

# Database Creation and Management

**DATA MANIPULATION LANGUAGES**

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# Outline

- DML (Data Manipulation Language)
- DML commands (Insert, Delete, Update)
- Insert
- Delete
- Update



# INSERT Database

- Insert command is used to insert data into a table.
- Syntax:

**INSERT INTO table\_name VALUES(data1, data2, ...)**

- Consider a table student with the following fields.  
**s\_id name age**

**INSERT INTO student VALUES(101, 'Adam', 15);**

- The above command will insert a new record into student table.

<b>s_id</b>	<b>name</b>	<b>age</b>
<b>101</b>	<b>Adam</b>	<b>15</b>



# Insert value into only specific columns

- We can use the INSERT command to insert values for only some specific columns of a row. We can specify the column names along with the values to be inserted like this,
- `INSERT INTO student(id, name) values(102, 'Alex');`
- The above SQL query will only insert id and name values in the newly inserted record.



# Insert NULL value to a column

- Both the statements below will insert NULL value into age column of the student table.
- `INSERT INTO student(id, name) values(102, 'Alex');`
- Or, this statement can be written aslo:
- `INSERT INTO Student VALUES(102,'Alex', null);`
- The above command will insert only two column values and the other column is set to null.

<u>S_id</u>	<u>S_Name</u>	age
101	Adam	15
102	Alex	

Insert Default value to a column



# UPDATE SQL command

- The UPDATE command can be used to change or modify the data values in a table.
- It can be used to update either all rows or a set of rows from a table.
- The SET clause specifies which column data to modify.
- An expression can be a constant value, a variable, or some expression and it specifies the new value for related columns.
- You can update specific rows by the WHERE clause, and displays message regarding how many rows have been updated.



# Cont...

- *Syntax :*

update tablename

set column1=expression1,column2=expression2

where condition;

Let's take a sample table student,

<u>student_id</u>	name	age
101	Adam	15
102	Alex	
103	<u>chris</u>	14

```
UPDATE student  
SET age=18  
WHERE student_id=102;
```

After Update:

<u>S_id</u>	<u>S_Name</u>	age
101	Adam	15
102	Alex	18
103	<u>chris</u>	14



# Updating Multiple Columns

- We can also update values of multiple columns using a single UPDATE statement.

**UPDATE student SET name='Abhi', age=17 where s\_id=103;**

- The above command will update two columns of the record which has s\_id 103.

<u>s_id</u>	name	age
101	Adam	15
102	Alex	18
103	<u>Abhi</u>	17



# DELETE command

- DELETE command is used to delete data from a table.
- Following is its general syntax,

**DELETE FROM table\_name;**



# Delete all Records from a Table

- DELETE FROM student;
- The above command will delete all the records from the table **student**.



# Delete a particular Record from a Table

- In our student table if we want to delete a single record, we can use the WHERE clause to provide a condition in our DELETE statement.

**DELETE FROM student WHERE s\_id=103;**

This will delete the record where s\_id is 103 from the table student.

Let's take a sample table student:

<u>s_id</u>	name	age
101	Adam	15
102	Alex	18
103	<u>Abhi</u>	17

<u>S_id</u>	<u>S_Name</u>	age
101	Adam	15
102	Alex	18



# SELECT COLUMNS, ALL ROWS

- This Statement retrieves only selected columns as specified with SELECT clause.
- This Statement retrieves all the row of the table.
- *Syntax :*

**select column1, column2, ..., columnN from  
tablename;**

- *Example:* Select enroll\_no,name from student;

ENROLL_NO	NAME
7512	parimal
7503	preet



# SELECT ROWS, ALL COLUMNS

- This Statement retrieves all the columns of the table and retrieves only specific rows that specify the condition given with WHERE clause.
- *Syntax :*

**select \* from tablename WHERE condition;**

- *Example:*

Select \* from student where enroll\_no=7503;

ENROLL_NO	NAME	DEPT
7503	preet	computer



# SELECT ROWS and COLUMNS

- This Statement retrieves only Selected columns as specified with SELECT clause.
- Also, retrieves only specific rows that specify the condition given with WHERE clause.
- Syntax : **select column1, column2, ..., columnN from tablename WHERE condition;**
- Example: Select name from student where dept='computer';

NAME

parimal

preet