Collaborate with git and GitHub

Introductions and Overview

Overview

What and Why

Repository Creation

Adding Files and Making Changes

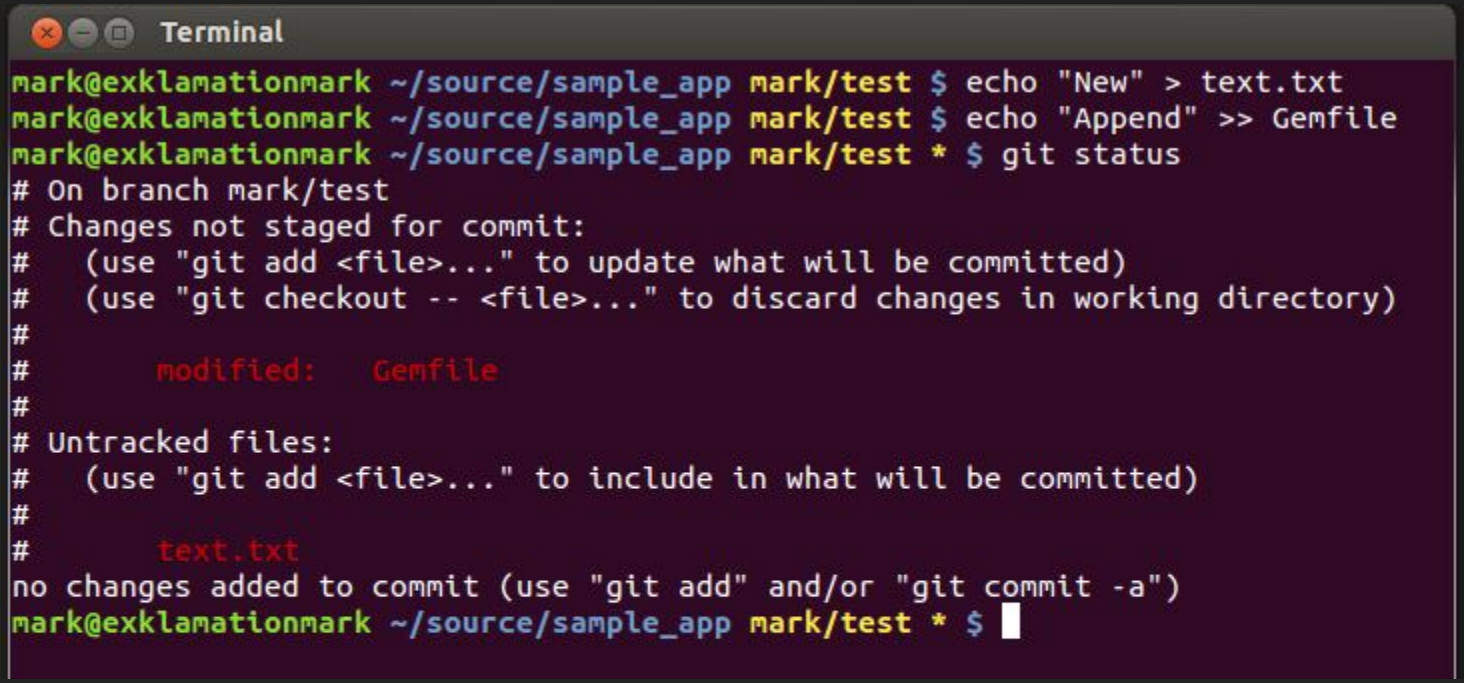
Branching and Merging

Collaborating

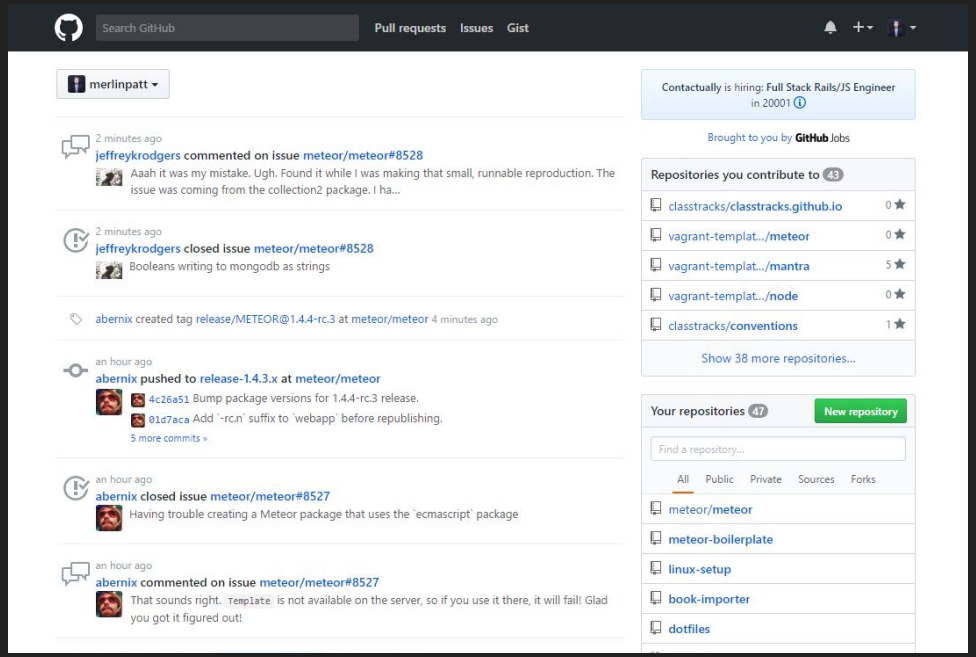
What and Why

Why are they useful?

What is git?


Terminal
mark@exklamationmark ~/source/sample_app mark/test $ echo "New" > text.txt
mark@exklamationmark ~/source/sample_app mark/test $ echo "Append" >> Gemfile
mark@exklamationmark ~/source/sample_app mark/test * $ git status
On branch mark/test
Changes not staged for commit:
(use "git add <file>..." to update what will be committed)
(use "git checkout -- <file>..." to discard changes in working directory)
#
modified: Gemfile
#
Untracked files:
(use "git add <file>..." to include in what will be committed)
#
text.txt
no changes added to commit (use "git add" and/or "git commit -a")
mark@exklamationmark ~/source/sample_app mark/test * $

What is GitHub?



Setup

Installing git

`git-scm.com/downloads`

git-scm.com/downloads

git --distributed-even-if-your-workflow-isnt

Search entire site...

- About
- Documentation
- Blog
- Downloads
  - GUI Clients
  - Logos
- Community

The entire **Pro Git book** written by Scott Chacon and Ben Straub is available to read online for free. Dead tree versions are available on Amazon.com.

Downloads

Mac OS X | Windows | Linux | Solaris

Older releases are available and the Git source repository is on GitHub.

GUI Clients

Git comes with built-in GUI tools (**git-gui**, **gitk**), but there are several third-party tools for users looking for a platform-specific experience.

View GUI Clients →

Logos

Various Git logos in PNG (bitmap) and EPS (vector) formats are available for use in online and print projects.

View Logos →

Git via Git

If you already have Git installed, you can get the latest development version via Git itself:

```
git clone https://github.com/git/git
```

You can also always browse the current contents of the git repository using the web interface.

