

SQL

Bob The Builder Mode

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DDL

DDL

Create. Protect. Destroy.

- Data Definition Language
- SQL's very own construction toolkit:
 - Creates tables and databases
 - Modifies structures when needed
 - Removes structures when no longer needed

CREATE

CREATE

Build-A-Database

- Builds brand new database structures

```
CREATE TABLE users (
    id INTEGER PRIMARY KEY,
    name TEXT NOT NULL,
    email TEXT UNIQUE,
    age INTEGER
);
```

ALTER

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What are the ALTERNatives?

- Modifies existing tables without losing data

- *Adding a new column*

```
ALTER TABLE users ADD COLUMN phone TEXT;
```

- *Renaming a column*

```
ALTER TABLE users RENAME COLUMN age TO user_age;
```

- *Changing column specifications*

```
ALTER TABLE users MODIFY COLUMN email VARCHAR(255);
```

DROP

DROP

The DROP Shot

- Completely removes database structures

- *Remove the entire table*

```
DROP TABLE old_customers;
```

- *Remove a specific column*

```
ALTER TABLE users DROP COLUMN phone;
```

- *Remove entire database*

```
DROP DATABASE test_db;
```

TRUNCATE

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The Pre-Tihar Cleanup

- Removes all data while keeping the table structure
- *Empty the entire users table*

```
TRUNCATE TABLE users;
```

DML

DML

Modifying Data

- Data Manipulation Language handles your day-to-day data operations:
 - Adds new records (INSERT)
 - Updates existing data (UPDATE)
 - Removes specific records (DELETE)

INSERT

INSERT

Table For Us Please

- Adding new data to your tables

- *Adding one new user*

```
INSERT INTO users (name, email, age)  
VALUES ('Alice Johnson', 'alice@email.com', 28);
```

- *Adding multiple users at once*

```
INSERT INTO users (name, email, age) VALUES  
('Bob Smith', 'bob@email.com', 35),  
('Carol White', 'carol@email.com', 42);
```

UPDATE

UPDATE

The Truth Is What I Say The Truth Is

- Modifying data that already exists

- *Update one person's email*

UPDATE users

SET email = 'alice.johnson@newemail.com'

WHERE name = 'Alice Johnson';

- *Update multiple fields at once*

UPDATE users

SET age = 29, email = 'alice.new@email.com'

WHERE id = 1;

DELETE

DELETE

Thanos Snap!

- Removes specific (or all) records from a table

- *Remove one specific record*

```
DELETE FROM users WHERE id = 1;
```

- *Remove records meeting a condition*

```
DELETE FROM users WHERE age < 18;
```

- *Remove all records from a table*

```
DELETE FROM users;
```