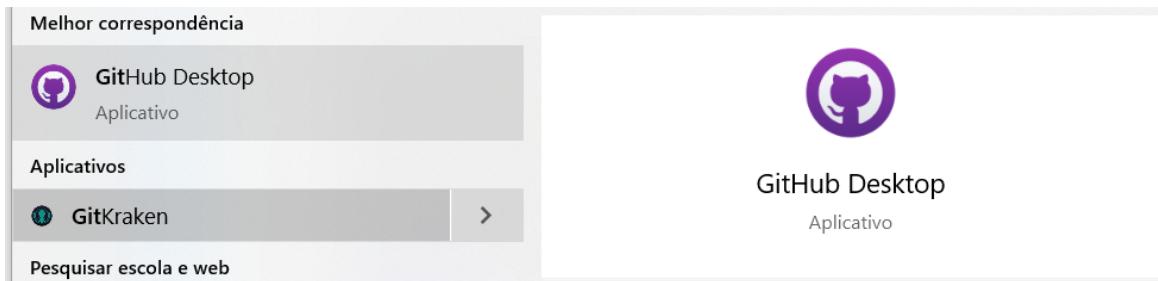


# Trilha de DataScience Santander Coders 2023

## git vs github

Aluno: Givanildo de Sousa Gramacho

O Git é um sistema de controle de versão, ou seja, é uma ferramenta que permite que você acompanhe as mudanças feitas em arquivos e pastas ao longo do tempo. Ele registra cada alteração realizada nos arquivos, permitindo que você visualize o histórico completo das modificações. Com o Git, é possível criar diferentes "versões" de um projeto, facilitando o trabalho em equipe e a colaboração.



Agora, o GitHub é uma plataforma online que utiliza o Git. O GitHub permite que você armazene seus projetos Git em um repositório online, compartilhe-os com outras pessoas e trabalhe de forma colaborativa. É como uma rede social para programadores, onde eles podem compartilhar, colaborar e contribuir para projetos em equipe.

A screenshot of a GitHub user profile page for 'givgramacho'. At the top, there's a header with navigation links: Overview, Repositories (59), Projects, Packages, Stars (7). Below the header is a profile picture of a man and the name 'Givanildo Gramacho' with the handle 'givgramacho'. A bio states: 'Post-Graduation Control Automation at Federal Institute of São Paulo-CEO CHECKCELL Technologies R&amp;D-Artificial Intelligence, Quantum Computing &amp; Control System'. Below the bio are 'Popular repositories': 'CERN-Quantum-Computing-Course' (Public, 7 stars, 12 forks) and 'Course-deeplearning-with-Pytorch-udacity' (Public, 3 stars, 8 forks). To the right, there's a section for 'Customize your pins' with a repository 'EstatisticaProbabilidadeDataScience' (Public, 5 stars, 8 forks).

Quando você usa o Git e o GitHub, você pode clonar (ou seja, fazer uma cópia) de um repositório Git do GitHub para o seu computador. Isso permite que você trabalhe em seus próprios projetos ou em projetos de outras pessoas. Você pode fazer alterações nos arquivos, adicionar novos arquivos ou até mesmo excluir arquivos. Após fazer essas modificações, você pode "confirmar" as alterações, criando uma nova versão no histórico do Git.

A screenshot of a GitHub repository page for 'givgramacho / CERN-Quantum-Computing-Course'. The repository is public and has 12 stars and 7 forks. The 'Code' tab is selected, showing a list of files: 'main', '1.-Hello, quantum world! in Qiskit\_CE...', '10.-MaxCut.py', '11.-QAOA.ipynb', '12.-VQE.ipynb', '13.-QSVM.ipynb', '14.-VQC.ipynb', '15.-QGAN-results.ipynb', and '15.-QGAN.ipynb'. On the right, there's an 'About' section with a detailed description of the repository: 'Quantum computing is one of the most promising new trends in information processing. In this course, we will introduce from scratch the basic concepts of the quantum circuit model (qubits, gates and measures) and use them to study some of the most important quantum algorithms and protocols, including those that can be implemented with a few qubits ...'. There are also links for 'Readme', '12 stars', '2 watching', and '7 forks'.

Uma vez que você tenha feito suas alterações locais, você pode "enviar" essas modificações para o repositório no GitHub, atualizando o histórico e tornando suas alterações visíveis para outros colaboradores do projeto. Por meio do GitHub, outras pessoas podem ver suas alterações, fazer comentários e até mesmo contribuir com suas próprias modificações.

O GitHub também é útil para colaboração e gerenciamento de projetos. Ele possui recursos para rastrear problemas (como bugs ou solicitações de recursos), permitindo que você acompanhe o progresso e trabalhe em conjunto para resolver esses problemas.

Resumindo, o Git é uma ferramenta de controle de versão que registra as alterações em arquivos e pastas, enquanto o GitHub é uma plataforma online que utiliza o Git, permitindo que você armazene, compartilhe e colabore em projetos com outras pessoas.

## 01. O que é Git?



### Versionamento

- Registro de mudanças em arquivos, que possibilita recuperação ou acesso a versões anteriores;
- Desenvolvimento de código em colaboração com outros integrantes.

### O que é Git?

Git é um sistema de versionamento de código, que guarda os registros de versão como **snapshots** (fotos) do estado do projeto, além da referência/caminho para essa foto.

#### Git e suas operações locais

A maioria das operações feitas pelo Git são locais e por isso boa parte das operações são praticamente instantâneas devido à facilidade de acessar arquivos em seu próprio computador.

## 02. Instalando e configurando o Git

[Link para baixar](#)

# Downloads



Older releases are available and the [Git source repository](#) is on GitHub.



The screenshot shows the official Git website. At the top, there's a navigation bar with the Git logo (a red diamond with a white 'g') and the text "git --distributed-even-if-your-workflow-isnt". Below the logo is a search bar with the placeholder "Search entire site...". The main content area has a dark header with the text "Download for Windows". Underneath, there's a paragraph about the latest release (version 2.40.1) and its availability. A section titled "Other Git for Windows downloads" lists several options: "Standalone Installer", "32-bit Git for Windows Setup.", "64-bit Git for Windows Setup.", "Portable ("thumbdrive edition")", "32-bit Git for Windows Portable.", and "64-bit Git for Windows Portable.". Below this is a section titled "Using winget tool" with instructions on how to install it and a command-line example: "winget install --id Git.Git -e --source winget".

