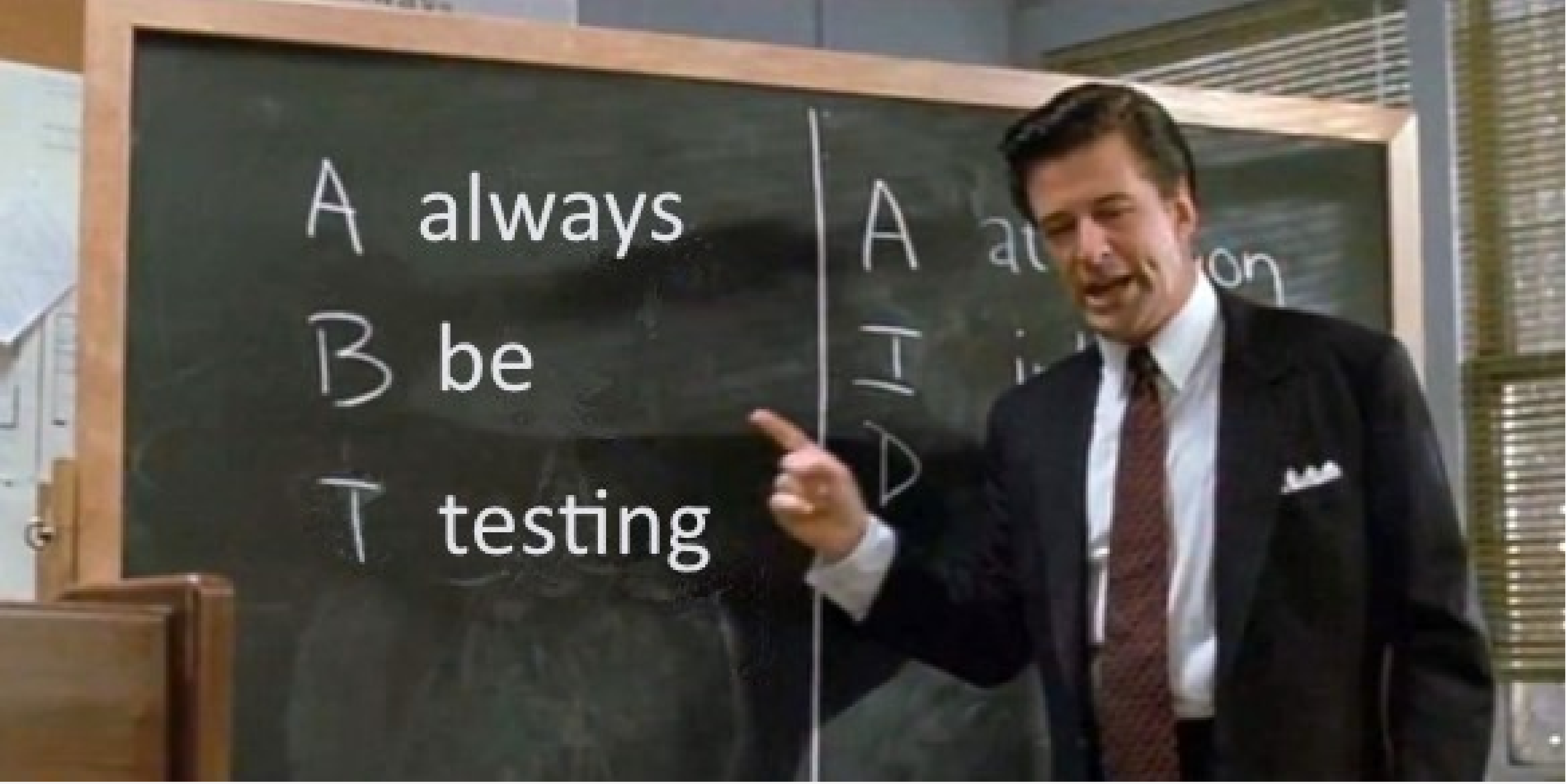


Ignacio Burgueño
Lua Workshop 2015
Stockholm, Sweden

# About Me

Ignacio Burgueño

Software Developer at inConcert

@iburgueno

https://github.com/ignacio

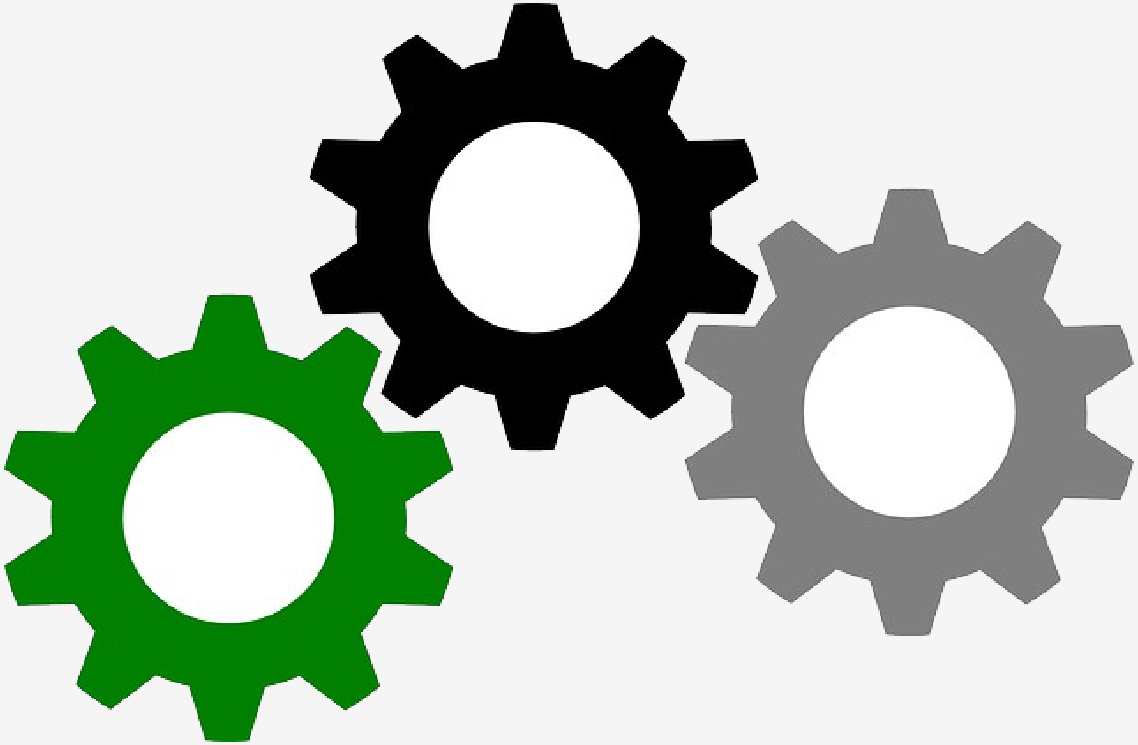
# What will be talking about?

- Improving your code using known techniques and free tools
- Testing on different platforms and with different configurations
- ...without working too much

"**Continuous Integration** is a software development practice where members of a team integrate their work frequently ... verified by an **automated build** (**including test**) to <u>**detect**</u> integration <u>**errors**</u>"

- *Martin Fowler*

# Build Automation



- Source code repository
- Script to drive the Build
- Script to run the Tests

# Source code repository

# A script to drive the build

“**Build processes** are **boring** and **monotonous** and anytime a task becomes boring and monotonous it's **ripe for humans to screw it up** as our **brains turn off** and our **mind drifts**.”

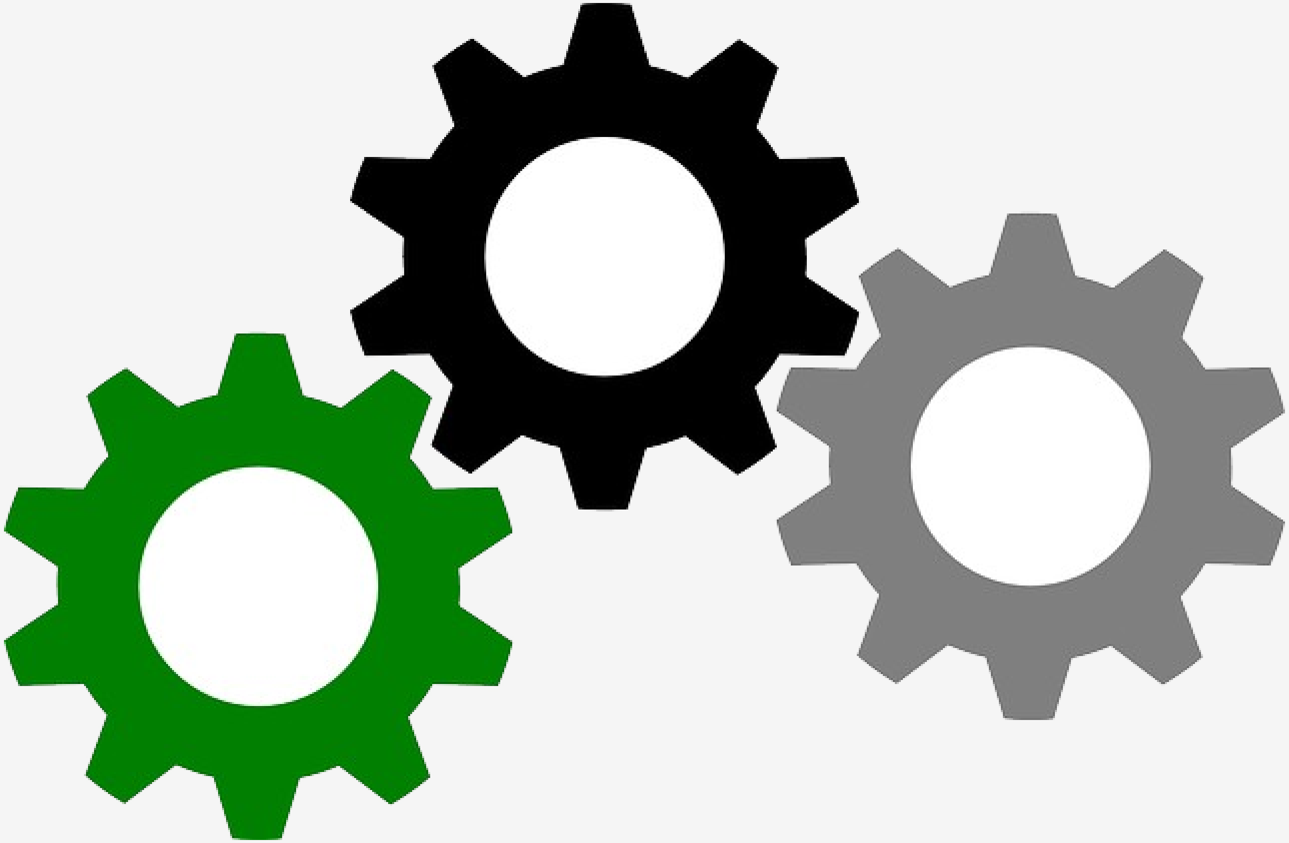
- *Ron Gilbert*

# A script to drive the tests

```
./run_the_tests.sh
```

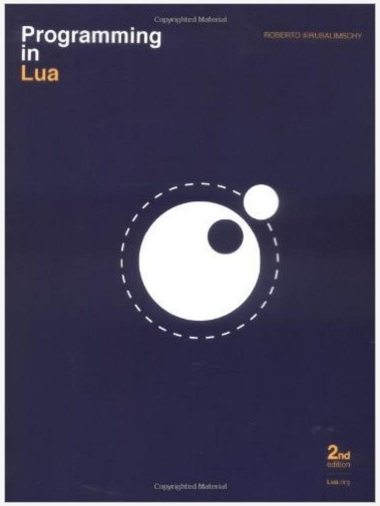
- LuaUnit
- Busted
- Telescope
- Lua-TestMore
- assert

