

Database 2

ORACLE ENVIRONMENT

LAB 3

Outline

Lab 1 Oracle Administration	
1	Types of users in Oracle
2	Types of Oracle Clients
3	Connecting to SQLPLUS
4	Creating user and define user privileges
Lab 2 Privileges	
1	Grant System Privilege / Object Privileges
2	Revoke System Privilege / Object Privileges
3	Lock and Expire Accounts

Outline

Lab 3	SQL Developer
1	Create user using/ Create Table
2	Show Connected user and Disconnect
3	Connect Disconnected User
4	Roles and Granting

Check System or Object Privileges

Table Name	Description
DBA_SYS_PRIVS	System Privileges Table for Admin Privileges
USER_SYS_PRIVS	System Privileges Table for any user Privileges
DBA_TAB_PRIVS	Object Privileges Table for Admin Privileges
USER_TAB_PRIVS	Object Privileges Table for User Privileges

How can I know my System Privileges?

- Admin user:
 - `select* from dba_sys_privs;`
- Regular user:
 - `select* from user_sys_privs;`

System Privileges Table for Admin Privileges

SQL> select * from DBA_SYS_PRIVS;

```
SQL> select * from dba_sys_privs;
```

GRANTEE	PRIVILEGE	ADM
-----	-----	----
DBA	CREATE SESSION	YES
DBA	ALTER SESSION	YES
DBA	DROP TABLESPACE	YES
DBA	BECOME USER	YES
DBA	DROP ROLLBACK SEGMENT	YES
DBA	SELECT ANY TABLE	YES
DBA	INSERT ANY TABLE	YES
DBA	UPDATE ANY TABLE	YES
DBA	DROP ANY INDEX	YES
DBA	SELECT ANY SEQUENCE	YES
DBA	CREATE ROLE	YES

System Privileges Table for user

Privileges

SQL> select * from USER_SYS_PRIVS;

```
SQL> conn khaled/admin;
Connected.
SQL> select * from user_sys_privs;

USERNAME                                PRIVILEGE
-----
ADM
-----
KHALED                                CREATE SESSION
NO
KHALED                                CREATE TABLE
NO
```

How can I know my object Privileges?

- Admin user:
 - `select* from dba_tab_privs;`
- Regular user:
 - `select* from user_tab_privs;`

```
SQL> select * from user_tab_privs;
```

GRANTEE	OWNER		
TABLE_NAME	GRANTOR		
PRIVILEGE		GRA	HIE
ALI	KHALED		
EMPLOYEE	KHALED		
SELECT		NO	NO

How to grant all system privileges to specific user?

- Grant all privileges to user_name;

```
SQL> grant all privileges to khaled;  
—  
Grant succeeded.
```

How to revoke all system privileges to specific user?

- revoke all privileges from user_name;

```
SQL> revoke all privileges from khaled;  
-  
Revoke succeeded.
```

- Show all Khaled's system privileges

```
SQL> show user;  
USER is "KHALED"  
SQL> select * from user_sys_privs;  
  
no rows selected
```

Regular user can grant another user an system privilege!

```
SQL> conn sys as sysdba
Enter password:
Connected.
SQL> grant create table to ali with admin option;

Grant succeeded.
```



Regular user can grant another user an system privilege!

```
SQL> conn ali/ 222;  
Connected.  
SQL> select * from user_sys_privs;
```

2

USERNAME	PRIVILEGE	ADM
ALI	CREATE SESSION	NO
ALI	CREATE TABLE	YES

```
SQL> grant create table to ahmed;  
  
Grant succeeded.
```

Regular user can grant another user an system privilege!

```
SQL> conn ahmed /123
Connected.
SQL> select * from user_sys_privs;
```

USERNAME	PRIVILEGE	ADM
AHMED	CREATE TABLE	NO



Regular user can grant another user an object privilege!

SQL> conn ali / 222;
Connected.
SQL> grant select on employee to ahmed with grant option;

Grant succeeded.

1

SQL> conn ahmed / 123;
Connected.
SQL> grant select on ali.employee to rawan;

Grant succeeded.

2

Regular user can grant another user an object privilege!

```
SQL> conn rawan/ 123;  
Connected.  
SQL> select * from ali.employee;
```

ID	NAME
1	ali
2	ahmed
3	rawan



How to drop user?

- The user must be disconnected ;
- Cascade keyword used to delete all objects in user's schema.

