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Open Source Day

How to prepare to:

GitHub 101 - An Intro to Git and GitHub for Newbies

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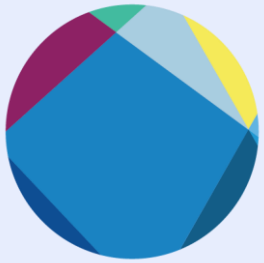
Step 1: Install git

Linux

https://git-scm.com/download/linux

For Debian/Ubuntu run:

> apt-get install git



MacOS

https://git-scm.com/download/mac

Recommended method:

> brew install git

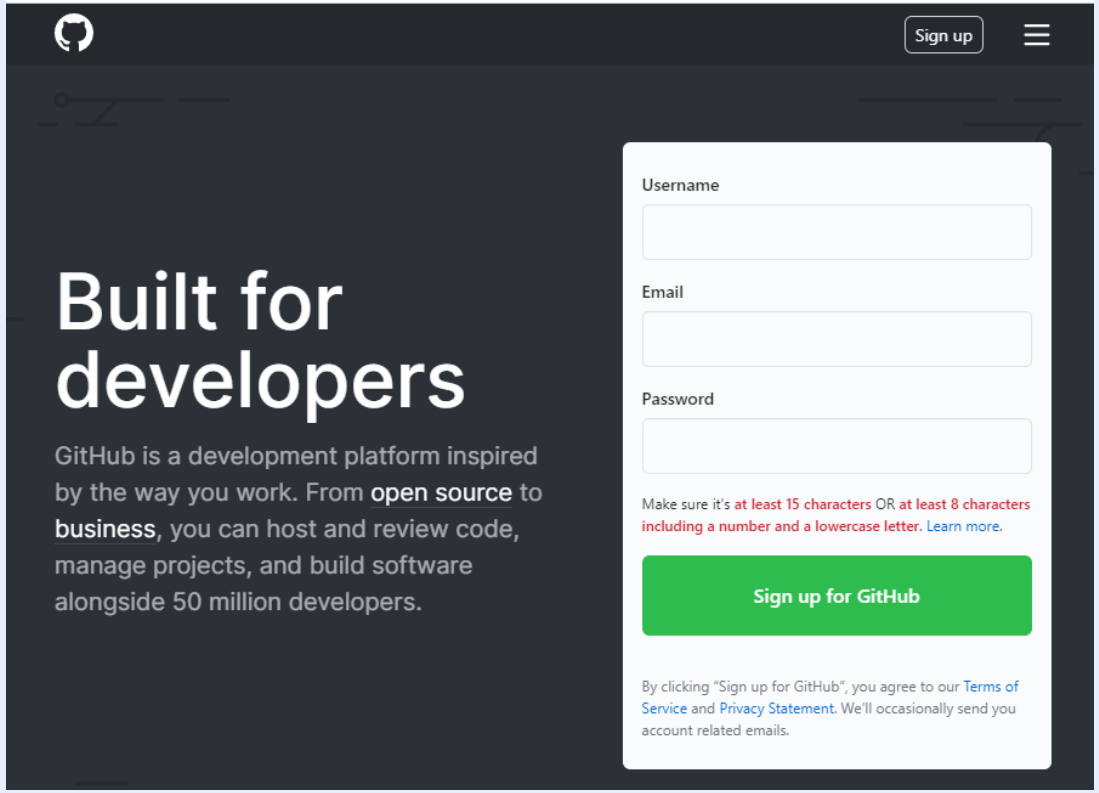
Windows

https://git-scm.com/download/win

This URL will auto start the download.

Step 2: Create a GitHub account

If you haven't already, please create a GitHub account by going to https://github.com/ and selecting 'Sign up'.



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What do you need?

Git installed

Check the handouts or

https://git-scm.com/downloads

GitHub account

To create an account go to

https://github.com/

Terminal

We will be using shell commands to interact with git and GitHub.

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Test your terminal!

```
> echo hello world
hello world
```

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Let’s find a good place to work

```
> cd path/to/work-folder
```

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Ready... Set... Go!

What are we going to learn in the next 30 minutes?

- ~~How to install git?~~
- What is git
- How to use git
- How to use GitHub

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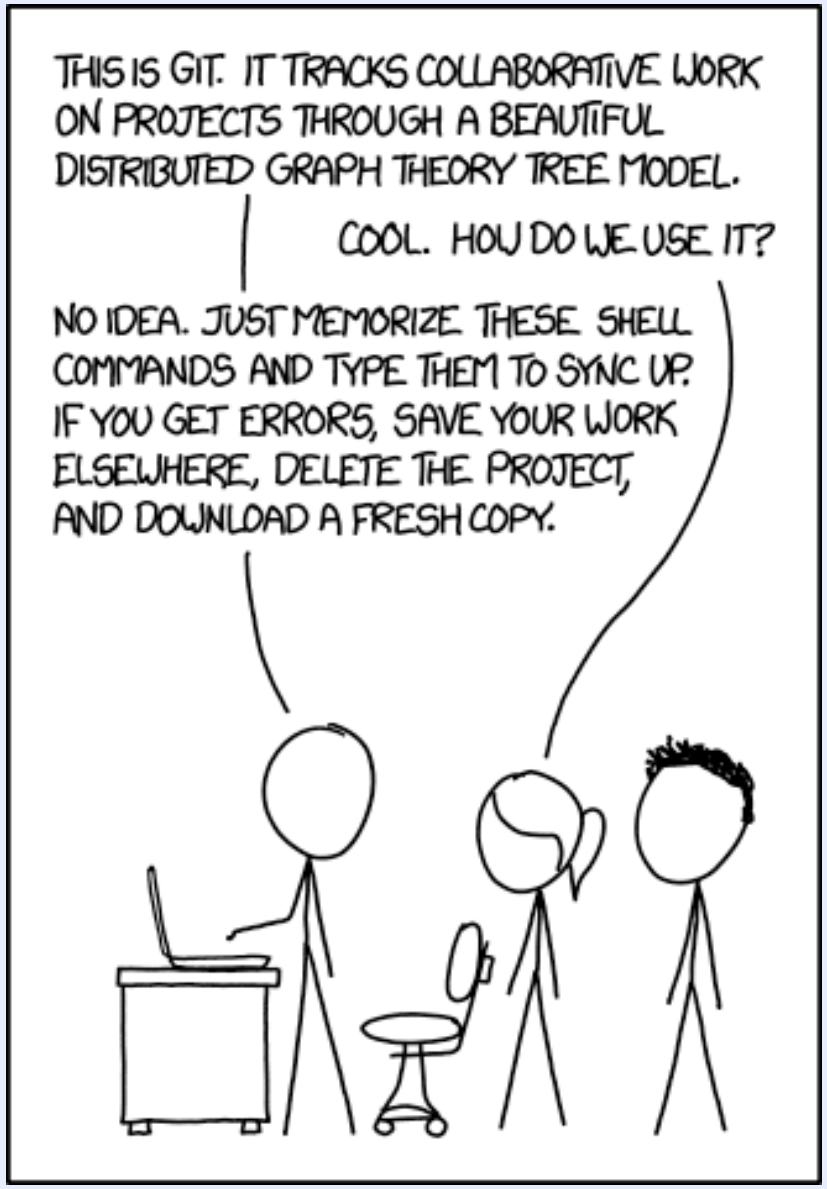
What is git?



Permanent link to this comic:
https://xkcd.com/1597/

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Creating a new repository

```
> mkdir my-new-repo
> cd my-new-repo
> git init
```

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Congratulations!

You just created your first git repository.

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What we got?

Initialized empty Git repository in *'path/to/work-folder/ my-new-repo/.git/'*

.git???

http://bit.ly/ghc-hw

Let add some code

```
> echo echo Hello World > hello-world.sh
> bash hello-world.sh
Hello World
```

Checking for changes

```
> git status
On branch master

No commits yet

Untracked files:
  (use "git add <file>..." to include in what will be committed)
        hello-world.sh

nothing added to commit but untracked files present (use "git add" to track)
```

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Staging our changes

```
> git add hello-world.sh
> git status
```

```
On branch master

No commits yet

Changes to be committed:
  (use "git rm --cached <file>..." to unstage)
        new file:   hello-world.sh
```

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http://bit.ly/ghc-hw

Let change our code

```
> echo echo Hello World1 > hello-world.sh
> bash hello-world.sh
Hello World1
```

Staging our changes – let's change something

```
> git status
On branch master

No commits yet

Changes to be committed:
  (use "git rm --cached <file>..." to unstage)
        new file:   hello-world.sh

Changes not staged for commit:
  (use "git add <file>..." to update what will be committed)
  (use "git restore <file>..." to discard changes in working directory)
        modified:   hello-world.sh
```

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Saving/committing our changes

```
> git commit –m “your commit text should come here”

[master (root-commit) d0fa444] your commit text should come here
 1 file changed, 1 insertion(+)
 create mode 100644 hello-world.sh
```

```
> git status

On branch master
Changes not staged for commit:
  (use "git add <file>..." to update what will be committed)
  (use "git restore <file>..." to discard changes in working directory)
        modified:   hello-world.sh

no changes added to commit (use "git add" and/or "git commit -a")
```

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Congratulations!

You just completed your first git commit. Your repository is no longer empty!

git

Git is a **free** and **open source**

distributed **version**

control system designed to handle

everything from small to very large projects

with speed and efficiency.

Git is easy to learn and has a tiny footprint

with lightning fast performance.

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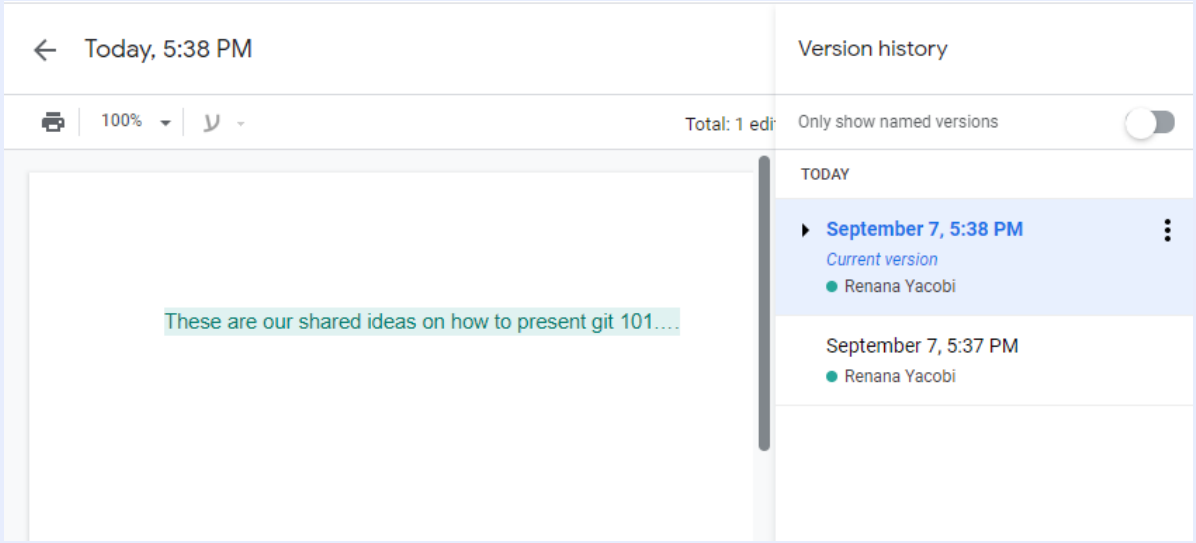
Version Control System

Version control systems are a category of software tools that helps record changes to files by keeping a track of modifications done to them.

