Manually Adding disk in ASM in 2-Node RAC without Downtime

SCENARIO:

ASM_DISKGROUP

==========

GROUP_NUMBER	NAME	ALLOCATION_UNIT_SIZE	STATE	TOTAL_MB/1024	FREE_MB/1024	OFFLINE_DISKS
1	DATA	4194304	CONNECTED	5626.36	1.13	0
2	FRA	4194304	CONNECTED	499.99	375.44	0
3	OCRVOTE	4194304	MOUNTED	59.99	59.64	0
4	RECO	4194304	MOUNTED	499.99	499.87	0
5	TEMP	4194304	MOUNTED	499.99	499.87	0
6	UNDO	4194304	MOUNTED	499.99	499.87	0

```
ASMCMD> lsdg
State    Type    Rebal  Sector  Logical_Sector  Block       AU  Total_MB  Free_MB  Req_mir_free_MB  Usable_file_MB  Offline_disks  Voting_files  Name
MOUNTED  EXTERN  N         512             512   4096  4194304   5761396     1152                0            1152              0             N  DATA/
MOUNTED  EXTERN  N         512             512   4096  4194304    511996   384448                0          384448              0             N  FRA/
MOUNTED  EXTERN  N         512             512   4096  4194304     61428    61076                0           61076              0             Y  OCRVOTE/
MOUNTED  EXTERN  N         512             512   4096  4194304    511996   511864                0          511864              0             N  RECO/
MOUNTED  EXTERN  N         512             512   4096  4194304    511996   511864                0          511864              0             N  TEMP/
MOUNTED  EXTERN  N         512             512   4096  4194304    511996   511864                0          511864              0             N  UNDO/
```

SOLUTION:

1. **CHECK ANY FREE SHAREABLE LUNS OR DISK IS PRESENT TO ADD IN ASM .**

[oracle@abc-newdb-2 ~]$ `lsblk -mf`

```
NAME          SIZE OWNER GROUP MODE       NAME        FSTYPE      LABEL  UUID                                   MOUNTPOINT
sdf            20G root  disk  brw-rw---- sdf
└─sdf1         20G root  disk  brw-rw---- └─sdf1      oracleasm   OCR2
sdo           500G root  disk  brw-rw---- sdo
└─sdo1        500G root  disk  brw-rw---- └─sdo1      oracleasm   DATA04
sdd           500G root  disk  brw-rw---- sdd
└─sdd1        500G root  disk  brw-rw---- └─sdd1      oracleasm   DATA09
sdm           500G root  disk  brw-rw---- sdm
└─sdm1        500G root  disk  brw-rw---- └─sdm1      oracleasm   DATA02
sdb           1.1T root  disk  brw-rw---- sdb
└─sdb1        1.1T root  disk  brw-rw---- └─sdb1      oracleasm   DATA10
sdk           500G root  disk  brw-rw---- sdk
└─sdk1        500G root  disk  brw-rw---- └─sdk1      oracleasm   DATA08
sds           200G root  disk  brw-rw---- sds         LVM2_member         FMBnD3-btGw-dD9Y-8NGn-hsqJ-p305-OVJ2Q1
└─vg01-lv01   190G root  disk  brw-rw---- └─vg01-lv01 ext4                880c2b51-9b5f-4802-95a5-bffa98a7dbef   /u01
sdi           500G root  disk  brw-rw---- sdi
└─sdi1        500G root  disk  brw-rw---- └─sdi1      oracleasm   UNDO01
sdq           500G root  disk  brw-rw---- sdq
└─sdq1        500G root  disk  brw-rw---- └─sdq1      oracleasm   DATA06
sr0          1024M root  cdrom brw-rw---- sr0
sdg            20G root  disk  brw-rw---- sdg
└─sdg1         20G root  disk  brw-rw---- └─sdg1      oracleasm   OCR3
sde            20G root  disk  brw-rw---- sde
└─sde1         20G root  disk  brw-rw---- └─sde1      oracleasm   OCR1
sdn           500G root  disk  brw-rw---- sdn
└─sdn1        500G root  disk  brw-rw---- └─sdn1      oracleasm   DATA03
sdc           500G root  disk  brw-rw---- sdc
└─sdc1        500G root  disk  brw-rw---- └─sdc1      oracleasm   FRA01
sdl           500G root  disk  brw-rw---- sdl
└─sdl1        500G root  disk  brw-rw---- └─sdl1      oracleasm   DATA01
sda           140G root  disk  brw-rw---- sda
├─sda2        139G root  disk  brw-rw---- ├─sda2      LVM2_member         CXkArK-1RbV-mbqH-9866-kKYk-cnkZ-ikuBf0
│ ├─ol-swap 13.8G root  disk  brw-rw---- │ ├─ol-swap swap               8e180327-5498-4178-9ac4-ba8f6713043f   [SWAP]
│ ├─ol-home 75.2G root  disk  brw-rw---- │ ├─ol-home xfs                cf162463-e62f-4237-a90b-17807d0570dd   /home
│ └─ol-root   50G root  disk  brw-rw---- │ └─ol-root xfs                d28e0c59-c1a9-4782-b6a1-50a5edd7cf42   /
└─sda1          1G root  disk  brw-rw---- └─sda1      xfs                 d7380867-5b91-458d-8ae5-41e0e5911db8   /boot
sdj           500G root  disk  brw-rw---- sdj
└─sdj1        500G root  disk  brw-rw---- └─sdj1      oracleasm   TEMP01
sdr           500G root  disk  brw-rw---- sdr
└─sdr1        500G root  disk  brw-rw---- └─sdr1      oracleasm   DATA07
sdh           500G root  disk  brw-rw---- sdh
└─sdh1        500G root  disk  brw-rw---- └─sdh1      oracleasm   RECO01
sdp           500G root  disk  brw-rw---- sdp
└─sdp1        500G root  disk  brw-rw---- └─sdp1      oracleasm   DATA05
```

*NO FREE LUNS IS AVAILABLE

2. **SERVER TEAM HAS TO ADD SHAREABLE LUN , FOR THAT WE HAVE TO STOP THE SERVICE AND HANDOVER THE NODES ONE BY ONE SO THAT LUN SHOULD BE MAPPED IN THE RESPECTIVE SERVER.**

