Node name Node type IP address

admin.testco.com ADMIN 10.33.2.57

sm0.testco.com MON/MDS 10.33.2.58

sm1.testco.com MON/MDS 10.33.2.59

sm2.testco.com MON/MDS 10.33.2.60

sr0.testco.com OSD 10.33.2.61

sr1.testco.com OSD 10.33.2.62

sr2.testco.com OSD 10.33.2.63

sudo useradd -d /home/cephuser -m cephuser (admin 노드 실행)

sudo passwd cephuser

Enter new UNIX password:

Retype new UNIX password:

passwd: password updated successfully

echo "cephuser ALL = (root) NOPASSWD:ALL" \

| sudo tee /etc/sudoers.d/cephuser

sudo chmod 0440 /etc/sudoers.d/cephuser

$ ssh-keygen (admin 노드에서 cephuser로 실행)

Generating public/private rsa key pair.

Enter file in which to save the key (/home/cephuser/.ssh/id\_rsa):

Created directory '/home/cephuser/.ssh'.

Enter passphrase (empty for no passphrase):

Enter same passphrase again:

Your identification has been saved in /home/cephuser/.ssh/id\_rsa.

Your public key has been saved in /home/cephuser/.ssh/id\_rsa.pub.

The key fingerprint is:

90:6c:09:3d:b8:19:5e:f0:27:be:4b:00:91:34:1d:72 cephuser@admin

The key's randomart image is:

+--[ RSA 2048]----+

| .=oE= |

| .=+++o |

| .. =O.. |

| .+o + |

| ..S |

| .. |

| o |

| .. |

| . |

+-----------------+

$ ssh-copy-id [cephuser@sm0.testco.com](mailto:cephuser@sm0.testco.com) (admin 노드에서 각 resource노드로 각각 실행)

/usr/bin/ssh-copy-id: INFO:

attempting to log in with the new key(s),

to filter out any that are already installed

/usr/bin/ssh-copy-id: INFO: 1 key(s) remain to be installed --

if you are prompted now it is to install the new keys

cephuser@sm0.testco.com's password: [enter password]

Number of key(s) added: 1

Now try logging into the machine, with:

"ssh 'cephuser@sm0.testco.com'"

and check to make sure that only the key(s) you wanted were added.

$ wget -q -O- \ (admin 노드에서 실행)

'https://ceph.com/git/?p=ceph.git;a=blob\_plain;f=keys/release.asc' \

| sudo apt-key add -

OK

$ echo deb http://ceph.com/debian-dumpling/ $(lsb\_release -sc) \

main | sudo tee /etc/apt/sources.list.d/ceph.list

$ sudo apt-get update

Hit http://ceph.com trusty InRelease

Ign http://us.archive.ubuntu.com trusty InRelease

...

Fetched 2,244 kB in 5s (423 kB/s)

Reading package lists... Done

$ sudo apt-get install ceph-deploy

Reading package lists... Done

Building dependency tree

Reading state information... Done

The following packages will be upgraded:

ceph-deploy

$ ceph-deploy new sm0 sm1 sm2 (admin 노드에서 실행)

[ceph\_deploy.conf][DEBUG ]

found configuration file at: /home/cephuser/.cephdeploy.conf

[ceph\_deploy.cli][INFO ]

Invoked (1.5.21): /usr/bin/ceph-deploy new sm0

[ceph\_deploy.new][DEBUG ] Creating new cluster named ceph

...

ceph\_deploy.new][DEBUG ] Resolving host sm2

[ceph\_deploy.new][DEBUG ] Monitor sm2 at 10.33.2.60

[ceph\_deploy.new][DEBUG ] Monitor initial members are

['sm0', 'sm1', 'sm2']

[ceph\_deploy.new][DEBUG ] Monitor addrs are

['10.33.2.58', '10.33.2.59', '10.33.2.60']

[ceph\_deploy.new][DEBUG ] Creating a random mon key...

