

## LESSONS LEARNED:

- ANSIBLE VERSION 2.4
- ceph-ansible version 3.0.34
- “Quotes” around the IP ranges in ALL.YML
- Application tag on pools now
- Monitors section must be in the inventory file

## How to Install CEPH using ceph-ansible

<https://github.com/ceph/ceph-ansible>

<https://github.com/comcast.com/SDS/ceph-ansible>

- Config Flies from Regions

<http://docs.ceph.com/ceph-ansible/master/>

## In order to run CEPH-ANSIBLE from a CONTROL NODE:

- The control node must have ssh access as root to all MON, RGW, & OSD nodes
- All OSD nodes must have the public and private IPs configured first
- Ansible 2.4+ is required
  - Set up Ansible in a virtual env
  - <http://ops-docs.ece.comcast.net/deployment/environment/>
    - apt-get install python3-venv
    - python3 -m venv venv
    - . venv/bin/activate
- PIP Install:
  - Notario
    - pip install netaddr notario
  - Netaddr

## Network info:

- [https://github.com/comcast.com/cloud-services/openstack-upgrades/blob/master/inventory/group\\_vars/mimi-a/network\\_config.yml](https://github.com/comcast.com/cloud-services/openstack-upgrades/blob/master/inventory/group_vars/mimi-a/network_config.yml)

## CEPH-ANSIBLE OVERVIEW:

<http://docs.ceph.com/ceph-ansible/master/>

After you've cloned the `ceph-ansible` repository, selected your branch and installed Ansible then you'll need to create your inventory file, playbook and configuration for your Ceph cluster.

The following config options are required to be changed on all installations but there could be other required options depending on your OSD scenario selection or other aspects of your cluster.

- `ceph_origin`
- `ceph_stable_release`
- `public_network`
- `osd_scenario`
- `monitor_interface` or `monitor_address`
- `radosgw_interface` or `radosgw_address`

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#### **MIMI EXAMPLE:**

#### **JUMP to the CONTROL NODE:**

```
VATAPL-W0M9G8WM:~ pclift200$ ssh-add
VATAPL-W0M9G8WM:~ pclift200$ jump sre@osctrl-ch2-f01.ece.comcast.net
Warning: Permanently added 'osctrl-ch2-f01.ece.comcast.net' (ECDSA) to the list of known hosts.
Welcome to Ubuntu 16.04.6 LTS (GNU/Linux 4.15.0-45-generic x86_64)
```

```
* Documentation: https://help.ubuntu.com
* Management:   https://landscape.canonical.com
* Support:       https://ubuntu.com/advantage
```

```
Last login: Fri Mar 1 15:18:47 2019 from 10.54.35.208
```

```
sre@osctrl-ch2-f01:~$
```

```
sre@osctrl-ch2-f01:~$ sudo su -
```

```
Remember to clear /tmp/.ansible-vault-cache.pkl when done!
```

```
root@osctrl-ch2-f01:~#
```

#### **INSTALL CEPH-ANSIBLE in /opt:**

Proxy details: <http://ops-docs.ece.comcast.net/guides/proxy>

```
root@osctrl-mimi-a01:/opt# git config --get http.proxy
```

```
root@osctrl-mimi-a01:/opt# git config --global http.proxy http://cldinfprxy.ece.comcast.net:8888
```

Or

```
git config --global http.proxy http://cloud-proxy.gslb2.comcast.com:8888
```

```
root@osctrl-ch2-f01:/opt# git config --global http.proxy
```

```
http://cloud-proxy.gslb2.comcast.com:8888
```

```
root@osctrl-ch2-f01:/opt# git clone https://github.com/ceph/ceph-ansible.git
```

Cloning into 'ceph-ansible'...

remote: Enumerating objects: 39, done.

remote: Counting objects: 100% (39/39), done.

remote: Compressing objects: 100% (24/24), done.

Receiving objects: 33% (12359/37451), 3.18 MiB | 612.00 KiB/

remote: Total 37451 (delta 19), reused 20 (delta 14), pack-reused 37412

Receiving objects: 100% (37451/37451), 6.49 MiB | 355.00 KiB/s, done.

Resolving deltas: 100% (25538/25538), done.

Checking connectivity... done.

```
root@osctrl-mimi-a01:/opt# ls
```

```
ansible-runtime ceph-ansible comcast hp openstack-ansible openstack-upgrades  
osa_playbooks
```

```
root@osctrl-mimi-a01:/opt# cd ceph-ansible/
```

```
root@osctrl-mimi-a01:/opt/ceph-ansible# ls
```

```
ansible.cfg      docker      generate_group_vars_sample.sh  LICENSE  
README-MULTISITE.md  roles      site.yml.sample  Vagrantfile  
ceph-ansible.spec.in  docs      group_vars      Makefile  README.rst  
rundep_installer.sh  tests      vagrant_variables.yml.sample  
contrib          dummy-ansible-hosts      infrastructure-playbooks  plugins  
requirements.txt  rundep.sample      test.yml  
CONTRIBUTING.md  example-ansible-role-requirements.yml  library      profiles  
rhcs_edits.txt    site-docker.yml.sample  tox.ini
```

## CHECKOUT STABLE VERSION OF CEPH-ANSIBLE:

```
root@osctrl-mimi-a01:/opt/ceph-ansible# git checkout v3.0.34
```

Note: checking out 'v3.0.34'.

