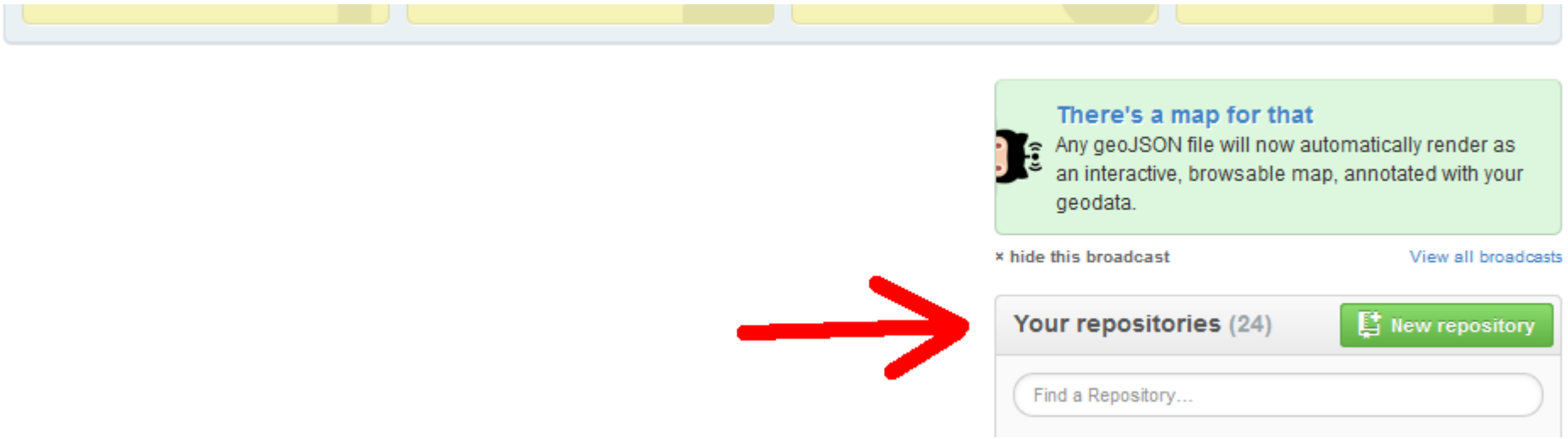
Using Git
With GitBash / CLI (Command Line Interface)
Available anywhere Git is installed!

- Creating a new Project Repository
- Sharing the Repository with the instructor(s)
- Downloading Repository from server to harddrive
- Adding new files
- Creating a commit
- Pushing to/Syncing with the server
- Pulling new changes

Written by Rachel J. Morris, last updated 2013-06-14
Creative Commons Attribution-NonCommercial-ShareAlike 3.0 Unported License.
http://creativecommons.org/licenses/by-nc-sa/3.0/

1. Creating a new Project Repository

- From https://github.com/, scroll down until you see the green New repository button under the Your repositories section. Click the button.



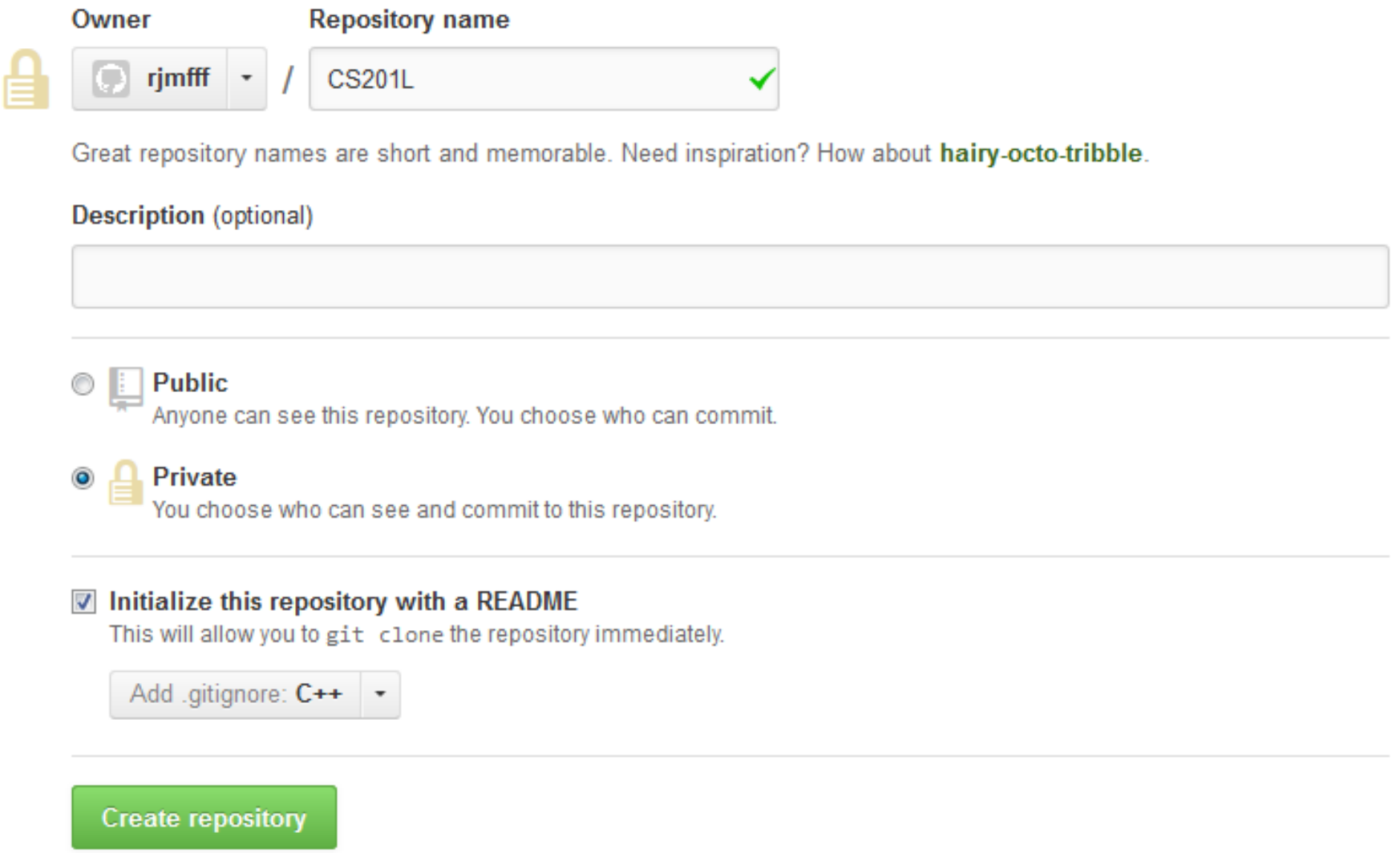
Written by Rachel J. Morris, last updated 2013-06-14
Creative Commons Attribution-NonCommercial-ShareAlike 3.0 Unported License.
http://creativecommons.org/licenses/by-nc-sa/3.0/

