

GitHub Desktop Tutorial

created by hejing 2020/1/17

Introduction

This guide will walk you through the process of using GitHub Desktop to work on a Git repository. GitHub Desktop extends and simplifies your GitHub.com workflow, using a visual interface instead of text commands on the command line. By the end of this guide, you'll have used GitHub Desktop to create a repository, make changes to the repository, and publish the changes to GitHub.com.

Step 1. Install and sign into GitHub Desktop

1. Download GitHub Desktop from <https://desktop.github.com/>. GitHub Desktop supports recent versions of Windows and macOS. For specific installation instructions for your operating system, see "Installing GitHub Desktop."



2. Launch GitHub Desktop and follow the initial welcome flow to sign into your GitHub account. You'll see a "Configure Git" step, where you can set your name and email address. To ensure your commits are correctly attributed to your GitHub account, use the email address associated with your GitHub account. For more information about commit attribution, see "Setting your commit email address."

Welcome to GitHub Desktop

GitHub Desktop is a seamless way to contribute to projects on GitHub and GitHub Enterprise Server. Sign in below to get started with your existing projects.

New to GitHub? [Create your free account.](#)

[Sign in to GitHub.com](#)

[Sign in to GitHub Enterprise Server](#)

[Skip this step](#)

Configure Git

This is used to identify the commits you create. Anyone will be able to see this information if you publish commits.

Name

UIC01

Email

915@qq.com

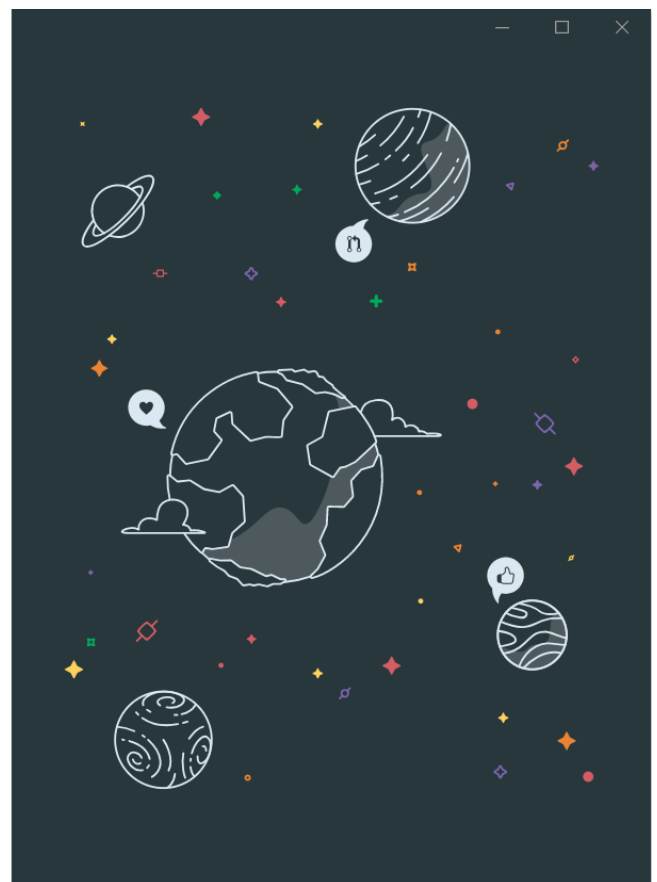
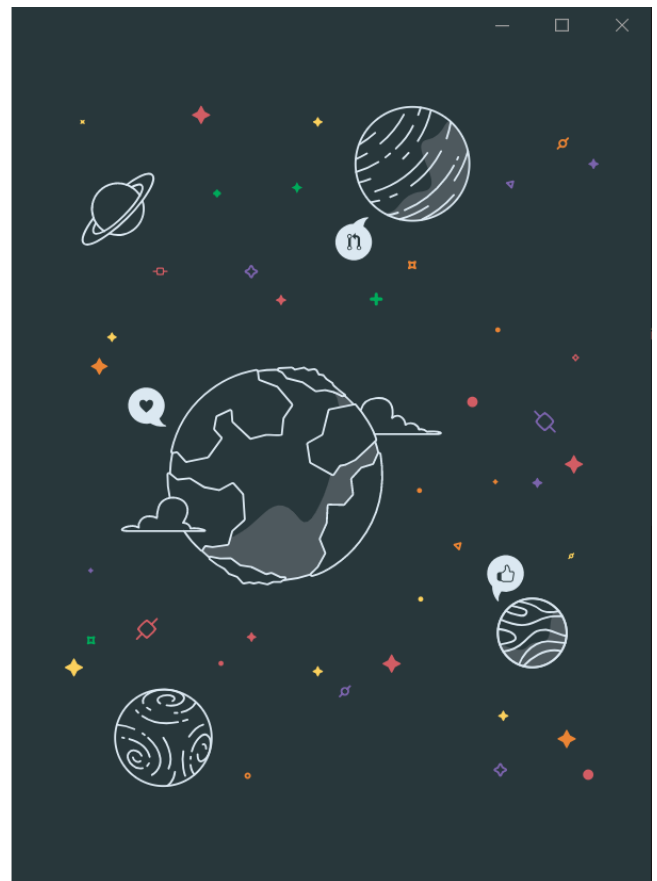
[Continue](#)

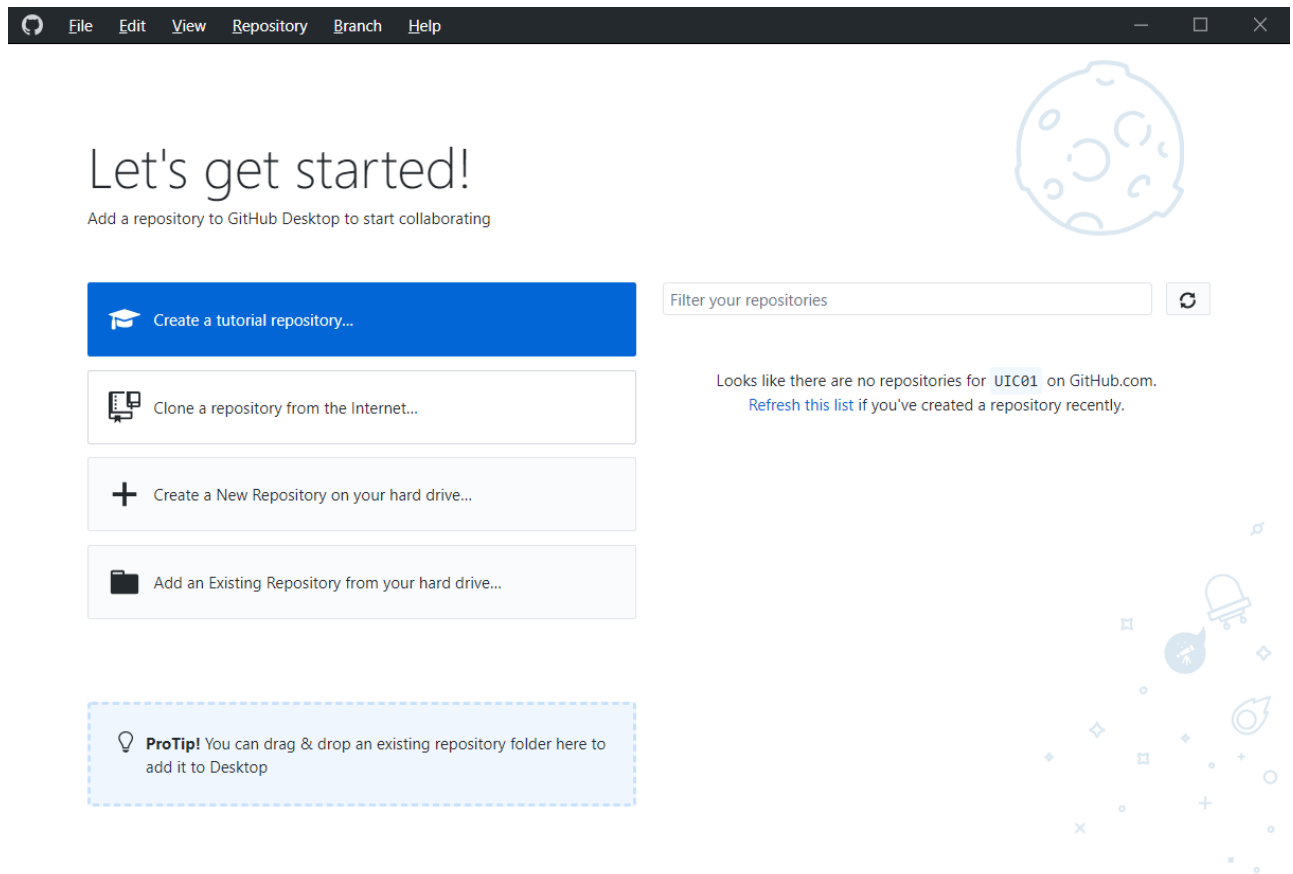
[Cancel](#)

Example commit

Fix all the things

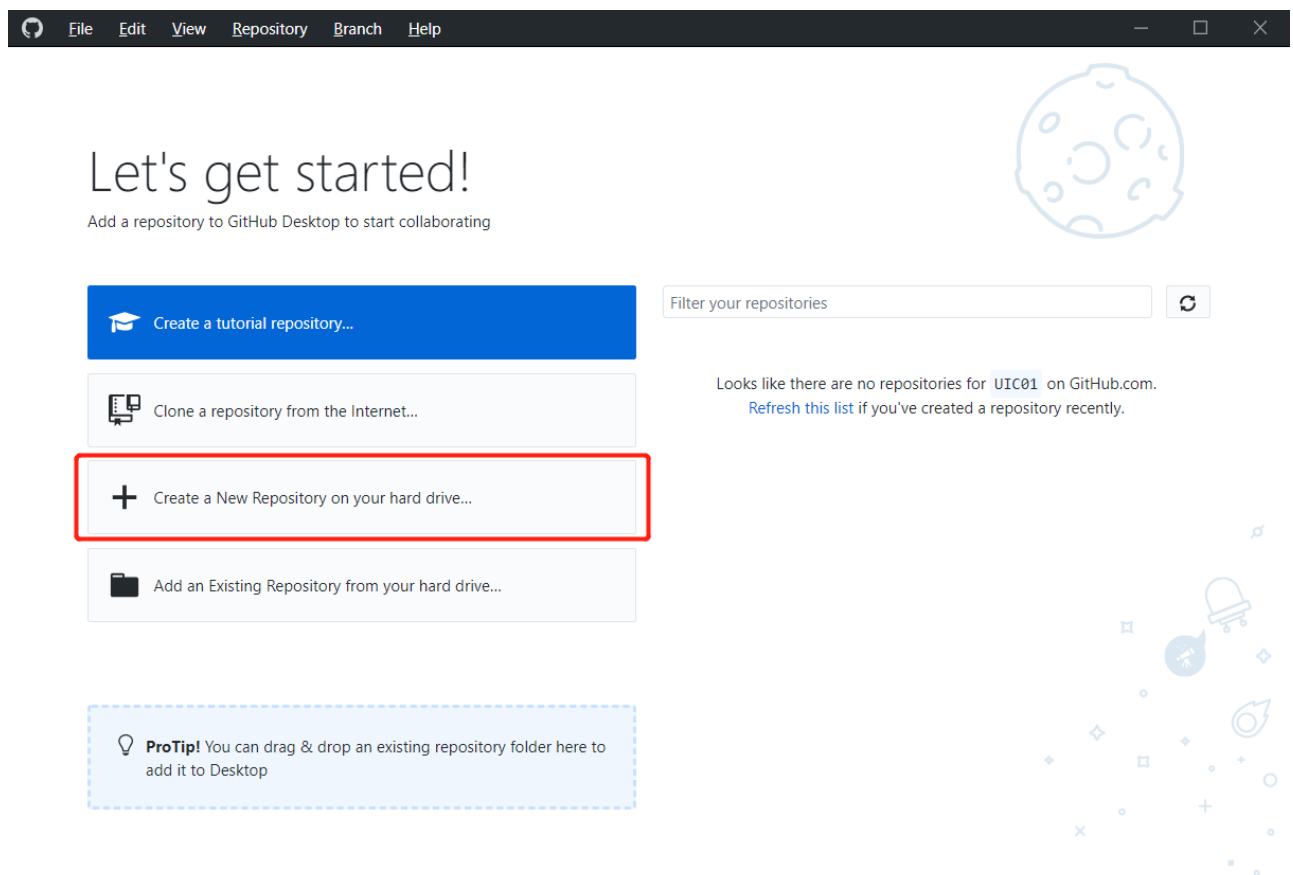
UIC01 committed 30 minutes ago





Step 2. Create a new repository

1. Click Create a New Repository on your Hard Drive....



2. To create a new repository, fill out the fields:

Create a new repository ✕

Name

Description

Local path

☒ Initialize this repository with a README

Git ignore

License

- "Name" defines the name of your repository both locally and on GitHub.
- "Description" is an optional field that you can use to provide more information about the purpose of your repository.
- "Local path" sets the location of your repository on your computer. By default, GitHub Desktop creates a GitHub folder inside your Documents folder to store your repositories, but you can choose any location on your computer. Your new repository will be a folder inside the chosen location. For example, if you name your repository Tutorial, a folder named Tutorial is created inside the folder you selected for your local path. GitHub Desktop remembers your chosen location the next time you create or clone a new repository.
- Initialize this repository with a README creates an initial commit with a README.md file. READMEs helps people understand the purpose of your project, so we recommend selecting this and filling it out with helpful information. When someone visits your repository on GitHub, the README is the first thing they'll see as they learn about your project. For more information, see "About READMEs."
- The Git ignore drop-down menu lets you add a custom file to ignore specific files in your local repository that you don't want to store in version control. If there's a specific language or framework

that you'll be using, you can select an option from the available list. If you're just getting started, feel free to skip this selection. For more information, see "Ignoring files."

