**PSQL TP5 (Transactions & Logging)**

**Subject:** PostgreSQL

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1. **Transaction:**

**Definition:**

A transaction is a unit of work that is performed against a database. Transactions are units or sequences of work accomplished in a logical order, whether in a manual fashion by a user or automatically by some sort of a database program.

**Properties of Transactions:**

Transactions have the following four standard properties, usually referred to by the acronym ACID (**A**tomicity, **C**onsistency, **I**solation, **D**urability).

**Transaction Control:**

The following commands are used to control transactions:

1. **BEGIN TRANSACTION**: To start a transaction.
2. **COMMIT**: To save the changes, alternatively you can use END TRANSACTION command.
3. **ROLLBACK**: To rollback (cancel) the changes.

**PS:** Transactional control commands are only used with the DML commands INSERT, UPDATE and DELETE only. They cannot be used while creating tables or dropping them because these operations are automatically committed in the database.

**Example:**

Consider the **COMPANY** table is having the following records:

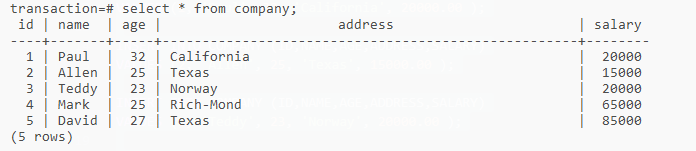


Figure 1 - Table Rows

Now, let us start a transaction and delete records from the table having age = 25 and finally we use ROLLBACK command to undo all the changes.

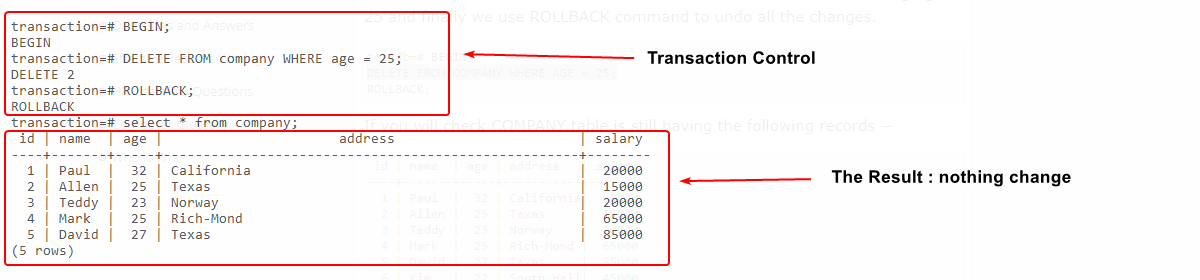


Figure 2 - Use Rollback

Now, let us start another transaction and delete records from the table having age = 25 and finally we use COMMIT command to commit all the changes.

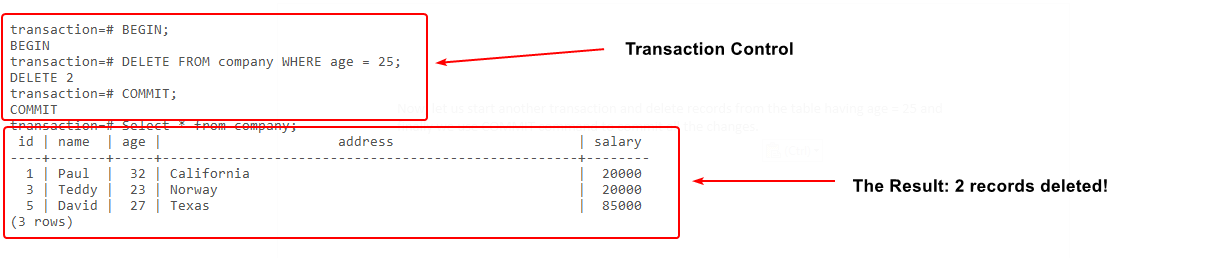


Figure 3 - Use Commit