

TD SGBD INDIVIDUEL

Sauvegarde/Restauration/Recover

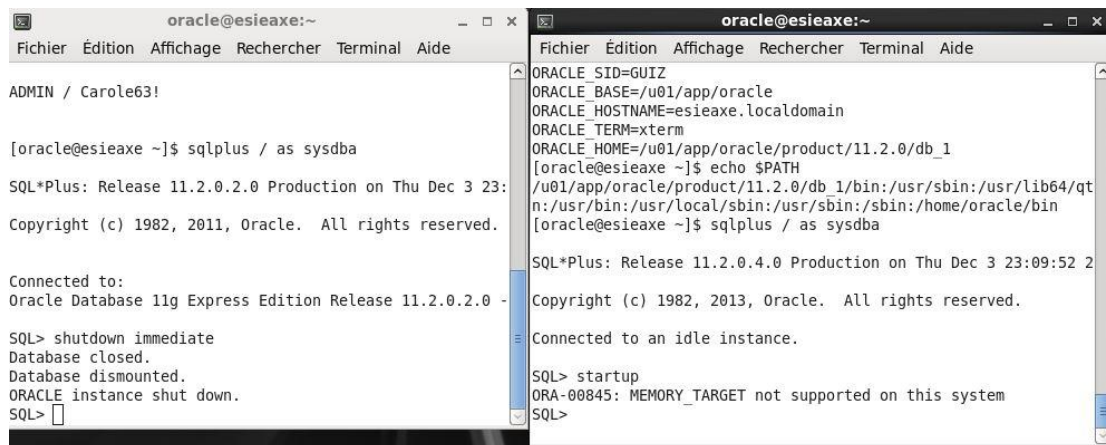
Ahmed GUIZANI 4A41

2020-2021

I. Affichez l'identifiant de votre base de données

```
[oracle@esieaxe ~]$ . oraenv
ORACLE_SID = [GUIZ] ? GUIZ
The Oracle base remains unchanged with value /u01/app/oracle
[oracle@esieaxe ~]$ oe
ORACLE_SID=GUIZ
ORACLE_BASE=/u01/app/oracle
ORACLE_HOSTNAME=esieaxe.localdomain
ORACLE_TERM=xterm
ORACLE_HOME=/u01/app/oracle/product/11.2.0/db_1
[oracle@esieaxe ~]$
```

-arrêt de l'instance **xe** pour laisser l'espace memoire pour l'instance **GUIZ**



```
oracle@esieaxe:~
Fichier Édition Affichage Rechercher Terminal Aide
ADMIN / Carole63!

[oracle@esieaxe ~]$ sqlplus / as sysdba

SQL*Plus: Release 11.2.0.2.0 Production on Thu Dec 3 23:
Copyright (c) 1982, 2011, Oracle. All rights reserved.

Connected to:
Oracle Database 11g Express Edition Release 11.2.0.2.0 -
SQL> shutdown immediate
Database closed.
Database dismounted.
ORACLE instance shut down.
SQL>
```