You are in 'detached HEAD' state. You can look around, make experimental changes and commit them, and you can discard any commits you make in this state without impacting any branches by performing another checkout.

If you want to create a new branch to retain commits you create, you may do so (now or later) by using -b with the checkout command again. Example:

```
git checkout -b <new-branch-name>
```

HEAD is now at f492b0e... FIX: run restart scripts in `noexec` /tmp

### **COPY SAMPLE FILE TEMPLATES:**

```
root@osctrl-mimi-a01:/opt/ceph-ansible#
```

```
cp site.yml.sample site.yml ; cp group_vars/all.yml.sample group_vars/all.yml ; cp
group_vars/mons.yml.sample group_vars/mons.yml ; cp group_vars/osds.yml.sample
group_vars/osds.yml ; cp group_vars/rgws.yml.sample group_vars/rgws.yml
```

---

### **Create ceph\_inventory file:**

```
root@osctrl-ch2-f01:/opt/ceph-ansible# cat ceph_inventory
```

```
[mgrs]
pistoremon-ch2-f[01:03].ece.comcast.net
```

```
[mons]
pistoremon-ch2-f[01:03].ece.comcast.net
```

```
[rgws]
pistoregw-ch2-f[01:02].ece.comcast.net
```

```
[osds]
#pistore-ch2-f[01:24].ece.comcast.net
pistore-ch2-f25.ece.comcast.net
#pistore-ch2-f26.ece.comcast.net #storage degraded
pistore-ch2-f[27:32].ece.comcast.net
#pistore-ch2-f33.ece.comcast.net
```

pistore-ch2-f[34:35].ece.comcast.net  
#pistore-ch2-f036.ece.comcast.net  
pistore-ch2-f[37:38].ece.comcast.net

---

## TEST PING TO EVERY CEPH NODE FROM CONTROLLER:

**root@osctrl-ch2-f01:/opt/ceph-ansible# ansible -i ceph\_inventory all -m ping -f 1**

```
pistoremon-ch2-f01.ece.comcast.net | SUCCESS => {
  "changed": false,
  "ping": "pong"
}
pistoremon-ch2-f02.ece.comcast.net | SUCCESS => {
  "changed": false,
  "ping": "pong"
}
pistoremon-ch2-f03.ece.comcast.net | SUCCESS => {
  "changed": false,
  "ping": "pong"
}
pistore-ch2-f25.ece.comcast.net | SUCCESS => {
  "changed": false,
  "ping": "pong"
}
pistore-ch2-f27.ece.comcast.net | SUCCESS => {
  "changed": false,
  "ping": "pong"
}
pistore-ch2-f28.ece.comcast.net | SUCCESS => {
  "changed": false,
  "ping": "pong"
}
pistore-ch2-f29.ece.comcast.net | SUCCESS => {
  "changed": false,
  "ping": "pong"
}
pistore-ch2-f30.ece.comcast.net | SUCCESS => {
  "changed": false,
  "ping": "pong"
}
pistore-ch2-f31.ece.comcast.net | SUCCESS => {
  "changed": false,
  "ping": "pong"
}
```

```

}
pistore-ch2-f32.ece.comcast.net | SUCCESS => {
  "changed": false,
  "ping": "pong"
}
pistore-ch2-f34.ece.comcast.net | SUCCESS => {
  "changed": false,
  "ping": "pong"
}
pistore-ch2-f35.ece.comcast.net | SUCCESS => {
  "changed": false,
  "ping": "pong"
}
pistore-ch2-f37.ece.comcast.net | SUCCESS => {
  "changed": false,
  "ping": "pong"
}
pistore-ch2-f38.ece.comcast.net | SUCCESS => {
  "changed": false,
  "ping": "pong"
}
pistorergw-ch2-f01.ece.comcast.net | SUCCESS => {
  "changed": false,
  "ping": "pong"
}
pistorergw-ch2-f02.ece.comcast.net | SUCCESS => {
  "changed": false,
  "ping": "pong"
}
}

```

---

## OSDS:

### NUKE PARTITIONS IF NECESSARY:

- **Lsblk**
- **root@osctrl-ch2-f01:/opt/ceph-ansible# ansible -i ceph\_inventory osds all -a "lsblk"**
- **apt install gdisk**
  - **root@osctrl-mimi-a01:/opt/ceph-ansible# ansible -i ceph\_inventory osds -a "apt install gdisk"**
- **for i in {b..k}; do sgdisk --zap /dev/sd\$i; done**

```
/opt/ceph-ansible/group_vars
```

...

