

• **Theory:**

**DDL Commands in SQL**

Data Definition Language(DDL) is a subset of SQL and a part of DBMS(Database Management System). DDL consist of Commands to commands like CREATE, ALTER, TRUNCATE and DROP. These commands are used to create or modify the tables in SQL.

**DDL Commands :**

In this section, we will cover the following DDL commands as follows.

1. Create
2. Alter
3. Truncate
4. Drop
5. Rename

The DDL Commands in Structured Query Language are used to create and modify the schema of the database and its objects. The syntax of DDL commands is predefined for describing the data. The commands of Data Definition Language deal with how the data should exist in the database.

**CREATE Command -**

CREATE is a DDL command used to create databases, tables, triggers and other database objects. CREATE command is a SQL (Structured Query Language) command used to create a new database, table, index, view, or stored procedure. The syntax for the CREATE command varies depending on what you are trying to create.

**ALTER Command -**

In SQL (Structured Query Language), ALTER command is used to modify or change the structure of a database object such as a table, view, or procedure. The ALTER command can be used to perform a variety of tasks, such as adding or dropping a column, renaming a column, changing the data type of a column, adding or dropping a constraint, and renaming an object.

**TRUNCATE Command -**

In SQL (Structured Query Language), TRUNCATE command is used to delete all the data from a table, while keeping the table structure intact. TRUNCATE is a DDL (Data Definition Language) command and is used to remove all the rows from a table in a single shot. The TRUNCATE command is faster than the DELETE command because it does not log individual row deletions. When you use the TRUNCATE command, the operation is non-transactional, which means that you cannot rollback the operation.

**DROP Command -**

In SQL (Structured Query Language), DROP command is used to delete or remove a database object such as a table, view, or procedure from the database. The DROP command is a DDL (Data Definition Language) command and is used to permanently remove an object from the database.

## Database Management System Lab Experiment No: - 04

Aim: - Create a database using DDL and apply Integrity Constraints

### • Code :

#### • Table 1.

```
mysql> create table Client_master
-> (
-> Client_no varchar(6) primary key ,
-> Name varchar(20) not null,
-> City varchar (15),
-> State varchar (15),
-> Pincode decimal(6),
-> Bal_due decimal(10,2),
-> Check (Client_no like 'C%')
-> );
Query OK, 0 rows affected (0.06 sec)

mysql> describe Client_master;
+-----+-----+-----+-----+-----+-----+
| Field      | Type          | Null | Key | Default | Extra |
+-----+-----+-----+-----+-----+-----+
| Client_no  | varchar(6)    | NO   | PRI | NULL    |       |
| Name       | varchar(20)   | NO   |     | NULL    |       |
| City       | varchar(15)   | YES  |     | NULL    |       |
| State      | varchar(15)   | YES  |     | NULL    |       |
| Pincode    | decimal(6,0)  | YES  |     | NULL    |       |
| Bal_due    | decimal(10,2) | YES  |     | NULL    |       |
+-----+-----+-----+-----+-----+-----+
```

#### • Table 2.

```
mysql> create table Product_master
-> (
-> Product_no varchar(6) primary key ,
-> Description varchar(15) not null,
-> Profit_percent decimal (20,2) not null,
-> Unit_measure varchar (10) not null,
-> Qty_on_hand decimal(8) not null,
-> Reorder_lvl decimal(8) not null,
-> Sell_price decimal(8,2) not null,
-> Cost_price decimal(8,2) not null,
-> check (Product_no like 'P%' and Sell_price<>0 and
-> Cost_price<>0)
-> );
Query OK, 0 rows affected (0.04 sec)

mysql> describe Product_master
-> ;
+-----+-----+-----+-----+-----+-----+
| Field      | Type          | Null | Key | Default | Extra |
+-----+-----+-----+-----+-----+-----+
| Product_no  | varchar(6)    | NO   | PRI | NULL    |       |
| Description  | varchar(15)   | NO   |     | NULL    |       |
| Profit_percent | decimal(20,2) | NO   |     | NULL    |       |
| Unit_measure | varchar(10)   | NO   |     | NULL    |       |
| Qty_on_hand | decimal(8,0)  | NO   |     | NULL    |       |
| Reorder_lvl | decimal(8,0)  | NO   |     | NULL    |       |
| Sell_price  | decimal(8,2)  | NO   |     | NULL    |       |
| Cost_price  | decimal(8,2)  | NO   |     | NULL    |       |
+-----+-----+-----+-----+-----+-----+
```

Table 3.

```
mysql> Create table Salesman_master
-> (
-> Salesman_no varchar(6) primary key,
-> Salesman_name varchar(20) not null,
->
-> Address1 varchar(30) not null,
-> Address2 varchar(30),
-> City varchar(20),
-> Pincode varchar(6),
-> State varchar(20),
-> Sal_amt decimal(8,2) not null,
-> Tgt_to_get decimal(6,2) not null,
-> Ytd_sales decimal(6,2) not null,
-> Remarks varchar(60),
-> check(Salesman_no like 'S%' and Sal_amt<>0 and
-> Tgt_to_get<>0)
-> );
```

