

SQL SERVER

Overview of SQL Server

- **SQL server is the most popular database of Microsoft Company which was developed in 1989.**
- **It is RDBMS so in this case record is stored in tabular format.**
- **It is platform dependent because it runs only on windows operating system.**
- **It is not free to use because it is not open source technology.**
- **Its installation is easy because it is product of Microsoft.**
- **It is not case sensitive.**
- **It provides SQL(Structured Query Language)**
- **There are many edition of SQL server available in Market. Such as Enterprise, Developer, compact, web etc.**

SQL Server Edition:

SQL Server is available in several edition:

- **Enterprises Edition:** **It is a top level edition with full feature.**
- **Standard Edition:** **It has fewer features than enterprises edition. It needs when there is no requirement of advance feature.**

- **Web Edition:** *It is designed for web Application.*
- **Developer Edition:** *It is similar to enterprises edition but it is licensed to only one user for development, testing and demo. It can be easily upgraded to enterprises without reinstallation.*
- **Express Edition:** *It is free entry level database.*
- **Compact Edition:** *It is free embedded database for mobile application development.*
- **Workgroup Edition:** *It is suitable for remote office of a large company.*

Server Authentication:

There are two types of authentication in SQL Server

- **Windows authentication:**

Windows authentication work on the user admin and when we work on the user admin and when we work on windows authentication then there is no required user name and password because operating system generates user id and password by default.

- **SQL Server authentication:** *SQL server works on current user and when we work on SQL server authentication then user should enter user id and password. The user id and password will give at the time of SQL server installation.*

i) CREATE DATABASE statement is used to create a new SQL database.

Syntax: **CREATE DATABASE dbname;**

Example: **CREATE DATABASE cimage**

i) To remove your database from MS SQL Server, use drop database command.

Syntax: Drop database <your database name>

Ex: **DROP DATABASE cimage;**

CREATING TABLE

There are some rules for creating table in sql server .

- Table name must be unique under the database .
- Table name cannot be started with numeric or special character except "_" (underscore).
- There is no space between table.
- Every table name should contain minimum one character to maximum 128 character.
- The maximum number of column of table can have 1024 column

ii) The CREATE TABLE statement is used to create a new table in a database.

Syntax: **CREATE TABLE table_name (**

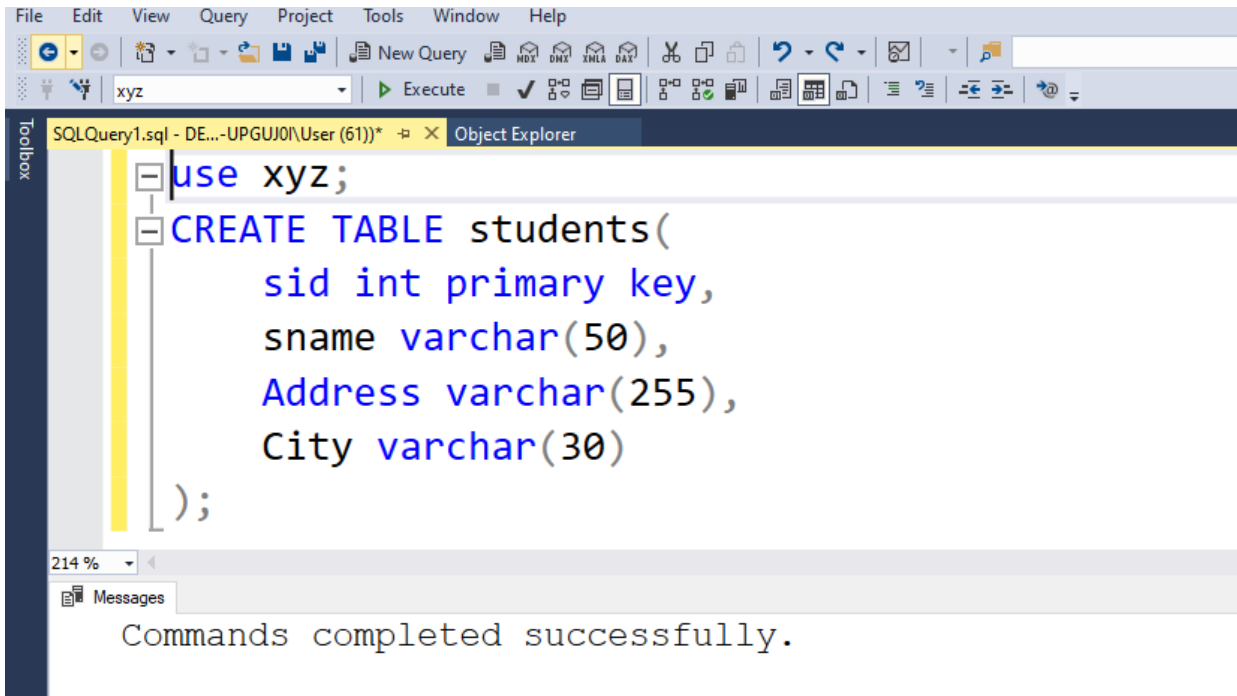
column1 datatype constraint,
column2 datatype constraint,
column3 datatype constraint,

....

