

```
added bucket hostc type host to crush map
[ceph: root@clienta /]# ceph osd crush add-bucket hostd host
added bucket hostd type host to crush map
```

- 1.3. Use the `ceph osd crush move` command to build the hierarchy.

```
[ceph: root@clienta /]# ceph osd crush move dc1 root=review-cl260
moved item id -10 name 'dc1' to location {root=review-cl260} in crush map
[ceph: root@clienta /]# ceph osd crush move dc2 root=review-cl260
moved item id -11 name 'dc2' to location {root=review-cl260} in crush map
[ceph: root@clienta /]# ceph osd crush move rack1 datacenter=dc1
moved item id -12 name 'rack1' to location {datacenter=dc1} in crush map
[ceph: root@clienta /]# ceph osd crush move rack2 datacenter=dc2
moved item id -13 name 'rack2' to location {datacenter=dc2} in crush map
[ceph: root@clienta /]# ceph osd crush move hostc rack=rack1
moved item id -14 name 'hostc' to location {rack=rack1} in crush map
[ceph: root@clienta /]# ceph osd crush move hostd rack=rack2
moved item id -15 name 'hostd' to location {rack=rack2} in crush map
```

- 1.4. Place the OSDs as leaves in the new tree and set all OSD weights to 1.0.

```
[ceph: root@clienta /]# ceph osd crush set osd.1 1.0 root=review-cl260 \
datacenter=dc1 rack=rack1 host=hostc
set item id 1 name 'osd.1' weight 1 at location
{datacenter=dc1,host=hostc,rack=rack1,root=review-cl260} to crush map
[ceph: root@clienta /]# ceph osd crush set osd.2 1.0 root=review-cl260 \
datacenter=dc1 rack=rack1 host=hostc
set item id 2 name 'osd.2' weight 1 at location
{datacenter=dc1,host=hostc,rack=rack1,root=review-cl260} to crush map
[ceph: root@clienta /]# ceph osd crush set osd.3 1.0 root=review-cl260 \
datacenter=dc2 rack=rack2 host=hostd
set item id 3 name 'osd.3' weight 1 at location
{datacenter=dc2,host=hostd,rack=rack2,root=review-cl260} to crush map
[ceph: root@clienta /]# ceph osd crush set osd.4 1.0 root=review-cl260 \
datacenter=dc1 rack=rack2 host=hostd
set item id 4 name 'osd.4' weight 1 at location
{datacenter=dc1,host=hostd,rack=rack2,root=review-cl260} to crush map
```

- 1.5. Display the CRUSH map tree to verify the new hierarchy and OSD locations.

```
[ceph: root@clienta /]# ceph osd tree
```

ID	CLASS	WEIGHT	TYPE	NAME	STATUS	REWEIGHT	PRI-AFF
-9		4.00000	root	review-cl260			
-10		2.00000	datacenter	dc1			
-12		2.00000	rack	rack1			
-14		2.00000	host	hostc			
1	hdd	1.00000	osd	osd.1	up	1.00000	1.00000
2	hdd	1.00000	osd	osd.2	up	1.00000	1.00000
-11		2.00000	datacenter	dc2			
-13		2.00000	rack	rack2			
-15		2.00000	host	hostd			
3	hdd	1.00000	osd	osd.3	up	1.00000	1.00000
4	hdd	1.00000	osd	osd.4	up	1.00000	1.00000