

EXPERIMENT 23

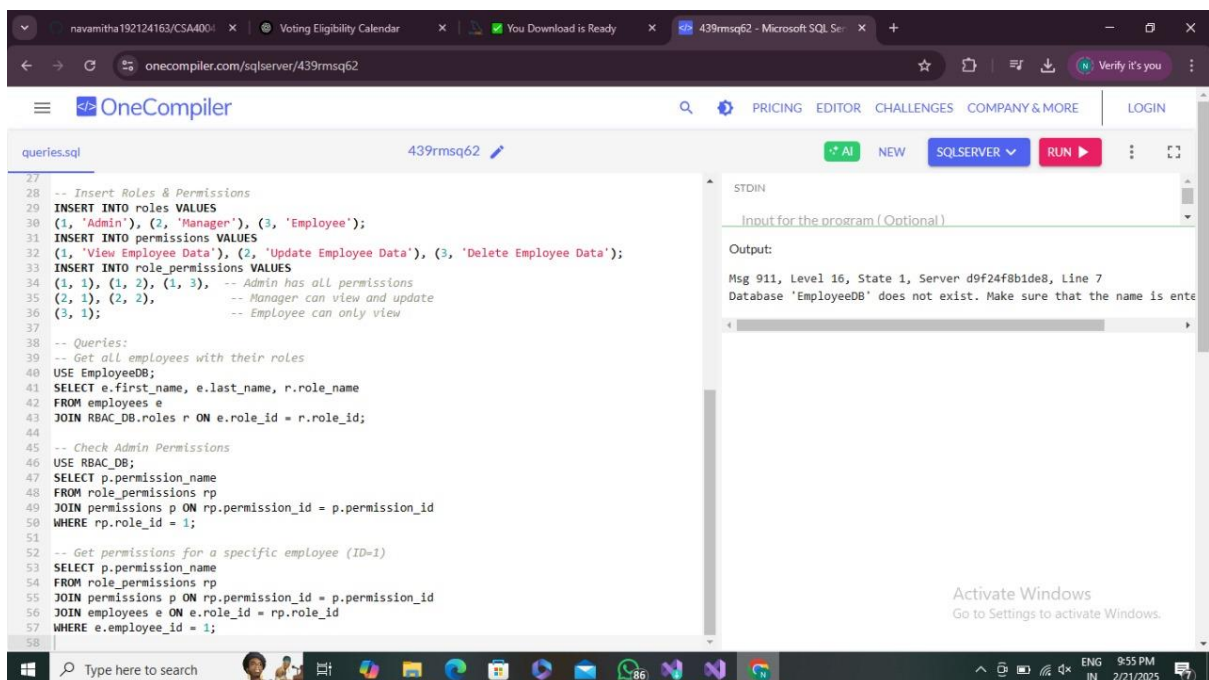
Aim:

To implement **role-based access control** for employees across multiple databases.

Procedure:

1. Create **three databases**:
 - CompanyDB (accessible by **partners**)
 - DepartmentDB (accessible by **managers and employees**)
2. Implement **authorization conditions**:
 - Partners → Access **Company Information Portal**
 - Managers/Employees → Access **Department Portal**
3. Develop a **login page (WebForm1.aspx)** and check user roles before granting access.
4. Test access restrictions based on user roles.

Output:



The screenshot shows the OneCompiler web interface with a SQL script for Microsoft SQL Server. The script defines roles, permissions, and queries. The output pane shows an error message: "Msg 911, Level 16, State 1, Server d9f24f8b1de8, Line 7 Database 'EmployeeDB' does not exist. Make sure that the name is entered correctly."

```
27
28 -- Insert Roles & Permissions
29 INSERT INTO roles VALUES
30 (1, 'Admin'), (2, 'Manager'), (3, 'Employee');
31 INSERT INTO permissions VALUES
32 (1, 'View Employee Data'), (2, 'Update Employee Data'), (3, 'Delete Employee Data');
33 INSERT INTO role_permissions VALUES
34 (1, 1), (1, 2), (1, 3), -- Admin has all permissions
35 (2, 1), (2, 2), -- Manager can view and update
36 (3, 1); -- Employee can only view
37
38 -- Queries:
39 -- Get all employees with their roles
40 USE EmployeeDB;
41 SELECT e.first_name, e.last_name, r.role_name
42 FROM employees e
43 JOIN RBAC_DB.roles r ON e.role_id = r.role_id;
44
45 -- Check Admin Permissions
46 USE RBAC_DB;
47 SELECT p.permission_name
48 FROM role_permissions rp
49 JOIN permissions p ON rp.permission_id = p.permission_id
50 WHERE rp.role_id = 1;
51
52 -- Get permissions for a specific employee (ID=1)
53 SELECT p.permission_name
54 FROM role_permissions rp
55 JOIN permissions p ON rp.permission_id = p.permission_id
56 JOIN employees e ON e.role_id = rp.role_id
57 WHERE e.employee_id = 1;
58
```

Output:

Msg 911, Level 16, State 1, Server d9f24f8b1de8, Line 7
Database 'EmployeeDB' does not exist. Make sure that the name is entered correctly.

Result:

A **role-based access control system** was successfully implemented for multiple databases.