



DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING-IOT Including CS&BCT
UNIT-II

Introduction to SQL

SQL is a database language designed for the retrieval and management of data in a relational database.

SQL is the standard language for database management. All the RDBMS systems like MySQL, MS Access, Oracle, Sybase, Postgres, and SQL Server use SQL as their standard database language. SQL programming language uses various commands for different operations.

Why Use SQL?

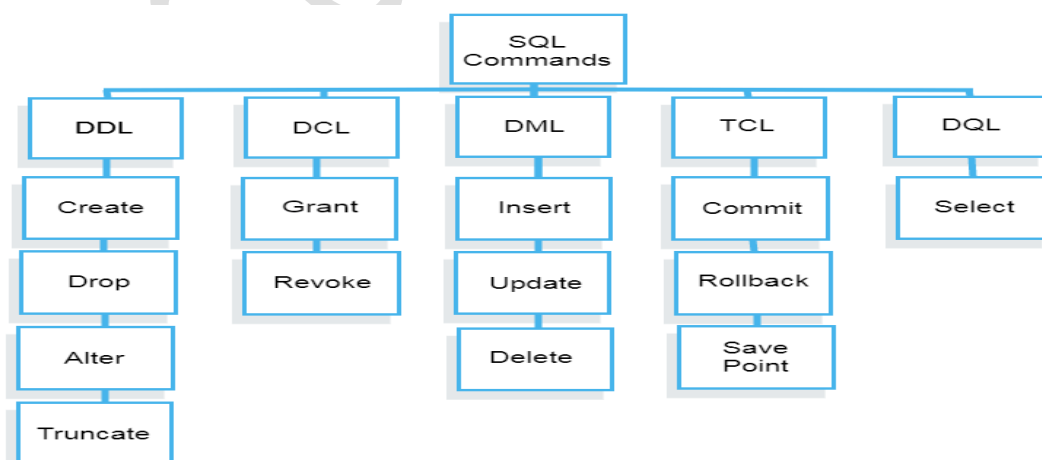
Here, are important reasons for using SQL

- ✓ It helps users to access data in the RDBMS system.
- ✓ It helps you to describe the data.
- ✓ It allows you to define the data in a database and manipulate that specific data.
- ✓ With the help of SQL commands in DBMS, you can create and drop databases and tables.
- ✓ SQL offers you to use the function in a database, create a view, and stored procedure.
- ✓ You can set permissions on tables, procedures, and views.

Types of SQL

Here are five types of widely used SQL queries.

- **Data Definition Language (DDL)**
- **Data Manipulation Language (DML)**
- **Data Control Language(DCL)**
- **Transaction Control Language(TCL)**
- **Data Query Language (DQL)**





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DDL

Data Definition Language helps you to define the database structure or schema. Five types of DDL commands in SQL are:

CREATE

CREATE statements is used to define the database structure schema:

Syntax:

CREATE TABLE TABLE_NAME (COLUMN_NAME DATATYPES[,.....]);

For example:

Create database university;

Create table students;

Create view for_students;

DROP

Drops commands remove tables and databases from RDBMS.

Syntax

DROP TABLE ;

For example:

Drop object_type object_name;

Drop database university;

Drop table student;

ALTER

Alters command allows you to alter the structure of the database.

Syntax:

To add a new column in the table

ALTER TABLE table_name ADD column_name COLUMN-definition;

To modify an existing column in the table:

ALTER TABLE MODIFY(COLUMN DEFINITION....);

For example:

Alter table guru99 add subject varchar;



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TRUNCATE:

This command used to delete all the rows from the table and free the space containing the table.

Syntax:

TRUNCATE TABLE table_name;

Example:

TRUNCATE table students;

DATA MANIPULATION LANGUAGE

Data Manipulation Language (DML) allows you to modify the database instance by inserting, modifying, and deleting its data. It is responsible for performing all types of data modification in a database.

There are three basic constructs which allow database program and user to enter data and information are:

Here are some important DML commands in SQL:

INSERT

UPDATE

DELETE

INSERT:

This is a statement is a SQL query. This command is used to insert data into the row of a table.

Syntax:

INSERT INTO TABLE_NAME (col1, col2, col3,.... col N) VALUES (value1, value2, value3, valueN);

Or

INSERT INTO TABLE_NAME VALUES (value1, value2, value3, valueN);

For example:

INSERT INTO students (RollNo, FirstName, LastName) VALUES ('60', 'Tom', 'Erichsen');

UPDATE:

This command is used to update or modify the value of a column in the table.

Syntax:



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UPDATE table_name SET [column_name1= value1,...column_nameN = valueN] [WHERE
CONDITION]

For example:

UPDATE students SET FirstName = 'Jhon', LastName= 'Wick' WHERE StudID = 3;

DELETE:

This command is used to remove one or more rows from a table.

Syntax:

DELETE FROM table_name [WHERE condition];

For example:

DELETE FROM students WHERE FirstName = 'Jhon';

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