

拓展:osd磁盘的删除(这里以删除node1上的osd.0磁盘为例)

1, 查看osd磁盘状态

```
[root@node1 ceph]# ceph osd tree
ID CLASS WEIGHT  TYPE NAME        STATUS REWEIGHT PRI-AFF
-1          0.00298 root default
-3          0.00099 host node1
 0 hdd 0.00099      osd.0      up  1.00000 1.00000
-5          0.00099 host node2
 1 hdd 0.00099      osd.1      up  1.00000 1.00000
-7          0.00099 host node3
 2 hdd 0.00099      osd.2      up  1.00000 1.00000
```

2, 先标记为out

```
[root@node1 ceph]# ceph osd out osd.0
marked out osd.0.

[root@node1 ceph]# ceph osd tree
ID CLASS WEIGHT  TYPE NAME        STATUS REWEIGHT PRI-AFF
-1          0.00298 root default
-3          0.00099 host node1
 0 hdd 0.00099      osd.0      up      0 1.00000      可以看到权重为0,但状态还是UP
-5          0.00099 host node2
 1 hdd 0.00099      osd.1      up  1.00000 1.00000
-7          0.00099 host node3
 2 hdd 0.00099      osd.2      up  1.00000 1.00000
```

3, 再rm删除,但要先去==osd.0对应的节点上==停止ceph-osd服务,否则rm不了

```
[root@node1 ceph]# systemctl stop ceph-osd@0.service

[root@node1 ceph]# ceph osd rm osd.0
removed osd.0

[root@node1 ceph]# ceph osd tree
ID CLASS WEIGHT  TYPE NAME        STATUS REWEIGHT PRI-AFF
-1          0.00298 root default
-3          0.00099 host node1
 0 hdd 0.00099      osd.0      DNE      0      状态不再为UP了
-5          0.00099 host node2
 1 hdd 0.00099      osd.1      up  1.00000 1.00000
-7          0.00099 host node3
 2 hdd 0.00099      osd.2      up  1.00000 1.00000
```

4, 查看集群状态

```
[root@node1 ceph]# ceph -s
cluster:
  id:      6788206c-c4ea-4465-b5d7-ef7ca3f74552
  health: HEALTH_WARN
```

1 osds exist in the crush map but not in the osdmap 有警告,没有在 crush算法中删除

```
services:
  mon: 3 daemons, quorum node1,node2,node3
  mgr: node1(active), standbys: node2, node3
  osd: 2 osds: 2 up, 2 in

data:
  pools: 0 pools, 0 pgs
  objects: 0 objects, 0 B
  usage: 28 MiB used, 2.0 GiB / 2.0 GiB avail
  pgs:
```

发现只有两个osd,说明osd.0删除成功

3G变为2G,说明删除成功

5, 在crush算法中和auth验证中删除

```
[root@node1 ceph]# ceph osd crush remove osd.0
removed item id 0 name 'osd.0' from crush map
```

```
[root@node1 ceph]# ceph auth del osd.0
updated
```

6, 还需要在==osd.0对应的节点==上卸载

```
[root@node1 ceph]# df -h |grep osd
tmpfs          488M    48K   488M    1% /var/lib/ceph/osd/ceph-0

[root@node1 ceph]# umount /var/lib/ceph/osd/ceph-0
```

7, 在osd.0对应的节点上删除osd磁盘产生的逻辑卷

```
[root@node1 ceph]# pvs
PV          VG          Fmt Attr PSize   PFree
/dev/sdb    ceph-56e0d335-80ba-40d8-b076-fc63a766dcac lvm2 a-- 1020.00m 0

[root@node1 ceph]# vgs
VG          #PV #LV #SN Attr   VSize   VFree
ceph-56e0d335-80ba-40d8-b076-fc63a766dcac 1 1 0 wz--n- 1020.00m 0

[root@node1 ceph]# lvremove ceph-56e0d335-80ba-40d8-b076-fc63a766dcac
Do you really want to remove active logical volume ceph-56e0d335-80ba-40d8-b076-fc63a766dcac/osd-block-ef26149d-5d7d-4cc7-8251-684fbddc2da5? [y/n]:y
Logical volume "osd-block-ef26149d-5d7d-4cc7-8251-684fbddc2da5" successfully removed
```

至此, 就完全删除了

8, 如果要再加回来,再次在部署节点使用下面命令即可

```
[root@node1 ceph]# ceph-deploy disk zap node1 /dev/sdb  
[root@node1 ceph]# ceph-deploy osd create --data /dev/sdb node1
```