   For example we are considering node 2 first:

   - **Login as "GRID" user.**

     [grid@abc-newdb-2 ~]$ `ps -ef|grep pmon`

```
[grid@abc-newdb-2 ~]$ ps -ef|grep pmon
grid      9136  8957  0 11:59 pts/0    00:00:00 grep --color=auto pmon
grid     10100     1  0 Feb06 ?        00:00:34 asm_pmon_+ASM2
oracle   17216     1  0 Feb06 ?        00:00:55 ora_pmon_NEWDB2
oracle   19196     1  0 Feb06 ?        00:00:34 ora_pmon_SERVDB2
```

   - **#From Grid User**

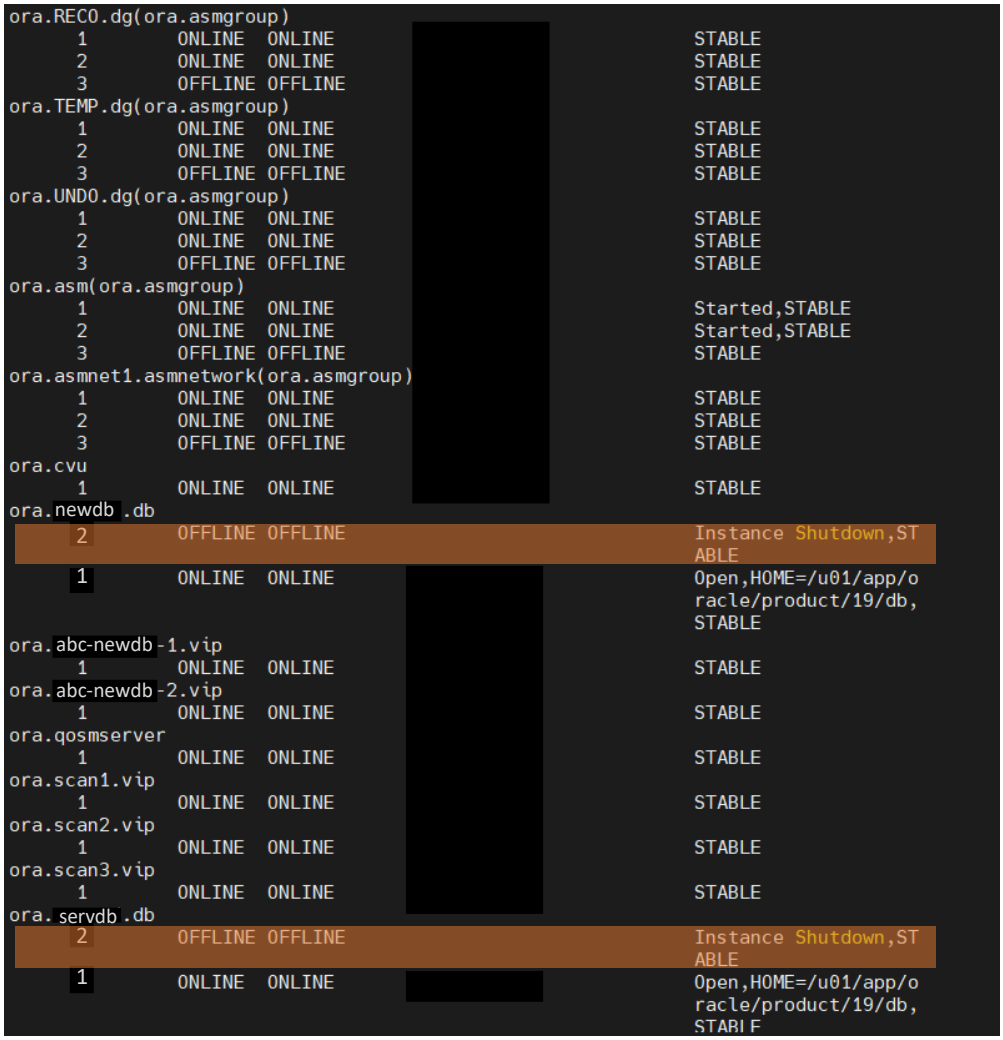
```
srvctl stop instance -d NEWDB -i NEWDB2
srvctl stop instance -d SERVDB -i SERVDB2
```

   - **#From root user**

```
[root@abc-newdb-2 ~]# ps -ef|grep pmon
grid     10100     1  0 12:25 ?        00:00:00 asm_pmon_+ASM2
root     12754  7517  0 12:26 pts/1    00:00:00 grep --color=auto pmon
```

     [root@abc-newdb-2 ~]# `crsctl stat res -t`

```
[root@abc-newdb-1 ~]# crsctl stat res -t
--------------------------------------------------------------------------------
Name           Target  State        Server                   State details
--------------------------------------------------------------------------------
Local Resources
--------------------------------------------------------------------------------
ora.LISTENER.lsnr
               ONLINE  ONLINE                                 STABLE
               ONLINE  ONLINE                                 STABLE
ora.chad
               ONLINE  ONLINE                                 STABLE
               ONLINE  ONLINE                                 STABLE
ora.net1.network
               ONLINE  ONLINE                                 STABLE
               ONLINE  ONLINE                                 STABLE
ora.ons
               ONLINE  ONLINE                                 STABLE
               ONLINE  ONLINE                                 STABLE
--------------------------------------------------------------------------------
Cluster Resources
--------------------------------------------------------------------------------
EMCagent
      1        ONLINE  ONLINE                                 STABLE
ora.ASMNET1LSNR_ASM.lsnr(ora.asmgroup)
      1        ONLINE  ONLINE                                 STABLE
      2        ONLINE  ONLINE                                 STABLE
      3        ONLINE  OFFLINE                                STABLE
ora.DATA.dg(ora.asmgroup)
      1        ONLINE  ONLINE                                 STABLE
      2        ONLINE  ONLINE                                 STABLE
      3        OFFLINE OFFLINE                                STABLE
ora.FRA.dg(ora.asmgroup)
      1        ONLINE  ONLINE                                 STABLE
      2        ONLINE  ONLINE                                 STABLE
      3        OFFLINE OFFLINE                                STABLE
ora.LISTENER_SCAN1.lsnr
      1        ONLINE  ONLINE                                 STABLE
ora.LISTENER_SCAN2.lsnr
      1        ONLINE  ONLINE                                 STABLE
ora.LISTENER_SCAN3.lsnr
      1        ONLINE  ONLINE                                 STABLE
ora.OCRVOTE.dg(ora.asmgroup)
      1        ONLINE  ONLINE                                 STABLE
```



