redhat.

THE BEAUTY OF THE CONTAINER REVOLUTION

Or “How I learned to stop worrying and love the Container”

Ian ‘Uther’ Lawson
Principal Domain Solution Architect
OpenShift Evangelist

A QUICK BILL AND TED STYLE HISTORY LESSON

* Caveat - may be opinionated

DEVELOPERS/OPS CIRCA 2000

US!

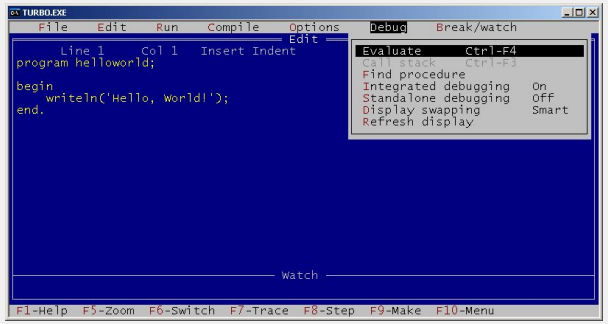
(The Devs)

THEM!

(Ops)

THE GOOD OLD DAYS

- ★ Long release cycles
- ★ Proprietary Software
- ★ Verticalised Applications
- ★ ‘Stronghold’ Software
- ★ ‘Throwing over the wall’



- ★ BAU roles
- ★ Minimal software skills
- ★ First to see bugs
- ★ Hardware Custodians

THE RISE OF THE CLOUD

“Someone else’s Server”

AND THEN..... CONTAINERS

“File Systems/Processes with delusions of grandeur”

DEVELOPMENT IS ALL ABOUT PASSION

WHY DEVELOPERS DEVELOP

- The Money
- The Glory
- The Respect

- To create
- For the tech
- Because we can

Development is an artform

... but before Containers it could be a chore

SO WHAT DOES ‘CLOUD NATIVE’ ACTUALLY MEAN?

THE PROBLEMS ‘CLOUD NATIVE’ SOLVES

1. The ‘Stronghold’ problem
2. Waterfall style slow release cycles
3. Application Taint

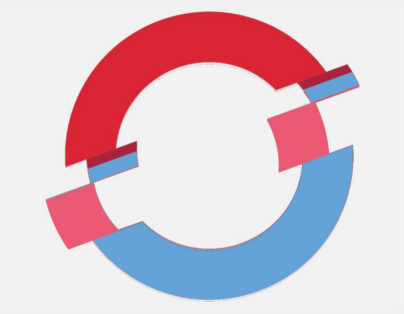
WHAT MAKES SOFTWARE ‘CLOUD NATIVE’?

1. Portable (all its baggage with it)
2. Fire, Forget, Fail, Fire, Forget, Fail
3. The Ultimate Sausage Machine

THE CONTAINER REVOLUTION?

