SQL Grant and Revoke Commands

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Overview

• DCL commands are used to enforce database security in a multiple database environment.

• Two types of DCL commands are
  • Grant
  • Revoke

• Database Administrator's or owner's of the database object can provide/remove privileges on a database object.
SQL Grant Command

- **SQL Grant command** is used to provide access or privileges on the database objects to the users.

- The syntax for the **GRANT command** is:

  ```
  GRANT privilege_name ON object_name 
  TO {user_name | PUBLIC | role_name} [with GRANT option];
  ```

  Here, `privilege_name`: is the access right or privilege granted to the user.

  `object_name`: is the name of the database object like table, view etc.

  `user_name`: is the name of the user to whom an access right is being granted.

  Public is used to grant rights to all the users.

  With Grant option: allows users to grant access rights to other users.
SQL Revoke Command

• The revoke command removes user access rights or privileges to the database objects.

• The syntax for the REVOKE command is:

\[
\text{REVOKE \ privilege\_name \ ON \ object\_name \ FROM \ \{User\_name \mid \text{PUBLIC} \mid \text{Role\_name}\}}
\]

• For Example:

(a) \text{GRANT SELECT ON employee TO user1}
This command grants a SELECT permission on employee table to user1.

(b) \text{REVOKE SELECT ON employee FROM user1}
This command will revoke a SELECT privilege on employee table from user1.
Privileges and Roles

- Privileges defines the access rights provided to a user on a database objects. There are two types of privileges:

  (a) System Privileges: This indicate user to CREATE, ALTER, or DROP database elements.

  (b) Object Privileges: This allows user to EXECUTE, SELECT, INSERT, or DELETE data from database objects to which the privileges apply.

- Roles are the collection of privileges or access rights. When there are many users in a database it becomes difficult to grant or revoke privileges to the users.

- So, if we define roles we can automatically grant/revoke privileges.
Reference