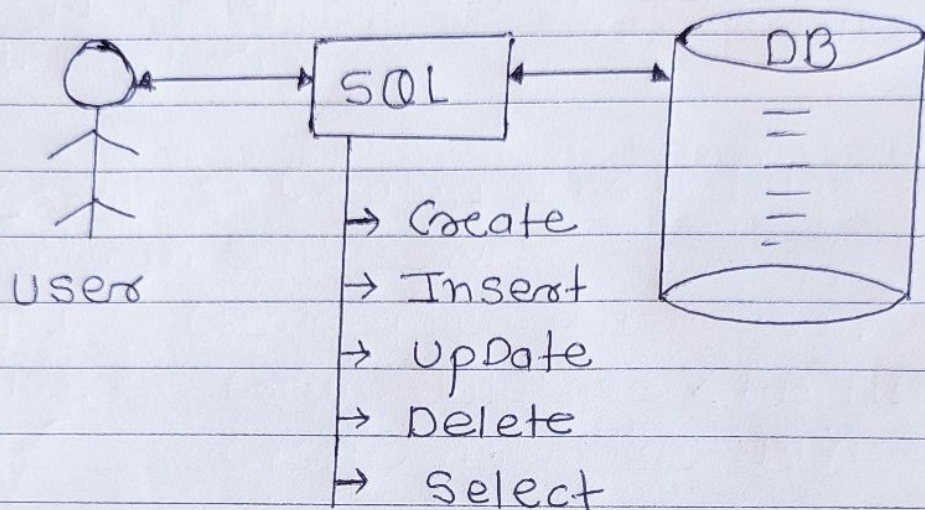
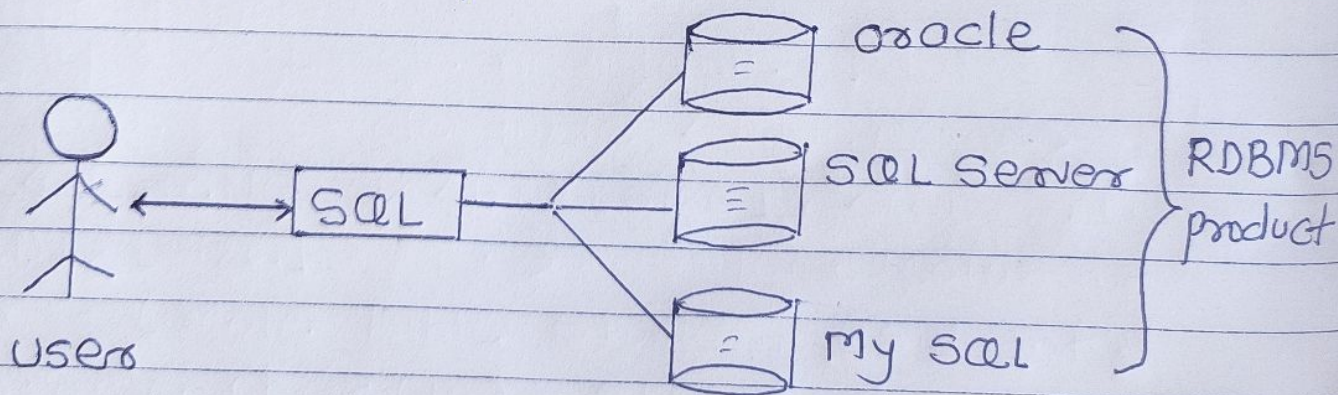


SQL (Structured Query Language)

SQL :- SQL is a non procedural language which was introduced by the IBM in 1970's. Which is used to communicate with database.



- SQL is also called as sequel or CLI language (Common Language Interface). This is only the language which can use to communicate with any RDBMS product.



SQL is not Case sensitive language that we can write SQL predefined queries or syntaxes in any case characters. (either upper or lower)

- Every SQL statement should ends with a semicolon but it is optional in SQL server.

Sublanguages of SQL

① Data Definition Language (DDL)

- Create
- Alter
- Sp_Rename
- Truncate
- Drop

② Data Manipulation Language (DML)

- Insert
- Update
- Delete

③ Data Query Language (DQL)

- Select

④ Transaction Control Language (TCL)

- Commit
- RollBack
- Savepoint

⑤ Data Control Language (DCL)

- Grant
- Revoke

① DDL (Data Definition Language)

This Language Commands are using to define, modify & Drop an object of database from SQL server.

① Create :- Creating a new database or new table in SQL Server

Step 1 :- Create a new database in SQL Server

Syntax :- Create database <DB NAME>;

Ex :- Create database MYDB;

Step 2 :- Select The required database from SQL Server.

