2018年10月14日

15:58

[Oracle从文件系统迁移到ASM存储](https://www.cnblogs.com/jyzhao/p/5015625.html)

2015-12-03 11:39 by AlfredZhao, 2605 阅读, 0 评论, [收藏](https://www.cnblogs.com/jyzhao/p/5015625.html), [编辑](https://i.cnblogs.com/EditPosts.aspx?postid=5015625)

环境：RHEL 6.4 + Oracle 11.2.0.4

需求：数据库存储由文件系统迁移到ASM

[数据库存储迁移到ASM磁盘组](https://www.cnblogs.com/jyzhao/p/5015625.html#1)

* [1.1 编辑参数文件指定新的控制文件路径](https://www.cnblogs.com/jyzhao/p/5015625.html#1.1)
* [1.2 启动数据库到nomount模式](https://www.cnblogs.com/jyzhao/p/5015625.html#1.2)
* [1.3 RMAN恢复控制文件](https://www.cnblogs.com/jyzhao/p/5015625.html#1.3)
* [1.4 启动数据库到mount模式](https://www.cnblogs.com/jyzhao/p/5015625.html#1.4)
* [1.5 RMAN Copy 数据文件](https://www.cnblogs.com/jyzhao/p/5015625.html#1.5)
* [1.6 RMAN Switch 数据文件](https://www.cnblogs.com/jyzhao/p/5015625.html#1.6)
* [1.7 RMAN Switch 临时文件，并打开数据库](https://www.cnblogs.com/jyzhao/p/5015625.html#1.7)
* [1.8 迁移重做日志文件](https://www.cnblogs.com/jyzhao/p/5015625.html#1.8)
* [1.9 服务器参数文件，并重启数据库](https://www.cnblogs.com/jyzhao/p/5015625.html#1.9)
* [1.10 验证各文件存储位置](https://www.cnblogs.com/jyzhao/p/5015625.html#1.10)

[Reference](https://www.cnblogs.com/jyzhao/p/5015625.html#2)

**数据库存储迁移到ASM磁盘组**

实验环境前期准备:

* 文件系统数据库模拟环境《[Oracle 11g静默安装简明版](http://www.cnblogs.com/jyzhao/p/5001782.html)》
* ASM实例和磁盘组模拟环境《[单机静默安装GI软件并创建ASM实例和ASM磁盘组](http://www.cnblogs.com/jyzhao/p/5012949.html)》

迁移前原数据库各文件存储信息查询如下：

--控制文件  
select name from v$controlfile;  
--数据文件  
select name from v$datafile;  
--临时文件  
select name from v$tempfile;  
--日志文件  
select member from v$logfile;  
--参数文件  
show parameter pfile

--查询结果如下  
SQL> select name from v$controlfile;

NAME  
--------------------------------------------------------------------------------  
/u02/oradata/jingyu/control01.ctl  
/u02/app/oracle/fast\_recovery\_area/jingyu/control02.ctl

SQL> select name from v$datafile;

NAME  
--------------------------------------------------------------------------------  
/u02/oradata/jingyu/system01.dbf  
/u02/oradata/jingyu/sysaux01.dbf  
/u02/oradata/jingyu/undotbs01.dbf  
/u02/oradata/jingyu/users01.dbf

SQL> select name from v$tempfile;

NAME  
--------------------------------------------------------------------------------  
/u02/oradata/jingyu/temp01.dbf

SQL> select member from v$logfile;

MEMBER  
--------------------------------------------------------------------------------  
/u02/oradata/jingyu/redo03.log  
/u02/oradata/jingyu/redo02.log  
/u02/oradata/jingyu/redo01.log

SQL> show parameter pfile

NAME TYPE VALUE  
------------------------------------ ----------- ------------------------------  
spfile string /u02/app/oracle/product/11.2.0  
 /dbhome\_1/dbs/spfilejingyu.ora

**1.1 编辑参数文件指定新的控制文件路径**

SQL> create pfile='/tmp/pfile.ora' from spfile;  
SQL> shutdown immediate  
-- 修改controlfile参数值  
$ vi /tmp/pfile.ora  
controlfile='+DATA1/control01.ctl'

**1.2 启动数据库到nomount模式**

SQL> startup nomount pfile='/tmp/pfile.ora'

