

2. EXECUTE TCL AND DCL COMMANDS

TRANSACTION CONTROL LANGUAGE (TCL) COMMANDS

- A transaction is a logical unit of work.
- All changes made to the database between commit and / or rollback operations can be referred to as a transaction.
- A transaction begins with an executable SQL statement and ends explicitly with either rollback or commit statements and implicitly, i.e., automatically, when a DDL statement is used.

1. **COMMIT** – Used to end a transaction and transaction changes are made permanent to the database.
 - Erases all savepoints in the transaction thus releasing the transaction locks.

Syntax: Commit work; (or) Commit;

Output:
Commit complete.

2. **ROLLBACK** – Used to undo the work done in the current transaction.
 - Rollback the entire transaction so that all changes made by SQL statements are undone or rollback a transaction to a savepoint so that the SQL statements after the savepoint are rolled back.

Syntax: Rollback to savepoint savepoint_id;

Output:
Rollback complete.

3. **SAVEPOINT** – Savepoints are like markers to divide a very lengthy transaction to smaller ones.
 - Used to identify a point in a transaction to which it can be rolled back later.
 - Used in conjunction with rollback, to rollback portions of the current transaction.

Syntax: Savepoint savepoint_id;

Output:
Savepoint created.

Example:
SQL> Savepoint savepoint_id;
Savepoint created.

SQL> select rollno, name, address from sample;

ROLLNO	NAME	ADDRESS
1	Raja	Arakkonam
2	Prince	Arakkonam
3	Raja	Arakkonam
4	James	Arakkonam

SQL> update sample set address = 'Chennai' where name = 'Raja';
2 rows updated.

SQL> select rollno, name, address from sample;

ROLLNO	NAME	ADDRESS
1	Raja	Chennai
2	Prince	Arakkonam
3	Raja	Chennai
4	James	Arakkonam

SQL> Rollback to Savepoint savepoint_id;
Rollback complete.

SQL> select rollno, name, address from sample;

ROLLNO	NAME	ADDRESS.CITY
1	Raja	Arakkonam
2	Prince	Arakkonam
3	Raja	Arakkonam
4	James	Arakkonam