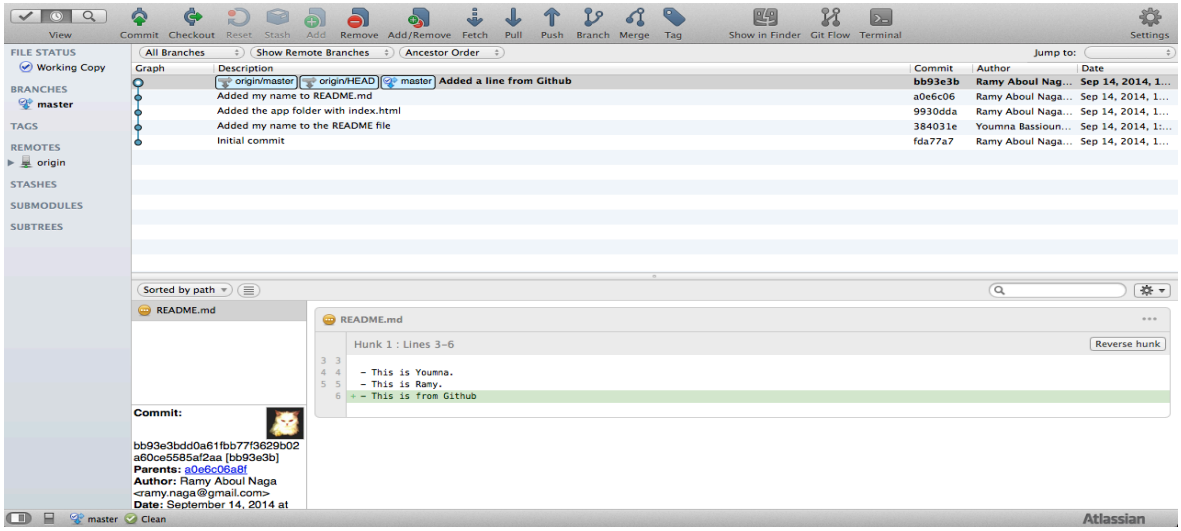
   b) Choose **Add Repository** in SourceTree.



   c) Choose **Clone in SourceTree**. SourceTree starts up and displays the **Clone New** dialog.



d) Paste the **HTTPs clone URL**, update the destination and click the **Clone** button.
e) SourceTree clones the repo from Github and opens it for you.

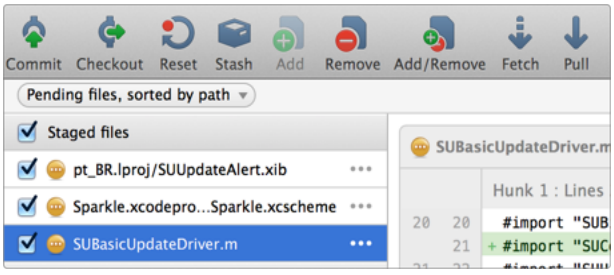


f) That's it; you have cloned your first repository! Keep the repo open and try the next task.

3. Make a change:

Make a change in a source file and push the change back to Github.

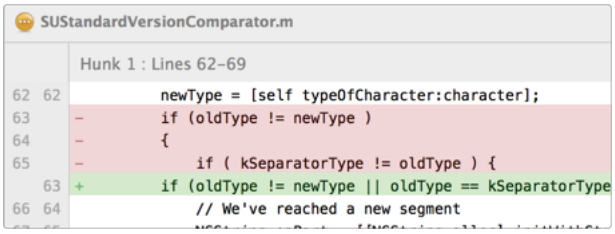
1. Press **Stage File** or drag the file into the staging area. SourceTree moves the file into the staged area.



