

GIT E GITHUB

A sigla SHA significa Secure Hash Algorithm (Algoritmo de Hash Seguro), é um conjunto de funções hash criptográficas projetadas pela NSA (Agência de Segurança Nacional dos EUA).

A encriptação gera conjunto de caracteres identificador de 40 dígitos.

É uma forma curta de representar um arquivo.

```
1 echo "ola mundo" | openssl sha1
2 > (stdin)= f9fc856e559b950175f2b7cd7dad61facbe58e7b
```

```
wesle@DESKTOP-1FQ03QJ MINGW64 ~/Desktop/BootcampCarrefour
$ openssl sha1 texto.txt
SHA1(texto.txt)= 33cfe7a85022b288321086a77a748f9fcf66671e

wesle@DESKTOP-1FQ03QJ MINGW64 ~/Desktop/BootcampCarrefour
$ openssl sha1 texto.txt
SHA1(texto.txt)= ca5d0c79410342aee9e077820ead54680a929c6f

wesle@DESKTOP-1FQ03QJ MINGW64 ~/Desktop/BootcampCarrefour
$
```

BLOBS
TREES
COMMITS

```
1 echo 'conteudo' | git hash-object --stdin
2 > fc31e91b26cf85a55e072476de7f263c89260eb1
3
4 echo -e 'conteudo' | openssl sha1
5 > 65b0d0dda479cc03cce59528e28961e498155f5c
```

≠

```
1 echo 'conteudo' | git hash-object --stdin
2 > fc31e91b26cf85a55e072476de7f263c89260eb1
3
4 echo -e 'blob 9\0conteudo' | openssl sha1
5 > fc31e91b26cf85a55e072476de7f263c89260eb1
```

=



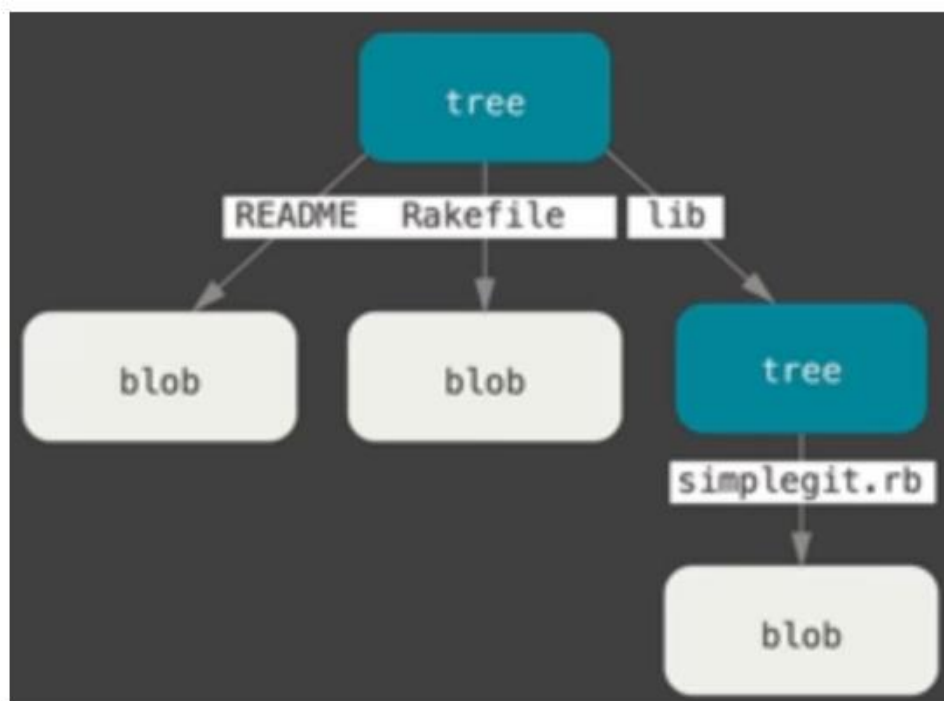
SHA1 + Metadados do GIT

Apontam para Blobs.
Podem apontar para outras trees.
Monta toda a estrutura de armazenamento dos arquivos.

