



C# Database Connection: How to connect SQL Server (Example)



By Barbara Thompson (⌚ Updated October 7, 2021)



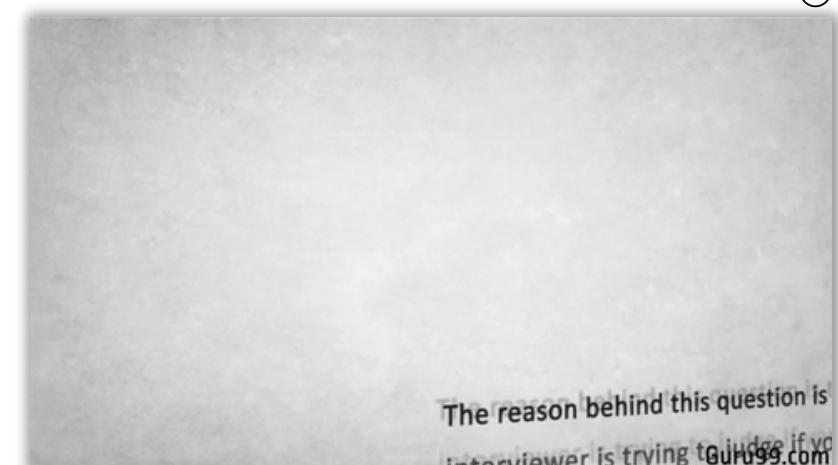
Accessing Data from a database is one of the important aspects of any programming language. It is an absolute necessity for any programming language to have the ability to work with databases. C# is no different.

It can work with different types of databases. It can work with the most common databases such as Oracle and Microsoft [SQL](#) Server.

It also can work with new forms of databases such as [MongoDB](#) and MySQL.

In this C# sql connection tutorial, you will learn-

- Fundamentals of Database connectivity
- How to connect C# to Database
- Access data with the SqlDataReader
- C# Insert Into Database
- Updating Records
- Deleting Records
- Connecting Controls to Data
- C# DataGridView



Fundamentals of Database connectivity

C# and .Net can work with a majority of databases, the most common being Oracle and Microsoft SQL Server. But with every database, the logic behind working with all of them is mostly the same.

In our examples, we will look at working with Microsoft SQL Server as our database. For learning purposes, one can download and use the **Microsoft SQL Server Express Edition**, which is a free database software provided by Microsoft.

In working with databases, the following are the concepts which are common to all databases.

1. Connection – To work with the data in a database, the first obvious step is the connection. The connection to a database normally consists of the below-mentioned parameters

- 1. Database name or Data Source** – The first important parameter is the database name to which the connection needs to be established. Each connection can only work with one database at a time.
- 2. Credentials** – The next important aspect is the username and password which needs to be used to establish a connection to the database. It ensures that the username and password have the necessary privileges to connect to the database.
- 3. Optional parameters** – For each database type, you can specify options on how .NET should handle the connection to the database. For example, a connection should stay active. If no operation is performed for a specific time, it can determine if the connection has to be closed.

2. Selecting data from the database – Once the connection has been established with the database, C# can execute ‘SQL’ select command against the database. The command will return the data from a specific table in the database.

The reason behind this question is that interviewer is trying to judge if you can learn from mistakes and whether you learn from them.

3. **Inserting data into the database** – C# can also be used to insert records into the database. Values can be specified in C# for each row that needs to be inserted into the database.
4. **Updating data into the database** – C# can also be used to update existing records into the database. New values can be specified in C# for each row that needs to be updated into the database.
5. **Deleting data from a database** – C# can also be used to delete records into the database. Select commands to specify which rows need to be deleted can be specified in C#.

Ok, now that we have seen the theory of each operation, let's jump into the further sections to look at how we can perform database operations in C#.

SQL Command in c#

SqlCommand in C# allow the user to query and send the commands to the database. SQL command is specified by the SQL connection object. Two methods are used, ExecuteReader method for results of query and ExecuteNonQuery for insert, Update, and delete commands. It is the method that is best for the different commands.

How to connect C# to Database

Let's now look at the code, which needs to be kept in place to create a connection to a database. In our example, we will connect to a database which has the name of Demodb. The credentials used to connect to the database are given below.

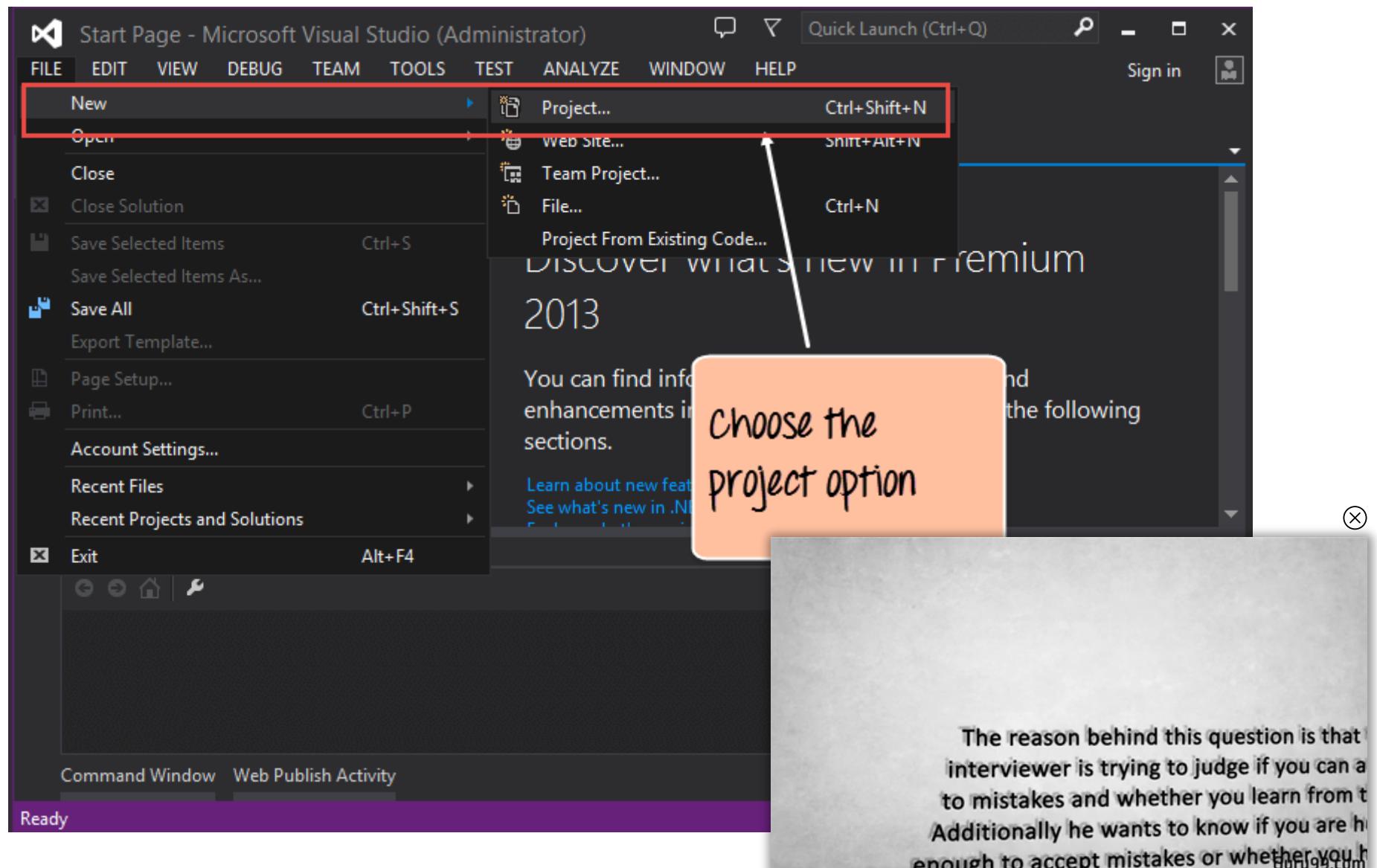
- Username – sa
- Password – demo123

We will see a simple Windows forms application to work with databases. We v will be used to connect to the database.

So let's follow the below steps to achieve this

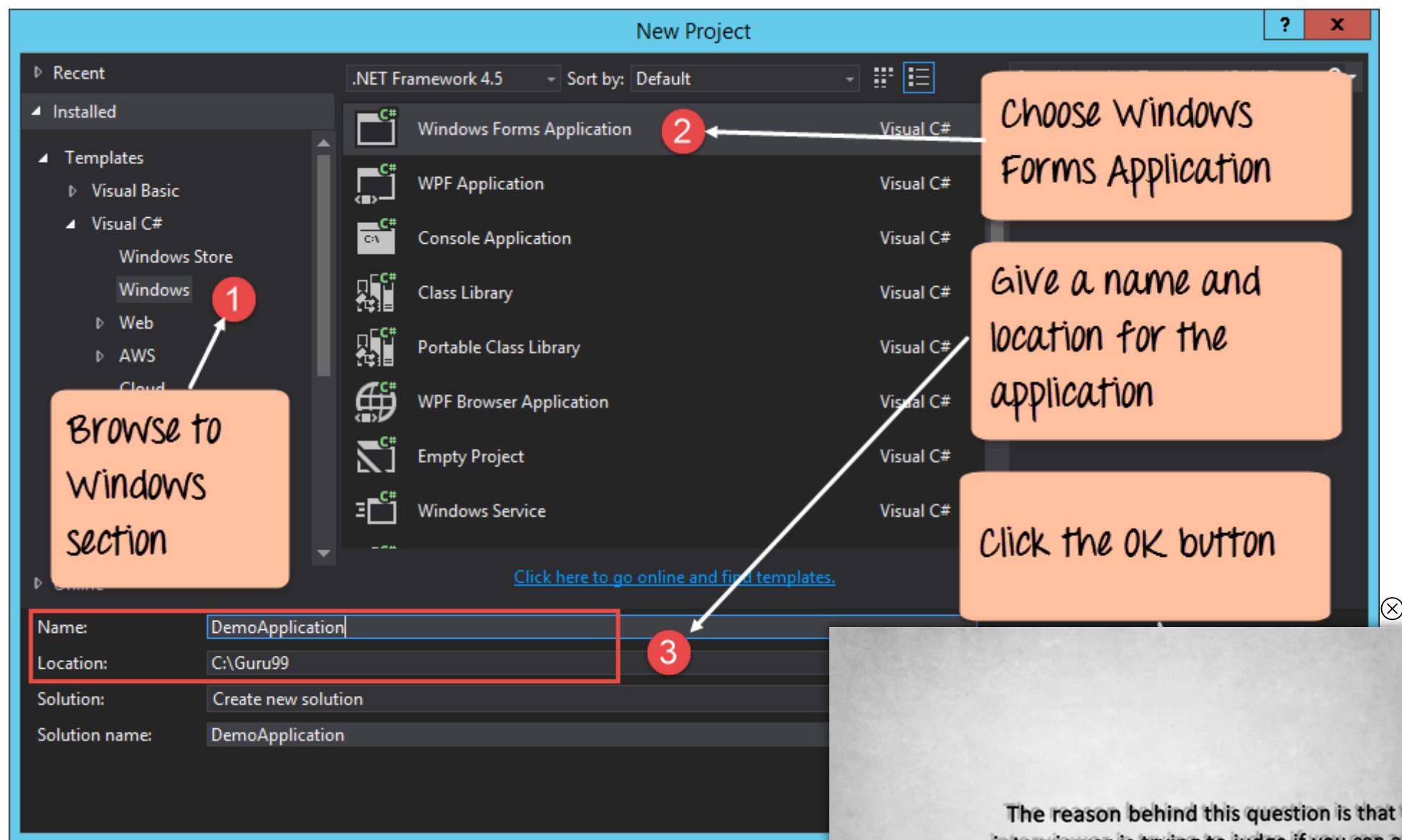
The reason behind this question is that interviewer is trying to judge if you can learn from mistakes and whether you learn from them. Additionally he wants to know if you are a Guru99.com

Step 1) The first step involves the creation of a new project in Visual Studio. After launching Visual Studio, you need to choose the menu option New->Project.



