

CL-2005: Database Systems

Lab # 10: Connection of C# Web Forms with SQL Server (ASP.NET)

Objective:

To make the web application forms in asp.net and connect them to SQL Server.

Scope:

The student shall know the following:

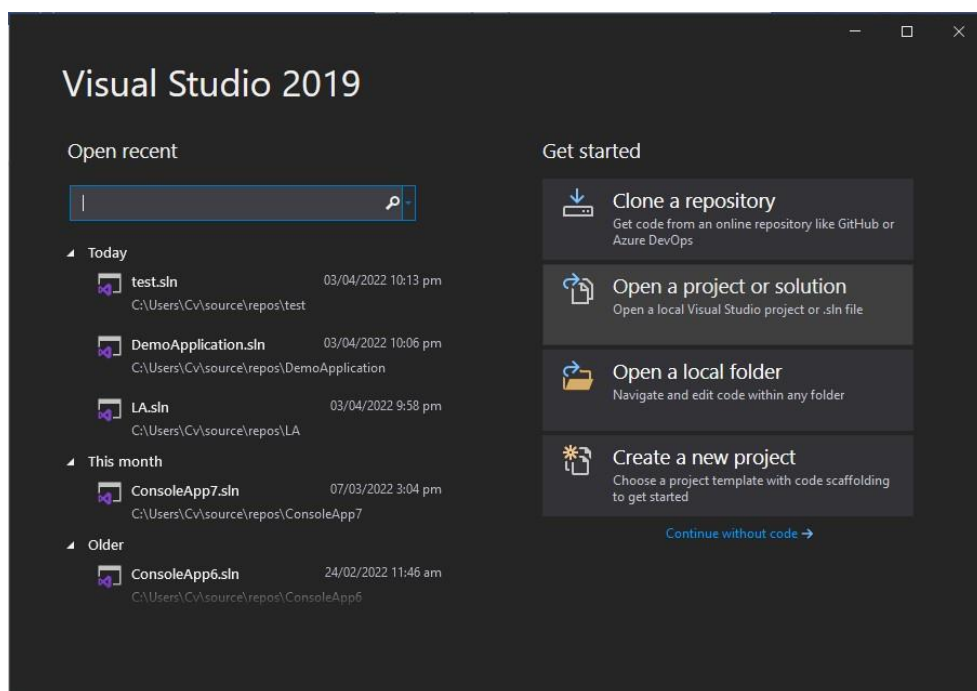
- SQL Commands.
- C# Programming
- Hands-on experience with the above-mentioned concepts.

Discussion:

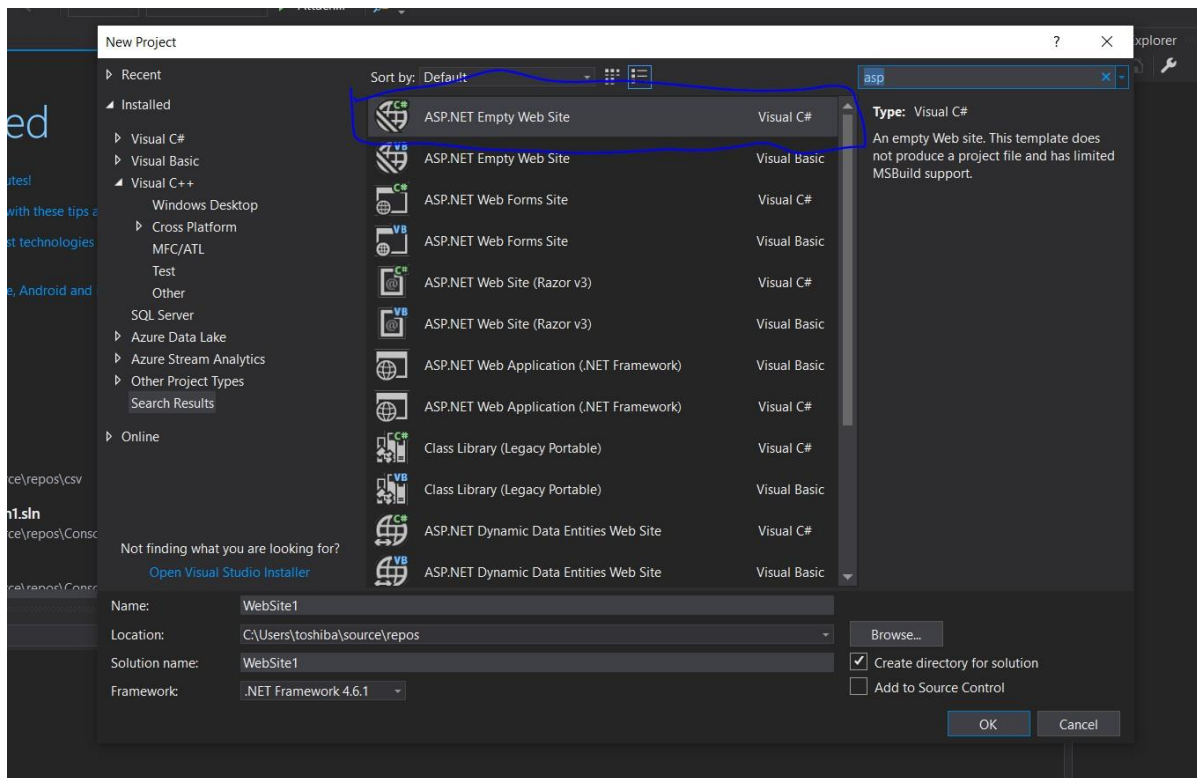
We have studied the SQL commands in detail and C# programming, now we will make a form in visual studio using C# and then connect it with SQL Server which is our database.

