

Docker for Developers

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Docker is Popular

Deployment gets most of the attention.

1 Developer

1 Laptop

3 Skills

Exit Codes

```
$ sudo docker run -it --rm centos:centos7 true  
$ echo $?  
0
```

```
$ sudo docker run -it --rm centos:centos7 false  
$ echo $?  
1
```

Bind Mounts

```
$ mkdir foo && echo 'Hello, FOSDEM!' > foo/hello
```

```
$ sudo docker run -it --rm -v /home/mhrivnak/foo:/foo centos:centos7 bash  
# cat /foo/hello  
Hello, FOSDEM!
```

Links

```
$ sudo docker run -d --name crane pulp/crane
```

```
$ sudo docker ps
```

CONTAINER ID	IMAGE	COMMAND	PORTS	NAMES
33e0e1d2b9ed	pulp/crane	"/usr/sbin/httpd -D F"	80/tcp	crane

```
$ sudo docker run -it --rm --link crane centos:centos7 bash
```

```
[root@f33ce29ade3d /]# curl -i http://crane/v1/_ping
```

```
HTTP/1.1 200 OK
```

```
Date: Fri, 29 Jan 2016 16:25:56 GMT
```

```
Server: Apache/2.4.6 (CentOS) mod_wsgi/3.4 Python/2.7.5
```

```
Content-Length: 4
```

```
X-Docker-Registry-Standalone: True
```

```
X-Docker-Registry-Version: 0.6.6
```

```
X-Docker-Registry-Config: common
```

```
Content-Type: application/json
```

Environment Variables

```
$ sudo docker run -it --rm -e FOO=hello centos:centos7 bash  
[root@1d890689611a /]# env | grep FOO  
FOO=hello
```


Basic Skills

- Bind Mounts
- Links
- Environment Variables

Unit Tests

Problem: Large Test Matrix

Solution: Docker image for each combination

Dockerfile

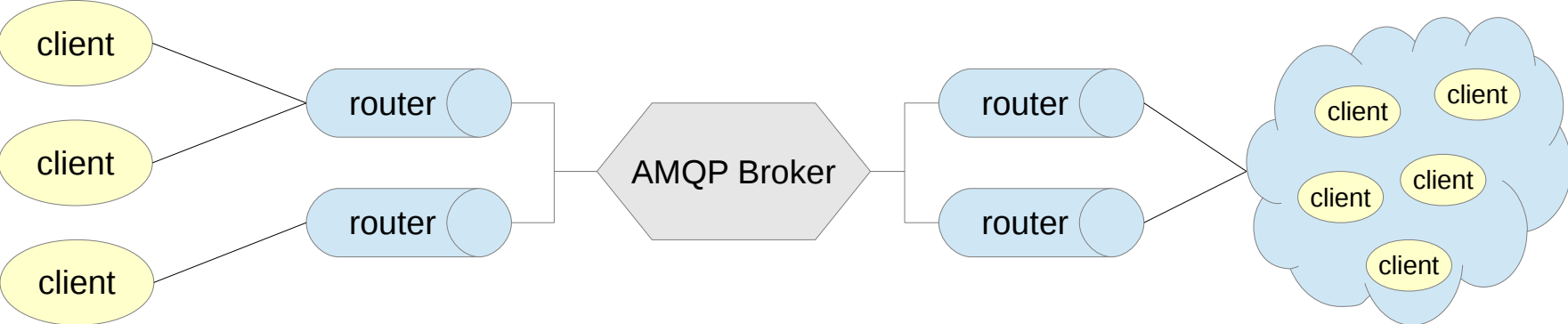
```
FROM centos:centos7
MAINTAINER Pulp Team <pulp-list@redhat.com>

# Install dependencies
RUN yum -y install epel-release && yum -y update && yum install -y python-flask \
    python-pip python-mock python-nose python-coverage python-flake8 python-rhsm \
    python-unittest2 && yum clean all

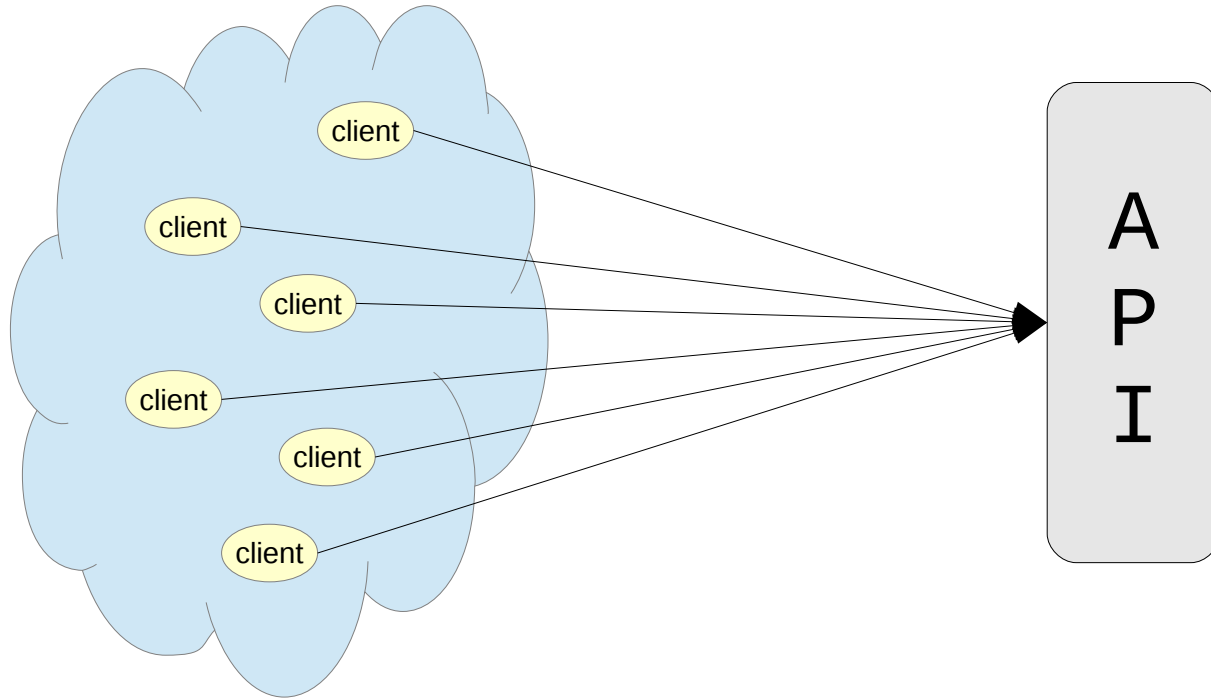
# Setup
RUN mkdir -p /var/lib/crane/metadata/

# Run tests
CMD cd /code/ && python setup.py test
```

Network Topologies



Simulate Load



DB State Reset

Problem: Need to quickly reset database state

Solution: Start a new container to reset state

- Optionally keep a pool of fresh containers

Demo of Your App

Containerizing your app is hard to do right

Embrace doing it wrong!

Make Tools

- MTA to capture sent emails
- Proxies
- Fake APIs
- Data Migration Test

Next Steps

- <http://docs.docker.com/linux/started/>
- Red Hat Registry
- <https://registry.hub.docker.com/repos/fedora/>