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Step 2) The next step is to choose the project type as a Windows Forms application. Here, we also need to mention the name and location of our project.



1. In the project dialog box, we can see various options for creating different Windows option on the left-hand side.

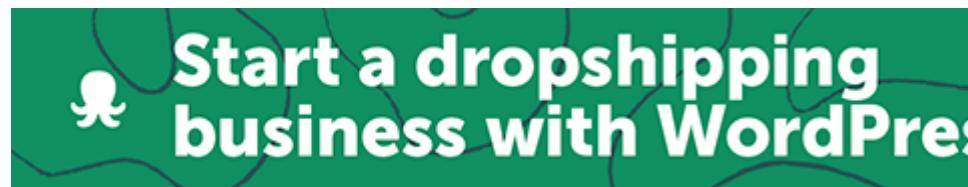
The reason behind this question is that interviewer is trying to judge if you can able to mistakes and whether you learn from them. Additionally he wants to know if you are honest enough to accept mistakes or whether you have a good attitude towards errors.

2. When we click the Windows options in the previous step, we will be able to see an option for Windows Forms Application.

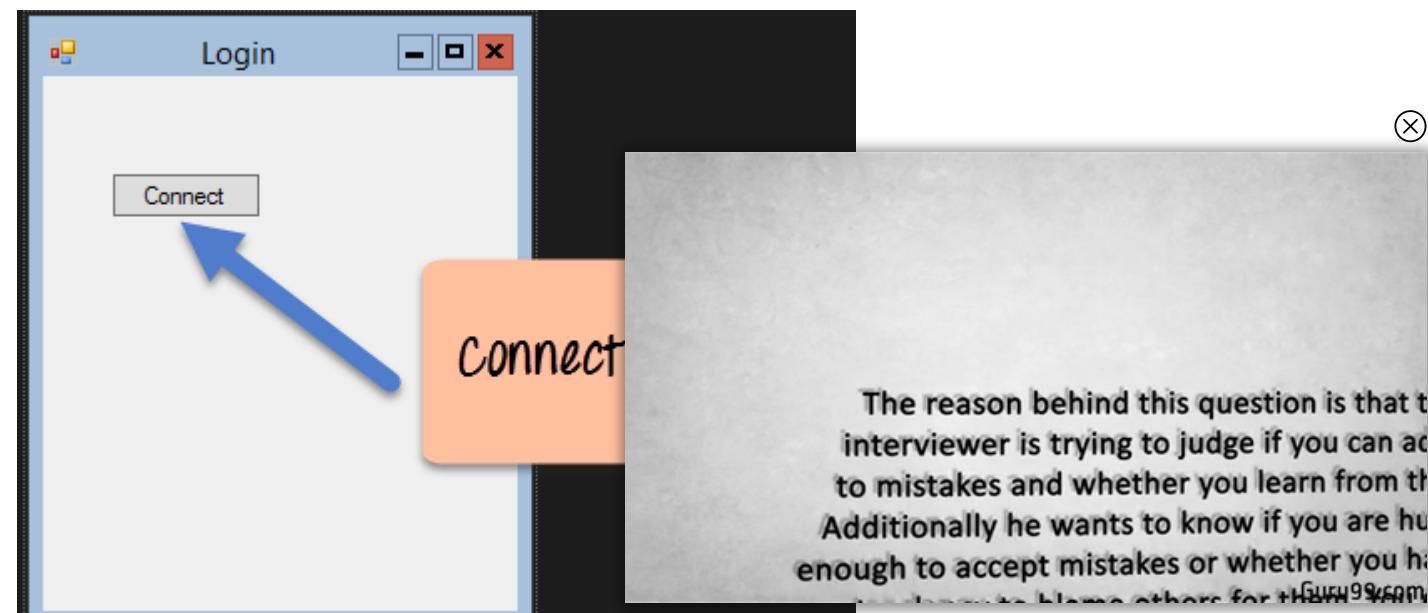
Click this option.

3. We then give a name for the application which in our case is “DemoApplication”. We also need to provide a location to store our application.

4. Finally, we click the ‘OK’ button to let Visual Studio to create our project.



Step 3) Now add a button from the toolbox to the Windows form. Put the text property of the Button as Connect. This is how it will look like



Step 4) Now double click the form so that an event handler is added to the code for the button click event. In the event handler, add the below code.

The diagram illustrates the five steps required to establish a database connection in a C# button click event handler:

- Variable declaration:** Declares `connectionString` and `SqlConnection cnn`.
- Set connection string:** Sets the connection string to `Data Source=WIN-50GP30FG075;Initial Catalog=Demodb;User ID=sa;Password=demo123`.
- Assign connection:** Assigns the connection string to `cnn = new SqlConnection(connectionString);`
- open connection:** Opens the connection with `cnn.Open();` and displays a message box with `MessageBox.Show ("Connection Open ! ");`
- Close connection:** Closes the connection with `cnn.Close();`

```
private void button1_Click(object sender, EventArgs e)
{
    string connectionString;
    SqlConnection cnn;

    connectionString = @"Data Source=WIN-50GP30FG075;Initial Catalog=Demodb
        ;User ID=sa;Password=demo123";

    cnn = new SqlConnection(connectionString);
    cnn.Open();
    MessageBox.Show ("Connection Open ! ");

    cnn.Close();
}
```

```
using System;
using System.Collections.Generic;
using System.ComponentModel;
using System.Data;
using System.Data.SqlClient;
using System.Drawing;
```

The reason behind this question is that the interviewer is trying to judge if you can adapt to mistakes and whether you learn from them. Additionally he wants to know if you are humble enough to accept mistakes or whether you have a tendency to blame others for them.

```
using System.Linq;
using System.Text;

using System.Threading.Tasks;
using System.Windows.Forms;

namespace DemoApplication1
{
    public partial class Form1 : Form
    {
        public Form1()
        {
            InitializeComponent();
        }

        private void button1_Click(object sender, EventArgs e)
        {
            string connectionString;
            SqlConnection cnn;
            connectionString = @"Data Source=WIN-50GP30FG075;Initial Catalog=Demodb;UserID=sa;Password=demo123";
            cnn = new SqlConnection(connectionString);
            cnn.Open();
            MessageBox.Show("Connection Open   !");
            cnn.Close();
        }
    }
}
```

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Code Explanation:-

1. The first step is to create variables, which will be used to create the connection string and the connection to the SQL Server database.
2. The next step is to create the connection string. The connecting string needs to be specified correctly for C# to understand the connection string. The connection string consists of the following parts
 1. Data Source – This is the name of the server on which the database resides. In our case, it resides on a machine called WIN- 50GP30FG075.
 2. The Initial Catalog is used to specify the name of the database
 3. The UserID and Password are the credentials required to connect to the database.
3. Next, we assign the connecting string to the variable cnn. The variable cnn, which is of type SqlConnection is used to establish the connection to the database.
4. Next, we use the Open method of the cnn variable to open a connection to the database. We then just display a message to the user that the connection is established.
5. Once the operation is completed successfully, we then close the connection to the database. It is always a good practice to close the connection to the database if nothing else is required to be done on the database.



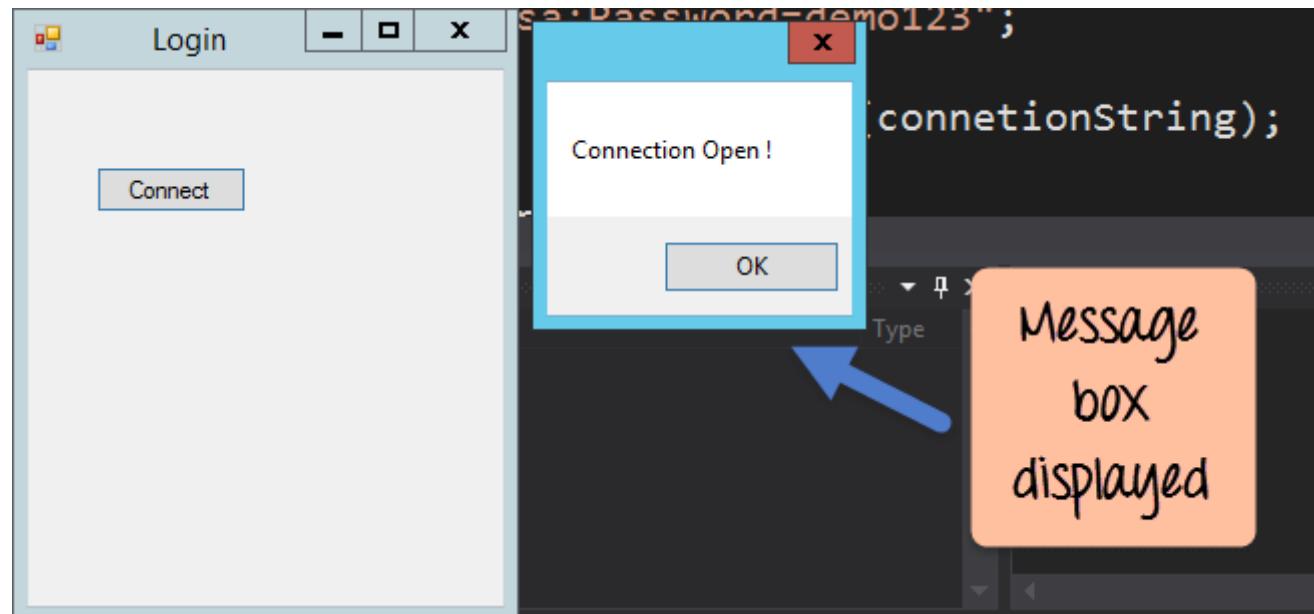
When the above code is set, and the project is executed using Visual Studio, you will see a message box displayed, click the Connect button.