Creation of Project ASP.NET in Visual Studio:

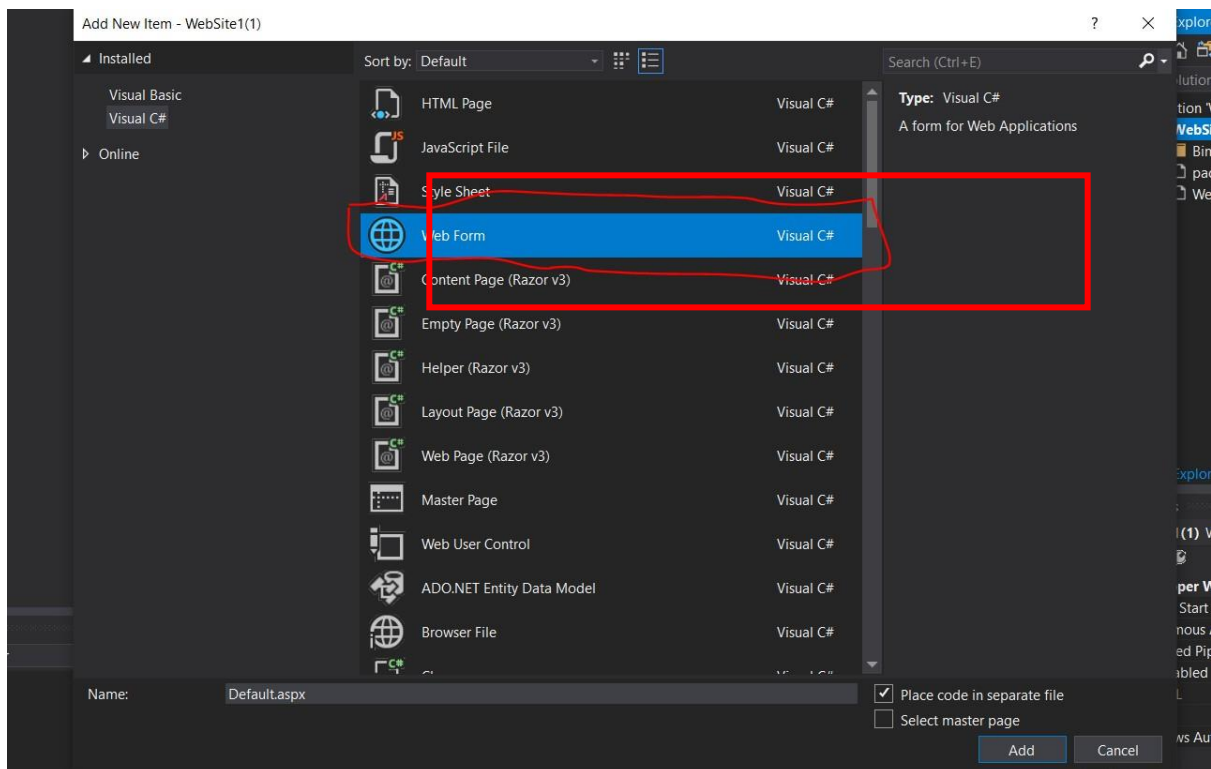
Open visual studio 2017, the screen is shown below will appear.