- **Set the environment with ASM Instance and execute "`crsctl stop crs`" command.**

```
[root@abc-newdb-2 ~]# . oraenv
ORACLE_SID = [root] ? +ASM2
The Oracle base has been changed from /home/oracle to
/u01/app/grid/gi_base
[root@abc-newdb-2 ~]#
[root@abc-newdb-2 ~]#
[root@abc-newdb-2 ~]#
[root@abc-newdb-2 ~]# crsctl stop crs
```

```
[root@abc-newdb-2 ~]# . oraenv
ORACLE_SID = [root] ? +ASM2
The Oracle base has been changed from /home/oracle to /u01/app/grid/gi_base
[root@abc-newdb-2 ~]#
[root@abc-newdb-2 ~]#
[root@abc-newdb-2 ~]#
[root@abc-newdb-2 ~]# crsctl stop crs
CRS-2791: Starting shutdown of Oracle High Availability Services-managed resources on '[redacted]'
CRS-2673: Attempting to stop 'ora.crsd' on '[redacted]'
CRS-2790: Starting shutdown of Cluster Ready Services-managed resources on server '[redacted]'
CRS-2673: Attempting to stop 'ora.LISTENER_SCAN3.lsnr' on '[redacted]'
CRS-2673: Attempting to stop 'ora.LISTENER.lsnr' on '[redacted]'
CRS-2673: Attempting to stop 'ora.cvu' on '[redacted]'
CRS-2673: Attempting to stop 'ora.LISTENER_SCAN2.lsnr' on '[redacted]'
CRS-2673: Attempting to stop 'ora.chad' on '[redacted]'
CRS-2673: Attempting to stop 'EMCagent' on '[redacted]'
CRS-33673: Attempting to stop resource group 'ora.asmgroup' on server '[redacted]'
CRS-2673: Attempting to stop 'ora.OCRVOTE.dg' on '[redacted]'
CRS-2673: Attempting to stop 'ora.RECO.dg' on '[redacted]'
CRS-2673: Attempting to stop 'ora.TEMP.dg' on '[redacted]'
CRS-2673: Attempting to stop 'ora.UNDO.dg' on '[redacted]'
CRS-2673: Attempting to stop 'ora.DATA.dg' on '[redacted]'
CRS-2673: Attempting to stop 'ora.FRA.dg' on '[redacted]'
CRS-2673: Attempting to stop 'ora.qosmserver' on '[redacted]'
CRS-2677: Stop of 'ora.LISTENER_SCAN3.lsnr' on '[redacted]' succeeded
CRS-2673: Attempting to stop 'ora.scan3.vip' on '[redacted]'
CRS-2677: Stop of 'ora.LISTENER.lsnr' on '[redacted]' succeeded
CRS-2673: Attempting to stop 'ora.[redacted].vip' on '[redacted]'
CRS-2677: Stop of 'ora.OCRVOTE.dg' on '[redacted]' succeeded
CRS-2677: Stop of 'ora.UNDO.dg' on '[redacted]' succeeded
CRS-2677: Stop of 'ora.FRA.dg' on '[redacted]' succeeded
CRS-2677: Stop of 'ora.DATA.dg' on '[redacted]' succeeded
CRS-2677: Stop of 'ora.LISTENER_SCAN2.lsnr' on '[redacted]' succeeded
CRS-2673: Attempting to stop 'ora.scan2.vip' on '[redacted]'
CRS-2677: Stop of 'ora.TEMP.dg' on '[redacted]' succeeded
CRS-2677: Stop of 'ora.cvu' on '[redacted]' succeeded
CRS-2677: Stop of 'ora.RECO.dg' on '[redacted]' succeeded
CRS-2673: Attempting to stop 'ora.asm' on '[redacted]'
CRS-2677: Stop of 'ora.scan3.vip' on '[redacted]' succeeded
CRS-2677: Stop of 'ora.[redacted].vip' on '[redacted]' succeeded
CRS-2677: Stop of 'ora.scan2.vip' on '[redacted]' succeeded
CRS-2677: Stop of 'ora.chad' on '[redacted]' succeeded
```

```
CRS-2677: Stop of 'EMCagent' on '          ' succeeded
CRS-2677: Stop of 'ora.asm' on '          ' succeeded
CRS-2673: Attempting to stop 'ora.ASMNET1LSNR_ASM.lsnr' on '          '
CRS-2677: Stop of 'ora.qosmserver' on '          ' succeeded
CRS-2677: Stop of 'ora.ASMNET1LSNR_ASM.lsnr' on '          ' succeeded
CRS-2673: Attempting to stop 'ora.asmnet1.asmnetwork' on '          '
CRS-2677: Stop of 'ora.asmnet1.asmnetwork' on '          ' succeeded
CRS-33677: Stop of resource group 'ora.asmgroup' on server '          ' succeeded.
CRS-2672: Attempting to start 'EMCagent' on '          '
CRS-2672: Attempting to start 'ora.qosmserver' on '          '
CRS-2672: Attempting to start 'ora.scan2.vip' on '          '
CRS-2672: Attempting to start 'ora.scan3.vip' on '          '
CRS-2672: Attempting to start 'ora.cvu' on '          '
CRS-2672: Attempting to start 'ora.          .vip' on '          '
CRS-2676: Start of 'ora.cvu' on '          ' succeeded
CRS-2676: Start of 'EMCagent' on '          ' succeeded
CRS-2676: Start of 'ora.          .vip' on '          ' succeeded
CRS-2676: Start of 'ora.scan3.vip' on '          ' succeeded
CRS-2672: Attempting to start 'ora.LISTENER_SCAN3.lsnr' on '          '
CRS-2676: Start of 'ora.scan2.vip' on '          ' succeeded
CRS-2672: Attempting to start 'ora.LISTENER_SCAN2.lsnr' on '          '
CRS-2676: Start of 'ora.LISTENER_SCAN3.lsnr' on '          ' succeeded
CRS-2676: Start of 'ora.LISTENER_SCAN2.lsnr' on '          ' succeeded
CRS-2676: Start of 'ora.qosmserver' on '          ' succeeded
CRS-2673: Attempting to stop 'ora.ons' on '          '
CRS-2677: Stop of 'ora.ons' on '          ' succeeded
CRS-2673: Attempting to stop 'ora.net1.network' on '          '
CRS-2677: Stop of 'ora.net1.network' on '          ' succeeded
CRS-2792: Shutdown of Cluster Ready Services-managed resources on '          ' has completed
CRS-2677: Stop of 'ora.crsd' on '          ' succeeded
CRS-2673: Attempting to stop 'ora.storage' on '          '
CRS-2673: Attempting to stop 'ora.crf' on '          '
CRS-2673: Attempting to stop 'ora.drivers.acfs' on '          '
CRS-2673: Attempting to stop 'ora.mdnsd' on '          '
CRS-2677: Stop of 'ora.drivers.acfs' on '          ' succeeded
CRS-2677: Stop of 'ora.storage' on '          ' succeeded
CRS-2673: Attempting to stop 'ora.asm' on '          '
CRS-2677: Stop of 'ora.crf' on '          ' succeeded
CRS-2677: Stop of 'ora.mdnsd' on '          ' succeeded
CRS-2677: Stop of 'ora.asm' on '          ' succeeded
CRS-2673: Attempting to stop 'ora.cluster_interconnect.haip' on '          '
CRS-2677: Stop of 'ora.cluster_interconnect.haip' on '          ' succeeded
CRS-2673: Attempting to stop 'ora.ctssd' on '          '
CRS-2673: Attempting to stop 'ora.evmd' on '          '
CRS-2677: Stop of 'ora.evmd' on '          ' succeeded
CRS-2677: Stop of 'ora.ctssd' on '          ' succeeded
```

```
CRS-2673: Attempting to stop 'ora.cssd' on '          '
CRS-2677: Stop of 'ora.cssd' on '          ' succeeded
CRS-2673: Attempting to stop 'ora.gipcd' on '          '
CRS-2673: Attempting to stop 'ora.gpnpd' on '          '
CRS-2677: Stop of 'ora.gpnpd' on '          ' succeeded
CRS-2677: Stop of 'ora.gipcd' on '          ' succeeded
CRS-2793: Shutdown of Oracle High Availability Services-managed resources on '          ' has completed
CRS-4133: Oracle High Availability Services has been stopped.
[root@abc-newdb-2 ~]#
[root@abc-newdb-2 ~]#
[root@abc-newdb-2 ~]# ps -ef|grep pmon
root     10401 24854  0 12:06 pts/4    00:00:00 grep --color=auto pmon
[root@abc-newdb-2 ~]#
```

