

NOTE: AS THIS IS FULL TRANSPORT EXPORT IMPORT (FTEX) ALONG WITH RMAN INCREMENTAL BACKUPS, SO ALL THE NON DEFAULT/SYSTEM DATA/INDEX TABLESPACES i.e. EXCEPT THE SYSTEM/SYSAUX/UNDOTBS*/TEMP* TABLESPACES MUST BE INCLUDED IN THE READ ONLY & BACKUP LEVEL 0/INCREMENTAL & IMPDP CONFIGURATIONS/STEPS/SETUP, OTHERWISE PROCESS WILL FAIL AND GIVE ERRORS THAT TABLESPACES AREN'T IN READ ONLY MODE, BECAUSE IT WILL LOOK FOR ALL THE NON-DEFAULT TABLESPACES TO BE INCLUDED IN THE CONFIGURATION

FYI, BELOW ARE THE DETAILS REGARDING THIS TEST RUN

- SOURCE DB IS 12.1.0.2 AND ON LINUX X86-64
- TARGET DB IS 19.21 & FRESHLY INSTALLED (EMPTY DB) AND ALSO ON LINUX X86-64
- ACTIVITY WAS CARRIED OUT BY FOLLOWING SCRIPTS IN MOS DOC: V4 Reduce Transportable Tablespace Downtime using Cross Platform Incremental Backups (Doc ID 2471245.1)
- ACTIVITY WAS DONE FOR MIGRATION FROM 12.1.0.2 TO 19.21, IT IS TWO TASKS COMBINED IN ONE TASK, AS IT WILL MIGRATE AS WELL AS UPGRADE THE DATABASE
- ALTHOUGH PLATFORM & ENDIANNES WAS SAME FOR SOURCE/DESTINATION i.e. LINUX X86-64 VMs, BUT PROCESS IS SAME FOR THE CROSS PLATFORM/ENDIANNESS AS WELL,
 - AS RMAN BACKUPS / FTEX WILL DO THE PLATFORM/ENDIANNESS/UPGRADE CONVERSION ON THE FLY
- COMPATIBLE PARAMETER WAS 12.1.0.2 AT SOURCE, AND 19.0.0.0 AT THE DESTINATION
- TIMEZONE VERSION AT DESTINATION MUST BE EQUAL OR NEWER THAN THE DESTINATION

AT SOURCE#
#####

```
[oracle@srctst1 ~]$ . oraenv
ORACLE_SID = [tstcdb3] ? abcd
The Oracle base remains unchanged with value /u01/app/oracle
```

--Create test user and data

```
[oracle@srctst1 ~]$ sqlplus / as sysdba
```

SQL*Plus: Release 12.1.0.2.0 Production on Tue Jan 30

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Connected to:
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> CREATE TABLESPACE CMSTR DATAFILE
'/u01/app/oracle/oradata/ABCD/CMSTR01.dbf' SIZE 100M;
```

Tablespace created.

```
SQL> create user migtst identified by oracle default tablespace CMSTR;
alter user migtst quota unlimited on CMSTR;
grant connect, resource, dba to migtst;
alter user migtst default role all;
create table migtst.students ( student_no varchar(10), surname
varchar(20), forename varchar(20));
insert into migtst.students values ('20060101','Dickens','Charles');
insert into migtst.students values ('20060102','ApGwilym','Dafydd');
insert into migtst.students values ('20060103','Zola','Emile');
insert into migtst.students values ('20060104','Mann','Thomas');
insert into migtst.students values ('20060105','Stevenson','Robert');
commit;
SQL>
User created.
```

```
SQL>
User altered.
```

```
SQL>
Grant succeeded.
```

```
SQL>
User altered.
```

```
SQL>
Table created.
```

```
SQL>
1 row created.
```

```
SQL>
1 row created.
```

```
SQL>
1 row created.
```

```
SQL>
1 row created.
```

```
SQL>
1 row created.
```

```
SQL>
```

Commit complete.

```
SQL> set lines 300 pages 200
col file_name format a60
select file_id,file_name,tablespace_name from dba_data_files;
```

FILE_ID	FILE_NAME	TABLESPACE_NAME
4	/u01/app/oracle/oradata/ABCDB/undotbs01.dbf	UNDOTBS1

-> This can't be in configuration

```

1          /u01/app/oracle/oradata/ABCDB/system01.dbf
          SYSTEM          -> This can't be in configuration
3          /u01/app/oracle/oradata/ABCDB/sysaux01.dbf
          SYSAUX          -> This can't be in configuration
8          /u01/app/oracle/oradata/ABCDB/CMSTR01.dbf
          CMSTR           -> This and any other tablespac(s), all
MUST be in configuration

```

```

SQL> set lines 300 pages 300
col table_name format a30
col owner format a20
col tablespace_name format a30
select owner,table_name,tablespace_name from dba_tables where
owner='MIGTST';

```

OWNER	TABLE_NAME	TABLESPACE_NAME
MIGTST	STUDENTS	CMSTR

```

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@srctst1 ~]$

```

--Configure the V4 xtt scripts to be used for the test run

Modify the xtt.properties file, as per your environment/requirement:

```
vi xtt.properties
```

```

tablespaces=CMSTR
    -> Supply the comma separated list
platformid=13
    -> Source platform id as identified from the
v$transportable_platform, in my case it is Linux x86-64 i.e. 13
src_scratch_location=/home/oracle/TTSBKP          -> Here
xtt/rman script will put the level 0 & incremental backups at the source
server, these files need to be copied to the destination
dest_scratch_location=/home/oracle/TTSBKP          -> This is
at the destination, here you will copy the backups files generated at the
source
dest_datafile_location=/u01/app/oracle/oradata/abcbd          -> Here xtt/rman
script will put the platform/endianness converted final db files, while
doing restore at the destination, from the earlier taken level 0 &
incremental backups
parallel=3
rollparallel=2
getfileparallel=4
desttmpdir=/home/oracle/TTSBKP
srcconnstr=sys/xxxxx@abcbd_12c
destconnstr=sys/xxxxx@abcbd_19c
usermantransport=1

```

NOTE: AFTER MODIFICATION OF xtt.properties FILE, COPY THE xtts FOLDER THAT EXIST /home/oracle FROM SOURCE TO DESTINATION UNDER /home/oracle

```
[oracle@srctst1 ~]$ mkdir xtts
[oracle@srctst1 ~]$ cd xtts/
[oracle@srctst1 xtts]$ unzip rman_xttconvert_VER4.3.zip          -> Download
this file from MOS Doc ID 2471245.1, and unzip it here in this xtts
directory
Archive:  rman_xttconvert_VER4.3.zip
  inflating: xtt.newproperties
  inflating: xtt.properties
  inflating: xttcnvrtbkupdest.sql
  inflating: xttbdbopen.sql
  inflating: xtttdriver.pl
  inflating: xtttprep.tmpl
  extracting: xttstartupnomount.sql
[oracle@srctst1 xtts]$ vi xtt.properties
[oracle@srctst1 xtts]$ ls -ltr
total 264
-rw-r--r-- 1 oracle oinstall 1390 May 24 2017 xttcnvrtbkupdest.sql
-rw-r--r-- 1 oracle oinstall  52 May 24 2017 xttstartupnomount.sql
-rw-r--r-- 1 oracle oinstall 11710 May 24 2017 xtttprep.tmpl
-rw-r--r-- 1 oracle oinstall  71 May 24 2017 xttbdbopen.sql
-rw-r--r-- 1 oracle oinstall 5169 Feb 19 2019 xtt.newproperties
-rw-r--r-- 1 oracle oinstall 180408 Jul  7 2019 xtttdriver.pl
-rw-r--r-- 1 oracle oinstall 5179 Mar  5 2021 xtt.properties
-rwxrwx--- 1 oracle oinstall 41929 Jan 29 03:43
rman_xttconvert_VER4.3.zip
[oracle@srctst1 xtts]$ scp -r /home/oracle/xtts/
192.168.xx.xxx:/home/oracle
oracle@192.168.xx.xxx's password:
rman_xttconvert_VER4.3.zip
100% 41KB 1.7MB/s 00:00
xtt.newproperties
100% 5169 383.7KB/s 00:00
xttcnvrtbkupdest.sql
100% 1390 216.6KB/s 00:00
xttbdbopen.sql
100% 71 4.1KB/s 00:00
xttdriver.pl
100% 176KB 2.3MB/s 00:00
xtttprep.tmpl
100% 11KB 1.7MB/s 00:00
xttstartupnomount.sql
100% 52 9.7KB/s 00:00
xtt.properties_orig
100% 5179 1.0MB/s 00:00
xtt.properties
100% 5354 1.2MB/s 00:00
[oracle@srctst1 xtts]$
```

--Take the level 0 backup with rman/xtt scripts

