

MONICALIAN SILVERSILY

Github

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Github & Jetbrains & Markdown



Github History

- Founded in 2008
- Surpassed SourceForge in 2011
- Raised huge round in 2012
- Acquired by Microsoft in 2018
- Acquired npm in 2020
 - javascript package manager

GitHub

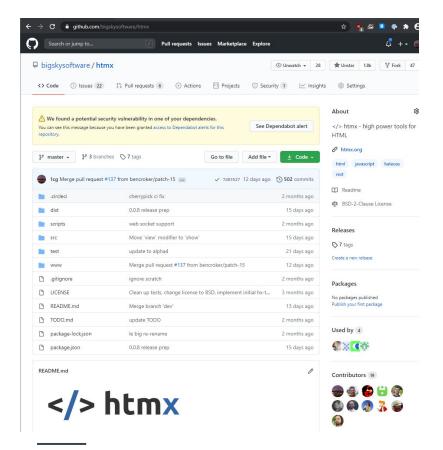
Github Functionality

- Hosts Git Repositories
- Provides a web interface for them
- Coordinates related repositories
 - o "Forks"
 - "Pull Requests
- Provides coding infrastructure
- Increasingly provides social infrastructure

GitHub

Github Functionality

- Code
 - Can show diffs, allows online editing
- Issues
 - Bug management
- Pull Requests
 - Coordinates Contributions
- Security (new)
 - Shows potential security issues



Github History

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GitHub

Github Alternatives

Gitlab https://about.gitlab.com/

Bitbucket <u>https://bitbucket.org/product</u>

Sourcehut <u>https://sr.ht/</u>





Sourcehut

Establishing an SSH identity

Need to establish your identity if you haven't done so

```
$ ssh-keygen
```

```
student@CSCI366-Ubuntu: ~
student@CSCI366-Ubuntu:~$ ssh-keygen
Generating public/private rsa key pair.
Enter file in which to save the key (/home/student/.ssh/id rsa
):
Enter passphrase (empty for no passphrase):
Enter same passphrase again:
Your identification has been saved in /home/student/.ssh/id_rs
a
Your public key has been saved in /home/student/.ssh/id rsa.pu
b
```

Establishing an SSH identity

Add ssh key\$ ssh-add ~/.ssh/id_rsa

```
student@CSCI366-Ubuntu:~$ ssh-add ~/.ssh/
id_rsa id_rsa.pub known_hosts
student@CSCI366-Ubuntu:~$ ssh-add ~/.ssh/id_rsa
Identity added: /home/student/.ssh/id_rsa (student@CSCI366-Ubuntu)
student@CSCI366-Ubuntu:~$
```

Get your public key

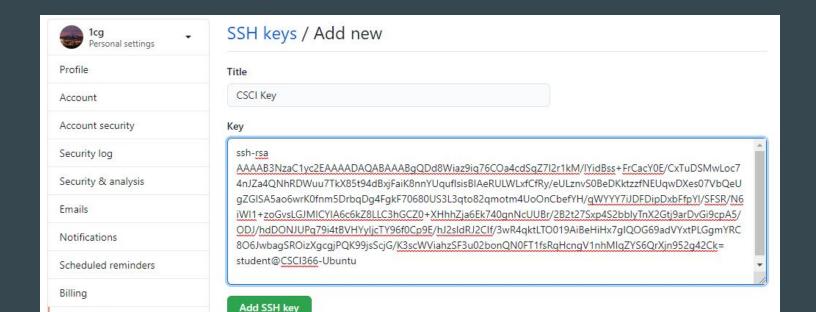
Grab your public key

```
$ cat ~/.ssh/id_rsa.pub
```

```
student@CSCI366-Ubuntu:~$ cat ~/.ssh/id_rsa.pub
ssh-rsa AAAAB3NzaClyc2EAAAADAQABAAABgQDd8Wiaz9iq76C0a4cdSqZ7I2
r1kM/lYidBss+FrCacY0E/CxTuDSMwLoc74nJZa4QNhRDWuu7TkX85t94dBxjF
aiK8nnYUguflsisBIAeRULWLxfCfRy/eULznvS0BeDKktzzfNEUgwDXes07VbQ
eUgZGISA5ao6wrK0fnm5DrbqDg4FgkF70680US3L3qto82qmotm4Uo0nCbefYH
/qWYYY7iJDFDipDxbFfpYl/SFSR/N6iWI1+zoGvsLGJMICYIA6c6kZ8LLC3hGC
Z0+XHhhZja6Ek740gnNcUUBr/2B2t27Sxp4S2bbIyTnX2Gtj9arDvGi9cpA5/0
DJ/hdDONJUPq79i4tBVHYyIjcTY96f0Cp9E/hJ2sldRJ2CIf/3wR4qktLT0019
AiBeHiHx7qlQ0G69adVYxtPLGgmYRC806JwbaqSR0izXqcqjPQK99jsScjG/K3
scWViahzSF3u02bonQN0FT1fsRqHcnqV1nhMIqZYS6QrXjn952g42Ck= stude
nt@CSCI366-Ubuntu
student@CSCI366-Ubuntu:~$
```