**1.3 RMAN恢复控制文件**

注意Oracle用户需要有读写ASM磁盘的权限

RMAN> restore controlfile from '/u02/oradata/jingyu/control01.ctl';

**1.4 启动数据库到mount模式**

RMAN> alter database mount;

**1.5 RMAN Copy 数据文件**

RMAN> backup as copy database format '+DATA1';

**1.6 RMAN Switch 数据文件**

RMAN> switch database to copy;

**1.7 RMAN Switch 临时文件，并打开数据库**

RMAN> run {  
set newname for tempfile 1 to '+DATA1';  
switch tempfile all;  
}

RMAN> ALTER DATABASE OPEN;

**1.8 迁移重做日志文件**

set linesize 200  
col member for a60  
SQL> SELECT a.group#, b.member, a.status FROM v$log a, v$logfile b WHERE a.group#=b.group#;  
SQL> ALTER DATABASE ADD LOGFILE MEMBER '+DATA1' TO GROUP 1;  
SQL> ALTER DATABASE ADD LOGFILE MEMBER '+DATA1' TO GROUP 2;  
SQL> ALTER DATABASE ADD LOGFILE MEMBER '+DATA1' TO GROUP 3;  
SQL> ALTER SYSTEM SWITCH LOGFILE;  
SQL> ALTER DATABASE DROP LOGFILE MEMBER '/u02/oradata/jingyu/redo01.log';  
SQL> ALTER SYSTEM SWITCH LOGFILE;  
SQL> ALTER DATABASE DROP LOGFILE MEMBER '/u02/oradata/jingyu/redo02.log';  
SQL> ALTER SYSTEM SWITCH LOGFILE;  
SQL> ALTER DATABASE DROP LOGFILE MEMBER '/u02/oradata/jingyu/redo03.log';  
SQL> ALTER SYSTEM CHECKPOINT;  
SQL> SELECT a.group#, b.member, a.status FROM v$log a, v$logfile b WHERE a.group#=b.group#;

**1.9 服务器参数文件，并重启数据库**

-- 在ASM磁盘组中创建服务器参数文件  
SQL> create spfile='+DATA1' from pfile='/tmp/pfile.ora';  
-- 正常关闭数据库  
SQL> shutdown immediate   
-- 删除$ORACLE\_HOME/dbs/spfilejingyu.ora  
$ rm $ORACLE\_HOME/dbs/spfilejingyu.ora  
-- 建立$ORACLE\_HOME/dbs/initjingyu.ora，编辑内容指定ASM磁盘组中的服务器参数文件。  
$ vi initjingyu.ora  
spfile='+DATA1/JINGYU/PARAMETERFILE/spfile.266.897474951'  
--启动数据库（会自动找到参数文件进而转到ASM磁盘组中的服务器参数文件）  
SQL> startup

**1.10 验证各文件存储位置**

select name from v$datafile union all  
select name from v$tempfile union all  
select member from v$logfile union all  
select name from v$controlfile;  
show parameter pfile

结果如下：

SQL> select name from v$datafile union all  
 2 select name from v$tempfile union all  
 3 select member from v$logfile union all  
 4 select name from v$controlfile;

NAME  
--------------------------------------------------------------------------------  
+DATA1/jingyu/datafile/system.257.897474123  
+DATA1/jingyu/datafile/sysaux.258.897474149  
+DATA1/jingyu/datafile/undotbs1.259.897474165  
+DATA1/jingyu/datafile/users.261.897474169  
+DATA1/jingyu/tempfile/temp.262.897474267  
+DATA1/jingyu/onlinelog/group\_1.263.897474349  
+DATA1/jingyu/onlinelog/group\_2.264.897474359  
+DATA1/jingyu/onlinelog/group\_3.265.897474363  
+DATA1/control01.ctl

9 rows selected.

Elapsed: 00:00:00.02  
SQL> show parameter pfile

NAME TYPE VALUE  
------------------------------------ ----------- ------------------------------  
spfile string +DATA1/jingyu/parameterfile/sp  
 file.266.897474951

至此，数据库存储已经成功由文件系统全部迁移到ASM。

**Reference**

* Steps To Migrate/Move a Database From Non-ASM to ASM And Vice-Versa (文档 ID 252219.1)

AlfredZhao©版权所有「从Oracle起航，领略精彩的IT技术。」

源文档 <<https://www.cnblogs.com/jyzhao/p/5015625.html>>