NAME        : JAWAD AHMED
ROLL NO    : 20P-0165
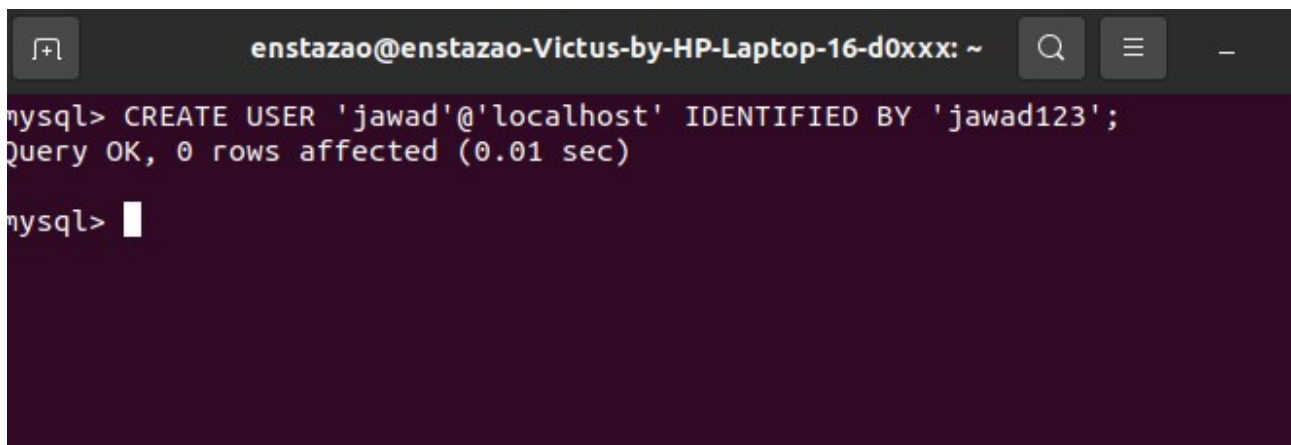Section      : BCS-4A

Lab 10 Task

**DCL & TCL**

1. Create a user, user name should be your name.
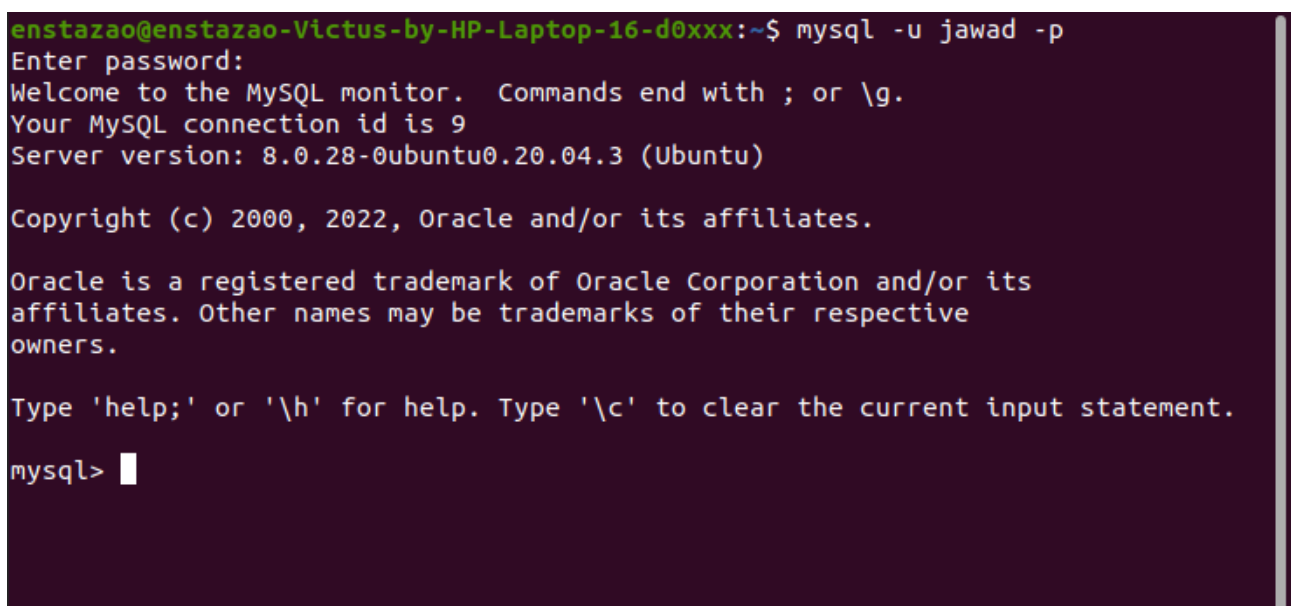   - CREATING A USER NAMED jawad with password jawad123

=> CREATE USER 'jawad'@'localhost' IDENTIFIED BY 'jawad123';



   - Loging Into Mysql through the new user

=> mysql -u jawad -p

2: Grant Privilege To access EMPLOYEE table (SELECT,UPDATE) from database themepark.