```
[oracle@srctst1 xtts]$ export TMPDIR=/home/oracle/xtts
[oracle@srctst1 xtts]$ $ORACLE_HOME/perl/bin/perl xtttdriver.pl --backup
=====
```

```
trace file is
/home/oracle/xtts/backup_Jan30_Tue_06_34_03_399//Jan30_Tue_06_34_03_399_
log
```

```
=====
```

```
-----
Parsing properties
-----
```

```
-----
Done parsing properties
-----
```

```
-----
Checking properties
-----
```

```
-----
Done checking properties
-----
```

```
-----
Starting backup phase
-----
```

```
Prepare source for Tablespaces:
      -> Automatically detects that it is first/level 0 backup
      'CMSTR' /home/oracle/TTSBKP
xttpreparesrc.sql for 'CMSTR' started at Tue Jan 30 06:34:03 2024
xttpreparesrc.sql for ended at Tue Jan 30 06:34:03 2024
Prepare source for Tablespaces:
      '''' /home/oracle/TTSBKP
xttpreparesrc.sql for '''' started at Tue Jan 30 06:34:08 2024
xttpreparesrc.sql for ended at Tue Jan 30 06:34:08 2024
```

```
-----
Done with backup phase
-----
```

```
Prepare newscn for Tablespaces: 'CMSTR'
Prepare newscn for Tablespaces: ''''
New /home/oracle/xtts/xttplan.txt with FROM SCN's generated
scalar(orl
XXX: adding here for 1, 0, CMSTR
[oracle@srctst1 xtts]$
```

```
--Transfer the below files from the source server to the destination
server
```

```
/home/oracle/xtts/res.txt
/home/oracle/xtts/xttplan.txt
/home/oracle/xtts/backup_Jan30_Tue_06_34_03_399/tsbkupmap.txt
/home/oracle/xtts/backup_Jan30_Tue_06_34_03_399/xttnewdatafiles.txt
/home/oracle/TTSBKP/CMSTR_8_092hs3uu_1_1.bkp
```

```

[oracle@srctst1 xtts]$ ls -ltr
total 244
-rwxrwx--- 1 oracle oinstall 1390 May 24 2017 xttcnvrtbkupdest.sql
-rwxrwx--- 1 oracle oinstall 52 May 24 2017 xttstartupnomount.sql
-rwxrwx--- 1 oracle oinstall 11710 May 24 2017 xttprep.tmpl
-rwxrwx--- 1 oracle oinstall 71 May 24 2017 xttbdbopen.sql
-rwxrwx--- 1 oracle oinstall 5169 Feb 19 2019 xtt.newproperties
-rwxrwx--- 1 oracle oinstall 180408 Jul 7 2019 xttdriver.pl
-rwxrwx--- 1 oracle vboxsf 5317 Jan 30 06:24 xtt.properties
-rw-r--r-- 1 oracle oinstall 19 Jan 30 06:34 xttplan.txt
-rw-r--r-- 1 oracle oinstall 52 Jan 30 06:34 xttnewdatafiles.txt
-rw-r--r-- 1 oracle oinstall 45 Jan 30 06:34 incrbackups.txt
-rw-r--r-- 1 oracle oinstall 69 Jan 30 06:34 res.txt
-rw-r--r-- 1 oracle oinstall 82 Jan 30 06:34 newfile.txt
drwxr-xr-x 2 oracle oinstall 4096 Jan 30 06:34
backup_Jan30_Tue_06_34_03_399
[oracle@srctst1 xtts]$ scp -r res.txt 192.168.xx.xxx:/home/oracle/xtts/
oracle@192.168.xx.xxx's password:
res.txt
100% 69 15.0KB/s 00:00
[oracle@srctst1 xtts]$ scp -r xttplan.txt
192.168.xx.xxx:/home/oracle/xtts/
oracle@192.168.xx.xxx's password:
xttplan.txt
100% 34 19.9KB/s 00:00
[oracle@srctst1 xtts]$ cd backup_Jan30_Tue_06_34_03_399/
[oracle@srctst1 backup_Jan30_Tue_06_34_03_399]$ scp -r tsbkupmap.txt
192.168.xx.xxx:/home/oracle/xtts/
oracle@192.168.xx.xxx's password:
tsbkupmap.txt
100% 33 7.1KB/s 00:00
[oracle@srctst1 backup_Jan30_Tue_06_34_03_399]$ scp -r
xttnewdatafiles.txt 192.168.xx.xxx:/home/oracle/xtts/
oracle@192.168.xx.xxx's password:
xttnewdatafiles.txt
100% 39 5.2KB/s 00:00
[oracle@srctst1 backup_Jan30_Tue_06_34_03_399]$ cd ../../TTSBKP
[oracle@srctst1 TTSBKP]$ scp -r CMSTR_8_092hs3uu_1_1.bkp
192.168.xx.xxx:/home/oracle/TTSBKP
oracle@192.168.xx.xxx's password:
CMSTR_8_092hs3uu_1_1.bkp
100% 1136KB 8.5MB/s 00:00
[oracle@srctst1 TTSBKP]$

```

```

#####
AT DESTINATION#
#####

```

--Perform the restore on the destination server of the first backup taken above, and make sure that all the required files exist at destination that we transferred

```

[oracle@tgtst1 ~]$ . oraenv
ORACLE_SID = [tstcdb1] ? ABCDB
The Oracle base remains unchanged with value /u01/app/oracle

```

```

[oracle@tgttst1 ~]$ ls -ltr /u01/app/oracle/oradata/ABCDB/
total 2975252
-rw-r----- 1 oracle oinstall 152051712 Jan 22 02:25 temp01.dbf
-rw-r----- 1 oracle oinstall 104865792 Jan 29 08:31 TBS1_5.dbf
-rw-r----- 1 oracle oinstall 52429312 Jan 30 04:56 redo01.log
-rw-r----- 1 oracle oinstall 52429312 Jan 30 05:07 redo02.log
-rw-r----- 1 oracle oinstall 104865792 Jan 30 05:13 users3_01.dbf
-rw-r----- 1 oracle oinstall 1258299392 Jan 30 06:35 system01.dbf
-rw-r----- 1 oracle oinstall 377495552 Jan 30 06:36 undotbs01.dbf
-rw-r----- 1 oracle oinstall 880812032 Jan 30 06:36 sysaux01.dbf
-rw-r----- 1 oracle oinstall 52429312 Jan 30 06:37 redo03.log
-rw-r----- 1 oracle oinstall 10960896 Jan 30 06:37 control01.ctl
[oracle@tgttst1 ~]$ cd xtts
[oracle@tgttst1 xtts]$ ls -ltr
total 232
-rwxrwx--- 1 oracle oinstall 1390 May 24 2017 xttcnvrtbkupdest.sql
-rwxrwx--- 1 oracle oinstall 52 May 24 2017 xttstartupnomount.sql
-rwxrwx--- 1 oracle oinstall 11710 May 24 2017 xttprep.tmpl
-rwxrwx--- 1 oracle oinstall 71 May 24 2017 xttbdbopen.sql
-rwxrwx--- 1 oracle oinstall 5169 Feb 19 2019 xtt.newproperties
-rwxrwx--- 1 oracle oinstall 180408 Jul 7 2019 xttdriver.pl
-rwxrwx--- 1 oracle oinstall 5317 Jan 30 06:24 xtt.properties
-rw-r--r-- 1 oracle oinstall 69 Jan 30 06:38 res.txt
-rw-r--r-- 1 oracle oinstall 33 Jan 30 06:45 tsbkupmap.txt
-rw-r--r-- 1 oracle oinstall 52 Jan 30 06:45 xttnewdatafiles.txt
[oracle@tgttst1 xtts]$ pwd
/home/oracle/xtts
[oracle@tgttst1 xtts]$ export TMPDIR=/home/oracle/xtts
[oracle@tgttst1 xtts]$ pwd
/home/oracle/xtts
[oracle@tgttst1 xtts]$ $ORACLE_HOME/perl/bin/perl xttdriver.pl --restore
=====
trace file is
/home/oracle/xtts/restore_Jan30_Tue_06_49_51_538//Jan30_Tue_06_49_51_538_
.log
=====