- /dev/sda
- /dev/sdb
- /dev/sdc
- /dev/sdd
- /dev/sde
- /dev/sdf
- /dev/sdg
- /dev/sdh
- /dev/sdi
- /dev/sdj
- /dev/sdk
- /dev/sdl
- /dev/sdm
- /dev/sdn
- /dev/sdo
- /dev/sdp
- /dev/sdq
- /dev/sdr
- /dev/sds
- /dev/sdt
- /dev/sdu
- /dev/sdv
- /dev/sdw
- /dev/sdx

[illegible]

- /dev/nvme0n1
- /dev/nvme0n1
- /dev/nvme0n1
- /dev/nvme0n1
- /dev/nvme1n1
- /dev/nvme1n1
- /dev/nvme1n1
- /dev/nvme1n1
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- /dev/nvme1n1
- /dev/nvme1n1
- /dev/nvme1n1

---

**RGWs:**

**GET KEYS and CONFIGURE RGWS.YML**

```
$ export GITHUB_ORG=cloud-services export  
VAULT_ADDR="https://vault-po.autobahn.comcast.com:8200"
```

```
$ vault login -method=github -path=github_cloud-services  
token=cf24ac626bc74aaebdd82aa92538ea841e214b4c
```

```
VATAPL-W0M9G8WM:~ pclift200$ nslookup internal-vip-ch2-f01.ece.comcast.net  
Server:      69.252.80.80  
Address:     69.252.80.80#53
```

```
VATAPL-W0M9G8WM:~ pclift200$ vault list secret/cloud-services/regions/ch2-f/osa  
List all the different values
```

```
VATAPL-W0M9G8WM:~ pclift200$ vault read  
secret/cloud-services/regions/ch2-f/osa/keystone_auth_admin_password  
Key      Value  
---      -
```



```
refresh_interval 10m
value            xxxxxxxxxxxxyyyyyzzzzzzzz
```

```
VATAPL-W0M9G8WM:ceph-ansible pclift200$ vault read
secret/cloud-services/regions/ch2-f/osa/swift_service_password
```

```
Key      Value
```

```
---      ----
```

```
refresh_interval 10m
value            xxxxxxxxxxxxyyyyyy
```

```
root@osctrl-ch2-f01:/opt/ceph-ansible/group_vars# cat rgws.yml
```

```
---
```

```
copy_admin_key: true
rgw_keystone_accepted_roles: 'user, Member, _member_, admin, SwiftOperator'
rgw_keystone_admin_user: cephrgw
rgw_keystone_admin_password: xxxxxxxxxxxxyyyyyff (Use the SWIFT Service Password)
rgw_keystone_admin_tenant: service
rgw_keystone_admin_domain: default
rgw_keystone_url: https://internal-vip-ch2-f01.ece.comcast.net:35357
rgw_s3_auth_use_keystone: "true"
radosgw_keystone_admin_user: cephrgw
radosgw_keystone_admin_tenant: service
rgw_keystone_implicit_tenants: "true"
rgw_keystone_api_version: 3
rgw_override_bucket_index_max_shards: 8
```

```
# do not change any values below this line #
```

```
ceph_conf_overrides: "{{ ceph_conf_overrides_rgw | combine(ceph_conf_overrides_defaults, recursive=True) }}"
```

```
ceph_conf_overrides_rgw:
```

```
"client.rgw.{{ hostvars[inventory_hostname]['ansible_hostname'] }}":
  rgw_keystone_url: "{{ rgw_keystone_url }}"
  rgw_keystone_api_version: "{{ rgw_keystone_api_version }}"
  rgw_keystone_admin_user: "{{ radosgw_keystone_admin_user }}"
  rgw_keystone_admin_password: "{{ rgw_keystone_admin_password }}"
  rgw_keystone_admin_tenant: "{{ radosgw_keystone_admin_tenant }}"
  rgw_keystone_admin_domain: "{{ rgw_keystone_admin_domain }}"
  rgw_keystone_accepted_roles: "{{ rgw_keystone_accepted_roles }}"
  rgw_s3_auth_use_keystone: "{{ rgw_s3_auth_use_keystone }}"
  rgw_override_bucket_index_max_shards: "{{ rgw_override_bucket_index_max_shards }}"
```

---

## ALL.YML

root@osctrl-ch2-f01:/opt/ceph-ansible/group\_vars# more all.yml

---

```
ceph_origin: repository
ceph_repository: community
ceph_stable_release: luminous
ip_version: ipv4
monitor_address_block: "10.145.202.0/23"
radosgw_address_block: "10.145.202.0/23"
public_network: "10.145.202.0/23"
cluster_network: "192.168.1.1/24"
radosgw_keystone: true
```

```
#openstack_pools:
# - "cinder_backups"
# - "cinder_volumes"
# - "glance"
# - "gnocchi"
radosgw_civetweb_num_threads: 8192
radosgw_civetweb_port: 8080
ceph_conf_overrides: "{{ ceph_conf_overrides_defaults }}"
ceph_conf_overrides_defaults:
  global:
    osd_pool_default_pg_num: 32
    osd_pool_default_pgp_num: 32
    mon_osd_down_out_interval: 900
    max open files: 26234859
    rgw_cache_lru_size: 250000
    rgw_thread_pool_size: 8192
    rgw_num_rados_handles: 8
    debug_lockdep: "0/0"
    debug_context: "0/0"
    debug_crush: "0/0"
    debug_buffer: "0/0"
    debug_timer: "0/0"
    debug_filer: "0/0"
    debug_objecter: "0/0"
    debug_rados: "0/0"
    debug_rbd: "0/0"
    debug_journaler: "0/0"
    debug_objectcacher: "0/0"
```

```
debug_client: "0/0"
debug_osd: "0/0"
debug_optracker: "0/0"
```

