

# Open Infrastructure - Task #12340

## Evaluate openstack helm charts

01/06/2024 02:18 PM - Nico Schottelius

<b>Status:</b>	In Progress	<b>Start date:</b>	01/06/2024
<b>Priority:</b>	Normal	<b>Due date:</b>	
<b>Assignee:</b>	Nico Schottelius	<b>% Done:</b>	0%
<b>Category:</b>		<b>Estimated time:</b>	0.00 hour
<b>Target version:</b>			
<b>PM Check date:</b>			

### Description

## Objective

- Find out whether we can run openstack with it in our IPv6 only clusters

## Summary

- Seems to be very fragile / unfinished status
  - Charts are distributed in 2 repositories
  - No released charts so far, cannot just run helm upgrade --install against a chart repo
  - A lot of distributed files in the repos
  - ceph-adaptor seems to be IPv4 based (splitting address on dots)
- Might be possible to build on top of it, but might need quite some involvement

## Progress

- Try to stick to "in order setup"
- But when one item is blocked, setup other components that might crash due to missing dependencies

## Base documentation

- <https://docs.openstack.org/openstack-helm/latest/>
- Related tools from our side: <https://code.ungleich.ch/ungleich-public/ungleich-tools/src/branch/master/openstack>

## Communication

- IRC via matrix: [https://matrix.ungleich.ch/#/room/#\\_ofc\\_openstack-helm:matrix.org](https://matrix.ungleich.ch/#/room/#_ofc_openstack-helm:matrix.org)
- Slack: <https://app.slack.com/client/T09NY5SBT/C3WERB7DE>

## Components

- [https://docs.openstack.org/openstack-helm/latest/install/deploy\\_openstack\\_backend.html](https://docs.openstack.org/openstack-helm/latest/install/deploy_openstack_backend.html)
- [https://docs.openstack.org/openstack-helm/latest/install/deploy\\_openstack.html](https://docs.openstack.org/openstack-helm/latest/install/deploy_openstack.html)

## OpenStack client

- Is installed on the local machine
- Installs some python and creates a config file
- Installs python packages as root / using pip
  - cmd2 python-openstackclient python-heatclient

## Ceph

- ./tools/deployment/ceph/ceph-rook.sh
  - setups up rook in rook-ceph namespace
  - also saw ceph namespace somewhere
    - ceph cluster is put into ceph namespace
    - operator is in rook-ceph
  - sets min\_size=1 for testing

- uses loop devices
- ./tools/deployment/ceph/ceph-adapter-rook.sh
  - builds a helm chart first: /home/nico/osh/openstack-helm-infra/ceph-adapter-rook-0.1.0.tgz
  - maybe can reference the chart directly from the git repo
- There is also ./tools/deployment/ceph/ceph.sh, not sure for what, not mentioned in doc

## Ingress

- for outside reachability, as usual

## rabbitmq

## MariaDB

## Memcached

## Keystone

- Identity management
- ./tools/deployment/component/keystone/keystone.sh

## Heat

- Templating / infra
- Unclear
- ./tools/deployment/component/heat/heat.sh

## Glance

- Image service
- ./tools/deployment/component/glance/glance.sh

## Placement, Nova, Neutron

- OpenStack Nova is the compute service
- Neutron is the networking service
- Using openswitch, probably in hostnetwork mode (guess)

```
cd ~/osh/openstack-helm
./tools/deployment/component/compute-kit/openswitch.sh
./tools/deployment/component/compute-kit/libvirt.sh
./tools/deployment/component/compute-kit/compute-kit.sh
```

## Cinder

- block storage service
- probably interacts with ceph
- not sure yet how/where the monitor is set, might be in the rook step

```
cd ~/osh/openstack-helm
./tools/deployment/component/cinder/cinder.sh
```

## Image management (ceph?)

- Should be able to use thin provisioning

### Related issues:

Related to Open Infrastructure - Task #12339: Evaluate yaaok for openstack in...

Closed

01/06/2024

### History

#1 - 01/06/2024 02:43 PM - Nico Schottelius

- Description updated

- Status changed from Seen to In Progress

## #2 - 01/06/2024 02:45 PM - Nico Schottelius

- Description updated

## #3 - 01/06/2024 03:09 PM - Nico Schottelius

- Description updated

## #4 - 01/06/2024 03:33 PM - Nico Schottelius

- Description updated

## setup / steps

```
mkdir ~/osh
cd ~/osh
git clone https://opendev.org/openstack/openstack-helm.git
git clone https://opendev.org/openstack/openstack-helm-infra.git
```

```
export OPENSTACK_RELEASE=2023.2
export CONTAINER_DISTRO_NAME=ubuntu
export CONTAINER_DISTRO_VERSION=jammy
```

