Github and Versioning

Felipe Meneguzzi

Versioning Systems

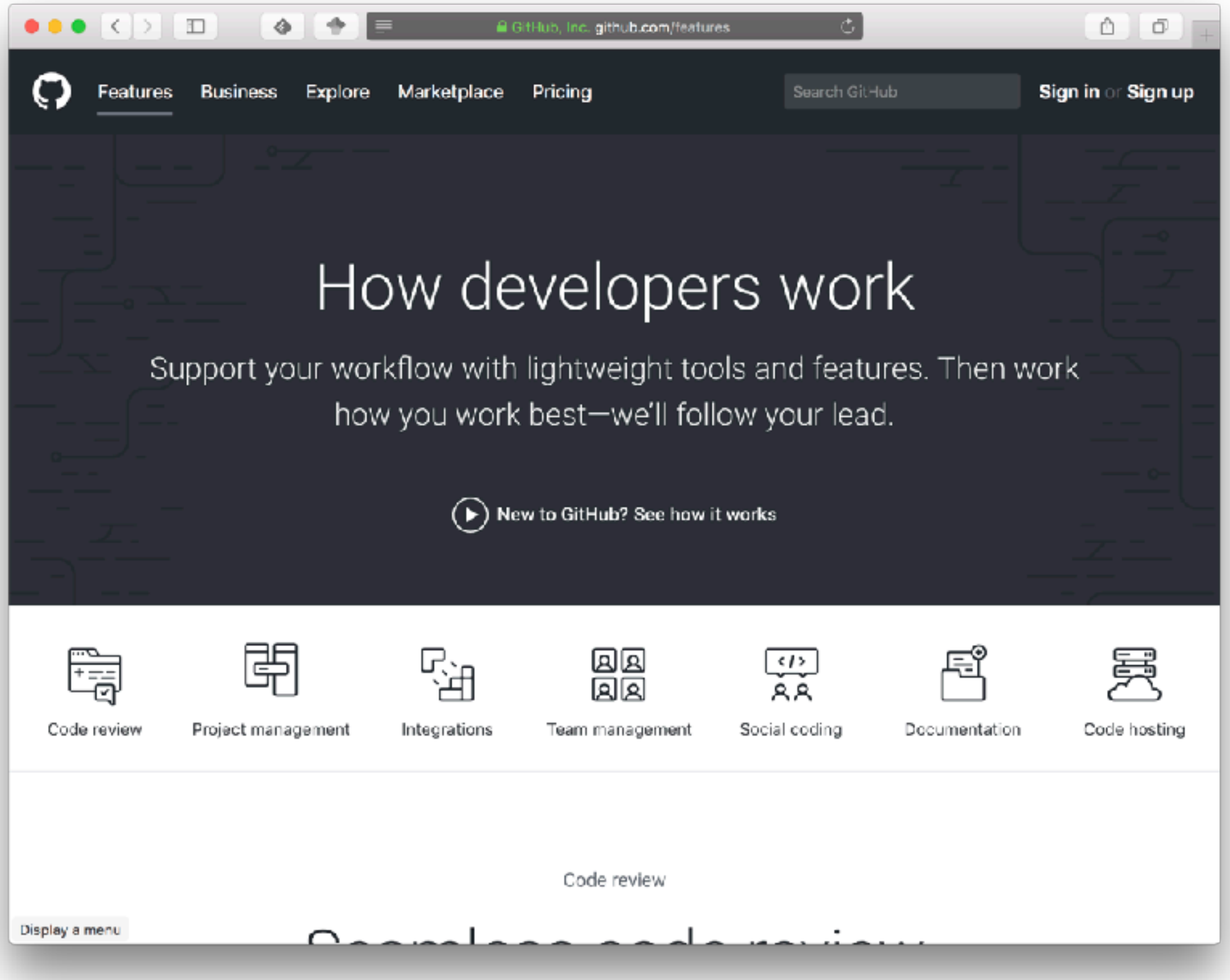
- Maintains **versions** of files through time (a.k.a. Version or Revision Control Systems)
- Repository:
  - Location in which metadata on the files and their versions
  - Subject to **check in** and **check out** operations
  - Prevents conflicting versions from being inadvertently checked in
- Allows one to reconstruct the state of an entire code base at specific points in time
  - E.g. to find out how a bug was introduced into the code

Git

- Distributed versioning system:
    - Versioning (as you now know)
    - Distributed: multiple copies of the files in various **clones** of a **repository**
- Distributed Repositories:
    - Allow versioning and development in parallel
    - Occasionally synchronised through **push** and **pull** operations
- Central (or master) repository stored in a server

Github (www.github.com)

- Online versioning system based on Git
- Interfaces for:
  - Git version control
  - Bug/feature/task tracking
  - Project Management
- Offers free academic licenses
- Various other useful features (automated websites, wikis, etc)

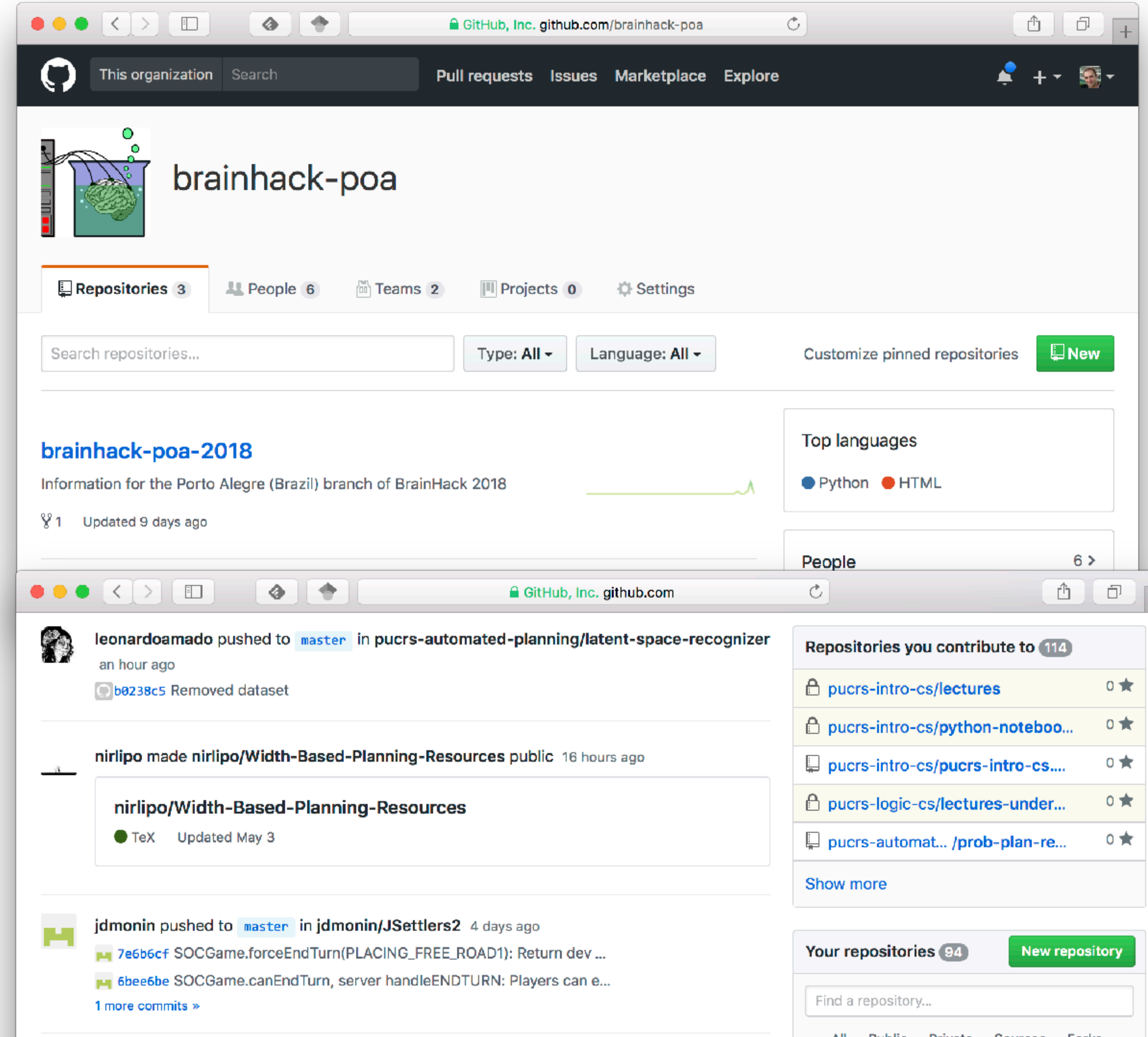


How developers work

Support your workflow with lightweight tools and features. Then work how you work best—we'll follow your lead.

Creating a Repository

- First, create the master endpoint



brainhack-poa-2018

Information for the Porto Alegre (Brazil) branch of BrainHack 2018

1 Updated 9 days ago

leonardoamado pushed to master in pucrs-automated-planning/latent-space-recognizer an hour ago

b0238c5 Removed dataset

nirlipo made nirlipo/Width-Based-Planning-Resources public 16 hours ago

nirlipo/Width-Based-Planning-Resources

TeX Updated May 3

jdmonin pushed to master in jdmonin/JSettlers2 4 days ago

7e6b6cf SOCGame.forceEndTurn(PLACING_FREE_ROAD1): Return dev ...

