**How to Work with Git, GitHub in Rstudio**

**-MA 615-**

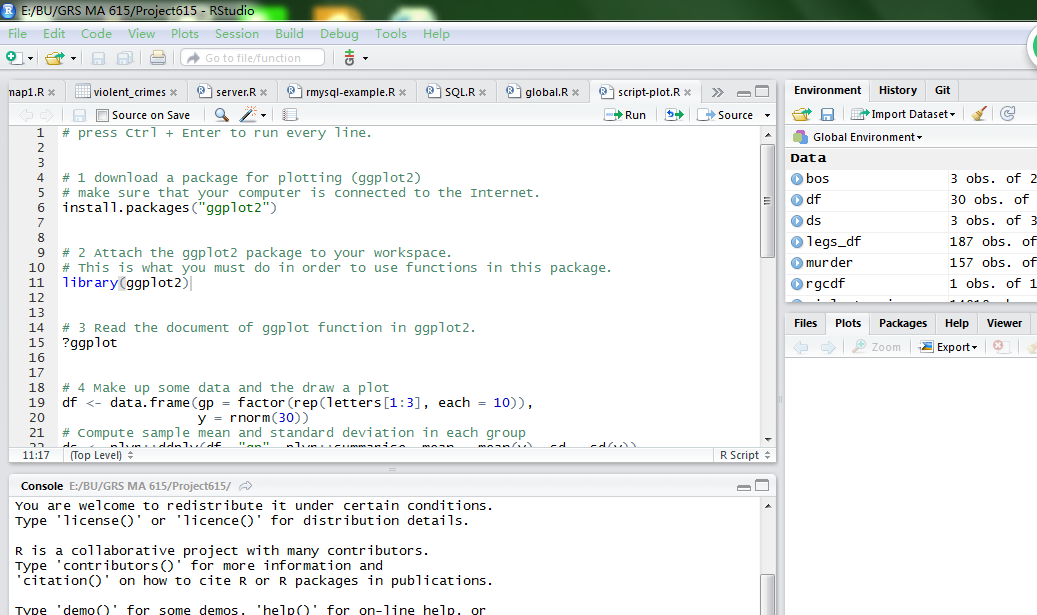
Now that you have installed the software, you need to set-up a directory for your work.

Create a MA615 folder for your assignments and projects.