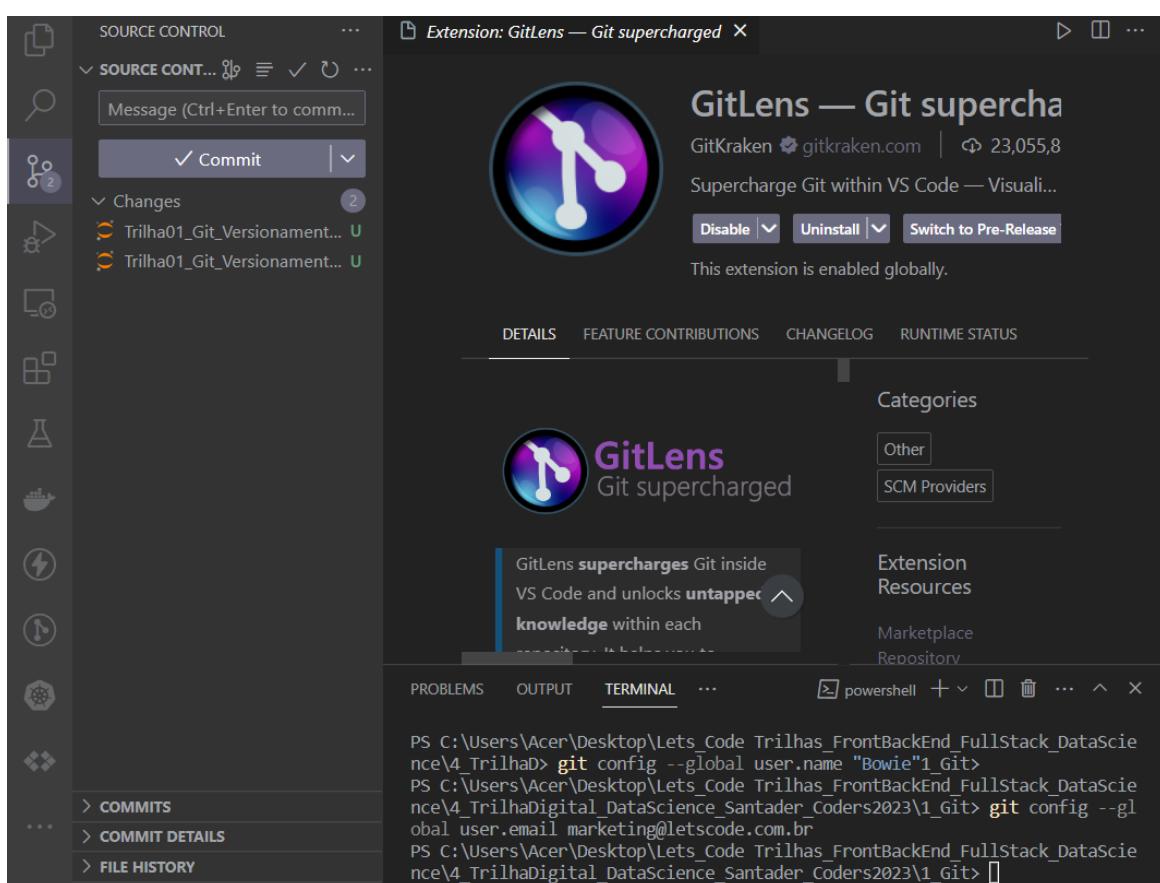
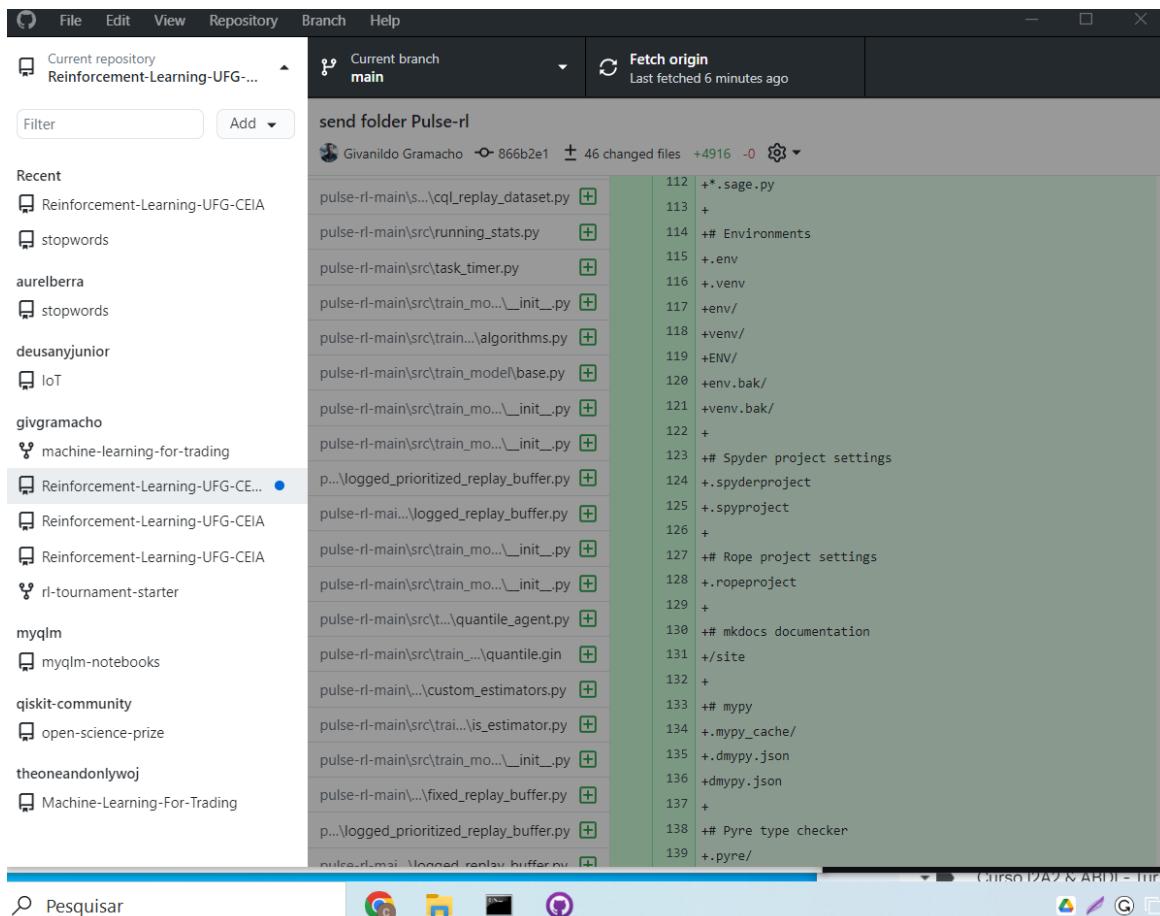
## Verificar versão do git

```
C:\Users\Acer>git --version  
git version 2.33.1.windows.1
```

Serve para qualquer comando.

## Tipos de acessos e software do git

- VS CODE Shell
- Github Desktop
- Git por terminal



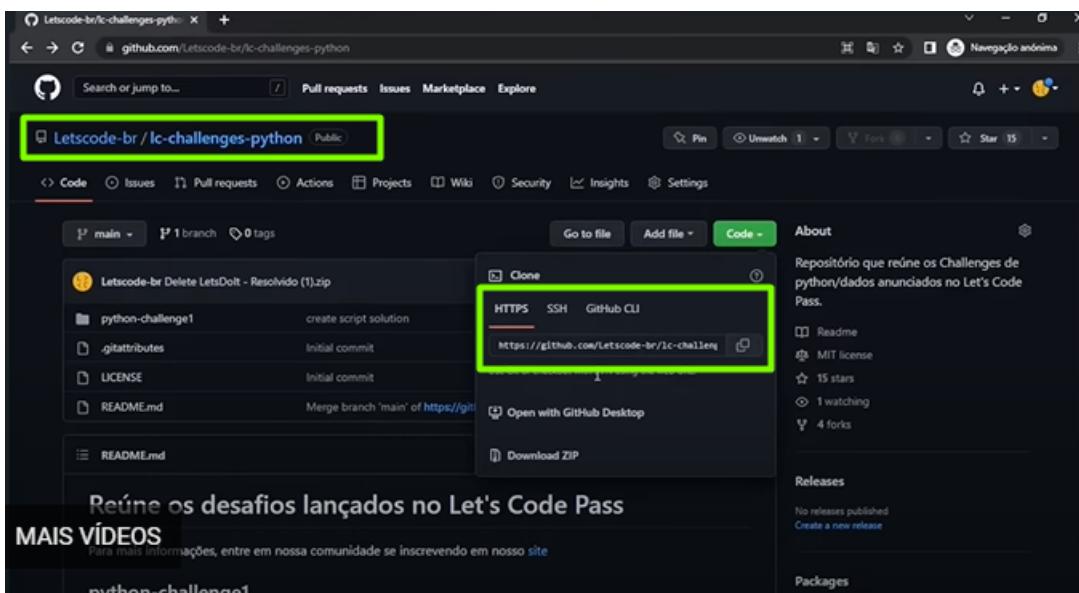
## Comandos git Vscode powershell

```
git config --global user.name "givgramacho"
```

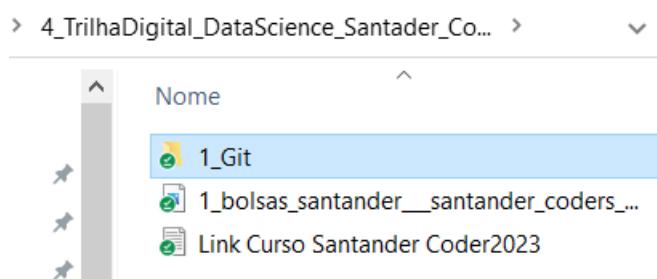
```
git config --global user.email checkcell@hotmail.com
```

