

Module 7 - DCL Commands in SQL

What is a DCL Command in SQL?

DCL stands for Data Control Language. It is a part of SQL that is used to control who can access or change data in a database. DCL helps manage permissions and security for users.

- There are two main DCL commands: **GRANT** and **REVOKE**.
- The **GRANT** command is used to give a user permission to do certain actions like reading data, adding data, or updating data in a table. For example, if you want someone to be able to view a table, you can use GRANT to allow them to use the SELECT command on that table.
- The **REVOKE** command is used to take back permissions that were given earlier using GRANT. If you don't want a user to be able to change data anymore, you can REVOKE their permission.
- DCL is mostly used by database administrators to make sure that only the right people can access or change the data.
- These commands are common in big database systems like SQL Server, Oracle, and PostgreSQL, but they are not supported in Microsoft Access. Access uses other ways to control who can use or change the data.

Syntax of DCL (Data Control Language) commands

GRANT Command Syntax

Used to give a user permission to do something in the database.

GRANT privilege_name ON object_name TO user_name;

Example:

GRANT SELECT, INSERT ON employees TO john;

This gives user john permission to view and add data to the employees table.

REVOKE Command Syntax

Used to take away permission from a user.



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REVOKE privilege_name ON object_name FROM user_name;

Example:

REVOKE INSERT ON employees FROM john;

This removes the permission to add data to the employees table from user john.

Common Privileges:

- SELECT - to read data
- INSERT - to add data
- UPDATE - to change data
- DELETE - to remove data

These commands are used in database systems like MySQL, SQL Server, Oracle, and PostgreSQL. They are not used in Microsoft Access.

Why is DCL important?

Imagine a company database that stores employee salaries. You don't want every user to be able to see or change that information. DCL lets the database administrator give permissions to certain users and block others.

For example:

- A manager may be allowed to see and update salary details.
- A regular employee may only be allowed to view their own profile, but not update it or see others'.

DCL helps protect the data from unauthorized access and changes.

Who Uses DCL?

DCL is usually used by:

- Database Administrators (DBAs)
- Security officers
- System architects

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These people control access levels to make sure that data is safe, and only trusted users can access or change it.

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Where does DCL Work?

DCL is supported in most large and secure database systems like:

- MySQL
- Oracle
- SQL Server

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It does not work in Microsoft Access, which uses a different, more basic system for permissions.

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