The reason behind this question is that the interviewer is trying to judge if you can admit your mistakes and whether you learn from them. Additionally he wants to know if you are humble enough to accept mistakes or whether you have a tendency to blame others for them. You can find more information about this question on Guru99.com

Output:-

Output:-



When you click on “connect” button, from the output, you can see that the database connection was established. Hence, the message box was displayed.

Access data with the SqlDataReader

To showcase how data can be accessed using C#, let us assume that we have 1

1. A table called demotb. This table will be used to store the ID and names of the tutorials.
2. The table will have 2 columns, one called “TutorialID” and the other called “TutorialName”.
3. For the moment, the table will have 2 rows as shown below.

TutorialID	TutorialName
1	Learn C#
2	Learn Java

The reason behind this question is that the interviewer is trying to judge if you can admit to mistakes and whether you learn from them. Additionally he wants to know if you are humble enough to accept mistakes or whether you have a tendency to blame others for them. You can tell the interviewer things that you have learned.

1

C#

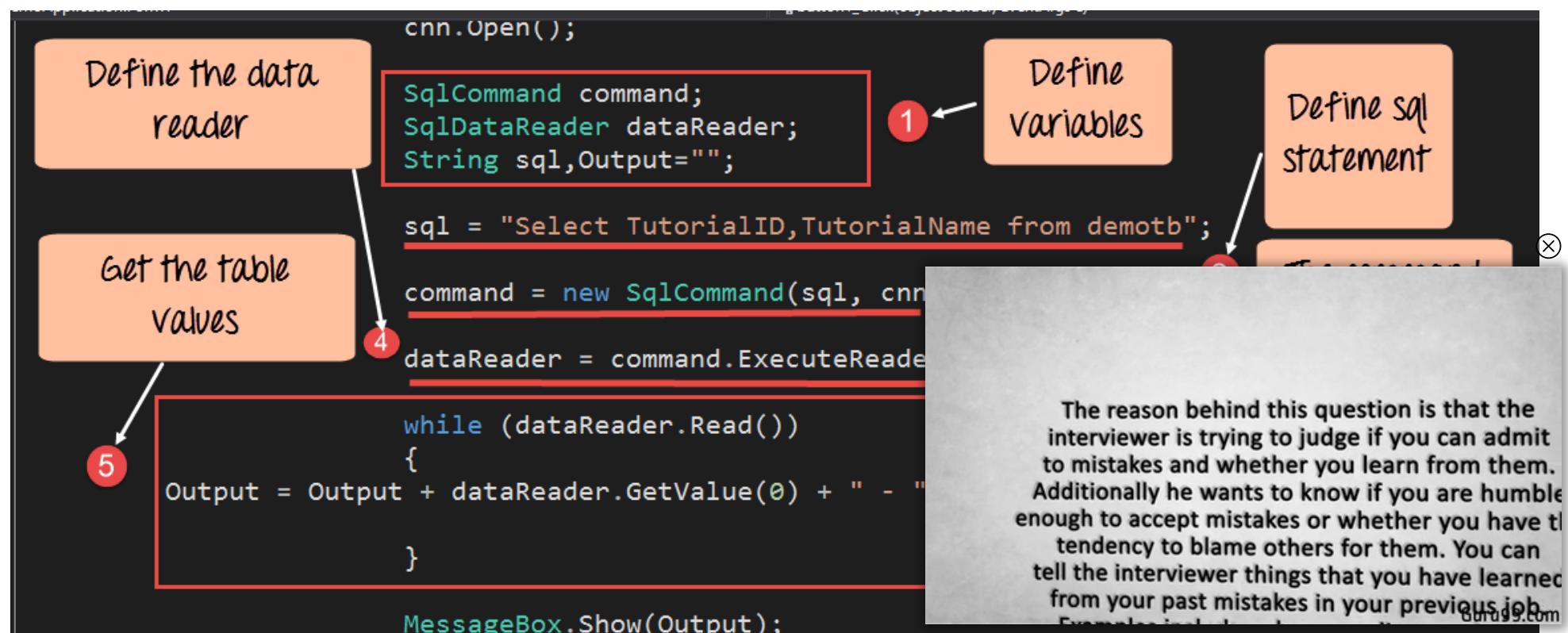
2

ASP.Net

Let's change the code in our form, so that we can query for this data and display the information via a Messagebox. Note that all the code entered below is a continuation of the code written for the data connection in the previous section.

Step 1) Let's split the code into 2 parts so that it will be easy to understand for the user.

- The first will be to construct our “select” statement, which will be used to read the data from the database.
- We will then execute the “select” statement against the database and fetch all the table rows accordingly.



Code Explanation:-

1. The first step is to create the following variables

1. **SQLCommand** – The ‘**SQLCommand**’ is a class defined within C#. This class is used to perform operations of reading and writing into the database. Hence, the first step is to make sure that we create a variable type of this class. This variable will then be used in subsequent steps of reading data from our database.
2. The **DataReader** object is used to get all the data specified by the SQL query. We can then read all the table rows one by one using the data reader.
3. We then define 2 string variables, one is “**SQL**” to hold our SQL command string. The next is the “**Output**” which will contain all the table values.

2. The next step is to define the SQL statement, which will be used against our database. In our case, it is “Select TutorialID, TutorialName from demotb”. This will fetch all the rows from the table demotb.

3. Next, we create the command object which is used to execute the SQL statement against the database. In the SQL command, you have to pass the connection object and the SQL string.

4. Next, we will execute the data reader command, which will fetch all the r

5. Now that we have all the rows of the table with us, we need a mechanism the while statement. The while statement will be used to access the rows the GetValue method to get the value of TutorialID and TutorialName.

Step 2) In the final step, we will just display the output to the user and close a

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```
        while (dataReader.Read())
    {
        Output = Output + dataReader.GetValue(0) + " - " + dataReader.GetValue(1) + "\n";

    }

    MessageBox.Show(Output);

    dataReader.Close();
    command.Dispose();
    cnn.Close();
}
```

1 Display the output to the user

2 Close all objects

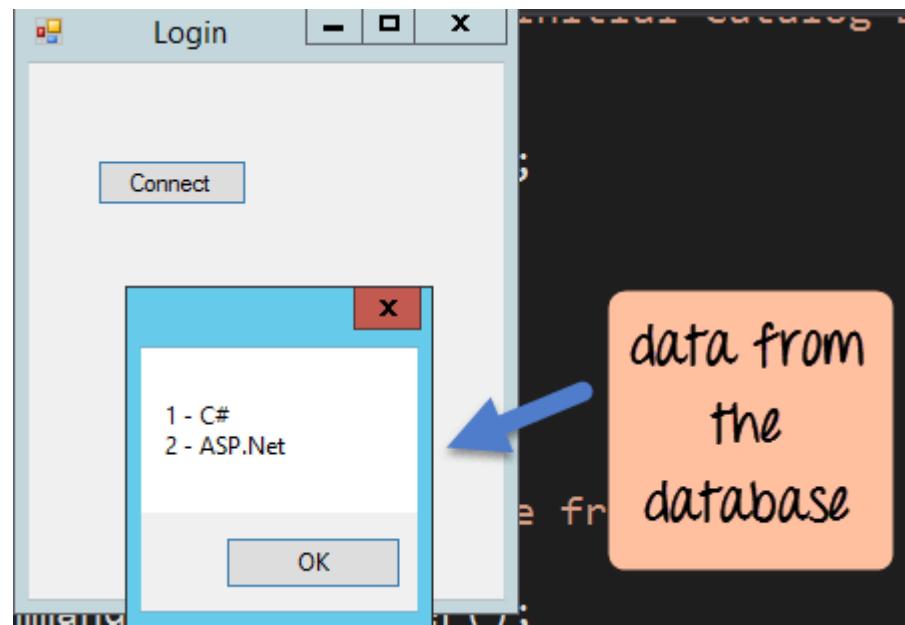
Code Explanation:-

1. We will continue our code by displaying the value of the Output variable using the MessageBox. The Output variable will contain all the values from the demotb table.
2. We finally close all the objects related to our database operation. Remember to close all the objects related to our database operation.

When the above code is set, and the project is run using Visual Studio, you will click the Connect button.

Output:-

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From the output, you can clearly see that the program was able to get the values from the database. The data is then displayed in the message box.

C# Insert Into Database

Just like Accessing data, C# has the ability to insert records into the database database, let's take the same table structure which was used above.

TutorialID	TutorialName
1	C#
2	ASP.Net

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Let's change the code in our form, so that we can insert the following row into the table

TutorialID	TutorialName
3	VB.Net

So let's add the following code to our program. The below code snippet will be used to insert an existing record in our database.

```

    SqlCommand command;
    SqlDataAdapter adapter = new SqlDataAdapter();
    String sql="";

    sql = "Insert into demotb (TutorialID,TutorialName) values(3, '" + "VB.Net" + "')";
    
```

Define Variables

Define the insert

Define the sqlCommand

Associate the insert command

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Code Explanation:-

1. The first step is to create the following variables

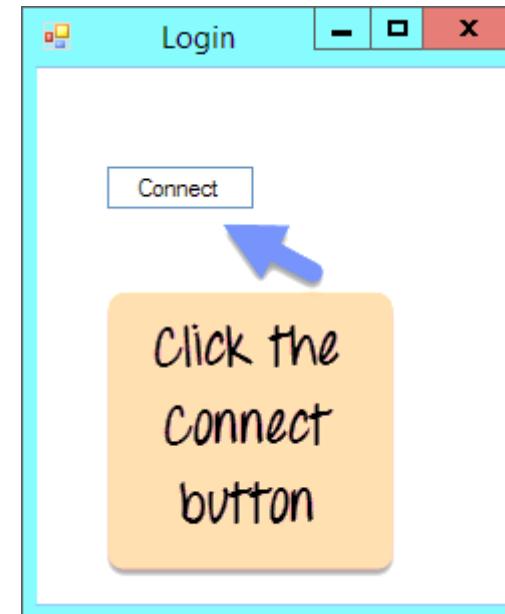
1. **SQLCommand** – This data type is used to define objects which are used to perform SQL operations against a database. This object will hold the SQL command which will run against our SQL Server database.
2. The **DataAdapter** object is used to perform specific SQL operations such as insert, delete and update commands.
3. We then define a string variable, which is “SQL” to hold our SQL command string.

2. The next step is to actually define the SQL statement which will be used against our database. In our case, we are issuing an insert statement, which will insert the record of TutorialID=1 and TutorialName=VB.Net
3. Next, we create the command object which is used to execute the SQL statement against the database. In the SQL command, you have to pass the connection object and the SQL string
4. In our data adapter command, we now associate the insert SQL command to our adapter. We also then issue the **ExecuteNonQuery** method which is used to execute the Insert statement against our database. The ‘**ExecuteNonQuery**’ method is used in C# to issue any DML statements against the database. By DML statements, we mean the insert, delete, and update operation. In C#, if you want to issue any of these statements against a table, you need to use the **ExecuteNonQuery** method.
5. We finally close all the objects related to our database operation. Remember this is always a good practice.

When the above code is set, and the project is executed using Visual Studio, you will see a message box displayed, click the Connect button.

Output:-

The reason behind this question is that the interviewer is trying to judge if you can admit to mistakes and whether you learn from them. Additionally he wants to know if you are humble enough to accept mistakes or whether you have the tendency to blame others for them. You can tell the interviewer things that you have learned from your past mistakes in your previous job. Examples include: when you disagreed with your manager and went over him to higher authority that accepted your suggestion.



If you go to SQL Server Express and see the rows in the demotb table, you will see the row inserted as shown below

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C# Update Database

Just like Accessing data, C# has the ability to update existing records from the database as well. To showcase how to update records into our database, let's take the same table structure which was used above.

TutorialID	TutorialName
1	C#
2	ASP.Net
3	VB.Net

Let's change the code in our form, so that we can update the following row. The old row value is TutorialID as "3" and Tutorial Name as "VB.Net". Which we will update it to "VB.Net complete" while the row value for Tutorial ID will remain same.

Old row

TutorialID	TutorialName
3	VB.Net

New row

TutorialID	TutorialName
3	VB.Net complete

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So let's add the following code to our program. The below code snippet will be used to update an existing record in our database.

