

Deploying a web app: the road less travelled

Riccardo Magliocchetti

Torino Coding Society 18/01/16

whoami

Consultant

Free software developer

- maintainer: django-admin-bootstrapped, uwsgitop, bootchart2
- contributor: uwsgi, LibreOffice

Deploy

What does it even mean?

deploy

to organize and send out (people or things) to be used for a particular purpose

aka

put stuff from my laptop to the Internet :)

Building blocks

Our Code

Other people's software

Automation

Code

SCM

A build pipeline -> artifact

Other people's software

HTTP server / proxy

Application server (or not)

Database server

In memory store

Queue system

all this stuff really?

short answer: yes

Plus monitoring :)

Options: from more painful to more lame

Bare metal (Github)

Public Cloud (Netflix)

PAAS <- sweet spot for most people?

90s LAMP stack (hi PHP hosting!)

automation

provisioning

deployment

in other words

DevOps Borat

To make error is human. To
propagate error to all server in
automatic way is #devops

mythical figures

sysadmin

devops

uwsgi.it

uwsgi.it

- free software PAAS (MIT)
- C + perl + nginx + django + postgres
- linux containers based
- REST API
- based on uwsgi

<https://github.com/unbit/uwsgi.it>

Features

- Choose your own distribution for rootfs
- SSL is not a costly update (hey heroku)
- Clustering out of the box
- Third party alarms included

Missing features

- No git integration / cool cli (as heroku)
- No marketplace

uwsgi

uwsgi

An application server container (GPL)

A way to run and manage python, ruby, lua, mono, jvm, js and even php apps

<https://github.com/unbit/uwsgi>

<https://github.com/unbit/uwsgi-docs>

uwsgi

Created by an ISP

PROs

- focus on low usage resources
- many different stacks support

CONs

- every possible options possible to make customers app work

options digression

I meant for real:

```
$ ./uwsgi --help | wc -l  
937
```

Features

- **fastrouter**: proxy / load balancer / router
- socket less workers aka **mules**
- async task **spooler**
- **cron-like** interface
- **caching framework** and **caching cookbook**
- **external services management**
- **routing system**
- **metrics**
- lot more stuff that doesn't fit here: native http, signals, rpc, ...
- lot of **plugins**

some functionality exposed as APIs

- `python`, `perl`, `lua`
- `ruby dsl`

API:

- `cache`, `queue`, `spooler`, `mules`, `cron`, `timer`, ...

Fancy architecture

overview

emperor + vassals + http server + fastrouter + external daemon

```
$ find .  
.  
./emperor.ini  
./vassals  
./vassals/webserver.ini  
./vassals/fastrouter.ini  
./vassals/one.ini  
./vassals/two.ini  
./vassals/redis.ini
```

emperor

[uwsgi]

emperor = %d/vassals

http server

[uwsgi]

```
plugins = http
master = true
# listen for http
http = 0.0.0.0:8080
# forward requests via uwsgi
protocol
http-to = 127.0.0.1:3031

logto = %d/webserver.log
```

fastrouter

[uwsgi]

```
plugin = fastrouter
```

```
;create a shared socket (the webserver will  
connect to it)
```

```
fastrouter = 127.0.0.1:3031
```

```
; our subscription server
```

```
fastrouter-subscription-server =  
127.0.0.1:4040
```

```
logto = %d/fastrouter.log
```

workers: python

[uwsgi]

```
plugins = python
master = true
socket = 127.0.0.1:3041
subscribe-to =
127.0.0.1:4040:127.0.0.1:8080
wsgi-file = %d/./app.wsgi
processes = 1
logto = %d/one.log
```

workers: ruby

[uwsgi]

```
plugins = rack
master = true
socket = 127.0.0.1:3042
subscribe-to =
127.0.0.1:4040:127.0.0.1:8080
rack = %d/../app.ru
; required by rack specification
post-buffering = 4096
processes = 1
logto = %d/two.log
```

redis

[uwsgi]

```
smart-attach-daemon = %d/redis.pid  
redis-server --unixsocket  
%d/redis.socket --port 0 --pidfile  
%d/redis.pid --daemonize yes
```

Let's run it

```
$ uwsgi emperor.ini
```


Demo time!

Happy Hacking :)

Riccardo Magliocchetti

riccardo@menodizero.it

@rmistaken

<http://menodizero.it>

<https://github.com/xrmx>

Torino Hacknight

Il modo più facile per iniziare a sviluppare software libero sotto la mole

Ultimi biglietti

@tohacknight - <http://torino.hacknight.it>