

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 processes
directly or delegate that
responsibility to other linux tools

It was originally built by
David Dollar at Heroku

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

You should use it if...

**You care about making your processes
portable and reproducible across
different environments**

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portable and **reproducible** across
different environments

**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
```

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

foreman start

```
foreman start [process name]
```

foreman start web

```
foreman start -c web=2
```

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


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

```
ENV['RAILS_ENV']
```

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

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


Exporting

foreman export [args]

launchd

systemd

upstart

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 from
the NHS Leadership Academy
delivering leadership development
to the public sector**

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

Main application (Rails)

API (Rails)

Administration (Rails)

Sidekiq

Redis

Elasticsearch

Uses the 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'

```
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'
```

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

Further reading

<http://goo.gl/BXHdyL>

<http://goo.gl/05eaeV>

<http://goo.gl/Z1YmN1>

Thank you

Questions?