

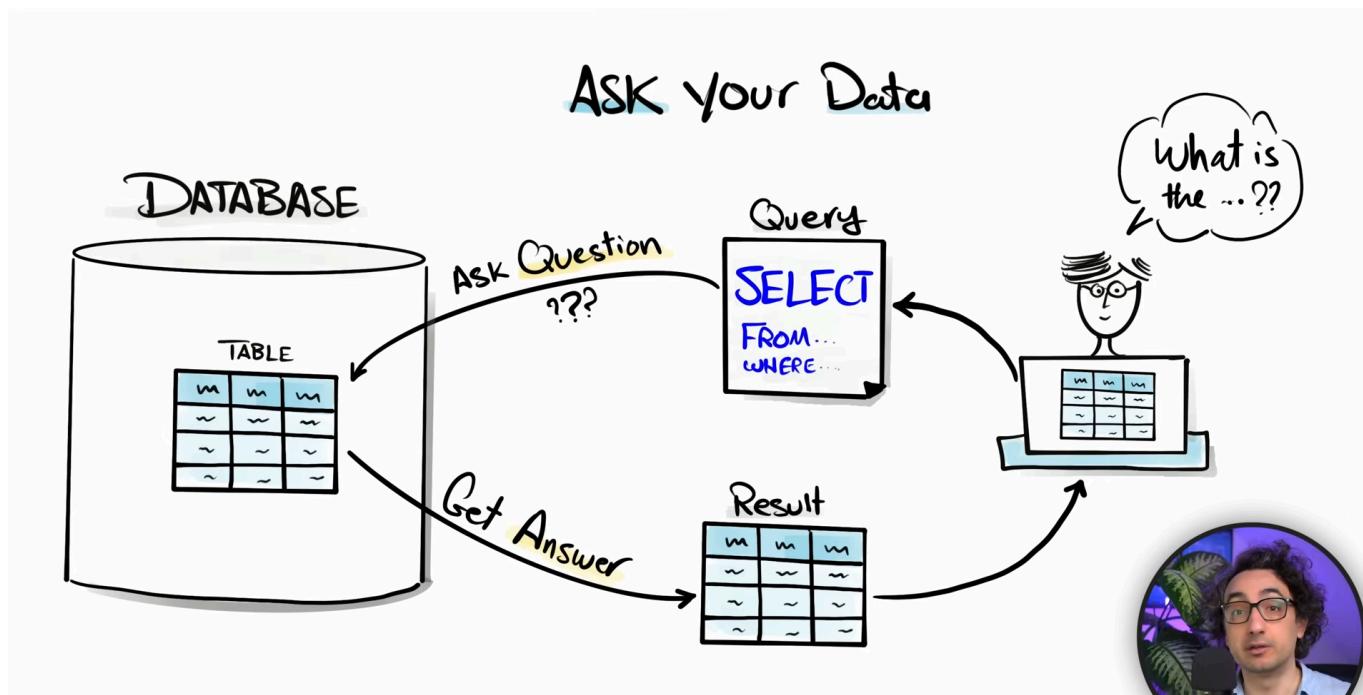
5. What is a Query & SELECT Clause

What is an SQL Query ?

Imagine that our data is in a table which is inside database , if someone from the organization asks what is the total sales or what is the total count of customers . We need to get these information from the database