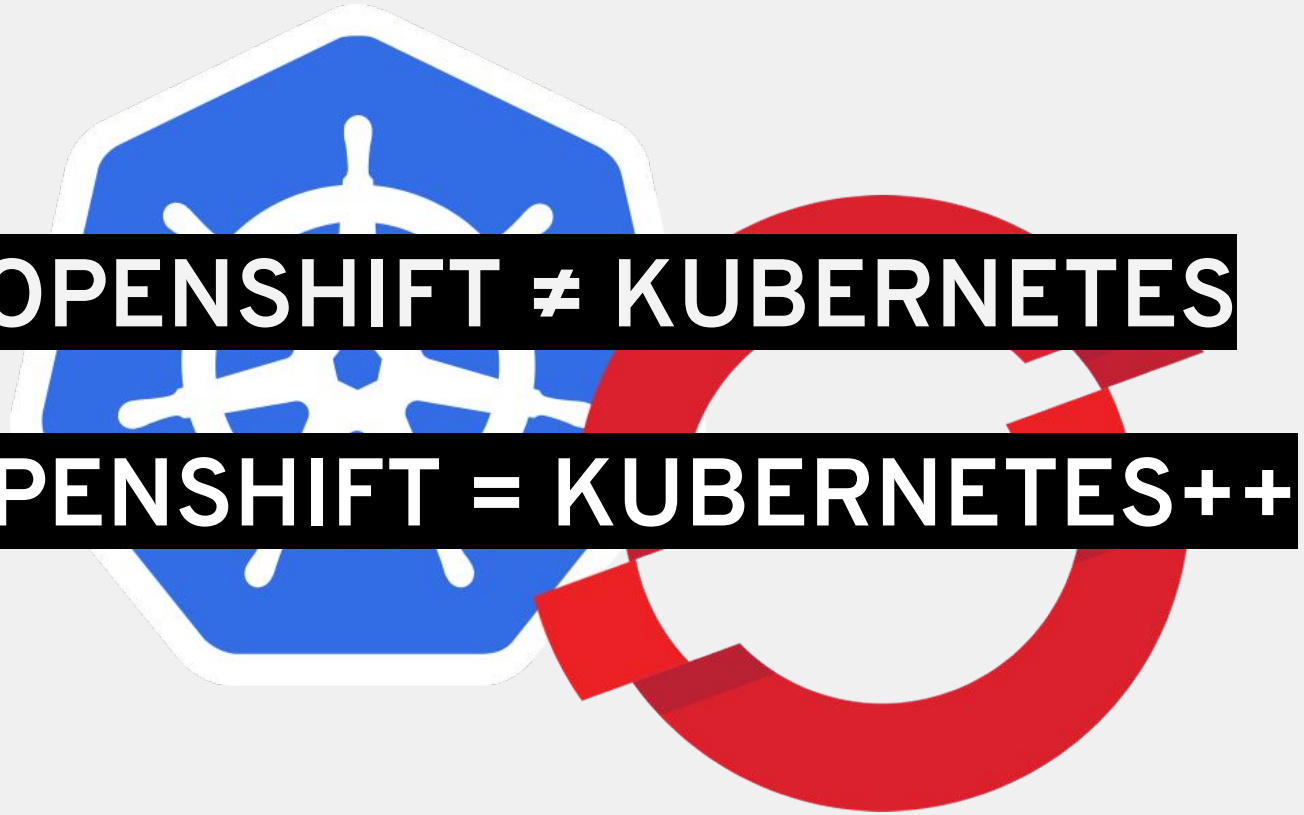
WHY YOU SHOULD BE VERY EXCITED

“Combining Cloud Native approaches with Containers makes developing software easy, fast and immensely powerful in terms of deployment, maintenance and realisation”



Add OpenShift and the range of new technologies emerging and developers/ops have an Enterprise strength toolset for actually realising this.

LET'S TALK TECH - TOOLS FOR CLOUD NATIVE DEV


OPENSHIFT ≠ KUBERNETES
OPENSHIFT = KUBERNETES++

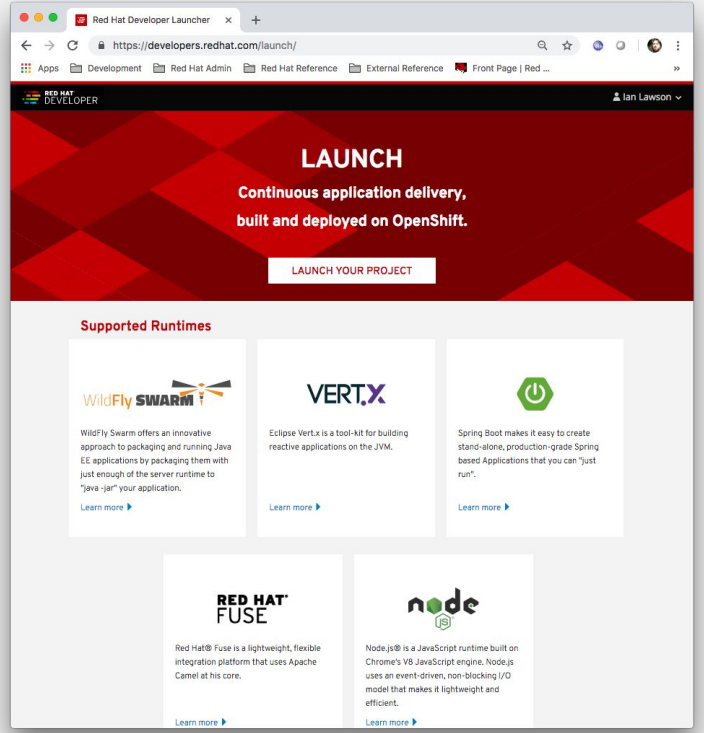
EASING DEVELOPERS INTO CLOUD NATIVE

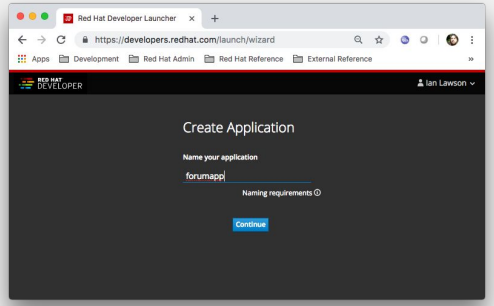
“Missions”