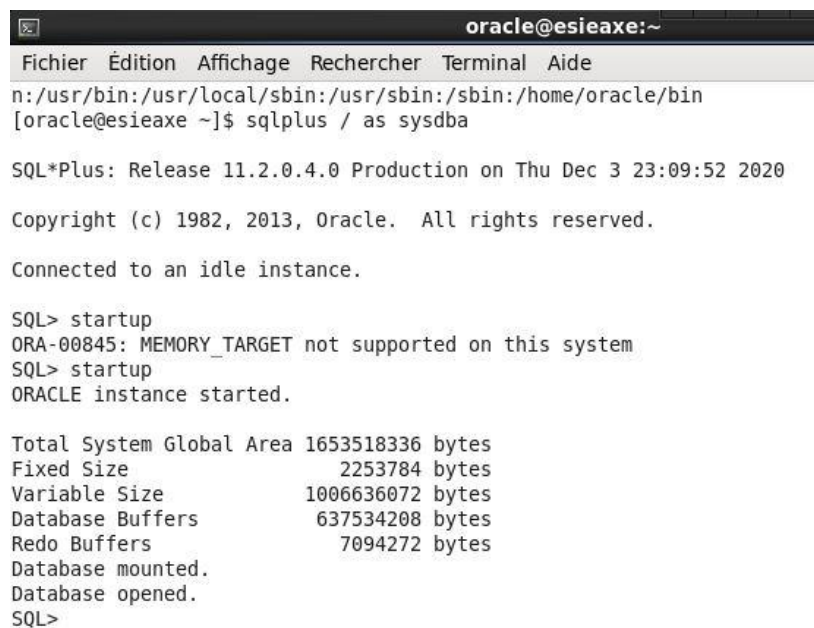
```
oracle@esieaxe:~
Fichier Édition Affichage Rechercher Terminal Aide
ORACLE_SID=GUIZ
ORACLE_BASE=/u01/app/oracle
ORACLE_HOSTNAME=esieaxe.localdomain
ORACLE_TERM=xterm
ORACLE_HOME=/u01/app/oracle/product/11.2.0/db_1
[oracle@esieaxe ~]$ echo $PATH
/u01/app/oracle/product/11.2.0/db_1/bin:/usr/sbin:/usr/lib64/qt
n:/usr/bin:/usr/local/sbin:/usr/sbin:/sbin:/home/oracle/bin
[oracle@esieaxe ~]$ sqlplus / as sysdba

SQL*Plus: Release 11.2.0.4.0 Production on Thu Dec 3 23:09:52 2
Copyright (c) 1982, 2013, Oracle. All rights reserved.

Connected to an idle instance.

SQL> startup
ORA-00845: MEMORY_TARGET not supported on this system
SQL>
```

-démarrage de l'instance **GUIZ** avec succès après l'arrêt de l'instance **xe**



```
oracle@esieaxe:~
Fichier Édition Affichage Rechercher Terminal Aide
n:/usr/bin:/usr/local/sbin:/usr/sbin:/sbin:/home/oracle/bin
[oracle@esieaxe ~]$ sqlplus / as sysdba

SQL*Plus: Release 11.2.0.4.0 Production on Thu Dec 3 23:09:52 2020
Copyright (c) 1982, 2013, Oracle. All rights reserved.

Connected to an idle instance.

SQL> startup
ORA-00845: MEMORY_TARGET not supported on this system
SQL> startup
ORACLE instance started.

Total System Global Area 1653518336 bytes
Fixed Size 2253784 bytes
Variable Size 1006636072 bytes
Database Buffers 637534208 bytes
Redo Buffers 7094272 bytes
Database mounted.
Database opened.
SQL>
```

-verification de l'espace mémoire

```
oracle@esieaxe:~  
Fichier  Édition  Affichage  Rechercher  Terminal  Aide  
  
SQL> startup  
ORA-00845: MEMORY_TARGET not supported on this system  
SQL> startup  
ORACLE instance started.  
  
Total System Global Area 1653518336 bytes  
Fixed Size                2253784 bytes  
Variable Size             1006636072 bytes  
Database Buffers          637534208 bytes  
Redo Buffers              7094272 bytes  
Database mounted.  
Database opened.  
SQL> show parameter mem  
  
NAME                                TYPE                                VALUE  
-----                                -  
hi_shared_memory_address            integer                             0  
memory_max_target                   big integer                         1584M  
memory_target                       big integer                         1584M  
shared_memory_address               integer                             0  
SQL>
```

II. Effectuer un test de sauvegarde à chaud

-verification du Archive log mode et fermeture de la base

```
SQL> archive log list  
Database log mode                No Archive Mode  
Automatic archival               Disabled  
Archive destination              USE_DB_RECOVERY_FILE_DEST  
Oldest online log sequence       2  
Current log sequence             4  
SQL> alter database close  
2 ;  
  
Database altered.  
  
SQL>
```

-verification du status de l'instance et activation du Archivelog mode

```
SQL> select status from v$instance  
2 ;  
  
STATUS  
-----  
MOUNTED  
  
SQL> alter database archivelog  
2 ;  
  
Database altered.  
  
SQL>
```

```

SQL> alter database archivelog
  2 ;

Database altered.

SQL> archive log list
Database log mode          Archive Mode
Automatic archival        Enabled
Archive destination       USE_DB_RECOVERY_FILE_DEST
Oldest online log sequence 2
Next log sequence to archive 4
Current log sequence      4
SQL>

