Become an Open Source Contributor

Jaime Fernández

introductions

- who am i?
  - ME turned SE (never too late!), ~9 years of Python experience
  - NumPy core developer for last 2 years
- who are you? (ideally)
  - not new to Python, not new to NumPy (or your library of choice)
  - not new to Git, not new to GitHub

the moore-sloan 37.8 million grant

UNIVERSITY of WASHINGTON
eScience Institute
ADVANCING DATA-INTENSIVE DISCOVERY IN ALL FIELDS

http://escience.washington.edu/

NYU | Center for Data Science

http://cds.nyu.edu/

BERKELEY
Institute for Data Science

http://bids.berkeley.edu/

the python scientific stack

python™

https://hg.python.org/cpython/

NumPy

https://github.com/numpy/numpy

pandas

https://github.com/pydata/pandas

matplotlib

https://github.com/matplotlib/matplotlib

SciPy

https://github.com/scipy/scipy

IP[y]:
IPython

https://github.com/ipython/ipython

SM StatsModels
Statistics in Python

https://github.com/statsmodels/statsmodels

Cython

https://github.com/cython/cython

jupyter

https://github.com/jupyter

scikit learn

https://github.com/scikit-learn/scikit-learn

…and many more!

interacting with the community

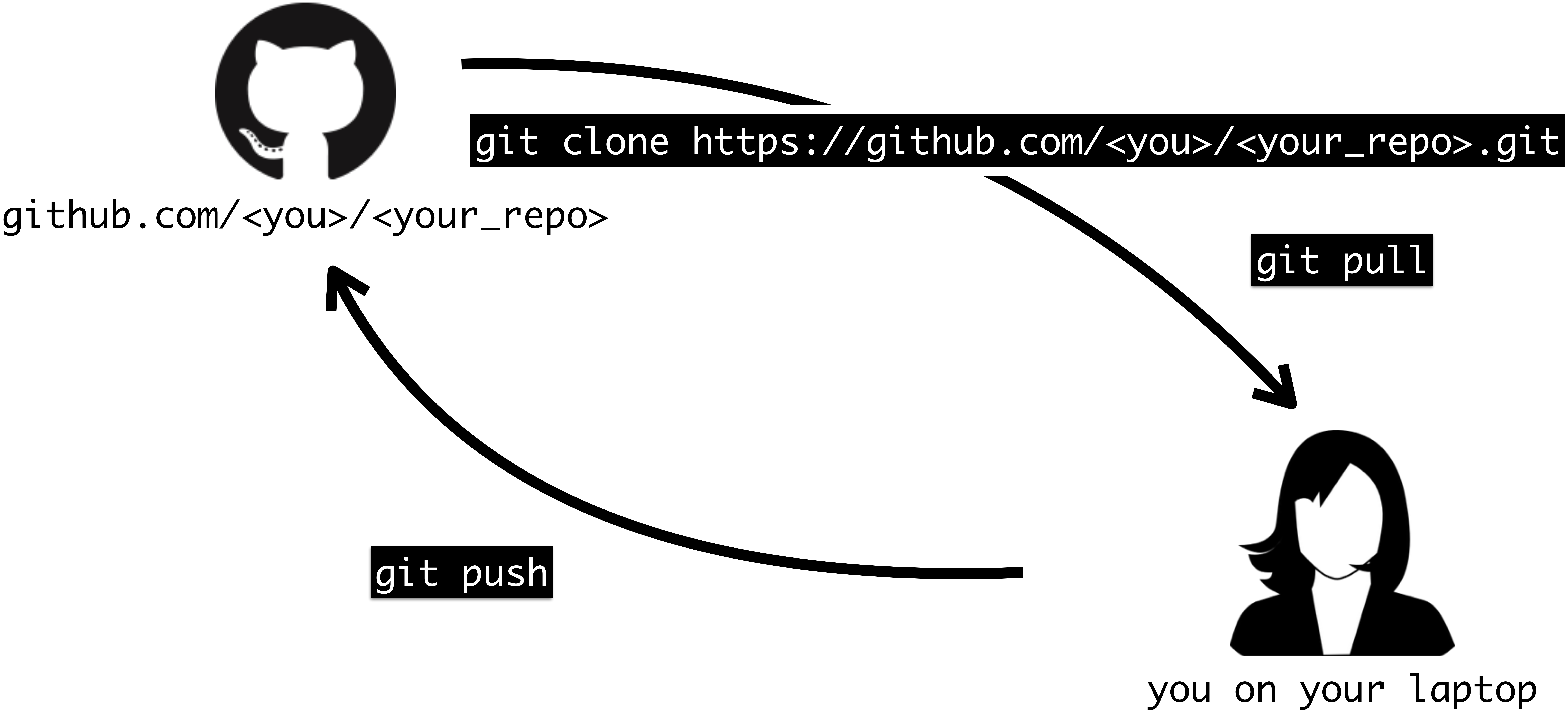
- mailing list
    - https://mail.scipy.org/mailman/listinfo/numpy-discussion
- chat room
    - https://gitter.im/numpy/numpy
- github repository (code, issues, pull requests)
    - https://github.com/numpy/numpy

the no-worfklow workflow

github.com/<you>/<your_repo>

you on your laptop

the no-worfklow workflow



github.com/<you>/<your_repo>

```
git clone https://github.com/<you>/<your_repo>.git
```

```
git pull
```

```
git push
```