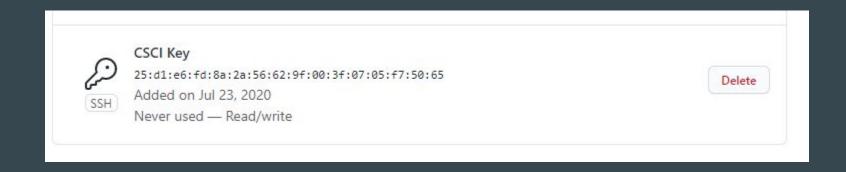
Add it to github

- Head to https://github.com/settings/ssh/new
- Paste in the key

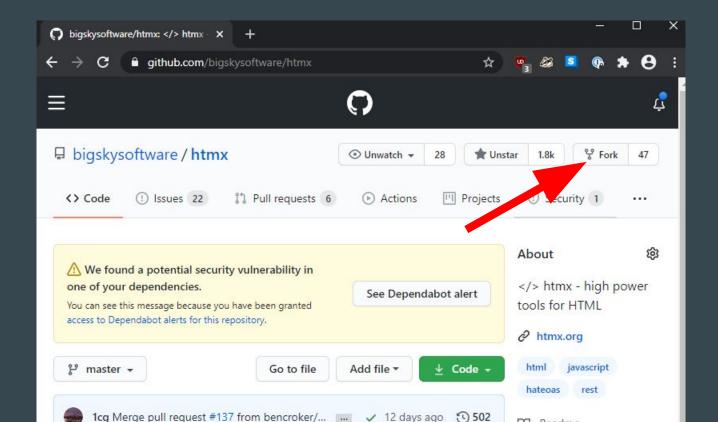


Add it to github

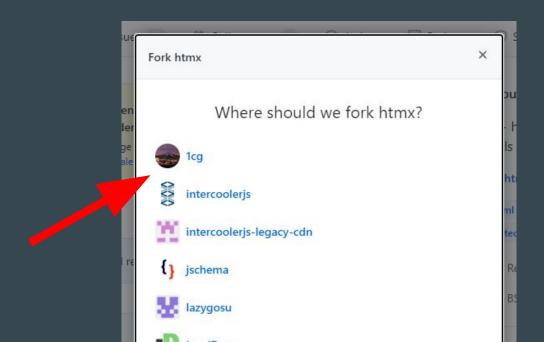
- You should see the key in your UI now
- You can delete this key when you are done with the course



Next: Forking A Repository



Forking A Repository



Forking A Repository

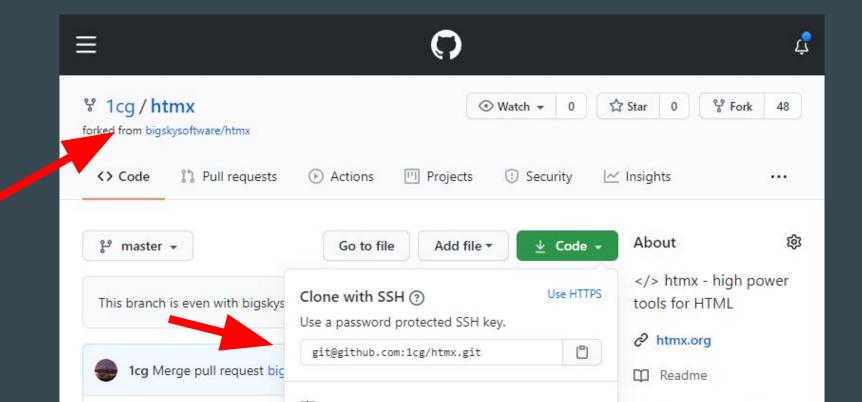
Forking bigskysoftware/htmx

It should only take a few seconds.





Now I Have My Own Repo!



Now Clone It Locally...

```
MINGW64:/c/Users/Carson
Carson@BIGSKY-THINKPAD MINGW64 ~
$ git clone git@github.com:1cg/htmx.git
Cloning into 'htmx'...
Warning: Permanently added the RSA host key for IP addro
remote: Enumerating objects: 3, done.
remote: Counting objects: 100% (3/3), done.
remote: Compressing objects: 100% (3/3), done.
remote: Total 3501 (delta 0), reused 0 (delta 0), pack-
Receiving objects: 100\% (3501/3501), 2.25 MiB | 3.35 Mil
Resolving deltas: 100% (2260/2260), done.
```

And Set Upstream

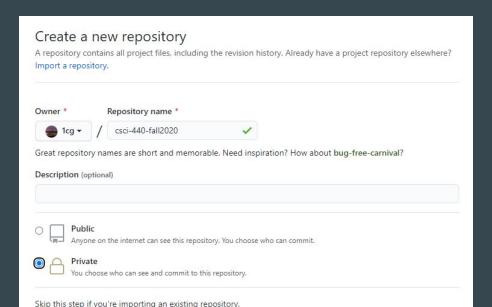
```
MINGW64:/c/Users/Carson/htmx
Carson@BIGSKY-THINKPAD MINGW64 ~
$ cd htmx/
Carson@BIGSKY-THINKPAD MINGW64 ~/htmx (master)
$ git remote add upstream git@github.com:bigskysoftware/htmx.git
Carson@BIGSKY-THINKPAD MINGW64 ~/htmx (master)
$ git pull upstream master
From github.com:bigskysoftware/htmx
  branch
                     master -> FETCH_HEAD
* [new branch] master -> upstream/master
Already up to date.
```