## Prepare the cluster

- [https://docs.openstack.org/openstack-helm/latest/install/prepare\\_kubernetes.html](https://docs.openstack.org/openstack-helm/latest/install/prepare_kubernetes.html)

```
[16:20] nb3:openstack-helm% cat ./tools/deployment/common/prepare-k8s.sh
#!/bin/bash
# Licensed under the Apache License, Version 2.0 (the "License");
# you may not use this file except in compliance with the License.
# You may obtain a copy of the License at
#
# http://www.apache.org/licenses/LICENSE-2.0
#
# Unless required by applicable law or agreed to in writing, software
# distributed under the License is distributed on an "AS IS" BASIS,
# WITHOUT WARRANTIES OR CONDITIONS OF ANY KIND, either express or implied.
# See the License for the specific language governing permissions and
# limitations under the License.

set -ex

# Add labels to the core namespaces & nodes
kubectl label --overwrite namespace default name=default
kubectl label --overwrite namespace kube-system name=kube-system
kubectl label --overwrite namespace kube-public name=kube-public
kubectl label --overwrite nodes --all openstack-control-plane=enabled
kubectl label --overwrite nodes --all openstack-compute-node=enabled
kubectl label --overwrite nodes --all openvswitch=enabled
kubectl label --overwrite nodes --all linuxbridge=enabled
kubectl label --overwrite nodes --all ceph-mon=enabled
kubectl label --overwrite nodes --all ceph-osd=enabled
kubectl label --overwrite nodes --all ceph-mds=enabled
kubectl label --overwrite nodes --all ceph-rgw=enabled
kubectl label --overwrite nodes --all ceph-mgr=enabled
# We deploy l3 agent only on the node where we run test scripts.
# In this case virtual router will be created only on this node
# and we don't need L2 overlay (will be implemented later).
kubectl label --overwrite nodes -l "node-role.kubernetes.io/control-plane" l3-agent=enabled

kubectl label --overwrite nodes -l "node-role.kubernetes.io/control-plane" openstack-network-node=enabled

for NAMESPACE in ceph openstack osh-infra; do
tee /tmp/${NAMESPACE}-ns.yaml << EOF
apiVersion: v1
kind: Namespace
metadata:
  labels:
    kubernetes.io/metadata.name: ${NAMESPACE}
    name: ${NAMESPACE}
  name: ${NAMESPACE}
EOF
```

```
kubectl apply -f /tmp/${NAMESPACE}-ns.yaml  
done
```

```
make all
```

**#5 - 01/06/2024 04:09 PM - Nico Schottelius**

- Description updated

**#6 - 01/06/2024 04:10 PM - Nico Schottelius**

- Description updated

**#7 - 01/06/2024 04:13 PM - Nico Schottelius**

- Description updated

**#8 - 01/06/2024 04:15 PM - Nico Schottelius**

- Description updated

**#9 - 01/06/2024 04:35 PM - Nico Schottelius**

- Description updated

**#10 - 01/06/2024 04:39 PM - Nico Schottelius**

- Description updated

**#11 - 01/06/2024 05:49 PM - Nico Schottelius**

## Setup ceph (in progress)

- [https://docs.openstack.org/openstack-helm/latest/install/deploy\\_ceph.html](https://docs.openstack.org/openstack-helm/latest/install/deploy_ceph.html)
- already done before
- Need to check the difference
- scripts
  - ./tools/deployment/ceph/ceph-rook.sh
  - ./tools/deployment/ceph/ceph-adapter-rook.sh
- Findings
  - installs rook in ceph namespace
  - creates a cluster
  - Deploys a new svc that matches on all ceph monitors

**#12 - 01/06/2024 05:49 PM - Nico Schottelius**

## Setup openstack client (TBD)

- [https://docs.openstack.org/openstack-helm/latest/install/setup\\_openstack\\_client.html](https://docs.openstack.org/openstack-helm/latest/install/setup_openstack_client.html)
- Creating /etc/openstack and installing python

**#13 - 01/06/2024 06:26 PM - Nico Schottelius**

- Project changed from 45 to Open Infrastructure

Marked ticket public for public review

**#14 - 01/06/2024 06:28 PM - Nico Schottelius**

- Description updated

**#15 - 01/06/2024 06:29 PM - Nico Schottelius**

- Description updated

**#16 - 01/06/2024 06:30 PM - Nico Schottelius**

- Description updated

**#17 - 01/06/2024 06:36 PM - Nico Schottelius**

- Related to Task #12339: Evaluate yaaok for openstack in k8s added

**#18 - 01/07/2024 04:17 PM - Nico Schottelius**

- *Description updated*

**#19 - 01/07/2024 04:18 PM - Nico Schottelius**

- *Description updated*