



OpenShift Container Platform

A systems integration lecture

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2017-03-03

OPENSIFT CONTAINER PLATFORM

Introduction

Platform as a Service

OpenShift vs Kubernetes, Namespaces, Source-to-Image

ImageStreams and Builds

ImageStreams, BuildConfigs, Builds, DeploymentConfigs

xPaaS

A-MQ, EAP, FIS, ...

OPENSSHIFT

and friends



KUBERNETES

Upstream community project,
container cluster management



OPENSSHIFT ORIGIN

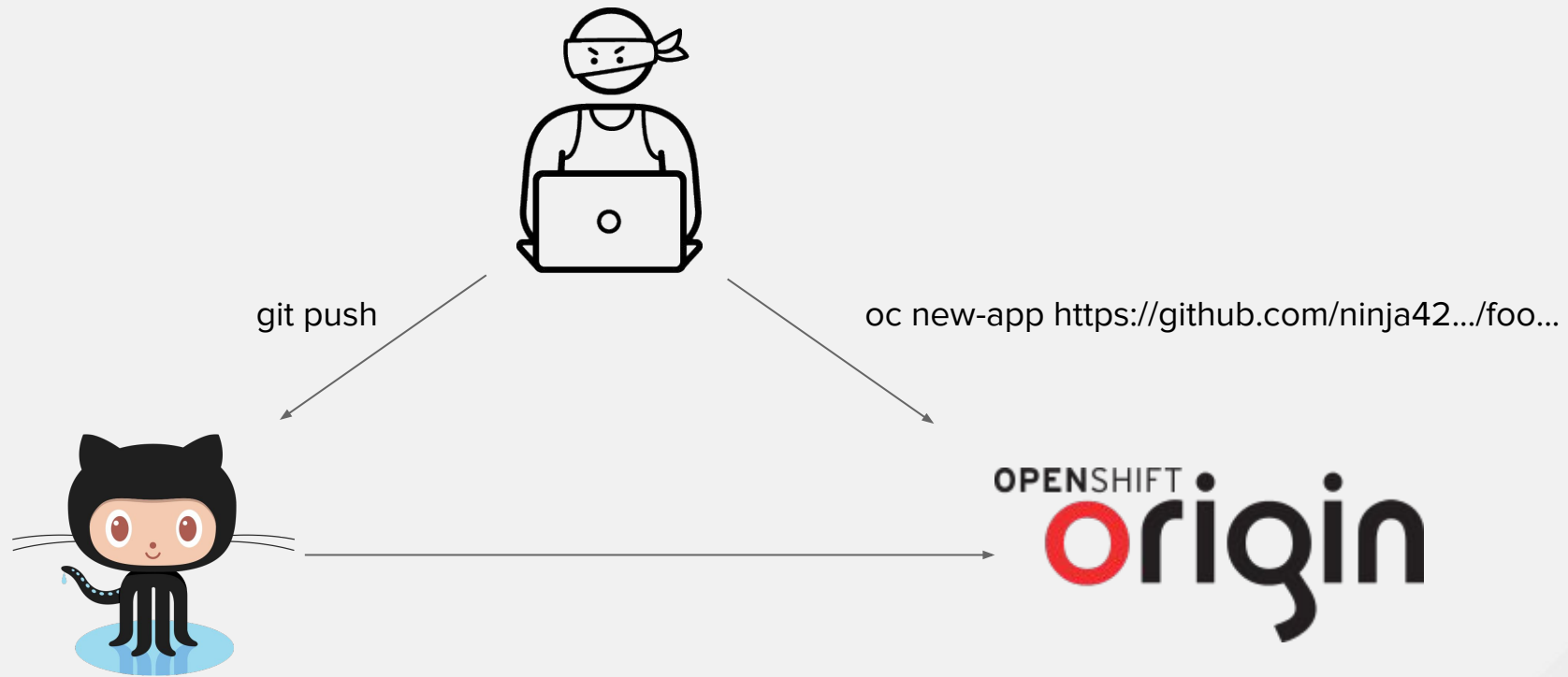
Upstream community project,
+ application lifecycle management



