# WEB API TESTING

## SHOULD BE EASY

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# ABOUT ME

- Double digit years of experience in the business
- Basic -> Pascal -> asm x86 -> C/C++ -> Python, Lisp, Go ...
- Dealing with Web APIs way too long (since early 2000s)

*Currently I am a Bee in Apiary (apiary.io)*

# OUTLINE

- What this is not about
- API is a contract
- Verifying that nobody breaches the contract
- Here comes the API Judge Dredd
- Hooking stuff up
- Talk is cheap here comes the action

*Ask questions straight away, don't wait for Q&A*

# I AM NOT GOING TO TALK ABOUT

- RPC style APIs (ie. json-rpc)
- XML based APIs (long live SOAP)

# API IS A CONTRACT

*A promise to perform described action when asked in the correct manner*

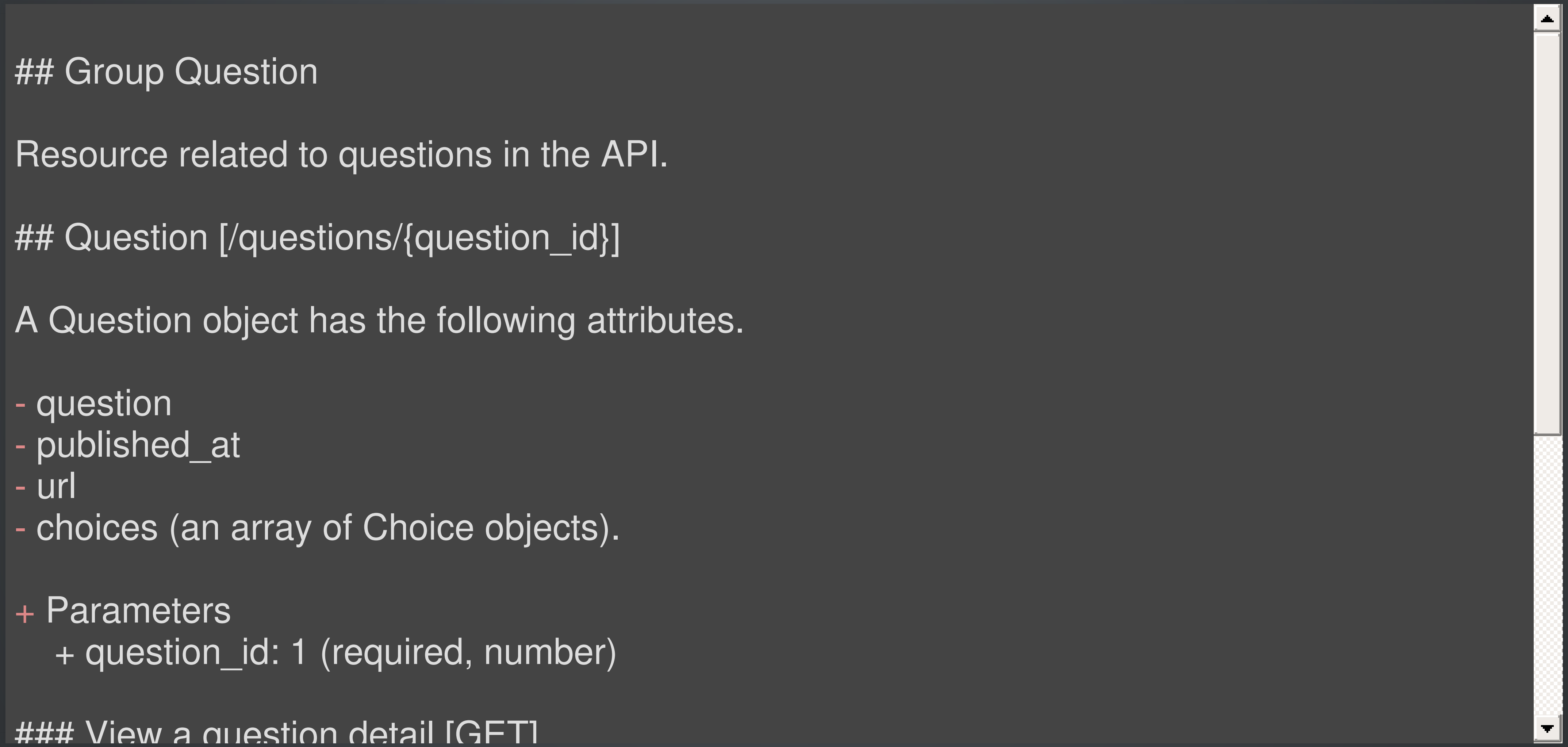
# RULE NO. 1 WHEN DEALING WITH CONTRACTS?

*Get everything in writing before you commit to it!*

# HOW TO WRITE SUCH CONTRACT?

1. Choose your text editor.
2. Choose a proper format.
3. Write it down.
4. Verify.
5. Publish.
6. $$$

# API BLUEPRINT



```
## Group Question

Resource related to questions in the API.

## Question [/questions/{question_id}]

A Question object has the following attributes.

- question
- published_at
- url
- choices (an array of Choice objects).

+ Parameters
    + question_id: 1 (required, number)

### View a question detail [GET]
```

# SWAGGER / OPEN API SPEC.

```
    properties:
          questions_url:
           type: string
         required:
          - questions_url
/questions/{question_id}:
  x-summary: Question
  x-description: >-
    A Question object has the following attributes.

    - question
    - published_at
    - url
    - choices (an array of Choice objects).
  parameters:
    - name: question_id
      in: path
      required: true
```

# VERIFYING THE CONTRACT

HOW MANY OF YOU ACTUALLY DO IT?

WHY?

# IT IS TEDIOUS AND ERROR PRONE!

```
Until suicidal do :

   1: Perform request...
   2: Assert status code...
   3: Assert headers...
   4: Assert body payload...
   5: Go to 1
```

PSYCHOTHERAPY WON'T HELP

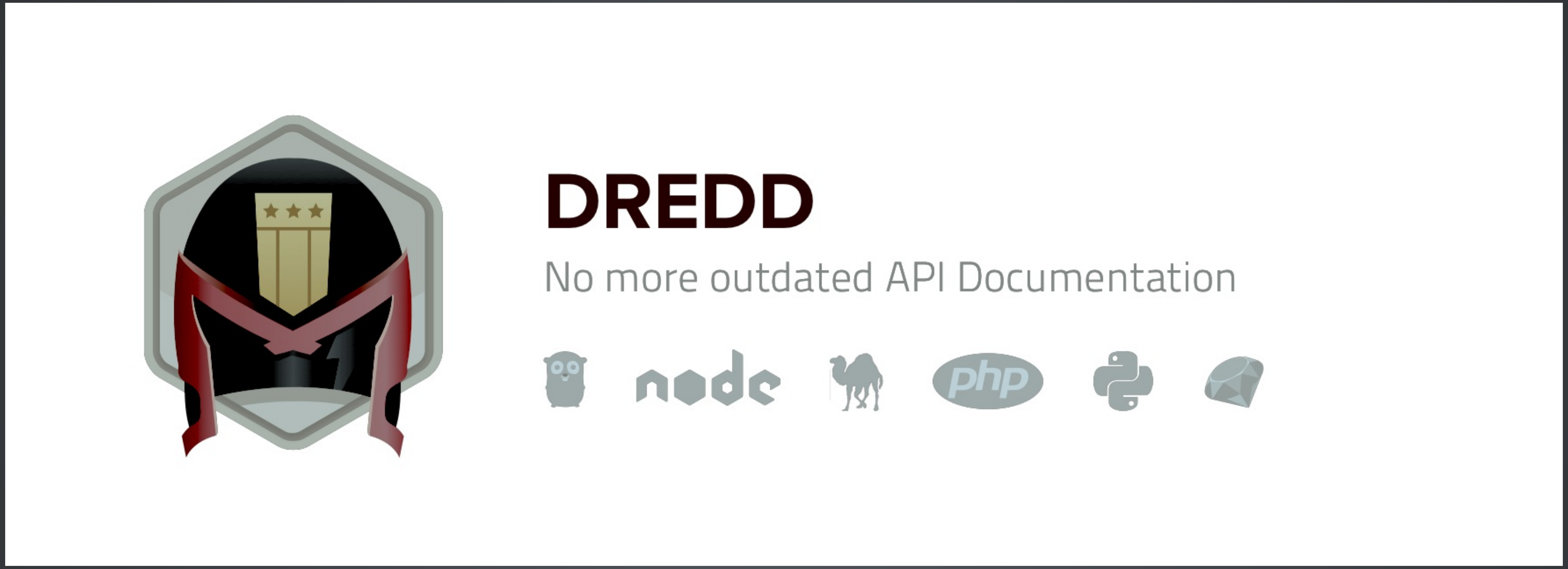
SSRI WON'T HELP

DRINKING WON'T HELP

ANTIPSYCHOTICS WON'T HELP

*It is not hopeless!*

# DREDD WILL!

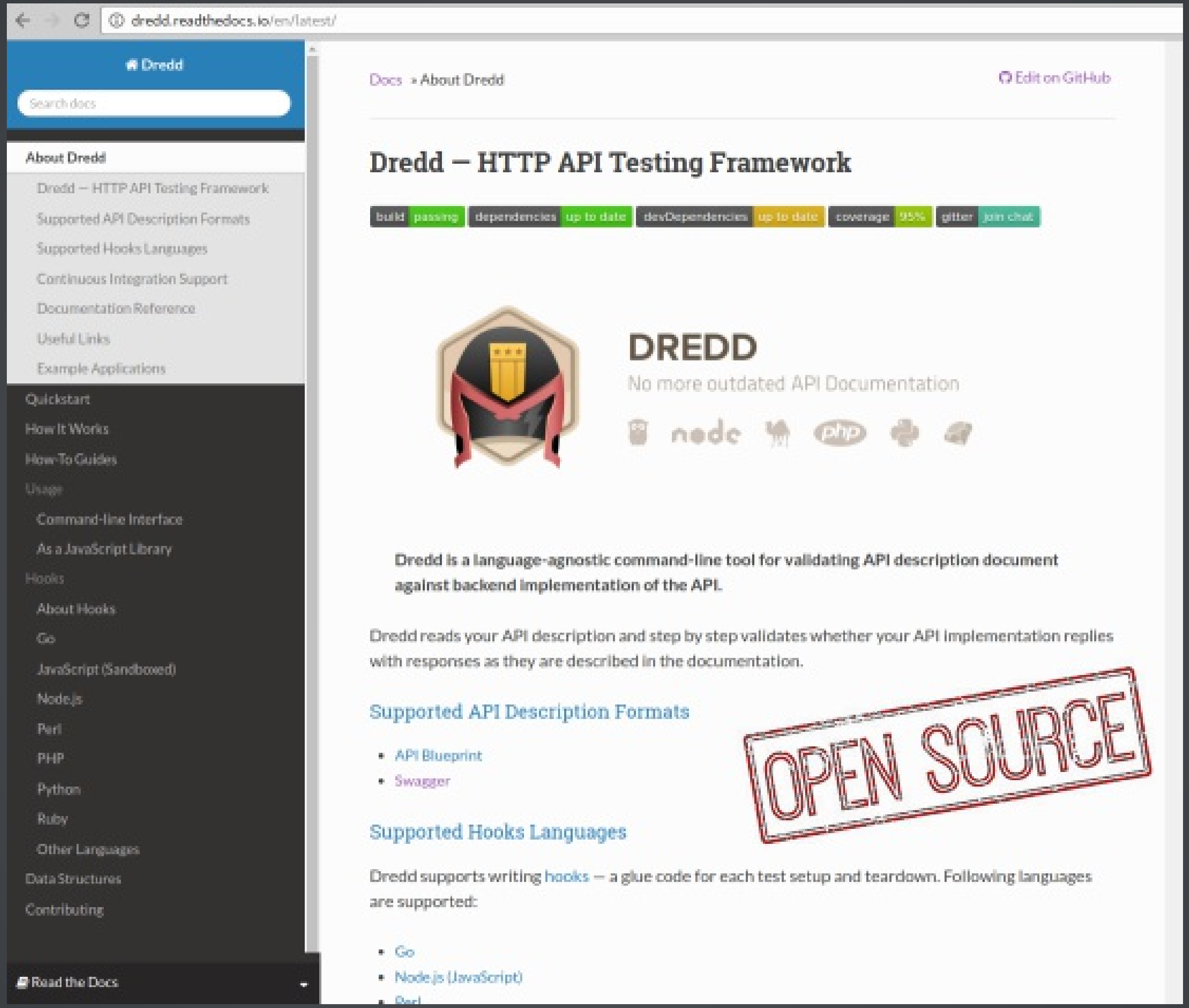


DREDD

No more outdated API Documentation

dredd.readthedocs.org

github.com/apiaryio/dredd



# Dredd — HTTP API Testing Framework

**Dredd is a language-agnostic command-line tool for validating API description document against backend implementation of the API.**

Dredd reads your API description and step by step validates whether your API implementation replies with responses as they are described in the documentation.

## Supported API Description Formats

- API Blueprint
- Swagger

## Supported Hooks Languages

Dredd supports writing hooks — a glue code for each test setup and teardown. Following languages are supported:

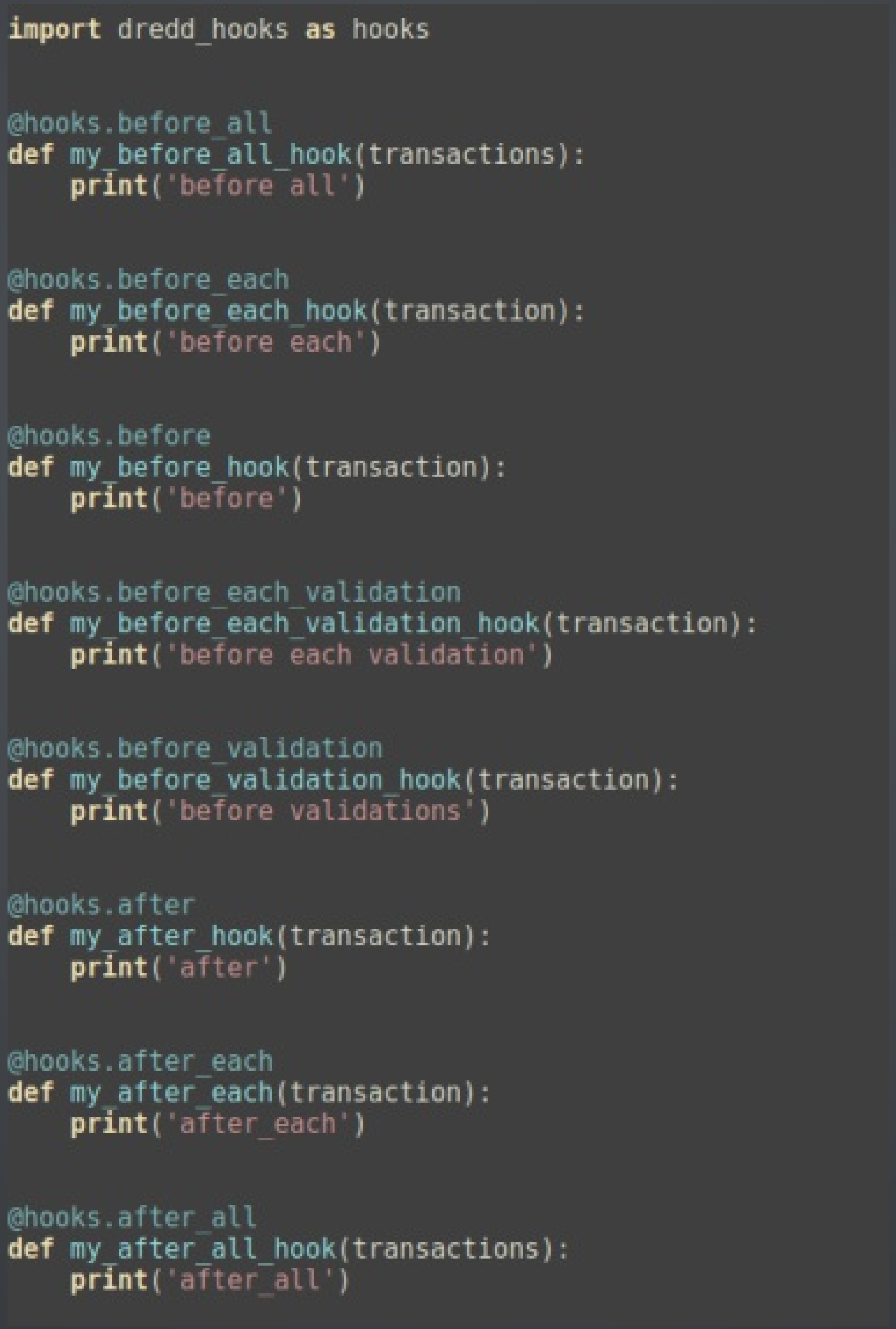
- Go
- Node.js (JavaScript)
- Perl

OPEN SOURCE

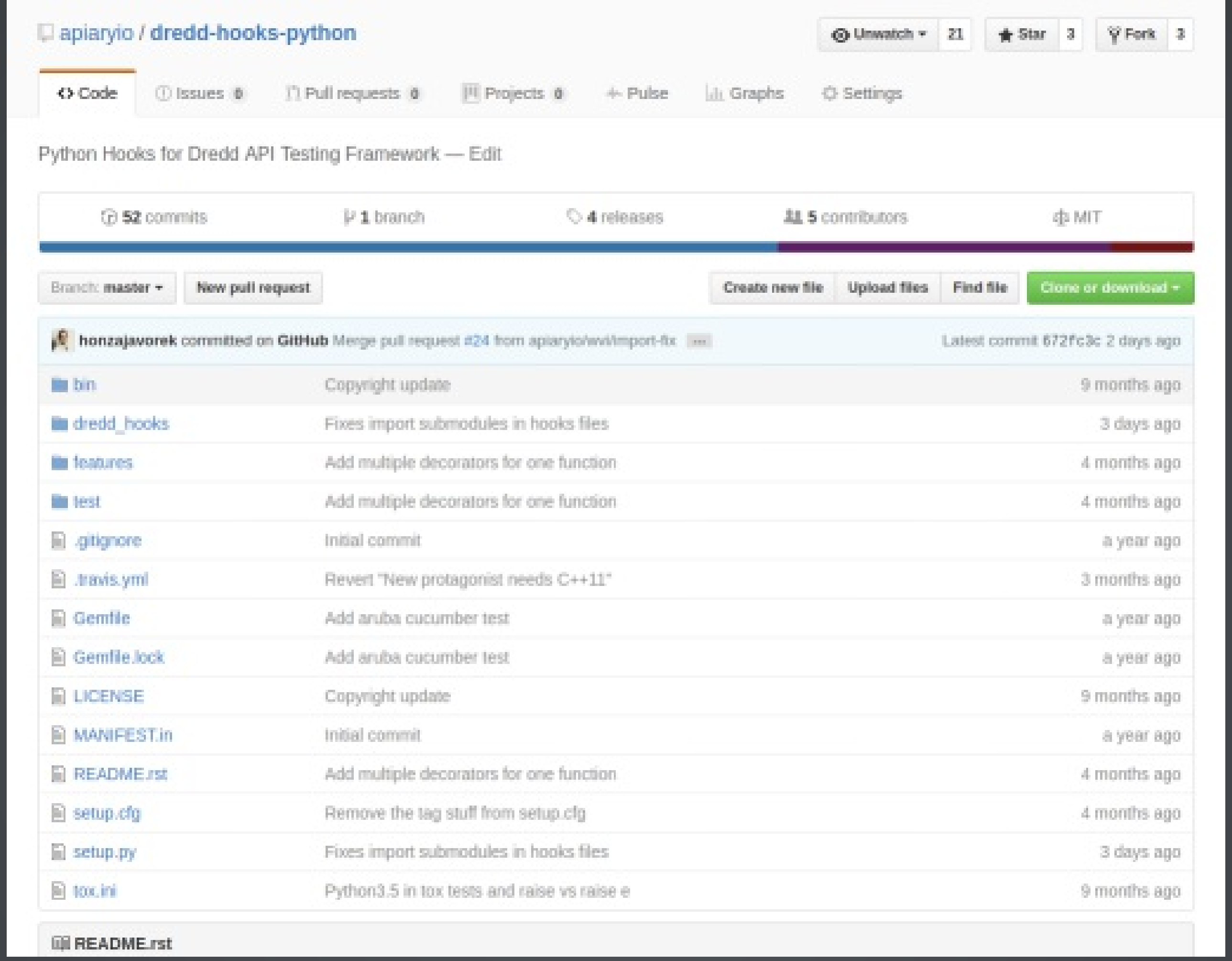
# FEATURES YOU WANT

- validates headers, body etc.
- allows hooking into the tests
- easy to use in CI (Circle CI, Travis, Jenkins)
- many reporters
- hooks in many languages
  - JavaScript
  - Ruby
  - Python
  - PHP
  - Go

# HOOKS IN PYTHON



```python
import dredd_hooks as hooks


@hooks.before_all
def my_before_all_hook(transactions):
    print('before all')


@hooks.before_each
def my_before_each_hook(transaction):
    print('before each')


@hooks.before
def my_before_hook(transaction):
    print('before')


@hooks.before_each_validation
def my_before_each_validation_hook(transaction):
    print('before each validation')


@hooks.before_validation
def my_before_validation_hook(transaction):
    print('before validations')


@hooks.after
def my_after_hook(transaction):
    print('after')


@hooks.after_each
def my_after_each(transaction):
    print('after_each')


@hooks.after_all
def my_after_all_hook(transactions):
    print('after_all')
```



Python Hooks for Dredd API Testing Framework — Edit

honzajavorek committed on GitHub Merge pull request #24 from apiaryio/wvi/import-fix … Latest commit 672fc3c 2 days ago

| | | |
|---|---|---|
| bin | Copyright update | 9 months ago |
| dredd_hooks | Fixes import submodules in hooks files | 3 days ago |
| features | Add multiple decorators for one function | 4 months ago |
| test | Add multiple decorators for one function | 4 months ago |
| .gitignore | Initial commit | a year ago |
| .travis.yml | Revert "New protagonist needs C++11" | 3 months ago |
| Gemfile | Add aruba cucumber test | a year ago |
| Gemfile.lock | Add aruba cucumber test | a year ago |
| LICENSE | Copyright update | 9 months ago |
| MANIFEST.in | Initial commit | a year ago |
| README.rst | Add multiple decorators for one function | 4 months ago |
| setup.cfg | Remove the tag stuff from setup.cfg | 4 months ago |
| setup.py | Fixes import submodules in hooks files | 3 days ago |
| tox.ini | Python3.5 in tox tests and raise vs raise e | 9 months ago |

github.com/apiaryio/dredd-hooks-python

# IT'S SHOW TIME

# THANKS A LOT FOR YOUR ATTENTION

Vilibald Wanča

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