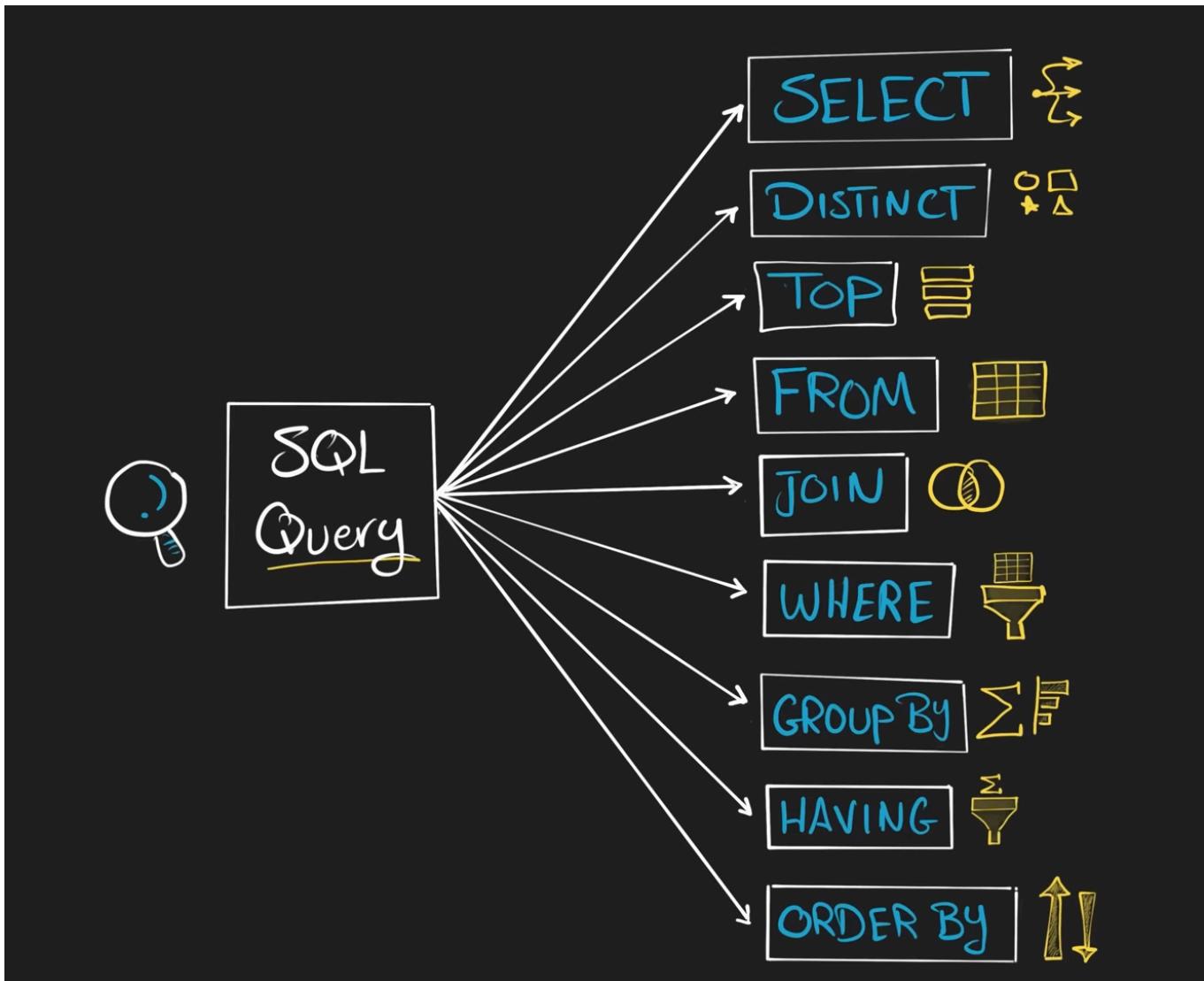
--> This is where we use SQL Query to translate the question to the database so that it can understand it give the proper answer (Data) for the query

for Questions like this to ask something to the database we will use `#SELECT` Query

