



twitch.tv/DataScienceBits

GIT & GITHUB

Do básico ao avançado
em uma noite!



Felipe Penha

O que esta apresentação não inclui!

- Como instalar, como configurar user/password/tokens etc
- Todos os comandos populares

O que esta apresentação inclui!

- Conceitos básicos
- Comandos básicos
- Como sair de situações complicadas comuns



- Este é o git. Ele rastreia o trabalho colaborativo em projetos, através de um lindo modelo em árvore distribuído.

- Ótimo. Como se usa?

- Não tenho ideia. Só memorize esses comandos do shell e os digite para sincronizar. Se você obtiver erros, salve seu trabalho em outro lugar, delete o projeto e faça o download de uma nova cópia.

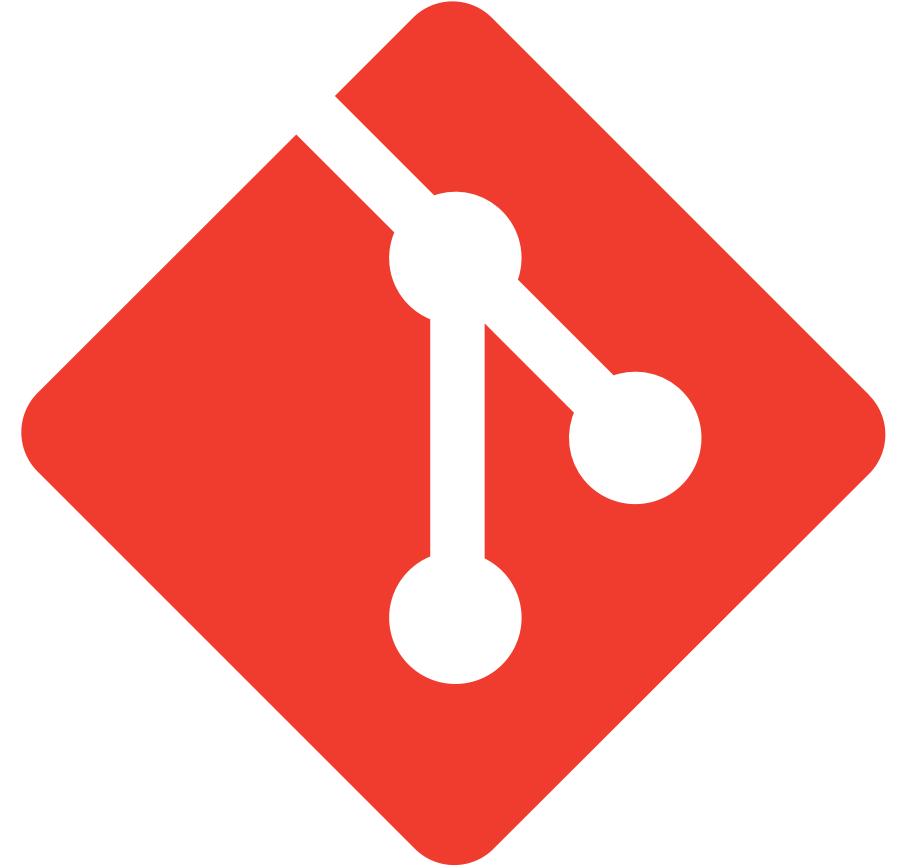
Nós queremos evitar este tipo de situação