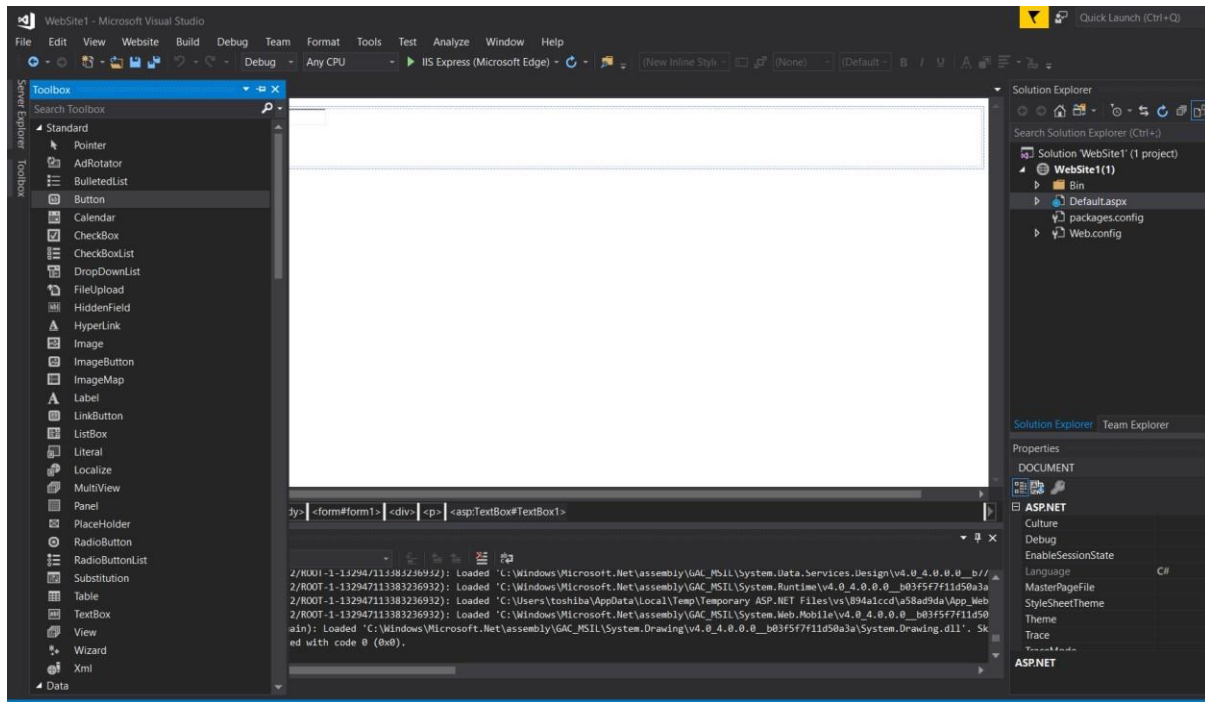
Click on the **Create a new project**. After clicking on that write in the search box **ASP.NET WEB APPLICATION** as shown on the screen below (note: select c# in projects).



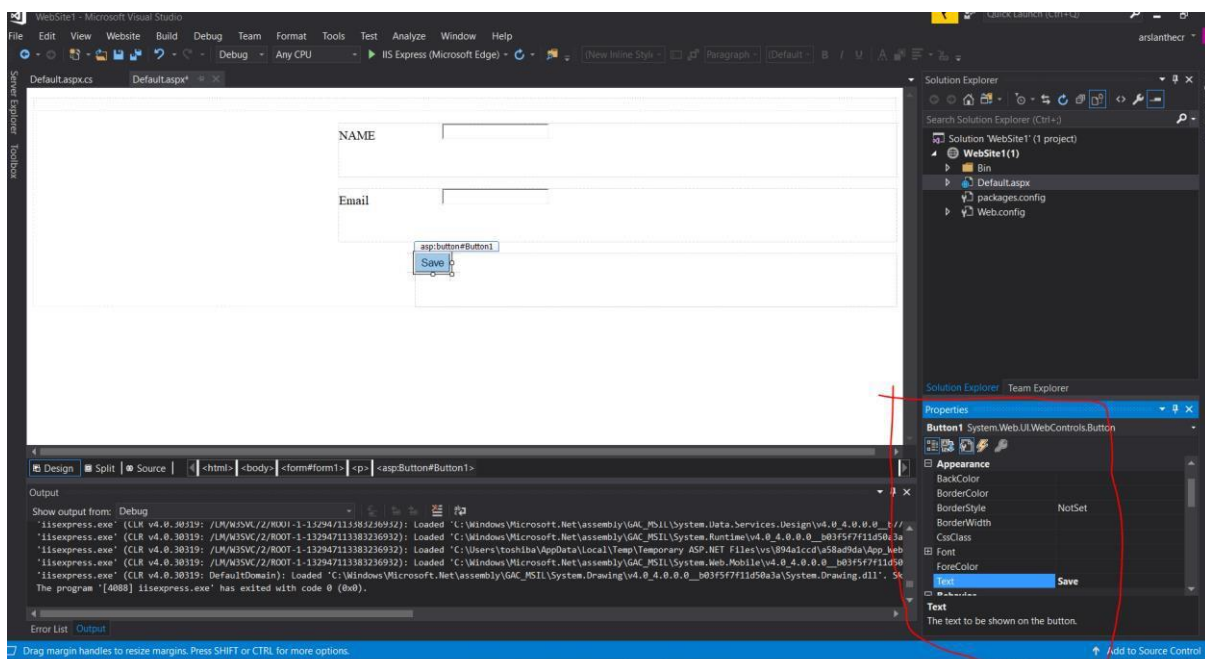
Now in Solution Explorer select your project name and add new item as shown below in highlights. You can name your Web page with your own choice in below option.



