Advanced SQL - II

Demo 2 –Sample Database View

edureka!

Sample Database View

Problem Statement: Create a database named 'Sample' depicting employee and department details in the XYZ company then create 4 tables namely department, employee, project, and works-on and perform the following tasks.
Database description:

1) department
   - **dept_no** – It represents the unique number of each department.
   - **dept_name** – Name of each department
   - **location** – The location of the corresponding department.

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2) employee
   - **emp_no** – The unique number of each employee
   - **emp_fname** – First name of each employee.
   - **emp_lname** – Last name of each employee.
   - **dept_no** – The number of the department to which the employee belongs.

3) project
   - **project_no** – The unique number of each project
   - **project_name** – The name of each project.
   - **budget** – The budget of each project.

4) works_on
   - **emp_no** –Specifies the employee number.
   - **project_no** – Specifies the number of the project on which the employee works.
   - **job** – Specifies the task of an employee.
   - **enter_date** – The starting date of an employee in the corresponding project.

Now, perform the following queries on View.

a. Create a view that comprises the data of all employees who work for the department d1.

b. For the project table, create a view that can be used by employees who are allowed to view all data of this table except the budget column.

c. Create a view that comprises the first and last names of all employees who entered their projects in the second half of the year 2017.

d. Solve view v_10_3 (View used in 3rd question), so that the original columns f_name and l_name have new names in the view: first and last, respectively.

e. Use the view v_10_1 (View used in 1st question) to display full details of every employee whose last name begins with the letter L.

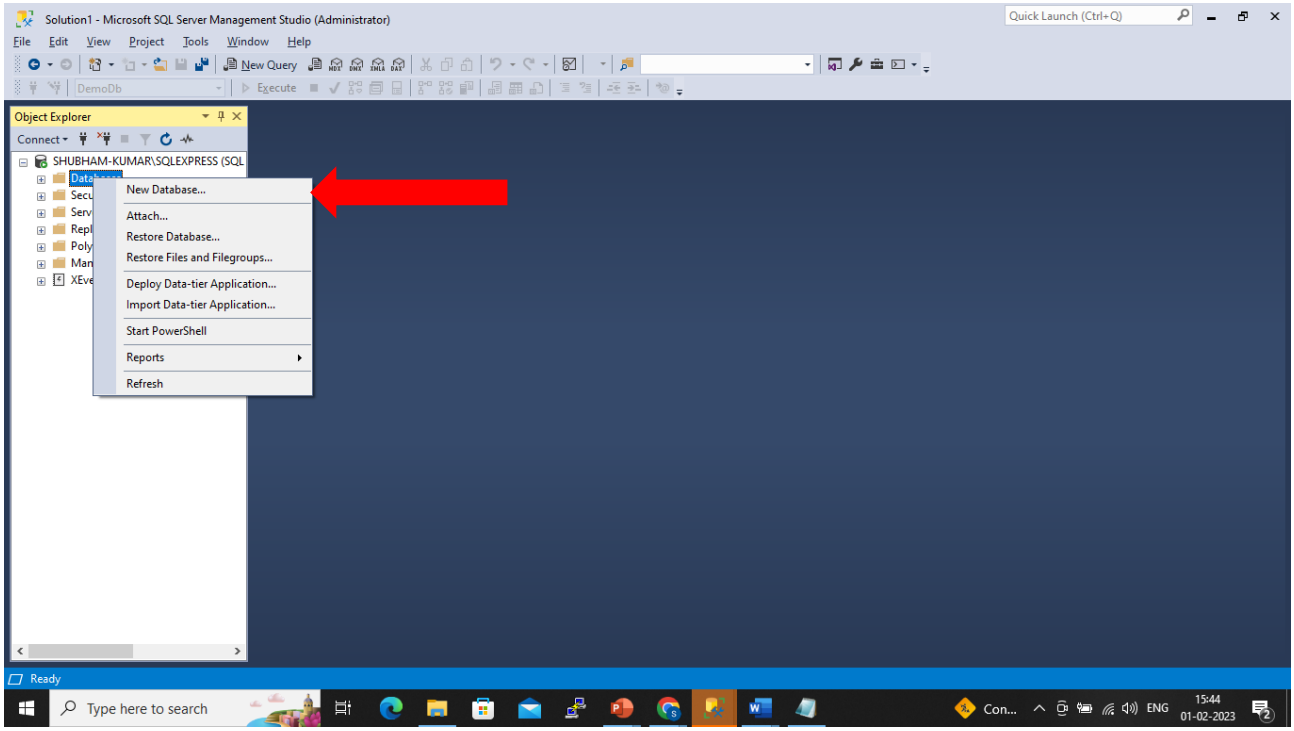
f. Create a view that comprises full details of all projects on which the employee named Smith works.

g. Using the ALTER VIEW statement, modify the condition in the view in v_10_1 (View used in 1st question). The modified view should comprise the data of all employees who work for department d1, department d2, or both.

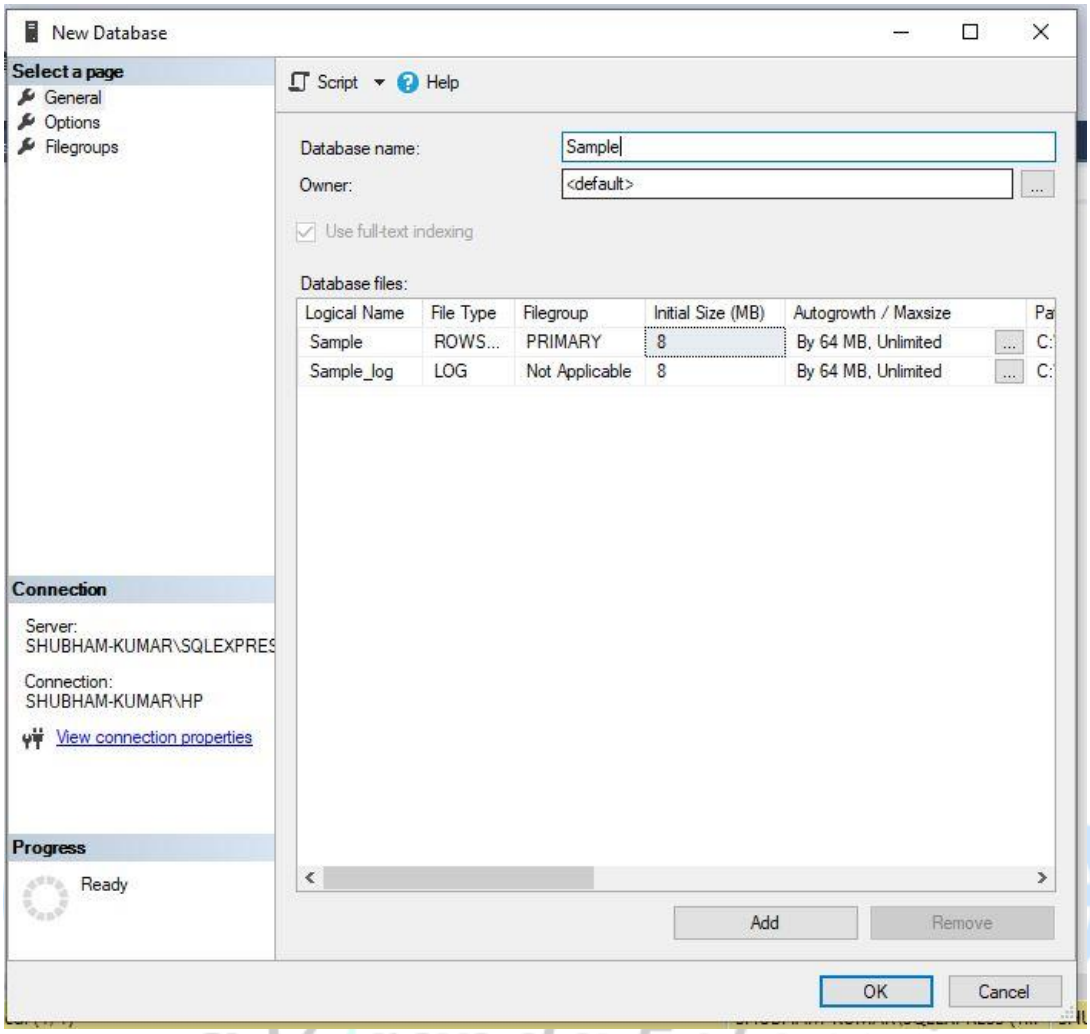
h. Using the view from v_10_2 (View used in 2nd question), insert the details of the new project with the project number p2 and the name Moon.

Working on the Demo

Step 1: Create a database named **Sample** by right-clicking on databases.