-----
Parsing properties
-----

-----
Done parsing properties
-----

-----
Checking properties
-----

-----
Done checking properties
-----

-----
Start restore/recover
-----

```

End of restore/recover phase

```
[oracle@tgtst1 xtts]$ ls -ltr /u01/app/oracle/oradata/ABCDB
total 3077660
-rw-r----- 1 oracle oinstall 152051712 Jan 22 02:25 temp01.dbf
-rw-r----- 1 oracle oinstall 104865792 Jan 29 08:31 TBS1_5.dbf
-rw-r----- 1 oracle oinstall 52429312 Jan 30 04:56 redo01.log
-rw-r----- 1 oracle oinstall 52429312 Jan 30 05:07 redo02.log
-rw-r----- 1 oracle oinstall 104865792 Jan 30 05:13 users3_01.dbf
-rw-r----- 1 oracle oinstall 377495552 Jan 30 06:46 undotbs01.dbf
-rw-r----- 1 oracle oinstall 104865792 Jan 30 06:50 CMSTR_8.dbf
    -> Platform/endianness converted file(s) now exist at destination,
-rw-r----- 1 oracle oinstall 1258299392 Jan 30 06:50 system01.dbf
    but not visible in the database as it will be plugged in later
-rw-r----- 1 oracle oinstall 880812032 Jan 30 06:50 sysaux01.dbf
-rw-r----- 1 oracle oinstall 52429312 Jan 30 06:50 redo03.log
-rw-r----- 1 oracle oinstall 10960896 Jan 30 06:50 control01.ctl
[oracle@tgtst1 xtts]$
```

```
#####
AT SOURCE#
#####
```

--Make some more data insertions

```
[oracle@srctst1 xtts]$ sqlplus / as sysdba
```

SQL*Plus: Release 12.1.0.2.0 Production on Tue Jan 30

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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> create table migtst.modules ( module_code varchar(8), module_name
varchar(21));
insert into migtst.modules values ('CM0001', 'Databases');
insert into migtst.modules values ('CM0002', 'Programming Languages');
insert into migtst.modules values ('CM0003', 'Operating Systems');
insert into migtst.modules values ('CM0004', 'Graphics');
commit;
Table created.
```

```
SQL>
1 row created.
```

```
SQL>
1 row created.
```



```
SQL>
1 row created.
```

```
SQL>
1 row created.
```

```
SQL>
```

```
Commit complete.
```

```
SQL> set lines 300 pages 300
col table_name format a30
col owner format a20
col tablespaace_name format a30
select owner,table_name,tablespace_name from dba_tables where
owner='MIGTST';
```

OWNER	TABLE_NAME	TABLESPACE_NAME
MIGTST	MODULES	CMSTR
MIGTST	STUDENTS	CMSTR

```
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@srctst1 xtts]$
```

```
--Take incremental backup
```

```
[oracle@srctst1 xtts]$ $ORACLE_HOME/perl/bin/perl xttdriver.pl --backup
=====
trace file is
/home/oracle/xtts/backup_Jan30_Tue_06_53_23_241//Jan30_Tue_06_53_23_241_.
log
=====
```

```
-----
Parsing properties
-----
```

```
-----
Done parsing properties
-----
```

```
-----
Checking properties
-----
```

```
-----
Done checking properties
-----
```

```
-----
Backup incremental
                                -> Automatically detects that it is incremental
backup
-----
```

```
scalar(orl
XXX: adding here for 1, 0, CMSTR
Prepare newscn for Tablespaces: 'CMSTR'
Prepare newscn for Tablespaces: '''
```

```
-----
Starting incremental backup
-----
```

```
-----
Done backing up incrementals
-----
```

```
Prepare newscn for Tablespaces: 'CMSTR'
Prepare newscn for Tablespaces: ''''
New /home/oracle/xtts/xttplan.txt with FROM SCN's generated
[oracle@srctst1 xtts]$
```

```
--Transfer the below files from the source server to the destination
server
```

```
/home/oracle/xtts/res.txt
/home/oracle/xtts/xttplan.txt
/home/oracle/xtts/backup_Jan30_Tue_06_53_23_241/tsbkupmap.txt
/home/oracle/TTSBKP/0a2hs537_1_1
```

```
[oracle@srctst1 xtts]$ scp -r /home/oracle/xtts/res.txt
192.168.xx.xxx:/home/oracle/xtts/
oracle@192.168.xx.xxx's password:
res.txt
100% 138      38.8KB/s   00:00
[oracle@srctst1 xtts]$ scp -r /home/oracle/xtts/xttplan.txt
192.168.xx.xxx:/home/oracle/xtts/
oracle@192.168.xx.xxx's password:
xttplan.txt
100% 21       5.6KB/s   00:00
[oracle@srctst1 xtts]$ ls -ltr
total 252
-rwxrwx--- 1 oracle oinstall    1390 May 24  2017 xttcnvrtbkupdest.sql
-rwxrwx--- 1 oracle oinstall      52 May 24  2017 xttstartupnomount.sql
-rwxrwx--- 1 oracle oinstall  11710 May 24  2017 xttprep.tmpl
-rwxrwx--- 1 oracle oinstall     71 May 24  2017 xttdbopen.sql
-rwxrwx--- 1 oracle oinstall   5169 Feb 19  2019 xtt.newproperties
-rwxrwx--- 1 oracle oinstall 180408 Jul  7  2019 xttdriver.pl
-rwxrwx--- 1 oracle vboxsf    5317 Jan 30 06:24 xtt.properties
-rw-r--r-- 1 oracle oinstall     52 Jan 30 06:34 xttnewdatafiles.txt
drwxr-xr-x 2 oracle oinstall   4096 Jan 30 06:34
backup_Jan30_Tue_06_34_03_399
-rw-r--r-- 1 oracle oinstall     82 Jan 30 06:53 newfile.txt
```

```

-rw-r--r-- 1 oracle oinstall      26 Jan 30 06:53 tsbkupmap.txt
-rw-r--r-- 1 oracle oinstall      33 Jan 30 06:53 incrbackups.txt
-rw-r--r-- 1 oracle oinstall    138 Jan 30 06:53 res.txt
-rw-r--r-- 1 oracle oinstall      21 Jan 30 06:53 xttplan.txt
drwxr-xr-x 2 oracle oinstall   4096 Jan 30 06:53
backup_Jan30_Tue_06_53_23_241
[oracle@srctst1 xtts]$ scp -r
/home/oracle/xtts/backup_Jan30_Tue_06_53_23_241/tsbkupmap.txt
192.168.xx.xxx:/home/oracle/xtts/
oracle@192.168.xx.xxx's password:
tsbkupmap.txt
100%  26      6.7KB/s   00:00
[oracle@srctst1 xtts]$ ls -ltr ../TTSBKP/
total 2312
-rw-r----- 1 oracle oinstall 1163264 Jan 30 06:34
CMSTR_8_092hs3uu_1_1.bkp
-rw-r----- 1 oracle oinstall 1204224 Jan 30 06:53 0a2hs537_1_1
[oracle@srctst1 xtts]$ scp -r /home/oracle/TTSBKP/0a2hs537_1_1
192.168.xx.xxx:/home/oracle/TTSBKP
oracle@192.168.xx.xxx's password:
0a2hs537_1_1
100% 1176KB   5.9MB/s   00:00
[oracle@srctst1 xtts]$

```

```

#####
AT DESTINATION#
#####

```

--Perform the 2nd restore on the destination server of the 2nd backup taken above, and make sure that all the required files exist at destination that we transferred

```

[oracle@tgtst1 xtts]$ $ORACLE_HOME/perl/bin/perl xttdriver.pl --restore
=====
trace file is
/home/oracle/xtts/restore_Jan30_Tue_07_03_24_681//Jan30_Tue_07_03_24_681_
.log
=====

```

```

-----
Parsing properties
-----

```

```

-----
Done parsing properties
-----

```

```

-----
Checking properties
-----

```

```

-----
Done checking properties
-----

```

```
-----  
Start restore/recover  
-----
```

```
-----  
End of restore/recover phase  
-----
```

```
[oracle@tgtst1 xtts]$
```

```
#####  
AT SOURCE#  
#####
```

--Now downtime will start, but read only access still available to the users, as we are taking final incremental backup to plug the tablespace(s) at destination.

