



**CENTRE FOR DIPLOMA STUDIES**  
**MULTIMEDIA CONCEPT**

**LABORATORY INSTRUCTION SHEET**

|                            |                        |
|----------------------------|------------------------|
| <b>Course Code</b>         | <b>DAT 21103</b>       |
| <b>Lab Practical Title</b> | <b>WEB APPLICATION</b> |
| <b>Lab Practical</b>       | <b>10</b>              |

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## Learning Outcome(s)

At the end of this practical session, you should be able to:

1. Create empty web application
2. Design web Form with common control
3. Use specific namespace to implement web application.

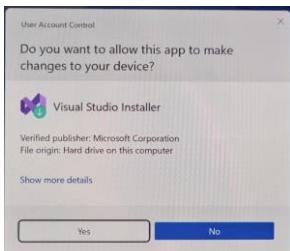
## Contextual Situation 10.1:

Let us create a new web site with a web form, which will show the current date and time, when a user clicks a button.

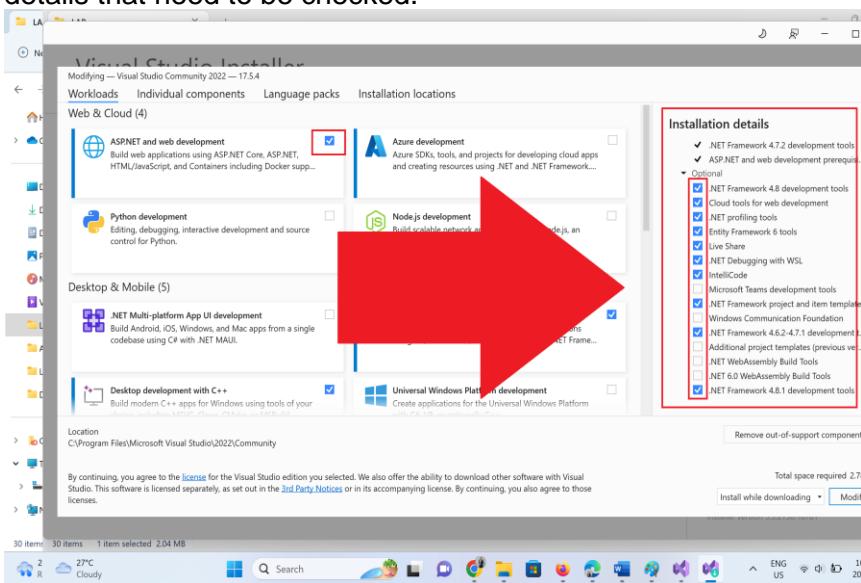
Before we can proceed with this lab, you will need to modify item installed for visual studio.



1. Go to your VisualStudioSetup.exe file installer
2. Click YES, to the popup Do you want to allow this app to make changes to your device?