Step 2: Put in the Database name **Sample.**



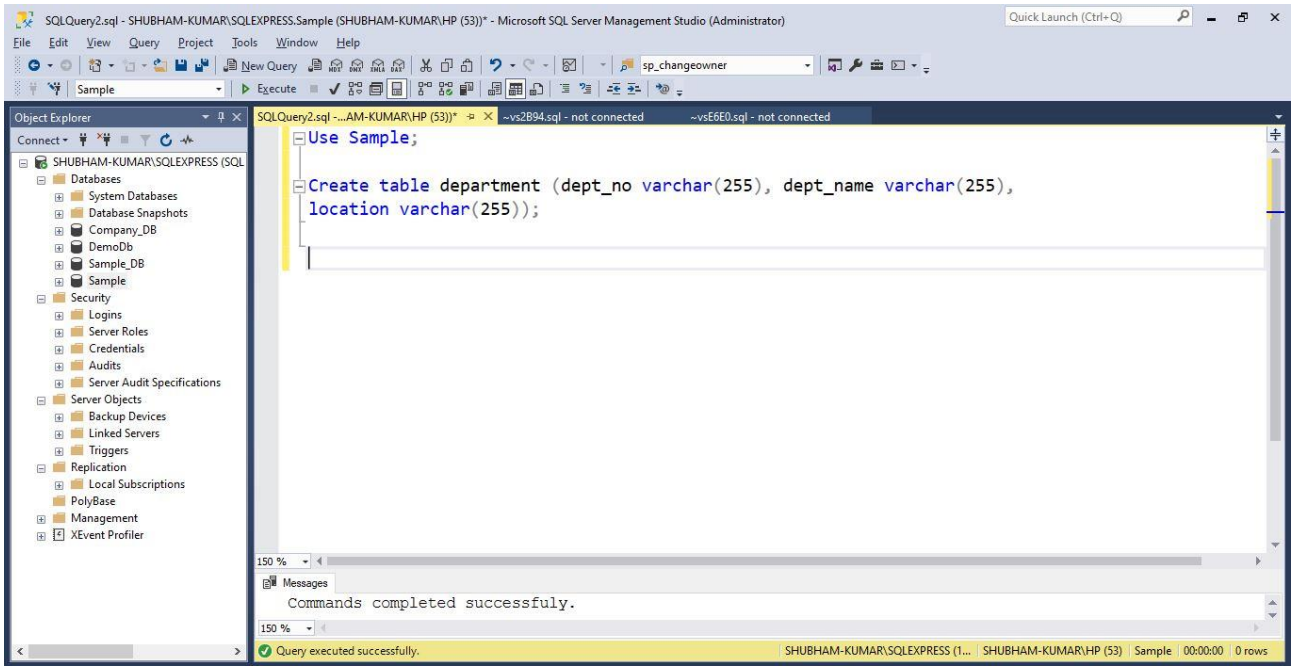
Note: There are two databases created Main Database File (MDF), which acts as a primary database and other one is Log Database File (LDF) which records all the changes and transactions made in the database

Note: Insert the values in all the respective tables.

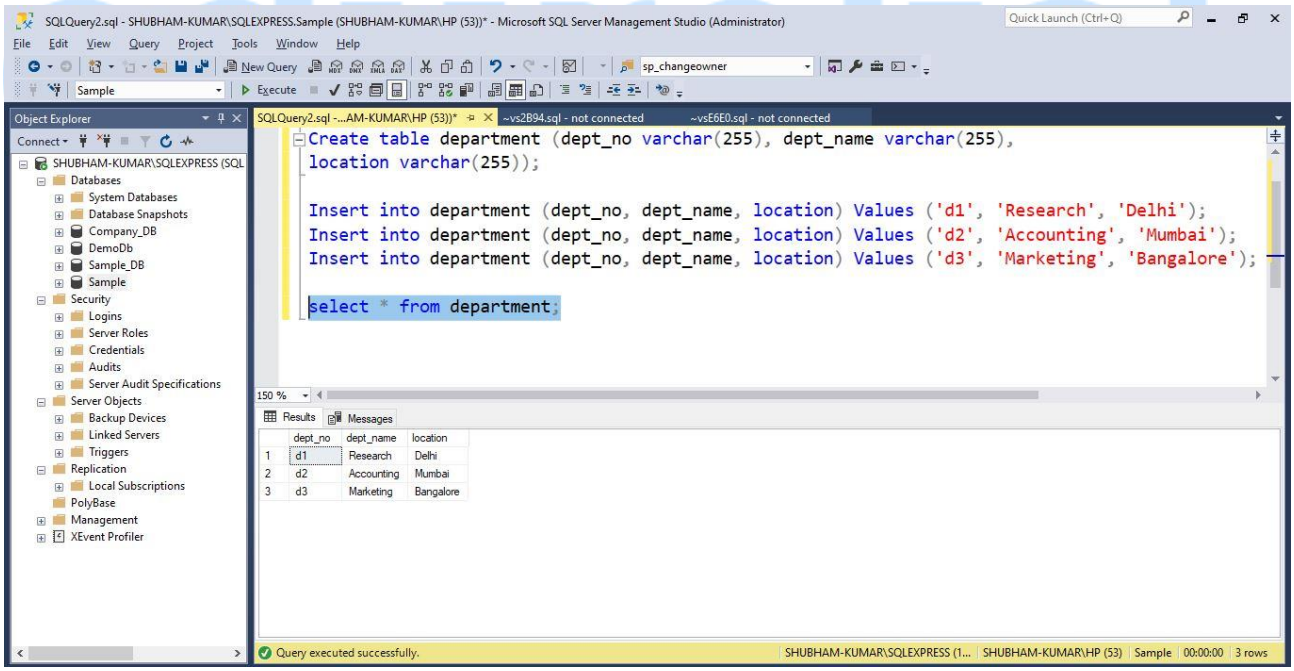
For your reference, the database 'Sample' file has been attached.

Sample.bak

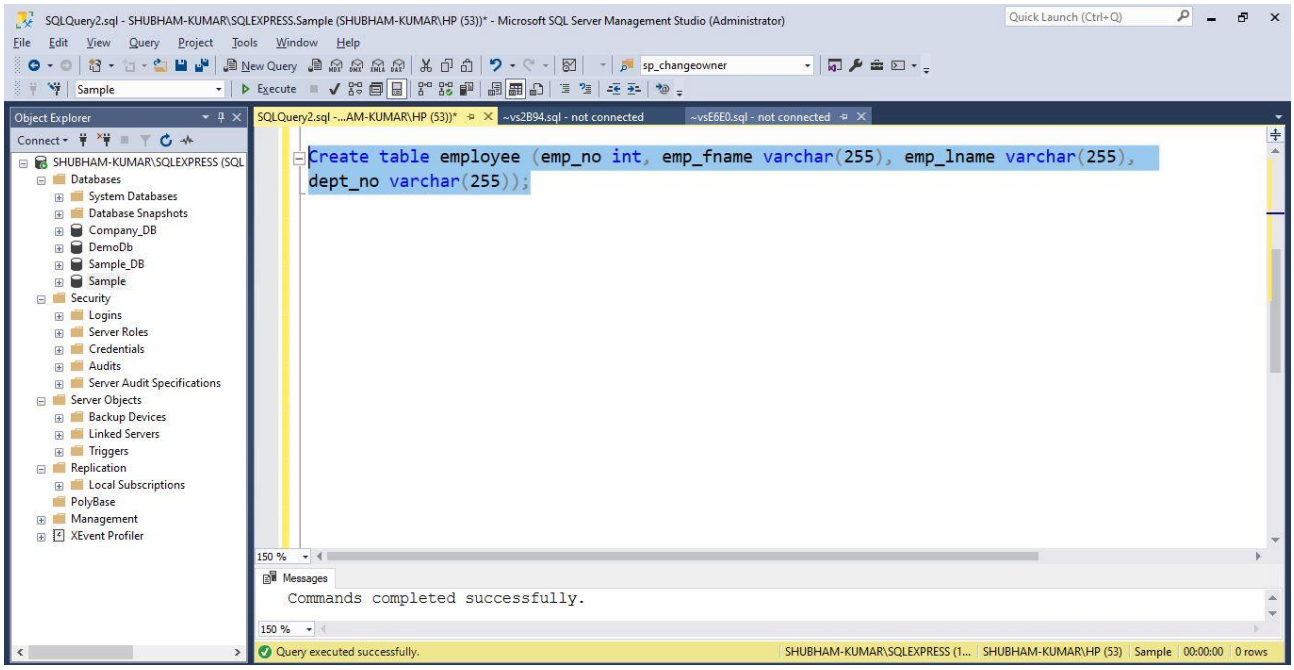
Step 3: Create a table department with parameters such as **dept_no, dept_name and location.**