- **Now handover node2 to the Server team so that they can add a LUN for ASM (Addition of LUN and Server Reboot) and,**
  Wait for the confirmation.

3. **AFTER CONFIRMATION, CROSSCHECK IF THE LUN IS VISIBLE ON THE SERVER OR NOT AND START THE SERVICES AND INSTANCES IF NOT STARTED AUTOMATICALLY.**

```
[root@abc-newdb-2 ~]# lsblk -mf
```

```
[root@abc-newdb-2 ~]# lsblk -mf
NAME         SIZE OWNER GROUP MODE       NAME        FSTYPE      LABEL  UUID                                   MOUNTPOINT
sdf          500G root  disk  brw-rw---- sdf
└─sdf1       500G root  disk  brw-rw---- └─sdf1      oracleasm   DATA09
sdo          500G root  disk  brw-rw---- sdo
└─sdo1       500G root  disk  brw-rw---- └─sdo1      oracleasm   DATA02
sdd          1.1T root  disk  brw-rw---- sdd
└─sdd1       1.1T root  disk  brw-rw---- └─sdd1      oracleasm   DATA10
sdm          500G root  disk  brw-rw---- sdm
└─sdm1       500G root  disk  brw-rw---- └─sdm1      oracleasm   DATA08
sdb          1.1T root  disk  brw-rw---- sdb
sdk          500G root  disk  brw-rw---- sdk
└─sdk1       500G root  disk  brw-rw---- └─sdk1      oracleasm   UND001
sds          500G root  disk  brw-rw---- sds
└─sds1       500G root  disk  brw-rw---- └─sds1      oracleasm   DATA06
sdi           20G root  disk  brw-rw---- sdi
└─sdi1        20G root  disk  brw-rw---- └─sdi1      oracleasm   OCR3
sdq          500G root  disk  brw-rw---- sdq
└─sdq1       500G root  disk  brw-rw---- └─sdq1      oracleasm   DATA04
sr0         1024M root  cdrom brw-rw---- sr0
sdg           20G root  disk  brw-rw---- sdg
└─sdg1        20G root  disk  brw-rw---- └─sdg1      oracleasm   OCR1
sde          500G root  disk  brw-rw---- sde
└─sde1       500G root  disk  brw-rw---- └─sde1      oracleasm   FRA01
sdn          500G root  disk  brw-rw---- sdn
└─sdn1       500G root  disk  brw-rw---- └─sdn1      oracleasm   DATA01
sdc          200G root  disk  brw-rw---- sdc         LVM2_member        W8fq11-WDtV-0Fwy-iaAq-Nkvd-0Mbp-lSMwFm
└─vg01-lv01  190G root  disk  brw-rw---- └─vg01-lv01 ext4               ae1890b1-8537-4045-9c8c-fc41fd66ddac   /u01
sdl          500G root  disk  brw-rw---- sdl
└─sdl1       500G root  disk  brw-rw---- └─sdl1      oracleasm   TEMP01
sdt          500G root  disk  brw-rw---- sdt
└─sdt1       500G root  disk  brw-rw---- └─sdt1      oracleasm   DATA07
sda          140G root  disk  brw-rw---- sda
├─sda2       139G root  disk  brw-rw---- ├─sda2      LVM2_member        hHvs77-6xrZ-B0dU-9bMI-ozd2-Ux9f-zRpQlk
│ ├─ol-swap 13.8G root  disk  brw-rw---- │ ├─ol-swap swap              d70ed8cc-54b9-4a3b-839c-633c3f670a71   [SWAP]
│ ├─ol-root   50G root  disk  brw-rw---- │ ├─ol-root xfs               e9ae56be-3568-4a3f-9e1e-9fadb8157c23   /
│ └─ol-home 75.2G root  disk  brw-rw---- │ └─ol-home xfs               769e266e-f2f4-4759-b78f-7dca83aae761   /home
└─sda1         1G root  disk  brw-rw---- └─sda1      xfs                52dc8b12-7990-4727-9403-a9b2d67a4c50   /boot
sdj          500G root  disk  brw-rw---- sdj
└─sdj1       500G root  disk  brw-rw---- └─sdj1      oracleasm   RECO01
sdr          500G root  disk  brw-rw---- sdr
└─sdr1       500G root  disk  brw-rw---- └─sdr1      oracleasm   DATA05
sdh           20G root  disk  brw-rw---- sdh
└─sdh1        20G root  disk  brw-rw---- └─sdh1      oracleasm   OCR2
sdp          500G root  disk  brw-rw---- sdp
└─sdp1       500G root  disk  brw-rw---- └─sdp1      oracleasm   DATA03
```

```
[root@abc-newdb-2 ~]# ps -ef|grep pmon
```

```
[root@abc-newdb-2 ~]# ps -ef|grep pmon
grid      10100      1  0 12:25 ?        00:00:00 asm_pmon_+ASM2
root      12754   7517  0 12:26 pts/1    00:00:00 grep --color=auto pmon
```