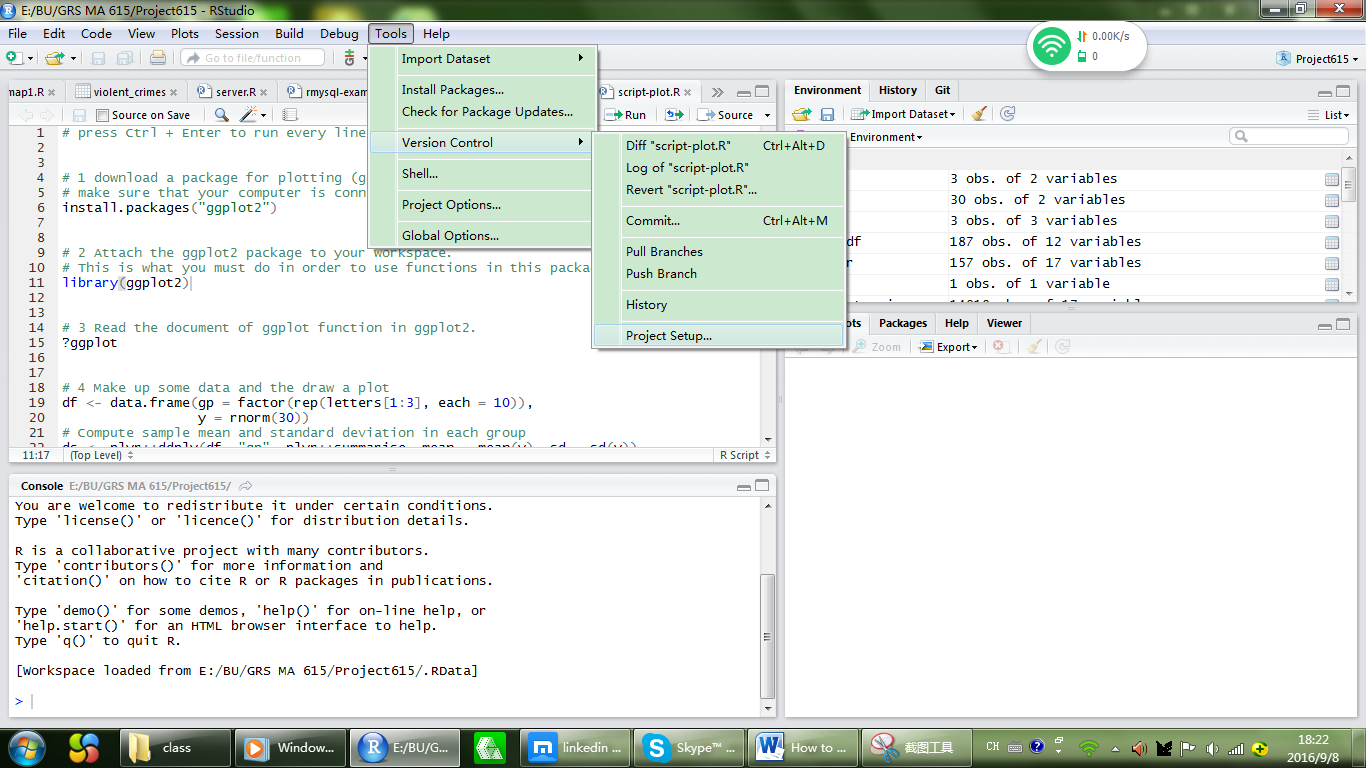
Then create a folder inside of the MA615 folder for your first assignment.

Open R studio and follow these steps.