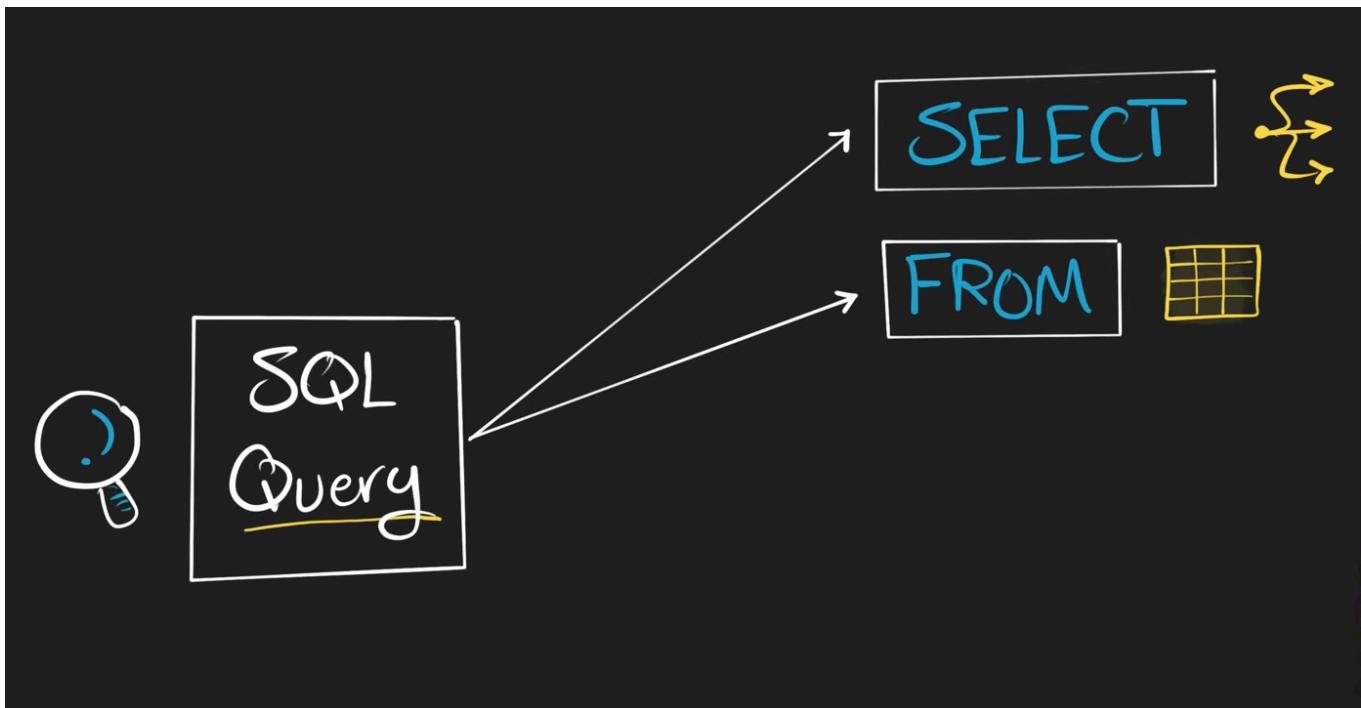


There are Many SQL Clauses that can be used while writing a Query :

- SELECT
- DISTINCT
- TOP
- FROM
- JOIN
- WHERE
- GROUP BY
- HAVING
- ORDER BY



In this Note , we will see about **#SELECT** and **#FROM** Clause:



First we need to understand how SQL Query reads and works ,

SELECT * --> (All) , Retrieves All Columns (Everything)

FROM --> Tells SQL from where to find the data

Syntax:

SELECT

FROM 'Table_name'

Query:

SELECT

FROM customers

So , how does SQL work here .

- SQL Always reads the **FROM** clause first and understands from which table we need to get the Data
- Now it will read the **SELECT** clause and selects and retrieves the data according to the query . Here since we used * it will select all the data in the table and display it.



- If i give any specific (Column name) instead of * , the SQL will give the data only of that column
 - For Eg: `SELECT score FROM customers`

```
SELECT score
FROM customers
```

Results

score
350
900
750
500
0

NOTE:

In SQL Server , Before writing a query make sure you are in the correct database

- Either choose the necessary database from the Menu

The screenshot shows the SSMS interface. In the Object Explorer on the left, under 'JD\S' (server), 'MyDatabase' is selected. The main pane displays a query results grid for the following SQL statement:

```
SELECT score
FROM customers
```

The results show a single column 'score' with five rows of data:

	score
1	350
2	900
3	750
4	500
5	0

- Or use the query **USE** , Syntax : **USE 'Database_name'**
-

Comment Lines :

Comments are nothing but simple notes or information that we can write in the code for our reference which the compiler won't compile

- In SQL , we can have single line comment or multiple line comment
- Single Line Comment --> Use 2 dashes '--'
- Multiple Line Comment --> Use a Forward Slash and a star / *to open and use star and forward slash to close it /*

