

Bài thực hành DCL (SqlSever 2019)

1. What is a difference between Windows mode and Mixed mode?
2. What is a difference between a login and a user account?
3. Create three logins called ann, burt, and chuck. The corresponding passwords are a1b2c3d4e5!, d4e3f2g1h0!, and f102gh285!, respectively. The default database is the sample database. After creating the logins, check their existence using the system catalog.
4. Create three new database usernames for the logins in No.3. The new names are s_ann, s_burt, and s_charles.
5. Create a new user-defined database role called managers and add three members (see No.4) to the role. After that, display the information for this role and its members.
6. Using the GRANT statement, allow the user s_burt to create tables and the user s_ann to create stored procedures in the sample database.
7. Using the GRANT statement, allow the user s_charles to update the columns lname and fname of the employee table.
8. Using the GRANT statement, allow the users s_burt and s_ann to read the values from the columns emp_lname and emp_fname of the employee table. (Hint: Create the corresponding view first.)
9. Using the GRANT statement, allow the userdefined role managers to insert new rows in the project table.
10. Revoke the SELECT rights from the user s_burt.
11. Using Transact-SQL, do not allow the user s_ann to insert the new rows in the project table either directly or indirectly (using roles).
12. Discuss the difference between the use of views and Transact-SQL statements GRANT, DENY, and REVOKE in relation to security.
13. Display the existing information about the user s_ann in relation to the sample database. (Hint: Use the system procedure sp_helpuser.)

* Solutions:

Chapter 12 Security System of the Database Engine

S.12.1 In Windows mode the Database Engine exclusively uses Windows user accounts, assuming that they already have been validated at the operating system level (trusted connection). In Mixed mode, there are two security options: SQL Server security and Windows security.

S.12.2 The login is used to allow a certain user to log in to the database system, whereas the user account is used to grant access to a particular database for a certain user or a role.

S.12.3

```
USE sample;
CREATE LOGIN ann WITH PASSWORD = 'a1b2c3d4e5!';
CREATE LOGIN burt WITH PASSWORD = 'd4e3f2g1h0!';
CREATE LOGIN chuck WITH PASSWORD = 'f102gh285!';
USE master;
SELECT name FROM sys.syslogins;
```

S.12.4

```
USE sample;
CREATE USER s_ann FOR LOGIN ann;
CREATE USER s_burt FOR LOGIN burt;
CREATE USER s_charles FOR LOGIN chuck;
```

S.12.5

```
USE sample;
GO
CREATE ROLE managers AUTHORIZATION s_ann;
GO
sp_addrolemember 'managers', 's_ann';
sp_addrolemember 'managers', 's_burt';
GO
sp_addrolemember 'managers', 's_charles';
GO
-- display the information using the sp_helpuser system procedure
EXEC sp_helpuser 'managers'
```

S.12.6

```
USE sample;  
GRANT CREATE TABLE TO s_burt;  
GRANT CREATE PROCEDURE TO s_ann;
```

S.12.7

```
USE sample;  
GRANT UPDATE ON employee(emp_lname,emp_fname)  
TO s_charles;
```

S.12.8

```
USE sample;  
GO  
CREATE VIEW readnames  
AS SELECT emp_lname,emp_fname FROM employee;  
GO  
GRANT SELECT ON readnames  
TO s_burt, s_ann;
```

S.12.9

```
USE sample;  
GRANT INSERT ON project  
TO managers;
```

S.12.10

```
USE sample;  
REVOKE SELECT ON readnames  
FROM s_burt;
```

S.12.11

```
USE sample;  
DENY INSERT ON project  
TO s_ann;
```

S.12.12 The functionality of views in relation to the Transact-SQL statements GRANT, REVOKE, and DENY is limited, because with the former you can restrict only the access to one or more columns and one or more rows. (Using Transact-SQL statements, you can restrict read and write operations on data.)

S.12.13

```
USE sample;  
GO  
EXEC sp_helpuser s ann;
```