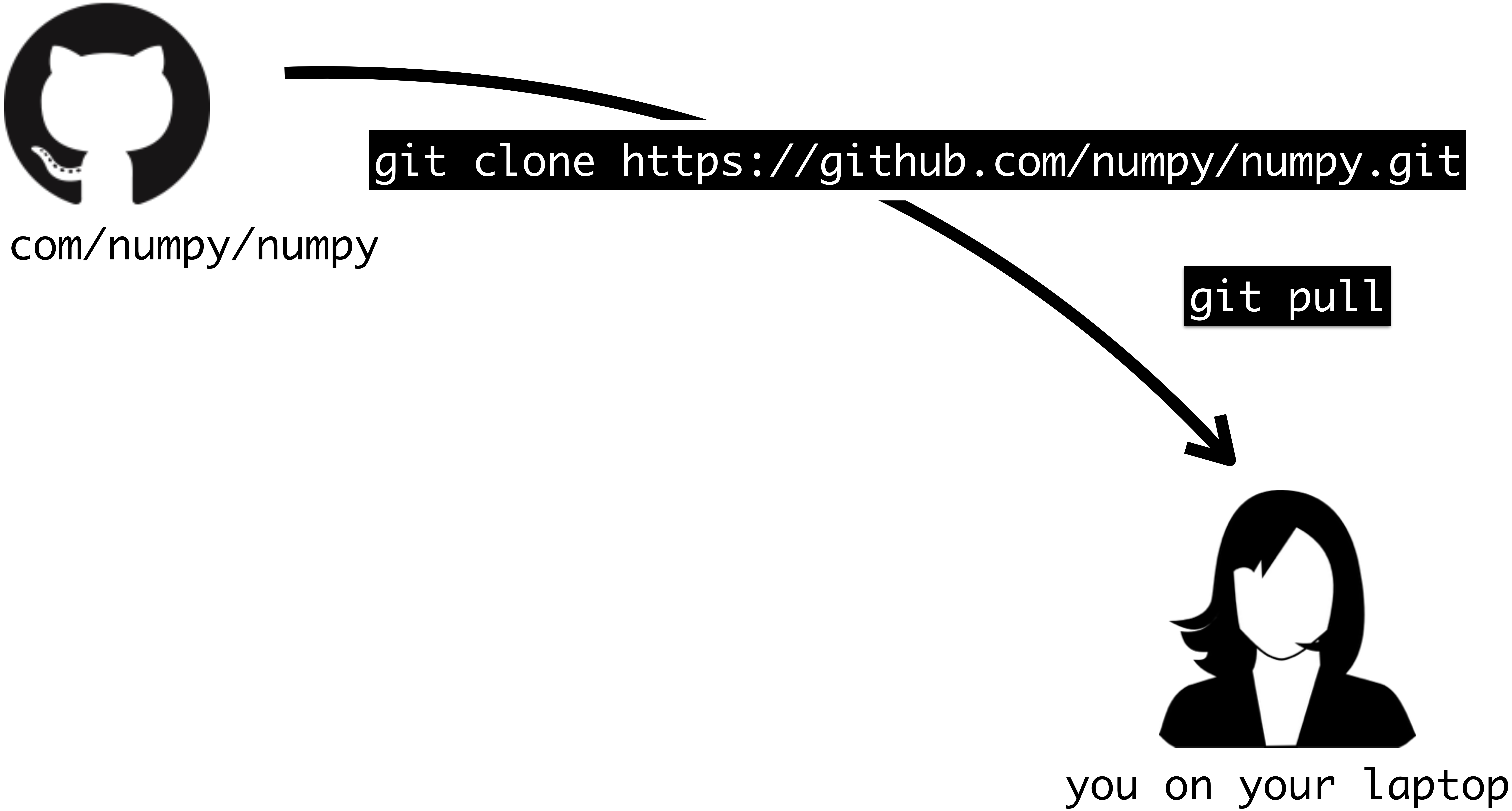
you on your laptop

the no-worfklow workflow

github.com/numpy/numpy

you on your laptop

the no-worfklow workflow



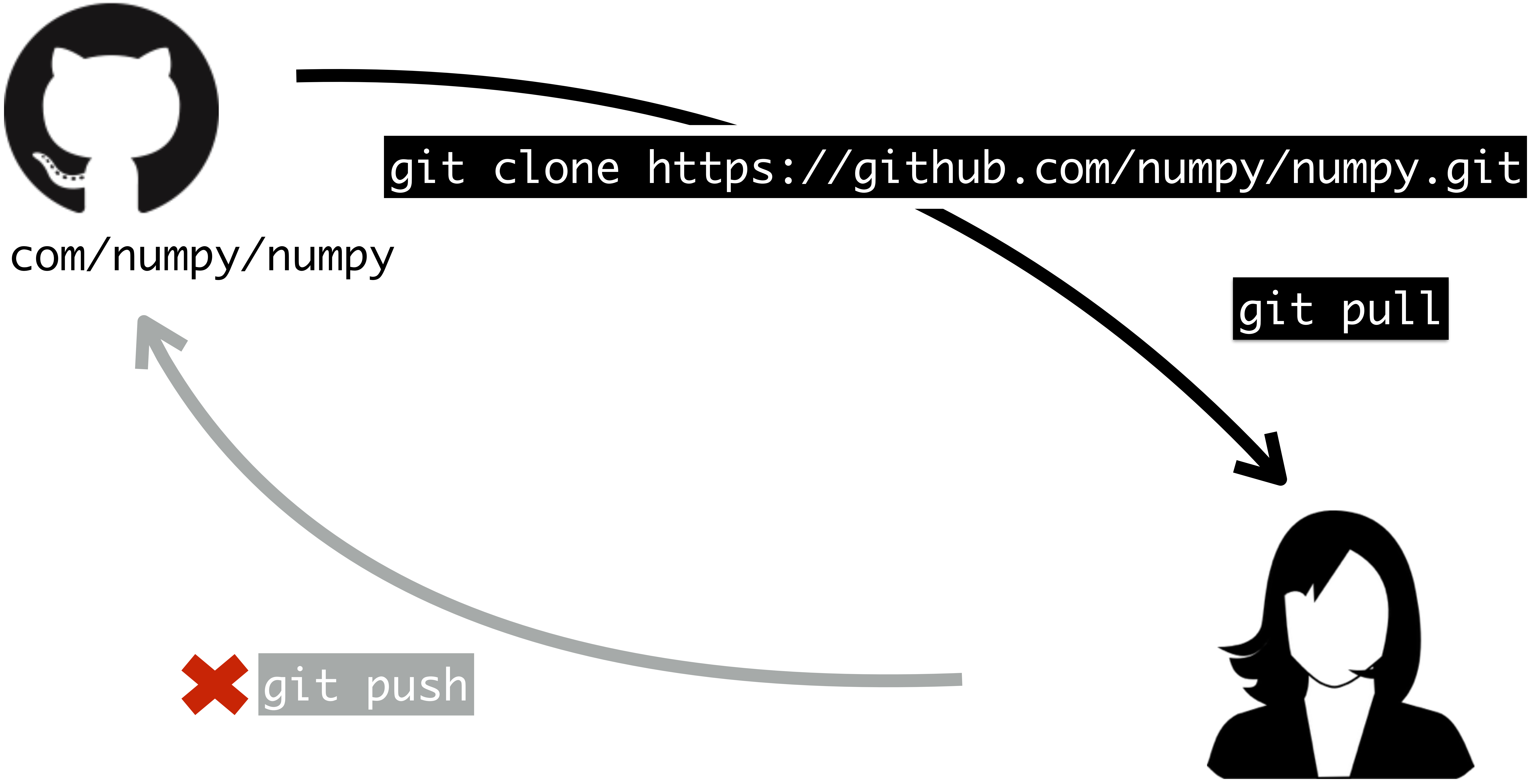
github.com/numpy/numpy

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

```
git pull
```

you on your laptop

the no-worfklow workflow



github.com/numpy/numpy

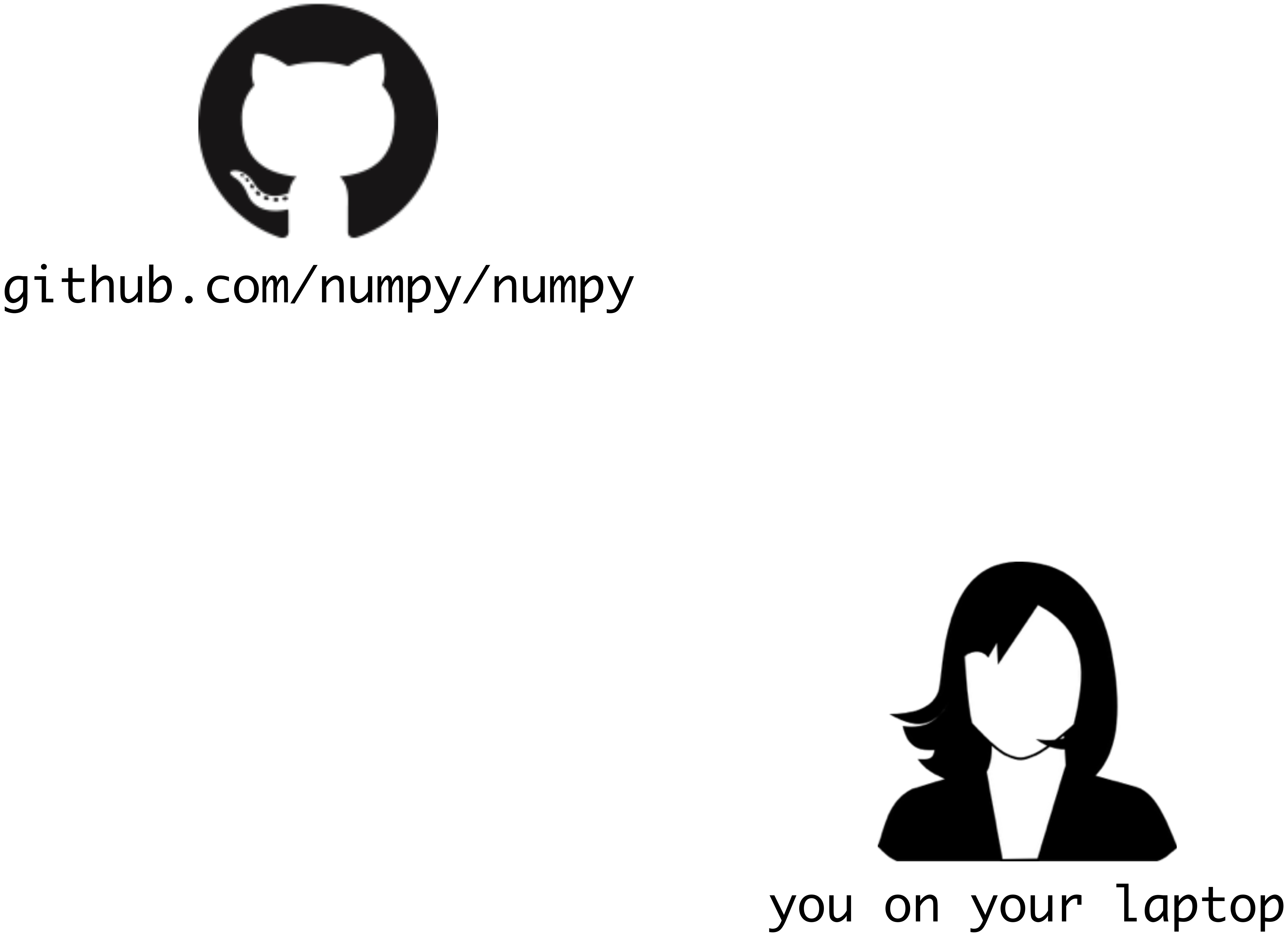
```
git clone https://github.com/numpy/numpy.git
```

```
git pull
```

