

VB

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# CONNECTING TO Å DATABASE



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#### CONNECTING TO A DATABASE

- What we will be using:
  - 1. SQL Client as a library of sql server objects
  - 2. Local Database MSSQL



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# INSTALLING SQL CLIENT



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#### SQL CLIENT INSTALL

- When you connect to a database you can use many different tools.
- We are going to connect to our database using SQLCLient
- https://learn.microsoft.com/enus/dotnet/api/system.data.sqlclient.sqlconnection?vie w=dotnet-plat-ext-7.0



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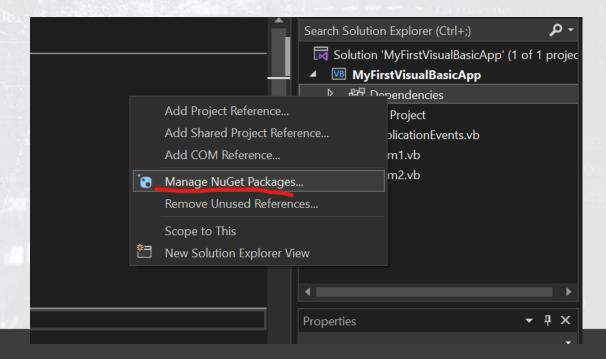
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#### INSTALLATION

In your Airline Reservation system

Right click on dependencies and click Manage NuGet

Packages...





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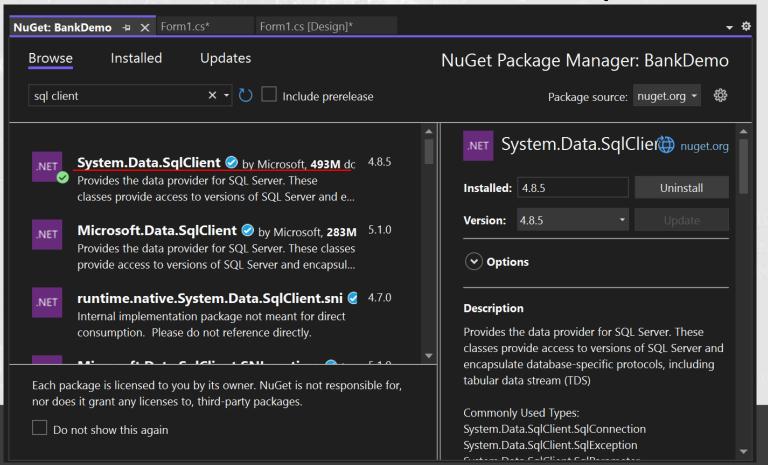
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#### INSTALLATION