);

Example:

```
CREATE TABLE students(  
    sid int primary key,  
    sname varchar(50),  
    Address varchar(255),  
    City varchar(30)  
);
```



Q) How to display structure of Table?

SP_HELP command is used to show table

Syntax :- SP_HELP<table name>;

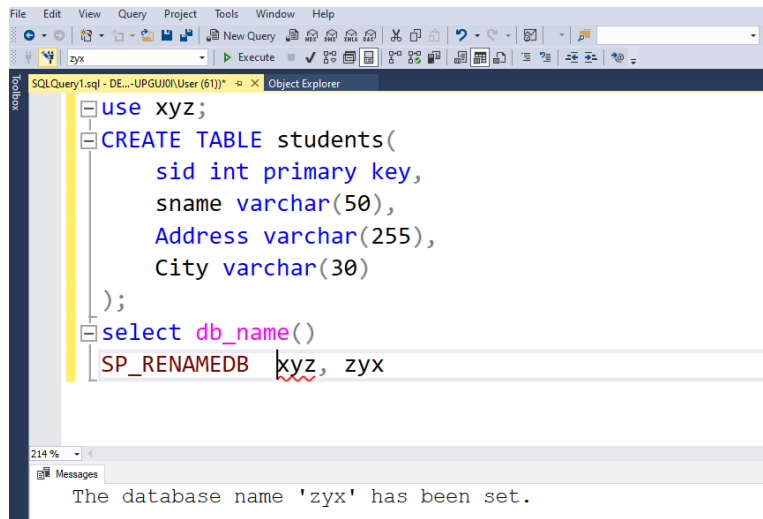
e.g. SP_HELP STUDENT;

Q) How do display current database?

Ex- Select DB_name()

Q) How to rename database?

Ex- SP_RENAMEDB xyz, zyx



The screenshot shows the SQL Server Enterprise Manager interface. The 'SQL Query 1.sql' window is active, displaying the following SQL code:

```
use xyz;  
CREATE TABLE students(  
    sid int primary key,  
    sname varchar(50),  
    Address varchar(255),  
    City varchar(30)  
);  
select db_name()  
SP_RENAMEDB xyz, zyx
```

The 'Messages' pane at the bottom shows the message: 'The database name 'zyx' has been set.'

Q) How to drop table?

DROP command is used to drop table

Syntax: DROP table <table name>

Eg drop table students

❖ The ALTER TABLE statement is used to add, delete, or modify columns in an existing table.

Syntax: ALTER TABLE table_name
ADD column_name datatype;

Ex:- ALTER TABLE students
 ADD Email varchar(55);

❖ To delete a column in a table:

Syntax:

ALTER TABLE table_name
DROP COLUMN column_name;

Ex:- ALTER TABLE students
 DROP COLUMN Email;

❖ To rename a column in a table:

Syntax:

ALTER TABLE table_name
RENAME COLUMN old_name to new_name;

Ex:-

```
ALTER TABLE students
```

```
RENAME COLUMN 'Email' to 'EmailID';
```

❖ How to Rename a table?

SYNTAX:-

```
SP_RENAME old_tablename, new_tablename
```

EX-

```
sp_rename employee, employees
```


FEATURES OF SQL

1. SQL is not case sensitive language .
2. It is fourth generation language . It is also known as English like language .
3. Every command of SQL must be terminated with semicolon .
4. SQL can be pronounced as sequel(structured English query language)
5. SQL can be called as a common language interface which is used to communicate with any type of data base

❖ CHARACTER DATA TYPE

- Char Size-8000bytes(non unicode manner & fixed length data type)
- Varchar size-8000bytes(non unicode manner & variable length data type)
- Text size-4000bytes
- Invarchar size-4000byte(unicode manner & variable length data type)

Classification of SQL Command

SQL can be divided into 4 parts:

- ❖ DDL (Data Definition Language)
- ❖ DML(Data Manipulation Language)

❖ DCL (Data Control Language)

❖ TCL (Transaction Control Language)

