Git

and Open Source Distributed
Version Control System

Git is a Distributed Version **Control System**

- content tracker
- it can be used to store content
- it is mostly used to store code
- it is designed to store code

Git is a Distributed **Version Control System**

- when we save something, we are making a version
- when we make a new version we are not saving everything but the incremental changes from previous version

Git is a **Distributed Version Control System**

- git is stored in a server and in a local repository, the computer of the developer.
- it is not centralized in an unique server, so everything published in github, it’s free, it’s belong to the community.

Git is a Distributed **Version Control System**

- content tracker
- it can be used to store content
- it is mostly used to store code
- it is designed to store code

Download Git

Downloads

Mac OS X

Windows

Linux/Unix

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

Create a Github Account

Join GitHub

Create your account

Username *

Email address *

Password *

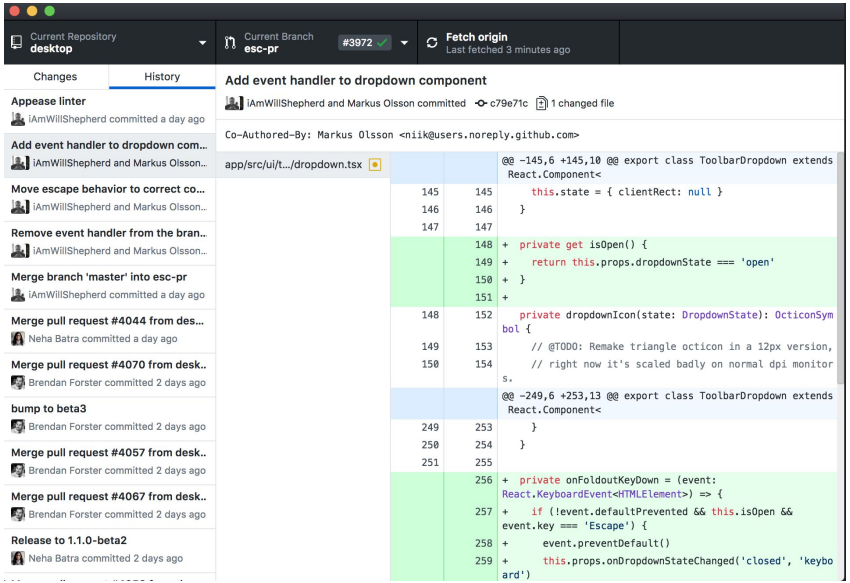
Make sure it's at least 15 characters OR at least 8 characters including a number and a lowercase letter. Learn more.

Email preferences

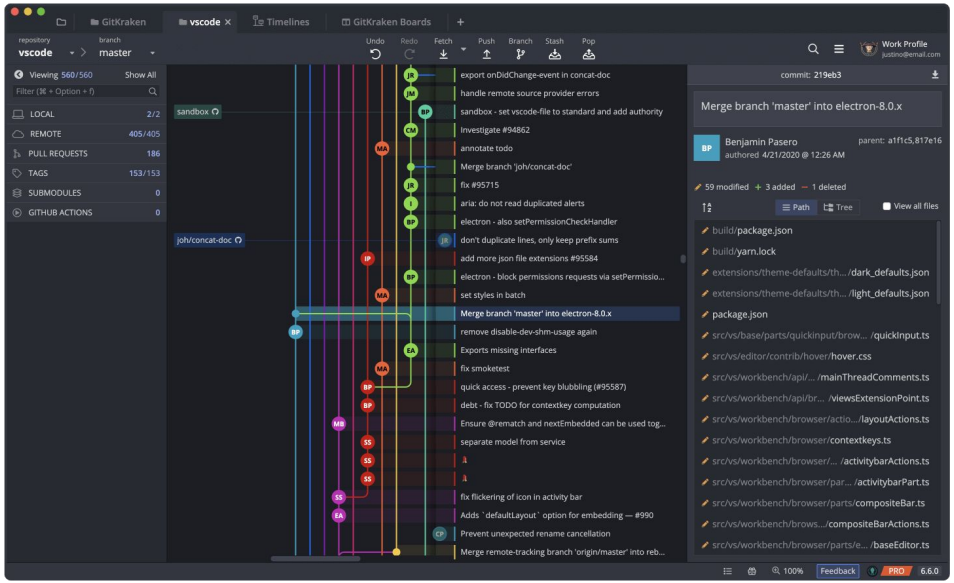
☐ Send me occasional product updates, announcements, and offers.