1. Creating a new Project Repository

- On the Create a New Repository page, fill out the following:
  - Repository Name: CS201
  - Description: Optional
  - **Select Private** radio button
    - If it asks for a credit card, you haven't been activated as a student account yet. See week 1 slides
  - **Check** Initialize this repository with a README
  - From the dropdown box, select C++ as the language

Written by Rachel J. Morris, last updated 2013-06-14
Creative Commons Attribution-NonCommercial-ShareAlike 3.0 Unported License.
http://creativecommons.org/licenses/by-nc-sa/3.0/

1. Creating a new Project Repository



Written by Rachel J. Morris, last updated 2013-06-14
Creative Commons Attribution-NonCommercial-ShareAlike 3.0 Unported License.
http://creativecommons.org/licenses/by-nc-sa/3.0/

1. Creating a new Project Repository

- You will need to create an additional repository if you're in the CS 201 Lab.
  - CS 201
  - CS 201 L

Written by Rachel J. Morris, last updated 2013-06-14
Creative Commons Attribution-NonCommercial-ShareAlike 3.0 Unported License.
http://creativecommons.org/licenses/by-nc-sa/3.0/

2. Sharing your Repositories

- For CS 201, you will need to share your repository with Rachel.
- For CS 201 L, you will need to share your repository with Imrul and Rachel.

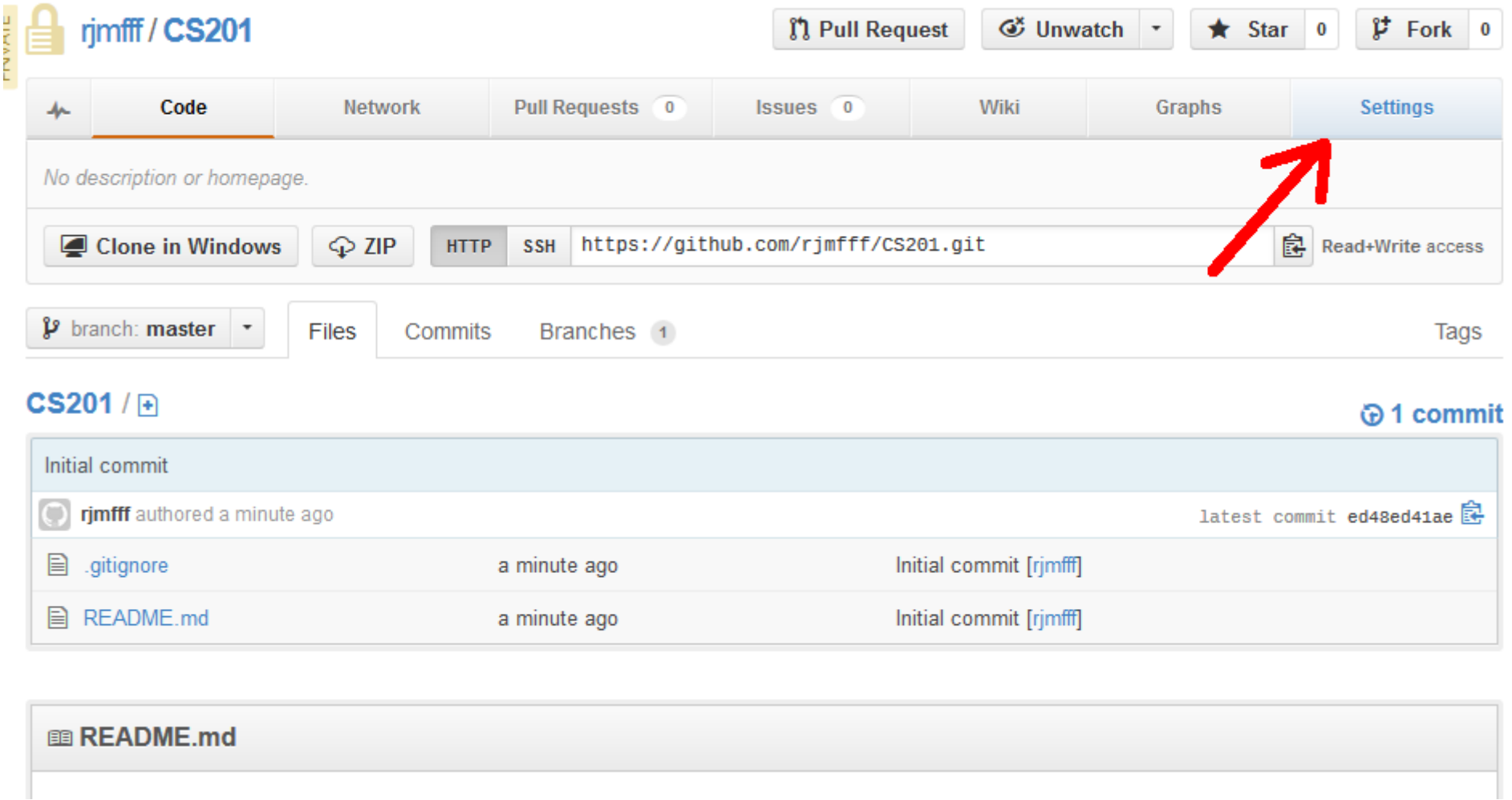
Written by Rachel J. Morris, last updated 2013-06-14
Creative Commons Attribution-NonCommercial-ShareAlike 3.0 Unported License.
http://creativecommons.org/licenses/by-nc-sa/3.0/

2. Sharing your Repositories

- From your Repository website, https://github.com/YOUR_USERNAME/CS201 Click on the Settings button.

