# Partial RMAN Restore PITR (Same Server)

This scenario assumes that a data error has occurred on the database and that we need to recover to a point in time before the error occurred. It would most commonly be used if an upgrade did not work correctly and needed to be rolled back.

It assumes that the Recovery Catalog is still available.
The below is an example of restoring data from DUBELIVE.

Information taken from Oracle 11gR2 RMAN documentation
http://docs.oracle.com/cd/E11882_01/backup.112/e10642/rcmflash.htm#g1016666

The stages of the restore are …

1. Discover exact time when error occurred
2. Connect to Target Database and Recovery Catalog
3. Restore / Recover datafiles using Set Until Time parameter
4. Open Database

## Discover Exact Time When Error Occurred
In the case of an upgrade it is relatively simple to know what time we need to rollback to.
It would be standard to create a restore point before the upgrade with the following command …
*SQL> CREATE RESTORE POINT PRE_UPGRADE;*

In the case of a user error you can only use the best guess from the user.

## Connect To Target Database and Recovery Catalog
Connect to the target database and recovery catalog using rman.
*rman target / catalog rman/<pwd> @//sheffield/rman11g*

Now startup mount the instance, we are assuming in this scenario that the spfile, control files and online redo logs are all still available.
*STARTUP FORCE MOUNT;*

## Restore / Recover Datafiles using Set Until Time Parameter
There are a number of different options available when doing incomplete recovery.
You can restore to a sequence log number, an SCN, a restore point or a point in time.
*run {*
*set until time "to_date('04-06-2013 15:58:00', 'DD-MM-YYYY HH24:MI:SS')";*
*restore database;*
*recover database;*
*}*

## Open Database
As this is a partial restore, Open the database and reset the logs
*SQL> ALTER DATABASE OPEN RESETLOGS;*