Repository Creation

```
mkdir git-course
```

```
git init
```

Adding Files and Making Changes

```
git status
```

Create a file

`github.com/magic-of-code/git`

`chapter_1.txt`

`git add`

```
git commit -m ‘text’
```

Changing a file

`github.com/magic-of-code/git`

`chapter_1_p2.txt`

`git diff`

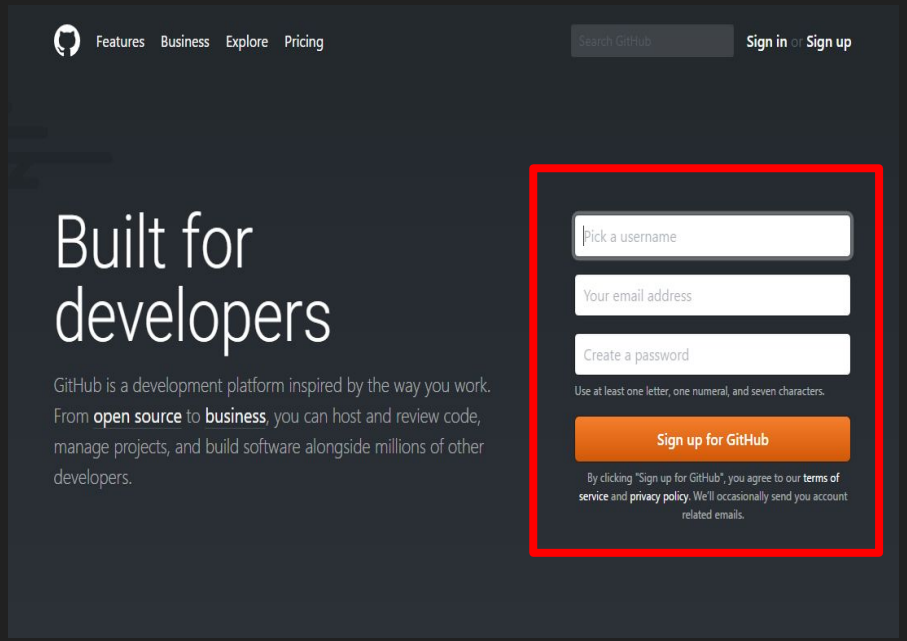
```
git log
```

Just one problem

GitHub account

`github.com`

github.com


Features
Business
Explore
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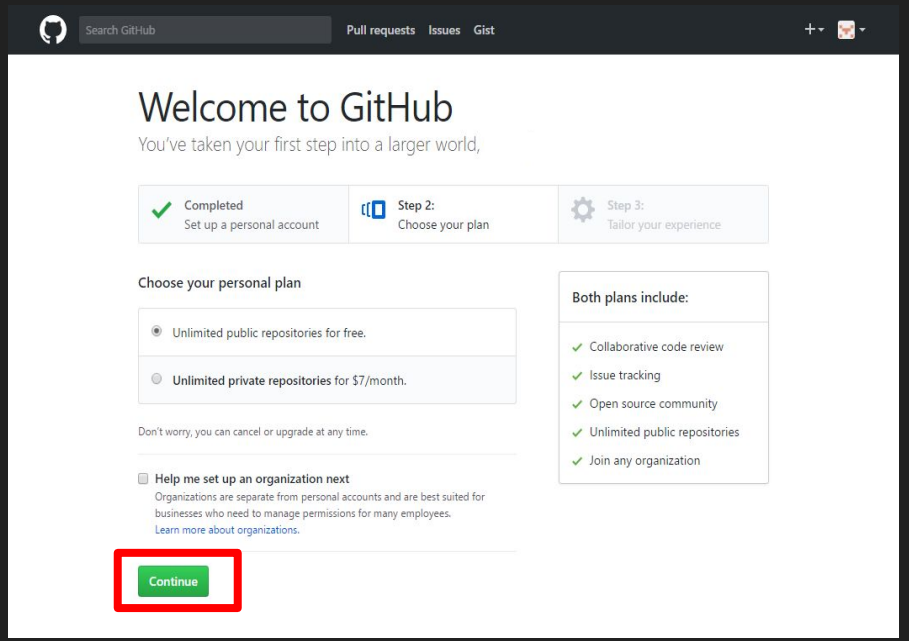
Search GitHub
Sign in or Sign up
Built for developers
GitHub is a development platform inspired by the way you work. From open source to business, you can host and review code, manage projects, and build software alongside millions of other developers.
Pick a username
Your email address
Create a password
Use at least one letter, one numeral, and seven characters.
Sign up for GitHub
By clicking "Sign up for GitHub", you agree to our terms of service and privacy policy. We'll occasionally send you account related emails.