---

## OSD NETWORKING FIXED TO INCLUDE PRIVATE NETWORK:

[https://github.com/comcast.com/cloud-services/openstack-upgrades/blob/master/inventory/group\\_vars/ch2-f/network\\_config.yml](https://github.com/comcast.com/cloud-services/openstack-upgrades/blob/master/inventory/group_vars/ch2-f/network_config.yml)

```
root@osctrl-mimi-a01:/opt/ceph-ansible# ansible -i ceph_inventory osds -a "ifconfig" | grep 192.168
| sort
    inet addr:192.168.1.1 Bcast:192.168.1.255 Mask:255.255.255.0
    inet addr:192.168.1.2 Bcast:192.168.1.255 Mask:255.255.255.0
    inet addr:192.168.1.3 Bcast:192.168.1.255 Mask:255.255.255.0
    inet addr:192.168.1.4 Bcast:192.168.1.255 Mask:255.255.255.0
    inet addr:192.168.1.5 Bcast:192.168.1.255 Mask:255.255.255.0
    inet addr:192.168.1.6 Bcast:192.168.1.255 Mask:255.255.255.0
```

---

## UPGRADE PIP and ANSIBLE:

```
root@osctrl-ch2-f01:/opt/ceph-ansible# export
HTTPS_PROXY=http://cloud-proxy.gslb2.comcast.com:8888
```

```
root@osctrl-ch2-f01:/opt/ceph-ansible# pip install ansible==2.4.0
Collecting ansible==2.4.0
```

Downloading

```
https://files.pythonhosted.org/packages/1e/7c/385ccbeb0fbefc13eaef53df76e42ef778170bdfe5fd42587
9735b43106e/ansible-2.4.0.0.tar.gz (6.6MB)
```

```
100% |████████████████████████████████████████████████████████████████████████████████| 6.6MB 239kB/s
```

```
Collecting jinja2 (from ansible==2.4.0)
```

Downloading

```
https://files.pythonhosted.org/packages/7f/ff/ae64bacdfc95f27a016a7bed8e8686763ba4d277a78ca76f3
2659220a731/Jinja2-2.10-py2.py3-none-any.whl (126kB)
```

```
100% |████████████████████████████████████████████████████████████████████████████████| 133kB 11.3MB/s
```

```
Requirement already satisfied: PyYAML in /usr/lib/python2.7/dist-packages (from ansible==2.4.0)
```

Collecting paramiko (from ansible==2.4.0)

Downloading

<https://files.pythonhosted.org/packages/cf/ae/94e70d49044ccc234bfdba20114fa947d7ba6eb68a2e452d89b920e62227/paramiko-2.4.2-py2.py3-none-any.whl> (193kB)

100%  194kB 7.7MB/s

Requirement already satisfied: cryptography in /usr/lib/python2.7/dist-packages (from ansible==2.4.0)

Requirement already satisfied: setuptools in /usr/local/lib/python2.7/dist-packages (from ansible==2.4.0)

Collecting MarkupSafe>=0.23 (from jinja2->ansible==2.4.0)

Downloading

[https://files.pythonhosted.org/packages/fb/40/f3adb7cf24a8012813c5edb20329eb22d5d8e2a0ecf73d21d6b85865da11/MarkupSafe-1.1.1-cp27-cp27mu-manylinux1\\_x86\\_64.whl](https://files.pythonhosted.org/packages/fb/40/f3adb7cf24a8012813c5edb20329eb22d5d8e2a0ecf73d21d6b85865da11/MarkupSafe-1.1.1-cp27-cp27mu-manylinux1_x86_64.whl)

Requirement already satisfied: pyasn1>=0.1.7 in /usr/lib/python2.7/dist-packages (from paramiko->ansible==2.4.0)

Collecting bcrypt>=3.1.3 (from paramiko->ansible==2.4.0)

Downloading

Collecting pycparser (from cffi>=1.1->bcrypt>=3.1.3->paramiko->ansible==2.4.0)

Downloading

<https://files.pythonhosted.org/packages/68/9e/49196946aee219ae1290e00d1e7fdeab8567783e83e1b9ab5585e6206a/pycparser-2.19.tar.gz> (158kB)

100%  163kB 10.0MB/s

Building wheels for collected packages: ansible, pycparser

Running setup.py bdist\_wheel for ansible ... done

Stored in directory:

/root/.cache/pip/wheels/ea/e1/f4/f5654529457978b69c0369212794664b88b51c95fa267346ea

Running setup.py bdist\_wheel for pycparser ... done

Stored in directory:

/root/.cache/pip/wheels/f2/9a/90/de94f8556265ddc9d9c8b271b0f63e57b26fb1d67a45564511

Successfully built ansible pycparser

Installing collected packages: MarkupSafe, jinja2, pycparser, cffi, bcrypt, pynacl, paramiko, ansible

Successfully installed MarkupSafe-1.1.1 ansible-2.4.0.0 bcrypt-3.1.6 cffi-1.12.2 jinja2-2.10

paramiko-2.4.2 pycparser-2.19 pynacl-1.3.0

You are using pip version 9.0.1, however version 19.0.3 is available.