# Why Automate?



# Why?

# Maybe?


Copyrighted Material

Programming
in
Lua

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2nd
edition

Lua.org

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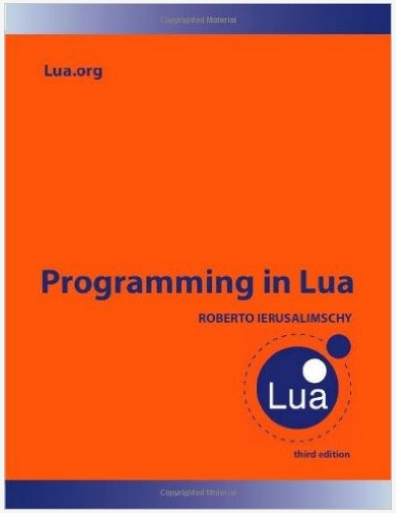
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Lua.org

Programming in Lua

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Lua

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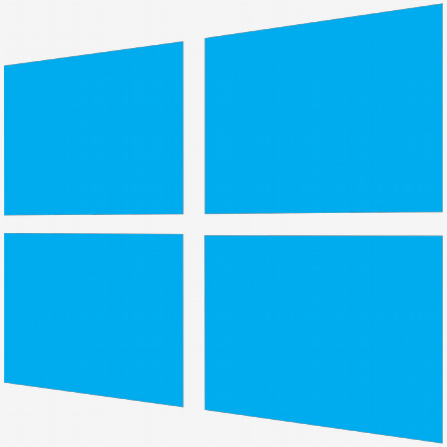
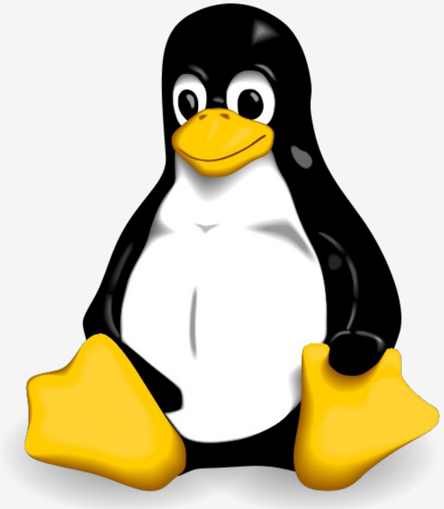
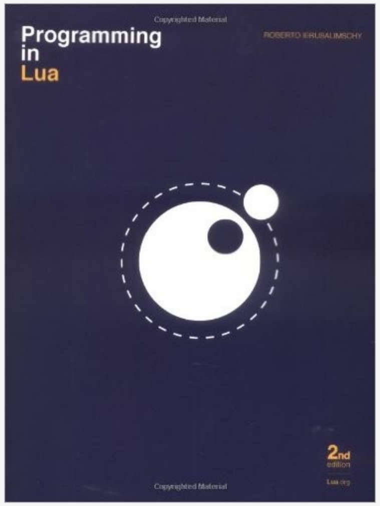
# Should I...?







Programming in Lua

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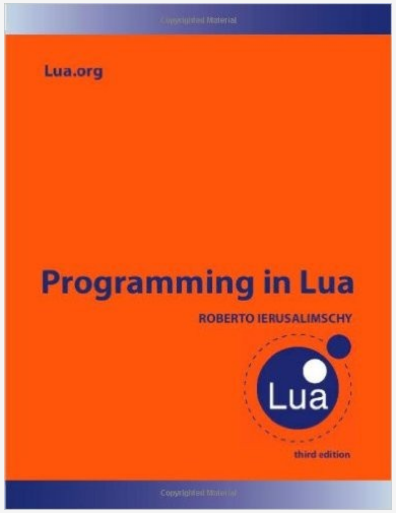
2nd edition

Lua.org



Lua.org

Programming in Lua

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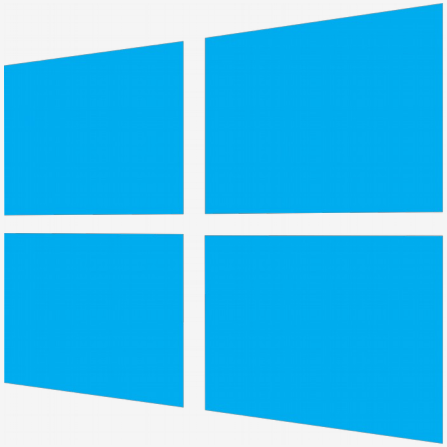
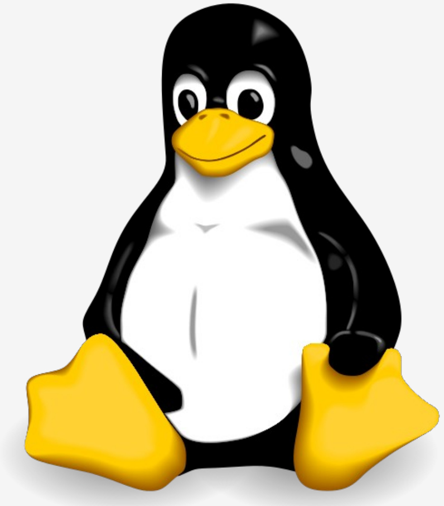
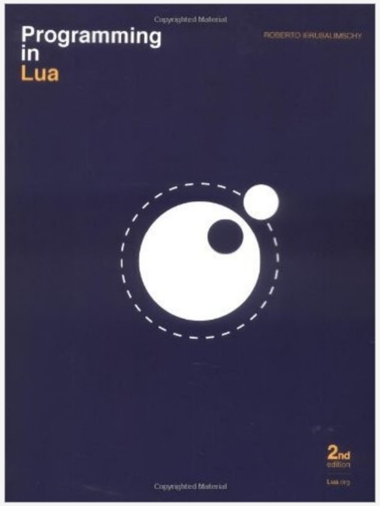
Lua

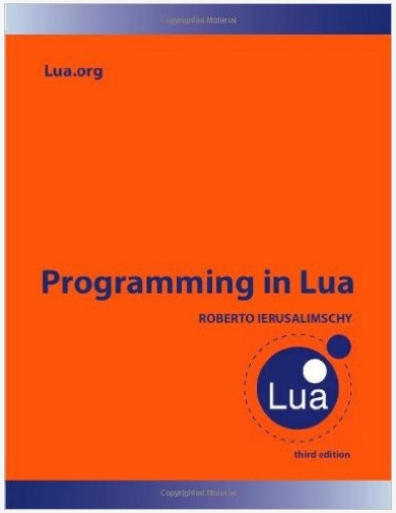
third edition

# I definitely should...

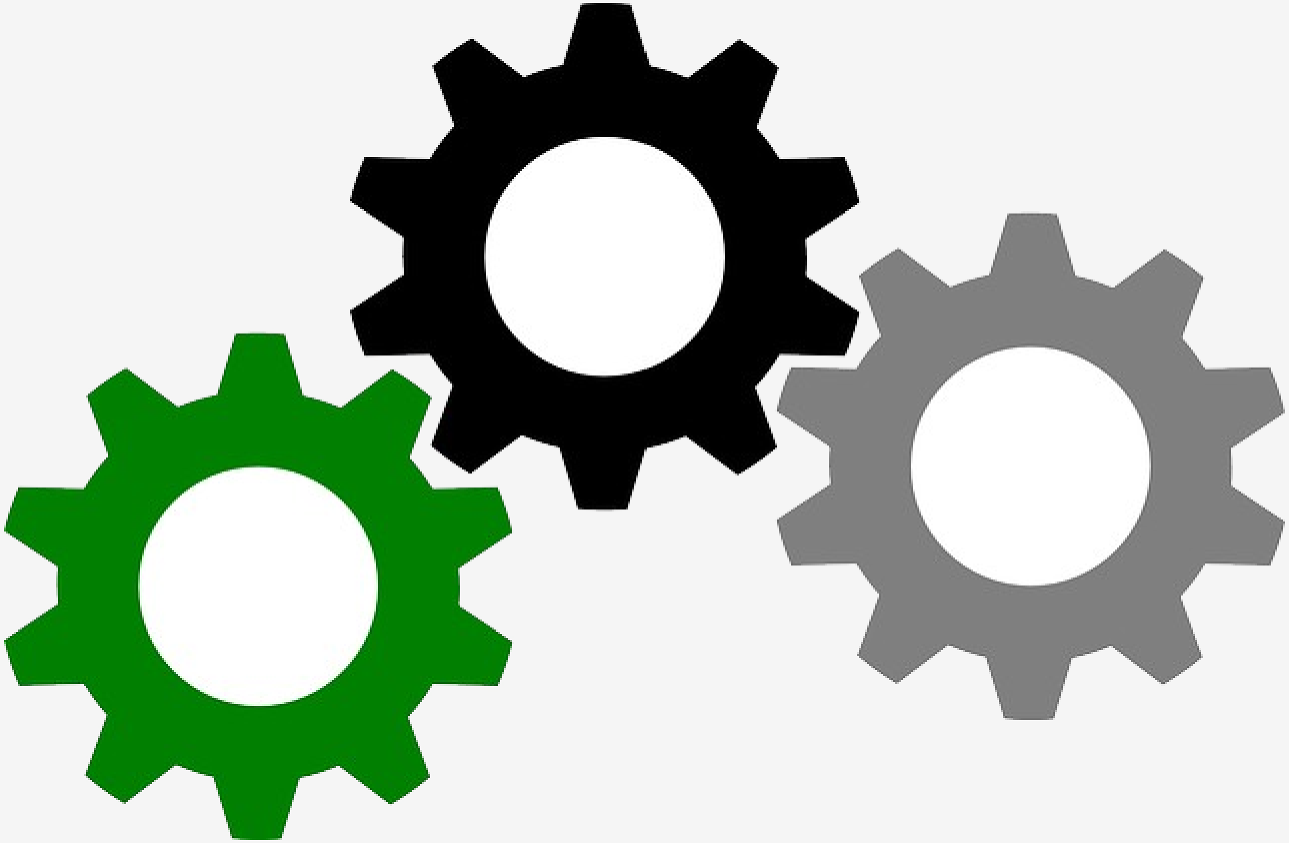




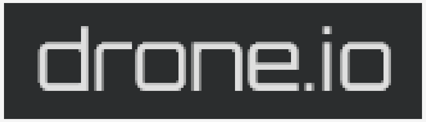




# Automate!



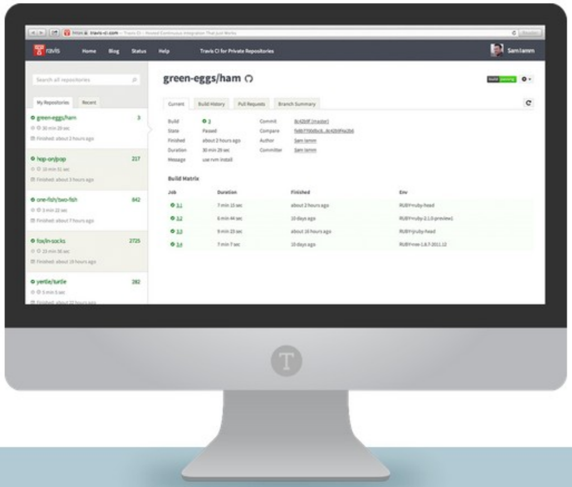
# Continuous Integration as a Service



# Build Apps with Confidence

Focus on writing code. Let Travis CI take care of running your tests and deploying your apps.