Written by Rachel J. Morris, last updated 2013-06-14
Creative Commons Attribution-NonCommercial-ShareAlike 3.0 Unported License.
http://creativecommons.org/licenses/by-nc-sa/3.0/

2. Sharing your Repositories



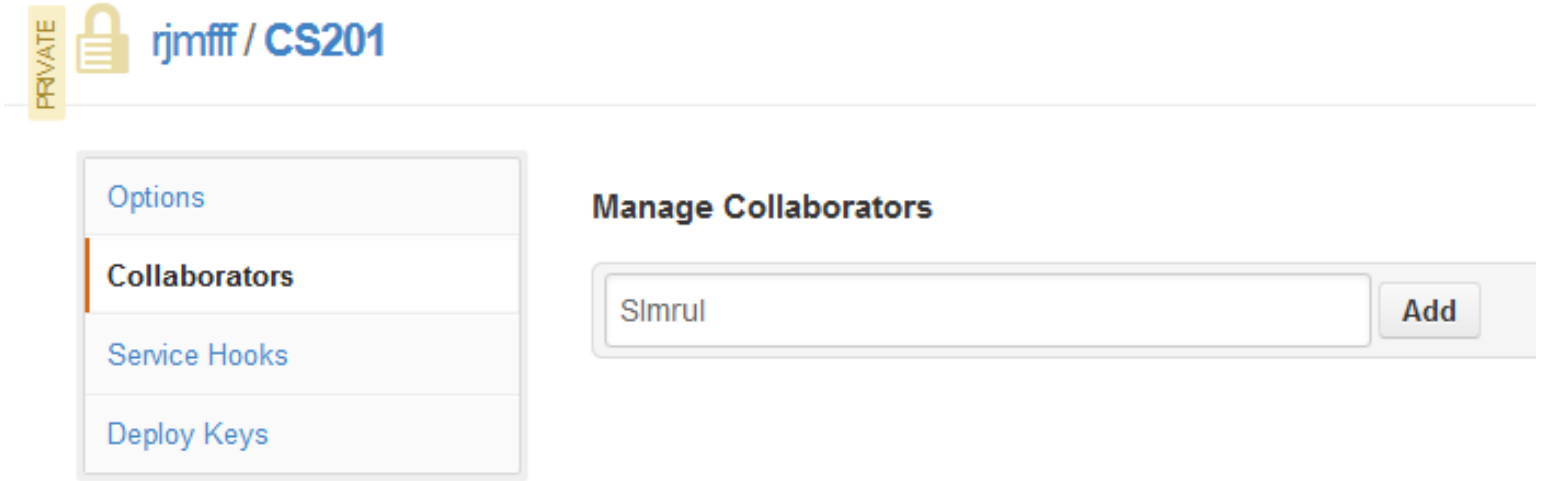
Written by Rachel J. Morris, last updated 2013-06-14
Creative Commons Attribution-NonCommercial-ShareAlike 3.0 Unported License.
http://creativecommons.org/licenses/by-nc-sa/3.0/

2. Sharing your Repositories

- From the Settings page, click on the Collaborators tab.
- In the Collaborators tab, enter our IDs:
  - RJMFFF for Rachel (CS 201 and CS 201 L)
  - Simrul for Imrul
  - Usernames are not case-sensitive
- Click on the Add button.

Written by Rachel J. Morris, last updated 2013-06-14
Creative Commons Attribution-NonCommercial-ShareAlike 3.0 Unported License.
http://creativecommons.org/licenses/by-nc-sa/3.0/

2. Sharing your Repositories



Written by Rachel J. Morris, last updated 2013-06-14
Creative Commons Attribution-NonCommercial-ShareAlike 3.0 Unported License.
http://creativecommons.org/licenses/by-nc-sa/3.0/

3. Setting up Git

- If you have GitHub for Windows/Mac installed or GitGUI installed, then you are able to use Git from the Command Line as well!
- CLI stands for “Command Line Interface”.
- Open:
  - Git Bash from the Start Menu (Windows)
  - Open a terminal (*NIX)

Written by Rachel J. Morris, last updated 2013-06-14
Creative Commons Attribution-NonCommercial-ShareAlike 3.0 Unported License.
http://creativecommons.org/licenses/by-nc-sa/3.0/

