

Author – *A.Kishore*
<http://appsdba.info>

How to recover a database having added a datafile since the last backup???

Solution: This was bit easy, after mounting the database offline the datafile and open the database to public and than use RMAN to recover the datafile

RMAN SID = RECO
TARGET SID = TEST5

Check that our target system is running on archive log

```
SQL> archive log list;
Database log mode           Archive Mode
Automatic archival         Enabled
Archive destination         USE_DB_RECOVERY_FILE_DEST
Oldest online log sequence   1
Next log sequence to archive 2
Current log sequence         2
```

RMAN Setup and Configuration

Configure the Database for RMAN Operations

Set Up the Database User in the target database - on the TEST database

```
create user backup_admin identified by backup_admin default tablespace users;
grant sysdba to backup_admin;
```

Creating the Recovery Catalog User - on RECO database

```
create user rcat_user identified by rcat_user default tablespace users;

grant connect,resource,recovery_catalog_owner to rcat_user;
```

Creating the Recovery Catalog Schema Objects

Step 1. Connect to the recover catalog with RMAN:

```
rman catalog=rcat_user/rcat_user@reco
```

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<http://appsdba.info>

Step 2. Issue the create catalog command from the RMAN prompt:

```
create catalog;
```

Register your database in the recovery catalog

Step 1: Using RMAN, sign into the database and the recover catalog at the same time

```
rman catalog=rcat_user/rcat_user@RECO target=backup_admin/backup_admin@test5
```

Step 2: Register the database with the recovery catalog

```
RMAN> register database  
RMAN> show all;  
RMAN> CONFIGURE CONTROLFILE AUTOBACKUP ON;  
RMAN> backup database plus archivelog;
```

```
run  
{  
backup database plus archivelog;  
backup current controlfile;  
}
```

```
-- Add the datafile
```

```
SQL> alter tablespace users add datafile  
'C:\ORACLE\PRODUCT\10.2.0\ORADATA\TEST5\USERS03.DBF' size 50m;
```

Tablespace altered.

```
SQL> connect scott/tiger@test5  
Connected.  
SQL> create table v(t number);
```

Table created.

```
SQL> insert into v values(3);
```

1 row created.

```
SQL> commit;
```

Commit complete.

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<http://appsdba.info>

```
SQL> select name from v$datafile;
```

```
NAME
```

```
-----  
C:\ORACLE\PRODUCT\10.2.0\ORADATA\TEST5\SYSTEM01.DBF  
C:\ORACLE\PRODUCT\10.2.0\ORADATA\TEST5\UNDOTBS01.DBF  
C:\ORACLE\PRODUCT\10.2.0\ORADATA\TEST5\SYSAUX01.DBF  
C:\ORACLE\PRODUCT\10.2.0\ORADATA\TEST5\USERS01.DBF  
C:\ORACLE\PRODUCT\10.2.0\ORADATA\TEST5\EXAMPLE01.DBF  
C:\ORACLE\PRODUCT\10.2.0\ORADATA\TEST5\USERS02.DBF  
C:\ORACLE\PRODUCT\10.2.0\ORADATA\TEST5\USERS03.DBF
```

```
-- shutdown abort  
-- delete the datafile - USER03
```

```
SQL> startup  
ORACLE instance started.
```

```
Total System Global Area 167772160 bytes  
Fixed Size 1247876 bytes  
Variable Size 79693180 bytes  
Database Buffers 79691776 bytes  
Redo Buffers 7139328 bytes
```

```
Database mounted.
```

```
ORA-01157: cannot identify/lock data file 7 - see DBWR trace file
```

```
ORA-01110: data file 7:
```

```
'C:\ORACLE\PRODUCT\10.2.0\ORADATA\TEST5\USERS03.DBF'
```

Take the offending datafile offline and open the database allowing users to work while recovery is being done.

```
SQL> alter database datafile 7 offline;
```

```
Database altered.
```

```
SQL> alter database open;
```

```
Database altered.
```

```
C:\>rman catalog=rcat_user/rcat_user@RECO  
target=backup_admin/backup_admin@test5
```

```
Recovery Manager: Release 10.2.0.1.0 - Production on Thu Apr 23  
16:55:28 2009
```

```
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```

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```
connected to target database: TEST5 (DBID=906802567, not open)
connected to recovery catalog database
```

```
RMAN> restore datafile 7;
```

```
Starting restore at 23-APR-09
starting full resync of recovery catalog
full resync complete
allocated channel: ORA_DISK_1
channel ORA_DISK_1: sid=140 devtype=DISK

creating datafile fno=7
name=C:\ORACLE\PRODUCT\10.2.0\ORADATA\TEST5\USERS03.DBF
restore not done; all files readonly, offline, or already restored
Finished restore at 23-APR-09
```

```
RMAN> recover datafile 7;
```

```
Starting recover at 23-APR-09
using channel ORA_DISK_1

starting media recovery
media recovery complete, elapsed time: 00:00:03

Finished recover at 23-APR-09
```

```
C:\>sqlplus "sys/oracle@test5 as sysdba"
```

```
SQL> alter database datafile 7 online;
```