Start your free trial!



## Trusted By

zendesk Engine Yard heroku ModCloth code school BitTorrent MOZ

## Easy Setup

Getting started with Travis CI is as easy as enabling a project, adding basic build instructions to your project and committing code. We'll start building your apps right away!

Need to customize your build? No problem, you can install custom packages and configure the environment to fit your needs.

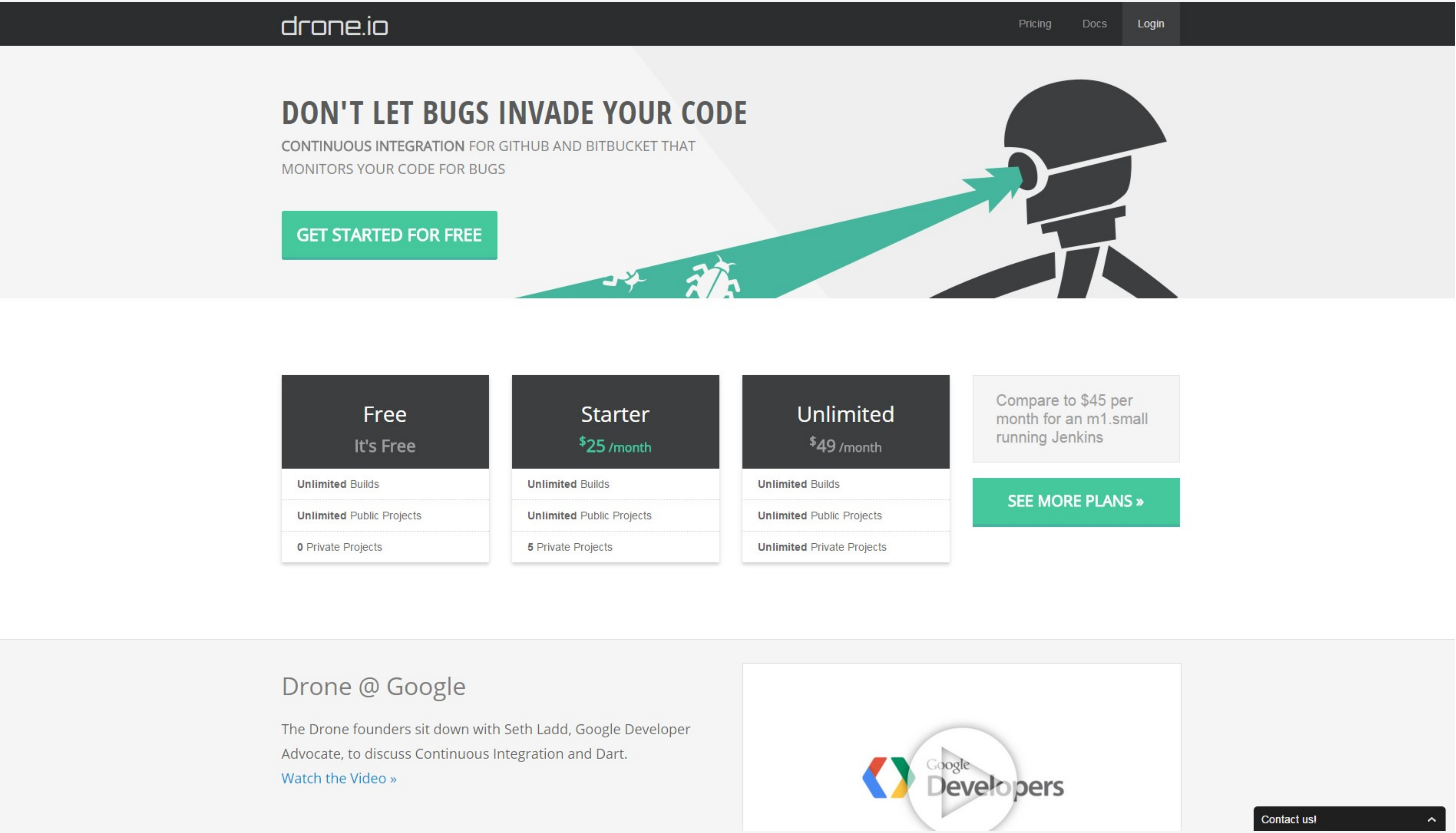
## Supports Your Platform

Lots of databases and services are pre-installed and can simply be enabled in your build configuration, we'll launch them for you automatically. MySQL, PostgreSQL, ElasticSearch, Redis, Riak, RabbitMQ, Memcached are available by default.

## Deploy Anywhere, With Confidence

Deploying to production after a successful build is as easy as setting up a bit of configuration, and we'll deploy your code to Heroku, Engine Yard Cloud, Nodejitsu, cloudControl, OpenShift, CloudFoundry, AppFog, and Amazon OpsWorks.

Using a custom deployment? Customize the build to deploy to your servers!



# DON'T LET BUGS INVADE YOUR CODE

**CONTINUOUS INTEGRATION** FOR GITHUB AND BITBUCKET THAT MONITORS YOUR CODE FOR BUGS

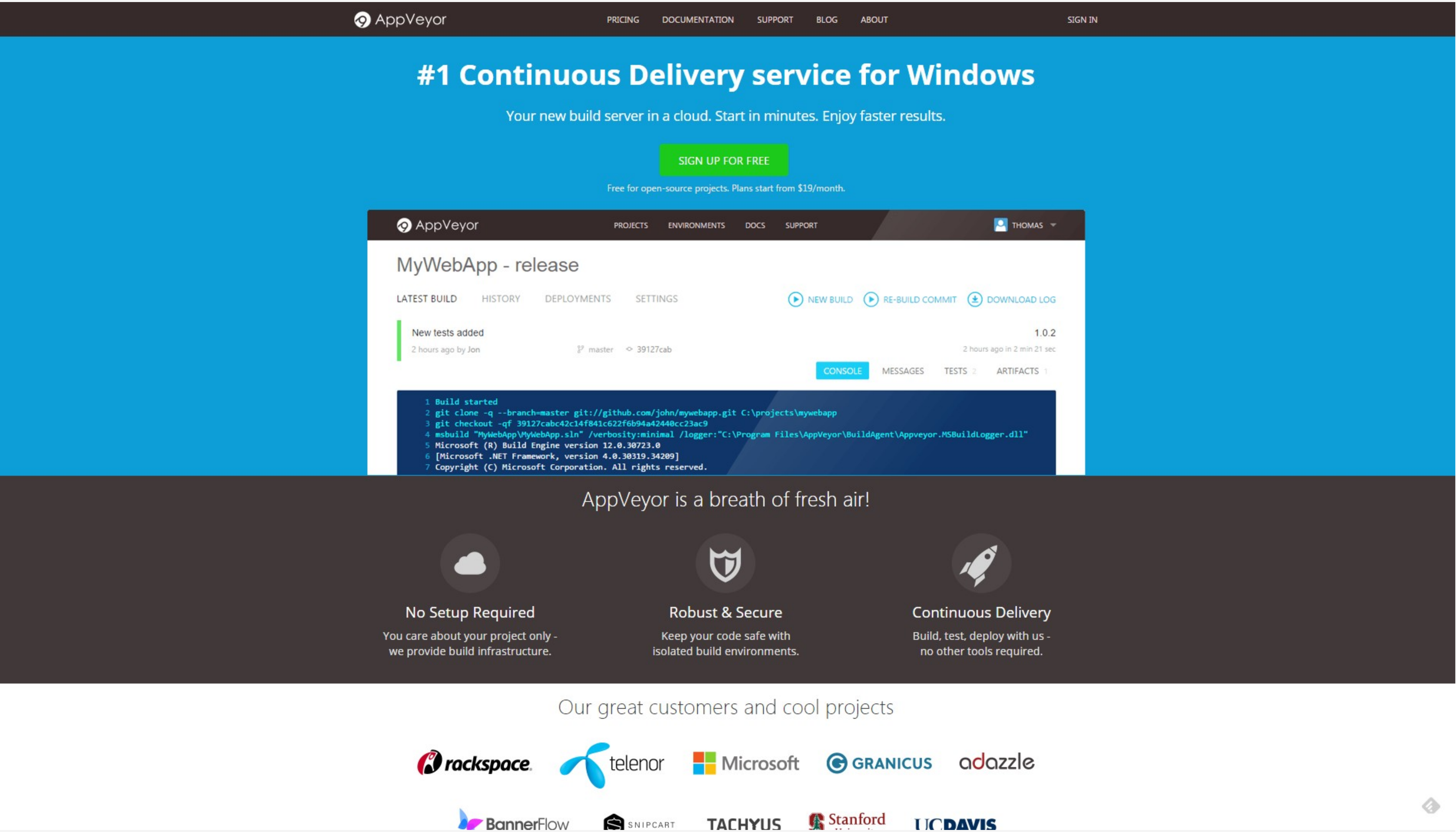
| Free<br>It's Free | Starter<br>$25 /month | Unlimited<br>$49 /month |
|---|---|---|
| **Unlimited** Builds | **Unlimited** Builds | **Unlimited** Builds |
| **Unlimited** Public Projects | **Unlimited** Public Projects | **Unlimited** Public Projects |
| **0** Private Projects | **5** Private Projects | **Unlimited** Private Projects |

Compare to $45 per month for an m1.small running Jenkins

## Drone @ Google

The Drone founders sit down with Seth Ladd, Google Developer Advocate, to discuss Continuous Integration and Dart.

Watch the Video »



# #1 Continuous Delivery service for Windows

Your new build server in a cloud. Start in minutes. Enjoy faster results.

Free for open-source projects. Plans start from $19/month.

MyWebApp - release

New tests added

2 hours ago by Jon master 39127cab

1.0.2

2 hours ago in 2 min 21 sec

```
Build started
git clone -q --branch=master git://github.com/john/mywebapp.git C:\projects\mywebapp
git checkout -qf 39127cabc42c14f841c622f6b94a42440cc23ac9
msbuild "MyWebApp\MyWebApp.sln" /verbosity:minimal /logger:"C:\Program Files\AppVeyor\BuildAgent\Appveyor.MSBuildLogger.dll"
Microsoft (R) Build Engine version 12.0.30723.0
[Microsoft .NET Framework, version 4.0.30319.34209]
Copyright (C) Microsoft Corporation. All rights reserved.
```

## AppVeyor is a breath of fresh air!

### No Setup Required

You care about your project only - we provide build infrastructure.