```

    SqlCommand command;
    SqlDataAdapter adapter = new SqlDataAdapter();
    String sql="";

    sql = "Update demotb set TutorialName=' "+VB.Net Complete)+"' where TutorialID=3";

    Define variables
    Define the sqlCommand
    Define the update statement
    Associate the update command
    Close all objects
    
```

1 Define variables

2 Define the update statement

3 Define the sqlCommand

4 Associate the update command

5 Close all objects

C# SqlCommand Example With Code Explanation:-

1. The first step is to create the following variables

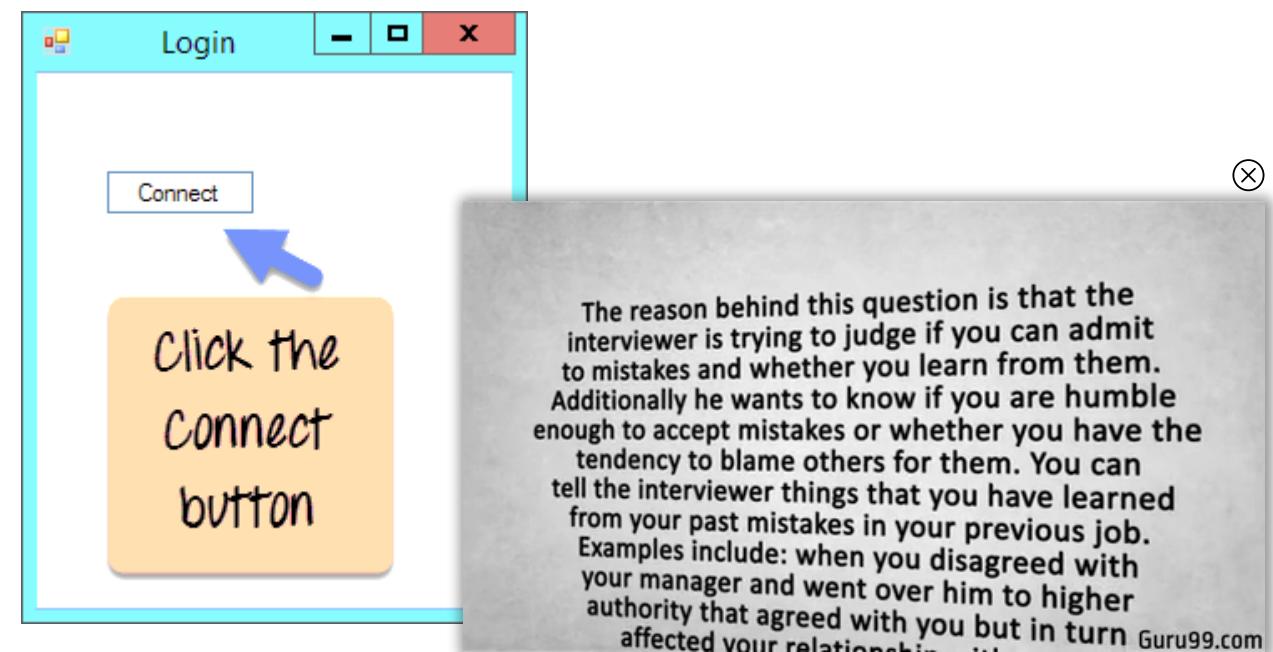
1. SqlCommand – This data type is used to define objects which database. This object will hold the SQL command which will run.
2. The dataadapter object is used to perform specific SQL operations.
3. We then define a string variable, which is SQL to hold our SQL Command string.

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2. The next step is to define the SQL statement which will be used against our database. In our case we are issuing an update statement, this will update the Tutorial name to “VB.Net Complete” while the TutorialID is unchanged and kept as 3.
3. Next, we will create the command object, which is used to execute the SQL statement against the database. In the SQL command, you have passed the connection object and the SQL string.
4. In our data adapter command, we now associate the insert SQL command to our adapter. We also then issue the ExecuteNonQuery method which is used to execute the Update statement against our database.
5. We finally close all the objects related to our database operation. Remember this is always a good practice.

When the above code is set, and the project is executed using Visual Studio, you will get the below output. Once the form is displayed, click the Connect button.

Output:-



If you actually go to SQL Server Express and see the rows in the demotb table, you will see the row was successfully updated as shown below.

	TutorialName	TutorialID
1	C#	1
2	ASP.Net	2
3	VB.Net Complete	3

Deleting Records

Just like Accessing data, C# has the ability to delete existing records from the database as well. To showcase how to delete records into our database, let's take the same table structure which was used above.



TutorialID	TutorialName
1	C#
2	ASP.Net
3	VB.Net complete

The reason behind this question is that the interviewer is trying to judge if you can admit to mistakes and whether you learn from them. Additionally he wants to know if you are humble enough to accept mistakes or whether you have the tendency to blame others for them. You can tell the interviewer things that you have learned from your past mistakes in your previous job. Examples include: when you disagreed with your manager and went over him to higher authority that agreed with you but in turn affected your relationship with your

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Let's change the code in our form, so that we can delete the following row.

Let's change the code in our form, so that we can delete the following row

TutorialID	TutorialName
3	VB.Net complete

So let's add the following code to our program. The below code snippet will be used to delete an existing record in our database.

```

        SqlCommand command;
        SqlDataAdapter adapter = new SqlDataAdapter();
        String sql="";

        sql = "Delete demotb where TutorialID=3"; 1 ← Define sql statement

        command = new SqlCommand(sql, cnn);
adapter.DeleteCommand = new SqlCommand(sql, cnn);
adapter.DeleteCommand.ExecuteNonQuery(); 2 ← Associate the delete command