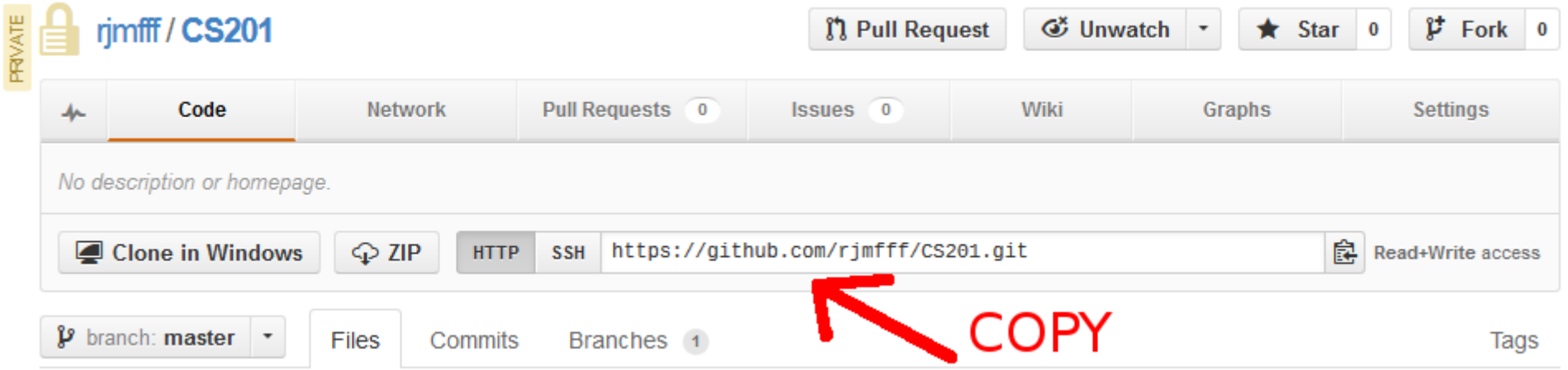
4. Downloading your Repository

- The repository is currently only on the web server. To add and change files, you need to pull it down to your local machine.
- You will modify files on your harddrive, and when you're done with a change, push them back to the server.

Written by Rachel J. Morris, last updated 2013-06-14
Creative Commons Attribution-NonCommercial-ShareAlike 3.0 Unported License.
http://creativecommons.org/licenses/by-nc-sa/3.0/

4. Downloading your Repository

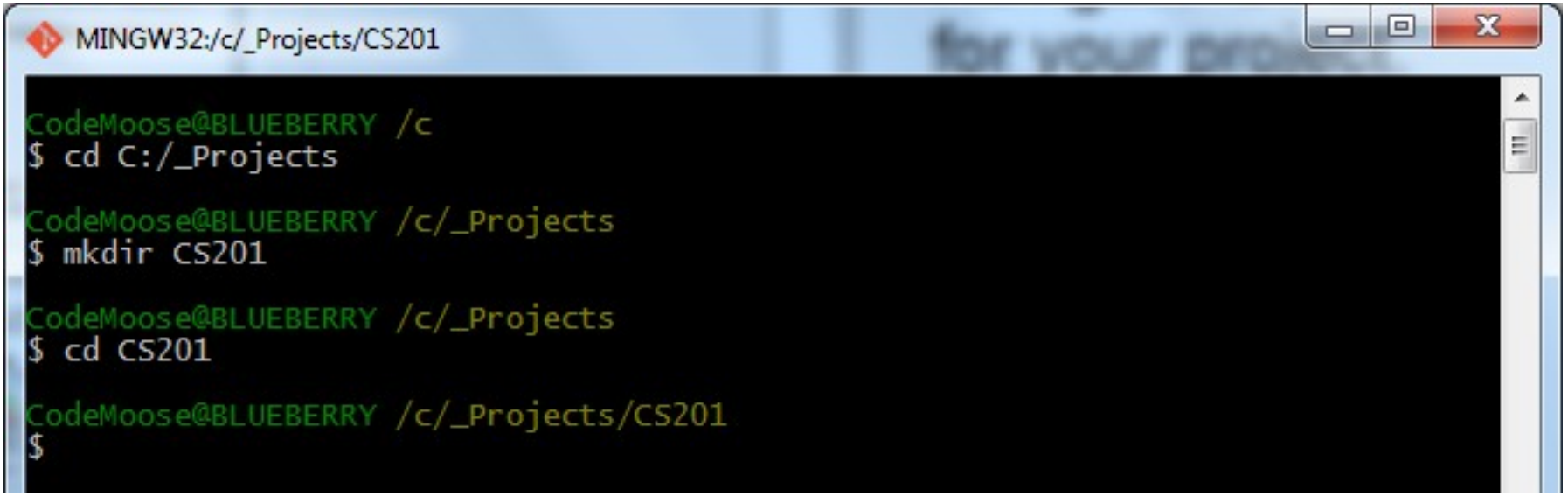
- From your Repository website, https://github.com/YOUR_USERNAME/CS201 highlight the .git URL and copy it.



Written by Rachel J. Morris, last updated 2013-06-14
Creative Commons Attribution-NonCommercial-ShareAlike 3.0 Unported License.
http://creativecommons.org/licenses/by-nc-sa/3.0/