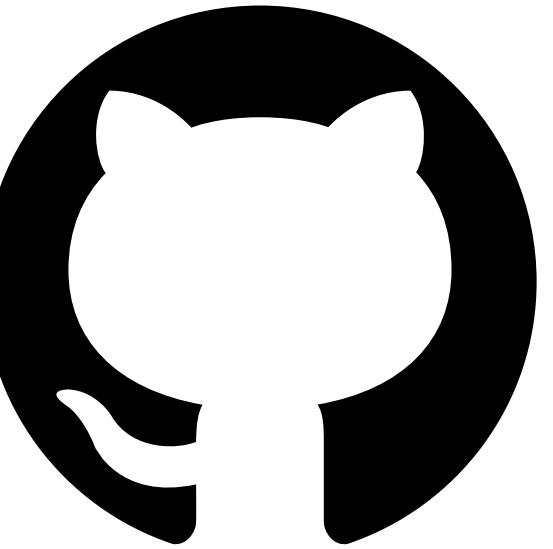


Todos os outros
desenvolvedores

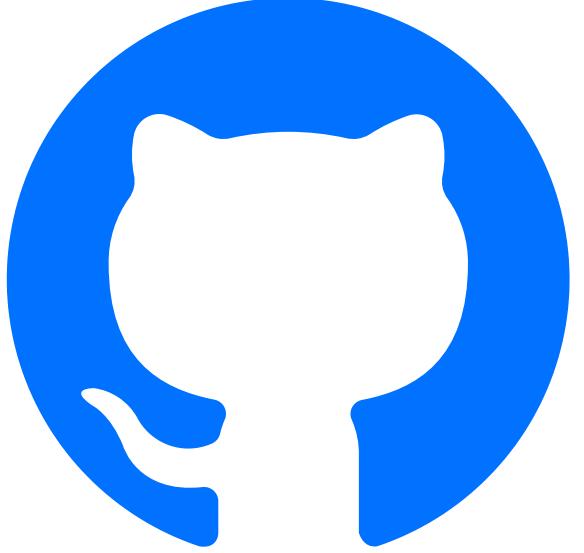
Desenvolvedor Sênior
que sabe git



Git



GitHub



GitHub
Enterprise



GitLab



Azure
Repos

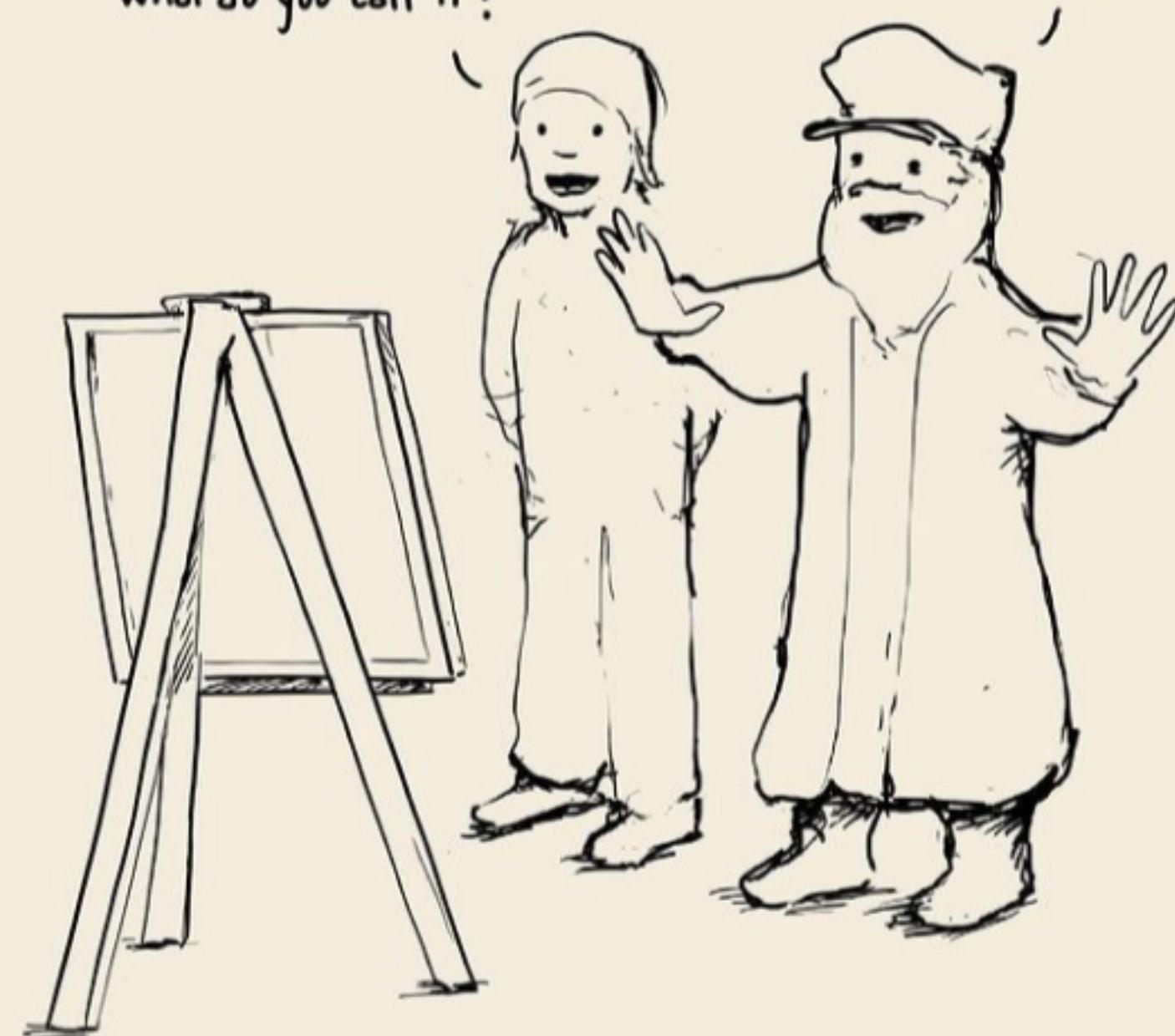


nathanwpylestrangeplanet

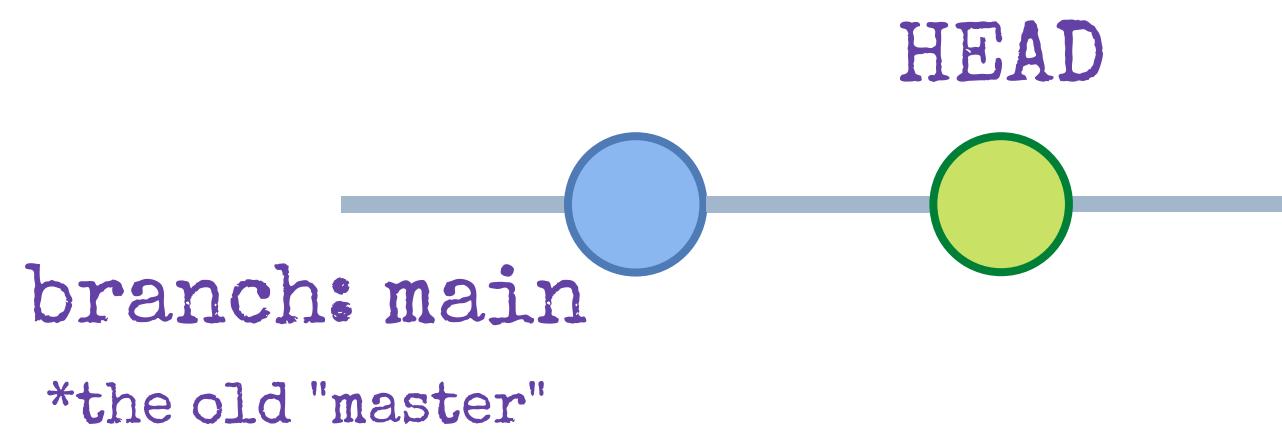
:

beautiful!
what do you call it?

mona_lisa_finalrealupdateFINALL6



Git

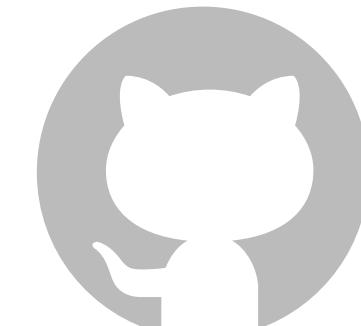


Conceito de "Stack"

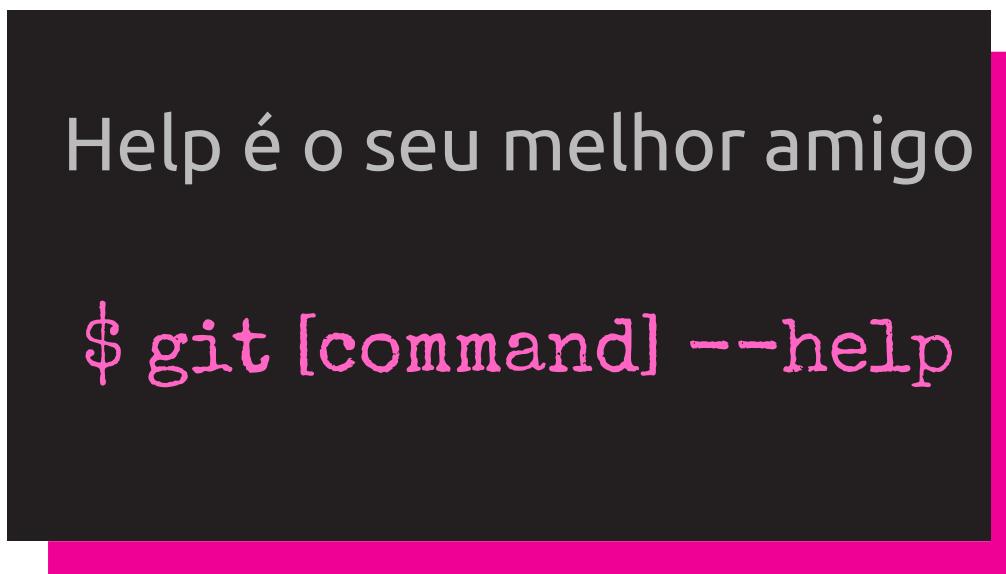


Git

O que acontece quando se tem múltiplas stacks assíncronas?



Resources



 **git** --distributed-is-the-new-centralized

Search entire site...

About

Documentation

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[български език](#),
[Deutsch](#),
[Español](#),
[Français](#),

Book

The entire Pro Git book, written by Scott Chacon and Ben Straub and published by Apress, is available here. All content is licensed under the [Creative Commons Attribution Non Commercial Share Alike 3.0 license](#). Print versions of the book are available on [Amazon.com](#).

1. Getting Started

- 1.1 About Version Control
- 1.2 A Short History of Git
- 1.3 What is Git?
- 1.4 The Command Line
- 1.5 Installing Git
- 1.6 First-Time Git Setup
- 1.7 Getting Help
- 1.8 Summary

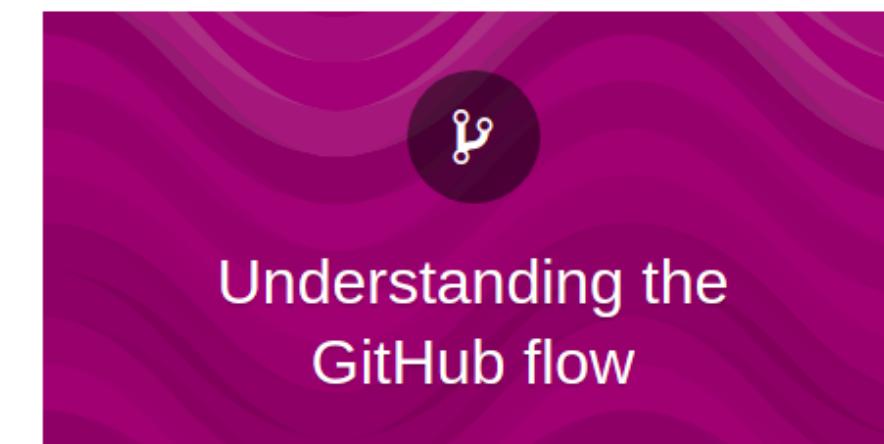

2nd Edition (2014)

Download Ebook

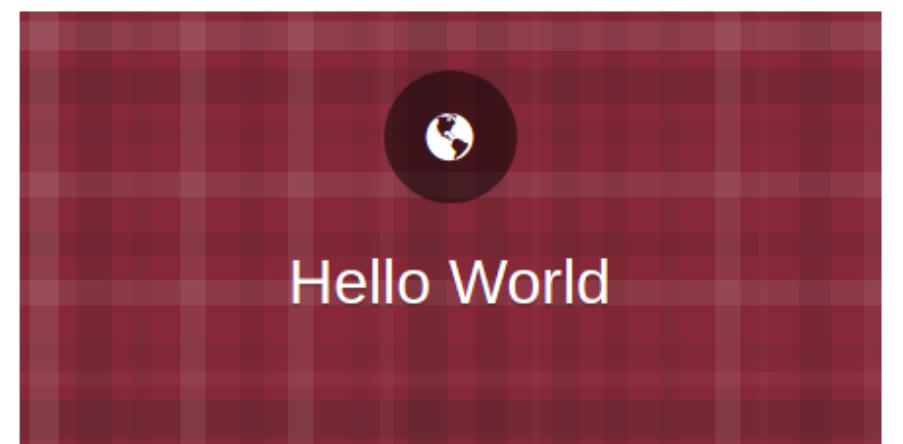
<https://git-scm.com/book/en/v2>

GitHub Guides



GitHub flow is a lightweight, branch-based workflow that supports teams and projects where deployments are made regularly. This guide explains how and why GitHub flow works.

⌚ 5 minute read



The easiest way to get started with GitHub. In this guide you'll complete a time honored "Hello World" exercise, and learn GitHub essentials.

