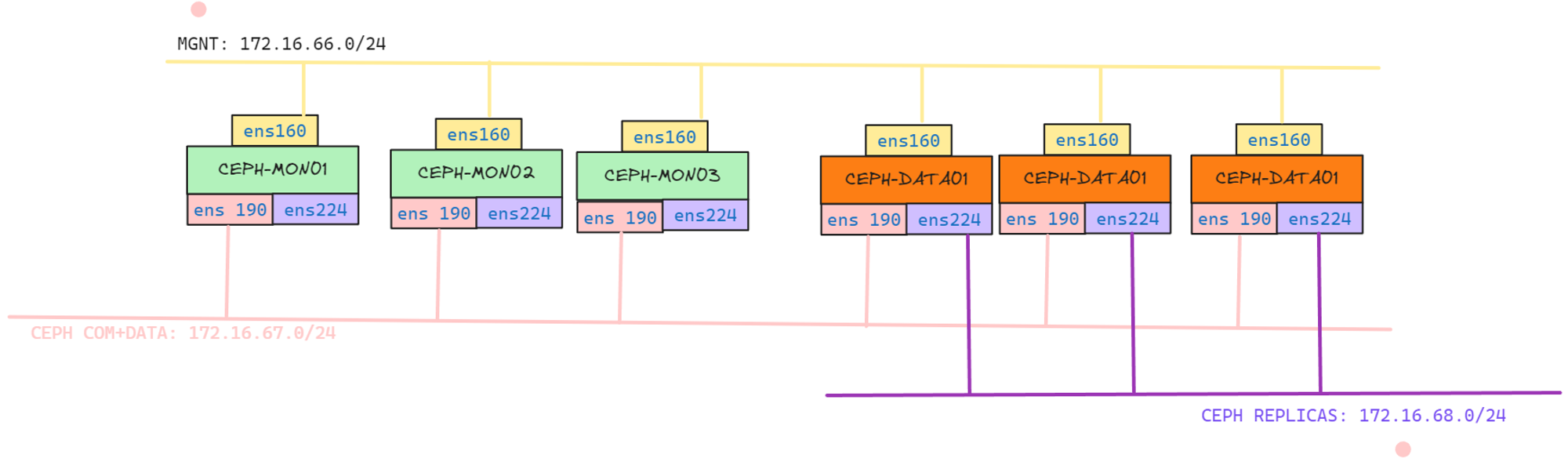
Hướng dẫn cài đặt Ceph trên Ubuntu 22.04

Mô hình: 3 Ceph MON + 3 Ceph OSD



Chuẩn bị:

### Trên tất cả các node:

Cài đặt Chrony - NTP

Disable auto upgrade packages

vi /etc/apt/apt.conf.d/20auto-upgrades

APT::Periodic::Update-Package-Lists "0";

APT::Periodic::Unattended-Upgrade "0";

Update

sudo apt update

Chỉnh hostname

cat << EOF > /etc/hosts

172.10.10.81 CEPH-MON-VNPT-01

172.10.10.82 CEPH-MON-VNPT-02

172.10.10.83 CEPH-MON-VNPT-03

172.10.10.101 CEPH-DATA-VNPT-01

172.10.10.102 CEPH-DATA-VNPT-02

172.10.10.103 CEPH-DATA-VNPT-03

EOF

Reboot

init 6

Cài đặt docker

curl -fsSL https://download.docker.com/linux/ubuntu/gpg | gpg --dearmor -o /usr/share/keyrings/docker-archive-keyring.gpg

echo "deb [arch=$(dpkg --print-architecture) signed-by=/usr/share/keyrings/docker-archive-keyring.gpg] https://download.docker.com/linux/ubuntu $(lsb\_release -cs) stable" | sudo tee /etc/apt/sources.list.d/docker.list > /dev/null

apt update -y

apt-get install docker-ce docker-ce-cli containerd.io -y

### Thực hiện trên node MON 01

Cài đặt cephadm

Cách 1:

wget https://raw.githubusercontent.com/ceph/ceph/reef/src/cephadm/cephadm.py

mv cephadm.py /usr/bin/cephadm

chmod +x /usr/bin/cephadm

Cách 2:

wget -q -O- 'https://download.ceph.com/keys/release.asc' | \

gpg --dearmor -o /etc/apt/trusted.gpg.d/cephadm.gpg

echo deb https://download.ceph.com/debian-reef/ $(lsb\_release -sc) main \

> /etc/apt/sources.list.d/cephadm.list

apt update

apt install cephadm

Bootstrap cluster

cephadm bootstrap --mon-ip 172.10.10.81 --cluster-network 172.10.20.0/24 --initial-dashboard-user admin --initial-dashboard-password Str0ngAdminP@ssw0rd

Cài đặt ceph-common

wget -q -O- 'https://download.ceph.com/keys/release.asc' | \

gpg --dearmor -o /etc/apt/trusted.gpg.d/cephadm.gpg

echo deb https://download.ceph.com/debian-reef/ $(lsb\_release -sc) main \

> /etc/apt/sources.list.d/cephadm.list

apt update

apt install ceph-common -y

Lưu ý: Nếu đã cấu hình repo mới ở bước cài cephadm thì không cần cấu hình ở bước này nữa.

Cấu hình ssh key sang các node còn lại

ssh-copy-id -f -i /etc/ceph/ceph.pub root@CEPH-MON-VNPT-02

ssh-copy-id -f -i /etc/ceph/ceph.pub root@CEPH-MON-VNPT-03

ssh-copy-id -f -i /etc/ceph/ceph.pub root@CEPH-DATA-VNPT-01

ssh-copy-id -f -i /etc/ceph/ceph.pub root@CEPH-DATA-VNPT-02

ssh-copy-id -f -i /etc/ceph/ceph.pub root@CEPH-DATA-VNPT-03

Unmanage mon

ceph orch apply mon --unmanaged

Add các node còn lại vào cluster

ceph orch host add CEPH-MON-VNPT-02 172.10.10.82

ceph orch host add CEPH-MON-VNPT-03 172.10.10.83

ceph orch host add CEPH-DATA-VNPT-01 172.10.10.101

ceph orch host add CEPH-DATA-VNPT-02 172.10.10.102

ceph orch host add CEPH-DATA-VNPT-03 172.10.10.103

Add label admin

ceph orch host label add CEPH-MON-VNPT-02 \_admin

ceph orch host label add CEPH-MON-VNPT-03 \_admin

Add 2 node mon còn lại

ceph orch daemon add mon CEPH-MON-VNPT-02:172.10.10.82

ceph orch daemon add mon CEPH-MON-VNPT-03:172.10.10.83

ceph orch apply mon --placement="CEPH-MON-VNPT-01,CEPH-MON-VNPT-02,CEPH-MON-VNPT-03" --dry-run

ceph orch apply mon --placement="CEPH-MON-VNPT-01,CEPH-MON-VNPT-02,CEPH-MON-VNPT-03"

ceph orch ls --service\_type=mon --format yaml

Add label OSD

ceph orch host label add CEPH-DATA-VNPT-01 osd

ceph orch host label add CEPH-DATA-VNPT-02 osd

ceph orch host label add CEPH-DATA-VNPT-03 osd

List OSD device

ceph orch device ls

HOST PATH TYPE DEVICE ID SIZE AVAILABLE REFRESHED REJECT REASONS

CEPH-DATA-VNPT-01 /dev/nvme0n1 ssd SAMSUNG\_MZQLB7T6HMLA-00007\_S4BGNC0R900846 7153G Yes 7m ago

CEPH-DATA-VNPT-01 /dev/nvme1n1 ssd SAMSUNG\_MZQLB7T6HMLA-00007\_S4BGNC0R901348 7153G Yes 7m ago