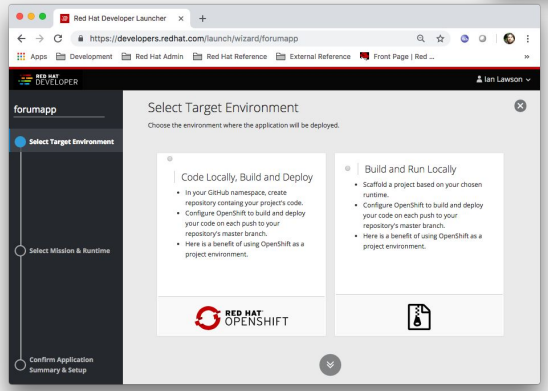
i.e.
REST API Level 0
Istio Circuit Breaker

“Runtimes”

DEVELOPER LAUNCHPAD FOR RHOAR







RED HAT® OPENSHIFT Application Runtimes

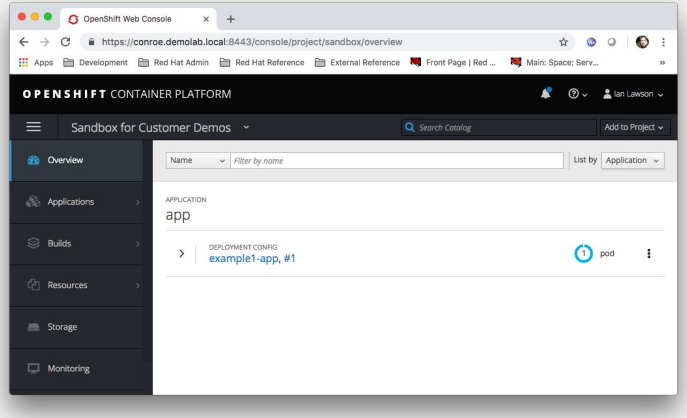
redhat.

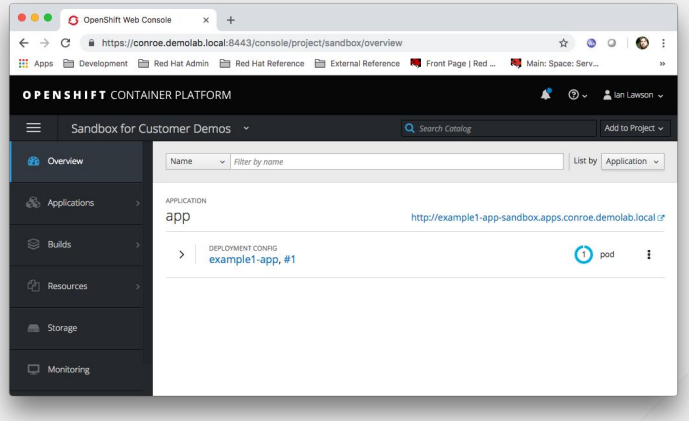
SIMPLIFYING THE CLI EXPERIENCE

OPENSHIFT-DO "odo"

```
Ians-MacBook-Pro-2:nodejs-ex uther$ odo project
The current project is: sandbox
Ians-MacBook-Pro-2:nodejs-ex uther$ odo create nodejs example1
Please wait, creating example1 component ...
Component 'example1' was created and port 8080/TCP was opened
To push source code to the component run 'odo push'

Component 'example1' is now set as active component.
```

```
Ians-MacBook-Pro-2:nodejs-ex uther$ odo url create
Adding URL to component: example1
URL created for component: example1

example1 - http://example1-app-sandbox.apps.conroe.demolab.local
Ians-MacBook-Pro-2:nodejs-ex uther$
```





SIMPLIFYING THE CLI EXPERIENCE

OPENSHIFT-DO “odo”