3. Tick the checkbox for ASP.NET and web development and follow the installation details that need to be checked.



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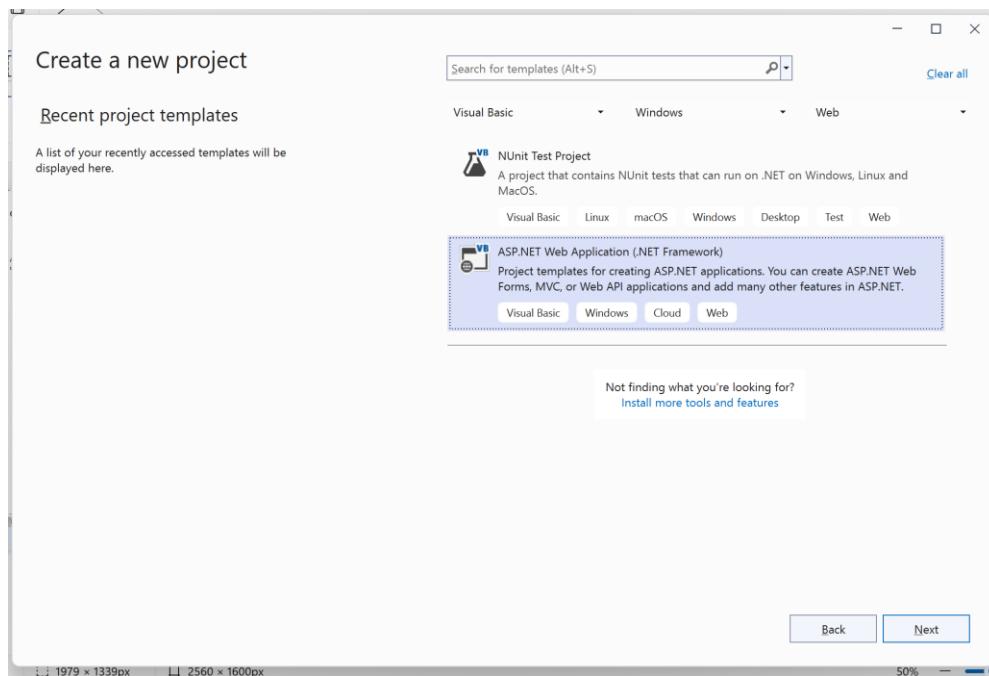
4. Then click the Modify button.

### Solution 10.1:

#### Step 1: Design a Form

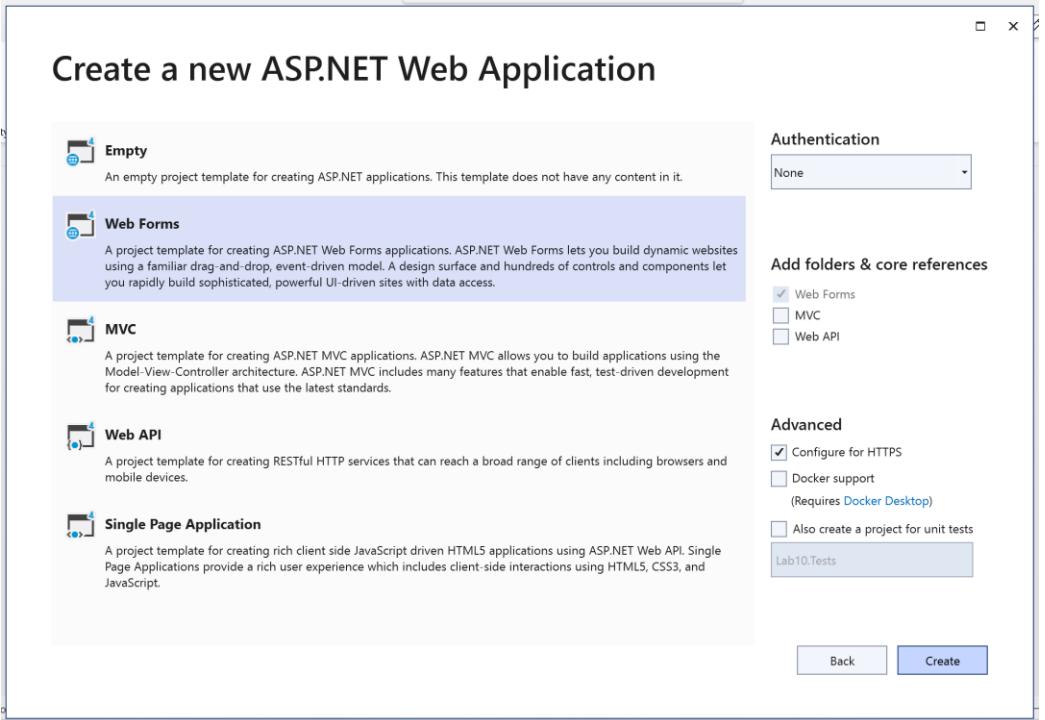
(a) Create New Web Project:

- i. Select Visual Basic, Windows, Web > ASP.NET Web Application (.NET Framework) and then click Next button.

