【DBCA -SILENT】静默安装之 rac 数据库安装

BLOG 文档结构图

之前的相关文章连接：
DBCA 静默方式建库 ： **http://blog.itpub.net/26736162/viewspace-1448220/**
【DBCA -SILENT】静默安装如何启用归档模式： http://blog.itpub.net/26736162/viewspace-1585925/

之前的文章中介绍了单实例的数据库静默安装方式，今天我们来看看 rac 数据库的静默安装方式。

查看集群环境是否准备好：

```
[root@node2 ~]# crsctl check cluster -all
**************************************************************
node1:
CRS-4537: Cluster Ready Services is online
CRS-4529: Cluster Synchronization Services is online
CRS-4533: Event Manager is online
**************************************************************
node2:
CRS-4537: Cluster Ready Services is online
CRS-4529: Cluster Synchronization Services is online
CRS-4533: Event Manager is online
**************************************************************
[root@node2 ~]#
```

查看磁盘组空间：

```
SQL> select name,state,free_mb,required_mirror_free_mb,usable_file_mb,a.group_number  from v$asm_diskgroup a;

NAME                           STATE          FREE_MB REQUIRED_MIRROR_FREE_MB USABLE_FILE_MB GROUP_NUMBER
------------------------------ ----------- ---------- ----------------------- -------------- ------------
ARCH                           MOUNTED           9142                       0           9142            1
DATA                           MOUNTED          18242                       0          18242            2
OVDISK                         MOUNTED           2703                       0           2703            3
TEST                           MOUNTED            929                       0            929            4
```

查看节点列表：

```
[root@node2 ~]# olsnodes
```

```
node1
node2
[root@node2 ~]#
```

修改 General_Purpose.dbc 文件，让生成的 rac 库在归档模式：

```
[oracle@node1 dbca]$ strings $ORACLE_HOME/assistants/dbca/templates/General_Purpose.dbc | grep -i arch
        <archiveLogMode>true</archiveLogMode>
[oracle@node1 dbca]$
```