2. Choose **Commit**.
3. Enter a commit message to describe what you have changed/added.
4. Press **Commit**.

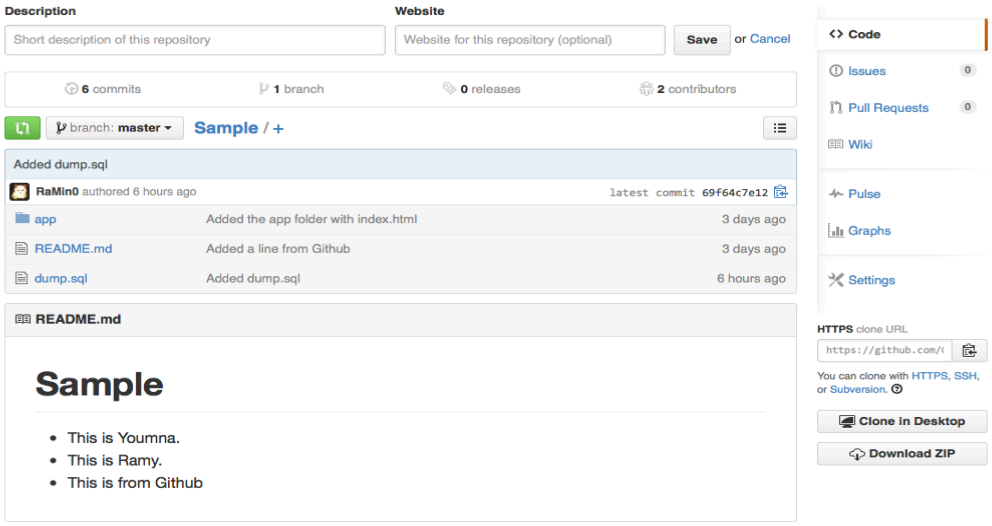
5. Now, the **Push** icon shows you have a single commit ready to push to your repository.
6. Press **Push** to send your changes to Github.
7. Press **OK** when prompted.
8. After the push finishes, use the **Commits** tab on Github to view your change.
9. You can also get the updated/added files that others pushed by pressing **Pull**.

10. Some lines will be colored in red (Have been modified), others in green (Have been added) and others as is with a white background (Nothing changed).

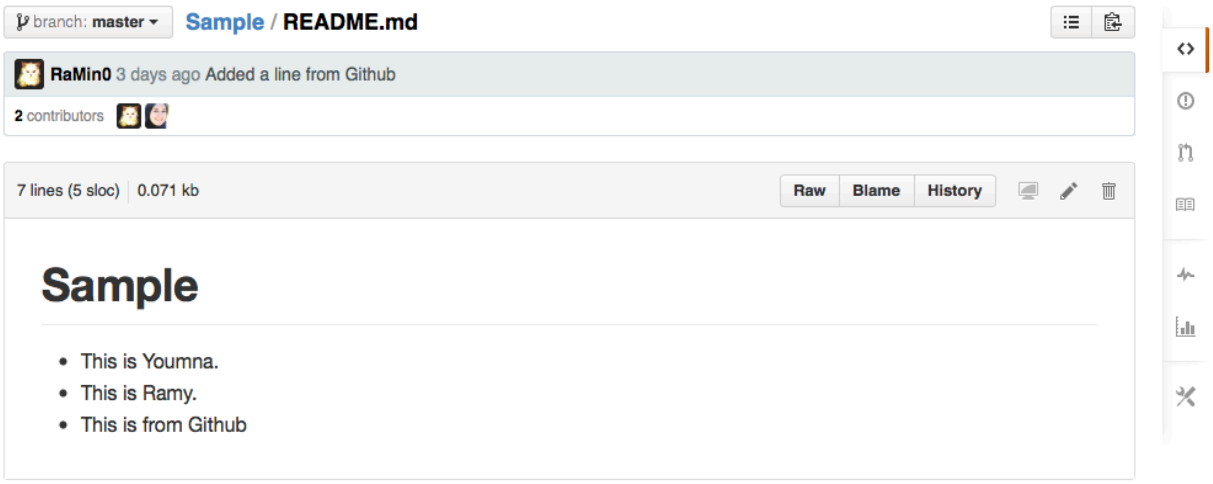


11. That's it for task 2. You have completed your first commit and push on Github! Now try it with your own repository.

You can also view your repo from Github. The following window is an example.