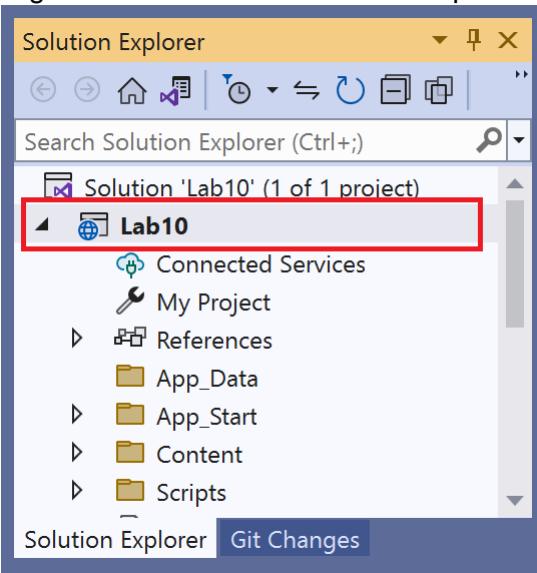


- ii. Select the ASP.Net Web Forms Site templates. Type a name (example Lab10) for the web site and select a location for saving the files and then click Create button.
- iii. Select Web Forms and then click Create button.

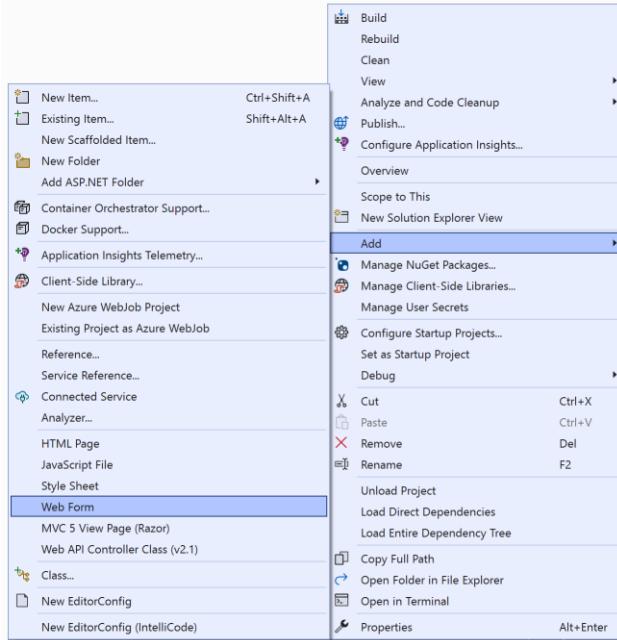
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- (b) Create new web form.  
 i. Right click on Lab10 in Solution Explorer.



- ii. and choose Add->Web Form



- iii. Provide a name for the default page. We will name it as WebForm1. Click the OK button.
- iv. Once your project has chosen it will appears WebForm1.aspx file and it has three condition of editing styles. **Design, Split and Source**



- v. The WebForm1 page is shown in Source view. Set the title for the WebForm1 web page by adding a value in between to the <title> </title>

```

WebForm1.aspx  Lab10: Overview
1  <%@ Page Language="vb" AutoEventWireup="false" CodeBehind="WebForm1.aspx.vb" Inherits="Li
2
3  !DOCTYPE html
4
5  <html xmlns="http://www.w3.org/1999/xhtml">
6  <head runat="server">
7      <title></title>
8  </head>
9  <body>
10     <form id="form1" runat="server">
11         <div>
12             </div>
13     </form>
14  </body>
15  </html>
16

```

|  |                                      |          |           |
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- vi. To add controls on the web page, go to the design view. Add three labels, a text box and a button on the form.



