TASK 4

Schema Control and Administration (A)

CONESTOGA COLLAGE

COURSE CODE: 1372

PROGRAM CODE- PROG8651

SECTION – 10

STUDENT NAME: KAUSHAL PARMAR

DATE: 08 April. 2024

ANS :1 Create a Schema

From: Kaushal Parmar

To: - Matt Kozi

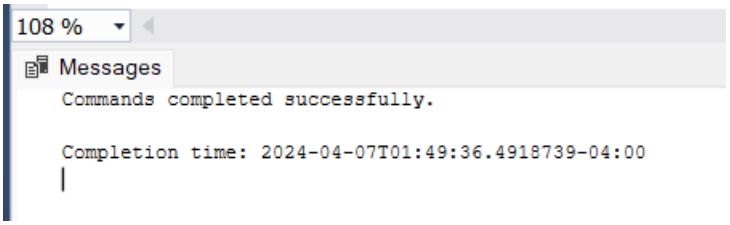
Subject: - Employee Database Administration

Hii Matt,

Greetings of the day, I've created the schemas according to your recommendations. The SQL commands are as follows:

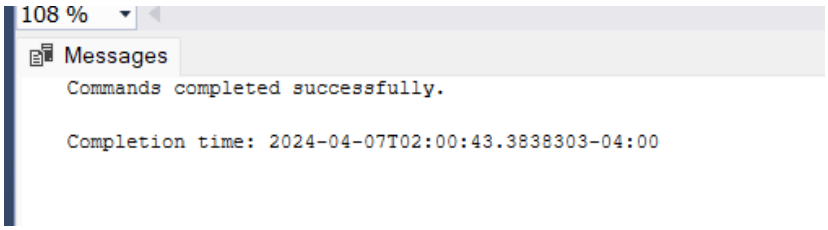
```
Go
create schema EmpGenInfoDATA; ------schema 1 (general information and their role)
Go
create schema EmpPrivateData; ------schema 2  (private or personal data)
GO
create schema facility; -------schema 3  ( non-personal data)
Go
create schema EmpContactinfo; ------schema 4  (contact information)
Go
create schema address; ---- Schema 5 (self-explanatory)
GO
```

- **Output for above schema: -**



```
Go


alter schema EmpGenInfoDATA
transfer dbo.Employees;

alter schema EmpGenInfoDATA
transfer dbo.Roles;

alter schema EmpGenInfoDATA
transfer dbo.Departments;

alter schema EmpPrivateData
transfer dbo.Employeepersonal;

alter schema EmpPrivateData
transfer dbo.Dependents;


alter schema facility
transfer dbo.Regions;

alter schema facility
transfer dbo.Countries;

alter schema facility
transfer dbo.facilityaddress;


alter schema EmpContactinfo
transfer dbo.Employeecontact;

alter schema EmpContactinfo
transfer dbo.Emergencycontacts;


alter schema address
transfer dbo.address;

alter schema address
transfer dbo.employeeaddress;

Go
```

- **You can see the output below: -**



Regards,
Kaushal Parmar
Thank you.

2. Database accounts and user function

From: Kaushal Parmar
To: - Matt Kozi
Subject: - Database accounts and user function

Hello, Matt

I hope you are doing well; I have created roles and their user functions which you can find below.

(Just connect with right database before you run queries.)

- **Human Resources role: - (have access to schema 1,2 and 4)**

```
GO
CREATE ROLE [Human Resources]


GO
GRANT DELETE ON SCHEMA:: [ [ EmpContactinfo] TO [Human Resources]
GO
GO
GRANT INSERT ON SCHEMA:: [ EmpContactinfo] TO [Human Resources]
GO
GO
GRANT SELECT ON SCHEMA:: [ EmpContactinfo] TO [Human Resources]
GO
GO
GRANT UPDATE ON SCHEMA:: [ EmpContactinfo] TO [Human Resources]
GO



GO
GRANT DELETE ON SCHEMA:: [ EmpGenInfoDATA] TO [Human Resources]
GO
GO
GRANT INSERT ON SCHEMA:: [ EmpGenInfoDATA] TO [Human Resources]
GO
GO
GRANT SELECT ON SCHEMA:: [ EmpGenInfoDATA] TO [Human Resources]
GO
GO
GRANT UPDATE ON SCHEMA:: [ EmpGenInfoDATA] TO [Human Resources]
GO



GO
GRANT DELETE ON SCHEMA:: [ EmpPrivateData] TO [Human Resources]
GO
GO
GRANT INSERT ON SCHEMA:: [ EmpPrivateData] TO [Human Resources]
GO
GO
GRANT SELECT ON SCHEMA:: [ EmpPrivateData] TO [Human Resources]
GO
GO
GRANT UPDATE ON SCHEMA:: [ EmpPrivateData] TO [Human Resources]
GO
```

