

🌸 116. Tablespace Level Pump

export / import 4가지

1. table level
2. user level
3. tablespace level
4. database level

tablespace로 데이터 이관할 때 주의 사항

- export 할 db의 character set과 import 할 db의 character set이 동일해야 한다.
- 한 번에 데이터 이관을 끝낼 수 있다.

※ PROD, psh2 편하게 등록하는 방법

vi /etc/oratab

PROD:/u01/app/oracle/product/11.2.0/dbhome_1:N

psh2:/u01/app/oracle/product/11.2.0/dbhome_1:N

실습의 큰 그림

	PROD	=>	psh2
위치:	/home/oracle/pump_prod		/home/oracle/pump_psh2
디렉토리명:	datapump_dir		psh2_dir
테이블 스페이스:	ts20000		

실습

ps -ef | grep pmon

-> PROD와 psh2의 db가 올라왔는지 확인하기, 안 올라왔으면 하나씩 startup 하기

1. PROD db에서 ts20000 테이블 스페이스를 생성한다.

(prod sys)

```
create tablespace ts20000 datafile '/u01/app/oracle/oradata/PROD/disk1/ts20000.dbf' size 10m;
```

2. scott 유저로 접속해서 ts20000 테이블 스페이스에 emp20000 테이블을 생성

(prod scott)

```
create table emp20000
```

```
( empno      number(10),
```

```
ename       varchar2(10),
```

```
sal         number(10) )
```

```
tablespace ts20000;
```

```
insert into emp20000
```

```
select empno, ename, sal
```

```
from emp;
```

```
commit;
```

3. ts20000 테이블 스페이스를 read only 로 변경한다.

(prod sys)

```
alter tablespace ts20000 read only;
```

```
select t.name, d.enabled
from v$tablespace t, v$datafile d
where t.ts#=d.ts#;
```

```
PROD(SYS) > select t.name, d.enabled
from v$tablespace t, v$datafile d
where t.ts#=d.ts#;
      2      3
NAME                                ENABLED
-----
SYSTEM                              READ WRITE
SYSAUX                              READ WRITE
UNDOTBS                             READ WRITE
TEST100                             READ WRITE
EXAMPLE                             READ WRITE
TEST100                             READ WRITE
TEST100                             READ WRITE
TS100                               READ WRITE
PSH                                  READ WRITE
INSA01                              READ WRITE
HR01                                 READ WRITE

NAME                                ENABLED
-----
TS800                               READ WRITE
TS501                               READ WRITE
TS501                               READ WRITE
TEST5000                           READ WRITE
TS7000                             READ WRITE
INSA02                             READ WRITE
UNDOTBS7                           READ WRITE
SYSTEM                             READ WRITE
UNDOTBS9                           READ WRITE
SYSTEM                             READ WRITE
SYSTEM                             READ WRITE

NAME                                ENABLED
-----
SYSAUX                              READ WRITE
EXAMPLE                             READ WRITE
EXAMPLE                             READ WRITE
TS7100                             READ WRITE
TS8100                             READ WRITE
TS20000                             READ ONLY
```

```
4. ts20000 테이블 스페이스를 export 하기
(prod)
expdp directory=datapump_dir dumpfile=ts20000.dmp transport_tablespace=y tablespaces=ts20000
sys as sysdba
oracle_4U
```

```
[PROD:~]$ expdp directory=datapump_dir dumpfile=ts20000.dmp transport_tablespace=y tablespaces=ts20000

Export: Release 11.2.0.1.0 - Production on Mon Feb 26 13:39:08 2024

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Username: sys as sysdba
Password:

Connected to: Oracle Database 11g Enterprise Edition Release 11.2.0.1.0 - Production
With the Partitioning, OLAP, Data Mining and Real Application Testing options
Legacy Mode Active due to the following parameters:
Legacy Mode Parameter: "transport_tablespace=TRUE" Location: Command Line, Replaced with: "transport_tablespaces=ts20000"
Legacy Mode has set reuse_dumpfiles=true parameter.
Starting "SYS"."SYS_EXPORT_TRANSPORTABLE_01": sys/***** AS SYSDBA directory=datapump_dir dumpfile=ts20000.dmp tablespaces=ts20000 reuse_dumpfiles=true
Processing object type TRANSPORTABLE_EXPORT/PLUGTS_BLK
Processing object type TRANSPORTABLE_EXPORT/TABLE
Processing object type TRANSPORTABLE_EXPORT/POST_INSTANCE/PLUGTS_BLK
Master table "SYS"."SYS_EXPORT_TRANSPORTABLE_01" successfully loaded/unloaded
*****
Dump file set for SYS.SYS_EXPORT_TRANSPORTABLE_01 is:
/home/oracle/pump_prod/ts20000.dmp
*****
Datafiles required for transportable tablespace TS20000:
/u01/app/oracle/oradata/PROD/disk1/ts20000.dbf
Job "SYS"."SYS_EXPORT_TRANSPORTABLE_01" successfully completed at 13:39:35
```

```
cd pump_prod
ls
```