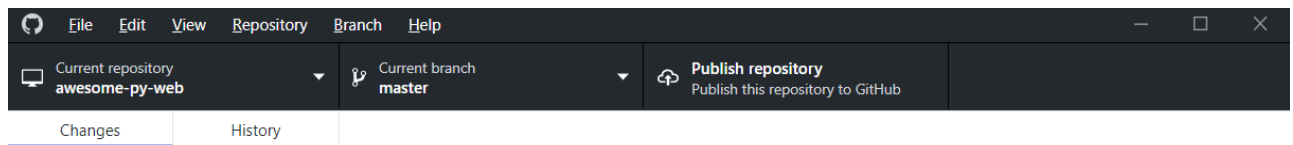
- The License drop-down menu lets you add an open-source license to a LICENSE file in your repository. You don't need to worry about adding a license right away. For more information about available open-source licenses and how to add them to your repository, see "Licensing a repository."

3. Click Create repository.

Step 3. Explore GitHub Desktop

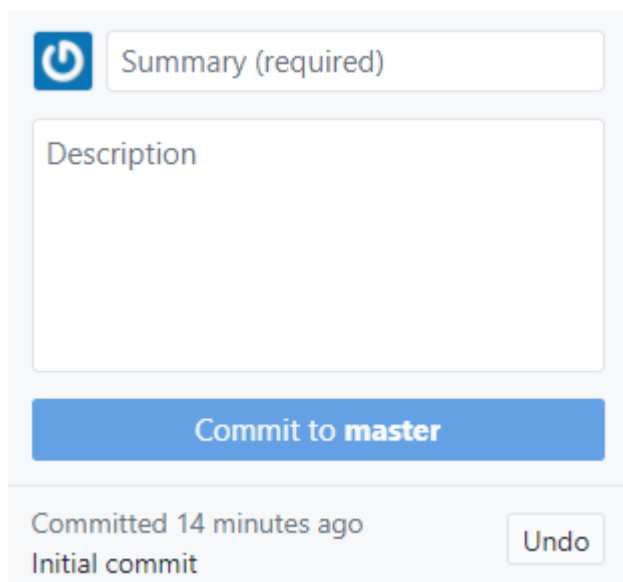
Now that you've created a repository, you'll see the file menu at the top of the screen. This is where you can access settings and actions that you can perform in GitHub Desktop. Most actions also have keyboard shortcuts to help you work more efficiently. For a full list of keyboard shortcuts, see "[Keyboard shortcuts in GitHub Desktop](#)."

1. Below the menu is a bar that shows the current state of your repository in GitHub Desktop:

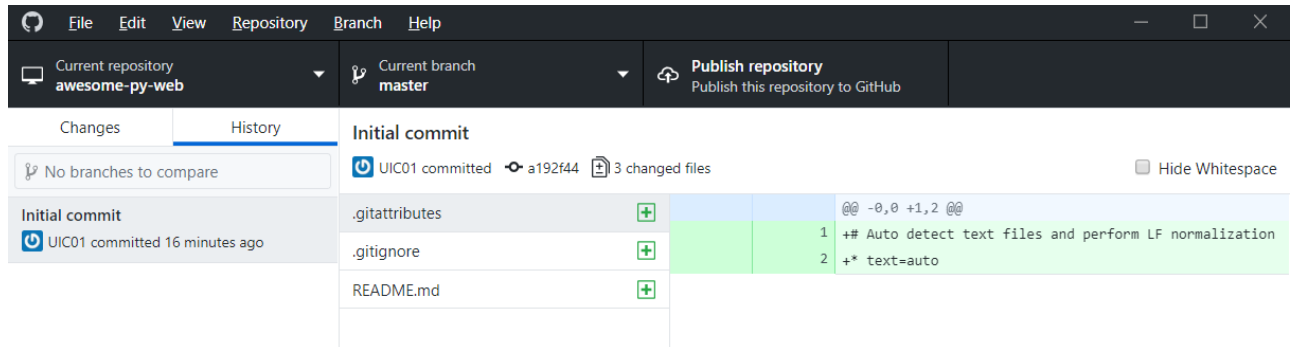


- Current repository shows the name of the repository you're working on. You can click Current repository to switch to a different repository in GitHub Desktop.
- Current branch shows the name of the branch you're working on. You can click Current branch to view all the branches in your repository, switch to a different branch, or create a new branch. Once you create pull requests in your repository, you can also view these by clicking on Current branch.
- Publish repository appears because you haven't published your repository to GitHub yet, which you'll do later in the next step.

2. In the left sidebar, you'll find the Changes and History views.



- The Changes view shows changes you've made to files in your current branch but haven't committed to your local repository. At the bottom, you'll also notice a box with "Summary" and "Description" text boxes and a Commit to master button. This is where you'll commit new changes. The Commit button lets you know which branch you're committing your changes to.

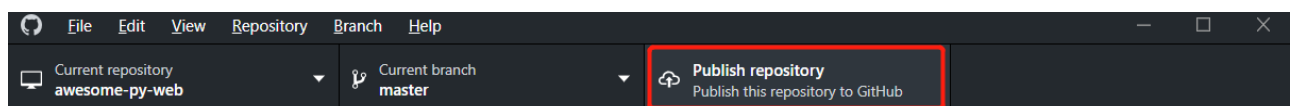


- The History view shows the previous commits on the current branch of your repository. You should see an "Initial commit" that was created by GitHub Desktop when you created your repository. To the right of the commit, depending on the options you selected while creating your repository, you may see .gitattributes, .gitignore, LICENSE, or README files. You can click each file to see a diff for that file, which is the changes made to the file in that commit. The diff only shows the parts of the file that have changed, not the entire contents of the file.

Step 4. Push your repository to GitHub

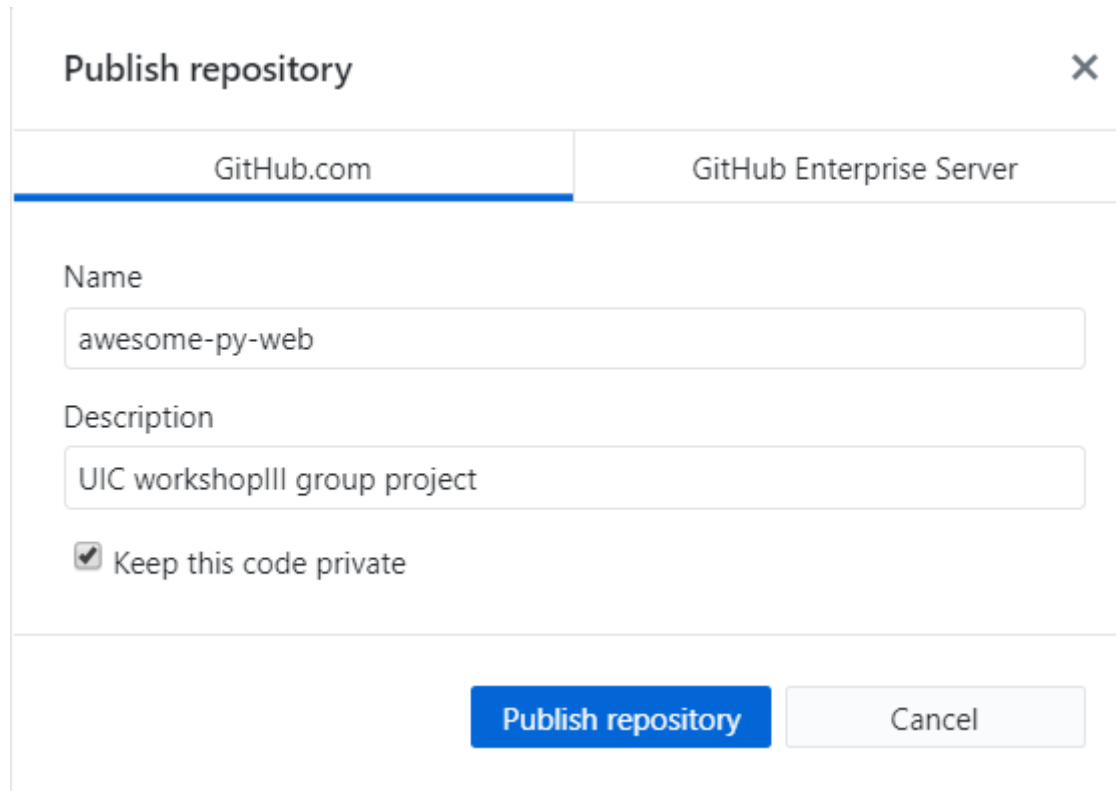
Currently, your repository only exists on your computer, and you're the only one who can access the repository. Publishing your repository to GitHub keeps it synchronized across multiple computers and team members on the same project. To publish the repository, you'll "push" it to GitHub, which makes it available on GitHub.com as well.

1. Click Publish repository.



- You'll see a few familiar fields. "Name" and "Description" match the fields you completed when you created the repository.
- You'll see the option to Keep this code private. Select this option if you don't want to share your code publicly with other users on GitHub.
- The Organization dropdown, if present, lets you publish your repository to a specific organization that you belong to on GitHub. It's okay if you're not a member of an organization yet!

2. Click Publish repository.



Publish repository ✕

GitHub.com GitHub Enterprise Server

Name
awesome-py-web

Description
UIC workshopIII group project

☒ Keep this code private

Publish repository Cancel

3. You can access the repository on GitHub.com from within GitHub Desktop. In the file menu, click Repository, then click View on GitHub. This will take you directly to the repository in your default browser.

Step 5. Set up a text editor

To reduce time spent setting up your development environment, you can launch a number of text editors and integrated development environments (IDEs) directly from GitHub Desktop. From a repository in GitHub Desktop, you can seamlessly open the project folder in your favorite text editor.

1. Click File, then click Options, and then click Advanced.
2. Use the External editor dropdown menu and select an editor from the list. You should see any editors you have installed in the list. If you don't see any editors, install a supported editor like [Visual Studio Code](#). For a list of supported editors, see "[Open External Editor](#)" integration in the GitHub Desktop repository.

