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**DEPARTMENT OF MASTER OF COMPUTER APPLICATION**

**CLASS: F.Y. MCA**

**SEM: I**

**COURSE CODE: MC504**

**SUBJECT NAME: DATABASE MANAGEMENT SYSTEM LAB**

**ROLL NO. : 2022510034**

**BATCH: B**

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**EXPERIMENT NO: 04**

**EXPERIMENT TITLE:** To study Data Control Language and Transaction Control Language statements

DCL commands :

- GRANT Command
- REVOKE Command

TCL commands :

- COMMIT Command
- ROLLBACK Command
- SAVEPOINT Command

### 1. GRANT Command :-

The GRANT command allow users access privileges to the database

#### Syntax :-

*GRANT privileges\_names ON object TO user*

### 2. REVOKE Command :-

The REVOKE Command withdraw users access privileges given by using the GRANT command

#### Syntax :-

*REVOKE privileges ON object FROM user*

### 3. COMMIT

Commit command is to commit Transaction after insert or delete in the database.

#### Syntax :-

*Commit;*

### 4. ROLLBACK

Rollback command is to rollback a transaction in case of any error occurs

#### Syntax :-

*Rollback;*

### 5. SAVEPOINT

The SAVEPOINT command in TCL is basically used to temporarily save a transaction so that we can roll back to that point (saved point) whenever required.

#### Syntax :-

*SAVEPOINT savepoint\_name;*

# Outputs:

## GRANT Command

```
C:\WINDOWS\system32\cmd.exe x Windows PowerShell x + v

PS C:\Users\Rishi> mysql -u root -p
Enter password: ****
Welcome to the MySQL monitor.  Commands end with ; or \g.
Your MySQL connection id is 22
Server version: 8.0.31 MySQL Community Server - GPL

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affiliates. Other names may be trademarks of their respective
owners.

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

mysql>
mysql> create user host@localhost identified by 'host';
Query OK, 0 rows affected (0.06 sec)

mysql> show grants for host@localhost;
+-----+
| Grants for host@localhost |
+-----+
| GRANT USAGE ON *.* TO 'host'@'localhost' |
+-----+
1 row in set (0.01 sec)

mysql> grant all privileges on fymca.* to host@localhost;
Query OK, 0 rows affected (0.01 sec)

mysql> show grants for host@localhost;
+-----+
| Grants for host@localhost |
+-----+
| GRANT USAGE ON *.* TO 'host'@'localhost' |
| GRANT ALL PRIVILEGES ON 'fymca'.* TO 'host'@'localhost' |
+-----+
2 rows in set (0.00 sec)

mysql> |
```

## REVOKE Command

```
C:\WINDOWS\system32\cmd.exe x Windows PowerShell x + v

Windows PowerShell
Copyright (C) Microsoft Corporation. All rights reserved.

Install the latest PowerShell for new features and improvements! https://aka.ms/PSWindows

PS C:\Users\Rishi> mysql -u root -p
Enter password: ****
Welcome to the MySQL monitor.  Commands end with ; or \g.
Your MySQL connection id is 23
Server version: 8.0.31 MySQL Community Server - GPL

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Oracle is a registered trademark of Oracle Corporation and/or its
affiliates. Other names may be trademarks of their respective
owners.

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

mysql> show grants for host@localhost;
+-----+
| Grants for host@localhost |
+-----+
| GRANT USAGE ON *.* TO 'host'@'localhost' |
| GRANT ALL PRIVILEGES ON 'fymca'.* TO 'host'@'localhost' |
+-----+
2 rows in set (0.00 sec)

mysql> revoke all privileges on fymca.* from host@localhost;
Query OK, 0 rows affected (0.01 sec)

mysql> show grants for host@localhost;
+-----+
| Grants for host@localhost |
+-----+
| GRANT USAGE ON *.* TO 'host'@'localhost' |
+-----+
1 row in set (0.00 sec)

mysql> |
```