```

-Affichage des parameters du recover

```

SQL> show parameter reco

```

NAME	TYPE	VALUE
control_file_record_keep_time	integer	7
db_recovery_file_dest	string	/u01/app/oracle/fast_recovery_area
db_recovery_file_dest_size	big integer	4182M
db_unrecoverable_scn_tracking	boolean	TRUE
recovery_parallelism	integer	0

```

SQL> █

```

```

SQL> alter database open
  2 ;
alter database open
*
ERROR at line 1:
ORA-16196: database has been previously opened and closed

SQL> shutdown immediate
ORA-01109: database not open

Database dismounted.
ORACLE instance shut down.
SQL> █

```

--démarrage de l'instance **GUIZ** avec succès et ouverture du Recovery Manager

```
SQL> startup
ORACLE instance started.

Total System Global Area 1653518336 bytes
Fixed Size                2253784 bytes
Variable Size             1006636072 bytes
Database Buffers          637534208 bytes
Redo Buffers              7094272 bytes
Database mounted.
Database opened.
SQL> exit
Disconnected from Oracle Database 11g Enterprise Edition Release 11.2.0.4.0 - 64bit Production
With the Partitioning, OLAP, Data Mining and Real Application Testing options
[oracle@esieaxe ~]$ rman target=/

Recovery Manager: Release 11.2.0.4.0 - Production on Fri Dec 4 00:15:35 2020

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connected to target database: GUIZANI (DBID=988498744)
```

```
RMAN> █

RMAN> show all
2> ;

using target database control file instead of recovery catalog
RMAN configuration parameters for database with db_unique_name GUIZANI are:
CONFIGURE RETENTION POLICY TO REDUNDANCY 1; # default
CONFIGURE BACKUP OPTIMIZATION OFF; # default
CONFIGURE DEFAULT DEVICE TYPE TO DISK; # default
CONFIGURE CONTROLFILE AUTOBACKUP OFF; # default
CONFIGURE CONTROLFILE AUTOBACKUP FORMAT FOR DEVICE TYPE DISK TO '%F'; # default
CONFIGURE DEVICE TYPE DISK PARALLELISM 1 BACKUP TYPE TO BACKUPSET; # default
CONFIGURE DATAFILE BACKUP COPIES FOR DEVICE TYPE DISK TO 1; # default
CONFIGURE ARCHIVELOG BACKUP COPIES FOR DEVICE TYPE DISK TO 1; # default
CONFIGURE MAXSETSIZE TO UNLIMITED; # default
CONFIGURE ENCRYPTION FOR DATABASE OFF; # default
CONFIGURE ENCRYPTION ALGORITHM 'AES128'; # default
CONFIGURE COMPRESSION ALGORITHM 'BASIC' AS OF RELEASE 'DEFAULT' OPTIMIZE FOR LOAD TRUE ; # default
CONFIGURE ARCHIVELOG DELETION POLICY TO NONE; # default
CONFIGURE SNAPSHOT CONTROLFILE NAME TO '/u01/app/oracle/product/11.2.0/db_1/dbs/snapcf_GUIZ.f'; #
default
RMAN>
```

-Configuration du controlefile Autobackup

```
RMAN> CONFIGURE CONTROLFILE AUTOBACKUP ON;

new RMAN configuration parameters:
CONFIGURE CONTROLFILE AUTOBACKUP ON;
new RMAN configuration parameters are successfully stored

RMAN>
```