Under the brows tab search for sql client, then install





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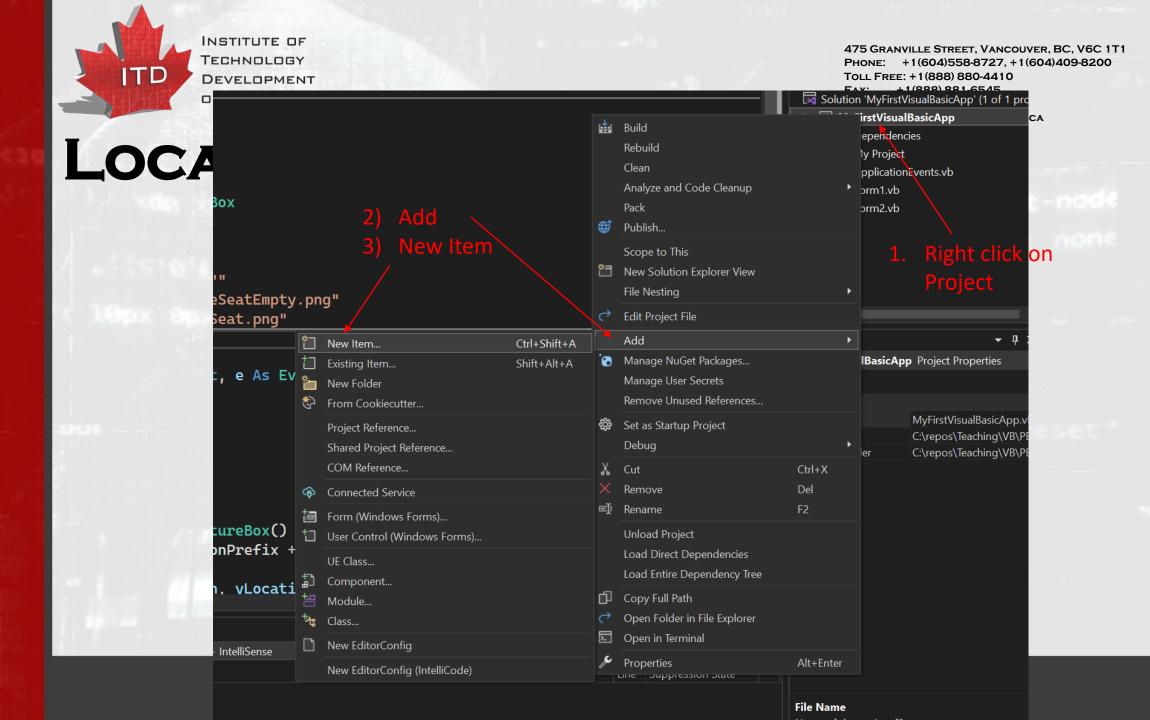
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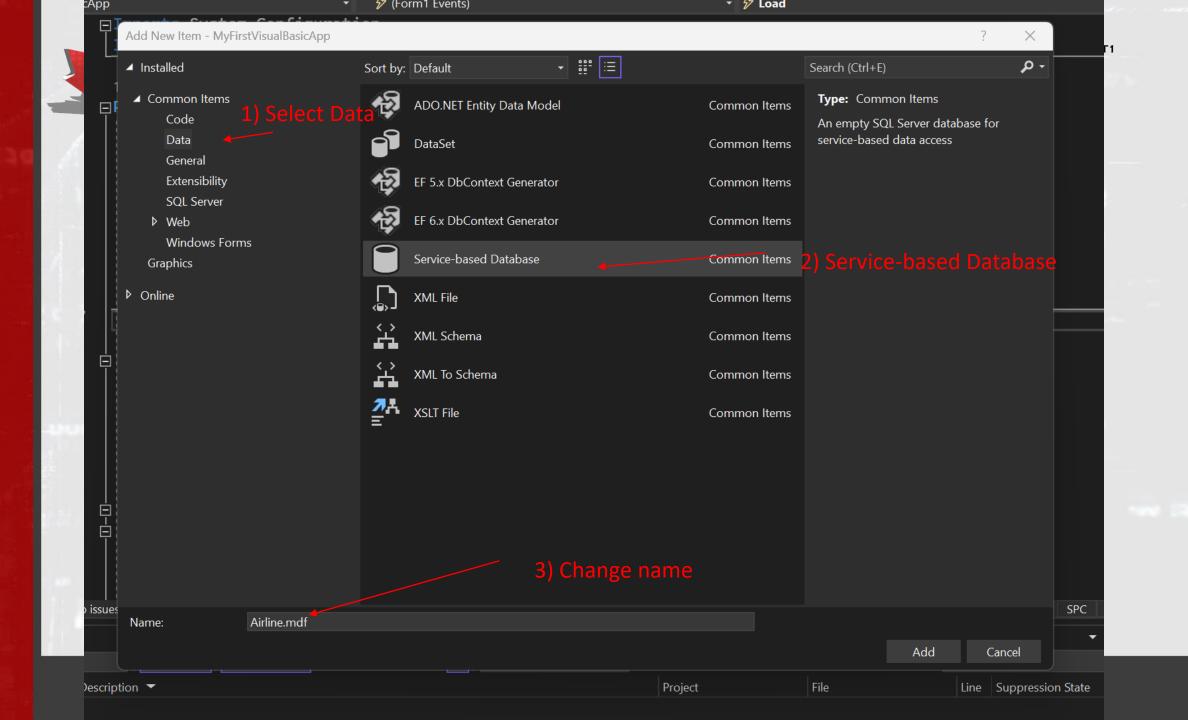
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### ADD LOCAL DATABASE