✗
```
git push
```

you on your laptop

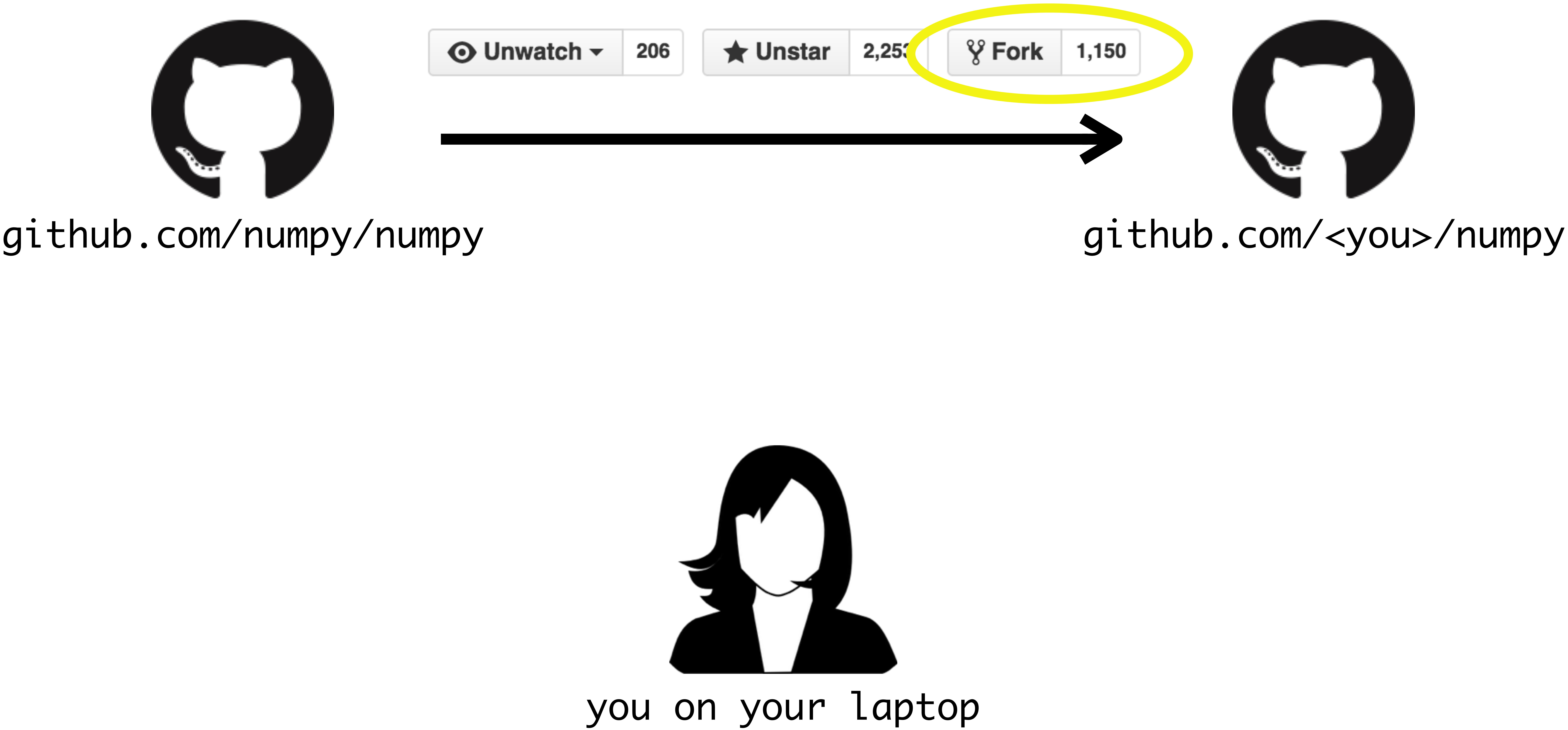
the forking workflow - setup



github.com/numpy/numpy

you on your laptop

the forking workflow - setup

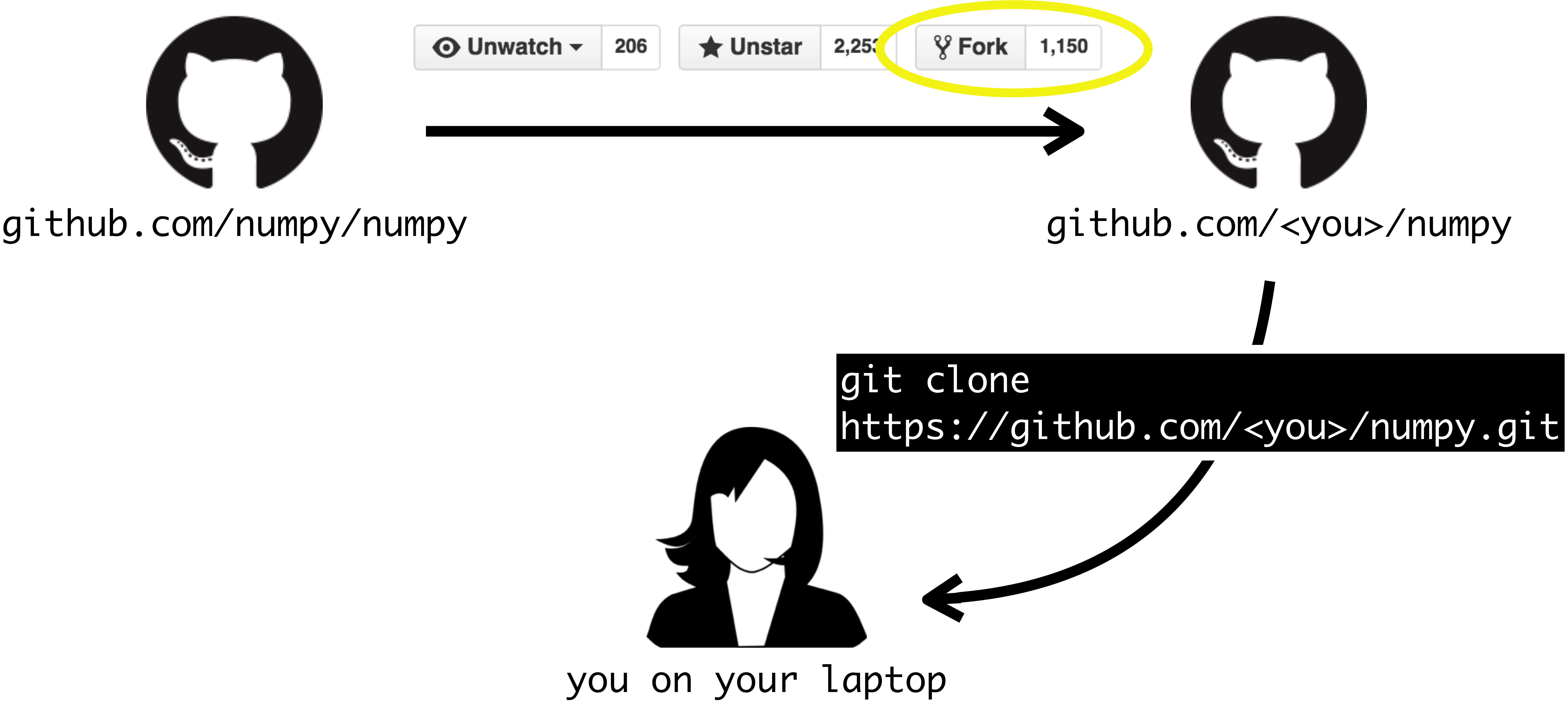


github.com/numpy/numpy

github.com/<you>/numpy

you on your laptop

the forking workflow - setup



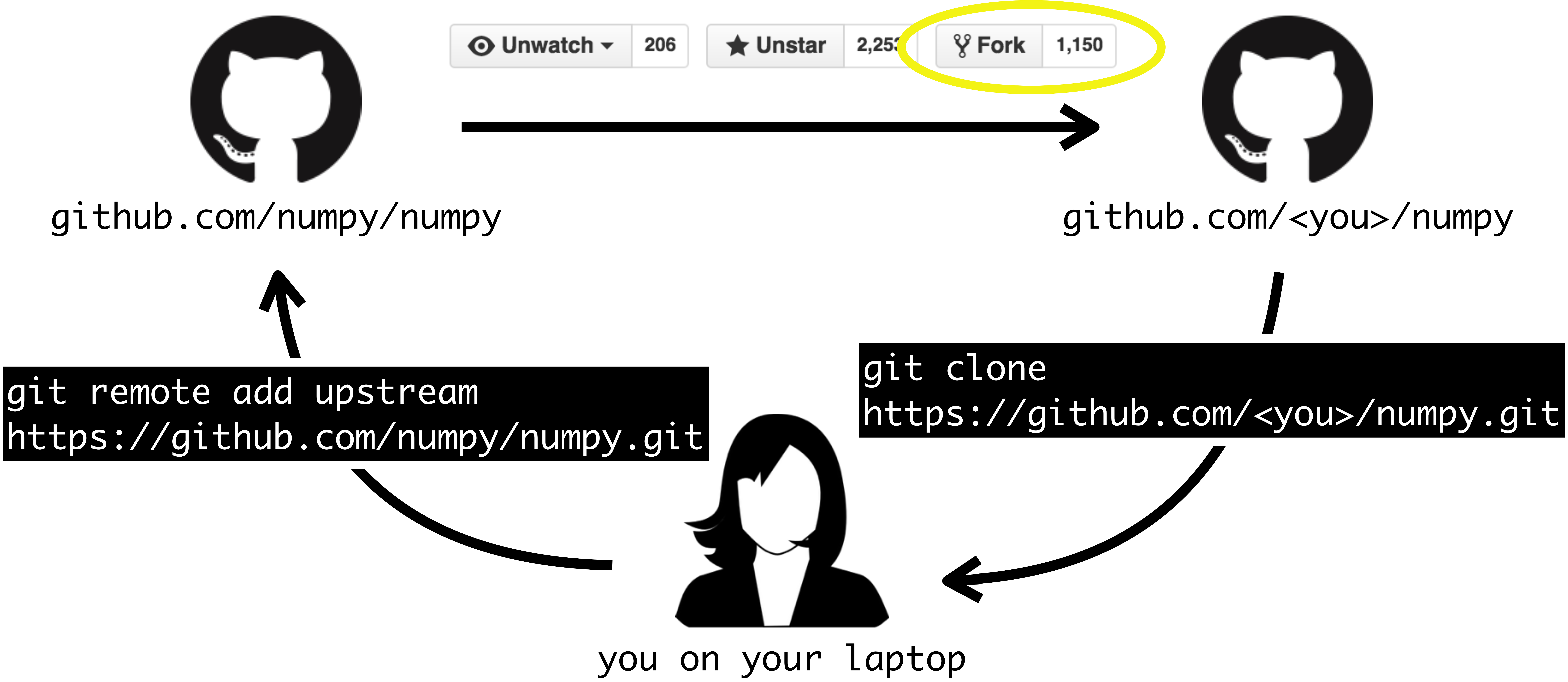
github.com/numpy/numpy

github.com/<you>/numpy

```
git clone
https://github.com/<you>/numpy.git
```

you on your laptop

the forking workflow - setup



github.com/numpy/numpy

github.com/<you>/numpy

```
git clone
https://github.com/<you>/numpy.git
```

```
git remote add upstream
https://github.com/numpy/numpy.git
```