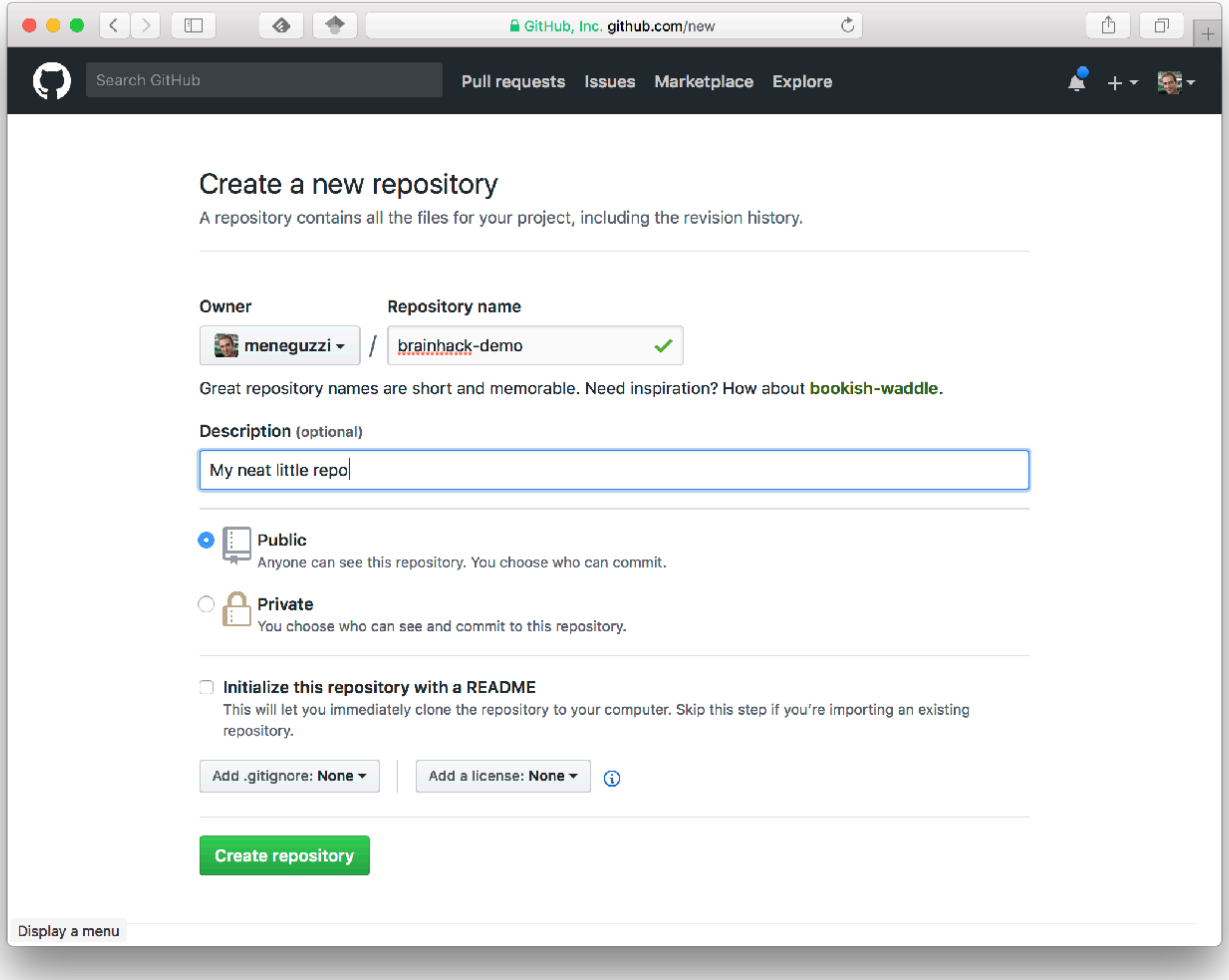
6bee6be SOCGame.canEndTurn, server handleENDTURN: Players can e...

1 more commits »

pucrs-intro-cs/lectures	0 ★
pucrs-intro-cs/python-noteboo...	0 ★
pucrs-intro-cs/pucrs-intro-cs....	0 ★
pucrs-logic-cs/lectures-under...	0 ★
pucrs-automat... /prob-plan-re...	0 ★

Creating a Repository

- First, create the master endpoint
- Then, fill in forms



Create a new repository

A repository contains all the files for your project, including the revision history.

Owner: meneguzzi / Repository name: brainhack-demo ✓

Great repository names are short and memorable. Need inspiration? How about **bookish-waddle**.

Description (optional): My neat little repo

● Public
Anyone can see this repository. You choose who can commit.

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

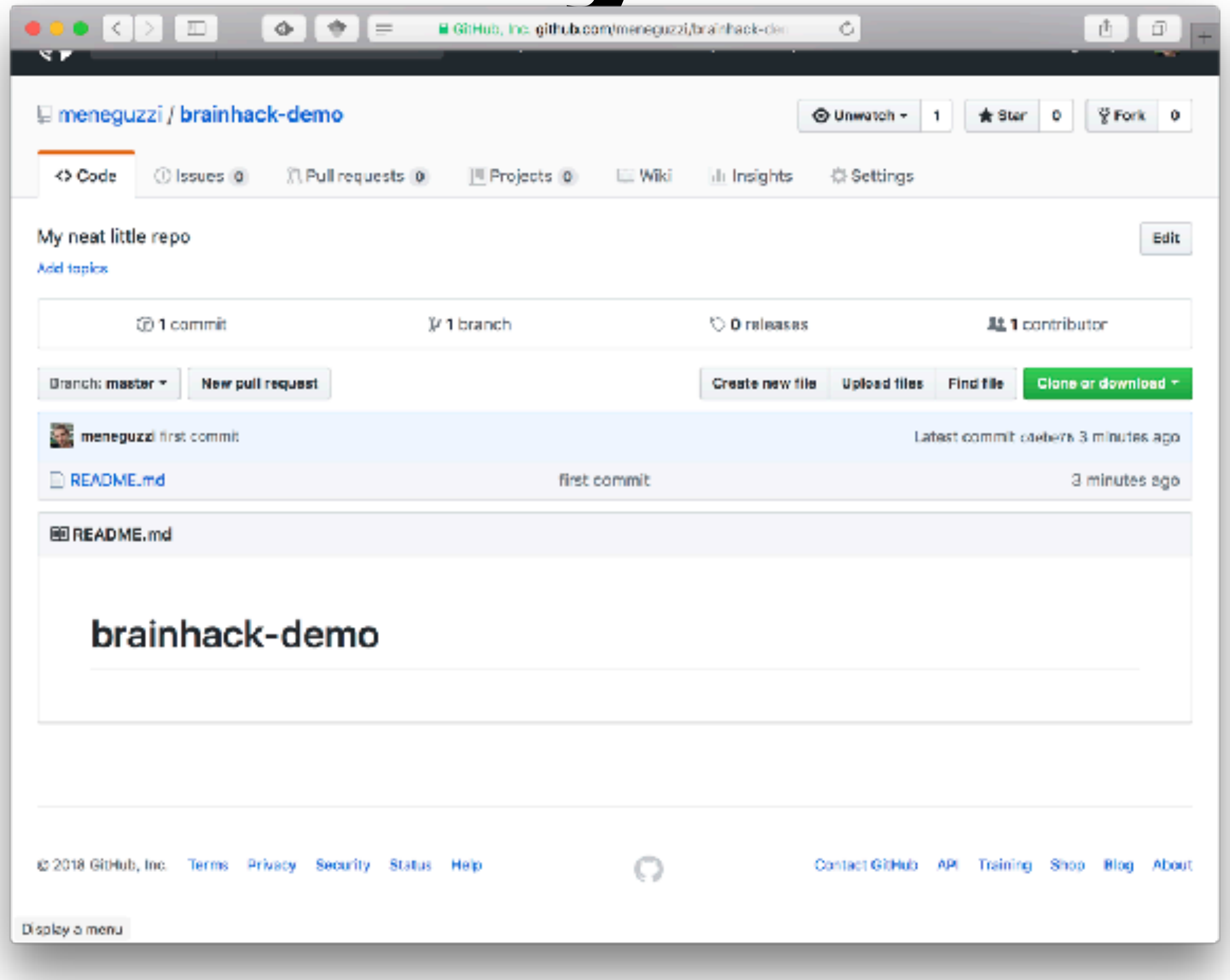
□ Initialize this repository with a README
This will let you immediately clone the repository to your computer. Skip this step if you're importing an existing repository.