Google Docs version history is an example of such a tool.



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Distributed

In git you do a “clone”

of the entire

repository.

- Local copy on your machine
- Remote copy on your company’s server
- Local copy on your peers’ machines

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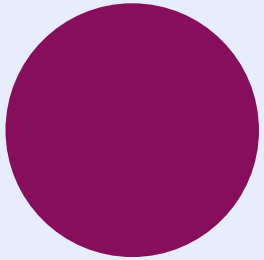
Benefits of Version Control System

Backup

Version control systems can store your code on remote servers enabling you to access them from any workstation.

Reverting Errors

In case of errors, conflict or change of plans, system can always be change to point to previous version.



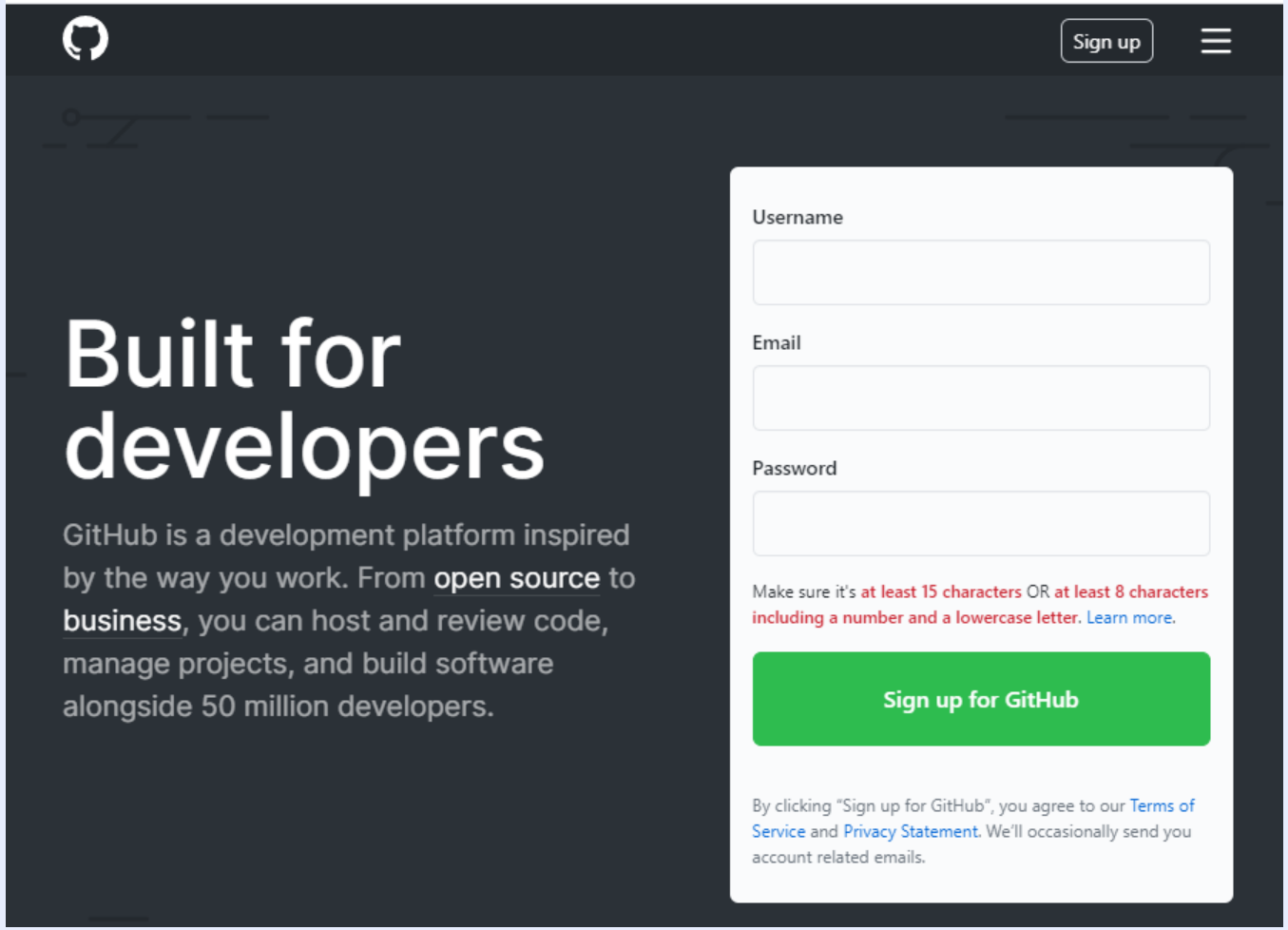
Easy Modification of the codebase

While easy is a relative term, it is easier than having the code stored on a single developer machine or on the company's remote server.
It also allows you to have multiple copies of your code to try different changes.

Collaboration

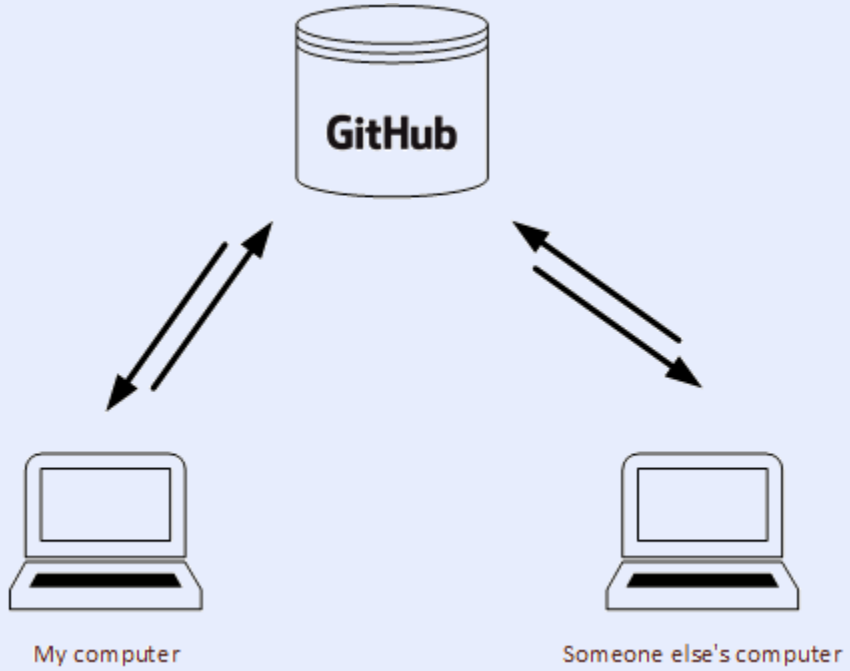
The sum of all previous benefits provide an easy environment to collaborate.

GitHub


Sign up
Built for developers
GitHub is a development platform inspired by the way you work. From open source to business, you can host and review code, manage projects, and build software alongside 50 million developers.
Username
Email
Password
Make sure it's at least 15 characters OR at least 8 characters including a number and a lowercase letter. Learn more.
Sign up for GitHub
By clicking "Sign up for GitHub", you agree to our Terms of Service and Privacy Statement. We'll occasionally send you account related emails.

What is GitHub?

- Largest web-based git repository hosting service – your remote server



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How to work with GitHub?

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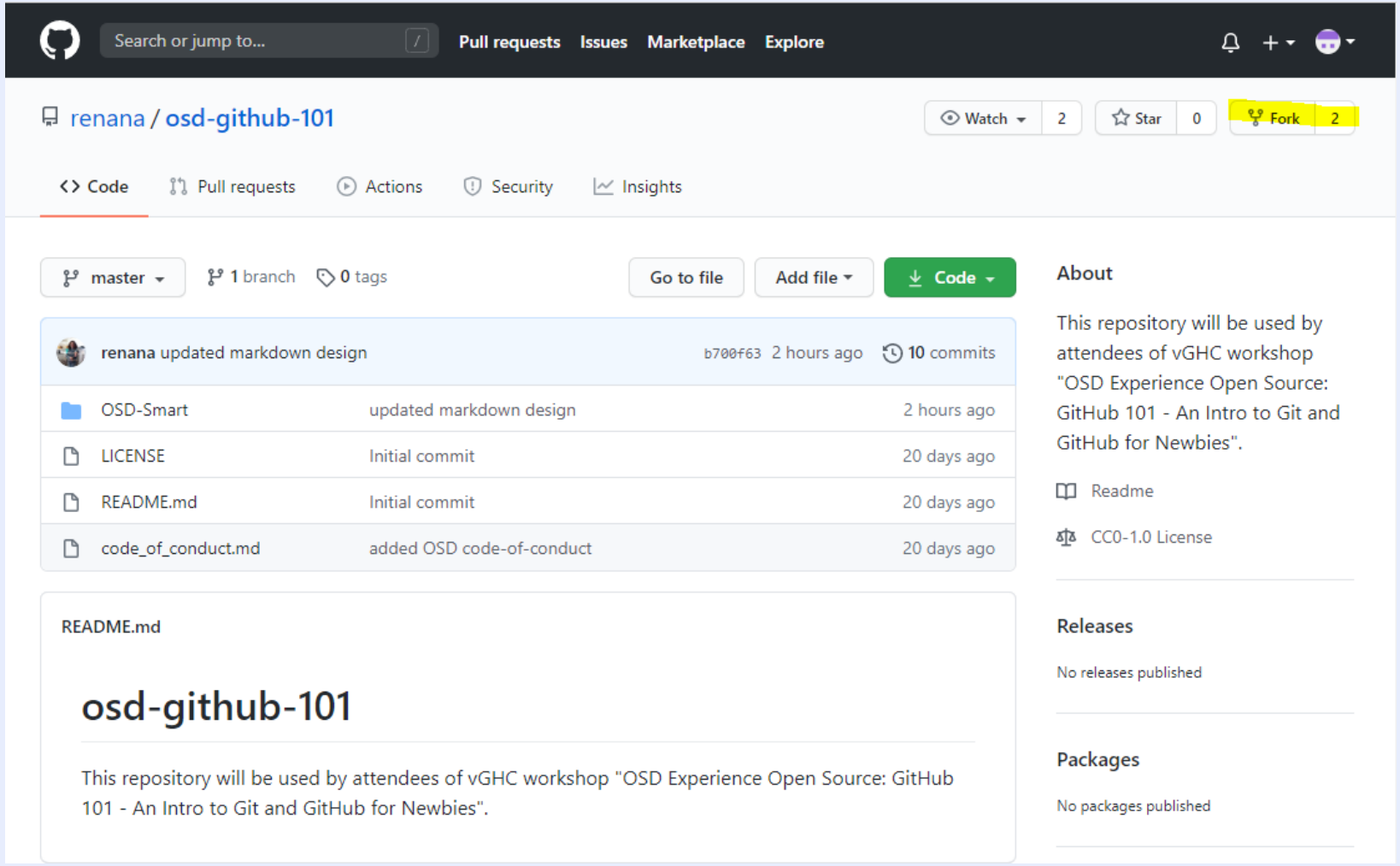
Go to:
https://github.com/renana/osd-github-101