## 03. Reppositórios do Git

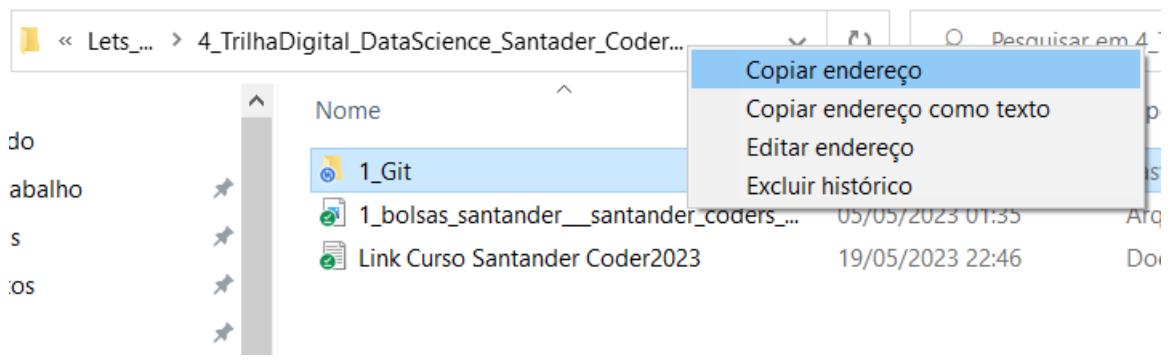
Copie o código https no repositório



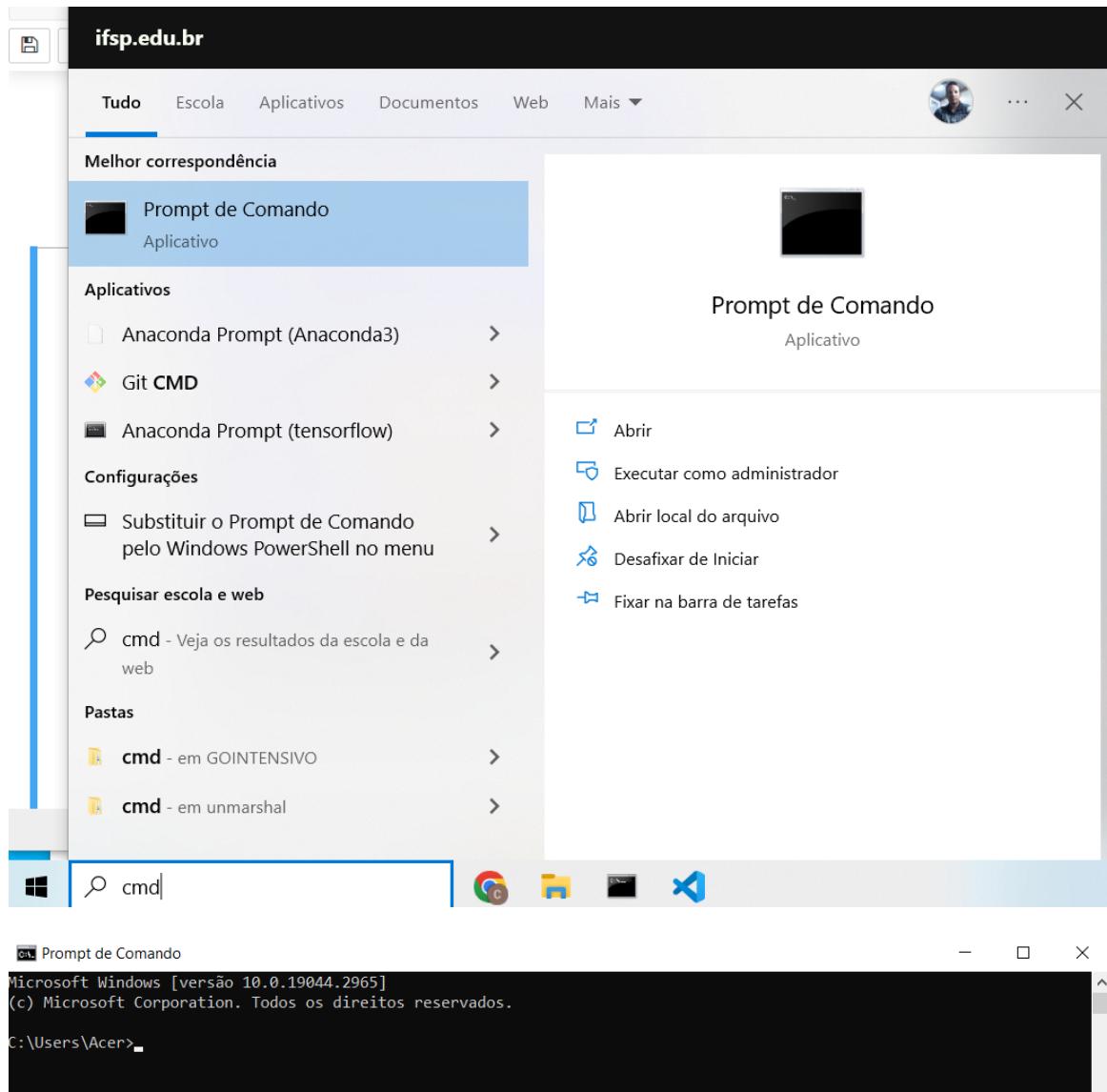
Depois que copiou o código no nosso computador terá a pasta



Copio o caminho da pasta do computador antes da pasta que criou



Abra o prompt de comando "cmd"



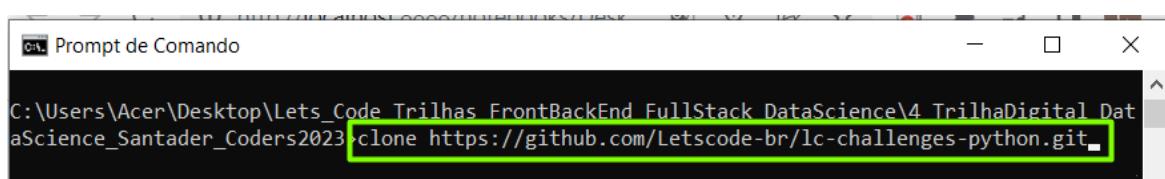
### Entrar no promp com comando:

```
cmd Prompt de Comando
Microsoft Windows [versão 10.0.19044.2965]
(c) Microsoft Corporation. Todos os direitos reservados.

C:\Users\Acer>cd C:\Users\Acer\Desktop\Lets_Code_Trilhas_FrontBackEnd_FullStack_DataScience\4_TrilhaDigital_DataScience_Santader_Coders2023
```

cd "caminho da pasta" conforme figura acima

Clonar repositório desejado na pasta desejada



- Clone Digite no ""prompt comando"" da pasta que vai fazer clone do projeto

clone <https://github.com/Letscode-br/lc-challenges-python.git>

### opção de do opção do git desktop

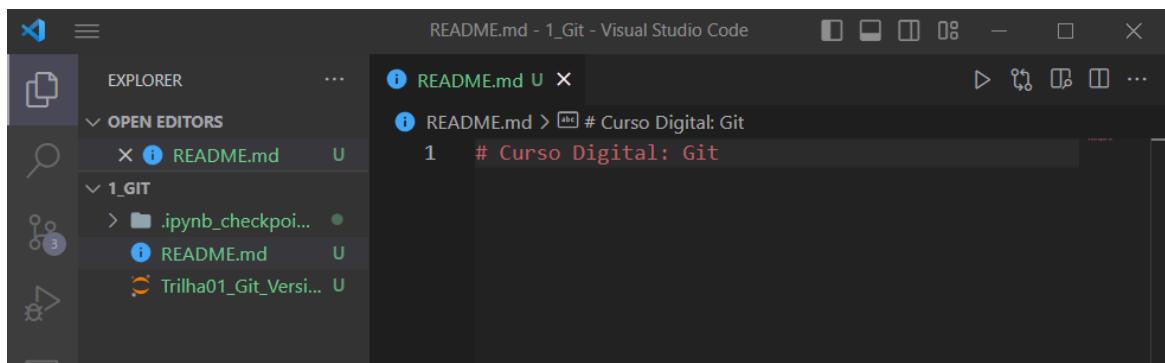


[GitHub Desktop](#)

Aplicativo

## 04. Gravando mudanças no repositório

Temos um `readme.md` dentro do repositório



Possíveis status que o git classifica nossos arquivos no repositório.