Now you have blank HTML web page created as shown below. You can either edit page manually by using HTML language in source code or you can also use drag and drop options from the toolbox at the left as shown below.



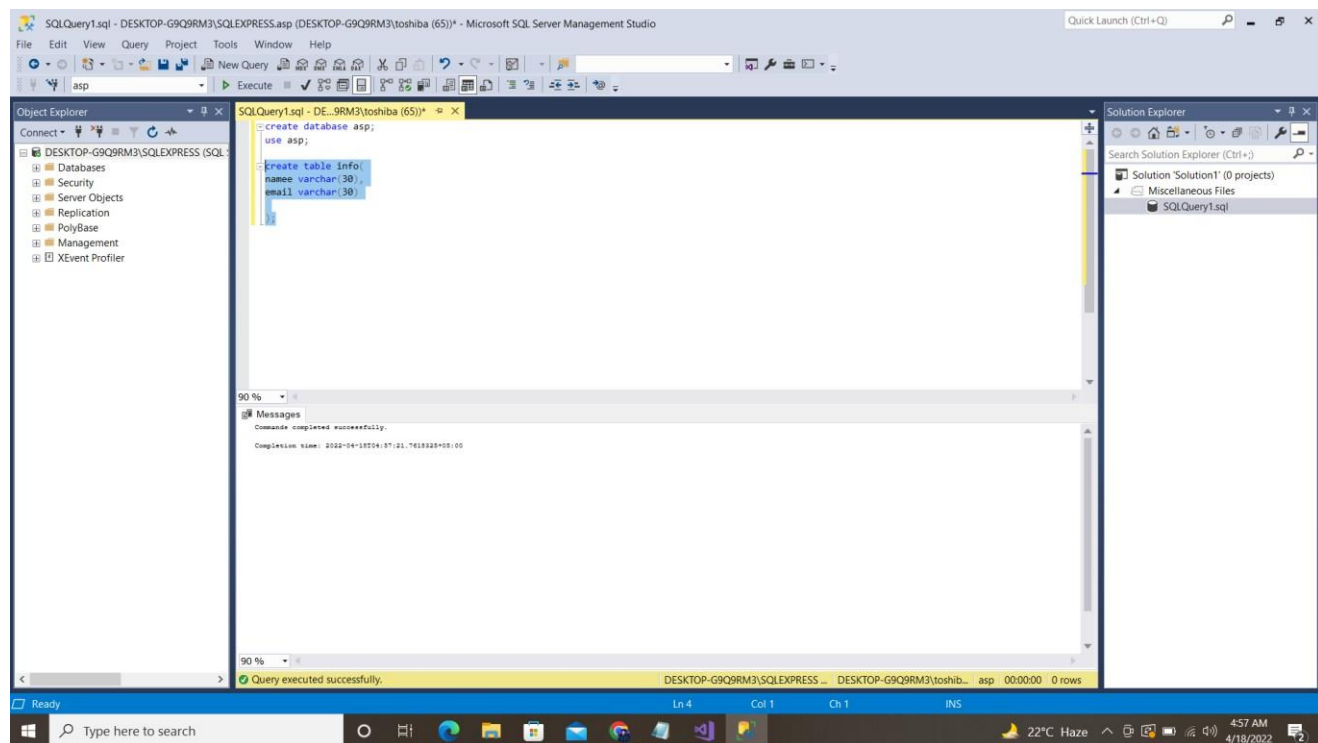
Now in below image we have created simple web form using drag and drop options. You can make it more attractive using Properties Windows as highlighted in below image.