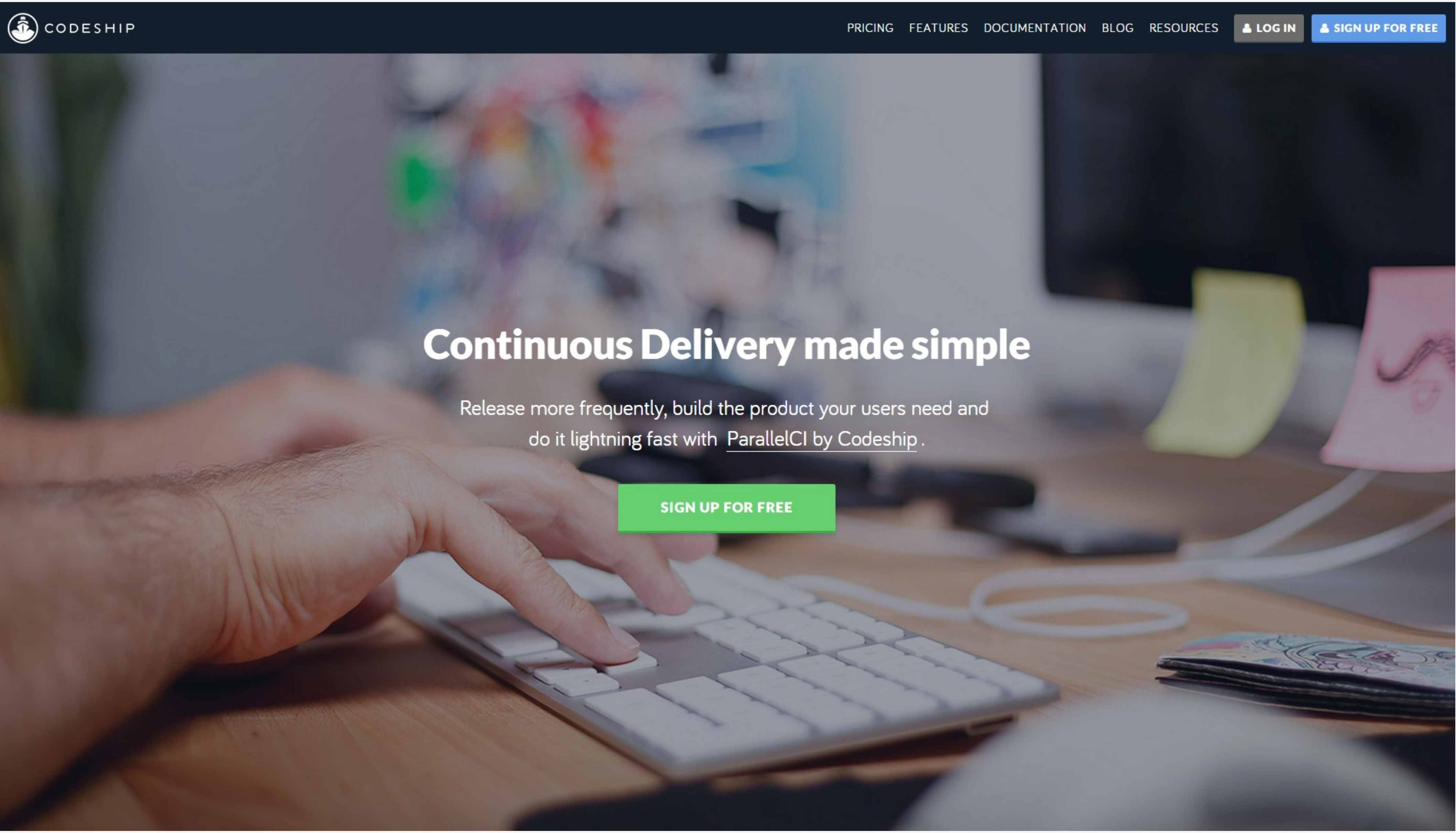
### Robust & Secure

Keep your code safe with isolated build environments.

### Continuous Delivery

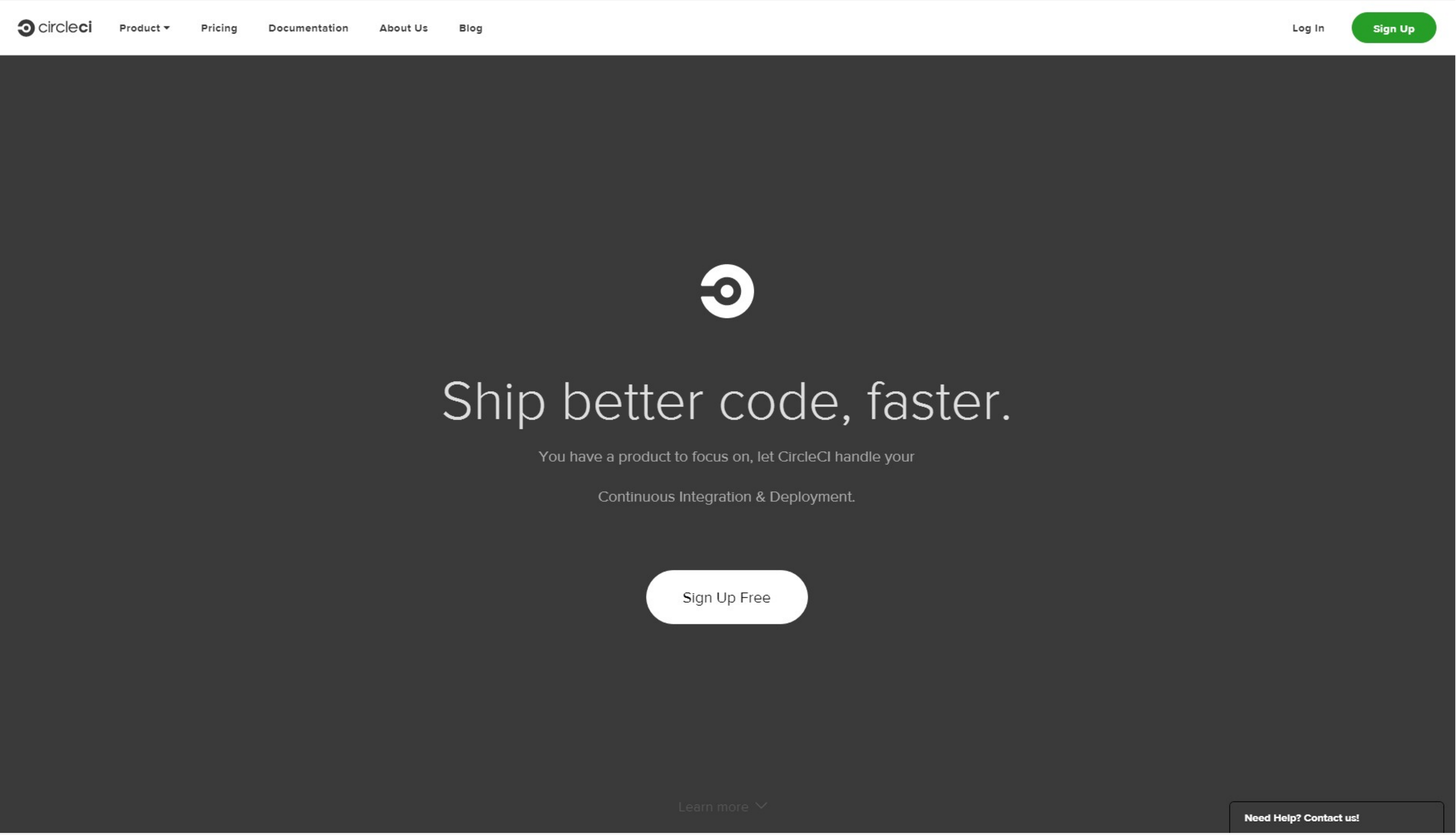
Build, test, deploy with us - no other tools required.

## Our great customers and cool projects



# Continuous Delivery made simple

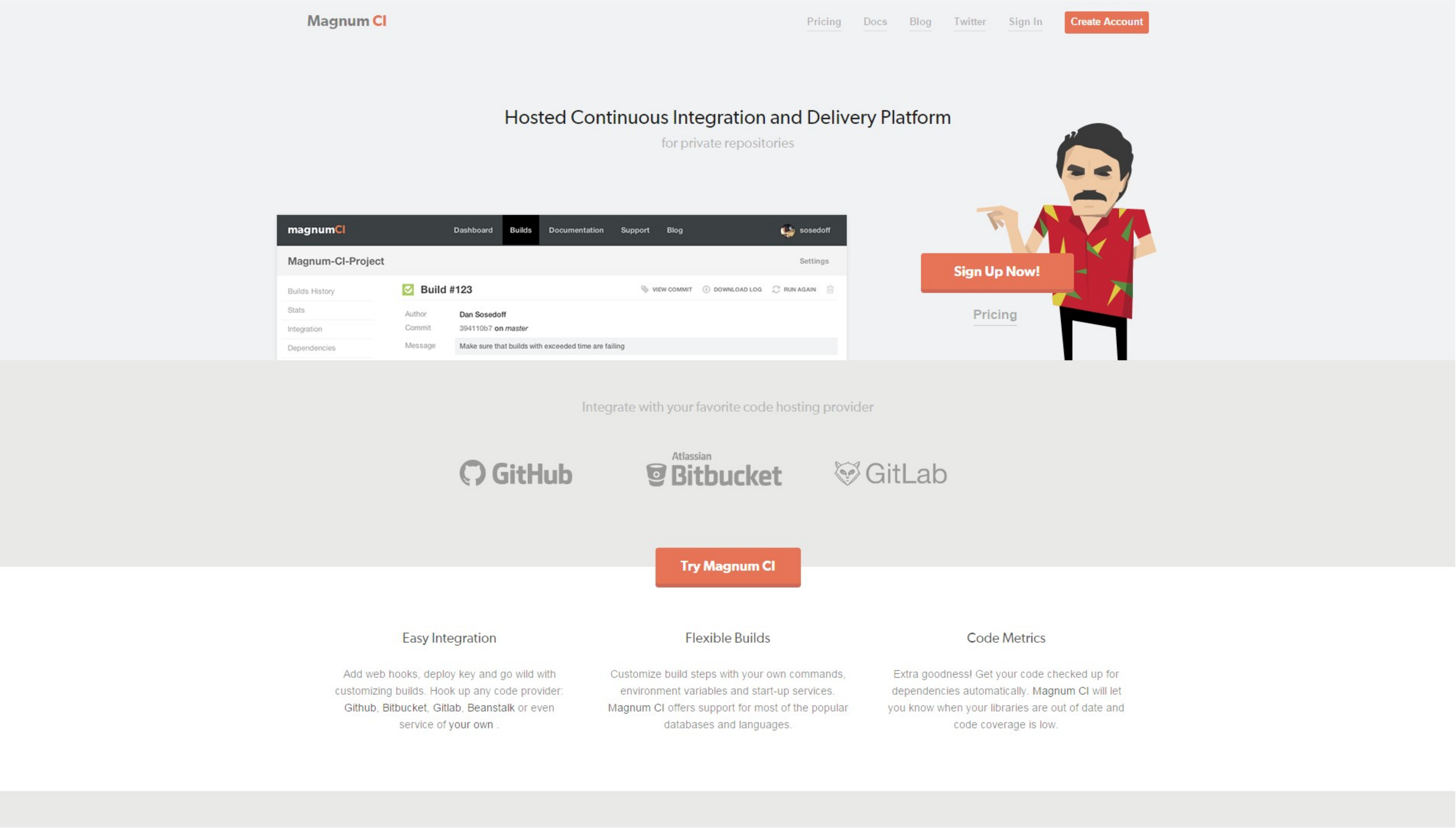
Release more frequently, build the product your users need and do it lightning fast with ParallelCI by Codeship .



Ship better code, faster.

You have a product to focus on, let CircleCI handle your

Continuous Integration & Deployment.



## Hosted Continuous Integration and Delivery Platform

for private repositories

Author: Dan Sosedoff
Commit: 394110b7 on *master*
Message: Make sure that builds with exceeded time are failing

Integrate with your favorite code hosting provider

### Easy Integration

Add web hooks, deploy key and go wild with customizing builds. Hook up any code provider: Github, Bitbucket, Gitlab, Beanstalk or even service of your own .