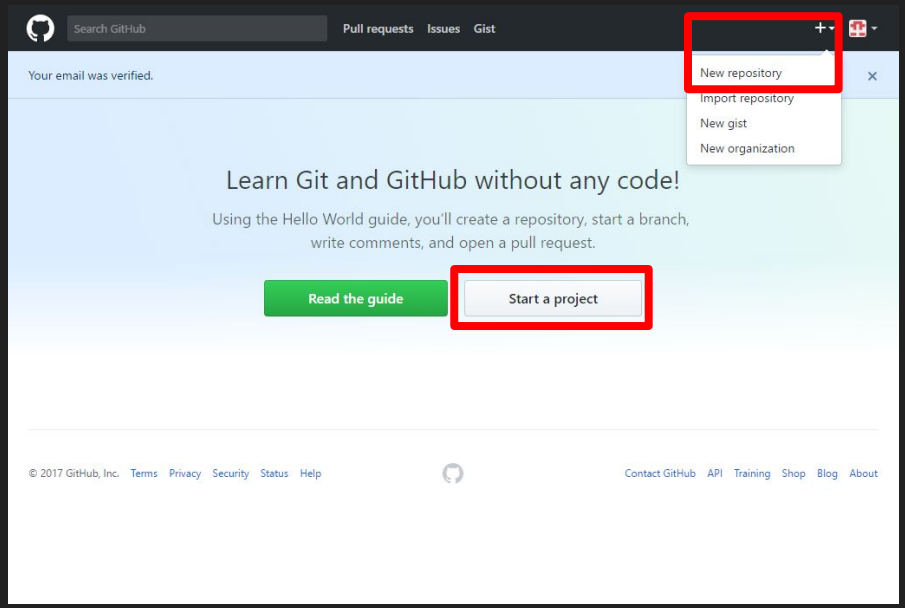

Search GitHub
Pull requests
Issues
Gist
Welcome to GitHub
You've taken your first step into a larger world,
Completed
Set up a personal account
Step 2:
Choose your plan
Step 3:
Tailor your experience
Choose your personal plan
Unlimited public repositories for free.
Unlimited private repositories for $7/month.
Don't worry, you can cancel or upgrade at any time.
Help me set up an organization next
Organizations are separate from personal accounts and are best suited for businesses who need to manage permissions for many employees.
Learn more about organizations.
Continue
Both plans include:
Collaborative code review
Issue tracking
Open source community
Unlimited public repositories
Join any organization

Break

Recap: How do we...

Initialize a repository?	`init`
Select files we changed?	`add`
Check for changes? (2)	`status` and `diff`
Record changes?	`commit -m`
See the history?	`log`

github.com


Search GitHub
Pull requests
Issues
Gist
Your email was verified.
New repository
Import repository
New gist
New organization
Learn Git and GitHub without any code!
Using the Hello World guide, you'll create a repository, start a branch, write comments, and open a pull request.
Read the guide
Start a project
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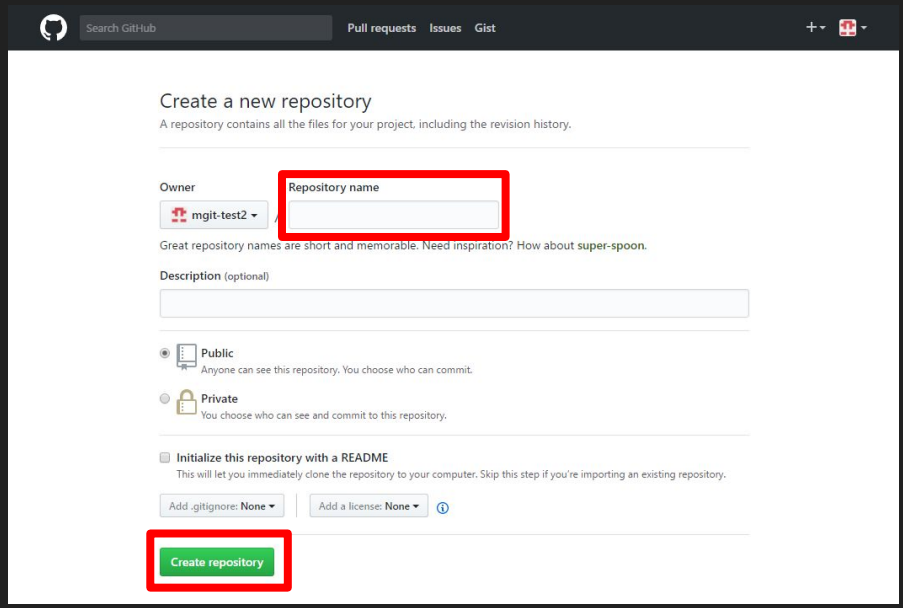

Search GitHub
Pull requests
Issues
Gist
Create a new repository
A repository contains all the files for your project, including the revision history.
Owner
mgit-test2
Repository name
Great repository names are short and memorable. Need inspiration? How about super-spoon.
Description (optional)
Public
Anyone can see this repository. You choose who can commit.
Private
You choose who can see and commit to this repository.
Initialize this repository with a README
This will let you immediately clone the repository to your computer. Skip this step if you're importing an existing repository.
Add .gitignore: None
Add a license: None
Create repository

```
git remote add origin url
```

```
git push -u origin master
```

