*SESSION 5A RELOCATING (RENAMING) DATAFILES in SQL*PLUS*

```
The Oracle base remains unchanged with value /opt/oracle
[oracle@oracloud12c ~]$ pwd
/home/oracle
[oracle@oracloud12c ~]$ cd /opt/oracle/admin/student/pfile
[oracle@oracloud12c pfile]$ ls -l
total 8
-rw-r-----. 1 oracle dba 1809 Dec 18 10:59 init.ora.6242017113352
-rw-r--r--. 1 oracle dba 1809 Dec 18 10:58 initstudent.ora
```

*** Now, when in "pfile" folder we will open SQL session, so that we can use our PFILE → "initstudent.ora" to start our DB whenever necessary ***

```
[oracle@oracloud12c pfile]$ sqlplus / as sysdba

SQL*Plus: Release 12.1.0.2.0 Production on Wed Feb 7 11:00:38 2018

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Connected to:                    ← Our Instance student is running
Oracle Database 12c Enterprise Edition Release 12.1.0.2.0 - 64bit
Production
With the Partitioning, OLAP, Advanced Analytics and Real Application
Testing options

SQL> set pagesize 120
SQL> set linesize 120

SQL> SELECT ts#, name FROM V$tablespace;

       TS# NAME
---------- ------------------------
         1 SYSAUX
         0 SYSTEM
         2 UNDOTBS1
         4 USERS
         3 TEMP
         6 MGMT_ECM_DEPOT_TS
         7 MGMT_TABLESPACE
         8 MGMT_AD4J_TS
         9 MINE
        10 JOKE

10 rows selected.

SQL> SELECT file#, name FROM V$DATAFILE
     WHERE  ts# =10;
```

```
     FILE#
----------
NAME
--------------------------------------------------------------------------------
         9
/opt/oracle/oradata/student/joke01.dbf

        10
/opt/oracle/oradata/student/joke02.dbf


SQL> SELECT file#, name FROM V$DATAFILE
     WHERE  ts# =2;

     FILE#
----------
NAME
--------------------------------------------------------------------------------
         4
/opt/oracle/oradata/student/undotbs01.dbf
```

Relocating a NON-CRITICAL datafile Scenario

*** STEP ONE – Taking Tablespace (where Datafile is) OFFLINE ***

```
SQL> ALTER TABLESPACE joke OFFLINE;

Tablespace altered.
```

*** STEP TWO – Physical Moving file in Linux ***

```
SQL> HOST
[oracle@oracloud12c pfile]$ mv /opt/oracle/oradata/student/joke02.dbf
/opt/oracle/oradata/DISK2
[oracle@oracloud12c pfile]$ exit
exit
```

*** STEP THREE – Logical Renaming Datafile in SQL ***

```
SQL> ALTER TABLESPACE joke
     RENAME DATAFILE '/opt/oracle/oradata/student/joke02.dbf' TO
    '/opt/oracle/oradata/DISK2/joke02.dbf' ;

Tablespace altered.
```

*** STEP FOUR – Bringing Tablespace (where Datafile is) ONLINE ***

```
SQL> ALTER TABLESPACE joke ONLINE;

Tablespace altered.

SQL> ALTER TABLESPACE  undotbs1 OFFLINE;
```

```
ALTER TABLESPACE  undotbs1 OFFLINE
*
ERROR at line 1:
ORA-30042: Cannot offline the undo tablespace
```

*** We can NOT place a CRITICAL DATAFILE offline ***

Relocating Critical Datafile (SYSTEM/UNDO) Scenario

*** STEP ONE – Shut your Database ***

```
SQL> shutdown immediate;
Database closed.
Database dismounted.
ORACLE instance shut down.
```

*** STEP TWO – Physical Moving file in Linux ***

```
SQL> HOST
[oracle@oracloud12c student]$ mv
/opt/oracle/oradata/student/undotbs01.dbf /opt/oracle/oradata/DISK3
[oracle@oracloud12c student]$ cd /opt/oracle/oradata/DISK3
[oracle@oracloud12c DISK3]$ ls -l
total 839260
-rw-r-----. 1 oracle dba  10043392 Feb  1 11:58 control03.ctl
-rw-r-----. 1 oracle dba 849354752 Feb  7 11:21 undotbs01.dbf
[oracle@oracloud12c DISK3]$ exit
Exit
```

*** STEP THREE – Mount your Database ***

```
SQL>  STARTUP PFILE=initstudent.ora MOUNT;
ORACLE instance started.

Total System Global Area  843055104 bytes
Fixed Size                  2929984 bytes
Variable Size             327158464 bytes
Database Buffers          507510784 bytes
Redo Buffers                5455872 bytes
Database mounted.
```