Creation of Database in SQL Server:

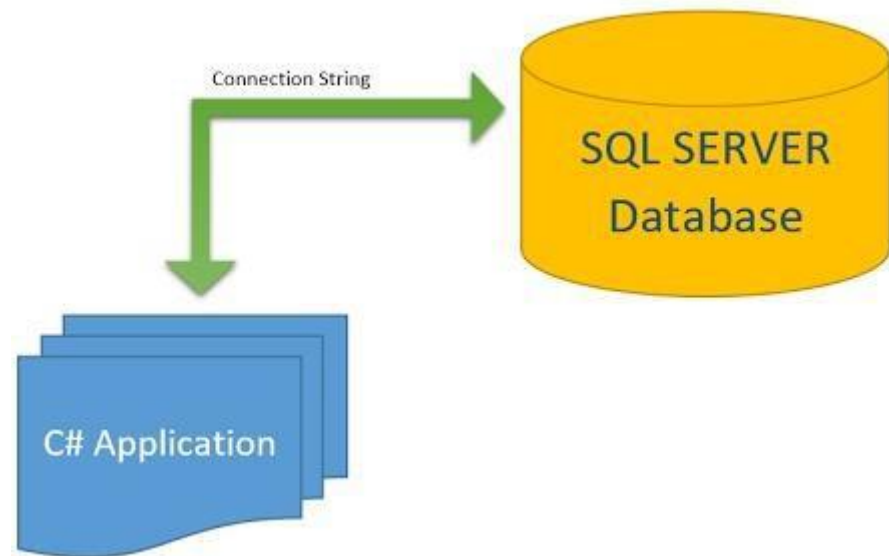
Open the **Microsoft SQL Server Management Studio** and click on the connect button. After clicking on the connect button all the objects will appear on the left of the SQL server screen. Now create database for above web form as shown below.

Also create table for the data to be saved.

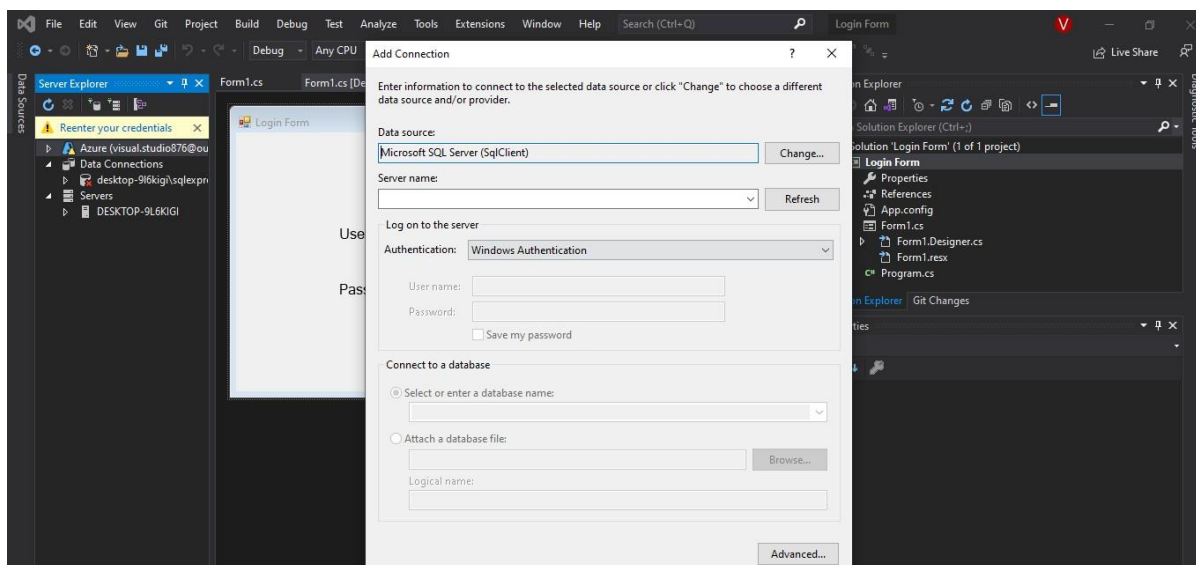


Connection of C# Form with SQL Server:

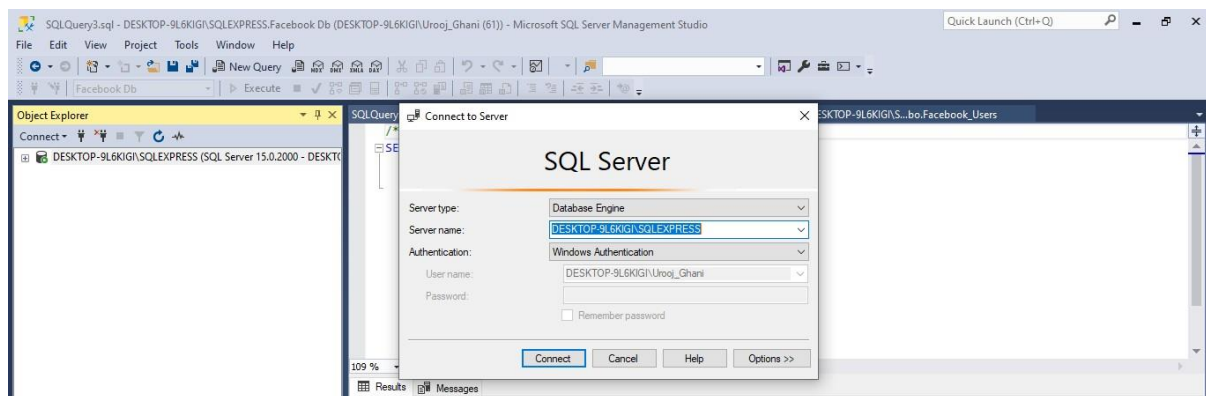
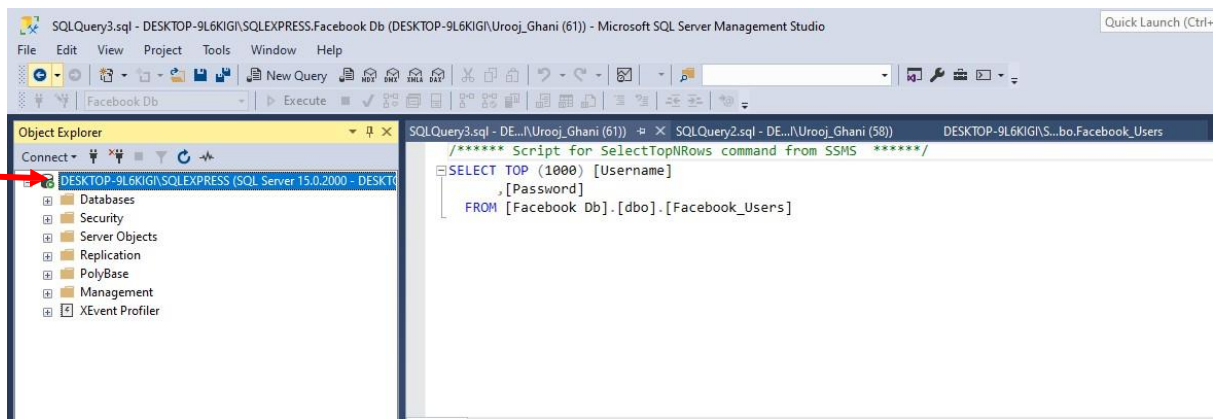
NOTE: LETS REVISE LAB 9



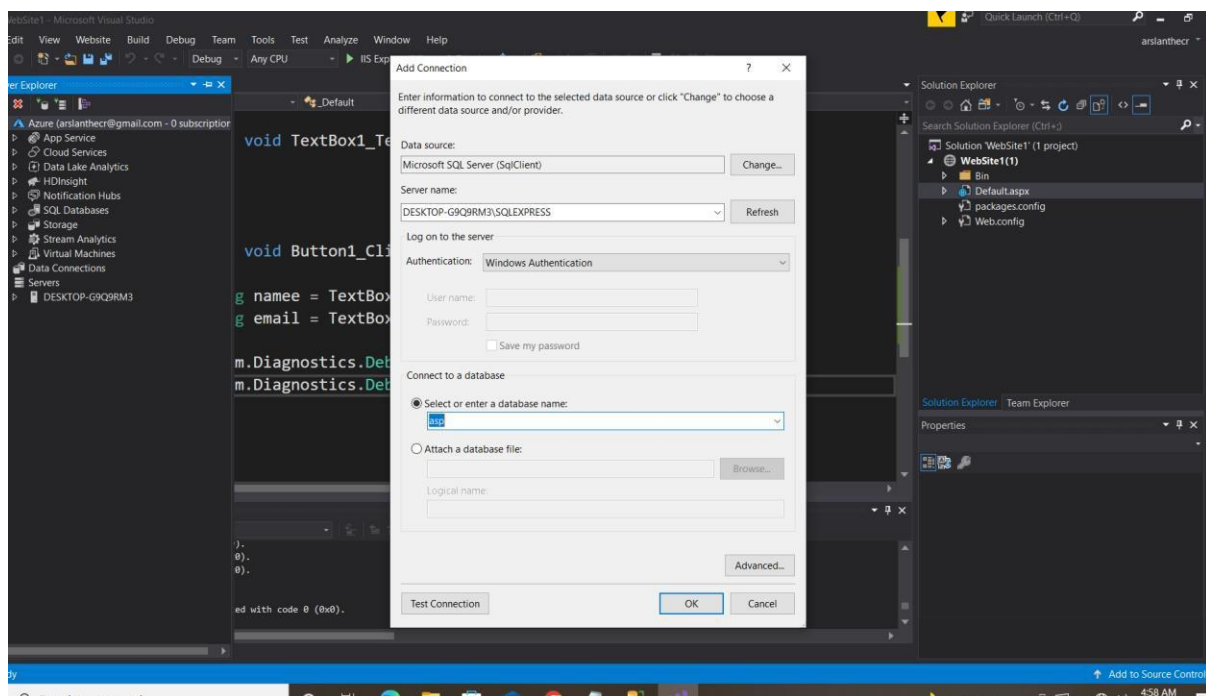
Open the visual studio and at the top of the option, there is the option **Tools** click on that and then click on **Connect to Database**. Now the screen shown below will appear.