- **an `accounting` role: -(have access to schema 1 and address)**

```
GO
CREATE ROLE [Accounting]
GO

GO
GRANT INSERT ON SCHEMA::[address] TO [Accounting]
GO

GO
GRANT INSERT ON SCHEMA::[ EmpGenInfoDATA] TO [Accounting]
GO
```

- **`Developers` role: -(have access to all 5 schema)**

```
GO
CREATE ROLE [Developers]
GO

GO
GRANT ALTER ON SCHEMA::[address] TO [Developers]
GO
GO
GRANT DELETE ON SCHEMA::[address] TO [Developers]
GO
GO
GRANT INSERT ON SCHEMA::[address] TO [Developers]
GO
GO
GRANT REFERENCES ON SCHEMA::[address] TO [Developers]
GO
GO
GRANT SELECT ON SCHEMA::[address] TO [Developers]
GO
GO
GRANT UPDATE ON SCHEMA::[address] TO [Developers]
GO
GO
GRANT VIEW CHANGE TRACKING ON SCHEMA::[address] TO [Developers]
GO
GO
GRANT VIEW DEFINITION ON SCHEMA::[address] TO [Developers]
GO
```

```
GO
GRANT ALTER ON SCHEMA::[ EmpContactinfo] TO [Developers]
GO
GO
GRANT DELETE ON SCHEMA::[ EmpContactinfo] TO [Developers]
GO
GO
GRANT INSERT ON SCHEMA::[ EmpContactinfo] TO [Developers]
GO
GO
GRANT REFERENCES ON SCHEMA::[ EmpContactinfo] TO [Developers]
GO
GO
GRANT SELECT ON SCHEMA::[ EmpContactinfo] TO [Developers]
GO
GO
GRANT UPDATE ON SCHEMA::[ EmpContactinfo] TO [Developers]
GO
GO
GRANT VIEW CHANGE TRACKING ON SCHEMA::[ EmpContactinfo] TO [Developers]
GO
GO
GRANT VIEW DEFINITION ON SCHEMA::[ EmpContactinfo] TO [Developers]
GO
```