*** STEP FOUR – Logical Renaming Datafile in SQL ***

```
SQL> ALTER DATABASE RENAME FILE
'/opt/oracle/oradata/student/undotbs01.dbf' TO
'/opt/oracle/oradata/DISK3/undotbs01.dbf' ;

Database altered.
```

*** STEP FIVE – Open your Database ***

```
SQL> ALTER DATABASE OPEN;

Database altered.

SQL> COLUMN file_name FORMAT a40
SQL> SELECT  file_id, file_name, bytes,
             autoextensible, increment_by, maxbytes
     FROM    dba_data_files
     WHERE   tablespace_name IN ('MINE','JOKE');

   FILE_ID FILE_NAME                                     BYTES AUT
INCREMENT_BY   MAXBYTES
---------- ---------------------------------------- ---------- ---
         8 /opt/oracle/oradata/student/mine01.dbf     10485760 YES
64   20971520
         9 /opt/oracle/oradata/student/joke01.dbf      5242880 NO
0          0
        10 /opt/oracle/oradata/DISK2/joke02.dbf        3145728 YES
10    5242880

SQL> ALTER DATABASE DATAFILE '/opt/oracle/oradata/student/joke01.dbf'
AUTOEXTEND ON;

Database altered.

SQL> SELECT  file_id, file_name, bytes,
     autoextensible, increment_by, maxbytes
     FROM    dba_data_files
     WHERE   tablespace_name IN ('MINE','JOKE');

   FILE_ID FILE_NAME                                     BYTES AUT
INCREMENT_BY   MAXBYTES
---------- ---------------------------------------- ---------- --- ---
         8 /opt/oracle/oradata/student/mine01.dbf     10485760 YES
64   20971520
         9 /opt/oracle/oradata/student/joke01.dbf      5242880 YES
1    3.4360E+10
        10 /opt/oracle/oradata/DISK2/joke02.dbf        3145728 YES
10    5242880
```

*** Default value for INCREMENT_BY column (NEXT in the syntax) is 1 DB Block and for MAXBYTES column (MAXSIZE in the syntax) is UNLIMITED (here on Linux is 32G).**
IF you do NOT specify NEXT extent value when going for AUTOEXTEND ON, then the view shows always that 1 DB Block will be allocated. It will be actually NEXT_EXTENT value from DBA_TABLESPACES (in Blocks) and this value is equal to the UNIFORM SIZE value for the tablespace, if it was created with the UNIFORM option. But, if the tablespace is under AUTOALLOCATE option, it means that NEXT extent will be auto-allocated as usual (in Increments of 64K or 8 Blocks) *