#### Local DB

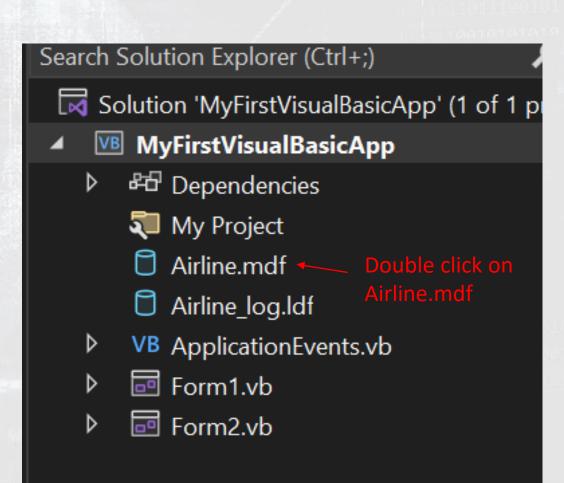
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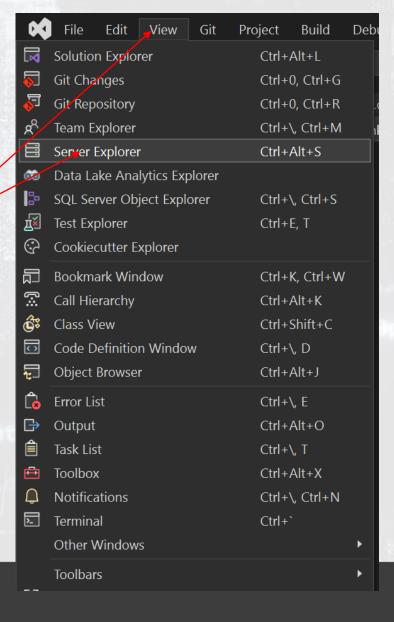
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## ADD TABLES



- 1) View
- 2) Server Explorer



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- 1) Right click on Tables
- 2) Add New Table