Options

✕

Accounts

Git

Appearance

Advanced

External editor

Visual Studio Code

Shell

Command Prompt

☐ Help GitHub Desktop improve by submitting [usage stats](#)

☒ Show confirmation dialog before removing repositories

☒ Show confirmation dialog before discarding changes

☒ Show confirmation dialog before force pushing

Save

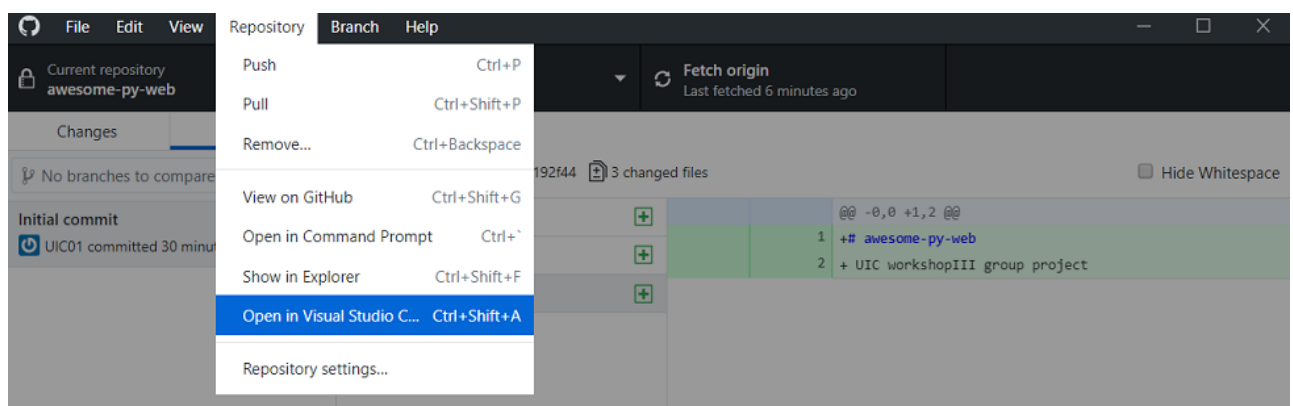
Cancel

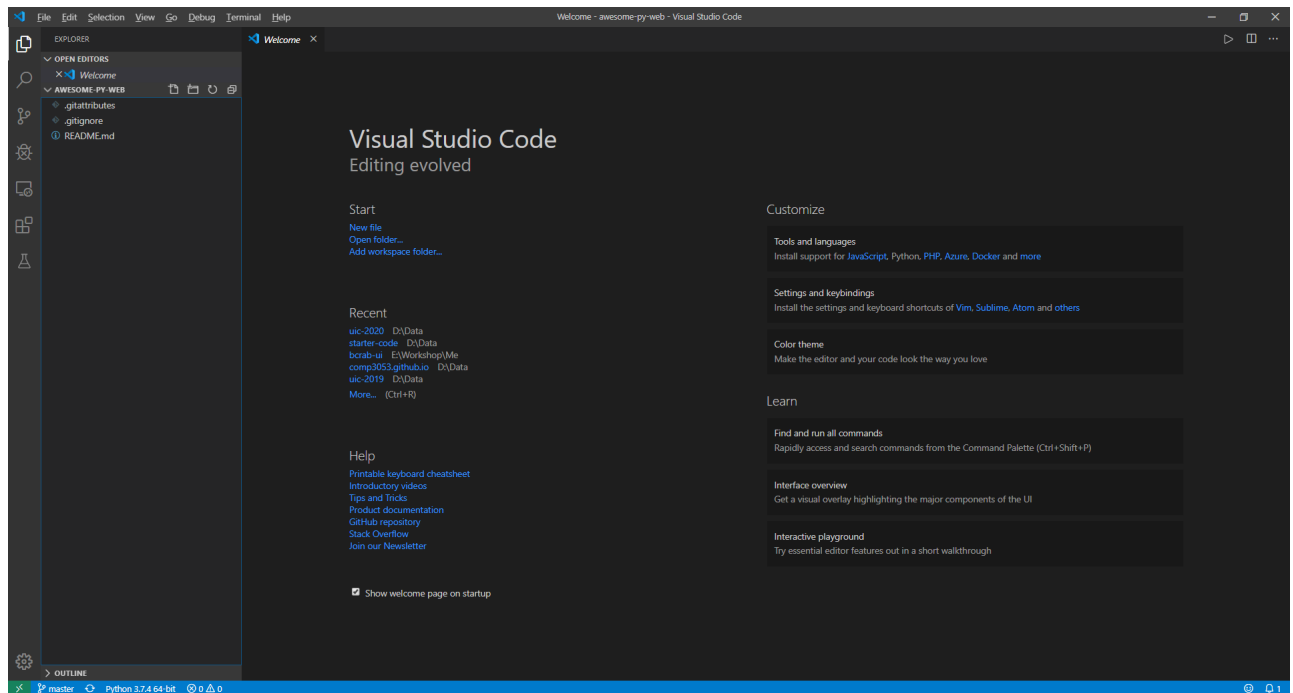
3. If you installed a new editor, restart GitHub Desktop to make the editor available in the External editor dropdown menu.

Step 6. Make, commit, and push changes

Now that you've configured a default editor, you're ready to make changes to your project and start crafting the first commit of your own to your repository.

1. To launch your external editor from within GitHub Desktop, click Repository and then click Open in EDITOR.





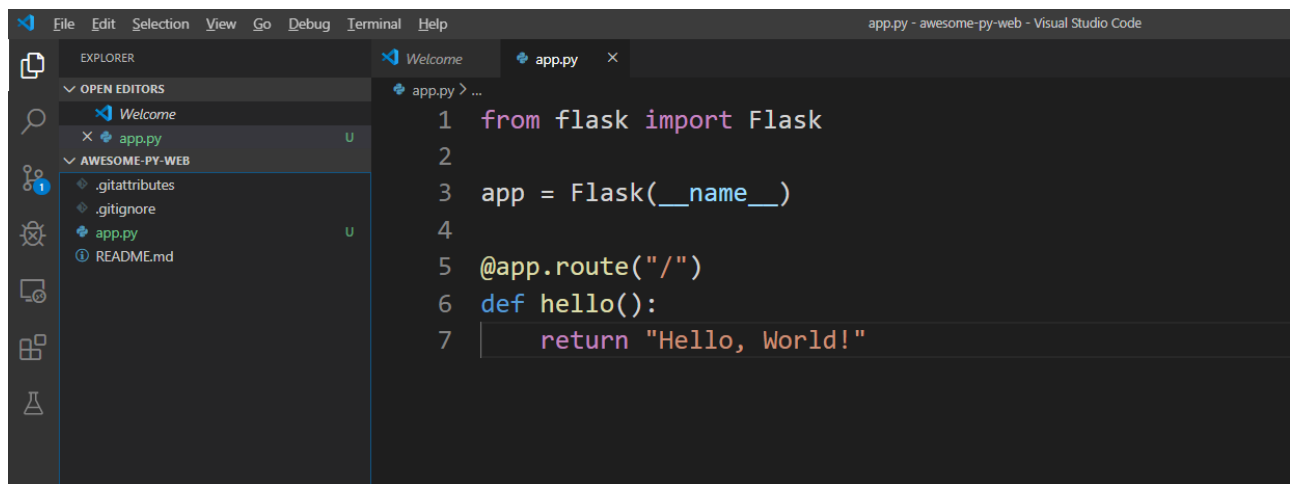
2. Create a flask simple example

app.py

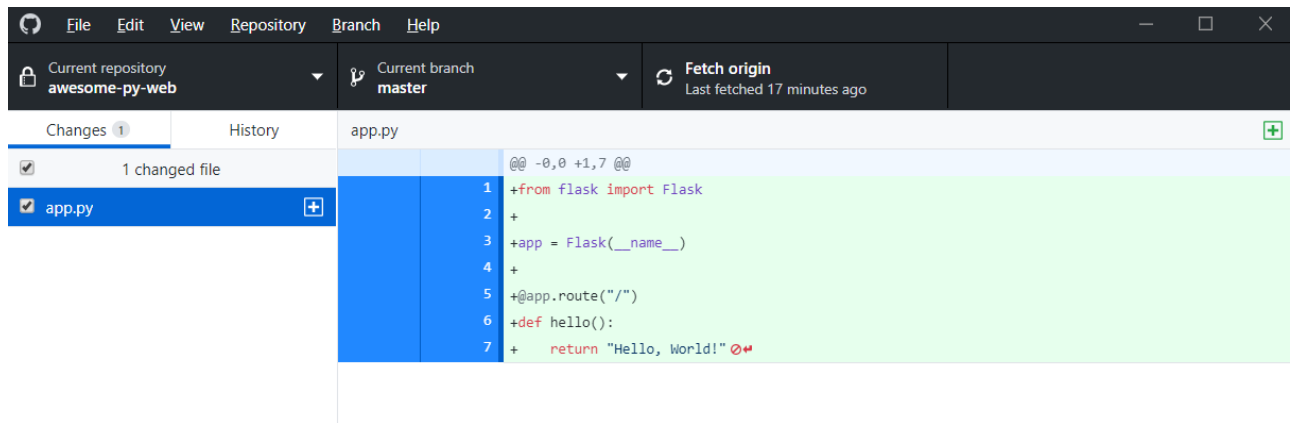
```
from flask import Flask

app = Flask(__name__)

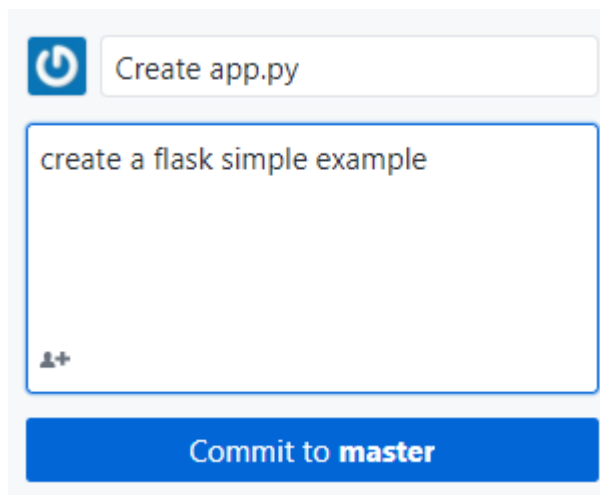
@app.route("/")
def hello():
    return "Hello, World!"
```



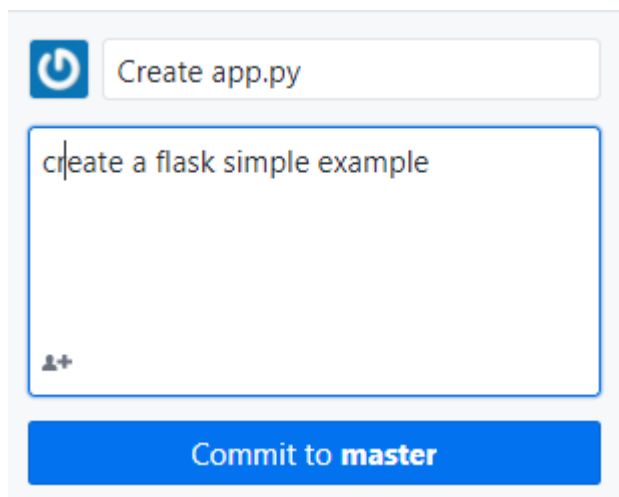
3. Switch from your text editor back to GitHub Desktop and navigate to the Changes tab. In the file list, you should see your app.py file. The checkmark by the app.py file indicates that the changes you've made to the file will be part of the commit you make. In the future, you might make changes to multiple files but only want to commit the changes you've made to some of the files. GitHub Desktop allows you to select specific changes you want to commit.



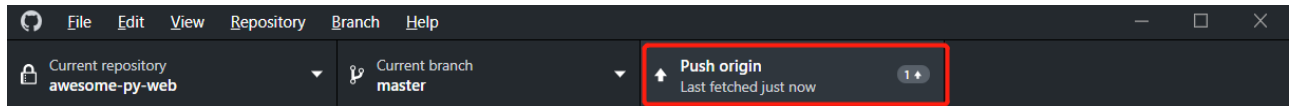
4. At the bottom of the Changes list, enter a commit message. To the right of your profile picture, type a short description of the commit. Since we're changing the app.py file, "Add information about purpose of project" would be a good commit summary. Below the summary, you'll see a "Description" text field, where you can type a longer description of the changes in the commit, which is helpful when looking back at the history of a project and understanding why changes were made. Since you're making a basic update of a app.py file, you can skip the description.



5. Click Commit to master. The commit button shows your current branch, which in this case is master, so you can be sure to commit to the branch you want.