### Flexible Builds

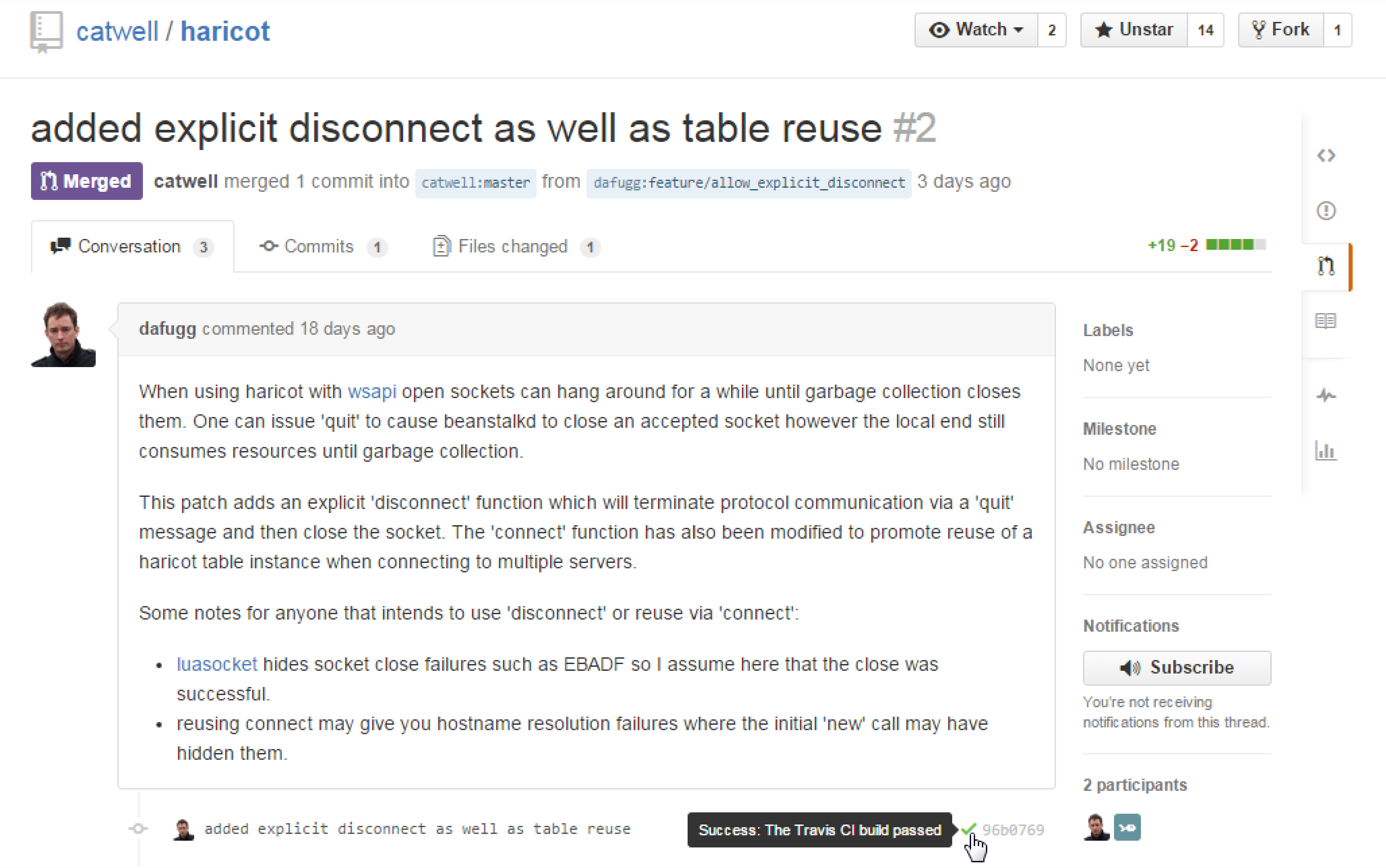
Customize build steps with your own commands, environment variables and start-up services. Magnum CI offers support for most of the popular databases and languages.

### Code Metrics

Extra goodness! Get your code checked up for dependencies automatically. Magnum CI will let you know when your libraries are out of date and code coverage is low.

# We'll focus on two

# Pull request integration?



added explicit disconnect as well as table reuse #2

**catwell** merged 1 commit into `catwell:master` from `dafugg:feature/allow_explicit_disconnect` 3 days ago

**dafugg** commented 18 days ago

When using haricot with wsapi open sockets can hang around for a while until garbage collection closes them. One can issue 'quit' to cause beanstalkd to close an accepted socket however the local end still consumes resources until garbage collection.

This patch adds an explicit 'disconnect' function which will terminate protocol communication via a 'quit' message and then close the socket. The 'connect' function has also been modified to promote reuse of a haricot table instance when connecting to multiple servers.

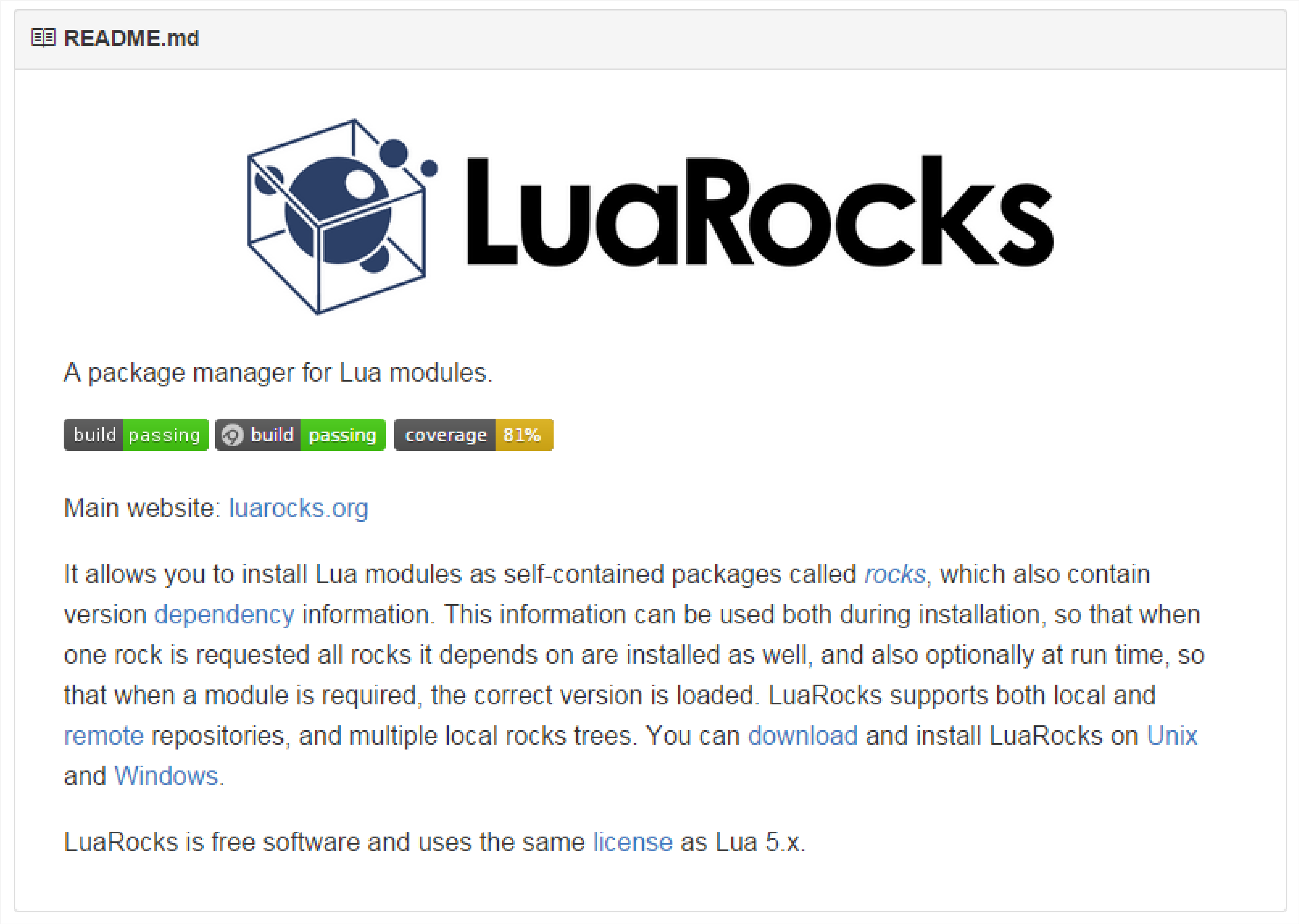
Some notes for anyone that intends to use 'disconnect' or reuse via 'connect':

- luasocket hides socket close failures such as EBADF so I assume here that the close was successful.
- reusing connect may give you hostname resolution failures where the initial 'new' call may have hidden them.

`added explicit disconnect as well as table reuse`

Success: The Travis CI build passed ✓ 96b0769

# For regular commits too...



README.md

A package manager for Lua modules.

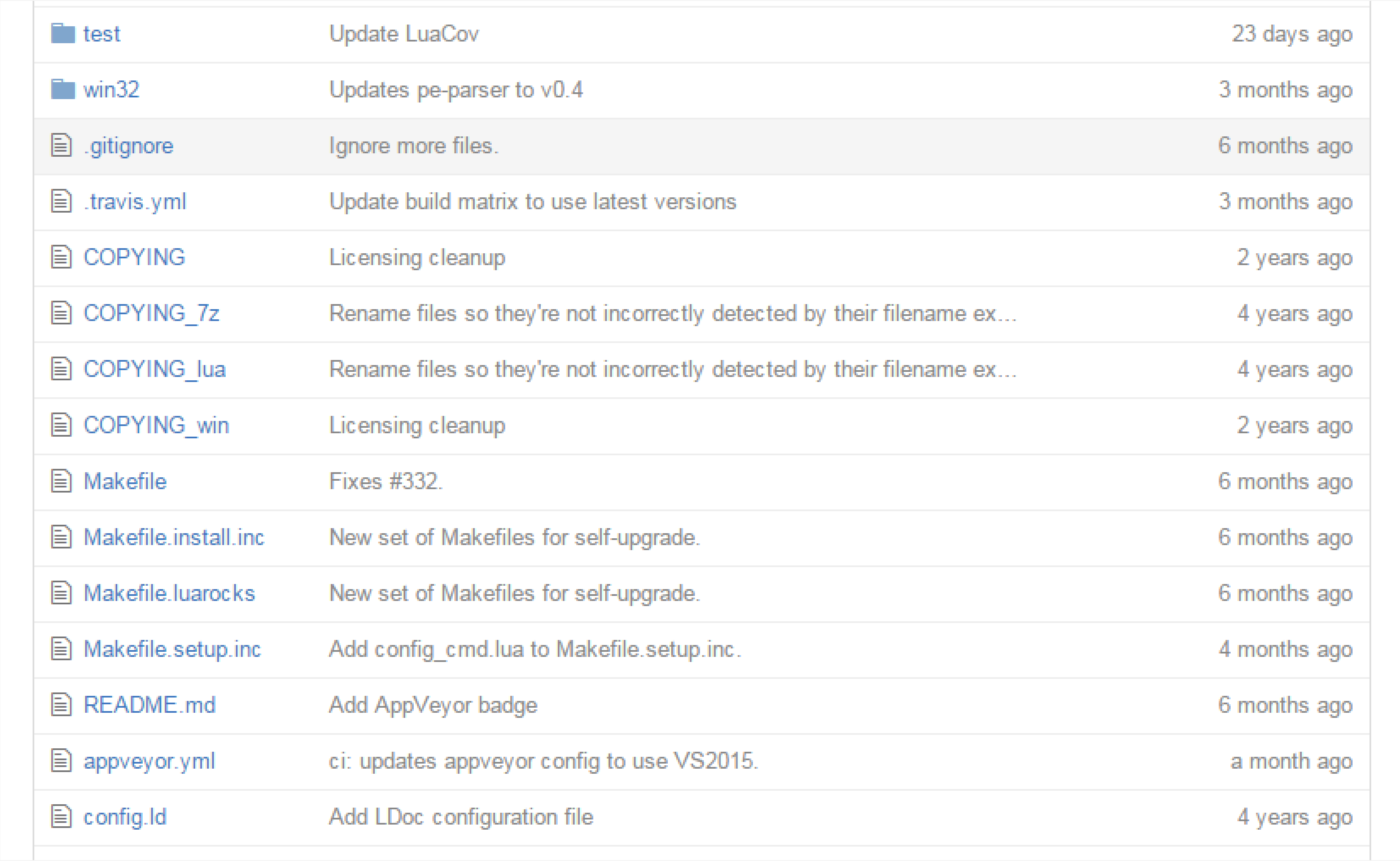
build passing | build passing | coverage 81%

Main website: luarocks.org

It allows you to install Lua modules as self-contained packages called *rocks*, which also contain version dependency information. This information can be used both during installation, so that when one rock is requested all rocks it depends on are installed as well, and also optionally at run time, so that when a module is required, the correct version is loaded. LuaRocks supports both local and remote repositories, and multiple local rocks trees. You can download and install LuaRocks on Unix and Windows.