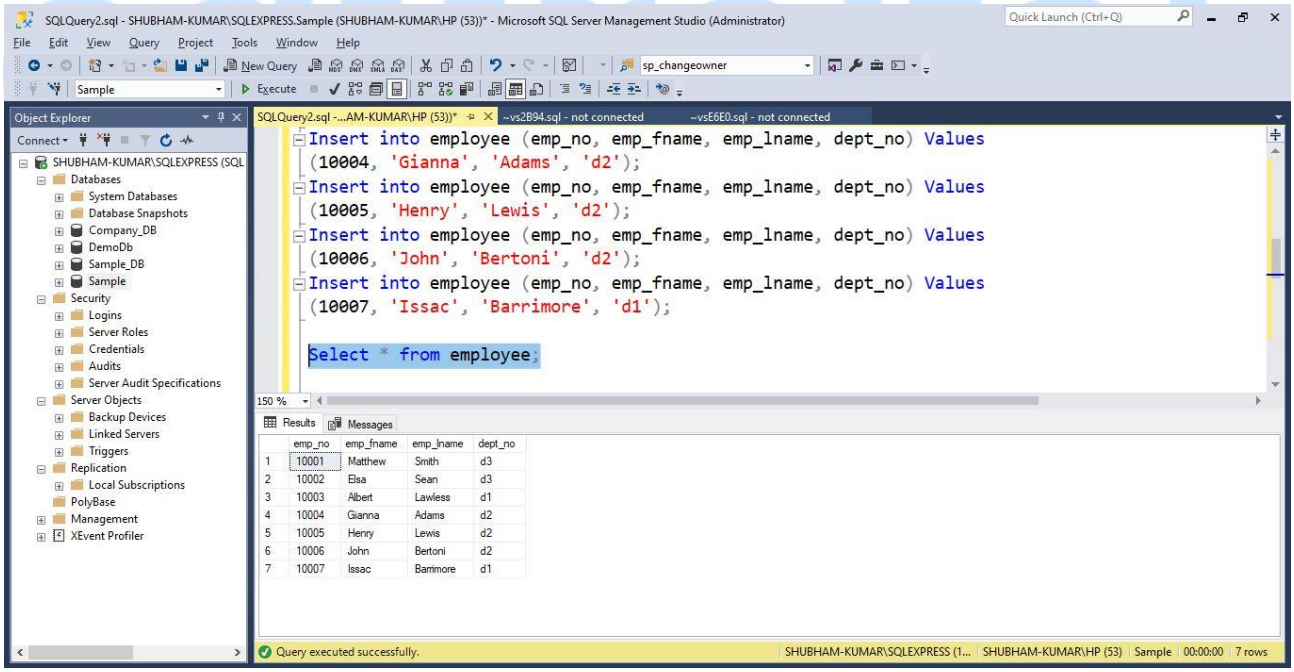
Step 4: Insert the data in the department table and retrieve the details using select command.



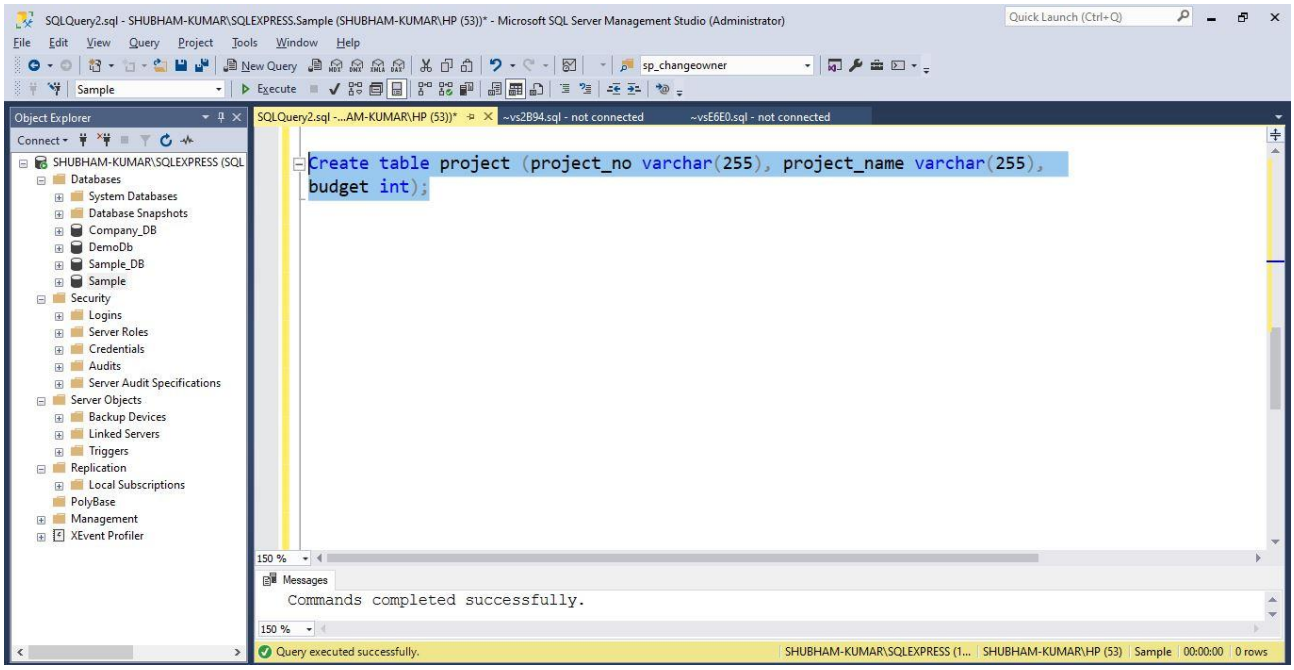
Step 5: Create a table employee with parameters such as **emp_no, emp_fname, emp_lname, and dept_no.**



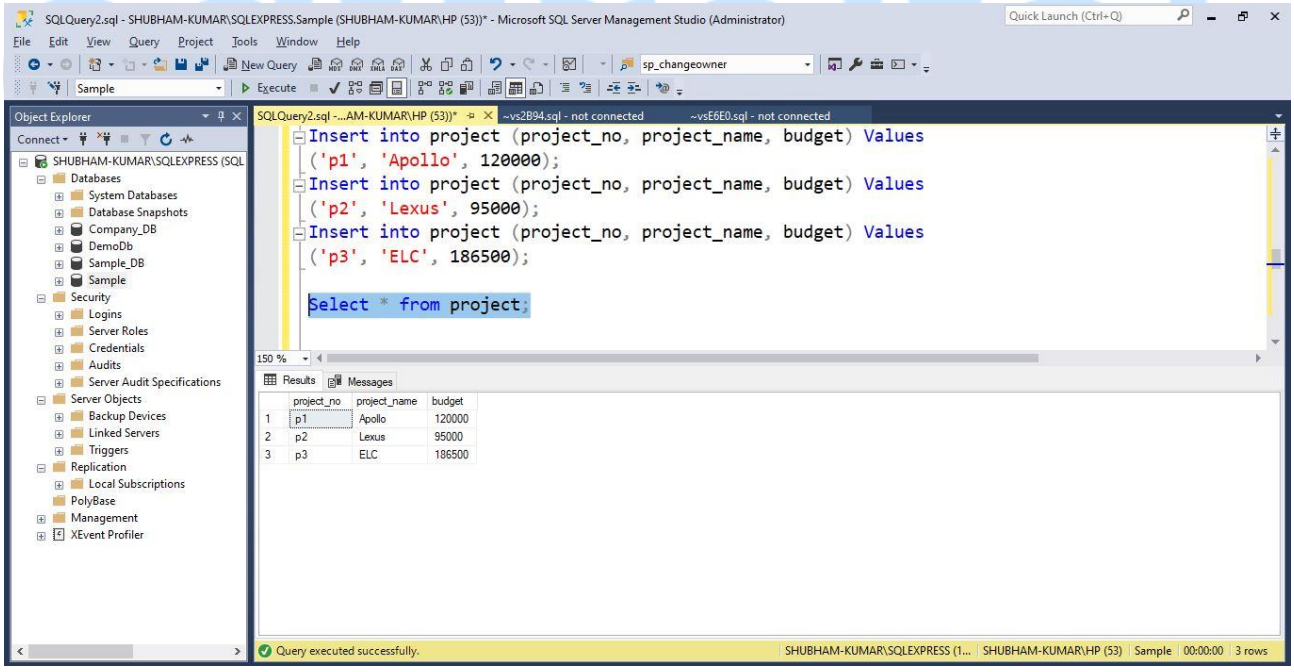
Step 6: Insert the data in the employee table and retrieve the details using select command.