        command.Dispose();
        cnn.Close();
    }

```

Code Explanation:-

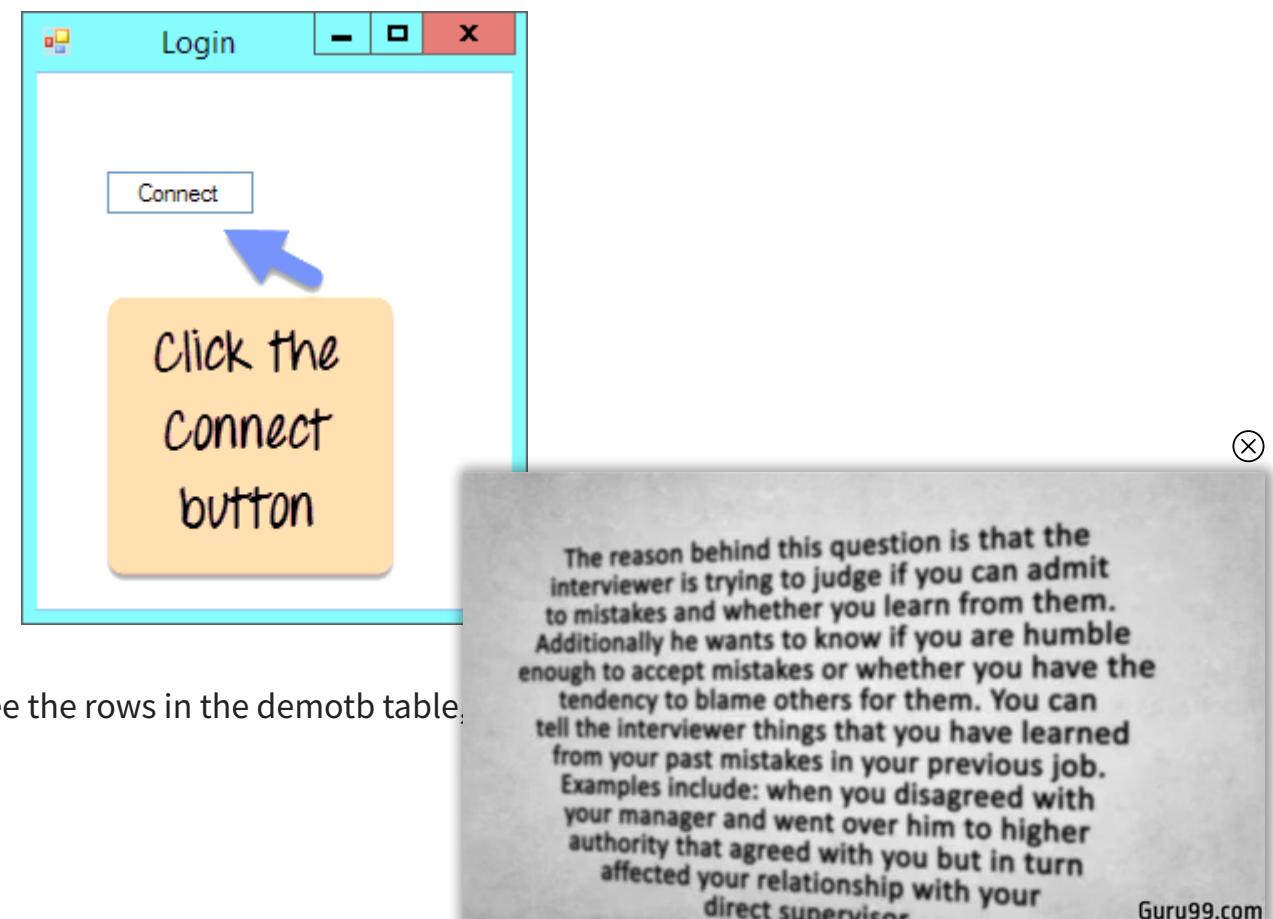
1. The Key difference in this code is that we are now issuing the delete SQL the row in the demotb table in which the TutorialID has a value of 3.

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2. In our data adapter command, we now associate the insert SQL command to our adapter. We also then issue the ExecuteNonQuery method which is used to execute the Delete statement against our database.

When the above code is set, and the project is executed using Visual Studio, you will get the below output. Once the form is displayed, click the Connect button.

Output:-



If you actually go to SQL Server Express and see the rows in the demotb table, shown below.

	TutorialName	TutorialID
1	C#	1
2	ASP.Net	2

Connecting Controls to Data

In the earlier sections, we have seen how we can use C# commands such as `SQLCommand` and `SQLReader` to fetch data from a database. We also saw how we read each row of the table and use a messagebox to display the contents of a table to the user.

But obviously, users don't want to see data sent via message boxes and would want better controls to display the data. Let's take the below data structure in a table

TutorialID	TutorialName
1	C#
2	ASP.Net
3	VB.Net complete

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From the above data structure, the user would ideally want to see the TutorialID and Tutorial Name displayed in a textbox. Secondly, they might want to have some sort of button control which could allow them to go to the next record or to the previous record in the table. This would require a bit of extra coding from the developer's end.

The good news is that C# can reduce the additional coding effort by allowing binding of controls to data. What this means is that C# can automatically populate the value of the textbox as per a particular field of the table.

So, you can have 2 textboxes in a windows form. You can then link one text box to the TutorialID field and another textbox to the TutorialName field. This linking is done in the Visual Studio designer itself, and you don't need to write extra code for this.

Visual Studio will ensure that it writes the code for you to ensure the linkage works. Then when you run your application, the textbox controls will automatically connect to the database, fetch the data and display it in the textbox controls. No coding is required from the developer's end to achieve this.

Let's look at a code example of how we can achieve binding of controls.

In our example, we are going to create 2 textboxes on the windows form. They are going to represent the Tutorial ID and Tutorial Name respectively. They will be bound to the Tutorial ID and TutorialName fie 

Let's follow the below-mentioned steps to achieve this.

Step 1) Construct the basic form. In the form drag and drop 2 components- 1st substeps

1. Put the text value of the first label as TutorialID
2. Put the text value of the second label as TutorialName

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3. Put the name property of the first textbox as txtID
4. Put the name property of the second textbox as txtName

Below is the how the form would look like once the above-mentioned steps are performed.

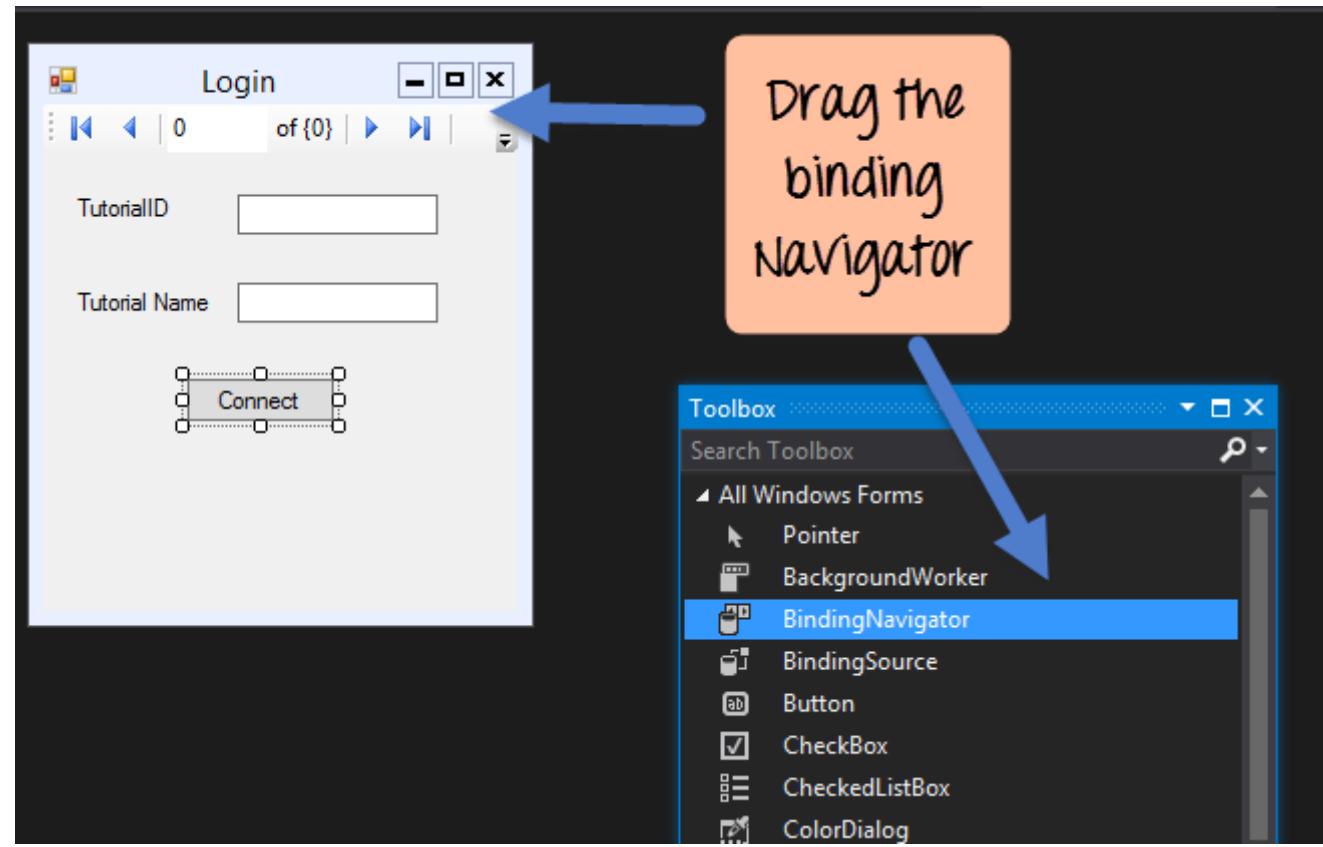


