

SQL (Structured Query Language) is not just a single tool; it is divided into several functional subsets based on what the commands actually do to the database. Think of these as different "modes" of interacting with your data.

1. DDL (Data Definition Language)

DDL is used to define or modify the **structure** (schema) of the database. You aren't touching the data itself, but rather the "containers" that hold it.

- **CREATE:** To create databases, tables, or indexes.
 - **ALTER:** To modify an existing database object (like adding a column).
 - **DROP:** To delete an entire table or database.
 - **TRUNCATE:** To remove all records from a table, but keep the structure.
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2. DML (Data Manipulation Language)

DML is the subset used for managing the **data within** the objects. This is what you use for your day-to-day data entry and updates.

- **INSERT:** To add new rows of data.
 - **UPDATE:** To change existing data.
 - **DELETE:** To remove specific rows.
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3. DQL (Data Query Language)

While often grouped with DML, DQL is technically its own category focused solely on **retrieving** data. It is the most commonly used part of SQL.

- **SELECT:** The primary command used to fetch data from the database. It is often used with clauses like WHERE, GROUP BY, and ORDER BY.
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4. DCL (Data Control Language)

DCL deals with **permissions and security**. It controls who can see or modify your data.

- **GRANT:** Gives a user permission to perform specific tasks.
 - **REVOKE:** Takes away permissions previously granted.
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5. TCL (Transaction Control Language)

TCL manages **transactions**—groups of tasks that must either all succeed or all fail together. This ensures data integrity (e.g., ensuring money isn't "lost" during a bank transfer).

- **COMMIT:** Saves the changes permanently.
- **ROLLBACK:** Undoes changes if an error occurs.
- **SAVEPOINT:** Sets a point within a transaction to which you can roll back.

Summary Table

Subset	Purpose	Key Commands
DDL	Define Structure	CREATE, ALTER, DROP
DML	Manage Data	INSERT, UPDATE, DELETE
DQL	Retrieve Data	SELECT
DCL	Rights & Permissions	GRANT, REVOKE
TCL	Manage Transactions	COMMIT, ROLLBACK

Would you like me to provide a practical code example showing how a few of these subsets work together in a single workflow?