-Configuration du type disk et compression du backupset

```
RMAN> CONFIGURE DEVICE TYPE DISK PARALLELISM 2 BACKUP TYPE TO COMPRESSED BACKUPSET;
```

new RMAN configuration parameters:

```
CONFIGURE DEVICE TYPE DISK PARALLELISM 2 BACKUP TYPE TO COMPRESSED BACKUPSET;
```

new RMAN configuration parameters are successfully stored

```
RMAN> █
```

-démarrage de backup avec ArchiveLog

```
RMAN> backup database plus archivelog;
```

```
Starting backup at 04-DEC-20
current log archived
allocated channel: ORA_DISK_1
channel ORA_DISK_1: SID=39 device type=DISK
allocated channel: ORA_DISK_2
channel ORA_DISK_2: SID=40 device type=DISK
channel ORA_DISK_1: starting compressed archived log backup set
channel ORA_DISK_1: specifying archived log(s) in backup set
input archived log thread=1 sequence=4 RECID=1 STAMP=1058228893
channel ORA_DISK_1: starting piece 1 at 04-DEC-20
channel ORA_DISK_1: finished piece 1 at 04-DEC-20
piece handle=/u01/app/oracle/fast_recovery_area/GUIZANI/backupset/2020_12_04/o1_mf_annnn_TAG20201204T002814_hwlx4gdg_.bkp tag=TAG20201204T002814 comment=NONE
channel ORA_DISK_1: backup set complete, elapsed time: 00:00:01
Finished backup at 04-DEC-20
```

```
Starting backup at 04-DEC-20
using channel ORA_DISK_1
using channel ORA_DISK_2
channel ORA_DISK_1: starting compressed full datafile backup set
channel ORA_DISK_1: specifying datafile(s) in backup set
input datafile file number=00001 name=/u01/app/oracle/oradata/GUIZANI/system01.dbf
input datafile file number=00004 name=/u01/app/oracle/oradata/GUIZANI/users01.dbf
channel ORA_DISK_1: starting piece 1 at 04-DEC-20
channel ORA_DISK_2: starting compressed full datafile backup set
channel ORA_DISK_2: specifying datafile(s) in backup set
input datafile file number=00002 name=/u01/app/oracle/oradata/GUIZANI/sysaux01.dbf
input datafile file number=00003 name=/u01/app/oracle/oradata/GUIZANI/undotbs01.dbf
channel ORA_DISK_2: starting piece 1 at 04-DEC-20
channel ORA_DISK_2: finished piece 1 at 04-DEC-20
piece handle=/u01/app/oracle/fast_recovery_area/GUIZANI/backupset/2020_12_04/o1_mf_nnndf_TAG20201204T002815_hwlx4kdy_.bkp tag=TAG20201204T002815 comment=NONE
channel ORA_DISK_2: backup set complete, elapsed time: 00:00:35
channel ORA_DISK_1: finished piece 1 at 04-DEC-20
piece handle=/u01/app/oracle/fast_recovery_area/GUIZANI/backupset/2020_12_04/o1_mf_nnndf_TAG20201204T002815_hwlx4hq6_.bkp tag=TAG20201204T002815 comment=NONE
channel ORA_DISK_1: backup set complete, elapsed time: 00:00:55
Finished backup at 04-DEC-20
```

```
Starting backup at 04-DEC-20
current log archived
using channel ORA_DISK_1
using channel ORA_DISK_2
channel ORA_DISK_1: starting compressed archived log backup set
channel ORA_DISK_1: specifying archived log(s) in backup set
input archived log thread=1 sequence=5 RECID=2 STAMP=1058228950
channel ORA_DISK_1: starting piece 1 at 04-DEC-20
channel ORA_DISK_1: finished piece 1 at 04-DEC-20
piece handle=/u01/app/oracle/fast_recovery_area/GUIZANI/backupset/2020_12_04/o1_mf_annnn_TAG20201204T002911_hwlx672z_.bkp tag=TAG20201204T002911 comment=NONE
channel ORA_DISK_1: backup set complete, elapsed time: 00:00:01
Finished backup at 04-DEC-20
```

```
Starting Control File and SPFILE Autobackup at 04-DEC-20
piece handle=/u01/app/oracle/fast_recovery_area/GUIZANI/autobackup/2020_12_04/o1_mf_s_1058228952_hwlx68v0_.bkp comment=NONE
Finished Control File and SPFILE Autobackup at 04-DEC-20
```

```
RMAN> █
```

```
RMAN> list backup summary
2> ;
```

