DDL (Data Definition Language) commands in SQL are used to define, modify, and manage the structure of database objects such as tables, schemas, indexes, and more. These commands do not manipulate data directly but rather define the schema and organization of the database.

Here are the primary DDL commands:

**1. CREATE**

* Used to create new database objects like tables, views, indexes, and databases.
* Example (Creating a table):
* CREATE TABLE Employees (
* EmployeeID INT PRIMARY KEY,
* FirstName VARCHAR(50),
* LastName VARCHAR(50),
* HireDate DATE
* );

**2. ALTER**

* Used to modify the structure of existing database objects (e.g., adding, deleting, or modifying columns in a table).
* Example (Adding a new column to a table):
* ALTER TABLE Employees
* ADD Email VARCHAR(100);
* Example (Modifying a column data type):
* ALTER TABLE Employees
* MODIFY Email VARCHAR(150);

**3. DROP**

* Deletes an existing database object (e.g., table, database, or index) permanently.
* Example (Dropping a table):
* DROP TABLE Employees;

**4. TRUNCATE**

* Removes all rows from a table but retains the structure for future use.
* This is faster than DELETE since it does not log individual row deletions.
* Example:
* TRUNCATE TABLE Employees;

**5. RENAME**

* Renames a database object, such as a table or column.
* Example (Renaming a table):
* RENAME TABLE Employees TO Staff;

**6. COMMENT**

* Adds descriptive comments to database objects for better understanding or documentation.
* Example:
* COMMENT ON TABLE Employees IS 'This table stores employee details.';

**Key Features of DDL Commands:**

* **Non-Reversible:** Most DDL operations (like DROP or TRUNCATE) cannot be undone unless a backup is available.
* **Implicit Commit:** DDL commands automatically commit any pending transactions in the database.
* **Schema Management:** Primarily focused on managing database schemas and structures rather than data.

These commands are foundational to database design and administration, ensuring the structure of the database is well-defined and capable of supporting the desired data and operations.