



Introduction to Travis CI with git and GitHub with a focus on testing

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www.github.com/richelbilderbeek/CppPresentations



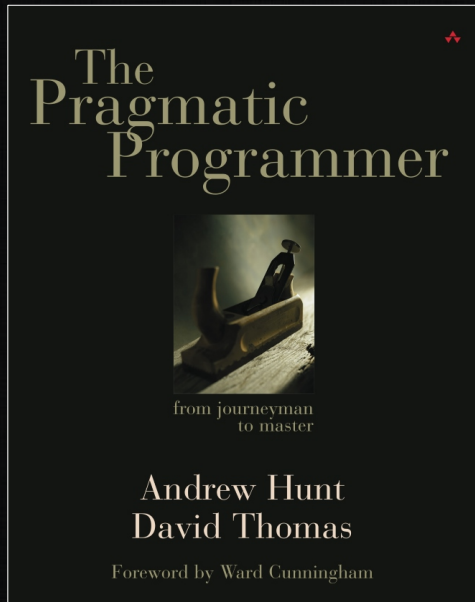
Continuous worries

- Did I break something?
- Can others repeat what I did?
- Can I do this smarter?

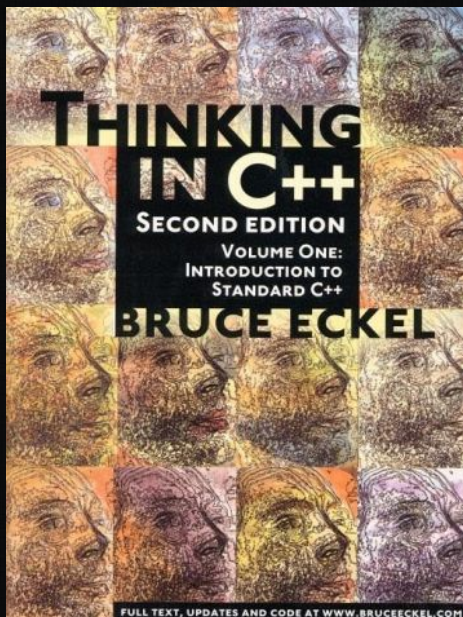


Mr Worry by Roger Hargreaves

The literature on testing



Test Your Software,
or Your Users Will



Automate the running
of your tests through
a makefile or similar tool

What?

- What: Travis CI is a continuous integration service
- Why: Because tests should be automated
- Expert use: Configure Travis CI to test as much as possible

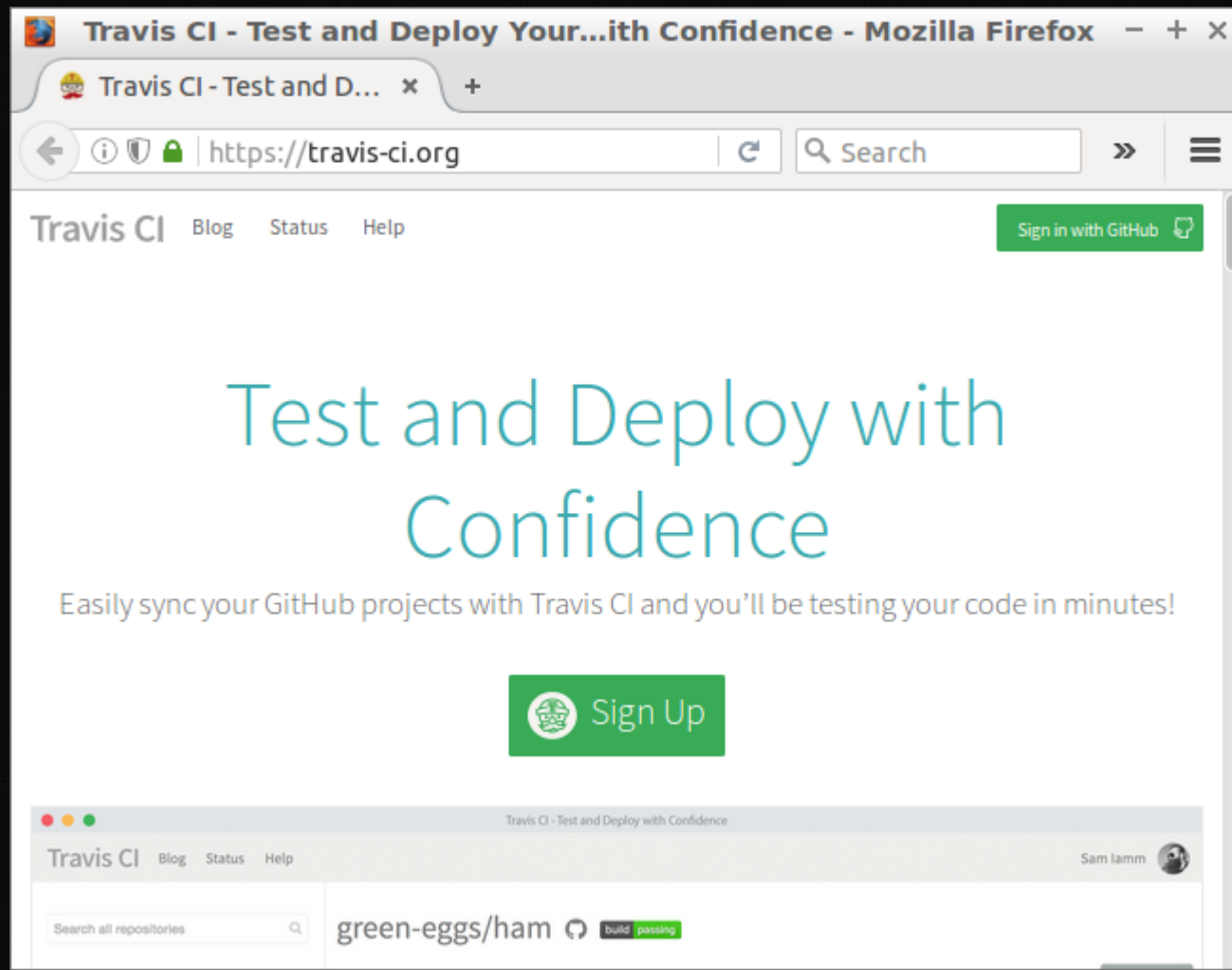
Overview

- Activate Travis
- Configure Travis file
- Push to GitHub



Activate Travis

- Go to <https://travis-ci.org>



Activate accounts

Richel Bilderbeek - Profile - Travis CI - Mozilla Firefox

Richel Bilderbeek - P... x +

https://travis-ci.org/profile/richelbi Search

Travis CI Blog Status Help Richel Bilderbeek

Richel Bilderbeek
Repositories 453
Token:

[Sync account](#)

We're only showing your public repositories. You can find your private projects on [travis-ci.com](#).

Organizations

- Hive5**
Repositories 4
- BEAST2-Dev**
Repositories 16
- DIYbio Groningen**
Repositories 11
- LucKey Productions**
Repositories 12

Is an organization missing?
[Review and add your authorized organizations.](#)

1 **tra**
Click the repository switch on

2 **tra**
Add .travis.yml file to your repository

3 **tra**
Trigger your first build with a git push

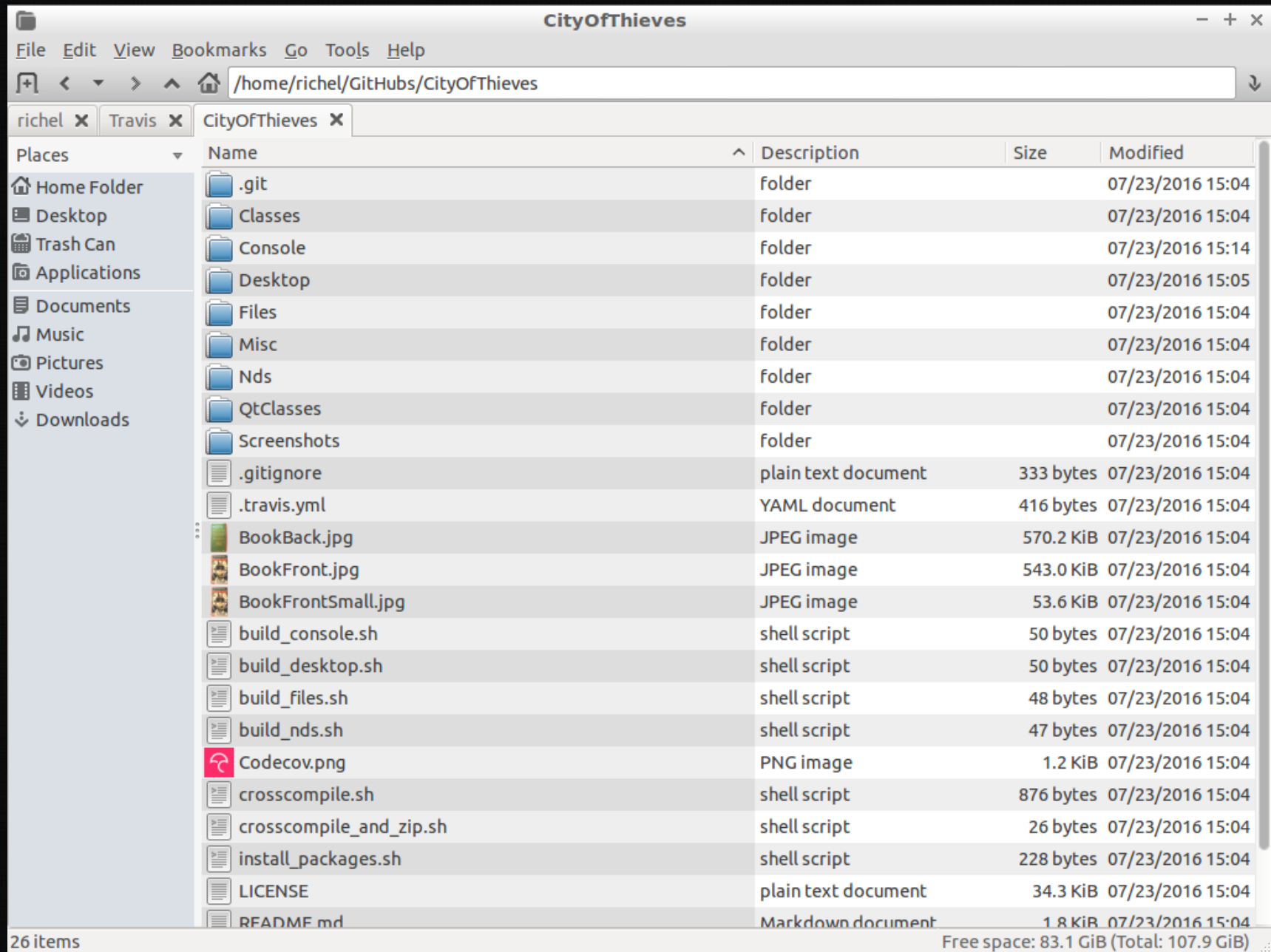
☒ richelbilderbeek/AminoAcidFighter

☐ richelbilderbeek/Android

☐ richelbilderbeek/Apfloat

☐ richelbilderbeek/ApplicationVerifierExamples

Configure Travis files



.travis.yml

- 'Yet another Markup Language'
- Just use the bash scripts you would use



Example .travis.yml

```
script:
```

- echo "Hello"
- ls



Result

Build #8 - richelbilderbeek/travis_test - Travis CI - Mozilla Firefox

richelbilderbeek/... x richelbilderbeek/... x richelbilderbeek/... x richelbilderbeek/... x Build #8 - richelbi... x

https://travis-ci.org/richelbilderbeek/travis_test/builds/ Search

✓ richelbilderbeek/travis_test #8

Duration: 25 sec
Finished: less than a minute ago

✓ richelbilderbeek/Cer2016 #674

Duration: 33 min 55 sec
Finished: about 2 hours ago

✓ richelbilderbeek/nLTT #44

Duration: 3 min 31 sec
Finished: 3 days ago

✓ richelbilderbeek/Brainweaver #106

Duration: 39 min 8 sec
Finished: 5 days ago

✓ richelbilderbeek/RibiClasses #137

Duration: 21 min 43 sec
Finished: 5 days ago

✓ richelbilderbeek/BoostGraphT #105

Duration: 42 min 52 sec
Finished: 5 days ago

✓ richelbilderbeek/TestRounded #9

Duration: 4 min 48 sec
Finished: 8 days ago

✓ richelbilderbeek/TestConcept #34

Duration: 32 min 26 sec
Finished: 11 days ago

✓ master echo and ls

Commit 4921cac
Compare 77ae799..4921cac

richelbilderbeek authored and committed

→ #8 passed

Elapsed time 25 sec
less than a minute ago

Remove log Raw log


```
1 Using worker: worker-linux-docker-43cbc5c5.prod.travis-ci.org:travis-linux-1
2
3 Build system information
70
71 $ export DEBIAN_FRONTEND=noninteractive
72 $ git clone --depth=50 --branch=master https://github.com/richelbilderbeek/travis_test.git richelbilderbeek/travis_test
120
121 This job is running on container-based infrastructure, which does not allow use of 'sudo', setuid and setgid executables.
122 If you require sudo, add 'sudo: required' to your .travis.yml
123 See https://docs.travis-ci.com/user/workers/container-based-infrastructure/ for details.
124 $ rvm use default
127 $ ruby --version
128 ruby 1.9.3p551 (2014-11-13 revision 48487) [x86_64-linux]
129 $ rvm --version
130 rvm 1.26.10 (latest-minor) by Wayne E. Seguin <wayneesequin@gmail.com>, Michal Papis <mpapis@gmail.com> [https://rvm.io/]
131 $ bundle --version
132 Bundler version 1.7.6
133 $ gem --version
134 2.4.5
135 $ echo "Hello"
136 Hello
137
138
139 The command "echo "Hello"" exited with 0.
140 $ ls
141 LICENSE README.md
142
143
144 The command "ls" exited with 0.
145
146 Done. Your build exited with 0.
```

Top

travis_test

Highlight All Match Case 1 of 1 match

Badge

richelbilderbeek / travis_test  build passing

Current Branches Build History Pull Requests > Build #8

✓ master echo and ls

Commit 4921cac

Compare

richelbilderbeek

✎ #8 passed

Elapsed time 25 sec

30 minutes ago


Status Image

BRANCH

MARKDOWN

```
[[Build Status]](https://travis-ci.org/richelbilderbeek/travis_test.svg?branch=master)  
(https://travis-ci.org/richelbilderbeek/travis_test)
```

```
1 Using work  
2  
3 Build sys  
70  
71 $ export  
110 $ git clo  
120  
121 This job  
122 If you re  
123 See https://docs.travis-ci.com/user/workers/container-based-infrastructure/ for details.
```

 README.md

travis_test

build passing

Testing repository for demonstrating Travis CI

How to get a more complex .travis.yml file

- Go to
https://github.com/richelbilderbeek/travis_cpp_tutorial
- Copy the best fitting Travis configuration file

SFML example

- C++
- Simple and Fast Media Library
- Test if the code build successfully



Example .travis.yml

```
language: cpp

compiler: gcc

sudo: true

before_install:

  - sudo apt-add-repository ppa:sonkun/sfml-development --yes

  - sudo apt-get update -qq


install:

  - sudo apt-get install libsFML-dev

script:

  - qmake

  - make
```



R example

- Building a package
- Running a lot of tests



Example .travis.yml

```
language: r
```

```
cache: packages
```

```
after_success:
```

- Rscript -e 'lintr::lint_package()'
- Rscript -e 'covr::codecov()'
- Rscript -e 'goodpractice::gp()'

Conclusion

- Travis CI can be used to
 - Reproduce a build process
 - Improve code quality
 - Education