You should consider upgrading via the 'pip install --upgrade pip' command.

root@osctrl-ch2-f01:/opt/ceph-ansible# **ansible --version**

**ansible 2.4.0.0**

config file = /opt/ceph-ansible/ansible.cfg

configured module search path = [u'/root/.ansible/plugins/modules',  
u'/usr/share/ansible/plugins/modules']

ansible python module location = /usr/local/lib/python2.7/dist-packages/ansible

executable location = /usr/local/bin/ansible

python version = 2.7.12 (default, Nov 12 2018, 14:36:49) [GCC 5.4.0 20160609]

```
root@osctrl-ch2-f01:/opt/ceph-ansible# pip install --upgrade pip
```

### Collecting pip

Using cached

<https://files.pythonhosted.org/packages/d8/f3/413bab4ff08e1fc4828dfc59996d721917df8e8583ea85385d51125dceff/pip-19.0.3-py2.py3-none-any.whl>

Installing collected packages: pip

Found existing installation: pip 9.0.1

Uninstalling pip-9.0.1:

Successfully uninstalled pip-9.0.1

**Successfully installed pip-19.0.3**

---

### RUN THE CEPH-ANSIBLE SITE.YML PLAYBOOK:

(venv) root@osctrl-mimi-a01:/opt/ceph-ansible# [ansible-playbook -i ceph\\_inventory site.yml](#)

---

### RACKSPACE SAYS: IP TABLES NEED to BE TURNED OFF on OSD NODES

---

### CREATE POOLS:

```
root@osjump-ch2-01:/home/pclift200/ansible-storage/ceph-deploy-tools/mon_scripts# cat create\_pools.sh
```

```
#!/bin/bash
```

```
OSDCOUNT=`ceph -s | grep osdmap | awk -F":" '{print $2}' | awk '{print $1}'`
```

```
if [ $OSDCOUNT -ge 360 ]; then
```

```
    SMALLPGNUM=256
```

```
    GENERALPGNUM=2048
```

```
    BIGPGNUM=8192
```

```
else
```

```
    SMALLPGNUM=128
```

```
    GENERALPGNUM=1024
```

BIGPGNUM=4096

fi

## Cinder/Glance setup

# create pool for OpenStack block volumes

ceph osd pool create cinder\_volumes \$BIGPGNUM \$BIGPGNUM

# create cinder\_backups pool for OpenStack block volumes backup

ceph osd pool create cinder\_backups \$GENERALPGNUM \$GENERALPGNUM

# create images pool for Glance image

ceph osd pool create glance \$GENERALPGNUM \$GENERALPGNUM

## RADOS gateway setup

# create pools for RADOS gateway

for pool in .rgw.control .rgw.gc .log .intent-log .usage .users .users.email .users.swift .users.uid; do

ceph osd pool create \$pool \$SMALLPGNUM \$SMALLPGNUM

done

ceph osd pool create .rgw.buckets \$BIGPGNUM \$BIGPGNUM

ceph osd pool create .rgw \$GENERALPGNUM \$GENERALPGNUM

---

**root@pistoremon-ho-b01:~#** for i in `ceph osd pool ls`; do echo \$i; ceph osd pool get \$i pg\_num;

ceph osd pool get \$i pgp\_num; echo; done

default.rgw.control

pg\_num: 32

pgp\_num: 32

default.rgw.meta

pg\_num: 32

pgp\_num: 32

default.rgw.log

pg\_num: 32

pgp\_num: 32

cinder\_volumes

pg\_num: 4096

pgp\_num: 4096

cinder\_backups  
pg\_num: 512  
pgp\_num: 512

glance  
pg\_num: 2048  
pgp\_num: 2048

gnocchi  
pg\_num: 512  
pgp\_num: 512

scbench  
pg\_num: 100  
pgp\_num: 100

.rgw.root  
pg\_num: 32  
pgp\_num: 32

default.rgw.buckets.index  
pg\_num: 32  
pgp\_num: 32

default.rgw.buckets.data  
pg\_num: 4096  
pgp\_num: 4096

---

**default.rgw.control  
default.rgw.meta  
default.rgw.log  
cinder\_volumes  
cinder\_backups  
glance  
gnocchi  
scbench  
.rgw.root  
default.rgw.buckets.index  
default.rgw.buckets.data**

```
root@pistoremon-mimi-a01:~# ceph tell mon.* injectargs '--mon-allow-pool-delete=true'  
mon.pistoremon-mimi-a03: injectargs:mon_allow_pool_delete = 'true' (not observed, change may  
require restart)  
mon.pistoremon-mimi-a01: injectargs:mon_allow_pool_delete = 'true' (not observed, change may  
require restart)  
mon.pistoremon-mimi-a02: injectargs:mon_allow_pool_delete = 'true' (not observed, change may  
require restart)  
root@pistoremon-mimi-a01:~# ceph osd pool delete gnocchi gnocchi --yes-i-really-really-mean-it  
pool 'gnocchi' removed
```

```
ceph osd pool create cinder_volumes 512 512  
ceph osd pool create glance 512 512 (2048 2048 too big for MIMI)  
ceph osd pool create cinder_backups 512 512  
ceph osd pool create gnocchi 512 512 NOT NEEDED  
ceph osd pool create scbench 100 100  
ceph osd pool create default.rgw.buckets.index 32 32  
ceph osd pool create default.rgw.buckets.data 512 512 (4096 4096 too big for MIMI)
```