Add .gitignore: None

Add a license: None

Populating the Repository

- Creating a local repository (init)
- Adding a file to it (add, commit)
- Connecting the local repo to the server
- Synchronising local repo (master) with server (origin)



meneguzzi / brainhack-demo

My neat little repo

1 commit · 1 branch · 0 releases · 1 contributor

Branch: master

meneguzzi first commit · Latest commit 3 minutes ago

README.md · first commit · 3 minutes ago

README.md

brainhack-demo

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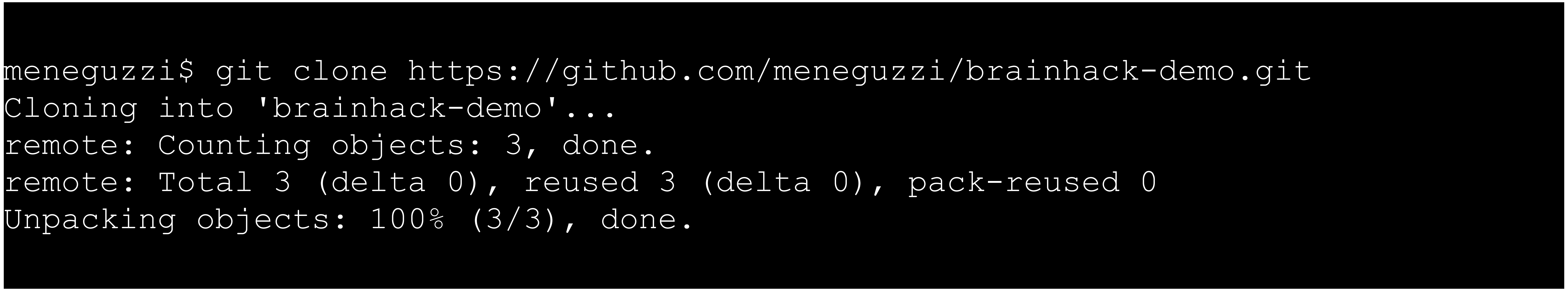
```
echo "# brainhack-demo" >> README.md
git init
git add README.md
git commit -m "first commit"
git remote add origin https://github.com/meneguzzi/brainhack-demo.git
git push -u origin master
```

Cloning a repository

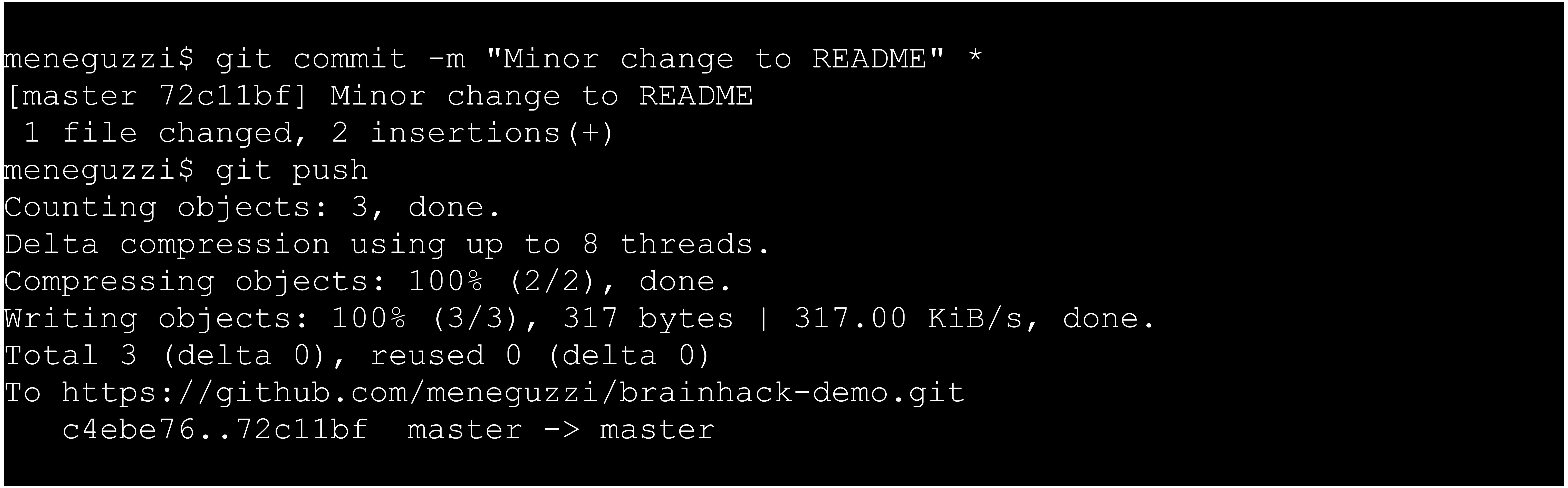
- Copies the entire repository into your computer (this may be large)
  - Alternatively, you can "git clone --depth=1"
- To recap
  - **origin** is the default name of the main branch that lives in the server
  - **master** is the default name of the branch that lives in your computer



```
meneguzzi$ git clone https://github.com/meneguzzi/brainhack-demo.git
Cloning into 'brainhack-demo'...
remote: Counting objects: 3, done.
remote: Total 3 (delta 0), reused 3 (delta 0), pack-reused 0
Unpacking objects: 100% (3/3), done.
```

Committing and Pushing

- git commit -> updates the file in the master repo (your copy)
- git push -> synchronises your master with origin (in the server)

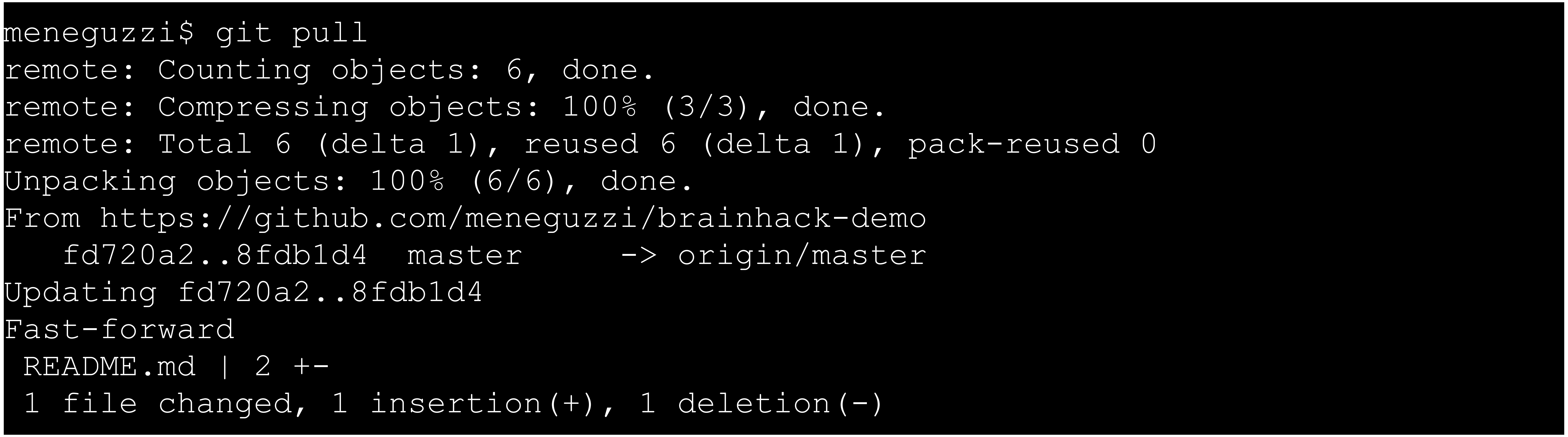


```
meneguzzi$ git commit -m "Minor change to README" *
[master 72c11bf] Minor change to README
 1 file changed, 2 insertions(+)
meneguzzi$ git push
Counting objects: 3, done.
Delta compression using up to 8 threads.
Compressing objects: 100% (2/2), done.
Writing objects: 100% (3/3), 317 bytes | 317.00 KiB/s, done.
Total 3 (delta 0), reused 0 (delta 0)
To https://github.com/meneguzzi/brainhack-demo.git
   c4ebe76..72c11bf  master -> master
```

Pulling Content

- git pull synchronises your master (local clone) with changes in the origin (in the server)