Here, ASM instance is UP but database instance is down, to check the current status execute.

```
[root@abc-newdb-2 ~]# crsctl stat res -t
```

To start the database instance execute command in "GRID" User:

```
srvctl start instance -d NEWDB -i NEWDB2
srvctl start instance -d SERVDB -i SERVDB2
```

```
[grid@abc-newdb-2 ~]$ . oraenv
ORACLE_SID = [+ASM2] ? +ASM2
The Oracle base remains unchanged with value /u01/app/grid/gi_base
[grid@abc-newdb-2 ~]$
[grid@abc-newdb-2 ~]$
[grid@abc-newdb-2 ~]$ ps -ef|grep pmon
grid      7706     1  0 13:21 ?        00:00:00 asm_pmon_+ASM2
grid     11742  8443  0 13:24 pts/0    00:00:00 grep --color=auto pmon
[grid@abc-newdb-2 ~]$
```

```
[grid@abc-newdb-2 ~]$ srvctl start instance -d NEWDB  -i NEWDB2
[grid@abc-newdb-2 ~]$ ps -ef|grep pmon
grid      7706     1  0 13:21 ?        00:00:00 asm_pmon_+ASM2
oracle   12700     1  0 13:25 ?        00:00:00 ora_pmon_NEWDB2
grid     14159  8443  0 13:26 pts/0    00:00:00 grep --color=auto pmon
[grid@abc-newdb-2 ~]$
[grid@abc-newdb-2 ~]$
[grid@abc-newdb-2 ~]$
[grid@abc-newdb-2 ~]$ srvctl start instance -d SERVDB  -i SERVDB2
[grid@abc-newdb-2 ~]$ ps -ef|grep pmon
grid      7706     1  0 13:21 ?        00:00:00 asm_pmon_+ASM2
oracle   12700     1  0 13:25 ?        00:00:00 ora_pmon_NEWDB2
oracle   15393     1  0 13:26 ?        00:00:00 ora_pmon_SERVDB2
grid     18120  8443  0 13:28 pts/0    00:00:00 grep --color=auto pmon
```

[root@abc-newdb-2 ~]# **ps -ef|grep pmon**

```
[grid@abc-newdb-2 ~]$ ps -ef|grep pmon
grid      9136  8957  0 11:59 pts/0    00:00:00 grep --color=auto pmon
grid     10100     1  0 Feb06 ?        00:00:34 asm_pmon_+ASM2
oracle   17216     1  0 Feb06 ?        00:00:55 ora_pmon_NEWDB2
oracle   19196     1  0 Feb06 ?        00:00:34 ora_pmon_SERVDB2
```

Check Listener status also,
[oracle@abc-newdb-2 ~]$ **lsnrctl status**

After crosschecks, follow(STEP:2-3) same for NODE1

4. **After completion of LUN Activity performed by Server Team we have following available disks available in both nodes respectively:**

NODE1:

```
[griD@abc-newdb-1 ~]$ lsblk -mf
NAME       SIZE OWNER GROUP MODE      NAME      FSTYPE     LABEL  UUID
sdf        20G root  disk  brw-rw---- sdf
└─sdf1     20G root  disk  brw-rw---- └─sdf1    oracleasm  OCR1
sdo       500G root  disk  brw-rw---- sdo
└─sdo1    500G root  disk  brw-rw---- └─sdo1    oracleasm  DATA03
sdd       500G root  disk  brw-rw---- sdd
└─sdd1    500G root  disk  brw-rw---- └─sdd1    oracleasm  FRA01
sdm       500G root  disk  brw-rw---- sdm
└─sdm1    500G root  disk  brw-rw---- └─sdm1    oracleasm  DATA01
sdb       1.1T root  disk  brw-rw---- sdb
sdk       500G root  disk  brw-rw---- sdk
└─sdk1    500G root  disk  brw-rw---- └─sdk1    oracleasm  TEMP01
sds       500G root  disk  brw-rw---- sds
└─sds1    500G root  disk  brw-rw---- └─sds1    oracleasm  DATA07
sdi       500G root  disk  brw-rw---- sdi
└─sdi1    500G root  disk  brw-rw---- └─sdi1    oracleasm  RECO01
sdq       500G root  disk  brw-rw---- sdq
└─sdq1    500G root  disk  brw-rw---- └─sdq1    oracleasm  DATA05
sr0      1024M root  cdrom brw-rw---- sr0
....
```