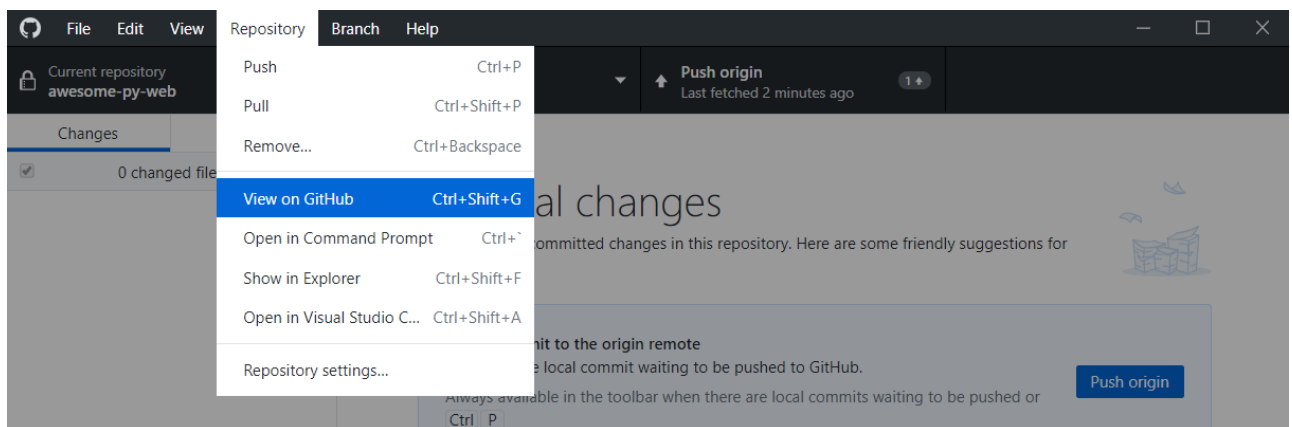


6. To push your changes to the remote repository on GitHub, click Push origin.

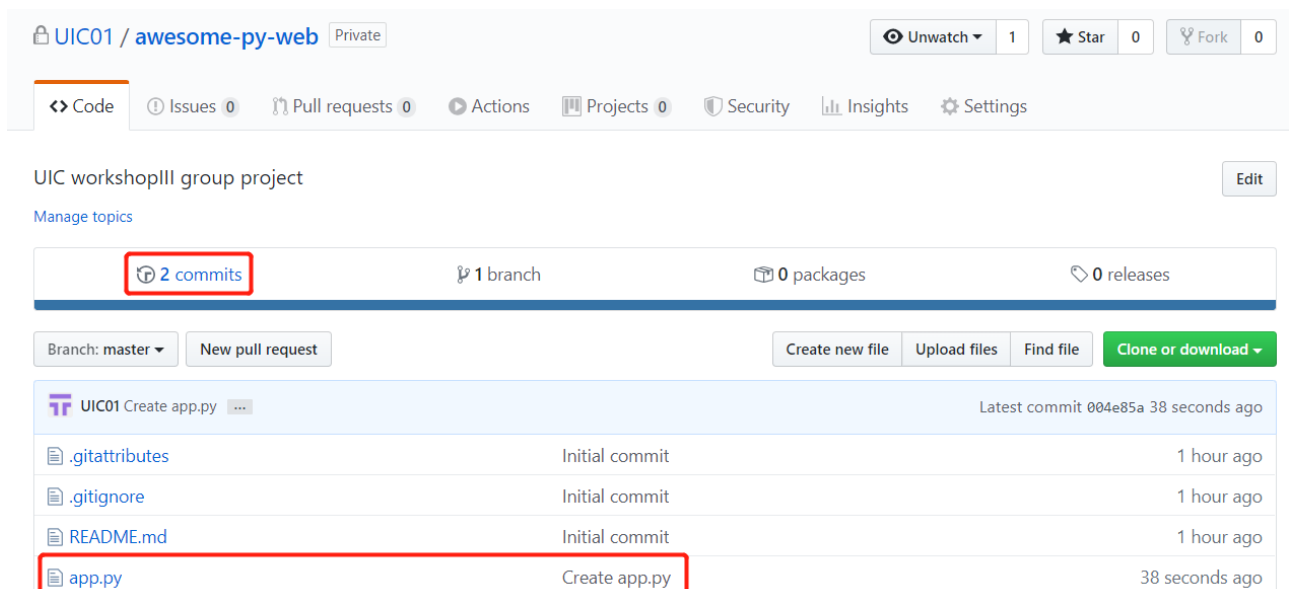


- Remember the Publish button that you used to publish your repository to GitHub? It should now say Push origin instead, with a 1 next to it, indicating that there is one commit that has not been pushed up to GitHub.
- The "origin" in Push origin means that we're pushing changes to the remote called origin, which in this case is your project's repository on GitHub.com. Until you push any new commits to GitHub, there will be differences between your project's repository on your computer and your project's repository on GitHub.com. This allows you to work locally and only push your work to GitHub.com when you're ready.

7. In the open area next to the Changes tab, you'll see suggestions for things you can do next. To open the repository on GitHub in your browser, click View on GitHub.



8. In your browser, click 2 commits. You'll see a list of the commits in this repository on GitHub. The first commit should be the commit you just made in GitHub Desktop!



Step 7. Invite collaborators

1. In your browser and navigate to Settings and choose the collaborations tab.

UIC01 / awesome-py-web Private

Unwatch 1 Star 0 Fork 0

Code Issues 0 Pull requests 0 Actions Projects 0 Security Insights Settings

Options

Collaborators

Branches

Webhooks

Notifications

Integrations & services

Deploy keys

Secrets

Actions

Collaborators Push access to the repository

This repository doesn't have any collaborators yet. Use the form below to add a collaborator.

Search by username, full name or email address

You'll only be able to find a GitHub user by their email address if they've chosen to list it publicly. Otherwise, use their username instead.

Add collaborator

0 of 3 collaborators

2. Add a new collaborator into your repository.

UIC01 / awesome-py-web Private

Unwatch 1 Star 0 Fork 0

Code Issues 0 Pull requests 0 Actions Projects 0 Security Insights Settings

Options

Collaborators

Branches

Webhooks

Notifications

Integrations & services

Deploy keys

Secrets

Actions

Collaborators Push access to the repository

This repository doesn't have any collaborators yet. Use the form below to add a collaborator.

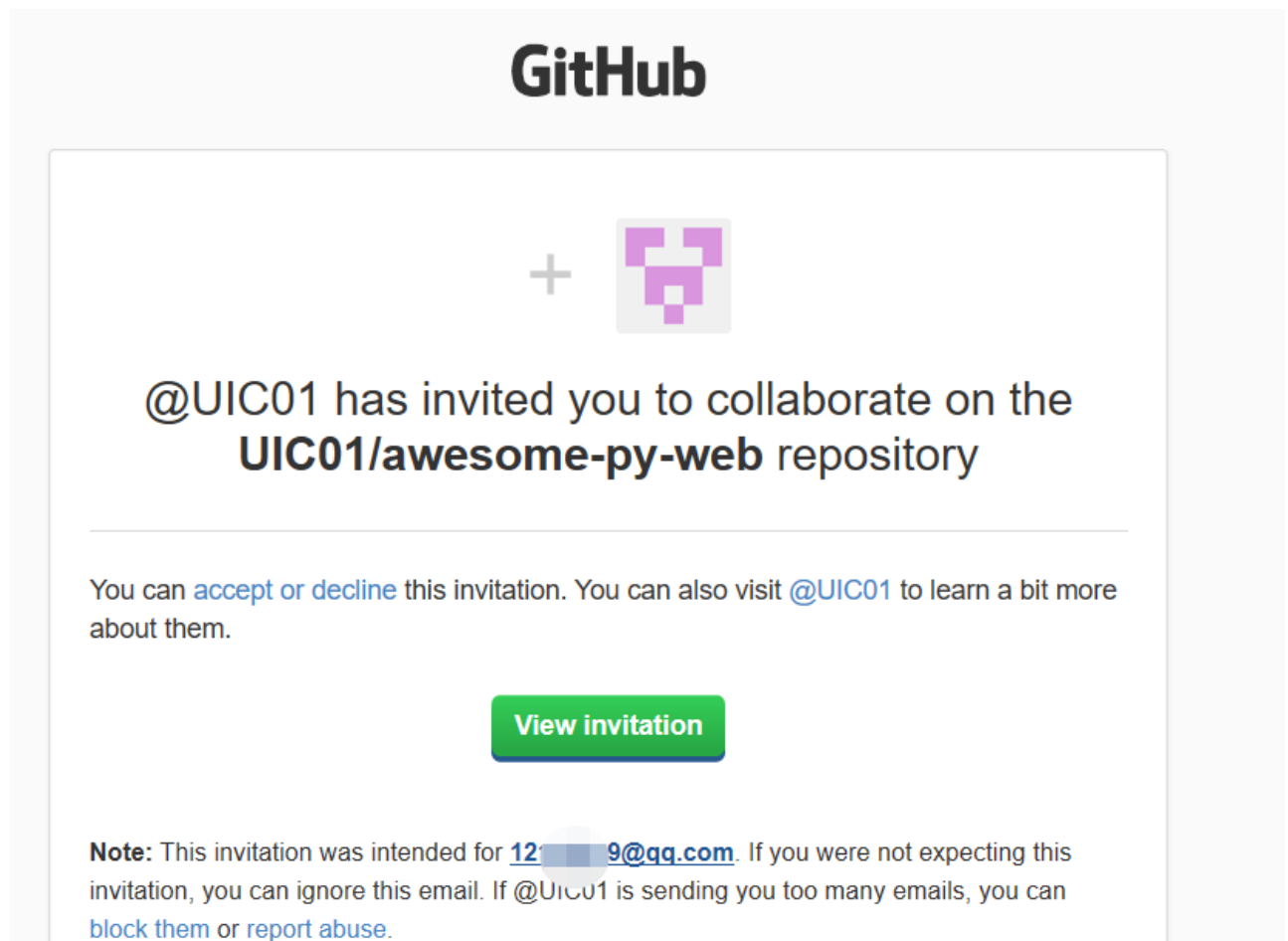
Search by username, full name or email address

You'll only be able to find a GitHub user by their email address if they've chosen to list it publicly. Otherwise, use their username instead.