you on your laptop

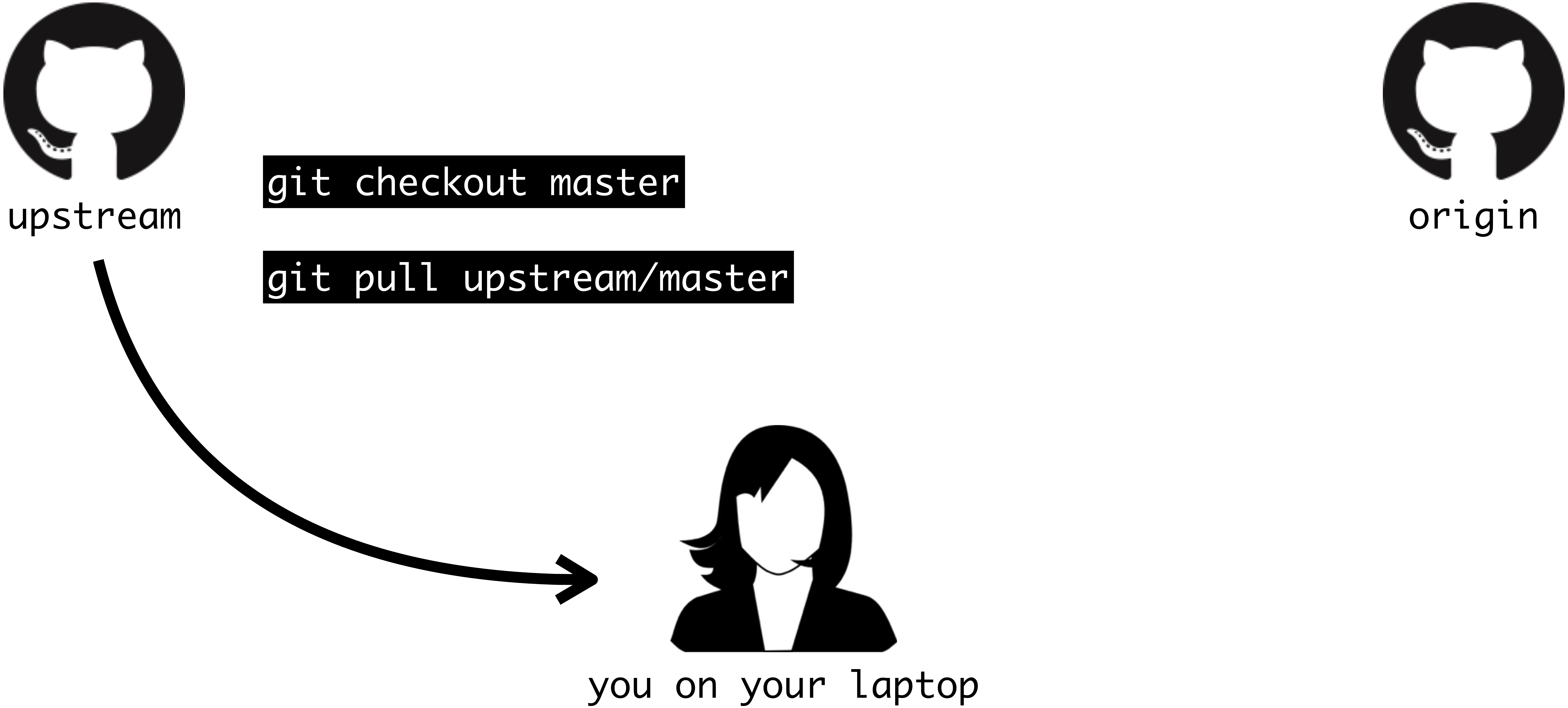
the forking workflow - pulling

upstream

origin

you on your laptop

the forking workflow - pulling



upstream

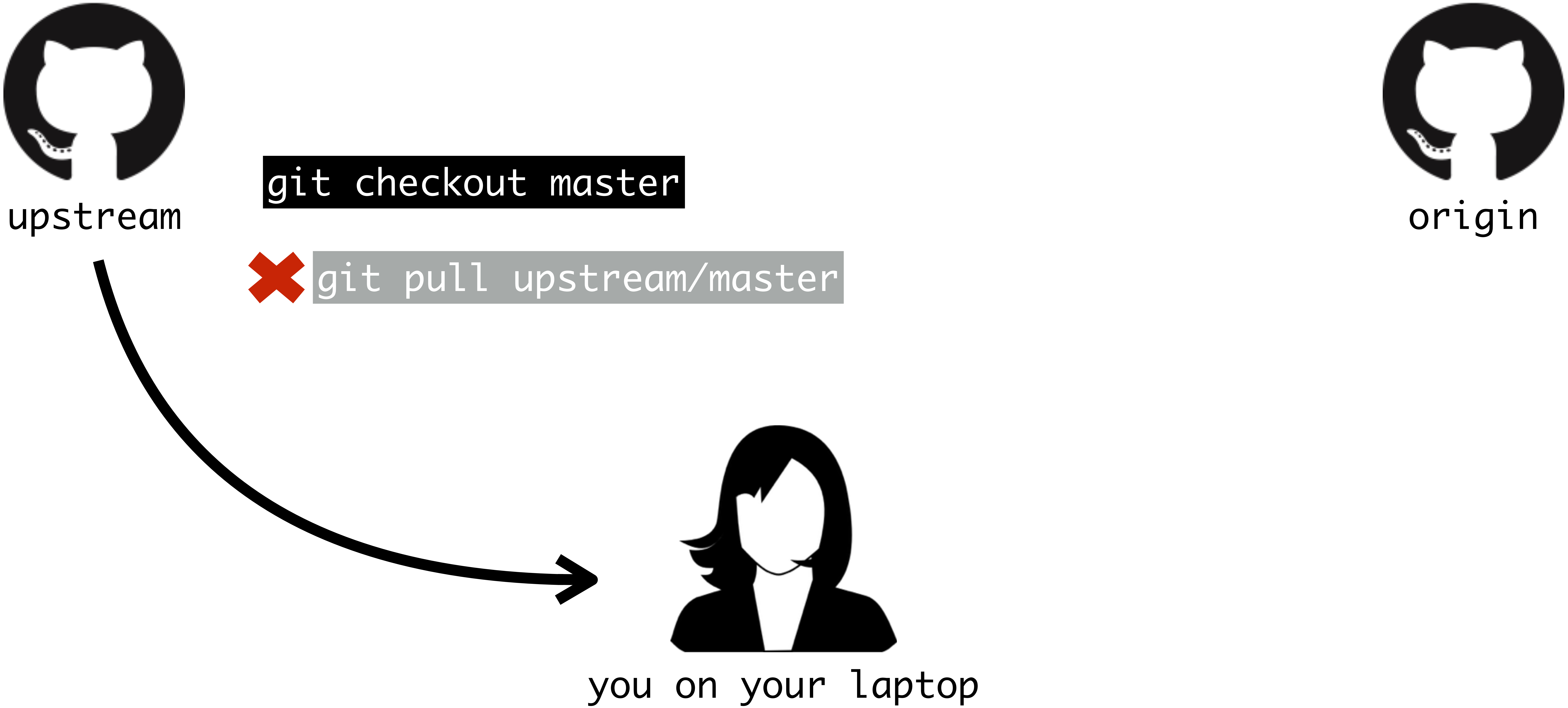
```
git checkout master
```

```
git pull upstream/master
```

origin

you on your laptop

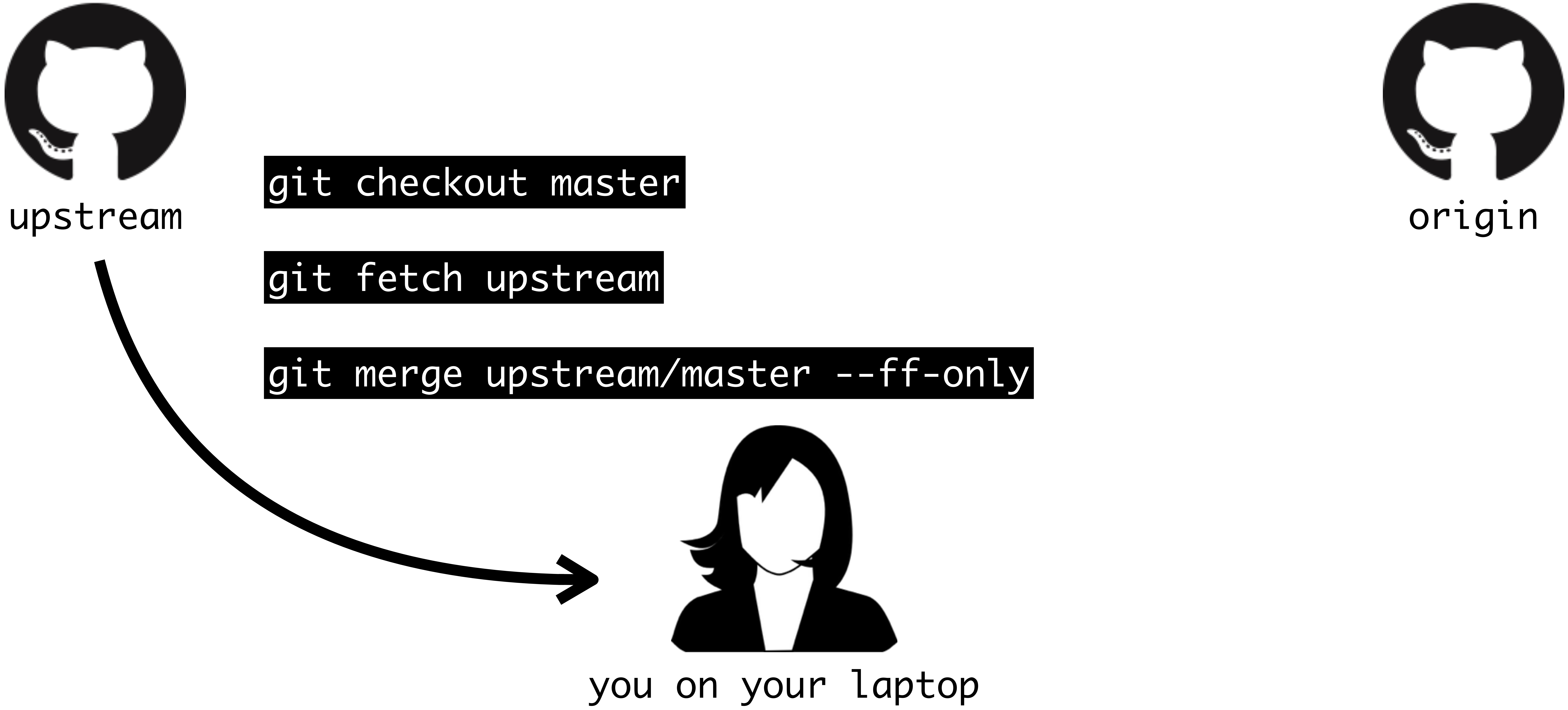
the forking workflow - pulling



```
git checkout master
```