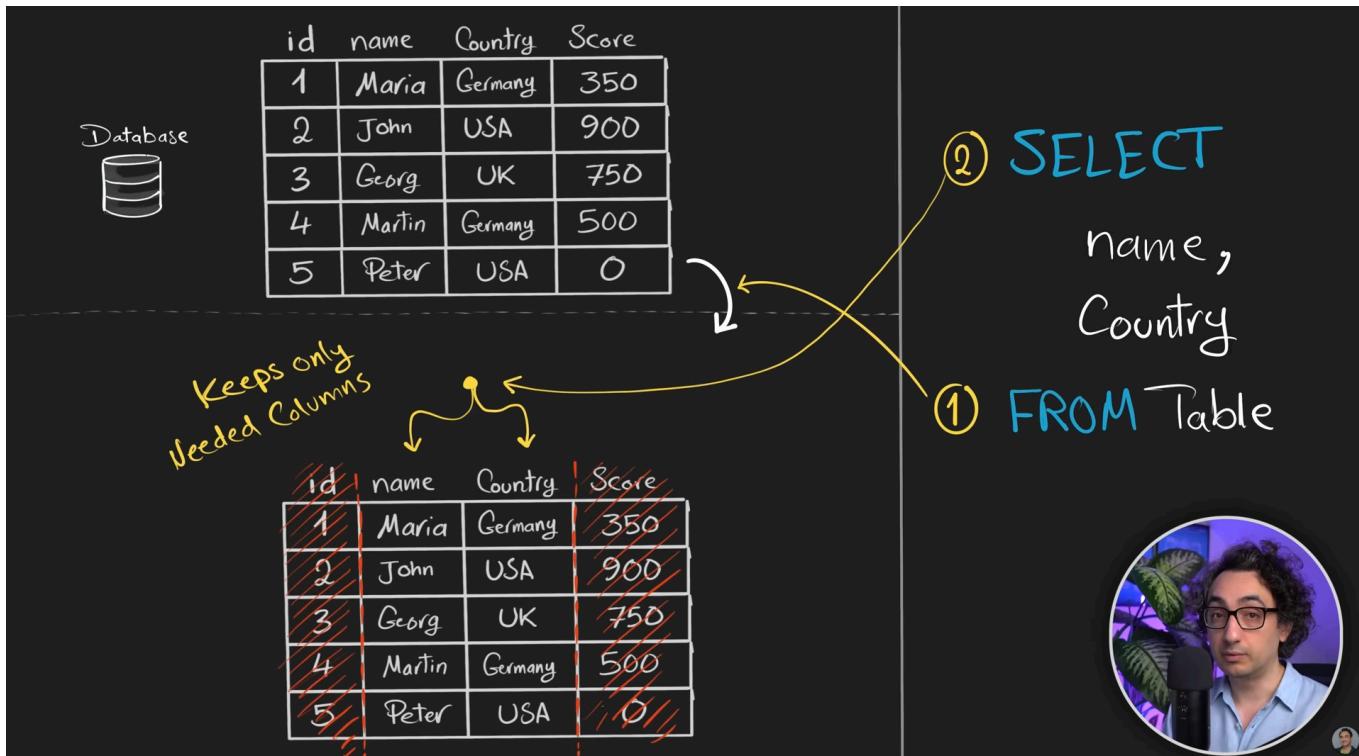
The screenshot shows a SQL script window titled 'SQLQuery1.sql'. It contains the following code:

```
-- This is a comment

/* This
is
a
comment */
```

SELECT a few Columns :

Now as we learned how to select all the data from a table or database . How to select only a specific column of data separated by comma .



- Don't use a comma after specifying the last column in SELECT clause
- SQL will print the in order by which you specify the column names

Syntax:

```
SELECT
Col1 ,
Col2
FROM table_name
```

Query:

```
SELECT
customer_id,
sales
FROM orders
```

NOTE: (Best Practice)

- Always See the entire table first , use SELECT * FROM and check out the entire table from there reduce/filter the table to the result or output as needed

Practice Queries:

-- Retrieve all Customer Data

```
SELECT *  
FROM customers
```

-- Retrieve all Orders Data

```
SELECT *  
FROM orders
```

-- Retrieve only customer id and sales data from orders table

```
SELECT  
customer_id,  
sales  
FROM orders
```

-- Retrieve each customer name , country and score from customers table

```
SELECT  
first_name,  
country,  
score  
FROM customers
```

-- Retrieve orders table data in the order customer_id,sales,order_id,order_date

```
SELECT  
customer_id,  
sales,  
order_id,  
order_date  
FROM orders
```