确保以上集群环境已经搭建好后，开始创建 rac 数据库，当然有 2 种方式可以搭建，个人觉得 2 种方式都挺方便的，下边我们分别介绍：

一、 方法一：利用模板文件来创建

sid：jmrac
文件磁盘组：data
闪回恢复区：arch
节点：node1，node2

```
[oracle@node1 dbca]$ dbca -silent -createDatabase -templateName General_Purpose.dbc -gdbname jmrac  -sid jmrac -sysPassword lhr -systemPassword lhr -datafileDestination 'DATA/' -redoLogFileSize 50
-recoveryAreaDestination 'ARCH/' -storageType ASM -asmsnmpPassword lhr  -diskGroupName 'DATA' -responseFile NO_VALUE -characterset ZHS16GBK -nationalCharacterSet AL16UTF16 -sampleSchema true
-automaticMemoryManagement true -totalMemory 500  -nodeinfo node1,node2

Copying database files
1% complete
3% complete
9% complete
15% complete
21% complete
27% complete
30% complete
Creating and starting Oracle instance
32% complete
36% complete
40% complete
44% complete
45% complete
48% complete
50% complete
Creating cluster database views
52% complete
70% complete
Completing Database Creation
73% complete
76% complete
85% complete
94% complete
100% complete
Look at the log file "/u01/app/oracle/cfgtoollogs/dbca/jmrac/jmrac.log" for further details.
[oracle@node1 jmrac]$ more /u01/app/oracle/cfgtoollogs/dbca/jmrac/jmrac.log
Copying database files
DBCA_PROGRESS : 1%
DBCA_PROGRESS : 3%
DBCA_PROGRESS : 9%
DBCA_PROGRESS : 15%
DBCA_PROGRESS : 21%
DBCA_PROGRESS : 27%
DBCA_PROGRESS : 30%
```

```
Creating and starting Oracle instance
DBCA_PROGRESS : 32%
DBCA_PROGRESS : 36%
DBCA_PROGRESS : 40%
DBCA_PROGRESS : 44%
DBCA_PROGRESS : 45%
DBCA_PROGRESS : 48%
DBCA_PROGRESS : 50%
Creating cluster database views
DBCA_PROGRESS : 52%
DBCA_PROGRESS : 70%
Completing Database Creation
DBCA_PROGRESS : 73%
DBCA_PROGRESS : 76%
DBCA_PROGRESS : 85%
DBCA_PROGRESS : 94%
DBCA_PROGRESS : 100%
Database creation complete. For details check the logfiles at:
 /u01/app/oracle/cfgtoollogs/dbca/jmrac.
Database Information:
Global Database Name:jmrac
System Identifier(SID) Prefix:jmrac
[oracle@node1 jmrac]$

[oracle@node1 jmrac]$ ORACLE_SID=jmrac1
[oracle@node1 jmrac]$ sqlplus / as sysdba

SQL*Plus: Release 11.2.0.1.0 Production on Sun Apr 19 22:00:18 2015

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SQL> archive log list;
Database log mode              Archive Mode
Automatic archival             Enabled
Archive destination            USE_DB_RECOVERY_FILE_DEST
Oldest online log sequence     4
Next log sequence to archive   5
Current log sequence           5
SQL>

SQL> set line 9999
SQL> col HOST_NAME format a10
SQL> select INSTANCE_NAME,HOST_NAME,VERSION,STARTUP_TIME,STATUS,ACTIVE_STATE,INSTANCE_ROLE,DATABASE_STATUS from gv$INSTANCE;

INSTANCE_NAME    HOST_NAME  VERSION           STARTUP_T STATUS       ACTIVE_ST INSTANCE_ROLE      DATABASE_STATUS
---------------- ---------- ----------------- --------- ------------ --------- ------------------ ------------------
jmrac1           node1      11.2.0.1.0        19-APR-15 OPEN         NORMAL    PRIMARY_INSTANCE   ACTIVE
jmrac2           node2      11.2.0.1.0        19-APR-15 OPEN         NORMAL    PRIMARY_INSTANCE   ACTIVE

SQL> select INST_ID,name , open_mode, log_mode,force_logging from gv$database;

   INST_ID NAME      OPEN_MODE            LOG_MODE     FOR
---------- --------- -------------------- ------------ ---
         1 JMRAC     READ WRITE           ARCHIVELOG   NO
         2 JMRAC     READ WRITE           ARCHIVELOG   NO

SQL> show parameter DB_RECOVERY_FILE_DEST

NAME                                 TYPE        VALUE
------------------------------------ ----------- ------------------------------
db_recovery_file_dest                string      +ARCH
```

```
db_recovery_file_dest_size           big integer 3882M
SQL>
```

---查看 tns 和 listener 信息

```
[oracle@node1 dbca]$ cd /u01/app/oracle/product/11.2.0/dbhome_1/network/admin/
[oracle@node1 admin]$ ll
total 12
drwxr-xr-x 2 oracle oinstall 4096 Feb 27  2012 samples
-rw-r--r-- 1 oracle oinstall  187 May  7  2007 shrept.lst
-rw-r----- 1 oracle oinstall  685 Apr 19 22:13 tnsnames.ora
[oracle@node1 admin]$ more tnsnames.ora
# tnsnames.ora Network Configuration File: /u01/app/oracle/product/11.2.0/dbhome_1/network/admin/tnsnames.ora
# Generated by Oracle configuration tools.

JMRAC =
  (DESCRIPTION =
    (ADDRESS = (PROTOCOL = TCP)(HOST = cluster-SCAN)(PORT = 1521))
    (CONNECT_DATA =
      (SERVER = DEDICATED)
      (SERVICE_NAME = jmrac)
    )
  )

[oracle@node1 dbca]$ srvctl status listener
Listener LISTENER is enabled
Listener LISTENER is running on node(s): node1,node2
[oracle@node1 dbca]$
```