Install GithubDesktop or GitKraken

GithubDesktop



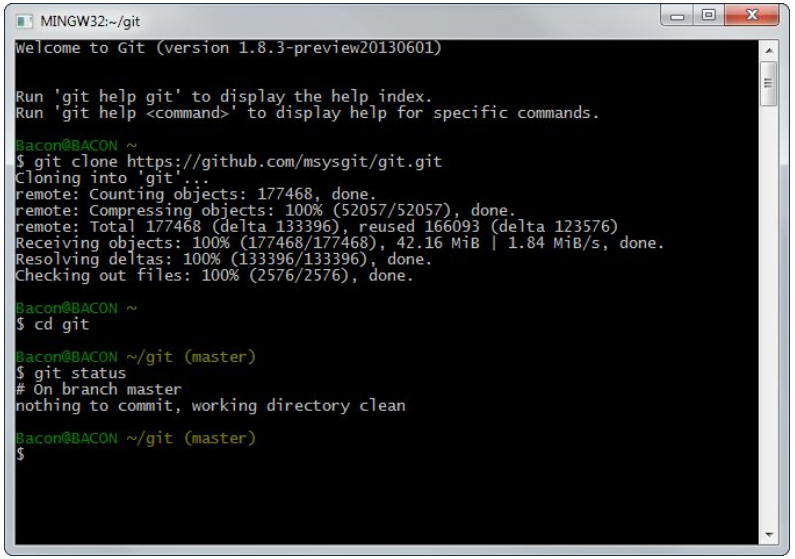
GitKraken

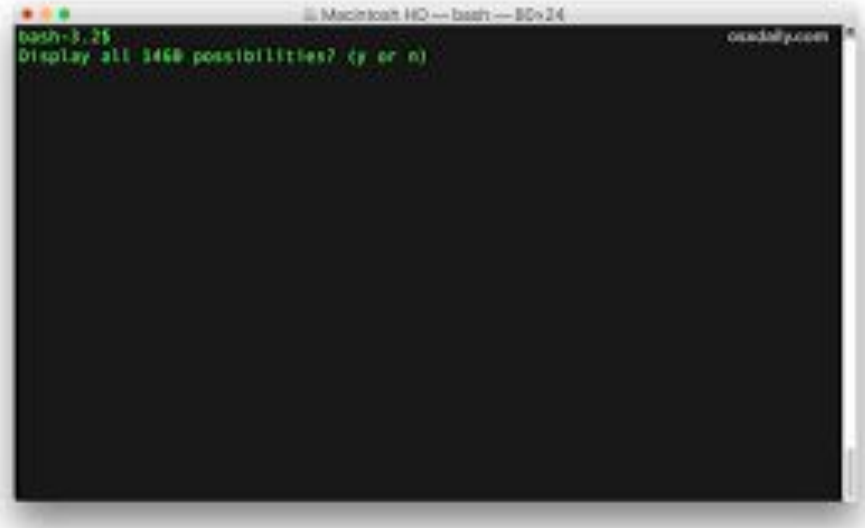


Open the terminal

Git Bash
(Windows)

terminal or iTerm
(Mac)





Check git version

```
git --version
git version 2.28.0
```

Create a local repository

```
cd where/you/want/to/create/a/repo
mkdir repo_name
cd repo_name
ls -la
git init
ls -la
```

Initialize git

```
cd where/you/want/to/create/a/repo
mkdir repo_name
cd repo_name
ls -la
.
..
git init
ls -la
.
..
.git
```

Check status

```
git status
On branch master
No commits yet
nothing to commit (create/copy files and
use "git add" to track)
```

Create a file (make a change)

```
touch new_code.py
```

Check status again

```
git status
On branch master
No commits yet
Untracked files:
  (use "git add <file>..." to include in
what will be committed)
   new_code.py
nothing added to commit but untracked files
present (use "git add" to track)
```

Add changes to staging area

```
git add new_code.py
```

Check status

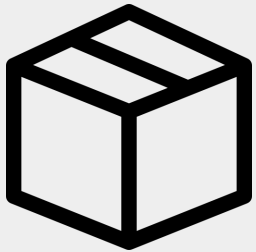
```
git add new_code.py
On branch master
No commits yet
Changes to be committed:
  (use "git rm --cached <file>..." to
unstage)
   new file:   new_code.py
```

Check status

```
git add new_code.py
On branch master
No commits yet
Changes to be committed:
  (use "git rm --cached <file>..." to
unstage)
   new file:   new_code.py
```

Check status

```
git add new_code.py
On branch master
No commits
Changes to
  (use "git
unstage)
   new file:
```



The staging area is there to keep track of all the files which are to be committed.Any file which is not added to the staging area will not be committed. This gives the developer control over which files need to be committed.