NODE2:

```
[root@abc-newdb-2 ~]# lsblk -mf
NAME      SIZE OWNER GROUP MODE      NAME      FSTYPE     LABEL  UUID
sdf       500G root  disk  brw-rw---- sdf
└─sdf1    500G root  disk  brw-rw---- └─sdf1    oracleasm  DATA09
sdo       500G root  disk  brw-rw---- sdo
└─sdo1    500G root  disk  brw-rw---- └─sdo1    oracleasm  DATA02
sdd       1.1T root  disk  brw-rw---- sdd
└─sdd1    1.1T root  disk  brw-rw---- └─sdd1    oracleasm  DATA10
sdm       500G root  disk  brw-rw---- sdm
└─sdm1    500G root  disk  brw-rw---- └─sdm1    oracleasm  DATA08
sdb       1.1T root  disk  brw-rw---- sdb
sdk       500G root  disk  brw-rw---- sdk
└─sdk1    500G root  disk  brw-rw---- └─sdk1    oracleasm  UNDO01
sds       500G root  disk  brw-rw---- sds
└─sds1    500G root  disk  brw-rw---- └─sds1    oracleasm  DATA06
sdi       20G root  disk  brw-rw---- sdi
└─sdi1    20G root  disk  brw-rw---- └─sdi1    oracleasm  OCR3
....
```

5. **Now in one of the node create a fresh partition in the disk as there is no partition present .**

[root@abc-newdb-2 ~]# **fdisk /dev/sdb**

```
[root@abc-newdb-2 ~]# fdisk /dev/sdb
Welcome to fdisk (util-linux 2.23.2).

Changes will remain in memory only, until you decide to write them.
Be careful before using the write command.

Device does not contain a recognized partition table
Building a new DOS disklabel with disk identifier 0xf01abfbf.

Command (m for help): m
Command action
   a   toggle a bootable flag
   b   edit bsd disklabel
   c   toggle the dos compatibility flag
   d   delete a partition
   g   create a new empty GPT partition table
   G   create an IRIX (SGI) partition table
   l   list known partition types
   m   print this menu
   n   add a new partition
   o   create a new empty DOS partition table
   p   print the partition table
   q   quit without saving changes
   s   create a new empty Sun disklabel
   t   change a partition's system id
   u   change display/entry units
   v   verify the partition table
   w   write table to disk and exit
   x   extra functionality (experts only)

Command (m for help): n
Partition type:
   p   primary (0 primary, 0 extended, 4 free)
   e   extended
Select (default p):
Using default response p
Partition number (1-4, default 1):
First sector (2048-2362232012, default 2048):
Using default value 2048
Last sector, +sectors or +size {K,M,G} (2048-2362232012, default 2362232012):
Using default value 2362232012
Partition 1 of type Linux and of size 1.1 TiB is set

Command (m for help): w
The partition table has been altered!

Calling ioctl() to re-read partition table.
Syncing disks.
```

6. **Crosscheck new partition is created or not:**
   [root@abc-newdb-2 ~]# **lsblk |grep sdb**

```
[root@abc-newdb-2 ~]# lsblk |grep sdb
sdb           8:16   0  1.1T  0 disk
└─sdb1        8:17   0  1.1T  0 part
```

7. **To tell the kernel about the presence and numbering of partitions on a disk**
   [root@abc-newdb-2 ~]# **partx /dev/sdb**

```
[root@abc-newdb-2 ~]# partx /dev/sdb
NR START        END    SECTORS SIZE NAME UUID
 1  2048 2362232012 2362229965 1.1T
```

8. **Similarly crosscheck in another node if partition is created or not**

```
[root@abc-newdb-1 ~]#  lsblk |grep sdb
sdb           8:16   0  1.1T  0 disk
```

```
[root@abc-newdb-1 ~]# partx /dev/sdb
NR START        END    SECTORS SIZE NAME UUID
 1  2048 2362232012 2362229965 1.1T
```

Here we are unable to see the partition in sdb in node 1. Let's proceed with further steps in node 2:

9. **Find the UUID from the below command for the respective disk.**
   [root@abc-newdb-2 ~]# **lsblk -o +UUID|grep sdb**

```
[root@abc-newdb-2 ~]# lsblk -o +UUID|grep sdb
sdb           8:16   0  1.1T  0 disk
└─sdb1        8:17   0  1.1T  0 part
```

10. **Scanning and listing all the ASM Disks.**
    [root@abc-newdb-2 ~]# **oracleasm scandisks**

```
[root@abc-newdb-2 ~]# oracleasm scandisks
Reloading disk partitions: done
Cleaning any stale ASM disks...
Scanning system for ASM disks...
```

[root@abc-newdb-2 ~]# **oracleasm listdisks**

```
[root@abc-newdb-2 ~]# oracleasm listdisks
DATA01
DATA02
DATA03
DATA04
DATA05
DATA06
DATA07
DATA08
DATA09
DATA10
FRA01
OCR1
OCR2
OCR3
RECO01
TEMP01
UNDO01
```

11. **Creating disk for partition sdb1, to be used in asm.**

```
[root@abc-newdb-2 ~]# oracleasm createdisk DATA11 /dev/sdb1
```

```
[root@abc-newdb-2 ~]# oracleasm createdisk DATA11 /dev/sdb1
Writing disk header: done
Instantiating disk: done
```

12. **Again scan and list all the ASM Disks including newly created .**

```
[root@abc-newdb-2 ~]# oracleasm scandisks
```

```
[root@abc-newdb-2 ~]# oracleasm scandisks
Reloading disk partitions: done
Cleaning any stale ASM disks...
Scanning system for ASM disks...
```

```
[root@abc-newdb-2 ~]# oracleasm listdisks
```

```
[root@abc-newdb-2 ~]# oracleasm listdisks
DATA01
DATA02
DATA03
DATA04
DATA05
DATA06
DATA07
DATA08
DATA09
DATA10
DATA11
FRA01
OCR1
OCR2
OCR3
RECO01
TEMP01
UNDO01
```

