

I. Oracle Data Pump: import, export data

Oracle Data Pump technology enables very high-speed movement of data and metadata from one database to another. Oracle Data Pump is available only on Oracle Database 10g release 1 (10.1) and later.

1. Example 1:

You have already connect to a user (ex: week6) of a pluggable database (week6pdb).

Now you connect to system of this pdb and create a user, a directory:

```
connect system/password@localhost/week6pdb

create user helen identified by userpass;

CREATE OR REPLACE DIRECTORY test_dir AS 'C:\Oracle\dir';
```

Generate the Export Dump File and Import data

--Start **command line window** (cmd):

```
expdp system/password@localhost/week6pdb schemas=week6 directory=test_dir
dumpfile=week6.dmp
```

--Import data:

```
impdp system/password@localhost/week6pdb directory=test_dir
dumpfile=week6.dmp remap_schema=week6:helen
```

Select the data:

```
--connect to helen

CONNECT helen/userpass@localhost/week6pdb

Select * from TEST;
```

2. Example 2:

PREPARE data

```
--create a pluggable database

CREATE PLUGGABLE DATABASE THUCHANH ADMIN USER th IDENTIFIED BY userpass
ROLES= (DBA)

FILE_NAME_CONVERT= ('PDBSEED', 'THUCHANH')

DEFAULT TABLESPACE TH_TBS DATAFILE
'C:\Oracle\oradata\ORCL\THUCHANH\th1.dbf' SIZE 1M;
```

← Before running the command, make sure this folder exists.

```
ALTER PLUGGABLE DATABASE THUCHANH OPEN;

--CONNECT TO the PDB: THUCHANH

CONNECT SYS/userpass@localhost/thuchanh AS SYSDBA

CREATE USER helen identified by userpass quota 5M on TH_TBS;

CREATE USER john identified by userpass quota 7M on TH_TBS;

GRANT CREATE SESSION, CREATE TABLE TO helen, john;
```

Before runing the command, make sure this folder exists.



```
--create directory

CREATE OR REPLACE DIRECTORY test_dir AS 'C:\Oracle\dir';

--connect to helen

CONNECT helen/userpass@localhost/thuchanh

CREATE TABLE EMPLOYEE (ID NUMBER, NAME VARCHAR2(50));

INSERT INTO EMPLOYEE VALUES (1, 'Micheal');

INSERT INTO EMPLOYEE VALUES (2, 'Joana');

COMMIT;
```

Generate the Export Dump File

```
--Start command line window:

expdp system/password@localhost/thuchanh schemas=helen directory=test_dir
dumpfile=helen.dmp

--import data

impdp system/password@localhost/thuchanh directory=test_dir
dumpfile=helen.dmp remap_schema=helen:john
```

Check the data

```
--connect to john

CONNECT john/userpass@localhost/thuchanh
```

```
Select * from employee;
```

Drop the pluggable database

```
ALTER PLUGGABLE DATABASE THUCHANH CLOSE;  
  
drop pluggable database thuchanh including datafiles;
```

II. Database Backup and Recovery

RMAN enables you to back up one or more PDBs in a CDB using the BACKUP command.

--1. Shutdown database

```
rman target /
```

```
RMAN> shutdown immediate;
```

--2. Startup database in mount mode

```
RMAN> startup mount;
```

--3. Execute backup database command.

--The following example backs up the PDBs sales and hr:

```
BACKUP PLUGGABLE DATABASE sales, hr;
```

--4. Check backup taken successfully.

```
RMAN> list backup;
```

--5. Start database open.

```
RMAN> startup;
```

To restore and recover the entire database:

```
rman target /  
  
SHUTDOWN IMMEDIATE;  
  
STARTUP MOUNT;  
  
ALTER PLUGGABLE DATABASE pdb1, pdb2 CLOSE;
```

```
RESTORE PLUGGABLE DATABASE pdb1, pdb2;  
RECOVER PLUGGABLE DATABASE pdb1, pdb2;  
ALTER PLUGGABLE DATABASE pdb1, pdb2 OPEN;
```