Committing

```
git commit -m “message”
[master (root-commit) 9d47752] message
 1 file changed, 0 insertions(+), 0
deletions(-)
 create mode 100644 new_code.py
```

Committing

```
git commit -m “message”
[master (root-commit) 9d47752] message
 1 file chan
deletions(-
 create mod
```

when we commit we are taking a snapshot of the code, we capture the state of a project at that point in time.

Check the log

```
git log
9d47752a506f80a630b4b601d3ffdc1c9707e888
(HEAD → master)
Author: FranDiego
<franciscojosediegoacosta@gmail.com>
Date:   Mon Jun 15 016:53:41 2020 +0200
```

Check the log

```
git log
9d47752a506f80a630b4b601d3ffdc1c9707e888
(HEAD → mas
Author: Fra
<franciscoj
Date:   Mon
:q
```

Check the log

```
git log
9d47752a506f80a630b4b601d3ffdc1c9707e888
(HEAD → mas
Author: Fra
<franciscoj
Date:   Mon
:q
```

Create a project

Create a new repository

A repository contains all project files, including the revision history. Already have a project repository elsewhere? Import a repository.

Owner * **Repository name** *

frandiego /

Great repository names are short and memorable. Need inspiration? How about **jubilant-spork**?

Description (optional)

Public
Anyone on the internet can see this repository. You choose who can commit.

Private
You choose who can see and commit to this repository.

Create a project

Quick setup — if you've done this kind of thing before

Set up in Desktop or HTTPS SSH `git@github.com:frandiego/test.git`

Get started by creating a new file or uploading an existing file. We recommend every repository include a README, LICENSE, and .gitignore.

...or create a new repository on the command line

```
echo "# test" >> README.md
git init
git add README.md
git commit -m "first commit"
git branch -M master
git remote add origin git@github.com:frandiego/test.git
git push -u origin master
```

...or push an existing repository from the command line

```
git remote add origin git@github.com:frandiego/test.git
git branch -M master
git push -u origin master
```

...or import code from another repository

You can initialize this repository with code from a Subversion, Mercurial, or TFS project.

Import code

Copy the git link

Add a remote

```
git remote add origin
git@github.com:frandiego/test.git
```

Push

```
git push origin master

Username for 'https://github.com':
Password
```

Check your repo

master | 1 branch | 0 tags | Go to file | Add file | Code

frandiego new code `d10fc4f` 3 minutes ago 1 commits

new_code.py new code 3 minutes ago

Help people interested in this repository understand your project by adding a README. Add a README