# Example Restore Scenario

```
SQL> select username, default_tablespace, temporary_tablespace from dba_users
  2  where username = 'DUBEDBA';

USERNAME        DEFAULT_TABLESPACE              TEMPORARY_TABLESPACE
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DUBEDBA         UNITE_DATA                      TEMP

SQL> alter session set nls_date_format = 'DD-MON-YYYY HH24:MI:SS';

Session altered.

SQL> select sysdate from dual;

SYSDATE
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04-JUN-2013 15:58:11

SQL> drop user dubedba cascade;

User dropped.

RMAN> startup force mount;

Oracle instance started
database mounted

Total System Global Area    2137886720 bytes

Fixed Size                     2230072 bytes
Variable Size               1325402312 bytes
Database Buffers             805306368 bytes
Redo Buffers                   4947968 bytes

RMAN> run {
2> set until time "to_date('04-06-2013 15:58:00', 'DD-MM-YYYY HH24:MI:SS')";
3> restore database;
4> recover database;
5> }

executing command: SET until clause

Starting restore at 04-JUN-13
using target database control file instead of recovery catalog
allocated channel: ORA_DISK_1
channel ORA_DISK_1: SID=770 device type=DISK

channel ORA_DISK_1: starting datafile backup set restore
channel ORA_DISK_1: specifying datafile(s) to restore from backup set
channel ORA_DISK_1: restoring datafile 00001 to /u02/oradata/DUBELIVE/datafile/o1_mf_system_8rt2zmgs_.dbf
channel ORA_DISK_1: restoring datafile 00002 to /u02/oradata/DUBELIVE/datafile/o1_mf_sysaux_8rt2zmgk_.dbf
channel ORA_DISK_1: restoring datafile 00003 to /u02/oradata/DUBELIVE/datafile/o1_mf_undotbs1_8rt2zmjo_.dbf
channel ORA_DISK_1: restoring datafile 00004 to /u02/oradata/DUBELIVE/datafile/o1_mf_users_8rt2zmlw_.dbf
channel ORA_DISK_1: restoring datafile 00005 to /u02/oradata/DUBELIVE/datafile/o1_mf_unite_ar_8rt2zmjy_.dbf
channel ORA_DISK_1: restoring datafile 00006 to /u02/oradata/DUBELIVE/datafile/o1_mf_unite_da_8rt2zm9o_.dbf
channel ORA_DISK_1: restoring datafile 00007 to /u02/oradata/DUBELIVE/datafile/o1_mf_unite_in_8tvk55mn_.dbf
channel ORA_DISK_1: restoring datafile 00008 to /u02/oradata/DUBELIVE/datafile/o1_mf_unite_in_8rt2zmcy_.dbf
channel ORA_DISK_1: reading from backup piece
/backup/fast_recovery_area/DUBELIVE/backupset/2013_06_04/o1_mf_nnndf_TAG20130604T100355_8tvccx3b_.bkp
channel ORA_DISK_1: piece
handle=/backup/fast_recovery_area/DUBELIVE/backupset/2013_06_04/o1_mf_nnndf_TAG20130604T100355_8tvccx3b_.bkp
tag=TAG20130604T100355
channel ORA_DISK_1: restored backup piece 1
channel ORA_DISK_1: restore complete, elapsed time: 00:32:05
Finished restore at 04-JUN-13

Starting recover at 04-JUN-13
using channel ORA_DISK_1

starting media recovery

archived log for thread 1 with sequence 5 is already on disk as file
/backup/fast_recovery_area/DUBELIVE/archivelog/2013_06_04/o1_mf_1_5_8tvf7qbg_.arc
archived log for thread 1 with sequence 6 is already on disk as file
/backup/fast_recovery_area/DUBELIVE/archivelog/2013_06_04/o1_mf_1_6_8tvjr64z_.arc
archived log for thread 1 with sequence 7 is already on disk as file
/backup/fast_recovery_area/DUBELIVE/archivelog/2013_06_04/o1_mf_1_7_8tvm1l8f_.arc
archived log for thread 1 with sequence 8 is already on disk as file
/backup/fast_recovery_area/DUBELIVE/archivelog/2013_06_04/o1_mf_1_8_8tvpcd98_.arc
```

```
archived log for thread 1 with sequence 9 is already on disk as file
/backup/fast_recovery_area/DUBELIVE/archivelog/2013_06_04/o1_mf_1_9_8tvsvwx9_.arc
archived log for thread 1 with sequence 10 is already on disk as file
/backup/fast_recovery_area/DUBELIVE/archivelog/2013_06_04/o1_mf_1_10_8tvws3s4_.arc
archived log for thread 1 with sequence 11 is already on disk as file
/backup/fast_recovery_area/DUBELIVE/archivelog/2013_06_04/o1_mf_1_11_8tw09hnp_.arc
archived log file name=/backup/fast_recovery_area/DUBELIVE/archivelog/2013_06_04/o1_mf_1_5_8tvf7qbg_.arc
thread=1 sequence=5
archived log file name=/backup/fast_recovery_area/DUBELIVE/archivelog/2013_06_04/o1_mf_1_6_8tvjr64z_.arc
thread=1 sequence=6
archived log file name=/backup/fast_recovery_area/DUBELIVE/archivelog/2013_06_04/o1_mf_1_7_8tvm1l8f_.arc
thread=1 sequence=7
archived log file name=/backup/fast_recovery_area/DUBELIVE/archivelog/2013_06_04/o1_mf_1_8_8tvpcd98_.arc
thread=1 sequence=8
archived log file name=/backup/fast_recovery_area/DUBELIVE/archivelog/2013_06_04/o1_mf_1_9_8tvsvwx9_.arc
thread=1 sequence=9
media recovery complete, elapsed time: 00:00:08
Finished recover at 04-JUN-13

RMAN> alter database open resetlogs;

database opened

SQL> select username, default_tablespace, temporary_tablespace from dba_users
  2  where username = 'DUBEDBA';

USERNAME      DEFAULT_TABLESPACE            TEMPORARY_TABLESPACE
------------- ----------------------------- -----------------------------
DUBEDBA       UNITE_DATA                    TEMP
```