Fork the repository



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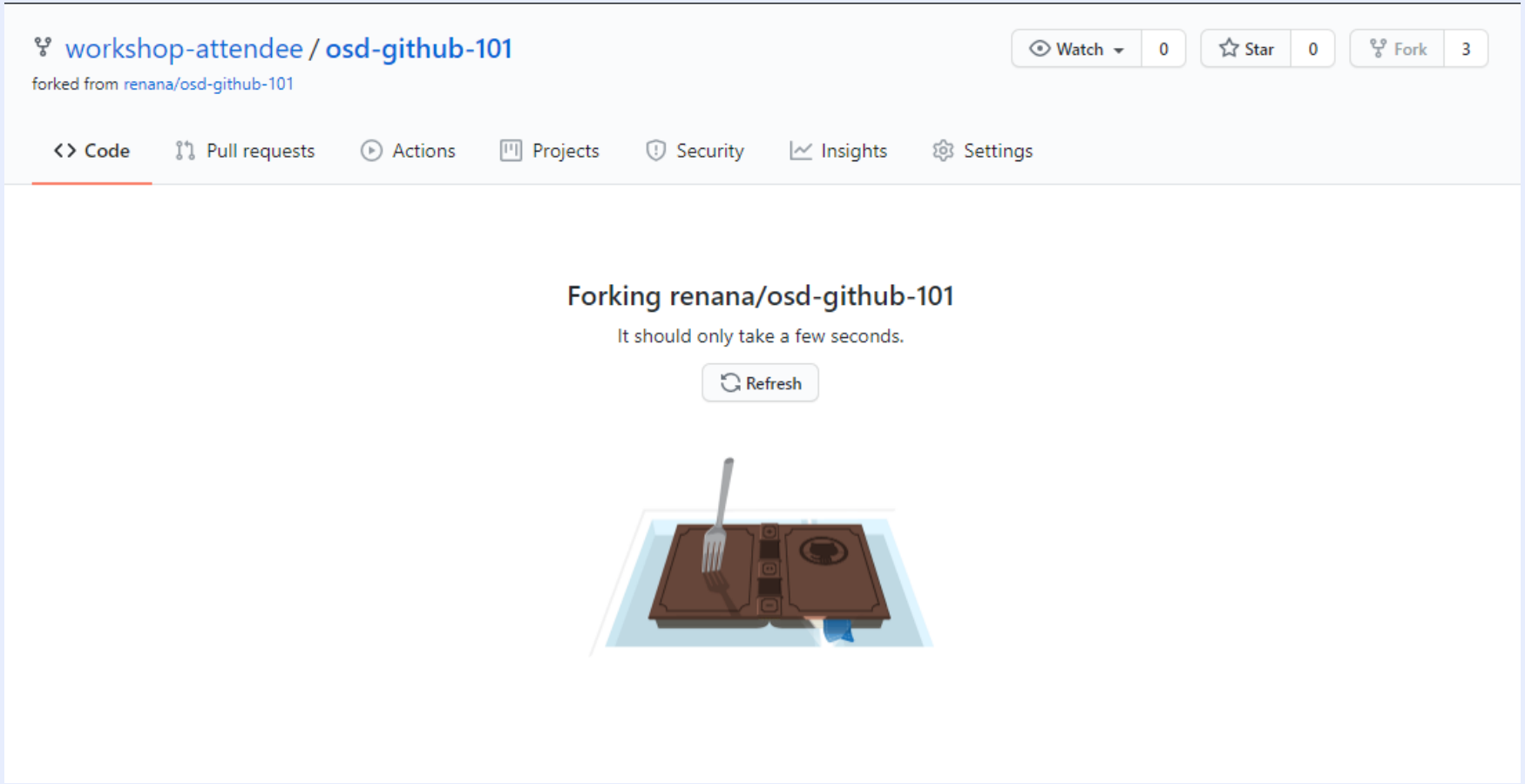

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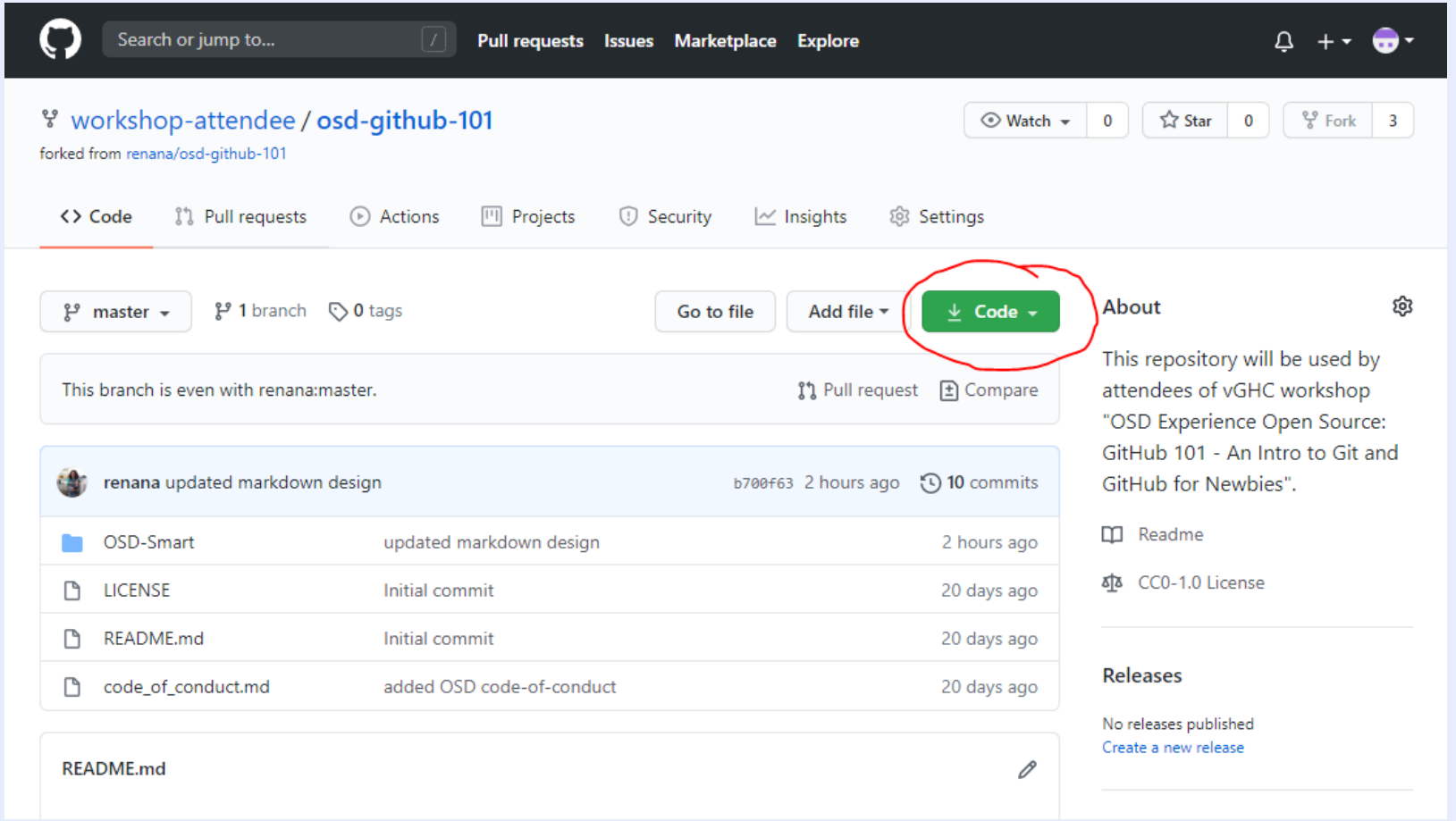
Grab the repository URL



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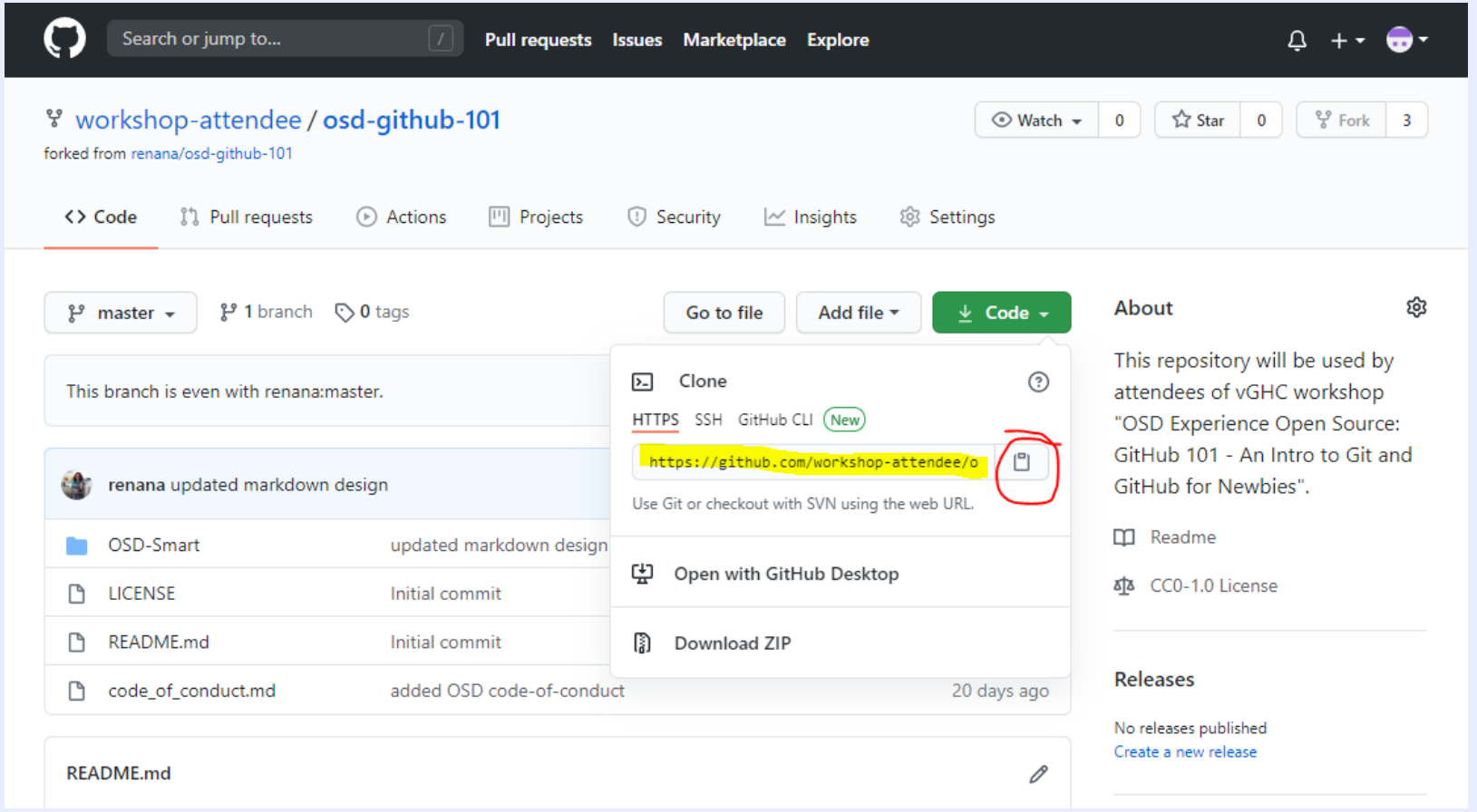
Grab the repository URL



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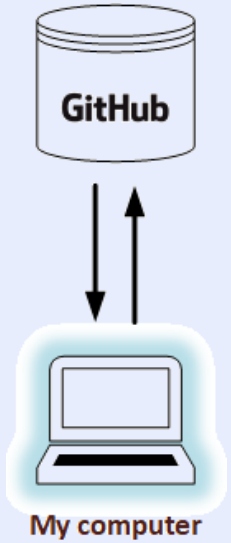
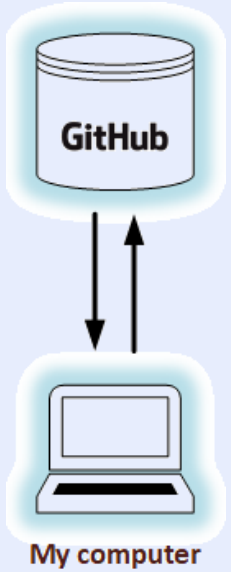
Clone the repository

```
> cd ..
> git clone [paste here the URL we just copied]
> cd osd-github-101
```

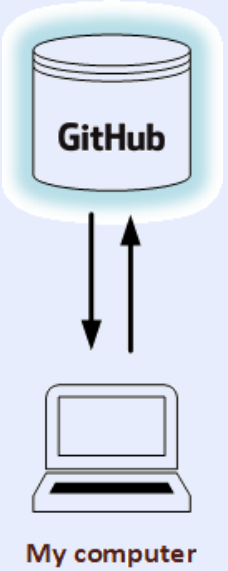
Where is the most updated code?