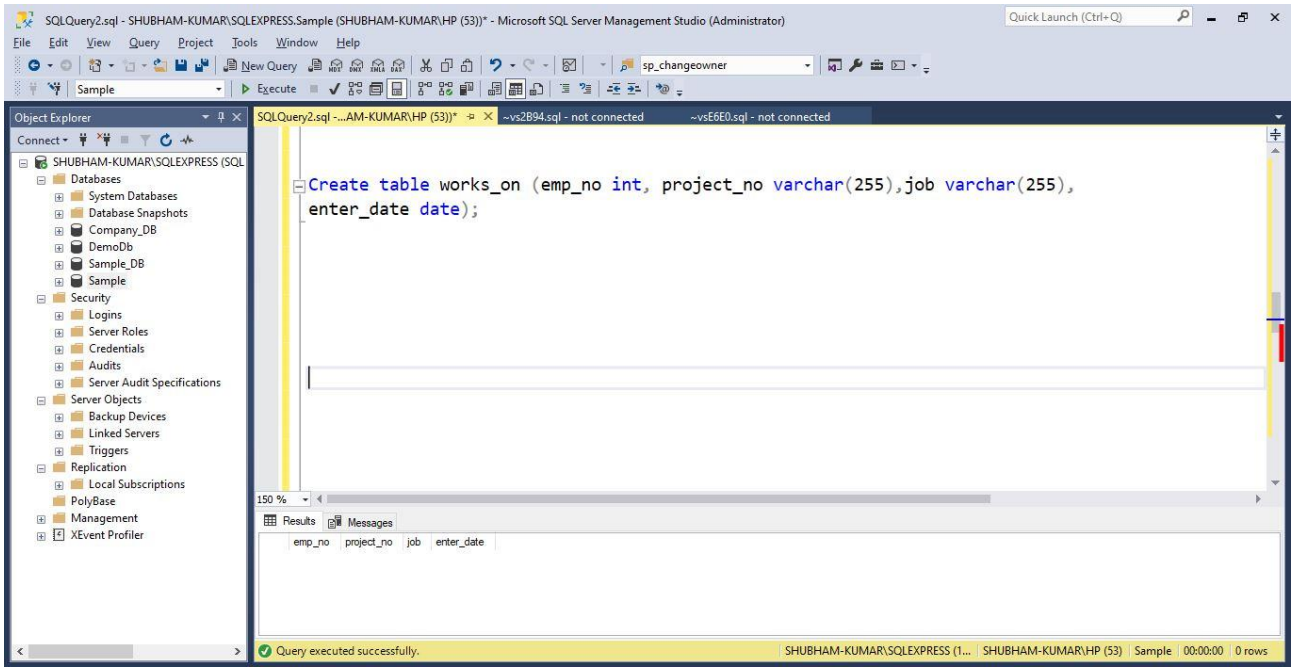
Step 7: Create a table project with parameters such as **project_no, project_name, and budget.**



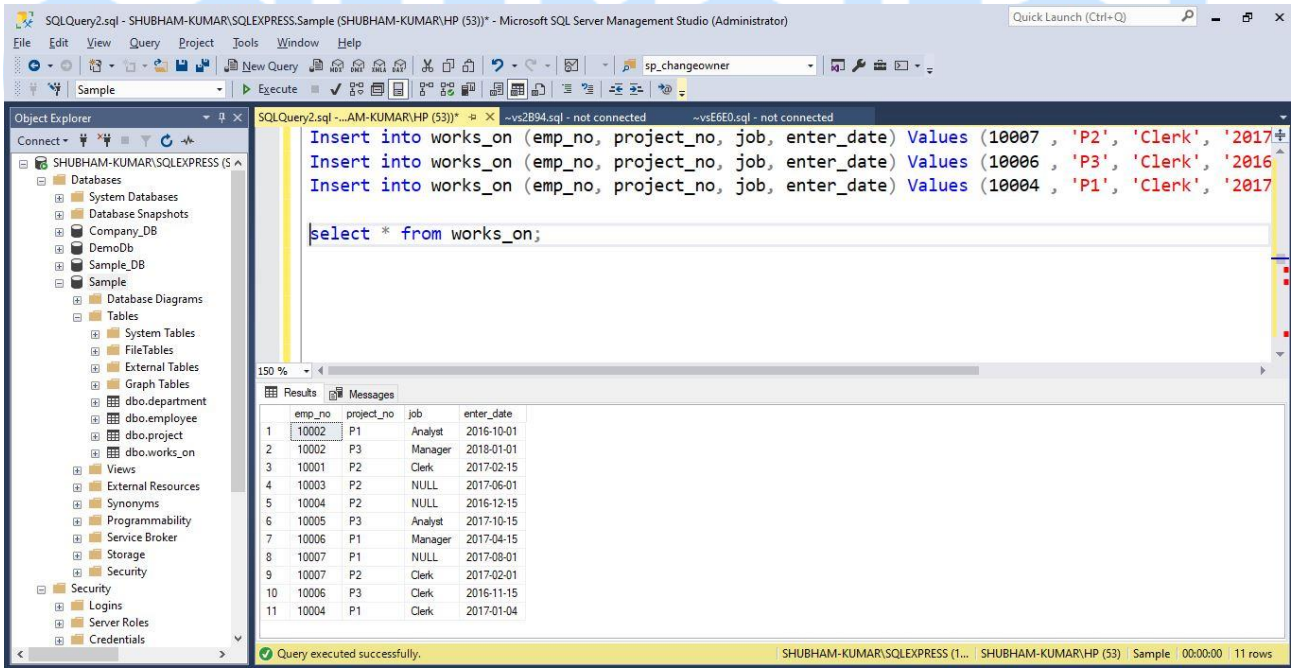
Step 8: Insert the data in the project table and retrieve the details using select command.



Step 9: Create a table works_on with parameters such as **emp_no, project_no, job and enter_date.**

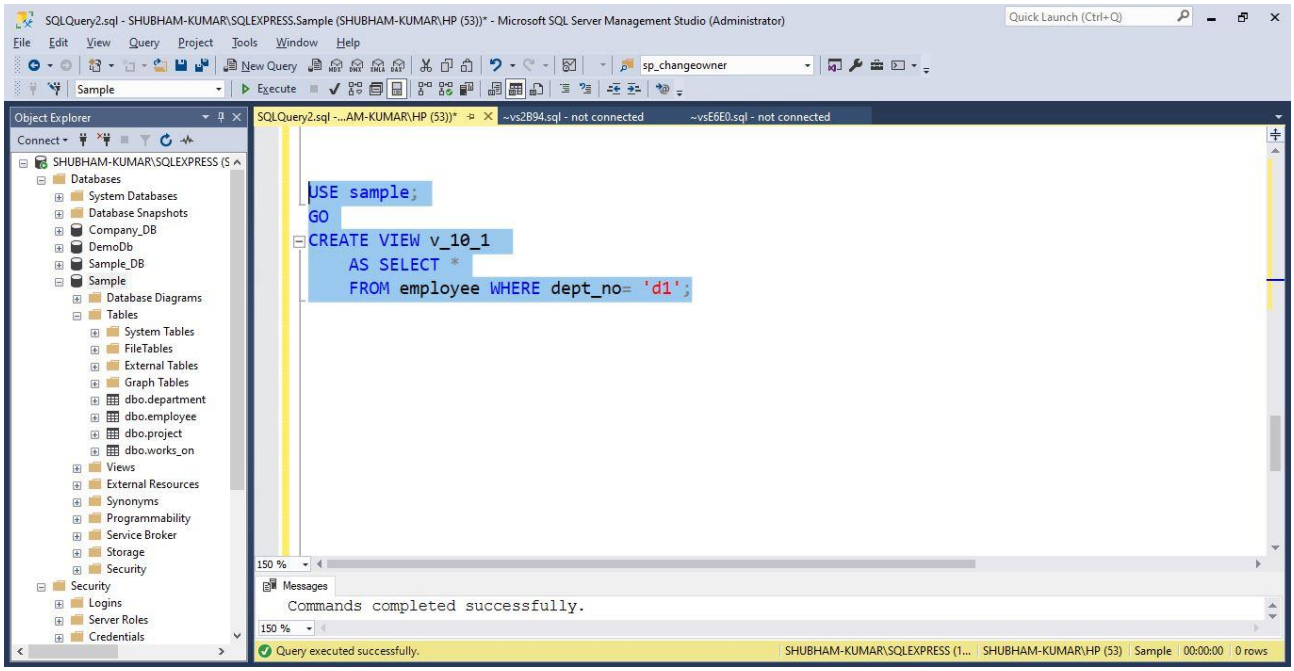


Step 10: Insert the data in the works_on table and retrieve the details using select command.

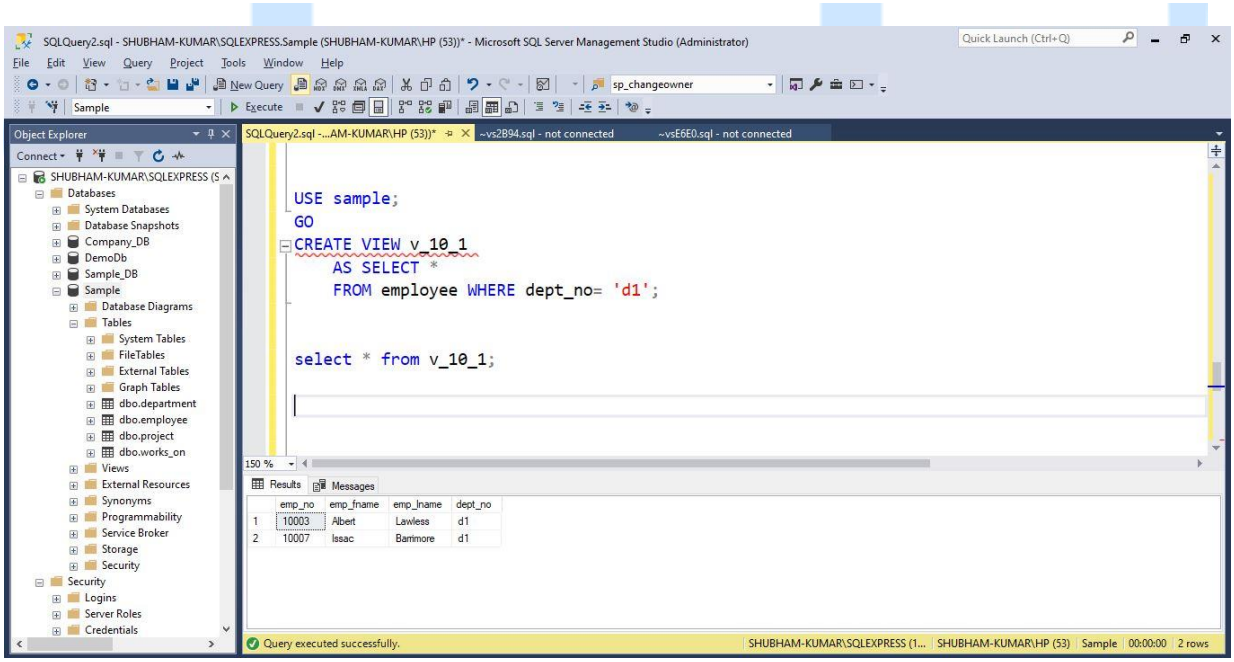


Step 11 (a): Create a view that comprises the data of all employees who work for the department d1.

```
USE sample;
GO
CREATE VIEW v_10_1
    AS SELECT *
     FROM employee WHERE dept_no= 'd1';
```