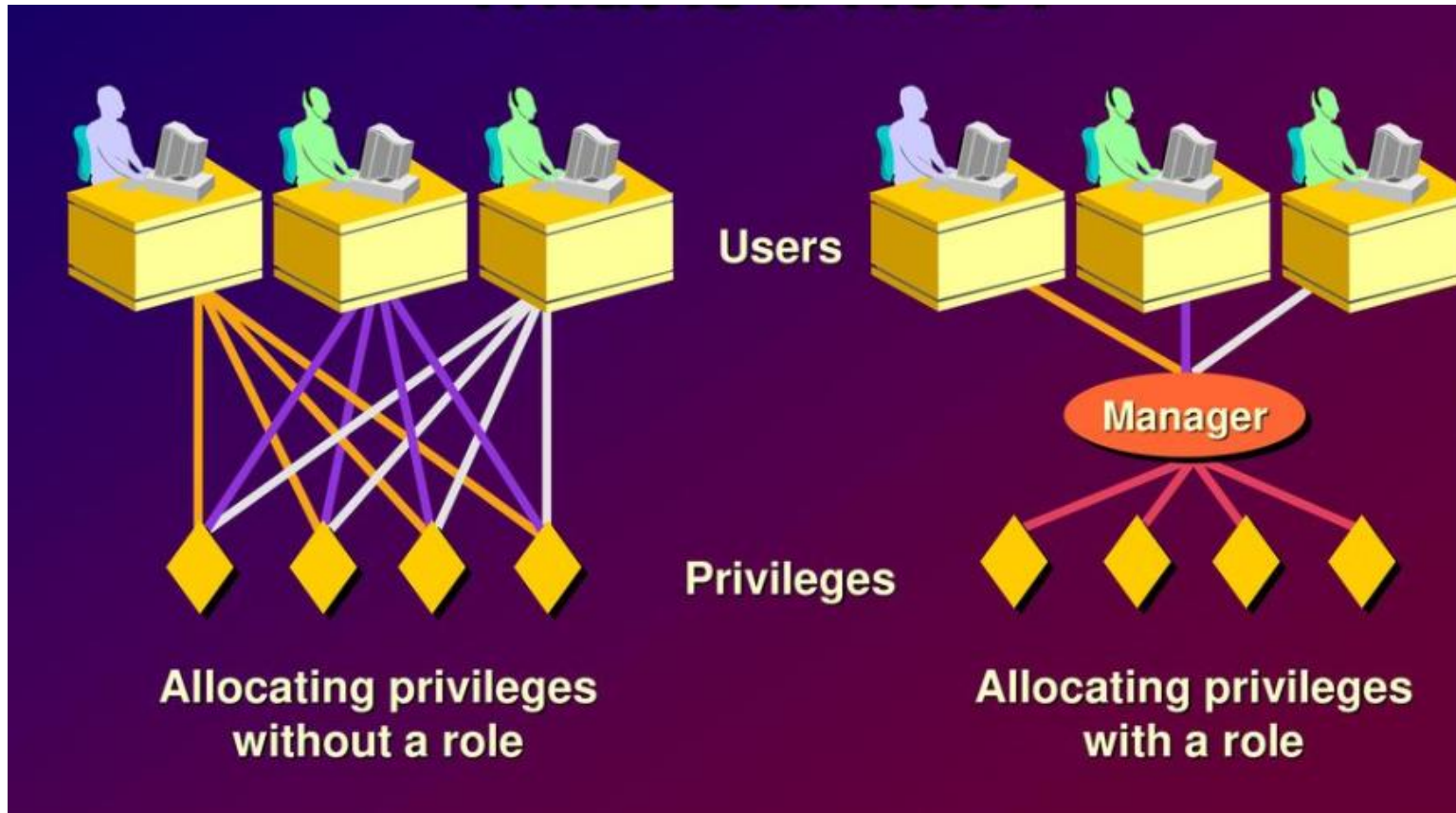
```
SQL> create user fady identified by admin;  
User created.  
  
SQL> grant create session to fady;  
Grant succeeded.  
  
SQL> drop user fady cascade;  
User dropped.
```


ROLES

- **Well a role is a group of privileges in a single package.**
- **This allows for the administrator of database to easily grant or revoke privileges among the database users.**



ROLES



CREATING ROLES

```
SQL> CREATE ROLE MANAGERROLE;
```

Role created.

```
SQL> GRANT CREATE SESSION, CREATE TABLE, SELECT ANY TABLE,  
CREATE USER, DROP USER, RESTRICTED SESSION TO MANAGERROLE;
```

Grant succeeded.

GRANTING ROLES

```
SQL> create user ahmed identified by 123;
```

```
User created.
```

```
SQL> GRANT MANAGERROLE TO AHMED;
```

```
Grant succeeded.
```

Retrieving Roles of Users

```
SQL> select* from user_sys_privs;
```

```
no rows selected
```

```
SQL> select* from role_sys_privs;
```

ROLE	PRIVILEGE	ADM
MANAGERROLE	SELECT ANY TABLE	NO
MANAGERROLE	DROP USER	NO
MANAGERROLE	CREATE TABLE	NO
MANAGERROLE	CREATE USER	NO
MANAGERROLE	RESTRICTED SESSION	NO
MANAGERROLE	CREATE SESSION	NO

```
6 rows selected.
```

CREATING NEW USER

```
SQL> conn ahmed /123;
```

```
Connected.
```

```
SQL> create user seconduser identified by 123;
```

```
User created.
```

GRANTING CREATING ROLE TO USER

```
SQL> conn /as sysdba
Connected.
SQL> GRANT CREATE ROLE TO MANAGERROLE;
```

Grant succeeded.

```
SQL> conn ahmed/123;
Connected.
SQL> select * from role_sys_privs;
```

ROLE	PRIVILEGE	ADM
-----	-----	-----

MANAGERROLE	SELECT ANY TABLE	NO
MANAGERROLE	DROP USER	NO
MANAGERROLE	CREATE TABLE	NO
MANAGERROLE	CREATE USER	NO
MANAGERROLE	RESTRICTED SESSION	NO
MANAGERROLE	CREATE SESSION	NO
MANAGERROLE	CREATE ROLE	NO

