SQL SELECT QUERY

The **SQL SELECT Statement** retrieves data from a database.

SELECT Statement in SQL

The SELECT statement in SQL is used to fetch or retrieve data from a database. It allows users to access the data and retrieve specific data based on specific conditions.

We can fetch either the entire table or according to some specified rules. The data returned is stored in a result table. This result table is also called the result set. With the SELECT clause of a SELECT command statement, we specify the columns that we want to be displayed in the query result and, optionally, which column headings we prefer to see above the result table.

The SELECT clause is the first clause and is one of the last clauses of the select statement that the database server evaluates. The reason for this is that before we can determine what to include in the final result set, we need to know all of the possible columns that could be included in the final result set.

Syntax

The syntax for the SELECT statement is:

```
SELECT [column1, column2, ….]
FROM [table_name];
```

SELECT Statement Example

Let's look at some examples of the SQL SELECT statement, to understand it better.

Let's create a table which will be used in examples:

CREATE TABLE

```
CREATE TABLE Customer(
    CustomerID INT PRIMARY KEY,
    CustomerName VARCHAR(50),
    LastName VARCHAR(50),
    Country VARCHAR(50),
    Age int(2),
    Phone int(10)
);
-- Insert some sample data into the Customers table
INSERT INTO Customer (CustomerID, CustomerName, LastName,
Country, Age, Phone)
VALUES
    (1, 'Shubham', 'Thakur', 'India','23','xxxxxxxxxx'),
    (2, 'Aman ', 'Chopra', 'Australia','21','xxxxxxxxxx'),
    (3, 'Naveen', 'Tulasi', 'Sri lanka','24','xxxxxxxxxx'),
```

```
    (4, 'Aditya', 'Arpan', 'Austria','21','xxxxxxxxxx'),
    (5, 'Nishant. Salchichas S.A.', 'Jain',
'Spain','22','xxxxxxxxxx');
```

Output

CustomerID	CustomerName	LastName	Country	Age	Phone
1	Shubham	Thakur	India	23	xxxxxxxxxx
2	Aman	Chopra	Australia	21	xxxxxxxxxx
3	Naveen	Tulasi	Sri lanka	24	xxxxxxxxxx
4	Aditya	Arpan	Austria	21	xxxxxxxxxx
5	Nishant. Salchichas S.A.	Jain	Spain	22	xxxxxxxxxx

Retrieve Data Using SELECT Query

In this example, we will fetch CustomerName, LastName from the table Customer:

Query

```
SELECT CustomerName, LastName FROM Customer;
```

Output

CustomerName	LastName
Shubham	Thakur
Aman	Chopra
Naveen	Tulasi
Aditya	Arpan
Nishant. Salchichas S.A.	Jain

Fetch All Table using SELECT Statement

In this example, we will fetch all the fields from the table Customer:

Query

```
SELECT * FROM Customer;
```

Output

CustomerID	CustomerName	LastName	Country	Age	Phone
1	Shubham	Thakur	India	23	xxxxxxxxxx
2	Aman	Chopra	Australia	21	xxxxxxxxxx
3	Naveen	Tulasi	Sri lanka	24	xxxxxxxxxx
4	Aditya	Arpan	Austria	21	xxxxxxxxxx
5	Nishant. Salchichas S.A.	Jain	Spain	22	xxxxxxxxxx

SELECT Statement With WHERE Clause

Suppose we want to see table values with specific conditions then **WHERE Clause** is used with select statement.

Query

```
SELECT CustomerName FROM Customer WHERE Age = '21';
```

Output

CustomerName
Aman
Aditya

SQL SELECT Statement With GROUP BY Clause

In this example, we will use SELECT statement with **GROUP BY** Clause

Query

```
SELECT (item), Customer_id FROM Orders GROUP BY order_id;
```

Output

COUNT (item)	customer_id
1	4
1	4
1	3
1	1
1	2

SELECT Statement With HAVING Clause

Consider the following database for **HAVING Clause**

	EmployeeId ⌄	Name ⌄	Gender ⌄	Salary ⌄	Department ⌄	Experience ⌄
1	1	Rachit	M	50000	Engineering	6 year
2	2	Shobit	M	37000	HR	3 year
3	3	Isha	F	56000	Sales	7 year
4	4	Devi	F	43000	Management	4 year
5	5	Akhil	M	90000	Engineering	15 year

Query

```
SELECT Department, sum(Salary) as Salary
FROM employee
GROUP BY department
HAVING SUM(Salary) >= 50000;
```

Output

Results Messages

	Department ⌄	Salary ⌄
1	Engineering	140000
2	Sales	56000

SELECT Statement With ORDER BY clause In SQL

In this example, we will use SELECT Statement with **ORDER BY** clause.

Query

```
SELECT * FROM Customer ORDER BY Age DESC;
```

Output

CustomerID	CustomerName	LastName	Country	Age	Phone
3	Naveen	Tulasi	Sri lanka	24	xxxxxxxxxx
1	Shubham	Thakur	India	23	xxxxxxxxxx
5	Nishant. Salchichas S.A.	Jain	Spain	22	xxxxxxxxxx
2	Aman	Chopra	Australia	21	xxxxxxxxxx
4	Aditya	Arpan	Austria	21	xxxxxxxxxx

Important Points With SQL SELECT Statement

+ It is used to access records from one or more database tables and views.
+ The SELECT statement retrieves selected data based on specified conditions.
+ The result of a SELECT statement is stored in a result set or result table.
+ The SELECT statement can be used to access specific columns or all columns from a table.
+ It can be combined with clauses like WHERE, GROUP BY, HAVING, and ORDER BY for more refined data retrieval.
+ The SELECT statement is versatile and allows users to fetch data based on various criteria efficiently.