### Step 2: Set the properties for each object controls

**Notes:** ID property is equivalent to Name property on a Windows form control

- (a) Set the properties of a Button1:
  - i. Click on your Button to select it.
  - ii. Change the default name at **ID property** to **btnSubmit**.
  - iii. Change the **Text property** to "Submit".
- (b) Set the properties of TextBox1 :
  - i. Click on your TextBox1 to select it.
  - ii. Change the default name at **ID property** to **txtName**.
- (c) Set the properties of Label2 :
  - i. Click on your Label2 to select it.
  - ii. Change the default name at **ID property** to **lblWelcome**.
- (d) Set the properties of Label3 :
  - i. Click on your Label3 to select it.
  - ii. Change the default name at **ID property** to **lblVisit**

### Step 3: Write a program code

- (a) Click Event Procedure for a btnSubmit:

Double-click the button and add the following code to the Click event of the button:

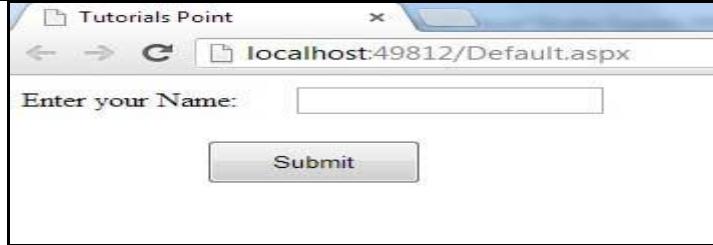
```
Protected Sub btnSubmit_Click(sender As Object, e As EventArgs) Handles
  btnSubmit.Click

  lblWelcome.Visible = True
  lblWelcome.Text = "Welcome to Tutorials Point: " + txtName.Text
  lblVisit.Text = "You visited us at: " + DateTime.Now.ToString()
End Sub
```

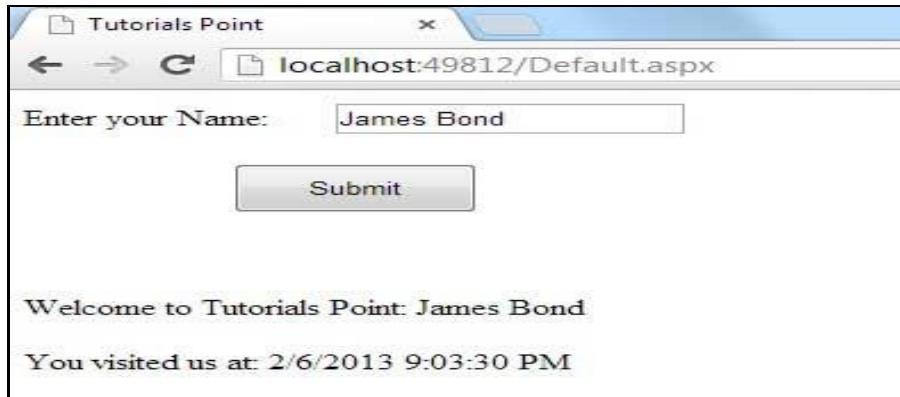
### Step 4: Run the program and fix the error (if occurred)

Run using Start button available at the Microsoft Visual Studio tool bar, the following page opens in the browser:

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Enter your name and click on the Submit button:



### Guided Task 10.2: My Pizza Web Application

#### Contextual Situation 10.2:

A Pizza Shop need a web application to facilitate his customer make an order.

#### Solution 10.2:

##### Step 1: Design a Form

- (a) Create a new Project
  - i. Start up the Visual Studio IDE as usual. Create a new project.