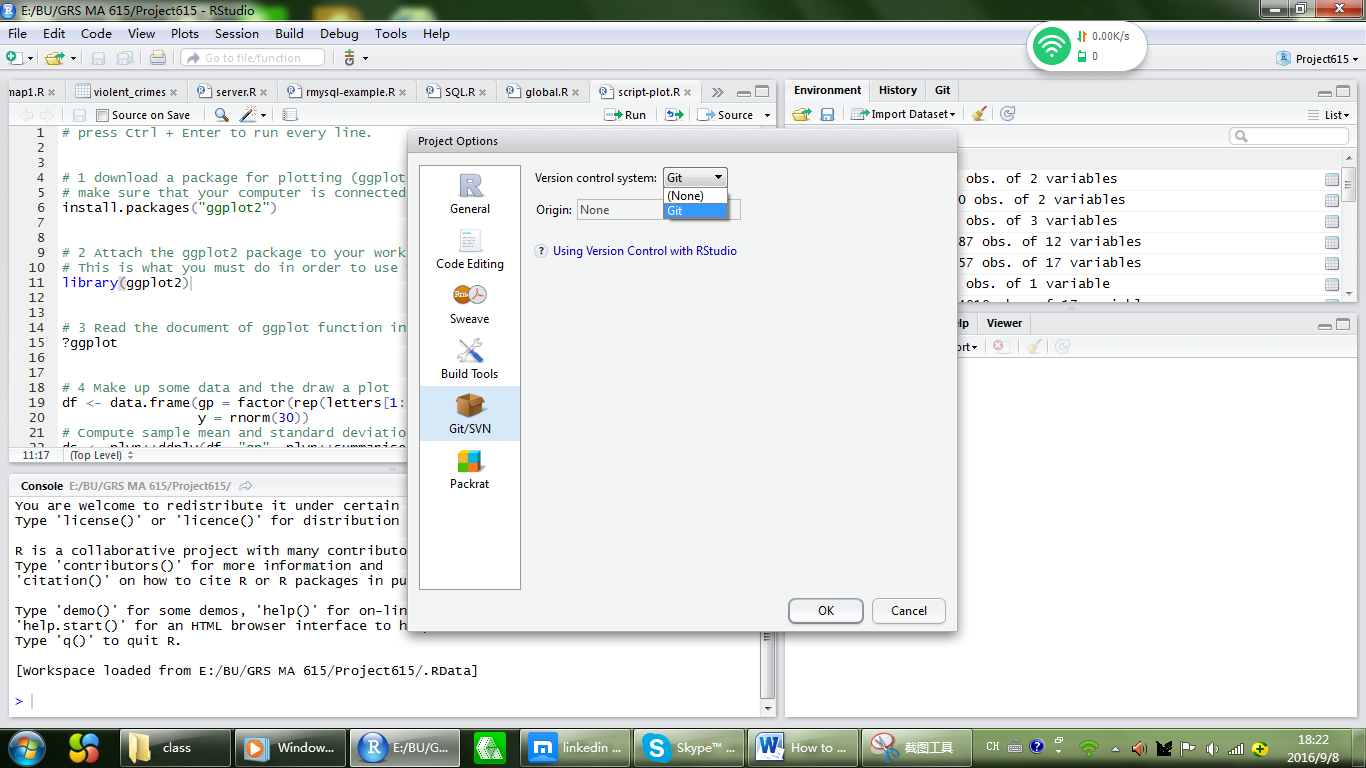
1 Open or create a project in Rstudio



2 Click on **Tools** tab -> **Version Control** -> **Project Setup**…



3 find the **Git/SVN** option and choose **Git** in the Version control system

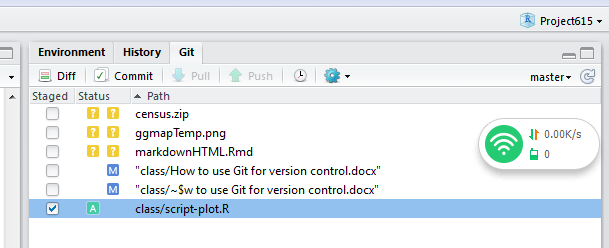


4 Click “**OK**”

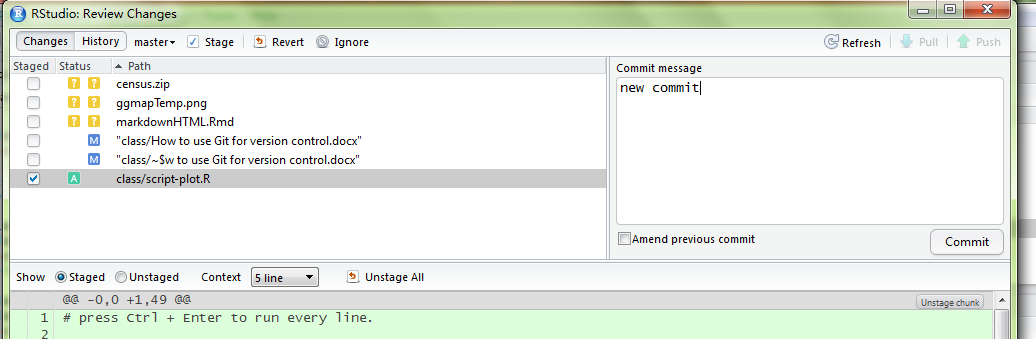
5 After step 3 and 4, there will be a **Git** tab next to **Environment** and **History** tab on the top right of the interface.

Then you can check scripts and files that you want to commit. Then, you click the “**Commit**” button.

