

## Data Control Language (DCL) in SQL



- Data Control Language (DCL) deals with the commands used in SQL that permit a user to access, modify or work on the different privileges in order to control the database.
- It allows the database owner to give access, revoke access, and change the given permissions as and when required. DCL is basically used for enforcing data security.
- It is a part of the structured query language (SQL).
- It helps in controlling access to information stored in a database. It complements the data manipulation language (DML) and the data definition language (DDL).
- It is the simplest among three commands.
- It provides the administrators, to remove and set database permissions to desired users as needed.
- These commands are employed to grant, remove and deny permissions to users for retrieving and manipulating a database.

## What are the various DCL Commands Present in SQL?

The DCL commands present in SQL are

### GRANT:

- GRANT is a DCL command used to grant (give access to) security privileges to specific database users.
- It is mostly used to restrict user access to INSERT, DELETE, SELECT, UPDATE, EXECUTE, ALTER or to provide privileges to user's data.

### REVOKE:

- REVOKE is a DCL command that is used to revoke the permissions/access that was granted via the GRANT command.
- It is mostly used to revert back to the time when no access was specified, i.e., withdrawing the permission that was authorized to carry out specific tasks.

What is the syntax for writing DCL commands in SQL?

Syntax for writing GRANT command:

**GRANT privilege\_name on objectname to user;**

Here,

- privilege names are SELECT, UPDATE, DELETE, INSERT, ALTER, ALL
- objectname is table name
- user is the name of the user to whom we grant privileges

## REVOKE Command

It is employed to remove a privilege from a user. REVOKE helps the owner to cancel previously granted permissions.

### Syntax

**REVOKE privilege\_name on objectname from user;**

Here,

- privilege names are SELECT, UPDATE, DELETE, INSERT, ALTER, ALL
- objectname is table name
- user is the name of the user whose privileges are removing

### Example

**GRANT SELECT, UPDATE ON employees TO students;**

Explanation –

- ✓ Firstly, to give the permissions to user, we have to use GRANT command.
- ✓ The privileges are SELECT because to view the records and UPDATE to modify the records.
- ✓ The objectname is table name which is Employee. The user's name is students.

## **REVOKE SELECT, UPDATE ON employees TO students;**

Explanation –

- ✓ Firstly, to revoke the permissions to user, we have to use REVOKE command.
- ✓ The privileges Need to revoke are SELECT because to view the records and UPDATE to modify the records.
- ✓ The objectname is table name which is Employee. The user's name is students.

## **Conclusion:**

- DCL commands allow a user to restrict the user/roles from accessing the database.
- It ensures security in the database when the data is exposed to multiple users working on the database.