4. Downloading your Repository

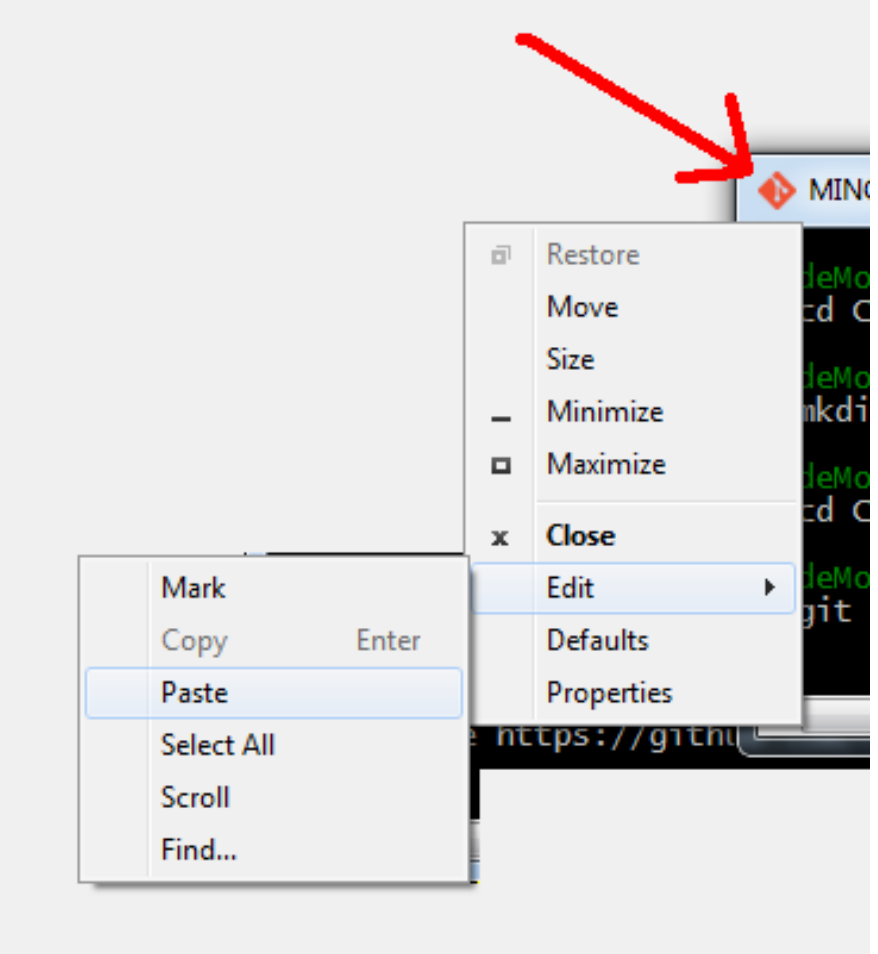
- Navigate Git Bash or your terminal to a folder for your project.



Written by Rachel J. Morris, last updated 2013-06-14
Creative Commons Attribution-NonCommercial-ShareAlike 3.0 Unported License.
http://creativecommons.org/licenses/by-nc-sa/3.0/

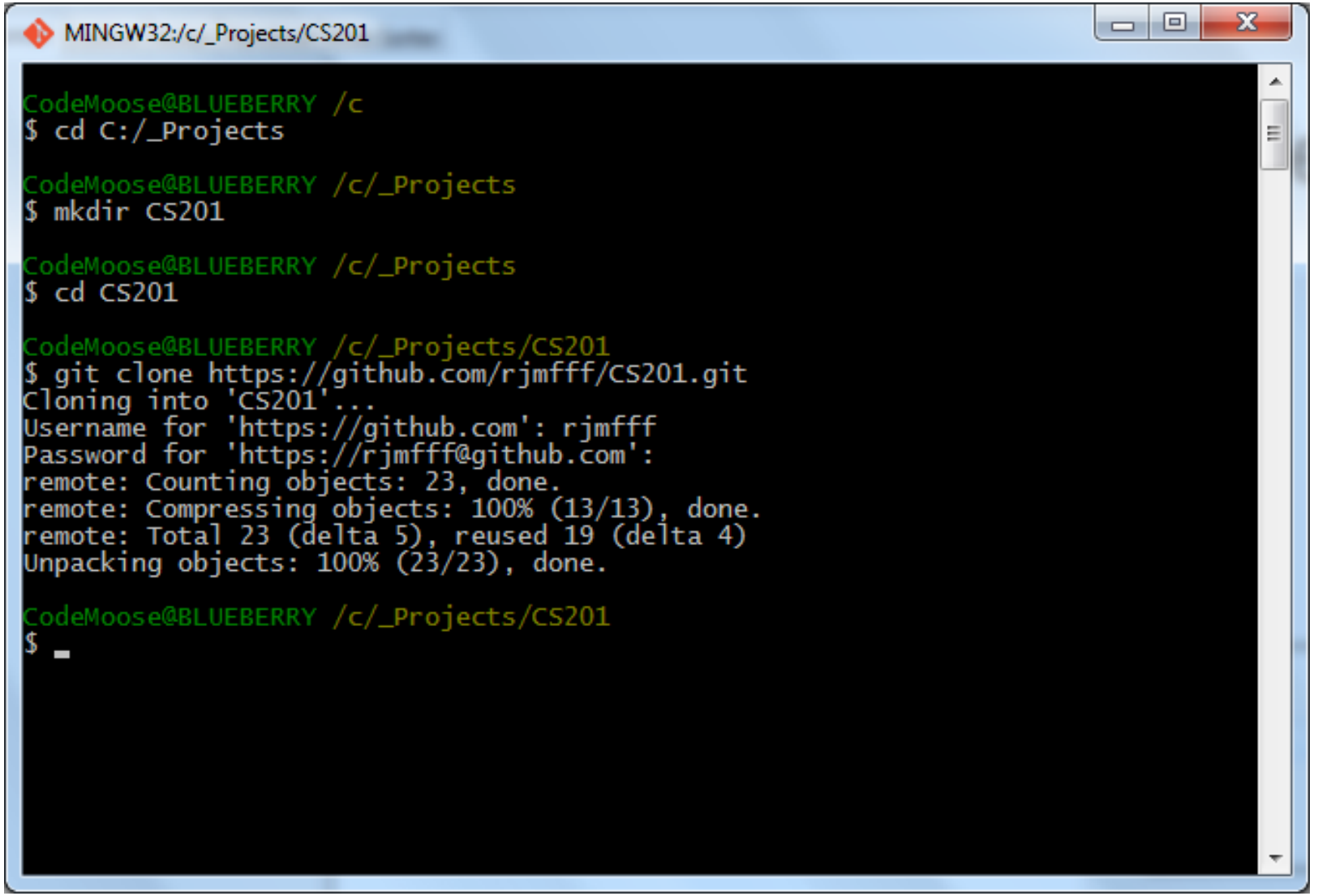
4. Downloading your Repository

- Type “git clone”, then paste in the .git URL.
- In GitBash, you can paste by clicking on the program icon, clicking Edit, then Paste.
- Hit enter.



