

Basic SQL Commands

1. CREATE

Creates a new database or table.

```
-- Create a database  
CREATE DATABASE my_database;
```

```
-- Create a table  
CREATE TABLE employees (  
    id INT PRIMARY KEY,  
    name VARCHAR(100),  
    age INT,  
    department VARCHAR(50)  
);
```

2. INSERT

Adds new data to a table.

```
INSERT INTO employees (id, name, age, department)  
VALUES (1, 'John Doe', 30, 'Sales');
```

3. SELECT

Retrieves data from a table.

```
-- Retrieve all columns and rows  
SELECT * FROM employees;
```

```
-- Retrieve specific columns  
SELECT name, age FROM employees;
```

4. UPDATE

Modifies existing data in a table.

```
UPDATE employees  
SET age = 31  
WHERE id = 1;
```

5. DELETE

Removes data from a table.

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

6. DROP

Deletes a table or database.

```
-- Delete a table  
DROP TABLE employees;
```

```
-- Delete a database  
DROP DATABASE my_database;
```

7. ALTER

Modifies the structure of an existing table.

```
-- Add a new column  
ALTER TABLE employees  
ADD email VARCHAR(100);
```

```
-- Remove a column  
ALTER TABLE employees  
DROP COLUMN department;
```

8. WHERE

Filters data based on conditions.

```
SELECT * FROM employees  
WHERE age > 25;
```

9. ORDER BY

Sorts the result set by one or more columns.

```
SELECT * FROM employees  
ORDER BY age DESC;
```

10. GROUP BY

Groups rows that have the same values into summary rows.

```
SELECT department, COUNT(*)  
FROM employees  
GROUP BY department;
```

11. JOIN

Combines rows from two or more tables based on a related column.

```
SELECT employees.name, departments.department_name  
FROM employees  
JOIN departments ON employees.department = departments.id;
```