**DML (Data Manipulation Language)**

**DML (Data Manipulation Language)的 SQL commands 有:**

**(1) SELECT :  retrieve data from the a database**

例如:

$ SELECT \* FROM mytable

WHERE field1>100 ;

**(2) INSERT  : insert data into a table**

例如:

INSERT INTO mytable (field1, field2) VALUES ('John', 100) ;

**(3) UPDATE  : updates existing data within a table**

例如:

UPDATE mytable

SET field1='Mary', field2=80 ;

**(4) DELETE : deletes all records from a table, the space for the records remain**

例如:

$ DELETE FROM mytbale

WHERE field2<60 ;

**DDL**

CREATE - to create objects in the database

語法:

CREATE {DATABASE | SCHEMA} [IF NOT EXISTS] db\_name

[create\_specification] ...

create\_specification:

[DEFAULT] CHARACTER SET [=] charset\_name |

[DEFAULT] COLLATE [=] collation\_name

或是

CREATE DATABASE tctas\_[username] CHARACTER SET utf8 COLLATE utf8\_bin;

建立表單(table)

例如:

CREATE [TEMPORARY] TABLE [IF NOT EXISTS] tbl\_name

(create\_definition,...)

[table\_options]

使用temporary的意思是指建立暫時的表單，單connection結束自動刪除。

例如:

CREATE TABLE mytable

(field1 CHAR(10), field2 INT(10)) ;

ALTER - alters the structure of the database

語法:

ALTER [ONLINE | OFFLINE] [IGNORE] TABLE tbl\_name

[alter\_specification [, alter\_specification] ...]

[partition\_options]

例如:

ALTER TABLE mytable

ADD PRIMARY KEY (`field1`) ;

DROP - delete objects from the database

語法:

DROP [TEMPORARY] TABLE [IF EXISTS]

tbl\_name [, tbl\_name] ...

[RESTRICT | CASCADE]

例如:

DROP TABLE IF EXISTS mytable1 , mytable2 ;

TRUNCATE - remove all records from a table, including all spaces allocated for the records are removed

語法:

TRUNCATE [TABLE] tbl\_name

例如:

TRUNCATE TABLE mytable ;

RENAME - rename an object

語法:

RENAME TABLE tbl\_name TO new\_tbl\_name

[, tbl\_name2 TO new\_tbl\_name2] ...

例如:

RENAME TABLE mytable TO newtable ;

**DBA User Login**

$ sqlplus /nolog

SQL> connect / as sysdba ;  ( 使用 sysdba 的身份 )

**User Management**

**(1)  授權權限予 User**

SQL>

CREATE USER ${User}

PROFILE "DEFAULT"

IDENTIFIED BY ${User}

DEFAULT TABLESPACE ${TABLESPACE}

TEMPORARY TABLESPACE "TEMP" ACCOUNT UNLOCK;

grant connect to ${User} ;

grant create sequence to ${User} ;

grant create table to ${User} ;

grant EXP\_FULL\_DATABASE,IMP\_FULL\_DATABASE to ${User};

$ sqlplus username/password@//IP:PORT/tctas/     ## 確認可否 Login 並看錯誤訊息

**(2) 查看資料庫有那些 user**

     select \* from all\_users;

**(3) User Lock**

SQL> alter user aptpmcadm account unlock;

   SQL> commit ;

   \* \* 另外有可能是密碼錯誤 Retry 次數過多，則直接重設 Password

**(4) 更改密碼**

    SQL>alter user system identified by manager;

**(5) 密碼過期 :**

**ORA-28002: The password will expire within %s days**

   sqlplus acct/pass @oid

   SQL> password

   Changing password for acct

**(6) 刪除使用者 :**

**If user Sidney's schema contains no objects, then you can drop sidney by**

**issuing the statement:**

    DROP USER sidney;

**If Sidney's schema contains objects, then you must use the CASCADE**

**clause to drop sidney and the objects:**

    DROP USER sidney CASCADE;

**Check Status**

**(1) 使用 Oracle Admin Account 登錄系統**

     # su - oracle

     $ sqlplus /nolog

     SQL> connect / as sysdba ;

**(2) 使用 User Account 登錄系統**

     $ sqlplus user/user@sid

**(2) 查看資料庫有那些 table**

     select \* d;

**(3) 查看 table 的 schema**

    desc [tablename];

**(4) 查看有哪些 DB(show databases)**

    select \* from v$dbfile

**(5) 查看有哪些 Table Spaces**

    select \* from v$tablespace

**Backup & Restore**

**複製資料庫或  Table 的流程 :**

**Export data ( entire database )**

|  |  |
| --- | --- |
|  | ex  exp dbuser/password FULL=y FILE=exportDB.dmp LOG=exportDB.log  **\*\* 可能會問要 User 還是 Table，請選擇 User，接下來都按 Yes。** |