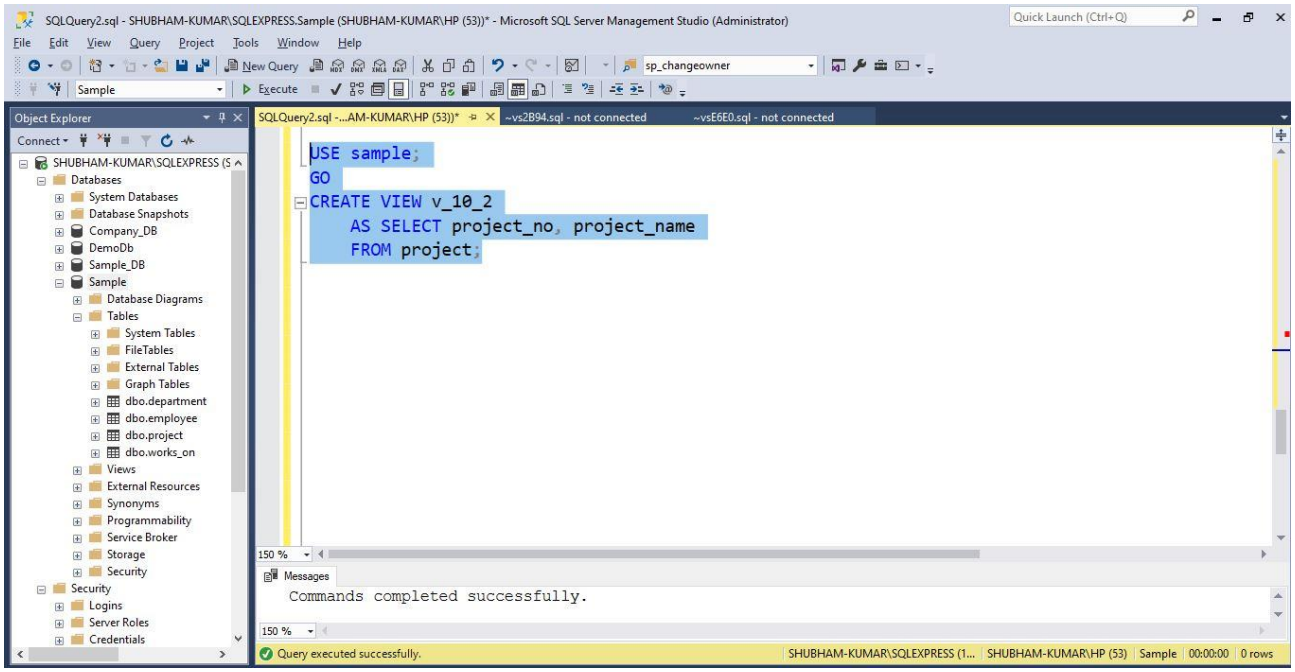


Step 11 (b): Retrieving the result-table of the view **v_10_1.**

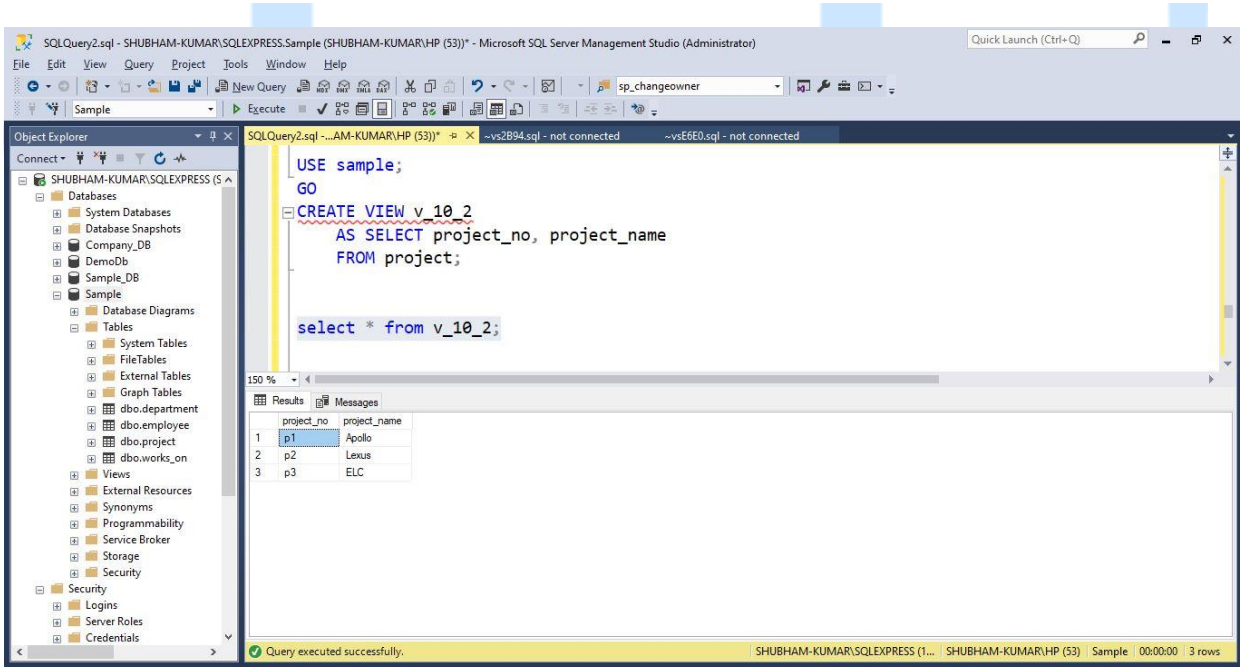


Step 12 (a): For the project table, create a view that can be used by employees who are allowed to view all data of this table except the budget column.

```
USE sample;
GO
CREATE VIEW v_10_2
    AS SELECT project_no, project_name
     FROM project;
```

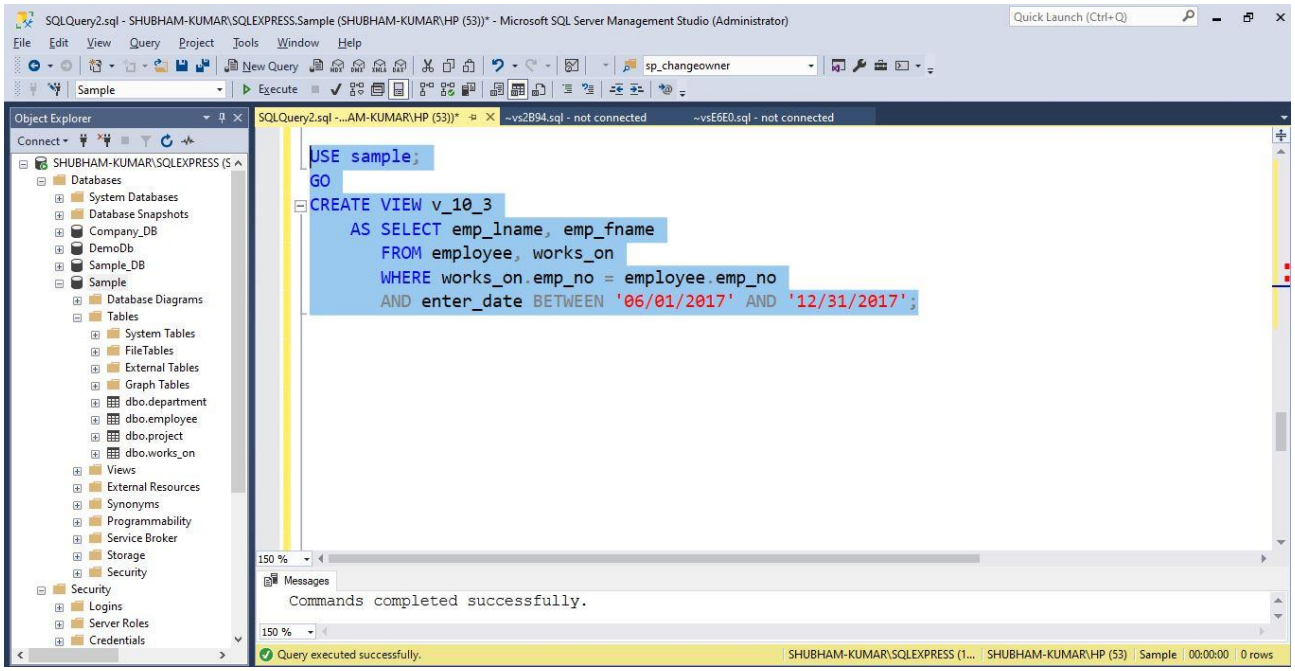


Step 12 (b): Retrieving the result-table of the view **v_10_2**.