✗
```
git pull upstream/master
```

the forking workflow - pulling

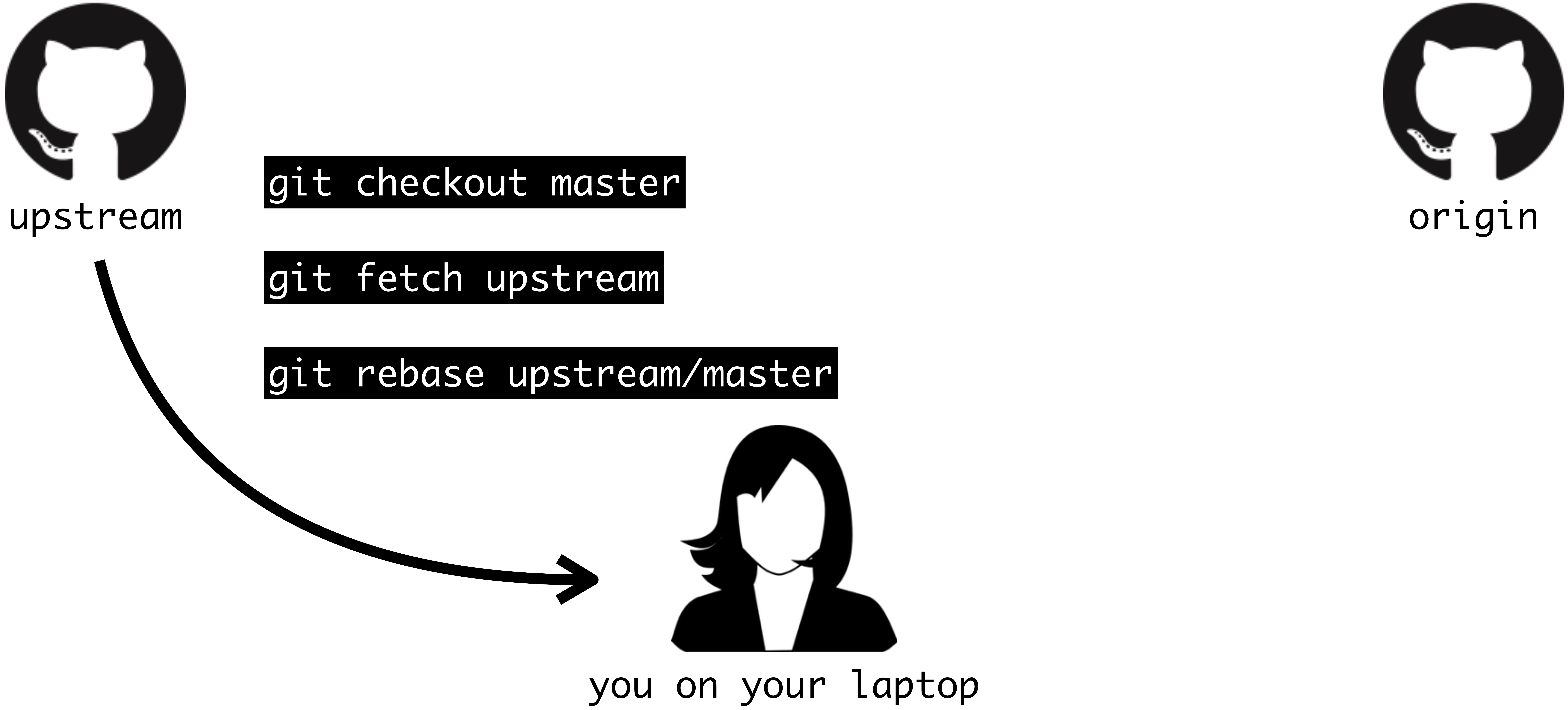


```
git checkout master
```

```
git fetch upstream
```

```
git merge upstream/master --ff-only
```

the forking workflow - pulling



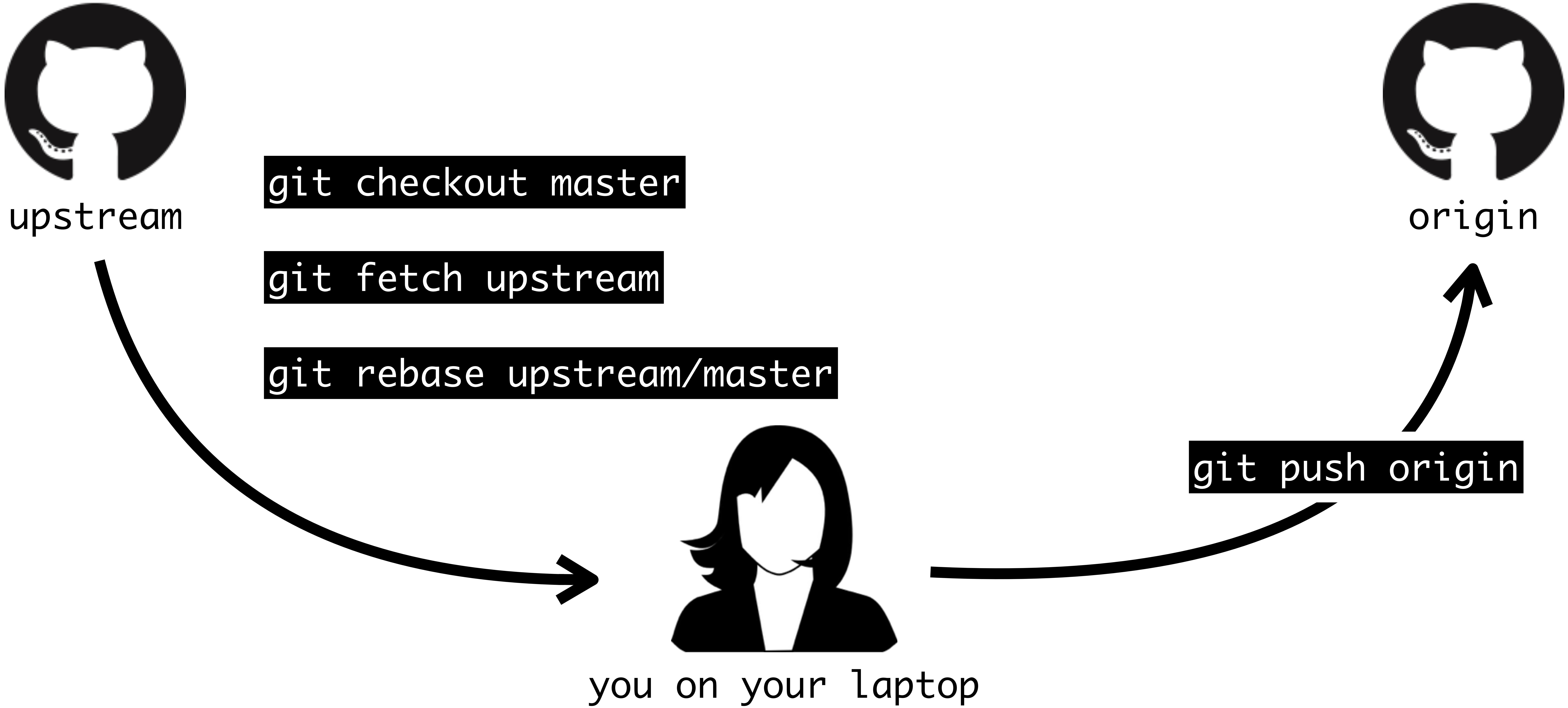
upstream

```
git checkout master
git fetch upstream
git rebase upstream/master
```

origin

you on your laptop

the forking workflow - pulling



upstream

```
git checkout master
```

```
git fetch upstream
```

```
git rebase upstream/master
```

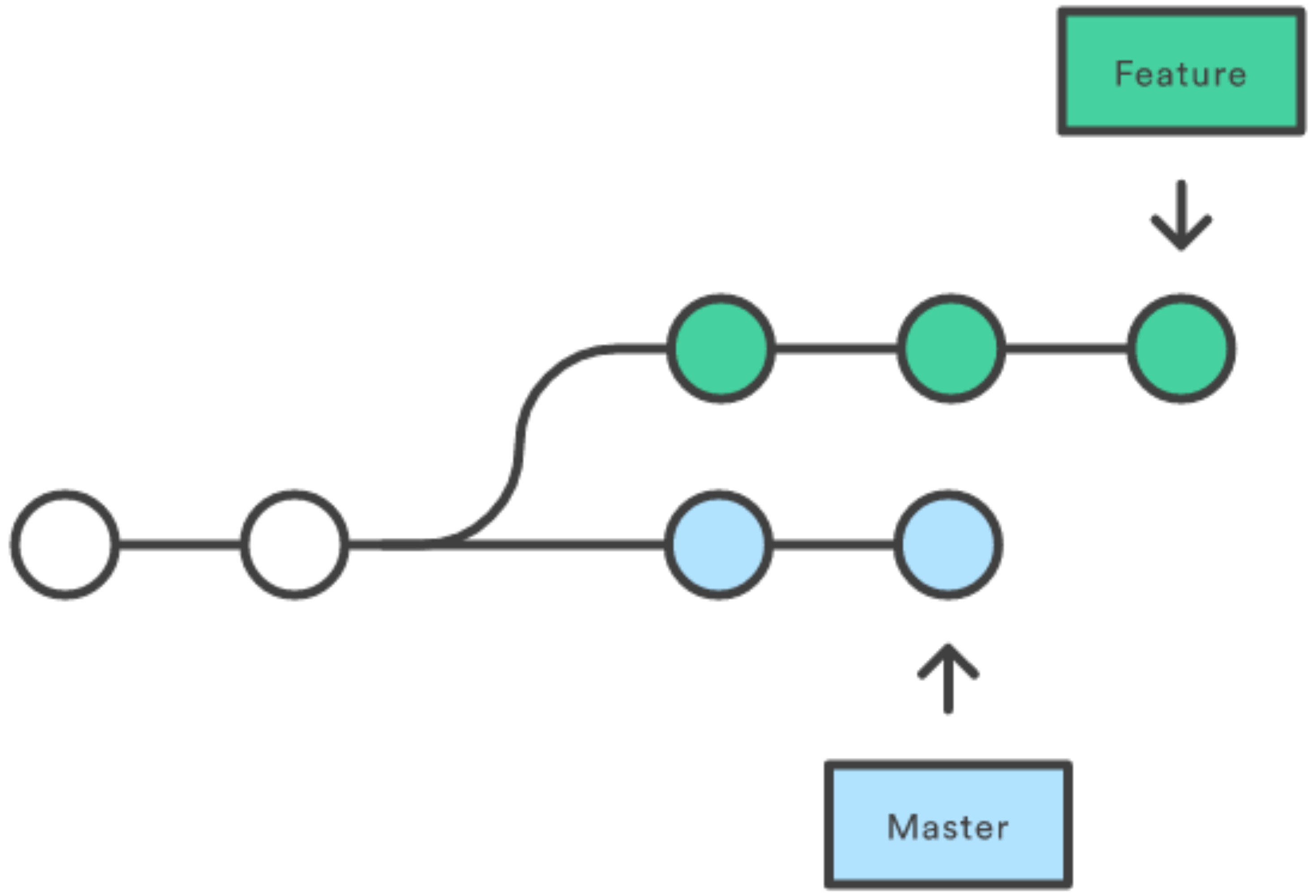
you on your laptop

```
git push origin
```