#### **PERMS:**

```
ceph auth get-or-create client.cinder mon 'allow r' osd 'class-read object_prefix rbd_children,  
allow rwx pool=cinder_volumes, allow rx pool=glance'
```

```
ceph auth get-or-create client.cinder-backup mon 'allow r' osd 'class-read object_prefix  
rbd_children, allow rwx pool=cinder_volumes, allow rx pool=cinder-backup'
```

```
ceph auth get-or-create client.glance mon 'allow r' osd 'allow class-read object_prefix  
rbd_children, allow rwx pool=glance'
```

```
ceph auth caps client.cinder mon 'allow r' osd 'allow class-read object_prefix rbd_children,  
allow rwx pool=cinder_volumes, allow rwx pool=glance'
```

#### **ADD APPLICATION TAG NOW in LUMINOUS:**

```
ceph osd pool application enable glance rbd  
ceph osd pool application enable cinder_volumes rbd  
ceph osd pool application enable cinder_backups rbd
```

#### **POOLS:**

```
root@pistoremon-po-a01:~# ceph df
```



GLOBAL:

SIZE	AVAIL	RAW USED	%RAW USED
1.79PiB	1.79PiB	700GiB	0.04

POOLS:

NAME	ID	USED	%USED	MAX AVAIL	OBJECTS
.rgw.root	1	2.08KiB	0	579TiB	6
default.rgw.control	2	0B	0	579TiB	8
default.rgw.meta	3	8.99KiB	0	579TiB	66
default.rgw.log	4	0B	0	579TiB	207
cinder_volumes	5	24.5GiB	0	579TiB	6323
cinder_backups	6	0B	0	579TiB	0
glance	7	13.5GiB	0	579TiB	2204
.rgw.control	8	0B	0	579TiB	0
.rgw.gc	9	0B	0	579TiB	0
.log	10	0B	0	579TiB	0
.intent-log	11	0B	0	579TiB	0
.usage	12	0B	0	579TiB	0
.users	13	0B	0	579TiB	0
.users.email	14	0B	0	579TiB	0
.users.swift	15	0B	0	579TiB	0
.users.uid	16	0B	0	579TiB	0
.rgw.buckets	17	0B	0	579TiB	0
.rgw	18	0B	0	579TiB	0
default.rgw.buckets.index	19	0B	0	579TiB	24
default.rgw.buckets.data	20	4.76MiB	0	579TiB	16

---

## CREATE\_POOLS.SH:

```
root@pistoremon-po-a01:/opt# cat create_pools.sh
```

```
#!/bin/bash
```

```
OSDCOUNT=`ceph -s | grep osdmap | awk -F"." '{print $2}' | awk '{print $1}'`
```

```
if [ $OSDCOUNT -ge 360 ]; then
```

```
    SMALLPGNUM=512
```

```
    GENERALPGNUM=4096
```

```
    BIGPGNUM=16384
```

```
else
```

```
    SMALLPGNUM=128
```

```
    GENERALPGNUM=1024
```

```
    BIGPGNUM=4096
```

fi

```
## Cinder/Glance setup
# create pool for OpenStack block volumes
ceph osd pool create cinder_volumes $BIGPGNUM $BIGPGNUM
# create cinder_backups pool for OpenStack block volumes backup
ceph osd pool create cinder_backups $GENERALPGNUM $GENERALPGNUM
# create images pool for Glance image
ceph osd pool create glance $GENERALPGNUM $GENERALPGNUM

## RADOS gateway setup
# create pools for RADOS gateway
for pool in .rgw.control .rgw.gc .log .intent-log .usage .users .users.email .users.swift .users.uid; do
    ceph osd pool create $pool $SMALLPGNUM $SMALLPGNUM
done
ceph osd pool create .rgw.buckets $BIGPGNUM $BIGPGNUM
ceph osd pool create .rgw $GENERALPGNUM $GENERALPGNUM
```

---

## EXAMPLE:

```
root@osctrl-ch2-f01:/opt/ceph-ansible# ansible-playbook -i ceph_inventory site.yml
```

[DEPRECATION WARNING]: The use of 'include' for tasks has been deprecated. Use 'import\_tasks' for static inclusions or 'include\_tasks' for dynamic inclusions. This feature will be removed in a future release. Deprecation warnings can be disabled by setting `deprecation_warnings=False` in `ansible.cfg`.

[DEPRECATION WARNING]: include is kept for backwards compatibility but usage is discouraged. The module documentation details page may explain more about this rationale.. This feature will be removed in a future release. Deprecation warnings can be disabled by setting `deprecation_warnings=False` in `ansible.cfg`.

[DEPRECATION WARNING]: The use of 'static' has been deprecated. Use 'import\_tasks' for static inclusion, or 'include\_tasks' for dynamic inclusion. This feature will be removed in a future release. Deprecation warnings can be disabled by setting `deprecation_warnings=False` in `ansible.cfg`.

[DEPRECATION WARNING]: docker is kept for backwards compatibility but usage is discouraged. The module documentation details page may explain more about this rationale.. This feature will be removed in a future release. Deprecation warnings can be disabled by setting `deprecation_warnings=False` in `ansible.cfg`.

