# Continuous Integration (with Travis)



## Continuous Integration?

#### **Definition**

The practice of frequently merging and validating changes made by multiple engineers with the goal of maintaining stable source code that is always-deployable.

### Components / Features

- Version control system with an identified mainline (i.e. master/trunk) branch.
- Static analysis tools and configuration to validate the quality of the source code.
- Automated tool for building, compiling and/or packaging a deliverable from source.
- A suite of automated tests that validate the software's functionality.
- Ideally, a shared service that automatically manages and executes all of the above.



## Self-hosted CI













## SaaS CI















### Related Products













### Travis CI



### History

- Headquartered in Berlin, Germany
- 2011 => Launched open-source only service.
- 2012 => Launched Travis Pro for closedsource repos.
- 2014 => Launched Travis Enterprise, a self-hosted product.

#### Service

- Tightly integrated with Github
  - Uses OAuth to access users and repos
  - Uses Status API to report PR build results
- Supports many languages and platforms.
- All builds occur in an isolated VM or container.
- (Nearly) unfettered access to the VM for customization.
- Cost
  - Free for open-source repos.
  - Pro is paid by concurrent build slots.

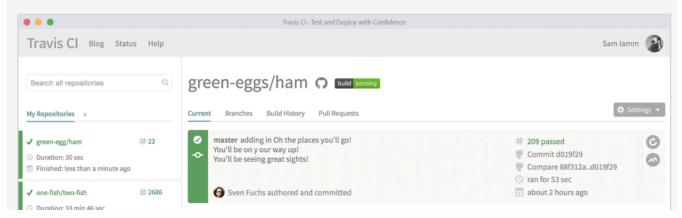


Travis CI Blog Status Help Sign in with GitHub

# Test and Deploy with Confidence

Easily sync your GitHub projects with Travis CI and you'll be testing your code in minutes!







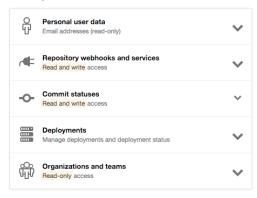


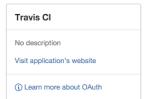


Travis CI by @travis-ci would like permission to access your account



#### Review permissions





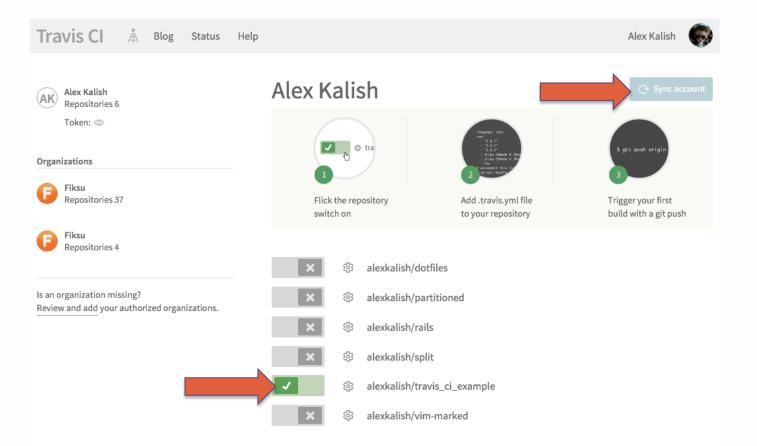
#### Organization access

Organizations determine whether the application can access their data.