Branching and Merging

```
git checkout -b name
```

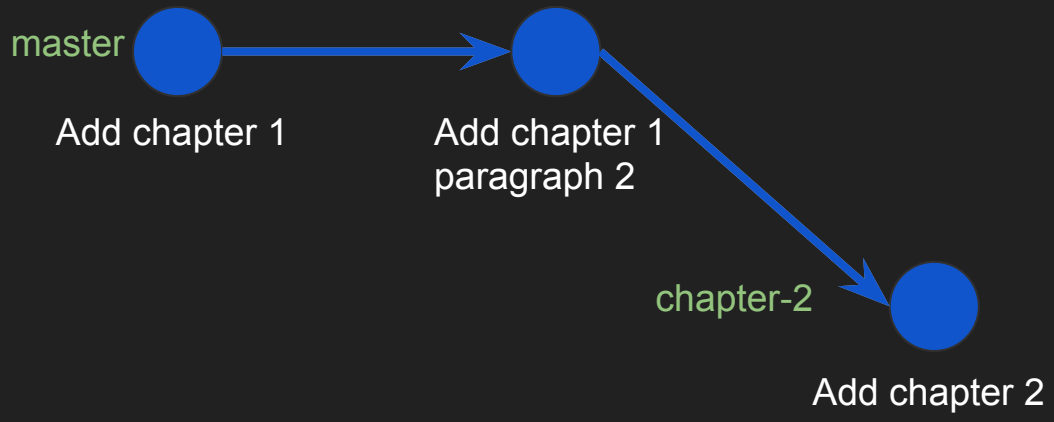
Create a file

`github.com/magic-of-code/git`

`chapter_2.txt`

`git branch`

Visualizing our work



