Process management with Foreman

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Overview

Foreman is a way to define processes for your application in code

It does not handle installing or managing dependencies

Foreman can either run services directly or delegate that responsibility to other linux tools

It was originally built by
David Dollar at Heroku

Heroku leveraged Foreman to define services you wished to run on their platform

You should use it if…

You care about making your services portable and reproducible across different environments

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Infrastructure as code is vital in a world dominated by cloud services

Getting started

name: [command]

```
one:     [command]
two:     [command]
three:   [command]
```

```
web: unicorn -c config.rb
```

```
web:   unicorn -c config.rb
redis: redis-server redis.conf
```

foreman start

foreman start [process name]

foreman start *web*

`foreman start` `-c web=2`

```
foreman start -c web=2,redis=1
```

```
web: unicorn -p $PORT -c config.rb
```

Configuration management

It's important to separate configuration values from the codebase

Foreman uses a well known key/value syntax to define configuration values

```
foreman start -e .env
```

```
RAILS_ENV=production
HTTP_USERNAME=bob
HTTP_PASSWORD=secr3t
```

```
foreman start -e .env.development
```

```
foreman start -e .env.test
```

Exporting

`foreman export [args]`

foreman export upstart

```
foreman export upstart \
               /etc/init \
               -a app
```

```
foreman export upstart \
               /etc/init \
               -a app \
               -u deploy
```

```
/etc/init/app.conf
/etc/init/app-web-1.conf
/etc/init/app-web.conf
/etc/init/app-redis-1.conf
/etc/init/app-redis.conf
```

start *app*

stop *app*

Usage on NHSx

NHSx is a learning platform available to applicants of the NHS Leadership Academy

It is split up into services that run independent from each other

Main application (Rails)

API (Rails)

Administration (Rails)

Sidekiq

Postgres

Redis

Same Procfile for development, test and production

Configure overrides using command line options (such as concurrency)

```
web: bundle exec unicorn \
              -p $PORT \
              -c ./unicorn.rb
```

`redis:` `redis-server redis.conf`

workers: `bundle exec sidekiq`

start nhsx

Integrate with AWS

Many options for
instrumenting Foreman into
your deployment workflow

OpsWorks

Capistrano

Capistrano

```
after 'deploy:published',
    'foreman:export'
```

```ruby
task :export do
  on roles(:app) do
    within current_path do
      # ...export here
    end
  end
end
```

```
sudo '/usr/bin/bundle exec
foreman export upstart /etc/
init -a nhsx -u deploy'
```

```ruby
task :start do
  on roles(:app) do
    within current_path do
      sudo 'start nhsx'
    end
  end
end
```

Further reading

http://goo.gl/BXHdyL

http://goo.gl/05eaeV

Questions?

Thank you