**SQL QUERY TO GRANT PERMISSION**

```
mysql> GRANT SELECT,UPDATE on p200165_jawad.EMPLOYEE to 'jawad'@'localhost';
Query OK, 0 rows affected (0.01 sec)

mysql>
```

TESTING SELECT COMMAND IN THE jawad user

```
mysql> SELECT * FROM EMPLOYEE;
+---------+-----------+------------+-----------+------------+---------------+---------------+-----------+-----------+
| EMP_NUM | EMP_TITLE | EMP_LNAME  | EMP_FNAME | EMP_DOB    | EMP_HIRE_DATE | EMP_AREA_CODE | EMP_PHONE | PARK_CODE |
+---------+-----------+------------+-----------+------------+---------------+---------------+-----------+-----------+
|     100 | Ms        | Calderdale | Emma      | 1972-06-15 | 1992-03-15    | 0181          | 324-9134  | FR1001    |
|     101 | Ms        | Ricardo    | Marshel   | 1978-03-19 | 1996-04-25    | 0181          | 324-4472  | UK3452    |
|     102 | Mr        | Arshad     | Arif      | 1969-11-14 | 1990-12-20    | 7253          | 675-8993  | FR1001    |
|     103 | Ms        | Roberts    | Anne      | 1974-10-16 | 1994-08-16    | 0181          | 898-3456  | UK3452    |
|     104 | Mr        | Denver     | Enrica    | 1980-11-08 | 2001-10-20    | 7253          | 504-4434  | ZA1342    |
|     105 | Ms        | Namowa     | Mirrelle  | 1990-03-14 | 2006-11-08    | 0181          | 890-3243  | FR1001    |
|     106 | Mrs       | Smith      | Gemma     | 1968-02-12 | 1989-01-05    | 0181          | 324-7845  | ZA1342    |
+---------+-----------+------------+-----------+------------+---------------+---------------+-----------+-----------+
7 rows in set (0.00 sec)
```

TESTING UPDATE COMMAND IN THE jawad user

```
mysql> UPDATE EMPLOYEE SET EMP_FNAME = 'jawad' WHERE EMP_NUM=100;
Query OK, 1 row affected (0.01 sec)
Rows matched: 1  Changed: 1  Warnings: 0

mysql> SELECT * FROM EMPLOYEE;
+---------+-----------+------------+-----------+------------+---------------+---------------+-----------+-----------+
| EMP_NUM | EMP_TITLE | EMP_LNAME  | EMP_FNAME | EMP_DOB    | EMP_HIRE_DATE | EMP_AREA_CODE | EMP_PHONE | PARK_CODE |
+---------+-----------+------------+-----------+------------+---------------+---------------+-----------+-----------+
|     100 | Ms        | Calderdale | jawad     | 1972-06-15 | 1992-03-15    | 0181          | 324-9134  | FR1001    |
|     101 | Ms        | Ricardo    | Marshel   | 1978-03-19 | 1996-04-25    | 0181          | 324-4472  | UK3452    |
|     102 | Mr        | Arshad     | Arif      | 1969-11-14 | 1990-12-20    | 7253          | 675-8993  | FR1001    |
|     103 | Ms        | Roberts    | Anne      | 1974-10-16 | 1994-08-16    | 0181          | 898-3456  | UK3452    |
|     104 | Mr        | Denver     | Enrica    | 1980-11-08 | 2001-10-20    | 7253          | 504-4434  | ZA1342    |
|     105 | Ms        | Namowa     | Mirrelle  | 1990-03-14 | 2006-11-08    | 0181          | 890-3243  | FR1001    |
|     106 | Mrs       | Smith      | Gemma     | 1968-02-12 | 1989-01-05    | 0181          | 324-7845  | ZA1342    |
+---------+-----------+------------+-----------+------------+---------------+---------------+-----------+-----------+
7 rows in set (0.00 sec)
```

3: To access the views (SELECT) you have created in theme park (at least 1 view).