List of Backups

Key	TY	LV	S	Device	Type	Completion Time	#Pieces	#Copies	Compressed	Tag
1	B	A	A	DISK		04-DEC-20	1	1	YES	TAG20201204T002814
2	B	F	A	DISK		04-DEC-20	1	1	YES	TAG20201204T002815
3	B	F	A	DISK		04-DEC-20	1	1	YES	TAG20201204T002815
4	B	A	A	DISK		04-DEC-20	1	1	YES	TAG20201204T002911
5	B	F	A	DISK		04-DEC-20	1	1	NO	TAG20201204T002912

```
RMAN> exit
```

```
Recovery Manager complete.
[oracle@esieaxe ~]$
```

-access aux directory fast_recovery_area

```
[oracle@esieaxe ~]$ cd /u01/app/oracle/fast_recovery_area/
[oracle@esieaxe fast_recovery_area]$ ls -l
total 8
drwxr-x---. 6 oracle dba      4096 4 déc. 00:29 GUIZANI
drwxr-x---. 5 oracle oinstall 4096 22 janv. 2017 XE
[oracle@esieaxe fast_recovery_area]$ cd GUIZANI
[oracle@esieaxe GUIZANI]$ sqlplus / as sysdba
```

```
[oracle@esieaxe GUIZANI]$ sqlplus / as sysdba

SQL*Plus: Release 11.2.0.4.0 Production on Fri Dec 4 00:53:00 2020

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Connected to:
Oracle Database 11g Enterprise Edition Release 11.2.0.4.0 - 64bit Production
With the Partitioning, OLAP, Data Mining and Real Application Testing options

SQL> show parameter name

NAME                                TYPE                                VALUE
-----                                -
cell_offloadgroup_name              string
db_file_name_convert                string
db_name                             string                              GUIZANI
db_unique_name                      string                              GUIZANI
global_names                        boolean                             FALSE
instance_name                      string                              GUIZ
lock_name_space                     string
log_file_name_convert               string
processor_group_name                string
service_names                      string                              GUIZANI
SQL>
```

```
[oracle@esieaxe GUIZANI]$ ll
total 9536
drwxr-x---. 3 oracle dba      4096 4 déc. 00:28 archivelog
drwxr-x---. 3 oracle dba      4096 4 déc. 00:29 autobackup
drwxr-x---. 3 oracle dba      4096 4 déc. 00:28 backupset
-rw-r-----. 1 oracle dba 9748480 4 déc. 00:56 control02.ctl
drwxr-x---. 2 oracle dba      4096 17 oct. 02:33 onlineolog
[oracle@esieaxe GUIZANI]$ cd archivelog/
[oracle@esieaxe archivelog]$ ll
total 4
drwxr-x---. 2 oracle dba 4096 4 déc. 00:29 2020_12_04
[oracle@esieaxe archivelog]$ cd 2020_12_04/
[oracle@esieaxe 2020_12_04]$ ll
total 4892
-rw-r-----. 1 oracle dba 4464640 4 déc. 00:28 o1_mf_1_4_hwlx4f45_.arc
-rw-r-----. 1 oracle dba 542720 4 déc. 00:29 o1_mf_1_5_hwlx66wq_.arc
[oracle@esieaxe 2020_12_04]$
```

-taille de sauvegarde est bien 274 M après le backup et la compression

```
[oracle@esieaxe 2020_12_04]$ cd ../../
[oracle@esieaxe GUIZANI]$ cd backupset
[oracle@esieaxe backupset]$ ll
total 4
drwxr-x---. 2 oracle dba 4096 4 déc. 00:29 2020_12_04
[oracle@esieaxe backupset]$ cd 2020_12_04/
[oracle@esieaxe 2020_12_04]$ ll
total 280440
-rw-r-----. 1 oracle dba 2021376 4 déc. 00:28 o1_mf_annnn_TAG20201204T0028
14_hwlx4gdg_.bkp
-rw-r-----. 1 oracle dba 544256 4 déc. 00:29 o1_mf_annnn_TAG20201204T0029
11_hwlx672z_.bkp
-rw-r-----. 1 oracle dba 202235904 4 déc. 00:29 o1_mf_nnndf_TAG20201204T0028
15_hwlx4hq6_.bkp
-rw-r-----. 1 oracle dba 82362368 4 déc. 00:28 o1_mf_nnndf_TAG20201204T0028
15_hwlx4kdy_.bkp
[oracle@esieaxe 2020_12_04]$ ls -lh
total 274M
-rw-r-----. 1 oracle dba 2,0M 4 déc. 00:28 o1_mf_annnn_TAG20201204T002814_hwlx4gdg_.bkp
-rw-r-----. 1 oracle dba 532K 4 déc. 00:29 o1_mf_annnn_TAG20201204T002911_hwlx672z_.bkp
-rw-r-----. 1 oracle dba 193M 4 déc. 00:29 o1_mf_nnndf_TAG20201204T002815_hwlx4hq6_.bkp
-rw-r-----. 1 oracle dba 79M 4 déc. 00:28 o1_mf_nnndf_TAG20201204T002815_hwlx4kdy_.bkp
[oracle@esieaxe 2020_12_04]$ █
```