13. **IN NODE1, Scan and List the ASM Disks and again crosscheck once the partition is visible for sdb as sdb1.**

```
[root@abc-newdb-1 ~]# oracleasm scandisks
```

```
[root@abc-newdb-1 ~]# oracleasm scandisks
Reloading disk partitions: done
Cleaning any stale ASM disks...
Scanning system for ASM disks...
Instantiating disk "DATA11"
```

```
[root@abc-newdb-1 ~]# oracleasm listdisks
DATA01
DATA02
DATA03
DATA04
DATA05
DATA06
DATA07
DATA08
DATA09
DATA10
DATA11
FRA01
OCR1
OCR2
OCR3
RECO01
TEMP01
UNDO01
```

```
[root@abc-newdb-1 ~]# lsblk |grep sdb
sdb           8:16   0  1.1T  0 disk
└─sdb1        8:17   0  1.1T  0 part
```

14. **Login with GRID User and connect with ASM instance.**

```
[root@abc-newdb-2 ~]# su - grid
Last login: Tue Feb  6 13:29:35 IST 2024
[grid@abc-newdb-2 ~]$
[grid@abc-newdb-2 ~]$
[grid@abc-newdb-2 ~]$
[grid@abc-newdb-2 ~]$ ps -ef|grep pmon
grid     10100     1  0 12:25 ?        00:00:00 asm_pmon_+ASM2
oracle   17216     1  0 12:30 ?        00:00:00 ora_pmon_NEWDB2
oracle   19196     1  0 12:30 ?        00:00:00 ora_pmon_SERVDB2
grid     31838 31738  0 13:43 pts/0    00:00:00 grep --color=auto pmon
[grid@abc-newdb-2 ~]$
[grid@abc-newdb-2 ~]$
[grid@abc-newdb-2 ~]$ . oraenv
ORACLE_SID = [grid] ? +ASM2
The Oracle base has been set to /u01/app/grid/gi_base
```

```
[grid@abc-newdb-2 ~]$ sqlplus / as sysasm

SQL*Plus: Release 19.0.0.0.0 - Production on Tue Feb 6 13:44:19 2024
Version 19.20.0.0.0

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Connected to:
Oracle Database 19c Enterprise Edition Release 19.0.0.0.0 - Production
Version 19.20.0.0.0

SQL> def
DEFINE _DATE           = "06-FEB-24" (CHAR)
DEFINE _CONNECT_IDENTIFIER = "+ASM2" (CHAR)
DEFINE _USER           = "SYS" (CHAR)
DEFINE _PRIVILEGE      = "AS SYSASM" (CHAR)
DEFINE _SQLPLUS_RELEASE = "1920000000" (CHAR)
DEFINE _EDITOR         = "vi" (CHAR)
DEFINE _O_VERSION      = "Oracle Database 19c Enterprise Edition Release 19.0.0.0.0 -
Production
Version 19.20.0.0.0" (CHAR)
DEFINE _O_RELEASE      = "1920000000" (CHAR)
```

15. Check the Diskgroups and Disks present in ASM .

SQL> **select group_number,name from v$asm_diskgroup;**

```
SQL> select group_number,name from v$asm_diskgroup;

GROUP_NUMBER NAME
------------ ------------------------------
           1 DATA
           2 FRA
           3 OCRVOTE
           4 RECO
           5 TEMP
           6 UNDO

6 rows selected.
```

SQL> **select mount_status,header_status,mode_status,state,total_mb,free_mb,name,path,label from v$asm_disk;**

```
MOUNT_S HEADER_STATU MODE_ST STATE      TOTAL_MB    FREE_MB NAME                 PATH
LABEL
------- ------------ ------- -------- ---------- ---------- ------------------------------
CLOSED  PROVISIONED  ONLINE  NORMAL            0          0                    /dev/oracleasm/disks/DATA11
CACHED  MEMBER       ONLINE  NORMAL       511996         64 DATA_0006         /dev/oracleasm/disks/DATA07
DATA07
CACHED  MEMBER       ONLINE  NORMAL       511996         88 DATA_0000         /dev/oracleasm/disks/DATA01
DATA01
CACHED  MEMBER       ONLINE  NORMAL       511996         56 DATA_0003         /dev/oracleasm/disks/DATA04
DATA04
CACHED  MEMBER       ONLINE  NORMAL       511996         76 DATA_0004         /dev/oracleasm/disks/DATA05
DATA05
CACHED  MEMBER       ONLINE  NORMAL       511996         32 DATA_0002         /dev/oracleasm/disks/DATA03
DATA03
CACHED  MEMBER       ONLINE  NORMAL       511996          0 DATA_0005         /dev/oracleasm/disks/DATA06
DATA06
CACHED  MEMBER       ONLINE  NORMAL       511996         52 DATA08            /dev/oracleasm/disks/DATA08
DATA08
CACHED  MEMBER       ONLINE  NORMAL       511996          4 DATA_0001         /dev/oracleasm/disks/DATA02
DATA02
CACHED  MEMBER       ONLINE  NORMAL       511996     511864 TEMP_0000         /dev/oracleasm/disks/TEMP01
TEMP01
CACHED  MEMBER       ONLINE  NORMAL       511996     511864 UNDO_0000         /dev/oracleasm/disks/UNDO01
UNDO01
CACHED  MEMBER       ONLINE  NORMAL        20476      20340 OCR1              /dev/oracleasm/disks/OCR1
OCR1
CACHED  MEMBER       ONLINE  NORMAL        20476      20360 OCR2              /dev/oracleasm/disks/OCR2
OCR2
CACHED  MEMBER       ONLINE  NORMAL        20476      20376 OCR3              /dev/oracleasm/disks/OCR3
OCR3
CACHED  MEMBER       ONLINE  NORMAL       511996     511864 RECO_0000         /dev/oracleasm/disks/RECO01
RECO01
CACHED  MEMBER       ONLINE  NORMAL       511996     381548 FRA_0000          /dev/oracleasm/disks/FRA01
FRA01
CACHED  MEMBER       ONLINE  NORMAL       511996         20 DATA_0008         /dev/oracleasm/disks/DATA09
DATA09
CACHED  MEMBER       ONLINE  NORMAL      1153432        688 DATA0010          /dev/oracleasm/disks/DATA10
DATA10
```

```
ASM_DISKS
=================

GROUP_NUMBER MOUNT_S STATE    TOTAL_MB/1024 FREE_MB/1024 NAME                 PATH
------------ ------- -------- ------------- ------------ -------------------- ---------
           1 CACHED  NORMAL      499.996094        .0625 DATA_0006            /dev/oracleasm/disks/DATA07
           1 CACHED  NORMAL      499.996094     .0859375 DATA_0000            /dev/oracleasm/disks/DATA01
           1 CACHED  NORMAL      499.996094     .0546875 DATA_0003            /dev/oracleasm/disks/DATA04
           1 CACHED  NORMAL      499.996094    .07421875 DATA_0004            /dev/oracleasm/disks/DATA05
           1 CACHED  NORMAL      499.996094       .03125 DATA_0002            /dev/oracleasm/disks/DATA03
           1 CACHED  NORMAL      499.996094            0 DATA_0005            /dev/oracleasm/disks/DATA06
           1 CACHED  NORMAL      499.996094    .05078125 DATA08               /dev/oracleasm/disks/DATA08
           1 CACHED  NORMAL      499.996094    .00390625 DATA_0001            /dev/oracleasm/disks/DATA02
           5 CACHED  NORMAL      499.996094   499.867188 TEMP_0000            /dev/oracleasm/disks/TEMP01
           6 CACHED  NORMAL      499.996094   499.867188 UNDO_0000            /dev/oracleasm/disks/UNDO01
           3 CACHED  NORMAL      19.9960938   19.8632813 OCR1                 /dev/oracleasm/disks/OCR1
           3 CACHED  NORMAL      19.9960938   19.8828125 OCR2                 /dev/oracleasm/disks/OCR2
           3 CACHED  NORMAL      19.9960938   19.8984375 OCR3                 /dev/oracleasm/disks/OCR3
           4 CACHED  NORMAL      499.996094   499.867188 RECO_0000            /dev/oracleasm/disks/RECO01
           2 CACHED  NORMAL      499.996094   372.605469 FRA_0000             /dev/oracleasm/disks/FRA01
           1 CACHED  NORMAL      499.996094    .01953125 DATA_0008            /dev/oracleasm/disks/DATA09
           1 CACHED  NORMAL      1126.39844     .671875 DATA0010             /dev/oracleasm/disks/DATA10
           0 CLOSED  NORMAL               0           0                      /dev/oracleasm/disks/DATA11

18 rows selected.
```

