

EXPERIMENT NO: 1

AIM:

To study Data Definition Language (DDL) and Data Manipulation Language (DML) commands of database Schemas.

THEORY:

DDL is Data Definition Language which is used to create database schema and can be used to define some constraints as well. It deals with descriptions of the schema and is used to create and modify the structure of database objects in the database. It basically defines the column (Attributes) of the table. For example: create table, alter table are instructions in SQL.

DML is Data Manipulation Language which is used to add, retrieve or update the data. The SQL commands that deals with the manipulation of data present in the database belong to DML and this includes most of the SQL statements. It is to add or update the rows of the table. These rows are called as tuple. For example: insert, update, delete are instructions in SQL.

CODE:

```
181070070@ltsp260:~$ ssh student@172.18.38.10
The authenticity of host '172.18.38.10 (172.18.38.10)' can't be established.
ECDSA key fingerprint is SHA256:1U1lhTxUhNYewhe/QQb3cYF7cqmbNRqYfH23U1PC7DQ.
Are you sure you want to continue connecting (yes/no)? yes
Warning: Permanently added '172.18.38.10' (ECDSA) to the list of known hosts.
student@172.18.38.10's password:
Welcome to Ubuntu 16.04.4 LTS (GNU/Linux 4.13.0-36-generic x86_64)
```

```
* Documentation: https://help.ubuntu.com
* Management:   https://landscape.canonical.com
* Support:      https://ubuntu.com/advantage
```

```
536 packages can be updated.
379 updates are security updates.
```

```
Last login: Wed Jan 15 11:41:58 2020 from 172.18.39.106
student@admin:~$ mysql -u 181070070 -p
Enter password:
Welcome to the MySQL monitor. Commands end with ; or \g.
Your MySQL connection id is 120
Server version: 5.7.28-0ubuntu0.16.04.2 (Ubuntu)
```

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Type 'help;' or '\h' for help. Type '\c' to clear the current input statement.

```
mysql> create database exp1;
Query OK, 1 row affected (0.01 sec)
```

```
mysql> show databases;
```

Database
information_schema
13_dec
LostPhilosopher
Pragati
VJTI
VJTIcollege
abhi
akshat
anime
atharva
class
college
college1
college19
college9
college_vjti
collegesys
collegevjti
company
company13
db
db1
db1_13Jan
db_1
db_13jan
dbms
ddldata
devanshi
devarshee
dtb1
exp1
exp1r
first
harshal
harshil
hdgdata
ketaki
kush
lfc
mmas
monaSucks
mycollege
mydb
mysql
performance_schema

```

| project      |
| rj           |
| saif         |
| sample1     |
| sayali       |
| shivani      |
| student      |
| student1     |
| student11    |
| studentdb    |
| students     |
| sys          |
| tt           |
| vedant       |
| vjti         |
| vjticlg      |
| yash         |
+-----+
62 rows in set (0.00 sec)

```

Query OK, 1 row affected (0.00 sec)

```

mysql> use priyeshexpr1
Database changed
mysql> create table student (id int, name char)
-> ;
Query OK, 0 rows affected (0.04 sec)

```

```

mysql> show tables
-> ;
+-----+
| Tables_in_priyeshexpr1 |
+-----+
| student                 |
+-----+
1 row in set (0.00 sec)

```

```

mysql> describe student;
+-----+-----+-----+-----+-----+-----+
| Field | Type  | Null | Key | Default | Extra |
+-----+-----+-----+-----+-----+-----+
| id    | int(11) | YES  |     | NULL    |       |
| name  | char(1) | YES  |     | NULL    |       |
+-----+-----+-----+-----+-----+
2 rows in set (0.01 sec)

```

```

mysql> create table student1 (id int, name char(20));
Query OK, 0 rows affected (0.01 sec)

```

```

mysql> show tables;
+-----+

```

| Tables_in_priyeshexpr1 |

student
student1

2 rows in set (0.00 sec)

mysql> describe student1;

Field	Type	Null	Key	Default	Extra
id	int(11)	YES		NULL	
name	char(20)	YES		NULL	

2 rows in set (0.01 sec)

mysql> insert into student1 values (181070070,"P");

Query OK, 1 row affected (0.00 sec)

mysql> insert into student1 values (181071023,"R"),(1828483,"S");

Query OK, 2 rows affected (0.00 sec)