## Verificar status

```
git status
```

adiciona as modificações para area de stage

```
git add .
```

## 05. Git diff, commit e rm

```
Windows PowerShell
Copyright (C) Microsoft Corporation. Todos os direitos reservados.

Experimente a nova plataforma cruzada PowerShell https://aka.ms/pscore6
PS C:\Users\lcode\projects\git-digital-course> git status
```

```
File Edit Selection View Go Run Terminal Help README.md - git-digital-course - Visual Studio Code
PROBLEMS OUTPUT DEBUG CONSOLE TERMINAL GITLENS
Windows PowerShell
Copyright (C) Microsoft Corporation. Todos os direitos reservados.

Experimente a nova plataforma cruzada PowerShell https://aka.ms/pscore6
PS C:\Users\lcode\projects\git-digital-course> git status
Your branch is up to date with 'origin/master'.

Changes not staged for commit:
  (use "git add <file>..." to update what will be committed)
  (use "git restore <file>..." to discard changes in working directory)
    modified:   README.md
Arquivo modificado
no changes added to commit (use "git add" and/or "git commit -a")
```

git diff o que foi modificado

File Edit Selection View Go Run Terminal Help

README.md - git-digital-course - Visual Studio Code

SOURCE CONTROL

Message (Ctrl+Enter to comm...)

Changes

✓ Commit

README.md

Changes not staged for commit:

- (use "git add <file>..." to update what will be committed)
- (use "git restore <file>" to discard changes in working directory)

modified: README.md

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

PS C:\Users\lcode\projects\git-digital-course> git diff

Linhas que foram acrescentadas está em verde

```
no changes added to commit (use "git add" and/or "git commit -a")
PS C:\Users\lcode\projects\git-digital-course> git diff
diff --git a/README.md b/README.md
index 8edd294..20318c2 100644
--- a/README.md
+++ b/README.md
@@ -1 +1,3 @@
# Curso Digital: Git
+
## Salvando modificações no Git
PS C:\Users\lcode\projects\git-digital-course>
```

File Edit Selection View Go Run Terminal Help

README.md - git-digital-course - Visual Studio Code

SOURCE CONTROL

Message (Ctrl+Enter to comm...)

Changes

✓ Commit

README.md

Changes not staged for commit:

- (use "git add <file>..." to update what will be committed)
- (use "git restore <file>" to discard changes in working directory)

modified: README.md

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

PS C:\Users\lcode\projects\git-digital-course> git diff

diff --git a/README.md b/README.md
index 8edd294..20318c2 100644
--- a/README.md
+++ b/README.md
@@ -1 +1,3 @@
# Curso Digital: Git
+
## Salvando modificações no Git
PS C:\Users\lcode\projects\git-digital-course>

File Edit Selection View Go Run Terminal Help

README.md - git-digital-course - Visual Studio Code

SOURCE CONTROL

Message (Ctrl+Enter to comm...)

✓ Commit

Staged Changes

Changes

COMMITS

FILE HISTORY

BRANCHES

REMOTES

STASHES

TAGS

WORKTREES

SEARCH & COMPARE

TERMINAL

problems output debug console gitLens

```
+# Curso Digital: Git/Versionamento
+
++# Salvando modificações no Git
PS C:\Users\lcode\projects\git-digital-course> git add .\README.md
PS C:\Users\lcode\projects\git-digital-course> git diff
PS C:\Users\lcode\projects\git-digital-course> git diff --staged
```

File Edit Selection View Go Run Terminal Help

README.md - git-digital-course - Visual Studio Code

SOURCE CONTROL

Message (Ctrl+Enter to comm...)

✓ Commit

Staged Changes

Changes

COMMITS

FILE HISTORY

BRANCHES

REMOTES

STASHES

TAGS

WORKTREES

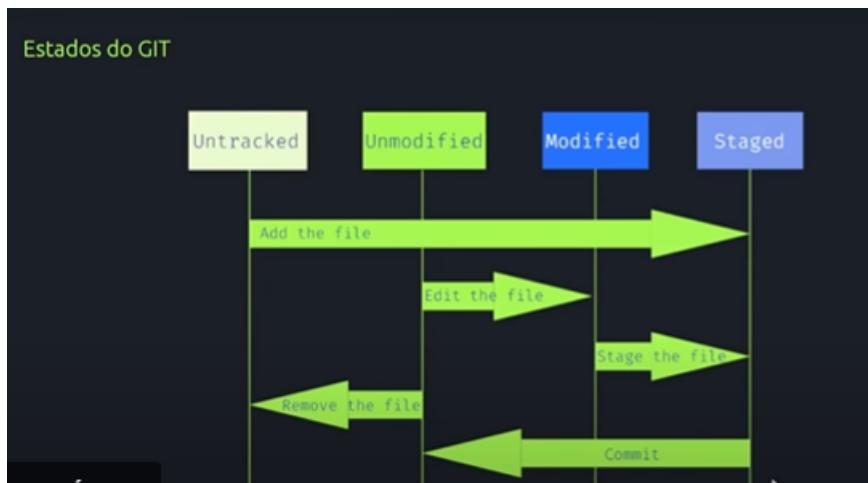
SEARCH & COMPARE

TERMINAL

problems output debug console gitLens

```
PS C:\Users\lcode\projects\git-digital-course> git diff --staged
diff --git a/README.md b/README.md
index 8edd294..e0871ef 100644
--- a/README.md
+++ b/README.md
@@ -1 +1,3 @@
-# Curso Digital: Git
+# Curso Digital: Git/Versionamento
+
++# Salvando modificações no Git
PS C:\Users\lcode\projects\git-digital-course>
```

Recuperar e passar o estágio para repositório



`git commit -m " mensagem"`

SOURCE CONTROL

Message (Ctrl+Enter to commit...)

✓ Commit

Staged Changes

Changes

COMMITS

FILE HISTORY

BRANCHES

REMOTES

STASHES

TAGS

WORKTREES

SEARCH & COMPARE

README.md M

# Curso Digital: Git/Versionamento

You, 1 minute ago | 1 author (You)

You, 1 minute ago | 1 author (You)

# Salvando modificações no Git

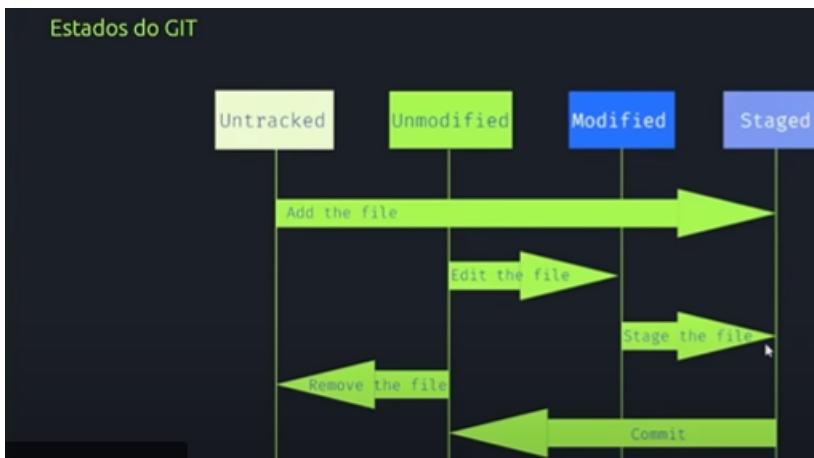
PROBLEMS OUTPUT DEBUG CONSOLE TERMINAL GITLENS

PS C:\Users\lcode\projects\git-digital-course> git diff --staged  
diff --git a/README.md b/README.md  
index 8edd294..e08871ef 100644  
--- a/README.md  
+++ b/README.md  
@@ -1 +1,3 @@  
-# Curso Digital: Git  
+# Curso Digital: Git/Versionamento  
+  
+# Salvando modificações no Git  
PS C:\Users\lcode\projects\git-digital-course> git commit -m "add new title"