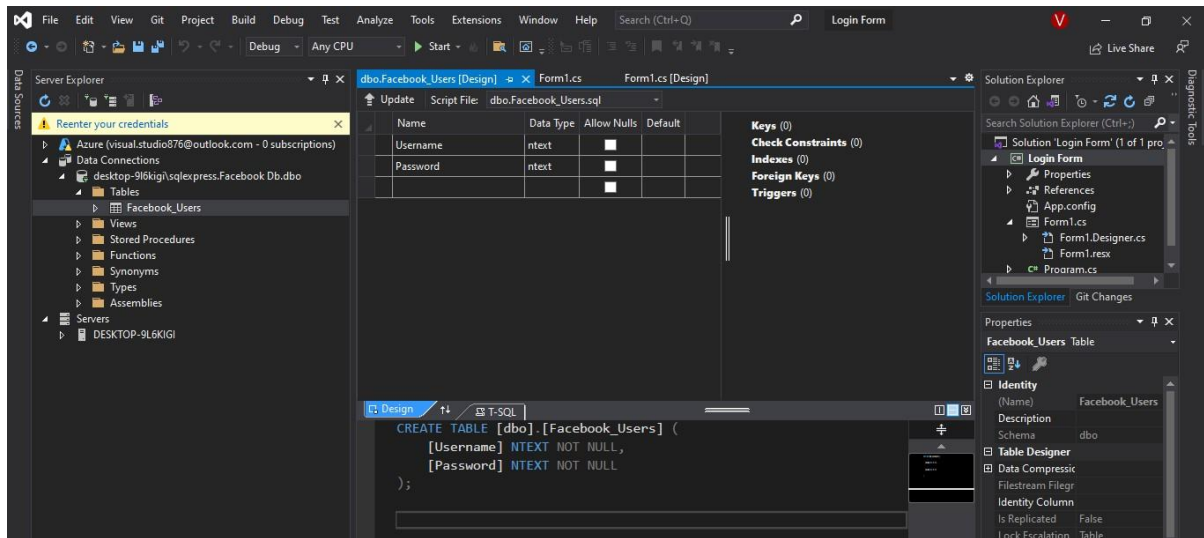
Now you have to enter the server's name. For this open the SQL server and at the top of the SQL Server right click on the highlighted option and click on the connect.



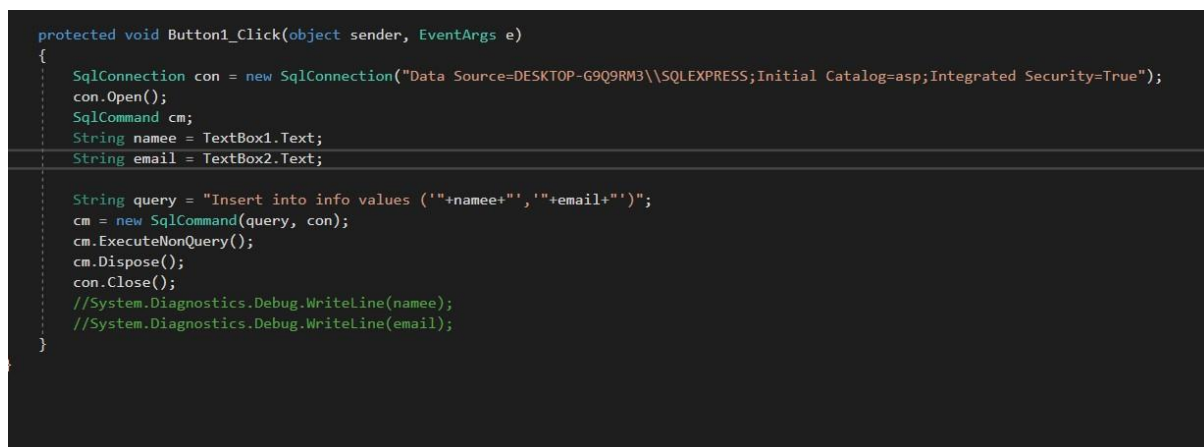
From this screen copy the server's name and insert it into the visual studio server name. When you insert the server's name then a radio **button selects or enters a database name** that will be enabled as shown below. Choose the name of the database to which you want to connect. My database name was asp, so I choose it.