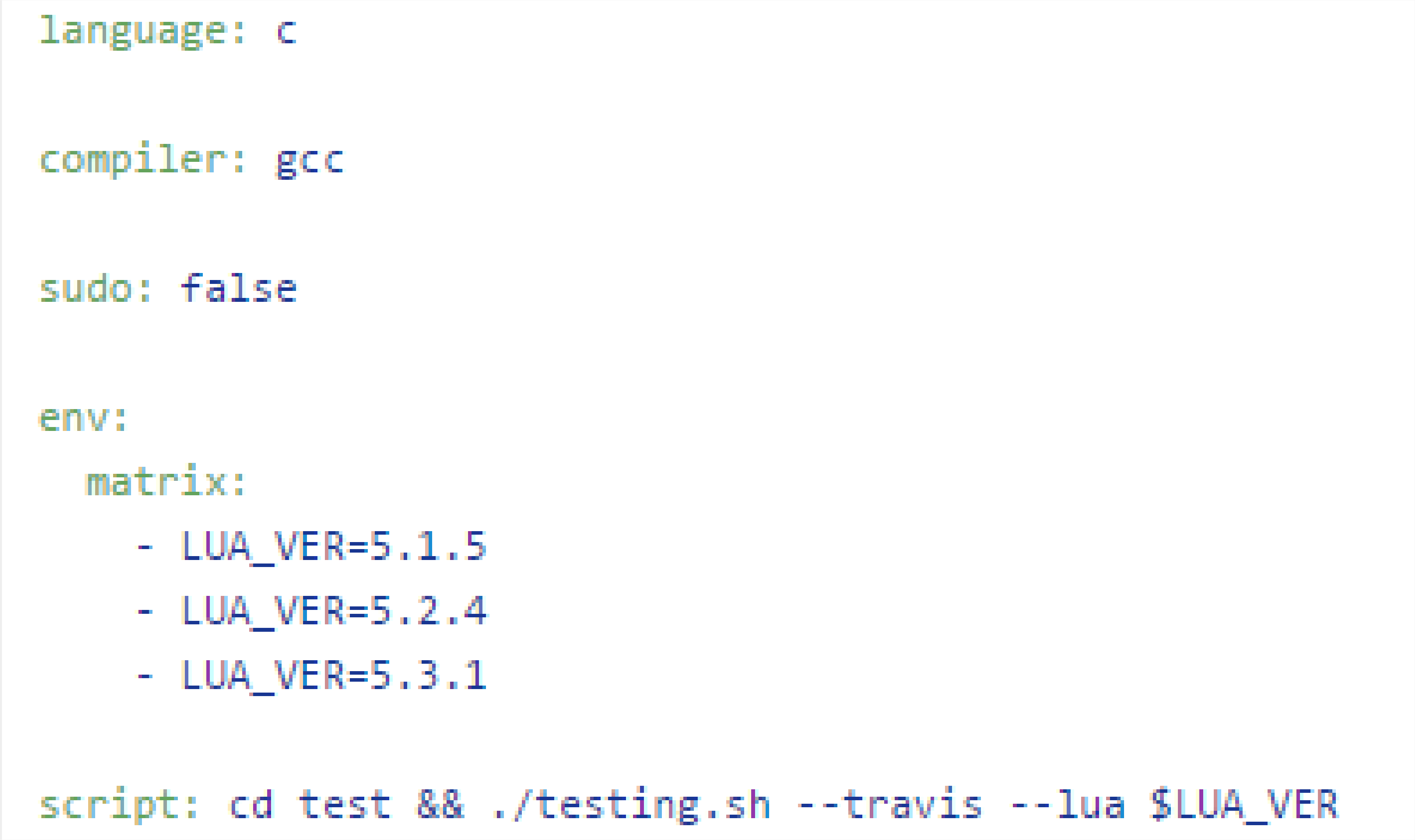
LuaRocks is free software and uses the same license as Lua 5.x.

# How do they work?



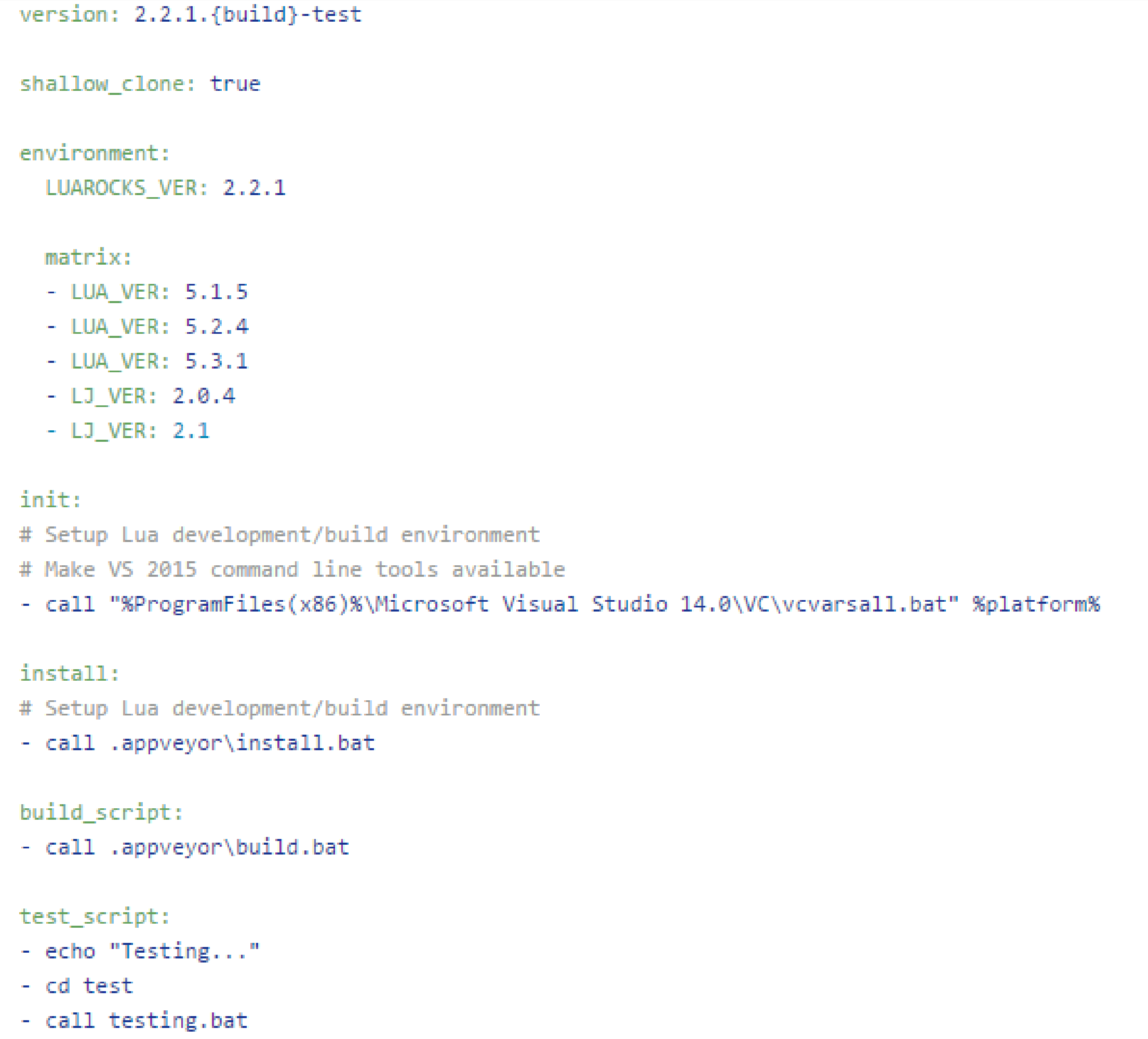
| | | |
|---|---|---|
| test | Update LuaCov | 23 days ago |
| win32 | Updates pe-parser to v0.4 | 3 months ago |
| .gitignore | Ignore more files. | 6 months ago |
| .travis.yml | Update build matrix to use latest versions | 3 months ago |
| COPYING | Licensing cleanup | 2 years ago |
| COPYING_7z | Rename files so they're not incorrectly detected by their filename ex… | 4 years ago |
| COPYING_lua | Rename files so they're not incorrectly detected by their filename ex… | 4 years ago |
| COPYING_win | Licensing cleanup | 2 years ago |
| Makefile | Fixes #332. | 6 months ago |
| Makefile.install.inc | New set of Makefiles for self-upgrade. | 6 months ago |
| Makefile.luarocks | New set of Makefiles for self-upgrade. | 6 months ago |
| Makefile.setup.inc | Add config_cmd.lua to Makefile.setup.inc. | 4 months ago |
| README.md | Add AppVeyor badge | 6 months ago |
| appveyor.yml | ci: updates appveyor config to use VS2015. | a month ago |
| config.ld | Add LDoc configuration file | 4 years ago |

# Example .travis.yml



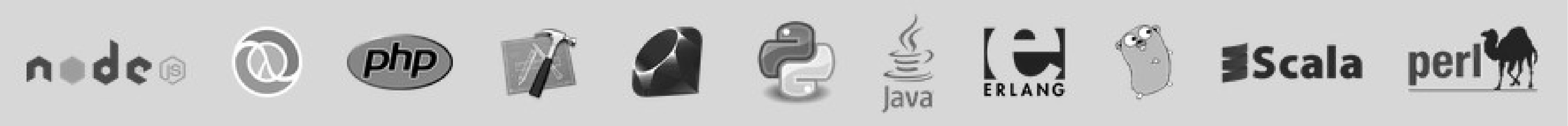
```yaml
language: c

compiler: gcc

sudo: false

env:
  matrix:
    - LUA_VER=5.1.5
    - LUA_VER=5.2.4
    - LUA_VER=5.3.1

script: cd test && ./testing.sh --travis --lua $LUA_VER
```

# Example appveyor.yml

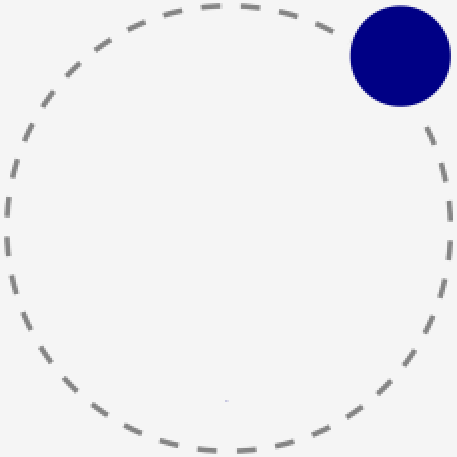


```
version: 2.2.1.{build}-test

shallow_clone: true

environment:
  LUAROCKS_VER: 2.2.1

  matrix:
  - LUA_VER: 5.1.5
  - LUA_VER: 5.2.4
  - LUA_VER: 5.3.1
  - LJ_VER: 2.0.4
  - LJ_VER: 2.1

init:
# Setup Lua development/build environment
# Make VS 2015 command line tools available
- call "%ProgramFiles(x86)%\Microsoft Visual Studio 14.0\VC\vcvarsall.bat" %platform%

install:
# Setup Lua development/build environment
- call .appveyor\install.bat

build_script:
- call .appveyor\build.bat

test_script:
- echo "Testing..."
- cd test
- call testing.bat
```

