



## Publicar aplicações web

**Prof. Renan Ponick**

# Roteiro das aulas / Calendário

## 1ª Segunda:

- Apresentação;
- Navegadores e buscadores;

## 2ª Segunda:

- Hospedagem, registro, tráfego;
- Pesquisa 1;

## 3ª Segunda:

- Aplicativos.
- Pesquisa 2;

## 4ª Segunda:

- Boas práticas usando site do Google SEO e W3C;

## 5ª Segunda:

- Git;

## 6ª Segunda:

- GitHub;

## 7ª Segunda:

- Build e Deploy;
- Backups;

## 8ª Segunda:

- Revisão;
- Kahoot;

## 9ª Segunda:

- Git Hub Pages;

## 10ª Segunda:

- Railway

## 11ª Segunda:

- Testes.

## 12ª Segunda:

- Avaliação Final;



# Lema

**"As pessoas sabem o preço de tudo e o valor de nada."**

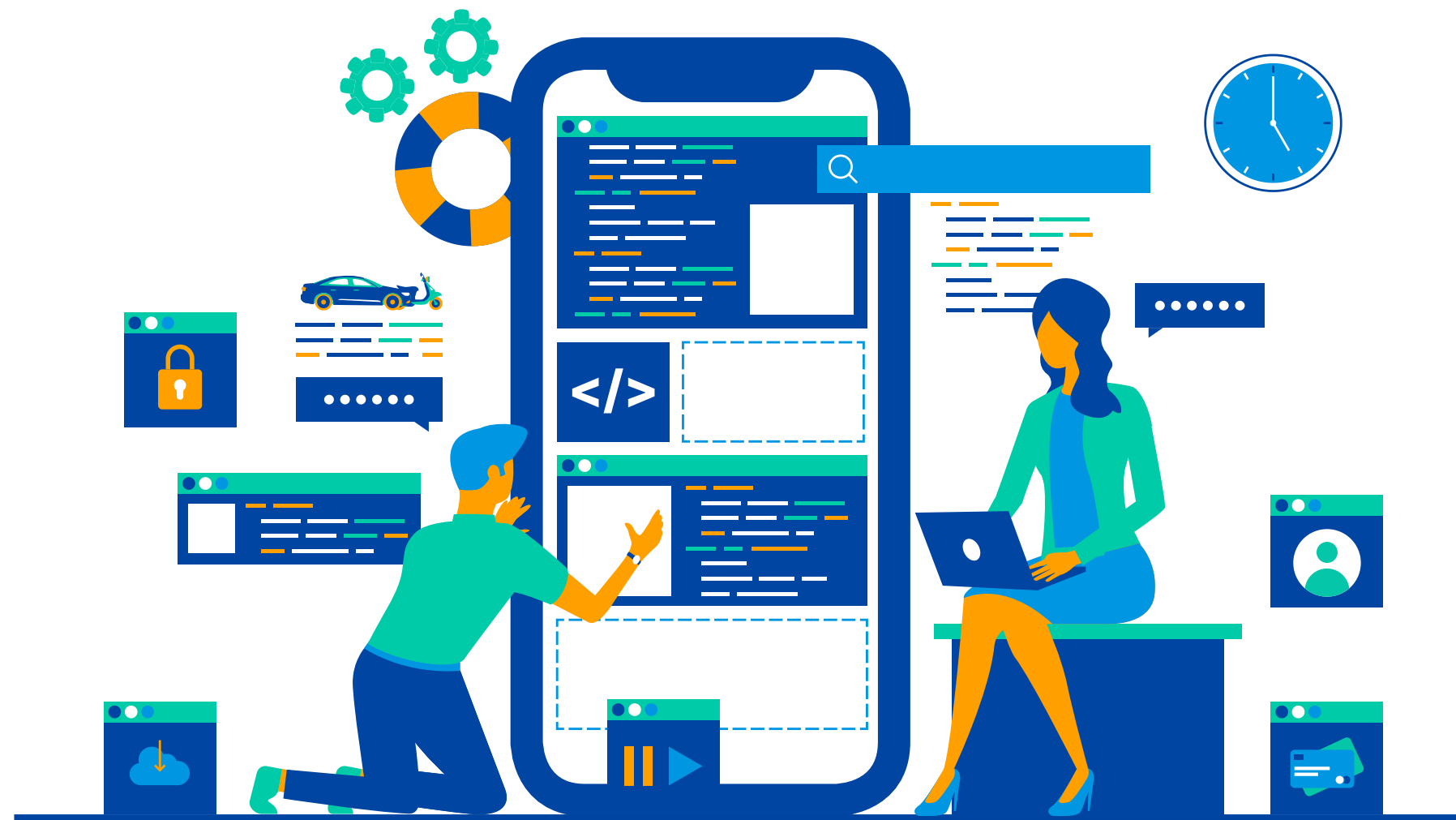
**Howard Marks**

# REVIEW

# Build e Deploy

# Definição de Build

Nada mais é do que o processo empacotamento do software e resulta no aplicativo pronto para a instalação/utilização do usuário.



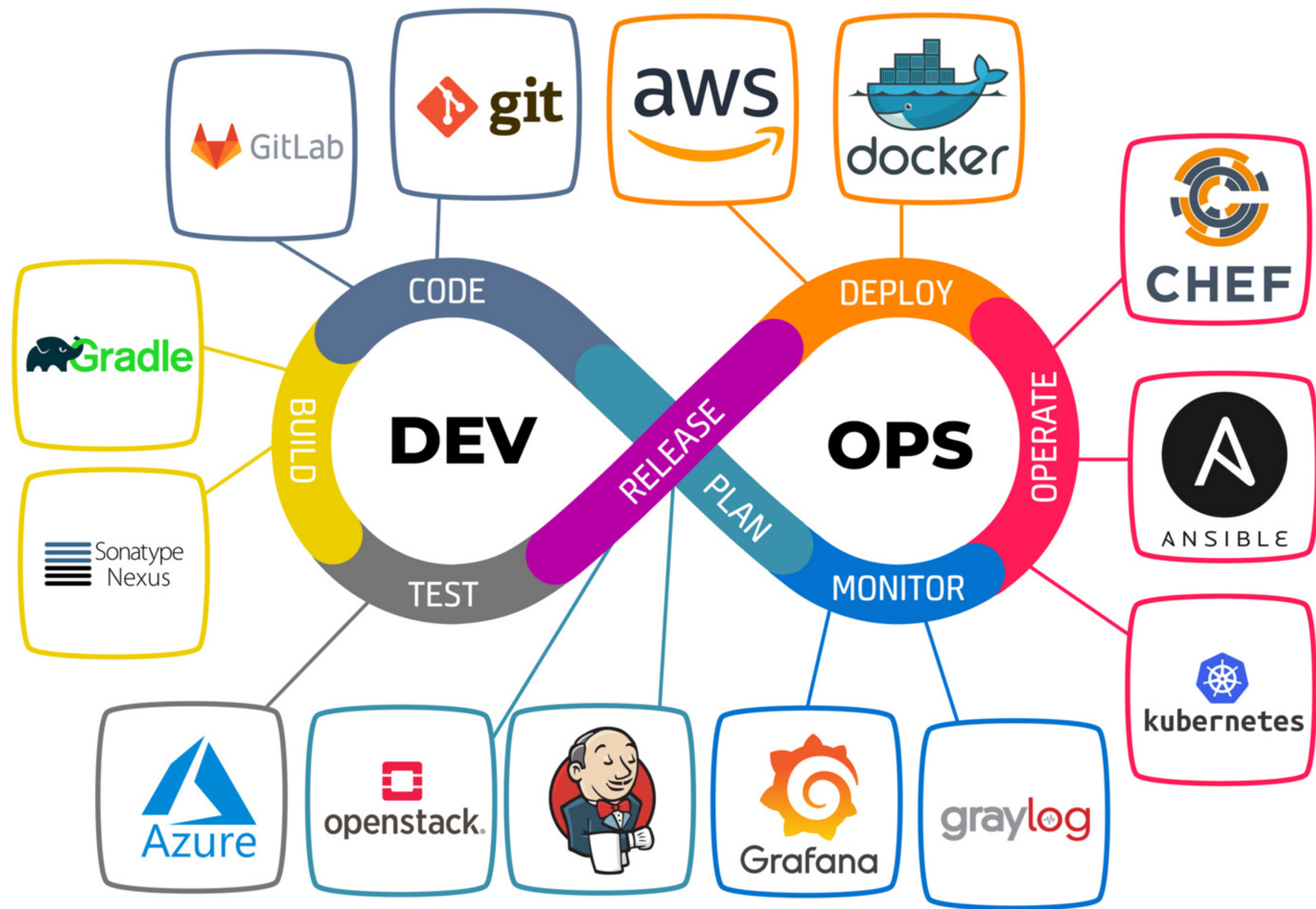
# Deploy



**Implantar:** Liberação para produção, deixar disponível para o cliente.

Aqui entra a etapa de hospedagem em um site ou então disponibilização do aplicativo na PlayStore ou AppleStore.







CI e CD

# CI e CD

**Integração contínua:** é uma prática em que os desenvolvedores, frequentemente, juntam as alterações de código. Ou seja, realizam o merge da branch(ramo) para a master(raiz).

**Entrega contínua:** é uma prática de desenvolvimento de software na qual as alterações de código são automaticamente preparadas para uma liberação para produção.