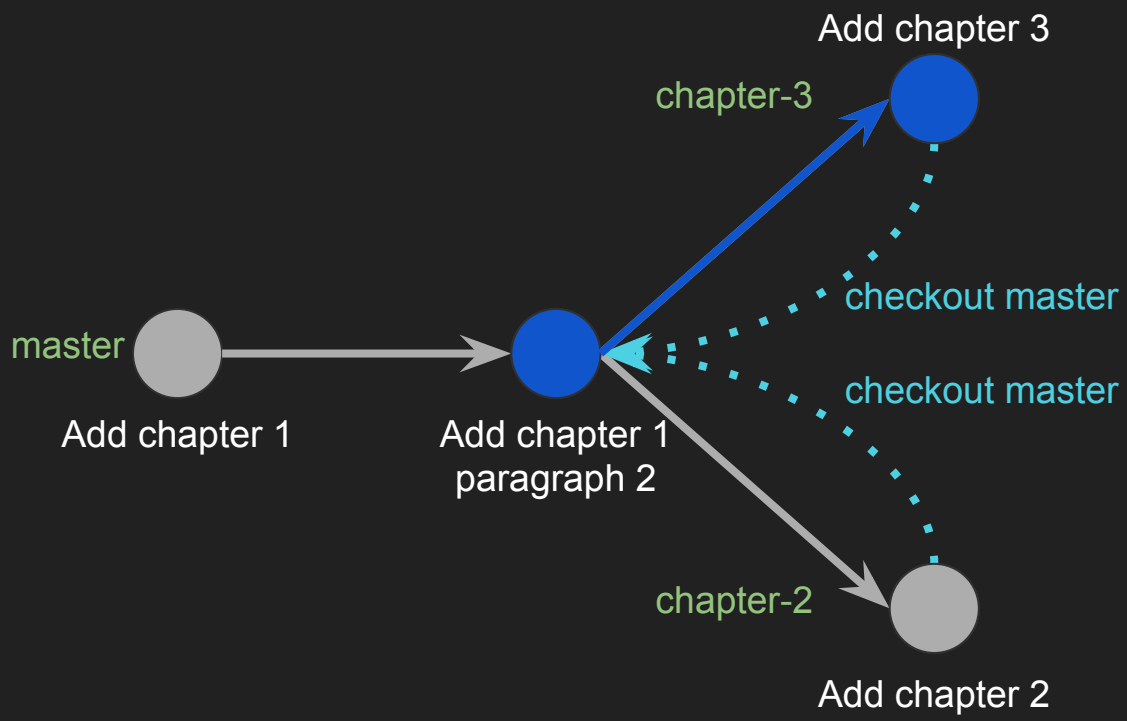
```
git checkout name
```

Create a file

`github.com/magic-of-code/git`

`chapter_3.txt`

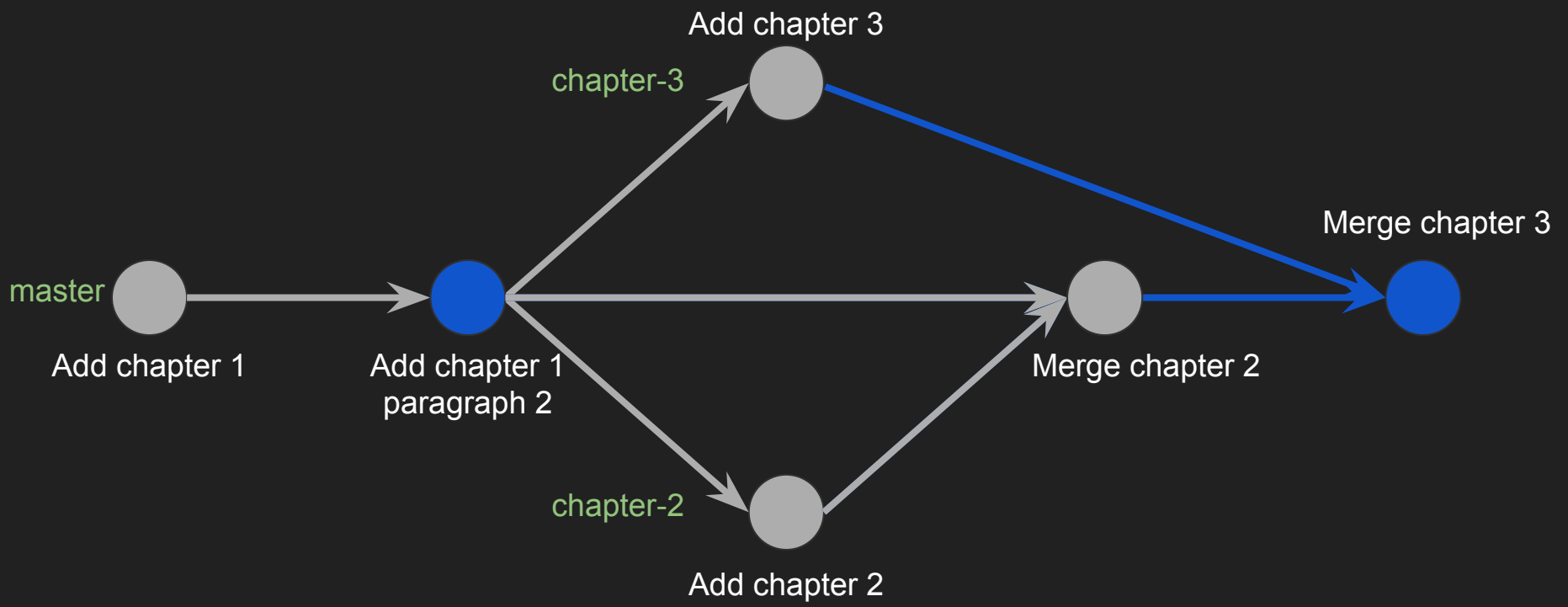
Visualizing our work



```
git merge name
```