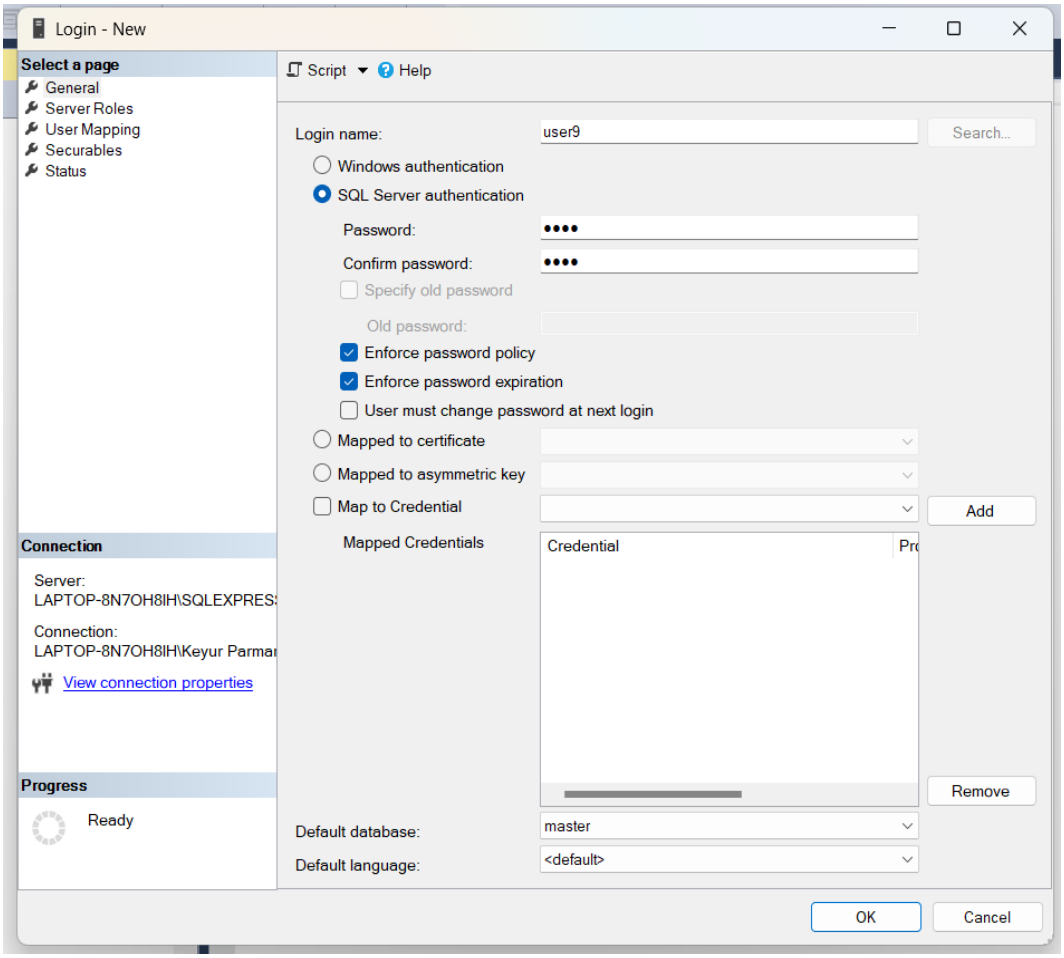
```
GO
GRANT ALTER ON SCHEMA::[ EmpGenInfoDATA] TO [Developers]
GO
GO
GRANT DELETE ON SCHEMA::[ EmpGenInfoDATA] TO [Developers]
GO

GO

GRANT INSERT ON SCHEMA::[ EmpGenInfoDATA] TO [Developers]

GO
GO
GRANT REFERENCES ON SCHEMA::[ EmpGenInfoDATA] TO [Developers]
GO
GO
GRANT SELECT ON SCHEMA::[ EmpGenInfoDATA] TO [Developers]
GO
GO
GRANT UPDATE ON SCHEMA::[ EmpGenInfoDATA] TO [Developers]
GO
GO
GRANT VIEW CHANGE TRACKING ON SCHEMA::[ EmpGenInfoDATA] TO [Developers]
GO
GO
GRANT VIEW DEFINITION ON SCHEMA::[ EmpGenInfoDATA] TO [Developers]
GO
```

```
GO
GRANT ALTER ON SCHEMA::[ EmpPrivateData] TO [Developers]
GO
GO
GRANT DELETE ON SCHEMA::[ EmpPrivateData] TO [Developers]
GO
GO
GRANT INSERT ON SCHEMA::[ EmpPrivateData] TO [Developers]
GO
GO
GRANT REFERENCES ON SCHEMA::[ EmpPrivateData] TO [Developers]
GO
 GO
GRANT SELECT ON SCHEMA::[ EmpPrivateData] TO [Developers]
GO
GO
GRANT UPDATE ON SCHEMA::[ EmpPrivateData] TO [Developers]
GO
GO
GRANT VIEW CHANGE TRACKING ON SCHEMA::[ EmpPrivateData] TO [Developers]
GO
GO
GRANT VIEW DEFINITION ON SCHEMA::[ EmpPrivateData] TO [Developers]
GO



GO
GRANT ALTER ON SCHEMA::[facility] TO [Developers]
GO
GO
GRANT DELETE ON SCHEMA::[facility] TO [Developers]
GO
GO
GRANT INSERT ON SCHEMA::[facility] TO [Developers]
GO
GO
GRANT REFERENCES ON SCHEMA::[facility] TO [Developers]
GO
GO
GRANT SELECT ON SCHEMA::[facility] TO [Developers]
GO
GO
GRANT UPDATE ON SCHEMA::[facility] TO [Developers]
GO
GO
GRANT VIEW CHANGE TRACKING ON SCHEMA::[facility] TO [Developers]
GO
GO
GRANT VIEW DEFINITION ON SCHEMA::[facility] TO [Developers]
GO
```

a) Create a step-by-step guide to creating a database user [SQL server authentication] with passwords.