# Supported Languages



# What about Lua?



# lua-travis-example

(by Alexey Melnichuk)

https://github.com/moteus/lua-travis-example

# lua-appveyor-example

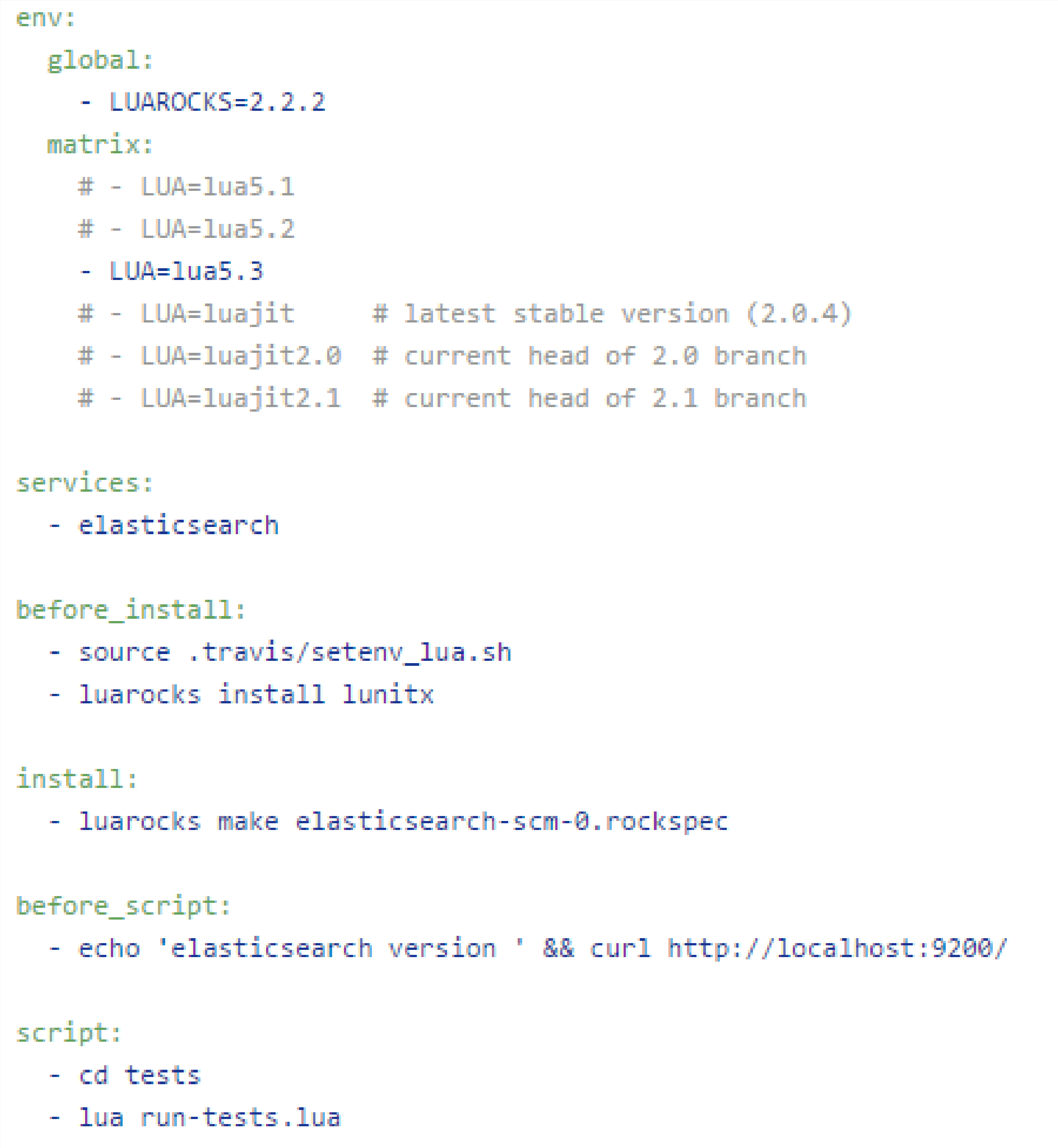
(by yours truly)

https://github.com/ignacio/lua-appveyor-example/

# Case study: elasticsearch-lua

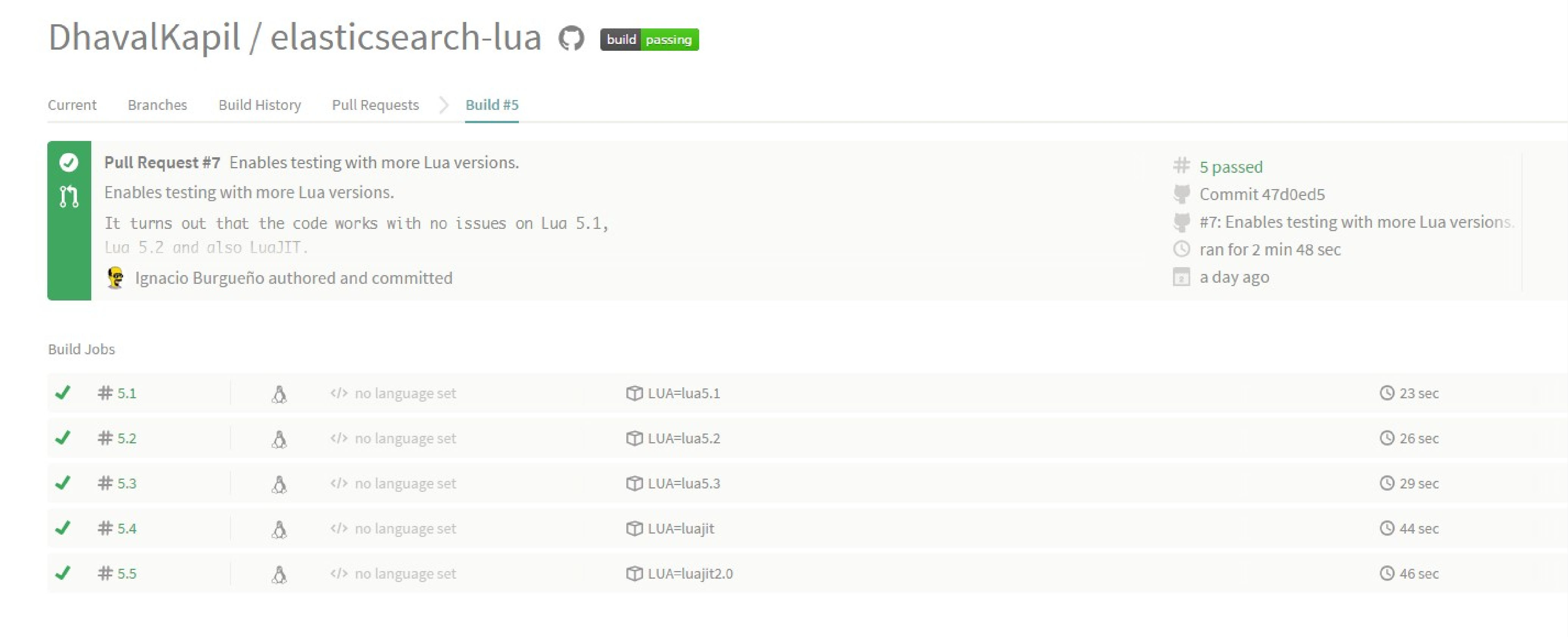
https://github.com/DhavalKapil/elasticsearch-lua

# Case study: elasticsearch-lua



```yaml
env:
  global:
    - LUAROCKS=2.2.2
  matrix:
    # - LUA=lua5.1
    # - LUA=lua5.2
    - LUA=lua5.3
    # - LUA=luajit     # latest stable version (2.0.4)
    # - LUA=luajit2.0  # current head of 2.0 branch
    # - LUA=luajit2.1  # current head of 2.1 branch

services:
  - elasticsearch

before_install:
  - source .travis/setenv_lua.sh
  - luarocks install lunitx

install:
  - luarocks make elasticsearch-scm-0.rockspec

before_script:
  - echo 'elasticsearch version ' && curl http://localhost:9200/

script:
  - cd tests
  - lua run-tests.lua
```

# Case study: elasticsearch-lua



DhavalKapil / elasticsearch-lua

**Pull Request #7** Enables testing with more Lua versions.

Enables testing with more Lua versions.

```
It turns out that the code works with no issues on Lua 5.1,
Lua 5.2 and also LuaJIT.
```

Ignacio Burgueño authored and committed

5 passed

Commit 47d0ed5

#7: Enables testing with more Lua versions.