The most updated code reside on your computer



The most updated code reside on both your computer and the remote server



The most updated code reside on the remote server

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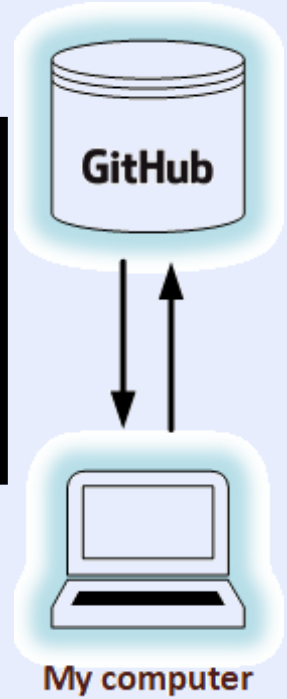
Clone the repository

```
> git clone https://github.com/renana/osd-github-101.git
> cd osd-github-101
```



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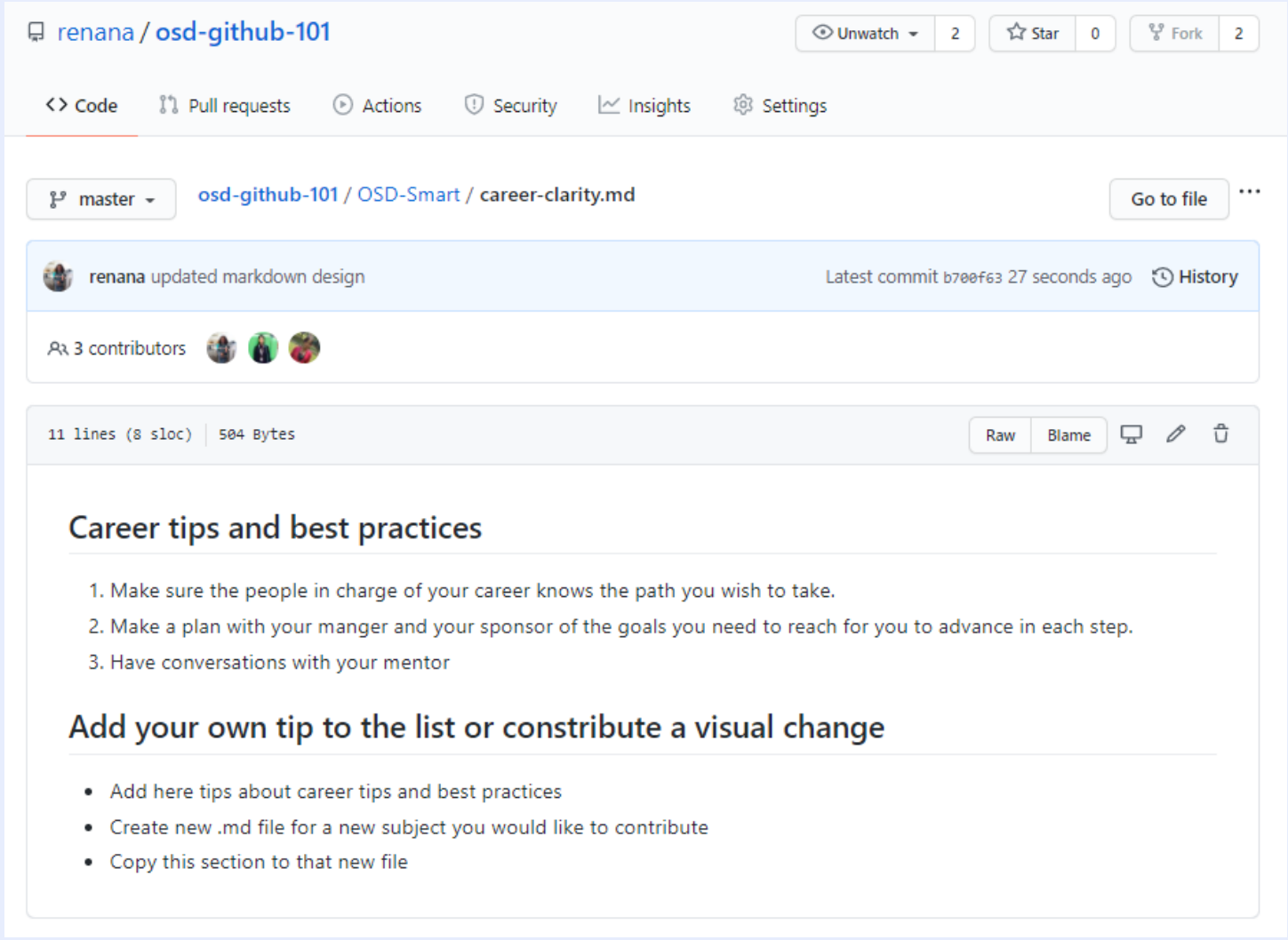
Making changes



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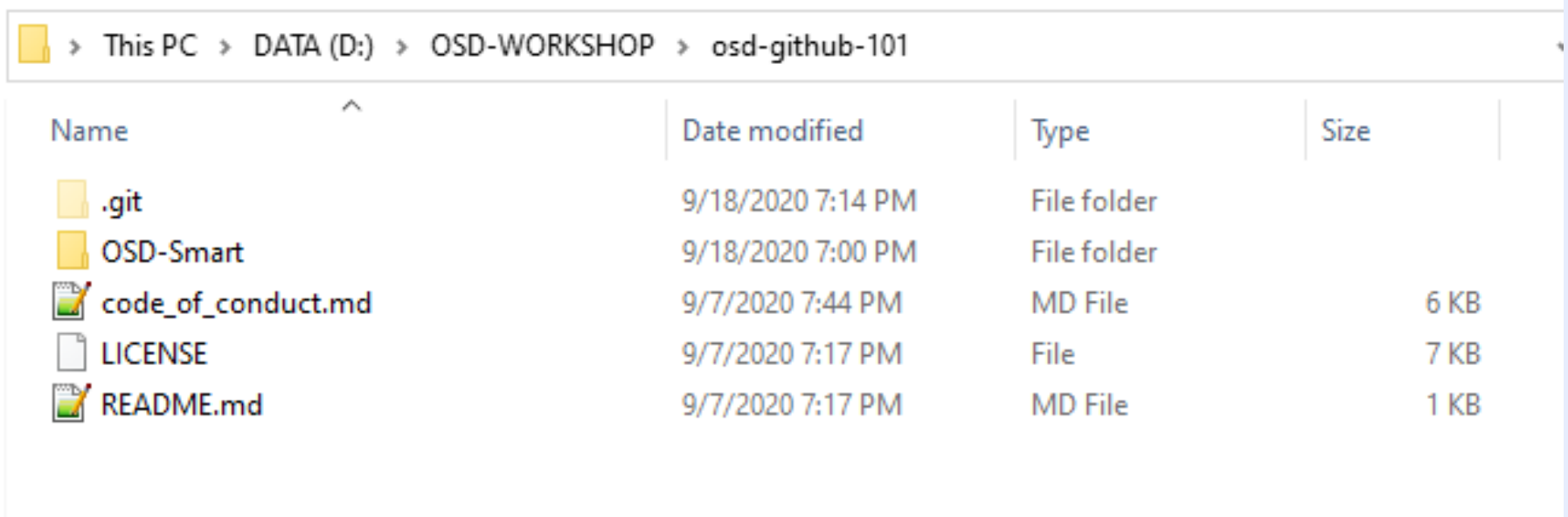
osd-github-101 folder



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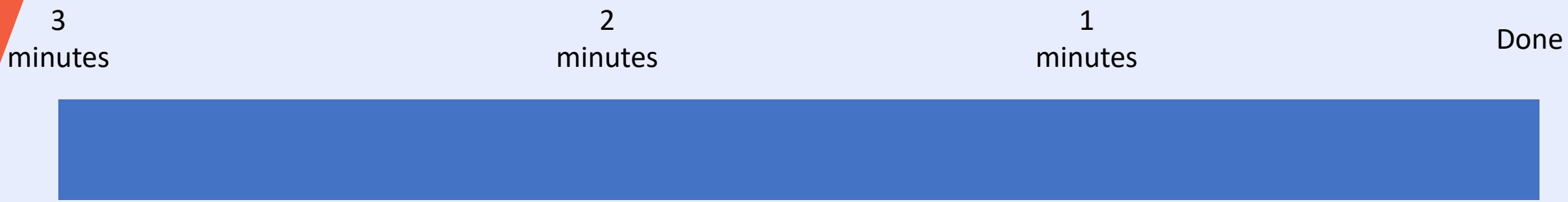
Making changes

```
## Career tips and best practices

1. Make sure the people in charge of your career knows the path you wish to take.
1. Make a plan with your manger and your sponsor of the goals you need to reach for you to advance in each step.
1. Have conversations with your mentor

## Add your own tip to the list or constribute a visual change

- Add here tips about career tips and best practices
- Create new .md file for a new subject you would like to contribute
- Copy this section to that new file
```

Add and commit changes

```
> git add .
> git commit -m “your commit text should come here”
```

3 minutes timer



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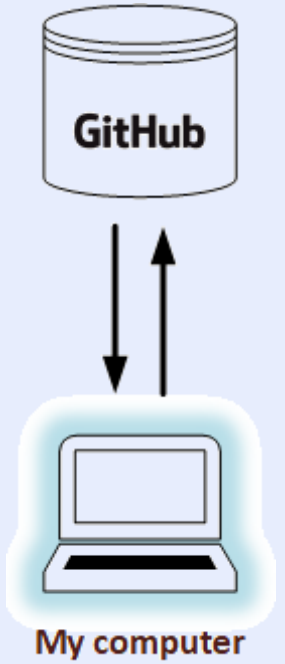
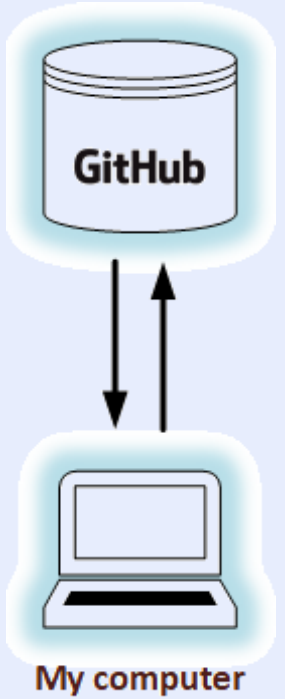
Add and commit changes

```
> git add .
> git commit -m “your commit text should come here”
```



Push your changes to the remote server

```
> git push
Enumerating objects: 7, done.
Counting objects: 100% (7/7), done.
Delta compression using up to 8 threads
Compressing objects: 100% (3/3), done.
Writing objects: 100% (4/4), 575 bytes | 575.00 KiB/s, done.
Total 4 (delta 1), reused 0 (delta 0), pack-reused 0
remote: Resolving deltas: 100% (1/1), completed with 1 local object.
To https://github.com/renana/osd-github-101.git
   f150512..e088967  master -> master
```



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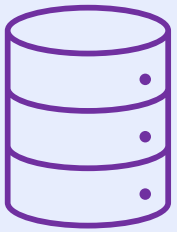
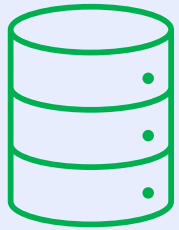
Where is my change?

https://github.com/renana/osd-github-101



https://github.com/[me]/osd-github-101



My computer

Where is my change?

