**Renaming or Moving Oracle Files**

This article presents a brief explanation of how assorted Oracle files can be renamed or moved to a new location. The examples are based on a default Oracle 10g installation on Windows, but the method is the same for different versions of Oracle on any platform, with the exception of the host command used to rename the file.

**Controlfiles**

The current location of the controlfiles can be queried from the V$CONTROLFILE view, as shown below.

SQL> select name from v$controlfile;

NAME

-------------------------------------------------------------

C:\ORACLE\PRODUCT\10.1.0\ORADATA\DB10G\CONTROL01.CTL

C:\ORACLE\PRODUCT\10.1.0\ORADATA\DB10G\CONTROL02.CTL

C:\ORACLE\PRODUCT\10.1.0\ORADATA\DB10G\CONTROL03.CTL

3 rows selected.

SQL>

In order to rename or move these files we must alter the value of the control\_files instance parameter.

SQL> show parameter control\_files

NAME TYPE VALUE

------------------------------------ -------------------------------- ------------------------------

control\_files string C:\ORACLE\ORADATA\DB10G\CONTRO

L01.CTL, C:\ORACLE\ORADATA\DB1

0G\CONTROL02.CTL, C:\ORACLE\OR

ADATA\DB10G\CONTROL03.CTL

SQL>

To move or rename a controlfile do the following.

* Alter the control\_files parameter using the ALTER SYSTEM comamnd.
* Shutdown the database.
* Rename the physical file on the OS.
* Start the database.

The following SQL\*Plus output shows how this is done for an instance using an spfile. For instances using a pfile replace the spfile manipulation steps with an amendment of the parameter in the init.ora file.

SQL> ALTER SYSTEM SET control\_files='C:\ORACLE\PRODUCT\10.1.0\ORADATA\DB10G\RENAME\_CONTROL01.CTL', -

> 'C:\ORACLE\PRODUCT\10.1.0\ORADATA\DB10G\CONTROL02.CTL', -

> 'C:\ORACLE\PRODUCT\10.1.0\ORADATA\DB10G\CONTROL03.CTL' SCOPE=SPFILE;

System altered.

SQL> SHUTDOWN IMMEDIATE

Database closed.

Database dismounted.

ORACLE instance shut down.

SQL> HOST MOVE C:\ORACLE\ORADATA\DB10G\CONTROL01.CTL C:\ORACLE\ORADATA\DB10G\RENAME\_CONTROL01.CTL

SQL> STARTUP

ORACLE instance started.

Total System Global Area 167772160 bytes

Fixed Size 787968 bytes

Variable Size 61864448 bytes

Database Buffers 104857600 bytes

Redo Buffers 262144 bytes

Database mounted.

SQL>

Repeating the initial query shows that the the controlfile has been renamed in the data dictionary.

SQL> select name from v$controlfile;

NAME

-------------------------------------------------------------

C:\ORACLE\PRODUCT\10.1.0\ORADATA\DB10G\RENAME\_CONTROL01.CTL

C:\ORACLE\PRODUCT\10.1.0\ORADATA\DB10G\CONTROL02.CTL

C:\ORACLE\PRODUCT\10.1.0\ORADATA\DB10G\CONTROL03.CTL

3 rows selected.

SQL>

**Logfiles**

The current location of the logfiles can be queried from the V$LOGFILE view, as shown below.

SQL> SELECT member FROM v$logfile;

MEMBER

-------------------------------------------------

C:\ORACLE\PRODUCT\10.1.0\ORADATA\DB10G\REDO03.LOG

C:\ORACLE\PRODUCT\10.1.0\ORADATA\DB10G\REDO02.LOG

C:\ORACLE\PRODUCT\10.1.0\ORADATA\DB10G\REDO01.LOG

3 rows selected.

SQL>

To move or rename a logfile do the following.

* Shutdown the database.
* Rename the physical file on the OS.
* Start the database in mount mode.
* Issue the ALTER DATABASE RENAME FILE command to rename the file within the Oracle dictionary.
* Open the database.

The following SQL\*Plus output shows how this is done.

SQL> SHUTDOWN IMMEDIATE

Database closed.

Database dismounted.