PROBLEMS OUTPUT DEBUG CONSOLE TERMINAL GITLENS

index 8edd294..e08871ef 100644  
--- a/README.md  
+++ b/README.md  
@@ -1 +1,3 @@  
-# Curso Digital: Git  
+# Curso Digital: Git/Versionamento  
+  
+# Salvando modificações no Git  
PS C:\Users\lcode\projects\git-digital-course> git commit -m "add new title"  
[master 9e85b8b] add new title  
1 file changed, 3 insertions(+), 1 deletion(-)  
PS C:\Users\lcode\projects\git-digital-course>

## 06. Git log e restore



PROBLEMS OUTPUT DEBUG CONSOLE TERMINAL GITLENS

Windows PowerShell  
Copyright (C) Microsoft Corporation. Todos os direitos reservados.  
Experimente a nova plataforma cruzada PowerShell <https://aka.ms/pscore6>

PS C:\Users\lcode\projects\git-digital-course> git add .\README.md

Windows PowerShell  
Copyright (C) Microsoft Corporation. Todos os direitos reservados.  
Experimente a nova plataforma cruzada PowerShell <https://aka.ms/pscore6>

PS C:\Users\lcode\projects\git-digital-course> git add .\README.md  
PS C:\Users\lcode\projects\git-digital-course> git commit -m "add new title"

git log traz os ultimos commits que foram feitos

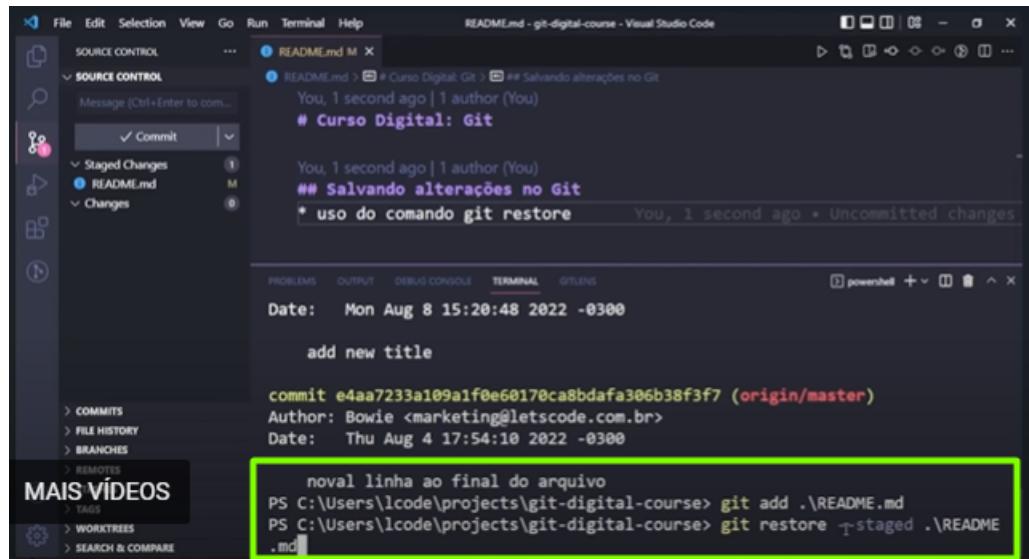
```
PS C:\Users\lcode\projects\git-digital-course> git add .\README.md
PS C:\Users\lcode\projects\git-digital-course> git commit -m "add new title"

[master 7e54cdb] add new title
 1 file changed, 2 insertions(+)
PS C:\Users\lcode\projects\git-digital-course> git log
commit 7e54cdbde0f1f4cd21599f4ef08d72699c8a26de (HEAD -> master)
Author: Bowie <marketing@letscode.com.br>
Date:   Mon Aug 8 15:20:48 2022 -0300

    add new title

commit e4aa7233a109a1f0e60170ca8bdafa306b38f3f7 (origin/master)
Author: Bowie <marketing@letscode.com.br>
Date:   Thu Aug 4 17:54:10 2022 -0300
:...skipping...
commit 7e54cdbde0f1f4cd21599f4ef08d72699c8a26de (HEAD -> master)
```

restore para changed



retorna para area de modified

## 07. Reppositórios remotos

Interagir com os repositórios remotos

- git add .
- git commit -m "mensagem"
- git remote

output: origin

- git push origin master

```

PS C:\Users\lcode\projects\git-digital-course> git add .\README.md
PS C:\Users\lcode\projects\git-digital-course> git commit -m "add new command"
[master 21605e4] add new command
1 file changed, 1 insertion(+)
PS C:\Users\lcode\projects\git-digital-course> git remote
origin
PS C:\Users\lcode\projects\git-digital-course> git push origin master

```

Fazendo alterações no repositório remoto.

- git pull

recebe todas as modificações realizadas remotamente.

- git fetch

para verificar o que foi modificado sem modificar o arquivo local

## 08. GitHub

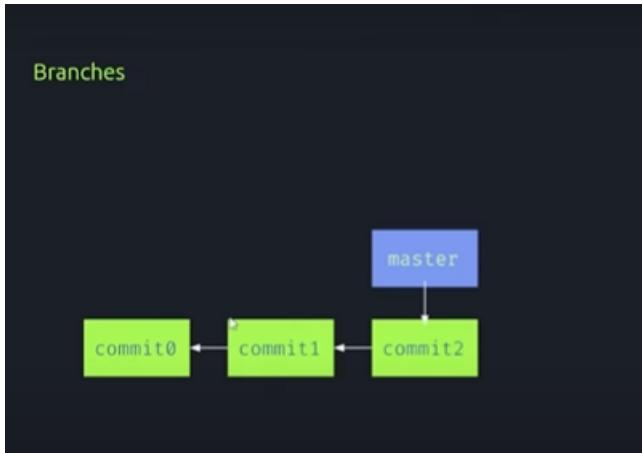
### Git vs GitHub

Git onde fazemos as interações entre repositórios e local versiona os códigos com códigos

GitHub é os repositórios

## 09. Git branch

- Ramificações que podemos fazer em nosso código, para que esse movimento paralelo pode ser feito



braches master aponta para commit2

git branch testing - cria uma branch chamada testing

The screenshot shows the Visual Studio Code interface. The Explorer sidebar on the left has a tree view with a single item: 'GIT-DIGITAL-COURSE'. The main editor area displays a file named 'README.md' with the following content:

```
README.md x
 README.md | Curso Digital: Git | Salvando alterações no Git
 Letscode-br, 2 hours ago | 2 authors (Letscode-br and others)
 # Curso Digital: Git

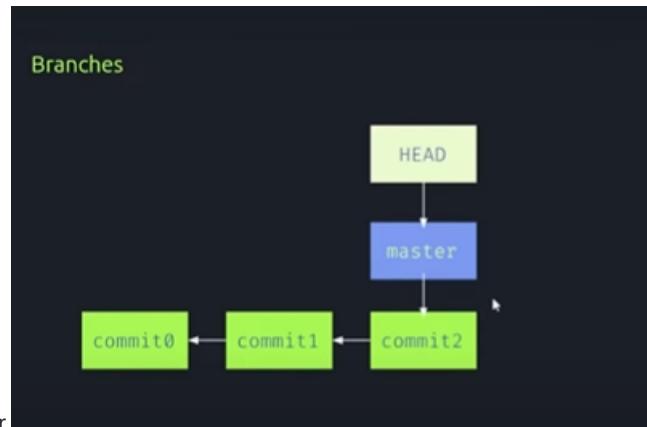
 Letscode-br, 2 hours ago | 2 authors (Letscode-br and others)
 ## Salvando alterações no Git
 * comando git push
 * comando git pull
 * comando git fetch
```

The bottom navigation bar includes tabs for PROBLEMS, OUTPUT, DEBUG CONSOLE, TERMINAL, and GITLENS. The TERMINAL tab is selected, showing a Windows PowerShell window with the following text:

```
Windows PowerShell
Copyright (C) Microsoft Corporation. Todos os direitos reservados.

Experimente a nova plataforma cruzada PowerShell https://aka.ms/pscore6
```