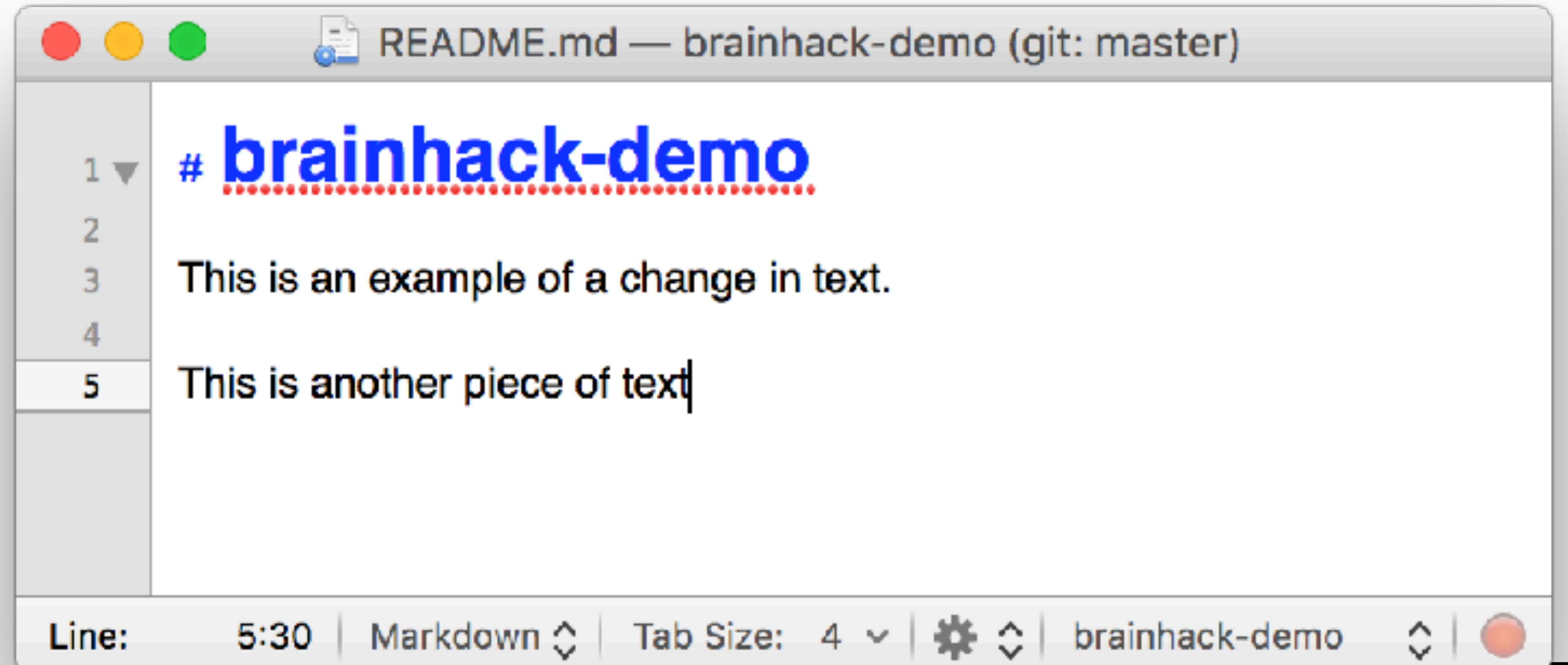
- If there are concurrent changes, there may be conflicts



```
meneguzzi$ git pull
remote: Counting objects: 6, done.
remote: Compressing objects: 100% (3/3), done.
remote: Total 6 (delta 1), reused 6 (delta 1), pack-reused 0
Unpacking objects: 100% (6/6), done.
From https://github.com/meneguzzi/brainhack-demo
   fd720a2..8fdb1d4  master     -> origin/master
Updating fd720a2..8fdb1d4
Fast-forward
 README.md | 2 +-
 1 file changed, 1 insertion(+), 1 deletion(-)
```

Conflicts

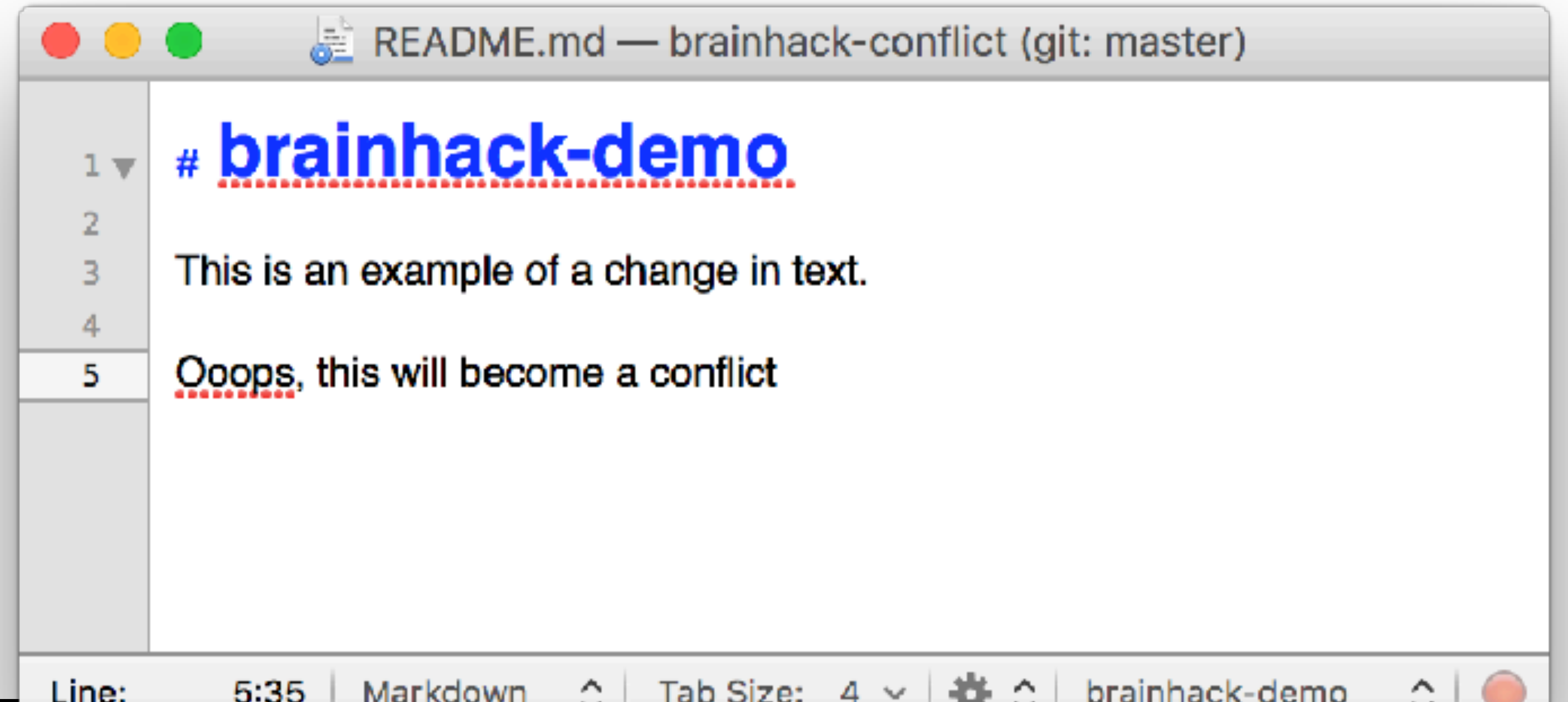
- When two local copies of a repository have concurrent edits, there will be a conflict



README.md — brainhack-demo (git: master)

```
# brainhack-demo

This is an example of a change in text.

This is another piece of text
```

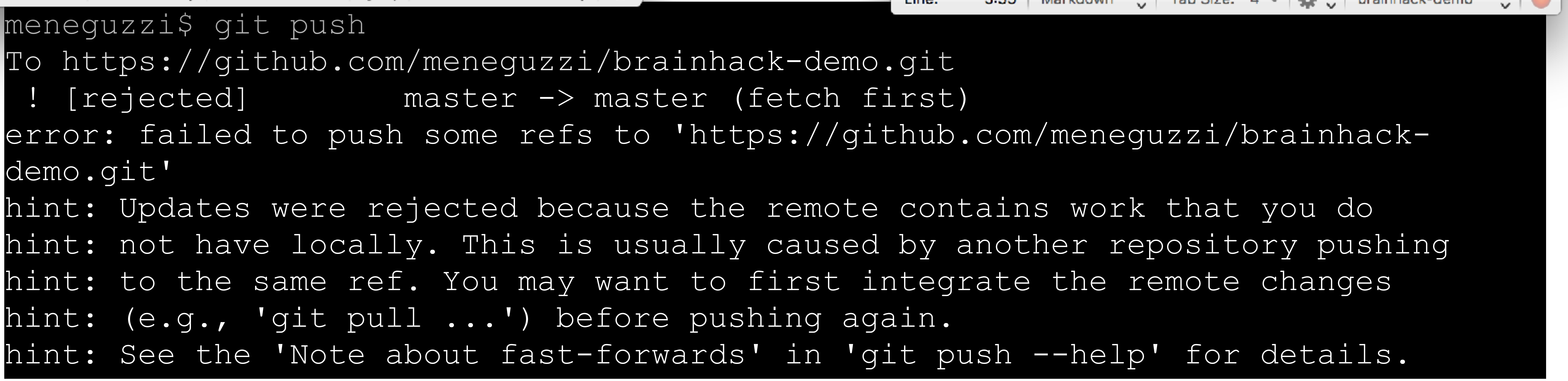
Line: 5:30 Markdown Tab Size: 4 brainhack-demo



README.md — brainhack-conflict (git: master)

```
# brainhack-demo

This is an example of a change in text.

Ooops, this will become a conflict
```