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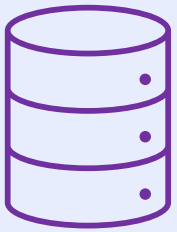

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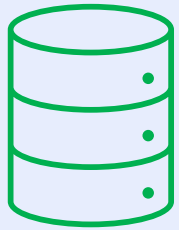

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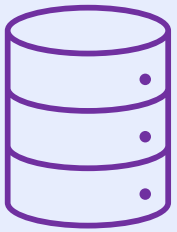

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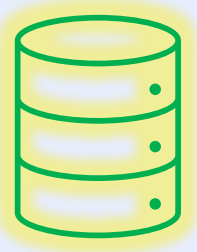

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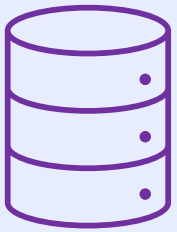

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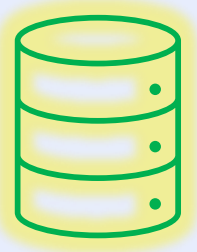
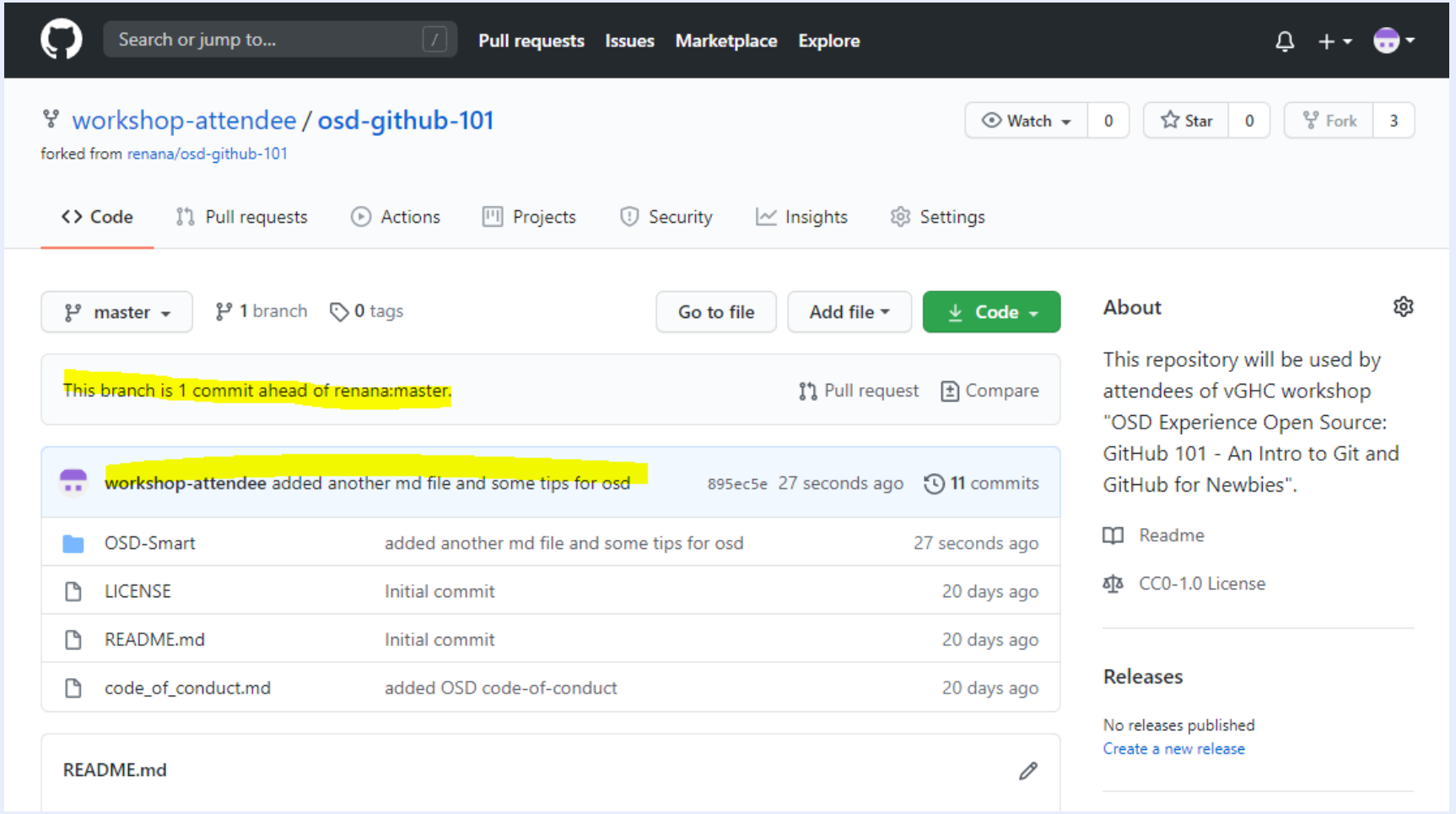


My computer

Checking changes in GitHub



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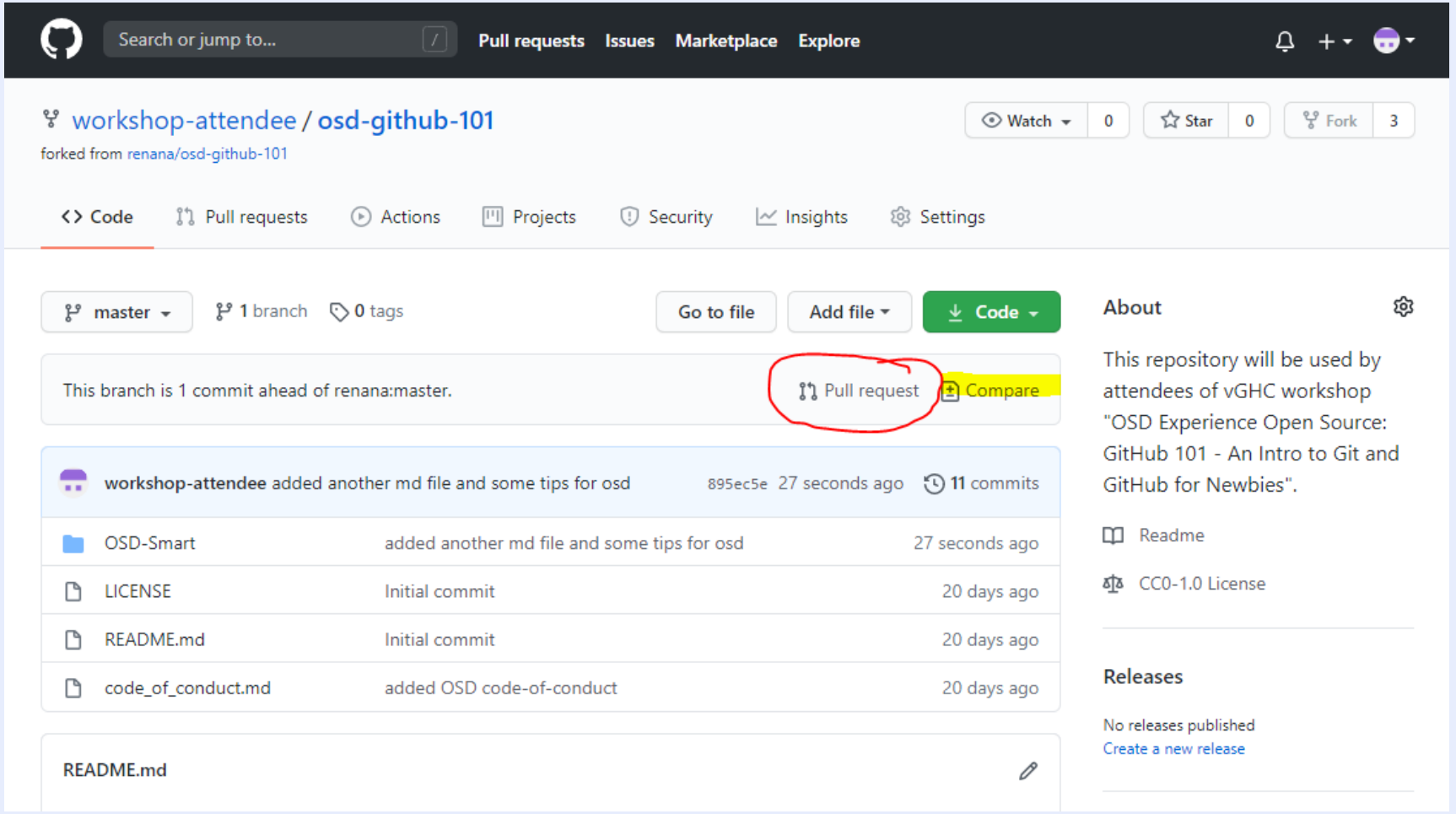
Checking changes in GitHub