Syntax :- Use <DB Name>;

Ex :- Use MYDB;

Step 3 :- Create new table in database

Syntax :- Create table <Table Name>

<<Column Name 1> <DT> [Size], <Column Name 2>
<DT> [Size] ----); -- 1000 Columns

Ex :- Create Table Student (sid Int,
Sname char(10), Sfee Decimal(6, 2),
AGE Tinyint);

Step 4 :- To view the Structure of table

Syntax :- Sp_HELP <Table Name>;

Ex :- Sp_HELP Student;

sp-HELP is predefined stored ~~pro~~ procedure

② **ALTER :-** To change or modify the structure of a table or a database.

by using the Alter Command we can perform a following four operations on existing table.

- To perform these operations we required subcommands of alter.

i) Alter - Alter Column

ii) Alter - Add

iii) Sp - Rename

iv) ALTER - Drop

i) Alter - Alter Column :- To change datatype & also size of the datatype of a particular column.

Syntax :-

Alter table <TN> Alter Column <Column Name>
<New DT> [New Size];

Ex :- Alter table Student Alter Column SName
Varchar (50);

ii) Alter - Add :- Adding a new column to add existing table.

Syntax :- ALTER table <TN> Add <New Column Name> <DT> [Size];

Ex :- Alter Table Student Add SAddress
Varchar (30)

iii) Sp-Rename :- To change a Column name or a table name in database.

A) Syntax to change a column Name in table:

Sp-Rename <TableName>.<OLD Column Name>,
<New Column Name>;

Ex:- Sp-Rename 'Student'.SName, 'Student
Names';

B) Syntax to change a table name in database

Sp-Rename '<old table Name>', '<New table
Name>;

Ex:- Sp-Rename 'student', 'Studentdetails'

OR

Sp-Rename 'Studentdetails', 'student'

iv) ALTER-Drop :- Dropping a column from the table

Syntax :- Alter table <Table Name> Drop
Column <Column Name>;

Ex:- Alter table Student Drop Column AGE

③ **Truncate** :- Deleting rows from the table but not structure of the table. by using truncate command we can not delete a specific row from the table because it doesn't support 'where' clause condition.

Syntax :- `Truncate table <TableName>;`

Ex :- `Truncate table Student`

④ **Drop** :- Dropping a table from a database permanently

Syntax :- `Drop table <TableName>;`

Ex :- `Drop table Student;`

② **DML** :- (Data Manipulation Language)

This language commands are used to change or manipulate data in database table.

1) **Insert** :- Inserting a new row into a table. There are two methods to insert rows into a table.

i) **Implicit Method** :- Inserting all values for all columns into a table (without left any column)

Syntax :- `Insert [into] <TableName> values (value1, value2, value3 - - -);`

Ex:- Create table student (STID int, SName varchar (40), sfee decimal (6, 2), Age tinyint)

Ex-

Insert into student values (101, 'SAI', 2500, 21)

OR

Insert student values (102, 'JAMES', 4500, 23)

ii) Explicit Method :- Inserting values for required columns only (with left any column in the table)

Syntax :-

Insert [INTO] <TableName> (Required Column Names) values (103 'ALLEN')

How to Insert Multiple rows into a table

Syntax for implicit :-

Insert [INTO] <TableName> values (Row1 values), (Row2 values) ... - ?

Ex:-

Insert into student values (104, 'Scott', 1800, 22), (105, 'Hard', 1000, 25)

Syntax for Explicit :-

Insert [INTO] <TableName> (Required Column Names) values (Row1 values), (Row2 values), ...

Ex:- Insert student (STID) values (106), (107) (108)

② Update :- updating all rows data in a table at a time or a specific row data in a table by using 'Where' Condition.

Syntax :-

Update <Table Name> SET <ColumnName 1> = <Value 1>, <ColumnName 2> = <Value 2>
----- [Where Condition];

Ex:- Write a query to update employee job as HR, Salary as 14,000 @ who's employee Number is 7788

update emp Set Job = 'HR', Salary = 14000
where EmpNo = 7788

Ex:- Write a query to update all employee Commission as 500

update Emp Set COMM = 500

③ Delete :- Deleting all rows from the table at a time or a specific row from the table by using where clause Condition

Syntax :-

Delete from <TableName> [Where <Condition>];

Ex:- Write a query to delete employee from the table who are working in the job is clerk.

Delete from Emp where job = 'clerk'

Ex:- Write a query to delete all emp details from the table

* Delete from Emp

Difference between delete & Truncate

Delete	Truncate
① It is DML operation	① It is DDL operation
② It Can delete a specific row from the table	② It is not possible
③ It Support Where clause Condition	③ It dosent Support Where clause Condition
④ It is the temporary data deletion	④ It is permamnt data deletion
⑤ We Can restore deleted data by using rollback	⑤ We Can not restore deleted data by using rollback
⑥ Execution speed is Slow	⑥ Execution speed is fast.