**[WARNING]: Could not match supplied host pattern, ignoring: agents**

**[WARNING]: Could not match supplied host pattern, ignoring: mdss**

**[WARNING]: Could not match supplied host pattern, ignoring: nfss**

**[WARNING]: Could not match supplied host pattern, ignoring: restapis**

**[WARNING]: Could not match supplied host pattern, ignoring: rbdmirrors**

**[WARNING]: Could not match supplied host pattern, ignoring: clients**

**[WARNING]: Could not match supplied host pattern, ignoring: iscsi-gws**

PLAY [mons,agents,osds,mdss,rgws,nfss,restapis,rbdmirrors,clients,mgrs,iscsi-gws]

\*\*\*\*\*

TASK [check for python2]

\*\*\*\*\*

\*\*\*\*\*

ok: [pistoremon-ch2-f02.ece.comcast.net]

ok: [pistore-ch2-f25.ece.comcast.net]

ok: [pistoremon-ch2-f03.ece.comcast.net]

ok: [pistoremon-ch2-f01.ece.comcast.net]

ok: [pistore-ch2-f27.ece.comcast.net]

ok: [pistore-ch2-f28.ece.comcast.net]

ok: [pistore-ch2-f30.ece.comcast.net]

ok: [pistore-ch2-f34.ece.comcast.net]

ok: [pistore-ch2-f31.ece.comcast.net]

ok: [pistore-ch2-f35.ece.comcast.net]

ok: [pistore-ch2-f37.ece.comcast.net]

ok: [pistore-ch2-f38.ece.comcast.net]

ok: [pistorergw-ch2-f01.ece.comcast.net]

ok: [pistorergw-ch2-f02.ece.comcast.net]

TASK [install python2 for debian based systems]

\*\*\*\*\*

\*\*\*\*\*

skipping: [pistoremon-ch2-f01.ece.comcast.net]

skipping: [pistoremon-ch2-f02.ece.comcast.net]

skipping: [pistoremon-ch2-f03.ece.comcast.net]

skipping: [pistore-ch2-f25.ece.comcast.net]

skipping: [pistore-ch2-f27.ece.comcast.net]

skipping: [pistore-ch2-f28.ece.comcast.net]

skipping: [pistore-ch2-f30.ece.comcast.net]

skipping: [pistore-ch2-f31.ece.comcast.net]

skipping: [pistore-ch2-f34.ece.comcast.net]

skipping: [pistore-ch2-f35.ece.comcast.net]

skipping: [pistore-ch2-f37.ece.comcast.net]  
skipping: [pistore-ch2-f38.ece.comcast.net]  
skipping: [pistorergw-ch2-f01.ece.comcast.net]  
skipping: [pistorergw-ch2-f02.ece.comcast.net]

#### TASK [install python2 for fedora]

\*\*\*\*\*  
\*\*\*\*\*

skipping: [pistoremon-ch2-f01.ece.comcast.net]  
skipping: [pistoremon-ch2-f02.ece.comcast.net]  
skipping: [pistoremon-ch2-f03.ece.comcast.net]  
skipping: [pistore-ch2-f25.ece.comcast.net]  
skipping: [pistore-ch2-f27.ece.comcast.net]  
skipping: [pistore-ch2-f28.ece.comcast.net]  
skipping: [pistore-ch2-f30.ece.comcast.net]  
skipping: [pistore-ch2-f31.ece.comcast.net]  
skipping: [pistore-ch2-f34.ece.comcast.net]  
skipping: [pistore-ch2-f35.ece.comcast.net]  
skipping: [pistore-ch2-f37.ece.comcast.net]  
skipping: [pistore-ch2-f38.ece.comcast.net]  
skipping: [pistorergw-ch2-f01.ece.comcast.net]  
skipping: [pistorergw-ch2-f02.ece.comcast.net]

#### TASK [gather facts]

\*\*\*\*\*  
\*\*\*\*\*

skipping: [pistoremon-ch2-f01.ece.comcast.net]  
skipping: [pistoremon-ch2-f02.ece.comcast.net]  
skipping: [pistoremon-ch2-f03.ece.comcast.net]  
skipping: [pistore-ch2-f25.ece.comcast.net]  
skipping: [pistore-ch2-f27.ece.comcast.net]  
skipping: [pistore-ch2-f28.ece.comcast.net]  
skipping: [pistore-ch2-f30.ece.comcast.net]  
skipping: [pistore-ch2-f31.ece.comcast.net]  
skipping: [pistore-ch2-f34.ece.comcast.net]  
skipping: [pistore-ch2-f35.ece.comcast.net]  
skipping: [pistore-ch2-f37.ece.comcast.net]  
skipping: [pistore-ch2-f38.ece.comcast.net]  
skipping: [pistorergw-ch2-f01.ece.comcast.net]  
skipping: [pistorergw-ch2-f02.ece.comcast.net]

---

## AUTH LIST:

**ceph auth get-or-create client.cinder mon 'allow r' osd 'class-read object\_prefix rbd\_children, allow rwx pool=cinder\_volumes, allow rx pool=glance'**

**ceph auth get-or-create client.cinder-backup mon 'allow r' osd 'class-read object\_prefix rbd\_children, allow rwx pool=cinder\_volumes, allow rx pool=cinder-backup'**