Do followings:

Make some more data insertions
Alter the tablespace to READ ONLY
Take the final incremental backup

```
[oracle@srctst1 xtts]$ sqlplus / as sysdba
```

```
SQL*Plus: Release 12.1.0.2.0 Production on Tue Jan 30
```

```
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```

```
Connected to:  
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> create table migtst.marks ( student_no varchar(10), module_code  
varchar(8), mark integer);  
insert into migtst.marks values ('20060101', 'CM0001', 80);  
insert into migtst.marks values ('20060101', 'CM0002', 65);  
insert into migtst.marks values ('20060101', 'CM0003', 50);  
insert into migtst.marks values ('20060102', 'CM0001', 75);  
insert into migtst.marks values ('20060102', 'CM0003', 45);  
insert into migtst.marks values ('20060102', 'CM0004', 70);  
insert into migtst.marks values ('20060103', 'CM0001', 60);  
insert into migtst.marks values ('20060103', 'CM0002', 75);  
insert into migtst.marks values ('20060103', 'CM0004', 60);  
insert into migtst.marks values ('20060104', 'CM0001', 55);  
insert into migtst.marks values ('20060104', 'CM0002', 40);  
insert into migtst.marks values ('20060104', 'CM0003', 45);  
insert into migtst.marks values ('20060105', 'CM0001', 55);
```

```
insert into migtst.marks values ('20060105', 'CM0002', 50);
insert into migtst.marks values ('20060105', 'CM0004', 65);
commit;
Table created.
```

```
SQL>
1 row created.
```

```
SQL>
1 row created.
```

```
SQL>
1 row created.
```

```
SQL>
1 row created.
```

```
SQL>
1 row created.
```

```
SQL>
1 row created.
```

```
SQL>
1 row created.
```

```
SQL>
1 row created.
```

```
SQL>
1 row created.
```

```
SQL>
1 row created.
```

```
SQL>
1 row created.
```

```
SQL>
1 row created.
```

```
SQL>
1 row created.
```

```
SQL>
1 row created.
```

```
SQL>
1 row created.
```

```
SQL>
```

```
Commit complete.
```

```
SQL> set lines 300 pages 300
col table_name format a30
col owner format a20
col tablespaace_name format a30
select owner,table_name,tablespace_name from dba_tables where
owner='MIGTST';
```

OWNER	TABLE_NAME	TABLESPACE_NAME
MIGTST	MODULES	CMSTR
MIGTST	STUDENTS	CMSTR
MIGTST	MARKS	CMSTR

```
SQL>
SQL> alter tablespace CMSTR read only;
```

Tablespace altered.

```
SQL> select tablespace_name,status from dba_tablespaces;
```

TABLESPACE_NAME	STATUS
SYSTEM	ONLINE
SYSAUX	ONLINE
UNDOTBS1	ONLINE
TEMP	ONLINE
CMSTR	READ ONLY

9 rows selected.

```
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@srctst1 xtts]$ $ORACLE_HOME/perl/bin/perl xttdriver.pl --backup
=====
trace file is
/home/oracle/xtts/backup_Jan30_Tue_07_07_08_224//Jan30_Tue_07_07_08_224_.
log
=====
```

```
-----
Parsing properties
-----
```

```
-----
Done parsing properties
-----
```

```
-----
Checking properties
-----
```

```
-----
Done checking properties
-----
```

```
-----
Backup incremental
-----
```

```
scalar(ori
XXX: adding here for 1, 0, CMSTR
Prepare newscn for Tablespaces: 'CMSTR'
Prepare newscn for Tablespaces: '''
```

```
-----
Starting incremental backup
-----
```

```
-----
Done backing up incrementals
-----
```

```
Prepare newscn for Tablespaces: 'CMSTR'
DECLARE*
ERROR at line 1:
ORA-20001: TABLESPACE(S) IS READONLY OR,
      -> This is expected error, but rman incremental backup has
been taken as normal
OFFLINE JUST CONVERT, COPY
ORA-06512: at line 284
```

```
#####
```

```
Warning:
```

```
-----
```

```
Warnings found in executing
/home/oracle/xtts/backup_Jan30_Tue_07_07_08_224//xttpreparenextiter.sql
#####
Prepare newscn for Tablespaces: ''''
New /home/oracle/xtts/xttplan.txt with FROM SCN's generated
[oracle@srctst1 xtts]$
```

```
--Transfer the below files from the source server to the destination
server
```

```
/home/oracle/xtts/res.txt
/home/oracle/xtts/xttplan.txt
/home/oracle/xtts/backup_Jan30_Tue_07_07_08_224/tsbkupmap.txt
/home/oracle/TTSBKP/0b2hs5t0_1_1
```

```
[oracle@srctst1 xtts]$ ls -ltr
total 256
-rwxrwx--- 1 oracle oinstall 1390 May 24 2017 xttcnvrtbkupdest.sql
-rwxrwx--- 1 oracle oinstall 52 May 24 2017 xttstartupnomount.sql
-rwxrwx--- 1 oracle oinstall 11710 May 24 2017 xttprep.tmpl
-rwxrwx--- 1 oracle oinstall 71 May 24 2017 xttbdbopen.sql
-rwxrwx--- 1 oracle oinstall 5169 Feb 19 2019 xtt.newproperties
-rwxrwx--- 1 oracle oinstall 180408 Jul 7 2019 xttdriver.pl
-rwxrwx--- 1 oracle vboxsf 5317 Jan 30 06:24 xtt.properties
-rw-r--r-- 1 oracle oinstall 52 Jan 30 06:34 xttnewdatafiles.txt
drwxr-xr-x 2 oracle oinstall 4096 Jan 30 06:34
backup_Jan30_Tue_06_34_03_399
drwxr-xr-x 2 oracle oinstall 4096 Jan 30 06:53
backup_Jan30_Tue_06_53_23_241
-rw-r--r-- 1 oracle oinstall 82 Jan 30 07:07 newfile.txt
```

```

-rw-r--r-- 1 oracle oinstall      26 Jan 30 07:07 tsbkupmap.txt
-rw-r--r-- 1 oracle oinstall      33 Jan 30 07:07 incrbackups.txt
-rw-r--r-- 1 oracle oinstall    207 Jan 30 07:07 res.txt
-rw-r--r-- 1 oracle oinstall      21 Jan 30 07:07 xttplan.txt
drwxr-xr-x 2 oracle oinstall   4096 Jan 30 07:07
backup_Jan30_Tue_07_07_08_224
[oracle@srctst1 xtts]$ scp -r /home/oracle/xtts/res.txt
192.168.xx.xxx:/home/oracle/xtts/
oracle@192.168.xx.xxx's password:
res.txt
100% 207      57.8KB/s   00:00
[oracle@srctst1 xtts]$ scp -r /home/oracle/xtts/xttplan.txt
192.168.xx.xxx:/home/oracle/xtts/
oracle@192.168.xx.xxx's password:
xttplan.txt
100% 21       5.1KB/s   00:00
[oracle@srctst1 xtts]$ scp -r
/home/oracle/xtts/backup_Jan30_Tue_07_07_08_224/tsbkupmap.txt
192.168.xx.xxx:/home/oracle/xtts/
oracle@192.168.xx.xxx's password:
tsbkupmap.txt
100% 26       6.5KB/s   00:00
[oracle@srctst1 xtts]$ ls -ltr ../TTSBKP/
total 2496
-rw-r----- 1 oracle oinstall 1163264 Jan 30 06:34
CMSTR_8_092hs3uu_1_1.bkp
-rw-r----- 1 oracle oinstall 1204224 Jan 30 06:53 0a2hs537_1_1
-rw-r----- 1 oracle oinstall 188416 Jan 30 07:07 0b2hs5t0_1_1
[oracle@srctst1 xtts]$ scp -r /home/oracle/TTSBKP/0b2hs5t0_1_1
192.168.xx.xxx:/home/oracle/TTSBKP
oracle@192.168.xx.xxx's password:
0b2hs5t0_1_1
100% 184KB    5.1MB/s   00:00
[oracle@srctst1 xtts]$

```

```

#####
AT DESTINATION#
#####

```

--Perform the 3rd & final restore on the destination server of the 3rd backup taken above, and make sure that all the required files exist at destination that we transferred

```

[oracle@tgtst1 xtts]$ $ORACLE_HOME/perl/bin/perl xttdriver.pl --restore
=====
trace file is
/home/oracle/xtts/restore_Jan30_Tue_07_12_44_452//Jan30_Tue_07_12_44_452_
.log
=====

-----
Parsing properties
-----

-----
Done parsing properties

```



```
-----  
-----  
Checking properties  
-----
```

```
-----  
Done checking properties  
-----
```

```
-----  
Start restore/recover  
-----
```

```
-----  
End of restore/recover phase  
-----
```

```
[oracle@tgttst1 xtts]$
```

```
--Create directory & public link to be used for impdp (FTEX)
```

```
[oracle@tgttst1 xtt]$ sqlplus / as sysdba
```

```
SQL*Plus: Release 19.0.0.0.0 - Production on Mon Jan 30  
Version 19.21.0.0.0
```

```
Copyright (c) 1982, 2022, Oracle. All rights reserved.
```

```
Connected to:  
Oracle Database 19c Enterprise Edition Release 19.0.0.0.0 - Production  
Version 19.21.0.0.0
```

```
SQL> select name from v$datafile;          -> Datafile for CMSTR tablespace  
was restored/recovered, but still not plugged into the DB,  
it will be  
plugged in now through FTEX
```

```
NAME  
-----  
-----
```

```
/u01/app/oracle/oradata/ABCDB/system01.dbf  
/u01/app/oracle/oradata/ABCDB/sysaux01.dbf  
/u01/app/oracle/oradata/ABCDB/undotbs01.dbf  
/u01/app/oracle/oradata/ABCDB/users01.dbf
```

```
SQL> create directory ttsmig as '/home/oracle/TTSBKP';
```

```
Directory created.
```

```
SQL> create public database link srclnk connect to system identified by
xxxxx using 'ABCDB_12C';
```

Database link created.