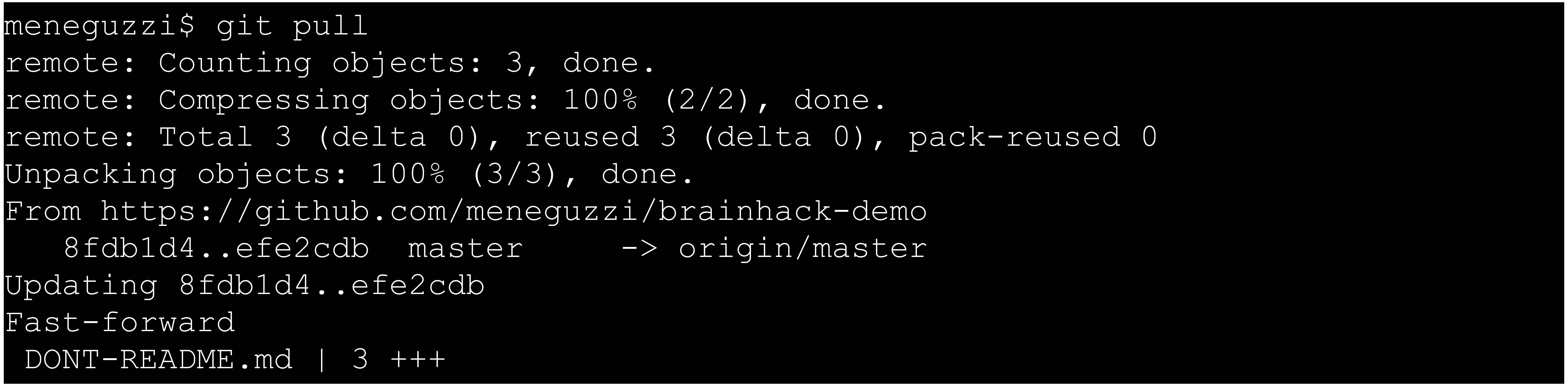
Line: 5:35 Markdown Tab Size: 4 brainhack-demo



```
meneguzzi$ git push
To https://github.com/meneguzzi/brainhack-demo.git
 ! [rejected]        master -> master (fetch first)
error: failed to push some refs to 'https://github.com/meneguzzi/brainhack-
demo.git'
hint: Updates were rejected because the remote contains work that you do
hint: not have locally. This is usually caused by another repository pushing
hint: to the same ref. You may want to first integrate the remote changes
hint: (e.g., 'git pull ...') before pushing again.
hint: See the 'Note about fast-forwards' in 'git push --help' for details.
```

Dealing with Conflicts

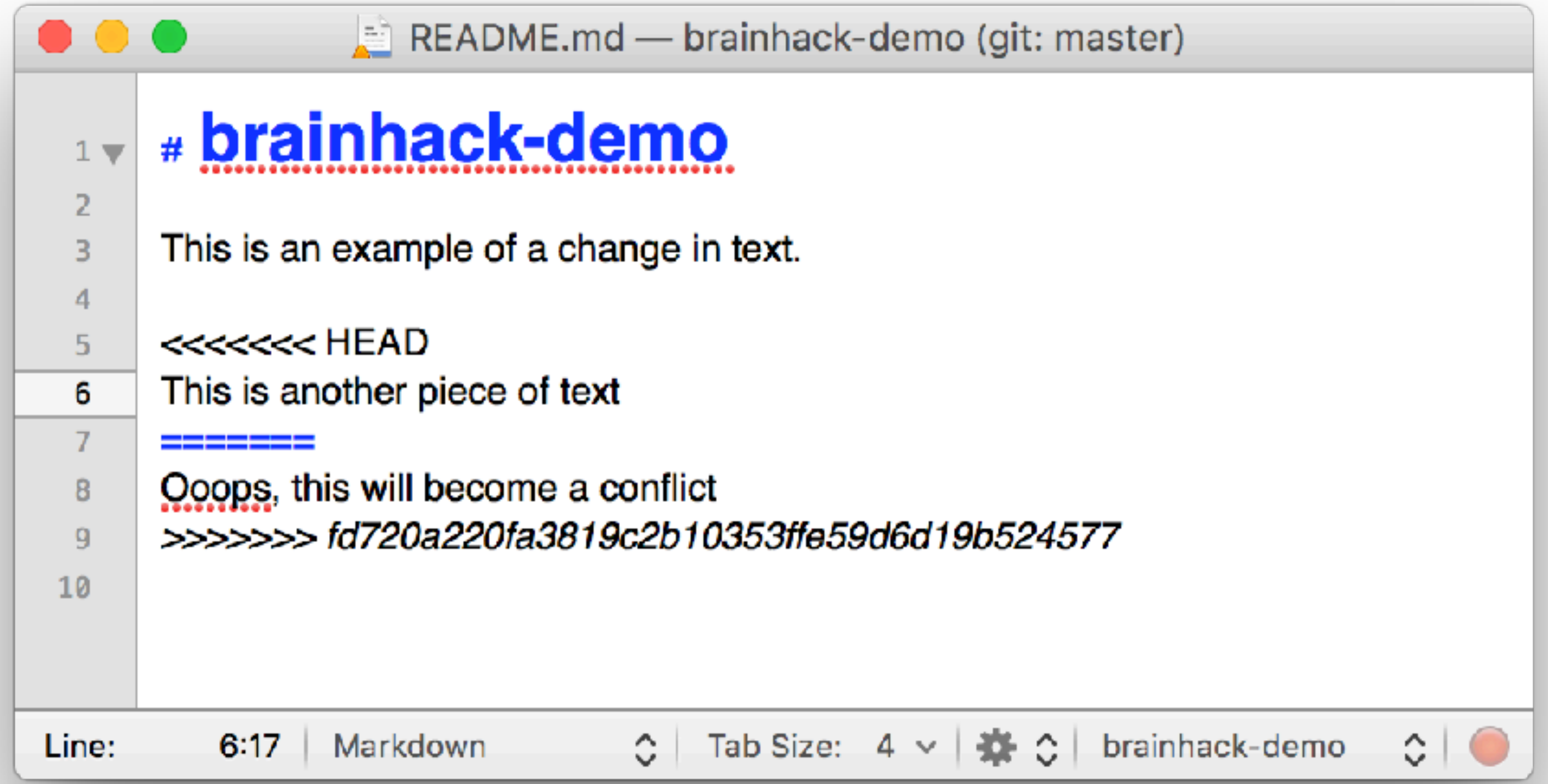
- Two possibilities:
  - There is no individual file conflicts, or git can figure out how to merge
    - Great! Fast forward
  - Conflicting edits to similar regions of the same file
    - You need to manually merge content



```
meneguzzi$ git pull
remote: Counting objects: 3, done.
remote: Compressing objects: 100% (2/2), done.
remote: Total 3 (delta 0), reused 3 (delta 0), pack-reused 0
Unpacking objects: 100% (3/3), done.
From https://github.com/meneguzzi/brainhack-demo
   8fdb1d4..efe2cdb  master     -> origin/master
Updating 8fdb1d4..efe2cdb
Fast-forward
 DONT-README.md | 3 +++
```

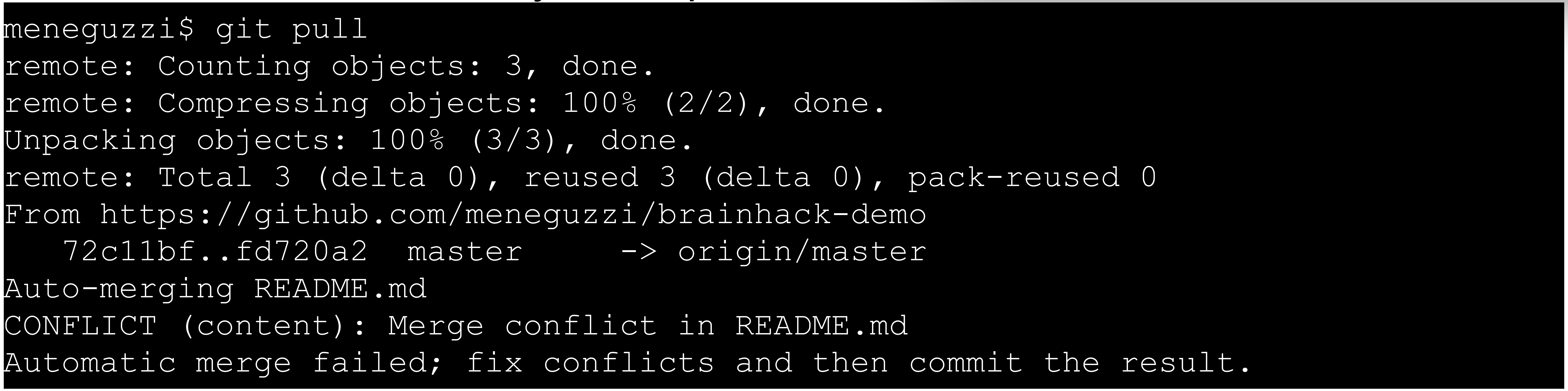
Merging conflicts manually

- File will be annotated with diff-like comments
  - <<< HEAD means your content
  - ==== to >>> is the remote content
- You choose which ones you keep



```
# brainhack-demo

This is an example of a change in text.

<<<<<<< HEAD
This is another piece of text
=======
Ooops, this will become a conflict
>>>>>>> fd720a220fa3819c2b10353ffe59d6d19b524577
```