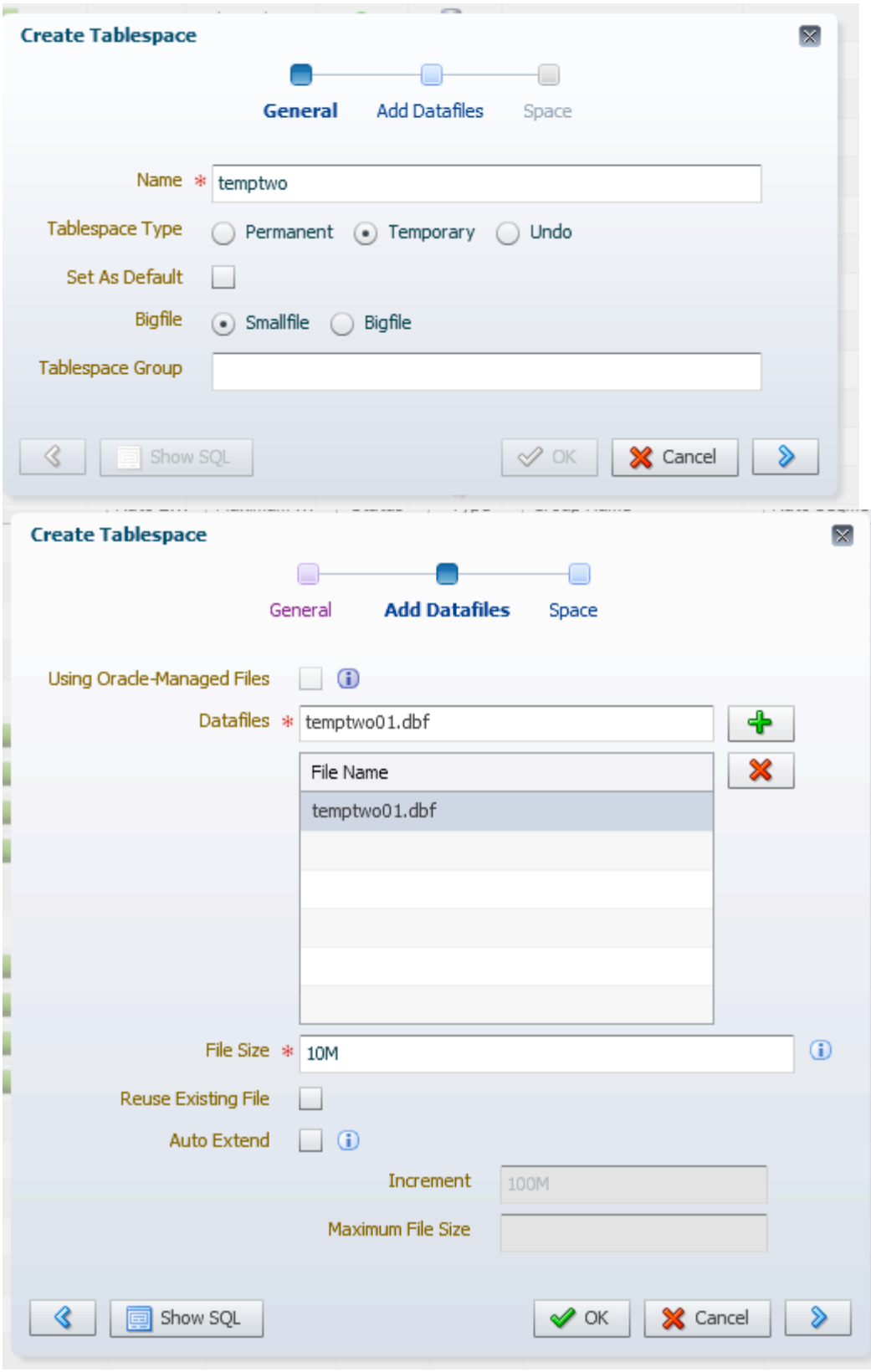
```
SQL> ALTER DATABASE DATAFILE '/opt/oracle/oradata/student/joke01.dbf'
AUTOEXTEND ON  NEXT 200K MAXSIZE 10M;

Database altered.

SQL> SELECT  file_id, file_name, bytes,
           autoextensible, increment_by, maxbytes
     FROM    dba_data_files
     WHERE   tablespace_name IN ('MINE','JOKE');

   FILE_ID FILE_NAME                                      BYTES AUT
INCREMENT_BY   MAXBYTES
---------- ---------------------------------------- ---------- --- ---
         8 /opt/oracle/oradata/student/mine01.dbf     10485760 YES
64   20971520
         9 /opt/oracle/oradata/student/joke01.dbf      5242880 YES
25   10485760
        10 /opt/oracle/oradata/DISK2/joke02.dbf        3145728 YES
10    5242880
```

SESSION 5B TEMPORARY TABLESPACES AND TEMPFILES plus Tablespace Creation in DB Express

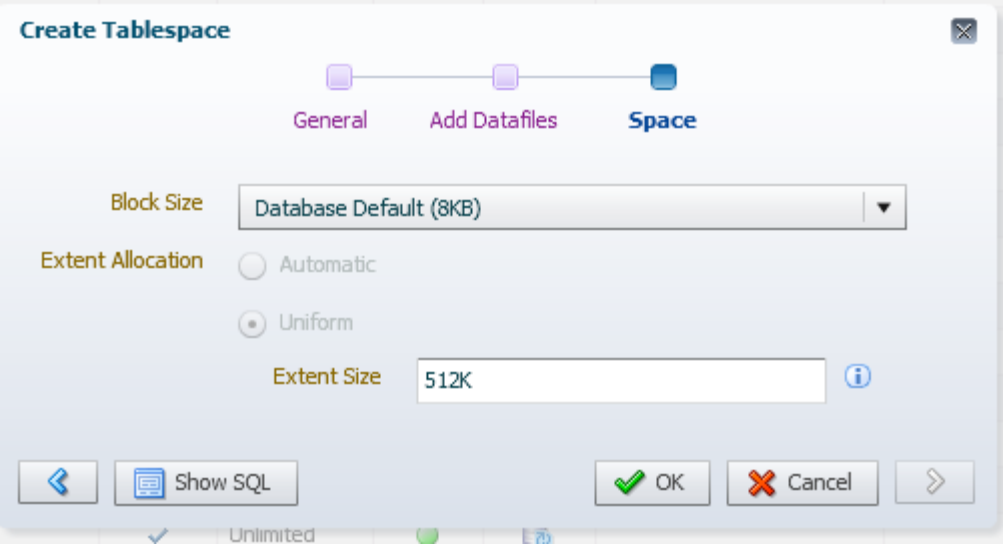
```
SQL> CREATE TEMPORARY TABLESPACE play TEMPFILE
    '/opt/oracle/oradata/DISK2/tempplay01.dbf' SIZE 5M
      EXTENT MANAGEMENT LOCAL AUTOALLOCATE;

EXTENT MANAGEMENT LOCAL AUTOALLOCATE
                                    *
ERROR at line 3:
ORA-25139: invalid option for CREATE TEMPORARY TABLESPACE
```