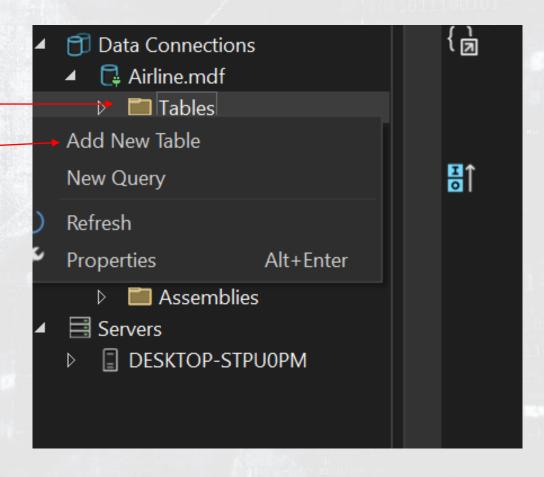
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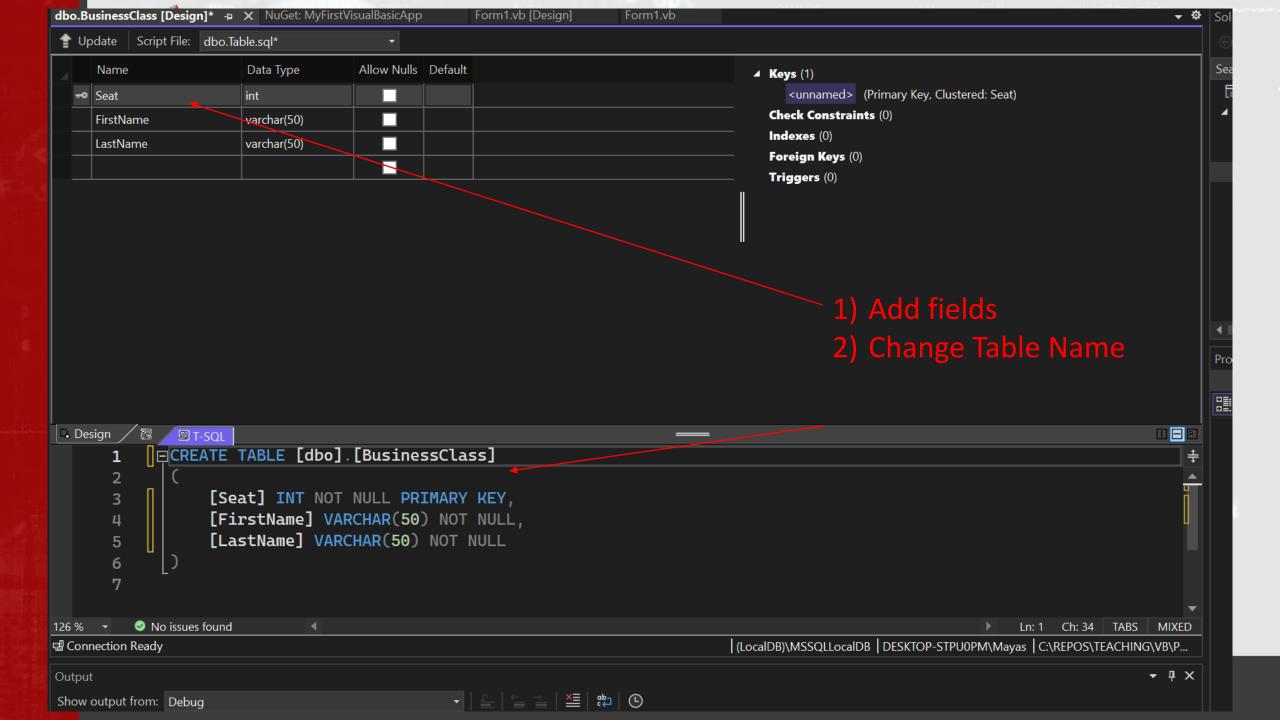
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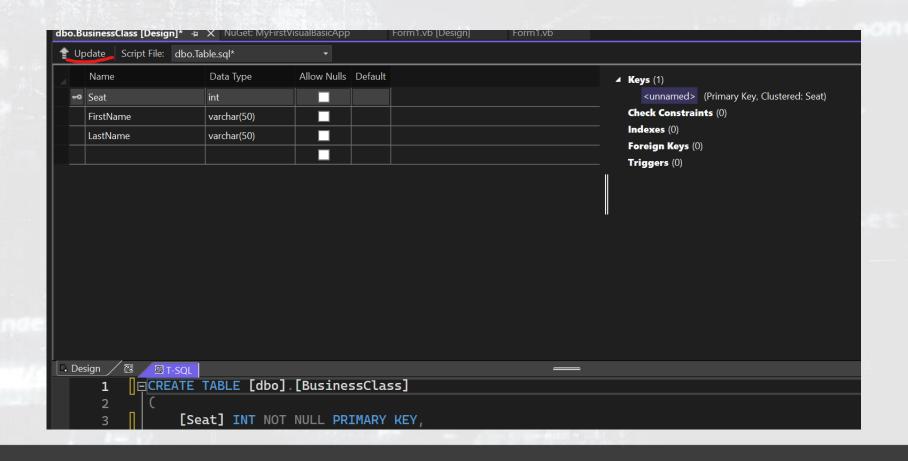
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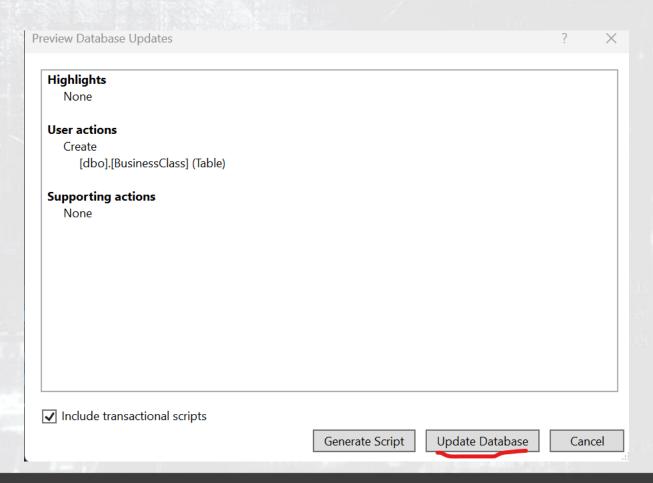
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#### **ADD TABLES**

 When updating sometimes it can get stuck so breaking the connection from the server can fix this

bug Airling modf int Refresh varch Delete Del 1) Right click on Airline varch Change View Modify Connection... 2) Close Connection Close Connection 3) Refresh **New Query** Detach Database Browse In SQL Server Object Explorer Rename **Properties** Alt+Enter



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## DATABASE CONNECTION



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#### CONNECTING TO A DATABASE

- When connecting to a database from a front-end application there are two things to consider:
  - 1. How to connect to the database
  - 2. How to changing data in the database