Step 1: - First, connect to the SQL Server instance, open SQL Server Management Studio, and enter the required server information, including the name, password, and authentication method. **Next**, click "New Query" in the toolbar to open a new SQL query window.

Step 2: - You must now establish a new login. To do this, select System > Security. We see something like the image below when we access the login folder. To change the login, right-click on this.



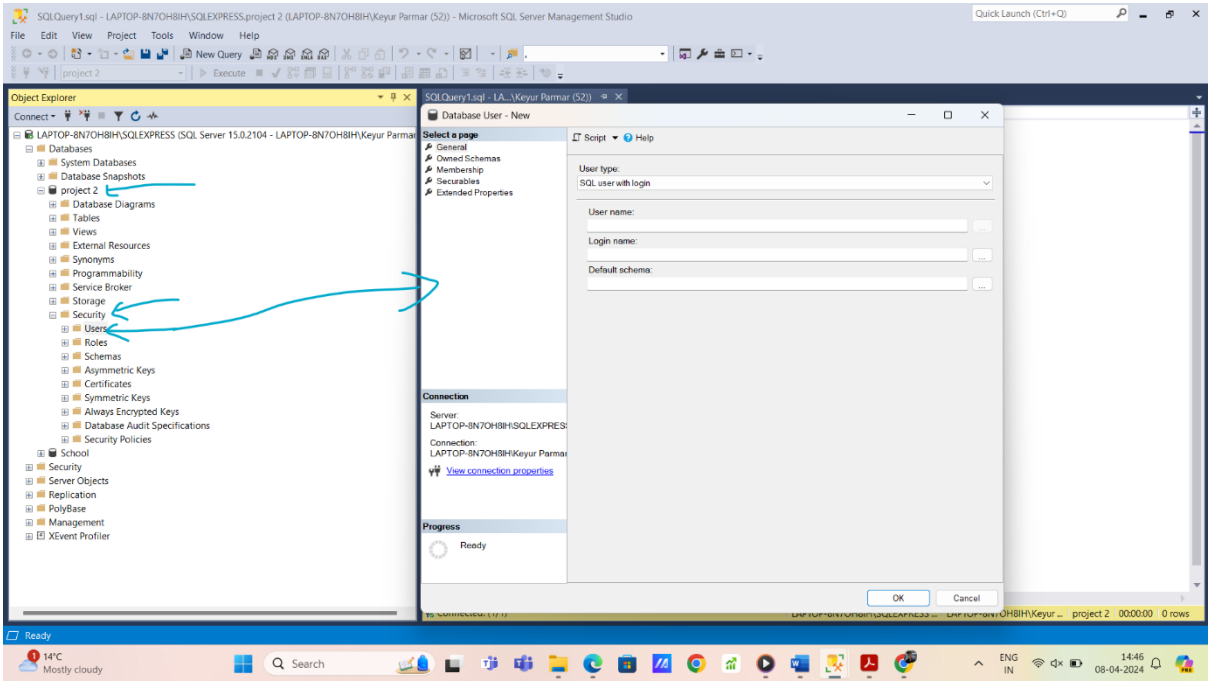
Step 3: - As you can see, click the General page > Type the username in the "login name" field > Choose "SQL Server authentication" > Enter a strong password and confirm it.

Step 4: - To assign a server role, navigate to the area dedicated to server roles and choose the roles that appropriately match the user's permissions.

Next, we must map the database. To do this, select the database the user should be able to access by going to the user mapping option. Select the appropriate user roles from the database. **Ensure the appropriate setting is chosen in the status section > "OK" to create a log-in.**

❖ Create a new user:-

Step 5: - Select the “database” > "security" > The "Users" folder can be right-clicked, then choose New User. The new tab that is now visible in the image is as follows: in the first bar box under "user type," select "SQL user with login," enter the username, choose the login that we generated in the previous phase, and decide to leave it as the user's "default schema" as the last choice.