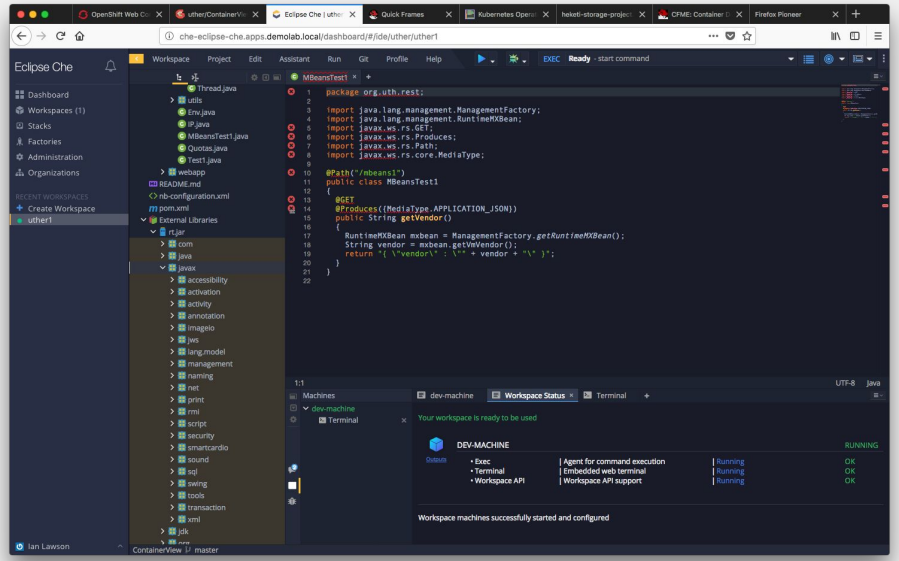
- A new CLI plugin for OCP 3.9+
- Tailored for dev syntax and workflows
- Simple to create an app, add components, expose it
- No need for an understanding of Kubernetes or OCP

```
> odo create wildfly backend
Component 'backend' was created.
To push source code to the component run 'odo push'

> odo push
Pushing changes to component: backend

> odo storage create backend-store --path /data --size 100M
Added storage backend-store to backend

> odo create php frontend
Component 'frontend' was created.
To push source code to the component run 'odo push'

> odo push
Pushing changes to component: frontend

> odo url create
frontend - http://frontend-myproject.192.168.99.100.nip.io

> odo watch
Waiting for something to change in /Users/tomas/odo/frontend
```

```
Ians-MacBook-Pro-2:~ uther$ odo catalog list
NAME                                TAGS
dotnet                              1.0,1.1,2.0,2.1,latest
fis-java-openshift                  1.0,2.0
fis-karaf-openshift                 1.0,2.0
httpd                               2.4,latest
java                                8,latest
jboss-decisionserver62-openshift    1.2
jboss-decisionserver63-openshift    1.3,1.4
jboss-decisionserver64-openshift    1.0,1.1,1.2,1.3
jboss-eap64-openshift               1.1,1.2,1.3,1.4,1.5,1.6,1.7,1.8,latest
jboss-eap70-openshift               1.3,1.4,1.5,1.6,1.7
jboss-eap71-openshift               1.1,1.2,1.3,latest
jboss-fuse70-eap-openshift          1.0
jboss-fuse70-java-openshift         1.0
jboss-fuse70-karaf-openshift        1.0
jboss-processserver63-openshift     1.3,1.4
jboss-processserver64-openshift     1.0,1.1,1.2,1.3
jboss-webserver30-tomcat7-openshift 1.1,1.2,1.3
jboss-webserver30-tomcat8-openshift 1.1,1.2,1.3
jboss-webserver31-tomcat7-openshift 1.0,1.1,1.2
jboss-webserver31-tomcat8-openshift 1.0,1.1,1.2
nginx                               1.10,1.12,1.8,latest
nodejs                              0.10,4,6,8,8-RHOAR,latest
perl                                5.16,5.20,5.24,latest
php                                 5.5,5.6,7.0,7.1,latest
python                              2.7,3.3,3.4,3.5,3.6,latest
redhat-openjdk18-openshift          1.0,1.1,1.2,1.3,1.4
ruby                                2.0,2.2,2.3,2.4,2.5,latest
```

BE THE CODENVY OF YOUR FELLOW DEVS

- Beta of Red Hat supported Che on OpenShift by end of CY2018
- Red Hat supported SKU bundled with OpenShift



ONE MESH TO FIND THEM, AND IN THE DARKNESS BIND THEM

Istio, Maistra and Red Hat OpenShift Service Mesh

BUT WHY RED HAT?