```
SQL> select host_name from v$instance;
```

```
HOST_NAME
```

```
-----
tgttst1
```

```
SQL> select host_name from v$instance@srclnk;
```

```
HOST_NAME
```

```
-----
srctst1
```

```
SQL> exit
```

```
Disconnected from Oracle Database 19c Enterprise Edition Release
19.0.0.0.0 - Production
Version 19.21.0.0.0
[oracle@tgttst1 xtt]$
```

--Create the par file to be used by FTEX

```
[oracle@tgttst1 xtts]$ vi imp.par
[oracle@tgttst1 xtts]$ cat imp.par
network_link=srclnk
full=y                                -> Must for FTEX
transportable=always                 -> Must for FTEX
metrics=y
logtime=all
parallel=2
exclude=TABLE_STATISTICS,INDEX_STATISTICS,SYS_USER -> Best practice for
FTEX
directory=TTSMIG
logfile=ABCDB_migtst_imp.log
transport_datafiles='/u01/app/oracle/oradata/ABCDB/CMSTR_8.dbf'      ->
List of all your datafiles in the configuration here in quote(s) and
separated by comma(s)
[oracle@tgttst1 xtts]$
```

--Perform the FTEX to plug in the datafile(s)/import the metadata

NOTE: ERRORS BELOW ARE EXPECTED INCLUDING APEX ONES, CAN BE IGNORED,
HOWEVER, OR YOU MAY INVESTIGATE / RUN utlrp.sql ACCORDINGLY

```
[oracle@tgttst1 xtts]$ impdp system@ABCDB_19c parfile=imp.par
```

```
Import: Release 19.0.0.0.0 - Production on Tue Jan 30
Version 19.21.0.0.0
```

Copyright (c) 1982, 2019, Oracle and/or its affiliates. All rights reserved.

Password:

Connected to: Oracle Database 19c Enterprise Edition Release 19.0.0.0.0 -
Production
30-JAN-24 08:17:04.597: Starting "SYSTEM"."SYS_IMPORT_FULL_01":
system/*****@ABCDB_19c parfile=imp.par
30-JAN-24 08:17:05.690: W-1 Startup took 1 seconds
30-JAN-24 08:17:05.828: W-1 Estimate in progress using BLOCKS method...
30-JAN-24 08:17:08.960: W-1 Processing object type
DATABASE_EXPORT/PLUGTS_FULL/FULL/PLUGTS_TABLESPACE
30-JAN-24 08:17:09.153: W-1 Completed 0 PLUGTS_TABLESPACE objects in
3 seconds
30-JAN-24 08:17:09.155: W-1 Processing object type
DATABASE_EXPORT/PLUGTS_FULL/PLUGTS_BLK
30-JAN-24 08:17:14.435: W-1 Completed 1 PLUGTS_BLK objects in 5
seconds
30-JAN-24 08:17:14.437: W-1 Processing object type
DATABASE_EXPORT/EARLY_OPTIONS/VIEWS_AS_TABLES/TABLE_DATA
30-JAN-24 08:17:17.090: W-1 Estimated 1 TABLE_DATA objects in 8
seconds
30-JAN-24 08:17:17.090: W-1 Processing object type
DATABASE_EXPORT/NORMAL_OPTIONS/TABLE_DATA
30-JAN-24 08:17:17.850: W-1 Estimated 64 TABLE_DATA objects in 3
seconds
30-JAN-24 08:17:17.850: W-1 Processing object type
DATABASE_EXPORT/NORMAL_OPTIONS/VIEWS_AS_TABLES/TABLE_DATA
30-JAN-24 08:17:34.187: W-1 Estimated 10 TABLE_DATA objects in 17
seconds
30-JAN-24 08:17:34.291: W-1 Total estimation using BLOCKS method: 5.578
MB
30-JAN-24 08:17:35.995: W-1 Processing object type
DATABASE_EXPORT/PRE_SYSTEM_IMPCALLOUT/MARKER
30-JAN-24 08:17:47.989: W-1 Completed 1 MARKER objects in 12 seconds
30-JAN-24 08:17:47.991: W-1 Processing object type
DATABASE_EXPORT/PRE_INSTANCE_IMPCALLOUT/MARKER
30-JAN-24 08:17:48.285: W-1 Completed 1 MARKER objects in 1 seconds
30-JAN-24 08:17:48.294: W-1 Processing object type
DATABASE_EXPORT/TABLESPACE
30-JAN-24 08:17:48.821: ORA-31684: Object type TABLESPACE:"UNDOTBS1"
already exists

30-JAN-24 08:17:48.821: ORA-31684: Object type TABLESPACE:"TEMP" already
exists

30-JAN-24 08:17:48.841: W-1 Completed 2 TABLESPACE objects in 1
seconds
30-JAN-24 08:17:48.843: W-1 Processing object type
DATABASE_EXPORT/PROFILE
30-JAN-24 08:17:49.090: W-1 Completed 1 PROFILE objects in 1 seconds
30-JAN-24 08:17:49.091: W-1 Processing object type
DATABASE_EXPORT/SCHEMA/USER
30-JAN-24 08:17:49.680: ORA-31684: Object type USER:"SCOTT" already
exists

30-JAN-24 08:17:49.682: W-1 Completed 2 USER objects in 0 seconds
30-JAN-24 08:17:49.683: W-1 Processing object type
DATABASE_EXPORT/RADM_FPTM
30-JAN-24 08:17:50.861: W-1 Completed 1 RADM_FPTM objects in 1
seconds
30-JAN-24 08:17:50.867: W-1 Processing object type
DATABASE_EXPORT/GRANT/SYSTEM_GRANT/PROC_SYSTEM_GRANT

30-JAN-24 08:21:35.001: W-1 Completed 6 PROC_SYSTEM_GRANT objects in 225 seconds
30-JAN-24 08:21:35.143: W-1 Processing object type
DATABASE_EXPORT/SCHEMA/GRANT/SYSTEM_GRANT
30-JAN-24 08:21:35.989: W-1 Completed 2 SYSTEM_GRANT objects in 1 seconds
30-JAN-24 08:21:36.020: W-1 Processing object type
DATABASE_EXPORT/SCHEMA/ROLE_GRANT
30-JAN-24 08:21:36.294: W-1 Completed 5 ROLE_GRANT objects in 1 seconds
30-JAN-24 08:21:36.297: W-1 Processing object type
DATABASE_EXPORT/SCHEMA/DEFAULT_ROLE
30-JAN-24 08:21:36.895: ORA-39083: Object type
DEFAULT_ROLE:"SPATIAL_WFS_ADMIN_USR" failed to create with error:
ORA-01918: user 'SPATIAL_WFS_ADMIN_USR' does not exist

Failing sql is:

```
ALTER USER "SPATIAL_WFS_ADMIN_USR" DEFAULT ROLE ALL
```

30-JAN-24 08:21:36.895: ORA-39083: Object type
DEFAULT_ROLE:"SPATIAL_CSW_ADMIN_USR" failed to create with error:
ORA-01918: user 'SPATIAL_CSW_ADMIN_USR' does not exist

Failing sql is:

```
ALTER USER "SPATIAL_CSW_ADMIN_USR" DEFAULT ROLE ALL
```

30-JAN-24 08:21:37.071: W-1 Completed 10 DEFAULT_ROLE objects in 0 seconds
30-JAN-24 08:21:37.072: W-1 Processing object type
DATABASE_EXPORT/SCHEMA/ON_USER_GRANT
30-JAN-24 08:21:37.603: W-1 Completed 7 ON_USER_GRANT objects in 1 seconds
30-JAN-24 08:21:37.605: W-1 Processing object type
DATABASE_EXPORT/SCHEMA/TABLESPACE_QUOTA
30-JAN-24 08:21:37.852: W-1 Completed 1 TABLESPACE_QUOTA objects in 0 seconds
30-JAN-24 08:21:37.874: W-1 Processing object type
DATABASE_EXPORT/RESOURCE_COST
30-JAN-24 08:21:38.448: W-1 Completed 1 RESOURCE_COST objects in 1 seconds
30-JAN-24 08:21:38.450: W-1 Processing object type
DATABASE_EXPORT/TRUSTED_DB_LINK
30-JAN-24 08:21:39.576: W-1 Completed 1 TRUSTED_DB_LINK objects in 1 seconds
30-JAN-24 08:21:39.578: W-1 Processing object type
DATABASE_EXPORT/DIRECTORY/DIRECTORY
30-JAN-24 08:21:44.984: ORA-31684: Object type DIRECTORY:"DATA_PUMP_DIR" already exists

30-JAN-24 08:21:44.984: ORA-31684: Object type DIRECTORY:"XMLDIR" already exists

30-JAN-24 08:21:44.985: W-1 Completed 2 DIRECTORY objects in 5 seconds
30-JAN-24 08:21:44.986: W-1 Processing object type
DATABASE_EXPORT/DIRECTORY/GRANT/OWNER_GRANT/OBJECT_GRANT
30-JAN-24 08:22:06.965: W-1 Completed 4 OBJECT_GRANT objects in 27 seconds
30-JAN-24 08:22:06.966: W-1 Processing object type
DATABASE_EXPORT/SYSTEM_PROCOBJECT/PRE_SYSTEM_ACTIONS/PROCACT_SYSTEM

30-JAN-24 08:22:18.166: W-1 Completed 3 PROCACT_SYSTEM objects in 33 seconds
30-JAN-24 08:22:18.167: W-1 Processing object type
DATABASE_EXPORT/SYSTEM_PROCOBJACT/PROCOBJ
30-JAN-24 08:22:25.393: W-1 Completed 23 PROCOBJ objects in 15 seconds
30-JAN-24 08:22:25.394: W-1 Processing object type
DATABASE_EXPORT/SYSTEM_PROCOBJACT/POST_SYSTEM_ACTIONS/PROCACT_SYSTEM 30-
JAN-24 08:22:53.812: ORA-39083: Object type PROCACT_SYSTEM failed to
create with error:
ORA-04042: procedure, function, package, or package body does not exist

Failing sql is:

```
BEGIN  
SYS.DBMS_UTILITY.EXEC_DDL_STATEMENT('GRANT EXECUTE ON DBMS_DEFER_SYS TO  
"DBA");COMMIT; END;
```

30-JAN-24 08:22:53.814: W-1 Completed 3 PROCACT_SYSTEM objects in 30 seconds
30-JAN-24 08:22:53.816: W-1 Processing object type
DATABASE_EXPORT/SCHEMA/PROCACT_SCHEMA
30-JAN-24 08:23:47.297: ORA-39083: Object type PROCACT_SCHEMA failed to
create with error:
ORA-31625: Schema SPATIAL_WFS_ADMIN_USR is needed to import this object,
but is unaccessible
ORA-01435: user does not exist

Failing sql is:

```
BEGIN  
sys.dbms_logrep_imp.instantiate_schema(schema_name=>SYS_CONTEXT('USERENV'  
, 'CURRENT_SCHEMA'), export_db_name=>'ABCDB', inst_scn=>'3210991');COMMIT;  
END;
```

30-JAN-24 08:23:47.297: ORA-39083: Object type PROCACT_SCHEMA failed to
create with error:
ORA-31625: Schema SPATIAL_CSW_ADMIN_USR is needed to import this object,
but is unaccessible
ORA-01435: user does not exist

Failing sql is:

```
BEGIN  
sys.dbms_logrep_imp.instantiate_schema(schema_name=>SYS_CONTEXT('USERENV'  
, 'CURRENT_SCHEMA'), export_db_name=>'ABCDB', inst_scn=>'3210991');COMMIT;  
END;
```

30-JAN-24 08:23:47.499: W-1 Completed 16 PROCACT_SCHEMA objects in 55 seconds
30-JAN-24 08:23:47.503: W-1 Processing object type
DATABASE_EXPORT/EARLY_OPTIONS/VIEWS_AS_TABLES/TABLE
30-JAN-24 08:24:14.789: W-1 Completed 1 TABLE objects in 51 seconds
30-JAN-24 08:24:23.645: W-1 . . imported "SYS"."KU\$_EXPORT_USER_MAP"
37 rows in 3 seconds using network link
30-JAN-24 08:24:41.188: W-2 Startup took 21 seconds
30-JAN-24 08:24:41.554: W-1 Processing object type
DATABASE_EXPORT/EARLY_POST_INSTANCE_IMPCALLOUT/MARKER
30-JAN-24 08:24:46.904: W-1 Completed 1 MARKER objects in 22 seconds
30-JAN-24 08:24:46.905: W-1 Processing object type
DATABASE_EXPORT/NORMAL_OPTIONS/TABLE

30-JAN-24 08:25:57.766: ORA-39342: Internal error - failed to import internal objects tagged with ORDIM due to ORA-00955: name is already used by an existing object

.

30-JAN-24 08:26:04.507: W-1 Completed 64 TABLE objects in 83 seconds
30-JAN-24 08:26:04.869: W-1 . . imported "WMSYS"."E\$CONSTRAINTS_TABLE\$" 0 rows in 0 seconds using network link
30-JAN-24 08:26:05.097: W-1 . . imported "WMSYS"."E\$LOCKROWS_INFO\$" 0 rows in 0 seconds using network link
30-JAN-24 08:26:05.109: W-2 . . imported "SYS"."AMGT\$DP\$AUD\$" 0 rows in 0 seconds using automatic
30-JAN-24 08:26:05.354: W-2 . . imported "WMSYS"."E\$UDTRIG_INFO\$" 0 rows in 0 seconds using automatic
30-JAN-24 08:26:05.355: W-1 . . imported "SYS"."AMGT\$DP\$DAM_CLEANUP_EVENTS\$" 0 rows in 0 seconds using network link
30-JAN-24 08:26:05.561: W-2 . . imported "SYS"."AMGT\$DP\$DAM_CLEANUP_JOBS\$" 0 rows in 0 seconds using automatic
30-JAN-24 08:26:05.785: W-2 . . imported "SYS"."DP\$TSDP_ASSOCIATION\$" 0 rows in 0 seconds using automatic
30-JAN-24 08:26:05.973: W-2 . . imported "SYS"."DP\$TSDP_CONDITION\$" 0 rows in 0 seconds using automatic
30-JAN-24 08:26:06.140: W-1 . . imported "SYS"."AMGT\$DP\$DAM_CONFIG_PARAM\$" 14 rows in 1 seconds using network link
30-JAN-24 08:26:06.299: W-2 . . imported "SYS"."DP\$TSDP_FEATURE_POLICY\$" 0 rows in 0 seconds using automatic
30-JAN-24 08:26:06.698: W-1 . . imported "SYS"."DP\$TSDP_PARAMETER\$" 1 rows in 0 seconds using network link
30-JAN-24 08:26:06.901: W-1 . . imported "SYS"."DP\$TSDP_PROTECTION\$" 0 rows in 0 seconds using network link
30-JAN-24 08:26:08.545: W-1 . . imported "SYS"."DP\$TSDP_SENSITIVE_DATA\$" 0 rows in 0 seconds using network link
30-JAN-24 08:26:08.572: W-2 . . imported "SYS"."DP\$TSDP_POLICY\$" 1 rows in 2 seconds using network link
30-JAN-24 08:26:08.787: W-1 . . imported "SYS"."DP\$TSDP_SENSITIVE_TYPE\$" 0 rows in 0 seconds using network link
30-JAN-24 08:26:08.856: W-2 . . imported "SYS"."DP\$TSDP_SOURCE\$" 0 rows in 0 seconds using network link
30-JAN-24 08:26:09.252: W-1 . . imported "SYS"."DP\$TSDP_SUBPOL\$" 1 rows in 0 seconds using network link
30-JAN-24 08:26:09.479: W-2 . . imported "SYSTEM"."REDO_DB_TMP" 1 rows in 0 seconds using network link
30-JAN-24 08:26:09.520: W-1 . . imported "SYSTEM"."REDO_LOG_TMP" 0 rows in 0 seconds using network link
30-JAN-24 08:26:09.826: W-2 . . imported "WMSYS"."E\$BATCH_COMPRESSIBLE_TABLES\$" 0 rows in 0 seconds using network link
30-JAN-24 08:26:09.897: W-1 . . imported "WMSYS"."E\$CONS_COLUMNS\$" 0 rows in 0 seconds using network link
30-JAN-24 08:26:10.380: W-1 . . imported "WMSYS"."E\$EVENTS_INFO\$" 12 rows in 0 seconds using network link
30-JAN-24 08:26:10.422: W-2 . . imported "WMSYS"."E\$ENV_VARS\$" 3 rows in 0 seconds using network link
30-JAN-24 08:26:10.702: W-2 . . imported "WMSYS"."E\$MODIFIED_TABLES\$" 0 rows in 0 seconds using network link

