CI/CD with Drone/Docker

Justin Phelps onitato.com @Linuturk
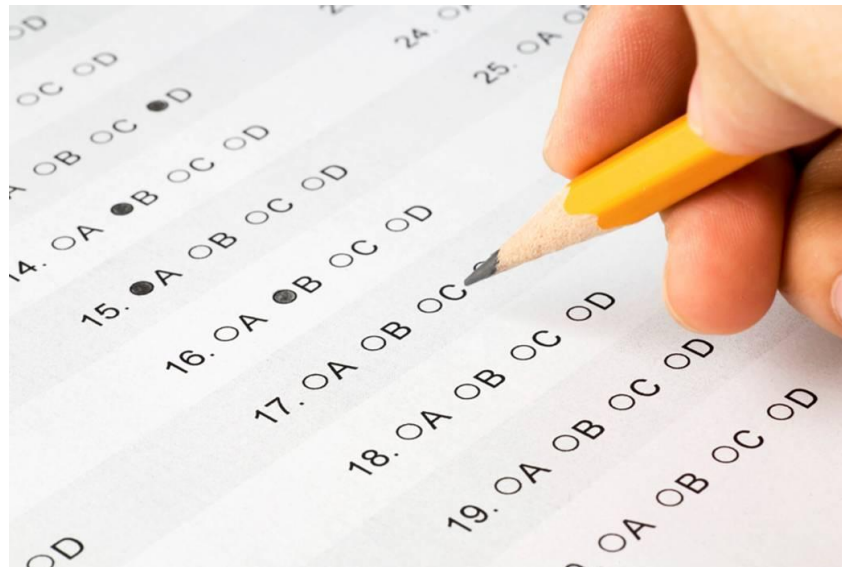
Terminology

Let's discuss some terminology:

- CI
- CD
- Docker
- Drone

CI

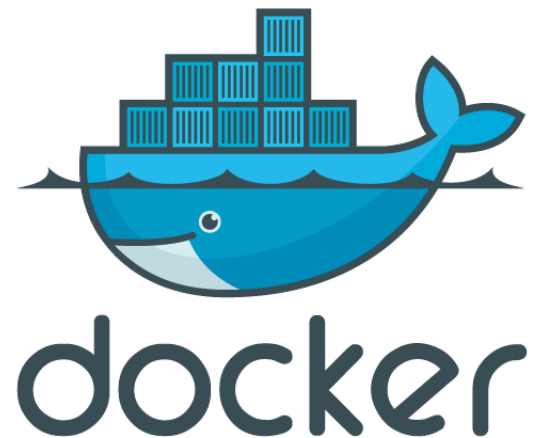Continuous Integration - test your code all the time for all the things, **automatically.**

CD

Continuous Delivery - deliver new code to environments as it is tested, **automatically.**
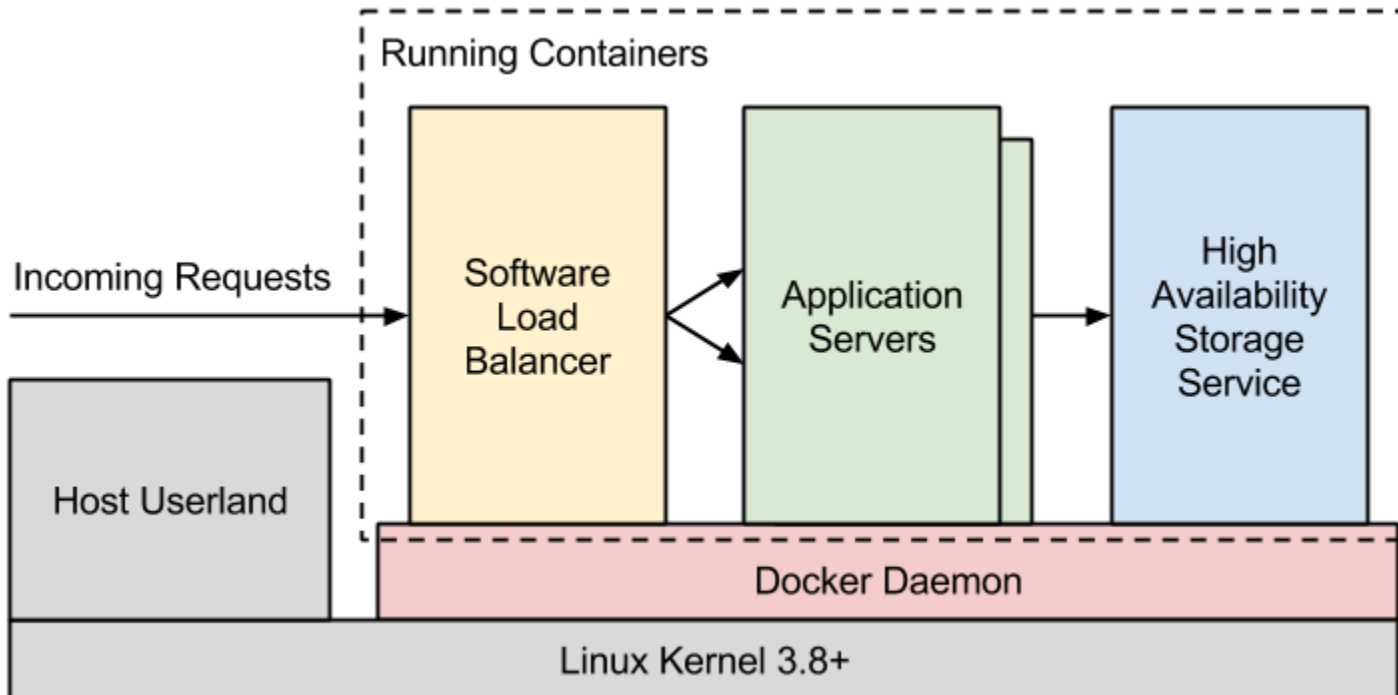
Docker

- New Hotness!
- Isolated, self contained environment.
- Minimum resource overhead.
- Great for testing, with some exceptions.