Forking vs Cloning

- Forking is a *Github* concept
 - Advantages
 - Github retains fork information
 - Allows for "pull requests" against the forked repository
 - Disadvantages
 - Doesn't retain upstream info when cloned
 - You can't change security information of your fork
 - Deal killer for us
- Cloning is a git concept. It just copies a code base.
- We are going to need to clone, rather than fork the class codebase so you can have private repositories

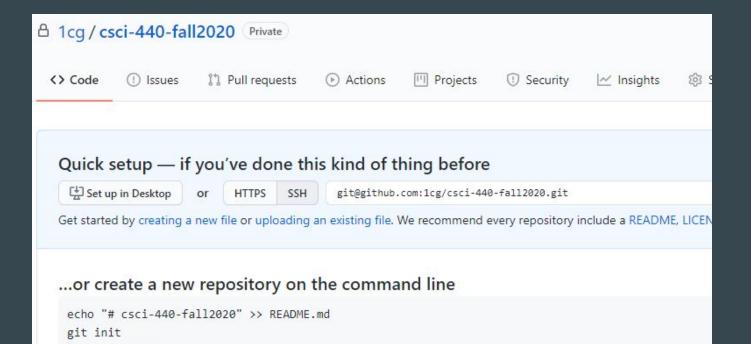
Create A New **Private** Repository

- https://github.com/new
- Same name as class repo
- Set to PRIVATE



Note the git: URL from this new, private repo

Make sure it starts with git:



Clone The Class Repository

- Head to https://github.com/msu and grab the https URL of your class repository
- Clone it locally:

```
student@CSCI366-Ubuntu: ~
student@CSCI366-Ubuntu:~$ git clone https://github.com/msu/csc
i-440-fall2020.git
Cloning into 'csci-440-fall2020'...
remote: Enumerating objects: 38, done.
remote: Counting objects: 100% (38/38), done.
remote: Compressing objects: 100% (21/21), done.
remote: Total 38 (delta 6), reused 27 (delta 2), pack-reused 0
Unpacking objects: 100% (38/38), 335.11 KiB | 1.67 MiB/s, done
student@CSCT366-Uhuntu.~ <
```

Update To Point To Your Repository

 Update the local repository to point to your new private repo with the command:

```
git remote set-url origin git@github.com:<your Github user name>/csci-440-fall2020.git
```

```
student@CSCI366-Ubuntu:~$ cd csci-440-fall2020/
student@CSCI366-Ubuntu:~/csci-440-fall2020$ git remote set-url
  origin git@github.com:1cg/csci-440-fall2020.git
student@CSCI366-Ubuntu:~/csci-440-fall2020$
```

Add Class Repository As Upstream

Add the public class repository as an upstream repo:

```
git remote add upstream https://github.com/msu/csci-440-fall2020.git
```

```
student@CSCI366-Ubuntu:~$ cd csci-440-fall2020/
student@CSCI366-Ubuntu:~/csci-440-fall2020$ git remote set-url
origin git@github.com:1cg/csci-440-fall2020.git
student@CSCI366-Ubuntu:~/csci-440-fall2020$
```

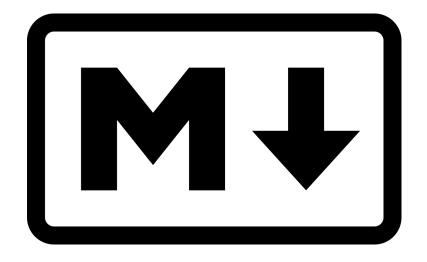
Jetbrains Demo

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Avoiding Learning Git

Bonus Content: Markdown

- Markdown is a plain text format that generates HTML
- Invented by John Gruber & Aaron Swartz
 - You should read up on Aaron
 Swartz
- Github has popularized and extended it



Markdown Basics - Headers

```
# h1 Heading 8-)
## h2 Heading
### h3 Heading
#### h4 Heading
##### h5 Heading
###### h6 Heading
```

h1 Heading

h2 Heading

h3 Heading

h4 Heading

h5 Heading

h6 Heading

Markdown Basics - Emphasis

- * Foo
- * Bar
 - * Doh
 - * Ray

- Foo
- Bar
- Doh
 - Ray

Markdown Basics - Code

```
var foo = function (bar) {
 return bar++;
console.log(foo(5));
...
```

```
var foo = function (bar) {
  return bar++;
};
console.log(foo(5));
```

Markdown

Head on over to

https://markdown-it.github.io/

- Play around with it
- Your assignments and project will be given out in Markdown
- Good skill to pick up, and pretty easy!

```
var foo = function (bar) {
  return bar++;
};
console.log(foo(5));
```



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