Query OK, 0 rows affected (0.04 sec)

```
mysql> describe Salesman_master;
```

Field	Type	Null	Key	Default	Extra
Salesman_no	varchar(6)	NO	PRI	NULL	
Salesman_name	varchar(20)	NO		NULL	
Address1	varchar(30)	NO		NULL	
Address2	varchar(30)	YES		NULL	
City	varchar(20)	YES		NULL	
Pincode	varchar(6)	YES		NULL	
State	varchar(20)	YES		NULL	
Sal_amt	decimal(8,2)	NO		NULL	
Tgt_to_get	decimal(6,2)	NO		NULL	
Ytd_sales	decimal(6,2)	NO		NULL	
Remarks	varchar(60)	YES		NULL	

11 rows in set (0.00 sec)

## Database Management System Lab Experiment No: - 04

Aim: - Create a database using DDL and apply Integrity Constraints

- Table 4.

```
mysql> create table sales_order(  
  -> S_order_no varchar(6) primary key, check(S_order_no like '0%'), S_order_date date,  
  -> Client_no varchar(6) references Client_master(Client_no), Dely_addr varchar(25),  
  -> Salesman_no varchar(6) references Salesman_master(Salesman_no), Dely_type char(1),  
  -> check(Dely_type IN ('P','F')), Billed_yn Char(1), Dely_date Date,  
  -> check(Dely_date > S_order_date), Order_status varchar(10),  
  -> check(Order_status IN ('IN PROCESS','FULFILLED','BACK ORDERED','CANCELLED')),  
  -> );
```

Query OK, 0 rows affected (0.05 sec)

```
mysql> describe sales_order  
-> ;
```

Field	Type	Null	Key	Default	Extra
S_order_no	varchar(6)	NO	PRI	NULL	
S_order_date	date	YES		NULL	
Client_no	varchar(6)	YES		NULL	
Dely_addr	varchar(25)	YES		NULL	
Salesman_no	varchar(6)	YES		NULL	
Dely_type	char(1)	YES		F	
Billed_yn	char(1)	YES		NULL	
Dely_date	date	YES		NULL	
Order_status	varchar(10)	YES		NULL	

9 rows in set (0.00 sec)

## Database Management System Lab Experiment No: - 04

Aim: - Create a database using DDL and apply Integrity

### • Table 5

```
mysql> create table sales_order_details
-> (
-> S_order_no varchar(6) references sales_order(S_order_no),
-> Product_no varchar(6) references
-> Product_master(Product_no),
->
-> Qty_ordered decimal(8),
-> Qty_disp decimal(8),
-> Product_rate decimal(10,2)
-> );
```

Query OK, 0 rows affected (0.05 sec)

```
mysql> describe sales_order_details;
```

Field	Type	Null	Key	Default	Extra
S_order_no	varchar(6)	YES		NULL	
Product_no	varchar(6)	YES		NULL	
Qty_ordered	decimal(8,0)	YES		NULL	
Qty_disp	decimal(8,0)	YES		NULL	
Product_rate	decimal(10,2)	YES		NULL	

5 rows in set (0.00 sec)

### • Table 6.

```
mysql> create table challan_header(
-> Challan_no varchar(6) primary key,
-> check(Challan_no like 'CH%'),
-> S_order_no varchar(6) references
-> sales_order(S_order_no),
-> Challan_date date not null,
-> Billed_yn char(1) default 'N',
-> check(Billed_yn IN('Y','N'))
-> );
```

Query OK, 0 rows affected (0.05 sec)

```
mysql> describe challan_header;
```

Field	Type	Null	Key	Default	Extra
Challan_no	varchar(6)	NO	PRI	NULL	
S_order_no	varchar(6)	YES		NULL	
Challan_date	date	NO		NULL	
Billed_yn	char(1)	YES		N	

4 rows in set (0.00 sec)

## Database Management System Lab Experiment No: - 04

**Aim:- Create a database using DDL and apply Integrity**

- **Table 7.**

```
ERROR 1068 (42000): Multiple primary key defined
mysql> create table challan_details( Challan_no varchar(6), Product_no varchar(6), Qty_disp decimal(4,2) not null,
-> primary key(Challan_no, Product_no),
-> foreign key(Challan_no) references Challan_Header(Challan_no), foreign key(Product_no) references Product_master(Product_no)
-> );
Query OK, 0 rows affected (0.07 sec)

mysql> describe challan_details
-> ;
+-----+-----+-----+-----+-----+-----+
| Field      | Type          | Null | Key | Default | Extra |
+-----+-----+-----+-----+-----+-----+
| Challan_no | varchar(6)    | NO   | PRI | NULL    |       |
| Product_no | varchar(6)    | NO   | PRI | NULL    |       |
| Qty_disp   | decimal(4,2)  | NO   |     | NULL    |       |
+-----+-----+-----+-----+-----+-----+
3 rows in set (0.00 sec)
```

### **Conclusion :**

The experiment is  
completed and  
LO2 is mapped.