



docker

Docker Workshop @Twitter - 11/05/2013

How to use your own private registry

Victor Vieux, Docker Inc.

@vieux



Outline

- Index vs Registry
- Installing your own private registry
- Using the registry
- Demo: Deployment with zero downtime
- Questions



Index vs Registry



Index

- <http://index.docker.io>
- Closed source
- Manage user accounts, trusted builds, comments, stars, etc...



Registry

- <https://github.com/dotcloud/docker-registry>
- Open source, written in Python
- Manage actual images files.
- Multiple storage backend:
 - Local
 - S3
 - Google Cloud Storage
 - etc...



Index vs Registry

The index uses an instance of the registry



Installing your own private Registry



The old way: Ubuntu

```
#> apt-get install build-essential \  
python-dev libevent-dev \  
python-pip libssl-dev
```

```
$> pip install -r requirements.txt
```



The old way: Red Hat-based systems

```
#> yum install python-devel \  
libevent-devel python-pip \  
openssl-devel
```

```
$> pip install -r requirements.txt
```

NOTE: Open RHEL and CentOS you will need the EPEL repositories enabled.



The fast way

```
$> docker run -p 5000 samalba/docker-registry
```



Using the registry



Using the registry

```
$> docker push <namespace>/<name>
```

- Docker uses the namespace to know where to push, if the namespace is an url, it will push on this url

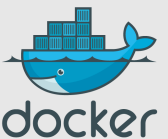
```
#push <image> in the namespace <namespace> to the index
```

```
$> docker push <namespace>/<name>
```

```
#push the <name> to your a private registry <url>
```

```
$> docker push <url>/<name>
```

- Same mechanism for docker pull



Example: push busybox to your registry

```
root@dockerbox:~# docker images *busybox*
REPOSITORY          TAG                 ID                  CREATED             SIZE
busybox             latest             e9aa60c60128       7 months ago       6.825 MB (virtual 6.825 MB)
```

Rename add a new name to the busybox image

```
$> docker tag busybox my.registry.com:5000/busybox
```

```
root@dockerbox:~# docker images
REPOSITORY          TAG                 ID                  CREATED             SIZE
busybox             latest             e9aa60c60128       7 months ago       6.825 MB (virtual 6.825 MB)
my.registry.com:5000/busybox latest             e9aa60c60128       7 months ago       6.825 MB (virtual 6.825 MB)
```

Push the image to your registry

```
$> docker push my.registry.com:5000/busybox
```



Demo:

Zero downtime
deployment using your
own private registry



Local development

- App running in prod

<http://vieux.fr/>

```
root@dockerbox:~# docker ps
ID                IMAGE                                COMMAND                  CREATED           STATUS            PORTS
b92dc547c8a6     registry.vieux.fr:5000/gcm:latest    python GCM.py           2 seconds ago    Up 1 seconds     127.0.0.1:49158->8080/tcp
```

- Build local

```
$> docker build -t=gcm .
```

- Test local

```
$> docker run -p 49200:8080 gcm
```

<http://localhost:49200>

- Change some files

- Rebuild & test

```
$> docker build -t=gcm .
```

```
$> docker run -p 49200:8080 gcm
```



Push to production

- **Tag image in order to push it**
`$> docker tag gcm registry.vieux.fr:5000/gcm`
- **Push image to local registry**
`$> docker push registry.vieux.fr:5000/gcm`
- **On production server, download image**
`$> docker pull registry.vieux.fr:5000/gcm`
- **Start the new container**
`$> docker run -d -p 127.0.0.1::8080 <image>`



Seamless update

- List running containers

```
root@dockerbox:~# docker ps
```

ID	IMAGE	COMMAND	CREATED	STATUS	PORTS
b92dc547c8a6	registry.vieux.fr:5000/gcm:latest	python GCM.py	2 seconds ago	Up 1 seconds	127.0.0.1:49158->8080/tcp
9a7b59efafee	6fd907c42b6f	python GCM.py	10 minutes ago	Up 10 minutes	127.0.0.1:49157->8080/tcp

- Update nginx config to proxy the new one

```
#> emacs /etc/nginx/sites-enabled/default
```

- Restart nginx

```
#> service nginx restart
```

- See the changes live

<http://vieux.fr/>





docker

Questions ?





docker

Thank you!

@vieux