# Backups

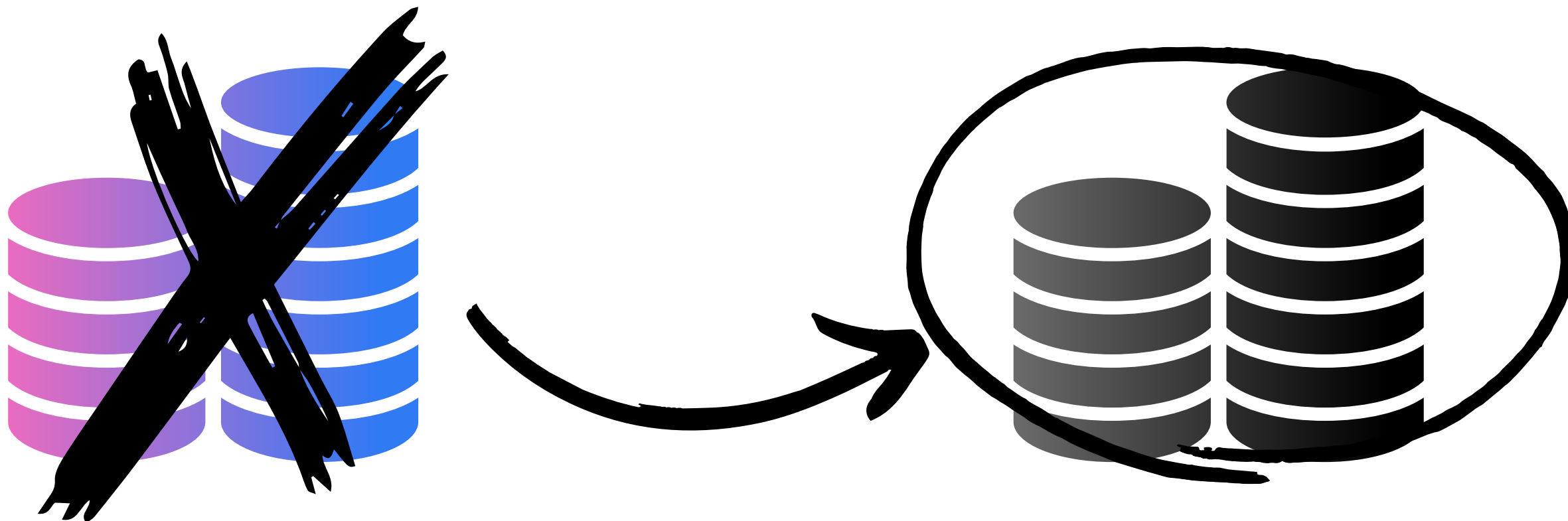
# Backup

Algumas coisas podem fugir do nosso controle, como por exemplo:

Invasões de hackers na base de dados;

Uso indevido do banco de dados;

Queda desconhecida de um serviço provedor.



# Git & GitHub



# Git

O Git ferramenta de versionamento local, que salva o estado de cada arquivo na hora do versionamento e caso o arquivo não sofra a alteração ele cria um link simbólico para o arquivo não editado.



# GitHub

Serviço web compartilhado para projetos que utilizam o Git para versionamento. É um local de armazenamento de código.





# GitHub

Agora que todos já tem conta no GitHub, vamos melhorá-lo.



# GitHub Pages

Pra que usar o Git Hub Pages?

# GitHub Pages

Ter um portfólio pessoal é muito importante para se destacar em um mercado de trabalho tão competitivo quanto o de programação atual.

Nada melhor do que mostrar que você sabe fazer alguma coisa, fazendo, não é mesmo?

# GitHub Pages

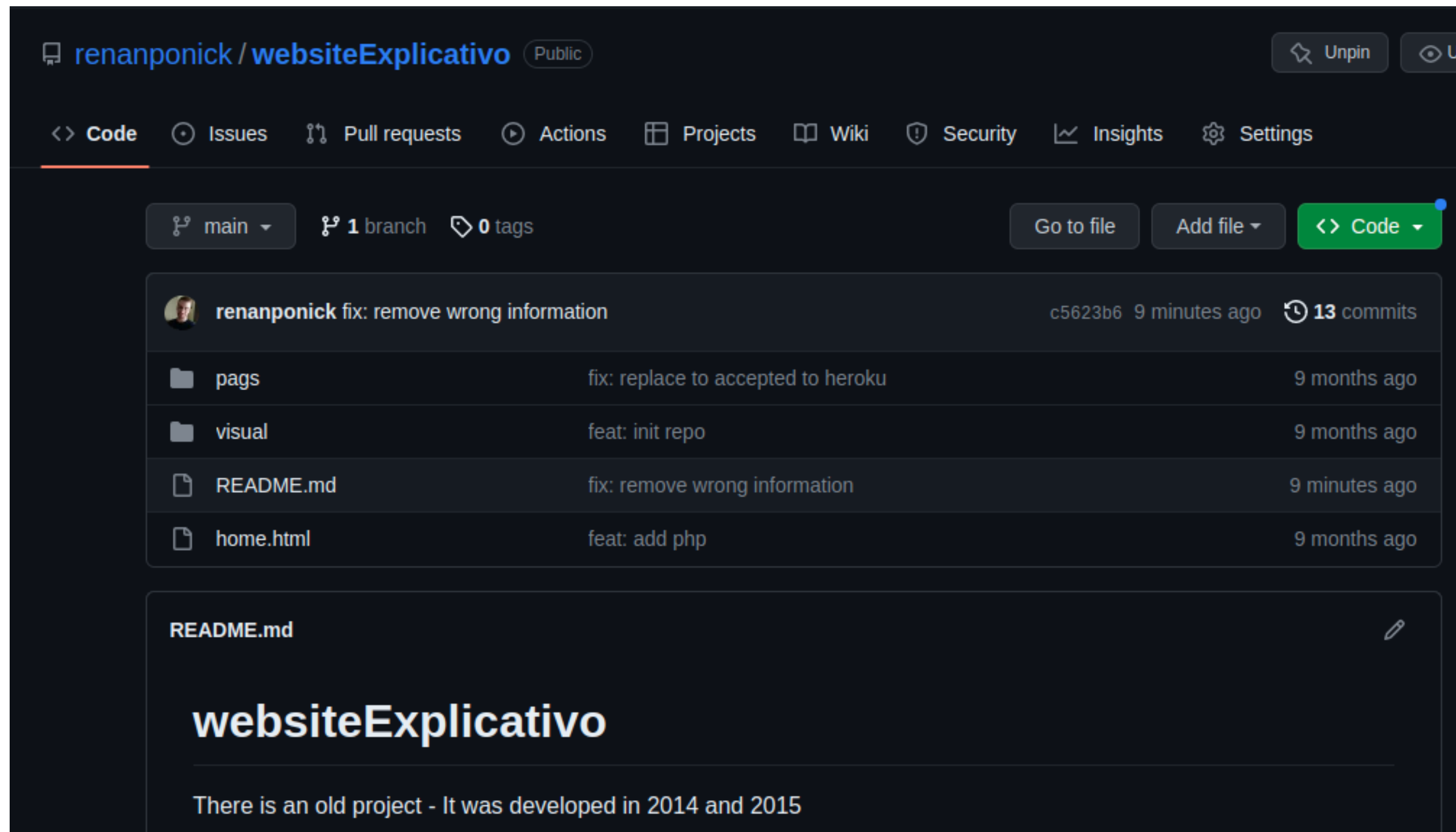
O Github fornece suporte gratuito para sites estáticos, básicos, como por exemplo uma home page.

Lá também é possível relacionar um domínio que você tem.

Como?

# Como?

Simple! Acesse seu repositório estático.



# Como?

Entre em configurações

The screenshot shows the GitHub repository settings page for 'renanponick / websiteExplicativo'. The repository is public. The 'Settings' tab is selected in the top navigation bar. On the left sidebar, the 'General' tab is selected under the 'Access' section. The main content area is titled 'General' and contains the following settings:

- Repository name:** 'websiteExplicativo' with a 'Rename' button.
- Template repository:** An unchecked checkbox. Description: 'Template repositories let users generate new repositories with the same directory structure and files. [Learn more](#)'.
- Require contributors to sign off on web-based commits:** An unchecked checkbox. Description: 'Enabling this setting will require contributors to sign off on commits made through GitHub's web interface. Sign off requires contributors to affirm that their commit complies with the repository's terms, commonly the [Developer Certificate of Origin](#) about signing off on commits.'
- Default branch:** 'main' with an edit icon.

The left sidebar also lists other settings categories: 'Access' (Collaborators, Moderation options), 'Code and automation' (Branches, Tags, Rules (marked Beta), Actions, Webhooks, Environments, Codespaces, Pages).



# Como?

## Entre em pages

The screenshot shows the GitHub repository settings for 'renanponick / websiteExplicativo'. The 'Settings' tab is selected, and the 'GitHub Pages' section is active. The left sidebar contains a list of settings categories: General, Access, Collaborators, Moderation options, Code and automation, Branches, Tags, Rules (marked as Beta), Actions, Webhooks, Environments, Codespaces, and Pages (highlighted). The main content area for 'GitHub Pages' includes a description, a 'Build and deployment' section with 'Source' (set to 'Deploy from a branch') and 'Branch' (set to 'None'), and a 'Visibility' section with a 'GITHUB ENTERPRISE' badge. The repository is marked as 'Public'.

renanponick / websiteExplicativo Public

Code Issues Pull requests Actions Projects Wiki Security Insights Settings

General

Access

Collaborators

Moderation options

Code and automation

Branches

Tags

Rules Beta

Actions

Webhooks

Environments

Codespaces

**Pages**

### GitHub Pages

GitHub Pages is designed to host your personal, organization, or project pages from a GitHub repository.