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Create a new project

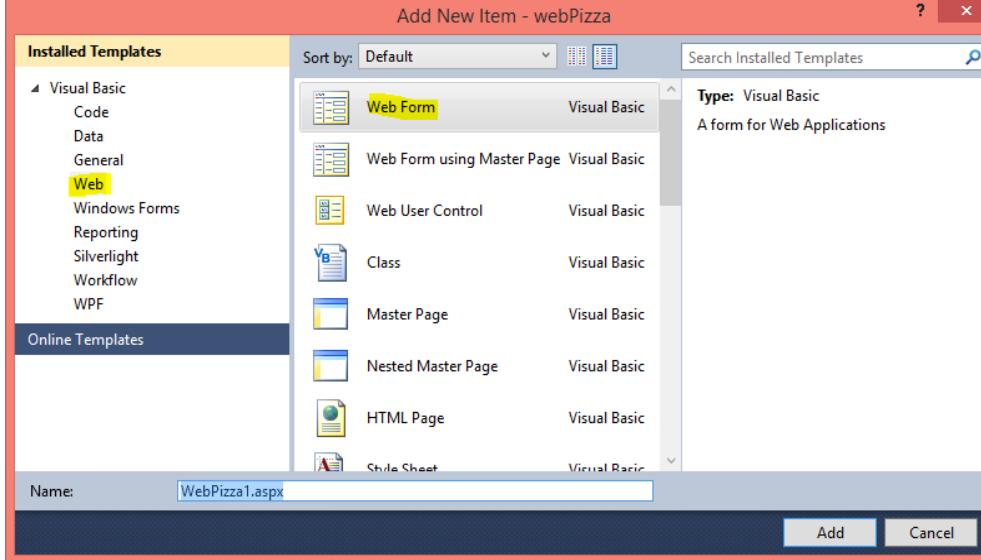
Search for templates (Alt+S)  Clear all

Recent project templates

|                        |              |   |     |
|------------------------|--------------|---|-----|
| ASP.NET Empty Web Site | Visual Basic | ASP.NET Web Application (.NET Framework)  | New |
| Windows Forms App      | Visual Basic | ASP.NET Web Forms Site  | New |
|                        |              | A project for creating a blank Web site using ASP.NET Web Forms. This template does not produce a project file and has limited MSBuild support. |     |
|                        |              | Visual Basic Windows Web  |     |
|                        |              | ASP.NET Web Site (Razor v3)   | New |
|                        |              | A Web site using Razor syntax (VBHTML). This template does not produce a project file and has limited MSBuild support.                          |     |
|                        |              | Visual Basic Windows Web  |     |

(b) Create a new Web Form

- You need to add a Default page to the site. Right click the web site name in the Solution Explorer and select Add New Item option from the context menu. The Add New Item dialog box is displayed:



- Select **Web Form** option and provide a name for the default page. Click the Add button.
- Set the title for the Default web page by adding a value as below:

```
<title>SIMPLE PIZZA APPLICATION</title>
```

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WebAppsPizza - Microsoft Visual Studio

Default.aspx

Client Objects & Events (No Events)

Page Language="VB" AutoEventWireup="false" CodeFile="Default.aspx.vb" Inherits="\_Default" %>

```
<!DOCTYPE html PUBLIC "-//W3C//DTD XHTML 1.0 Transitional//EN" "http://www.w3.org/TR/xhtml1/DTD/xhtml1-transitional.dtd">
<html xmlns="http://www.w3.org/1999/xhtml">
<head runat="server">
|   <title>SIMPLE PIZZA APPLICATION</title>
</head>
<body>
|   <form id="form1" runat="server">
|       <div>
|           </div>
|       </form>
|   </body>
|</html>
```

Has Toolbox and Solution Explorer, just like Windows Form Designer

Can switch between Design and Source

Design Source <html> <head> <title>

(c) Add some controls to the web page, this works a bit differently from Windows forms. Go to the Toolbox and drag and drop the control onto the web page for:

- A Label
- A **RadioButtonList**
- A CheckBoxList
- A Button

**Step 2: Set the properties for each object controls**

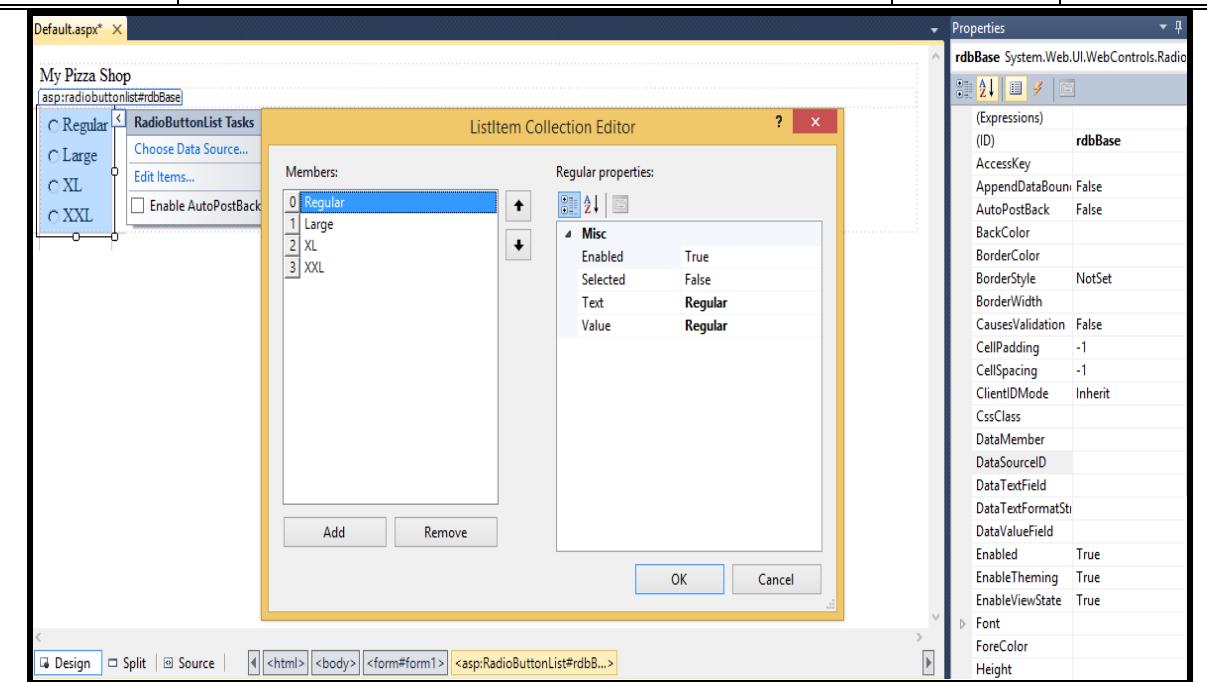
**Notes:** ID property is equivalent to Name property on a Windows form control

(a) Set the properties of a Label1:

- Click on your Label1 to select it.
- Change the default name at **ID property** to **lblTitle**
- Change the **Text property** to **"My Pizza Shop"**

(b) A **RadioButtonList** in the **Standard** section:

- Change its **ID property** to **rdbBase**
- Go to the **Items** property and click the **Edit Items** to get the **List Collection Editor as displayed below**. By clicking **Add button**, you can get it to be like this (the Selected property should be true for Regular and false for the others). Write item for options to Regular, Large, XL and XXL. Then, click OK. The RadioButtonList can be dragged about the page and resized.



- (b) Set properties of a CheckBoxList:
  - i. Change its ID property to **chkToppings**
  
- (c) Set properties of Button:
  - i. Change its ID property to **btnOrder**

The page should now look something like this:

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Default.aspx\* X

My Pizza Shop

Size

Regular

Large

XL

XXL

Topping

Cheese + Tomato

Chicken

Pepperoni

Carrot

Order It!

### Step 3: Write a program code

#### (a) Click Event Procedure for btnOrder

Back in the Default.aspx tab (the one with the web page in it), double click on the button and we will get up a code window with an empty button click event handler:

Default.aspx.vb\* X Pizza.vb Default.aspx

btnOrder Click

```

Partial Class _Default
    Inherits System.Web.UI.Page

    Protected Sub btnOrder_Click(ByVal sender As Object, ByVal e As System.EventArgs) Handles btnOrder.Click
        End Sub
    End Class
  
```

Write the following code in the procedure:

```

Select Case (rdbBase.SelectedIndex)
    Case 0
        MyPizza.PizzaBase = Pizza.Base.Regular
    Case 1
        MyPizza.PizzaBase = Pizza.Base.Large
  
```

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```

Case 2
MyPizza.PizzaBase = Pizza.Base.XL
Case 3
MyPizza.PizzaBase = Pizza.Base.XXL
End Select
MyPizza.PizzaChicken = chkToppings.Items.Item(1).Selected
MyPizza.PizzaPepperoni = chkToppings.Items.Item(2).Selected
MyPizza.PizzaCarrots = chkToppings.Items.Item(3).Selected
MsgBox(("Cost of Pizza is " & MyPizza.GetPrice()),
(MsgBoxStyle.OkOnly + MsgBoxStyle.Information),
"My Pizza Shop")
MyPizza.Save()

```

- (b) Double click at web page to open a new (page events) **Init event handler** and put the following code in this:

```

MyPizza = Pizza.Load()
chkToppings.Items.Item(0).Selected = MyPizza.PizzaCheeseTomato
chkToppings.Items.Item(1).Selected = MyPizza.PizzaChicken
chkToppings.Items.Item(2).Selected = MyPizza.PizzaPepperoni
chkToppings.Items.Item(3).Selected = MyPizza.PizzaCarrots

```

- (c) The one other bit of code needed is to declare the MyPizza variable with class scope. Insert the following line of code outside any methods but inside the class, eg near the beginning:

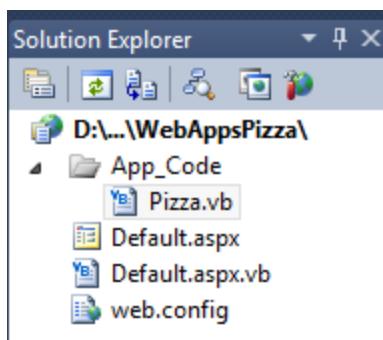
```

Partial Class _Default
Inherits System.Web.UI.Page
Private MyPizza As Pizza

```

add this line

Move cursor at red line under Pizza and click error correction options and then click Generate Class Pizza in New File. Class file named Pizza.vb will be generated as below.



We need the version where we added methods to serialize Pizza objects to XML. So, write all code below in Pizza.vb

```

Imports System.Xml.Serialization

Public Class Pizza
  Private Enum Cost

```

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```

BaseRegular = 200
BaseLarge = 250
BaseXL = 300
BaseXXL = 350
ToppingCheeseTomato = 0
ToppingChicken = 50
ToppingPepperoni = 50
ToppingCarrots = 30
End Enum

Public Enum Base
  Regular
  Large
  XL
  XXL
End Enum

Private mPizzaBase As Base
Private mPizzaCheeseTomato As Boolean
Private mPizzaChicken As Boolean
Private mPizzaPepperoni As Boolean
Private mPizzaCarrots As Boolean

Public Sub New()
  mPizzaBase = Base.Regular
  mPizzaCheeseTomato = True
  mPizzaChicken = False
  mPizzaPepperoni = False
  mPizzaCarrots = False
End Sub

Property PizzaBase() As Base
  Get
    Return mPizzaBase
  End Get
  Set(ByVal value As Base)
    mPizzaBase = value
  End Set
End Property

Property PizzaCheeseTomato() As Boolean
  Get
    Return mPizzaCheeseTomato
  End Get
  Set(ByVal value As Boolean)
    mPizzaCheeseTomato = value
  End Set
End Property

Property PizzaChicken() As Boolean
  Get
    Return mPizzaChicken
  End Get

```

|  |                                      |          |           |
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```

End Get
Set(ByVal value As Boolean)
  mPizzaChicken = value
End Set
End Property

Property PizzaPepperoni() As Boolean
  Get
    Return mPizzaPepperoni
  End Get
  Set(ByVal value As Boolean)
    mPizzaPepperoni = value
  End Set
End Property

Property PizzaCarrots() As Boolean
  Get
    Return mPizzaCarrots
  End Get
  Set(ByVal value As Boolean)
    mPizzaCarrots = value
  End Set
End Property

Public Function GetPrice() As Integer
  Dim Price As Integer = 0
  Select Case mPizzaBase
    Case Base.Regular
      Price += Cost.BaseRegular
    Case Base.Large
      Price += Cost.BaseLarge
    Case Base.XL
      Price += Cost.BaseXL
    Case Base.XXL
      Price += Cost.BaseXXL
  End Select
  If mPizzaCheeseTomato Then Price += Cost.ToppingCheeseTomato
  If mPizzaChicken Then Price += Cost.ToppingChicken
  If mPizzaPepperoni Then Price += Cost.ToppingPepperoni
  If mPizzaCarrots Then Price += Cost.ToppingCarrots
  Return Price
End Function