Add collaborator

0 of 3 collaborators

3. Collaborator (example here said UIC02) will receive an invitation email and accept it.

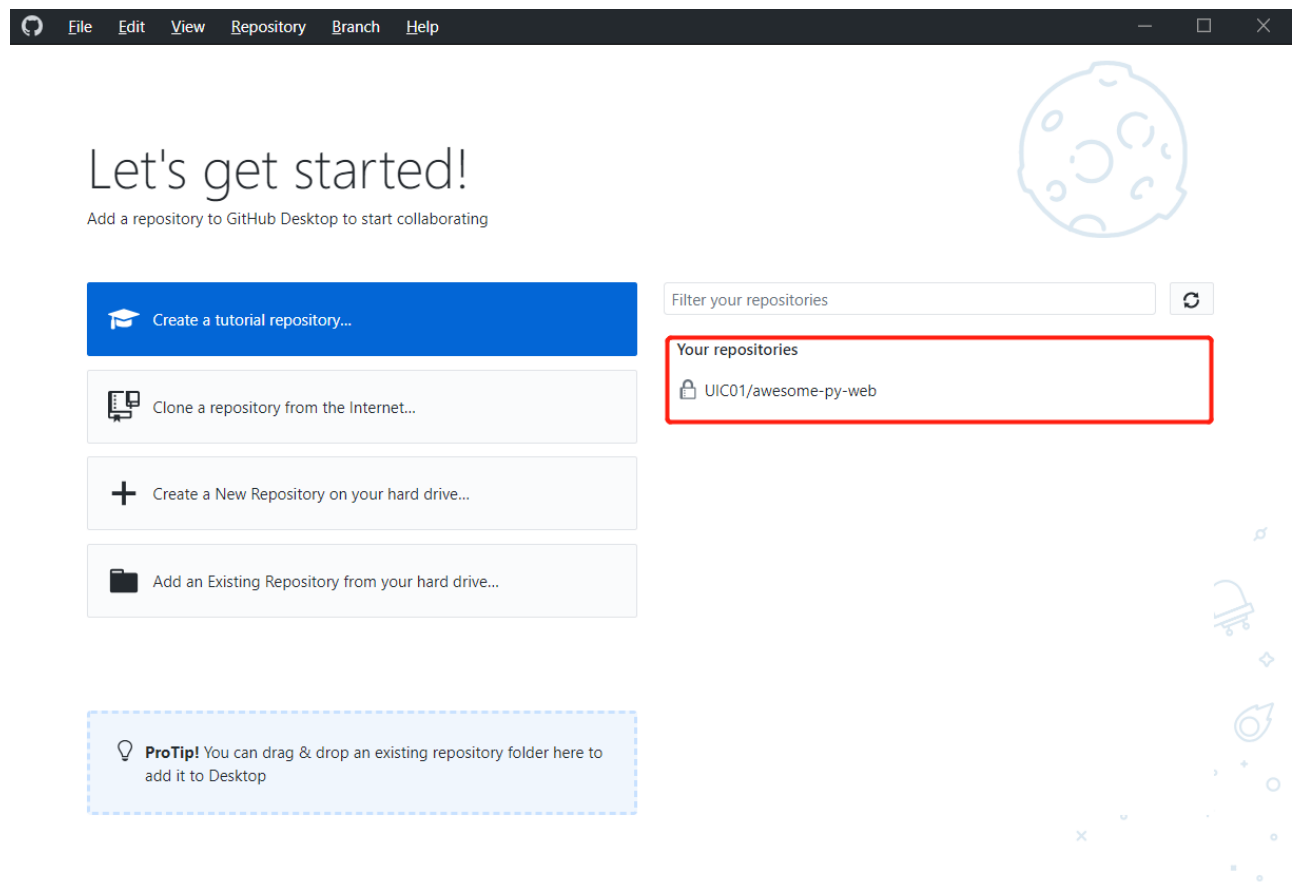


Step 8. Work with collaborators

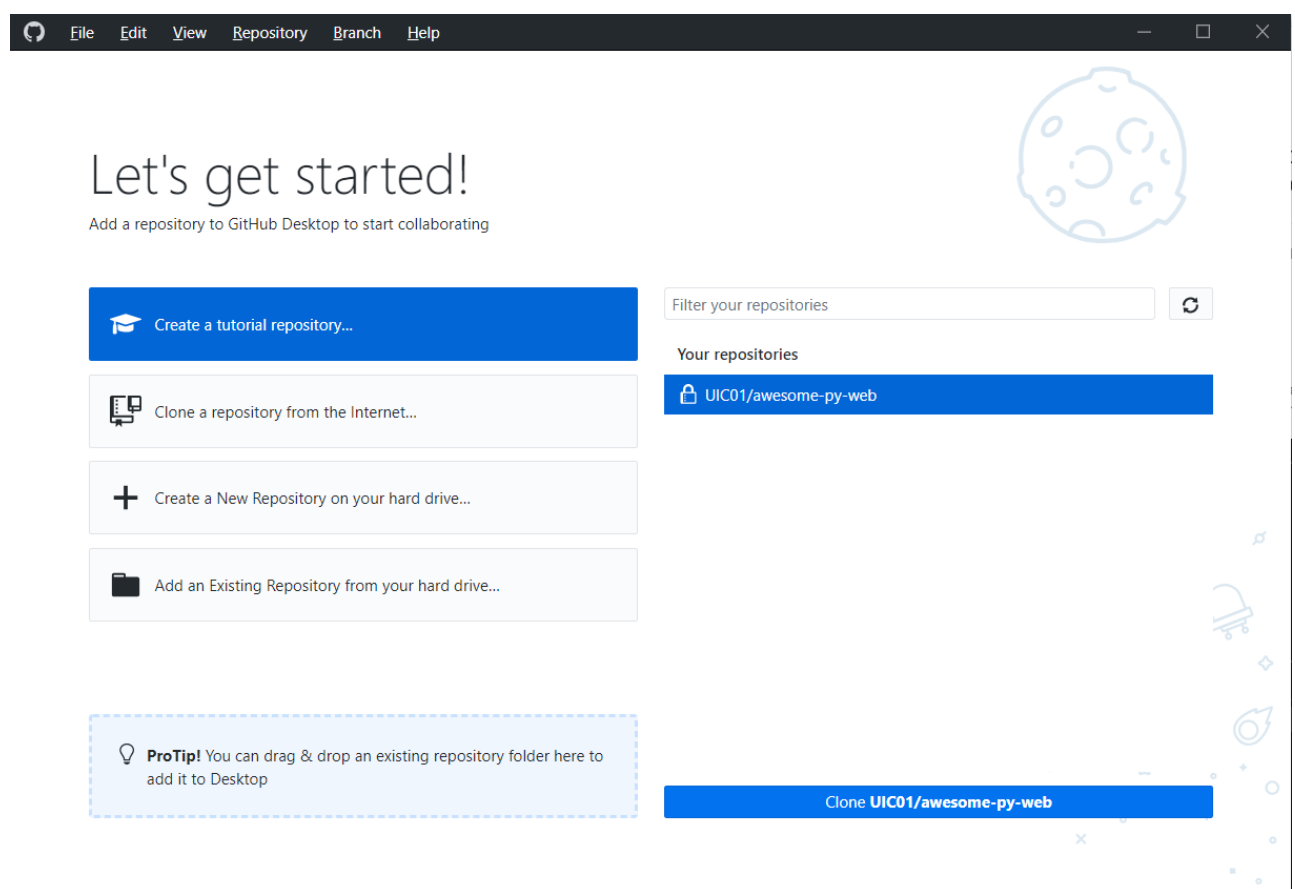
Be noted, the following procedures are under the collaborator **UIC02**.

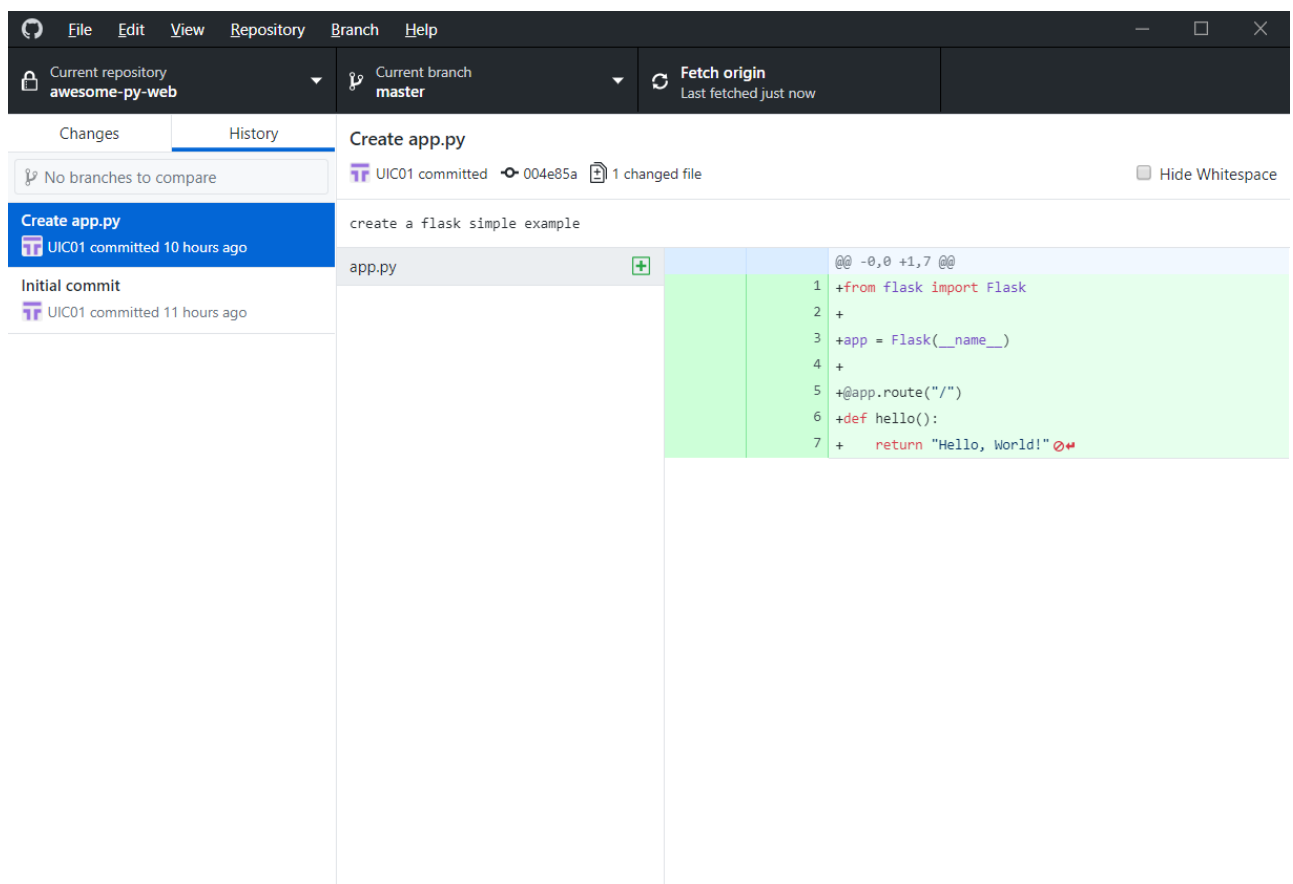
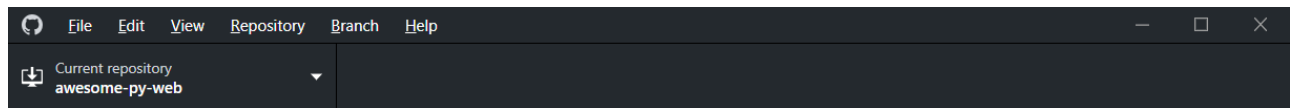
Fetch the awesome-py-web repository from GitHub.

1. GitHub Desktop shows your repositories list.



2. Select the awesome-py-web and clone to your local machine.





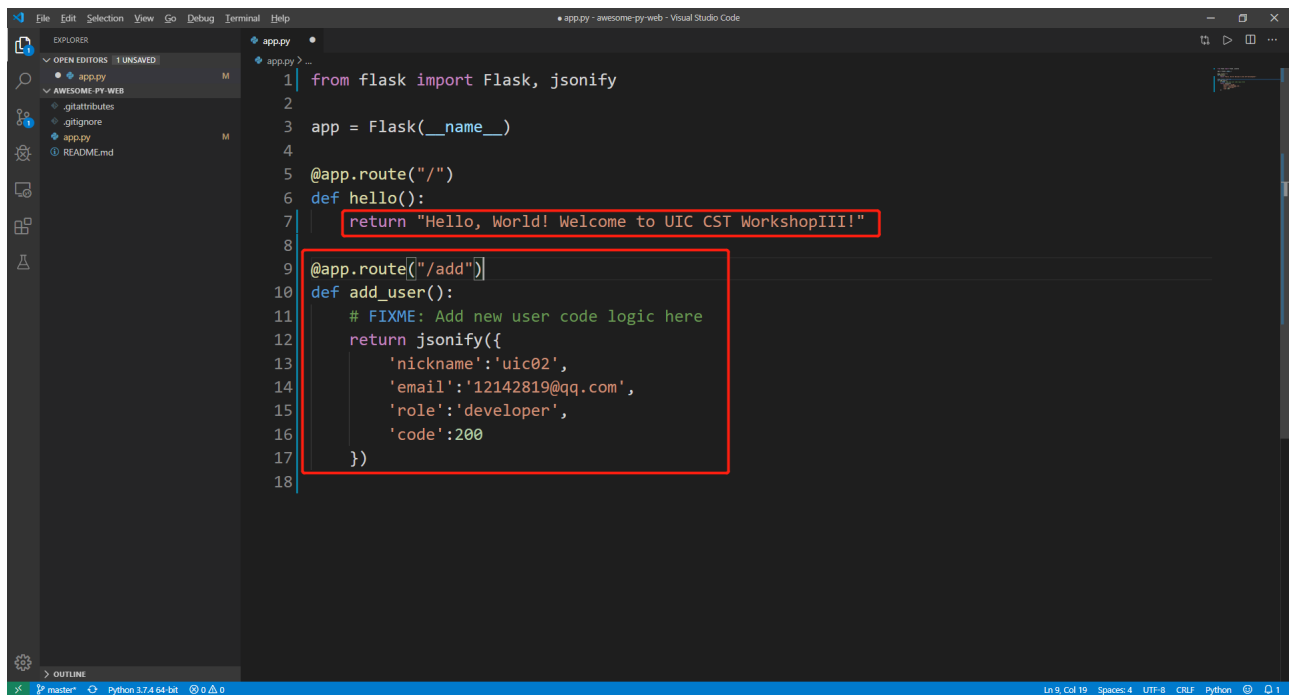
3. Edit app.py with IDE

```
# app.py
from flask import Flask, jsonify
```