⇒ ts20000.dmp 잘 생성 되었는지 확인한다.

```
[PROD:~]$ cd pump_prod
[PROD:pump_prod]$ ls
dept_pump.dmp emp_pump.dmp scott.dmp
emp612_pump.dmp export.log ts20000.dmp
```

※ 아래 오류 발생 시 조치 사항

UDE-04031: operation generated ORACLE error 4031

ORA-04031: unable to allocate 16 bytes of shared memory ("shared pool","select obj#,type#,ctime,

해결 방법: PROD DB 쪽에 memory_max_target 을 1024m 로 늘리고 memory_target 을 1024m 로 늘린다.

(PROD sys)

```
alter system set memory_max_target=1024m scope=spfile;
```

```
alter system set memory_target=1024m scope=spfile;
```

```
shutdown immediate
```

```
startup
```

5. ts20000.dbf를 psh2 쪽의 data file이 있는 쪽으로 copy 한다.

(PROD)

```
cp /u01/app/oracle/oradata/PROD/disk1/ts20000.dbf /u01/app/oracle/oradata/psh2/disk1/ts20000.dbf
```

6. ts20000.dmp 파일을 psh2 쪽의 pump 디렉토리로 copy 한다.

```
cp /home/oracle/pump_prod/ts20000.dmp /home/oracle/pump_psh2/ts20000.dmp
```

7. psh2에 ts20000 테이블 스페이스를 import 한다.

```

* import 하기 전에 psh2 쪽의 sys 비번 무엇인지 확인
* import 하기 전에 psh2 쪽의 scott 계정이 있는지 확인하고 dba 권한이 있는지 확인
(psh2 scott)
select * from session_roles;

```

```

psh2(SCOTT) > select * from session_roles;
ROLE
-----
DBA
SELECT_CATALOG_ROLE
HS_ADMIN_SELECT_ROLE
EXECUTE_CATALOG_ROLE
HS_ADMIN_EXECUTE_ROLE
DELETE_CATALOG_ROLE
EXP_FULL_DATABASE
IMP_FULL_DATABASE
DATAPUMP_EXP_FULL_DATABASE
DATAPUMP_IMP_FULL_DATABASE
GATHER_SYSTEM_STATISTICS

ROLE
-----
SCHEDULER_ADMIN

12 rows selected.

```

```

(psh2)
impdp directory=psh2_dir dumpfile=ts20000.dmp transport_datafiles='/u01/app/oracle/oradata/psh2/
sys as sysdba
oracle_4U

```

```

[psh2:~]$ impdp directory=psh2_dir dumpfile=ts20000.dmp transport_datafiles='/u01/app/
oracle/oradata/psh2/disk1/ts20000.dbf'

Import: Release 11.2.0.1.0 - Production on Mon Feb 26 13:53:48 2024

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Username: sys as sysdba
Password:
-----
Connected to: Oracle Database 11g Enterprise Edition Release 11.2.0.1.0 - Production
With the Partitioning, OLAP, Data Mining and Real Application Testing options
Master table "SYS"."SYS_IMPORT_TRANSPORTABLE_01" successfully loaded/unloaded
Starting "SYS"."SYS_IMPORT_TRANSPORTABLE_01": sys/***** AS SYSDBA directory=psh2_d
ir dumpfile=ts20000.dmp transport_datafiles=/u01/app/oracle/oradata/psh2/disk1/ts20000
.dbf
Processing object type TRANSPORTABLE_EXPORT/PLUGTS_BLK
Processing object type TRANSPORTABLE_EXPORT/TABLE
Processing object type TRANSPORTABLE_EXPORT/POST_INSTANCE/PLUGTS_BLK
Job "SYS"."SYS_IMPORT_TRANSPORTABLE_01" successfully completed at 13:54:03