Step 6: - As seen in the image, provide each user with their assigned roles. Next, proceed to the membership area. Choose the roles we wish to assign, then click "OK" to create the user in the last step.

b) Set up a view to produce a list of employees who have not yet completed their probation period.

```
GO
CREATE OR ALTER VIEW ProbEmp AS
SELECT e.EmployeeID, e.FName, r.RoleID
FROM EmpGenInfoDATA.EMPLOYEES e
JOIN EmpGenInfoDATA.ROLES r
ON e.RoleID = r.RoleID
WHERE DATEDIFF(WEEK, e.HireDate, GETDATE()) < r.ProbationLength;
GO
SELECT * FROM ProbEmp;
```

3. Set up a view to produce a list of employees who have not yet completed their probation period.

From: Kaushal Parmar

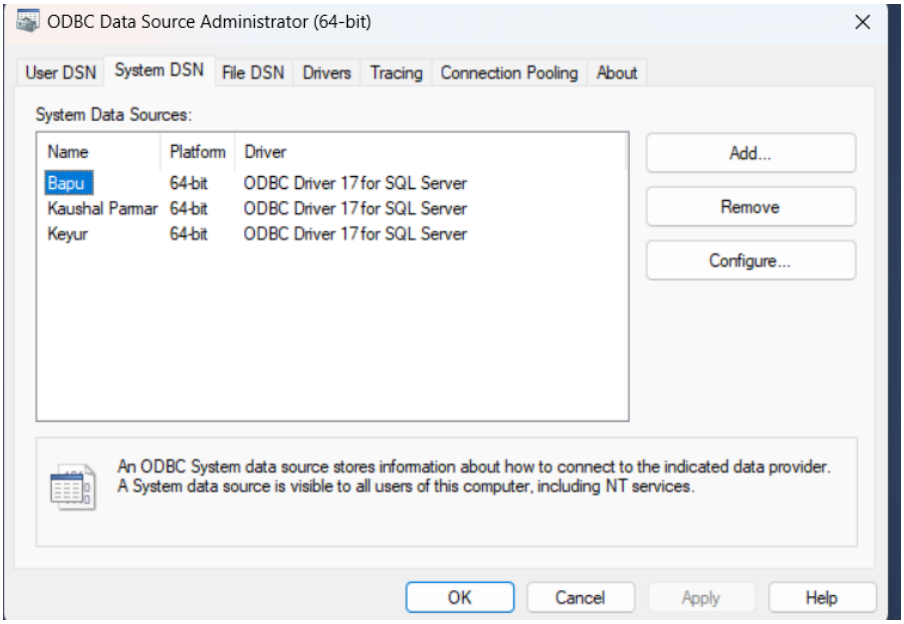
To: - Matt Kozi

Subject: Issue with pulling data from the Employee Database