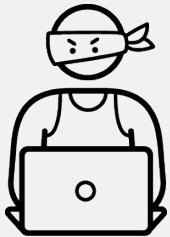
OPENSSHIFT CONTAINER PLATFORM

Downstream Red Hat product

Platform as a Service



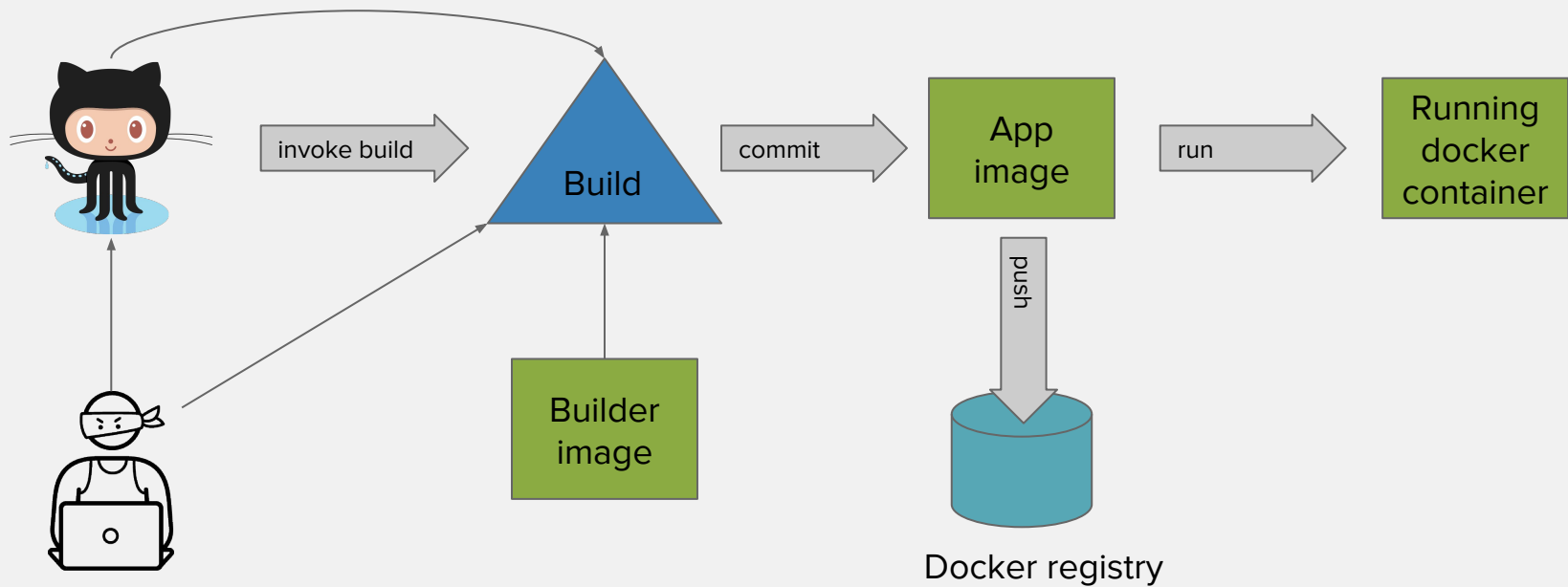
Projects



- `oc new-project foo`
- `oc project foo`

- `oc get imagestreams -n openshift`
- `oc get templates -n openshift`

Source to Image



ImageStreamsTags

Symbolic reference to image

- ImageStream
 - usually represents docker repository
- ImageStreamTag
 - usually represents docker image tag

ImageStreamsTags

```
$ oc get imagestream -n openshift fis-java-openshift
NAME                                DOCKER REPO                                TAGS
fis-java-openshift                  registry.access.redhat.com/jboss-fuse-6/fis-java-openshift
latest,2.0,1.0 + 2 more...
```


BuildConfig

```
$ oc new-build https://github.com/iss-apps/store-backend \  
-i fis-java-openshift:2.0
```

BuildConfig

```
$ oc new-build https://github.com/iss-apps/store-backend \  
-i fis-java-openshift:2.0
```

BuildConfig

store-backend

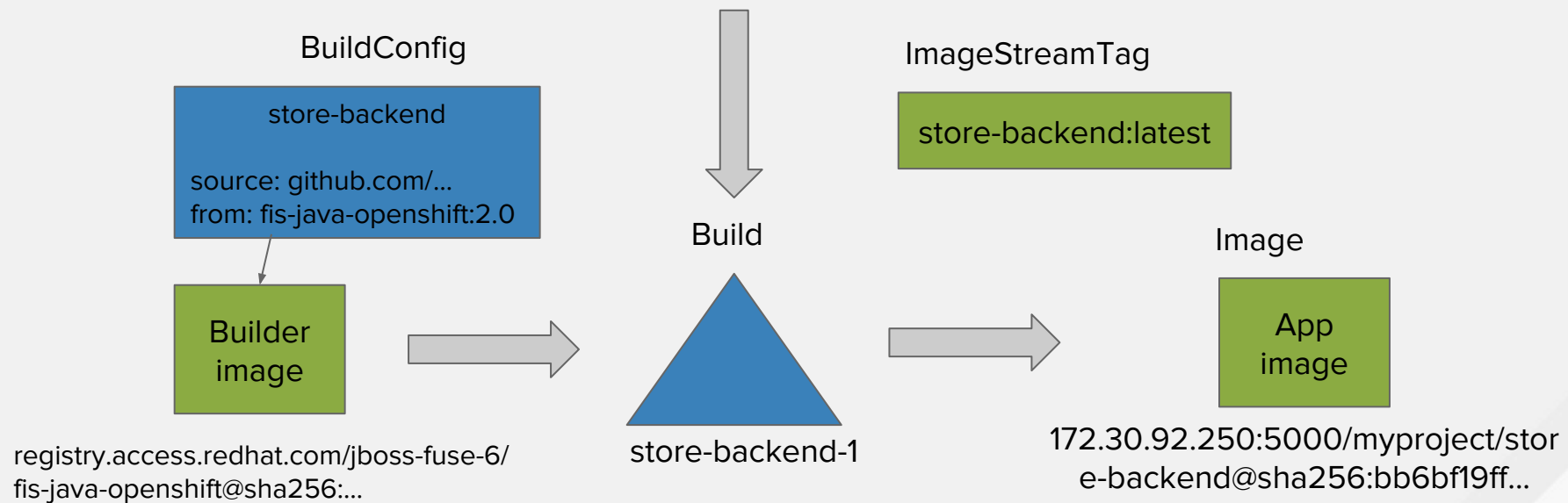
source: github.com/...
from: fis-java-openshift:2.0