CREATING A VIEW NAMED 'jawad_test'

```
mysql> CREATE VIEW jawad_test AS
    -> SELECT EMP_NUM, EMP_TITLE, EMP_LNAME, EMP_FNAME
    -> FROM
    -> EMPLOYEE;
Query OK, 0 rows affected (0.01 sec)
```

GRANTING USER jawad privilege to access the view

```
mysql> GRANT SELECT ON p200165_jawad.jawad_test TO 'jawad'@'localhost';
Query OK, 0 rows affected (0.01 sec)
```

ACCESSING THE VIEW FROM THE USER 'jawad'

```
mysql> SELECT * FROM jawad_test;
+-----------+------------+------------+-----------+
| EMP_NUM   | EMP_TITLE  | EMP_LNAME  | EMP_FNAME |
+-----------+------------+------------+-----------+
|       100 | Ms         | Calderdale | jawad     |
|       101 | Ms         | Ricardo    | Marshel   |
|       102 | Mr         | Arshad     | Arif      |
|       103 | Ms         | Roberts    | Anne      |
|       104 | Mr         | Denver     | Enrica    |
|       105 | Ms         | Namowa     | Mirrelle  |
|       106 | Mrs        | Smith      | Gemma     |
+-----------+------------+------------+-----------+
7 rows in set (0.00 sec)
```

4: To access full database of fb/company (which you have used in last lab).

```
mysql> GRANT ALL PRIVILEGES ON fb.* to 'jawad'@'localhost';
Query OK, 0 rows affected (0.05 sec)

mysql> FLUSH PRIVILEGES;
Query OK, 0 rows affected (0.02 sec)

mysql> GRANT ALL PRIVILEGES ON fb.* to 'jawad'@'localhost';
Query OK, 0 rows affected (0.01 sec)

mysql> GRANT ALL PRIVILEGES ON company.* to 'jawad'@'localhost';
Query OK, 0 rows affected (0.02 sec)
```

enstazao@enstazao-Victus-by-HP-Laptop-16-d0xxx: ~

```
mysql> SHOW TABLES;
+--------------------+
| Tables_in_company  |
+--------------------+
| dept               |
| emp                |
| salgrade           |
+--------------------+
3 rows in set (0.00 sec)

mysql> SELECT * FROM dept;
+--------+------------+----------+
| deptno | dname      | location |
+--------+------------+----------+
|     10 | Accounting | New York |
|     20 | Research   | Dallas   |
|     30 | Sales      | Chicago  |
|     40 | Operations | Boston   |
+--------+------------+----------+
4 rows in set (0.01 sec)

mysql> SELECT * FROM emp;
+-------+--------+-----------+------+------------+--------+-----------+--------+
| empno | ename  | job       | mgr  | hiredate   | salary | commission | deptno |
+-------+--------+-----------+------+------------+--------+-----------+--------+
|  7369 | Smith  | Clerk     | 7902 | 2021-07-31 |   1200 |      NULL |     20 |
|  7499 | Allen  | Salesman  | 7566 | 2021-07-31 |   2000 |       500 |     30 |
|  7521 | Ward   | Salesman  | 7698 | 2021-07-31 |   1650 |       800 |     30 |
|  7566 | Jones  | Manager   | 7839 | 2021-07-31 |   3375 |      NULL |     20 |
|  7654 | Martin | Salesman  | 7698 | 2021-07-31 |   1650 |      1400 |     30 |
|  7698 | Blake  | Manager   | 7839 | 2021-07-31 |   3250 |      NULL |     30 |
|  7782 | Clark  | Manager   | 7839 | 2021-07-31 |   2850 |      NULL |     10 |
|  7788 | Scott  | Analyst   | 7566 | 2021-07-31 |   3500 |      NULL |     20 |
|  7813 | David  | Clerk     | 7788 | 2021-07-31 |   1500 |      NULL |     20 |
|  7839 | King   | President | NULL | 2021-07-31 |   6500 |      NULL |     10 |
|  7844 | Turner | Salesman  | 7698 | 2021-07-31 |   1900 |         0 |     30 |
|  7876 | Adams  | Clerk     | 7788 | 2021-07-31 |   1500 |      NULL |     20 |
|  7900 | James  | Clerk     | 7698 | 2021-07-31 |   1350 |      NULL |     30 |
|  7902 | Ford   | Analyst   | 7566 | 2021-07-31 |   3500 |      NULL |     20 |
|  7934 | Miller | Clerk     | 7782 | 2021-07-31 |   1700 |      NULL |     10 |
+-------+--------+-----------+------+------------+--------+-----------+--------+
15 rows in set (0.00 sec)

mysql> SELECT * FROM salgrade;
+-------+-------+-------+
| grade | losal | hisal |
+-------+-------+-------+
|     1 |  1100 |  1600 |
|     2 |  1601 |  1800 |
|     3 |  1801 |  2900 |
|     4 |  2901 |  3900 |
|     5 |  3901 | 10000 |
+-------+-------+-------+
5 rows in set (0.01 sec)

mysql>
```