In the terminal, the command `git branch testing` is entered, followed by another command. The status bar at the bottom right indicates the file is 100% complete.



ponteiro indica que estamos na master

- Indica onde está o head

```
git log --oneline --decorate
```

The screenshot shows the Visual Studio Code interface with the terminal tab selected. The terminal window displays the command `git log --oneline --decorate` and its output:

```
Windows PowerShell
Copyright (C) Microsoft Corporation. Todos os direitos reservados.

Experimente a nova plataforma cruzada PowerShell https://aka.ms/pscore6

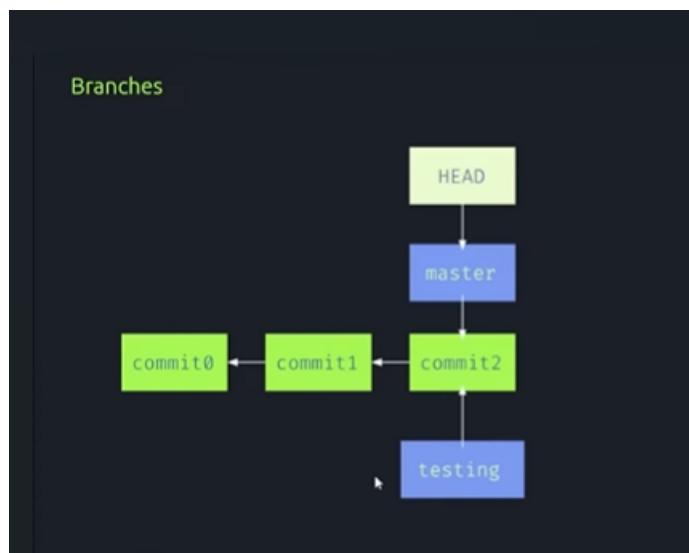
PS C:\Users\lcode\projects\git-digital-course> git branch testing
PS C:\Users\lcode\projects\git-digital-course> git log --oneline --decorate
```

This screenshot shows the same Visual Studio Code setup, but the terminal output has been scrolledback to show a longer history of commits:

```
8ea7a32 (HEAD -> master, origin/master, testing) add new command
e0a8624 add new command
Sebdibb add new command
ddc0ae5 add new command
21605e4 add new command
8019b41 remove all commands
b7339ed add test command
a46251c add new command
7f82ea6 add new command
```

- Como criamos um branch testing queremos que ele vai para head

```
git checkout testing
```



File Edit Selection View Go Run Terminal Help README.md - git-digital-course - Visual Studio Code

EXPLORER GIT-DIGITAL-COURSE README.md

README.md > # Curso Digital: Git > ## Salvando alterações no Git  
Letscode-br, 2 hours ago | 2 authors (Letscode-br and others)

# Curso Digital: Git

Let's code - 2 hours ago | 2 authors (Letscode-br and others)

## Salvando alterações no Git

- \* comando git push
- \* comando git pull
- \* comando git fetch

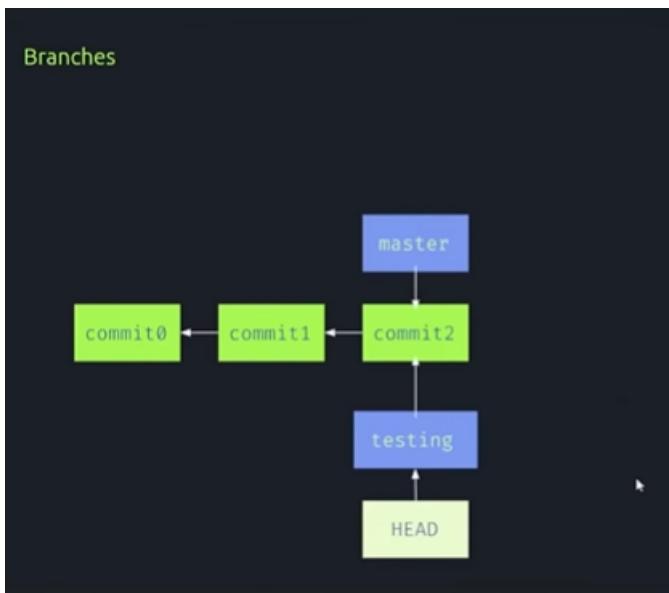
PROBLEMS OUTPUT DEBUG CONSOLE TERMINAL GITLENS

Sebd1bb add new command  
ddc0ae5 add new command  
21605e4 add new command  
8019b41 remove all commands  
b7339ed add test command  
a46251c add new command  
7f82ea6 add new command  
85039f0 add new command

MAIS VÍDEOS

> OUTLINE > TIMELINE

```
PS C:\Users\lcode\projects\git-digital-course> git checkout testing
Switched to branch 'testing'
PS C:\Users\lcode\projects\git-digital-course>
```



Para remover ou ignorar alguns arquivos git

File Edit Selection View Go Run Terminal Help .gitignore - git-digital-course - Visual Studio Code

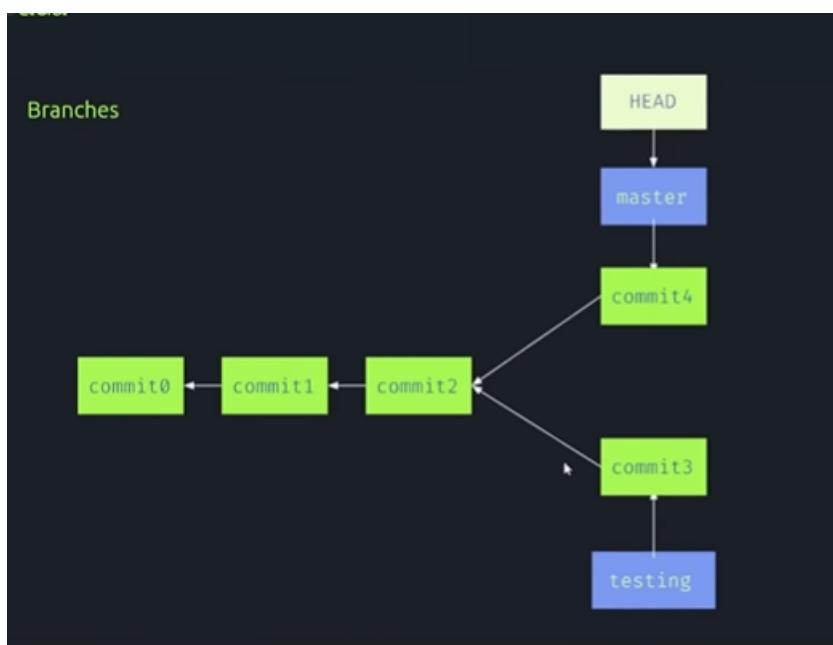
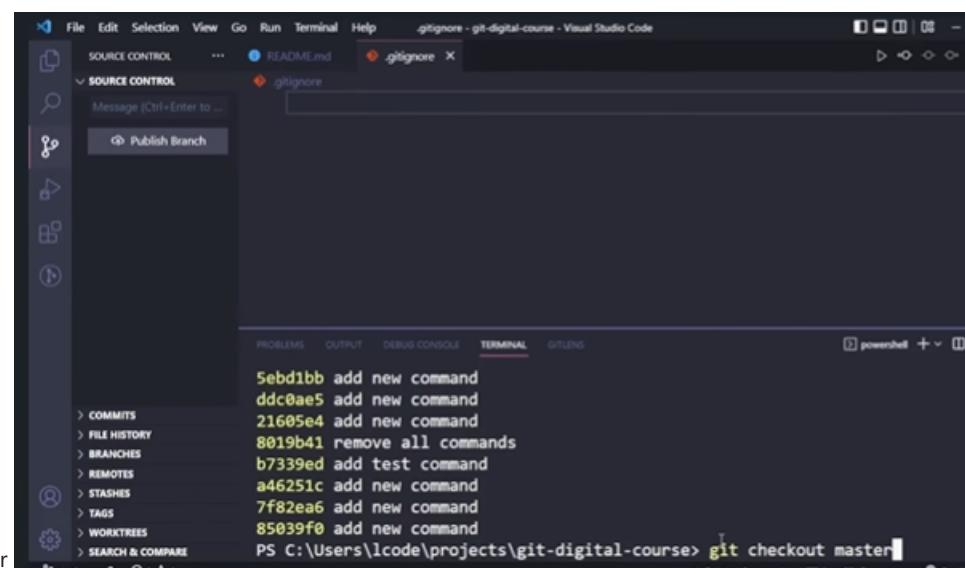
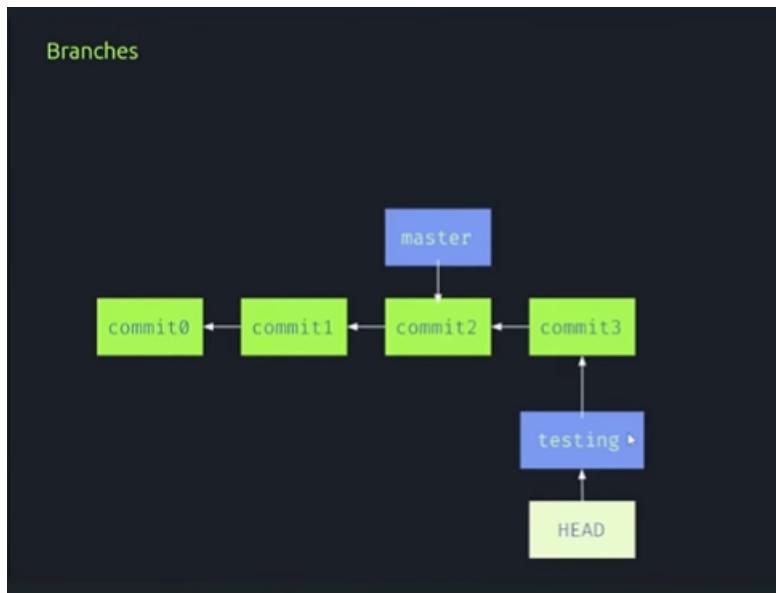
EXPLORER GIT-DIGITAL-COURSE README.md .gitignore