Grant update on table

- Update all columns in specific table.

```
grant update on table_name to user_name;
```

- Update specific column in specific table.

```
grant update(col_name) on table_name to  
user_name;
```


Grant update on table

```
SQL> grant update(name) on  
2 ali.employee to ahmed;
```

```
SQL> update ali.employee set name = 'rawan'  
2 where id = 3;
```

1 row updated.

```
SQL> commit;
```

Commit complete.

```
SQL> select * from ali.employee;
```

ID	NAME
1	ali
2	ahmed
3	rawan

GRANT UPDATE ROLE

```
SQL> conn /as sysdba
Connected.
SQL> GRANT UPDATE ANY TABLE TO AHMED;

Grant succeeded.
```

```
SQL> update testuser.employee set name = 'khaled'
where ID= 2;
```

1 row updated.

```
SQL> commit;
```

Commit complete.

```
SQL> select * from testuser.employee;
```

ID	NAME	GENDER
1	ALI	MALE
2	khaled	MALE
3	NADIA	FEMALE

ORACLE SQL DEVELOPER

1. Get Connected
2. Login by SYS or User
3. Creating New User and Assign Privileges
4. Creating Table
5. Roles

CONNECTING BY ADMIN

Name  Color

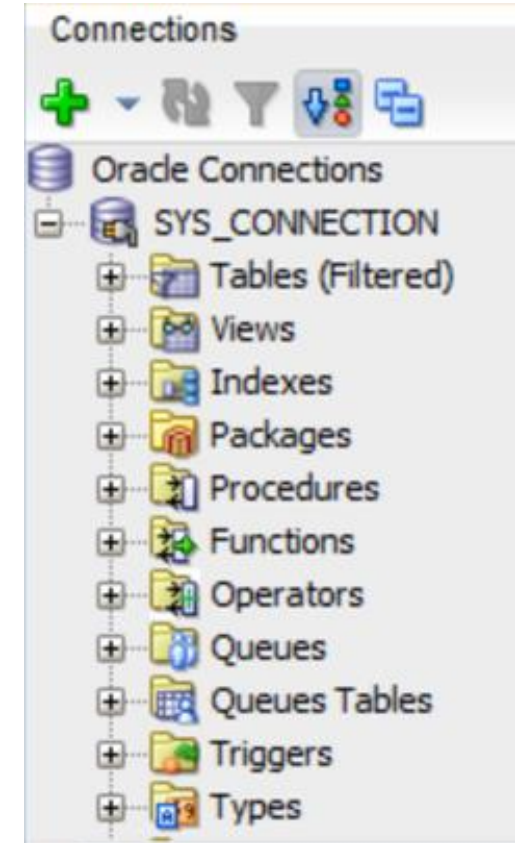
Database Type

User Info Proxy User

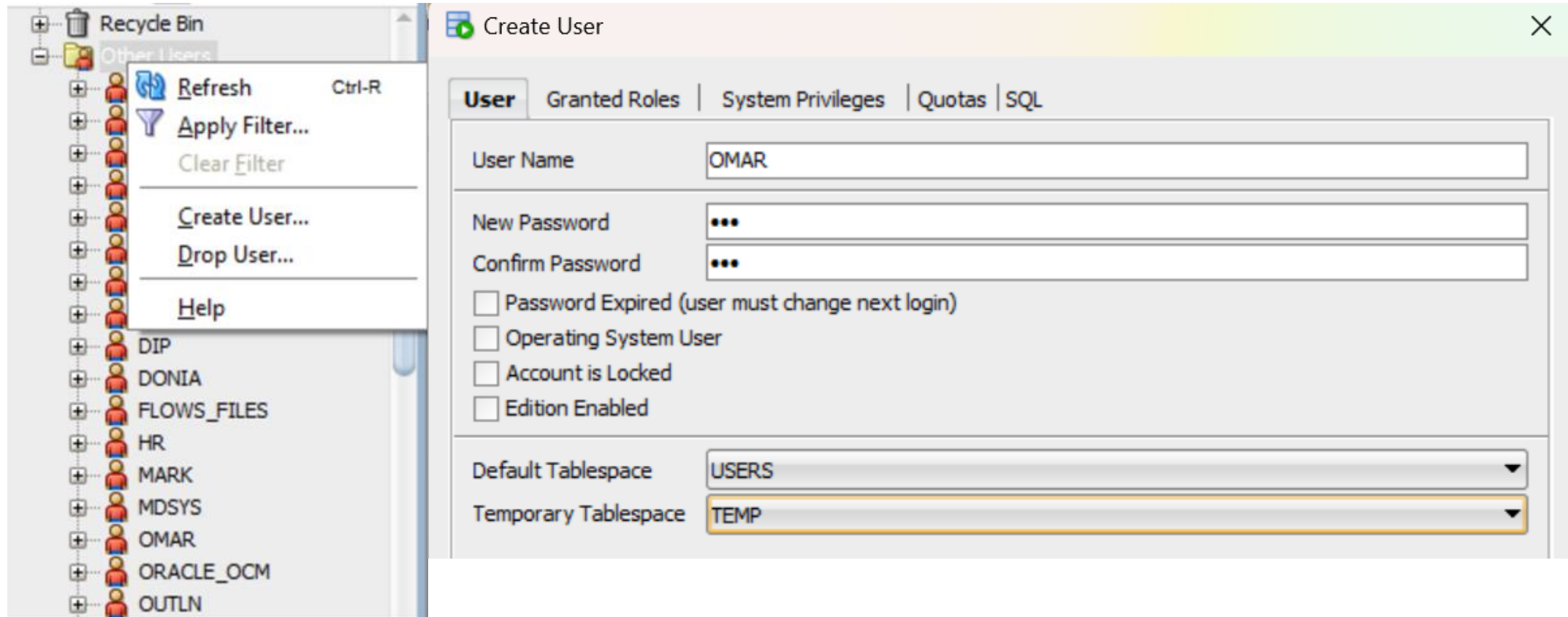
Authentication Type

Username Role


Password ☐ Save Password



CREATING NEW USER




GRANTING PRIVILEGES TO USER


 Create User ×

User | Granted Roles | **System Privileges** | Quotas | SQL


Grant All | Revoke All | Admin All | Admin None

Privilege 	Granted	Admin Option
CREATE ROLE	<input type="checkbox"/>	<input type="checkbox"/>
CREATE ROLLBACK SEGMENT	<input type="checkbox"/>	<input type="checkbox"/>
CREATE RULE	<input type="checkbox"/>	<input type="checkbox"/>
CREATE RULE SET	<input type="checkbox"/>	<input type="checkbox"/>
CREATE SEQUENCE	<input type="checkbox"/>	<input type="checkbox"/>
CREATE SESSION	<input checked="" type="checkbox"/>	<input type="checkbox"/>
CREATE SYNONYM	<input type="checkbox"/>	<input type="checkbox"/>
CREATE TABLE	<input checked="" type="checkbox"/>	<input type="checkbox"/>
CREATE TABLESPACE	<input type="checkbox"/>	<input type="checkbox"/>