SQL

a) DDL

i) Create

ii) Alter

iii) Truncate

iv) Drop

v) SP_rename

b) DML

i) Select

ii) Insert

iii) Update

iv) Delete

c) TCL

i) Rollback

ii) Commit

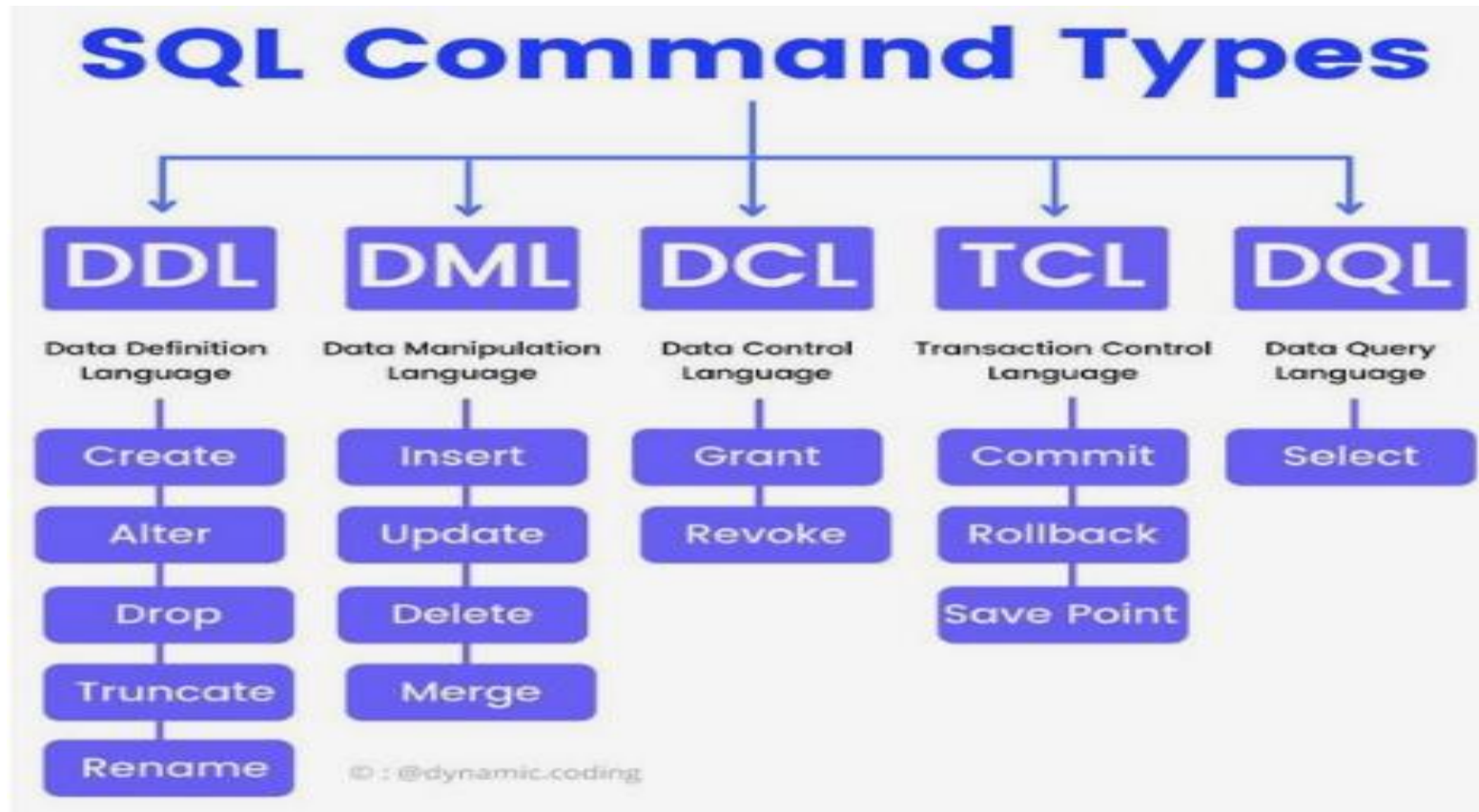
- iii) Savepoint
- d) DCL
 - i) Grant
 - ii) Revoke

SQL COMMAND

- It is a non procedure language which is use to communicate with any data base such as ORACLE , SQL SERVER ,MY SQL , etc.
- This language was developed by the German scientist Mr. E.F. CODD .
- ANSI (American national standered institute)approved this concept and in 1972 SQL was released in to the market .

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SYSTEM DATABASE

This database is already defined in SQL server . There are four types of system database (by default)

- ❖ **MASTER** :- It is use to manage system level information of sql server
- ❖ **MODEL** :- It is use to template for all new creating database in SQL server
- ❖ **MSDB (Microsoft database)** :- It is use to store the alerts and job information contains the SQL commands which are executed by user .
- ❖ **TEMPDB (Temporary database)** :- When we start SQL server then TEMPDB will be created in SQL server . It is use to store temporary tables once we restart the server then the TEMPDB database is destroyed .

SQL Server provides the different types of data type

- 1) Integer
- 2) Decimal
- 3) Date and time
- 4) Character
- 5) Binary