```

```

8. psh2에서 ts20000 테이블 스페이스를 read write 로 변경하기
(psh2 sys)
alter tablespace ts20000 read write;

```

```

9. psh2에서 emp20000 테이블이 잘 조회되는지 확인한다.
(psh2 scott)
select count(*) from emp20000;

```

```

psh2(SCOTT) > select count(*) from emp20000;

COUNT(*)
-----
28

```

```

10. PROD db에서 ts20000 테이블 스페이스를 read write로 변경한다.
(PROD sys)

```

```
alter tablespace ts20000 read write;
```

문제 1. psh2 쪽에 ts30000 테이블 스페이스를 생성하고 scott 유저에서 emp30000 테이블을 생성한 후에 ts30000 테이블 스페이스를 export 하고 PROD 쪽에 import 하시오.
(이수자 평가 제출물 3번)

```
(psh2 sys)
create tablespace ts30000 datafile '/u01/app/oracle/oradata/psh2/disk1/ts30000.dbf' size 10m;
```

```
(psh2 scott)
create table emp30000
( empno      number(10),
  ename       varchar2(10),
  sal         number(10) )
tablespace ts30000;
```

```
insert into emp30000 select empno, ename, sal from emp;
```

```
(psh2 sys)
alter tablespace ts30000 read only;
```

```
select t.name, d.enabled
from v$tablespace t, v$datafile d
where t.ts#=d.ts#;
```

```
(psh2)
expdp directory=psh2_dir dumpfile=ts30000.dmp transport_tablespace=y tablespaces=ts30000
sys as sysdba
oracle_4U
```

```
[psh2:~]$ expdp directory=psh2_dir dumpfile=ts30000.dmp transport_tablespace=
y tablespaces=ts30000

Export: Release 11.2.0.1.0 - Production on Mon Feb 26 14:48:44 2024

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Username: sys as sysdba
Password:

Connected to: Oracle Database 11g Enterprise Edition Release 11.2.0.1.0 - Produc
tion
With the Partitioning, OLAP, Data Mining and Real Application Testing options
Legacy Mode Active due to the following parameters:
Legacy Mode Parameter: "transport_tablespace=TRUE" Location: Command Line, Repla
ced with: "transport_tablespaces=ts30000"
Legacy Mode has set reuse_dumpfiles=true parameter.
Starting "SYS"."SYS_EXPORT_TRANSPORTABLE_01": sys/***** AS SYSDBA directory=
psh2_dir dumpfile=ts30000.dmp tablespaces=ts30000 reuse_dumpfiles=true
Processing object type TRANSPORTABLE_EXPORT/PLUGTS_BLK
Processing object type TRANSPORTABLE_EXPORT/TABLE
Processing object type TRANSPORTABLE_EXPORT/POST_INSTANCE/PLUGTS_BLK
Master table "SYS"."SYS_EXPORT_TRANSPORTABLE_01" successfully loaded/unloaded
*****
Dump file set for SYS.SYS_EXPORT_TRANSPORTABLE_01 is:
/home/oracle/pump_psh2/ts30000.dmp
*****
Datafiles required for transportable tablespace TS30000:
/u01/app/oracle/oradata/PROD/disk1/ts30000.dbf
Job "SYS"."SYS_EXPORT_TRANSPORTABLE_01" successfully completed at 14:49:05
```

```
cd pump_psh2
ls
```

```
[psh2:pump_psh2]$ ls
dept_pump.dmp    emp_pump.dmp    import.log    ts20000.dmp
emp612_pump.dmp  export.log      scott.dmp     ts30000.dmp
psh2@pump_psh2$
```

```
(psh2)
cp /u01/app/oracle/oradata/psh2/disk1/ts30000.dbf /u01/app/oracle/oradata/PROD/disk1/ts30000.dbf
cp /home/oracle/pump_psh2/ts30000.dmp /home/oracle/pump_prod/ts30000.dmp

(PROD)
impdp directory=datapump_dir dumpfile=ts30000.dmp transport_datafiles='/u01/app/oracle/oradata/PROD/disk1/ts30000.dbf'
sys as sysdba
oracle_4U
```

```
With the Partitioning, OLAP, Data Mining and Real Application Testing options
[PROD:~]$ impdp directory=datapump_dir dumpfile=ts30000.dmp transport_datafiles='/u01/app/oracle/oradata/PROD/disk1/ts30000.dbf'

Import: Release 11.2.0.1.0 - Production on Mon Feb 26 15:13:42 2024

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Username: sys as sysdba
Password:

Connected to: Oracle Database 11g Enterprise Edition Release 11.2.0.1.0 - Production
With the Partitioning, Automatic Storage Management, OLAP, Data Mining
and Real Application Testing options

UDI-04031: operation generated ORACLE error 4031
ORA-04031: unable to allocate 3936 bytes of shared memory ("shared pool","SELECT inst_id, kupvjid, kup...", "
sga heap(1,0)","kglsim object batch")
ORA-06512: at "SYS.DBMS_DATAPUMP", line 3263
ORA-06512: at "SYS.DBMS_DATAPUMP", line 4488
ORA-06512: at line 1
```