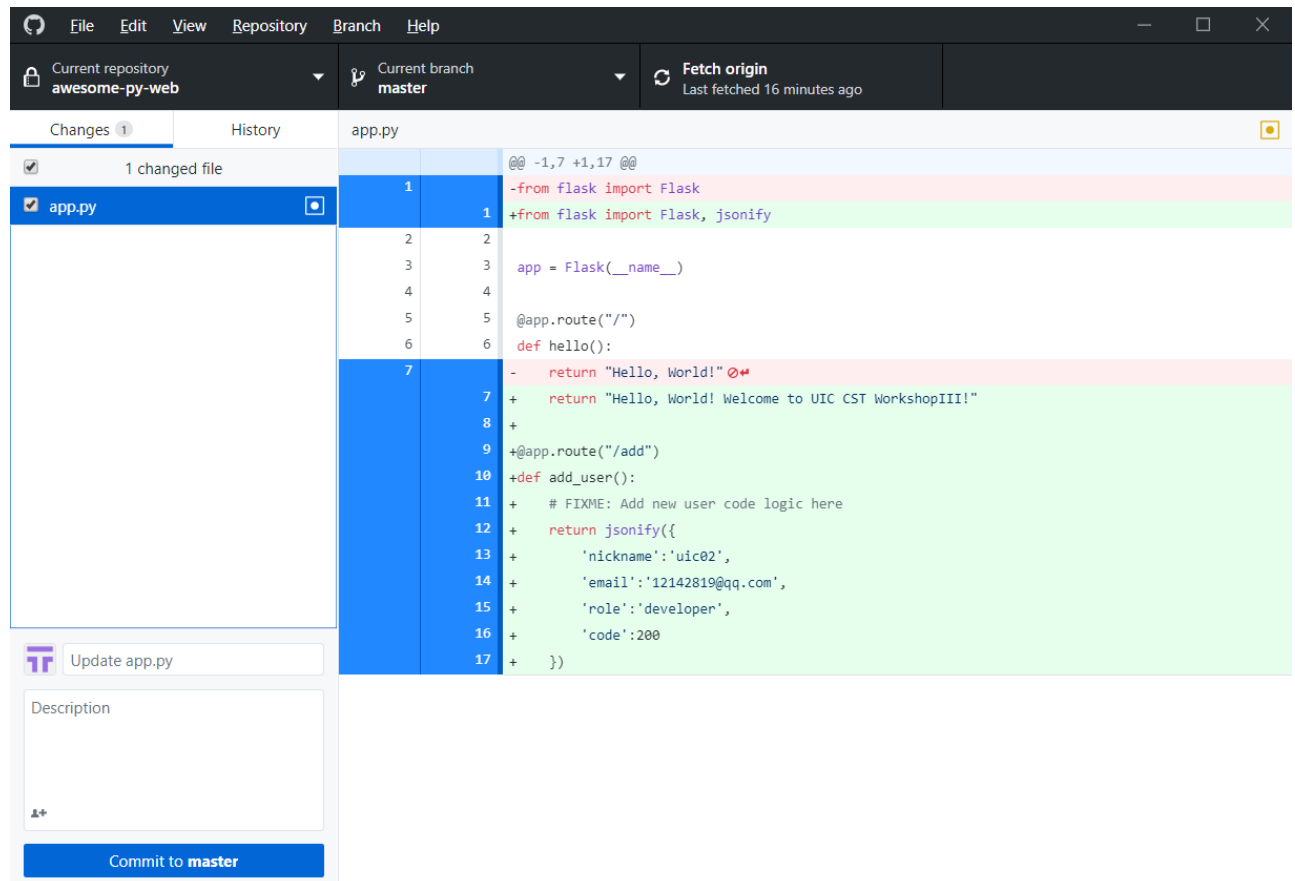
```
app = Flask(__name__)

@app.route("/")
def hello():
    return "Hello, World! Welcome to UIC CST WorkshopIIII!"

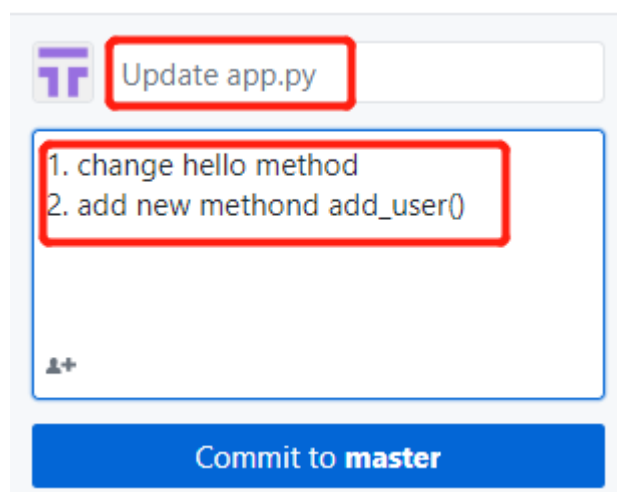
@app.route("/add")
def add_user():
    # FIXME: Add new user code logic here
    return jsonify({
        'nickname': 'uic02',
        'email': '12142819@qq.com',
        'role': 'developer',
        'code': 200
    })
```



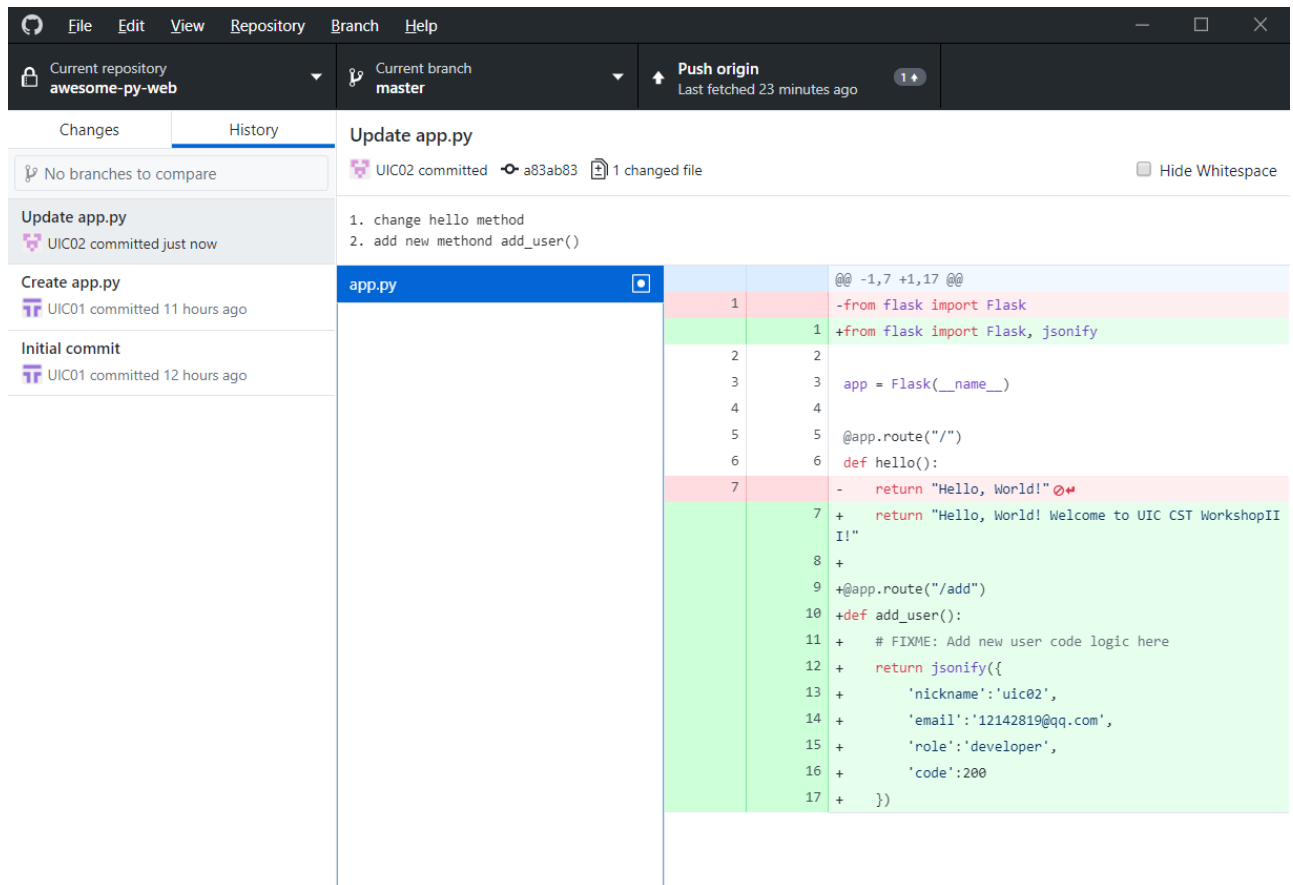
4. Check the changes on GitHub Desktop



5. Commit to your local repository

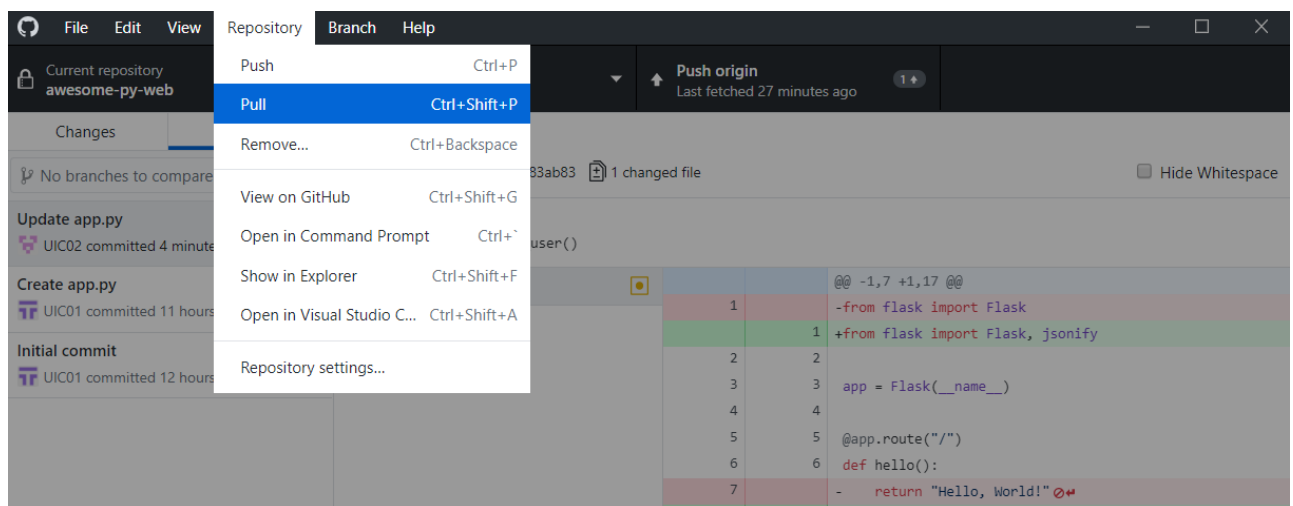


6. Navigate to History tab and will see one more commit by UIC02.

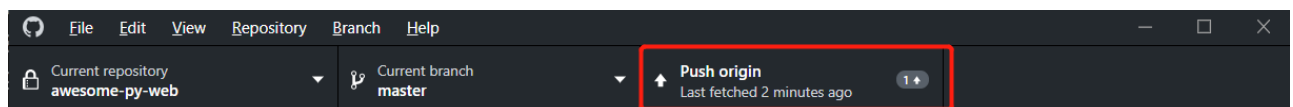


7. Syncing your branch.

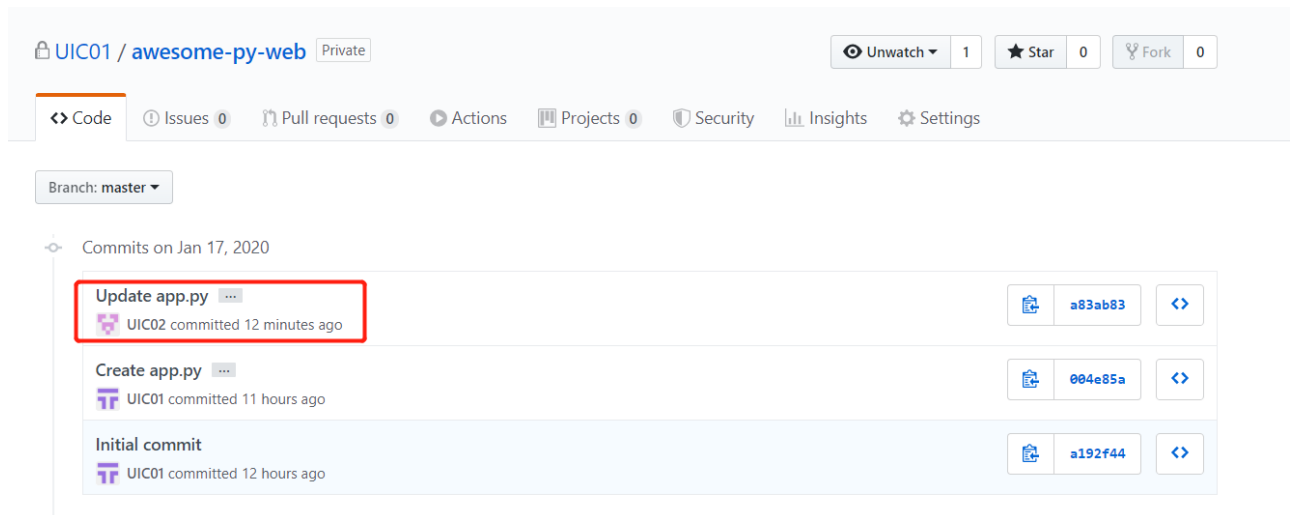
Be noted, before push to GitHub, pull from GitHub first to make it synchronization.