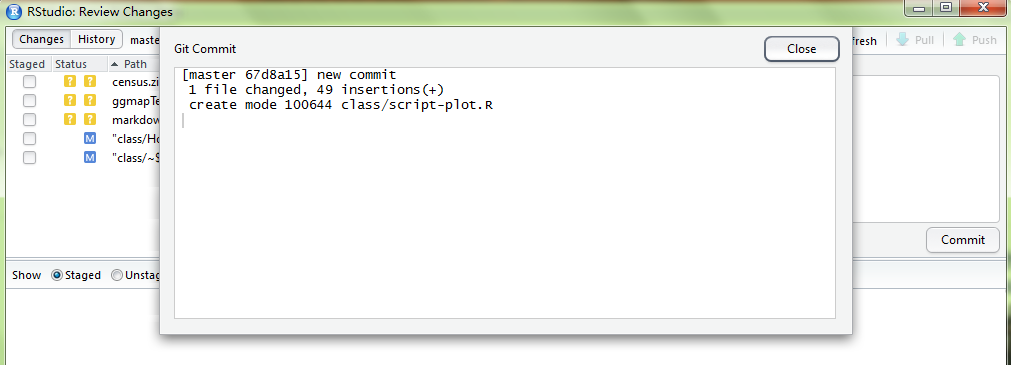
Status “**A**” means you have never committed this file before, and it has just been added to your Git repository.



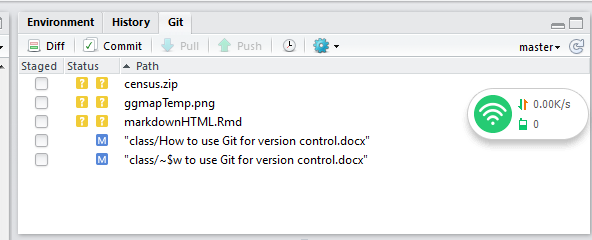
6 This is the window that pops out when you click on the commit button under Git tab. Note that you have to say something, like what are those files, why you did this, anything you want in the commit message. You cannot leave this place blank.



7 After you click the “**Commit** ” button in this window, you will see something like this, which means you have committed successfully.

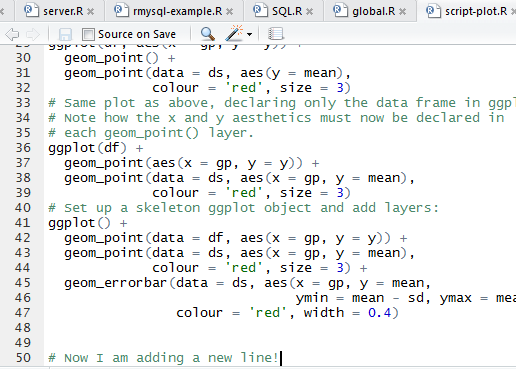


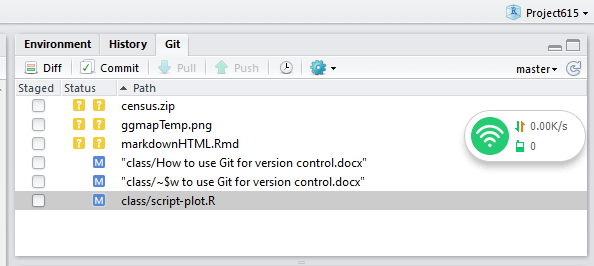
8 As soon as your files are committed, they will no longer show up under Git tab, unless you changed them.



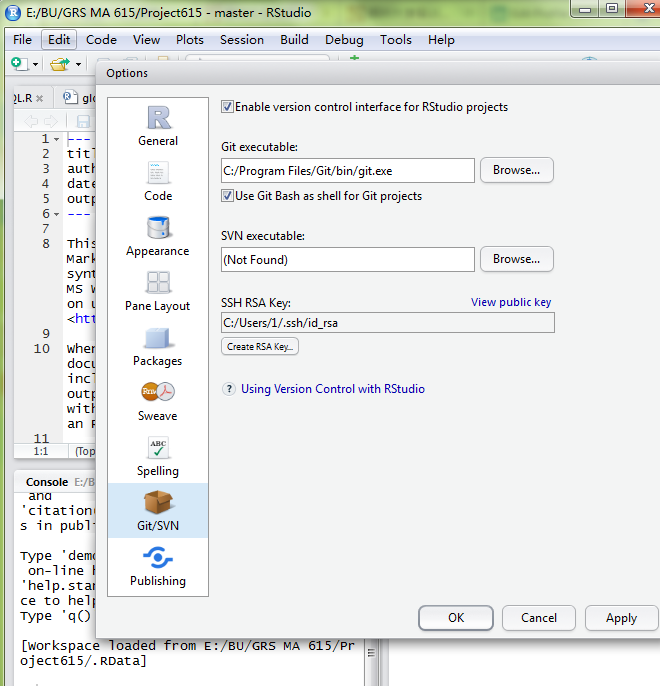
9 Now if I added a new line in the file script-plot.R, we could see it again.

The status “**M**” indicates that you had committed this file before and now you changed it.

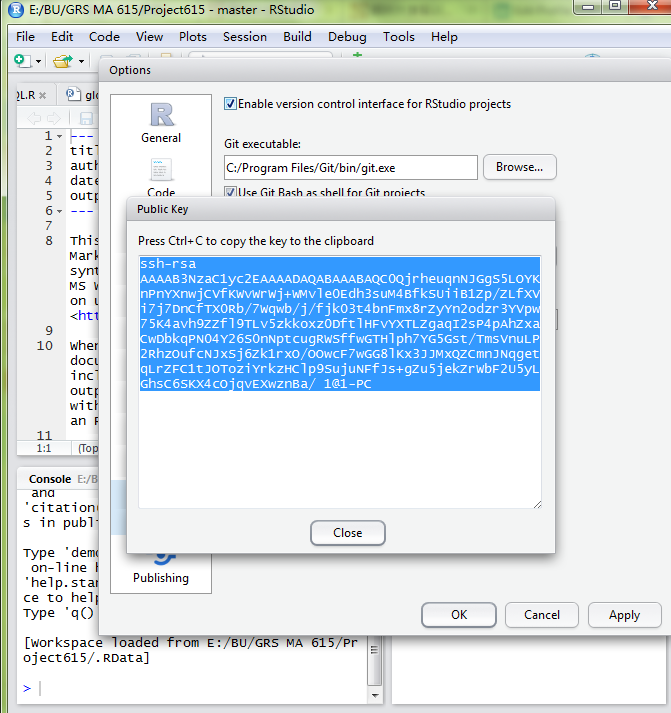




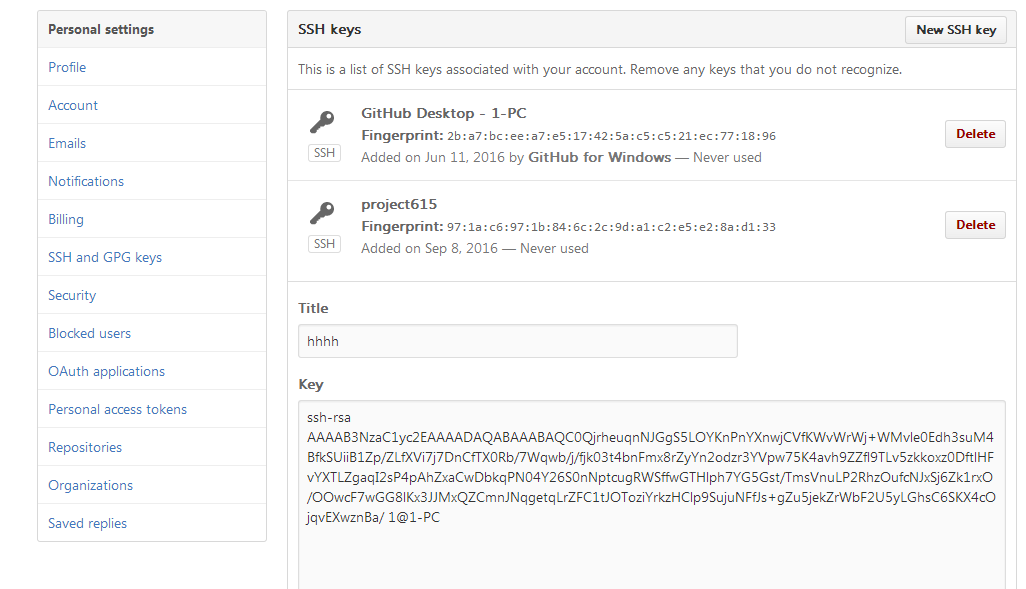
10 Now we want to put the repository onto GitHub. First, go to **Tools** -> **Global** **Options**(!!not project options!!) -> **Git/SVN**



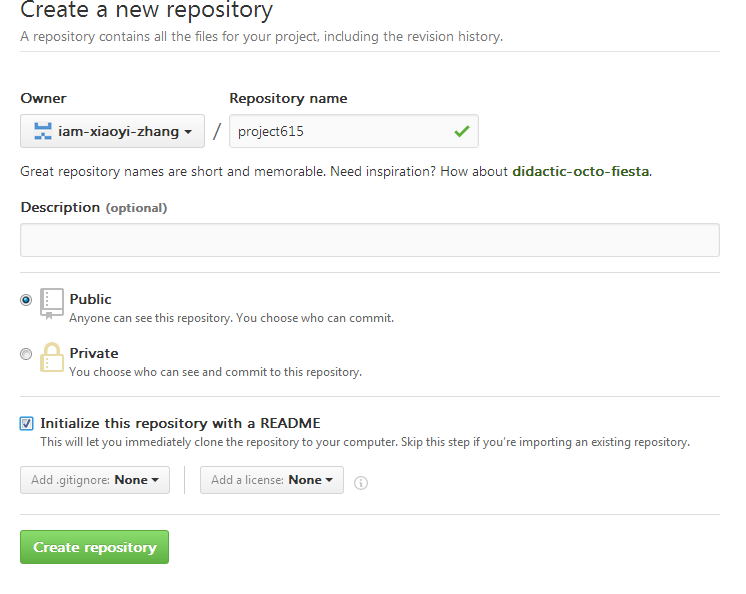
11. Click the **Create RSA Key** under the **SSH RSA Key**, you don’t need to put anything in Passphrase. Then click **View public key.** Press **Ctrl + C** to copy that.



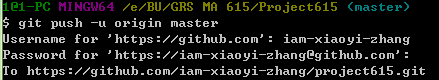
12 Now, if you haven’t created GitHub account, go create one. If you’ve already had one, go to your **Github** account’s **Settings** -> **SSH and GPG keys**. Press **New SSH key** and paste the key into it, name the title, and **add SSH key**.



13 Then, create a new repository:



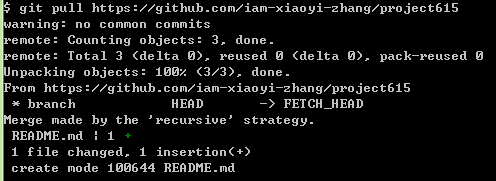
14 Now, in Git bash under the project’s directory, we want to **push** our repository:



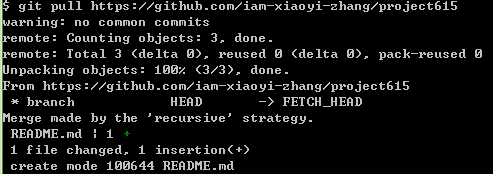
15 Oops! It’s **rejected**, why is that? That’s because we created a Readme file in the GitHub repository and if the local repository does not have every file in the online repository with the same name, then we cannot push it before we pulled (download) it. **(Always Pull Before Push)**



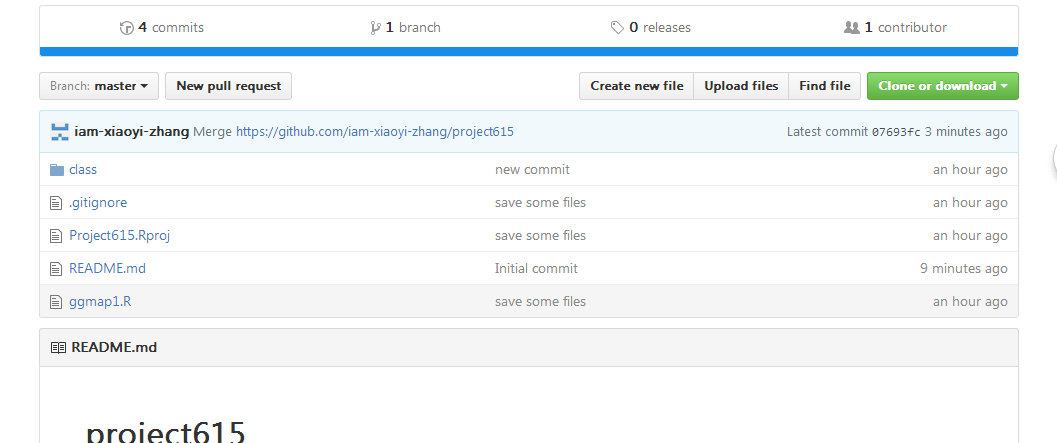
16 So we pull the repository on github. Remind that, git pull command will not only automatically copy and paste every file on GitHub repository to your local repository but also keep all your new local works safe at the same time.

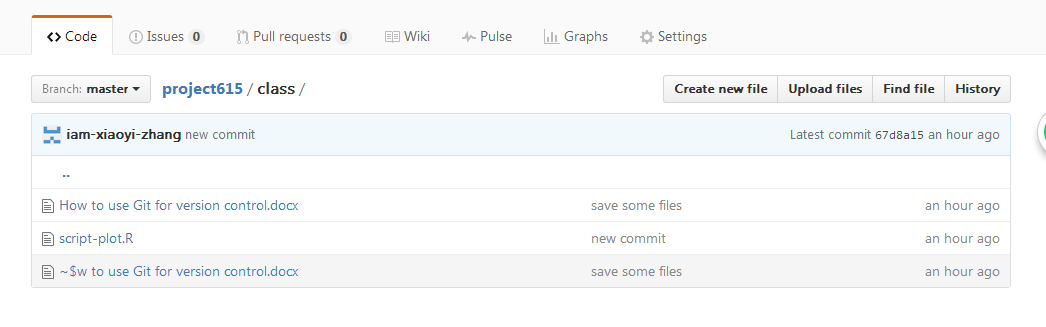


17 Now we can push our works! My username is iam-xiaoyi-zhang, you should use your own name.



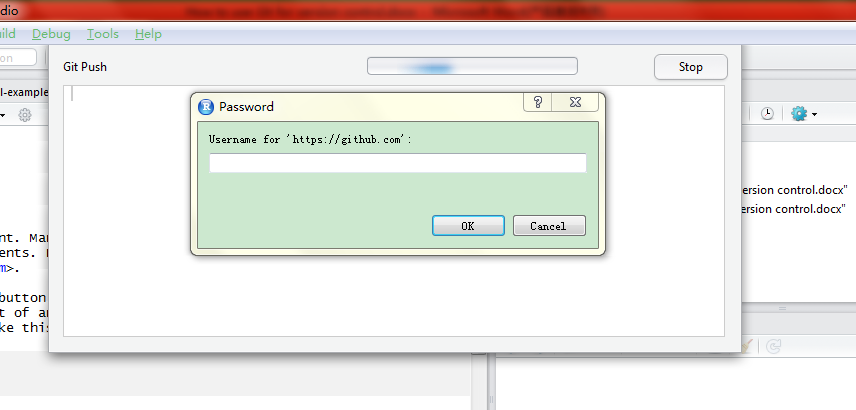
18 Now, open my GitHub and I can see every file I committed!





19 Also, you can pull or push you repository to GitHub in Rstudio under the Git tab.

All you need to do is press the button and input your username and password.



20 Personally, I highly recommend you to install a GitHub Desktop, which provides a neat, clear interface for managing all your repositories. However, before using fancy UI, it is necessary to play with git bash and coding in git.