**schema only**

|  |  |
| --- | --- |
|  | exp dbuser/password FIlE=scott.dmp OWNER=scott |

**Importdata  ( if needed, create the user for the DB )**

|  |  |
| --- | --- |
| 1  2  3  4  5  6  7  8  9 | CREATE USER username IDENTIFIED BY "username"  DEFAULT TABLESPACE "USERS"  TEMPORARY TABLESPACE "TEMP"  PROFILE DEFAULT  QUOTA UNLIMITED ON "USERS";  GRANT "CONNECT" TO username;  GRANT "DBA" TO username;  GRANT CREATE session to username;  ALTER USER username DEFAULT ROLE NONE; |

**login with new user and try an sql statement:**

|  |  |
| --- | --- |
| 1 | select sysdate from dual; |

**Import data ( entire database )**

|  |  |
| --- | --- |
| 1 | imp dbuser/password FULL=y FILE=exportDB.dmp LOG=importDB.log |

**schema only**

|  |  |
| --- | --- |
| 1 | imp dbuser/password FIlE=scott.dmp |

**Notes:**

**- If you get an error that the export was not done by the user doing the import, you need to do it with the user who actually exported the .dmp file.**

**- If you get an error trying to import and it stops, you may need to add: dbuser/password@db**

**import/export tables only:**

**Export tables [emp] and [dept] from “scott” user:?**

|  |  |
| --- | --- |
| 1 | exp dbuser/password FILE=scott.dmp TABLES=(emp,dept) |

Import tables [dept] and [emp] from “scott” user:?

|  |  |
| --- | --- |
| 1 | imp dbuser/password FIlE=importDB.dmp FROMUSER=scott TABLES=(dept,emp) |

**Unload / import Data**

* **資料列導出 Sample**

TAS\_DB\_URL=192.168.1.18:1521/tctas

TAS\_DB\_USER=aptvccacadm

TAS\_DB\_PASSWORD=aptvccacadm

sqlplus -silent $TAS\_DB\_USER/$TAS\_DB\_PASSWORD@$TAS\_DB\_URL <<EOF

set heading off

set lines 1000

set pagesize 0

set termout off

set feedback off

spool ${TABNAME}\_ROW.csv

select \* from ${TABNAME} ;

set colsep ","

spool off

exit ;

EOF

* **資料列刪除 Sample**

## For Delete

DELETE\_ROW=`sqlplus -silent $TAS\_DB\_USER/$TAS\_DB\_PASSWORD@$TASDBTNS <<EOF

set serveroutput on FEEDBACK OFF

declare

v\_cnt number:= 0;

begin

${DELETE\_SQLCOMMAND}

v\_cnt := sql%rowcount;

dbms\_output.put\_line(v\_cnt);

commit;

end ;

/

exit;

EOF`

**Trouble Shooting**

**(1) 檢查oracle数据库狀態 :**

     $ sqlplus  /nolog

     SQL>connect / as sysdba;

     SQL>select \* from v$instance;   **## Status 必須要為 Open 的字樣**

**(2) 檢查 oracle 資料庫 Listener :**

    $ lsnrctl status

    $ lsnrctl start      **##  啟動 Listener**

**(3) 啟動 Oracle  :**

    SQL>startup

    ORACLE instance started.

    Total System Global Area  845348864 bytes

    Fixed Size 1339796 bytes

    Variable Size   637537900 bytes

    Database Buffers   201326592 bytes

   Redo Buffers 5144576 bytes

   Database mounted.

   Database opened.

**(4) 關閉 Oracle  :**

    SQL>shutdown immediate   ## 停掉所有 Session，重啟後不用 Recovery

       Database closed.

     Database dismounted.

     ORACLE instance shut down.

**\*\* 若無法正常關閉，則執行下列程序 :**

     SQL>shutdown abort      ## 中斷所有 Session，重啟後要 Recovery

     ORACLE instance shut down.

     SQL>  STARTUP MOUNT

      ORACLE instance started.

       Total System Global Area 1241513984 bytes

       Fixed Size    1267212 bytes

       Variable Size  352324084 bytes

       Database Buffers  872415232 bytes

       Redo Buffers   15507456 bytes

**Database mounted.**

       SQL> RECOVER DATABASE

       Media recovery complete.

       SQL> ALTER DATABASE OPEN;

       Database altered.

       SQL> select DATABASE\_STATUS from v$instance;

       DATABASE\_STATUS

       ----------------------------------

       ACTIVE

(5)  alert\_tctas.log 出現  ORA-00600: internal error code, arguments: [4193], [1084],

      Error Code :

http://codex.wiki/post/125999-154