Security Management using SQL

Aim: To study create user, DCL and TCL commands.

Theory:

Data Control Language Commands (DCL)

GRANT
REVOKE

Syntax: to create user
Create user <username> **identified by** <password>;

Syntax to grant the privileges
Grant <privileges> **on** <tablename>/<viewname> **to** <username>;
e.g.SQL>Grant select, insert on table1 to <user1>;

Grant <privileges> **on** <tablename>/<viewname> **to** <username> **with grant option;**
The with grant option helps to grant the same privilege on the table to user2 by user1.

Syntax to revoke the privileges
Revoke <privileges> **from** <tablename>/<viewname> **to** <username>;
e.g.SQL>Revoke select, insert on table1 from <username>;

Syntax to drop the user
Drop user <username>;

Exercise

1. Create a user
2. Grant create session privilege to this user.
3. Grant select privilege on some table to this user
4. Exit and log into the new user
5. Execute select query.
6. Similarly give privileges on view to new user and check DML command like insert, delete, update and check for data consistency i.e. changes made by new user are reflected in both parent table as well as view table.
7. Demonstrate “with grant option”.
8. Revoke the privileges from the user and try displaying the records from the table by new user.
9. Drop the user.

Transaction Control Language (TCL) commands

Data Control Language is used to control the kind of a data access to the database and transaction control. The owner can allow other database users access to the database objects as per his/her direction.

Committ, Rollback and savepoint are transaction control commands (TCL)

Commit:

```
mysql > commit;
      OR
mysql > commit work;
```

Rollback:

```
mysql > rollback;
                OR
mysql > rollback work ;
```

Savepoint:

```
                OR
mysql > rollback to savepoint save_pt;
```

```
mysql > savepoint   savepoint_id;
```

Try to rollback DDL commands without commit.
Try to rollback DML commands with and without commit.

Explore: autocommitt