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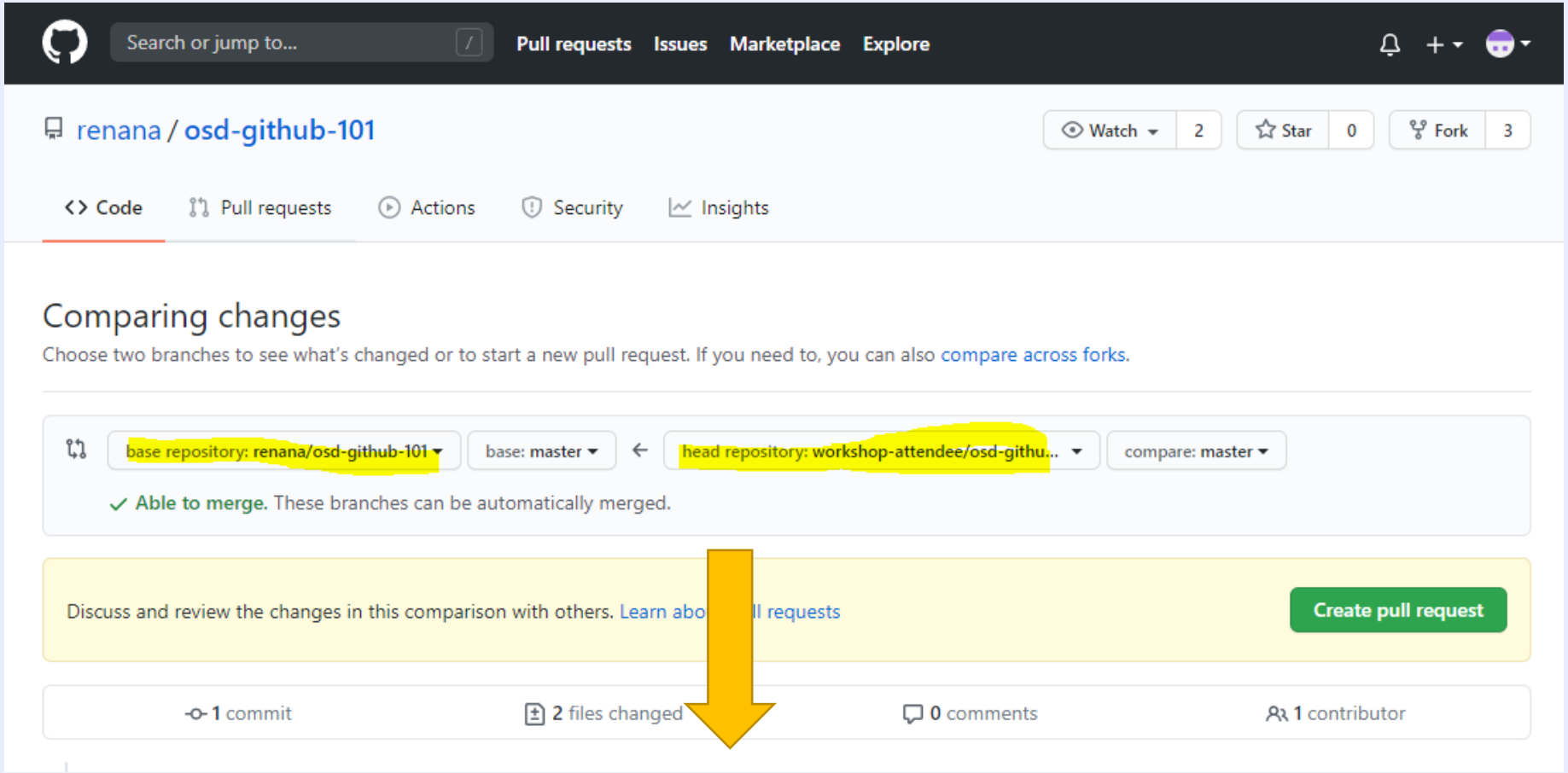
Let’s create a pull request



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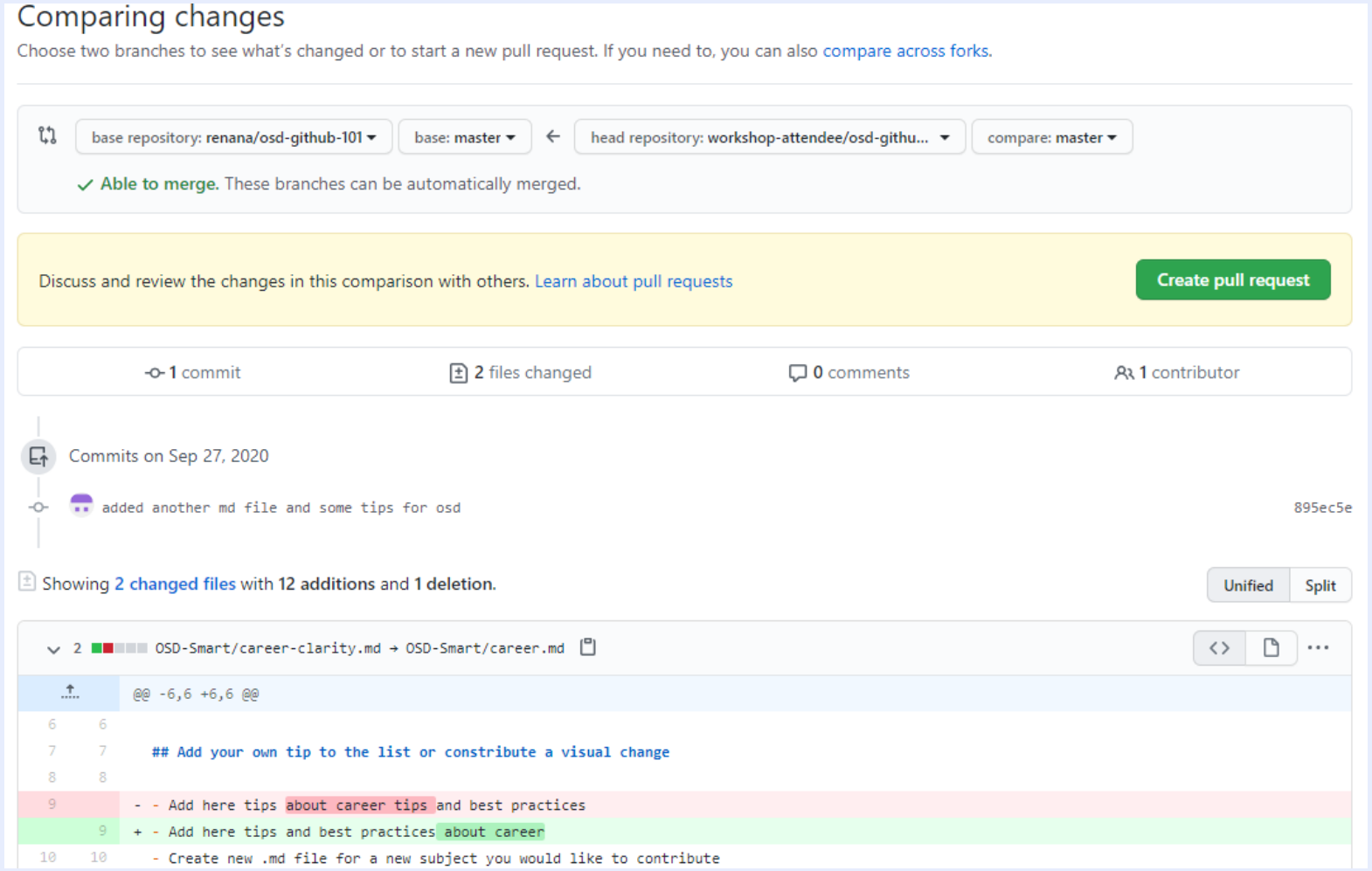

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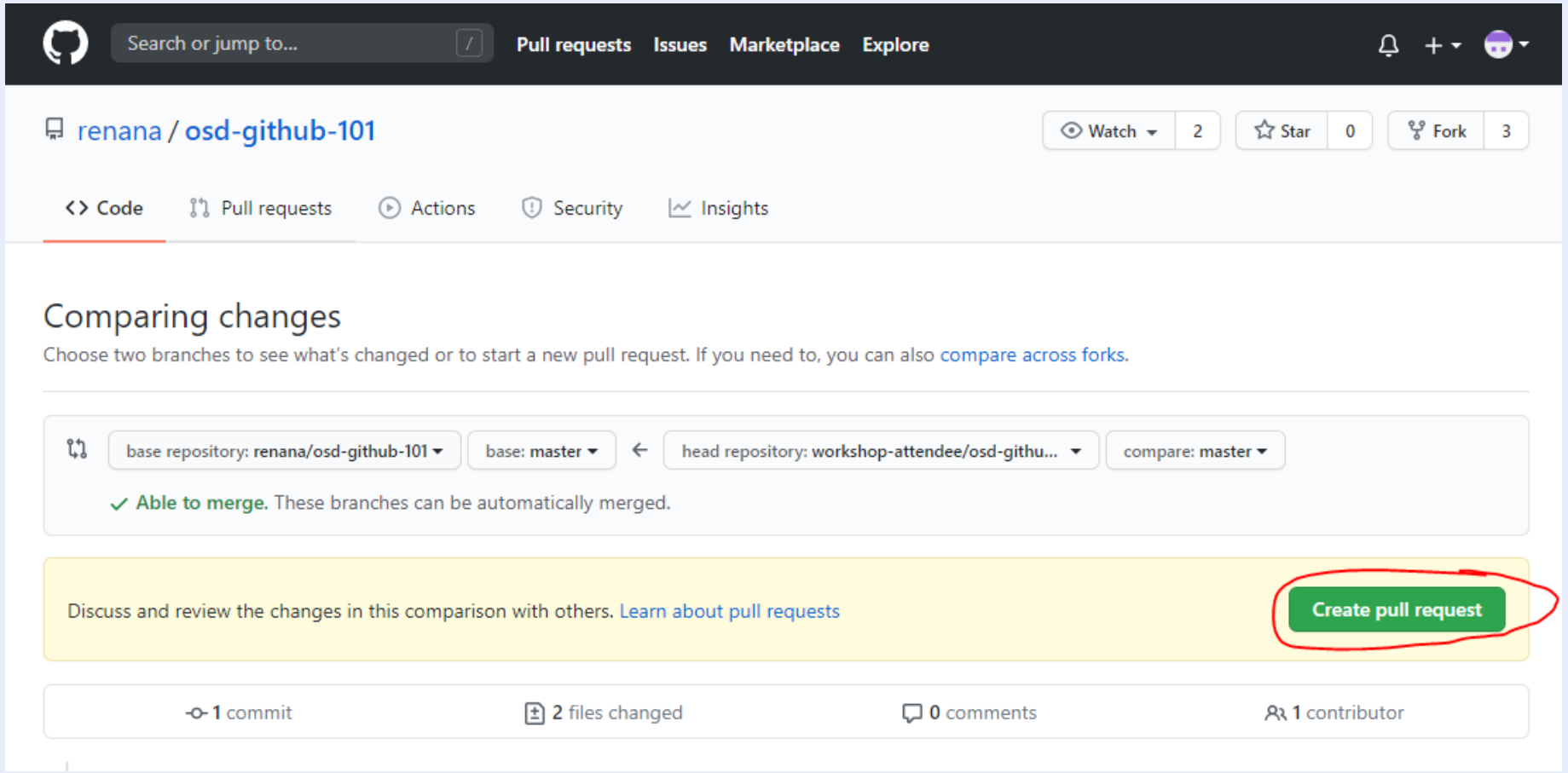