```

30-JAN-24 08:26:10.916: W-2 . . imported
"WMSYS"."E$MP_GRAPH_WORKSPACES_TABLE$"          0 rows in 0 seconds
using network link
30-JAN-24 08:26:10.970: W-1 . . imported "WMSYS"."E$HINT_TABLE$"
75 rows in 0 seconds using network link
30-JAN-24 08:26:11.112: W-2 . . imported
"WMSYS"."E$MP_PARENT_WORKSPACES_TABLE$"          0 rows in 0 seconds
using network link
30-JAN-24 08:26:11.326: W-1 . . imported
"WMSYS"."E$NESTED_COLUMNS_TABLE$"                0 rows in 0 seconds
using network link
30-JAN-24 08:26:11.475: W-1 . . imported
"WMSYS"."E$REMOVED_WORKSPACES_TABLE$"            0 rows in 0 seconds
using network link
30-JAN-24 08:26:11.660: W-1 . . imported
"WMSYS"."E$RESOLVE_WORKSPACES_TABLE$"            0 rows in 0 seconds
using network link
30-JAN-24 08:26:11.743: W-2 . . imported "WMSYS"."E$NEXTVER_TABLE$"
1 rows in 0 seconds using network link
30-JAN-24 08:26:11.949: W-1 . . imported "WMSYS"."E$RIC_LOCKING_TABLE$"
0 rows in 0 seconds using network link
30-JAN-24 08:26:12.023: W-2 . . imported "WMSYS"."E$RIC_TABLE$"
0 rows in 0 seconds using network link
30-JAN-24 08:26:12.169: W-1 . . imported "WMSYS"."E$RIC_TRIGGERS_TABLE$"
0 rows in 0 seconds using network link
30-JAN-24 08:26:12.302: W-2 . . imported
"WMSYS"."E$UDTRIG_DISPATCH_PROCS$"              0 rows in 0 seconds
using network link
30-JAN-24 08:26:12.538: W-2 . . imported "WMSYS"."E$VERSION_TABLE$"
0 rows in 0 seconds using network link
30-JAN-24 08:26:12.701: W-2 . . imported "WMSYS"."E$VT_ERRORS_TABLE$"
0 rows in 0 seconds using network link
30-JAN-24 08:26:12.752: W-1 . . imported
"WMSYS"."E$VERSION_HIERARCHY_TABLE$"              1 rows in 0 seconds
using network link
30-JAN-24 08:26:13.193: W-1 . . imported
"WMSYS"."E$WORKSPACE_PRIV_TABLE$"                10 rows in 1 seconds
using network link
30-JAN-24 08:26:13.279: W-2 . . imported "WMSYS"."E$WORKSPACES_TABLE$"
1 rows in 1 seconds using network link
30-JAN-24 08:26:13.503: W-1 . . imported
"WMSYS"."E$WORKSPACE_SAVEPOINTS_TABLE$"          0 rows in 0 seconds
using network link
30-JAN-24 08:26:13.594: W-2 . . imported "LBACSYS"."OLS_DP$OLS$AUDIT"
0 rows in 0 seconds using network link
30-JAN-24 08:26:13.634: W-1 . . imported
"LBACSYS"."OLS_DP$OLS$COMPARTMENTS"              0 rows in 0 seconds
using network link
30-JAN-24 08:26:13.841: W-2 . . imported "LBACSYS"."OLS_DP$OLS$GROUPS"
0 rows in 0 seconds using network link
30-JAN-24 08:26:13.902: W-1 . . imported "LBACSYS"."OLS_DP$OLS$LAB"
0 rows in 0 seconds using network link
30-JAN-24 08:26:14.044: W-2 . . imported "LBACSYS"."OLS_DP$OLS$LEVELS"
0 rows in 0 seconds using network link
30-JAN-24 08:26:14.271: W-1 . . imported "LBACSYS"."OLS_DP$OLS$POL"
0 rows in 0 seconds using network link
30-JAN-24 08:26:14.420: W-2 . . imported "LBACSYS"."OLS_DP$OLS$POLS"
0 rows in 0 seconds using network link
30-JAN-24 08:26:14.421: W-1 . . imported "LBACSYS"."OLS_DP$OLS$POLT"
0 rows in 0 seconds using network link

```

```

30-JAN-24 08:26:14.624: W-2 . . imported "LBACSYS"."OLS_DP$OLS$PROFILE"
0 rows in 0 seconds using network link
30-JAN-24 08:26:14.673: W-1 . . imported "LBACSYS"."OLS_DP$OLS$PROG"
0 rows in 0 seconds using network link
30-JAN-24 08:26:14.861: W-2 . . imported "LBACSYS"."OLS_DP$OLS$USER"
0 rows in 0 seconds using network link
30-JAN-24 08:26:15.191: W-1 Processing object type
DATABASE_EXPORT/NORMAL_OPTIONS/VIEWS_AS_TABLES/TABLE
30-JAN-24 08:26:57.075: W-1 Completed 10 TABLE objects in 48 seconds
30-JAN-24 08:26:57.436: W-1 . . imported
"SYS"."AMGT$DP$FGA_LOG$FOR_EXPORT" 0 rows in 0 seconds
using network link
30-JAN-24 08:26:57.672: W-1 . . imported "SYS"."DP$DBA_SENSITIVE_DATA"
0 rows in 0 seconds using network link
30-JAN-24 08:26:57.918: W-1 . . imported
"SYS"."DP$DBA_TSDP_POLICY_PROTECTION" 0 rows in 0 seconds
using network link
30-JAN-24 08:26:58.368: W-2 . . imported
"SYS"."AMGT$DP$AUDTAB$TBS$FOR_EXPORT" 2 rows in 1 seconds
using network link
30-JAN-24 08:26:58.783: W-2 . . imported "SYS"."NACL$_HOST_IMP"
1 rows in 0 seconds using network link
30-JAN-24 08:26:59.041: W-2 . . imported "SYS"."NACL$_WALLET_IMP"
0 rows in 0 seconds using network link
30-JAN-24 08:27:00.012: W-1 . . imported "SYS"."NACL$_ACE_IMP"
1 rows in 1 seconds using network link
30-JAN-24 08:27:01.289: W-2 . . imported "WMSYS"."E$EXP_MAP"
3 rows in 1 seconds using network link
30-JAN-24 08:27:01.795: W-1 Processing object type
DATABASE_EXPORT/NORMAL_POST_INSTANCE_IMPCALLOU/MARKER
30-JAN-24 08:27:14.223: W-1 Completed 1 MARKER objects in 14 seconds
30-JAN-24 08:27:14.225: W-1 Processing object type
DATABASE_EXPORT/SCHEMA/TABLE/TABLE
30-JAN-24 08:27:37.605: W-1 Completed 3 TABLE objects in 30 seconds
30-JAN-24 08:27:38.034: W-1 Processing object type
DATABASE_EXPORT/STATISTICS/MARKER
30-JAN-24 08:27:40.525: W-1 Processing object type
DATABASE_EXPORT/END_PLUGTS_BLK
30-JAN-24 08:27:41.266: W-1 Completed 1 PLUGTS_BLK objects in 3
seconds
30-JAN-24 08:27:41.268: W-1 Processing object type
DATABASE_EXPORT/FINAL_POST_INSTANCE_IMPCALLOUT/MARKER
30-JAN-24 08:28:03.491: W-1 Completed 1 MARKER objects in 22 seconds
30-JAN-24 08:28:03.492: W-1 Processing object type
DATABASE_EXPORT/SCHEMA/POST_SCHEMA/PROCOBJ
30-JAN-24 08:28:04.521: ORA-39083: Object type
PROCOBJ:"APEX_040200"."ORACLE_APEX_PURGE_SESSIONS" failed to create with
error:
ORA-27477: "APEX_040200"."ORACLE_APEX_PURGE_SESSIONS" already exists

```

Failing sql is:

```

BEGIN
dbms_scheduler.create_job('"ORACLE_APEX_PURGE_SESSIONS"',
job_type=>'STORED_PROCEDURE', job_action=>
'WWV_FLOW_CACHE.PURGE_SESSIONS'
, number_of_arguments=>0,
start_date=>TO_TIMESTAMP_TZ('07-JUL-2014 06.29.54.833453000 AM -
07:00','DD-MON-RRRR HH.MI.SSXFF AM TZR','NLS_DATE_LANGUAGE=english'),
repeat_interval=>
'FREQ=HOURLY;BYMINUTE=0'

```