CEPH-DATA-VNPT-01 /dev/nvme2n1 ssd SAMSUNG\_MZQLB7T6HMLA-00007\_S4BGNC0R901314 7153G Yes 7m ago

CEPH-DATA-VNPT-01 /dev/nvme3n1 ssd SAMSUNG\_MZQLB7T6HMLA-00007\_S4BGNC0R900834 7153G Yes 7m ago

CEPH-DATA-VNPT-01 /dev/nvme4n1 ssd SAMSUNG\_MZQLB7T6HMLA-00007\_S4BGNC0R901406 7153G Yes 7m ago

CEPH-DATA-VNPT-02 /dev/nvme0n1 ssd SAMSUNG\_MZQLB7T6HMLA-00007\_S4BGNC0R900644 7153G Yes 5m ago

CEPH-DATA-VNPT-02 /dev/nvme1n1 ssd SAMSUNG\_MZQLB7T6HMLA-00007\_S4BGNC0R901664 7153G Yes 5m ago

CEPH-DATA-VNPT-02 /dev/nvme2n1 ssd SAMSUNG\_MZQLB7T6HMLA-00007\_S4BGNC0R900730 7153G Yes 5m ago

CEPH-DATA-VNPT-02 /dev/nvme3n1 ssd SAMSUNG\_MZQLB7T6HMLA-00007\_S4BGNC0R900617 7153G Yes 5m ago

CEPH-DATA-VNPT-02 /dev/nvme4n1 ssd SAMSUNG\_MZQLB7T6HMLA-00007\_S4BGNC0R902208 7153G Yes 5m ago

CEPH-DATA-VNPT-03 /dev/nvme0n1 ssd SAMSUNG\_MZQLB7T6HMLA-00007\_S4BGNC0R900450 7153G Yes 3m ago

CEPH-DATA-VNPT-03 /dev/nvme1n1 ssd SAMSUNG\_MZQLB7T6HMLA-00007\_S4BGNC0R902212 7153G Yes 3m ago

CEPH-DATA-VNPT-03 /dev/nvme2n1 ssd SAMSUNG\_MZQLB7T6HMLA-00007\_S4BGNC0R900852 7153G Yes 3m ago

CEPH-DATA-VNPT-03 /dev/nvme3n1 ssd SAMSUNG\_MZQLB7T6HMLA-00007\_S4BGNC0R901411 7153G Yes 3m ago

CEPH-DATA-VNPT-03 /dev/nvme4n1 ssd SAMSUNG\_MZQLB7T6HMLA-00007\_S4BGNC0R901485 7153G Yes 3m ago

Add từng ổ 1 với cú pháp như sau

ceph orch daemon add osd CEPH-DATA-VNPT-03:/dev/nvme0n1

ceph orch daemon add osd CEPH-DATA-VNPT-01:/dev/nvme1n1

ceph orch daemon add osd CEPH-DATA-VNPT-01:/dev/nvme2n1

ceph orch daemon add osd CEPH-DATA-VNPT-01:/dev/nvme3n1

ceph orch daemon add osd CEPH-DATA-VNPT-01:/dev/nvme4n1

Disable austoscale pg mode

ceph config set global osd\_pool\_default\_pg\_autoscale\_mode off

Disable ceph balance mode

ceph balancer off

Set default pool size

ceph config set global osd\_pool\_default\_size 2

ceph config set global osd\_pool\_default\_min\_size 1

Set min osd ratio

ceph config set global mon\_osd\_min\_in\_ratio 0.5

Disable memory autotune

ceph config set osd osd\_memory\_target\_autotune false

Tạo pool cho OPS

ceph osd pool create volumes 512 512

ceph osd pool create images 256 256

ceph osd pool create backups 16 16

rbd pool init volumes

rbd pool init images

rbd pool init backups

**Xóa khoảng trắng trong file /etc/ceph.conf**