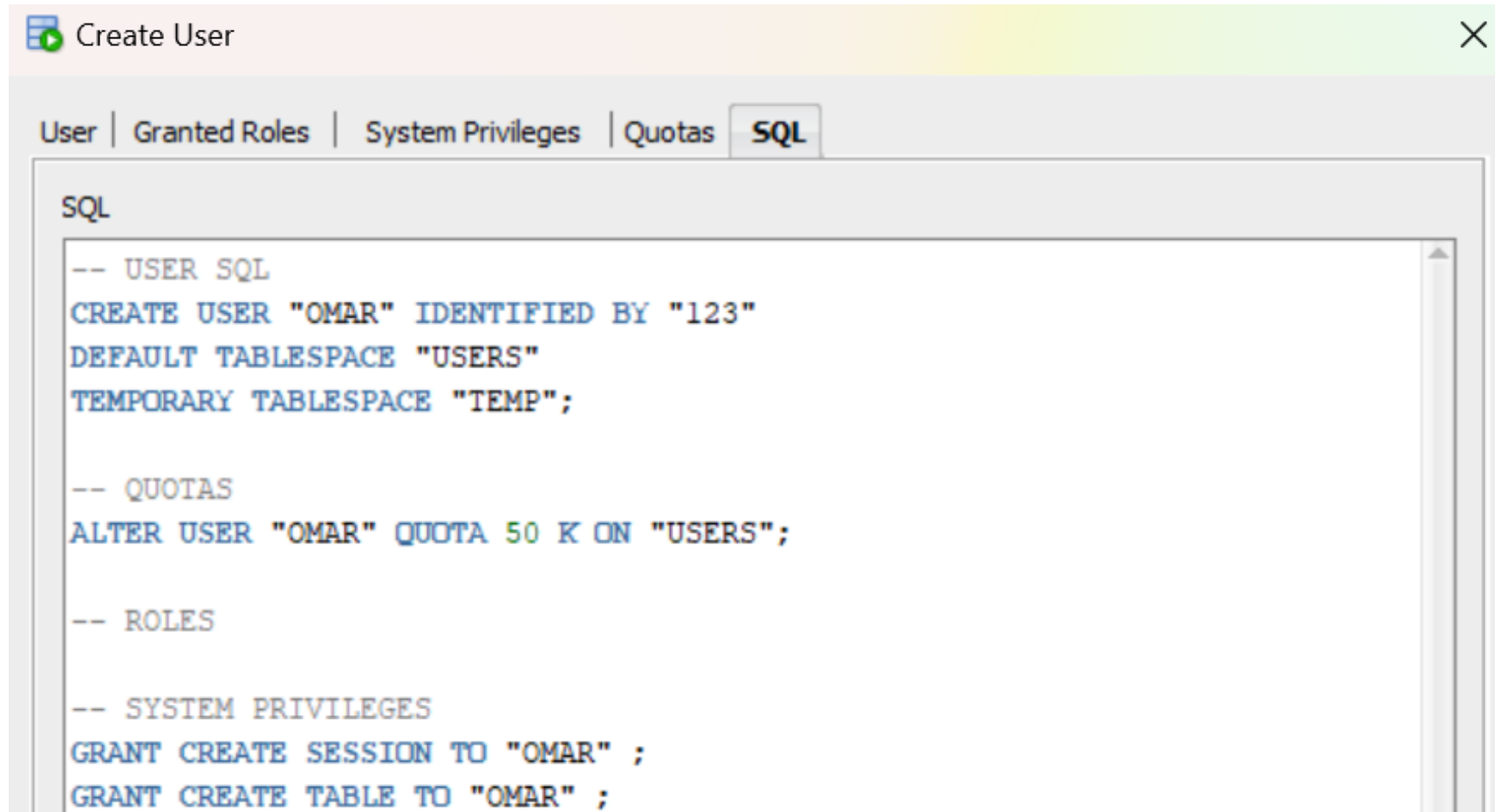
DEFINE QUOTAS TO USER

 Create User ×

User | Granted Roles | System Privileges | **Quotas** | SQL

Tablespace 	Unlimited	Quota	Units
SYSAUX	<input type="checkbox"/>		
SYSTEM	<input type="checkbox"/>		
USERS	<input type="checkbox"/>		50 K

GENERATED SQL STATEMENTS



The screenshot shows a 'Create User' dialog box with a tabbed interface. The 'SQL' tab is selected, displaying the following SQL statements:

```
-- USER SQL
CREATE USER "OMAR" IDENTIFIED BY "123"
DEFAULT TABLESPACE "USERS"
TEMPORARY TABLESPACE "TEMP";

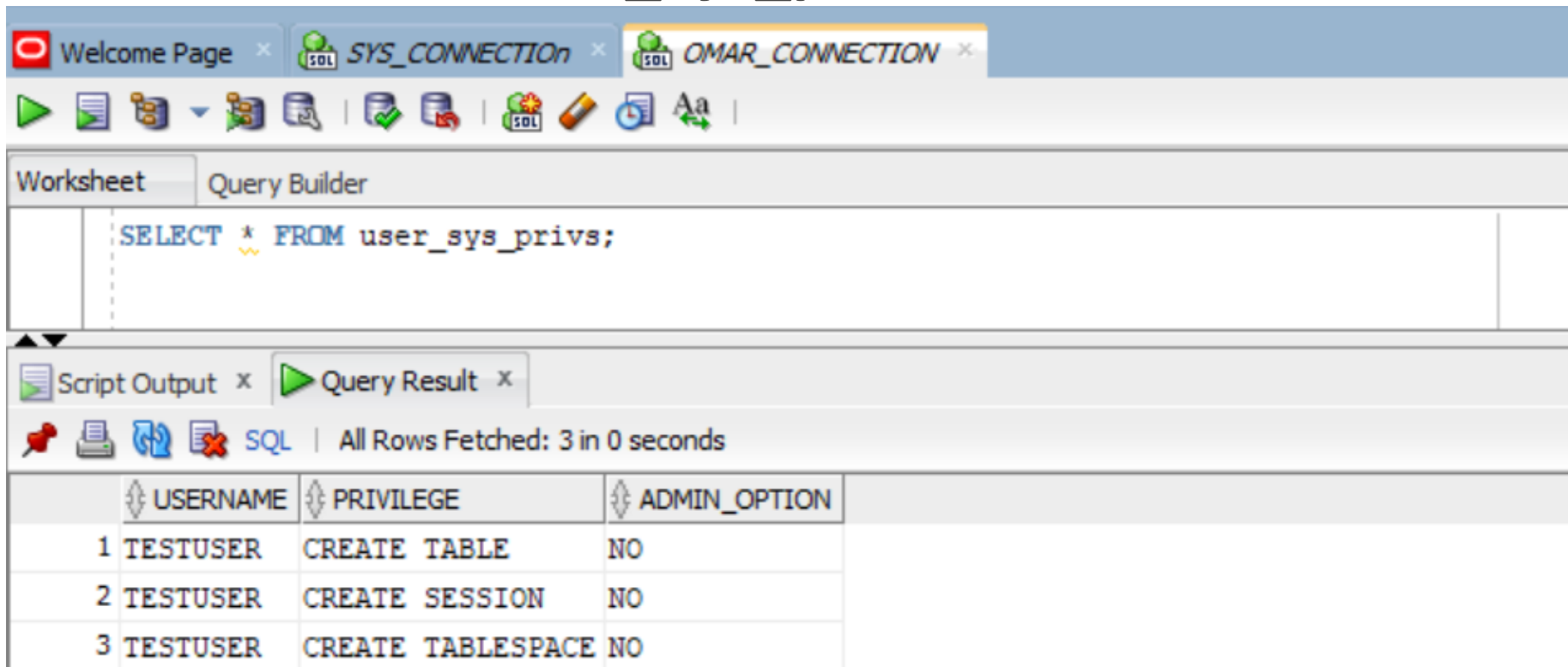
-- QUOTAS
ALTER USER "OMAR" QUOTA 50 K ON "USERS";

-- ROLES

-- SYSTEM PRIVILEGES
GRANT CREATE SESSION TO "OMAR" ;
GRANT CREATE TABLE TO "OMAR" ;
```


Retrieve User Privileges

```
SELECT * FROM user_sys_privs;
```



The screenshot shows an SQL IDE interface. At the top, there are tabs for 'Welcome Page', 'SYS_CONNECTION', and 'OMAR_CONNECTION'. Below the tabs is a toolbar with various icons. The main area is divided into 'Worksheet' and 'Query Builder' tabs. The 'Worksheet' tab is active, showing the query 'SELECT * FROM user_sys_privs;'. Below the query editor, there are tabs for 'Script Output' and 'Query Result'. The 'Query Result' tab is active, displaying a table with the results of the query. The table has three columns: 'USERNAME', 'PRIVILEGE', and 'ADMIN_OPTION'. The results show three rows of data for the 'TESTUSER' user.