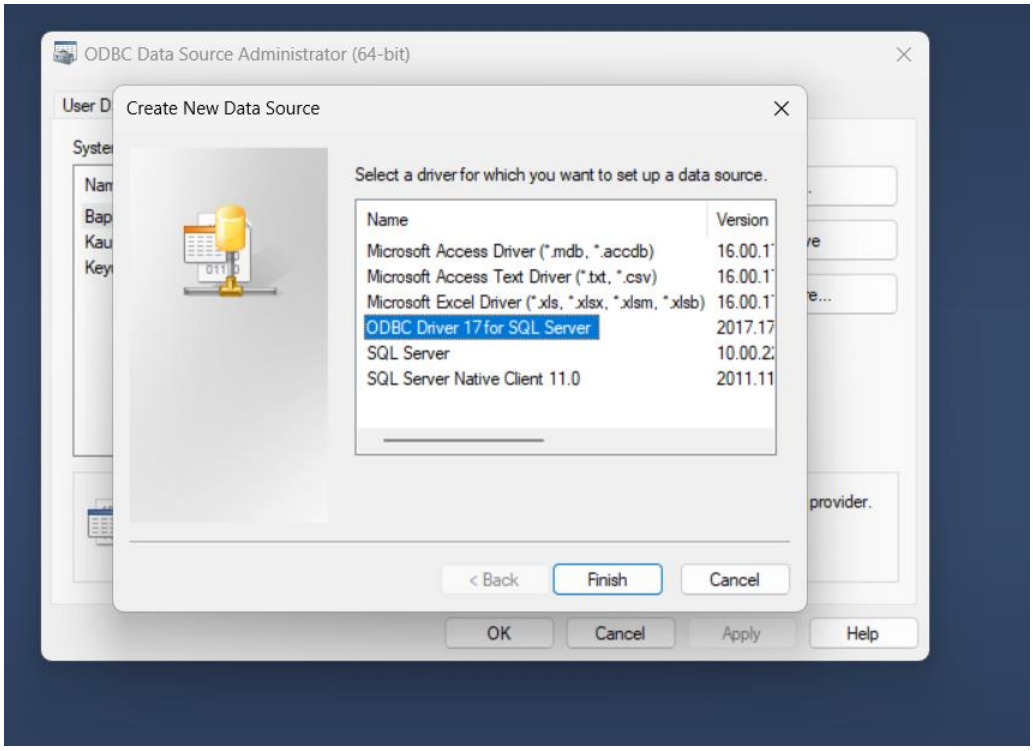
Hello Matt,

Greetings of the day. Please refer below steps for ODBC server.

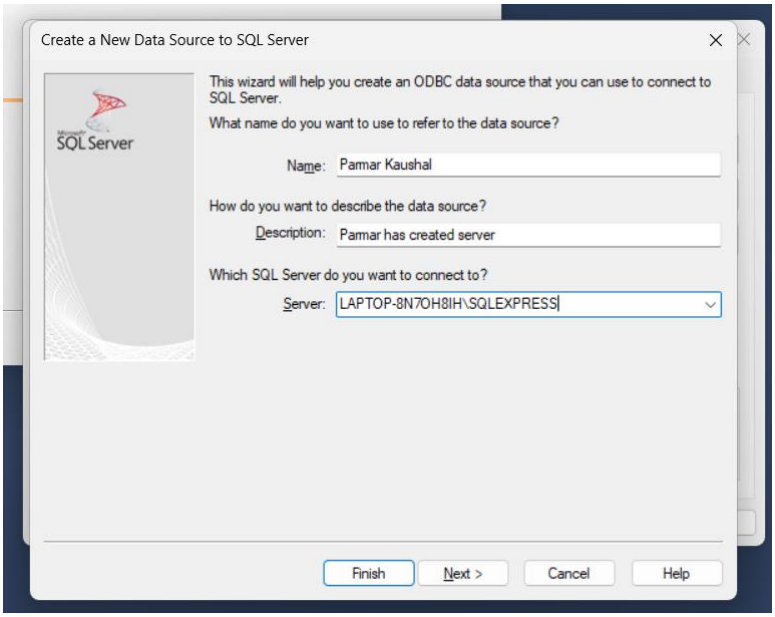
Solution: 1



Step 1: - To access the "ODBC DATA SOURSCES (64-bit)" option, first open our computer's search bar and type in "ODBC." Click here → You can see a new window like the one below (ODBC data source administrator (64-bit)). Select the System DSN tab and then select the "Add" option.



Step 2: - Once you click the "Add" button, a new window named "Create New Data Source" will appear, showing you different server driver options. Select "ODBC Driver 17 for SQL Server" and then select "Finish."



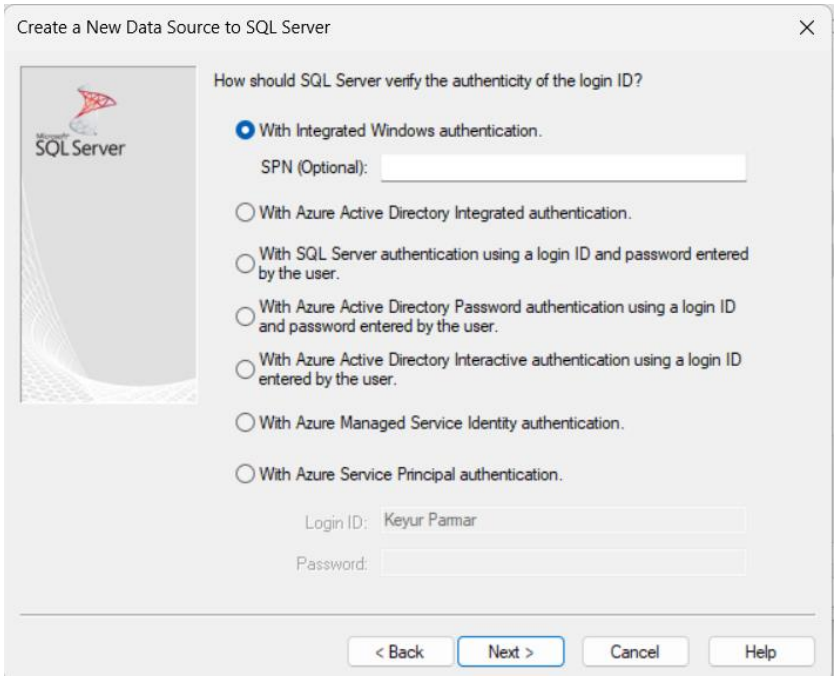
Step 3: Three textbox options are visible in this phase.