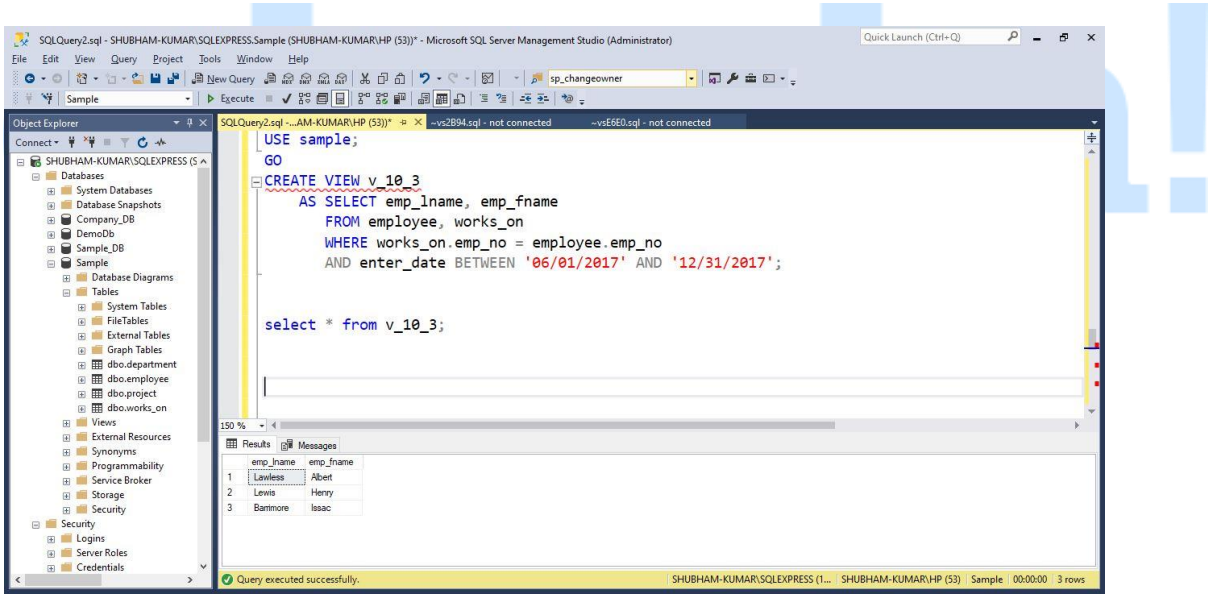


Step 13 (a): Create a view that comprises the first and last names of all employees who entered their projects in the second half of the year 2017.

```
USE sample;
GO
CREATE VIEW v_10_3
    AS SELECT emp_lname, emp_fname
        FROM employee, works_on
        WHERE works_on.emp_no = employee.emp_no
        AND enter_date BETWEEN '06/01/2017' AND
'12/31/2017';
```

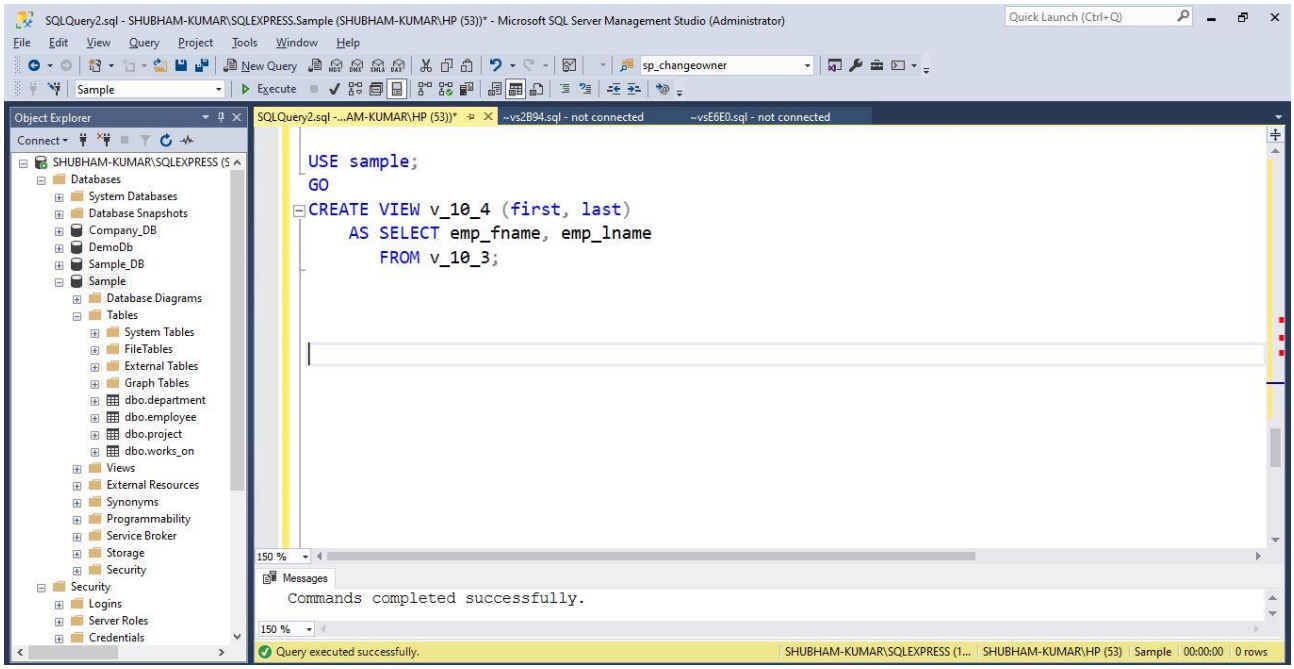


Step 13 (b): Retrieving the result-table of the view **v_10_3**.

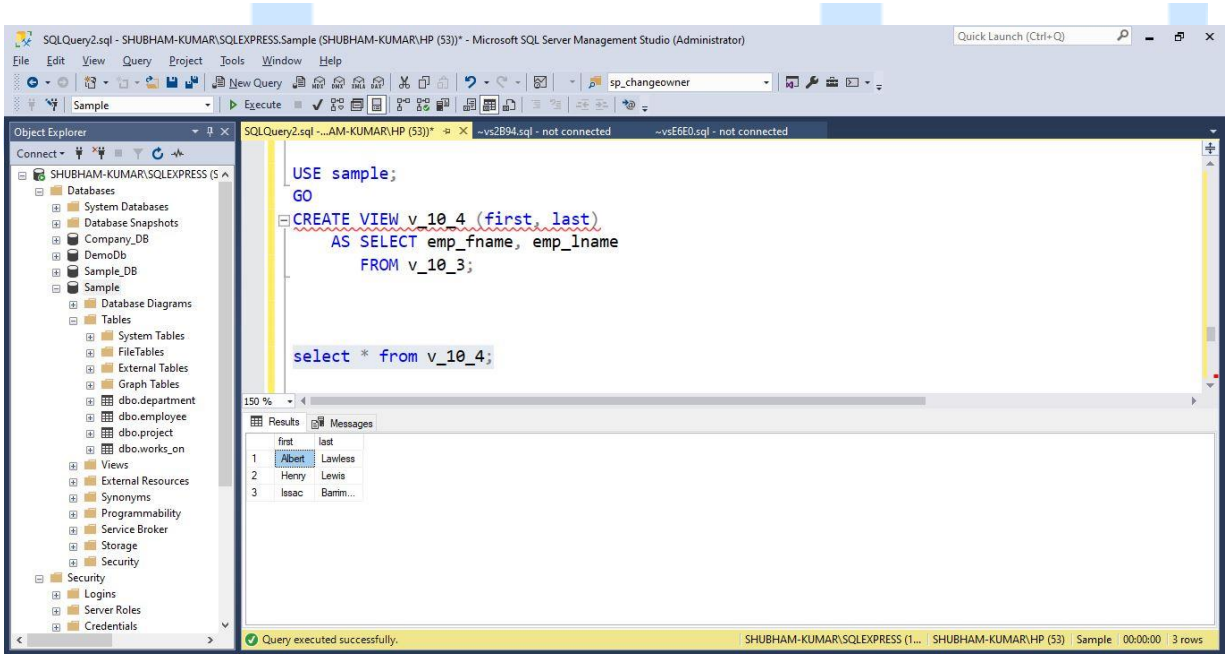


Step 14 (a): Solve view **v_10_3**, so that the original columns f_name and l_name have new names in the view: first and last, respectively.

```
USE sample;
GO
CREATE VIEW v_10_4 (first, last)
     AS SELECT emp_fname, emp_lname
          FROM v_10_3;
```