⌚ 10 minute read

<https://guides.github.com/>

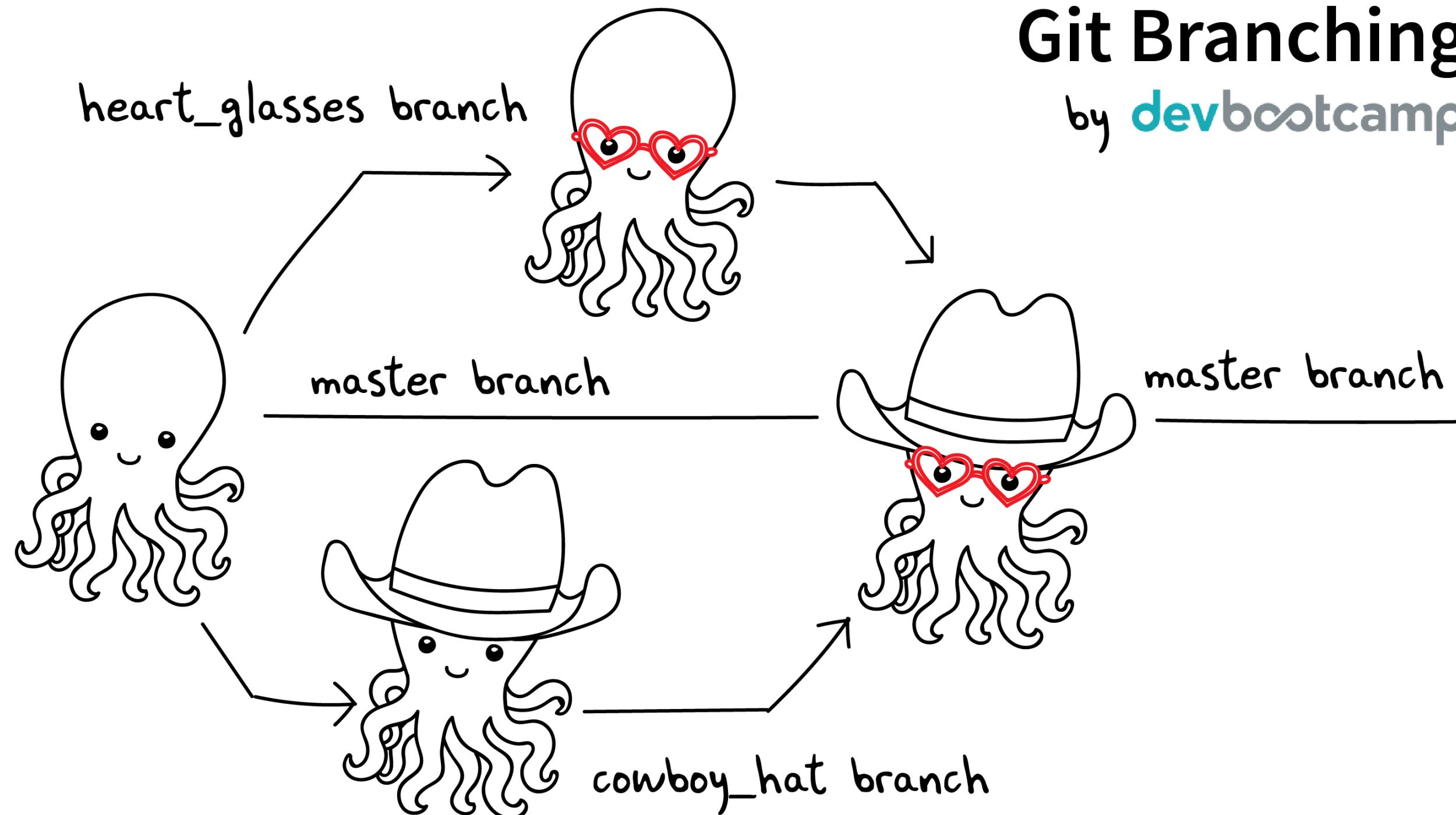
Exercise time!

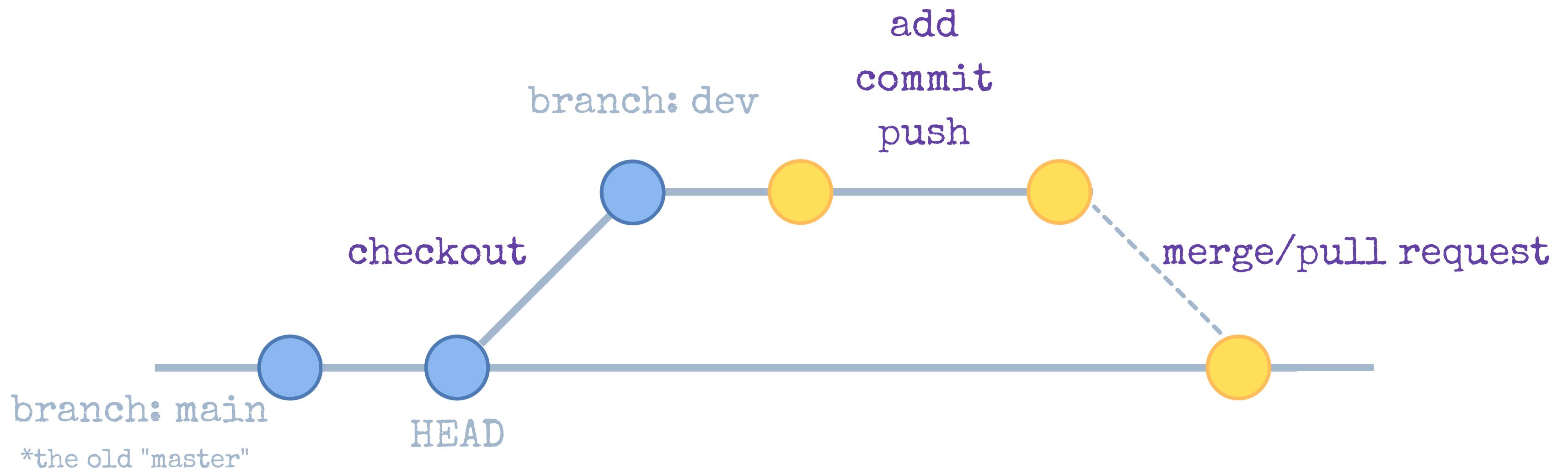


- Crie um novo repo no GitHub
- Clone o repo localmente

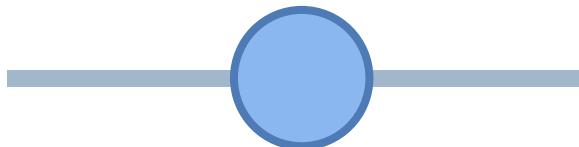
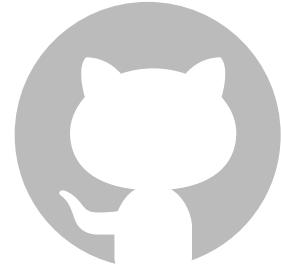
Git Branching

by **devbootcamp**





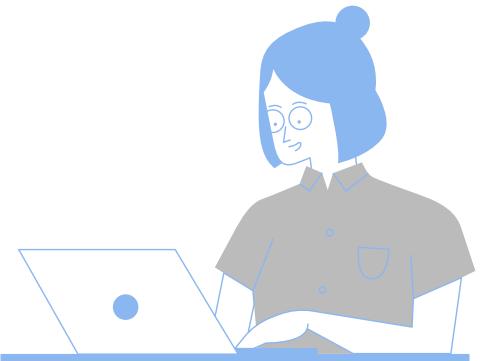
Full Story



remote branch: origin/main

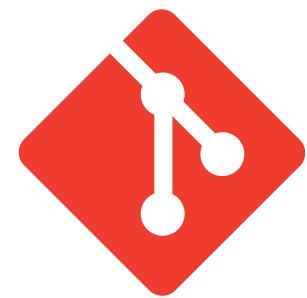


local branch: main

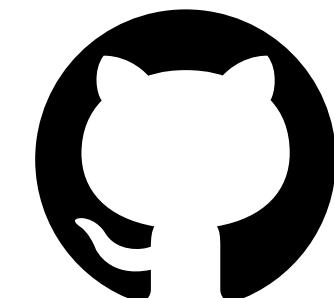


```
$ git clone [https://...]  
$ git branch  
  main  
$ git branch lime  
$ git checkout lime  
***  
[code change]  
***  
$ git add .  
$ git commit -m "[message]"  
$ git push origin lime
```