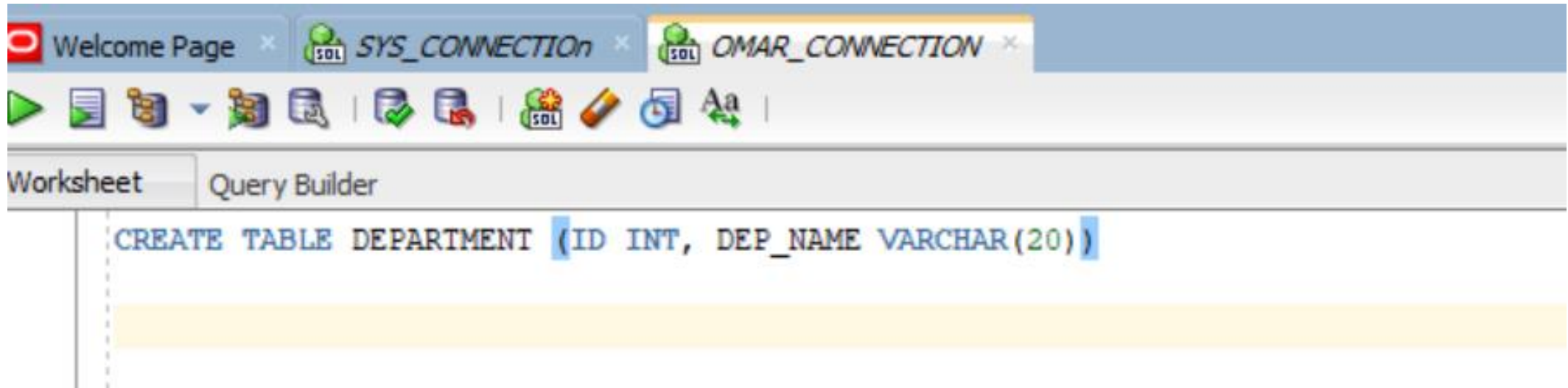
	USERNAME	PRIVILEGE	ADMIN_OPTION
1	TESTUSER	CREATE TABLE	NO
2	TESTUSER	CREATE SESSION	NO
3	TESTUSER	CREATE TABLESPACE	NO

Creating Table

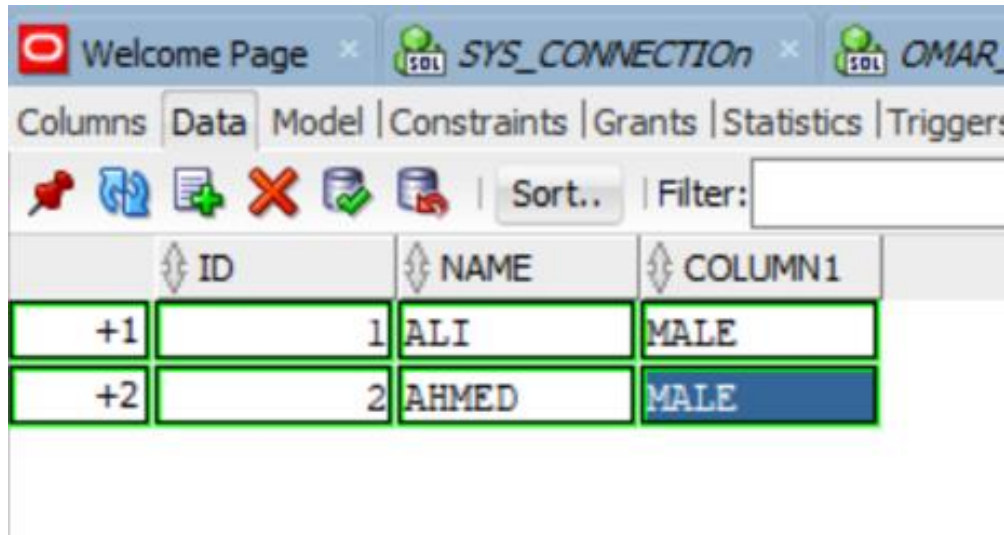
The screenshot shows the Oracle SQL Developer interface. On the left, the 'Oracle Connections' tree is expanded to 'OMAR_CONNECTION', and the 'Tables' folder is selected. A context menu is open over the 'Tables' folder, with 'New Table...' highlighted. The 'Create Table' dialog is open on the right, showing the 'Schema' as 'TESTUSER' and the 'Name' as 'EMPLOYEE'. The 'Table' tab is selected, and the 'Columns' section is visible. The 'Columns' table has the following data:

PK	Name	Data Type	Size	Not Null	Default	Comment
	ID	NUMBER		<input type="checkbox"/>		
	NAME	VARCHAR2	20	<input type="checkbox"/>		
	GENDER	VARCHAR2	20	<input type="checkbox"/>		

Creating Table



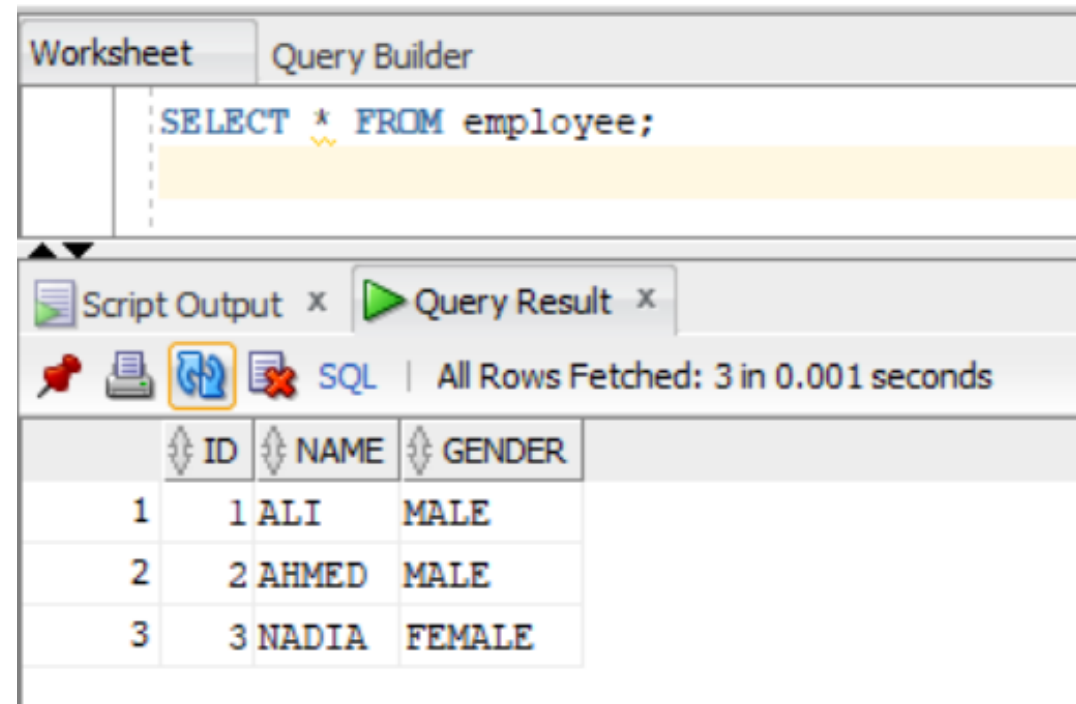
Inserting Data Into Table



Columns | Data | Model | Constraints | Grants | Statistics | Triggers

Sort.. | Filter:

	ID	NAME	COLUMN1
+1	1	ALI	MALE
+2	2	AHMED	MALE



Worksheet | Query Builder

```
SELECT * FROM employee;
```

Script Output x | Query Result x

SQL | All Rows Fetched: 3 in 0.001 seconds

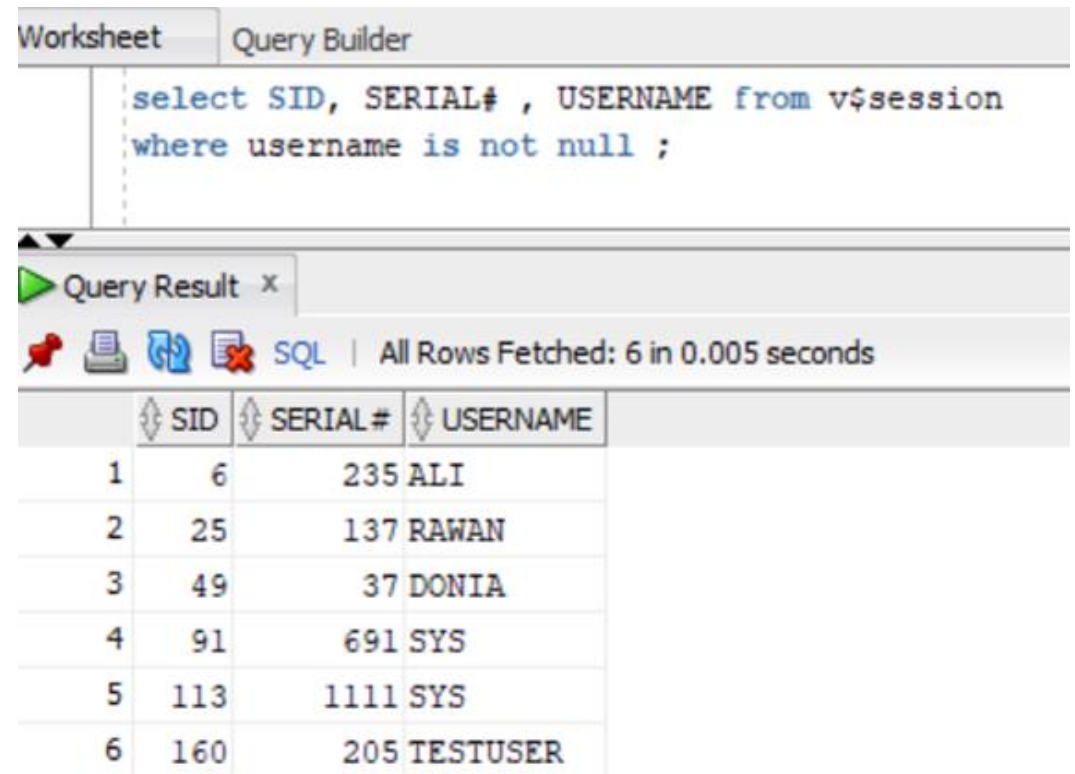
	ID	NAME	GENDER
1	1	ALI	MALE
2	2	AHMED	MALE
3	3	NADIA	FEMALE