ran for 2 min 48 sec

a day ago

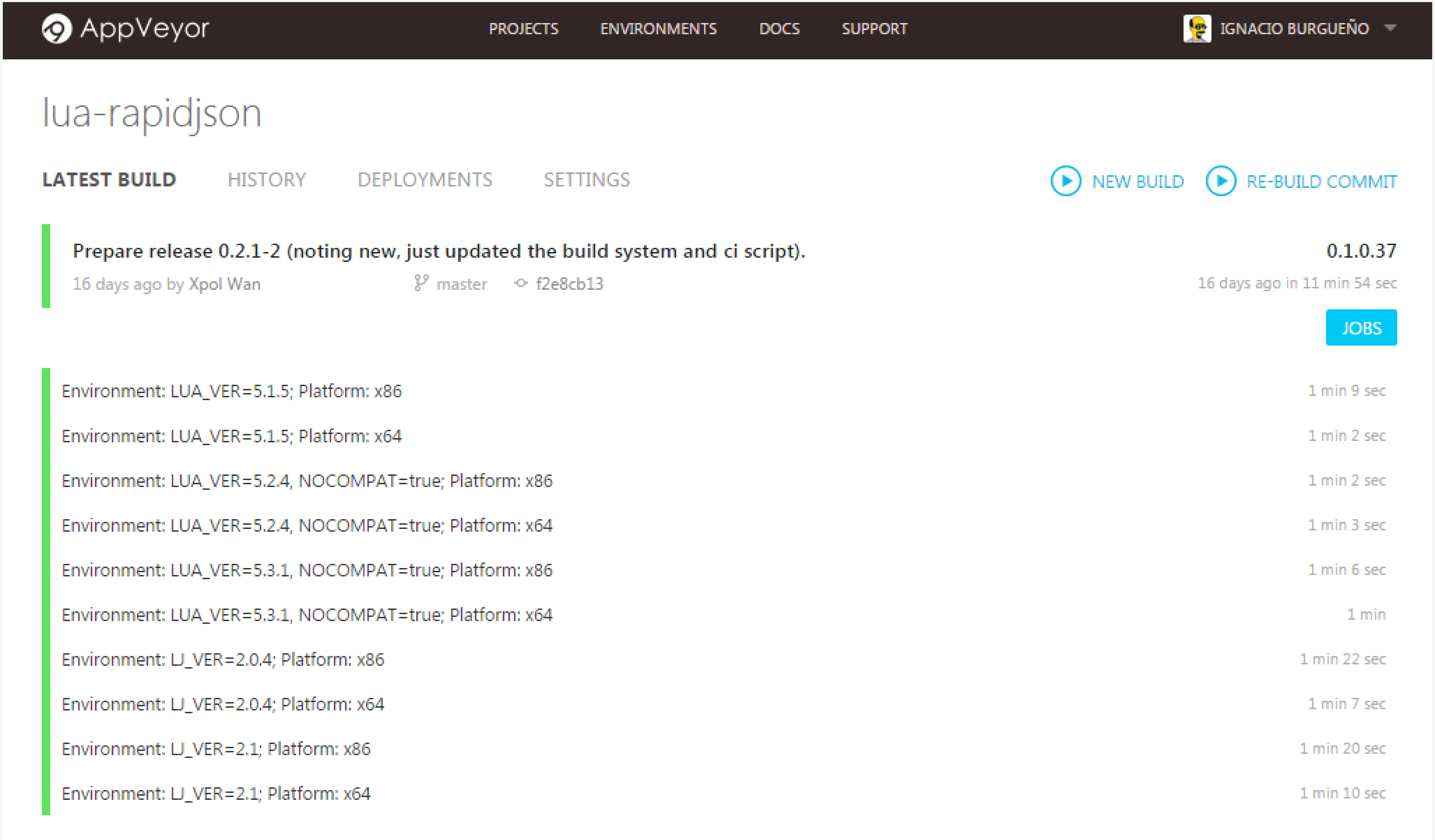
Build Jobs

| | | | |
|---|---|---|---|
| ✓ # 5.1 | </> no language set | LUA=lua5.1 | 23 sec |
| ✓ # 5.2 | </> no language set | LUA=lua5.2 | 26 sec |
| ✓ # 5.3 | </> no language set | LUA=lua5.3 | 29 sec |
| ✓ # 5.4 | </> no language set | LUA=luajit | 44 sec |
| ✓ # 5.5 | </> no language set | LUA=luajit2.0 | 46 sec |

https://github.com/DhavalKapil/elasticsearch-lua/pull/6/files

https://travis-ci.org/DhavalKapil/elasticsearch-lua/builds/81672970

# Case study: lua-rapidjson



lua-rapidjson

Prepare release 0.2.1-2 (noting new, just updated the build system and ci script). 0.1.0.37

16 days ago by Xpol Wan master f2e8cb13 16 days ago in 11 min 54 sec

| | |
|---|---|
| Environment: LUA_VER=5.1.5; Platform: x86 | 1 min 9 sec |
| Environment: LUA_VER=5.1.5; Platform: x64 | 1 min 2 sec |
| Environment: LUA_VER=5.2.4, NOCOMPAT=true; Platform: x86 | 1 min 2 sec |
| Environment: LUA_VER=5.2.4, NOCOMPAT=true; Platform: x64 | 1 min 3 sec |
| Environment: LUA_VER=5.3.1, NOCOMPAT=true; Platform: x86 | 1 min 6 sec |
| Environment: LUA_VER=5.3.1, NOCOMPAT=true; Platform: x64 | 1 min |
| Environment: LJ_VER=2.0.4; Platform: x86 | 1 min 22 sec |
| Environment: LJ_VER=2.0.4; Platform: x64 | 1 min 7 sec |
| Environment: LJ_VER=2.1; Platform: x86 | 1 min 20 sec |
| Environment: LJ_VER=2.1; Platform: x64 | 1 min 10 sec |

https://ci.appveyor.com/project/ignacio/lua-rapidjson

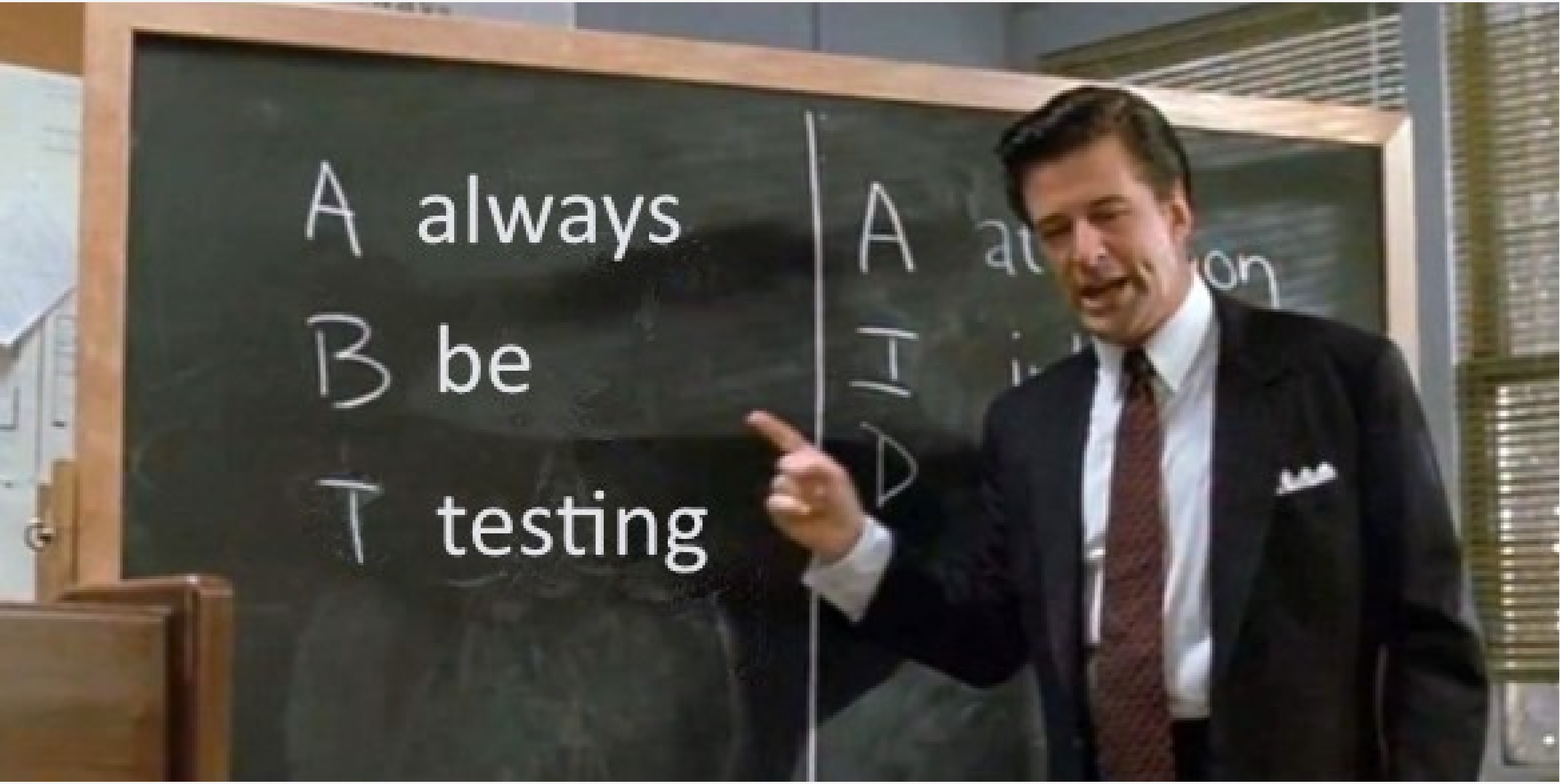
# Useful guides

Continuous Integration for Lua with Travis  (Pierre Chapuis)

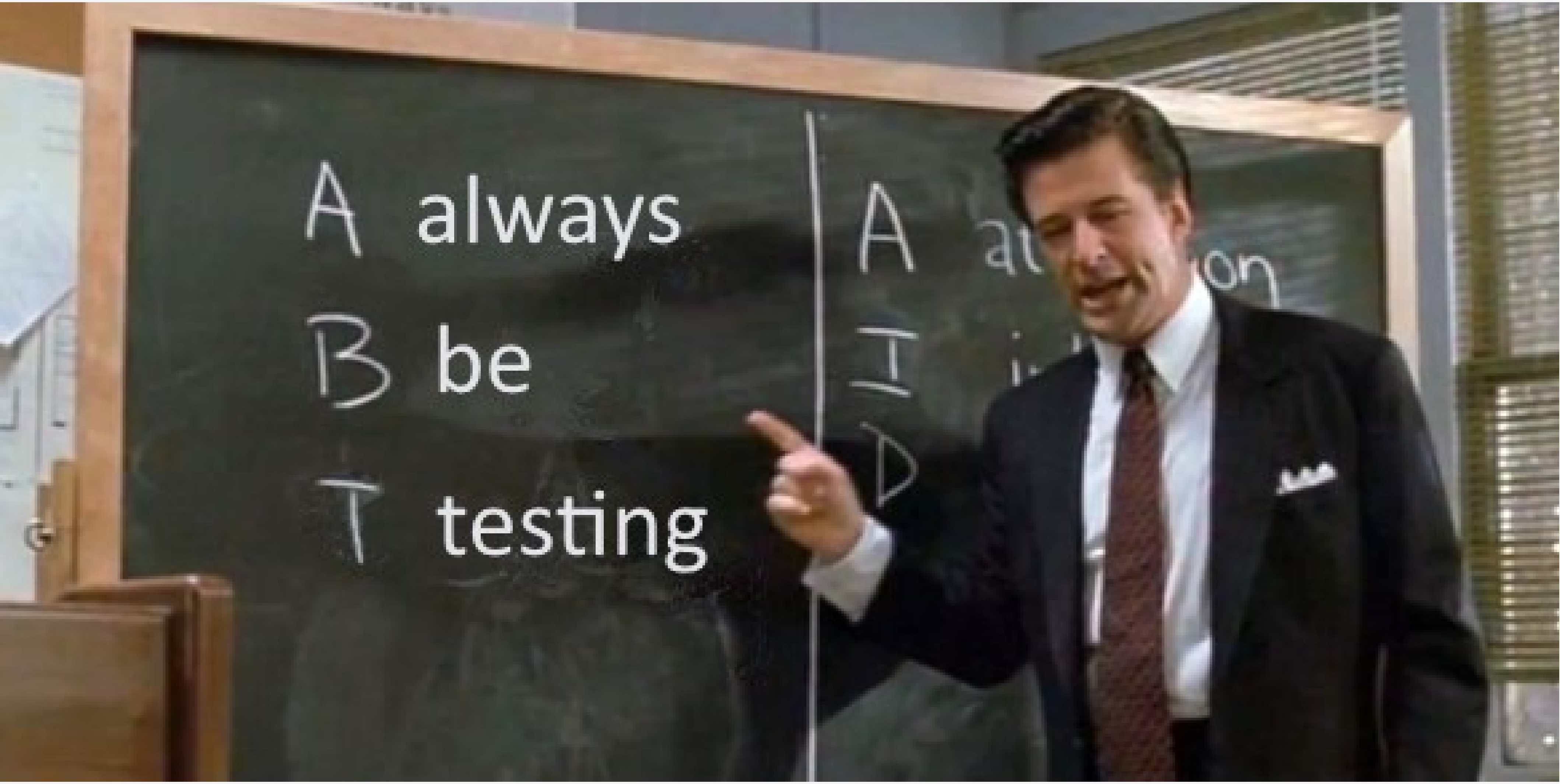
http://blog.separateconcerns.com/2015-03-08-travis-lua.html

Testing is fun, CI even more so (Peter Aronoff)

http://ithaca.arpinum.org/2015/07/14/lua-bitbucket-ci-droneio.html


A always
B be
T testing
A at on
I i
D

# Thanks!



Ignacio Burgueño
Lua Workshop 2015
Stockholm, Sweden