※ 오류 해결!

```
(PROD sys)
alter system set memory_max_target=1024m scope=spfile;
alter system set memory_target=1024m scope=spfile;
shutdown immediate
startup

impdp directory=datapump_dir dumpfile=ts30000.dmp transport_datafiles='/u01/app/oracle/oradata/PROD/disk1/ts30000.dbf'
sys as sysdba
oracle_4U
```



```

PROD(SYS) > alter system set memory_max_target=1024m scope=spfile;
System altered.

PROD(SYS) > alter system set memory_target=1024m scope=spfile;
System altered.

PROD(SYS) > shutdown immediate
Database closed.
Database dismounted.
ORACLE instance shut down.
PROD(SYS) > startup
ORACLE instance started.

Total System Global Area  535662592 bytes
Fixed Size                  1337720 bytes
Variable Size              461375112 bytes
Database Buffers           67108864 bytes
Redo Buffers                5840896 bytes
Database mounted.
Database opened.
PROD(SYS) > exit
Disconnected from Oracle Database 11g Enterprise Edition Release 11.2.0.1.0 - Production
With the Partitioning, OLAP, Data Mining and Real Application Testing options
[PROD:~]$ impdp directory=datapump_dir dumpfile=ts30000.dmp transport_datafiles='/u01/app/oracle/oradata/PROD/disk1/ts30000.dbf'

Import: Release 11.2.0.1.0 - Production on Mon Feb 26 15:16:31 2024

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Username: sys as sysdba
Password:

Connected to: Oracle Database 11g Enterprise Edition Release 11.2.0.1.0 - Production
With the Partitioning, Automatic Storage Management, OLAP, Data Mining
and Real Application Testing options
Master table "SYS"."SYS_IMPORT_TRANSPORTABLE_01" successfully loaded/unloaded
Starting "SYS"."SYS_IMPORT_TRANSPORTABLE_01": sys/***** AS SYSDBA directory=datapump_dir dumpfile=ts3000
0.dmp transport_datafiles=/u01/app/oracle/oradata/PROD/disk1/ts30000.dbf
Processing object type TRANSPORTABLE_EXPORT/PLUGTS_BLK
Processing object type TRANSPORTABLE_EXPORT/TABLE
Processing object type TRANSPORTABLE_EXPORT/POST_INSTANCE/PLUGTS_BLK
Job "SYS"."SYS_IMPORT_TRANSPORTABLE_01" successfully completed at 15:16:42

```

```

(PROD sys)
alter tablespace ts30000 read write;
(PROD scott)
select count(*) from emp30000;

(psh2 sys)
alter tablespace ts30000 read write;

```

```

PROD(SCOTT) > select count(*) from emp30000;

COUNT(*)
-----
14

```