## COMMIT & ROLLBACK Commands

```
C:\WINDOWS\system32\cmd. x + v
mysql> create database fymca;
Query OK, 1 row affected (0.01 sec)

mysql> use fymca;
Database changed
mysql>
mysql> create table details(
  -> id int,
  -> name varchar(20),
  -> email varchar(20),
  -> gender varchar(10));
Query OK, 0 rows affected (0.02 sec)

mysql>
mysql> insert into details values
  -> (1,'Rishikesh','rishi@co.in','Male'),
  -> (2,'Rutuja','rutu@co.in','Female'),
  -> (3,'Aakash','aakash@co.in','Male');
Query OK, 3 rows affected (0.01 sec)
Records: 3 Duplicates: 0 Warnings: 0

mysql>
mysql> select * from details;
+-----+-----+-----+-----+
| id | name | email | gender |
+-----+-----+-----+-----+
| 1 | Rishikesh | rishi@co.in | Male |
| 2 | Rutuja | rutu@co.in | Female |
| 3 | Aakash | aakash@co.in | Male |
+-----+-----+-----+-----+
3 rows in set (0.00 sec)

mysql> set autocommit=0;
Query OK, 0 rows affected (0.03 sec)

mysql> start transaction;
Query OK, 0 rows affected (0.01 sec)

mysql> insert into details values
  -> (4,'Neha','neha@co.in','Female');
```

```
C:\WINDOWS\system32\cmd. x + v
Query OK, 0 rows affected (0.03 sec)

mysql> start transaction;
Query OK, 0 rows affected (0.01 sec)

mysql> insert into details values
  -> (4,'Neha','neha@co.in','Female');
Query OK, 1 row affected (0.03 sec)

mysql> commit;
Query OK, 0 rows affected (0.01 sec)

mysql> delete from details where id = 3;
Query OK, 1 row affected (0.03 sec)

mysql> select * from details;
+-----+-----+-----+-----+
| id | name | email | gender |
+-----+-----+-----+-----+
| 1 | Rishikesh | rishi@co.in | Male |
| 2 | Rutuja | rutu@co.in | Female |
| 4 | Neha | neha@co.in | Female |
+-----+-----+-----+-----+
3 rows in set (0.01 sec)

mysql> rollback;
Query OK, 0 rows affected (0.01 sec)

mysql> select * from details;
+-----+-----+-----+-----+
| id | name | email | gender |
+-----+-----+-----+-----+
| 1 | Rishikesh | rishi@co.in | Male |
| 2 | Rutuja | rutu@co.in | Female |
| 3 | Aakash | aakash@co.in | Male |
| 4 | Neha | neha@co.in | Female |
+-----+-----+-----+-----+
4 rows in set (0.00 sec)

mysql> |
```

# SAVEPOINT Command

```
mysql> use fymca
Database changed
mysql>
mysql>
mysql> set autocommit = 0;
Query OK, 0 rows affected (0.00 sec)

mysql>
mysql> select * from details;
+----+-----+-----+-----+
| id | name  | email | gender |
+----+-----+-----+-----+
| 1  | Rishikesh | rishi@co.in | Male |
| 2  | Rutuja  | rutu@co.in  | Female |
| 3  | Aakash  | aakash@co.in | Male |
| 4  | Neha    | neha@co.in  | Female |
+----+-----+-----+-----+
4 rows in set (0.00 sec)

mysql>
mysql> insert into details values
-> (5,'Karan','karan45@co.in','Male');
Query OK, 1 row affected (0.01 sec)

mysql> select * from details;
+----+-----+-----+-----+
| id | name  | email | gender |
+----+-----+-----+-----+
| 1  | Rishikesh | rishi@co.in | Male |
| 2  | Rutuja  | rutu@co.in  | Female |
| 3  | Aakash  | aakash@co.in | Male |
| 4  | Neha    | neha@co.in  | Female |
| 5  | Karan   | karan45@co.in | Male |
+----+-----+-----+-----+
5 rows in set (0.00 sec)

mysql> savepoint insertion;
Query OK, 0 rows affected (0.01 sec)
```

```
mysql> savepoint insertion;
Query OK, 0 rows affected (0.01 sec)

mysql>
mysql> update details set name = 'Rahul', email='rahul88@co.in' where id = 3;
Query OK, 1 row affected (0.01 sec)
Rows matched: 1 Changed: 1 Warnings: 0

mysql> select * from details;
+----+-----+-----+-----+
| id | name  | email | gender |
+----+-----+-----+-----+
| 1  | Rishikesh | rishi@co.in | Male |
| 2  | Rutuja  | rutu@co.in  | Female |
| 3  | Rahul   | rahul88@co.in | Male |
| 4  | Neha    | neha@co.in  | Female |
| 5  | Karan   | karan45@co.in | Male |
+----+-----+-----+-----+
5 rows in set (0.00 sec)

mysql> savepoint updation;
Query OK, 0 rows affected (0.00 sec)

mysql>
mysql> rollback to insertion;
Query OK, 0 rows affected (0.01 sec)

mysql> select * from details;
+----+-----+-----+-----+
| id | name  | email | gender |
+----+-----+-----+-----+
| 1  | Rishikesh | rishi@co.in | Male |
| 2  | Rutuja  | rutu@co.in  | Female |
| 3  | Aakash  | aakash@co.in | Male |
| 4  | Neha    | neha@co.in  | Female |
| 5  | Karan   | karan45@co.in | Male |
+----+-----+-----+-----+
5 rows in set (0.00 sec)

mysql> |
```