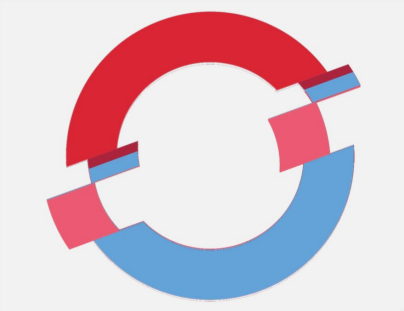
THE 4:00AM STACK TRACE

OPEN SOURCE IS STUPIDLY COMPLEX.

COMMUNITY IS FREE. FOR A REASON.

RED HAT ‘ENTERPRISE STRENGTHEN’

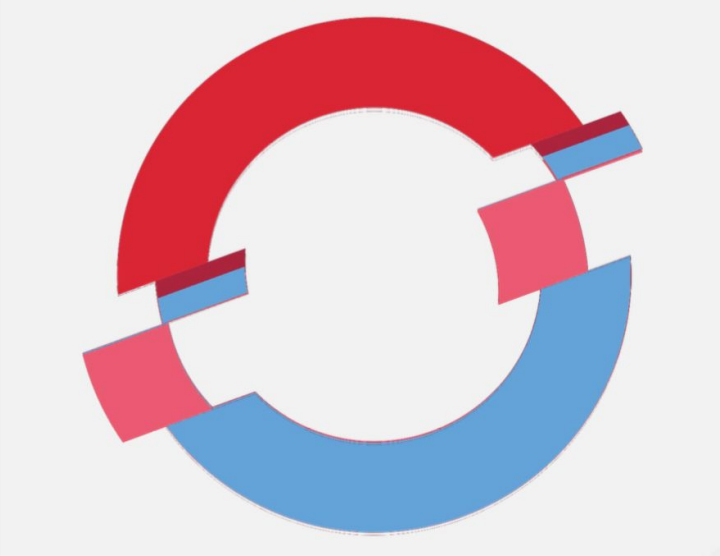
BUT THAT’S NOT THE WHOLE STORY



RED HAT *IS* COMMUNITY

ESPECIALLY WHEN IT COMES TO THE CONTAINER REVOLUTION

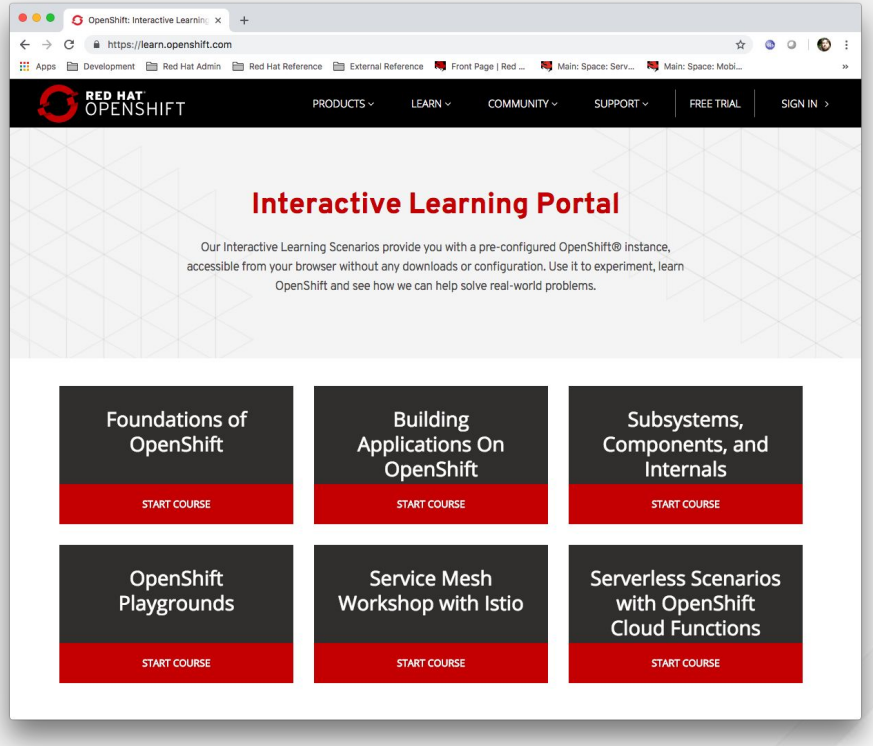
OCP4



FANCY A TINKER? FOR FREE?