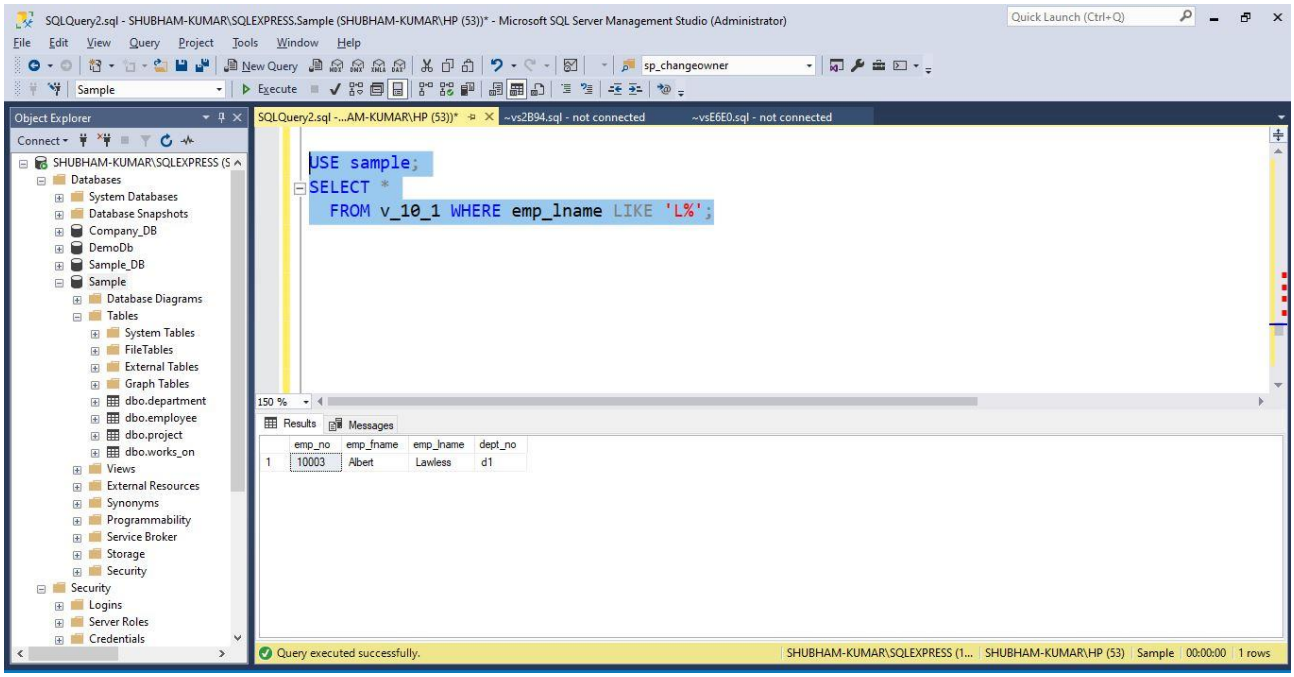


Step 14 (b): Retrieving the result-table of the view **v_10_4**.



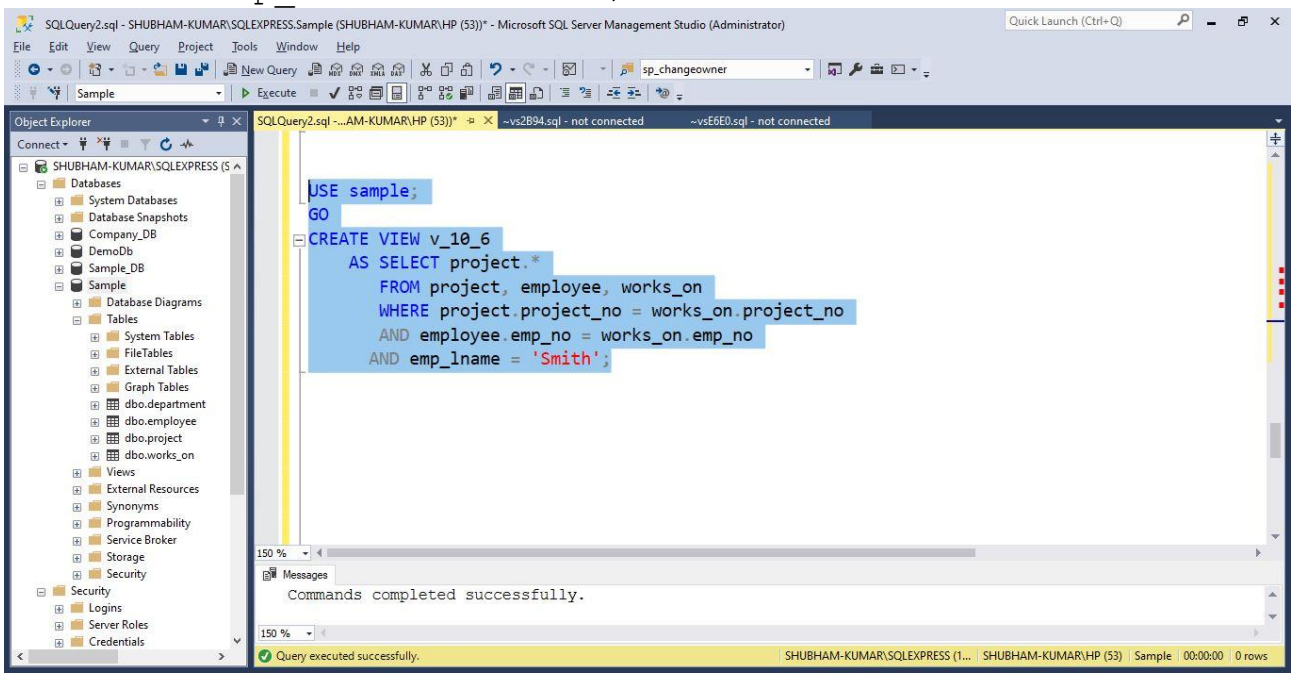
Step 15: Use the view **v_10_1** to display full details of every employee whose last name begins with the letter L.

```
USE sample;
SELECT *
  FROM v_10_1 WHERE emp_lname LIKE 'L%';
```

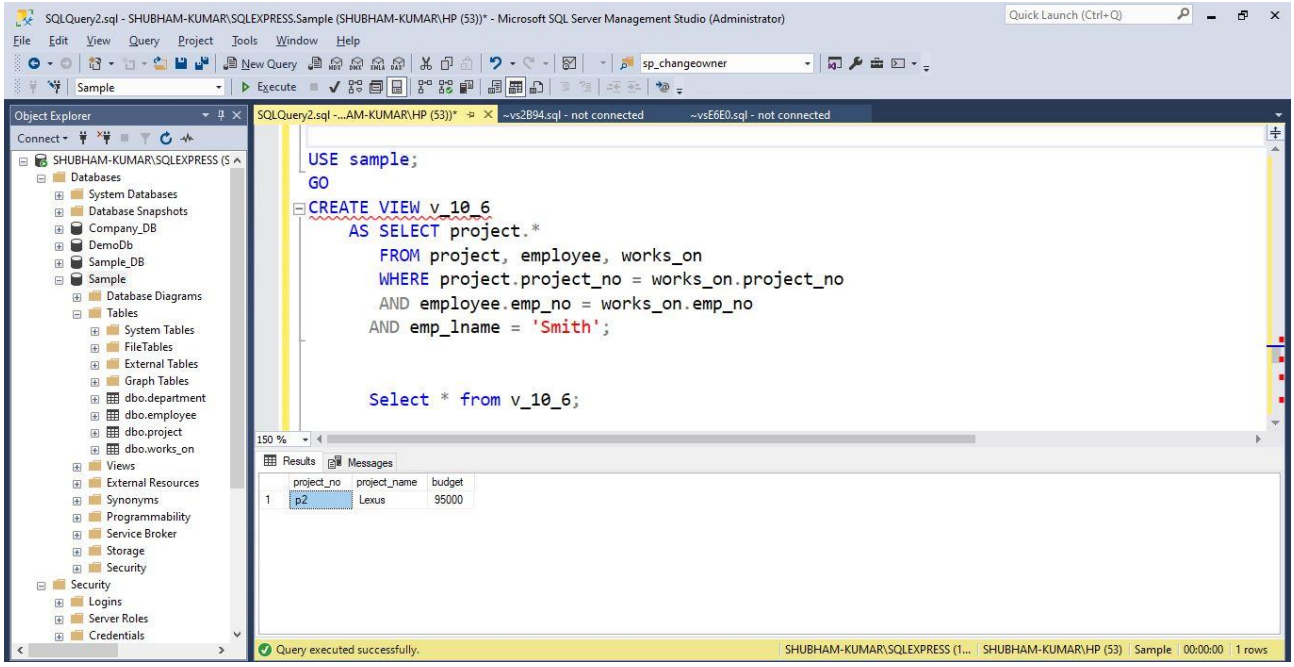


Step 16 (a): Create a view that comprises full details of all projects on which the employee named Smith works.

```
USE sample;
GO
CREATE VIEW v_10_6
    AS SELECT project.*
        FROM project, employee, works_on
        WHERE project.project_no = works_on.project_no
        AND employee.emp_no = works_on.emp_no
      AND emp_lname = 'Smith';
```