Public Sub Save()
  Dim outStream As New IO.StreamWriter("pizza.xml")
  Dim serializer As New XmlSerializer(Me.GetType())
  serializer.Serialize(outStream, Me)
  outStream.Close()
End Sub

Public Shared Function Load() As Pizza

```

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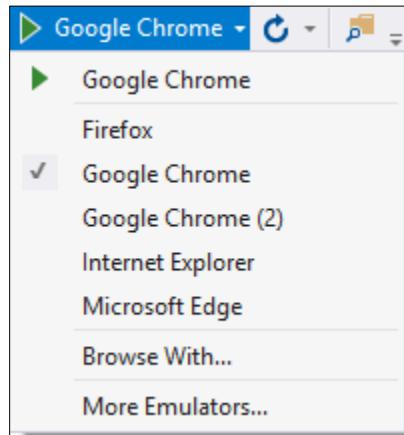
```

'If xml file exists use it to deserialize a Pizza object and return
a reference
'to it. If no xml file exists call the Pizza class constructor to
create new
'pizza object with default state and return a reference to this
instead.
Dim NewPizza As Pizza
If IO.File.Exists("pizza.xml") Then
  Dim inStream As New IO.StreamReader("pizza.xml")
  Dim serializer As New XmlSerializer(GetType(Pizza))
  NewPizza = serializer.Deserialize(inStream)
  inStream.Close()
Else
  NewPizza = New Pizza
End If
Return NewPizza
End Function
End Class

```

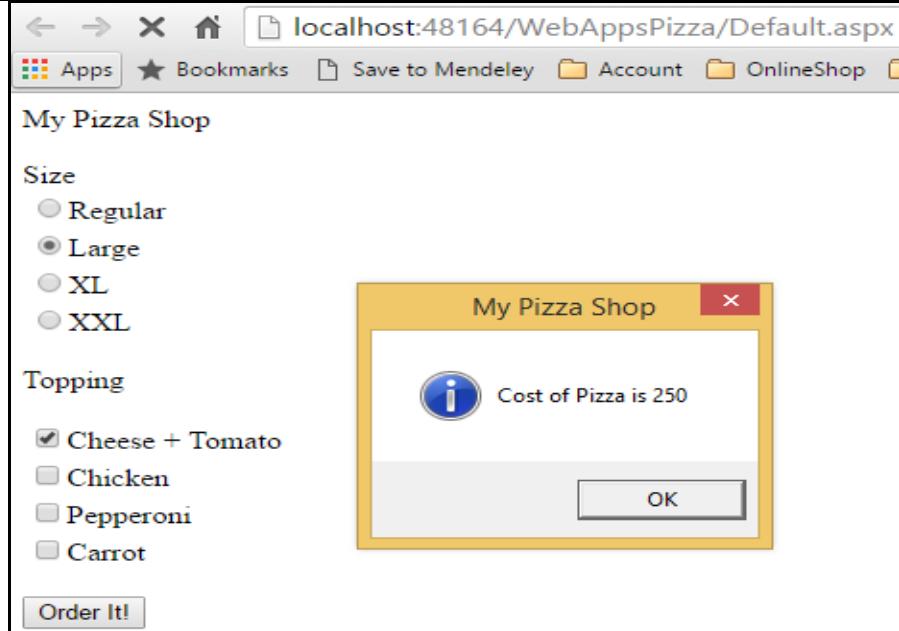
#### Step 4: Run the program and fix the error (if occurred)

Before run your program, setup the Output Platform as shown below.



Run your program to check that this all works as expected, including saving the state of the last ordered pizza between sessions:

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## Conclusion

The controls for a web page work a little differently from those that have similar function on a Windows form. Try to understand how the code works and insert comments into it to explain this.

One thing to note is that the web page designer doesn't support the MessageBox dialog class; instead it uses the similar legacy msgbox common function from VB6.