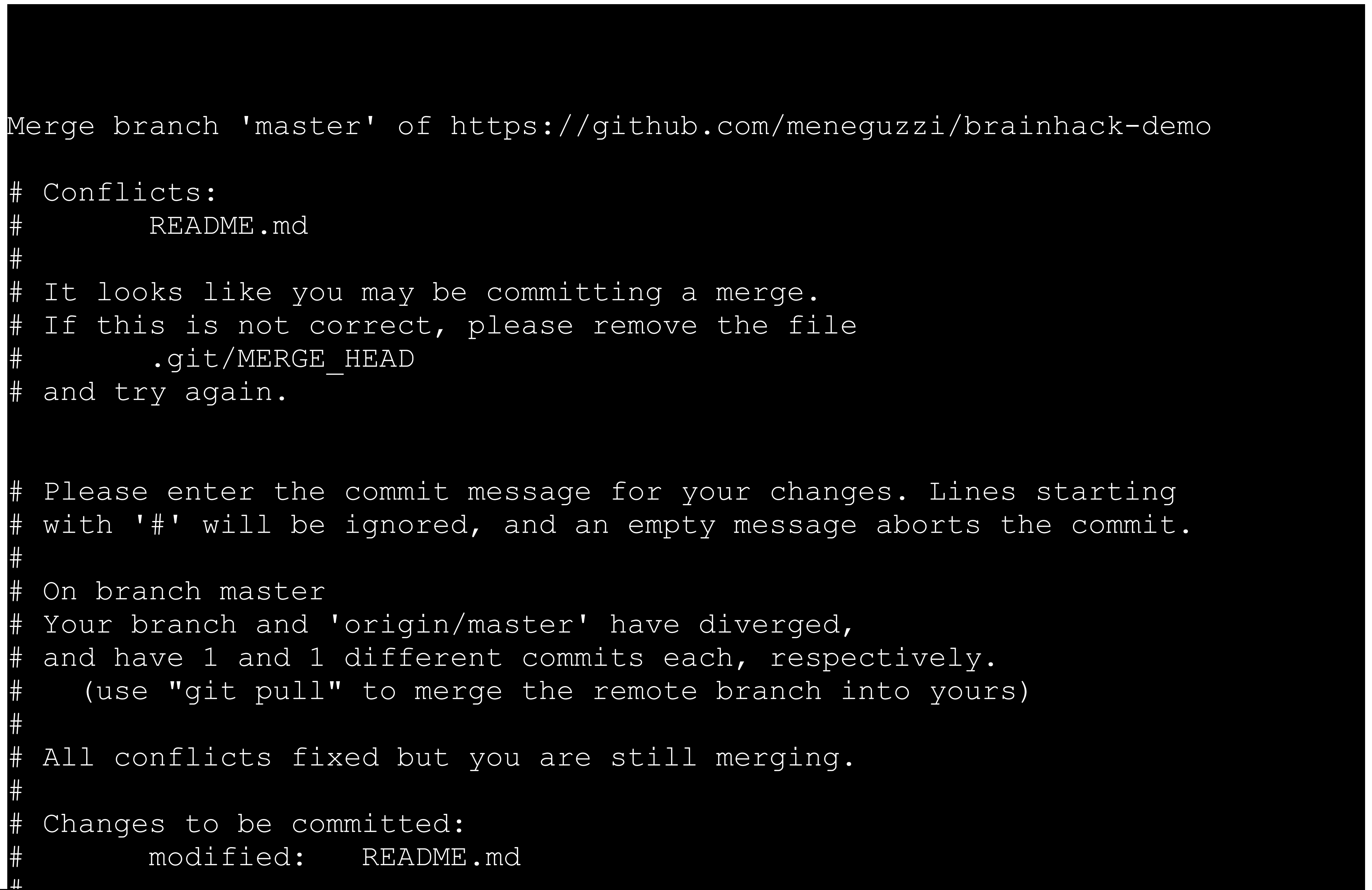
Line: 6:17 | Markdown | Tab Size: 4 | brainhack-demo



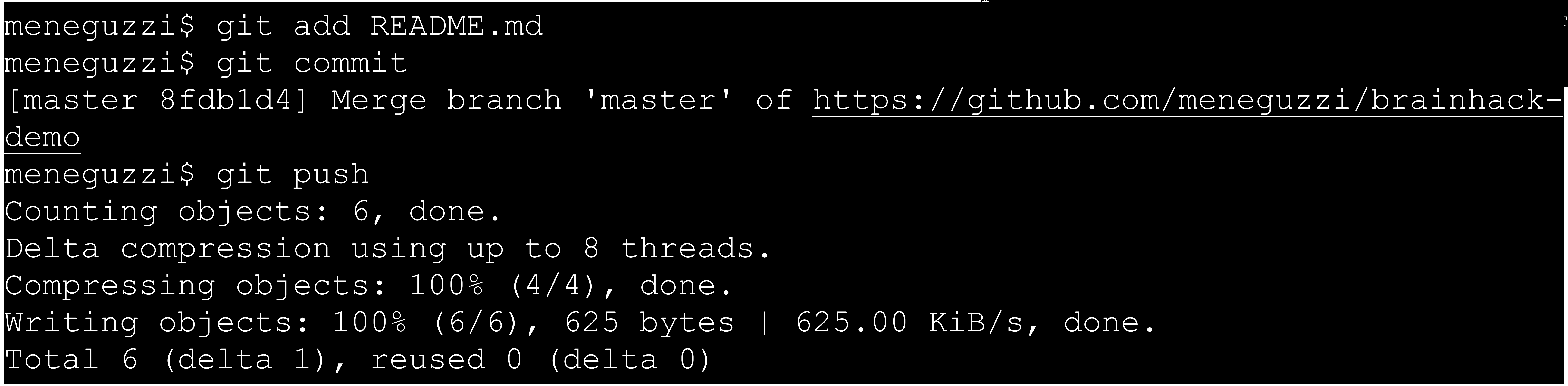
```
meneguzzi$ git pull
remote: Counting objects: 3, done.
remote: Compressing objects: 100% (2/2), done.
Unpacking objects: 100% (3/3), done.
remote: Total 3 (delta 0), reused 3 (delta 0), pack-reused 0
From https://github.com/meneguzzi/brainhack-demo
   72c11bf..fd720a2  master     -> origin/master
Auto-merging README.md
CONFLICT (content): Merge conflict in README.md
Automatic merge failed; fix conflicts and then commit the result.
```

Committing Merges

- Once you are done editing the files
    - git add -> marks as merged
    - git commit -> will get you this interface ->
    - git push -> all is good

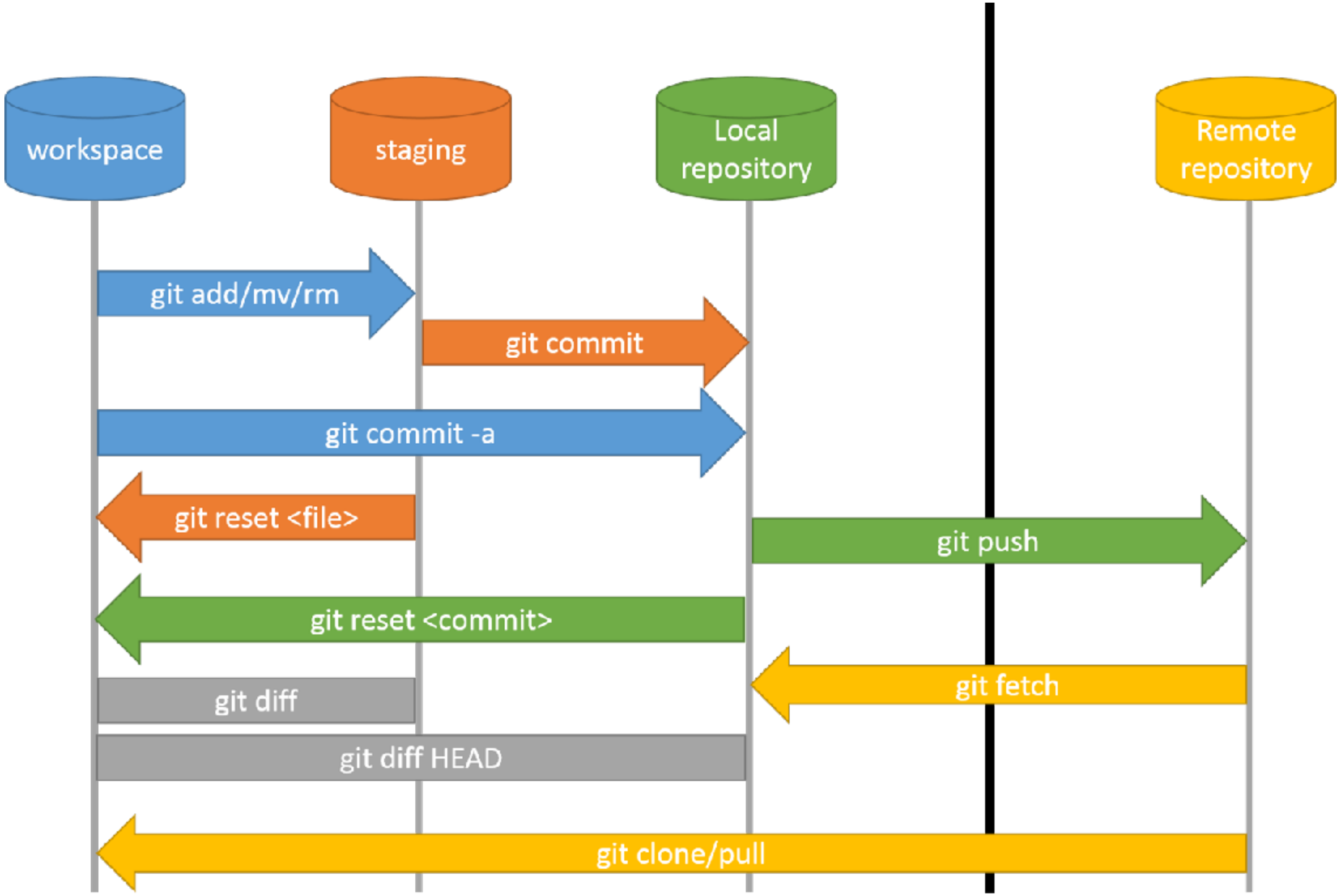


```
Merge branch 'master' of https://github.com/meneguzzi/brainhack-demo

# Conflicts:
#       README.md
#
# It looks like you may be committing a merge.
# If this is not correct, please remove the file
#       .git/MERGE_HEAD
# and try again.


# Please enter the commit message for your changes. Lines starting
# with '#' will be ignored, and an empty message aborts the commit.
#
# On branch master
# Your branch and 'origin/master' have diverged,
# and have 1 and 1 different commits each, respectively.
#   (use "git pull" to merge the remote branch into yours)
#
# All conflicts fixed but you are still merging.
#
# Changes to be committed:
#       modified:   README.md
#
MSG" 24L, 657C
```