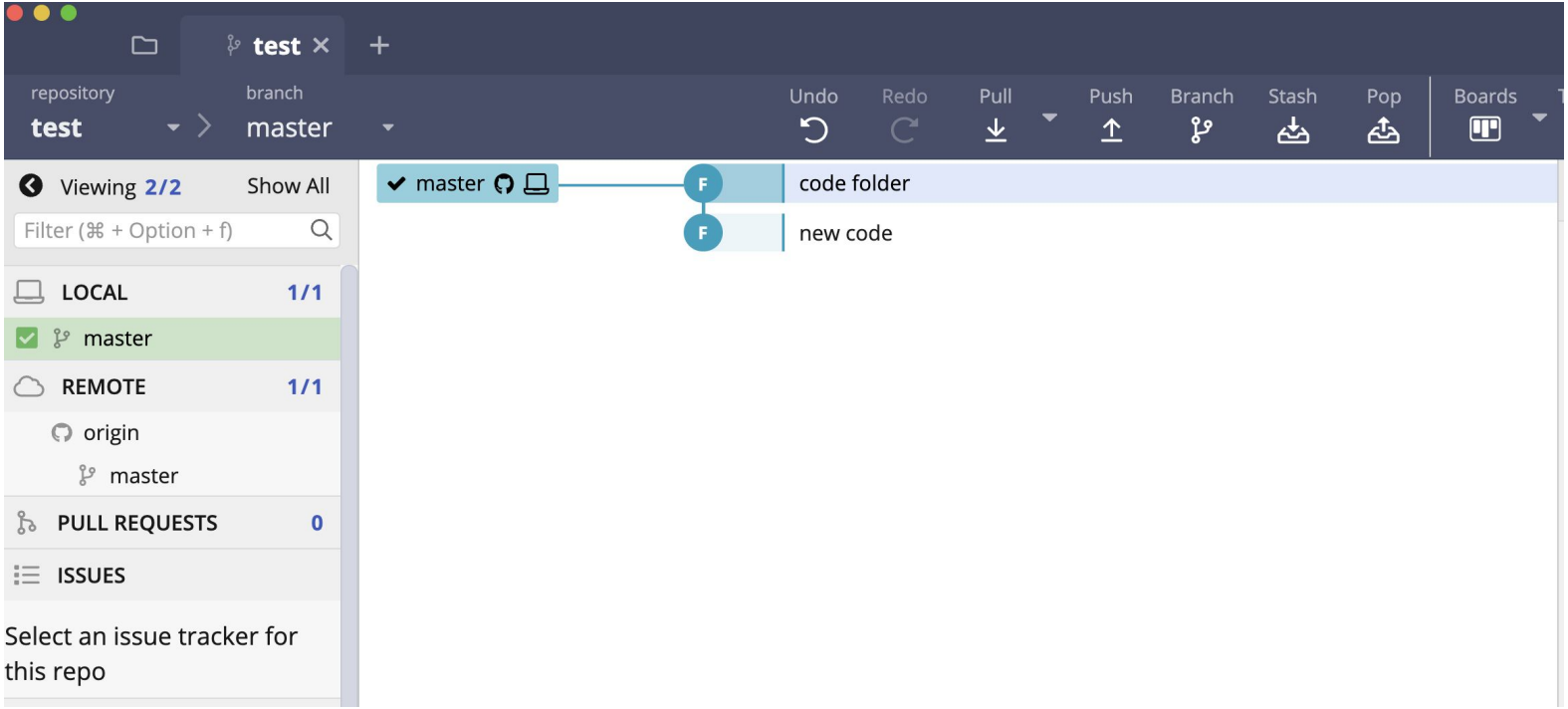
Exercise

1. Create a folder called code.
2. Move the code to this new folder
3. Add to staging area
4. Commit
5. Push

Hints

```
mkdir
mv
git add
git commit
git push
```

Open the project with a UI