"**Name**": Enter Kaushal Parmar's name in this field so that it can be used to refer to the data source.

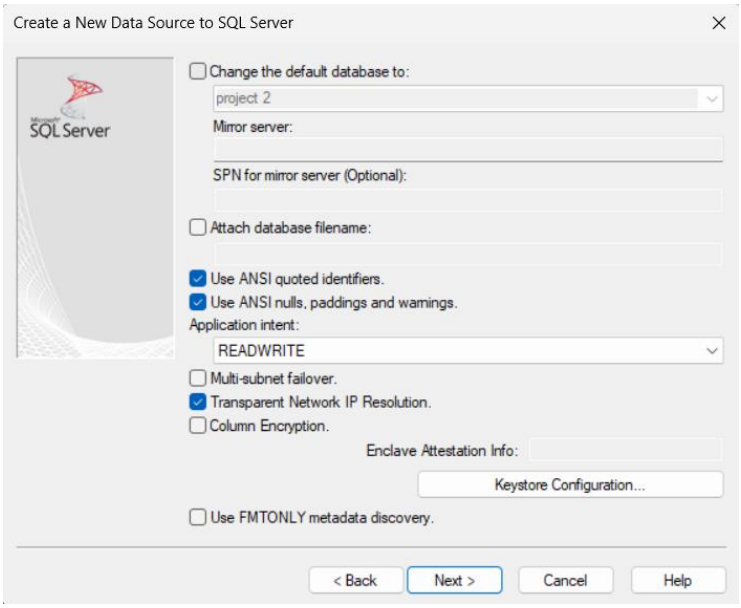
"Description": - Provide a description of the data source (Kaushal established this server) in the description box.

"Server": - Type the name of the server that must establish a connection with the data source in the server box.

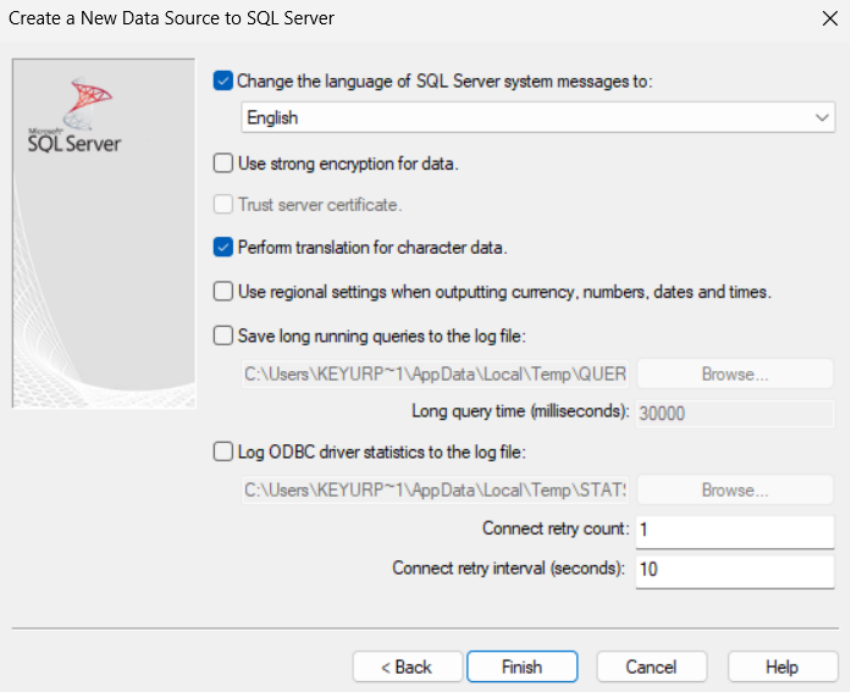
step 4: - In this stage, select "Next" while maintaining the default settings.