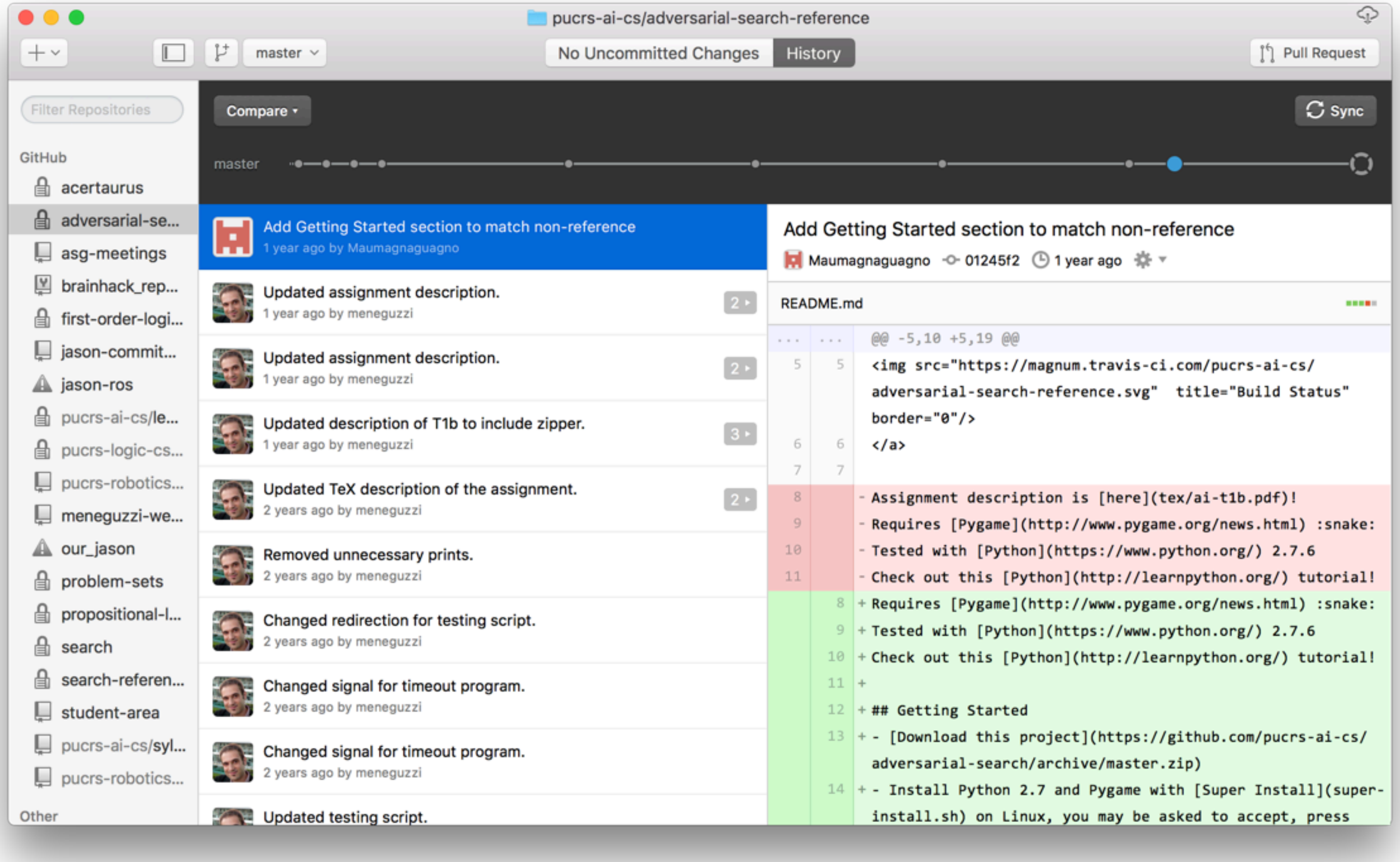
```
meneguzzi$ git add README.md
meneguzzi$ git commit
[master 8fdb1d4] Merge branch 'master' of https://github.com/meneguzzi/brainhack-demo
meneguzzi$ git push
Counting objects: 6, done.
Delta compression using up to 8 threads.
Compressing objects: 100% (4/4), done.
Writing objects: 100% (6/6), 625 bytes | 625.00 KiB/s, done.
Total 6 (delta 1), reused 0 (delta 0)
```

In a nutshell



Git tools

- Github Desktop



Add Getting Started section to match non-reference
1 year ago by Maumagnaguagno

Updated assignment description.
1 year ago by meneguzzi
2

Updated assignment description.
1 year ago by meneguzzi
2

Updated description of T1b to include zipper.
1 year ago by meneguzzi
3

Updated TeX description of the assignment.
2 years ago by meneguzzi
2

Removed unnecessary prints.
2 years ago by meneguzzi

Changed redirection for testing script.
2 years ago by meneguzzi

Changed signal for timeout program.
2 years ago by meneguzzi

Changed signal for timeout program.
2 years ago by meneguzzi

Updated testing script.