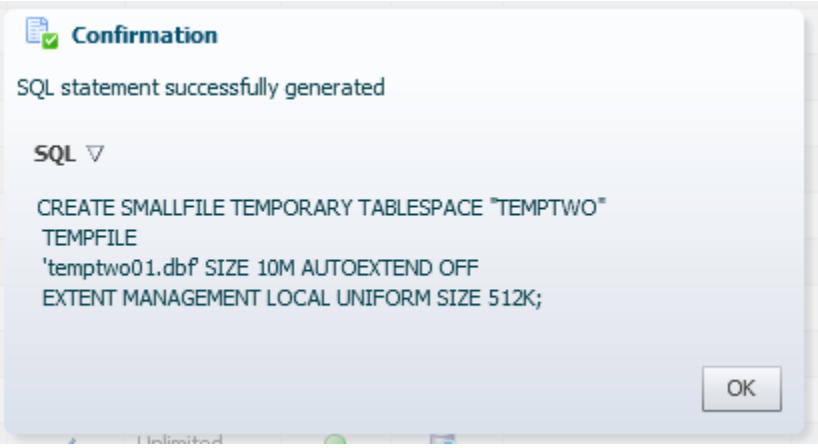
*** We can NOT use AUTOALLOCATE option when creating Temporary Tbsp,** ***although that is DEFAULT option when creating PERMANENT tablespaces. The default situation here is UNIFORM size of 1M ****

If we open our **DB EXPRESS tool** with
http://myvmlab.senecacollege.ca:xxxx/em where xxxx is your Express Port# (one less than one posted on BB)
Then we go **Storage → Tablespaces → Create**
And then follow next 3 steps shown below (you move with **>)** together with the SQL command (you click on **Show SQL**) and then **OK.**



*** Note that here PATH was NOT specified, only the File name. That will place this file in the folder $ORACLE_HOME/dbs by default ***






```
SQL> SELECT  file_id, file_name, bytes,
             autoextensible, increment_by, maxbytes
     FROM    dba_temp_files
     WHERE    tablespace_name IN ('TEMP','TEMPTWO')

   FILE_ID FILE_NAME                                      BYTES AUT
INCREMENT_BY    MAXBYTES
---------- ---------------------------------------- ---------- --- ---
         1 /opt/oracle/oradata/student/temp01.dbf     62914560 YES
80 3.4360E+10
         2 /opt/oracle/product/12.1.0/dbhome_1/dbs/   10485760 NO
0           0                          temptwo01.dbf
```

*** We can have several Temporary Tablespaces created, but only one may be ACTIVE, and that one is called DEFAULT TEMPORARY TABLESPACE ***

```
SQL> ALTER DATABASE DEFAULT TEMPORARY TABLESPACE temptwo;

Database altered.
```

```
SQL> DROP TABLESPACE temptwo INCLUDING CONTENTS AND DATAFILES;
DROP TABLESPACE temptwo INCLUDING CONTENTS AND DATAFILES
*
ERROR at line 1:
ORA-12906: cannot drop default temporary tablespace


SQL> ALTER DATABASE DEFAULT TEMPORARY TABLESPACE temp;

Database altered.

SQL> DROP TABLESPACE temptwo INCLUDING CONTENTS AND DATAFILES;

Tablespace dropped.


SQL> SHUTDOWN IMMEDIATE;
Database closed.
Database dismounted.
ORACLE instance shut down.
SQL> EXIT
Disconnected from Oracle Database 12c Enterprise Edition Release
12.1.0.2.0 - 64bit Production
With the Partitioning, OLAP, Advanced Analytics and Real Application
Testing options
[oracle@oracloud12c pfile]$ exit
logout
```

```
Session stopped
    - Press <return> to exit tab
    - Press R to restart session
    - Press S to save terminal output to file
```