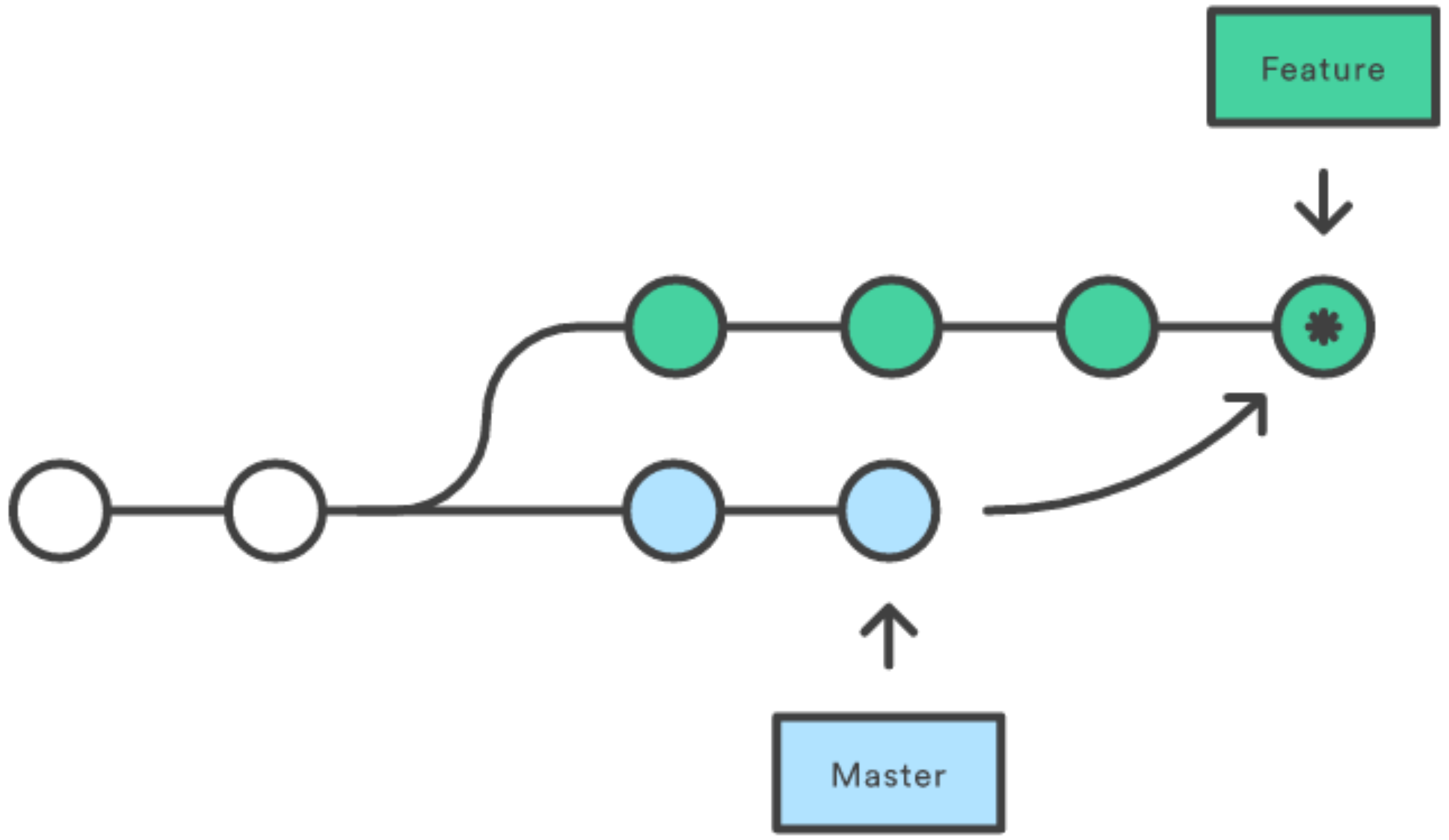
origin

merging vs. rebasing

A forked commit history

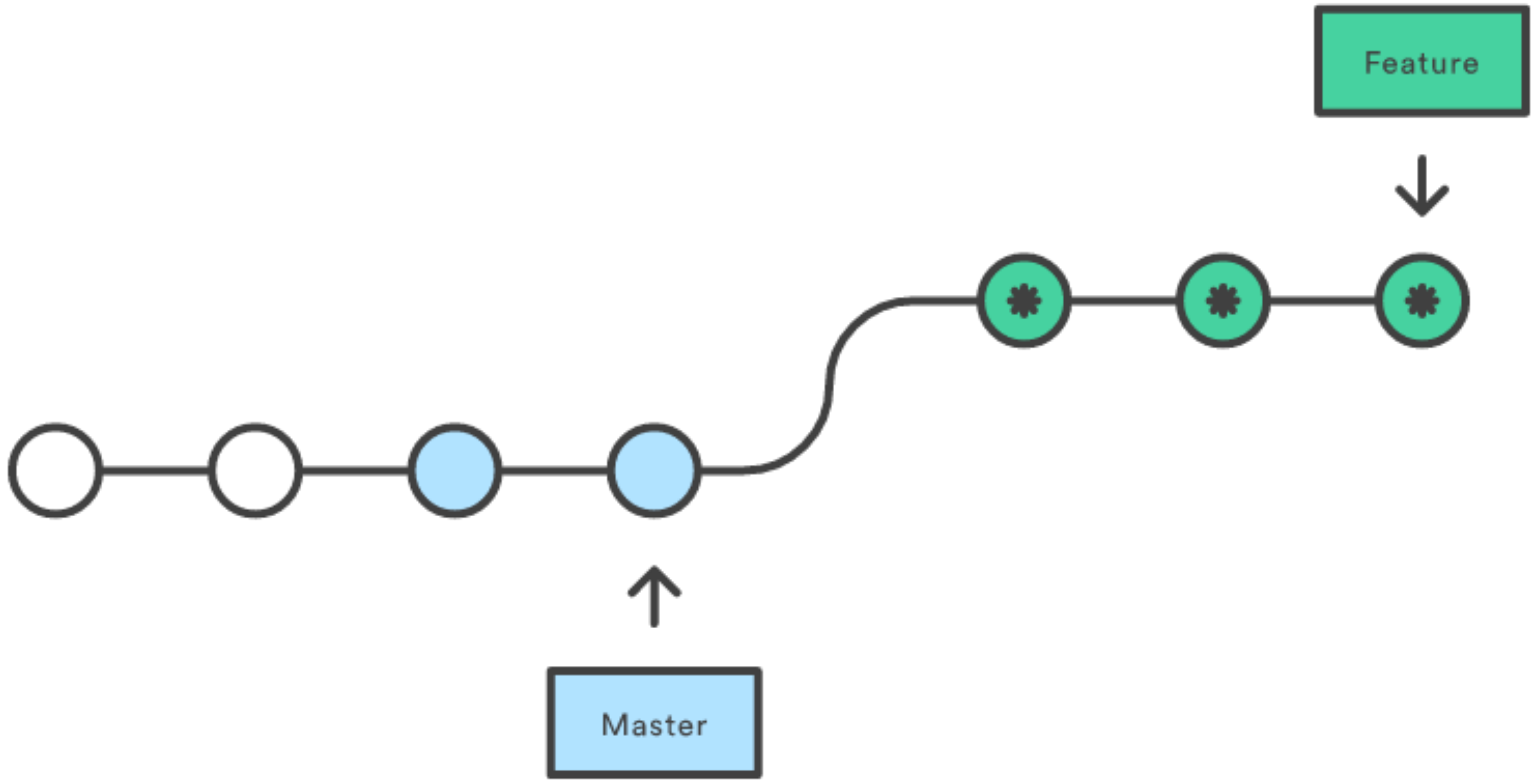


Merging master into the feature branch



✱ Merge Commit

Rebasing the feature branch onto master



✱ Brand New Commit

https://www.atlassian.com/git/tutorials/merging-vs-rebasing

building and running the tests

- build the project

```
python setup.py build
```

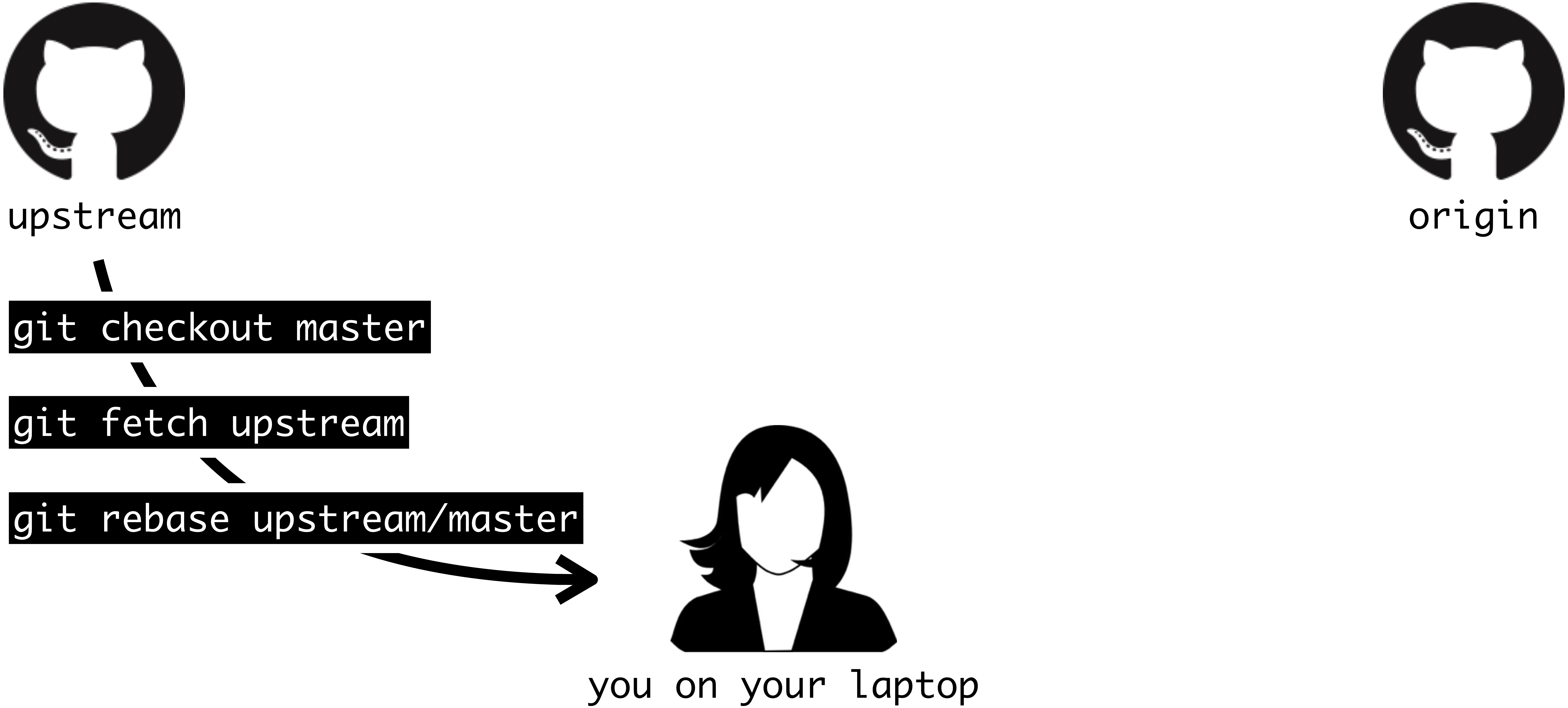
- install it

```
python setup.py install
```