8. Push to GitHub.



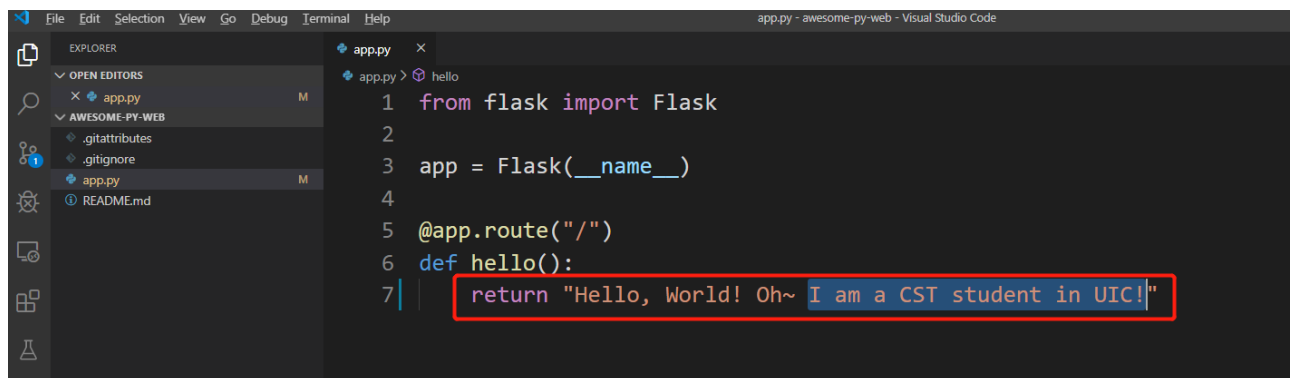
9. In the browser, see the commits.



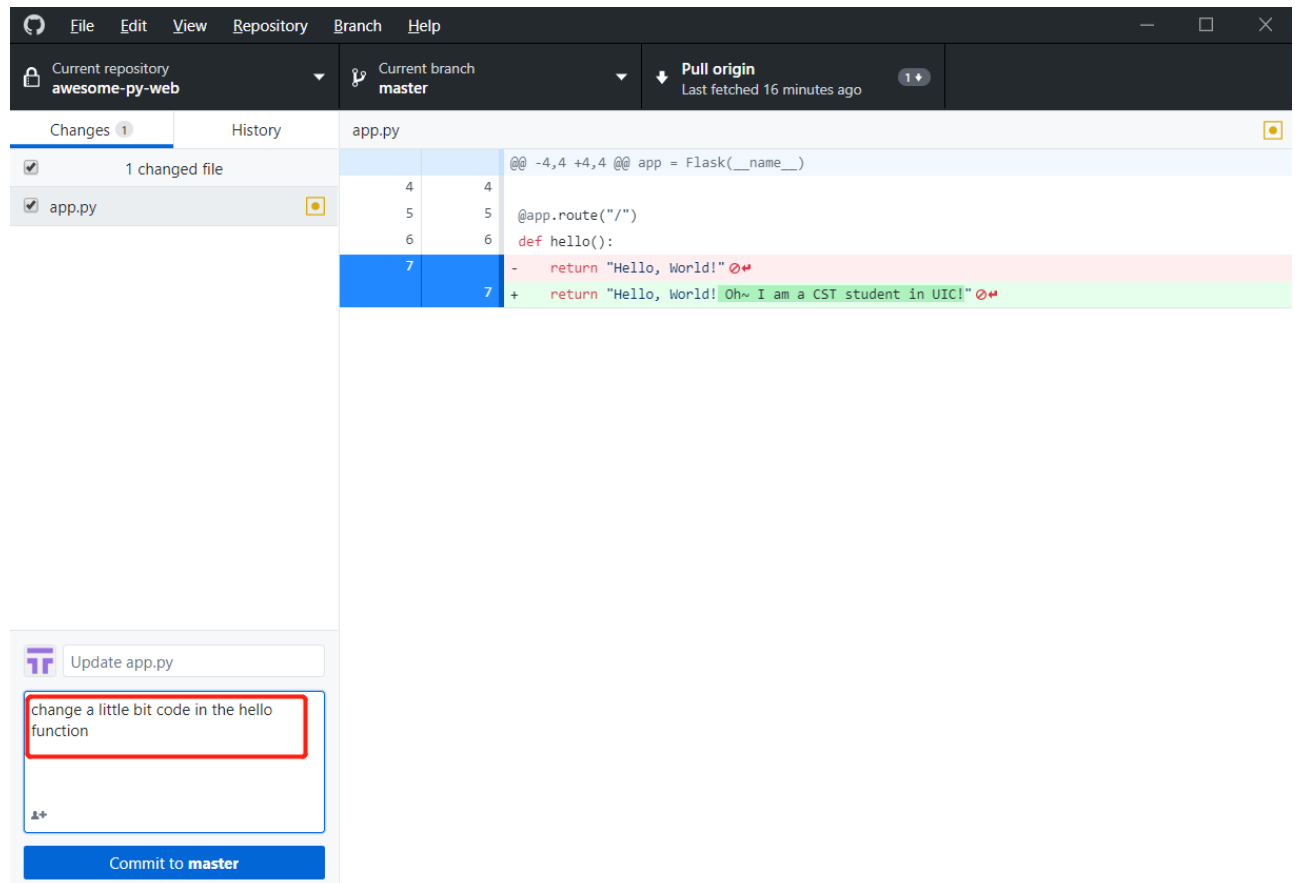
Step 9. Solve the conflicts

Be noted, now switch back to collaborator **UIC01**.

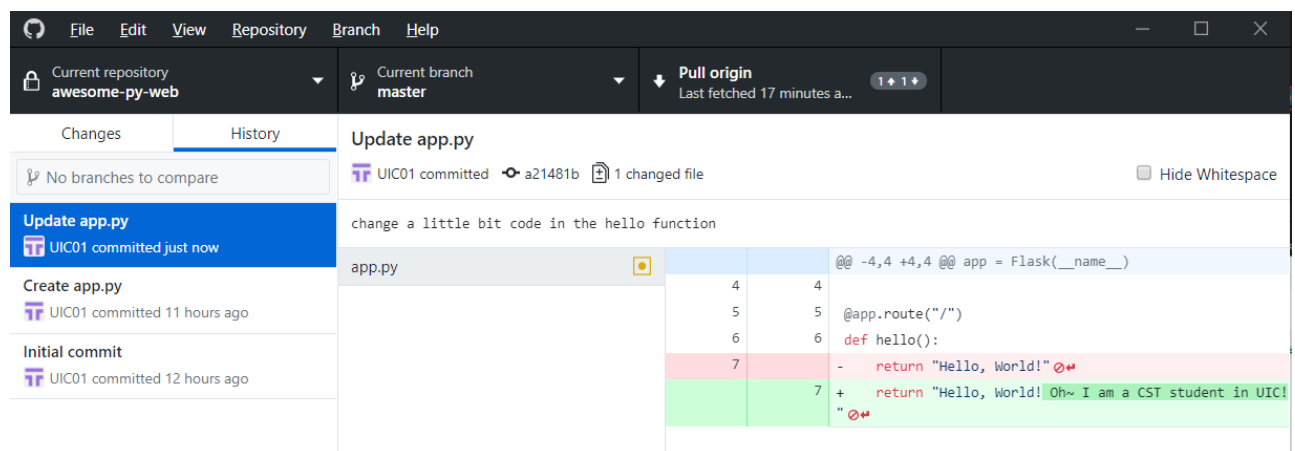
1. Now the UIC01 is going to change the code in the hello function.



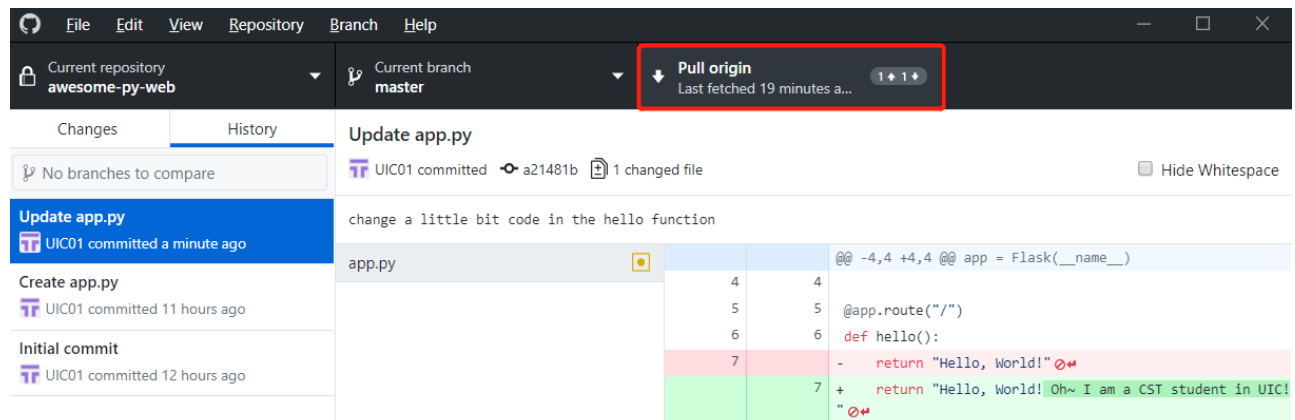
2. Commit to local repository.



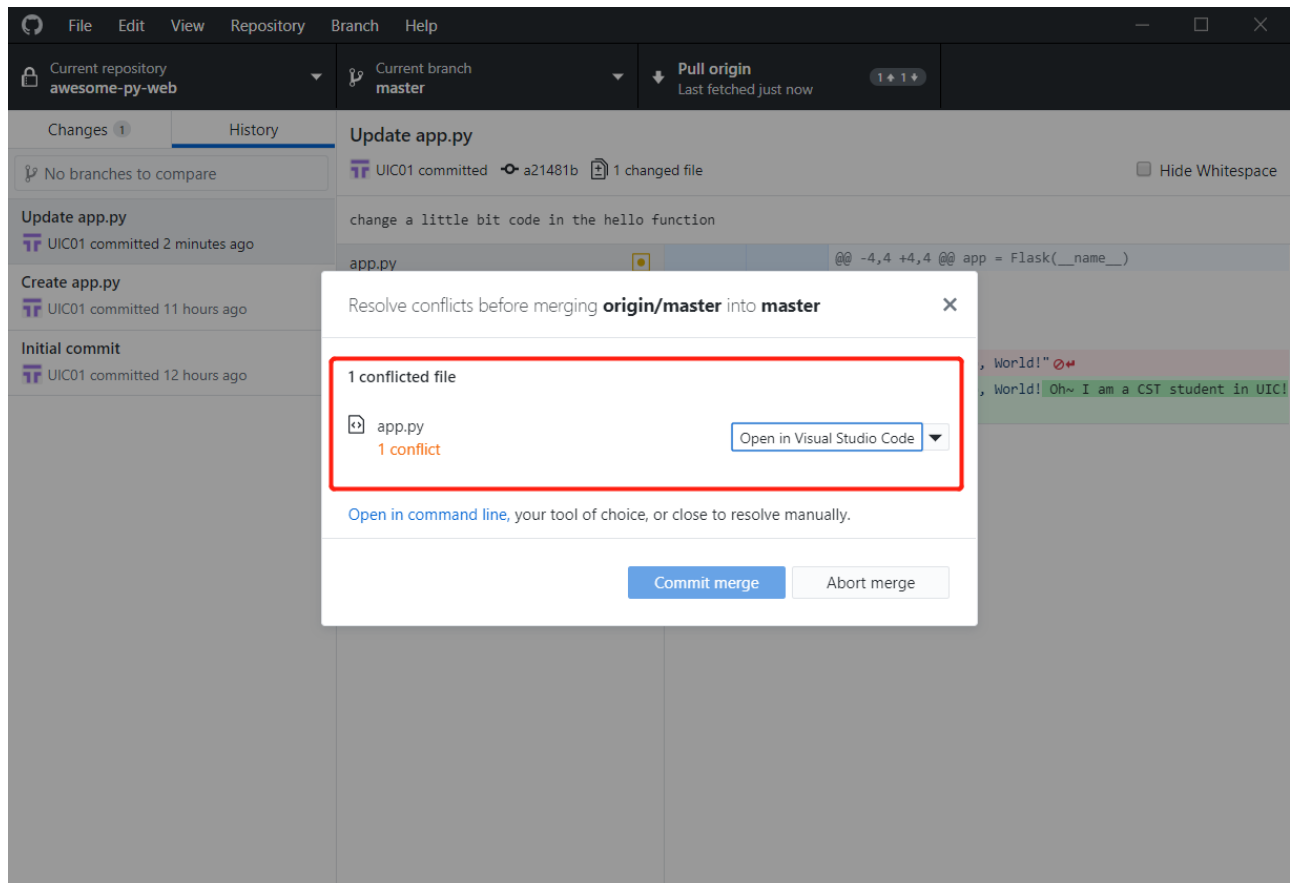
3. Check in the History tab.



4. Pull from GitHub.



5. Conflicts appear.



6. Fix the conflicts with IDE.

Be noted, user should choose their favorite editor. Different editor may provide different approaches to fix conflicts. Please refer to your editor user manual. In this example, the author is using VS Code editor.