5: Grant A Privilege to Create A Database

```
mysql> GRANT CREATE  on *.*  TO  'jawad'@'localhost';
Query OK, 0 rows affected (0.00 sec)

mysql> 
```

CREATING A DATABASE IN THE jawad user

```
mysql> CREATE DATABASE test1;
Query OK, 1 row affected (0.01 sec)

mysql> 
```

6: Revoke the right to access the view you granted in exercise 2.

```
mysql> REVOKE SELECT ON p200165_jawad.jawad_test from 'jawad'@'localhost';
Query OK, 0 rows affected (0.01 sec)
```

ACCESSING THE VIEW as a jawad user

```
mysql> SELECT * FROM jawad_test;
ERROR 1356 (HY000): View 'p200165_jawad.jawad_test' references invalid table(s) or column(s) or function(s) or definer/invoker of view lack rights to use them
mysql> 
```

```
mysql> SELECT * FROM jawad_test;
ERROR 1356 (HY000): View 'p200165_jawad.jawad_test' references invalid table(s) or column(s) or fu
mysql> 
```

7: Give a demonstration of commit, rollback and save point commands.

1. COMMIT COMMAND
   When we disable the auto commit then what happen that when we do any operation that will
   be going to saved to another virtual table not to our actual table unless we commit it.
1: TURNING OFF THE AUTO COMMIT

```
mysql> SET AUTOCOMMIT=0;
Query OK, 0 rows affected (0.00 sec)

mysql> 
```

```
mysql> INSERT INTO ATTRACTION VALUES (10026, 'LACKVIEW', '11', '58', 'FR1001');
Query OK, 1 row affected (0.00 sec)

mysql> INSERT INTO ATTRACTION VALUES (10027, 'LACKVIEW', '11', '58', 'FR1001');
Query OK, 1 row affected (0.00 sec)

mysql> SELECT * FROM ATTRACTION;
+------------+----------------+-------------+------------------+-----------+
| ATTRACT_NO | ATTRACT_NAME   | ATTRACT_AGE | ATTRACT_CAPACITY | PARK_CODE |
+------------+----------------+-------------+------------------+-----------+
|      10025 | LACKVIEW       |          11 |               58 | FR1001    |
|      10026 | LACKVIEW       |          11 |               58 | FR1001    |
|      10027 | LACKVIEW       |          11 |               58 | FR1001    |
|      10034 | ThunderCoaster |          11 |               34 | FR1001    |
|      10056 | SpinningTeacups|           4 |               62 | FR1001    |
|      10067 | FlightToStars  |          11 |               24 | FR1001    |
|      10078 | Ant-Trap       |          23 |               30 | FR1001    |
|      10082 | NULL           |          10 |               40 | ZA1342    |
|      10098 | Carnival       |           3 |              120 | FR1001    |
|      20056 | 3D-Lego_Show   |           3 |              200 | UK3452    |
|      30011 | BlackHole2     |          12 |               34 | UK3452    |
|      30012 | Pirates        |          10 |               42 | UK3452    |
|      30044 | UnderSeaWord   |           4 |               80 | UK3452    |
|      98764 | GoldRush       |           5 |               80 | ZA1342    |
+------------+----------------+-------------+------------------+-----------+
14 rows in set (0.01 sec)
```

AFTER ROLL BACK THE NEW TWO INSERTION 10026, 10027 ARE GOING TO BE REMOVED.

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

mysql> SELECT * FROM ATTRACTION;
+------------+----------------+-------------+------------------+-----------+
| ATTRACT_NO | ATTRACT_NAME   | ATTRACT_AGE | ATTRACT_CAPACITY | PARK_CODE |
+------------+----------------+-------------+------------------+-----------+
|      10025 | LACKVIEW       |          11 |               58 | FR1001    |
|      10034 | ThunderCoaster |          11 |               34 | FR1001    |
|      10056 | SpinningTeacups|           4 |               62 | FR1001    |
|      10067 | FlightToStars  |          11 |               24 | FR1001    |
|      10078 | Ant-Trap       |          23 |               30 | FR1001    |
|      10082 | NULL           |          10 |               40 | ZA1342    |
|      10098 | Carnival       |           3 |              120 | FR1001    |
|      20056 | 3D-Lego_Show   |           3 |              200 | UK3452    |
|      30011 | BlackHole2     |          12 |               34 | UK3452    |
|      30012 | Pirates        |          10 |               42 | UK3452    |
|      30044 | UnderSeaWord   |           4 |               80 | UK3452    |
|      98764 | GoldRush       |           5 |               80 | ZA1342    |
+------------+----------------+-------------+------------------+-----------+
12 rows in set (0.00 sec)
```

Now I am adding the two savepoints one savepoint is S1 that is before any insertion and another savepoint after the 2 insertions.