**ceph auth get-or-create client.glance mon 'allow r' osd 'allow class-read object\_prefix rbd\_children, allow rwx pool=glance'**

**ceph auth caps client.cinder mon 'allow r' osd 'allow class-read object\_prefix rbd\_children, allow rwx pool=cinder\_volumes, allow rwx pool=glance'**

client.bootstrap-rgw

key: AQCTo3lcvQ6EJBAA7idlw6rdKiJXFHajW4C0cw==

caps: [mon] allow profile bootstrap-rgw

client.cinder

key: AQBmsH5c3A+OExAA1E90239kSKSaIN5/xTsRPg==

caps: [mon] allow r

caps: [osd] allow class-read object\_prefix rbd\_children, allow rwx pool=cinder\_volumes, allow rwx pool=glance

client.cinder-backup

key: AQB7sH5cr+4tMRAAHbrZSq3F70ReMjbHoS8hWA==

caps: [mon] allow r

caps: [osd] class-read object\_prefix rbd\_children, allow rwx pool=cinder\_volumes, allow rx pool=cinder-backup

client.glance

key: AQCBsH5c4FtEHRAAPPKt41BbQN1dQeVIDVoXpw==

caps: [mon] allow r

caps: [osd] allow class-read object\_prefix rbd\_children, allow rwx pool=glance

client.rgw.pistorergw-ch2-f01

key: AQBOP3lcakdT0hAANRpLereGWJ5GJuWa0w49oQ==

caps: [mon] allow rw

caps: [osd] allow rwx

client.rgw.pistorergw-ch2-f02

key: AQBOP3lcCwe/OhAAFJ9Z7zIUBFogJJ5Lk+vibQ==

caps: [mon] allow rw

caps: [osd] allow rwx

mgr.pistoremon-ch2-f01

key: AQCvo3lc379pIBAA5pXJ7YWj9dsDO2ofMoSfw==

caps: [mds] allow \*

caps: [mon] allow profile mgr

caps: [osd] allow \*

```
mgr.pistoremon-ch2-f02
  key: AQCvo3lclOI0NhAANMw4rISlvJ40fPXm0Loqaw==
  caps: [mds] allow *
  caps: [mon] allow profile mgr
  caps: [osd] allow *
mgr.pistoremon-ch2-f03
  key: AQCwo3lcg8l5EBAA1UsyknGyuR44Fddm2Y5Kkw==
  caps: [mds] allow *
  caps: [mon] allow profile mgr
  caps: [osd] allow *
```

---

### **LUMINOUS: Add APPLICATION TAG on POOLS:**

```
root@pistoremon-ch2-f01:/opt# ceph osd pool application enable cinder_backups rbd
enabled application 'rbd' on pool 'cinder_backups'
```

```
root@pistoremon-ch2-f01:/opt# ceph osd pool application enable cinder_volumes rbd
enabled application 'rbd' on pool 'cinder_volumes'
```

```
ceph osd pool application enable cinder_backups rbd
ceph osd pool application enable cinder_volumes rbd
ceph osd pool application enable glance glance
```

---

### **OIVT**

Provide key from:

```
ceph auth get-or-create client.storage-metrics mon 'allow r' osd 'profile rbd'
```

Provide fields from `/etc/ceph/ceph.conf`:

```
fsid = 88788974-b088-489b-bf48-969e0e6bf6bb
mon host = 10.145.202.207,10.145.202.160,10.145.202.190
mon initial members = pistoremon-ch2-f01,pistoremon-ch2-f02,pistoremon-ch2-f03
```

---

Ignore these:

```
root@osctrl-po-a01:/opt/ceph-ansible# ansible-playbook -i ceph_inventory site.yml
```

[DEPRECATION WARNING]: The use of 'include' for tasks has been deprecated. Use 'import\_tasks' for static inclusions or 'include\_tasks' for dynamic inclusions. This feature will be removed in a future release. Deprecation warnings can be disabled by setting `deprecation_warnings=False` in `ansible.cfg`.

[DEPRECATION WARNING]: `include` is kept for backwards compatibility but usage is discouraged. The module documentation details page may explain more about this rationale.. This feature will be removed in a future release. Deprecation warnings can be disabled by setting `deprecation_warnings=False` in `ansible.cfg`.

[DEPRECATION WARNING]: The use of 'static' has been deprecated. Use 'import\_tasks' for static inclusion, or 'include\_tasks' for dynamic inclusion. This feature will be removed in a future release. Deprecation warnings can be disabled by setting `deprecation_warnings=False` in `ansible.cfg`.

[DEPRECATION WARNING]: `docker` is kept for backwards compatibility but usage is discouraged. The module documentation details page may explain more about this rationale.. This feature will be removed in a future release. Deprecation warnings can be disabled by setting `deprecation_warnings=False` in `ansible.cfg`.

[WARNING]: Could not match supplied host pattern, ignoring: agents

[WARNING]: Could not match supplied host pattern, ignoring: mdss

[WARNING]: Could not match supplied host pattern, ignoring: nfss

[WARNING]: Could not match supplied host pattern, ignoring: restapis

[WARNING]: Could not match supplied host pattern, ignoring: rbdmirrors

[WARNING]: Could not match supplied host pattern, ignoring: clients

[WARNING]: Could not match supplied host pattern, ignoring: iscsi-gws