

# DCL Commands in SQL

## Overview

DCL (Data Control Language) is used to manage access and permissions in a database. These commands control user privileges and ensure data security.

## Commands Covered

Command	Description
GRANT	Assigns specific privileges to users or roles
REVOKE	Removes specific privileges from users or roles

## SQL File: dcl\_commands.sql

### 1. Create a Database and Table

```
CREATE DATABASE CompanyDB;
USE CompanyDB;

CREATE TABLE Employees (
    EmpID INT PRIMARY KEY,
    Name VARCHAR(50),
    Age INT,
    Department VARCHAR(50),
    Salary DECIMAL(10,2)
);
```

Creates a database `CompanyDB` and an `Employees` table.

### 2. Create a New User

```
CREATE USER 'john'@'localhost' IDENTIFIED BY 'password123';
```

Creates a user `john` with a specified password.

### 3. Grant Privileges to the User

```
GRANT SELECT, INSERT ON CompanyDB.Employees TO 'john'@'localhost';
```

Grants `SELECT` and `INSERT` privileges on the `Employees` table to the user `john`.

### 4. Verify Privileges

```
SHOW GRANTS FOR 'john'@'localhost';
```

Displays the assigned privileges for the user `john`.

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## 5. Revoke Privileges

```
REVOKE INSERT ON CompanyDB.Employees FROM 'john'@'localhost';
```

Removes `INSERT` permission from the user `john` while keeping the `SELECT` privilege.

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## 6. Check Updated Privileges

```
SHOW GRANTS FOR 'john'@'localhost';
```

Displays the privileges after the `INSERT` permission is revoked.

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## Summary

- DCL commands manage user permissions in a database.
  - `GRANT` assigns specific privileges to users or roles.
  - `REVOKE` removes specific privileges from users or roles.
  - `SHOW GRANTS` displays the privileges assigned to a user.
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## Next Step

Run the SQL file in **MySQL** or **PostgreSQL** to understand how access control works.

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