Written by Rachel J. Morris, last updated 2013-06-14
Creative Commons Attribution-NonCommercial-ShareAlike 3.0 Unported License.
http://creativecommons.org/licenses/by-nc-sa/3.0/

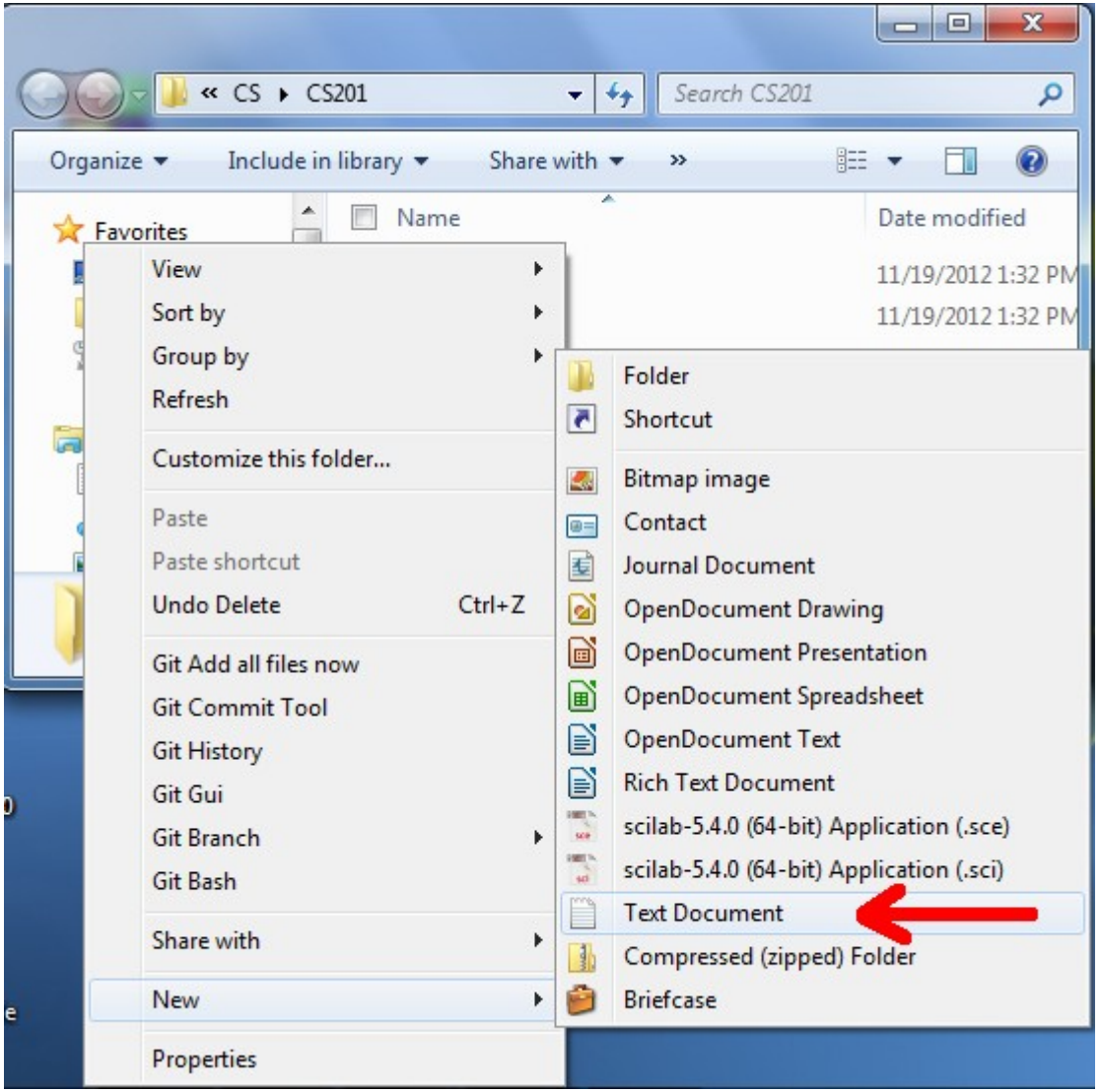
4. Downloading your Repository



Written by Rachel J. Morris, last updated 2013-06-14
Creative Commons Attribution-NonCommercial-ShareAlike 3.0 Unported License.
http://creativecommons.org/licenses/by-nc-sa/3.0/

5. Adding a test file

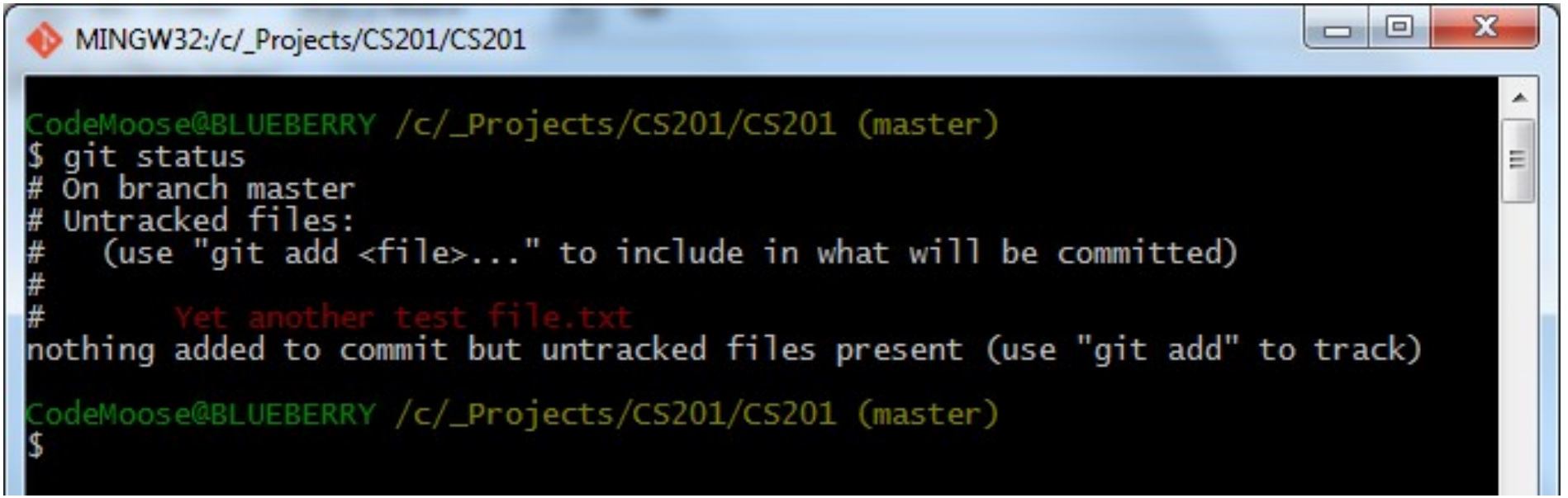
- Navigate to your project folder in Windows Explorer (or whatever).
- Create a new text document in the repository folder.