--taille de sauvegarde est bien plus gros que 274 M avant le backup

connected to target database: GUIZANI (DBID=988498744)

RMAN> report schema
2> ;

using target database control file instead of recovery catalog
Report of database schema for database with db_unique_name GUIZANI

List of Permanent Datafiles

File	Size(MB)	Tablespace	RB segs	Datafile Name
1	740	SYSTEM	***	/u01/app/oracle/oradata/GUIZANI/system01.dbf
2	510	SYSAUX	***	/u01/app/oracle/oradata/GUIZANI/sysaux01.dbf
3	45	UNDOTBS1	***	/u01/app/oracle/oradata/GUIZANI/undotbs01.dbf
4	5	USERS	***	/u01/app/oracle/oradata/GUIZANI/users01.dbf

List of Temporary Files

File	Size(MB)	Tablespace	Maxsize(MB)	Tempfile Name
1	20	TEMP	32767	/u01/app/oracle/oradata/GUIZANI/temp01.dbf

RMAN> █

III. Effectuer un tests de restauration et recouvrement

-simulation d'une panne

```
[oracle@esieaxe 2020_12_04]$ cd $ORACLE_BASE
[oracle@esieaxe oracle]$ cd oradata/
[oracle@esieaxe oradata]$ ll
total 8
drwxr-x---. 2 oracle dba      4096 17 oct.  02:33 GUIZANI
I
drwxr-xr-x. 2 oracle oinstall 4096 13 nov.  2017 XE
[oracle@esieaxe oradata]$ cd GUIZANI
[oracle@esieaxe GUIZANI]$ ll
total 1495464
-rw-r-----. 1 oracle dba    9748480  4 déc.  01:17 contro
l01.ctl
-rw-r-----. 1 oracle dba   52429312  4 déc.  00:28 redo01
.log
-rw-r-----. 1 oracle dba   52429312  4 déc.  00:29 redo02
.log
-rw-r-----. 1 oracle dba   52429312  4 déc.  01:17 redo03
.log
-rw-r-----. 1 oracle dba  534781952  4 déc.  01:17 sysaux
01.dbf
-rw-r-----. 1 oracle dba  775954432  4 déc.  01:17 system
01.dbf
-rw-r-----. 1 oracle dba   20979712  4 déc.  01:13 temp01
.dbf
-rw-r-----. 1 oracle dba   47194112  4 déc.  01:17 undotb
s01.dbf
-rw-r-----. 1 oracle dba    5251072  4 déc.  00:34 users0
1.dbf
```