LOTS OF FREE RESOURCES TO PLAY WITH

- learn.openshift.com
- CDK/Minishift
- oc cluster up
- docs.openshift.com
- blogs.openshift.com
- developers.redhat.com/launch



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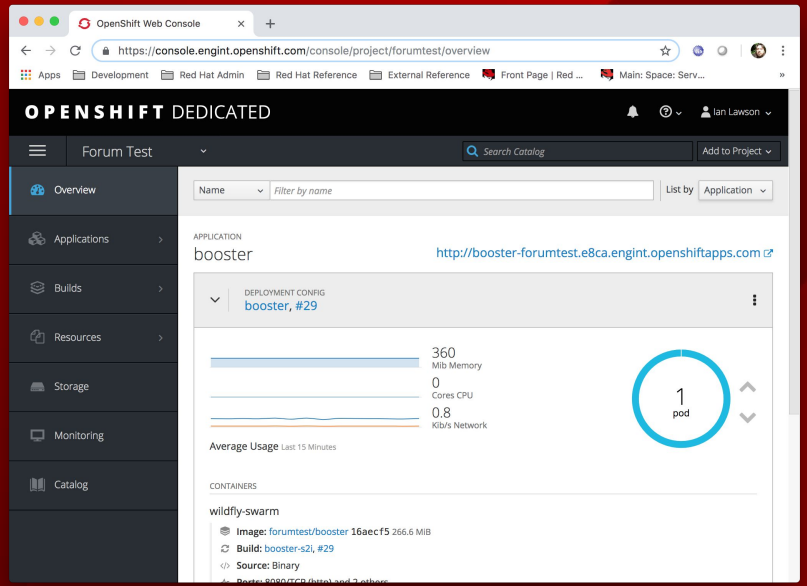
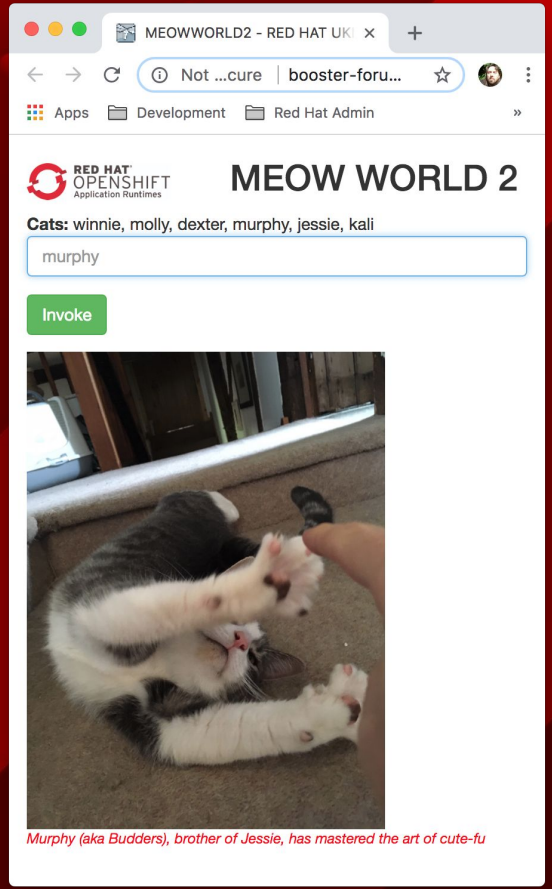

OpenShift Web Console
https://console.engint.openshift.com/console/project/forumtest/overview
OPENSHIFT DEDICATED
Ian Lawson
Forum Test
Search Catalog
Add to Project
Overview
Applications
Builds
Resources
Storage
Monitoring
Catalog
Name
Filter by name
List by
Application
APPLICATION
booster
http://booster-forumtest.e8ca.engint.openshiftapps.com
DEPLOYMENT CONFIG
booster, #29
360
Mib Memory
0
Cores CPU
0.8
Kib/s Network
1
pod
Average Usage Last 15 Minutes
CONTAINERS
wildfly-swarm
Image: forumtest/booster 16aecf5 266.6 MiB
Build: booster-s2i, #29
Source: Binary


MEOWWORLD2 - RED HAT UK
Not ...cure
booster-foru...
Apps
Development
Red Hat Admin
RED HAT OPENSHIFT Application Runtimes
MEOW WORLD 2
Cats: winnie, molly, dexter, murphy, jessie, kali
murphy
Invoke
Murphy (aka Budders), brother of Jessie, has mastered the art of cute-fu