[ceph\_deploy.new][DEBUG ]

Writing monitor keyring to ceph.mon.keyring...

[ceph\_deploy.new][DEBUG ] Writing initial config to ceph.conf...

-------------------------------------------------------------------------------------------------------------

$ ceph-deploy install admin sm0 sm1 sm2 sr0 sr1 sr2 (admin 노드에서 실행)

[ceph\_deploy.conf][DEBUG ]

found configuration file at: /home/cephuser/.cephdeploy.conf

[ceph\_deploy.cli][INFO ]

Invoked (1.5.21): /usr/bin/ceph-deploy install sm0

...

[sm0][DEBUG ]

ceph version 0.87

$ ceph-deploy mon create-initial(admin 노드에서 실행)

ceph-deploy mon create sm0 sm1 sm2

...

[ceph\_deploy.mon][DEBUG ]

Deploying mon, cluster ceph hosts sm0 sm1 sm2

...

[sm0][INFO ] monitor: mon.sm0 is running

...

[sm1][INFO ] monitor: mon.sm1 is running

...

[sm2][INFO ] monitor: mon.sm2 is running

$ ceph-deploy admin admin (admin 노드에서 실행)

[ceph\_deploy.conf][DEBUG ]

found configuration file at: /home/cephuser/.cephdeploy.conf

[ceph\_deploy.cli][INFO ]

Invoked (1.5.21): /usr/bin/ceph-deploy admin admin

[ceph\_deploy.admin][DEBUG ] Pushing admin keys and conf to admin

[admin][DEBUG ]

write cluster configuration to /etc/ceph/{cluster}.conf

$ ceph

ceph> health

HEALTH\_ERR 64 pgs stuck inactive; 64 pgs stuck unclean; no osds

$ ceph-deploy disk list sr2 (admin 노드에서 실행)

...

[sr2][DEBUG ] /dev/sda1 other, vfat, mounted on /boot/efi

[sr2][DEBUG ] /dev/sda2 other, ext2, mounted on /boot

[sr2][DEBUG ] /dev/sda3 other, LVM2\_member

[sr2][DEBUG ] /dev/sdb other, unknown

[sr2][DEBUG ] /dev/sdc other, unknown

...

[sr2][DEBUG ] /dev/sdu other, unknown

$ ceph-deploy disk zap sr0:sdb

...

[sr0][DEBUG ] zeroing last few blocks of device

...

[sr0][DEBUG ] GPT data structures destroyed!

You may now partition the disk using fdisk

[sr0][INFO ] Running command: sudo partprobe /dev/sdb

$ ceph-deploy osd prepare sr0:sdf:/dev/sdb

...

[ceph\_deploy.osd][DEBUG ] Deploying osd to sr0

...

[sr0][WARNIN] DEBUG:ceph-disk:

Creating journal partition num 1 size 5120 on /dev/sdb

...

[sr0][WARNIN] DEBUG:ceph-disk:Creating xfs fs on /dev/sdf1

...

[ceph\_deploy.osd][DEBUG ] Host sr0 is now ready for osd use.

$ ceph-deploy osd activate sr0:/dev/sdf1:/dev/sdb1

...

[sr0][WARNIN] DEBUG:ceph-disk:Starting ceph osd.0...

$ ceph health

HEALTH\_OK

$ ceph -s

cluster 68d552e3-4e0a-4a9c-9852-a4075a5a99a0

health HEALTH\_OK

monmap e1: 3 mons at

...

pgmap v39204: 2000 pgs, 2 pools, 836 GB data, 308 kobjects

1680 GB used, 42985 GB / 44666 GB avail

2000 active+clean

$ ceph osd pool create mypool 2000 2000

pool 'mypool' created

$ ceph health

HEALTH\_WARN 1959 pgs stuck inactive; 1959 pgs stuck unclean

$ ceph health

HEALTH\_OK