New pull request

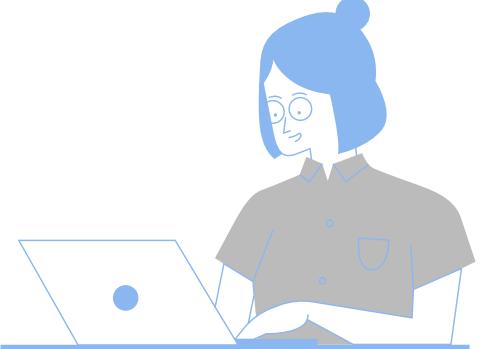


Git



GitHub

Full Story



main

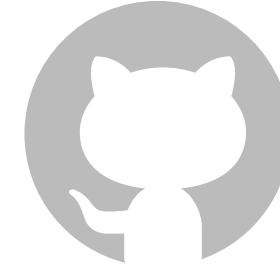
\$ git branch lime
\$ git checkout lime

lime

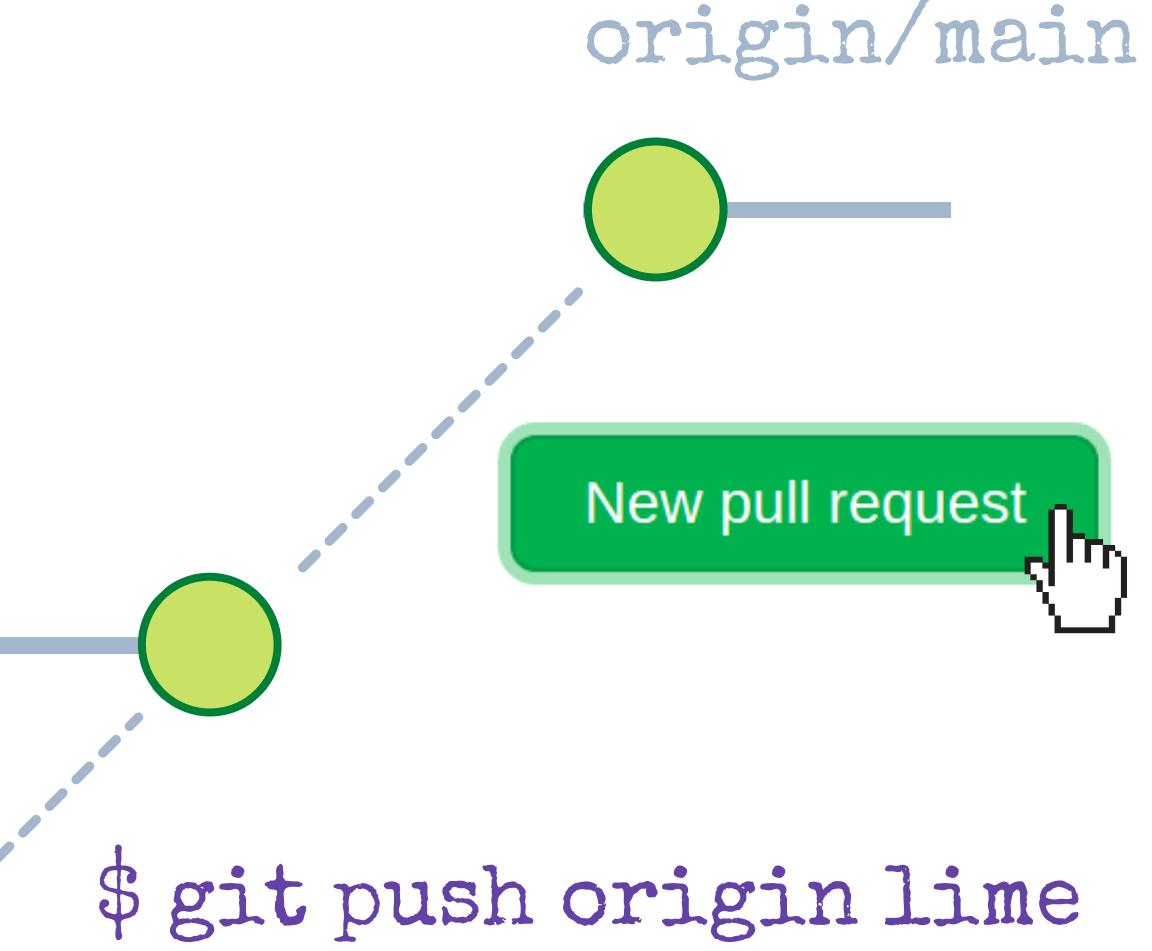
\$ git add .
\$ git commit -m "[message]"

HEAD

origin/lime



\$ git push origin lime

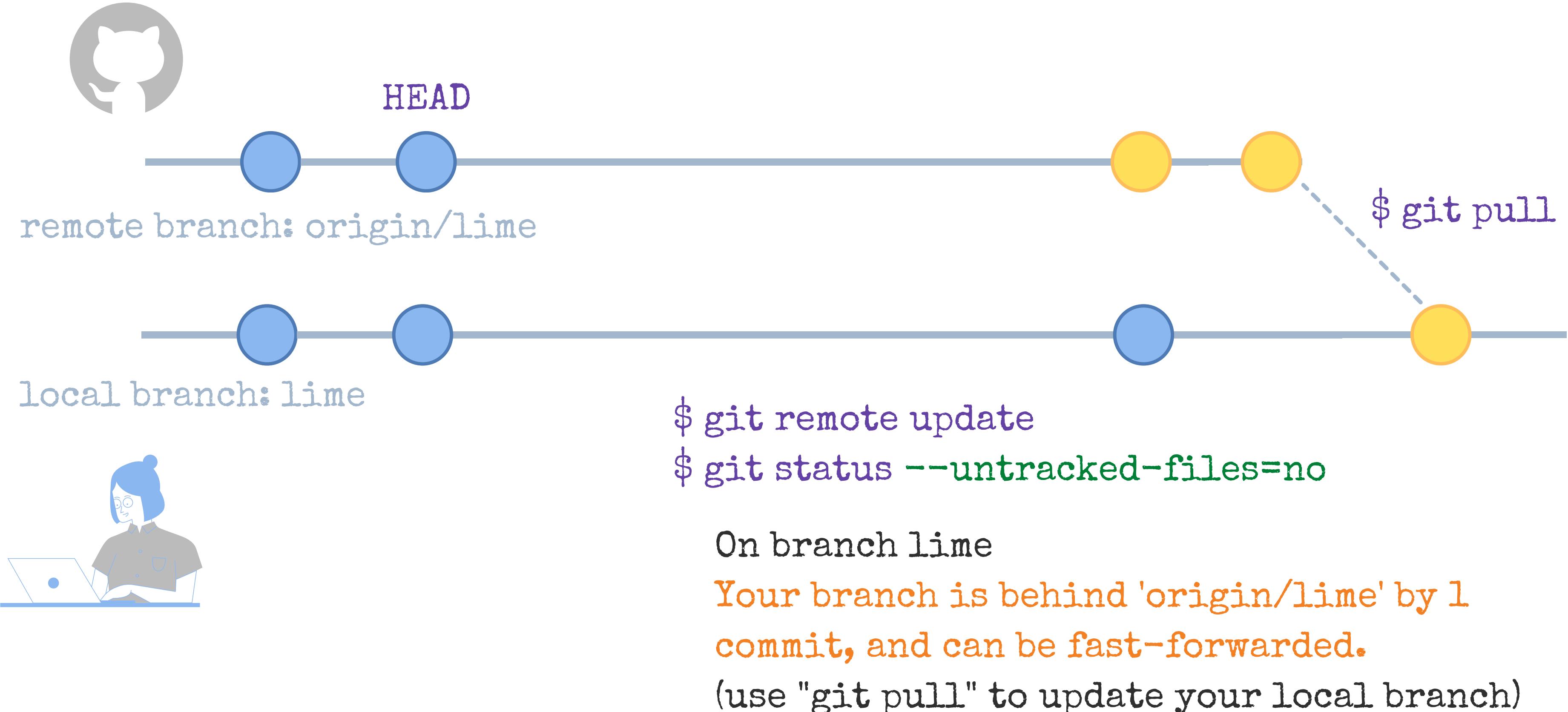


Exercise time!

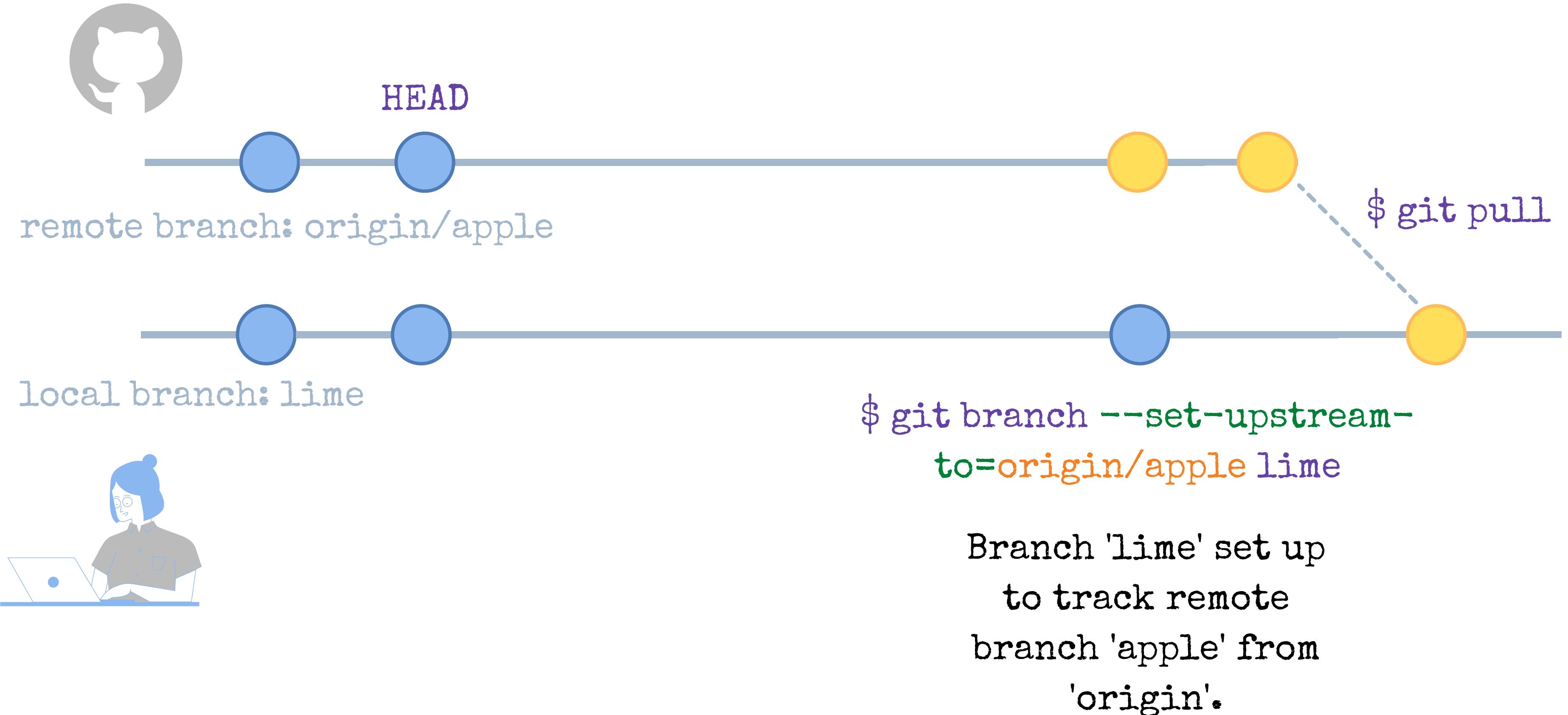


- Crie um novo branch
- Modifique um arquivo, add, commit
- push to origin
- Pull Request no GitHub

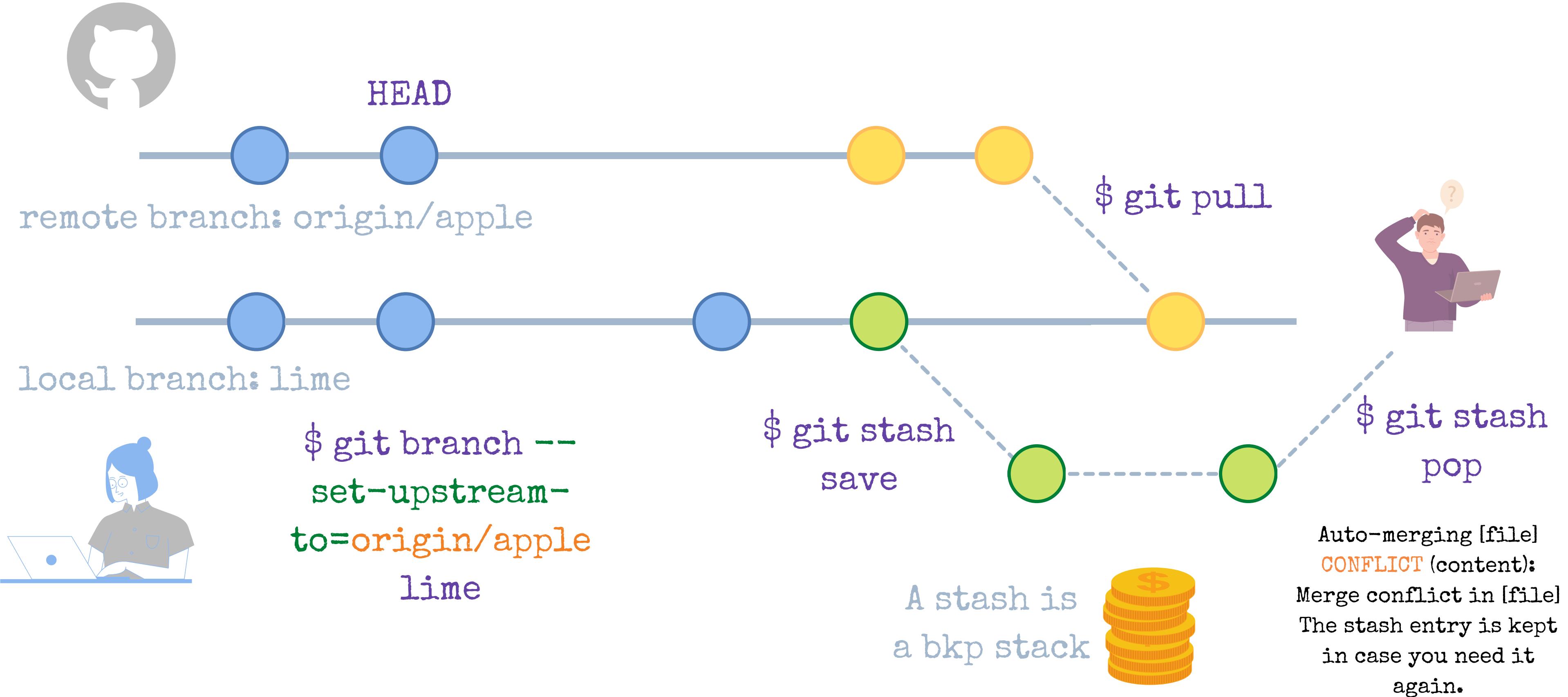
Pulling Data from remote



Pulling Data from remote



Pulling Data from remote



Resolva incosistências manualmente nas marcações:

A

<<<<< Updated upstream

B

=====

C

>>>>> Stashed changes

Este é o método mais seguro disponível!

Como ignorar arquivos!

Ignore certos arquivos:

file.py

Wild cards:

*.c

Ignore directórios:

dir/

Dir e subdirs:

dir/*/**

Imponha exceções:

!custom.c
!dir/

Como ignorar arquivos!

Owner * Repository name *

felipepenha / test ✓

Great repository names are short and memorable. Need inspiration? How about [legendary-succotash](#)?

Description (optional)
Test

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.

Initialize this repository with:

Skip this step if you're importing an existing repository.

Add a README file
This is where you can write a long description for your project. [Learn more](#).

Add .gitignore
Choose which files not to track from a list of templates. [Learn more](#).

Choose a license
A license tells others what they can and can't do with your code. [Learn more](#).

Create repository

Initialize this repository with:

Skip this step if you're importing an existing repository.

Add a README file
This is where you can write a long description for your project. [Learn more](#).

Add .gitignore
Choose which files not to track from a list of templates. [Learn more](#).

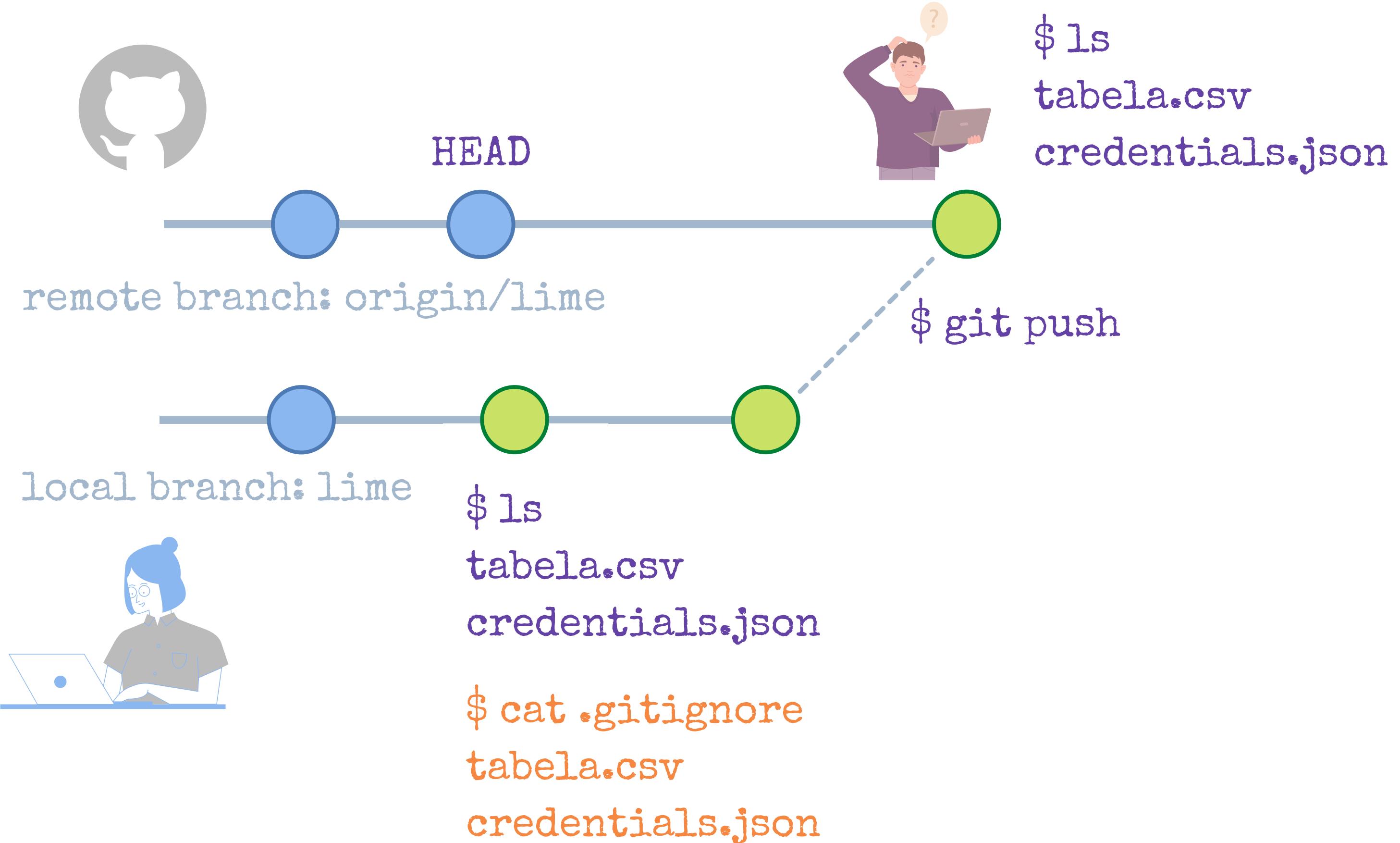
.gitignore template: Python ▾

.gitignore template

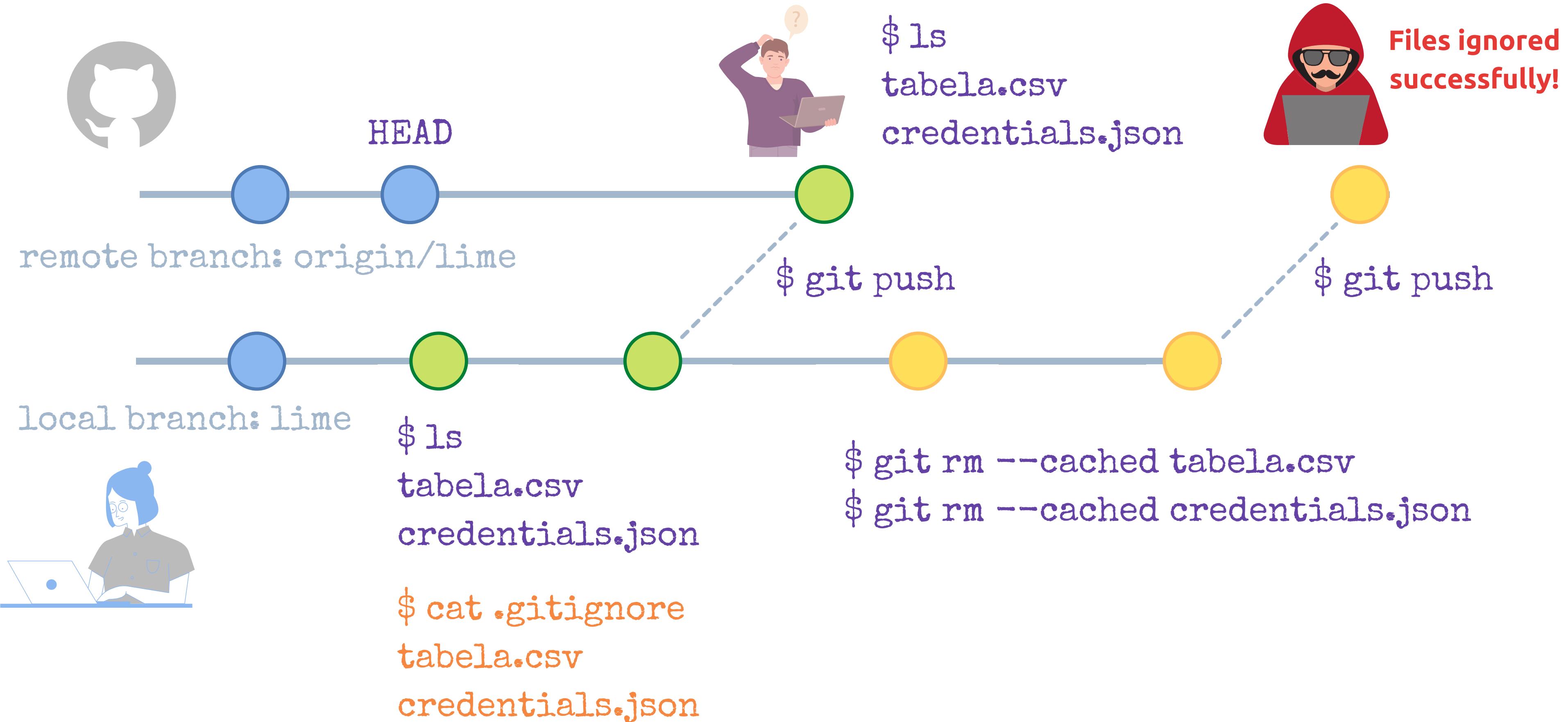
Filter ignores...

Processing
PureScript
✓ Python
Qooxdoo

Como ignorar arquivos!



Como ignorar arquivos!

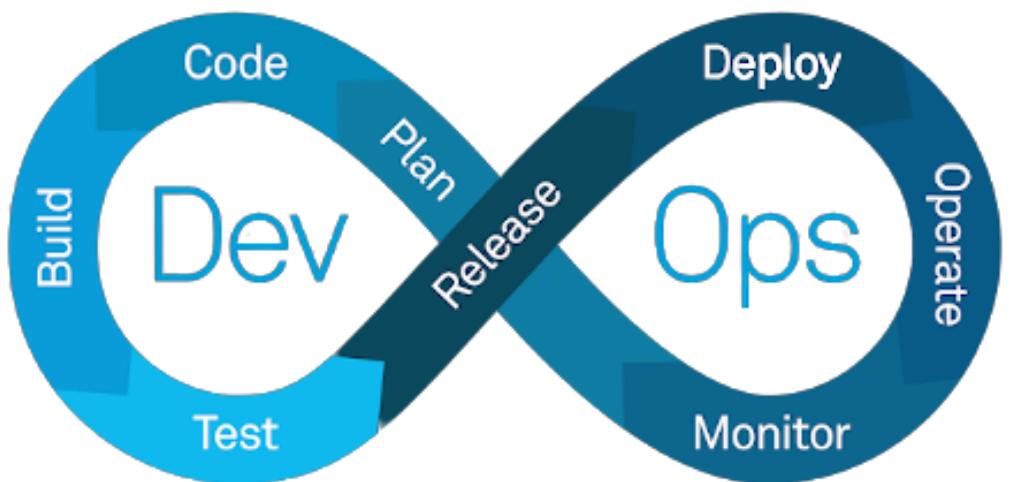
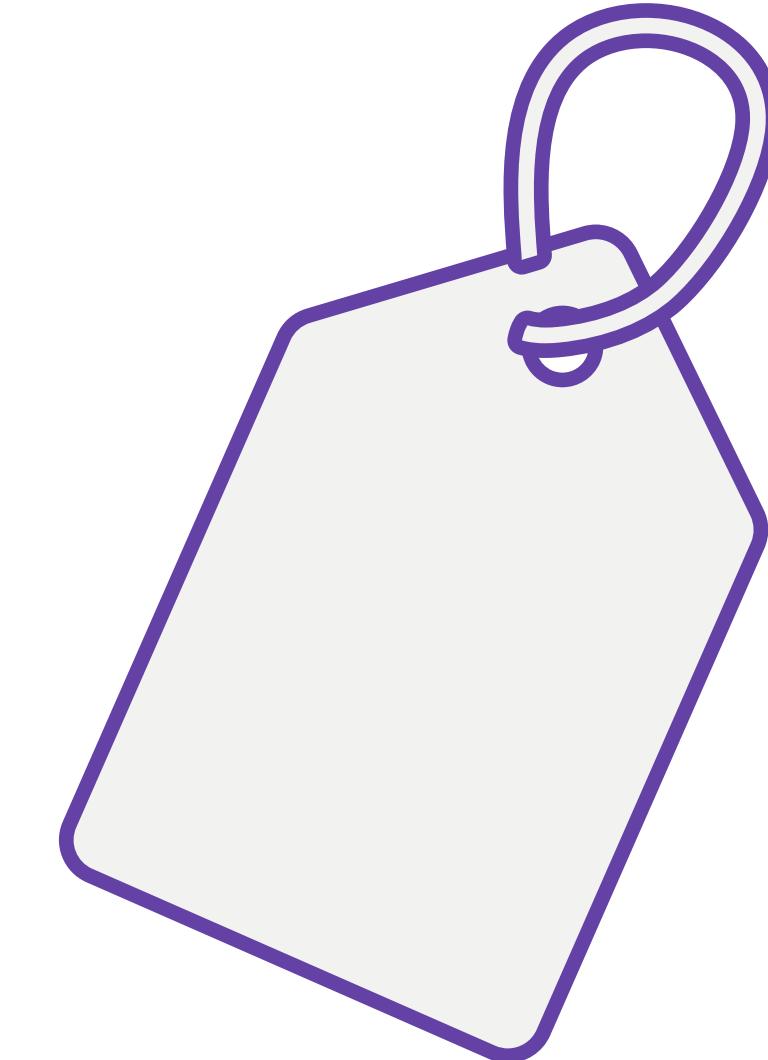


Tags!

- tags são únicas
- equivalente a novos branches (mas congelados)
- não há padrão imposto
- mas existem convenções:

Semantic Versioning 2.0.0

<https://semver.org/>



Tags!

Semantic Versioning 2.0.0
<https://semver.org/>

Given a version number MAJOR.MINOR.PATCH, increment the:

MAJOR version when you make incompatible API changes,
MINOR version when you add functionality in a backwards compatible manner, and
PATCH version when you make backwards compatible bug fixes.

Major version zero (0.y.z) is for initial development. Anything MAY change at any time. The public API SHOULD NOT be considered stable.

Tags!

```
$ git tag --annotate [x.y.z]  
    --message "[message]"
```

Como dar push em uma tag?

```
$ git push origin [branch_name] tag [x.y.z]
```

Exercise time!



- Crie uma nova tag
- add, commit, push
- Cheque a tag no GitHub

Tags!

Como clonar a partir de uma tag específica?

```
$ git clone --branch [tag_name] [clone_url]
```

Como checar qual tag atual?

```
$ git describe
```

Como imprimir a lista de tags?

```
$ git fetch --tags  
$ git tag --list
```

Checkout:

```
$ git checkout tags/[tag_name] -b [new_branch]
```

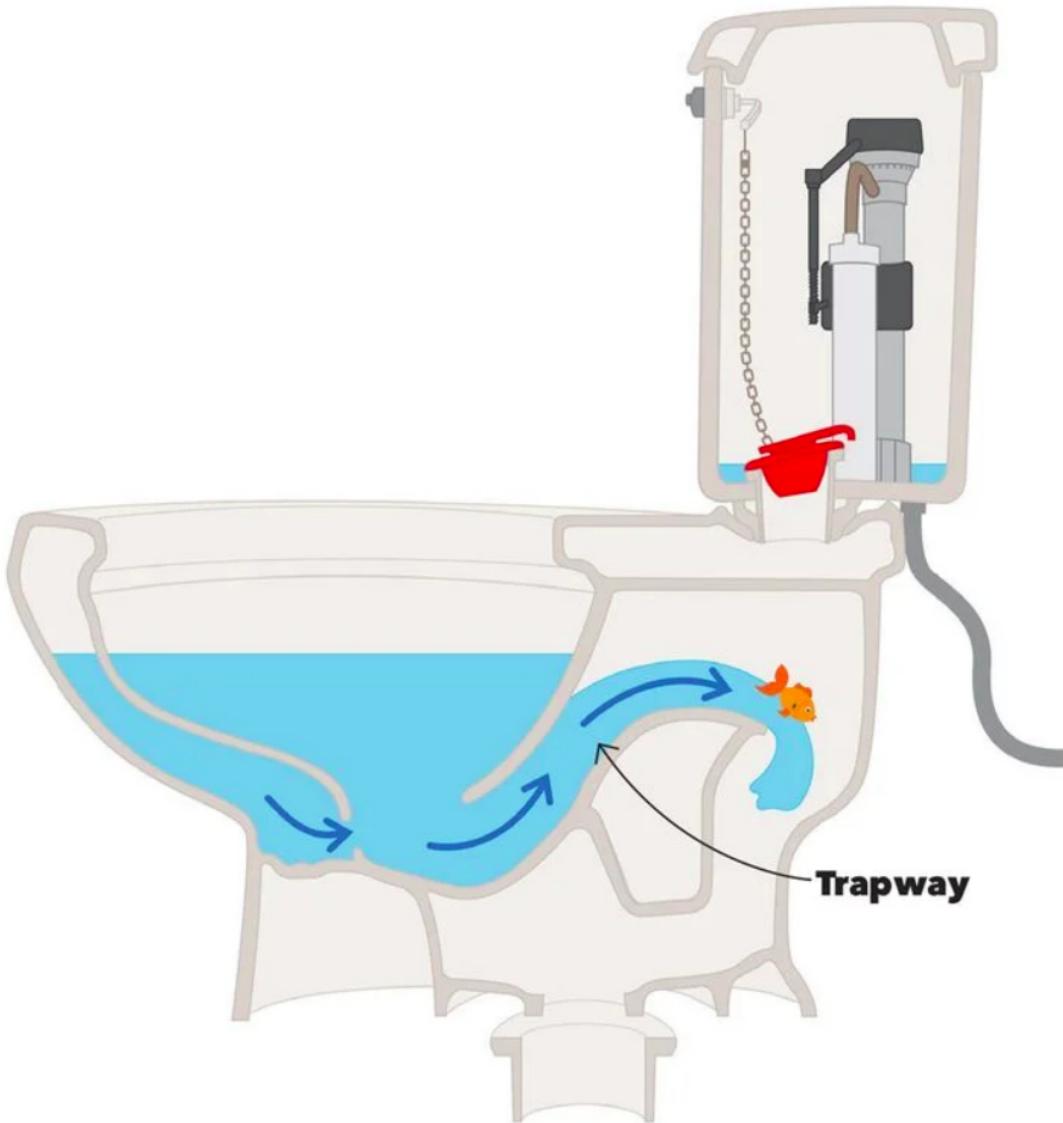
Exercise time!



- Clone a partir de uma tag específica
- Cheque qual tag atual
- Imprima a lista de tags

Porcelain

```
$ git add  
$ git commit  
$ git push  
***
```



Plumbing

```
$ git hash-object  
$ git cat-file  
***
```



Exercise time!



- Explore o diretório .git/

.git

.git geralmente é criado quando se roda

`$ git init`

or

`$ git clone`

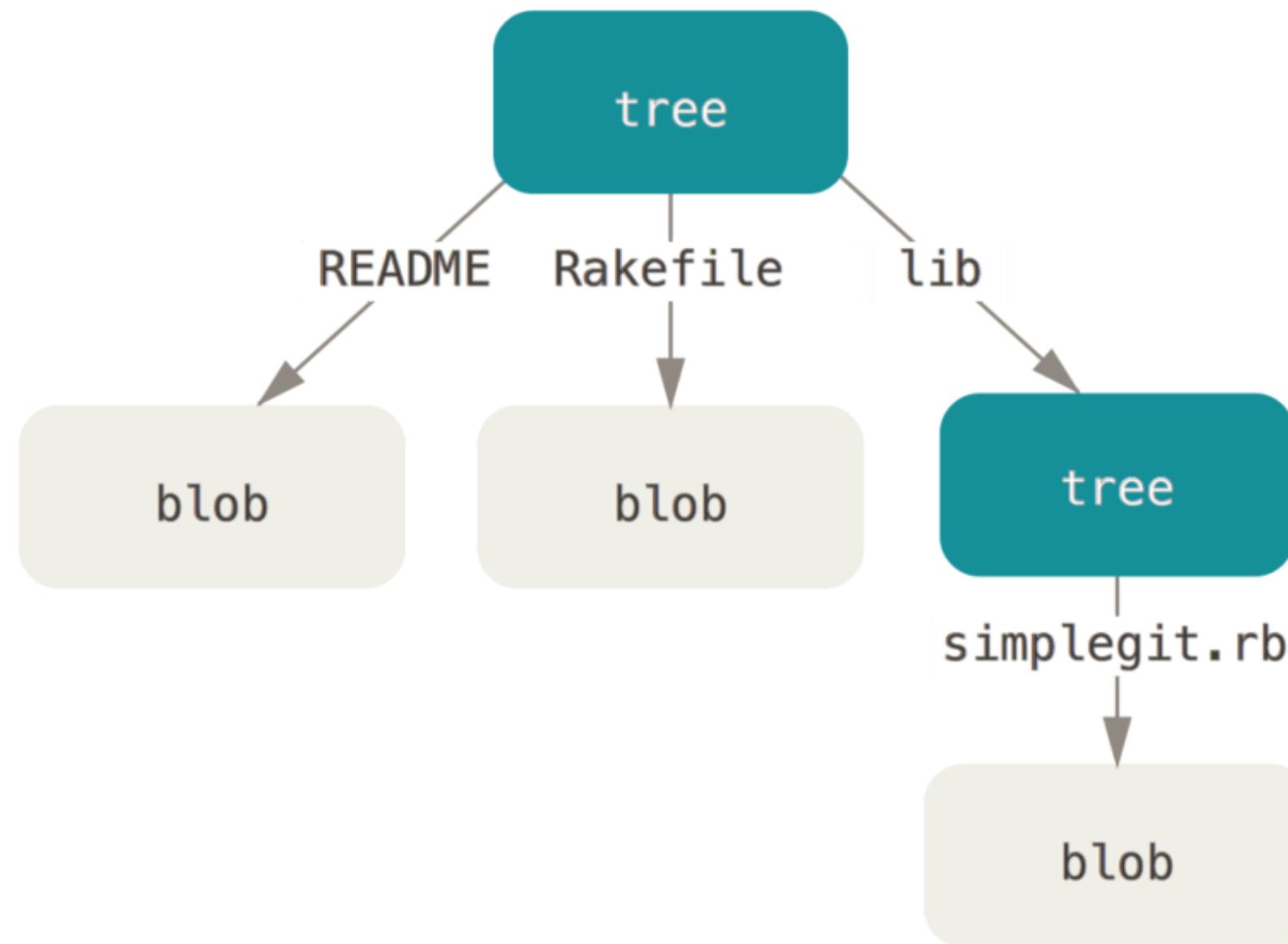
Por exemplo, logs são guardados aqui:

`$ ls -a logs/refs/heads/`

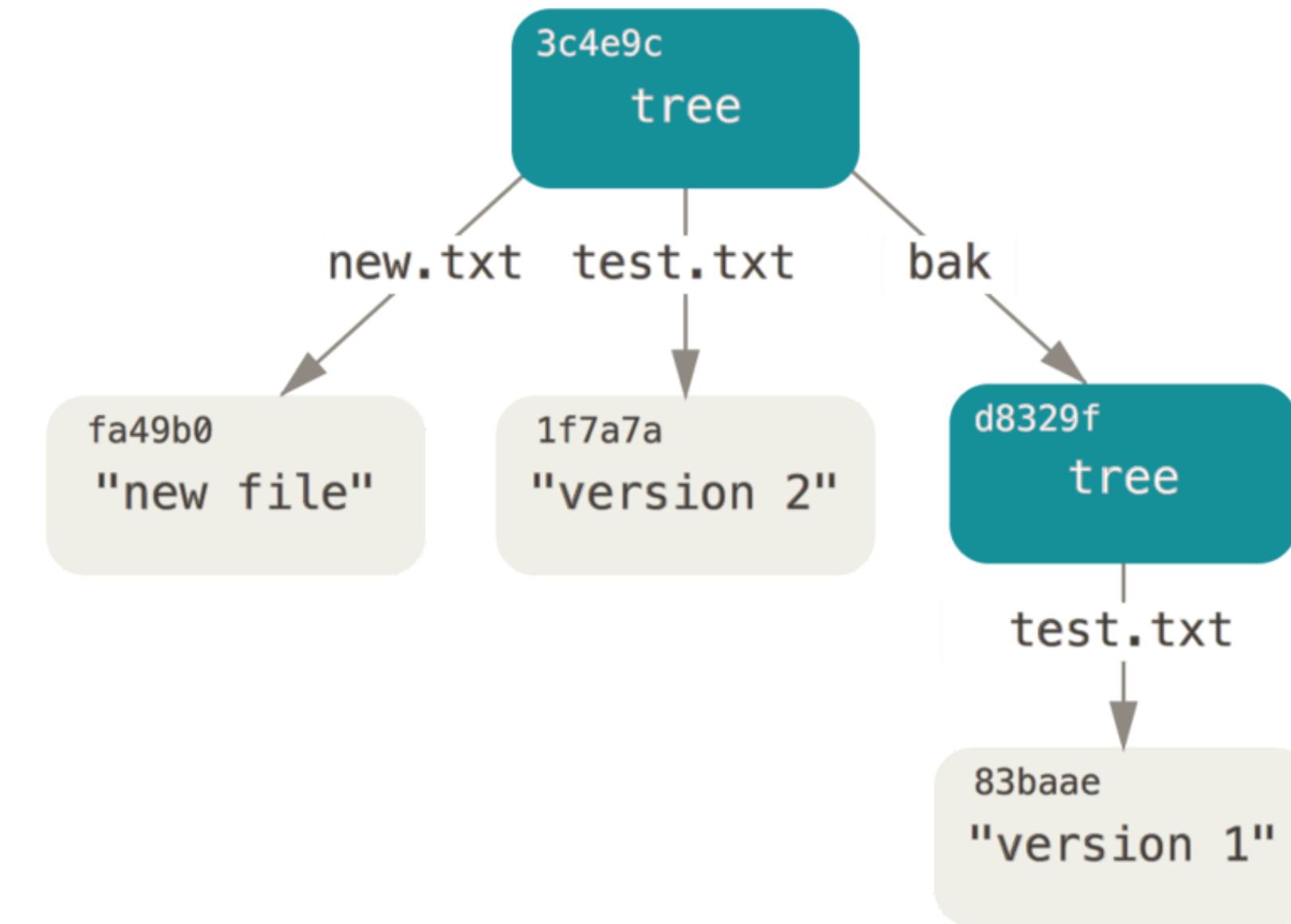
e também mostrados quando se roda:

`$ git log`

.git/objects



.git/objects



.git/objects

```
$ git cat-file -p [branch-name]^{tree}  
[imprime estados comitados de cada blob]
```

.git/objects

[um arquivo é criado ou então alterado]

```
$ git hash-object -w [file]  
f2ba8f84ab5c1bce84a7b441cb1959cf7093b7f
```

```
$ find .git/objects -type f | grep "b7f"  
.git/objects/f2/ba8f84ab5c1bce84a7b441cb1959cf7093b7f
```

```
$ git cat-file -p [old hash] > test.txt
```

Exercise time!



- Modifique um arquivo
- Escreva novos objetos
- Cheque as hashes
- Restaure os arquivos

Data Recovery

```
$ git log --pretty=oneline
```

```
$ git reset --hard la410efbd13591db07496601ebc7a059dd55cfe9
```

Você encontrará mais informações aqui: [Data-Recovery](#).

Exercise time!



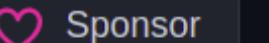
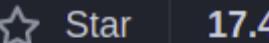
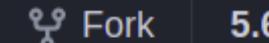
- Modifique um arquivo
- add, commit
- Restaure o commit anterior

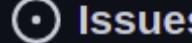
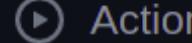
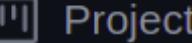
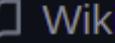
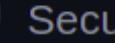
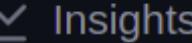
Como contribuir com projetos open-source?



Issues

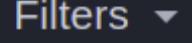
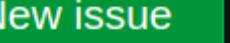
 [numpy / numpy](#)

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 Code  Issues 2.1k  Pull requests 255  Actions  Projects 8  Wiki  Security  Insights

 Want to contribute to numpy/numpy? Dismiss ▾

If you have a bug or an idea, read the [contributing guidelines](#) before opening an issue.
If you're ready to tackle some open issues, [we've collected some good first issues for you.](#)

 Filters ▾  is:issue is:open  Labels 86  Milestones 3 

 2,059 Open  7,592 Closed Author ▾ Label ▾ Projects ▾ Milestones ▾ Assignee ▾ Sort ▾

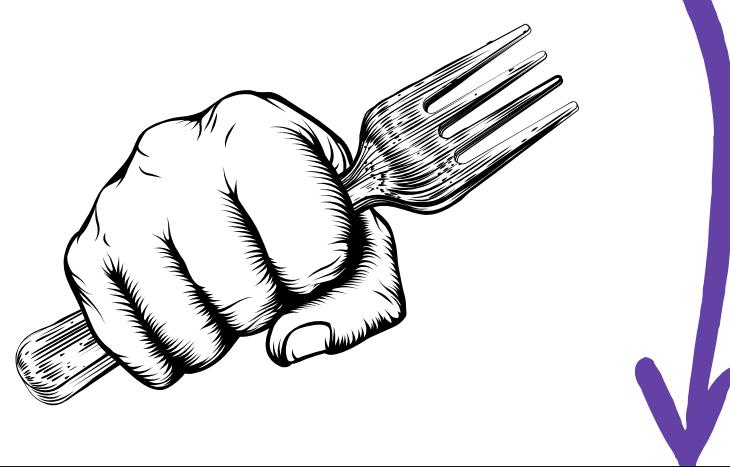
 [Consider changing the default np.indices dtype to np.intp](#) 2
#19274 opened 10 hours ago by BvB93

 [Numpy FFT precision makes phase calculations that aren't reasonable](#) 2
#19271 opened yesterday by beick3

 [PY_ARRAY_UNIQUE_SYMBOL not being obeyed when using import_array in a module](#) 2
#19270 opened yesterday by mpconte

Fork

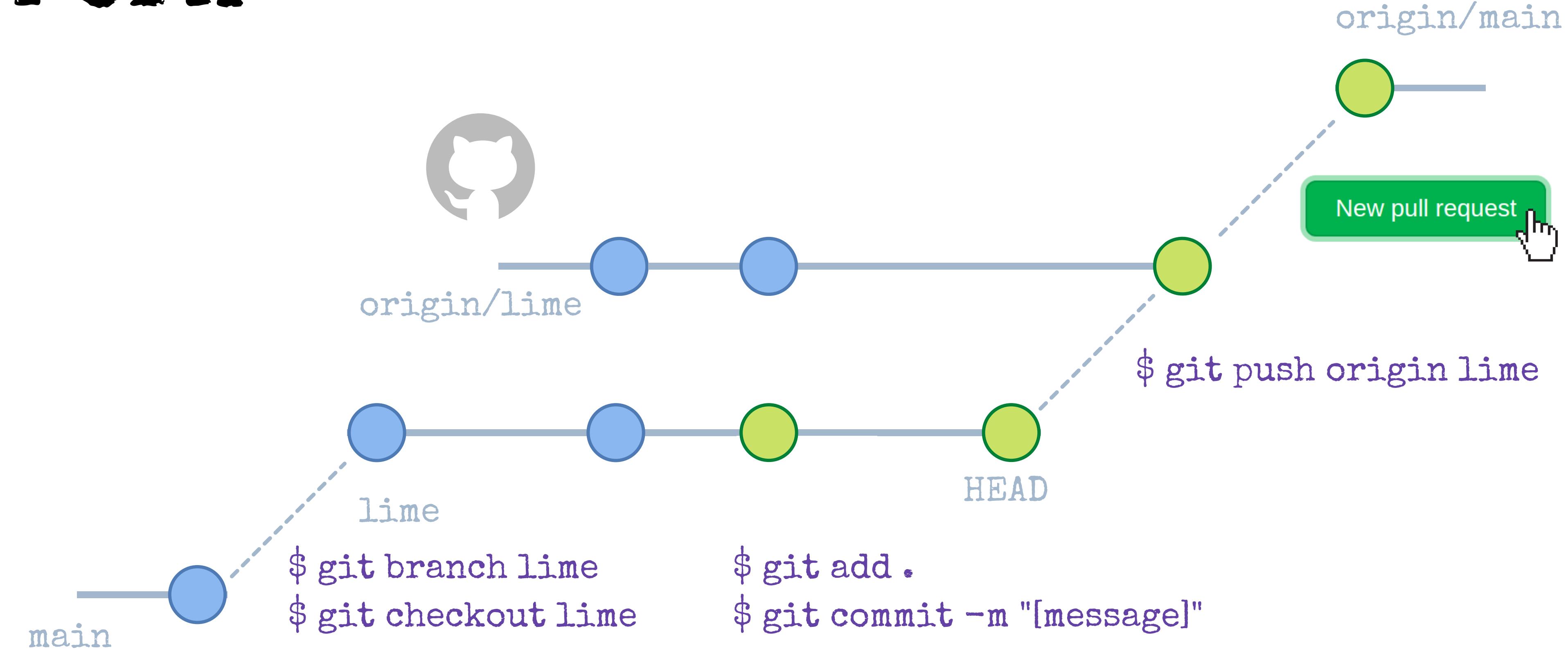
scikit-learn / **scikit-learn**



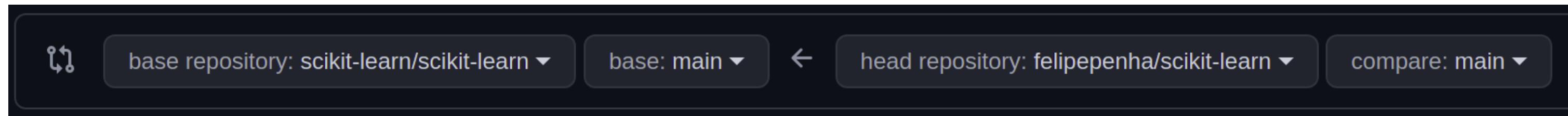
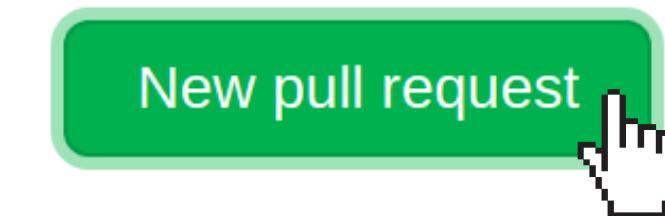
felipepenha / **scikit-learn**

forked from scikit-learn/scikit-learn

Fork



Fork



Não se esqueça de ler o CONTRIBUTING.md antes de abrir um novo PR!!!

Normalmente, o indicado é abrir uma issue primeiro para coletar votos



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OBRIGADU!

Foi demais!



Felipe Penha