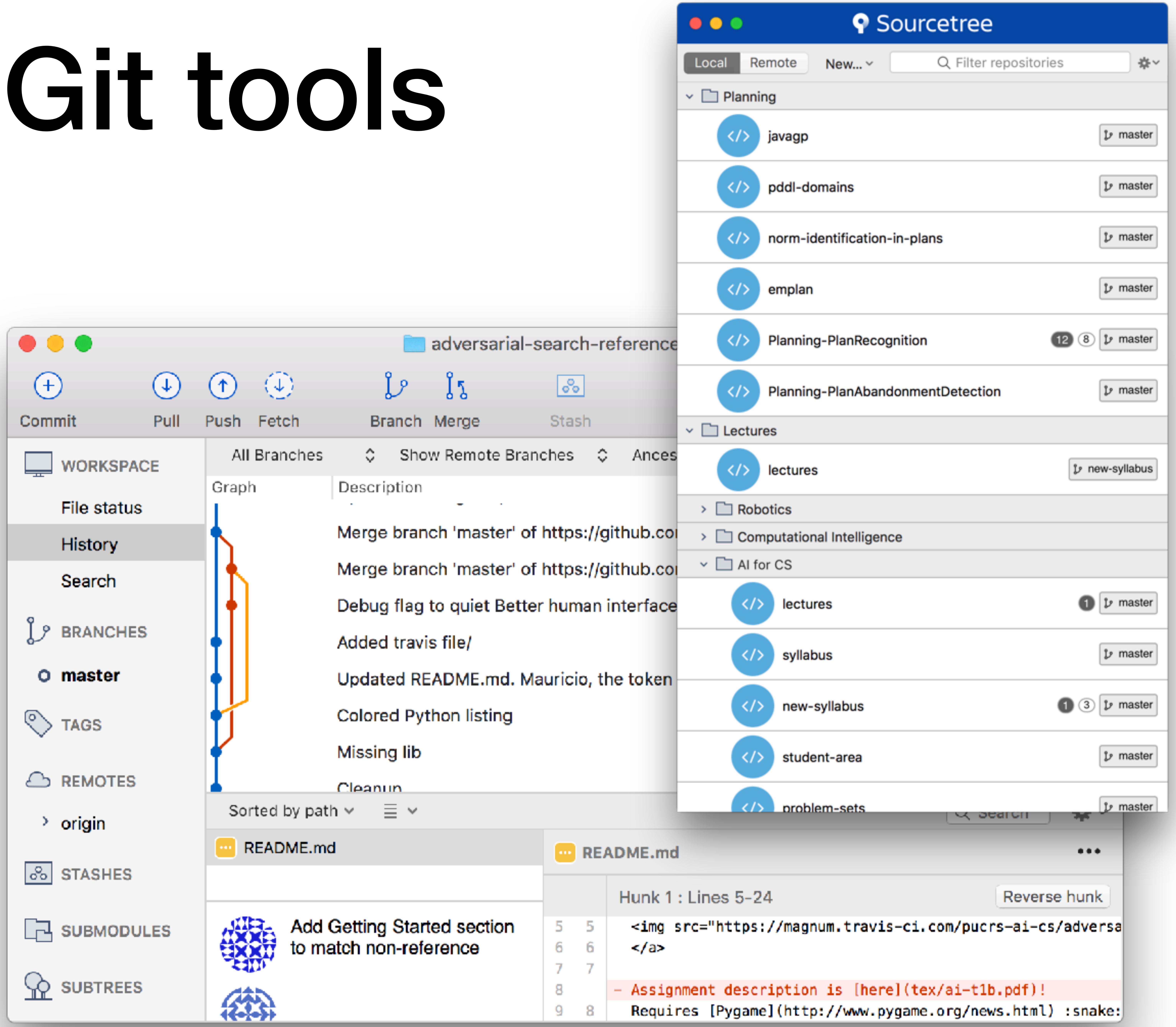
Add Getting Started section to match non-reference
Maumagnaguagno 01245f2 1 year ago

README.md

```
@@ -5,10 +5,19 @@
 <img src="https://magnum.travis-ci.com/pucrs-ai-cs/
 adversarial-search-reference.svg"  title="Build Status"
 border="0"/>
 </a>

-Assignment description is [here](tex/ai-t1b.pdf)!
-Requires [Pygame](http://www.pygame.org/news.html) :snake:
-Tested with [Python](https://www.python.org/) 2.7.6
-Check out this [Python](http://learnpython.org/) tutorial!
+Requires [Pygame](http://www.pygame.org/news.html) :snake:
+Tested with [Python](https://www.python.org/) 2.7.6
+Check out this [Python](http://learnpython.org/) tutorial!
+
+## Getting Started
+- [Download this project](https://github.com/pucrs-ai-cs/
adversarial-search/archive/master.zip)
+- Install Python 2.7 and Pygame with [Super Install](super-
install.sh) on Linux, you may be asked to accept, press
```

Git tools

- SourceTree



Merge branch 'master' of https://github.co

Merge branch 'master' of https://github.co

Debug flag to quiet Better human interface

Added travis file/

Updated README.md. Mauricio, the token

Colored Python listing

Missing lib

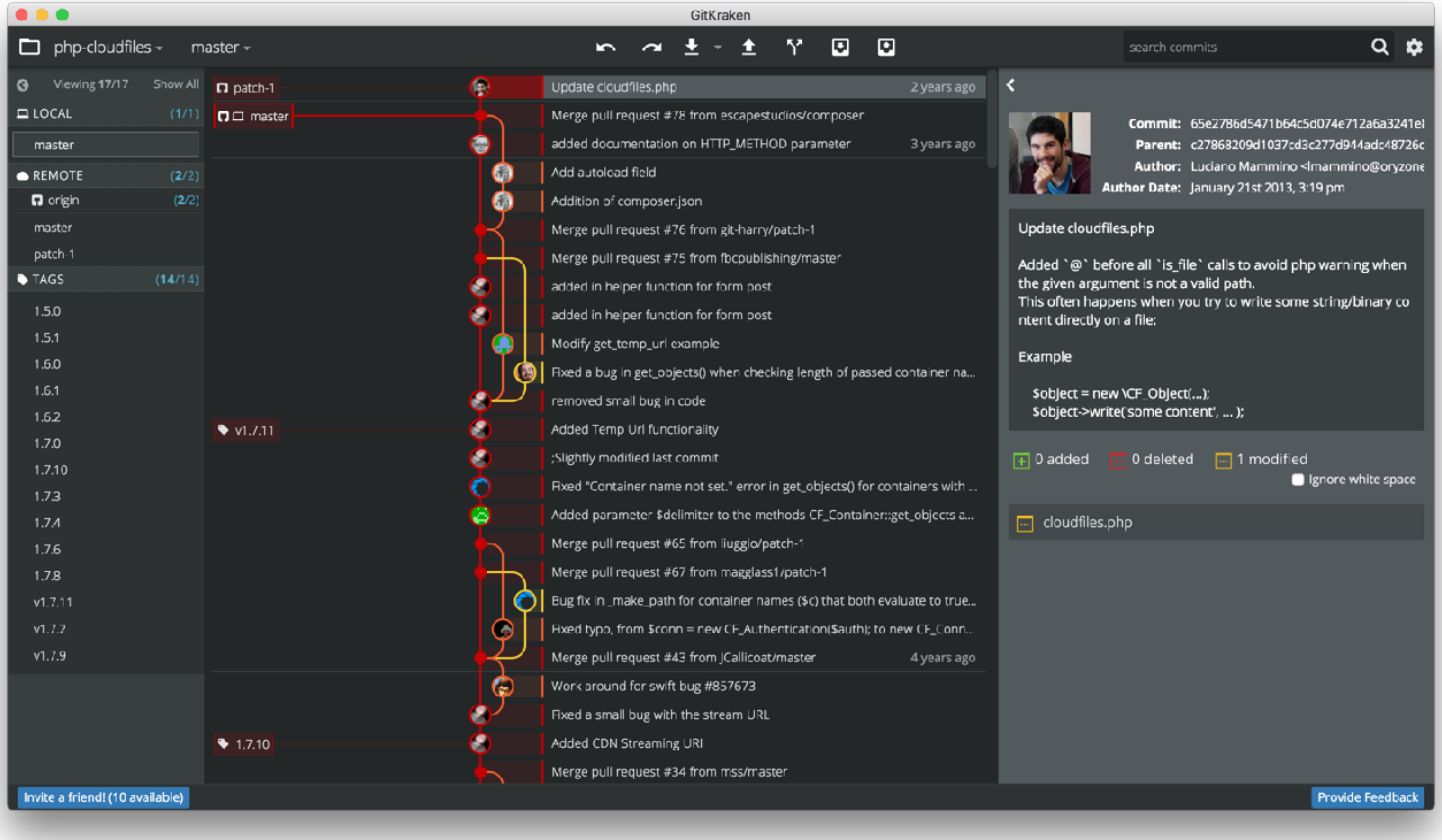
Cleanup

Add Getting Started section to match non-reference

```
5 5   <img src="https://magnum.travis-ci.com/pucrs-ai-cs/adversa
6 6   </a>
7 7
8   - Assignment description is [here](tex/ai-t1b.pdf)!
9 8   Requires [Pygame](http://www.pygame.org/news.html) :snake:
```

Git tools

- Git Kracken



```
Update cloudfiles.php                                                        2 years ago
Merge pull request #78 from escapestudios/composer
added documentation on HTTP_METHOD parameter                                 3 years ago
Add autoload field
Addition of composer.json
Merge pull request #76 from git-harry/patch-1
Merge pull request #75 from fbcpublishing/master
added in helper function for form post
added in helper function for form post
Modify get_temp_url example
Fixed a bug in get_objects() when checking length of passed container na...
removed small bug in code
Added Temp Url functionality
;Slightly modified last commit
Fixed "Container name not set." error in get_objects() for containers with ...
Added parameter $delimiter to the methods CF_Container::get_objects a...
Merge pull request #65 from liuggio/patch-1
Merge pull request #67 from magglass1/patch-1
Bug fix in _make_path for container names ($c) that both evaluate to true...
Fixed typo, from $conn = new CF_Authentication($auth); to new CF_Conn...
Merge pull request #43 from JCallicoat/master                                4 years ago
Work around for swift bug #857673
Fixed a small bug with the stream URL
Added CDN Streaming URI
Merge pull request #34 from mss/master
```

Commit: 65e2786d5471b64c5d074e712a6a3241e

Parent: c27863209d1037cd3c277d944adc48726c

Author: Luciano Mammino <lmammino@oryzone

Author Date: January 21st 2013, 3:19 pm

Update cloudfiles.php

Added `@` before all `is_file` calls to avoid php warning when the given argument is not a valid path.
This often happens when you try to write some string/binary co ntent directly on a file:

Example

```
$object = new \CF_Object(...);
$object->write('some content', ... );
```

0 added 0 deleted 1 modified

□ Ignore white space

cloudfiles.php

Demo