CONNECTED USERS

V\$SESSION TABLE: store all data about connected users.

DESC V\$SESSION;

**select SID, SERIAL# ,
USERNAME from V\$SESSION
where username is not null ;**



The screenshot shows the SQL Developer interface. At the top, there are tabs for 'Worksheet' and 'Query Builder'. The 'Query Builder' tab is active, displaying the following SQL query:

```
select SID, SERIAL# , USERNAME from v$session  
where username is not null ;
```

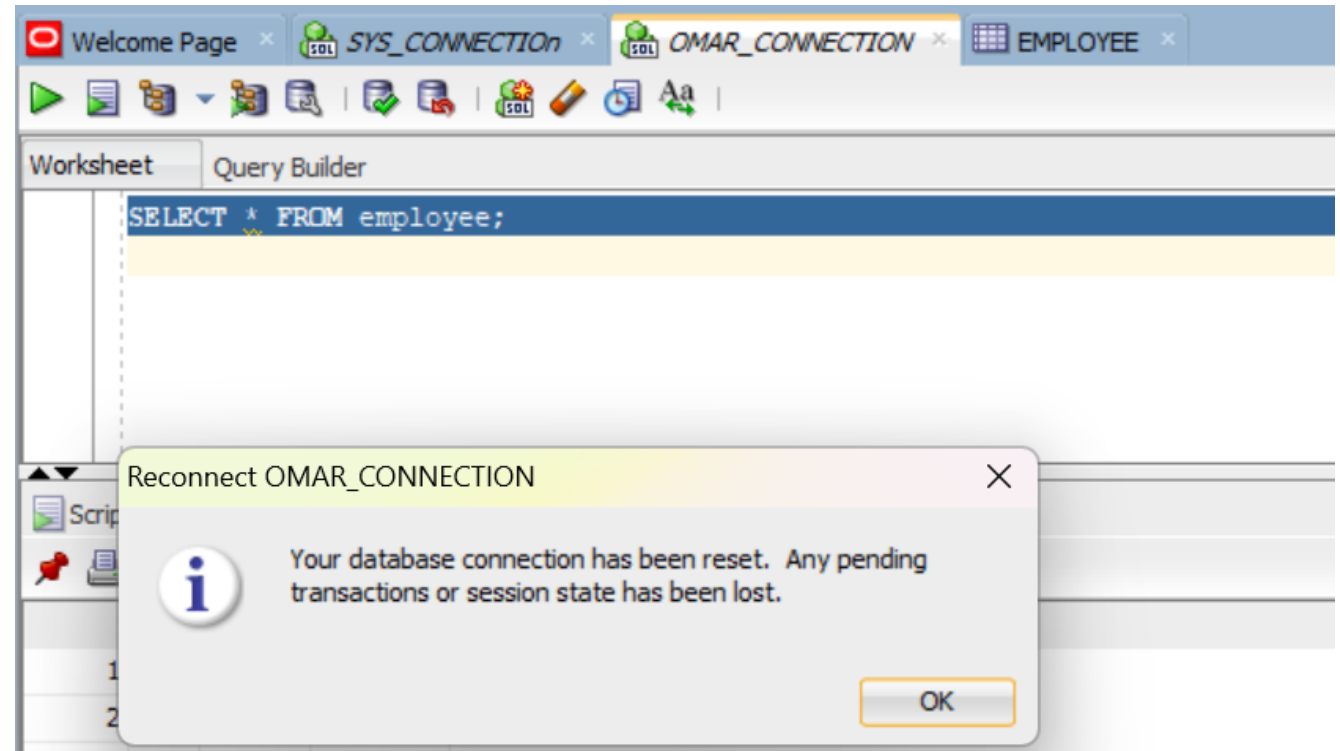
Below the query editor, there is a 'Query Result' window. It shows the results of the query, indicating that 6 rows were fetched in 0.005 seconds. The results are displayed in a table with three columns: SID, SERIAL#, and USERNAME.

	SID	SERIAL#	USERNAME
1	6	235	ALI
2	25	137	RAWAN
3	49	37	DONIA
4	91	691	SYS
5	113	1111	SYS
6	160	205	TESTUSER

Killing User Session

**ALTER SYSTEM KILL
SESSION 'SID, SERIAL#';**

**ALTER SYSTEM KILL
SESSION '160, 207';**



Thank you!