If you follow my previous steps, you should see the result like this in editor:

```
<<<<<<< HEAD
    return "Hello, World! Oh~ I am a CST student in UIC!"
=====
    return "Hello, World! Welcome to UIC CST WorkshopIIII!"

@app.route("/add")
def add_user():
    # FIXME: Add new user code logic here
    return jsonify({
        'nickname': 'uic02',
        'email': '12142819@qq.com',
        'role': 'developer',
        'code': 200
    })
>>>>>> a83ab83d40d8c9ffaf4eca57cd0f4bfb83a00fd7
```

- The code between <<<<<<< HEAD and ===== is your current local code.

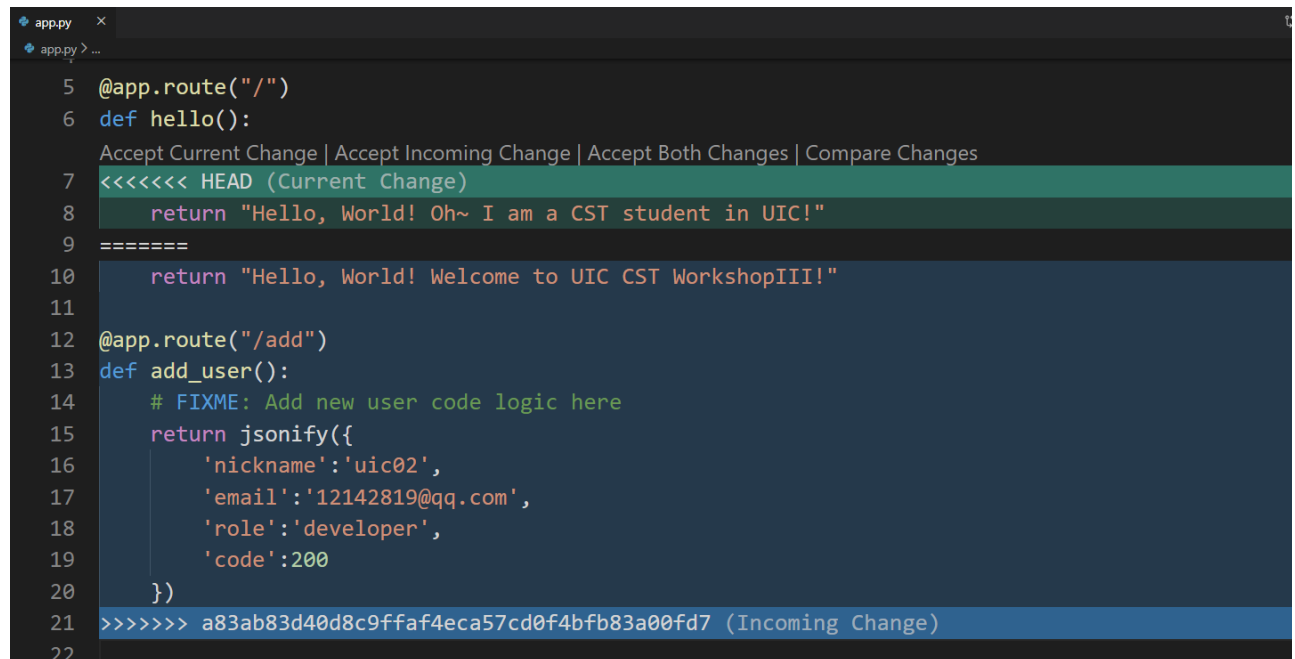
- The code between ===== and >>>>>> is incoming code from GitHub.

GitHub Desktop will compare you current local code version with the remote GitHub

What you need to do is to decide which part of code need to remove / merge.

Once you have fixed the conflicts, make sure removing all the conflict symbols <<<<<< HEAD , =====, >>>>>> etc.

Before fix conflicts.



```

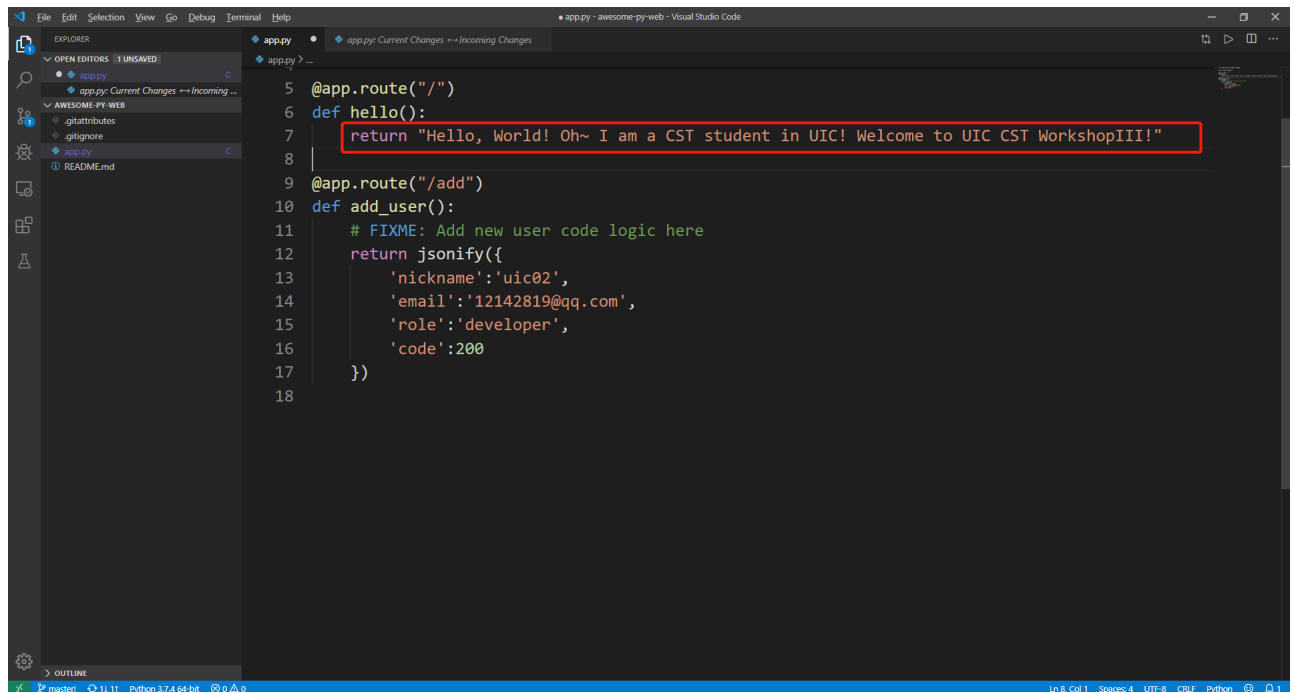
5 @app.route("/")
6 def hello():
7 <<<<<< HEAD (Current Change)
8     return "Hello, World! Oh~ I am a CST student in UIC!"
9 =====
10     return "Hello, World! Welcome to UIC CST WorkshopIII!"
11
12 @app.route("/add")
13 def add_user():
14     # FIXME: Add new user code logic here
15     return jsonify({
16         'nickname': 'uic02',
17         'email': '12142819@qq.com',
18         'role': 'developer',
19         'code': 200
20     })
21 >>>>>> a83ab83d40d8c9ffaf4eca57cd0f4bfb83a00fd7 (Incoming Change)
22

```

VS Code provides convenient ways to solve the conflicts by Accept Current change / Accept Incoming Change / Accept Both Changes / Compare Changes.

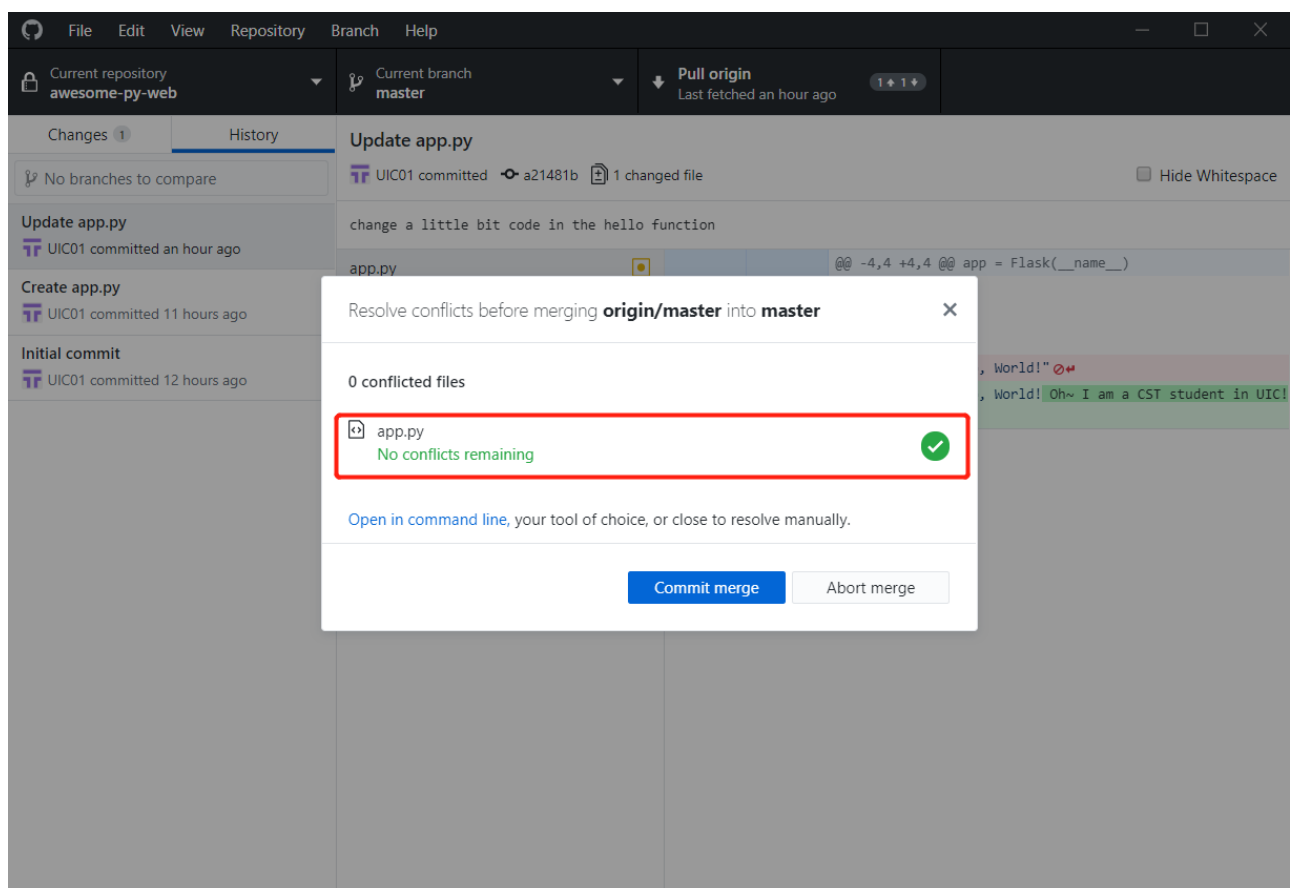
You can also edit it manually if you want.

After fix conflicts.



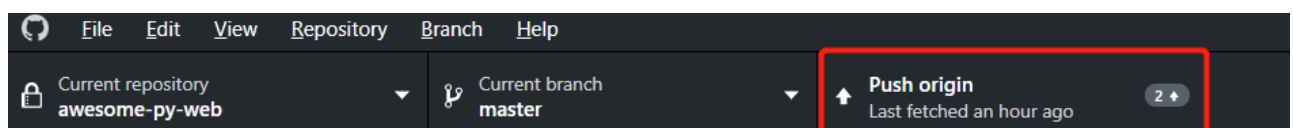
```
5 @app.route("/")
6 def hello():
7     return "Hello, World! Oh~ I am a CST student in UIC! Welcome to UIC CST WorkshopIII!"
8
9 @app.route("/add")
10 def add_user():
11     # FIXME: Add new user code logic here
12     return jsonify({
13         'nickname': 'uic02',
14         'email': '12142819@qq.com',
15         'role': 'developer',
16         'code': 200
17     })
18
```

Also the GitHub Desktop will show No conflicts remaining.



7. Click commit merge.

8. Push to GitHub.



Conclusion

Congratulations! You've now created a repository, published the repository to GitHub, made a commit, and pushed your changes and aslo known how to solve conflicts. We've only scratched the surface of all the things you can do with GitHub and GitHub Desktop. We hope this exercise has you excited to explore further!

Acknowledge

- <https://git-scm.com/>
- <https://help.github.com/en>