Step 2) The next step is to add a binding Navigator to the form. The binding Navigator control can automatically navigate through each row of the table. To add the binding navigator, just go to the toolbox and drag it to the form.

(X)

The reason behind this question is that the interviewer is trying to judge if you can admit to mistakes and whether you learn from them. Additionally he wants to know if you are humble enough to accept mistakes or whether you have the tendency to blame others for them. You can tell the interviewer things that you have learned from your past mistakes in your previous job. Examples include: when you disagreed with your manager and went over him to higher authority that agreed with you but in turn affected your relationship with your direct supervisor.

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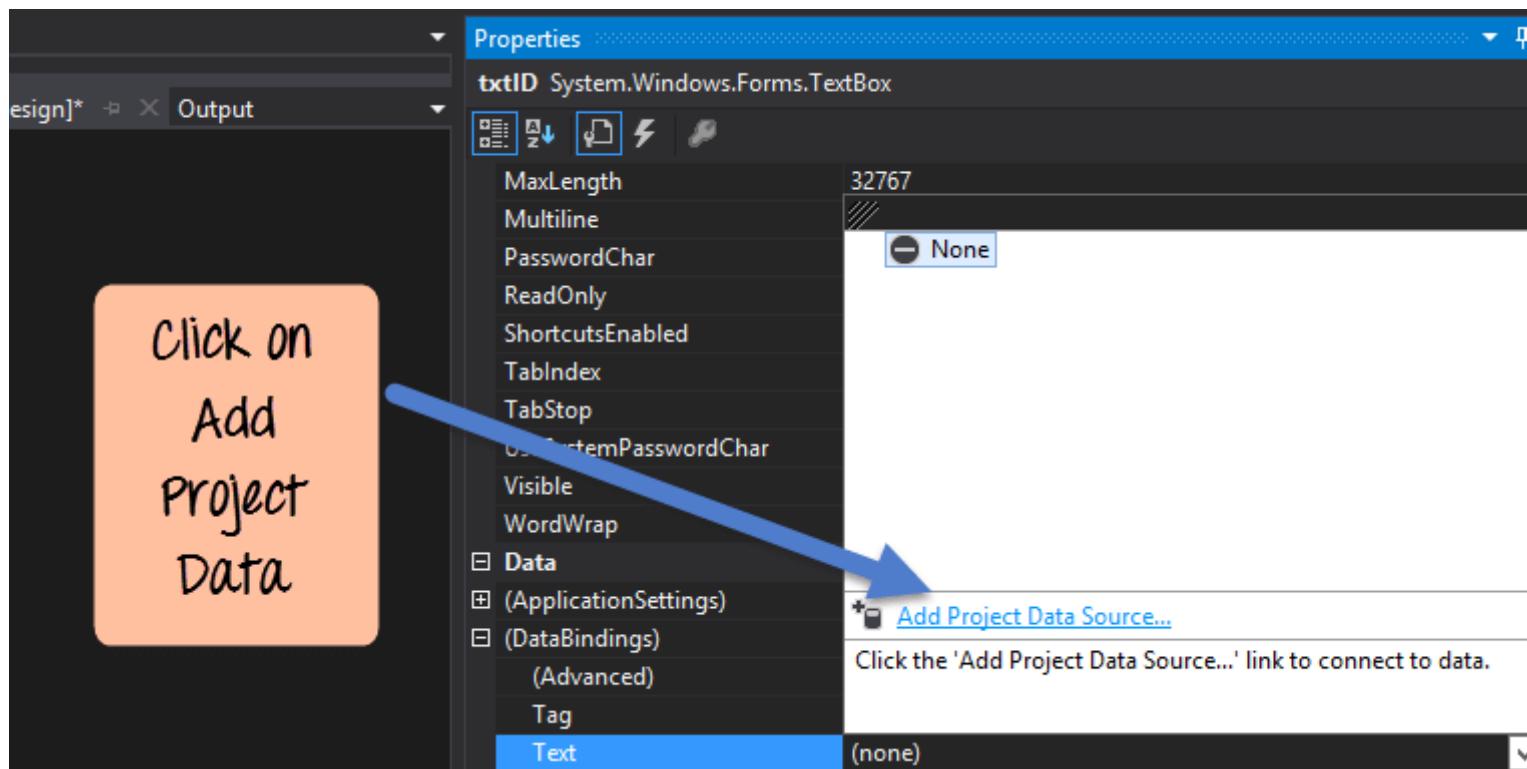
Step 3) The next step is to add a binding to our database. This can be done by the DataBindings->Text property. The Binding Navigator is used to establish a

When you perform this step, Visual Studio will automatically add the required application is linked to the database. Normally the database in Visual Studio i the connection is established between the application and the database, the

The following screen will show up. Click on the link- "Add Project Data Source
will be presented with a wizard· this will allow you to define the database connection

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You will be presented with a wizard, this will allow you to define the database connection...



Step 4) Once you click on the Add Project Data Source link, you will be presented with a wizard which will be used to create a connection to the demodb database. The following steps show in detail what the wizard.

1. In the screen which pops up , choose the Data Source type as Database a

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Data Source Configuration Wizard

Choose a Data Source Type

Where will the application get data from?

Database Service Object SharePoint

Lets you connect to a database and choose the database objects for your application.

Choose the Database option

< Previous Next >

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2. In the next screen, you need to start the creation of the connection string for the application to establish a connection to the database. It contains name, and the name of the driver.

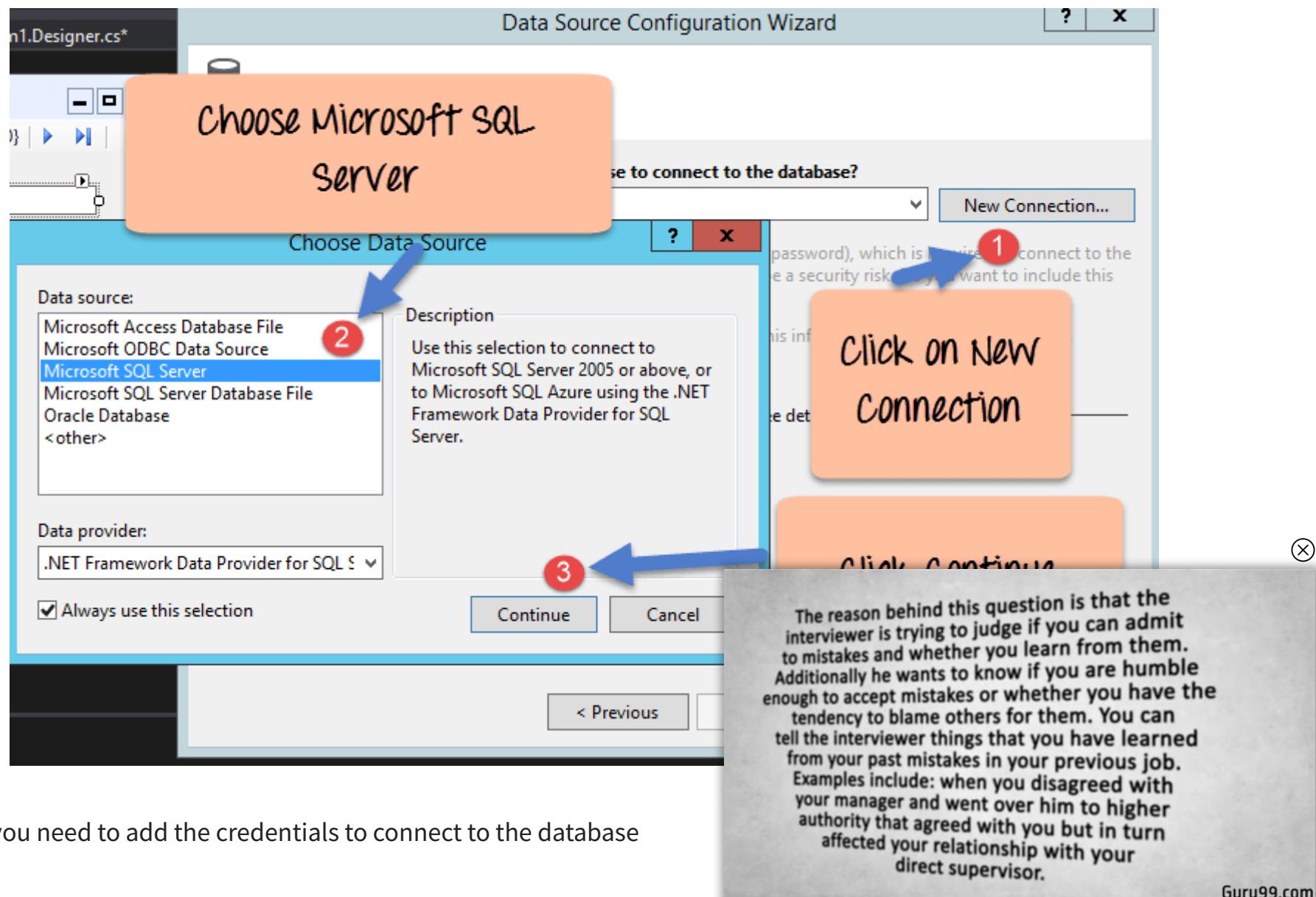
1 Click on the New connection button

<https://www.guru99.com/c-sharp-access-database.html>

1. Click on the New Connection button

2. Choose the Data Source as Microsoft SQL Server

3. Click the Continue button.



2. Enter the user id and password to connect to the database
3. Choose the database as demotb
4. Click the 'ok' button.



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Choose the server name

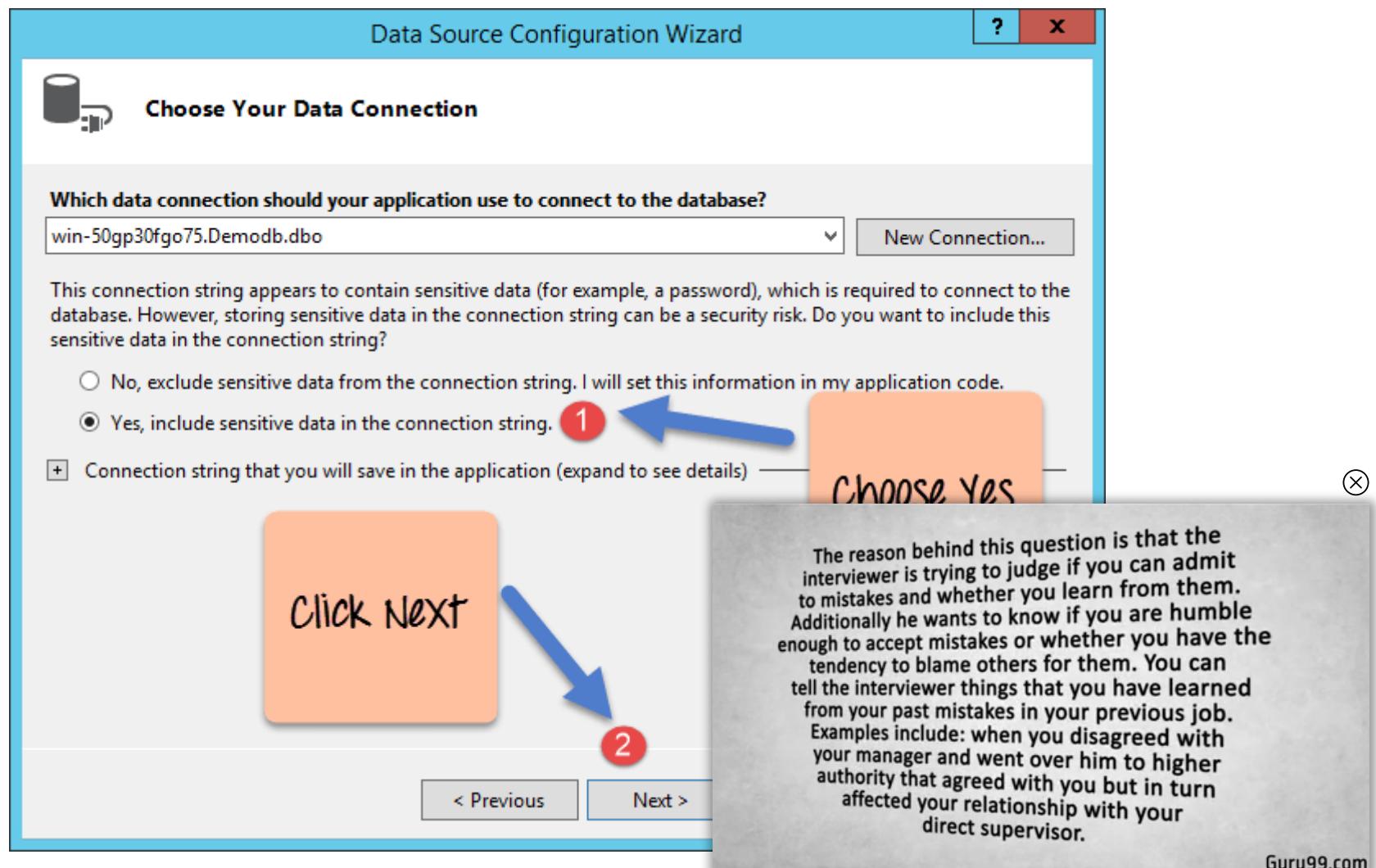
Enter the user name and password

Choose the database

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4. In this screen, we will confirm all the settings which were carried on the previous screens.

1. Choose the option “Yes” to include sensitive data in the connection string
2. Click on the “Next” button.



5. In the next screen, click on the “Next” button to confirm the creation of the connection string

Data Source Configuration Wizard

Save the Connection String to the Application Configuration File

