DBMS SQL

Lesson 12: Data Control Language

Lesson Objectives

- Data Control Language
  - User Access Control
  - Object Privileges
  - Grant and Revoke Statements

User Access Control

- With Oracle server you can maintain database security, by:
  - Controlling database access
  - Giving access to specific objects in the database
  - Confirming given and received privileges with the Oracle data dictionary

Object Privileges

- Object Privileges are required to manipulate the content of the database objects
- Owner of the object has all the object privileges on that object.
- Owner can give or take out privileges on a particular object
- Object privileges can differ from object to object

Object Privileges

Object Privilege	Table	View	Sequence	Procedure
SELECT	☑	☑	☑	
UPDATE	☑	☑		
DELETE	☑	☑		
INSERT	☑	☑		
ALTER	☑		☑	
INDEX	☑			
REFERENCES	☑	☑		
EXECUTE				☑

Data Control Language - Syntax

- ## Granting Object Privileges

  > GRANT object_privileges|ALL [(columnname)] ON object   TO
  >
  > {user|role|public} WITH GRANT OPTION

- ## Revoking Object Privileges

  > REVOKE {privilege,[privilege…]|ALL} ON object   FROM
  >
  > {user,[user,….]|role|public} [CASCADE CONSTRAINTS

Data Control Language - Example

- Grant Query and Update privileges

  ```
  GRANT SELECT ON student_master TO user1,user2;
  ```

  ```
  GRANT UPDATE (subject1,subject2,subject3
  ON student_marks TO user1,user2;
  ```

- Grant privileges and allow to pass it on

  ```
  GRANT SELECT, INSERT ON student_master
  TO user1
  WITH GRANT OPTION;
  ```

Data Control Language -Example

- Revoking UPDATE privileges from user2

> REVOKE UPDATE on student_marks FROM user2;

Summary

- In this lesson, you have learnt:
- Data Control Language
  - Grant
  - Revoke

Review Questions

- Question 1: Object Privileges are same on all objects
  - True/False

- Question 2 :REFERENCES privilege can be granted on
  - Option 1 :Table
  - Option 2 : View
  - Option 3 : Sequence