#### Build and deployment

**Source**

Deploy from a branch

**Branch**

GitHub Pages is currently disabled. Select a source below to enable GitHub Pages for this repository.

None Save

**Visibility** GITHUB ENTERPRISE

With a GitHub Enterprise account, you can restrict access to your GitHub Pages site by publishing only to a specific branch. The published site can only be accessed by people with read access to the repository the site is published to.

# Como?

Selecione a branch para publicação e clique em salvar

GitHub Pages source saved.

renanponick / **websiteExplicativo** Public

Unpin Un

Code Issues Pull requests Actions Projects Wiki Security Insights **Settings**

General

Access

Collaborators

Moderation options

Code and automation

Branches

Tags

Rules **Beta**

Actions

Webhooks

Environments

## GitHub Pages

GitHub Pages is designed to host your personal, organization, or project pages from a GitHub repository.

### Build and deployment

#### Source

Deploy from a branch

#### Branch

Your GitHub Pages site is currently being built from the `main` branch. [Learn more.](#)

main / (root) Save

Learn how to [add a Jekyll theme](#) to your site.

# Como?

Clique em visite o site. (Se não aparecer, recarregue a tela)

The screenshot shows the GitHub repository settings for 'renanponick / websiteExplicativo'. The 'Settings' tab is selected in the top navigation bar. On the left sidebar, the 'General' section is expanded, showing 'Access', 'Collaborators', and 'Moderation options'. Under 'Code and automation', 'Branches', 'Tags', 'Rules' (marked as Beta), 'Actions', 'Webhooks', 'Environments', and 'Codespaces' are listed. The 'Pages' option at the bottom is highlighted with a blue bar. The main content area is titled 'GitHub Pages' and contains the following information:

- A description: 'GitHub Pages is designed to host your personal, organization, or project pages from a GitHub repository.'
- A live site notification: 'Your site is live at <https://renanponick.github.io/websiteExplicativo/>'. Below this, it says 'Last deployed by renanponick 1 minute ago'. A 'Visit site' button is present.
- A 'Build and deployment' section with a 'Source' dropdown set to 'Deploy from a branch'.
- A 'Branch' section showing 'main' as the current branch, with a folder icon and '/ (root)' as the directory. A 'Save' button is next to it.
- A link to 'Learn how to add a Jekyll theme to your site.'



**Nossa página estática está no ar...  
mas e a página em js?**

# Página JS


O processo é exatamente o mesmo, porém será necessário realizar alguns ajustes pequenos.  
Para testar crie um outro repositório no GitHub com o nome de teste-react

# Create a new repository

A repository contains all project files, including the revision history. Already have a project repository elsewhere? [Import a repository.](#)

Required fields are marked with an asterisk (\*).

Owner \*

 renanponick ▾

Repository name \*



/ teste-react

✔ teste-react is available.

Great repository names are short and memorable. Need inspiration? How about [fictional-octo-memory](#) ?

Description (optional)

Teste

- ☒  **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:

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

Add .gitignore


.gitignore template:None ▾

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

Choose a license

License:None ▾

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

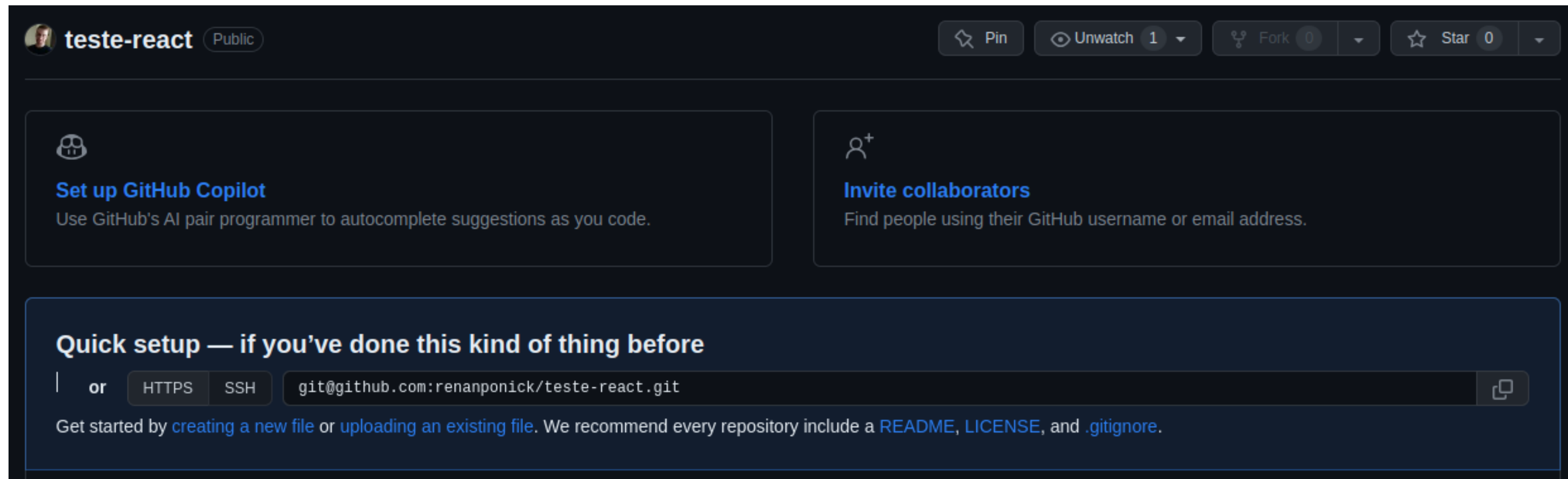
 You are creating a public repository in your personal account.

Create repository



# Página JS

Baixe o repositório utilizando o SSH com o comando git clone



```
● giren@ng0502:~/Documents/senac/Técnico$ git clone git@github.com:renanponick/teste-react.git
Cloning into 'teste-react'...
warning: You appear to have cloned an empty repository.
● renan@ng0502:~/Documents/senac/Técnico$ cd teste-react/
● renan@ng0502:~/Documents/senac/Técnico/teste-react$ code .
```



# Página JS

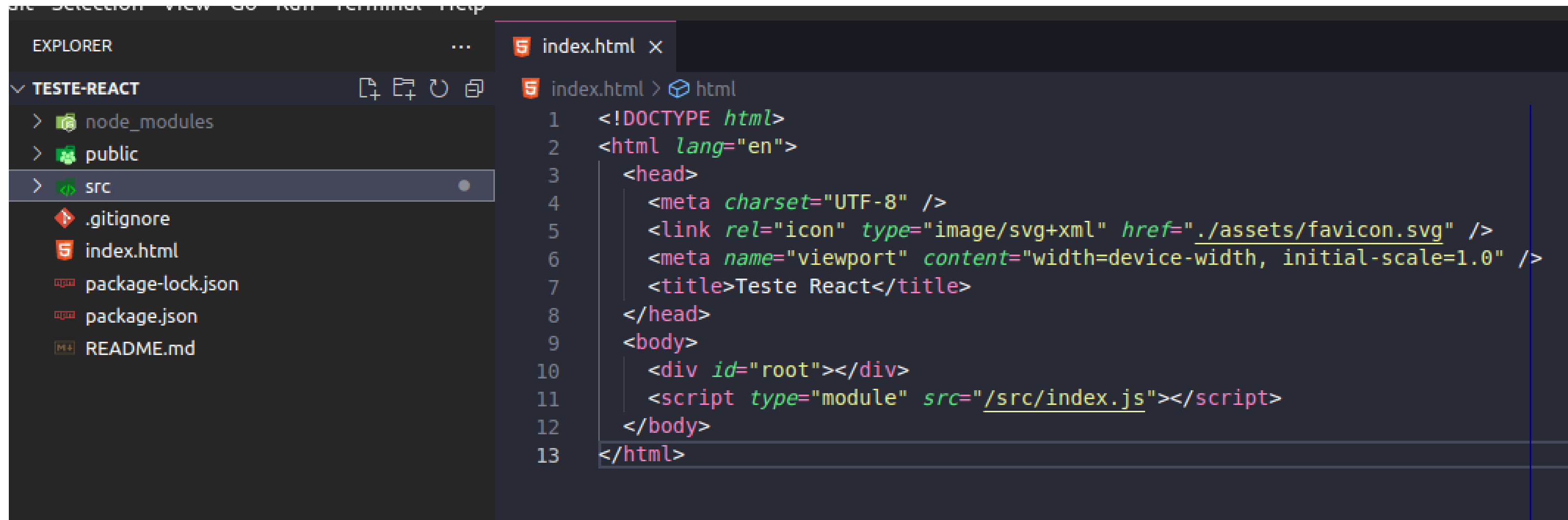
Agora inicialize um projeto react

**npx create-react-app .**

```
renan@ng0502:~/Documents/senac/Técnico/teste-react$ npx create-react-app .  
Creating a new React app in /home/renan/Documents/senac/Técnico/teste-react.  
Installing packages. This might take a couple of minutes.  
Installing react, react-dom, and react-scripts with cra-template...  
(#####) :: idealTree:@babel/core: sill fetch manifest klona@^2.0.4
```

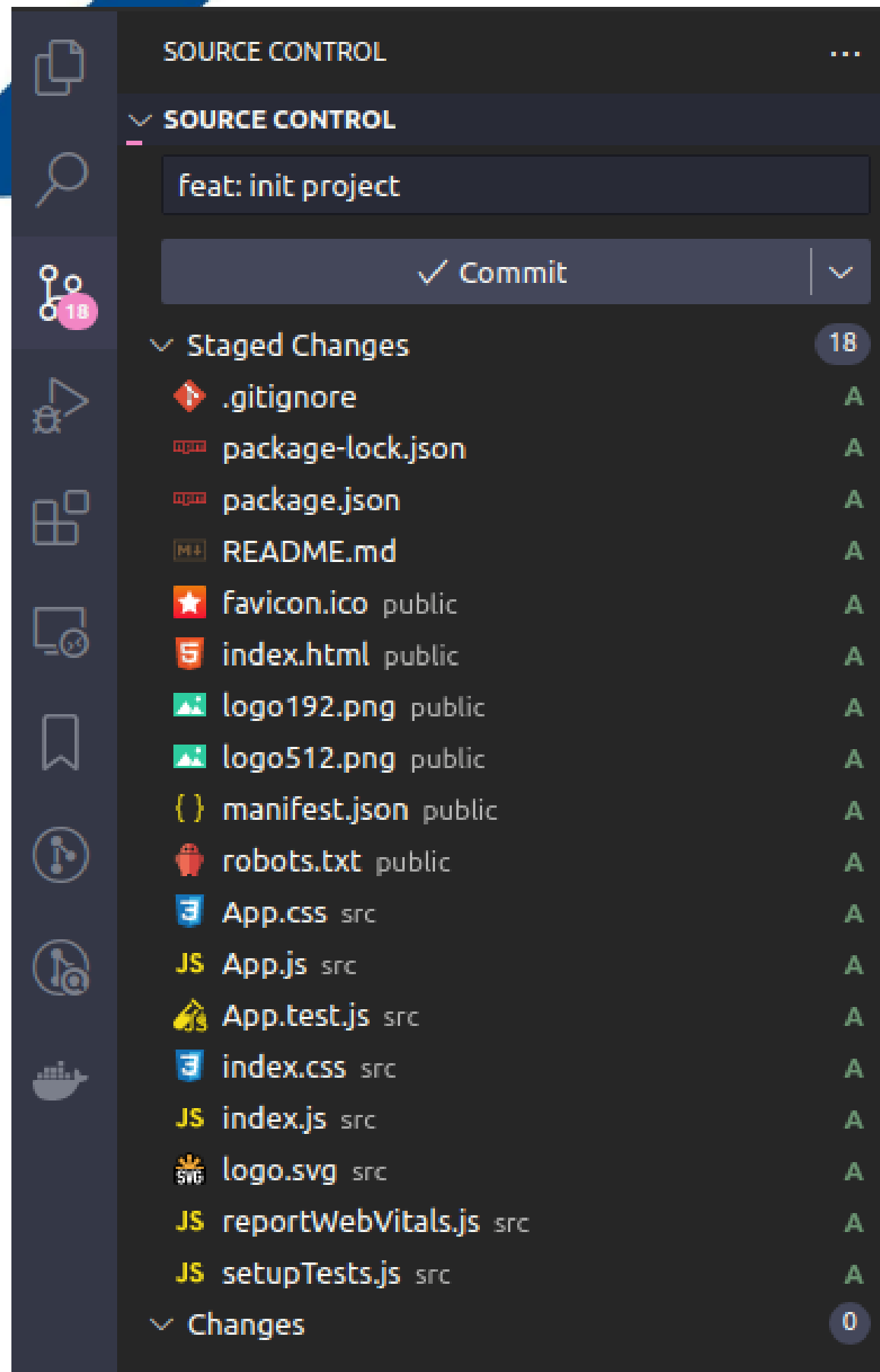
# index.html

Adicione o arquivo index.html na raiz do projeto



The screenshot shows the Visual Studio Code interface. On the left, the Explorer sidebar displays the file structure of a project named 'TESTE-REACT'. The files listed are 'node\_modules', 'public', 'src', '.gitignore', 'index.html', 'package-lock.json', 'package.json', and 'README.md'. The 'src' folder is currently selected. The main editor area on the right shows the content of the 'index.html' file. The code is as follows:

```
1 <!DOCTYPE html>
2 <html lang="en">
3   <head>
4     <meta charset="UTF-8" />
5     <link rel="icon" type="image/svg+xml" href="../assets/favicon.svg" />
6     <meta name="viewport" content="width=device-width, initial-scale=1.0" />
7     <title>Teste React</title>
8   </head>
9   <body>
10    <div id="root"></div>
11    <script type="module" src="/src/index.js"></script>
12  </body>
13 </html>
```



# Página JS

Suba todos os arquivos para o GitHub,  
igual na imagem ao  
<< lado

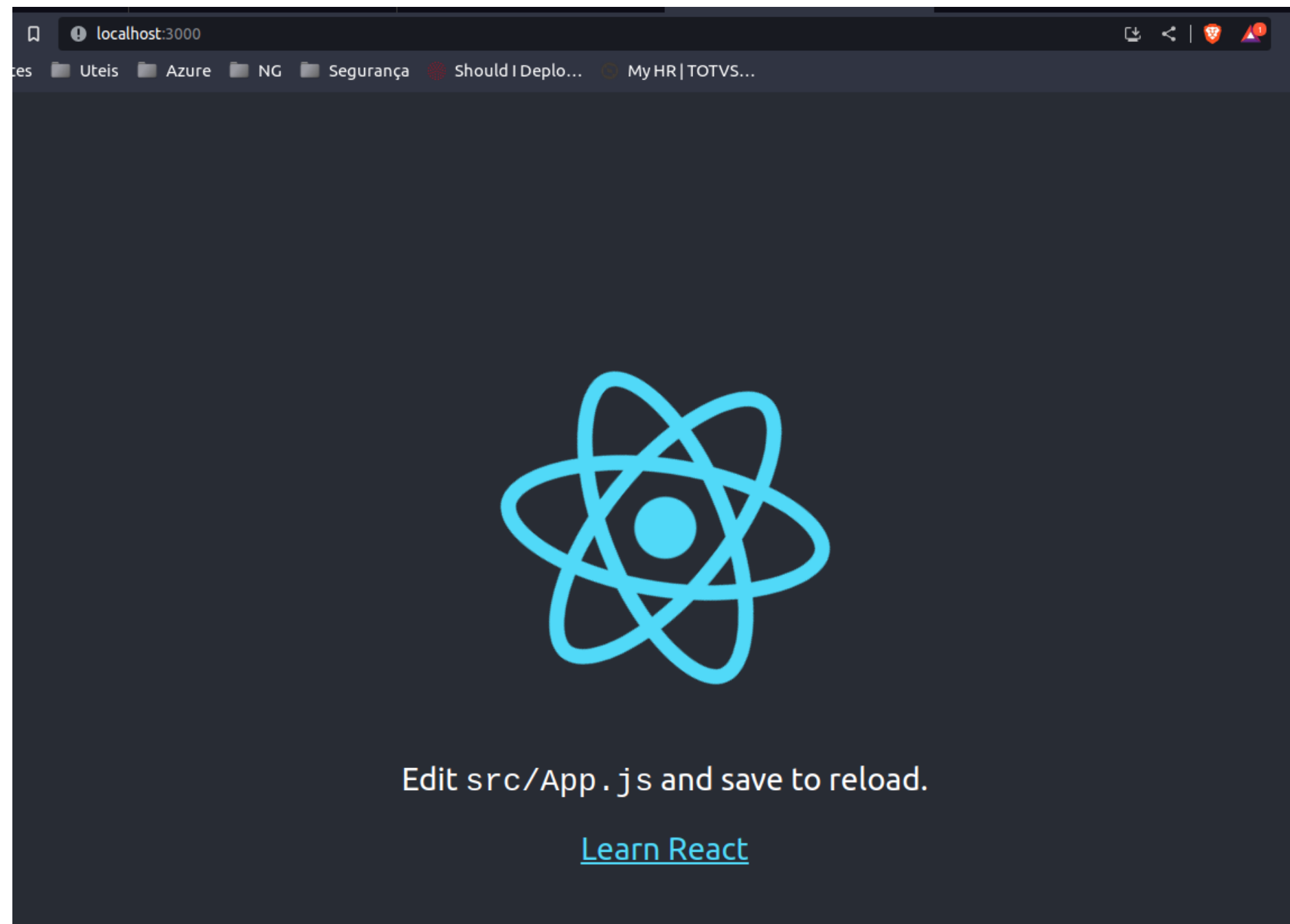
Caso não tenha conseguido, pode ser que precise  
executar os seguintes comandos no terminal:

**git branch -M main**  
**git push -u origin main**

# Página JS

Antes de subirmos para o GitHubPages, vamos rodar nosso repositório localmente, para ver o que ele faz.

Execute: `npm start`



# Página JS

Agora vamos hospeda-lo, seguindo os mesmo passos anteriores, acesse o repositório, acesse **Settings**, acesse em **Pages**, selecione a branch **main** e clique em **Save**, aguarde alguns minutos...

renanponick / teste-react

Code Issues Pull requests Actions Projects Wiki Security Insights Settings

General

Access

Collaborators

Moderation options

Code and automation

Branches

Tags

Rules

Actions

Webhooks

Environments

Codespaces

Pages

## GitHub Pages

GitHub Pages is designed to host your personal, organization, or project pages from a GitHub repository.

### Build and deployment

**Source**

Deploy from a branch

**Branch**

GitHub Pages is currently disabled. Select a source below to enable GitHub Pages for this repository. [Learn more about configuring the publishing source for your site.](#)

main / (root) Save

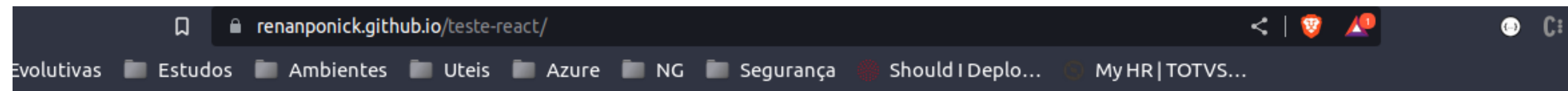
**Visibility** GITHUB ENTERPRISE

With a GitHub Enterprise account, you can restrict access to your GitHub Pages site by publishing it privately. A privately

**Funcionou?**

# Ops...

Ele não está rodando igual local, ele está mostrando o README.md... e agora?



## teste-react

### Getting Started with Create React App

This project was bootstrapped with [Create React App](#).

#### Available Scripts

In the project directory, you can run:

```
npm start
```

Runs the app in the development mode.

Open <http://localhost:3000> to view it in your browser.

The page will reload when you make changes.

You may also see any lint errors in the console.



# Motivo

Isso acontece pois ele não está buildando a aplicação para que os arquivos sejam lidos pelo navegador. A aplicação em si só sobe quando é buildada. Note que localmente um processo acontece quando executamos **npm start...**

```
Compiled successfully!
```

```
You can now view teste-react in the browser.
```

```
Local: http://localhost:3000
```

```
On Your Network: http://_____:3000
```

```
Note that the development build is not optimized.
```

```
To create a production build, use npm run build.
```

```
webpack compiled successfully
```

Algo similar precisa acontecer para rodar no GitHub Pages



# Desafio

Pesquise o máximo de informações para que seja possível rodar o repositório criado nesta aula no GitHub Pages.

Quem conseguir já tem metade do conceito garantido para a última avaliação... basta me mostrar funcionando.



Conseguiu?

# Dificultando...

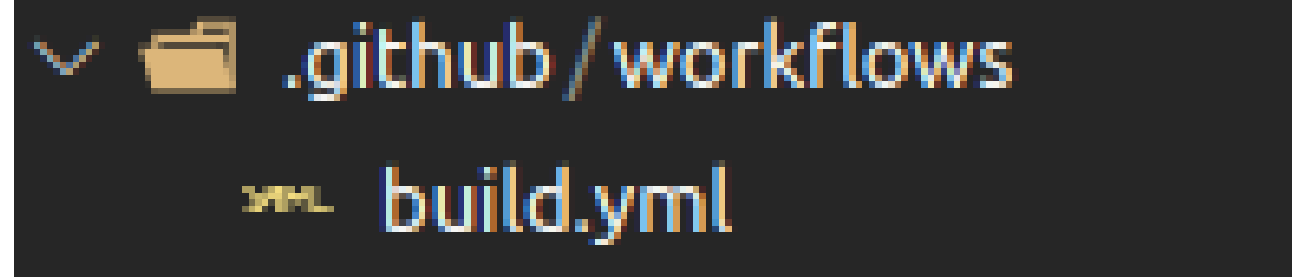
Precisamos realizar o processo de Build e Deploy para que a aplicação fique no ar....

Esse processo pode ser realizado manualmente, basta executar **npm run build** no terminal, você verá que surge uma nova pasta na raiz do projeto.

Porém este método é antigo e cansativo, vamos colocar um robo para realizá-lo para nós...

# Dificultando...

Na raiz do seu repositório, crie uma **pasta** chamada **.github**, dentro dessa pasta, crie outra **pasta** chamado **workflows** e dentro dela crie um **arquivo** chamado **build.yml**



```
✓ .github/workflows  
  build.yml
```

# Action

```
1  name: deploy
2
3  on:
4    push:
5      branches:
6        - main
7
8  jobs:
9    deploy:
10     runs-on: ubuntu-20.04
11     steps:
12       - uses: actions/checkout@v2
13       - uses: actions/setup-node@v1
14         with:
15           node-version: '18.x'
16       - name: Build web-app
17         run: |
18           npm ci
19           npm run build
20       - name: Deploy to gh-pages
21         uses: peaceiris/actions-gh-pages@v3
22         with:
23           github_token: ${ secrets.GITHUB_TOKEN }
24           publish_dir: ./build
25
```

Nome

Quando irá rodar todos esses comandos a seguir

O que será executado

- OS da maquina que será usada
- Passos
  - Fazer checkout do projeto
  - Dizer para ele usar o node
    - Informar a versão do node
  - Executar o build
    - O comando que mencionei antes
    - npm run build
  - Executar o deploy
    - Criação da branch gh-pages
    - Passagem da chave para isso

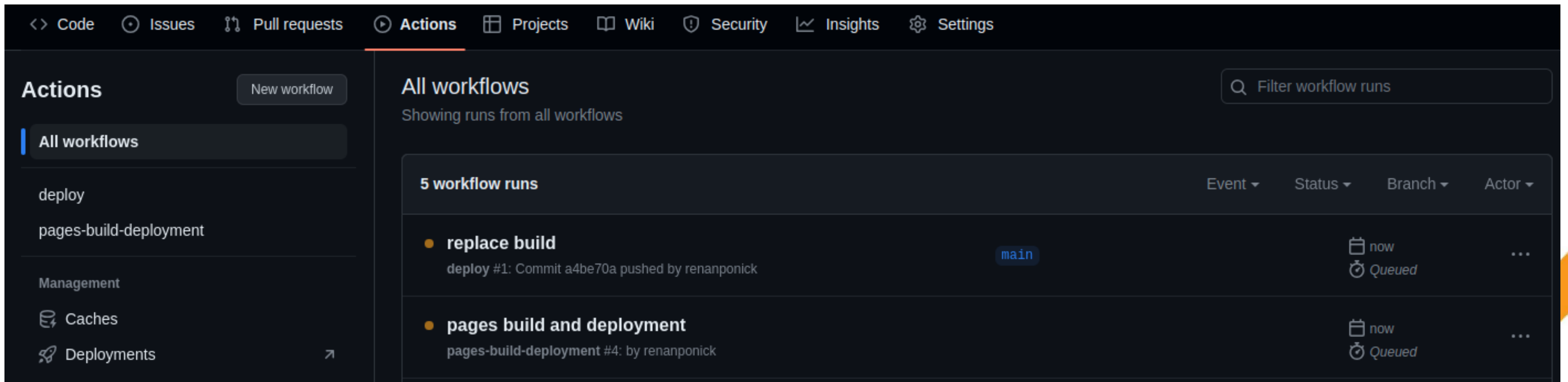


# Action

Como configuramos a nossa action para realizar esse processo de build e deploy sempre que o um commit for realizado na main, basta agora realizar o commit na branch main e ver o que vai acontecer no actions do GitHub

# Actions

Esse arquivo criado em Workflow dispara uma action responsável pelo build e deploy do nosso pacote em uma branch do GitHub.



The screenshot displays the GitHub Actions interface. The top navigation bar includes links for Code, Issues, Pull requests, Actions (highlighted), Projects, Wiki, Security, Insights, and Settings. The left sidebar shows the 'Actions' section with a 'New workflow' button and a list of workflows: 'All workflows' (selected), 'deploy', 'pages-build-deployment', 'Management', 'Caches', and 'Deployments'. The main area is titled 'All workflows' and shows 'Showing runs from all workflows'. A search bar 'Filter workflow runs' is present. Below, a table lists '5 workflow runs' with columns for Event, Status, Branch, and Actor. Two runs are visible:

Event	Status	Branch	Actor
replace build deploy #1: Commit a4be70a pushed by renanponick	Queued	main	...
pages build and deployment pages-build-deployment #4: by renanponick	Queued		...



# Build

Lembra lá daquele processo de Build?

The screenshot displays the GitHub Actions interface for a workflow named "pages build and deployment #4". The workflow is currently in an "In progress" state, triggered via dynamic now by user renanponick. The interface includes a sidebar with navigation options: Summary (selected), Jobs, build, Run details, and Usage. The main area shows a summary table and a workflow diagram.

Triggered via	Status	Total duration	Artifacts
dynamic now	In progress	—	—

**pages-build-deployment**  
on: dynamic

```
graph LR; build[build 9s] --> report-build-status[report-build-status]; build --> deploy[deploy];
```

The workflow diagram illustrates the sequence of jobs: "build" (9s) leads to "report-build-status" and "deploy".

# Deploy

Lembra lá daquele processo de Deploy?

The screenshot displays the GitHub Actions interface for a workflow named "replace build #1". The top navigation bar includes links for Code, Issues, Pull requests, Actions (selected), Projects, Wiki, Security, Insights, and Settings. The left sidebar shows the workflow's summary, jobs (including "deploy"), and run details (Usage, Workflow file). The main content area shows the workflow's status as "In progress", triggered by a push from user "renanponick" on the "main" branch. A table lists the jobs, showing "deploy" with a duration of 17s. The workflow file "build.yml" is also visible, triggered on push.

← deploy

**replace build #1** Cancel workflow ...

Triggered via push now	Status	Total duration	Artifacts
renanponick pushed -o- a4be70a <code>main</code>	<b>In progress</b>	—	—

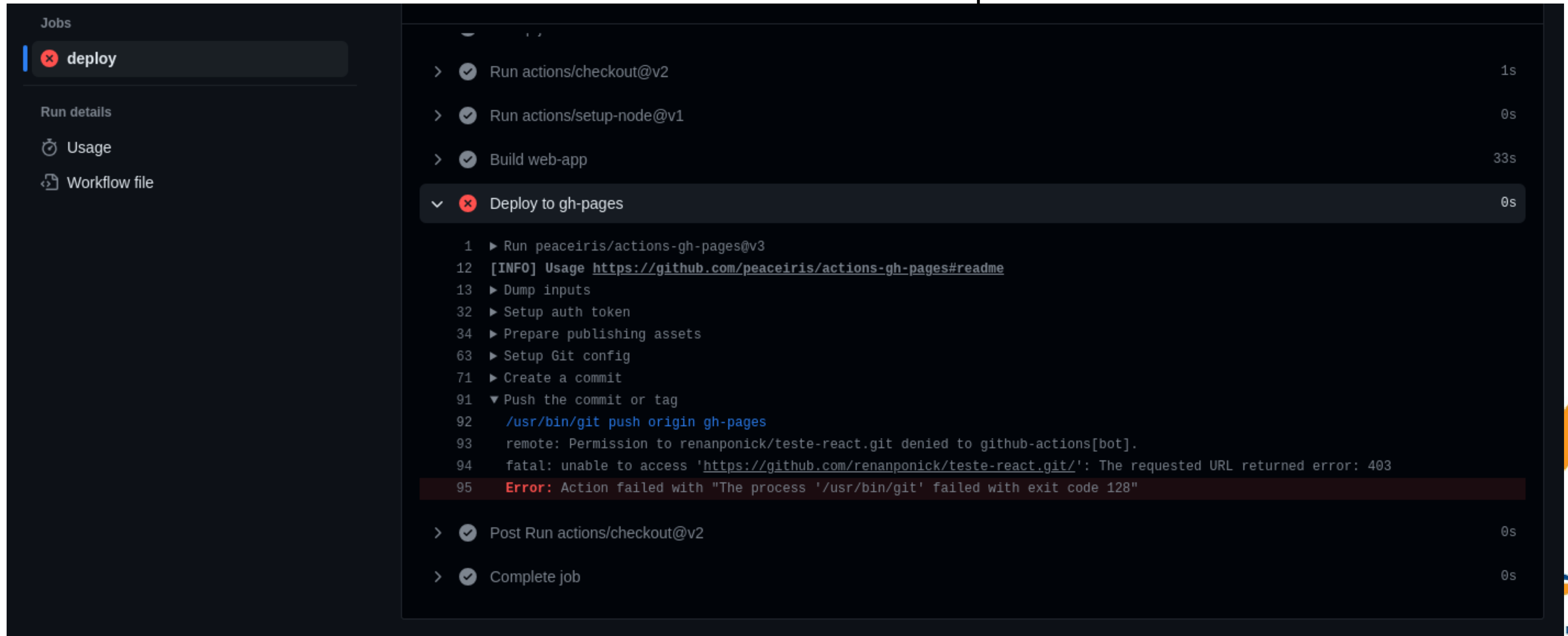
**build.yml**  
on: push

deploy	17s
--------	-----

[ ] - +

# Erros possíveis

Erro muito comum é o 403 - Sem permissão



The screenshot displays a GitHub Actions workflow run for a job named 'deploy'. The job is marked as failed with a red 'x' icon. The left sidebar shows the job status and navigation options: 'Jobs', 'Run details', 'Usage', and 'Workflow file'. The main panel shows the workflow steps:

- Run actions/checkout@v2 (1s)
- Run actions/setup-node@v1 (0s)
- Build web-app (33s)
- Deploy to gh-pages (0s) - Failed

The 'Deploy to gh-pages' step is expanded, showing the following log output:

```
1 ▶ Run peaceiris/actions-gh-pages@v3
12 [INFO] Usage https://github.com/peaceiris/actions-gh-pages#readme
13 ▶ Dump inputs
32 ▶ Setup auth token
34 ▶ Prepare publishing assets
63 ▶ Setup Git config
71 ▶ Create a commit
91 ▼ Push the commit or tag
92   /usr/bin/git push origin gh-pages
93   remote: Permission to renanponick/teste-react.git denied to github-actions[bot].
94   fatal: unable to access 'https://github.com/renanponick/teste-react.git/': The requested URL returned error: 403
95 Error: Action failed with "The process '/usr/bin/git' failed with exit code 128"
```

The error message indicates a 403 Forbidden error, which is a common issue when the GitHub Actions bot does not have the necessary permissions to push to the repository.

**Corrigindo 403**

# Permitindo

Acesse novamente Settings, porém agora, Actions e General

renanponick / teste-react

<> Code Issues Pull requests Actions Projects Wiki Security Insights Settings

General

Access

Collaborators

Moderation options

Code and automation

Branches

Tags

Rules

Actions

General

Runners

## Actions permissions

- ☒ **Allow all actions and reusable workflows**  
Any action or reusable workflow can be used, regardless of who authored it.
- ☐ **Disable actions**  
The Actions tab is hidden and no workflows can run.
- ☐ **Allow renanponick actions and reusable workflows**  
Any action or reusable workflow defined in a repository within renanponick can be used.
- ☐ **Allow renanponick, and select non-renanponick, actions and reusable workflows**  
Any action or reusable workflow that matches the specified criteria, including those from the community. [Learn more about allowing specific actions and reusable workflows](#)

Save

Artifact and log retention

# Permitindo

Vá até o final da página e habilite o Read and Write permission e save

### Workflow permissions

Choose the default permissions granted to the `GITHUB_TOKEN` when running workflows in this repository. You can specify more granular permissions in the workflow using YAML. [Learn more.](#)

☒ **Read and write permissions**  
Workflows have read and write permissions in the repository for all scopes.

☐ **Read repository contents and packages permissions**  
Workflows have read permissions in the repository for the contents and packages scopes only.

Choose whether GitHub Actions can create pull requests or submit approving pull request reviews.

☒ **Allow GitHub Actions to create and approve pull requests**

Save

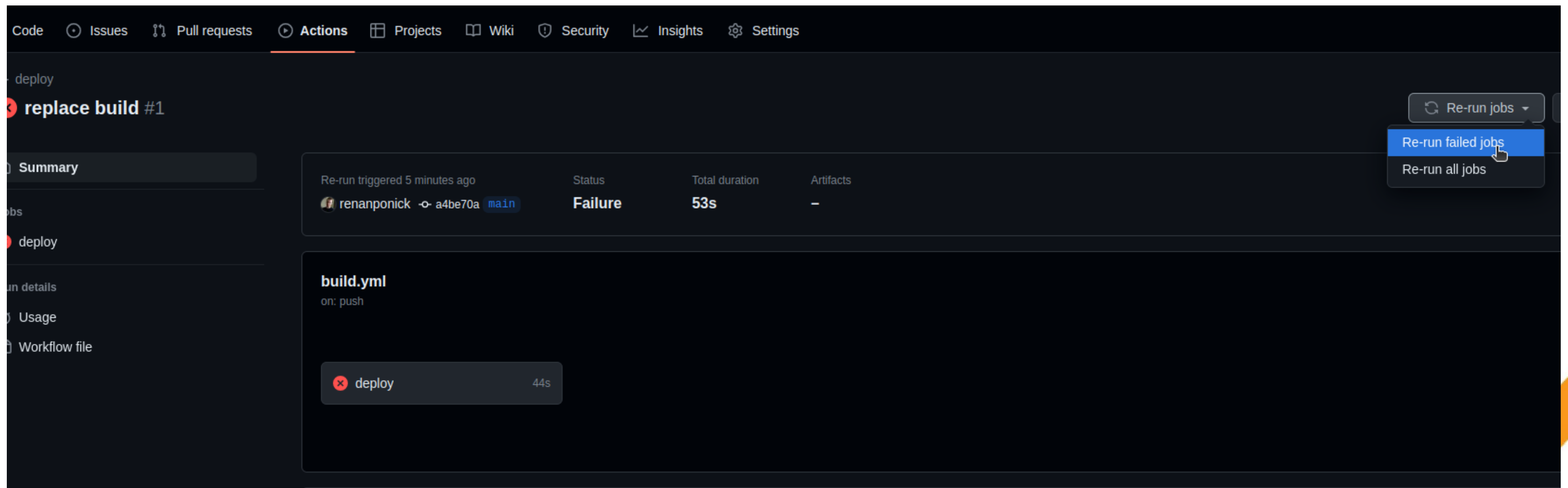
Isso se faz necessário pois o action irá criar uma branch nova com o projeto buildado...



# Rodando novamente o Action

# Tentando Novamente

Volte na actions que falhou e rode novamente.



The screenshot shows the GitHub Actions interface for a workflow named 'replace build #1'. The 'Summary' tab is selected, displaying a table of job runs. The first job run, triggered by user 'renanponick' on the 'main' branch, is in a 'Failure' state with a total duration of 53s. A dropdown menu is open, showing options to 'Re-run jobs', 'Re-run failed jobs' (highlighted), and 'Re-run all jobs'. Below the table, the 'build.yml' workflow file is shown, with a 'deploy' job marked as failed (44s).

Re-run triggered	Status	Total duration	Artifacts
5 minutes ago	Failure	53s	—

**build.yml**  
on: push

deploy 44s



# Agora sim

The screenshot displays the GitHub Actions interface for a workflow named 'deploy'. The workflow is in a 'completed' state, indicated by a green checkmark and the text 'replace build #1'. The main area shows a list of steps that were executed successfully:

- Set up job (2s)
- Run actions/checkout@v2 (1s)
- Run actions/setup-node@v1 (0s)
- Build web-app (39s)
- Deploy to gh-pages (1s)
- Post Run actions/checkout@v2 (0s)
- Complete job (0s)

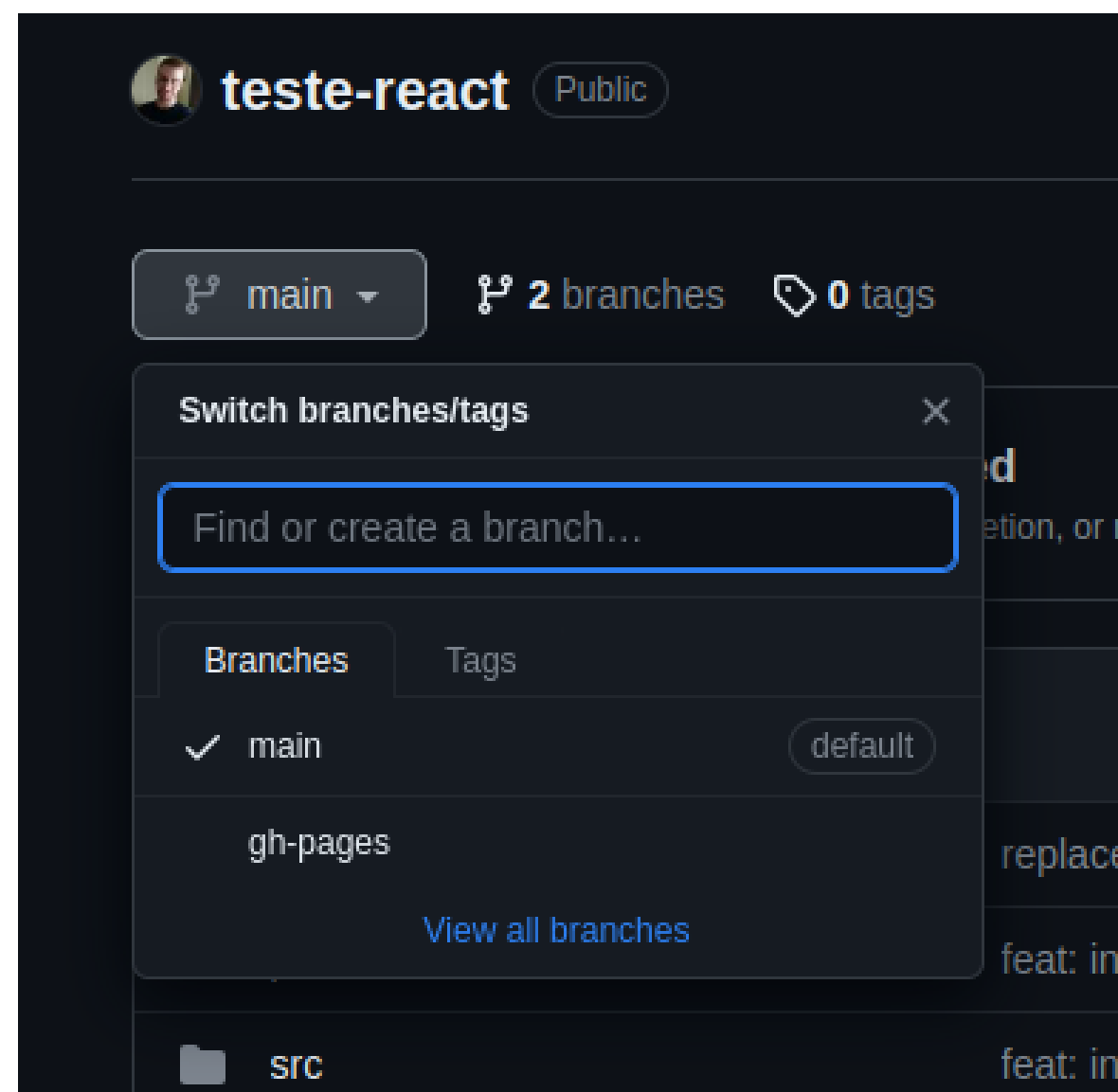
The 'Complete job' step is expanded, showing a sub-step: '1 Cleaning up orphan processes'. The interface also includes a sidebar with navigation links (Code, Issues, Pull requests, Actions, Projects, Wiki, Security, Insights, Settings) and a search bar for logs.



**Mas ainda não acabou...**

# Branch nova

Note que, como comentado anteriormente, a action gerou uma nova branch chamada gh-pages.



# Branch nova

Basta trocar a branch para qual o GitHub Pages está olhando...

Actions Projects Wiki Security Insights Settings

General

Access

Collaborators

Moderation options

Code and automation

Branches

Tags

Rules

Actions

Webhooks

Environments

Codespaces

**Pages**

## GitHub Pages

GitHub Pages is designed to host your personal, organization

Your site is live at <https://renanponick.github.io/teste->  
Last deployed by [renanponick](#) 15 minutes ago

### Build and deployment

**Source**

Deploy from a branch

**Branch**

Your GitHub Pages site is currently being built from the main  
your site.

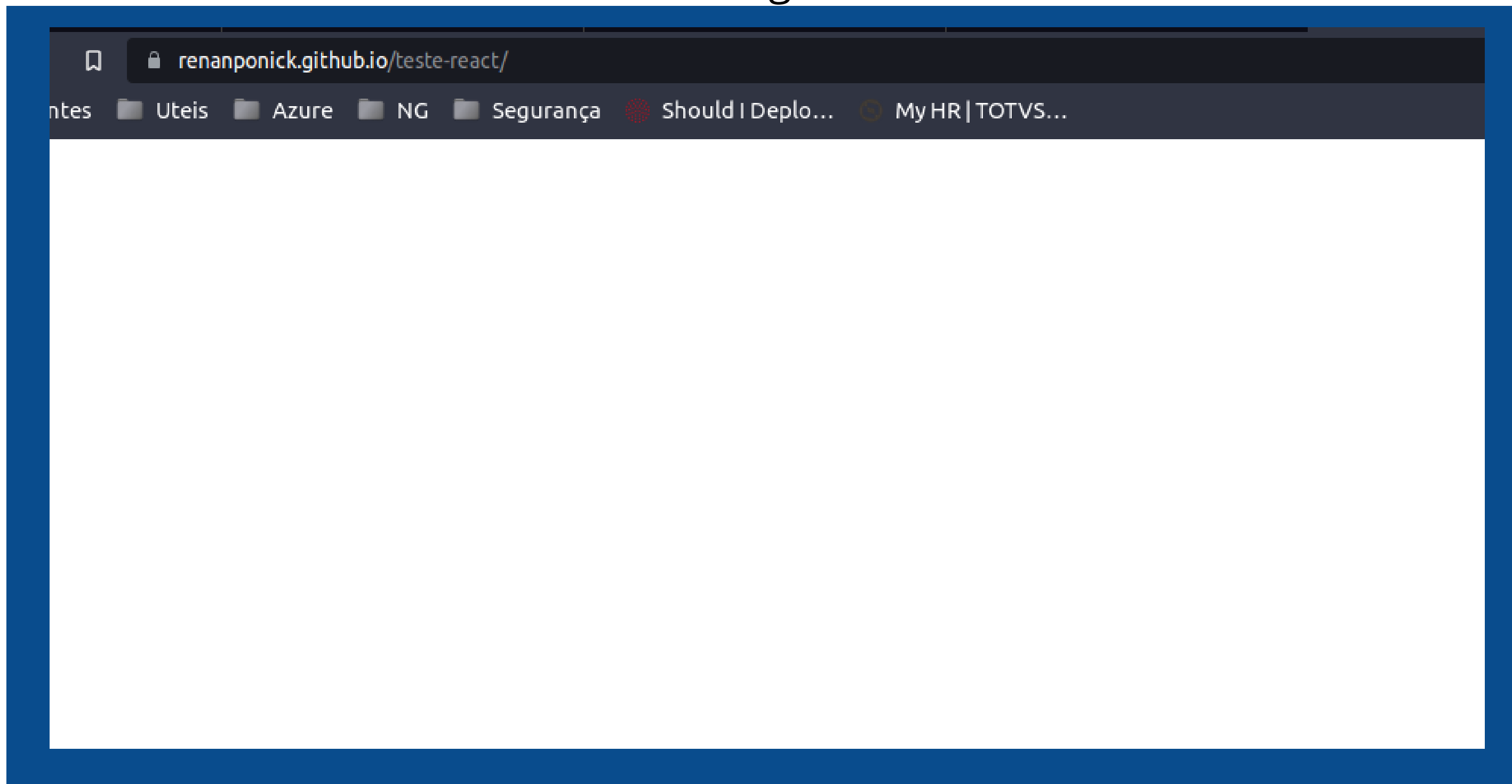
gh-pages / (root) Save

Learn how to [add a Jekyll theme](#) to your site.