ImageStreamTag

store-backend:latest

BuildConfig

```
$ oc new-build https://github.com/iss-apps/store-backend \  
-i fis-java-openshift:2.0
```



BuildConfig

```
$ oc new-build https://github.com/iss-apps/store-backend \  
-i fis-java-openshift:2.0
```

BuildConfig

store-backend
source: github.com/...
from: fis-java-openshift:2.0

ImageStreamTag

store-backend:latest

Image

App
image

172.30.92.250:5000/myproject/stor
e-backend@sha256:bb6bf19ff...

DeploymentConfig

```
$ oc new-app -i store-backend:latest
```

```
spec:
  template:
    spec:
      containers:
      - env:
        ...
    triggers:
      imageChangeParams:
        ...
      from:
        kind: ImageStreamTag
        name: store-backend:latest
        namespace: myproject
```

store-backend DeploymentConfig

DeploymentConfig

```
$ oc new-app -i store-backend:latest
```

```
spec:  
  template:  
    spec:  
      containers:  
      - env:  
        ...  
  triggers:  
    imageChangeParams:  
    ...  
    from:  
      kind: ImageStreamTag  
      name: store-backend:latest  
      namespace: myproject
```

store-backend DeploymentConfig



store-backend-1
ReplicationController



store-backend container

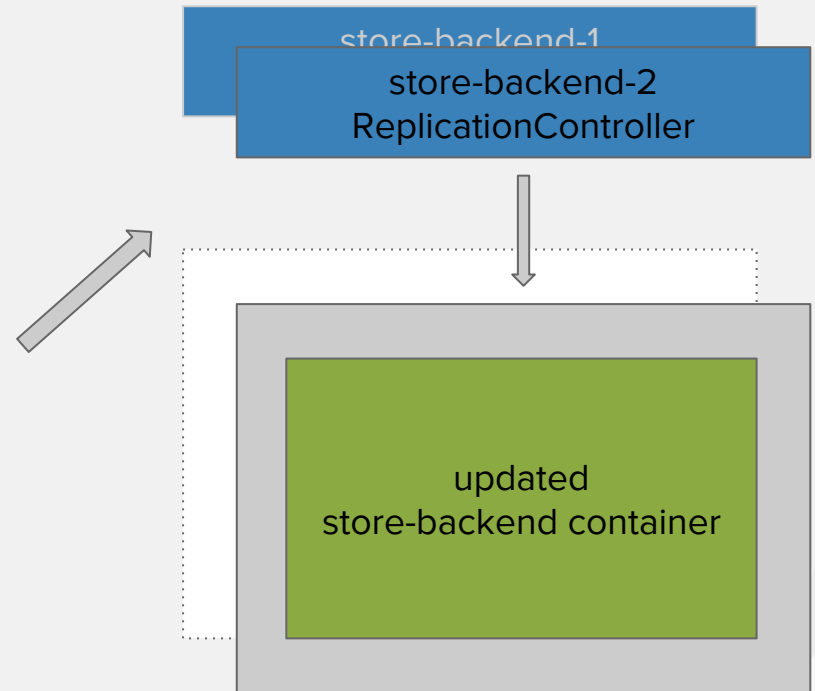
store-backend-1-zo7k0 Pod

DeploymentConfig

```
$ oc new-app -i store-backend:latest
```

```
spec:  
  template:  
    spec:  
      containers:  
      - env:  
        ...  
    triggers:  
      imageChangeParams:  
        ...  
        from:  
          kind: ImageStreamTag  
          name: store-backend:latest  
          namespace: myproject
```

store-backend DeploymentConfig



store-backend-2-fa2c3 Pod

xPaaS

Red Hat JBoss Middleware for OpenShift

<https://access.redhat.com/documentation/en/red-hat-jboss-middleware-for-openshift/>

Docker images of RedHat Middleware products tailored for OpenShift

- Java S2I
- Fuse Integration Services
- Enterprise Application Platform 6 / 7
- A-MQ
- BRMS Decision Server
- BPMS Process Server
- JBoss SSO
- JBoss Web Server
- JBoss Data Virtualization
- JBoss Data Grid



redhat.

THANK YOU



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