

TESTING DJANGO WITH TRAVIS CI

ABOUT ME

- Python Developer at
- Twitter: @adammckerlie
- Everywhere else: silentl mezzo



SLIDES

bit.ly/UhvbjV

OVERVIEW

- Definitions
- Why you should test your code
- What parts of your code you should test
- Writing your first test
- Integrating Travis CI to automatically run your tests

UNIT TEST

- Tests one small section of code
- Focuses your code
- Fast

INTEGRATION TEST

- Tests that the whole system works (views, forms, etc...)
- Slow
- Gives you a full picture of what's happening

WHY YOU SHOULD WRITE TESTS

- Gives you confidence in your code
- Allows you to iterate faster
- Provides beginners an easy spot to code-dive
- Untested code is expensive

“CODE NOT TESTED IS
BROKEN BY DESIGN”

JACOB KAPLAN-MOSS

WHAT YOU SHOULD TEST

- Don't test Django or Python's built-in stuff
- Test your views, models, forms, management commands, etc...

WRITING YOUR FIRST TEST

- Tests can go in models.py or tests.py
- Must subclass django.test.TestCase

```
from django.test import TestCase

class SimpleTest(TestCase):
    def test_basic_addition(self):
        """
        Tests that 1 + 1 always equals 2.
        """
        self.assertEqual(1 + 1, 2)
```

- python manage.py test <app_name>

- Every view should have this test

```
class BlogViewsTest(TestCase):  
    def test_index(self):  
        response = self.client.get(reverse('index'))  
        self.assertEqual(response.status_code, 200)
```

USING FIXTURES

- Fixtures are serialized data that you can load.
- `python manage.py dumpdata app_name > app_name/fixtures/file.json`

```
class BlogViewsTest(TestCase):

    fixtures = ['test_data.json']

    def test_index(self):
        response = self.client.get(reverse('index'))
        self.assertEqual(response.status_code, 200)
```

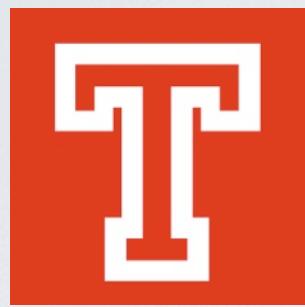
```
[  
  {  
    "pk": 1,  
    "model": "blog.post",  
    "fields": {  
      "title": "Example Post",  
      "body": "This is an example post!",  
      "slug": "example_post",  
    }  
  }  
]
```

WHEN SHOULD YOU TEST

- After every commit
- Before you merge your branches into master
- Once you've deployed your code

WHAT IS TRAVIS-CI?

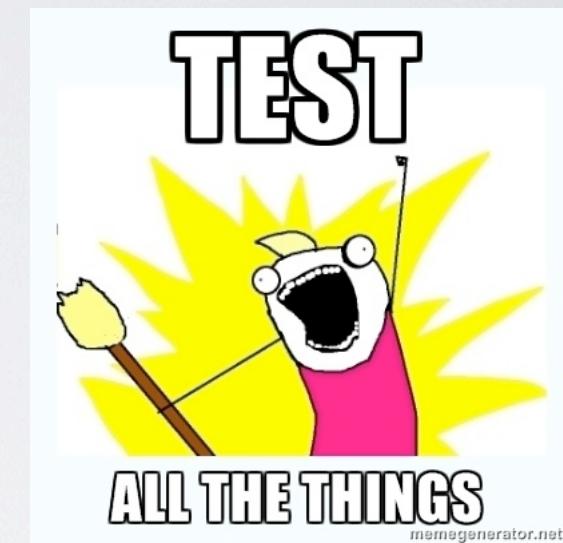
- Continuous Integration Testing
- Open Source
- <https://github.com/travis-ci>



+



=



HOW DOES IT WORK?

- Sign up with your github account
- Specify repositories
- Include a .travis.yml file
- Change/commit/push code
- Tests run automagically



Accounts

Adam McKerlie

Repositories: 16

G Adventures

Repositories: 2

Adam McKerlie

Repositories

Profile

Flick the switches below to turn on the Travis service hook for your projects, then push to GitHub.
To test against multiple rubies, see [how to configure custom build options](#).

Last synchronized from GitHub:

Sync now

silent1mezzo/django-announcement

ON

silent1mezzo/DjangoHosting

ON

silent1mezzo/django-launch

OFF

silent1mezzo/django-maintenance-mode

ON

silent1mezzo/django-pagination

OFF

silent1mezzo/django-reversion

OFF

silent1mezzo/django-shortnr

ON

silent1mezzo/django-social-auth

OFF

silent1mezzo/django-ticketbot

OFF

.travis.yml

```
language: python

python:
  - "2.6"
  - "2.7"
  - "3.2"

# command to install dependencies
install:
- pip install . --use-mirrors
- pip install -r requirements.txt --use-mirrors

# command to run tests
script: python manage.py test
```

Environment Variables

```
language: python

python:
  - "2.6"
  - "2.7"
  - "3.2"

env:
- DJANGO=1.3
- DJANGO=1.4

# command to install dependencies
install:
- pip install -q Django==$DJANGO --use-mirrors
- pip install -q . --use-mirrors
- pip install -q -r requirements.txt --use-mirrors

# command to run tests
script: python manage.py test
```

Using Databases

```
language: python

python:
  - "2.6"
  - "2.7"
  - "3.2"

env:
  - DJANGO=1.3 DB=postgres
  - DJANGO=1.3 DB=mysql
  - DJANGO=1.4 DB=postgres
  - DJANGO=1.4 DB=mysql

# command to install dependencies
install:
  - pip install -q Django==$DJANGO --use-mirrors
  - pip install -q . --use-mirrors
  - pip install -q -r requirements.txt --use-mirrors

# command to run tests
script: python manage.py test
```

PULL REQUESTS

- Test Pull Requests before they're merged to master
- Notifications of running tests

● Determining merge status — The Travis build is in progress ([Details](#))

- Notifications of successful tests

Good to merge — The Travis build passed ([Details](#))

ⓘ This pull request can be automatically merged.