Authorize application

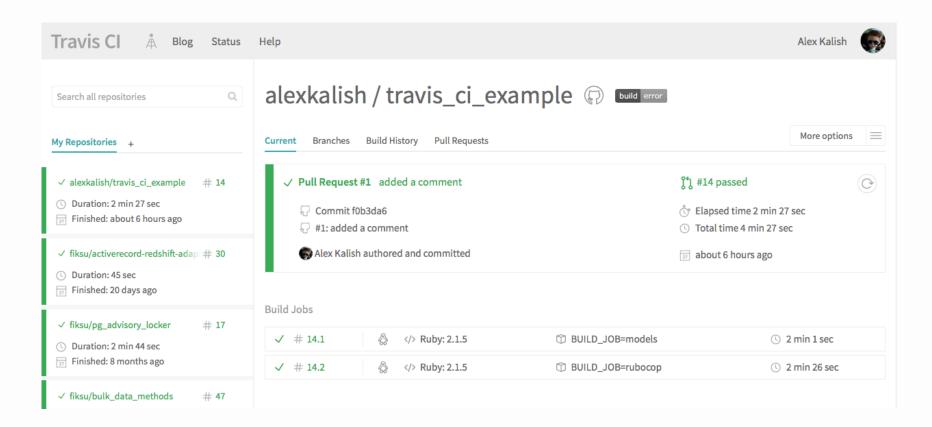




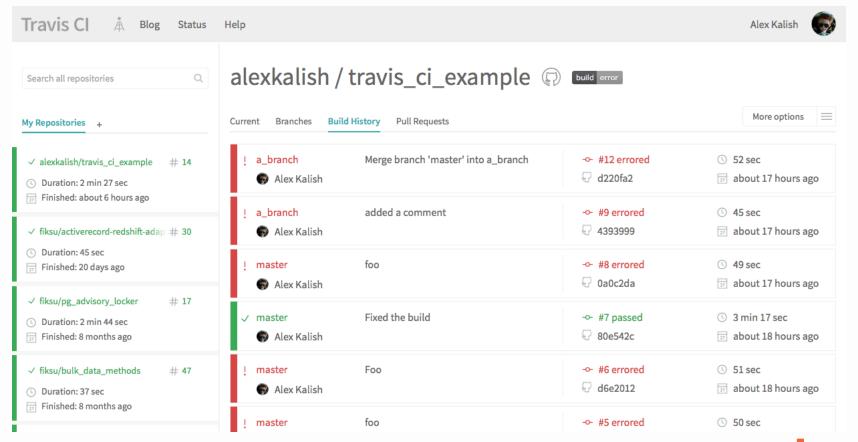


## Demo!

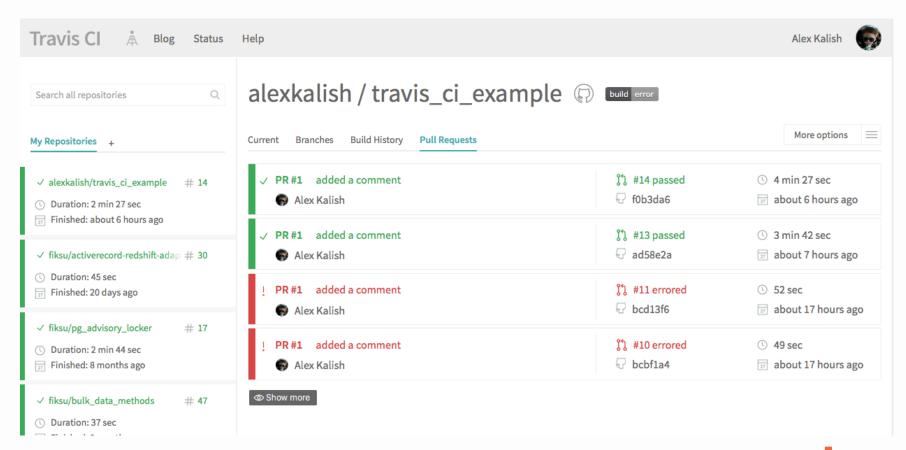




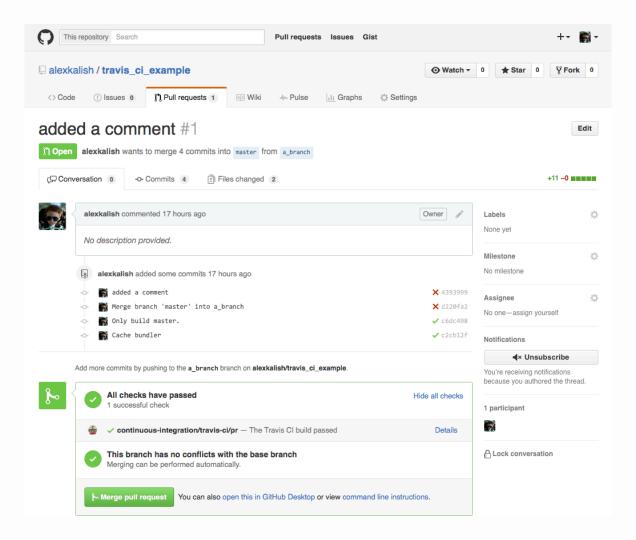




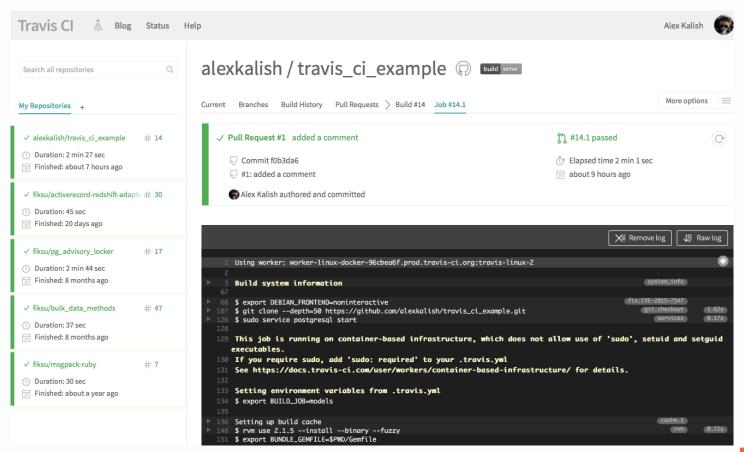
















📰 Finished: about a year ago

```
133 Setting environment variables from .travis.yml
 134 $ export BUILD_JOB=models
 136 Setting up build cache
 148 $ rvm use 2.1.5 --install --binary --fuzzy
                                                                                                                         0.72s
 151 $ export BUNDLE_GEMFILE=$PWD/Gemfile
                                                                                                         cache.bundler
 156 $ ruby --version
 157 ruby 2.1.5p273 (2014-11-13 revision 48405) [x86_64-linux]
 158 $ rvm --version
 159 rvm 1.26.10 (latest-minor) by Wayne E. Seguin <wayneeseguin@gmail.com>, Michal Papis <mpapis@gmail.com> [https://rvm.io/]
 160 $ bundle --version
 161 Bundler version 1.7.6
 162 $ gem --version
 163 2.4.5
                                                                                                        before_install
                                                                                                                         0.005
164 $ echo 'before install'
 167 du: cannot access `vendor/cache': No such file or directory
                                                                                                                        77.45s
168 $ bundle install --jobs=3 --retry=3 --deployment --path=${BUNDLE_PATH:-vendor/bundle}
247 $ echo 'before script'
 250 $ cp config/database-travis.yml config/database.yml
                                                                                                                         0.00s
                                                                                                                         2.57s
252 $ bundle exec rake db:create db:schema:load
                                                                                                                         0.00s
 260 $ echo 'lets build this thing'
 261 lets build this thing
 264 The command "echo 'lets build this thing'" exited with 0.
 265 $ ci/travis.sh
 268 Finished in 0.00868 seconds (files took 1.45 seconds to load)
 269 1 example, 0 failures
 273 The command "ci/travis.sh" exited with 0.
274 store build cache
                                                                                                         after_success
 281 $ echo 'time to deploy'
 285 Done. Your build exited with 0.
```



# Final Thought

Application code does not provide business value unless it's running in production.

<u>Automated test code</u> does not provide engineering value unless it's running in <u>CI</u>.