README.md > .gitignore

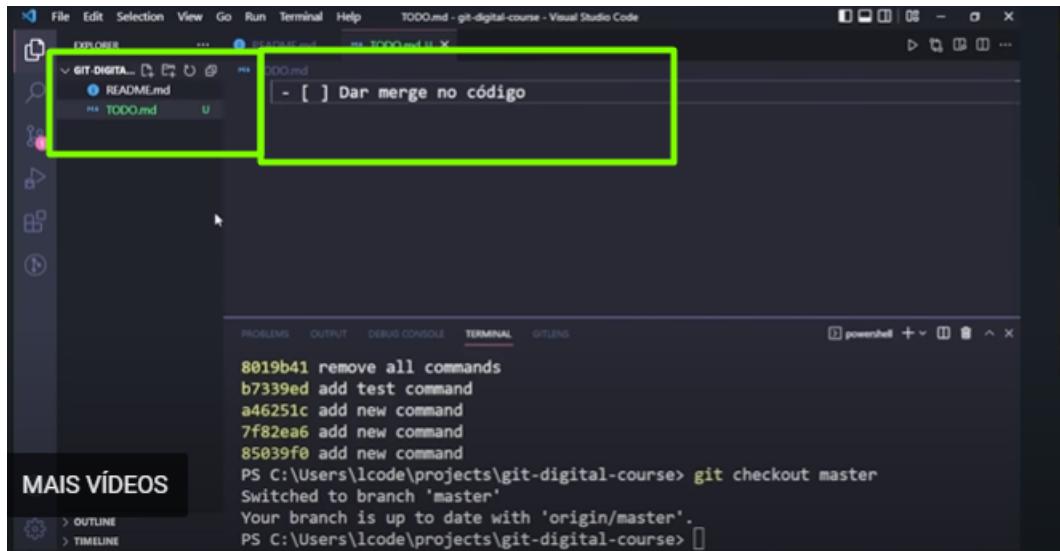
PROBLEMS OUTPUT DEBUG CONSOLE TERMINAL GITLENS

Sebd1bb add new command  
ddc0ae5 add new command  
21605e4 add new command  
8019b41 remove all commands  
b7339ed add test command  
a46251c add new command  
7f82ea6 add new command  
85039f0 add new command

```
PS C:\Users\lcode\projects\git-digital-course>
```



## TODO.md

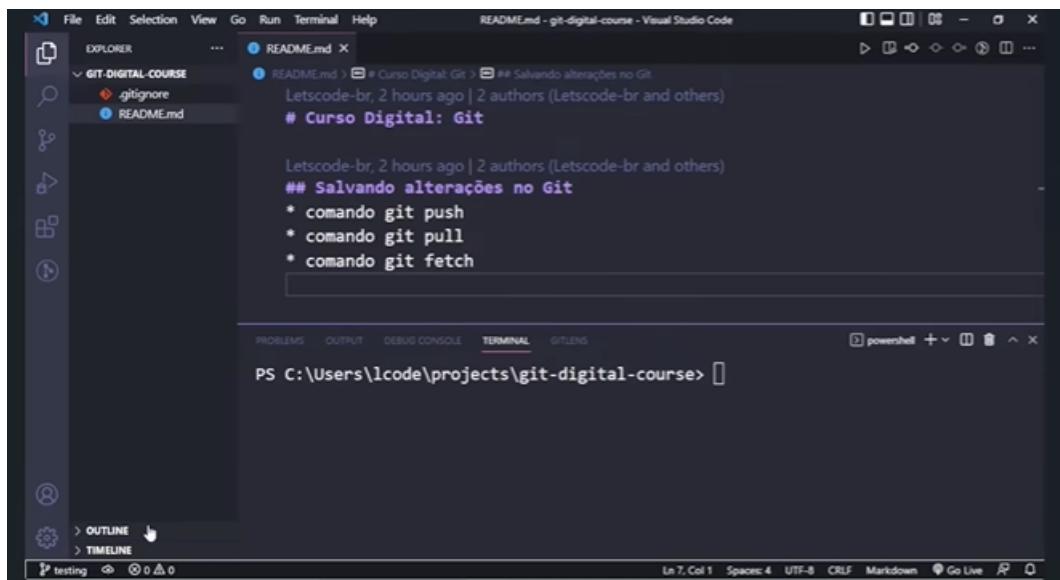


The screenshot shows the Visual Studio Code interface with the file 'TODO.md' open. The file contains the text: 'Dar merge no código'. A yellow box highlights this text. The terminal at the bottom shows a git checkout command:

```
PS C:\Users\lcode\projects\git-digital-course> git checkout master
Switched to branch 'master'
Your branch is up to date with 'origin/master'.
PS C:\Users\lcode\projects\git-digital-course>
```

## 10. Merging branches

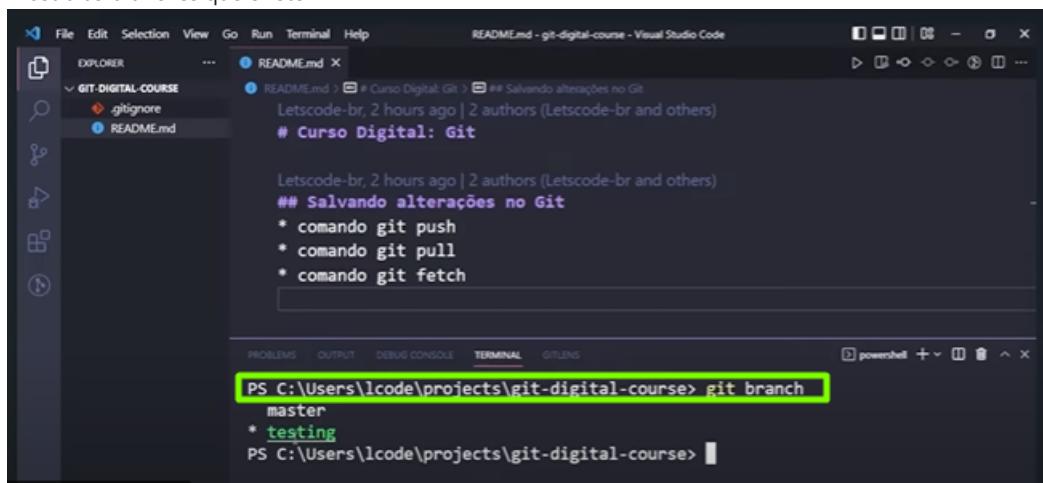
- Separar e depois unir os projetos



The screenshot shows the Visual Studio Code interface with the file 'README.md' open. The commit message '## Salvando alterações no Git' is highlighted with a yellow box. The terminal at the bottom shows a git push command:

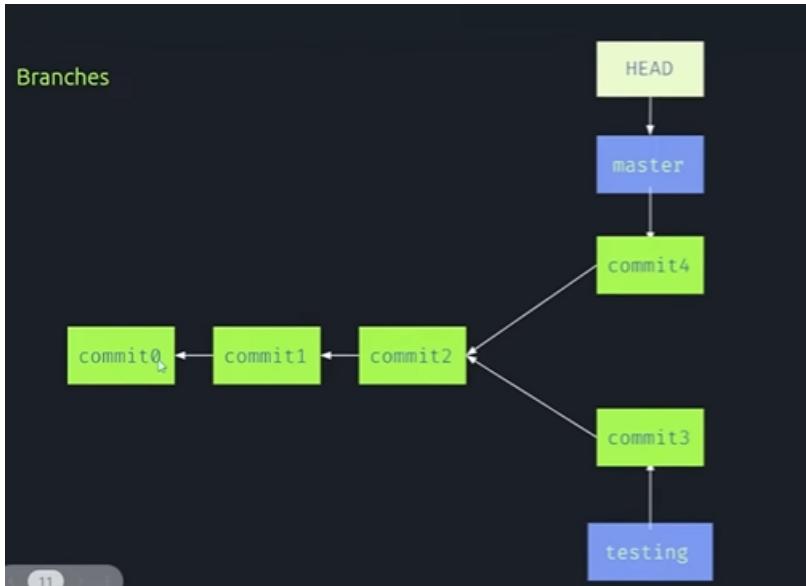
```
PS C:\Users\lcode\projects\git-digital-course> git push
```

Mostra as branches que existem



The screenshot shows the Visual Studio Code interface with the terminal tab active. The command 'git branch' is run, showing two branches: 'master' and 'testing'. The 'testing' branch is highlighted with a yellow box. The terminal output is:

```
PS C:\Users\lcode\projects\git-digital-course> git branch
  master
* testing
PS C:\Users\lcode\projects\git-digital-course>
```



git checkout master

- switch para master pois estavamos em testing

```
PS C:\Users\lcode\projects\git-digital-course> git branch
  master
* testing
PS C:\Users\lcode\projects\git-digital-course> git checkout master
Switched to branch 'master'
Your branch is ahead of 'origin/master' by 1 commit.
  (use "git push" to publish your local commits)
PS C:\Users\lcode\projects\git-digital-course>
```

```
PS C:\Users\lcode\projects\git-digital-course> git branch
  master
* testing
PS C:\Users\lcode\projects\git-digital-course> git checkout master
Switched to branch 'master'
Your branch is ahead of 'origin/master' by 1 commit.
  (use "git push" to publish your local commits)
PS C:\Users\lcode\projects\git-digital-course> git merge testing
```

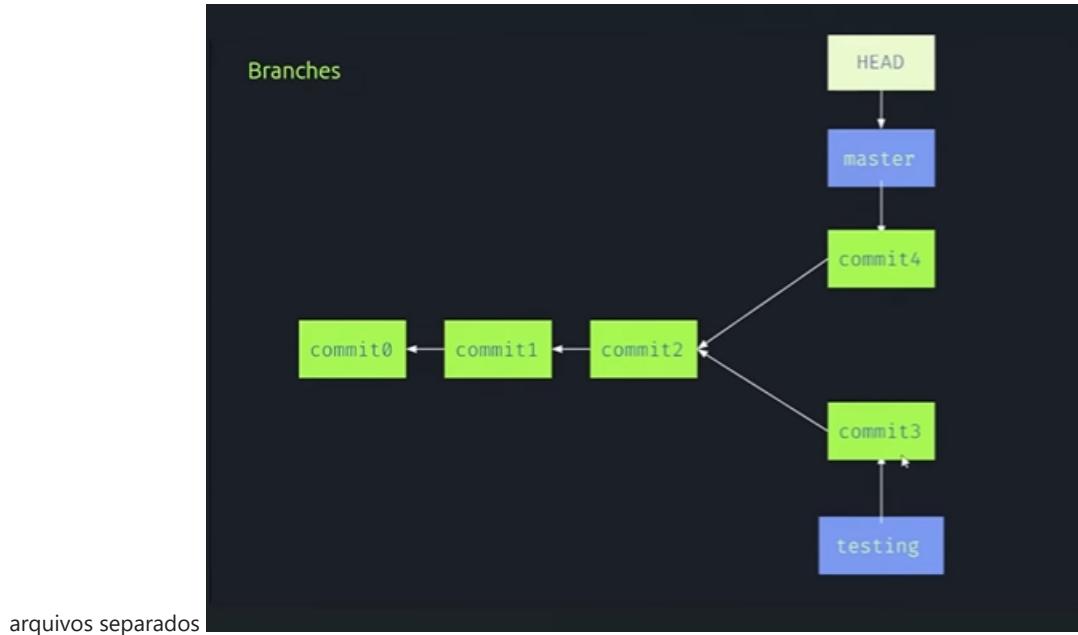
git merge testing

```
PS C:\Users\lcode\projects\git-digital-course> git branch
  master
* testing
PS C:\Users\lcode\projects\git-digital-course> git checkout master
Switched to branch 'master'
Your branch is ahead of 'origin/master' by 1 commit.
  (use "git push" to publish your local commits)
PS C:\Users\lcode\projects\git-digital-course> git merge testing
Merge made by the 'ort' strategy.
 .gitignore | 0
 1 file changed, 0 insertions(+), 0 deletions(-)
 create mode 100644 .gitignore
PS C:\Users\lcode\projects\git-digital-course>
```

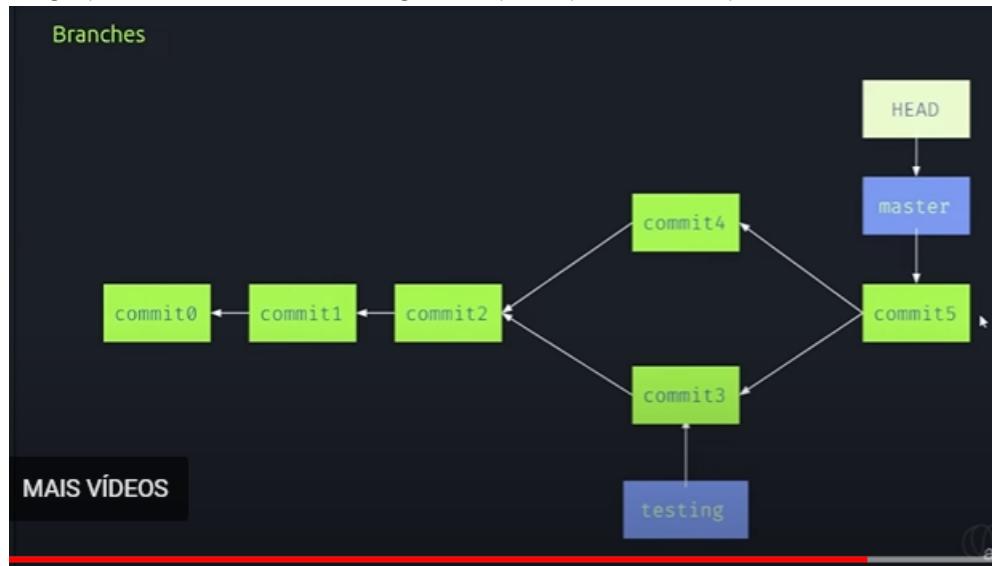
**Trouxe um arquivo da branch master**

MAIS VÍDEOS

Trabalho com



Merge quando acionando ele faz o merge dos arquivos que tem uma va para outra



In [ ]: