CONTINUOUS INTEGRATION

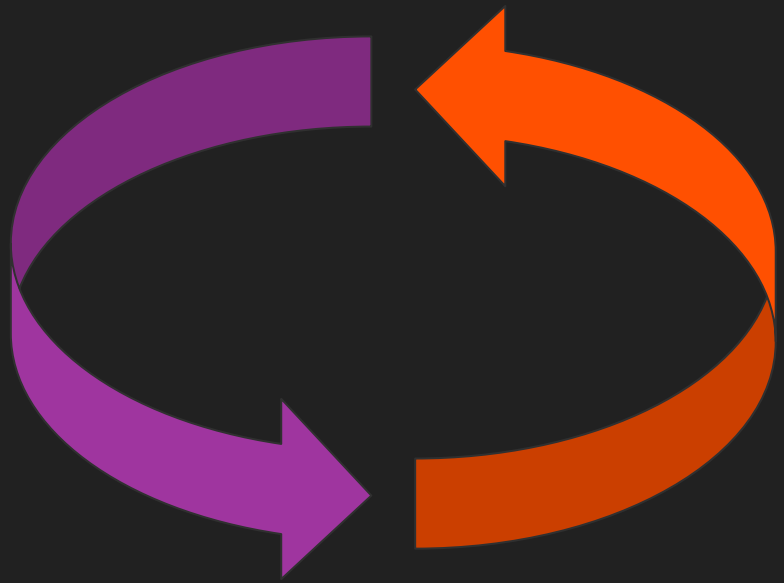
Christian Torres González

Jorge Acevedo de León

What is CI?

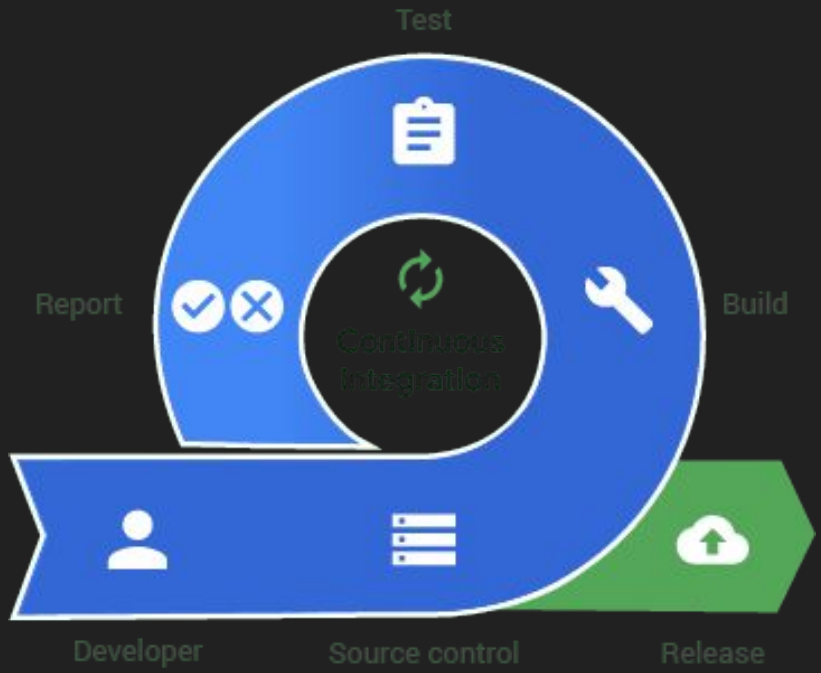
Continuous Integration (CI) is a development practice that requires developers to integrate code into a shared repository several times a day.

Each check-in is then verified by an automated build, allowing teams to detect problems early.



Steps to follow

- Code programming
- Source control
- Build
- Testing
- Documentation
- Release



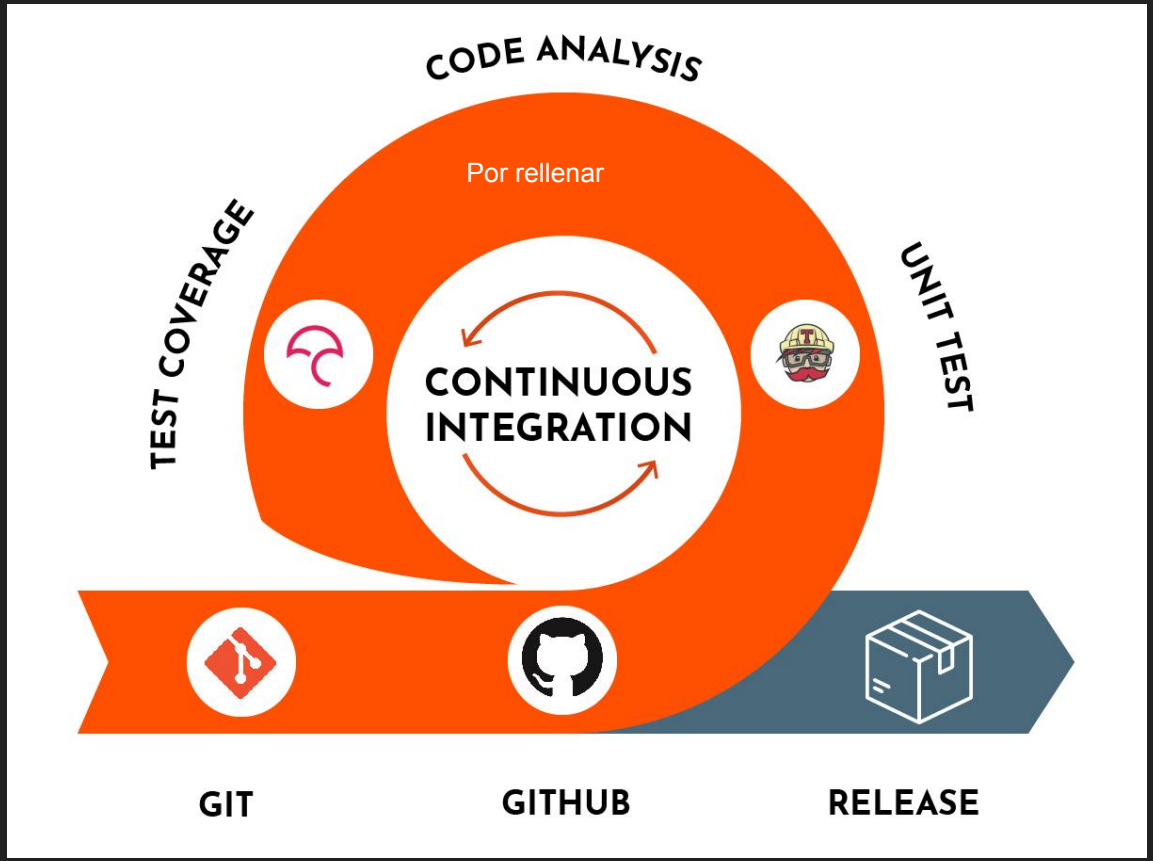
CI Features:

- Everybody can easily get the latest version and see what is happening
- Single source repository
- Testing against code automation
- Code building automation

When to use CI?

This question is one of the most important question in software development, because a bad decision, can mean the loss of large amount of resources.

The best answer to this question, is, “every time we make a change to the repo”

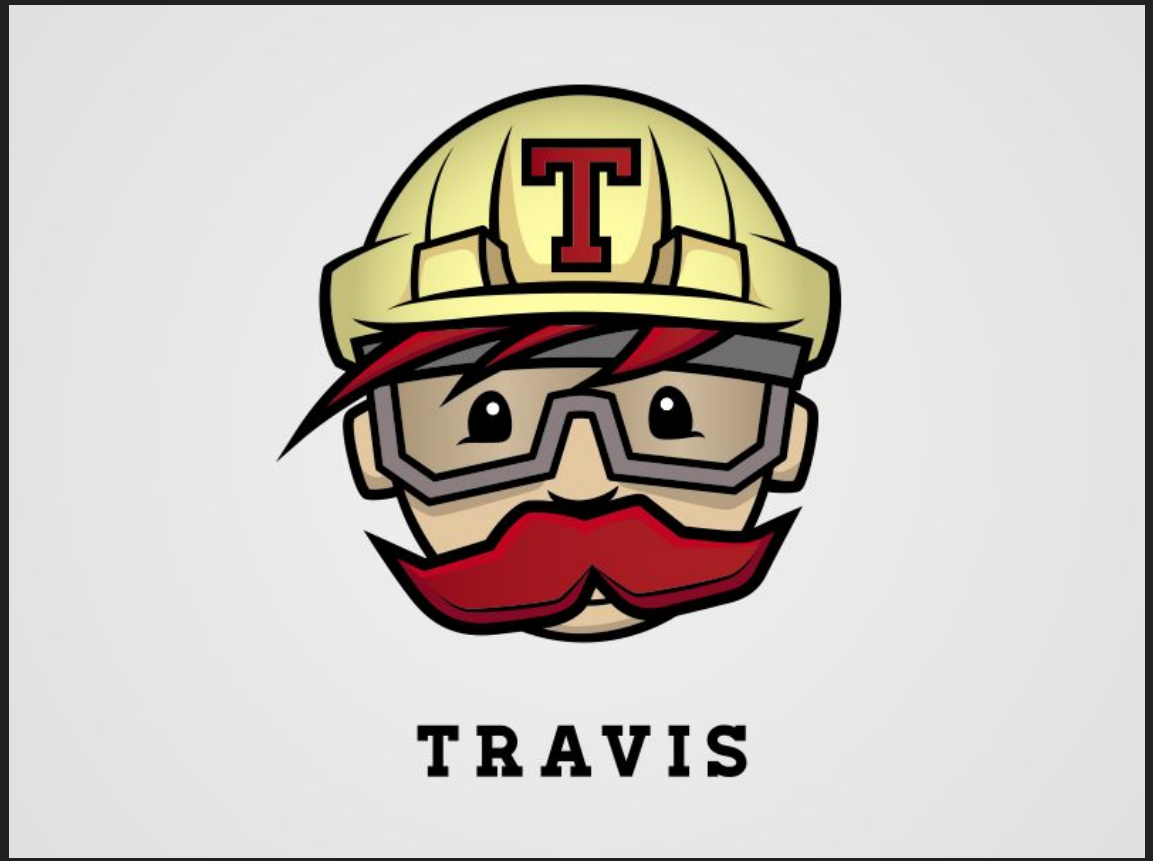

CODE ANALYSIS
Por rellenar
TEST COVERAGE
UNIT TEST
CONTINUOUS
INTEGRATION
GIT
GITHUB
RELEASE

What are we going to use?

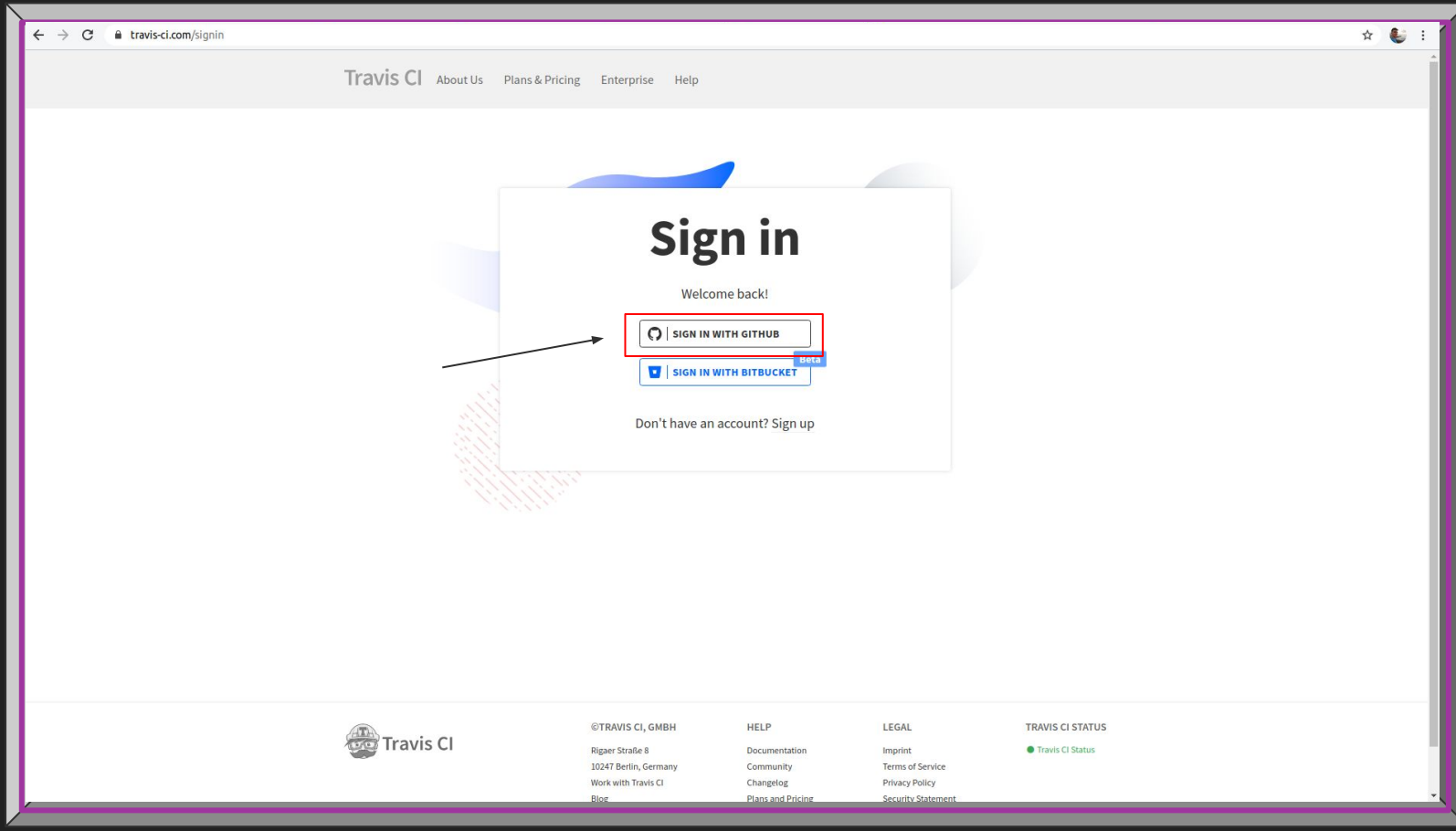
- Travis CI

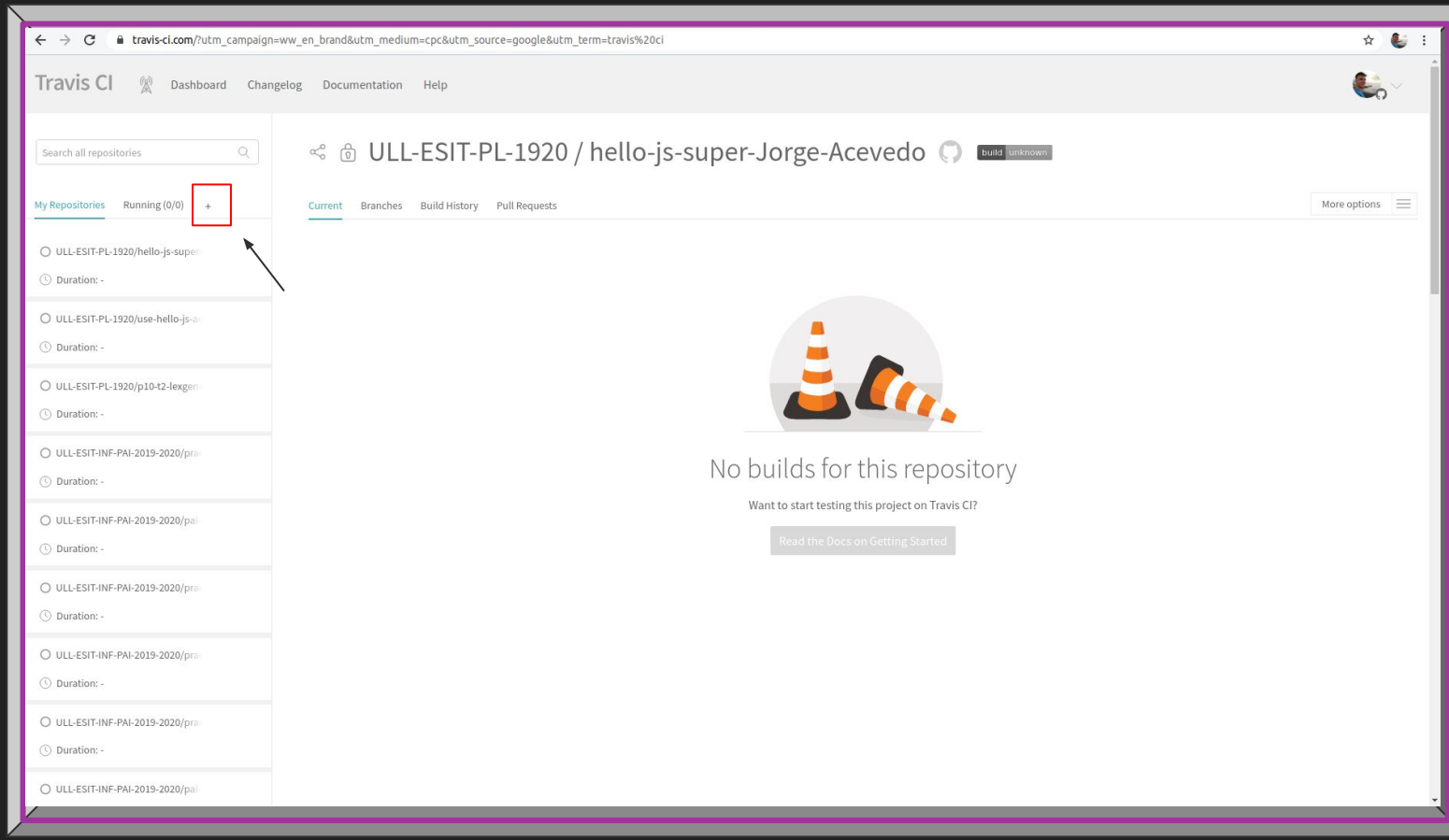
- CodeCov

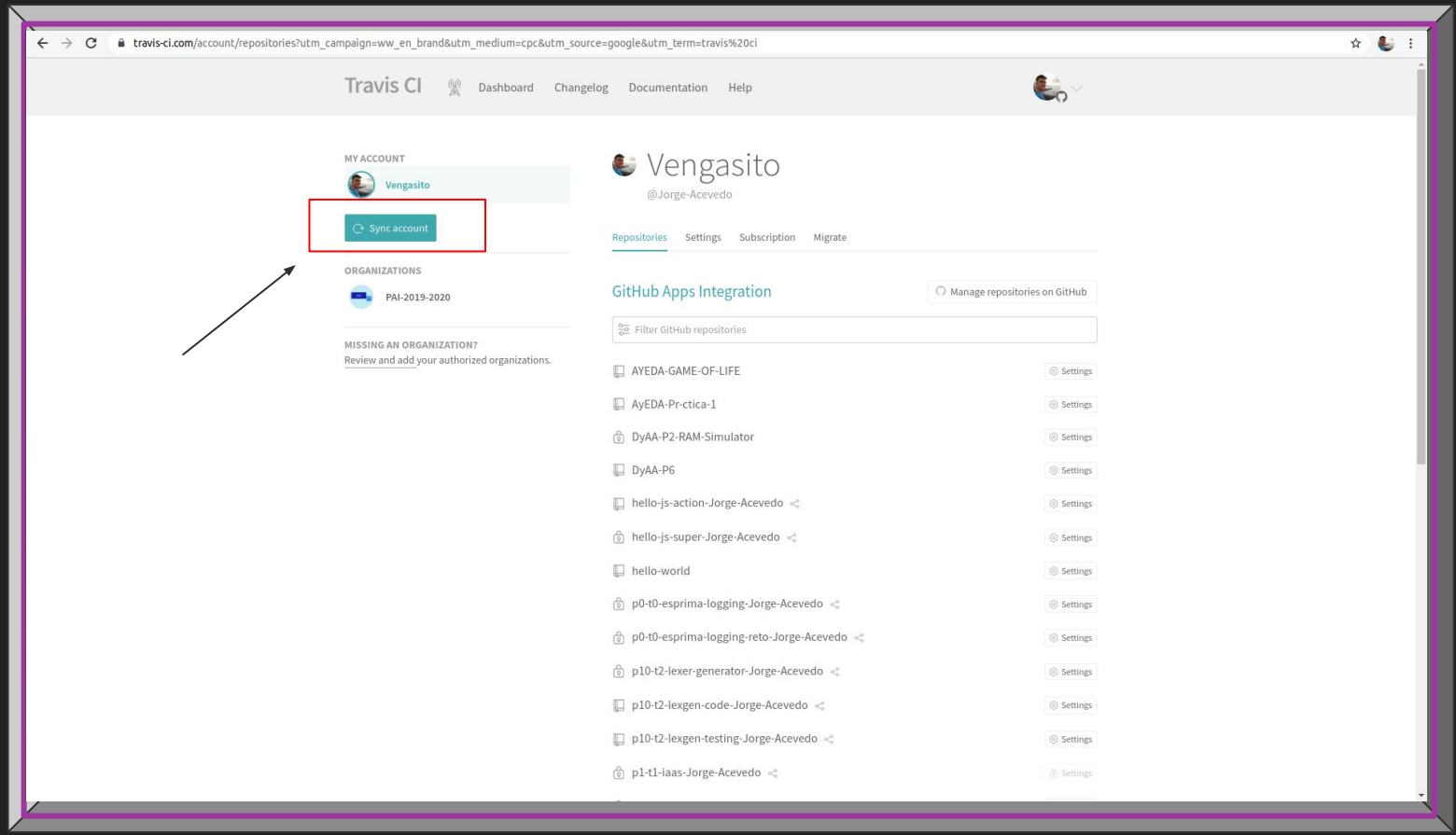
What is Travis CI?



How to start with Travis




travis-ci.com/?utm_campaign=ww_en_brand&utm_medium=cpc&utm_source=google&utm_term=travis%20ci
Travis CI
Dashboard
Changelog
Documentation
Help
Search all repositories
My Repositories
Running (0/0)
+
ULL-ESIT-PL-1920/hello-js-super
Duration: -
ULL-ESIT-PL-1920/use-hello-js-a
Duration: -
ULL-ESIT-PL-1920/p10-t2-lexgen
Duration: -
ULL-ESIT-INF-PAI-2019-2020/pra
Duration: -
ULL-ESIT-INF-PAI-2019-2020/pai
Duration: -
ULL-ESIT-INF-PAI-2019-2020/pra
Duration: -
ULL-ESIT-INF-PAI-2019-2020/pra
Duration: -
ULL-ESIT-INF-PAI-2019-2020/pra
Duration: -
ULL-ESIT-INF-PAI-2019-2020/pai
ULL-ESIT-PL-1920 / hello-js-super-Jorge-Acevedo
build unknown
Current
Branches
Build History
Pull Requests
More options
No builds for this repository
Want to start testing this project on Travis CI?
Read the Docs on Getting Started

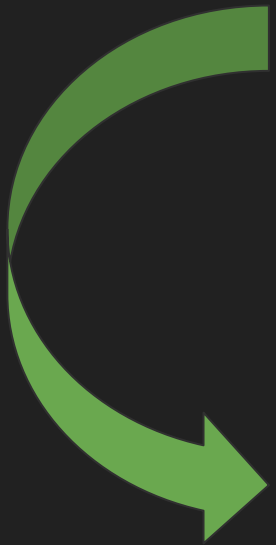

travis-ci.com/account/repositories?utm_campaign=ww_en_brand&utm_medium=cpc&utm_source=google&utm_term=travis%20ci
Travis CI
Dashboard
Changelog
Documentation
Help
MY ACCOUNT
Vengasito
Sync account
ORGANIZATIONS
PAI-2019-2020
MISSING AN ORGANIZATION?
Review and add your authorized organizations.
Vengasito
@Jorge-Acevedo
Repositories
Settings
Subscription
Migrate
GitHub Apps Integration
Manage repositories on GitHub
Filter GitHub repositories
AYEDA-GAME-OF-LIFE
AyEDA-Pr-ctica-1
DyAA-P2-RAM-Simulator
DyAA-P6
hello-js-action-Jorge-Acevedo
hello-js-super-Jorge-Acevedo
hello-world
p0-t0-esprima-logging-Jorge-Acevedo
p0-t0-esprima-logging-reto-Jorge-Acevedo
p10-t2-lexer-generator-Jorge-Acevedo
p10-t2-lexgen-code-Jorge-Acevedo
p10-t2-lexgen-testing-Jorge-Acevedo
p1-t1-iaas-Jorge-Acevedo
Settings

Builds

Timeout building limits:

- When a job produces no log output for 10 minutes.
- When a job on a public repository takes longer than 50 minutes.
- When a job on a private repository takes longer than 120 minutes.

Job lifecycle



A job on Travis CI is made up of two main parts:

1. **install**: install any dependencies required
2. **script**: run the build script

.travis.yml

- It’s the key component in our repository

- Contains the information of the project and how is Travis supposed to treat it

Example basic .travis.yml

```
language: node_js
node_js:
 - "12"
```

BUILD CUSTOMIZATION

Travis scripts

- We are able to write our own scripts and let the Travis VM execute them itself:

travisScript.sh

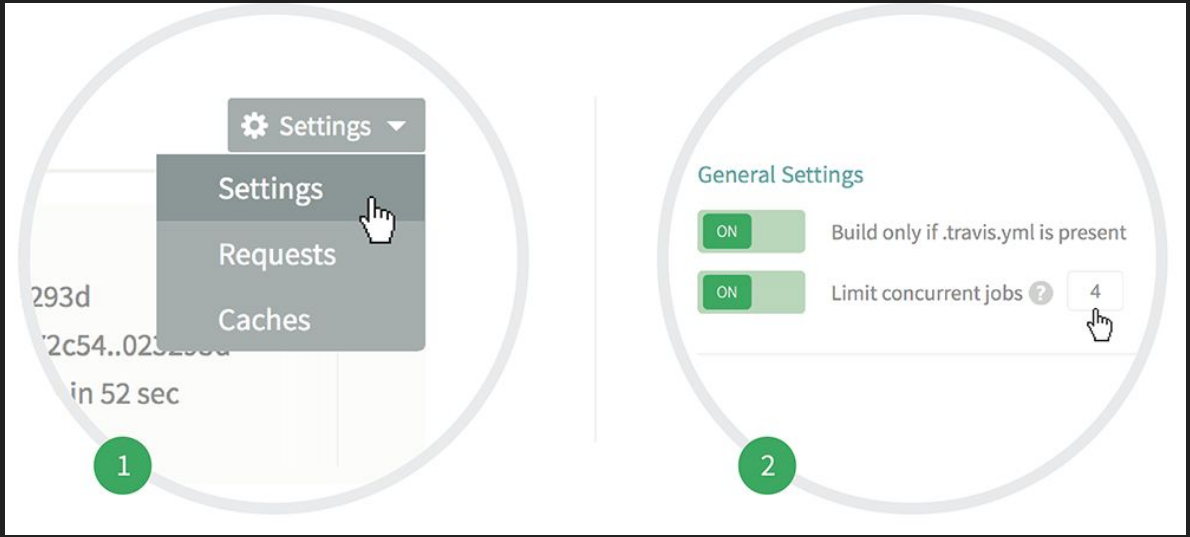
```
#!/bin/bash
npm test
```

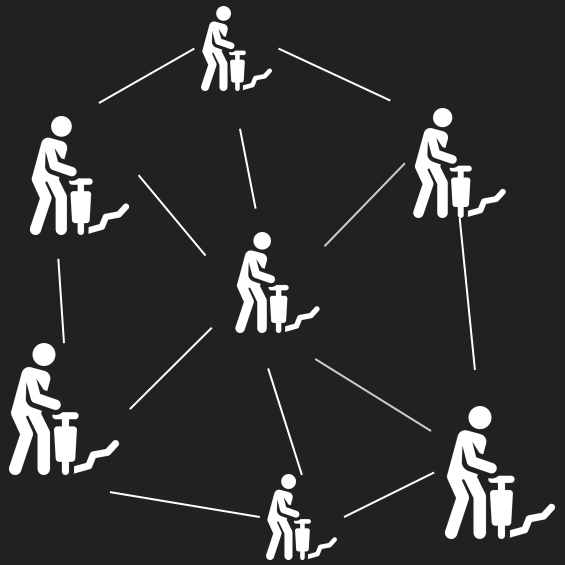
.travis.yml

```
language: node_js
node_js:
 - "12"
install:
 - npm ci
script:
./travisScript.sh
```

Concurrent jobs

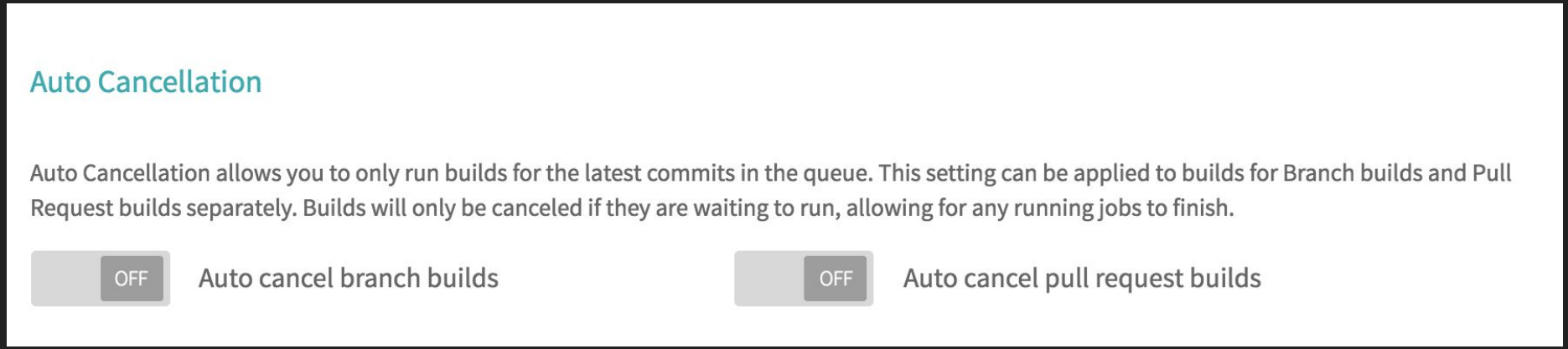
You can set the maximum number of concurrent jobs in the settings pane for each repository.





Building only the latest commit

- Interesting option that allows us to commit several times before a push, only building the latest commit pushed to the repo.

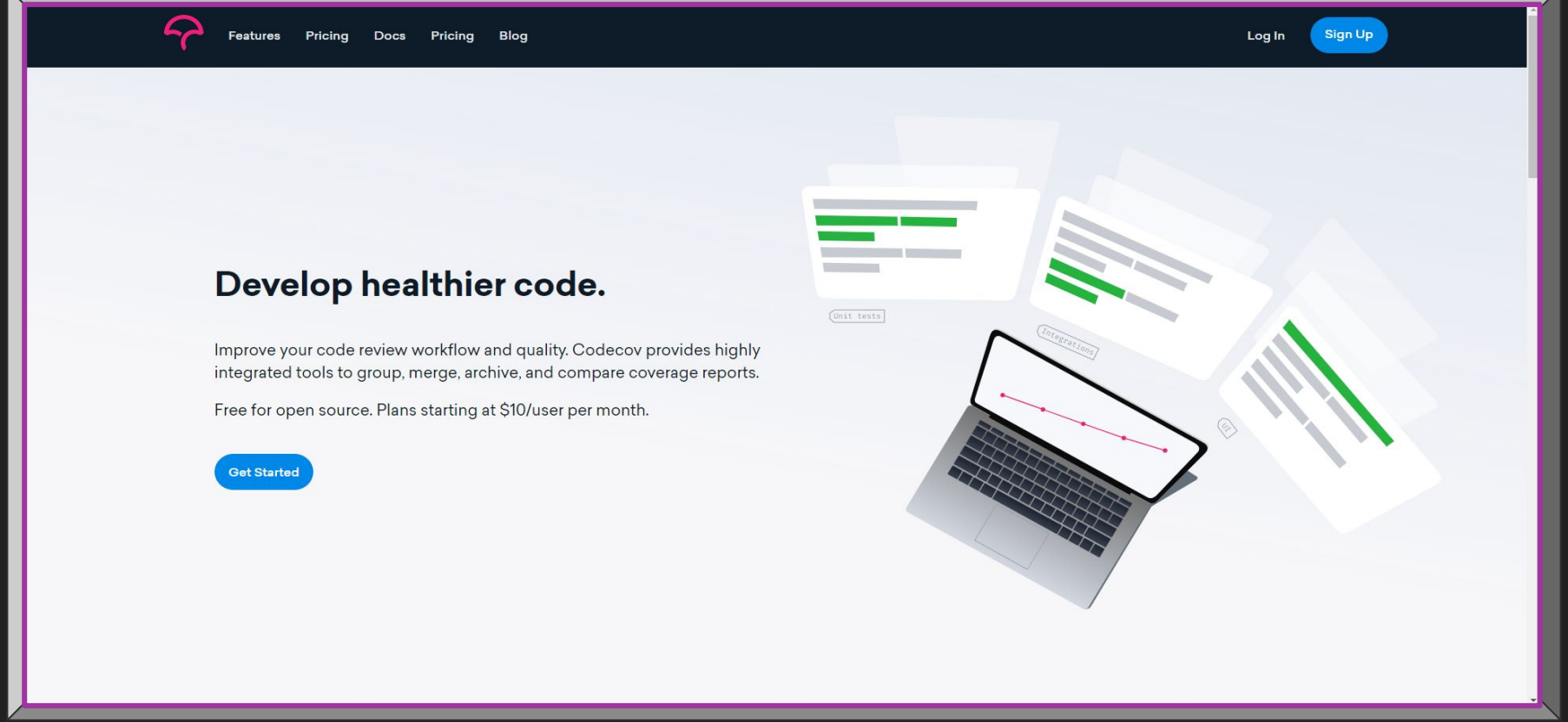


${ Now the online examples :) }

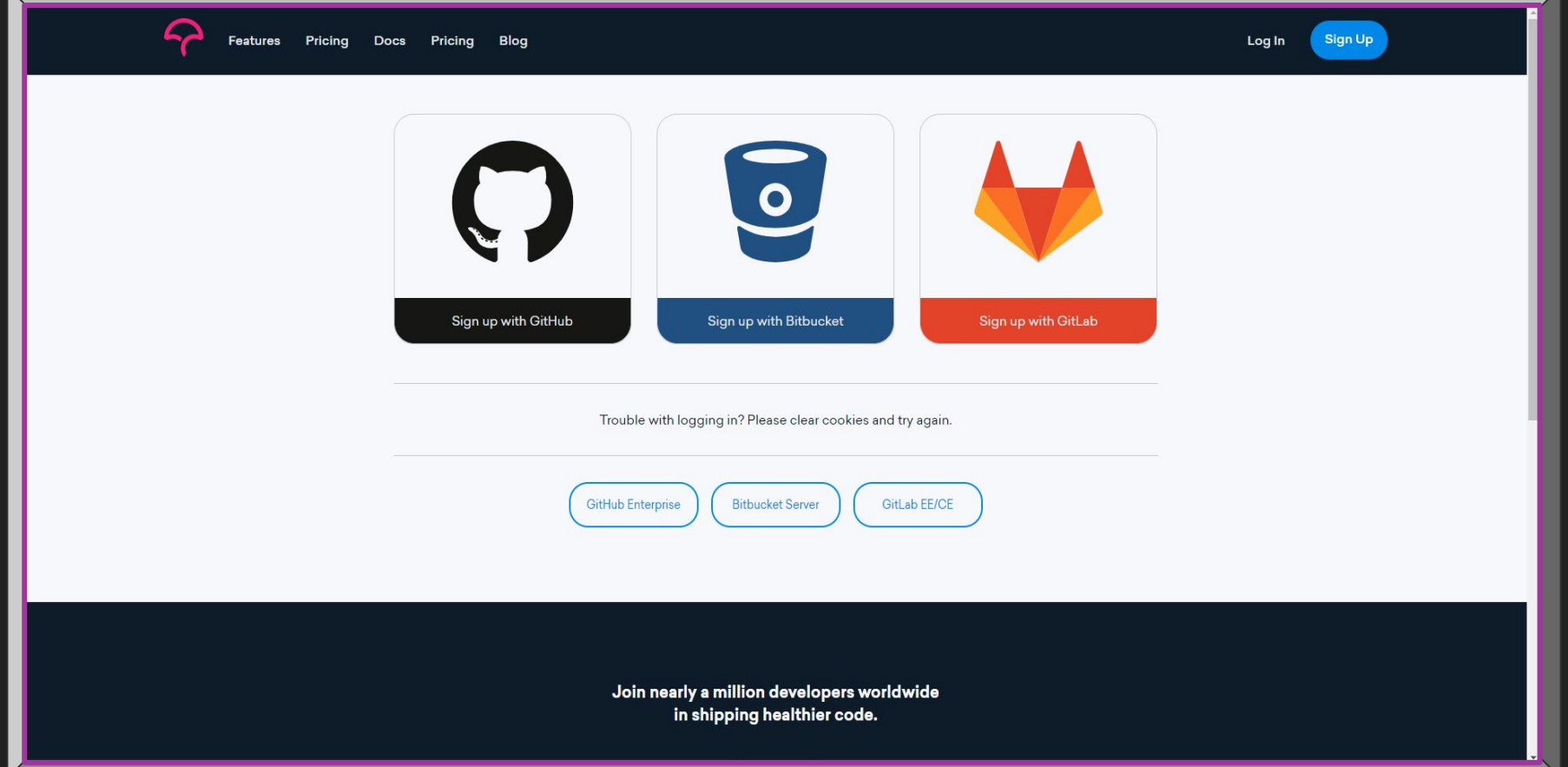
What’s CodeCov ?

ACCESS TO CODECOV

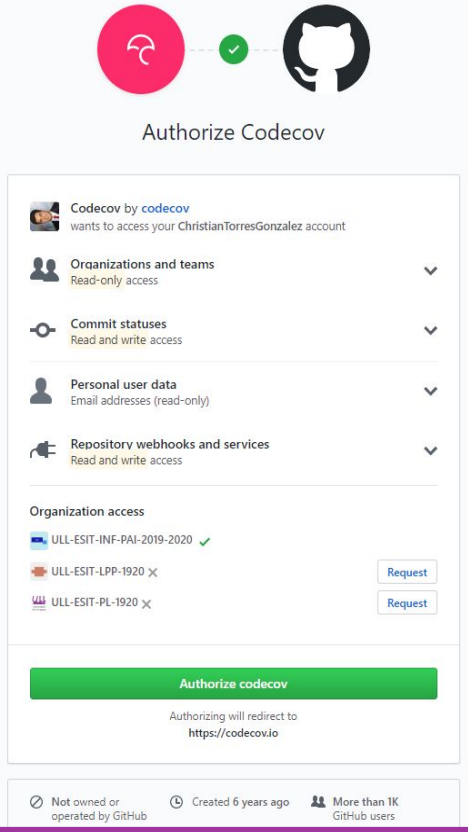
https://codecov.io/



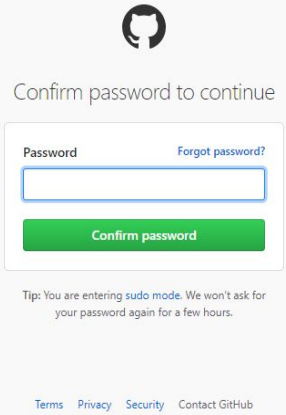
ACCESS TO CODECOV



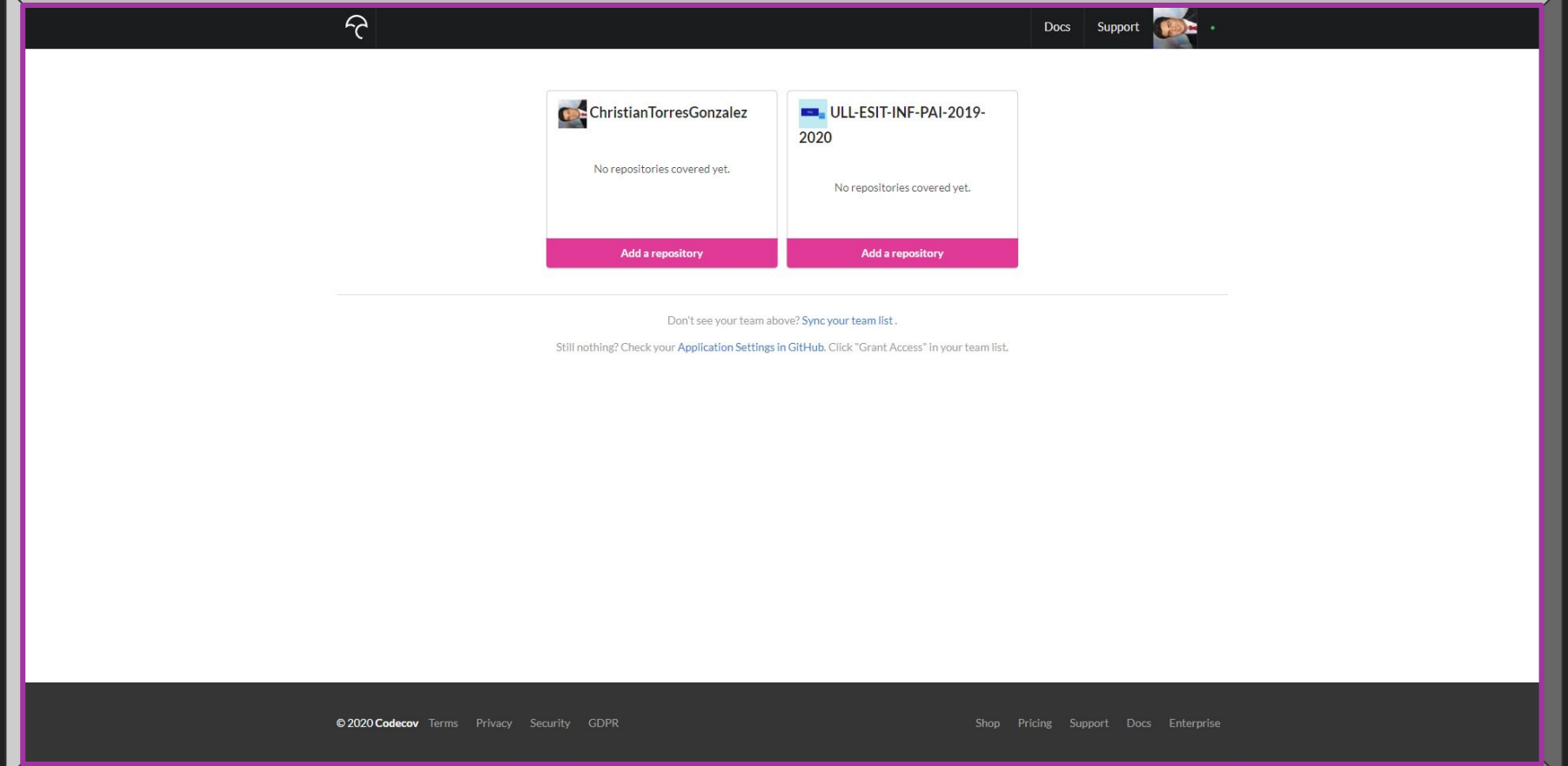
ACCESS TO CODECOV



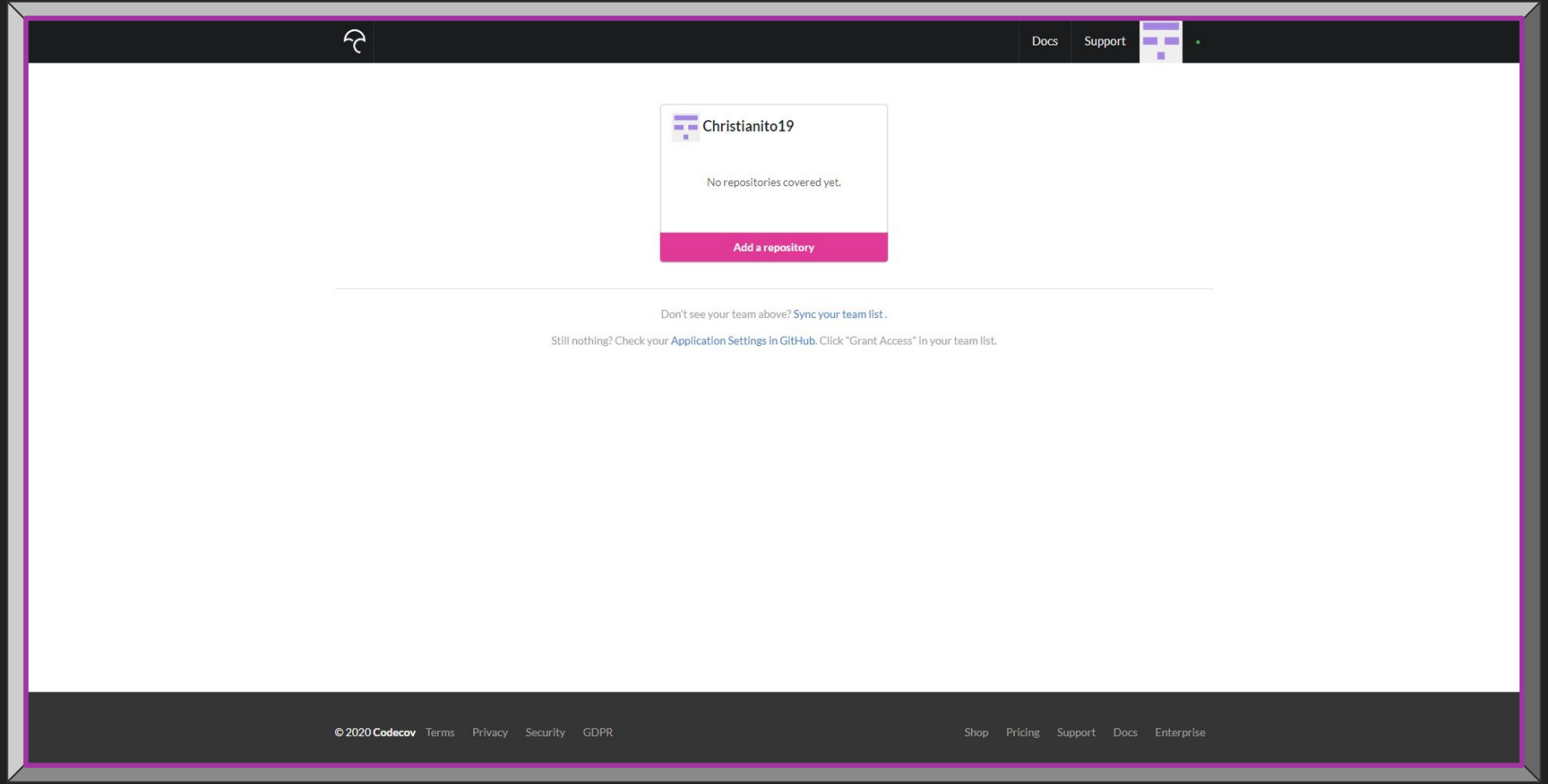
ACCESS TO CODECOV



ACCESS TO CODECOV



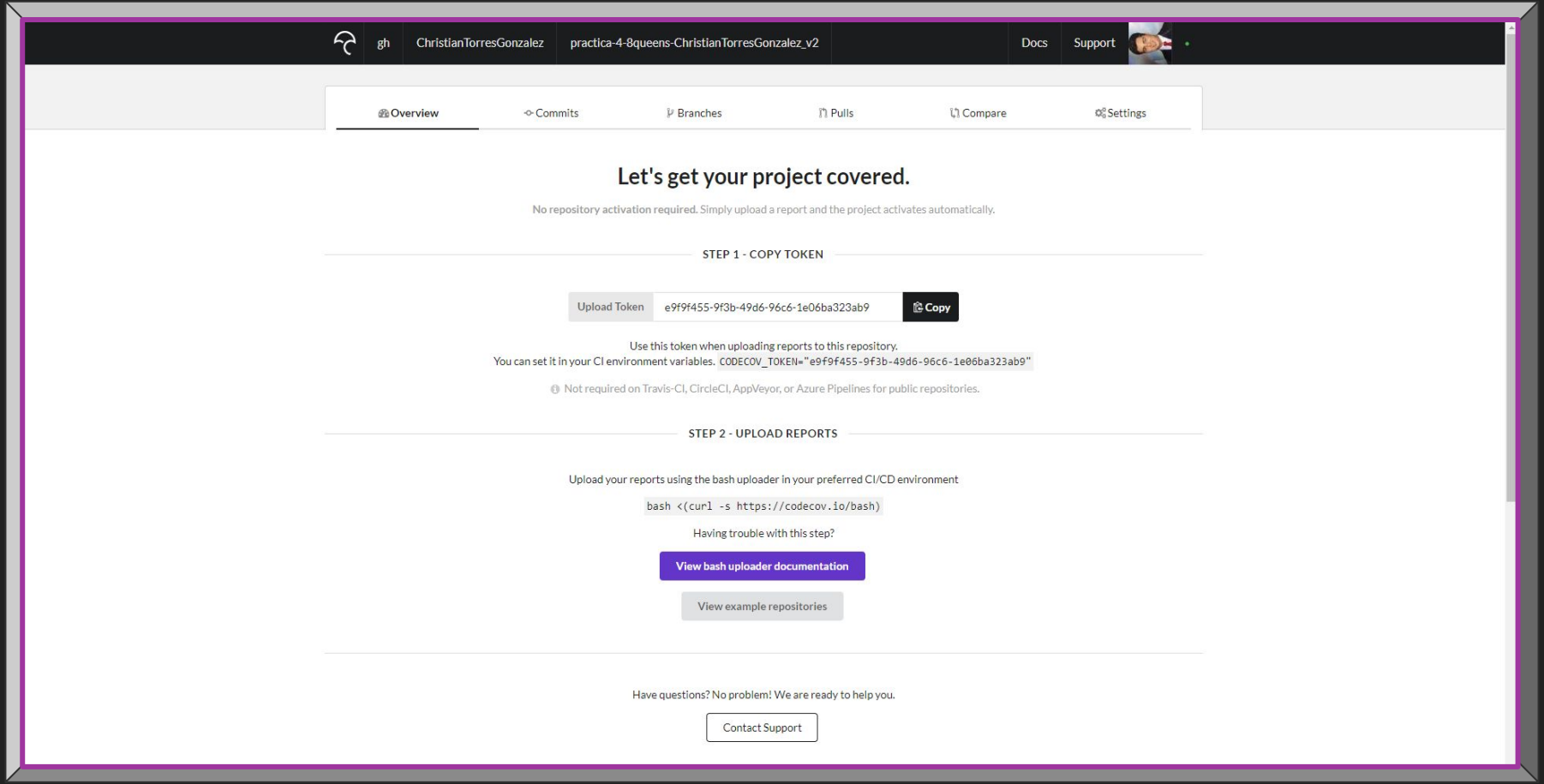
ACCESS TO CODECOV

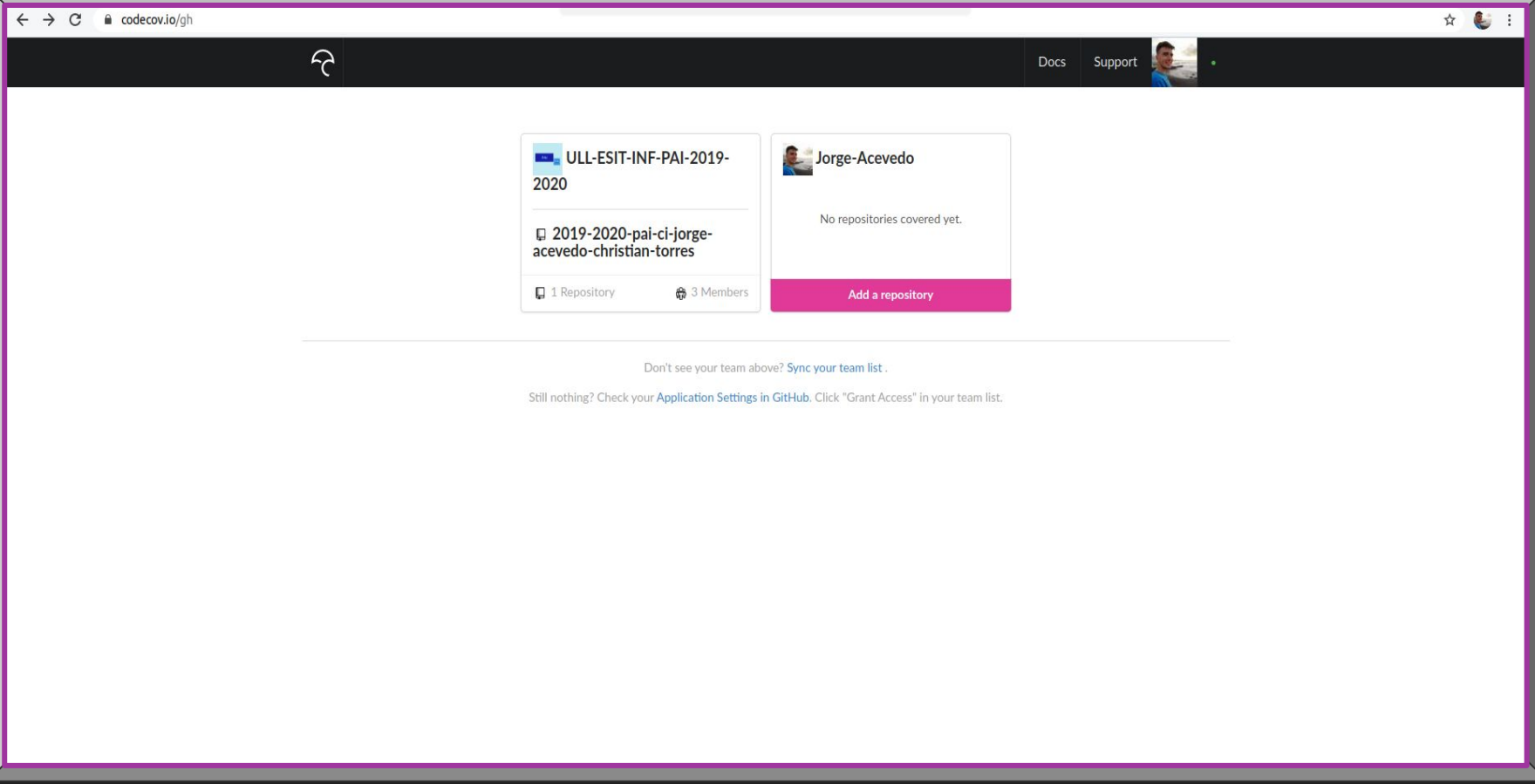


ACCESS TO CODECOV

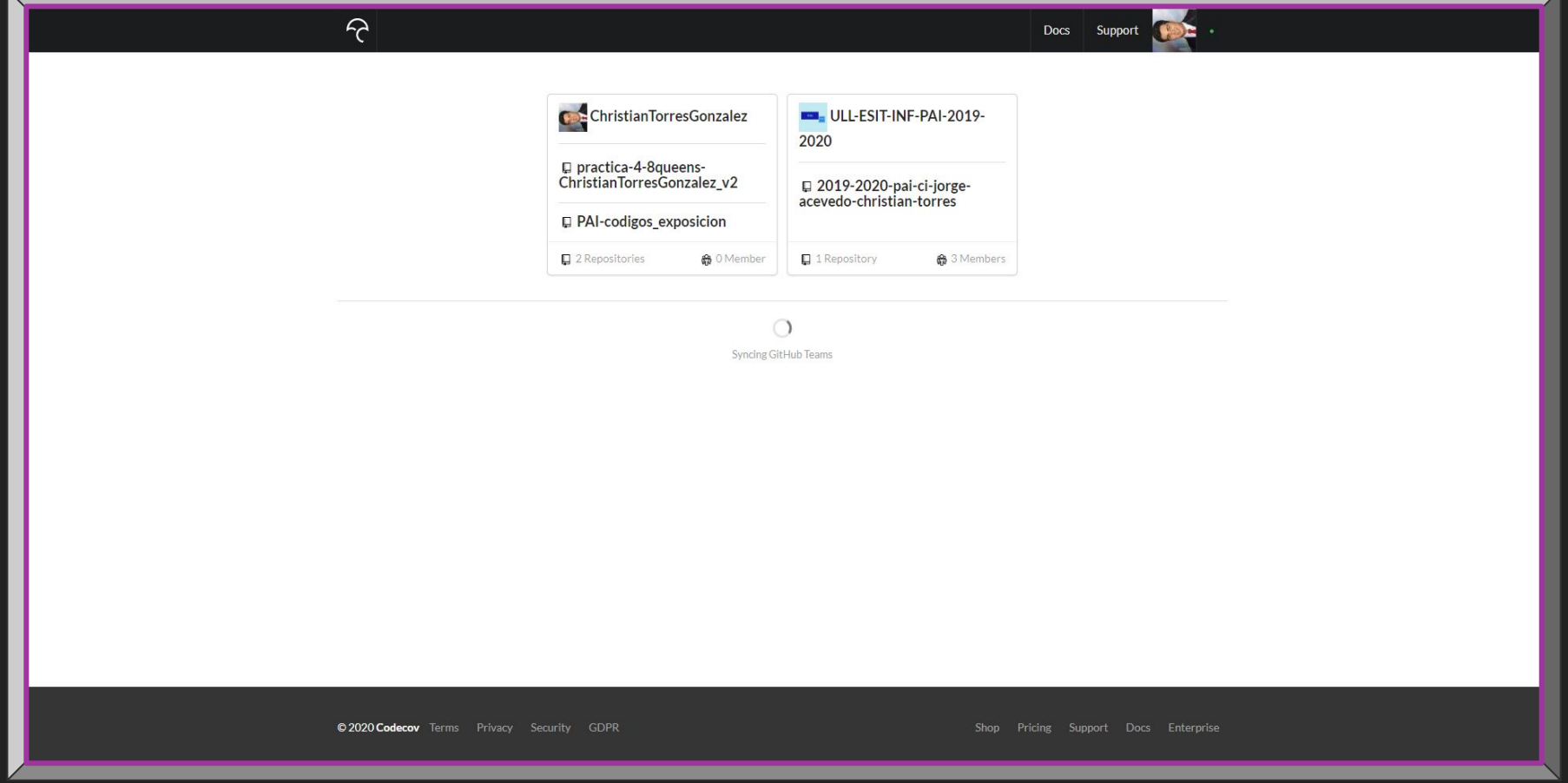
- prct01
- CyA_19-20
- LPP
- CyA_19-20_p6
- Inteligencia_Artificial_p1
- CyA_19-20-p8
- CyA_19-20-p9
- Practica_Reconocimiento
- CyA_19-20-p12
- Inteligencia_Artificial-prolog
- LPP_DOCS_ChristianTorres
- CyC_1920-p13
- LPP-p10
- DAA-p1
- PAI-01-ChristianTorresGonzalez
- DAA-P2
- PL-p01

ACCESS TO CODECOV




codecov.io/gh
Docs
Support
ULL-ESIT-INF-PAI-2019-2020
2019-2020-pai-ci-jorge-acevedo-christian-torres
1 Repository
3 Members
Jorge-Acevedo
No repositories covered yet.
Add a repository
Don't see your team above? Sync your team list .
Still nothing? Check your Application Settings in GitHub. Click "Grant Access" in your team list.

ACCESS TO CODECOV



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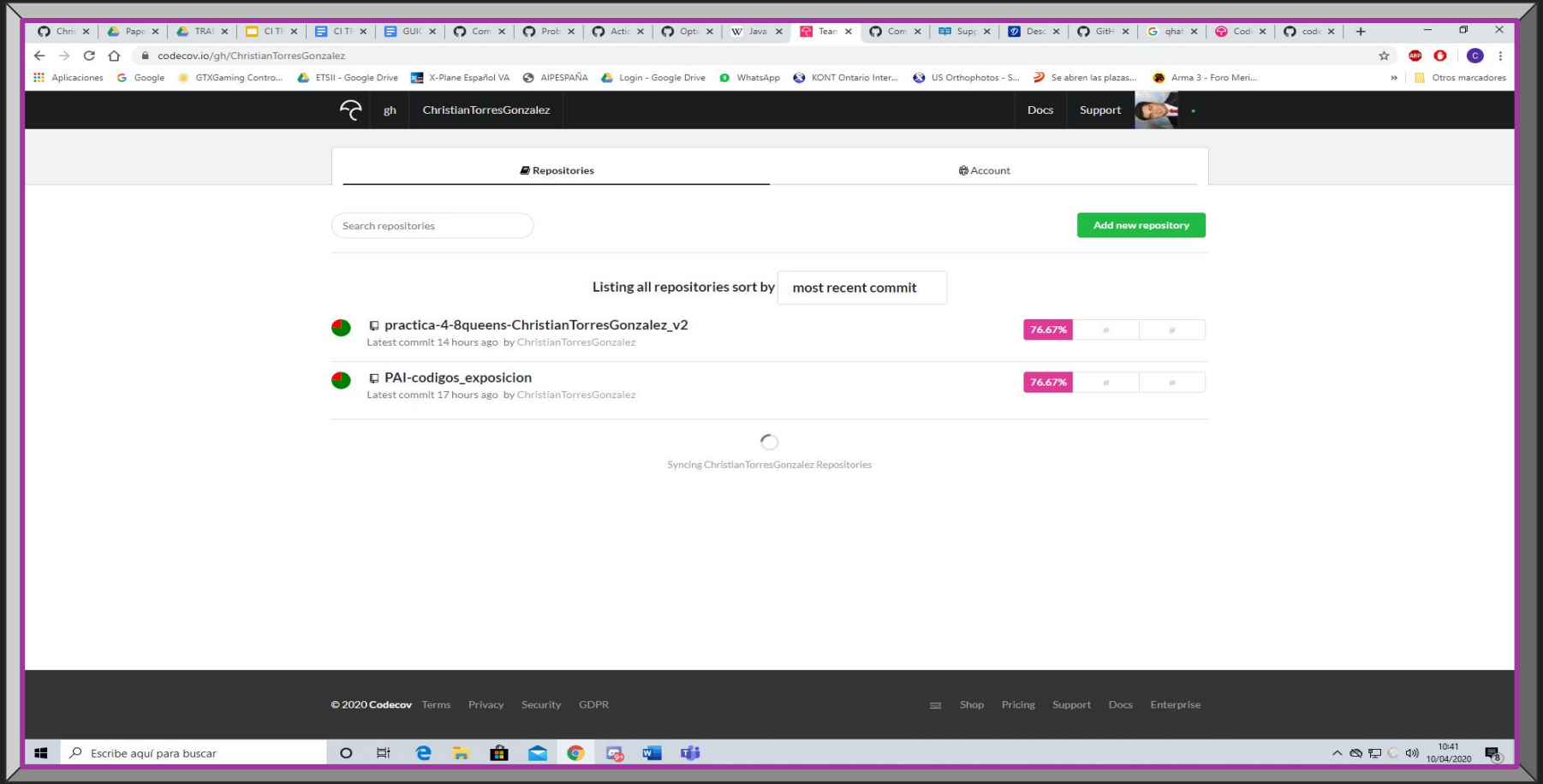

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- CyA_19-20-p8
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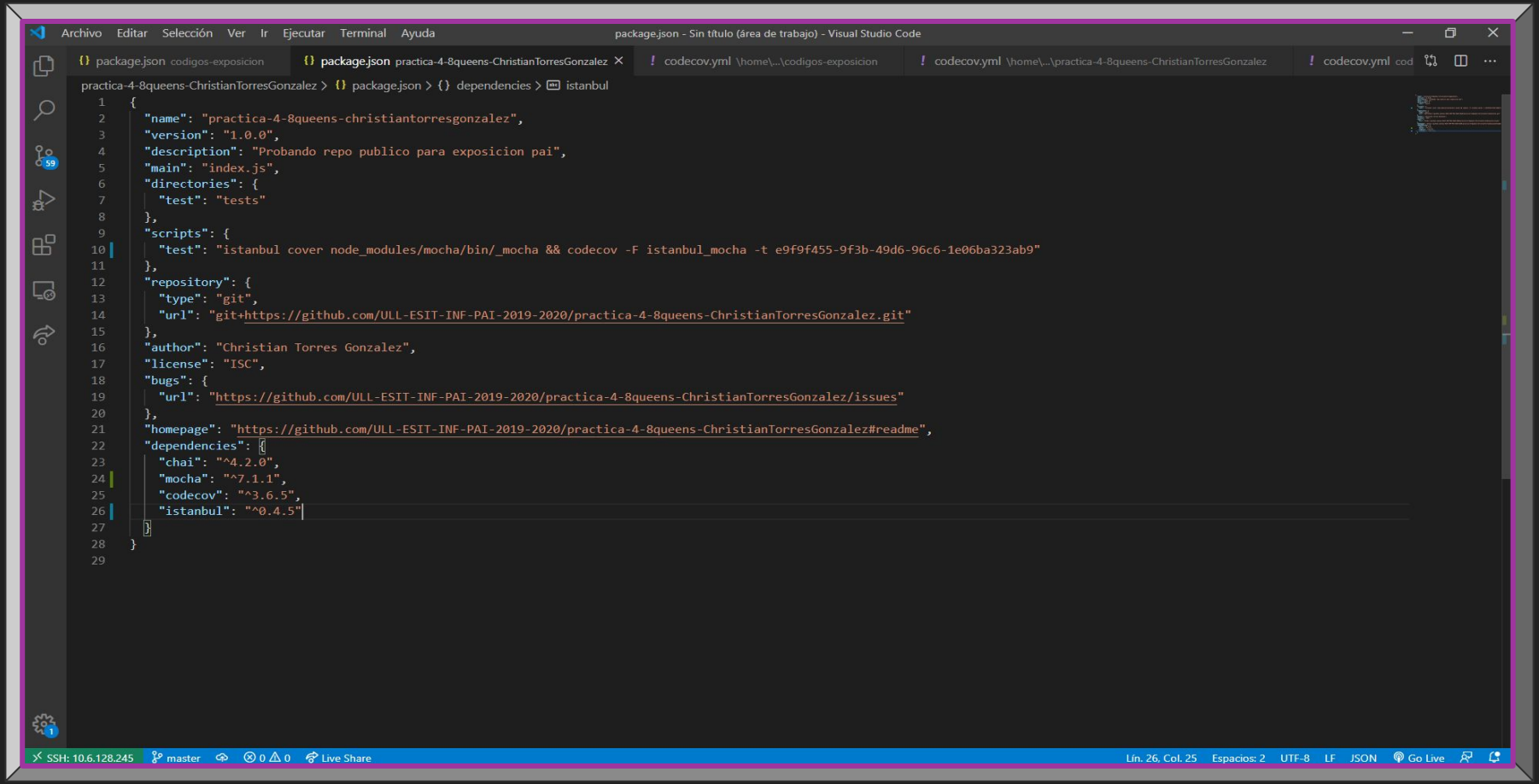
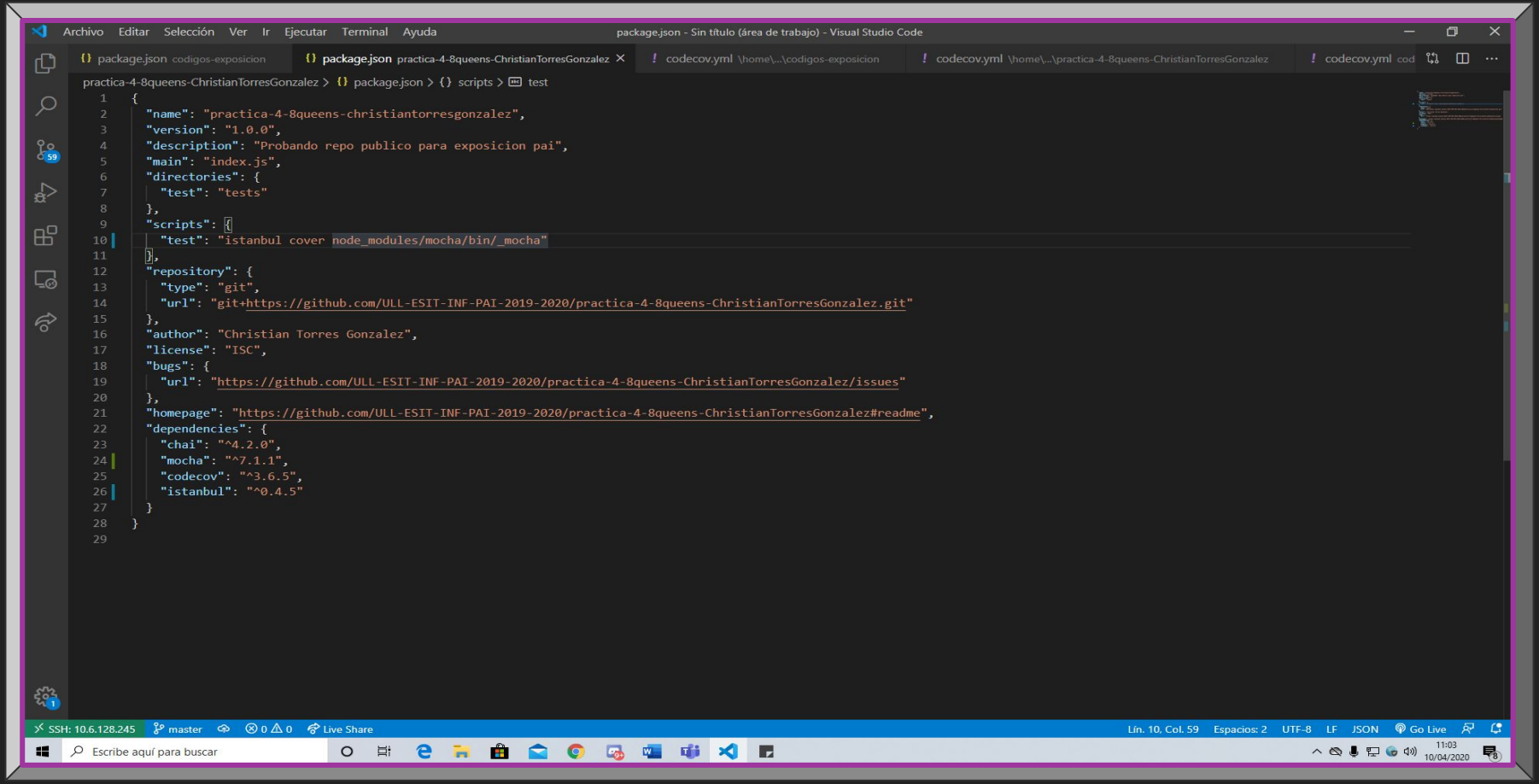
- PAI-01-ChristianTorresGonzalez
- DAA-P2
- PL-p01

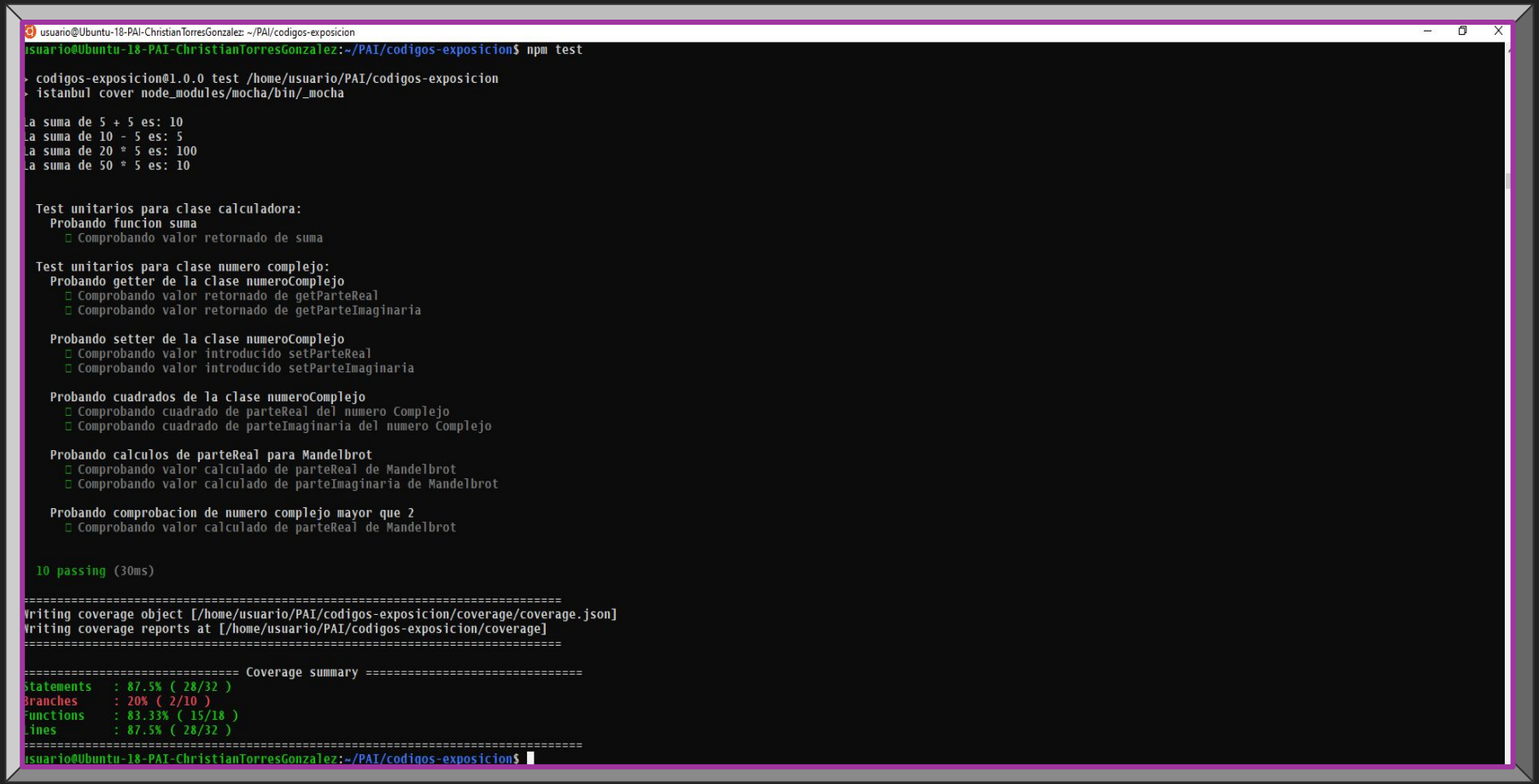
INSTALLING DEPENDENCIES



CREATING SCRIPT TEST



RUNNING TEST

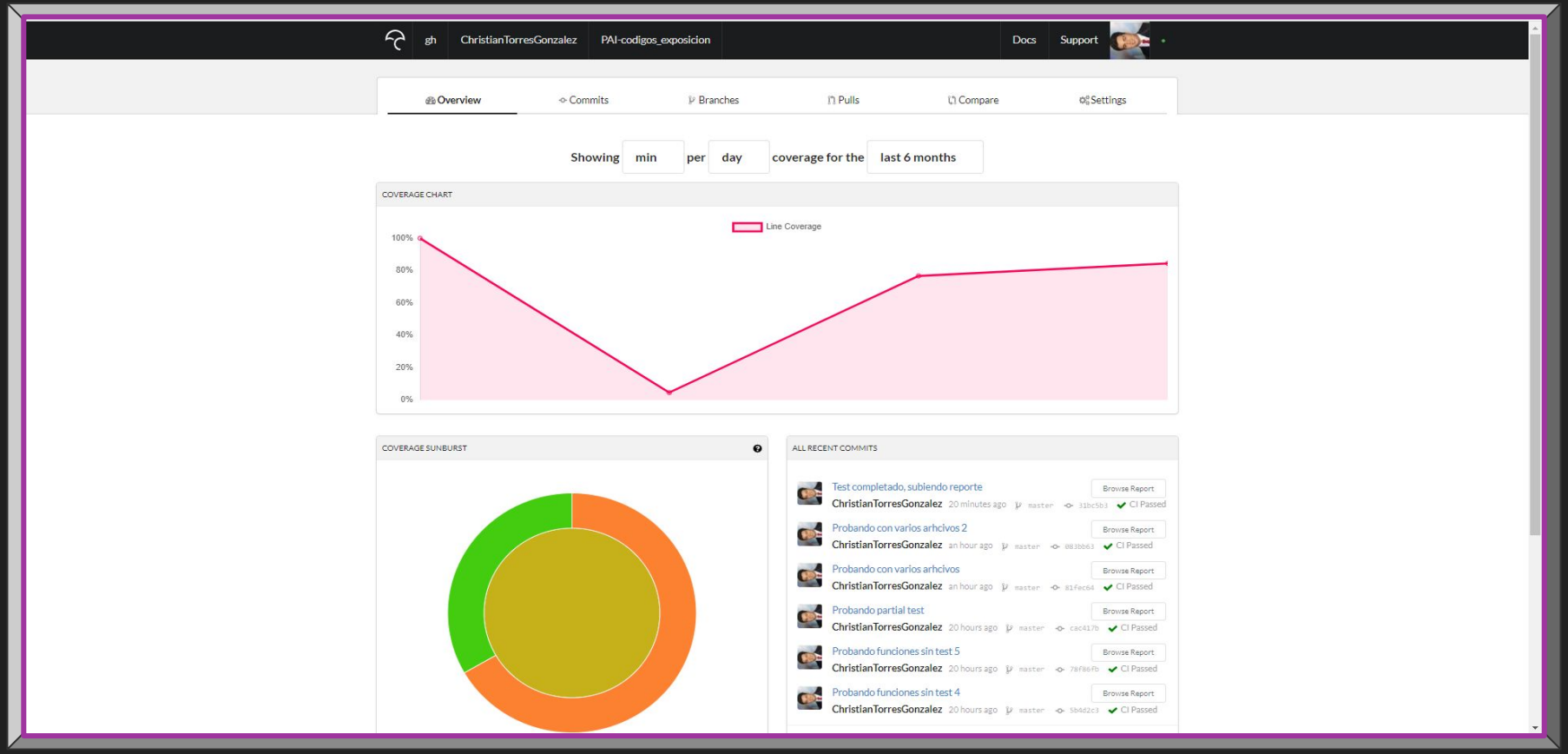


UPLOADING REPORT

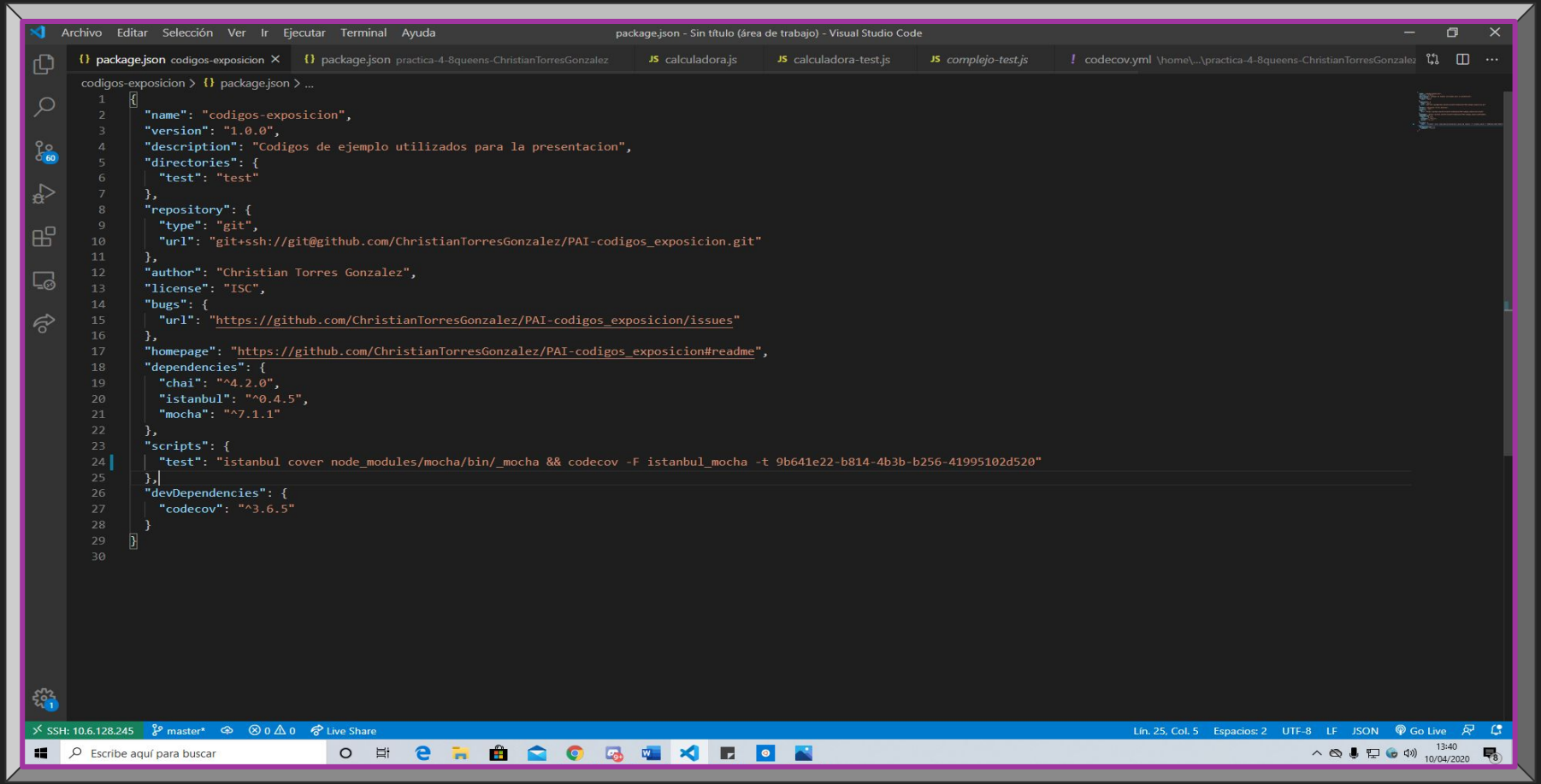
```
usuario@Ubuntu-18-PAI-ChristianTorresGonzalez: ~/PAI/codigos-exposicion
usuario@Ubuntu-18-PAI-ChristianTorresGonzalez:~/PAI/codigos-exposicion$ git add .
usuario@Ubuntu-18-PAI-ChristianTorresGonzalez:~/PAI/codigos-exposicion$ git commit -m "Test completado, subiendo reporte"
[master 31bc5b3] Test completado, subiendo reporte
 1 file changed, 1 insertion(+), 1 deletion(-)
usuario@Ubuntu-18-PAI-ChristianTorresGonzalez:~/PAI/codigos-exposicion$ git push exposicion master
Contando objetos: 3, listo.
Comprimiendo objetos: 100% (3/3), listo.
Escribiendo objetos: 100% (3/3), 317 bytes | 317.00 KiB/s, listo.
Total 3 (delta 2), reused 0 (delta 0)
remote: Resolving deltas: 100% (2/2), completed with 2 local objects.
To github.com:ChristianTorresGonzalez/PAI-codigos_exposicion.git
   083bb63..31bc5b3  master -> master
usuario@Ubuntu-18-PAI-ChristianTorresGonzalez:~/PAI/codigos-exposicion$
```

```
usuario@Ubuntu-18-PAI-ChristianTorresGonzalez: ~/PAI/codigos-exposicion
usuario@Ubuntu-18-PAI-ChristianTorresGonzalez:~/PAI/codigos-exposicion$ bash <(curl -s https://codecov.io/bash) -t 9b641e22-b814-4b3b-b256-41995102d520

  _____       _
 / ____|     | |
| |     ___  __| | ___  ___ _____   __
| |    / _ \ / _` |/ _ \/ __/ _ \ \ / /
| |___| (_) | (_| |  __/ (_| (_) \ V /
 \_____\___/ \__,_|\___|\___\___/ \_/
                        Bash-tbd

==> No CI provider detected.
    Testing inside Docker? http://docs.codecov.io/docs/testing-with-docker
    Testing with Tox? https://docs.codecov.io/docs/python#section-testing-with-tox
    project root: .
/dev/fd/63: linea 897: hg: orden no encontrada
    Yaml found at: .github/workflows/codecov.yml
==> Running gcov in . (disable via -X gcov)
==> Python coveragepy not found
==> Searching for coverage reports in:
    + .
    -> Found 2 reports
==> Detecting git/mercurial file structure
==> Reading reports
    + ./coverage/coverage.json bytes=5790
    + ./coverage/lcov.info bytes=1417
==> Appending adjustments
    http://docs.codecov.io/docs/fixing-reports
    -> No adjustments found
==> Gzipping contents
==> Uploading reports
    url: https://codecov.io
    query: branch=master&commit=083bb63b258140d2d983040adb33b6ea83d0743a&build=&build_url=&name=&tag=&slug=&service=&flags=&pr=&job=
    -> Pinging Codecov
https://codecov.io/upload/v4?package=bash-tbd&token=secret&branch=master&commit=083bb63b258140d2d983040adb33b6ea83d0743a&build=&build_url=&name=&tag=&slug=&service=&flags=&pr=&job=
    -> Uploading
    -> View reports at https://codecov.io/github/ChristianTorresGonzalez/PAI-codigos_exposicion/commit/083bb63b258140d2d983040adb33b6ea83d0743a
usuario@Ubuntu-18-PAI-ChristianTorresGonzalez:~/PAI/codigos-exposicion$
```

REPORT UPLOADED



AUTOMATING REPORT



AUTOMATING REPORT

usuario@Ubuntu-18-PAI-ChristianTorresGonzalez: ~/PAI/codigos-exposicion

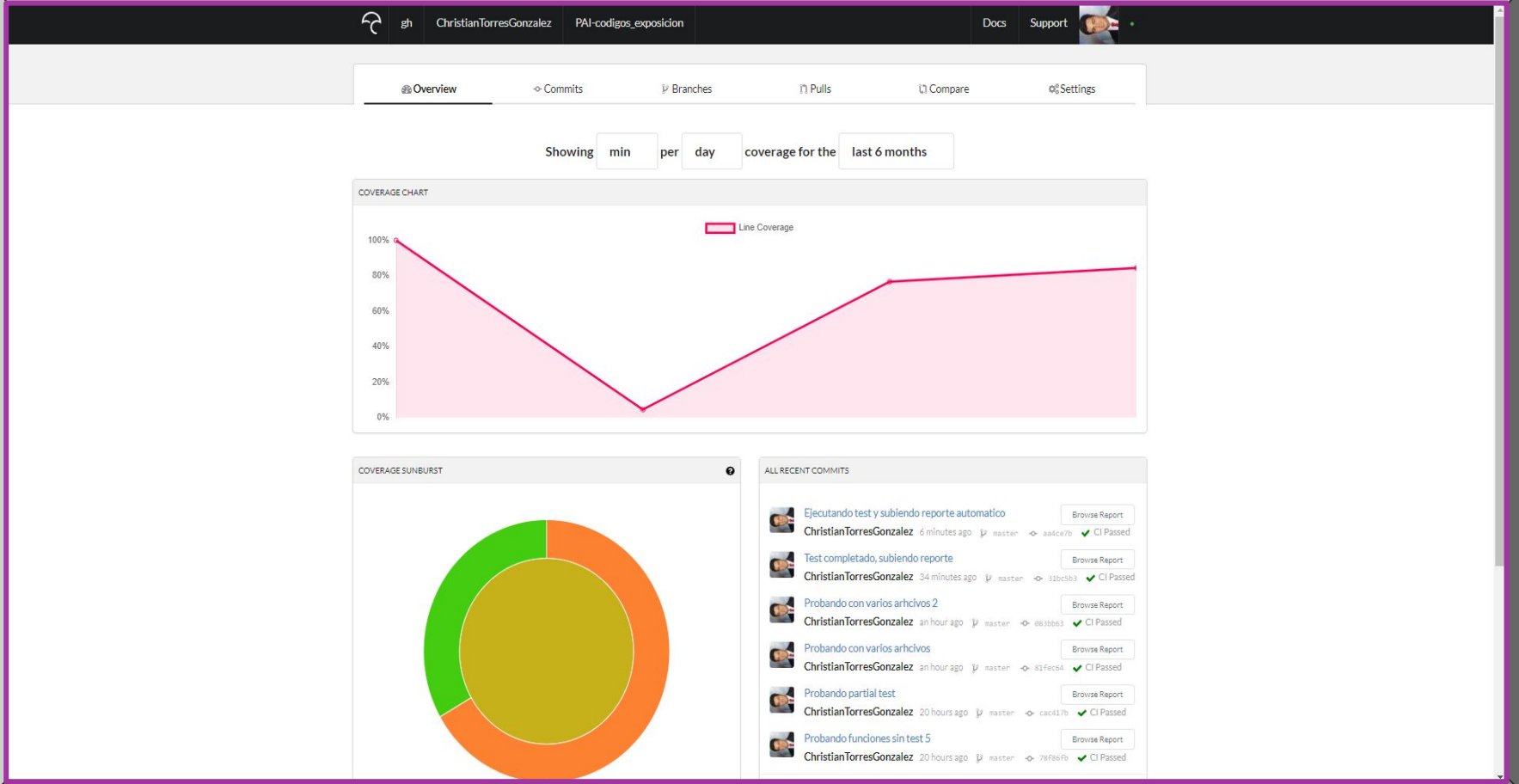
```
suario@Ubuntu-18-PAI-ChristianTorresGonzalez:~/PAI/codigos-exposicion$ git add .
suario@Ubuntu-18-PAI-ChristianTorresGonzalez:~/PAI/codigos-exposicion$ git commit -m "Ejecutando test y subiendo reporte automatico"
master aa4ce7b] Ejecutando test y subiendo reporte automatico
1 file changed, 1 insertion(+), 1 deletion(-)
suario@Ubuntu-18-PAI-ChristianTorresGonzalez:~/PAI/codigos-exposicion$ git push exposicion master
ontando objetos: 3, listo.
omprimiendo objetos: 100% (3/3), listo.
scribiendo objetos: 100% (3/3), 400 bytes | 400.00 KiB/s, listo.
otal 3 (delta 2), reused 0 (delta 0)
emote: Resolving deltas: 100% (2/2), completed with 2 local objects.
o github.com:ChristianTorresGonzalez/PAI-codigos_exposicion.git
  31bc5b3..aa4ce7b  master -> master
suario@Ubuntu-18-PAI-ChristianTorresGonzalez:~/PAI/codigos-exposicion$
```

```
==============================================================================
Writing coverage object [/home/usuario/PAI/codigos-exposicion/coverage/coverage.json]
Writing coverage reports at [/home/usuario/PAI/codigos-exposicion/coverage]
==============================================================================

=============================== Coverage summary ===============================
Statements   : 87.5% ( 28/32 )
Branches     : 20% ( 2/10 )
Functions    : 83.33% ( 15/18 )
Lines        : 87.5% ( 28/32 )
==============================================================================
  _____          _
 / ____|        | |
| |     ___   __| | ___  ___ _____   __
| |    / _ \ / _` |/ _ \/ __/ _ \ \ / /
| |___| (_) | (_| |  __/ (_| (_) \ V /
 \_____\___/ \__,_|\___|\___\___/ \_/
                                 v3.6.5
==> Detecting CI Provider
    No CI Detected. Using git/mercurial
==> Configuration:
    Endpoint: https://codecov.io
{
  commit: 'aa4ce7b02285ef816c3db85782215494979c0fb2',
  branch: 'master',
  package: 'node-v3.6.5'
}
==> Building file structure
==> Generating gcov reports (skip via --disable=gcov)
    Failed to run gcov command.
==> Scanning for reports
    + /home/usuario/PAI/codigos-exposicion/coverage/lcov.info
    + /home/usuario/PAI/codigos-exposicion/coverage/coverage.json
==> Uploading reports
    Success!
    View report at: https://codecov.io/github/ChristianTorresGonzalez/PAI-codigos_exposicion/commit/aa4ce7b02285ef816c3db85782215494979c0fb2
usuario@Ubuntu-18-PAI-ChristianTorresGonzalez:~/PAI/codigos-exposicion$
```

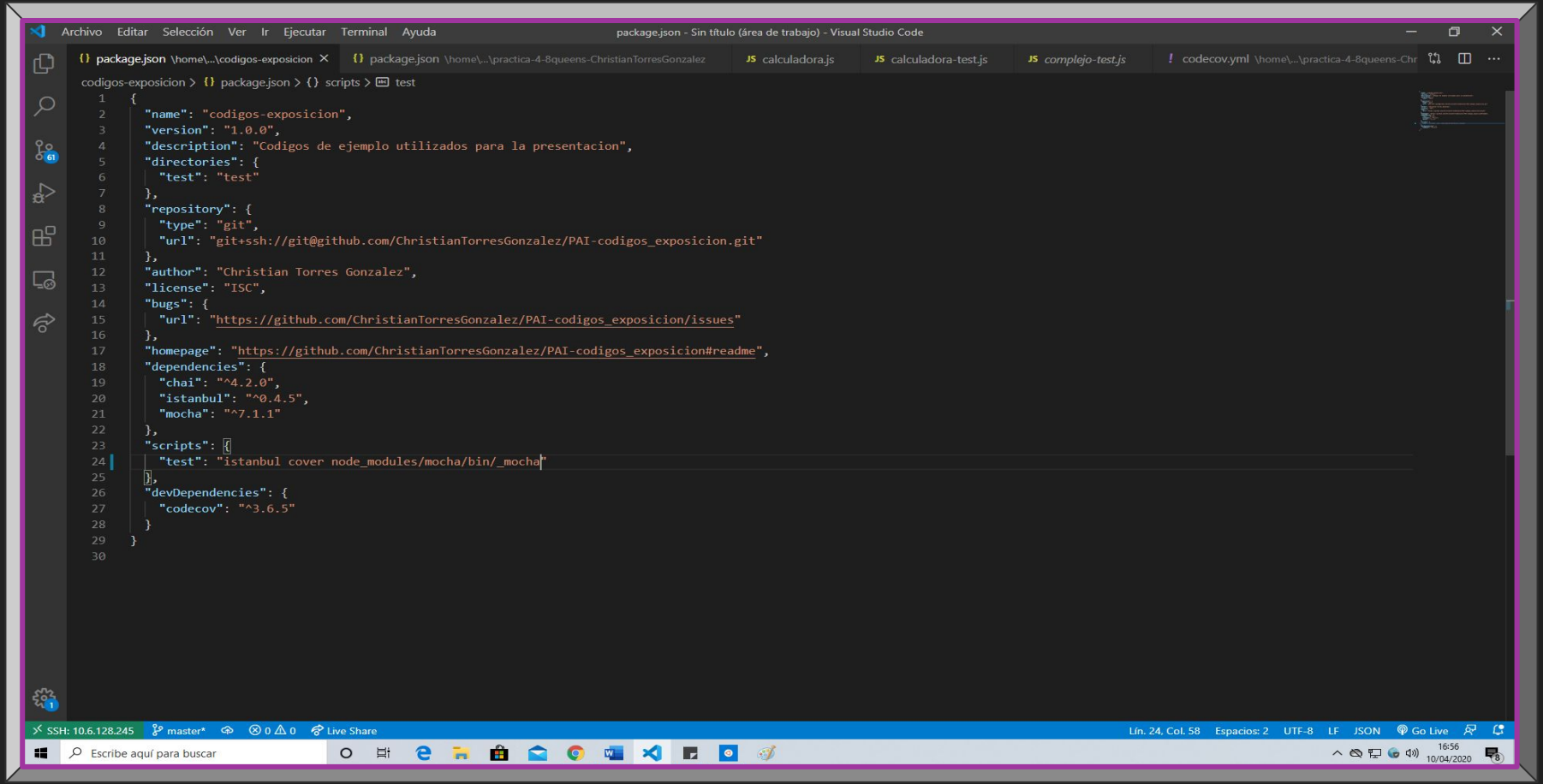
Escribe aquí para buscar

13:43
10/04/2020

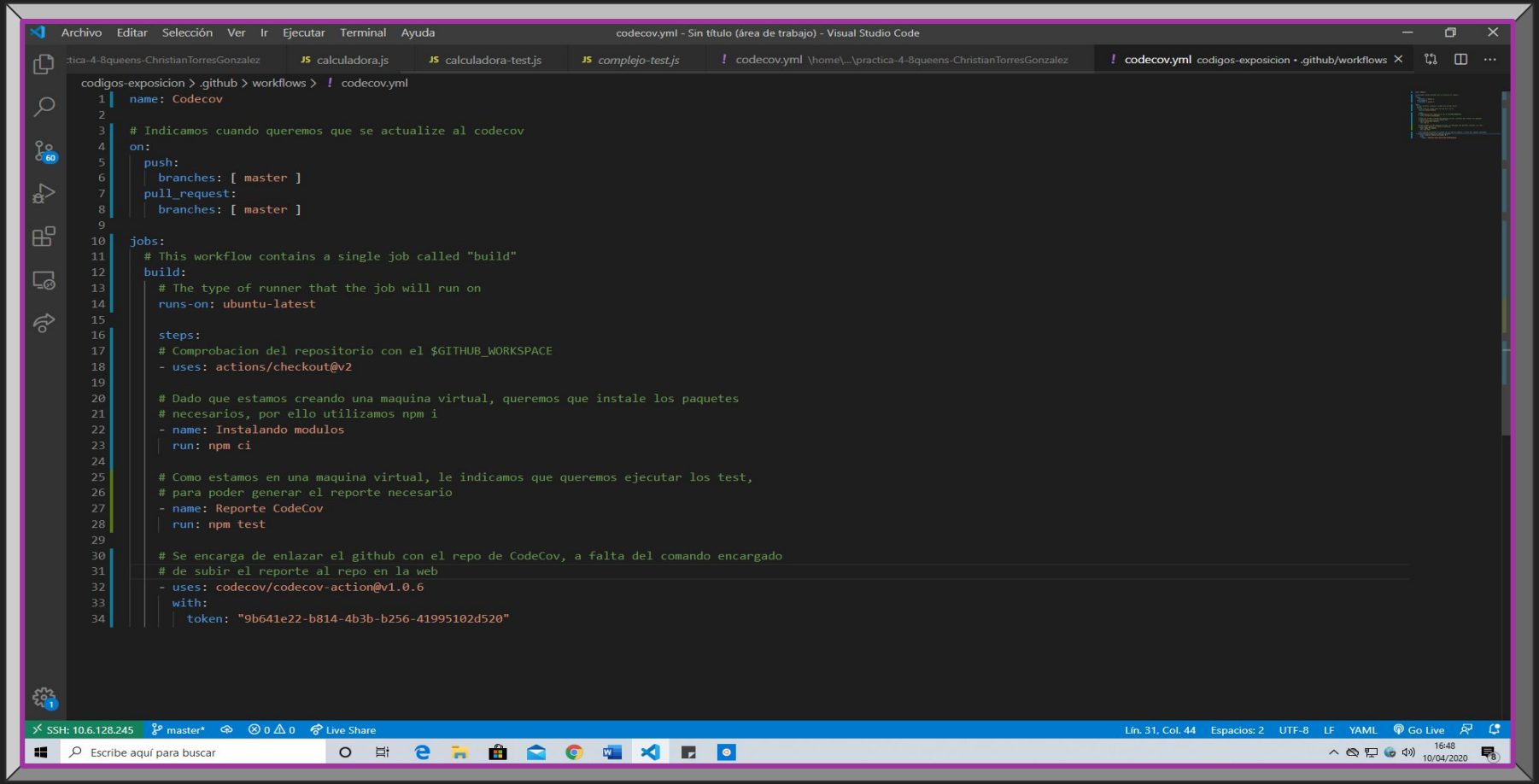
REPORT UPLOADED



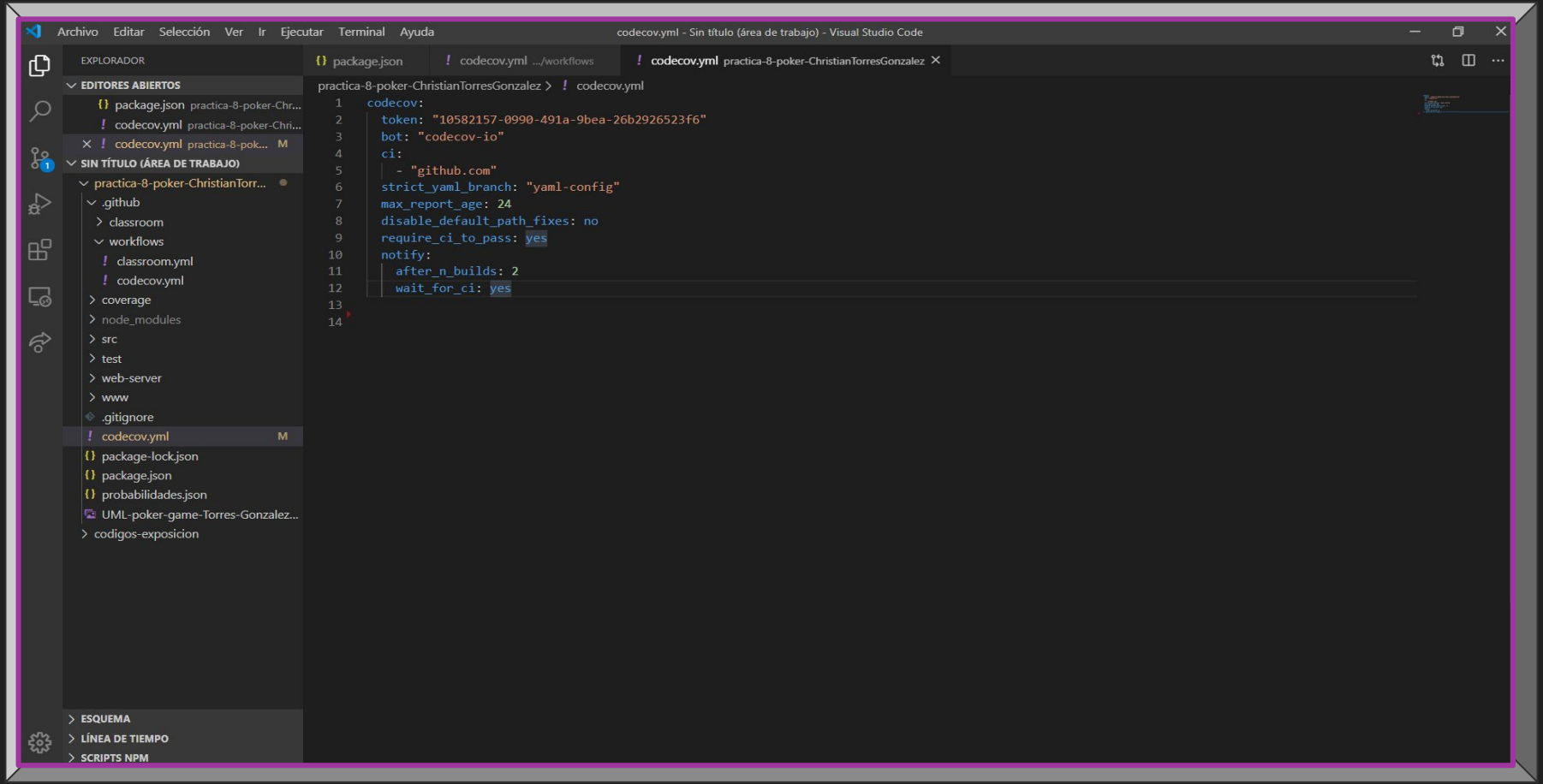
GITHUB ACTIONS



GITHUB ACTIONS

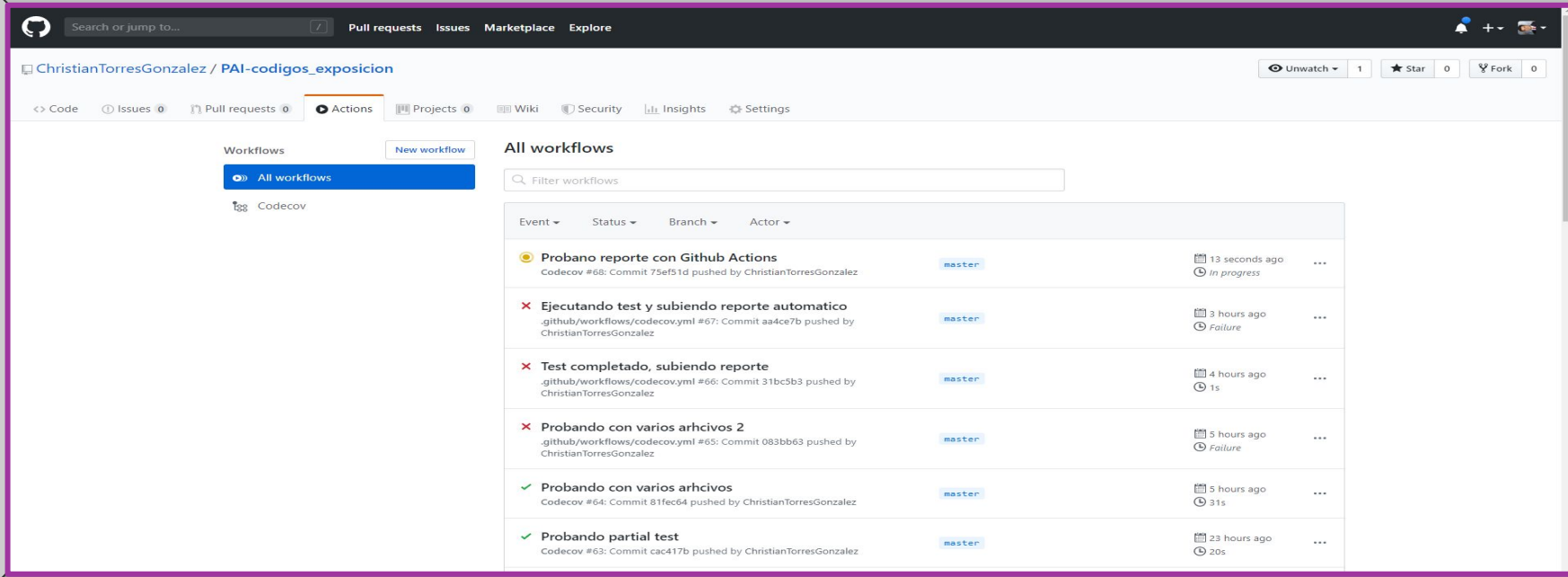


GITHUB ACTIONS

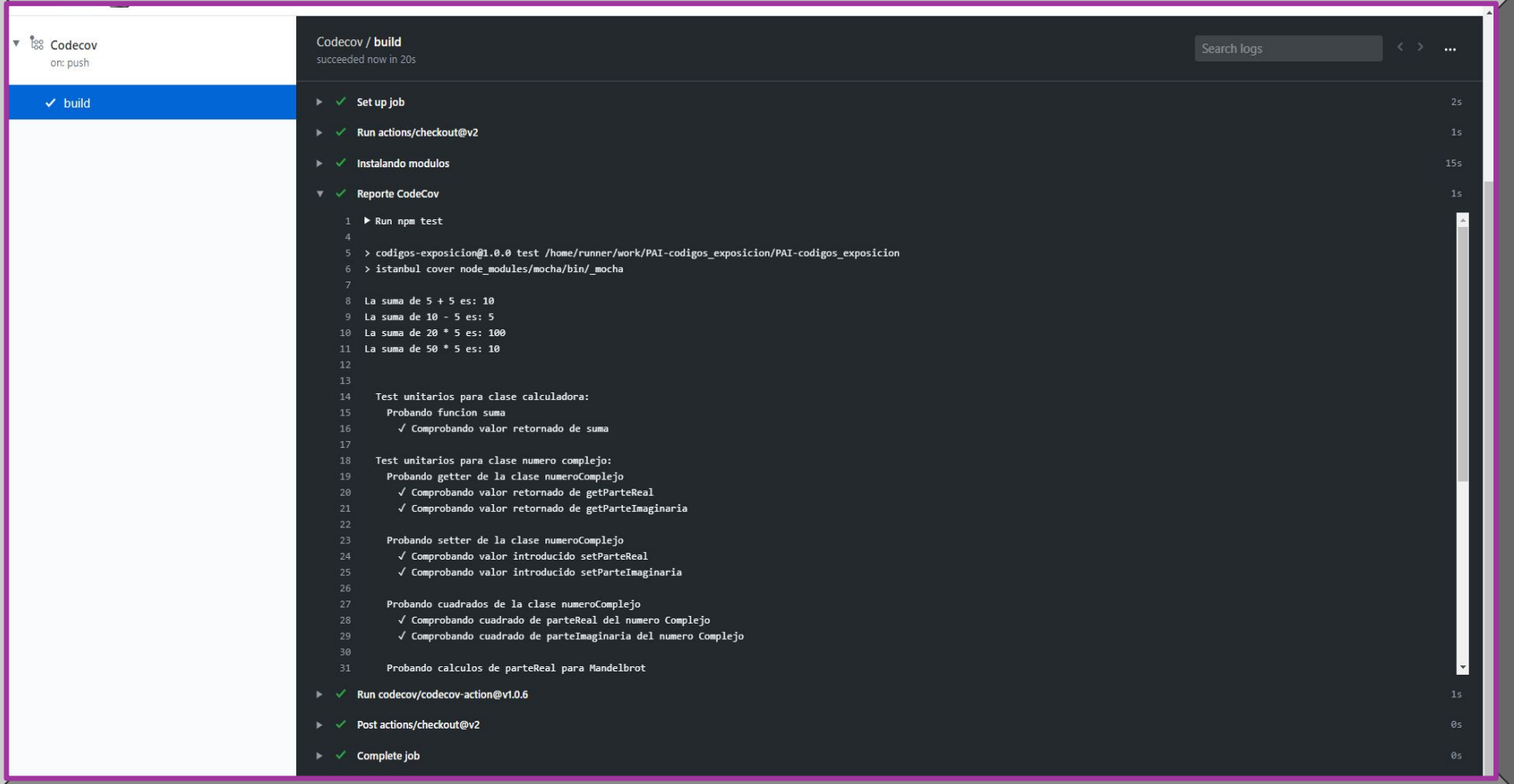


GITHUB ACTIONS

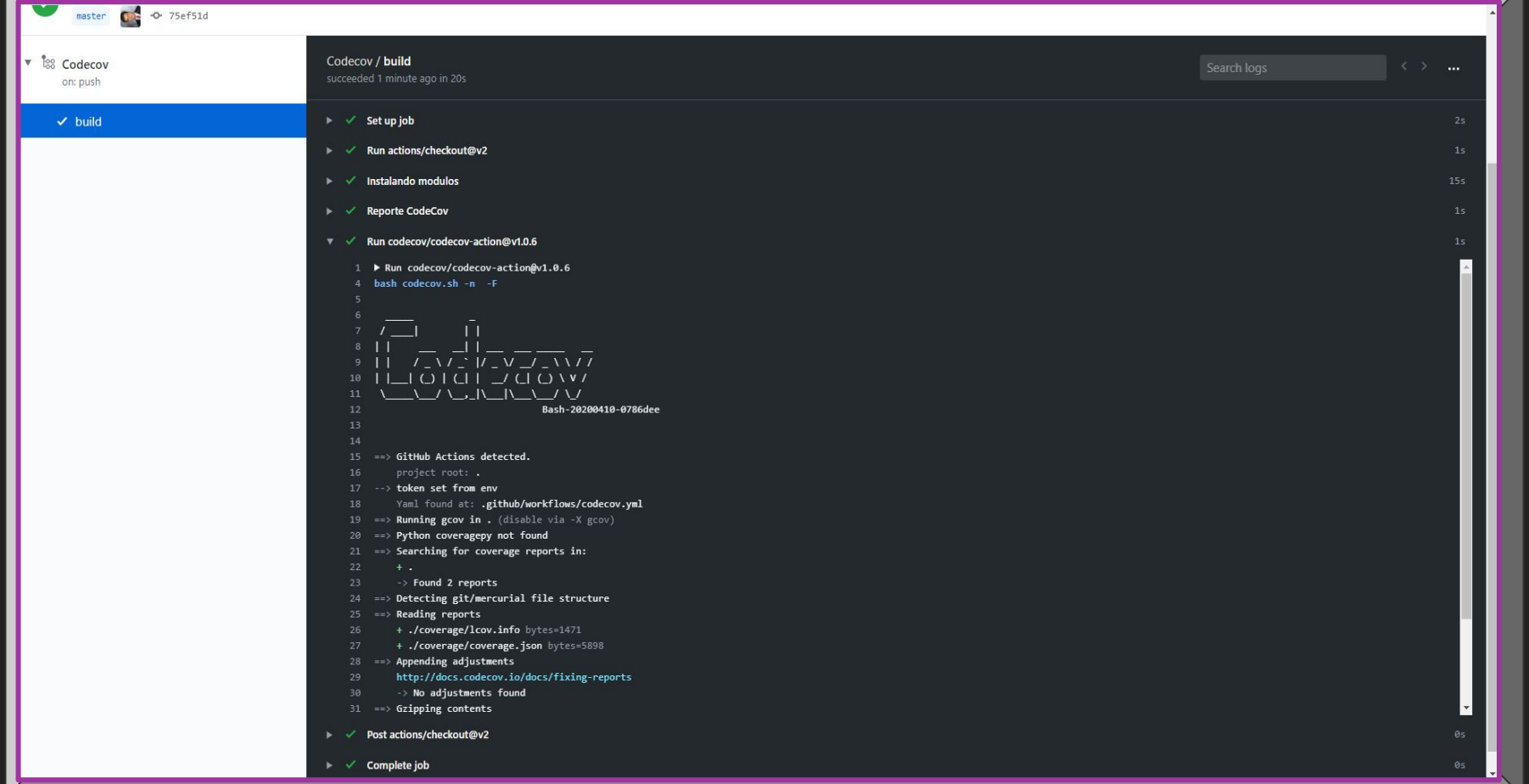
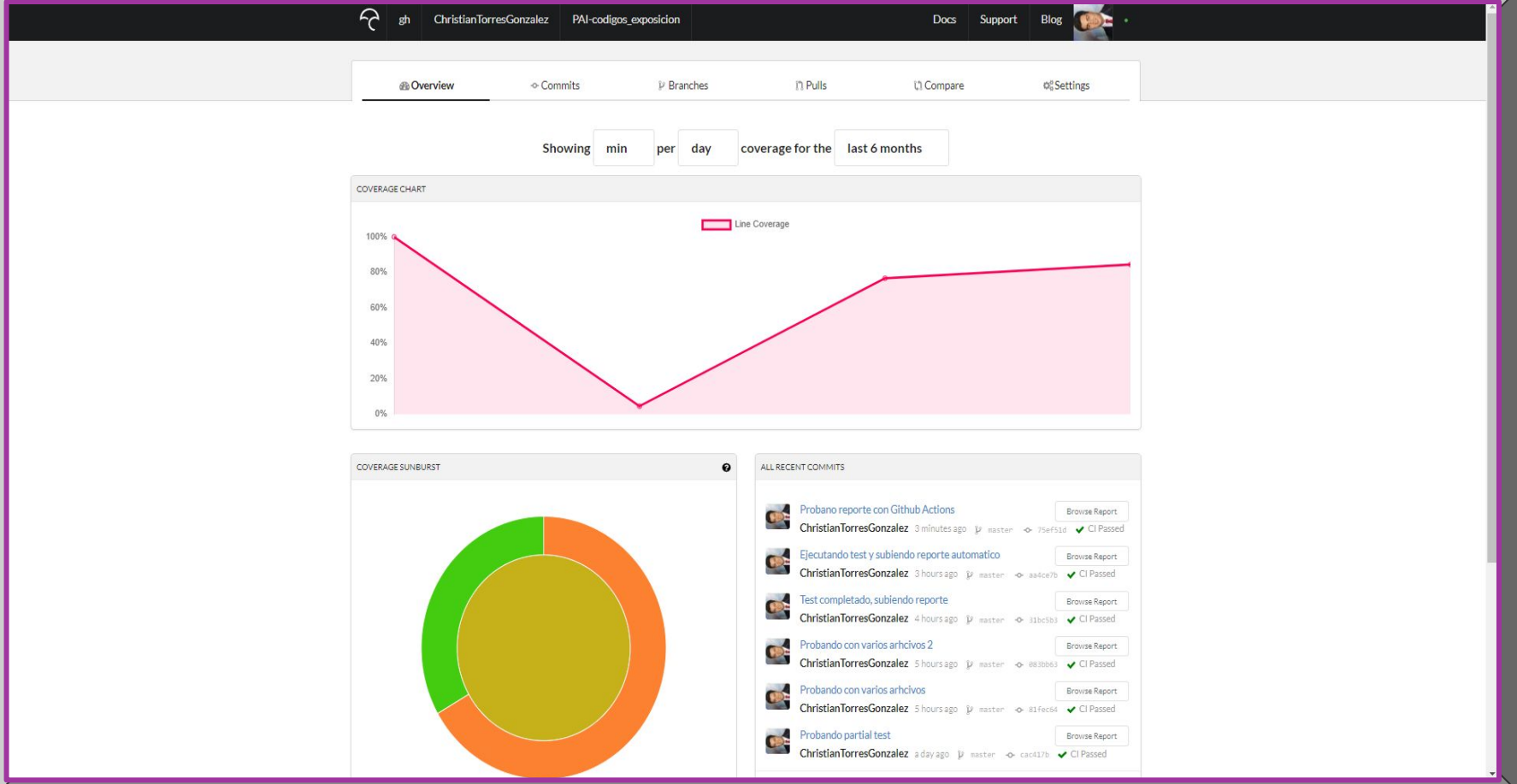
```
usuario@Ubuntu-18-PAI-ChristianTorresGonzalez: ~/PAI/codigos-exposicion
usuario@Ubuntu-18-PAI-ChristianTorresGonzalez:~/PAI/codigos-exposicion$ git add .
usuario@Ubuntu-18-PAI-ChristianTorresGonzalez:~/PAI/codigos-exposicion$ git commit -m "Probano reporte con Github Actions"
[master 75ef51d] Probano reporte con Github Actions
 2 files changed, 35 insertions(+), 33 deletions(-)
 rewrite .github/workflows/codecov.yml (99%)
usuario@Ubuntu-18-PAI-ChristianTorresGonzalez:~/PAI/codigos-exposicion$ git push exposicion master
Contando objetos: 6, listo.
Comprimiendo objetos: 100% (4/4), listo.
Escribiendo objetos: 100% (6/6), 994 bytes | 994.00 KiB/s, listo.
Total 6 (delta 2), reused 0 (delta 0)
remote: Resolving deltas: 100% (2/2), completed with 2 local objects.
To github.com:ChristianTorresGonzalez/PAI-codigos_exposicion.git
   aa4ce7b..75ef51d  master -> master
usuario@Ubuntu-18-PAI-ChristianTorresGonzalez:~/PAI/codigos-exposicion$
```



GITHUB ACTIONS



GITHUB ACTIONS



GITHUB ACTIONS