 Merge pull request



🔍

[Recent](#) [My Repositories](#)

[silent1mezzo/jeeves-framework](#) #32
Duration: 2 min 16 sec, Finished: 18 days ago

[silent1mezzo/jeeves-framework](#)

52 6

A Python IRC Bot Framework. Easily create IRC bots with a single command

[Current](#) [Build History](#) [Pull Requests](#) [Branch Summary](#)

Build	32	Commit	fed11b2 (master)
Finished	18 days ago	Compare	096e079d6c6f...fed11b27927f
Duration	2 min 16 sec	Author	Adam McKerlie
		Committer	Adam McKerlie
Message	Putting .travis.yml back		

Build Matrix

Job	Duration	Finished	Python
32.1	1 min 3 sec	18 days ago	2.6
32.2	1 min 13 sec	18 days ago	2.7

Sponsors



[See all of our amazing sponsors →](#)

Workers

jvm-otp1.worker.travis-ci.org
jvm-otp2.worker.travis-ci.org
ppp1.worker.travis-ci.org
ppp2.worker.travis-ci.org
ppp3.worker.travis-ci.org
rails1.worker.travis-ci.org
ruby1.worker.travis-ci.org
ruby2.worker.travis-ci.org
ruby3.worker.travis-ci.org
ruby4.worker.travis-ci.org
spree.worker.travis-ci.org

Queue: Common

resolve/refinerycms #2661.6
resolve/refinerycms #2661.7
resolve/refinerycms #2661.8
resolve/refinerycms #2661.9
resolve/refinerycms #2661.10



Recent My Repositories

silent1mezzo/jeeves-framework #32
Duration: 2 min 16 sec, Finished: 18 days ago

silent1mezzo/jeeves-framework

52 6

A Python IRC Bot Framework. Easily create IRC bots with a single command

Current Build History Pull Requests Branch Summary Build #22

Job #22.1	22.1	Commit	4efe138 (master)
...		Compare	e74433b...a5fc69e
Finished	4 months ago	Author	Adam McKerlie
Duration	42 sec	Committer	Adam McKerlie
Message	Merge pull request #20 from silent1mezzo/develop		
Config	Develop	Python: 2.5	

```
1 Using worker: ppp1.worker.travis-ci.org:travis-php-3
2
3
4
5 $ cd ~/builds
6
7
8 $ git clone --depth=100 --quiet
9   git://github.com/silent1mezzo/jeeves-framework.git
10  silent1mezzo/jeeves-framework
11
12 $ cd silent1mezzo/jeeves-framework
```

Sponsors



cloudControl

See all of our amazing sponsors →

Workers

jvm-otp1.worker.travis-ci.org
jvm-otp2.worker.travis-ci.org
ppp1.worker.travis-ci.org
ppp2.worker.travis-ci.org
ppp3.worker.travis-ci.org
rails1.worker.travis-ci.org
ruby1.worker.travis-ci.org
ruby2.worker.travis-ci.org
ruby3.worker.travis-ci.org
ruby4.worker.travis-ci.org
spree.worker.travis-ci.org

Queue: Common

resolve/refinerycms #2661.3
resolve/refinerycms #2661.4
resolve/refinerycms #2661.5
resolve/refinerycms #2661.6
resolve/refinerycms #2661.7

before/after_script

```
...  
before_script: some_command  
after_script: another_command  
...|
```

NOTIFICATIONS

Email Notifications

```
language: python

python:
  - "2.6"

# command to install dependencies
install:
- pip install -q . --use-mirrors
- pip install -q -r requirements.txt --use-mirrors

# command to run tests
script: python manage.py test

notifications:
  email:
    recipients:
      - example@example.org
      - another.test@email.com
    on_success: [always|never|change]
    on_failure: [always|never|change]
```

IRC Notifications

```
language: python

python:
  - "2.6"

# command to install dependencies
install:
- pip install -q . --use-mirrors
- pip install -q -r requirements.txt --use-mirrors

# command to run tests
script: python manage.py test

notifications:
  irc:
    channels:
      - "irc.freenode.net#django-toronto"
    on_success: [always|never|change]
    on_failure: [always|never|change]
```

Webhook Notifications

```
language: python

python:
  - "2.6"

# command to install dependencies
install:
- pip install -q . --use-mirrors
- pip install -q -r requirements.txt --use-mirrors

# command to run tests
script: python manage.py test

notifications:
  webhooks: your-domain.com/travisci
```

FINAL TIPS

- [ci skip]
- [https://secure.travis-ci.org/\[YOUR GITHUB USERNAME\]/\[YOUR PROJECT NAME\].png](https://secure.travis-ci.org/[YOUR GITHUB USERNAME]/[YOUR PROJECT NAME].png)



- travis-lint

```
$ travis-lint .travis.yml
Hooray, /Users/adamm/jeeves_framework/.travis.yml seems to be solid!
```

QUESTIONS?