



# SHREE L. R. TIWARI COLLEGE OF ENGINEERING

Approved by AICTE & DTE, Maharashtra State & Affiliated to University of Mumbai, NAAC Accredited, NBA Accredited program,  
ISO 9001:2015 Certified | DTE Code No: 3423, Recognized under Section 2(f) of the UGC Act 1956, Minority Status (Hindi Linguistic)

## DEPARTMENT OF COMPUTER ENGINEERING

### EXPERIMENT NO 4

**Title:** Study and implement different DML commands in database system.

**Aim:** Apply DML Commands for the specified system

#### **Theory:**

DML commands in SQL are used to change the data present in the database tables, views, etc. These commands deal with inserting data into the tables, updating the data according to the conditions, and removing the data from the tables.

DML commands manipulate the data being stored in the tables (the tables that are defined using Data Definition Language Commands (DDL) commands). CREATE, ALTER, DROP, and TRUNCATE are DDL commands that are used to create the table structures.

When a table is created, we need to add data to it, this data is added using the INSERT DML command. Another scenario where DML commands are used is when we need to update or delete existing data based on some conditions. In this case, DML commands like UPDATE, and DELETE can be used.

SELECT command in SQL is considered in both DML and DQL (Data Query Language). Strictly speaking, it's part of DQL, but it is mostly considered under DML. SELECT is used to retrieve/fetch data from tables. We can give conditions to filter out the data being displayed.

DML commands are not auto-committed, which means the changes done using these commands are not saved into the database automatically. Users need to commit them manually. Changes done using DML commands in SQL can be rolled back.

The DML commands in SQL are as follows:



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1. INSERT
2. UPDATE
3. DELETE
4. SELECT

### INSERT

INSERT is a DML command in SQL that is used to insert new records into database tables. We can insert data in all the columns of a table or some specific columns using the INSERT command. While inserting records, the user should check if there are any integrity constraints like PRIMARY KEY, UNIQUE, NOT NULL, etc. on the table and insert records accordingly.

#### Syntax:

```
INSERT INTO table_name (column_name1, column_name2, column_name3,  
....)
```

```
VALUES (value_1, value_2, value_3, ....);
```

#### Example:

```
INSERT INTO Students (Roll_no, Name, Age, Address, Date_of_Birth) VALUES  
(1, 'John', 16, 'Pune', '2006/06/06');
```

```
INSERT INTO Students (Roll_no, Name, Age, Address, Date_of_Birth) VALUES  
(2, 'Ajay', 15, 'Chennai', '2007/10/02');
```

```
INSERT INTO Students (Roll_no, Name, Age, Address, Date_of_Birth) VALUES  
(3, 'Ron', 12, 'Delhi', '2010/08/31');
```

```
INSERT INTO Students (Roll_no, Name, Age, Address, Date_of_Birth) VALUES  
(4, 'Joy', 16, 'Mumbai', '2006/01/01');
```



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```
INSERT INTO Students (Roll_no,Name,Age,Address,Date_of_Birth) VALUES  
(5, 'Harry', 15, 'Hyderabad', '2007/12/31');
```

### Output:

	Roll_no	Name	Age	Address	Date_of_Birth
1	1	John	16	Pune	2006-06-06
2	2	Ajay	15	Chennai	2007-10-02
3	3	Ron	12	Delhi	2010-08-31
4	4	Joy	16	Mumbai	2006-01-01
5	5	Harry	15	Hyderabad	2007-12-31

## UPDATE

**UPDATE** is a DML command in SQL used to update existing records in the table.

We need to specify which records we want to update using the WHERE condition. WHERE is a clause in SQL used to filter data depending on the condition. The UPDATE command can update single or multiple records according to WHERE conditions.

### Syntax:

```
UPDATE table_name SET [column_name1= value_1, column_name2=  
value_2,...] WHERE CONDITION;
```

### Example:

Consider students who live in Pune and have moved to a new city and want to update their address to 'Nashik'. Let's achieve this using the UPDATE DML command.

### Output:



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	Roll_no	Name	Age	Address	Date_of_Birth
1	1	John	16	Pune	2006-06-06
2	2	Ajay	15	Chennai	2007-10-02
3	3	Ron	12	Delhi	2010-08-31
4	4	Joy	16	Mumbai	2006-01-01
5	5	Harry	15	Hyderabad	2007-12-31
6	6	Percy	15	Pune	2006-02-28
7	7	Jenny	15	NULL	2007-07-15

### DELETE

DELETE is a DML command used to delete existing records from the table. This command is used to delete single or multiple records from the tables based on the condition given in the WHERE clause.

### Syntax:

DELETE FROM table\_Name WHERE condition;

**Example:** DELETE FROM Students WHERE Roll\_no = 2;

### Output:



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	Roll_no	Name	Age	Address	Date_of_Birth
1	1	John	16	Nashik	2006-06-06
2	3	Ron	12	Delhi	2010-08-31
3	4	Joy	16	Mumbai	2006-01-01
4	5	Harry	15	Hyderabad	2007-12-31
5	6	Percy	15	Nashik	2006-02-28
6	7	Jenny	15	NULL	2007-07-15

### SELECT

SELECT is a DML command in SQL used to retrieve data from database tables. SELECT is one of the most important and most used commands in SQL. Although SELECT is most often considered as a **DML** command in SQL strictly, it is part of **DQL** as it is used to query the database. We can select the columns being displayed and apply conditions on the records being displayed using the SELECT **DML** command in SQL.

**Syntax:** SELECT column\_name1, column\_name2,...FROM table\_name;

**Example:** SELECT \* FROM Students **Output:**

	Roll_no	Name	Age	Address	Date_of_Birth
1	1	John	16	Nashik	2006-06-06
2	3	Ron	12	Delhi	2010-08-31
3	4	Joy	16	Mumbai	2006-01-01
4	5	Harry	15	Hyderabad	2007-12-31
5	6	Percy	15	Nashik	2006-02-28
6	7	Jenny	15	NULL	2007-07-15

**Conclusion:** Hence in this way we have implemented DML commands.