Docker

Drone

- Written in Go
- Integrates with Github/Bitbucket
- Open Source and "as a service"

https://github.com/drone/drone

.drone.yml

Configuration sections:

- image
- env
- script
- services
- notify
- deploy / publish

.drone.yml - image

The image option defines which Docker Image to use for testing.

- python
- ruby
- node
- dart
- java
- php
- etc

drone.yml - env

env is used to set environment variables.

I like to use this to add another layer to my Secret Parameters.

```
env:
    - RAXUSER={{rackspace_username}}
```

.drone.yml - script

script defines your build commands for your application. Include things like:

- syntax checks and linting
- unit tests
- functional tests

Build fails if any command exits != 0

.drone.yml - services

Define any services your app tests against.
Some options include:

- redis
- couchdb
- mysql
- postgres
- rabbitmq
- mongo
- etc

.drone.yml - notify

Notify based on the results of your build.

- email
- webhook
- hipchat

- started
- success
- failure

.drone.yml - deploy/publish

You can deploy and/or publish your app once a build completes.

- heroku
- git
- ssh
- bash
- Swift
- PyPi
- S3

Demo

1. Install Drone: <u>Install Docs</u>

    ```
    $ wget http://downloads.drone.io/latest/drone.deb

    $ sudo dpkg -i drone.deb
    ```

2. Setup Github: <u>Setup Docs</u>
3. Add a repository.
4. Commit a .drone.yml file.

Installing Drone

Make sure Docker and docker-py are installed.

```
wget http://downloads.drone.io/latest/drone.deb
sudo dpkg -i drone.deb
```

Drone should now be listening on port 80.

http://<your IP>/install

Installing Drone

Setup Github

`https://github.com/settings/applications`

Setup Github

Applications / **Register a new OAuth application**

Application name

Drone

Something users will recognize and trust

Homepage URL

http://localhost

The full URL to your application homepage

Application description

Private Drone Instance.

This is displayed to all potential users of your application

Drag & drop

or choose an image

Authorization callback URL

http://localhost/auth/login/github

Your application's callback URL. Read our OAuth documentation for more information

Register application

Applications / **Drone**

Linuturk owns this application. Transfer ownership.

0 users

Client ID

Client Secret

[Revoke all user tokens]   [Reset client secret]

Application name

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http://localhost/auth/login/github

Your application's callback URL. Read our OAuth documentation for more information

[**Update application**]   [**Delete application**]

Sysadmin

Settings

Users

Website Information

Scheme and Hostname:

http:// ▼ [_____]

☐ Open invitations

GitHub OAuth Consumer Key and Secret

GitHub Client ID and Secret:

[_____] [_____]

GitHub Settings:

github.com   https://api.github.com

Add Repository

Add Repository

Enter your repository details

Re-Link Account

GitHub Owner | Repository Name

/

Select your Drone account

○ Me

Add | Cancel

Add Repository

www.onitato.com   Linuturk

Commits   Settings

Add Repository

Options

Collaborators

Webhooks & Services
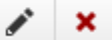
Deploy keys

Webhooks   **Add webhook**

Webhooks allow external services to be notified when certain events happen on GitHub. When the specified events happen, we'll send a POST request to each of the URLs you provide. Learn more in our Webhooks Guide.

/hook/github.com *(push and pull_request)*

Commit a .drone.yml File

```
image: linuturk/pelican
script:
  - whoami
  - make -C $DRONE_BUILD_DIR html
publish:
 swift:
   username: {{rax_username}}
   password: {{rax_apikey}}
   auth_url: https://identity.api.rackspacecloud.com/v2.0
   region: ORD
   container: www.onitato.com
   source: $DRONE_BUILD_DIR/output
   branch: master
```

Watch Build

Watch Build

www.onitato.com   Linuturk

Commits   Settings

3a2323   2 minutes ago
Merge branch 'master' of github.com:Linuturk/www.o...

master

✓ commit 3a2323 to master branch   Rebuild

Status:	Success	Commit:	3a2323
Started:	about a minute ago	Committer:	linuturk@onitato.com
Duration:	39 seconds	Message:	Merge branch 'master' of github.com:Linuturk/www.onitato.com

```
$ git clone --depth=50 --recursive --branch=master git://github.com/Linuturk/www.onitato.com.git /var/cache/drone/src/github.com
/Linuturk/www.onitato.com
Cloning into '/var/cache/drone/src/github.com/Linuturk/www.onitato.com'...
$ git checkout -qf 3a2323b26f188cee91e1a0d336bbfa185a19126f
$ whoami
root
$ make -C $DRONE_BUILD_DIR html
make: Entering directory `/var/cache/drone/src/github.com/Linuturk/www.onitato.com'
mkdir -p /var/cache/drone/src/github.com/Linuturk/www.onitato.com/output
pelican /var/cache/drone/src/github.com/Linuturk/www.onitato.com/content -o /var/cache/drone/src/github.com/Linuturk/www.onitato
.com/output -s /var/cache/drone/src/github.com/Linuturk/www.onitato.com/pelicanconf.py
WARNING: Deprecated setting PAGE_DIR, moving it to PAGE_PATHS list
Done: Processed 17 article(s), 0 draft(s) and 2 page(s) in 1.08 seconds.
make: Leaving directory `/var/cache/drone/src/github.com/Linuturk/www.onitato.com'
Swift: Missing argument(s)
$ exit 0
```

Follow

Questions?

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