-Supression du fichier user01.dbf

```
[oracle@esieaxe GUIZANI]$ ll
total 1495464
-rw-r----- 1 oracle dba 9748480 4 déc. 01:17 contro
l01.ctl
-rw-r----- 1 oracle dba 52429312 4 déc. 00:28 redo01
.log
-rw-r----- 1 oracle dba 52429312 4 déc. 00:29 redo02
.log
-rw-r----- 1 oracle dba 52429312 4 déc. 01:17 redo03
.log
-rw-r----- 1 oracle dba 534781952 4 déc. 01:17 sysaux
01.dbf
-rw-r----- 1 oracle dba 775954432 4 déc. 01:17 system
01.dbf
-rw-r----- 1 oracle dba 20979712 4 déc. 01:13 temp01
.dbf
-rw-r----- 1 oracle dba 47194112 4 déc. 01:17 undotb
s01.dbf
-rw-r----- 1 oracle dba 5251072 4 déc. 00:34 users0
1.dbf
[oracle@esieaxe GUIZANI]$ rm users01.dbf
[oracle@esieaxe GUIZANI]$ ll
total 1490336
-rw-r----- 1 oracle dba 9748480 4 déc. 01:20 control01.ctl
-rw-r----- 1 oracle dba 52429312 4 déc. 00:28 redo01.log
-rw-r----- 1 oracle dba 52429312 4 déc. 00:29 redo02.log
-rw-r----- 1 oracle dba 52429312 4 déc. 01:19 redo03.log
-rw-r----- 1 oracle dba 534781952 4 déc. 01:19 sysaux01.dbf
-rw-r----- 1 oracle dba 775954432 4 déc. 01:19 system01.dbf
-rw-r----- 1 oracle dba 20979712 4 déc. 01:13 temp01.dbf
-rw-r----- 1 oracle dba 47194112 4 déc. 01:19 undotbs01.dbf
[oracle@esieaxe GUIZANI]$
```

-arrêt forcer du l'instance

```
[oracle@esieaxe GUIZANI]$ rm users01.dbf
[oracle@esieaxe GUIZANI]$ ll
total 1490336
-rw-r----- 1 oracle dba 9748480 4 déc. 01:20 control01.ctl
-rw-r----- 1 oracle dba 52429312 4 déc. 00:28 redo01.log
-rw-r----- 1 oracle dba 52429312 4 déc. 00:29 redo02.log
-rw-r----- 1 oracle dba 52429312 4 déc. 01:19 redo03.log
-rw-r----- 1 oracle dba 534781952 4 déc. 01:19 sysaux01.dbf
-rw-r----- 1 oracle dba 775954432 4 déc. 01:19 system01.dbf
-rw-r----- 1 oracle dba 20979712 4 déc. 01:13 temp01.dbf
-rw-r----- 1 oracle dba 47194112 4 déc. 01:19 undotbs01.dbf
[oracle@esieaxe GUIZANI]$ sqlplus / as sysdba
```

SQL*Plus: Release 11.2.0.4.0 Production on Fri Dec 4 01:22:44 2020

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Connected to:

Oracle Database 11g Enterprise Edition Release 11.2.0.4.0 - 64bit Production
With the Partitioning, OLAP, Data Mining and Real Application Testing options

SQL> shutdown immediate

ORA-01116: error in opening database file 4

ORA-01110: data file 4: '/u01/app/oracle/oradata/GUIZANI/users01.dbf'

ORA-27041: unable to open file

Linux-x86_64 Error: 2: No such file or directory

Additional information: 3

SQL> shutdown abort

ORACLE instance shut down.

SQL>

```
[oracle@esieaxe GUIZANI]$ sqlplus / as sysdba

SQL*Plus: Release 11.2.0.4.0 Production on Fri Dec 4 01:22:44 2020

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Connected to:
Oracle Database 11g Enterprise Edition Release 11.2.0.4.0 - 64bit Production
With the Partitioning, OLAP, Data Mining and Real Application Testing options

SQL> shutdown immediate
ORA-01116: error in opening database file 4
ORA-01110: data file 4: '/u01/app/oracle/oradata/GUIZANI/users01.dbf'
ORA-27041: unable to open file
Linux-x86_64 Error: 2: No such file or directory
Additional information: 3
SQL> shutdown abort
ORACLE instance shut down.
SQL> startup
ORACLE instance started.

Total System Global Area 1653518336 bytes
Fixed Size 2253784 bytes
Variable Size 1006636072 bytes
Database Buffers 637534208 bytes
Redo Buffers 7094272 bytes
Database mounted.
ORA-01157: cannot identify/lock data file 4 - see DBWR trace file
ORA-01110: data file 4: '/u01/app/oracle/oradata/GUIZANI/users01.dbf'

SQL> █
```

```
SQL> shutdown immediate
ORA-01116: error in opening database file 4
ORA-01110: data file 4: '/u01/app/oracle/oradata/GUIZANI/users01.dbf'
ORA-27041: unable to open file
Linux-x86_64 Error: 2: No such file or directory
Additional information: 3
SQL> shutdown abort
ORACLE instance shut down.
SQL> startup
ORACLE instance started.

Total System Global Area 1653518336 bytes
Fixed Size 2253784 bytes
Variable Size 1006636072 bytes
Database Buffers 637534208 bytes
Redo Buffers 7094272 bytes
Database mounted.
ORA-01157: cannot identify/lock data file 4 - see DBWR trace file
ORA-01110: data file 4: '/u01/app/oracle/oradata/GUIZANI/users01.dbf'

SQL> select status from v$instance
2 ;

STATUS
-----
MOUNTED

SQL> █
```

