

Openshift Demo

Install Openshift

Install openshift from github releases page, binary install:

<https://github.com/openshift/origin/releases>

Download, untar....

Set /etc/resolv.conf to match local host for Openshift DNS server

Make sure docker is running

Configure Docker group for dev user

Turn off firewall to allow access to Openshift ports (development env only)

oc login

oc new-project pgproject

crunchy-pg

Dockerfile overview

1. either centos 7 or rhel 7
2. installs postgresql RPMs from the PGDG repo, 9.4.5 now, 9.5 soon
3. includes postgis and pgrouting
4. Volume for overriding postgres config files with local files
5. Volume for using local host file system for postgres data files (max I/O)
6. Runs as postgres user, requires postgres user (uid/gid) to be defined on local host for setting file ownership
7. Bash script used to initialize and start postgres daemon

Standalone Example

standalone.json - runs a single postgres container (pod + service)

```
oc process -f standalone.json | oc create -f -
```

```
psql -h pg-standalone.pgproject.svc.cluster.local -U testuser  
userdb
```

The password is generated by Openshift 'process' and can be found using:
oc describe pod pg-standalone | grep PASSWORD

ping is blocked by openshift

Master Slave Example

master-slave-rc.json - creates a single master container and a single standby/slave container for a simple replication scenario, the slave is read-only

This example creates the following Openshift objects:

- replication controllers
- master pod
- master service
- slave pod
- slave service

```
oc process -f master-slave-rc.json | oc create -f -
```

```
oc get pods  
oc get services  
oc get rc  
oc get dc
```

scaling up can be performed

```
oc scale rc pg-slave-rc-1 --replicas=2
```

You can see the generated master password as follows:

```
oc describe pod pg-master | grep MASTER
```

You can access the databases as follows:

```
psql -h pg-master.pgproject.svc.cluster.local -U master userdb  
psql -h pg-slave.pgproject.svc.cluster.local -U master userdb
```

Demonstrate with inserts/selects and `pg_stat_replication` that replication is working.

Demonstrate with golang client example that slave is behind a round-robin proxy.

Demonstrate web console.

Other examples

- NFS for file system
- storing passwords as Openshift secrets
- Openshift 'RunAsUser' setting
- Passing environment variables to containers for tuning/configuration