Written by Rachel J. Morris, last updated 2013-06-14
Creative Commons Attribution-NonCommercial-ShareAlike 3.0 Unported License.
http://creativecommons.org/licenses/by-nc-sa/3.0/

5. Adding a test file

- From Git Bash, type:
  git status
- This tells you what files have been changed.



Written by Rachel J. Morris, last updated 2013-06-14
Creative Commons Attribution-NonCommercial-ShareAlike 3.0 Unported License.
http://creativecommons.org/licenses/by-nc-sa/3.0/

5. Adding a test file

- You can add a specific file by typing:
  git add [filename]
- Or add all changes by typing:
  git add *
- If you type the first few characters of a filename and hit TAB, it will try to autocomplete for you.
- If there are spaces in the filename, you need to prefix the spaces with \ or include the filename within double-quotes.

Written by Rachel J. Morris, last updated 2013-06-14
Creative Commons Attribution-NonCommercial-ShareAlike 3.0 Unported License.
http://creativecommons.org/licenses/by-nc-sa/3.0/

5. Adding a test file

- Use git add to add the new file.

```
CodeMoose@BLUEBERRY /c/_Projects/CS201/CS201 (master)
$ git add Yet\ another\ test\ file.txt

CodeMoose@BLUEBERRY /c/_Projects/CS201/CS201 (master)
$ git add "Yet another test file.txt"

CodeMoose@BLUEBERRY /c/_Projects/CS201/CS201 (master)
$ git add *
```

Written by Rachel J. Morris, last updated 2013-06-14
Creative Commons Attribution-NonCommercial-ShareAlike 3.0 Unported License.
http://creativecommons.org/licenses/by-nc-sa/3.0/

5. Adding a test file

git status before add:

```
CodeMoose@BLUEBERRY /c/_Projects/CS201/CS201 (master)
$ git status
# On branch master
# Untracked files:
#   (use "git add <file>..." to include in what will be committed)
#
#       Yet another test file.txt
nothing added to commit but untracked files present (use "git add" to track)
```

git status after add:

```
CodeMoose@BLUEBERRY /c/_Projects/CS201/CS201 (master)
$ git add *

CodeMoose@BLUEBERRY /c/_Projects/CS201/CS201 (master)
$ git status
# On branch master
# Changes to be committed:
#   (use "git reset HEAD <file>..." to unstage)
#
#       new file:   Yet another test file.txt
#
```

Written by Rachel J. Morris, last updated 2013-06-14
Creative Commons Attribution-NonCommercial-ShareAlike 3.0 Unported License.
http://creativecommons.org/licenses/by-nc-sa/3.0/

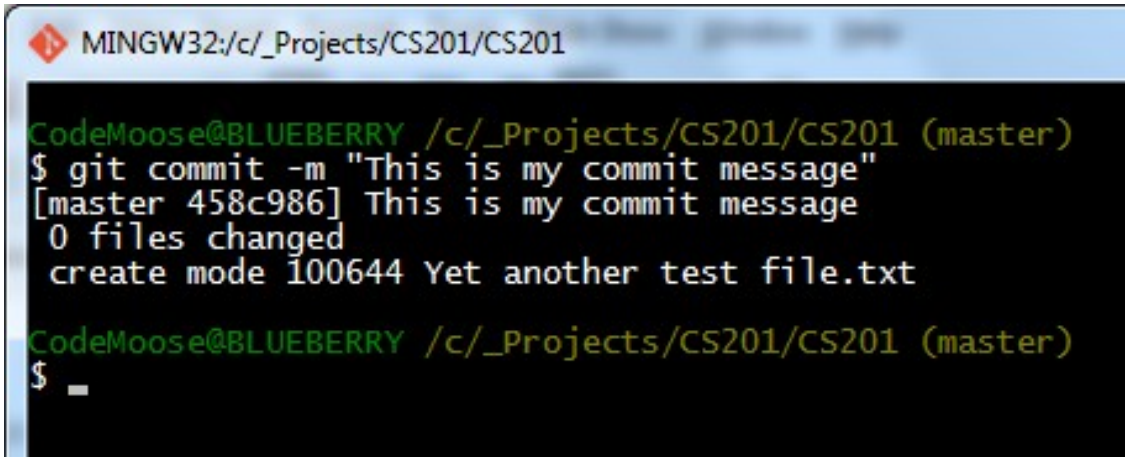
5. Adding a test file

- Now we need to commit the file we added. A commit can contain multiple files and has a label message so you can keep track of your changes over time.
- You can commit with either:
  git commit
  or
  git commit -m "This is my commit message"

Written by Rachel J. Morris, last updated 2013-06-14
Creative Commons Attribution-NonCommercial-ShareAlike 3.0 Unported License.
http://creativecommons.org/licenses/by-nc-sa/3.0/

5. Adding a test file

- If you use git commit (without the -m flag), your OS will open a text editor for you to add the commit message.
- If it opens Vim... well, I don't know how to use Vim. Close the bash and commit with the -m flag. :P



Written by Rachel J. Morris, last updated 2013-06-14
Creative Commons Attribution-NonCommercial-ShareAlike 3.0 Unported License.
http://creativecommons.org/licenses/by-nc-sa/3.0/

6. Pushing your changes to the server

- Now we've committed our changes, but it isn't backed up to the server until we actually push the changes.
- To push our list of commits to the server, use git push -u origin master
- Don't worry about what “-u origin master” means for this class, just memorize it.
  (It has to do with branching).