```
, end_date=>NULL,  
job_class=>'\"DEFAULT_JOB_CLASS\"', enabled=>FALSE,  
auto_drop=>FALSE, comments=>  
NULL  
);  
dbms_scheduler.enable('\"ORACLE_APEX_PURGE_SESSIONS\"');COMMIT; END;
```

30-JAN-24 08:28:04.521: ORA-39083: Object type
PROCEDURE: \"APEX_040200\".\"ORACLE_APEX_MAIL_QUEUE\" failed to create with
error:
ORA-27477: \"APEX_040200\".\"ORACLE_APEX_MAIL_QUEUE\" already exists

Failing sql is:

```
BEGIN  
dbms_scheduler.create_job('\"ORACLE_APEX_MAIL_QUEUE\"',  
job_type=>'STORED_PROCEDURE', job_action=>  
'WWV_FLOW_MAIL.PUSH_QUEUE_IMMEDIATE'  
, number_of_arguments=>0,  
start_date=>TO_TIMESTAMP_TZ('07-JUL-2014 06.29.55.278873000 AM -  
07:00', 'DD-MON-RRRR HH.MI.SSXXFF AM TZR', 'NLS_DATE_LANGUAGE=english'),  
repeat_interval=>  
'FREQ=MINUTELY;BYMINUTE=0,5,10,15,20,25,30,35,40,45,50,55;BYSECOND=0'  
, end_date=>NULL,  
job_class=>'\"DEFAULT_JOB_CLASS\"', enabled=>FALSE,  
auto_drop=>FALSE, comments=>  
NULL  
);  
dbms_scheduler.enable('\"ORACLE_APEX_MAIL_QUEUE\"');COMMIT; END;
```

30-JAN-24 08:28:04.521: ORA-39083: Object type
PROCEDURE: \"APEX_040200\".\"ORACLE_APEX_WS_NOTIFICATIONS\" failed to create
with error:
ORA-27477: \"APEX_040200\".\"ORACLE_APEX_WS_NOTIFICATIONS\" already exists

Failing sql is:

```
BEGIN  
dbms_scheduler.create_job('\"ORACLE_APEX_WS_NOTIFICATIONS\"',  
job_type=>'STORED_PROCEDURE', job_action=>  
'WWV_FLOW_WORKSHEET_API.DO_NOTIFY'  
, number_of_arguments=>0,  
start_date=>TO_TIMESTAMP_TZ('07-JUL-2014 06.29.55.281735000 AM -  
07:00', 'DD-MON-RRRR HH.MI.SSXXFF AM TZR', 'NLS_DATE_LANGUAGE=english'),  
repeat_interval=>  
'FREQ=MINUTELY;BYMINUTE=0,30;BYSECOND=0'  
, end_date=>NULL,  
job_class=>'\"DEFAULT_JOB_CLASS\"', enabled=>FALSE,  
auto_drop=>FALSE, comments=>  
NULL  
);  
dbms_scheduler.enable('\"ORACLE_APEX_WS_NOTIFICATIONS\"');COMMIT; END;
```

30-JAN-24 08:28:04.521: ORA-39083: Object type
PROCEDURE: \"APEX_040200\".\"ORACLE_APEX_DAILY_MAINTENANCE\" failed to create
with error:
ORA-27477: \"APEX_040200\".\"ORACLE_APEX_DAILY_MAINTENANCE\" already exists

Failing sql is:

```
BEGIN  
dbms_scheduler.create_job('\"ORACLE_APEX_DAILY_MAINTENANCE\"',  
job_type=>'STORED_PROCEDURE', job_action=>
```

```
'WWV_FLOW_MAINT.DAILY_MAINTENANCE'
, number_of_arguments=>0,
start_date=>TO_TIMESTAMP_TZ('07-JUL-2014 06.29.55.284760000 AM -
07:00','DD-MON-RRRR HH.MI.SSXFF AM TZR','NLS_DATE_LANGUAGE=english'),
repeat_interval=>
'FREQ=DAILY;BYHOUR=1;BYMINUTE=0;BYSECOND=0'
, end_date=>NULL,
job_class=>'DEFAULT_JOB_CLASS', enabled=>FALSE,
auto_drop=>FALSE,comments=>
NULL
);
dbms_scheduler.enable('ORACLE_APEX_DAILY_MAINTENANCE');COMMIT; END;

30-JAN-24 08:28:04.543: W-1      Completed 4 PROCOBJ objects in 3 seconds
30-JAN-24 08:28:04.545: W-1 Processing object type
DATABASE_EXPORT/SCHEMA/POST_SCHEMA/PROCACT_SCHEMA
30-JAN-24 08:28:09.023: W-1      Completed 3 PROCACT_SCHEMA objects in 5
seconds
30-JAN-24 08:28:09.024: W-1 Processing object type
DATABASE_EXPORT/AUDIT_UNIFIED/AUDIT_POLICY_ENABLE
30-JAN-24 08:28:09.378: W-1      Completed 2 AUDIT_POLICY_ENABLE objects
in 1 seconds
30-JAN-24 08:28:09.379: W-1 Processing object type
DATABASE_EXPORT/POST_SYSTEM_IMPCALLOUT/MARKER
30-JAN-24 08:28:30.140: W-1      Completed 1 MARKER objects in 20 seconds
30-JAN-24 08:28:34.330: W-2      Completed 1
DATABASE_EXPORT/EARLY_OPTIONS/VIEWS_AS_TABLES/TABLE_DATA objects in 3
seconds
30-JAN-24 08:28:34.331: W-2      Completed 52
DATABASE_EXPORT/NORMAL_OPTIONS/TABLE_DATA objects in 10 seconds
30-JAN-24 08:28:34.332: W-2      Completed 8
DATABASE_EXPORT/NORMAL_OPTIONS/VIEWS_AS_TABLES/TABLE_DATA objects in 4
seconds
30-JAN-24 08:28:34.976: Job "SYSTEM"."SYS_IMPORT_FULL_01" completed with
15 error(s) at Tue Jan 30 08:28:34 2024 elapsed 0 00:11:33
```

```
[oracle@tgtst1 xtts]$
```

```
--Verify the migration at destination, and SHUTDOWN the source DB, so
that no one can use as we have completed the migration at destination,
now onward destination DB will be used as production
```

```
[oracle@tgtst1 xtts]$ sqlplus / as sysdba
```

```
SQL*Plus: Release 19.0.0.0.0 - Production on Tue Jan 30
Version 19.21.0.0.0
```

```
Copyright (c) 1982, 2022, Oracle. All rights reserved.
```

```
Connected to:
Oracle Database 19c Enterprise Edition Release 19.0.0.0.0 - Production
Version 19.21.0.0.0
```

```
SQL> select * from v$tablespace;
```

TS#	NAME	INC	BIG	FLA	ENC	CON_ID
1	SYSAUX	YES	NO	YES		0

0	SYSTEM	YES	NO	YES	0
2	UNDOTBS1	YES	NO	YES	0
7	USERS3	YES	NO	YES	0
3	TEMP	NO	NO	YES	0
8	CMSTR	YES	NO	YES	0

6 rows selected.

SQL> select tablespace_name,status from dba_tablespaces;

TABLESPACE_NAME	STATUS
SYSTEM	ONLINE
SYSAUX	ONLINE
UNDOTBS1	ONLINE
TEMP	ONLINE
USERS3	ONLINE
CMSTR	ONLINE

6 rows selected.

SQL> col object_name format a30
 SELECT object_name,created from dba_objects where owner = 'MIGTST' order
 by 2 desc; SQL>

OBJECT_NAME	CREATED
MARKS	30-JAN-24
STUDENTS	30-JAN-24
MODULES	30-JAN-24

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

Session altered.

SQL>
 SQL> SELECT object_name,created from dba_objects where owner = 'MIGTST'
 order by 2 desc;

OBJECT_NAME	CREATED
MARKS	30-Jan-2024 08:27:15
STUDENTS	30-Jan-2024 08:27:14
MODULES	30-Jan-2024 08:27:14

SQL> select * from migtst.students;

STUDENT_NO	SURNAME	FORENAME
20060101	Dickens	Charles
20060102	ApGwilym	Dafydd
20060103	Zola	Emile
20060104	Mann	Thomas
20060105	Stevenson	Robert

SQL> select * from migtst.marks;

STUDENT_NO	MODULE_C	MARK
20060101	CM0001	80

20060101	CM0002	65
20060101	CM0003	50
20060102	CM0001	75
20060102	CM0003	45
20060102	CM0004	70
20060103	CM0001	60
20060103	CM0002	75
20060103	CM0004	60
20060104	CM0001	55
20060104	CM0002	40
20060104	CM0003	45
20060105	CM0001	55
20060105	CM0002	50
20060105	CM0004	65

15 rows selected.

SQL> select * from migtst.modules;

MODULE_C	MODULE_NAME
CM0001	Databases
CM0002	Programming Languages
CM0003	Operating Systems
CM0004	Graphics

SQL>