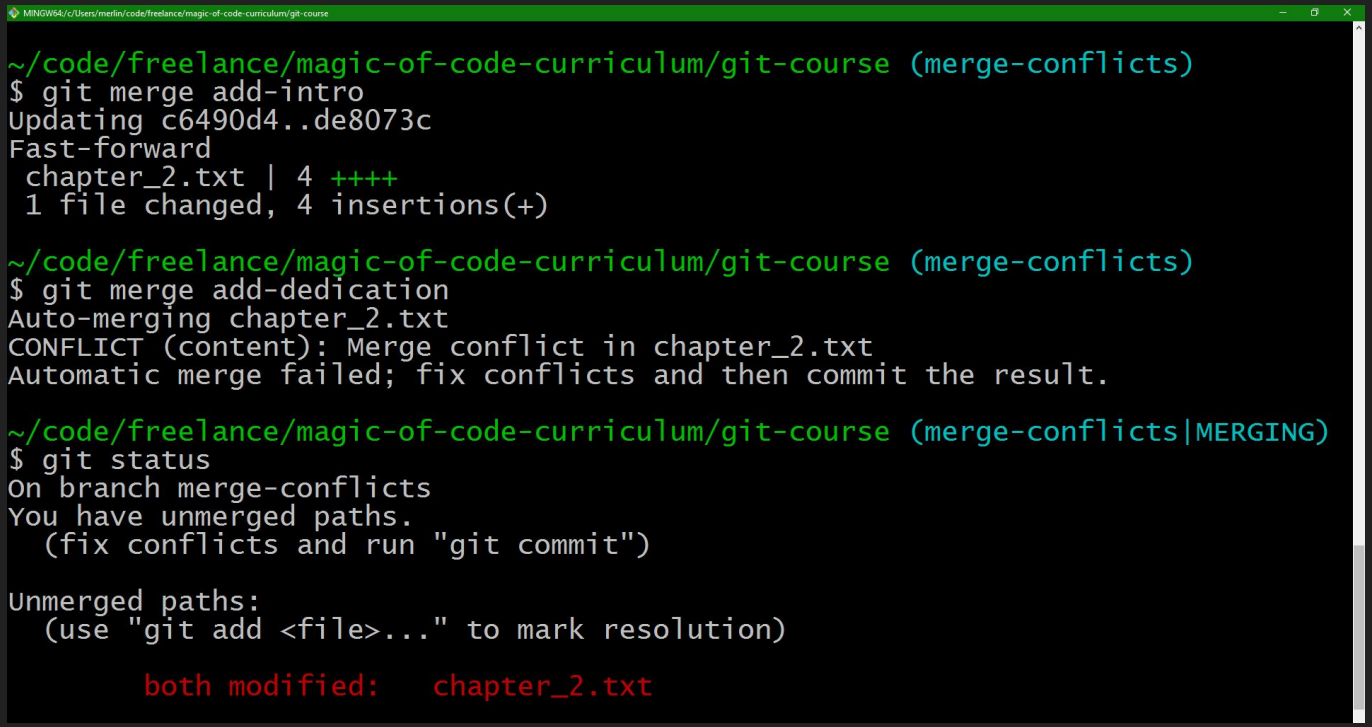
Pull Request

Visualizing our work

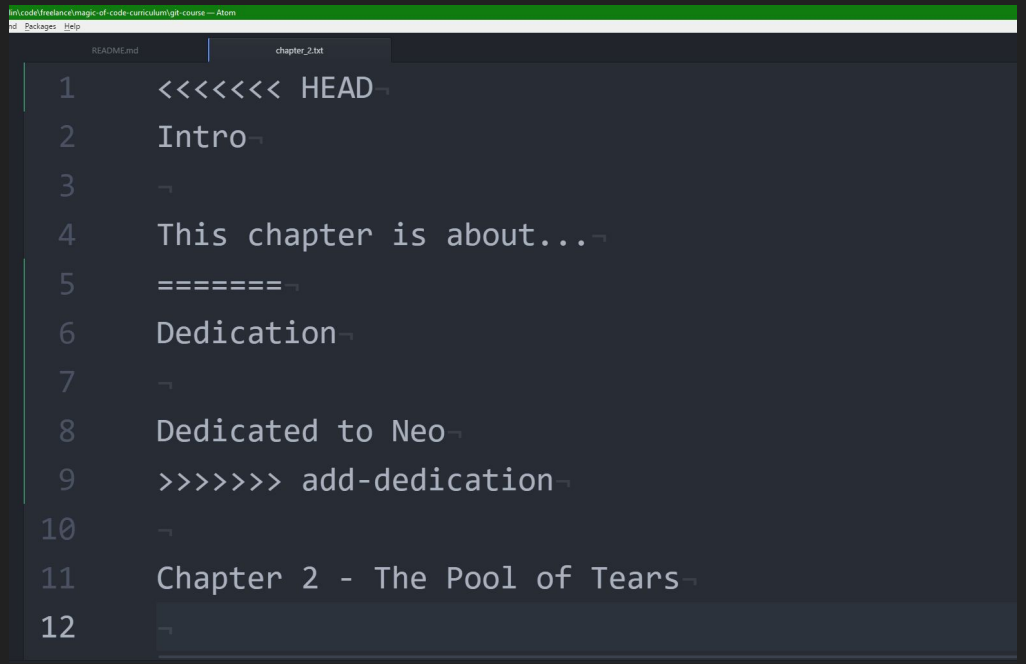


Merge Conflicts

Merge Conflicts



Merge Conflicts



Break

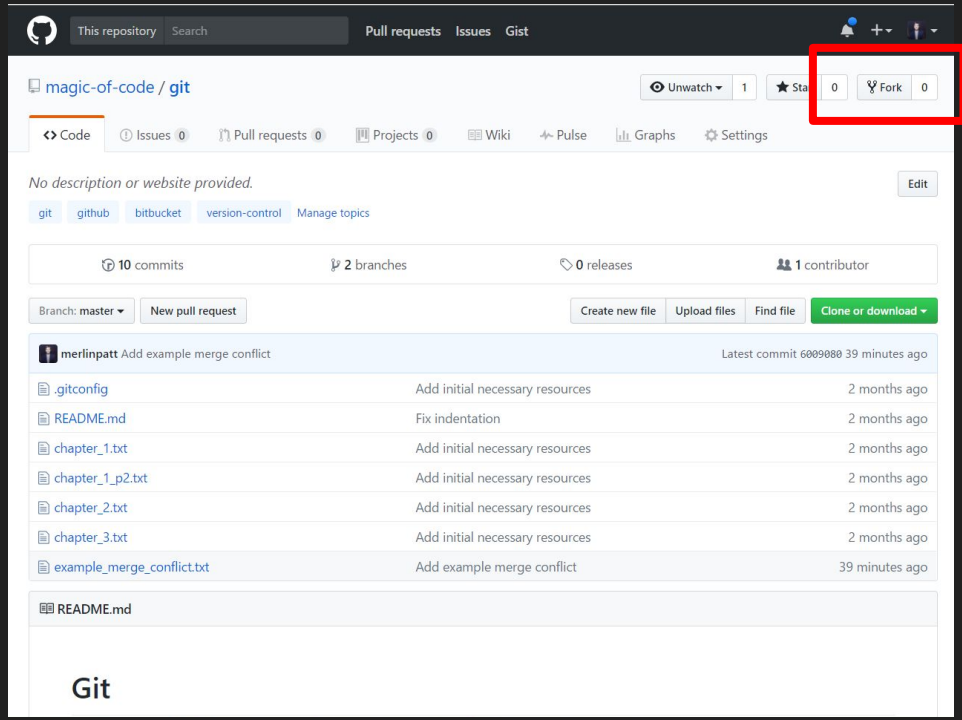
Recap: How do we...

Start a new branch?	`checkout -b name`
List branches?	`branch`
Change branches?	`checkout name`
Merge branches?	`merge name` and PR