Written by Rachel J. Morris, last updated 2013-06-14
Creative Commons Attribution-NonCommercial-ShareAlike 3.0 Unported License.
http://creativecommons.org/licenses/by-nc-sa/3.0/

6. Pushing your changes to the server

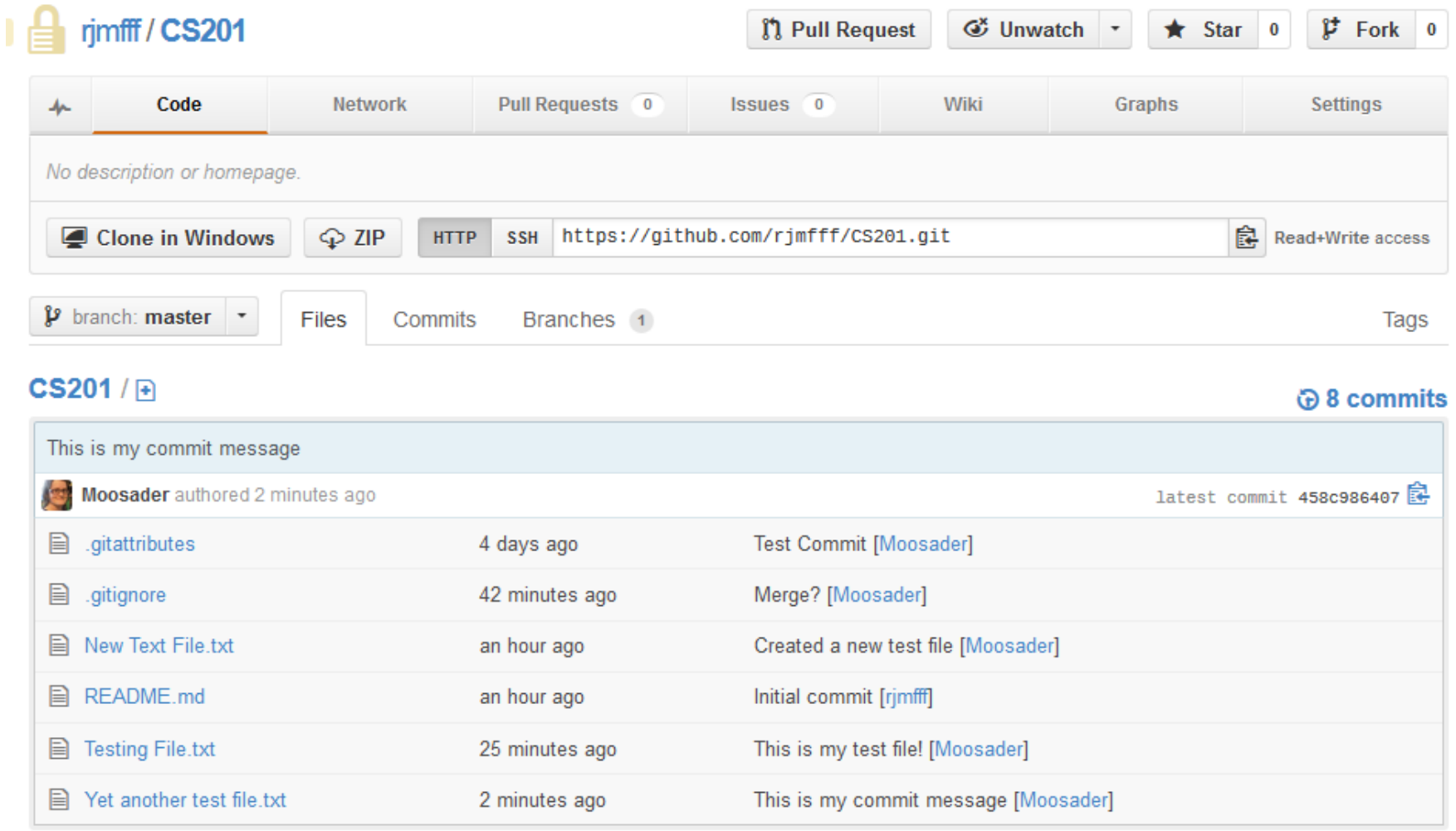
```
CodeMoose@BLUEBERRY /c/_Projects/CS201/CS201 (master)
$ git push -u origin master
Username for 'https://github.com': rjmfff
Password for 'https://rjmfff@github.com':
Counting objects: 4, done.
Delta compression using up to 4 threads.
Compressing objects: 100% (2/2), done.
Writing objects: 100% (3/3), 303 bytes, done.
Total 3 (delta 1), reused 0 (delta 0)
To https://github.com/rjmfff/CS201.git
   160186d..458c986  master -> master
Branch master set up to track remote branch master from origin.

CodeMoose@BLUEBERRY /c/_Projects/CS201/CS201 (master)
$
```

Written by Rachel J. Morris, last updated 2013-06-14
Creative Commons Attribution-NonCommercial-ShareAlike 3.0 Unported License.
http://creativecommons.org/licenses/by-nc-sa/3.0/

6. Pushing your changes to the server

- Your changes will now be visible on the webpage.



Written by Rachel J. Morris, last updated 2013-06-14
Creative Commons Attribution-NonCommercial-ShareAlike 3.0 Unported License.
http://creativecommons.org/licenses/by-nc-sa/3.0/