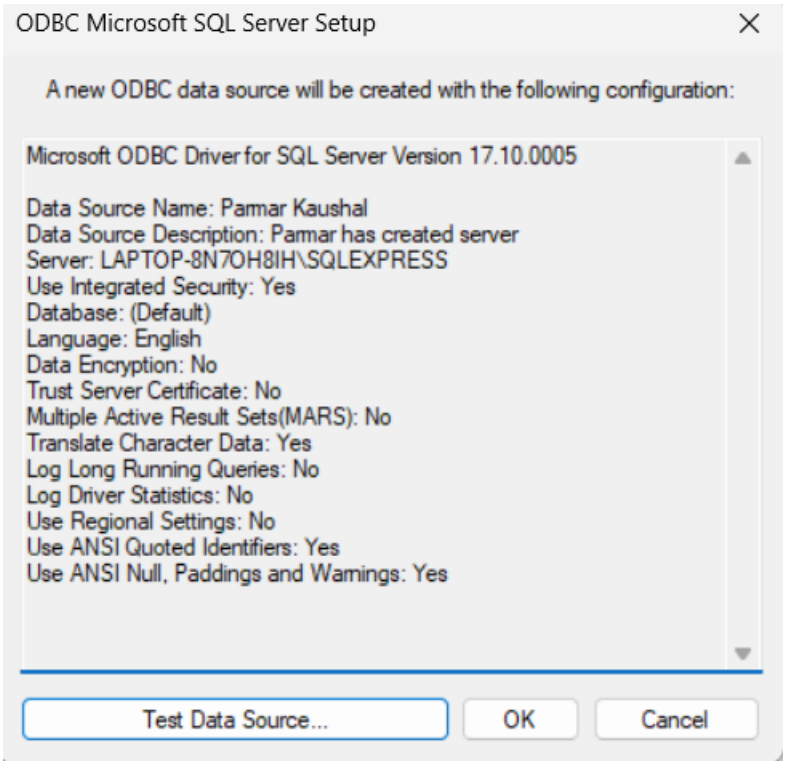
Step 5: After selecting the "Next" button, a window like the one in the image above appears. This means we need to modify the default database to anyone (such as "project2"). Choose "READWRITE" from the list of possibilities under "Application intent" and press "Next."



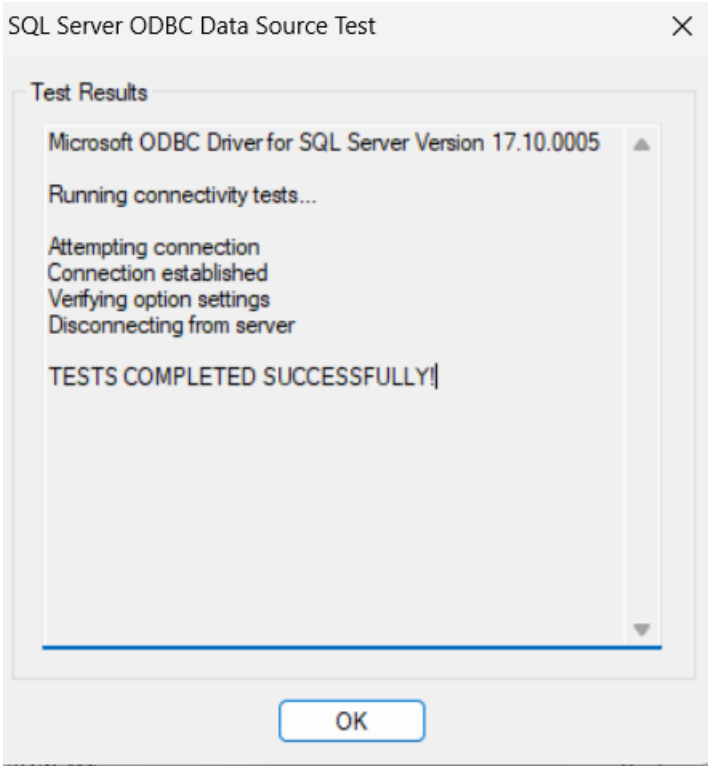
step 6: Select "English" as the default language in this stage and press the "Finish" button.



step 7: At last, we have successfully generated a new ODBC data source with the configuration shown in the picture below. To access it, click on "Tast Data Source."



Step 8: - The final step displays the test results, with the words "TESTS COMPLETED SUCCESSFULLY!"



Regards,
Kaushal Parmar
Thank you.