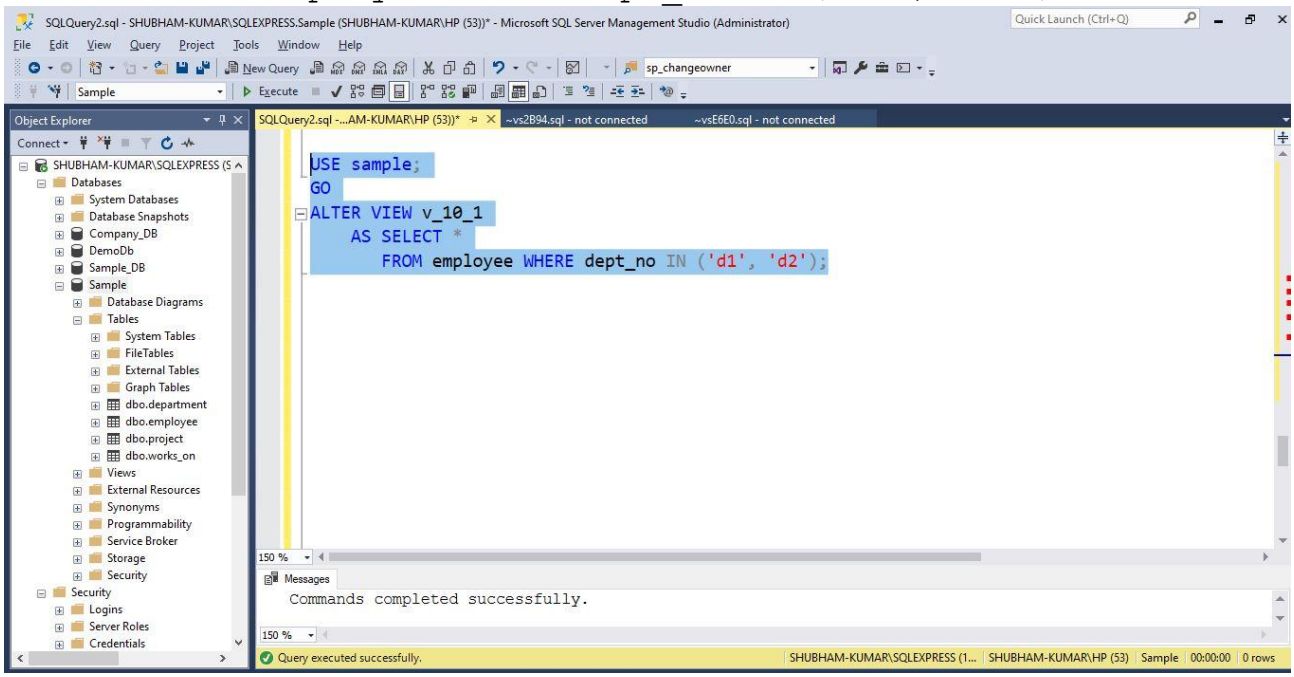


Step 16 (b): Retrieving the result-table of the view **v_10_6.**

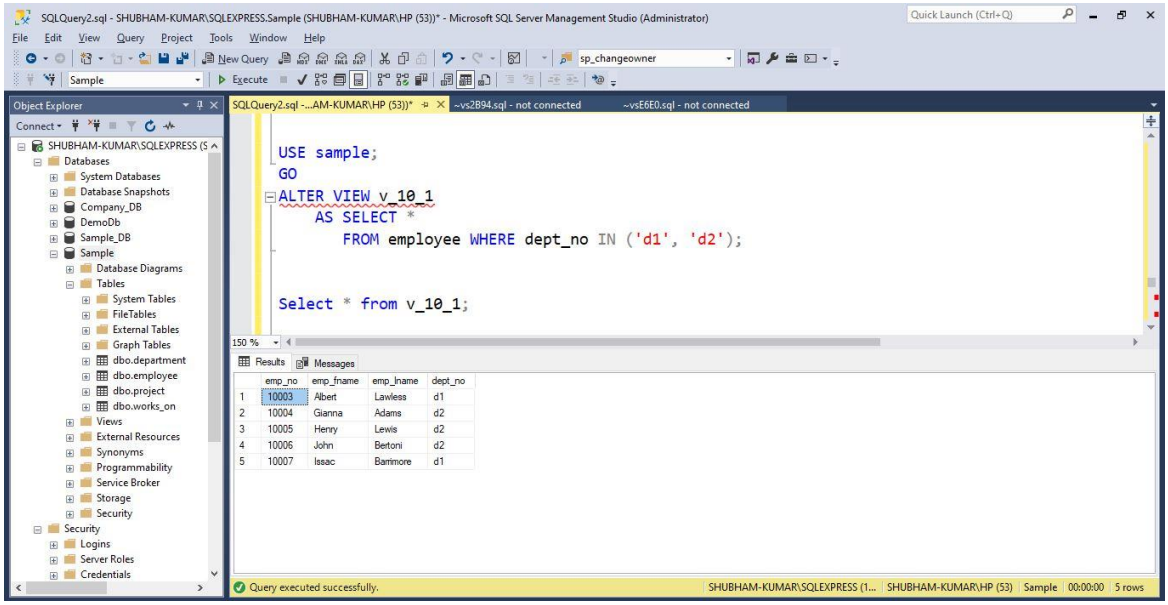


Step 17 (a): Using the ALTER VIEW statement, modify the condition in the view in **v_10_1**. The modified view should comprise the data of all employees who work for department d1, department d2, or both.

```
USE sample;
GO
ALTER VIEW v_10_1
    AS SELECT *
        FROM employee WHERE dept_no IN ('d1', 'd2');
```

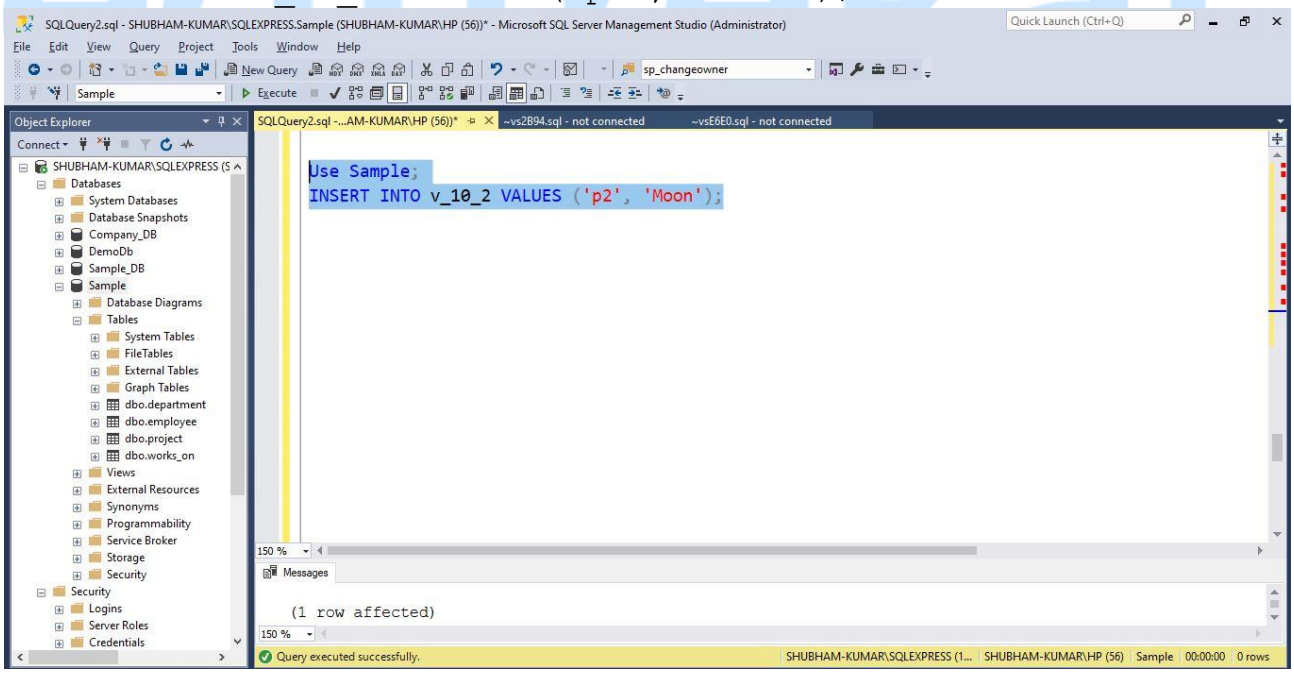


Step 17 (b): Retrieving the result-table of the view **v_10_1.**



Step 18 (a): Using the view from **v_10_2,** insert the details of the new project with the project number p2 and the name Moon.

```
Use Sample;
INSERT INTO v_10_2 VALUES ('p2', 'Moon');
```



Step 18 (b): Retrieving the result-table of the view **v_10_2.**