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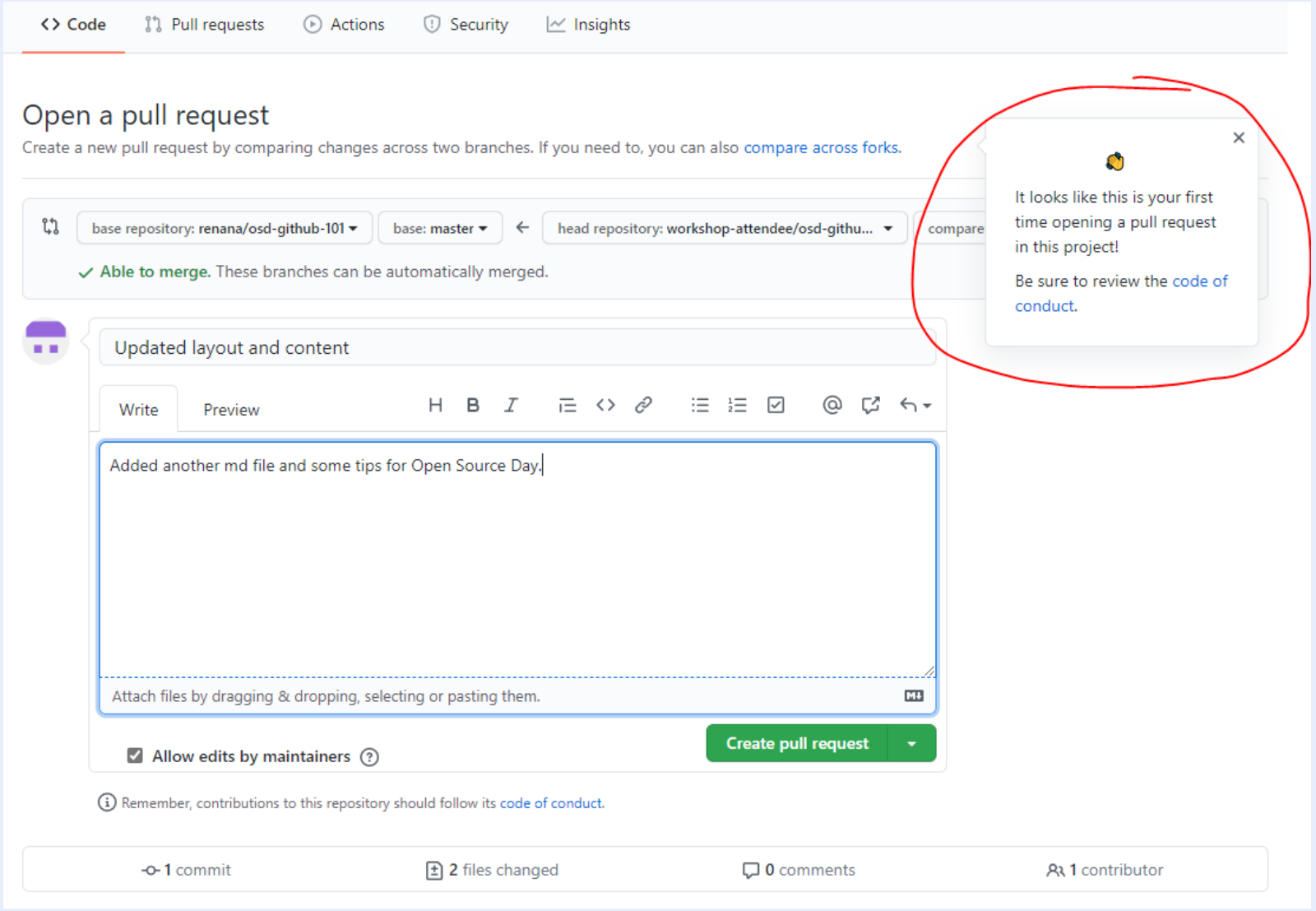
Let’s create a pull request



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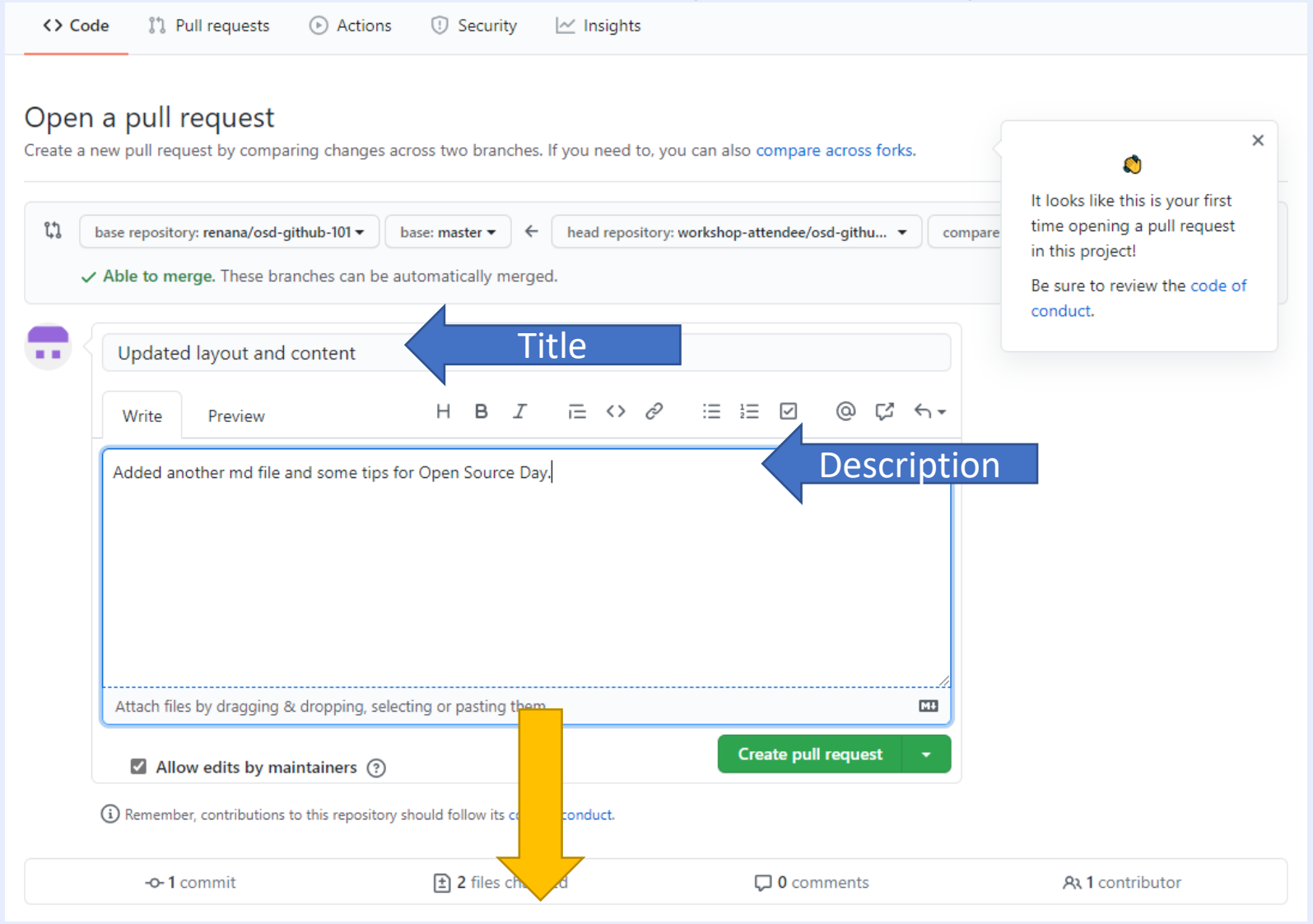
Let’s create a pull request



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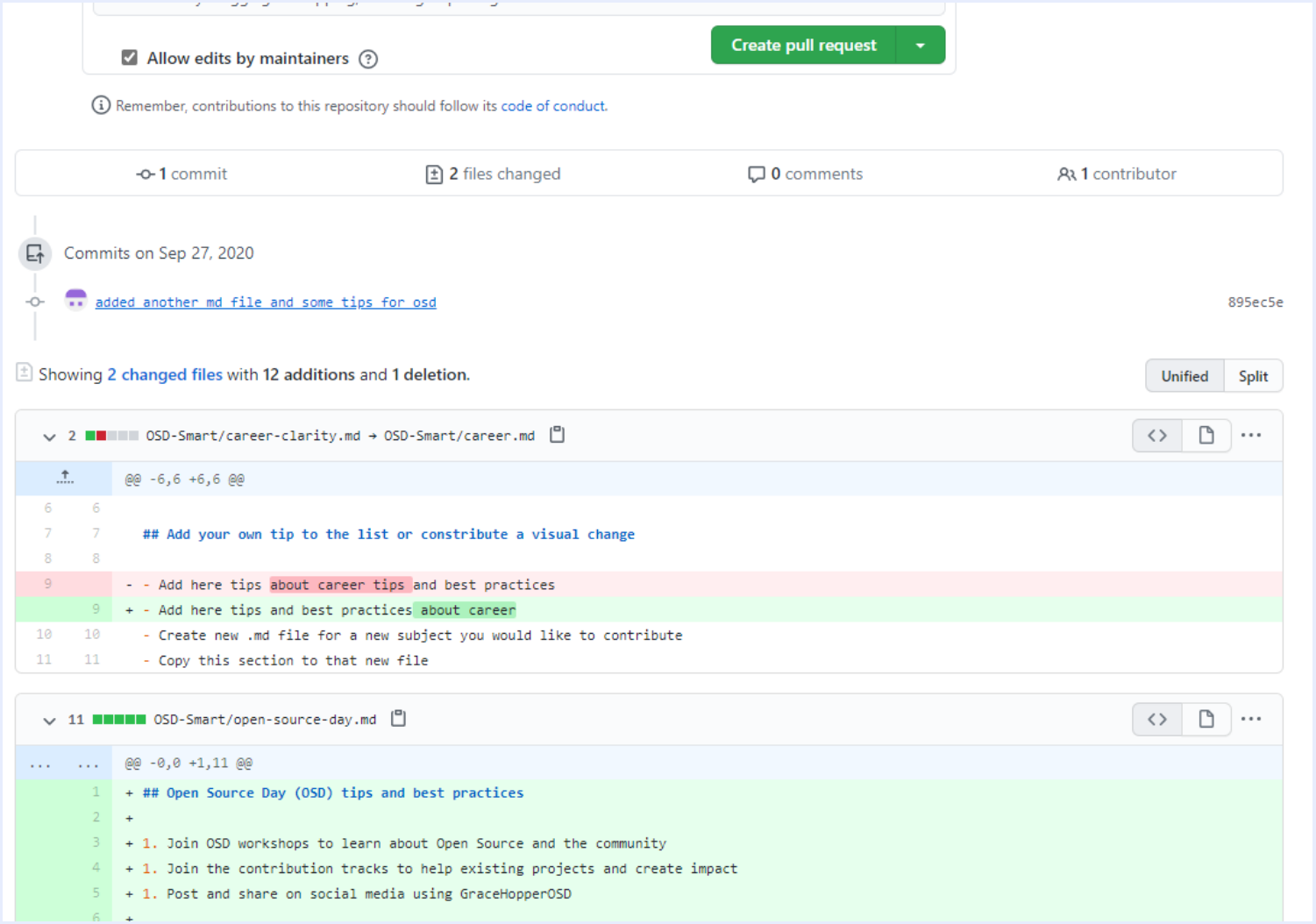
Let’s create a pull request