ORACLE instance shut down.

SQL> HOST MOVE C:\ORACLE\PRODUCT\10.1.0\ORADATA\DB10G\REDO01.LOG C:\ORACLE\PRODUCT\10.1.0\ORADATA\DB10G\RENAME\_REDO01.LOG

SQL> STARTUP MOUNT

ORACLE instance started.

Total System Global Area 167772160 bytes

Fixed Size 787968 bytes

Variable Size 61864448 bytes

Database Buffers 104857600 bytes

Redo Buffers 262144 bytes

Database mounted.

SQL> ALTER DATABASE RENAME FILE 'C:\ORACLE\PRODUCT\10.1.0\ORADATA\DB10G\REDO01.LOG' -

> TO 'C:\ORACLE\PRODUCT\10.1.0\ORADATA\DB10G\RENAME\_REDO01.LOG';

Database altered.

SQL> ALTER DATABASE OPEN;

Database altered.

SQL>

Repeating the initial query shows that the the logfile has been renamed in the data dictionary.

SQL> SELECT member FROM v$logfile;

MEMBER

-------------------------------------------------

C:\ORACLE\PRODUCT\10.1.0\ORADATA\DB10G\REDO03.LOG

C:\ORACLE\PRODUCT\10.1.0\ORADATA\DB10G\REDO02.LOG

C:\ORACLE\PRODUCT\10.1.0\ORADATA\DB10G\RENAME\_REDO01.LOG

3 rows selected.

SQL>

**Datafiles**

**Manual**

The process for manually renaming a datafile is the same as renaming a logfile, but for the same of clarity it is repeated below. The current location of the datafiles can be queried from the V$DATAFILE view, as shown below.

SQL> SELECT name FROM v$datafile;

NAME

---------------------------------------------------------

C:\ORACLE\PRODUCT\10.1.0\ORADATA\DB10G\SYSTEM01.DBF

C:\ORACLE\PRODUCT\10.1.0\ORADATA\DB10G\UNDOTBS01.DBF

C:\ORACLE\PRODUCT\10.1.0\ORADATA\DB10G\SYSAUX01.DBF

C:\ORACLE\PRODUCT\10.1.0\ORADATA\DB10G\USERS01.DBF

4 rows selected.

SQL>

To move or rename a datafile do the following.

* Shutdown the database.
* Rename the physical file on the OS.
* Start the database in mount mode.
* Issue the ALTER DATABASE RENAME FILE command to rename the file within the Oracle dictionary.
* Open the database.

The following SQL\*Plus output shows how this is done.

SQL> SHUTDOWN IMMEDIATE

Database closed.

Database dismounted.

ORACLE instance shut down.

SQL> HOST MOVE C:\ORACLE\PRODUCT\10.1.0\ORADATA\DB10G\USERS01.DBF C:\ORACLE\PRODUCT\10.1.0\ORADATA\DB10G\RENAME\_USERS01.DBF

SQL> STARTUP MOUNT

ORACLE instance started.

Total System Global Area 167772160 bytes

Fixed Size 787968 bytes

Variable Size 61864448 bytes

Database Buffers 104857600 bytes

Redo Buffers 262144 bytes

Database mounted.

SQL> ALTER DATABASE RENAME FILE 'C:\ORACLE\PRODUCT\10.1.0\ORADATA\DB10G\USERS01.DBF' -

> TO 'C:\ORACLE\PRODUCT\10.1.0\ORADATA\DB10G\RENAME\_USERS01.DBF';

Database altered.

SQL> ALTER DATABASE OPEN;

Database altered.

SQL>

Repeating the initial query shows that the the datafile has been renamed in the data dictionary.

SQL> SELECT name FROM v$datafile;

NAME

---------------------------------------------------------

C:\ORACLE\PRODUCT\10.1.0\ORADATA\DB10G\SYSTEM01.DBF

C:\ORACLE\PRODUCT\10.1.0\ORADATA\DB10G\UNDOTBS01.DBF

C:\ORACLE\PRODUCT\10.1.0\ORADATA\DB10G\SYSAUX01.DBF

C:\ORACLE\PRODUCT\10.1.0\ORADATA\DB10G\RENAME\_USERS01.DBF

4 rows selected.