Records: 2 Duplicates: 0 Warnings: 0

mysql> select * from student1;

id	name
181070070	P
181071023	R
1828483	S

3 rows in set (0.00 sec)

mysql> create database pvisnrt;

Query OK, 1 row affected (0.00 sec)

mysql> create table student(id int,name char(20));

Query OK, 0 rows affected (0.02 sec)

mysql> insert into student values (12,"P"),(123,"r");

Query OK, 2 rows affected (0.00 sec)

Records: 2 Duplicates: 0 Warnings: 0

mysql> select id from student where name = "r";

id
123

1 row in set (0.00 sec)

```
mysql> update student set id = 2 where name = "P";
Query OK, 1 row affected (0.01 sec)
Rows matched: 1  Changed: 1  Warnings: 0
```

```
mysql> select * from student
```

```
-> ;
```

```
+-----+-----+
| id  | name |
+-----+-----+
|  2  | P   |
| 123 | r   |
+-----+-----+
```

```
2 rows in set (0.01 sec)
```

```
mysql> alter table student add column address varchar(20);
```

```
Query OK, 0 rows affected (0.09 sec)
```

```
Records: 0  Duplicates: 0  Warnings: 0
```

```
mysql> select * from student
```

```
-> ;
```

```
+-----+-----+-----+
| id  | name | address |
+-----+-----+-----+
|  2  | P   | NULL    |
| 123 | r   | NULL    |
+-----+-----+-----+
```

```
2 rows in set (0.00 sec)
```

```
mysql> alter table student drop address;
```

```
Query OK, 0 rows affected (0.08 sec)
```

```
Records: 0  Duplicates: 0  Warnings: 0
```

```
mysql> select * from student;
```

```
+-----+-----+
| id  | name |
+-----+-----+
|  2  | P   |
| 123 | r   |
+-----+-----+
```

```
2 rows in set (0.00 sec)
```

```
mysql> alter table student modify name varchar(20);
```

```
Query OK, 2 rows affected (0.12 sec)
```

```
Records: 2  Duplicates: 0  Warnings: 0
```

```
mysql> select * from student;
```

```
+-----+-----+
| id  | name |
+-----+-----+
```

2	P
123	r

2 rows in set (0.01 sec)

mysql> describe student

-> ;

Field	Type	Null	Key	Default	Extra
id	int(11)	YES		NULL	
name	varchar(20)	YES		NULL	

2 rows in set (0.00 sec)

mysql> delete from student where id = 2;

Query OK, 1 row affected (0.00 sec)

mysql> select * from student;

id	name
123	r

1 row in set (0.00 sec)

mysql> insert into student values (1234,NULL);

Query OK, 1 row affected (0.01 sec)

mysql> select * from student;

id	name
123	r
1234	NULL

2 rows in set (0.00 sec)

mysql> delete from student where name = "NULL";

Query OK, 0 rows affected (0.00 sec)

mysql> select * from student;

id	name
123	r
1234	NULL

2 rows in set (0.00 sec)

```
mysql> delete from student where name = NULL;
Query OK, 0 rows affected (0.00 sec)
```

```
mysql> select * from student;
```

```
+-----+-----+
| id  | name |
+-----+-----+
| 123 | r   |
| 1234 | NULL |
+-----+-----+
```

```
2 rows in set (0.00 sec)
```

```
mysql> delete from student where name is NULL;
Query OK, 1 row affected (0.01 sec)
```

```
mysql> truncate table student ;
Query OK, 0 rows affected (0.02 sec)
```

```
mysql> select * from student;
Empty set (0.00 sec)
```

```
mysql> drop table student;
Query OK, 0 rows affected (0.02 sec)
```

```
mysql> show tables;
Empty set (0.00 sec)
```

```
mysql> create table student;
ERROR 1113 (42000): A table must have at least 1 column
mysql> create table student (id int,name char(20));
Query OK, 0 rows affected (0.04 sec)
```

```
mysql> insert into student values (181,"P") , (182,"R");
Query OK, 2 rows affected (0.00 sec)
Records: 2 Duplicates: 0 Warnings: 0
```

```
mysql> rename table student to student1;
Query OK, 0 rows affected (0.00 sec)
```

```
mysql> alter table student1 rename to student;
Query OK, 0 rows affected (0.01 sec)
```

```
mysql>
```

CONCLUSION:

We have learnt about the commands of database schemas and have successfully implemented them. Classifying the commands i.e. create, alter, drop, truncate, rename are examples of DDL and insert, update, delete as basic commands of DML respectively.