说明 tns 已经自动添加，监听也已经启动

查看 rac 服务：

```
[root@node2 ~]#  crsctl status resource -t
--------------------------------------------------------------------------------
NAME           TARGET  STATE        SERVER                   STATE_DETAILS
--------------------------------------------------------------------------------
Local Resources
--------------------------------------------------------------------------------
ora.ARCH.dg
               ONLINE  ONLINE       node1
               ONLINE  ONLINE       node2
ora.DATA.dg
               ONLINE  ONLINE       node1
               ONLINE  ONLINE       node2
ora.LISTENER.lsnr
               ONLINE  ONLINE       node1
               ONLINE  ONLINE       node2
ora.OVDISK.dg
               ONLINE  ONLINE       node1
               ONLINE  ONLINE       node2
ora.TEST.dg
               ONLINE  ONLINE       node1
               ONLINE  ONLINE       node2
ora.asm
               ONLINE  ONLINE       node1                    Started
               ONLINE  ONLINE       node2                    Started
ora.eons
               ONLINE  ONLINE       node1
               ONLINE  ONLINE       node2
ora.gsd
               OFFLINE OFFLINE      node1
               OFFLINE OFFLINE      node2
ora.net1.network
               ONLINE  ONLINE       node1
```

```
               ONLINE  ONLINE       node2
ora.ons
               ONLINE  ONLINE       node1
               ONLINE  ONLINE       node2
ora.registry.acfs
               ONLINE  ONLINE       node1
               ONLINE  ONLINE       node2
--------------------------------------------------------------------------------
Cluster Resources
--------------------------------------------------------------------------------
ora.LISTENER_SCAN1.lsnr
      1        ONLINE  ONLINE       node1
ora.db.db
      1        OFFLINE OFFLINE                               Instance Shutdown
      2        OFFLINE OFFLINE                               Instance Shutdown
ora.jmrac.db
      1        ONLINE  ONLINE       node1                    Open
      2        ONLINE  ONLINE       node2                    Open
ora.node1.vip
      1        ONLINE  ONLINE       node1
ora.node2.vip
      1        ONLINE  ONLINE       node2
ora.oc4j
      1        OFFLINE OFFLINE
ora.scan1.vip
      1        ONLINE  ONLINE       node1
[root@node2 ~]# crs_stat -t
Name           Type           Target    State     Host
------------------------------------------------------------
ora.ARCH.dg    ora....up.type ONLINE    ONLINE    node1
ora.DATA.dg    ora....up.type ONLINE    ONLINE    node1
ora....ER.lsnr ora....er.type ONLINE    ONLINE    node1
ora....N1.lsnr ora....er.type ONLINE    ONLINE    node1
ora.OVDISK.dg  ora....up.type ONLINE    ONLINE    node1
ora.TEST.dg    ora....up.type ONLINE    ONLINE    node1
ora.asm        ora.asm.type   ONLINE    ONLINE    node1
ora.db.db      ora....se.type OFFLINE   OFFLINE
ora.eons       ora.eons.type  ONLINE    ONLINE    node1
ora.gsd        ora.gsd.type   OFFLINE   OFFLINE
ora.jmrac.db   ora....se.type ONLINE    ONLINE    node1
ora....network ora....rk.type ONLINE    ONLINE    node1
ora....SM1.asm application    ONLINE    ONLINE    node1
ora....E1.lsnr application    ONLINE    ONLINE    node1
ora.node1.gsd  application    OFFLINE   OFFLINE
ora.node1.ons  application    ONLINE    ONLINE    node1
ora.node1.vip  ora....t1.type ONLINE    ONLINE    node1
ora....SM2.asm application    ONLINE    ONLINE    node2
ora....E2.lsnr application    ONLINE    ONLINE    node2
ora.node2.gsd  application    OFFLINE   OFFLINE
ora.node2.ons  application    ONLINE    ONLINE    node2
ora.node2.vip  ora....t1.type ONLINE    ONLINE    node2
ora.oc4j       ora.oc4j.type  OFFLINE   OFFLINE
ora.ons        ora.ons.type   ONLINE    ONLINE    node1
ora....ry.acfs ora....fs.type ONLINE    ONLINE    node1
ora.scan1.vip  ora....ip.type ONLINE    ONLINE    node1

[root@node2 ~]# srvctl  status database -d jmrac
Instance jmrac1 is running on node node1
Instance jmrac2 is running on node node2

[root@node2 ~]# srvctl config database -d jmrac
Database unique name: jmrac
Database name: jmrac
Oracle home: /u01/app/oracle/product/11.2.0/dbhome_1
Oracle user: oracle
Spfile: +DATA/jmrac/spfilejmrac.ora
Domain:
```

```
Start options: open
Stop options: immediate
Database role: PRIMARY
Management policy: AUTOMATIC
Server pools: jmrac
Database instances: jmrac1,jmrac2
Disk Groups: DATA
Services:
Database is administrator managed
[root@node2 ~]#
```

