

Tomado de: <https://stackoverflow.com/questions/40771273/ceph-too-many-pgs-per-osd>

**Before setting PG count you need to know 3 things.**

### 1. Number of OSD

```
ceph osd ls
```

Sample Output:

```
0
1
2
```

Here Total number of osd is three.

### 2. Number of Pools

```
ceph osd pool ls or rados lspools
```

Sample Output:

```
rbd
images
vms
volumes
backups
```

Here Total number of pool is five.

### 3. Replication Count

```
ceph osd dump | grep repli
```

Sample Output:

```
pool 0 'rbd' replicated size 2 min_size 2 crush_ruleset 0 object_hash
rjenkins pg_num 64 pgp_num 64 last_change 38 flags hashpspool stripe_width 0
pool 1 'images' replicated size 2 min_size 2 crush_ruleset 1 object_hash
rjenkins pg_num 30 pgp_num 30 last_change 40 flags hashpspool stripe_width 0
pool 2 'vms' replicated size 2 min_size 2 crush_ruleset 1 object_hash
rjenkins pg_num 30 pgp_num 30 last_change 42 flags hashpspool stripe_width 0
pool 3 'volumes' replicated size 2 min_size 2 crush_ruleset 1 object_hash
rjenkins pg_num 30 pgp_num 30 last_change 36 flags hashpspool stripe_width 0
pool 4 'backups' replicated size 2 min_size 2 crush_ruleset 1 object_hash
rjenkins pg_num 30 pgp_num 30 last_change 44 flags hashpspool stripe_width 0
```

You can see each pool has replication count two. Now Let get into calculation

Calculations: Total PGs Calculation: Total PGs = (Total\_number\_of\_OSD \* 100) / max\_replication\_count

This result must be rounded up to the nearest power of 2. Example:

No of OSD: 3 No of Replication Count: 2

Total PGs =  $(3 * 100) / 2 = 150$ . Nearest Power of 150 to 2 is 256.

So Maximum Recommended PGs is 256

You can set PG for every Pool

Total PGs per pool Calculation: Total PGs =  $((\text{Total\_number\_of\_OSD} * 100) / \text{max\_replication\_count}) / \text{pool count}$

This result must be rounded up to the nearest power of 2. Example:

No of OSD: 3 No of Replication Count: 2 No of pools: 5

Total PGs =  $((3 * 100) / 2) / 5 = 150 / 5 = 30$ . Nearest Power of 30 to 2 is 32.

So Total No of PGs per pool is 32.

Power of 2 Table:  $2^0$  1  $2^1$  2  $2^2$  4  $2^3$  8  $2^4$  16  $2^5$  32  $2^6$  64  $2^7$  128  $2^8$  256  $2^9$  512  $2^{10}$  1024 Useful Commands `ceph osd pool create <pool-name> <pg-number> <pgp-number>` - To create a new pool

`ceph osd pool get <pool-name> <pg_num>` - To get number of PG in a pool

`ceph osd pool get <pool-name> <pgp_num>` - To get number of PGP in a pool

`ceph osd pool set <pool-name> <pg_num number>` - To increase number of PG in a pool

`ceph osd pool set <pool-name> <pgp_num number>` - To increase number of PGP in a pool

\*usually pg and pgp number is same

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