-verification du suppression du fichier user01.dbf

```
RMAN> report schema;

using target database control file instead of recovery catalog
Report of database schema for database with db_unique_name GUIZANI

List of Permanent Datafiles
=====
File Size(MB) Tablespace          RB segs Datafile Name
-----
1      740      SYSTEM              ***      /u01/app/oracle/oradata/GUIZANI/system01.dbf
2      510      SYSAUX              ***      /u01/app/oracle/oradata/GUIZANI/sysaux01.dbf
3       45      UNDOTBS1            ***      /u01/app/oracle/oradata/GUIZANI/undotbs01.dbf
4        0      USERS              ***      /u01/app/oracle/oradata/GUIZANI/users01.dbf

List of Temporary Files
=====
File Size(MB) Tablespace          Maxsize(MB) Tempfile Name
-----
1       20      TEMP                  32767      /u01/app/oracle/oradata/GUIZANI/temp01.dbf

RMAN>
```

-Restauration du tablespace users

```
RMAN> restore tablespace users
2> ;

Starting restore at 04-DEC-20
allocated channel: ORA_DISK_1
channel ORA_DISK_1: SID=21 device type=DISK
allocated channel: ORA_DISK_2
channel ORA_DISK_2: SID=22 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 00004 to /u01/app/oracle/oradata/GUIZANI/users01.dbf
channel ORA_DISK_1: reading from backup piece /u01/app/oracle/fast_recovery_area/GUIZANI/backupset/2020_12_04/ol_mf_nnndf_TAG20201204T002815_hwlx4hq6_.bkp
channel ORA_DISK_1: piece handle=/u01/app/oracle/fast_recovery_area/GUIZANI/backupset/2020_12_04/ol_mf_nnndf_TAG20201204T002815_hwlx4hq6_.bkp tag=TAG20201204T002815
channel ORA_DISK_1: restored backup piece 1
channel ORA_DISK_1: restore complete, elapsed time: 00:00:01
Finished restore at 04-DEC-20

RMAN> █
```


-verification du restauration du fichier user01.dbf

```

RMAN> report schema
2> ;

Report of database schema for database with db_unique_name GUIZANI

List of Permanent Datafiles
=====
File Size(MB) Tablespace          RB segs Datafile Name
-----
1    740      SYSTEM              ***    /u01/app/oracle/oradata/GUIZANI/system01.dbf
2    510      SYSAUX                  ***    /u01/app/oracle/oradata/GUIZANI/sysaux01.dbf
3     45      UNDOTBS1                 ***    /u01/app/oracle/oradata/GUIZANI/undotbs01.dbf
4      5      USERS                    ***    /u01/app/oracle/oradata/GUIZANI/users01.dbf

List of Temporary Files
=====
File Size(MB) Tablespace          Maxsize(MB) Tempfile Name
-----
1     20      TEMP                      32767    /u01/app/oracle/oradata/GUIZANI/temp01.dbf

RMAN>
```

-Recouvrement du fichier user01.dbf et réouverture du base

```

RMAN> recover datafile 4;

Starting recover at 04-DEC-20
using channel ORA_DISK_1
using channel ORA_DISK_2

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

Finished recover at 04-DEC-20

RMAN> alter database open
2> ;

database opened

RMAN> █
```

IV. Conclusion

tout au long ce td individuel on a réussi a réalisé un sauvegarde à chaud (base ouverte), ensuite on a simuler une panne, après on a arrivé a restaurer le fichier perdu et a la fin on a réalisé un recouvrement complet