Handle conflicts?	Pick the changes

Collaborating

Fork

github.com/magic-of-code/git



git clone

```
git remote add upstream
```

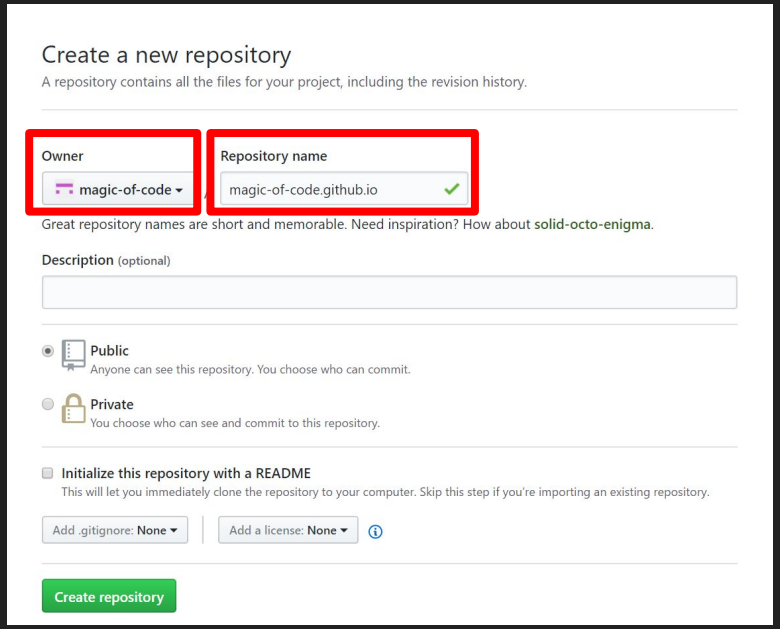
```
git pull
```

Pull Request

Bonus Material

Private repos

```
git br -D
```

```
git log
--pretty=format:\"%h %ad | %s%d [%an]\"
--graph
--date=short
```

Building a Website