```
mysql> SAVEPOINT S1;
Query OK, 0 rows affected (0.00 sec)

mysql> INSERT INTO ATTRACTION VALUES (10027, 'LACKVIEW', '11', '58', 'FR1001');
Query OK, 1 row affected (0.00 sec)

mysql> INSERT INTO ATTRACTION VALUES (10028, 'LACKVIEW', '11', '58', 'FR1001');
Query OK, 1 row affected (0.00 sec)
```

```
mysql> SAVEPOINT S2;
Query OK, 0 rows affected (0.00 sec)

mysql> INSERT INTO ATTRACTION VALUES (10029, 'LACKVIEW', '11', '58', 'FR1001');
Query OK, 1 row affected (0.00 sec)
```

Now Let's first rollback to the SAVEPOINT S2 you will see only 1 record removed that is inserted after the that savepoint.

```
mysql> ROLLBACK to S2;
Query OK, 0 rows affected (0.00 sec)

mysql> SELECT * FROM ATTRACTION;
+------------+----------------+-------------+------------------+-----------+
| ATTRACT_NO | ATTRACT_NAME   | ATTRACT_AGE | ATTRACT_CAPACITY | PARK_CODE |
+------------+----------------+-------------+------------------+-----------+
|      10025 | LACKVIEW       |          11 |               58 | FR1001    |
|      10027 | LACKVIEW       |          11 |               58 | FR1001    |
|      10028 | LACKVIEW       |          11 |               58 | FR1001    |
|      10034 | ThunderCoaster |          11 |               34 | FR1001    |
|      10056 | SpinningTeacups|           4 |               62 | FR1001    |
|      10067 | FlightToStars  |          11 |               24 | FR1001    |
|      10078 | Ant-Trap       |          23 |               30 | FR1001    |
|      10082 | NULL           |          10 |               40 | ZA1342    |
|      10098 | Carnival       |           3 |              120 | FR1001    |
|      20056 | 3D-Lego_Show   |           3 |              200 | UK3452    |
|      30011 | BlackHole2     |          12 |               34 | UK3452    |
|      30012 | Pirates        |          10 |               42 | UK3452    |
|      30044 | UnderSeaWord   |           4 |               80 | UK3452    |
|      98764 | GoldRush       |           5 |               80 | ZA1342    |
+------------+----------------+-------------+------------------+-----------+
14 rows in set (0.00 sec)
```

You will see the entry with ATTRACT_NO = 10029 that is added after the savepoint s2 is removed. Now let's move to the SAVEPOINT S1 now the entries that are added after the SAVEPOINT S1 will also going to be removed.

```
mysql> ROLLBACK to S1;
Query OK, 0 rows affected (0.00 sec)

mysql> SELECT * FROM ATTRACTION;
+------------+----------------+-------------+------------------+-----------+
| ATTRACT_NO | ATTRACT_NAME   | ATTRACT_AGE | ATTRACT_CAPACITY | PARK_CODE |
+------------+----------------+-------------+------------------+-----------+
|      10025 | LACKVIEW       |          11 |               58 | FR1001    |
|      10034 | ThunderCoaster |          11 |               34 | FR1001    |
|      10056 | SpinningTeacups|           4 |               62 | FR1001    |
|      10067 | FlightToStars  |          11 |               24 | FR1001    |
|      10078 | Ant-Trap       |          23 |               30 | FR1001    |
|      10082 | NULL           |          10 |               40 | ZA1342    |
|      10098 | Carnival       |           3 |              120 | FR1001    |
|      20056 | 3D-Lego_Show   |           3 |              200 | UK3452    |
|      30011 | BlackHole2     |          12 |               34 | UK3452    |
|      30012 | Pirates        |          10 |               42 | UK3452    |
|      30044 | UnderSeaWord   |           4 |               80 | UK3452    |
|      98764 | GoldRush       |           5 |               80 | ZA1342    |
+------------+----------------+-------------+------------------+-----------+
12 rows in set (0.00 sec)
```