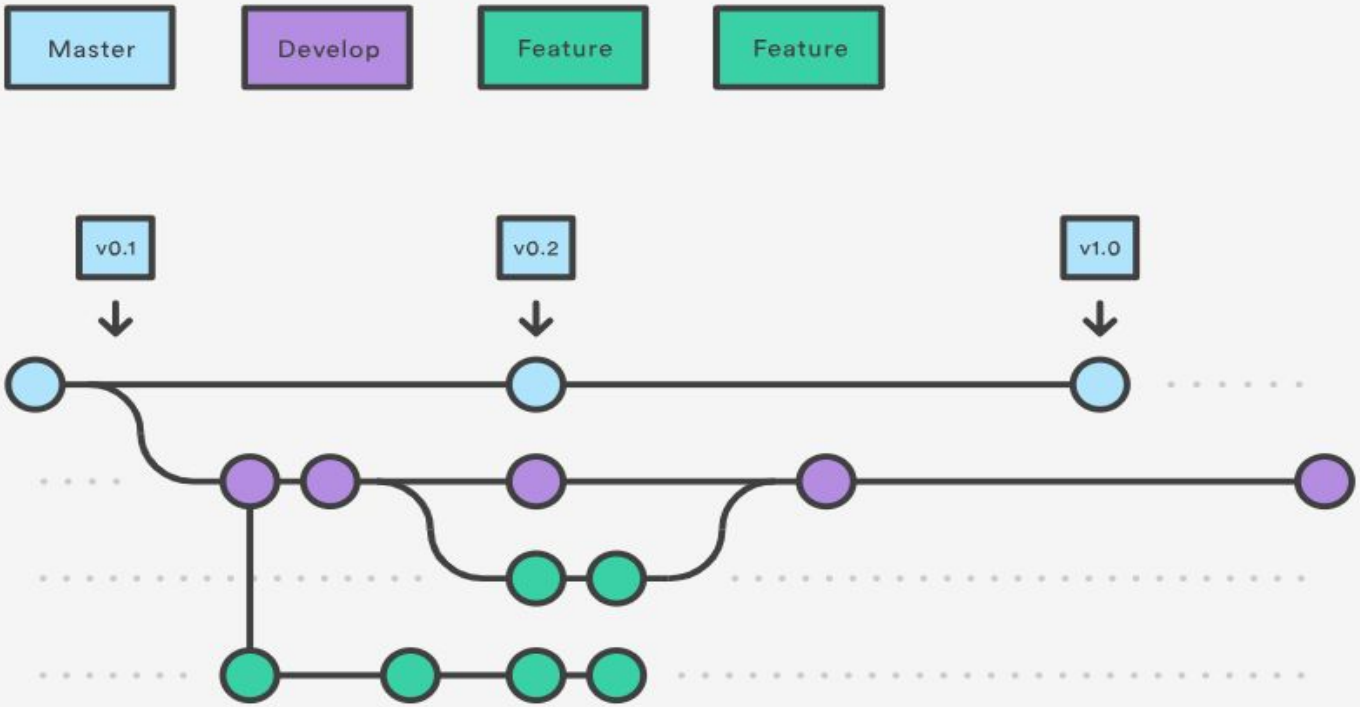
Exercise

1. Open code/new_code.py.
2. Write something

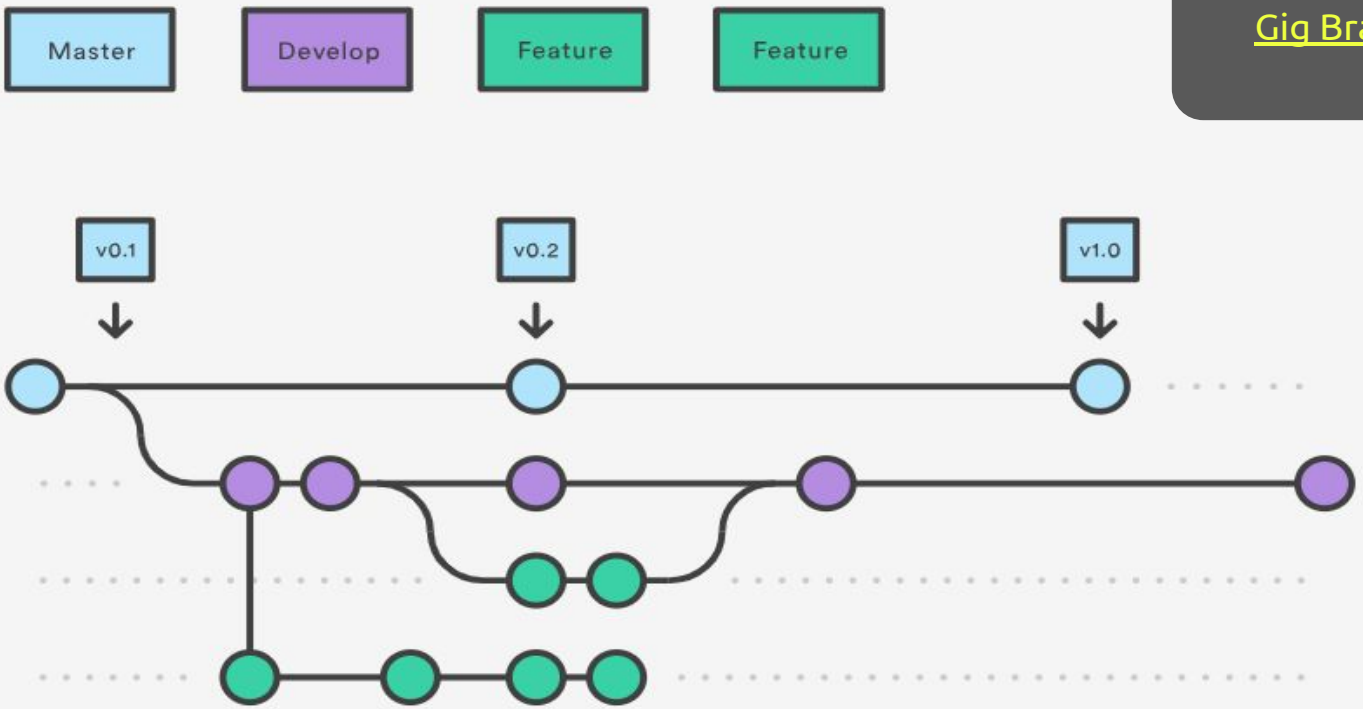
```
print("Hello git")
```

3. Add, Commit and Push using the UI

GIT FLOW



GIT FLOW



Gig Branching