Storing connection strings in your application configuration file eases maintenance and deployment. To save the connection string in the application configuration file, enter a name in the box and then click Next.

Do you want to save the connection string to the application configuration file?

Yes, save the connection as:

DemodbConnectionString

Click on Next

< Previous Next >

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6. In this step,

1. Choose the tables of Demotb, which will be shown in the next screen.
2. This table will now become an available data source in the C# project

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When you click the Finish button, Visual Studio will now ensure that the application

Step 5) Now that the data source is defined, we now need to connect the Tutorial table. When you click on the Text property of either the TutorialID or TutorialName source to Demothb is available.

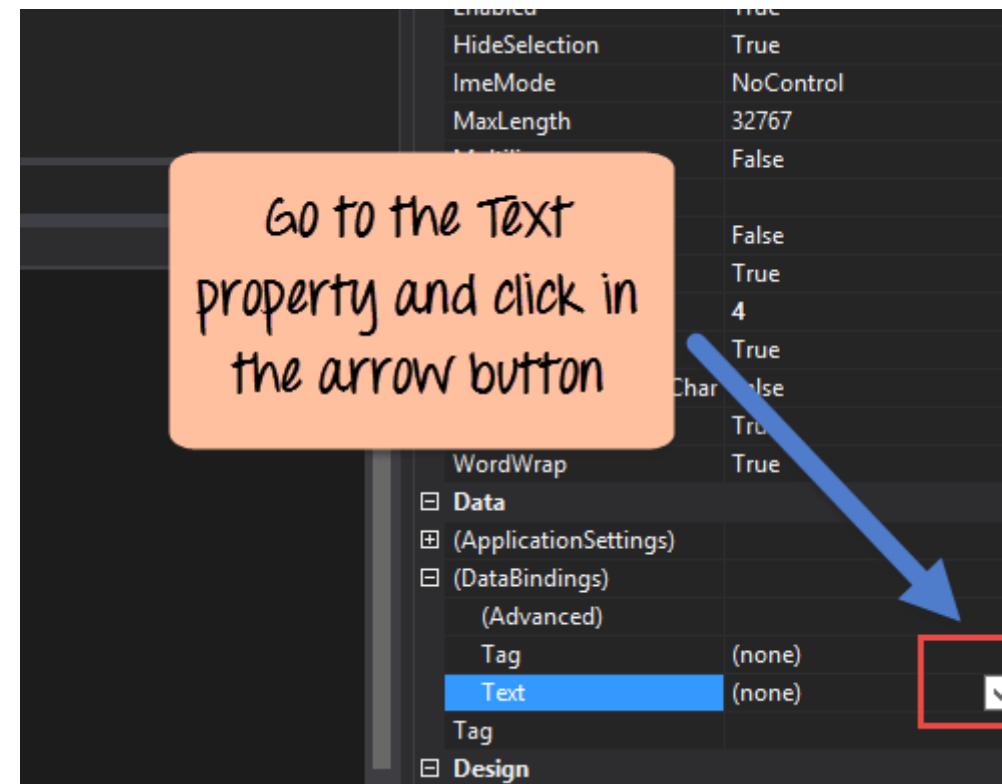
For the first text box choose the Tutorial ID. Repeat this step for the second textbox and choose the field as TutorialName. The below steps shows how we can navigate to each control and change the binding accordingly.

1. Click on the Tutorial ID control.



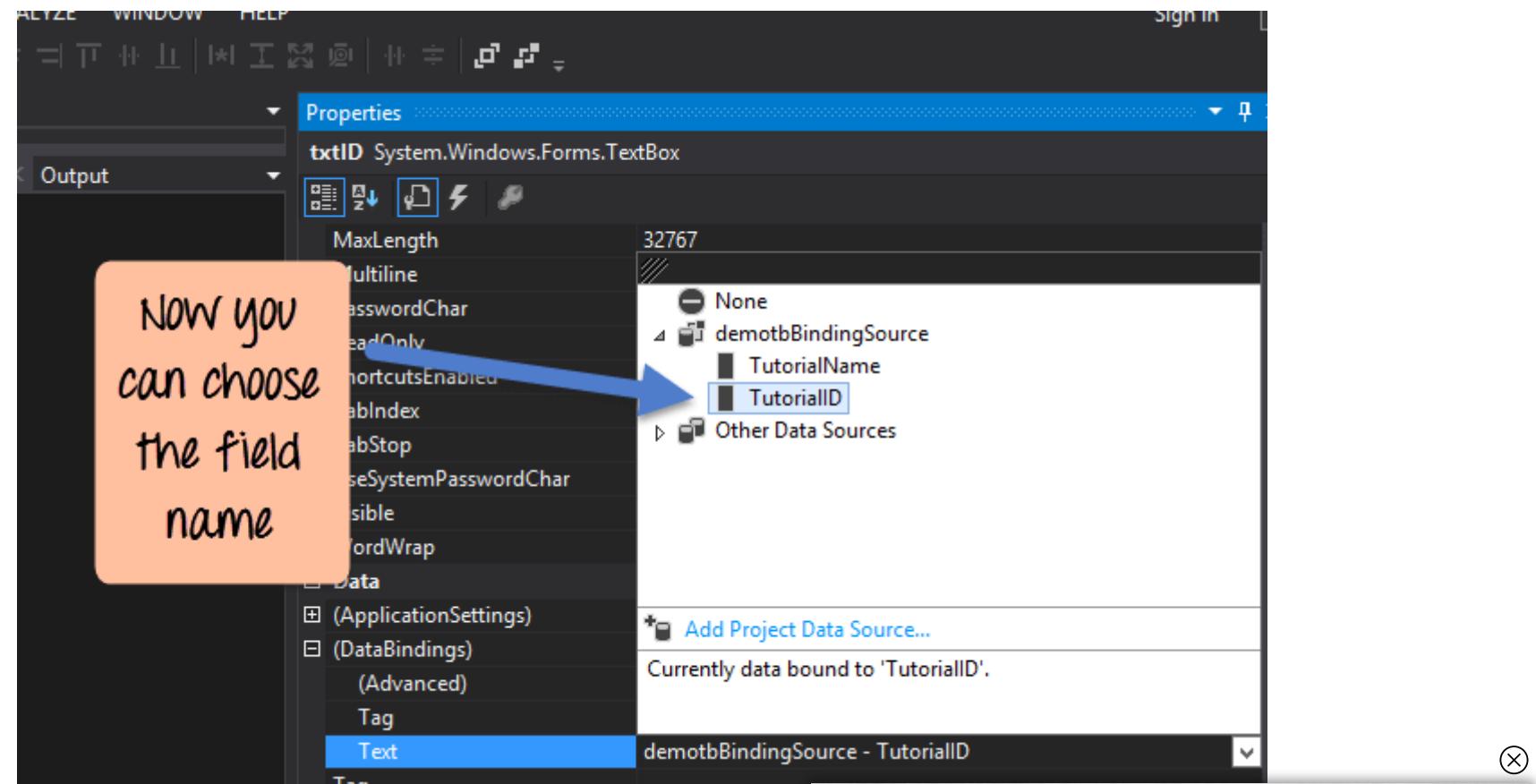
2. In the Properties window, you will see the properties of the TutorialID text box. Click the arrow button.

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3. When you click the down arrow button, you will see the demotbBindingSource options of TutorialName and TutorialID. Choose the Tutorial ID one.

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Repeat the above 3 steps for the Tutorial Name text box.

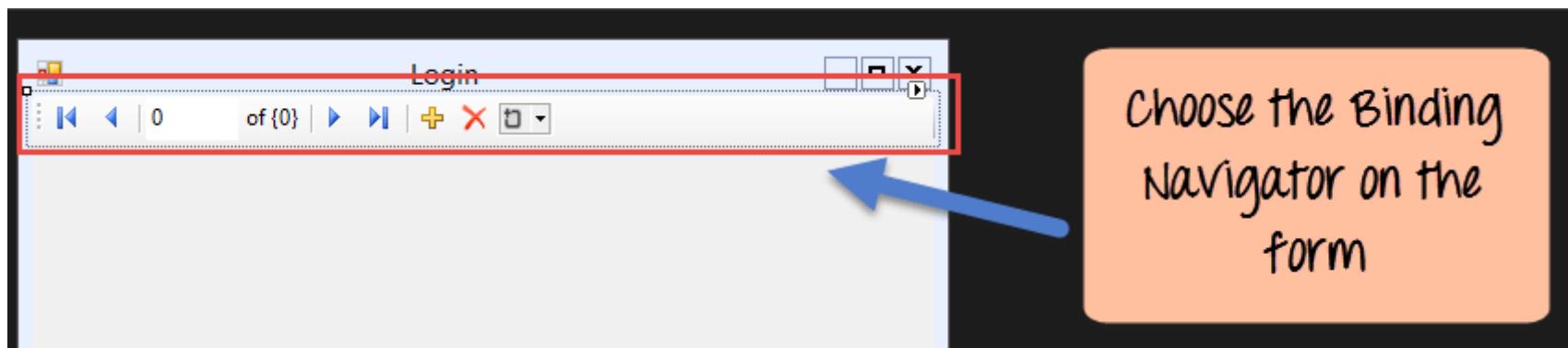
1. So click on the Tutorial Name text box
2. Go to the properties window
3. Choose the Text property
4. Choose the TutorialName option under demotbBindingSource

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Step 6) Next we need to change the Binding Source property of the BindingNavigator to point to our Demoth data source. The

reason we do this is that the Binding Navigator also needs to know which table it needs to refer to.

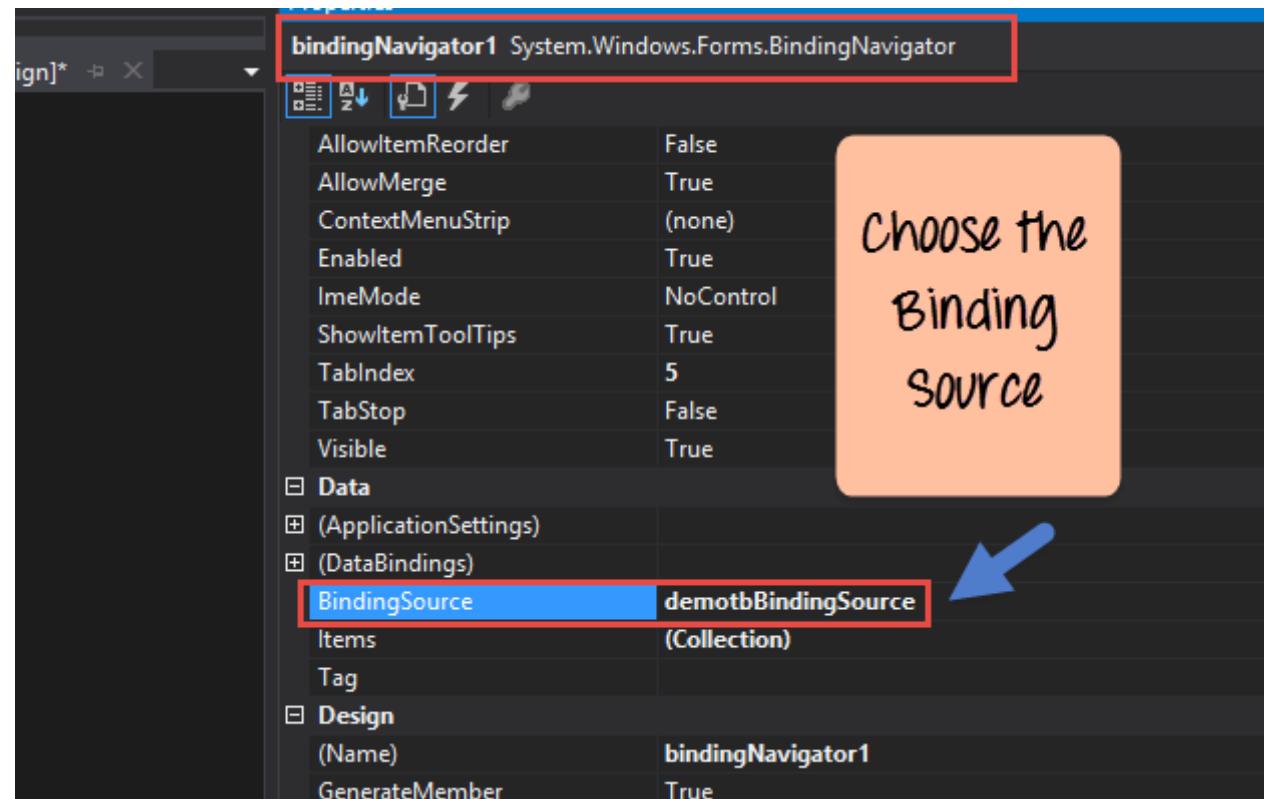
The Binding Navigator is used to select the next or previous record in the table. So even though the data source is added to the project as a whole and to the text box control, we still need to ensure the Binding Navigator also has a link to our data source. In order to do this, we need to click the Binding navigator object, go to the Binding Source property and choose the one that is available



Next, we need to go to the Properties window so that we can make the change to Binding Source property.



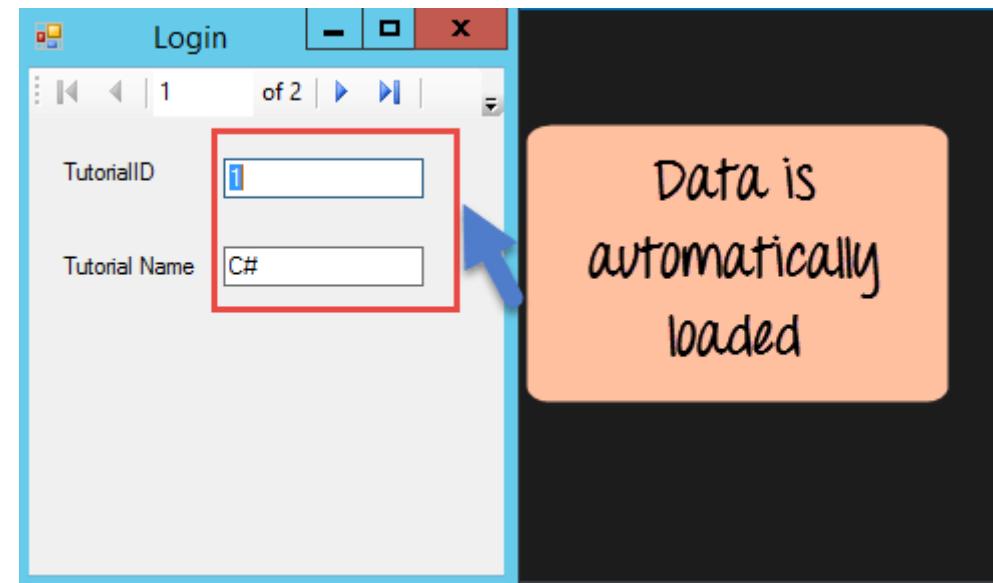
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When all of the above steps are executed successfully, you will get the below-mentioned output:-

Output:-

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Now when the project is launched, you can see that the textboxes automatically get the values from the table.

Click on the Next button

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When you click the Next button on the Navigator, it automatically goes to the next record in the table. And the values of the next record automatically come in the text boxes

C# DataGridView

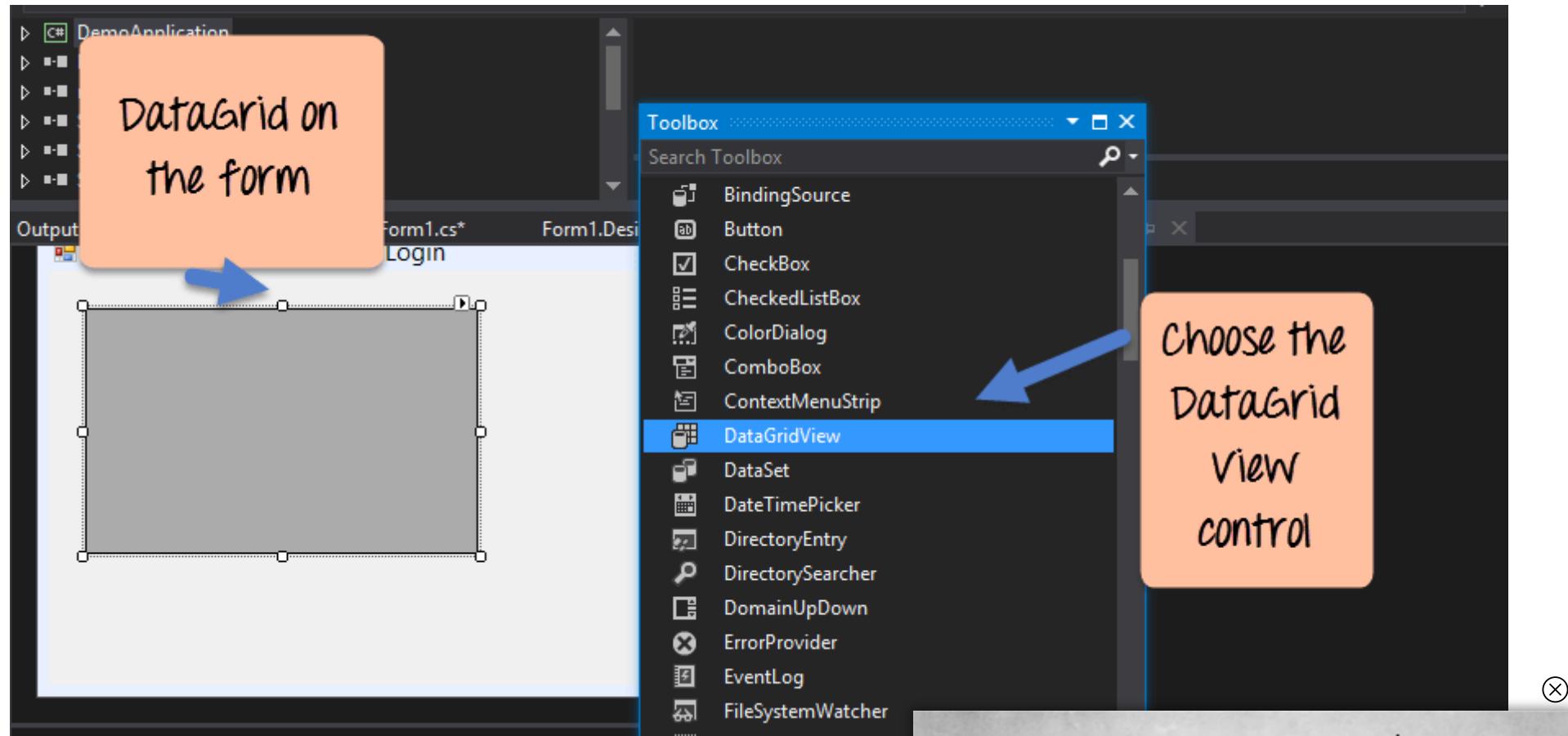