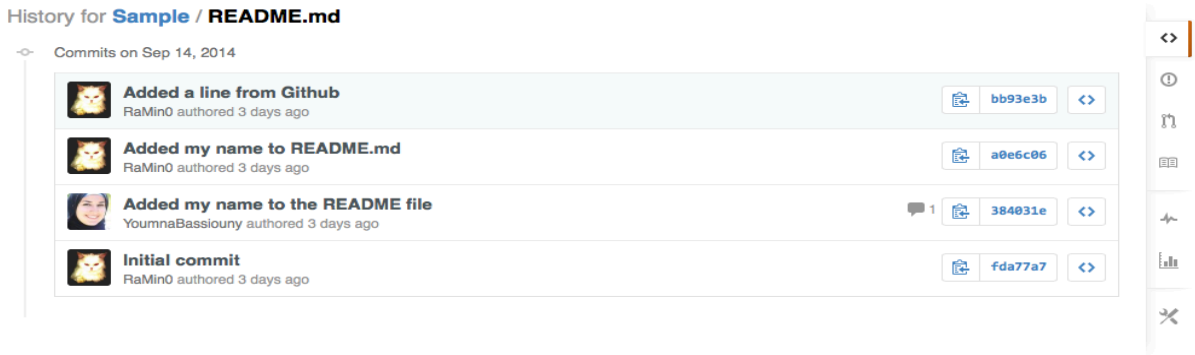


If you the **README.md** file is clicked on, the following window will appear.

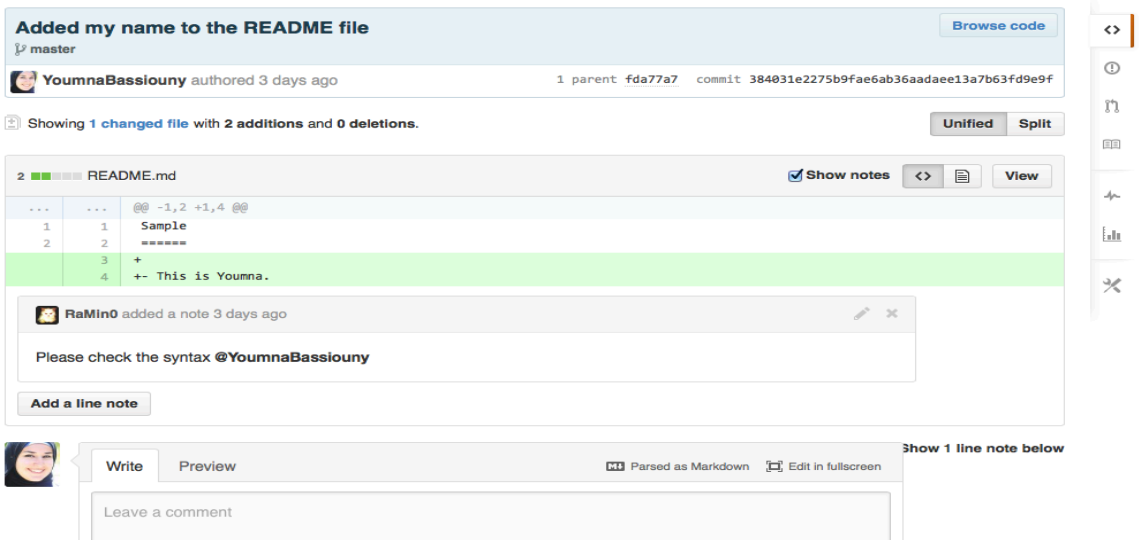


If you the **Blame** button is clicked on, the following window will appear.

This window shows all the commits that have been made to this file with the author, date and descriptive message. If the **History** button is clicked on, the following window will appear.



It displays the history of this file with all its versions. If any of them is clicked on, the following window will appear.



It shows the selected version of the file with its author and date. It displays the lines that have been added/modified with green/red background. Also, it allows other users to write a comment on this file for the author to make any changes if any.