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## SQLCLIENT OBJECTS



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#### SQL CLIENT

- We will be using these objects form the SQL Client library:
- SqlConnection
- SqlCommand
- SqlDataReader



#### SQL CLIENT

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 https://learn.microsoft.com/enus/dotnet/api/system.data.sqlclient.sqlconnection?vie w=dotnet-plat-ext-7.0



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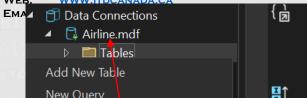
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## SQL CONNECTION



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## MAKING THE CONNECTION Imports System. Data. SqlClient

```
□Public Class Form1
     Dim BusinessClass(20) As PictureBox
     Dim BusinessClassNames(20) As RichTextBox
     Dim NameTextBoxes(2) As TextBox 1) Add Using to access the
     Dim NameLabel(2) As Label
     Dim Names(2) As String
     Dim myImageLocationPrefix As String = ""
```

Dim EmptySeatImg As String = "./airlineSeatEmpty.png"

Dim FullSeatImg As String = "./airlineSeat.png"

Dim ConnectionObj As SqlConnection

0 references

Private Sub Form1\_Load(sender As Object, e As EventArgs) Handles MyBase.Load

ConnectionObj = New SqlConnection("Data Source=(LocalDB)\MSSQLLocalDB;AttachDbFilename='C: \repos\Teaching\VB\PBLMT-2023\Airline - Copy\MyFirstVisualBasicApp\Airline.mdf';Integrated Security=True")

ConnectionObj.Open()

Dim xLocation As Integer = 10

Dim yLocation As Integer = 10

Names(0) = "First Name" Names(1) = "Last Name"



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## SQL COMMAND



#### SQL COMMAND

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Dim Cmd As New SqlCommand(\$"SELECT \* FROM BusinessClass;", ConnectionObj)



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### DATA READER



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#### DATA READER

```
Dim Cmd As New SqlCommand($"SELECT * FROM BusinessClass;", ConnectionObj)
Dim reader As SqlDataReader
reader = Cmd.ExecuteReader
If reader.HasRows = False Then
    reader.Close()
    Return
End If
While reader.Read
    Dim seat As Integer = Convert.ToInt32(reader.GetValue(0))
    Dim FirstName As String = reader.GetValue(1).ToString
    Dim LastName As String = reader.GetValue(2).ToString
    BusinessClass(seat).ImageLocation = FullSeatImg
    BusinessClassNames(seat).Text = $"{Names(0)}: {FirstName} {vbCrLf}{Names(1)}:
      {LastName} "
End While
reader.Close()
```



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### ADDING TO THE DB



#### ADDING

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```
If SelectedPicBox.ImageLocation = myImageLocationPrefix + EmptySeatImg Then
    SelectedPicBox.ImageLocation = myImageLocationPrefix + FullSeatImg
    BusinessClassNames(PicBoxNumber).Text = $"{Names(0)}: {NameTextBoxes(0).Text}
      {vbCrLf}{Names(1)}: {NameTextBoxes(1).Text} "
    Dim quearyString As String = $"INSERT INTO BusinessClass (Seat,
     FirstName, LastName) VALUES ({PicBoxNumber}, '{NameTextBoxes(0).Text}',
      '{NameTextBoxes(1).Text}');"
    Dim Cmd As New SqlCommand(quearyString, ConnectionObj)
    Cmd.ExecuteNonQuery()
    MessageBox.Show("Record Added")
    NameTextBoxes(0).Clear()
    NameTextBoxes(1).Clear()
    Return
End If
```



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# DELETING FROM THE DB



#### DELETING

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```
Dim cancelOrNot As DialogResult = MessageBox.Show("Are you sure you want to
  cancel?", "Yes/No", MessageBoxButtons.YesNo)
If cancelOrNot = 6 Then
   Dim Command As New SqlCommand($"DELETE FROM BusinessClass WHERE Seat =
      '{PicBoxNumber}';", ConnectionObj)
    Command.ExecuteNonQuery()
    MessageBox.Show("Record Delete Successful!!")
    SelectedPicBox.ImageLocation = myImageLocationPrefix + EmptySeatImg
    BusinessClassNames(PicBoxNumber).Text = ""
    For index = 0 To 1
        NameTextBoxes(index).Clear()
    Next
End If
```