二、 方法二：编辑响应文件

添加文件$ORACLE_HOME/assistants/dbca/dbca_rac.rsp，内容如下：

```
[oracle@node1 dbca]$ more $ORACLE_HOME/assistants/dbca/dbca_rac.rsp
[GENERAL]
RESPONSEFILE_VERSION = "11.2.0"
OPERATION_TYPE = "createDatabase"
[CREATEDATABASE]
GDBNAME = "myrac"
SID = "myrac"
NODELIST=node1,node2
TEMPLATENAME = "General_Purpose.dbc"
SYSPASSWORD = "lhr"
SYSTEMPASSWORD = "lhr"
SYSMANPASSWORD = "lhr"
DBSNMPPASSWORD = "lhr"
STORAGETYPE=ASM
DISKGROUPNAME=DATA
ASMSNMP_PASSWORD="lhr"
RECOVERYGROUPNAME=ARCH
CHARACTERSET = "ZHS16GBK"
NATIONALCHARACTERSET= "UTF8"
```

利用响应文件来创建 rac 库：

```
[oracle@node1 dbca]$ dbca -silent -responseFile $ORACLE_HOME/assistants/dbca/dbca_rac.rsp
Copying database files
1% complete
3% complete
9% complete
15% complete
21% complete
27% complete
30% complete
Creating and starting Oracle instance
32% complete
36% complete
40% complete
44% complete
45% complete
48% complete
50% complete
Creating cluster database views
52% complete
70% complete
Completing Database Creation
73% complete
76% complete
85% complete
94% complete
```

```
100% complete
Look at the log file "/u01/app/oracle/cfgtoollogs/dbca/myrac/myrac.log" for further details.
[oracle@node1 dbca]$ more /u01/app/oracle/cfgtoollogs/dbca/myrac/myrac.log
Copying database files
DBCA_PROGRESS : 1%
DBCA_PROGRESS : 3%
DBCA_PROGRESS : 9%
DBCA_PROGRESS : 15%
DBCA_PROGRESS : 21%
DBCA_PROGRESS : 27%
DBCA_PROGRESS : 30%
Creating and starting Oracle instance
DBCA_PROGRESS : 32%
DBCA_PROGRESS : 36%
DBCA_PROGRESS : 40%
DBCA_PROGRESS : 44%
DBCA_PROGRESS : 45%
DBCA_PROGRESS : 48%
DBCA_PROGRESS : 50%
Creating cluster database views
DBCA_PROGRESS : 52%
DBCA_PROGRESS : 70%
Completing Database Creation
DBCA_PROGRESS : 73%
DBCA_PROGRESS : 76%
DBCA_PROGRESS : 85%
DBCA_PROGRESS : 94%
DBCA_PROGRESS : 100%
Database creation complete. For details check the logfiles at:
 /u01/app/oracle/cfgtoollogs/dbca/myrac.
Database Information:
Global Database Name:myrac
System Identifier(SID) Prefix:myrac
[oracle@node1 dbca]$ ORACLE_SID=myrac1
[oracle@node1 admin]$ sqlplus / as sysdba

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SQL> set line 9999
SQL> col HOST_NAME format a10
SQL> select INSTANCE_NAME,HOST_NAME,VERSION,STARTUP_TIME,STATUS,ACTIVE_STATE,INSTANCE_ROLE,DATABASE_STATUS from gv$INSTANCE;

INSTANCE_NAME    HOST_NAME  VERSION           STARTUP_T STATUS       ACTIVE_ST INSTANCE_ROLE      DATABASE_STATUS
---------------- ---------- ----------------- --------- ------------ --------- ------------------ ------------------
myrac1           node1      11.2.0.1.0        19-APR-15 OPEN         NORMAL    PRIMARY_INSTANCE   ACTIVE
myrac2           node2      11.2.0.1.0        19-APR-15 OPEN         NORMAL    PRIMARY_INSTANCE   ACTIVE

SQL> select INST_ID,name , open_mode, log_mode,force_logging from gv$database;

   INST_ID NAME      OPEN_MODE            LOG_MODE     FOR
---------- --------- -------------------- ------------ ---
         1 MYRAC     READ WRITE           ARCHIVELOG   NO
         2 MYRAC     READ WRITE           ARCHIVELOG   NO

SQL>
```

三、 删除新建的 rac 库

```
[oracle@node1 dbca]$ dbca -silent -deleteDatabase -sourceDB  myrac -sysDBAUserName sys -sysDBAPassword lhr
Connecting to database
9% complete
14% complete
19% complete
23% complete
28% complete
33% complete
38% complete
47% complete
Updating network configuration files
48% complete
52% complete
Deleting instances and datafiles
66% complete
80% complete
95% complete
100% complete
Look at the log file "/u01/app/oracle/cfgtoollogs/dbca/myrac.log" for further details.
[oracle@node1 dbca]$
```