16. **Now add the disks in the required diskgroup with following proper nomenclature.**

```
SQL> alter disk group DATA add disk '/dev/oracleasm/disks/DATA11' NAME
DATA_0011 rebalance power 100;
```

```
SQL> alter disk group DATA add disk '/dev/oracleasm/disks/DATA11' NAME DATA_0011 rebalance
power 100;

Disk group altered.
```

17. **To check Rebalance status.**

```
SQL> select * from v$asm_operation;
```

```
SQL> select * from v$asm_operation;

GROUP_NUMBER OPERA PASS      STAT      POWER     ACTUAL      SOFAR   EST_WORK   EST_RATE EST_MINUTES ERROR_CODE
CON_ID
------------ ----- --------- ---- ---------- ---------- ---------- ---------- ---------- -----------
----------------------------------------- ----------
           1 REBAL COMPACT   WAIT        100        100          0          0          0           0
0
           1 REBAL REBALANCE RUN         100        100        864     240427       9989          23
0
           1 REBAL REBUILD   DONE        100        100          0          0          0           0
0
```

18. **Crosscheck full details of Disks and the Diskgroups.**

```
SQL> set lines 999;
col diskgroup for a15
col diskname for a15
col path for a35
select a.name DiskGroup,b.name DiskName, b.total_mb, (b.total_mb-b.free_mb)
Used_MB, b.free_mb,b.path,b.header_status
from v$asm_disk b, v$asm_diskgroup a
where a.group_number (+) =b.group_number
order by b.group_number,b.name;
```

```
DISKGROUP       DISKNAME          TOTAL_MB    USED_MB    FREE_MB PATH                                HEADER_STATU
--------------- --------------- ---------- ---------- ---------- ---------------------------------- ------------
DATA            DATA0010          1153432    1149872       3560 /dev/oracleasm/disks/DATA10        MEMBER
DATA            DATA08             511996     510660       1336 /dev/oracleasm/disks/DATA08        MEMBER
DATA            DATA_0000          511996     510628       1368 /dev/oracleasm/disks/DATA01        MEMBER
DATA            DATA_0001          511996     510696       1300 /dev/oracleasm/disks/DATA02        MEMBER
DATA            DATA_0002          511996     510684       1312 /dev/oracleasm/disks/DATA03        MEMBER
DATA            DATA_0003          511996     510664       1332 /dev/oracleasm/disks/DATA04        MEMBER
DATA            DATA_0004          511996     510628       1368 /dev/oracleasm/disks/DATA05        MEMBER
DATA            DATA_0005          511996     510724       1272 /dev/oracleasm/disks/DATA06        MEMBER
DATA            DATA_0006          511996     510648       1348 /dev/oracleasm/disks/DATA07        MEMBER
DATA            DATA_0008          511996     510688       1308 /dev/oracleasm/disks/DATA09        MEMBER
DATA            DATA_0011         1153432      14508    1138924 /dev/oracleasm/disks/DATA11        MEMBER
FRA             FRA_0000           511996     130448     381548 /dev/oracleasm/disks/FRA01         MEMBER
OCRVOTE         OCR1                20476        136      20340 /dev/oracleasm/disks/OCR1          MEMBER
OCRVOTE         OCR2                20476        116      20360 /dev/oracleasm/disks/OCR2          MEMBER
OCRVOTE         OCR3                20476        100      20376 /dev/oracleasm/disks/OCR3          MEMBER
RECO            RECO_0000          511996        132     511864 /dev/oracleasm/disks/RECO01        MEMBER
TEMP            TEMP_0000          511996        132     511864 /dev/oracleasm/disks/TEMP01        MEMBER
UNDO            UNDO_0000          511996        132     511864 /dev/oracleasm/disks/UNDO01        MEMBER

18 rows selected.
```