- run the tests

```
python runtests.py
```

the forking workflow - pushing



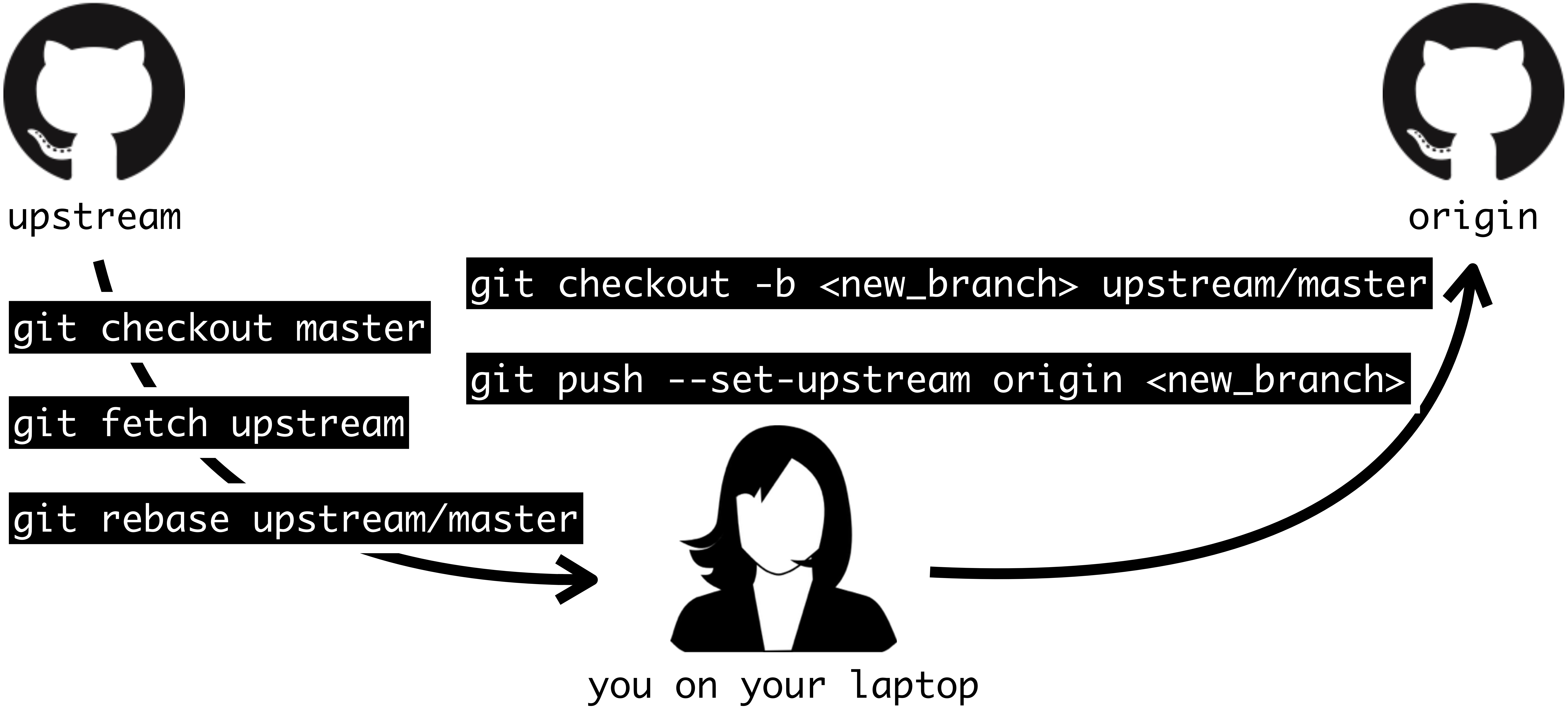
upstream

origin

```
git checkout master
git fetch upstream
git rebase upstream/master
```

you on your laptop

the forking workflow - pushing



upstream

origin

```
git checkout master
```

```
git fetch upstream
```

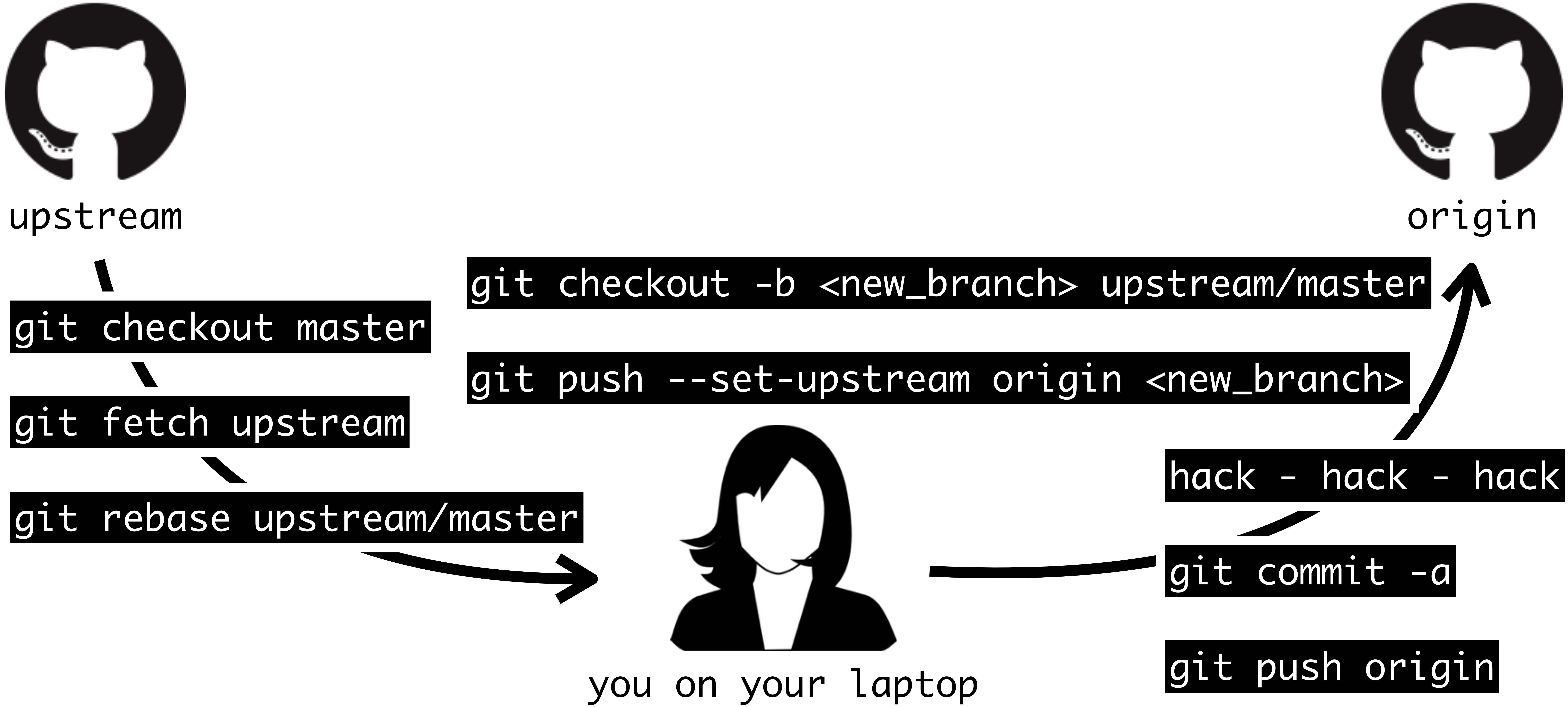
```
git rebase upstream/master
```

you on your laptop

```
git checkout -b <new_branch> upstream/master
```

```
git push --set-upstream origin <new_branch>
```

the forking workflow - pushing



upstream

```
git checkout master
```

```
git fetch upstream
```

```
git rebase upstream/master
```

you on your laptop

```
git checkout -b <new_branch> upstream/master
```

```
git push --set-upstream origin <new_branch>
```

```
hack - hack - hack
```

```
git commit -a
```

```
git push origin
```

origin

writing the commit message

- First line summarizes commit, starts with one of:

  API: API change **BLD**: build **BUG**: bug fix

  DEP: deprecation **DEV**: development utility

  DOC: documentation **ENH**: enhancement

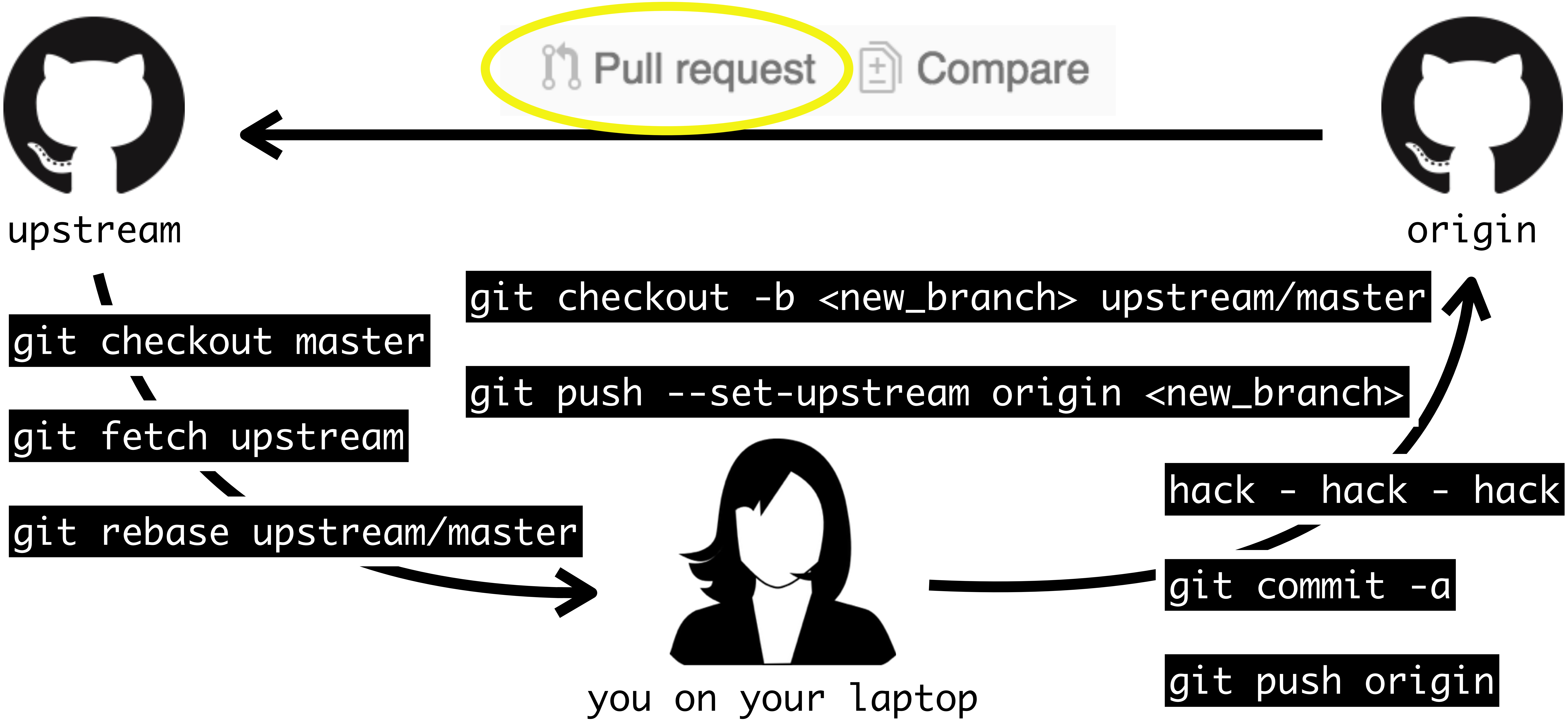
  MAINT: maintenance **REV**: revert

  STY: style fix **TST**: testing **REL**: release

- Then a blank line, then more text if needed, break lines at 80 chars.

- Link to other pull requests or issues, e.g. “fixes #6724”

the forking workflow - pushing

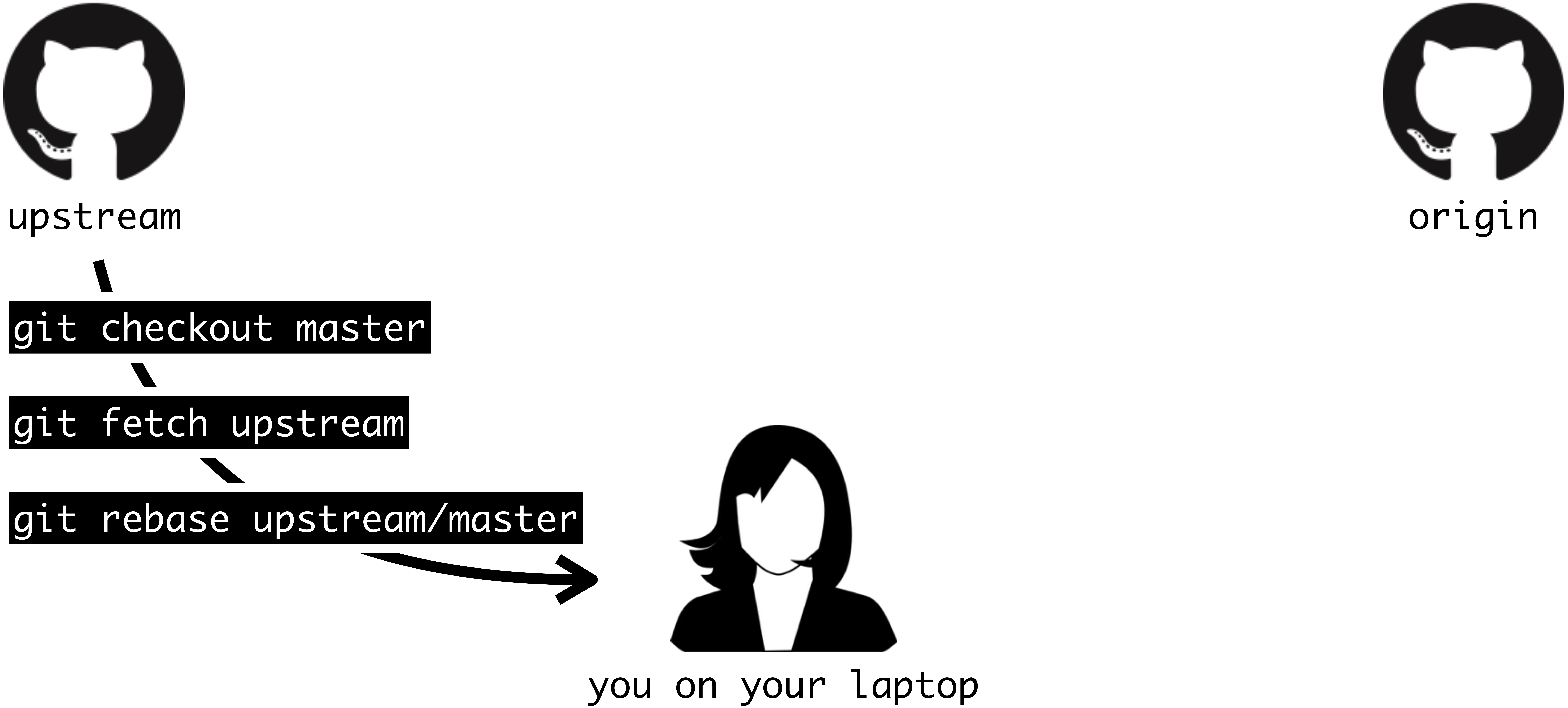


```
git checkout master
git fetch upstream
git rebase upstream/master
```

```
git checkout -b <new_branch> upstream/master
git push --set-upstream origin <new_branch>
```

```
hack - hack - hack
git commit -a
git push origin
```

the forking workflow - rebasing



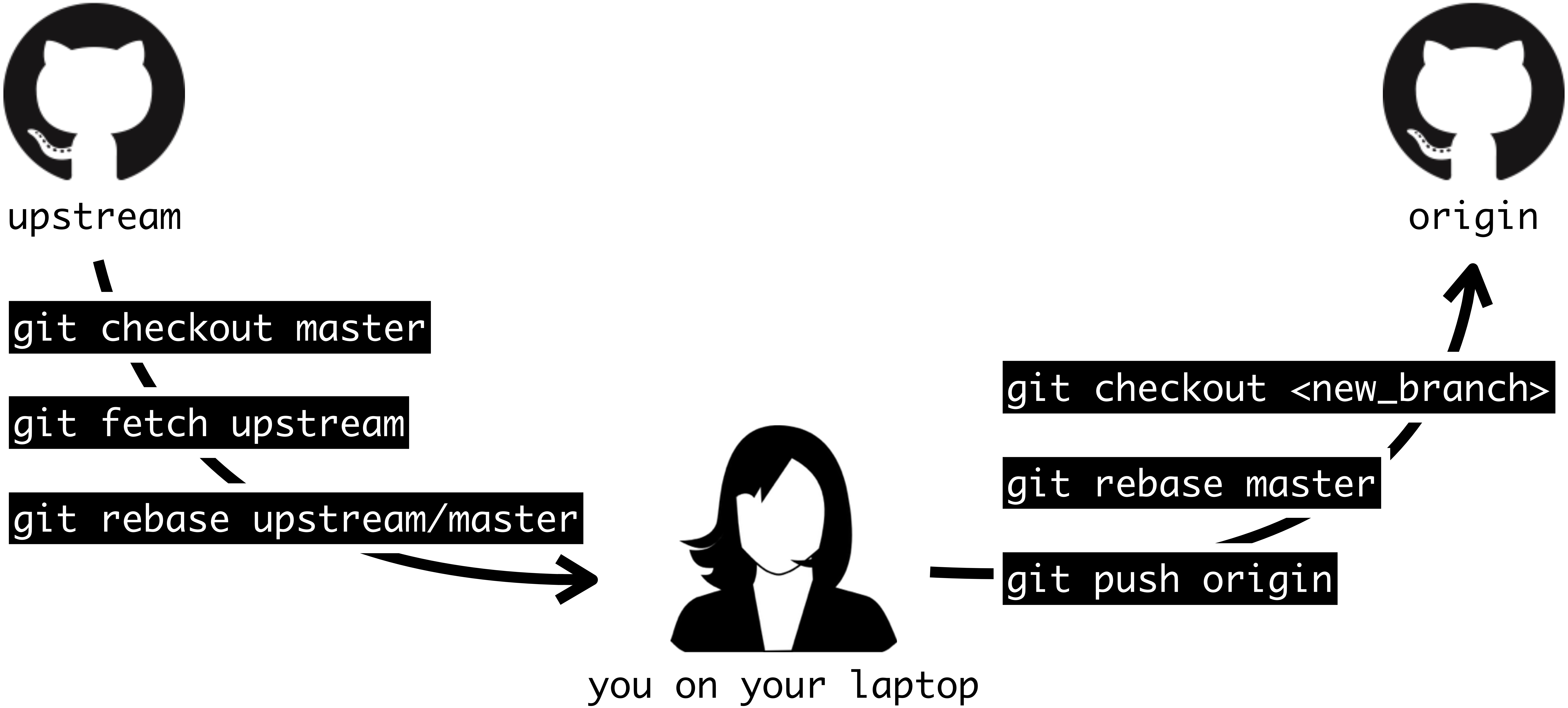
upstream

origin

```
git checkout master
git fetch upstream
git rebase upstream/master
```

you on your laptop

the forking workflow - rebasing



upstream

```
git checkout master
git fetch upstream
git rebase upstream/master
```

you on your laptop

```
git checkout <new_branch>
git rebase master
git push origin
```

origin

when in doubt, read the docs!

http://docs.scipy.org/doc/numpy/dev/gitwash/development_workflow.html

Thank you!

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