SQL>

**RMAN**

RMAN can be used to move files with less downtime by copying them in advance of the move, then recovering them as part of the move itself. First, log in to RMAN and list the current files.

RMAN> REPORT SCHEMA;

Report of database schema for database with db\_unique\_name DB11G

List of Permanent Datafiles

===========================

File Size(MB) Tablespace RB segs Datafile Name

---- -------- -------------------- ------- ------------------------

1 750 SYSTEM \*\*\* /u01/app/oracle/oradata/DB11G/system01.dbf

2 1150 SYSAUX \*\*\* /u01/app/oracle/oradata/DB11G/sysaux01.dbf

3 444 UNDOTBS1 \*\*\* /u01/app/oracle/oradata/DB11G/undotbs01.dbf

4 120 USERS \*\*\* /u01/app/oracle/oradata/DB11G/users01.dbf

5 345 EXAMPLE \*\*\* /u01/app/oracle/oradata/DB11G/example01.dbf

8 3277 SOE \*\*\* /u01/app/oracle/product/11.2.0.2/db\_1/dbs/soe.dbf

List of Temporary Files

=======================

File Size(MB) Tablespace Maxsize(MB) Tempfile Name

---- -------- -------------------- ----------- --------------------

1 370 TEMP 32767 /u01/app/oracle/oradata/DB11G/temp01.dbf

RMAN>

Copy the file(s) to the new location.

RMAN> COPY DATAFILE 8 TO '/u01/app/oracle/oradata/DB11G/soe.dbf';

Turn the tablespace to offline. We could have turned the tablespace offline before the copy, removing the need for a recovery, but the tablespace would have been offline longer using that method.

RMAN> SQL 'ALTER TABLESPACE soe OFFLINE';

Switch to the new datafile copy(s) and recover the tablespace.

RMAN> SWITCH DATAFILE 8 TO COPY;

RMAN> RECOVER TABLESPACE soe;

Turn the tablespace online again.

RMAN> SQL 'ALTER TABLESPACE soe ONLINE';

Remove the old datafile(s).

RMAN> HOST 'rm /u01/app/oracle/product/11.2.0.2/db\_1/dbs/soe.dbf';

Listing the current files shows the move is complete.

RMAN> REPORT SCHEMA;

Report of database schema for database with db\_unique\_name DB11G

List of Permanent Datafiles

===========================

File Size(MB) Tablespace RB segs Datafile Name

---- -------- -------------------- ------- ------------------------

1 750 SYSTEM \*\*\* /u01/app/oracle/oradata/DB11G/system01.dbf

2 1150 SYSAUX \*\*\* /u01/app/oracle/oradata/DB11G/sysaux01.dbf

3 444 UNDOTBS1 \*\*\* /u01/app/oracle/oradata/DB11G/undotbs01.dbf

4 120 USERS \*\*\* /u01/app/oracle/oradata/DB11G/users01.dbf

5 345 EXAMPLE \*\*\* /u01/app/oracle/oradata/DB11G/example01.dbf

8 3277 SOE \*\*\* /u01/app/oracle/oradata/DB11G/soe.dbf

List of Temporary Files

=======================

File Size(MB) Tablespace Maxsize(MB) Tempfile Name

---- -------- -------------------- ----------- --------------------

1 370 TEMP 32767 /u01/app/oracle/oradata/DB11G/temp01.dbf

RMAN>

Moving the SYSTEM tablespace is possible using a similar method, but the database must be shutdown and mounted before the switch and recover can be done.

**Recreating the Controlfile**

For largescale rearrangements it may be easier to manipulate the controlfile contents manually by backing up the controlfile to trace.

SQL> CONN sys/password AS SYSDBA

Connected.

SQL> ALTER DATABASE BACKUP CONTROLFILE TO TRACE;

Database altered.

SQL>

The resulting trace file in the user\_dump\_dest directory contains commands and instructions for recreating the controlfile. The paths in the CREATE CONTROLFILE command can be manipulated to rename all datafiles and logfiles on one step.

This is quite a drastic step and it may affect the usefulness of existing backups, especially if the controlfile is being used as the recovery catlog.