

# SQL

## Commands:

**A Complete Guide**



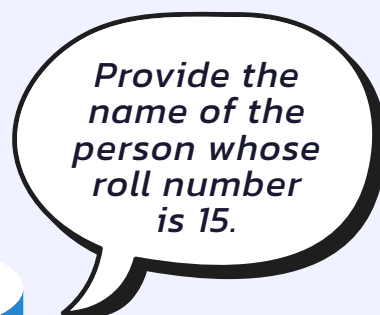
**Structured query language (SQL)** is a programming language for storing and processing information in a relational database.

In general, "Command" is an instruction given to a system or person to perform a specific task or function.

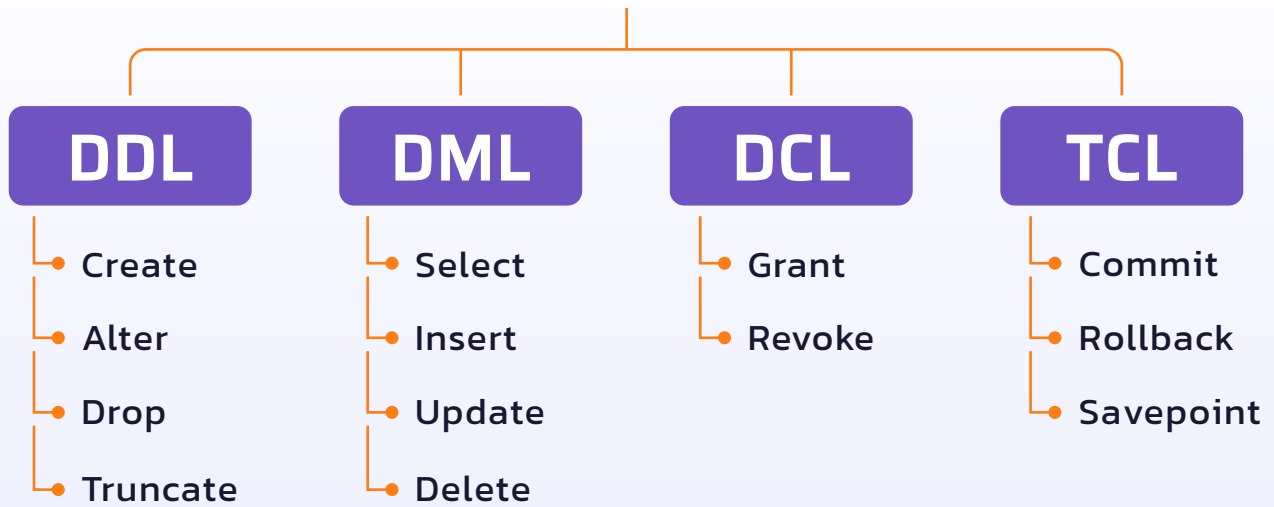
SQL commands are instructions used to communicate with a database to perform tasks, queries, and modifications to database data.



**SQL Commands**



# TYPES OF SQL COMMANDS



## 1

### DDL COMMANDS:

- ▶ DDL stands for **Data Definition Language**.
- ▶ DDL Commands are used to define, modify, and delete the structure of database objects like tables, indexes, views, and schemas.



CREATE



ALTER



TRUNCATE



DROP

### CREATE:

This command is used to create new objects in the database.

#### Syntax:

***CREATE TABLE table\_name (column1 datatype, column2 datatype, ...);***

## ALTER:

This command is used to alter the structure of the database.

### ► Adding a Column to a Table

Syntax:

```
ALTER TABLE table_name  
ADD column_name datatype(size);
```

### ► Modifying the Data Type of a Column

Syntax:

```
ALTER TABLE table_name  
MODIFY column_name datatype(size);
```

### ► Dropping a Column from a Table

Syntax:

```
ALTER TABLE table_name  
DROP COLUMN column_name;
```

### ► Renaming the existing table's column

Syntax:

```
ALTER TABLE table_name  
RENAME COLUMN old_column_name TO new_column_name;
```

## TRUNCATE:

Removes all records from a table without deleting the table structure.

Syntax:

```
TRUNCATE TABLE table_name;
```

## DROP:

Deletes an entire table and its data.

Syntax:

```
DROP TABLE table_name;
```

## 2 DML COMMANDS:

- ▶ DML stands for **Data Manipulation Language**.
- ▶ DML commands are used for managing data within tables.
- ▶ They facilitate CRUD operations: creating, reading, updating, and deleting data, using INSERT, SELECT, UPDATE, and DELETE commands, respectively.



INSERT



SELECT



UPDATE



DELETE

### INSERT:

Inserts new data into a table.

**Syntax:**

***INSERT INTO table\_name (column1, column2) VALUES (value1, value2);***

### SELECT:

Retrieves data from one or more tables.

**Syntax:**

***SELECT column1, column2 FROM table\_name;***

## UPDATE:

Modifies existing data in a table.