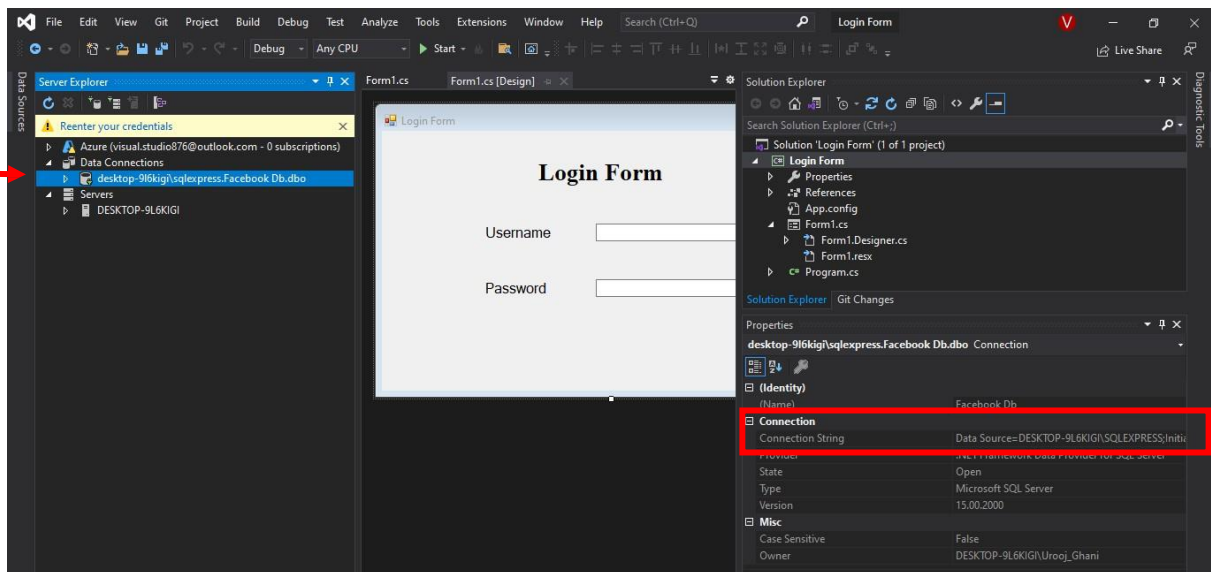
Click on the OK button. Now in the left panel of the visual studio under Server Explorer, in database connections, your server has been loaded as shown below. Now you can check the table by clicking on the server name and table.



The SQL Server is successfully connected to the C# web Form. Now we have to add an action listener in the button save, which means that when the user enters the data, the data must be inserted into the table. For this open the form design and double click on the save button, it will move you to the code section and write the code given below. Add the library at the top of the code “`using System.Data.SqlClient;`”. If you do not add it, then your code will give errors.



In the insert query, the **info** is the name of the table which we have created. You can write a query according to your table name and attributes. Here you can the Connection String in the comment. You have to write the connection string between the quotation marks. You can get it by clicking on the Server name properties of the server will appear at the right bottom of the Visual Studio as shown below.



Copy the Connection String and paste it into the code.

```
protected void Button1_Click(object sender, EventArgs e)
{
    SqlConnection con = new SqlConnection("Data Source=DESKTOP-G9Q9RM3\\SQLEXPRESS;Initial Catalog=asp;Integrated Security=True");
    con.Open();
    SqlCommand cm;
    String namee = TextBox1.Text;
    String email = TextBox2.Text;

    String query = "Insert into info values ('"+namee+"','"+email+"')";
    cm = new SqlCommand(query, con);
    cm.ExecuteNonQuery();
    cm.Dispose();
    con.Close();
    //System.Diagnostics.Debug.WriteLine(namee);
    //System.Diagnostics.Debug.WriteLine(email);
}
```

Run the code by clicking on the **Start** at the top of the visual studio. Default browser will be opened and your web page will be displayed as shown below.

localhost:50343/Default.aspx

NAME

Email

SQL Server Table Data:

Object Explorer

connect

DESKTOP-G9Q9RM3\SQLEXPRESS (SQL : ...)

- Databases
- Security
- Server Objects
- Replication
- PolyBase
- Management
- XEvent Profiler

SQLQuery1.sql - DE...9RM3\toshiba (65))*

```
create database asp;
use asp;

create table info(
    namee varchar(30),
    email varchar(30)
);

select * from info;
```

90 %

Results Messages

	namee	email
1	ar	em
2	arslan	ars@gmail.com

Tada! Your C# web form is connected successfully with SQL Server Database 🟡

Task:

Create Car Rental System in which we can save information about vehicles and their status i.e either car is available or rented out.

- There will be a table for storing information of a Car.
- One Web page to save new record in a table.
- One Web page to change status of a car by providing unique id of a car. (Note: for this task you have to use table update query)
- Hyperlink on both web pages to navigate from one page to other and vice versa.