**Funciona?**

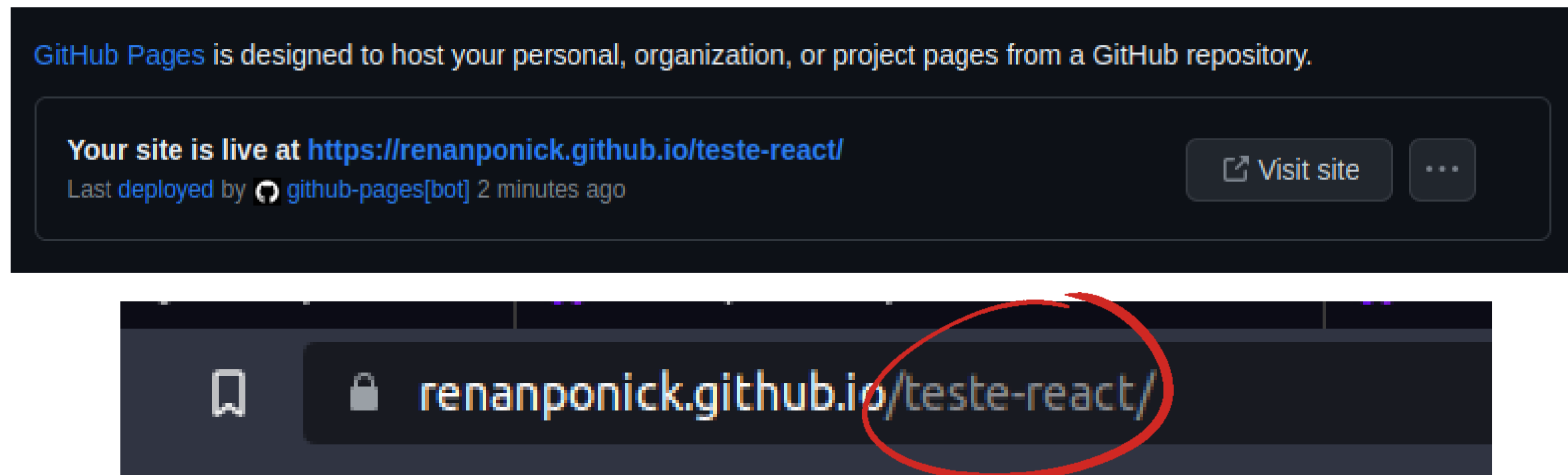
# Ops...

Ele não está carregando... nada...



# Motivo

Isso acontece pq na url ele está configurado para acessar uma pasta, note:




# Solução

Precisamos ajustar nosso package.json, para informar qual será a pagina de entrada do nosso site, adicione:

"homepage": "teste-react/"

**O nome após o homepage, precisa ser o mesmo nome do repo.**

A screenshot of a code editor with a dark theme. At the top, there are three tabs: 'index.html' with a file icon, 'package.json' with a red 'npm' icon and a close button 'X', and 'build.yml' with a 'YML' icon. The 'package.json' tab is active. Below the tabs, the text 'package.json > ...' is shown, followed by 'You, 6 minutes ago | 1 author (You)'. The code content is a JSON object with four lines: 1. '{', 2. ' "name": "teste-react",', 3. ' "version": "0.1.0",', 4. ' "homepage": "teste-react/",'. The cursor is at the end of the first line.

```
5 index.html  npm package.json X  yml build.yml

npm package.json > ...
  You, 6 minutes ago | 1 author (You)
1  {
2    "name": "teste-react",
3    "version": "0.1.0",
4    "homepage": "teste-react/",
```



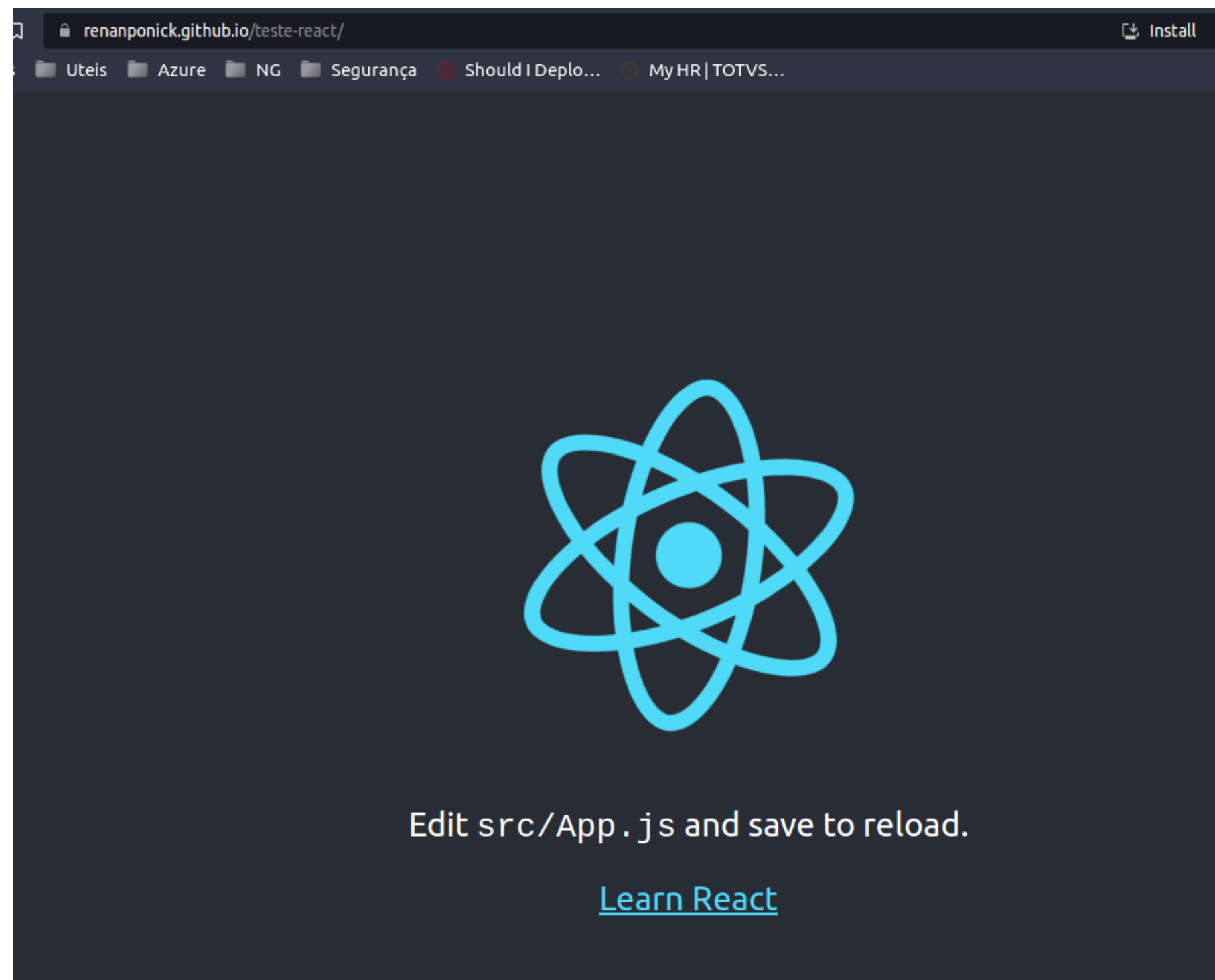


# Agora

Basta subir esse código para o GitHub, esperar a action rodar novamente e torcer para não dar mais nenhum problema.... será?

# Ta lá

Agora sim, nossa página está no ar...



# Mão na massa

Crie um repositório público no GitHub para colocar seu trabalho.

Crie uma página estática, utilizando html, css e js, para criar o seu portfólio pessoa!

**Me chame para validar.**



# Já acabou?

Pegue outro repositório que você está trabalhando com React e tenta subir para o GitHub Pages.

**Caso não tenha, me chame para orientar.**

# Roteiro das aulas / Calendário

## **1ª Segunda:**

- Apresentação;
- Navegadores e buscadores;

## **2ª Segunda:**

- Hospedagem, registro, tráfego;
- Pesquisa 1;

## **3ª Segunda:**

- Hospedagem comercial;
- Aplicativos.
- Pesquisa 2;

## **4ª Segunda:**

- Boas práticas usando site do Google SEO e W3C;

## **5ª Segunda:**

- Git;

## **6ª Segunda:**

- GitHub;

## **7ª Segunda:**

- Build e Deploy;
- Backups;

## **8ª Segunda:**

- Revisão;
- Kahoot;

## **9ª Segunda:**

- Git Hub Pages;

## **10ª Segunda:**

- Git Hub Pages

## **11ª Segunda:**

- Testes.

## **12ª Segunda:**

- Avaliação Final;