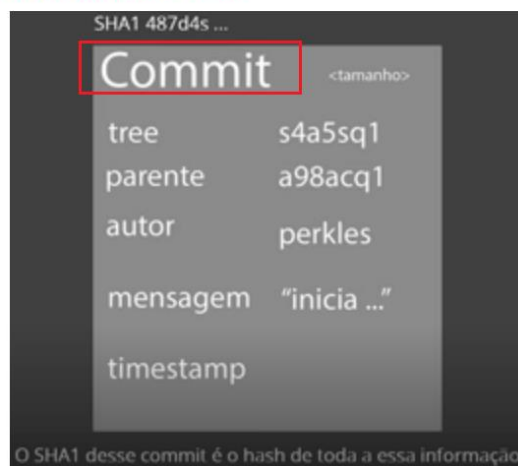


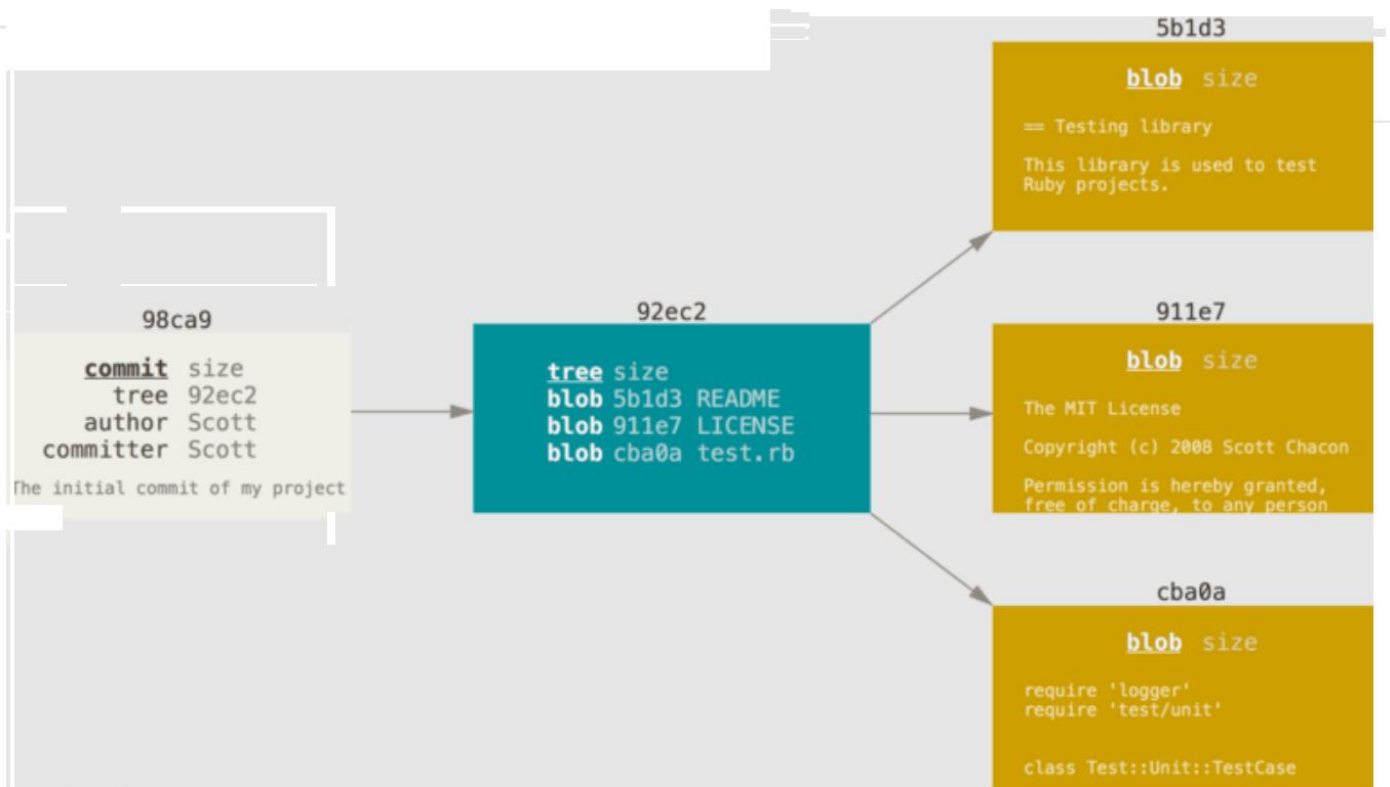
Se a encriptação SHA1 do(s) blob(s) dessa árvore mudar, o SHA1 dos metadados da tree também mudará

Guarda o nome dos arquivos dos blobs.



Apontam para trees.





Chaves SSH e Tokens

```

wesle@DESKTOP-1FQ03QJ MINGW64 ~
$ ssh-keygen -t ed25519 -C wmarques092@gmail.com
Generating public/private ed25519 key pair.
Enter file in which to save the key (/c/Users/wesle/.ssh/id_ed25519):
Created directory '/c/Users/wesle/.ssh'.
Enter passphrase (empty for no passphrase):
Enter same passphrase again:
Your identification has been saved in /c/Users/wesle/.ssh/id_ed25519
Your public key has been saved in /c/Users/wesle/.ssh/id_ed25519.pub
The key fingerprint is:
SHA256:JGMnyzcFLjuOMrg8zhKyrx1UuaMroBqecjjH8ZHM9ds wmarques092@gmail.com
The key's randomart image is:
+--[ED25519 256]--+
|
|  .
| o * + .
| . .o.X .
| . = o=.S
|=.o *o o..
|B*oo... o
|%**o. . E
|@&o
+-----[SHA256]-----+

wesle@DESKTOP-1FQ03QJ MINGW64 ~
$
  
```

```
wesle@DESKTOP-1FQ03QJ MINGW64 ~  
$ cd /c/Users/wesle/.ssh  
  
wesle@DESKTOP-1FQ03QJ MINGW64 ~/.ssh  
$ dir  
id_ed25519  id_ed25519.pub  
  
wesle@DESKTOP-1FQ03QJ MINGW64 ~/.ssh  
$ cat id_ed25519.pub  
ssh-ed25519 AAAAC3NzaC1lZDI1NTE5AAAAIPozoxJ5EJ5bHuP7uIv/fAr3ATi1D70hT0rnxp4jpV2R wmarques092@gmail.com  
  
wesle@DESKTOP-1FQ03QJ MINGW64 ~/.ssh  
$ |
```

SSH keys

[New SSH key](#)

This is a list of SSH keys associated with your account. Remove any keys that you do not recognize.



PC Windows 10

SHA256: JGmnyzcFLju0Wng8zhKyrx1UuaMroBqecjjH8ZH9ds

Added on 20 Apr 2022

Never used — Read/write

[Delete](#)

Check out our guide to [generating SSH keys](#) or troubleshoot [common SSH problems](#).

```
$ ls  
id_ed25519  id_ed25519.pub  
  
wesle@DESKTOP-1FQ03QJ MINGW64 ~/.ssh  
$ eval $(ssh-agent -s)  
Agent pid 1316  
  
wesle@DESKTOP-1FQ03QJ MINGW64 ~/.ssh  
$ ssh-add id_ed25519  
Enter passphrase for id_ed25519:  
Identity added: id_ed25519 (wmarques092@gmail.com)
```



Clone



HTTPS SSH GitHub CLI

git@github.com:wesleyveloso/DenverCoder1



Use a password-protected SSH key.



Open with GitHub Desktop



Download ZIP

```
wesle@DESKTOP-1FQ03QJ MINGW64 ~/desktop/test
$ git clone git@github.com:unickhow/twinterfell.git
Cloning into 'twinterfell'...
The authenticity of host 'github.com (20.201.28.151)' can't be established.
ED25519 key fingerprint is SHA256:+DiY3wvV6TuJJhbpZisF/zLDA0zPMSvHdkr4UvCOqU.
This key is not known by any other names
Are you sure you want to continue connecting (yes/no/[fingerprint])? yes
Warning: Permanently added 'github.com' (ED25519) to the list of known hosts.
remote: Enumerating objects: 179, done.
remote: Counting objects: 100% (179/179), done.
remote: Compressing objects: 100% (89/89), done.
remote: Total 179 (delta 92), reused 161 (delta 74), pack-reused 0
Receiving objects: 100% (179/179), 518.39 KiB | 588.00 KiB/s, done.
Resolving deltas: 100% (92/92), done.

wesle@DESKTOP-1FQ03QJ MINGW64 ~/desktop/test
$ ls
twinterfell/

wesle@DESKTOP-1FQ03QJ MINGW64 ~/desktop/test
$
```

```
wesle@DESKTOP-1FQ03QJ MINGW64 ~/Desktop/workspace
$ mkdir livro-receitas

wesle@DESKTOP-1FQ03QJ MINGW64 ~/Desktop/workspace
$ cd livro-receitas/

wesle@DESKTOP-1FQ03QJ MINGW64 ~/Desktop/workspace/livro-receitas
$ git init
Initialized empty Git repository in C:/Users/wesle/Desktop/workspace/livro-receitas/.git/

wesle@DESKTOP-1FQ03QJ MINGW64 ~/Desktop/workspace/livro-receitas (master)
$ ls

wesle@DESKTOP-1FQ03QJ MINGW64 ~/Desktop/workspace/livro-receitas (master)
$ ls -a
./ ../ .git/

wesle@DESKTOP-1FQ03QJ MINGW64 ~/Desktop/workspace/livro-receitas (master)
$ cd .git/

wesle@DESKTOP-1FQ03QJ MINGW64 ~/Desktop/workspace/livro-receitas/.git (GIT_DIR!)
$ ls
HEAD config description hooks/ info/ objects/ refs/

wesle@DESKTOP-1FQ03QJ MINGW64 ~/Desktop/workspace/livro-receitas/.git (GIT_DIR!)
$ cd ..

wesle@DESKTOP-1FQ03QJ MINGW64 ~/Desktop/workspace/livro-receitas (master)
$ |

wesle@DESKTOP-1FQ03QJ MINGW64 ~/Desktop/workspace/livro-receitas (master)
$ git config --global user.email "wmarques092@gmail.com"

wesle@DESKTOP-1FQ03QJ MINGW64 ~/Desktop/workspace/livro-receitas (master)
$ git config --global user.name wesleyveloso

wesle@DESKTOP-1FQ03QJ MINGW64 ~/Desktop/workspace/livro-receitas (master)
$
```

Markdown

```
1 # Título nível 1
2 ## Título nível 2
3 ### Título nível 3
4 #### Título nível 4
5 ##### Título nível 5
6 ##### Título nível 6
```

Navegador

Título nível 1

Título nível 2

Título nível 3

Título nível 4

Título nível 5

Título nível 6

HTML

```
1 <h1>Título nível 1</h1>
2 <h2>Título nível 2</h2>
3 <h3>Título nível 3</h3>
4 <h4>Título nível 4</h4>
5 <h5>Título nível 5</h5>
6 <h6>Título nível 6</h6>
```

```
wesle@DESKTOP-1FQ03QJ MINGW64 ~/Desktop/workspace/livro-receitas (master)
$ git config --global user.email "wmarques092@gmail.com"
```

```
wesle@DESKTOP-1FQ03QJ MINGW64 ~/Desktop/workspace/livro-receitas (master)
$ git config --global user.name wesleyveloso
```

```
wesle@DESKTOP-1FQ03QJ MINGW64 ~/Desktop/workspace/livro-receitas (master)
$ git add *
```

```
wesle@DESKTOP-1FQ03QJ MINGW64 ~/Desktop/workspace/livro-receitas (master)
$ git commit -m "initial commit"
[master (root-commit) 0fbabba] initial commit
1 file changed, 39 insertions(+)
create mode 100644 strogonoff.md
```

```
wesle@DESKTOP-1FQ03QJ MINGW64 ~/Desktop/workspace/livro-receitas (master)
$
```

Servidor

REMOTE
REPOSITORY

Ambiente de desenvolvimento

WORKING
DIRECTORY

STAGING
AREA

LOCAL
REPOSITORY

> git add

> git commit -m



```
wesle@DESKTOP-1FQ03QJ MINGW64 ~/Desktop/workspace/livro-receitas (master)
$ ls
strogonoff.md

wesle@DESKTOP-1FQ03QJ MINGW64 ~/Desktop/workspace/livro-receitas (master)
$ git status
On branch master
nothing to commit, working tree clean

wesle@DESKTOP-1FQ03QJ MINGW64 ~/Desktop/workspace/livro-receitas (master)
$ mkdir receitas

wesle@DESKTOP-1FQ03QJ MINGW64 ~/Desktop/workspace/livro-receitas (master)
$ mv strogonoff.md ./receitas/

wesle@DESKTOP-1FQ03QJ MINGW64 ~/Desktop/workspace/livro-receitas (master)
$ git status
On branch master
Changes not staged for commit:
  (use "git add/rm <file>..." to update what will be committed)
  (use "git restore <file>..." to discard changes in working directory)
    deleted:    strogonoff.md

Untracked files:
  (use "git add <file>..." to include in what will be committed)
    receitas/

no changes added to commit (use "git add" and/or "git commit -a")

wesle@DESKTOP-1FQ03QJ MINGW64 ~/Desktop/workspace/livro-receitas (master)
$ git add strogonoff.md receitas/

wesle@DESKTOP-1FQ03QJ MINGW64 ~/Desktop/workspace/livro-receitas (master)
$ git status
On branch master
Changes to be committed:
  (use "git restore --staged <file>..." to unstage)
    renamed:    strogonoff.md -> receitas/strogonoff.md
```

```

wesle@DESKTOP-1FQ03QJ MINGW64 ~/Desktop/workspace/livro-receitas (master)
$ git commit -m "cria pasta receitas, move arquivo para receitas"
[master 91c084a] cria pasta receitas, move arquivo para receitas
1 file changed, 0 insertions(+), 0 deletions(-)
rename strogonoff.md => receitas/strogonoff.md (100%)

wesle@DESKTOP-1FQ03QJ MINGW64 ~/Desktop/workspace/livro-receitas (master)
$ git status
On branch master
nothing to commit, working tree clean

wesle@DESKTOP-1FQ03QJ MINGW64 ~/Desktop/workspace/livro-receitas (master)
$ |

wesle@DESKTOP-1FQ03QJ MINGW64 ~/Desktop/workspace/livro-receitas (master)
$ echo > README.md

wesle@DESKTOP-1FQ03QJ MINGW64 ~/Desktop/workspace/livro-receitas (master)
$ git status
On branch master
Untracked files:
  (use "git add <file>..." to include in what will be committed)
      README.md

nothing added to commit but untracked files present (use "git add" to track)

wesle@DESKTOP-1FQ03QJ MINGW64 ~/Desktop/workspace/livro-receitas (master)
$ git status
On branch master
Untracked files:
  (use "git add <file>..." to include in what will be committed)
      README.md

nothing added to commit but untracked files present (use "git add" to track)

wesle@DESKTOP-1FQ03QJ MINGW64 ~/Desktop/workspace/livro-receitas (master)
$ git add *
warning: LF will be replaced by CRLF in README.md.
The file will have its original line endings in your working directory

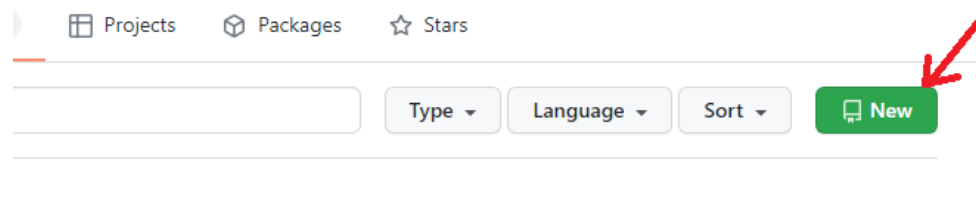
wesle@DESKTOP-1FQ03QJ MINGW64 ~/Desktop/workspace/livro-receitas (master)
$ git status
On branch master
Changes to be committed:
  (use "git restore --staged <file>..." to unstage)
      new file:   README.md

wesle@DESKTOP-1FQ03QJ MINGW64 ~/Desktop/workspace/livro-receitas (master)
$ git commit -m "adiciona index"
[master 2d54ae3] adiciona index
1 file changed, 4 insertions(+)
create mode 100644 README.md

```



```
wesle@DESKTOP-1FQ03QJ MINGW64 ~/Desktop/workspace/livro-receitas (master)
$ git config --list
diff.astextplain.textconv=astextplain
filter.lfs.clean=git-lfs clean -- %f
filter.lfs.smudge=git-lfs smudge -- %f
filter.lfs.process=git-lfs filter-process
filter.lfs.required=true
http.sslbackend=openssl
http.sslcainfo=C:/Program Files/Git/mingw64/ssl/certs/ca-bundle.crt
core.autocrlf=true
core.fscache=true
core.symlinks=true
pull.rebase=false
credential.helper=manager-core
credential.https://dev.azure.com.usehttppath=true
init.defaultbranch=master
core.editor="C:\Microsoft VS Code\bin\code" --wait
user.email=wmarques092@gmail.com
user.name=wesleyveloso
core.repositoryformatversion=0
core.filemode=false
core.bare=false
core.logallrefupdates=true
core.symlinks=false
core.ignorecase=true
```



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

```
git remote add origin git@github.com:wesleyveloso/livro-receitas.git
git branch -M main
git push -u origin main
```

```
wesle@DESKTOP-1FQ03QJ MINGW64 ~/Desktop/workspace/livro-receitas (master)
$ git remote add origin https://github.com/wesleyveloso/livro-receitas.git

wesle@DESKTOP-1FQ03QJ MINGW64 ~/Desktop/workspace/livro-receitas (master)
$ git remote -v
origin https://github.com/wesleyveloso/livro-receitas.git (fetch)
origin https://github.com/wesleyveloso/livro-receitas.git (push)

wesle@DESKTOP-1FQ03QJ MINGW64 ~/Desktop/workspace/livro-receitas (master)
$ git status
On branch master
nothing to commit, working tree clean

wesle@DESKTOP-1FQ03QJ MINGW64 ~/Desktop/workspace/livro-receitas (master)
$ git push origin master
Enumerating objects: 8, done.
Counting objects: 100% (8/8), done.
Delta compression using up to 4 threads
Compressing objects: 100% (6/6), done.
Writing objects: 100% (8/8), 1.15 KiB | 1.15 MiB/s, done.
Total 8 (delta 0), reused 0 (delta 0), pack-reused 0
To https://github.com/wesleyveloso/livro-receitas.git
* [new branch]      master -> master
```

merge conflict

```
Otavio@perkles-desktop MINGW64 /c/workspace/livro-receitas (master)
$ git commit -m "Adiciona receita pave"
[master db01f74] Adiciona receita pave
1 file changed, 2 insertions(+), 1 deletion(-)
```

```
Otavio@perkles-desktop MINGW64 /c/workspace/livro-receitas (master)
$ git push origin master
To https://github.com/Perkles/livro-receitas.git
! [rejected]        master -> master (fetch first)
error: failed to push some refs to 'https://github.com/Perkles/livro-receitas.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.
```

```
Otavio@perkles-desktop MINGW64 /c/workspace/livro-receitas (master)
$ git pull origin master
remote: Enumerating objects: 5, done.
remote: Counting objects: 100% (5/5), done.
remote: Compressing objects: 100% (3/3), done.
remote: Total 3 (delta 1), reused 0 (delta 0), pack-reused 0
Unpacking objects: 100% (3/3), 701 bytes | 50.00 KiB/s, done.
From https://github.com/Perkles/livro-receitas
* branch                master      -> FETCH_HEAD
   54c6046..eldee1e      master      -> origin/master
Auto-merging README.md
CONFLICT (content): Merge conflict in README.md
Automatic merge failed; fix conflicts and then commit the result.
```

```
Otavio@perkles-desktop MINGW64 /c/workspace/livro-receitas (master|MERGING)
$ git status
On branch master
You have unmerged paths.
  (fix conflicts and run "git commit")
  (use "git merge --abort" to abort the merge)

Unmerged paths:
  (use "git add <file>..." to mark resolution)
    both modified:   README.md

no changes added to commit (use "git add" and/or "git commit -a")

Otavio@perkles-desktop MINGW64 /c/workspace/livro-receitas (master|MERGING)
$ git add *

Otavio@perkles-desktop MINGW64 /c/workspace/livro-receitas (master|MERGING)
$ git commit -m "resolve conflitos"
[master b0d5f85] resolve conflitos
```

```
Otavio@perkles-desktop MINGW64 /c/workspace/livro-receitas (master)
$ git push origin master
Enumerating objects: 10, done.
Counting objects: 100% (10/10), done.
Delta compression using up to 8 threads
Compressing objects: 100% (6/6), done.
Writing objects: 100% (6/6), 610 bytes | 610.00 KiB/s, done.
Total 6 (delta 2), reused 0 (delta 0), pack-reused 0
remote: Resolving deltas: 100% (2/2), completed with 1 local object.
To https://github.com/Perkles/livro-receitas.git
   eldee1e..b0d5f85  master -> master
```