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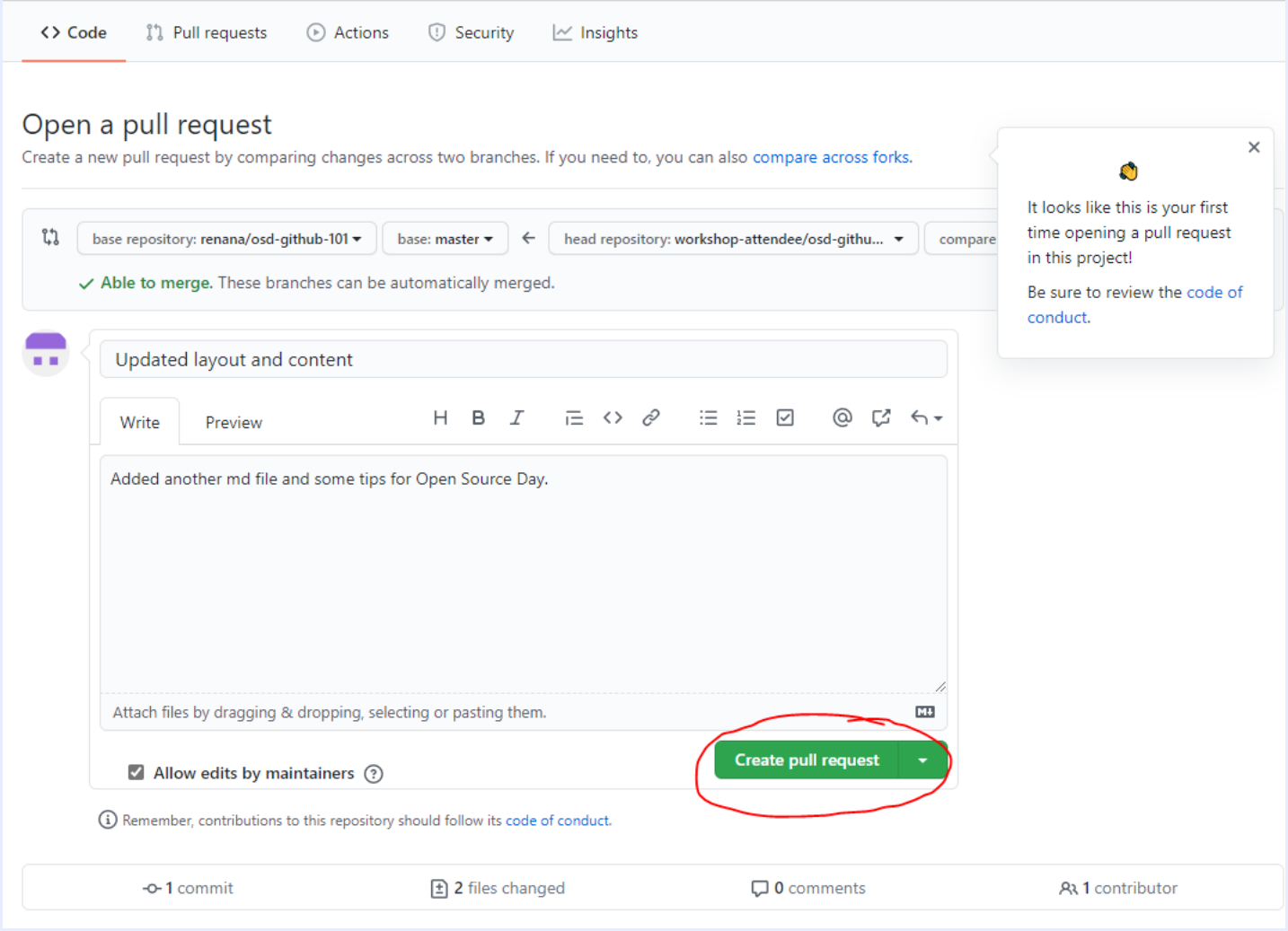
Let’s create a pull request



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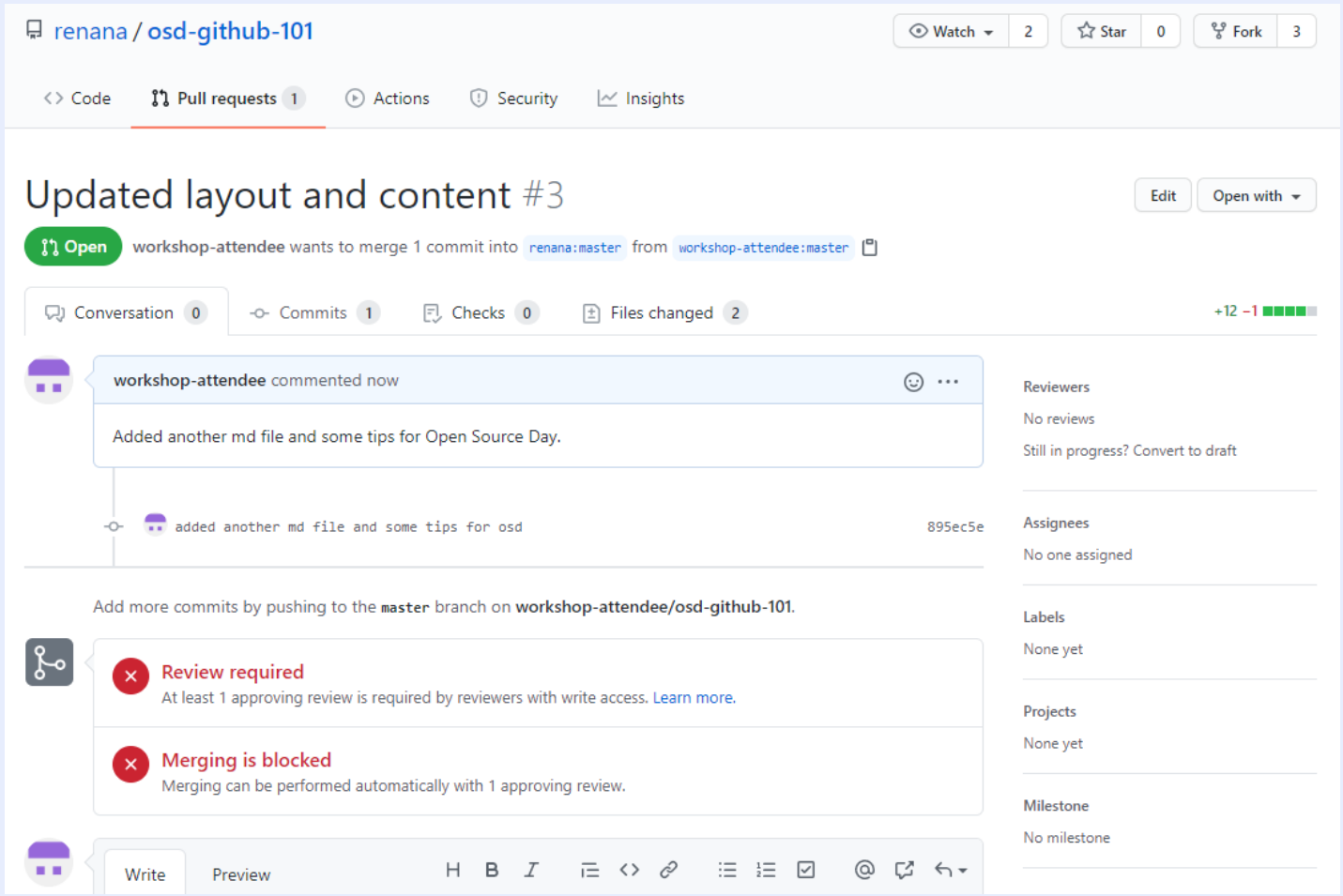
Let’s create a pull request



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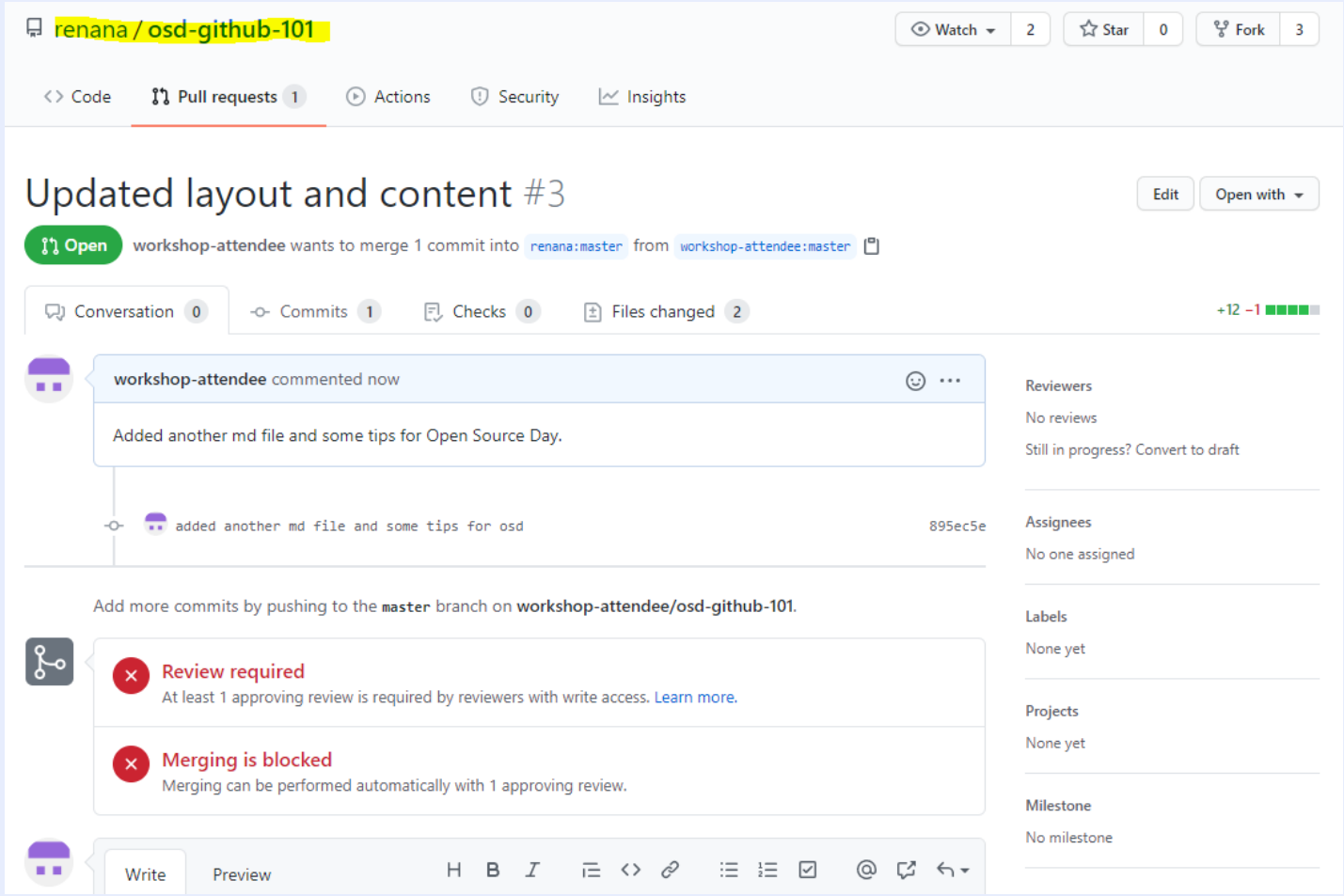
Let’s create a pull request



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Congratulations!

You just created your first pull request!

What now?

- The repository owners and maintainers will review your PR
- They might have questions or comments added to the PR
- You should answer any question or address any comment
- If changes are needed all you need to do is write them in your fork and push them
- When all looks good your PR will be approved merged to the source repository

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Congratulations

on successfully completing

GitHub 101 - An Intro to Git and GitHub for Newbies workshop

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