**Syntax:**

***UPDATE table\_name SET column1 = value1 WHERE condition;***

## DELETE:

Removes data from a table based on a condition.

**Syntax:**

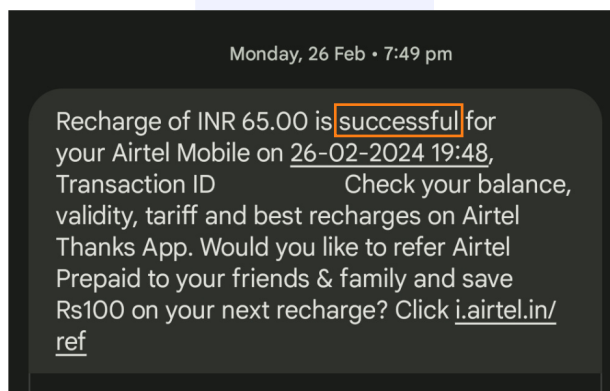
***DELETE FROM table\_name WHERE condition;***

## 3

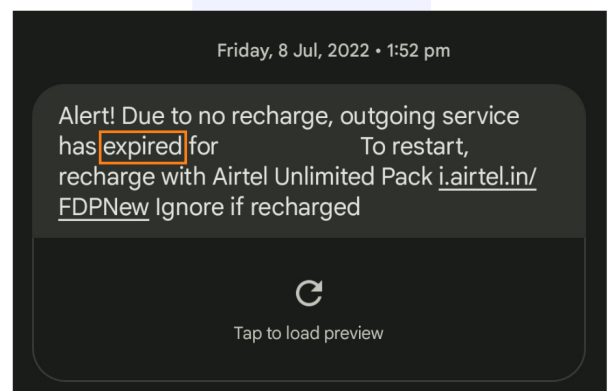
## DCL COMMANDS:

- ▶ DCL stands for **Data Control Language**.
- ▶ DCL Commands are used to grant and revoke user access to database resources.

### GRANT



### REVOKE



## GRANT:

It is used to give user access privileges to a database.

Syntax:

**GRANT** <privilege\_name> [ON <object\_name>] TO <grantee> [WITH GRANT OPTION];

## REVOKE:

It is used to give take-back access privileges from the user.

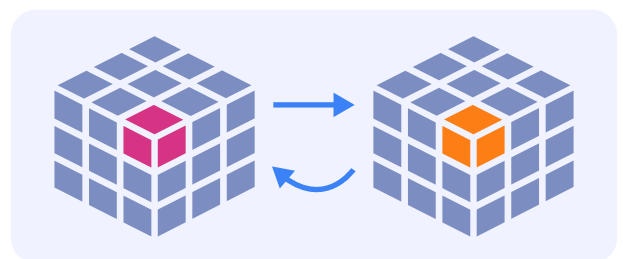
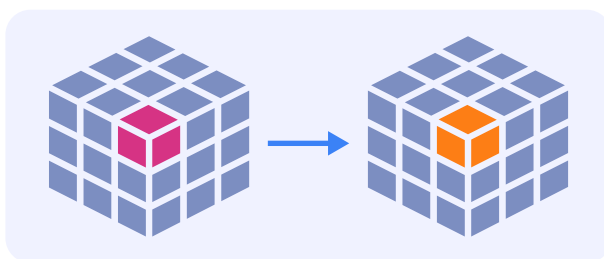
Syntax:

**REVOKE** <privilege\_name> [ON <object\_name>] FROM <grantee> [CASCADE | RESTRICT];

## 4

## TCL COMMANDS:

- ▶ TCL stands for **Transaction Control Language**.
- ▶ TCL Commands are used to manage changes made by DML operations.



COMMIT

Final  
Output



ROLLBACK

## COMMIT:

It is used to save all changes made during the current transaction.

Syntax: **COMMIT;**

## ROLLBACK:

It is used to revert changes made during the current transaction.

Syntax: **ROLLBACK;**

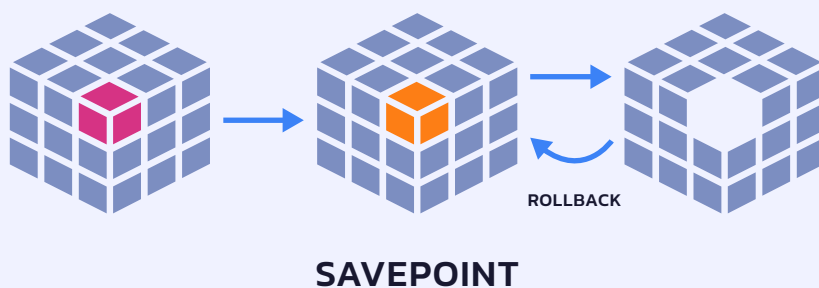
### ROLLBACK without SAVEPOINT



Final  
Output



### ROLLBACK with SAVEPOINT



## SAVEPOINT:

It is used to save the different parts of the same transaction using different names.

Syntax: **SAVEPOINT savepoint\_name;**





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