Data Grids are used to display data from a table in a grid-like format. When a user sees's table data, they normally prefer seeing all the table rows in one shot. This can be achieved if we can display the data in a grid on the form.

C# and Visual Studio have inbuilt data grids, this can be used to display data. Let's take a look at an example of this. In our example, we will have a data grid, which will be used to display the Tutorial ID and Tutorial Name values from the demotb table.

Step 1) Drag the DataGridView control from the toolbox to the Form in Visual Studio. The DataGridView control is used in Visual Studio to display the rows of a table in a grid-like format.



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Step 2) In the next step, we need to connect our data grid to the database. In the source. Let's use the same data source in our example.

1. First, you need to choose the grid and click on the arrow in the grid. This
2. In the configuration options, just choose the data source as demotbBind earlier section.

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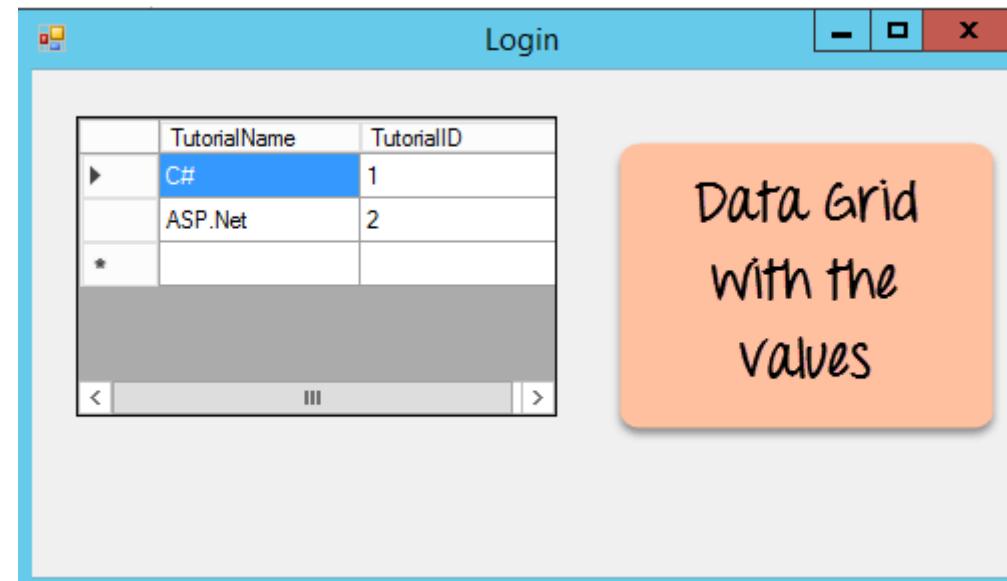
The screenshot shows the Visual Studio IDE in design mode for a Windows application. A `DataGridView` control is placed on the form, displaying two columns: `TutorialName` and `TutorialID`. A context menu, titled "DataGridView Tasks", is open over the grid. The menu includes options like "Choose Data Source", "Edit Columns...", "Add Column...", and several checkboxes for enabling data operations: "Enable Adding", "Enable Editing", "Enable Deleting", and "Enable Column Reordering". The "Choose Data Source" option is highlighted with a red circle and a blue arrow pointing to it from an orange callout bubble containing the text "Choose the data grid". Another red circle with a blue arrow points to the "Choose Data Source" dropdown in the menu, which is set to "demotbBindingSource". A second orange callout bubble to the right contains the text "Choose the data source".

If all the above steps are executed as shown, you will get the below-mentioned output:-

Output:-

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From the output, you can see that the grid was populated by the values from the database.

Summary

- C# SQL can work with databases such as Oracle and Microsoft SQL Server
- This C# database tutorial has all the commands which are required to work with connection to the database. You can perform operations such as select, update, insert, delete in C#.
- The DataReader object in C# is used to hold all the data returned by the command. It reads the data rows one at a time.
- The data adapter object is used to perform SQL operations such as insert, update, delete.
- C# can bind controls to the various fields in a table. They are bound by defining the data source and then pulling the data from the database and populate them in the controls.

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- The binding navigator is used to automatically navigate through the rows in a table.
- The data grid in C# can connect to the database and display all the values from the table in a grid-like format.

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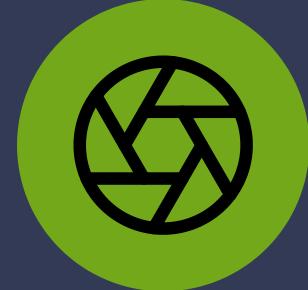


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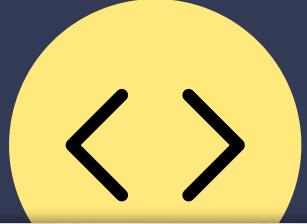
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