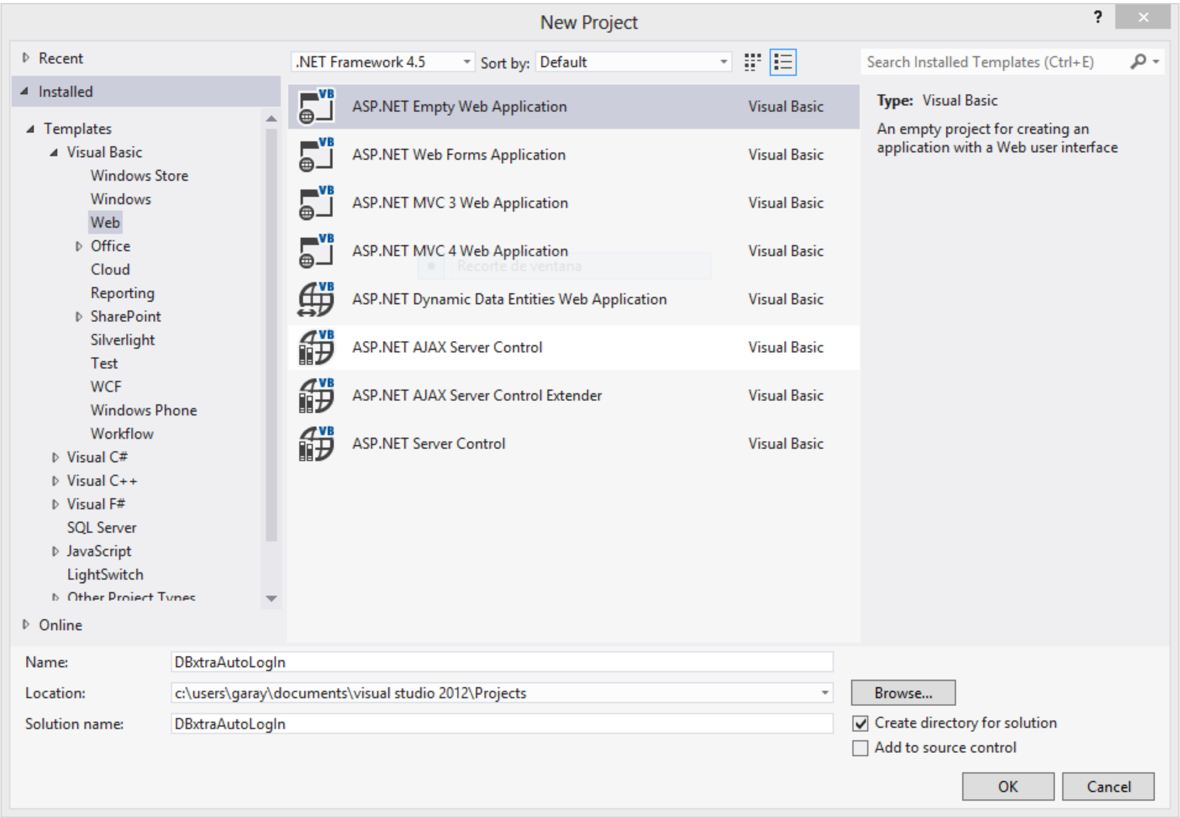
DBxtra
data that make sense

Pass login information from an external application to the DBxtra Report Web Service

When you integrate DBxtra Web Service into another Web Application you may want to avoid a double login if your own Application has a login mechanism, this is a basic example of how you can do it, which means that you can extend it further to include other things you may need.

1.- Create a new ASP.NET Empty Web Application in Visual Studio, let's name it DBxtraAutoLogIn.



New Project

.NET Framework 4.5 Sort by: Default

Installed > Templates > Visual Basic > Web

ASP.NET Empty Web Application	Visual Basic
ASP.NET Web Forms Application	Visual Basic
ASP.NET MVC 3 Web Application	Visual Basic
ASP.NET MVC 4 Web Application	Visual Basic
ASP.NET Dynamic Data Entities Web Application	Visual Basic
ASP.NET AJAX Server Control	Visual Basic
ASP.NET AJAX Server Control Extender	Visual Basic
ASP.NET Server Control	Visual Basic

Type: Visual Basic

An empty project for creating an application with a Web user interface

Name: DBxtraAutoLogIn

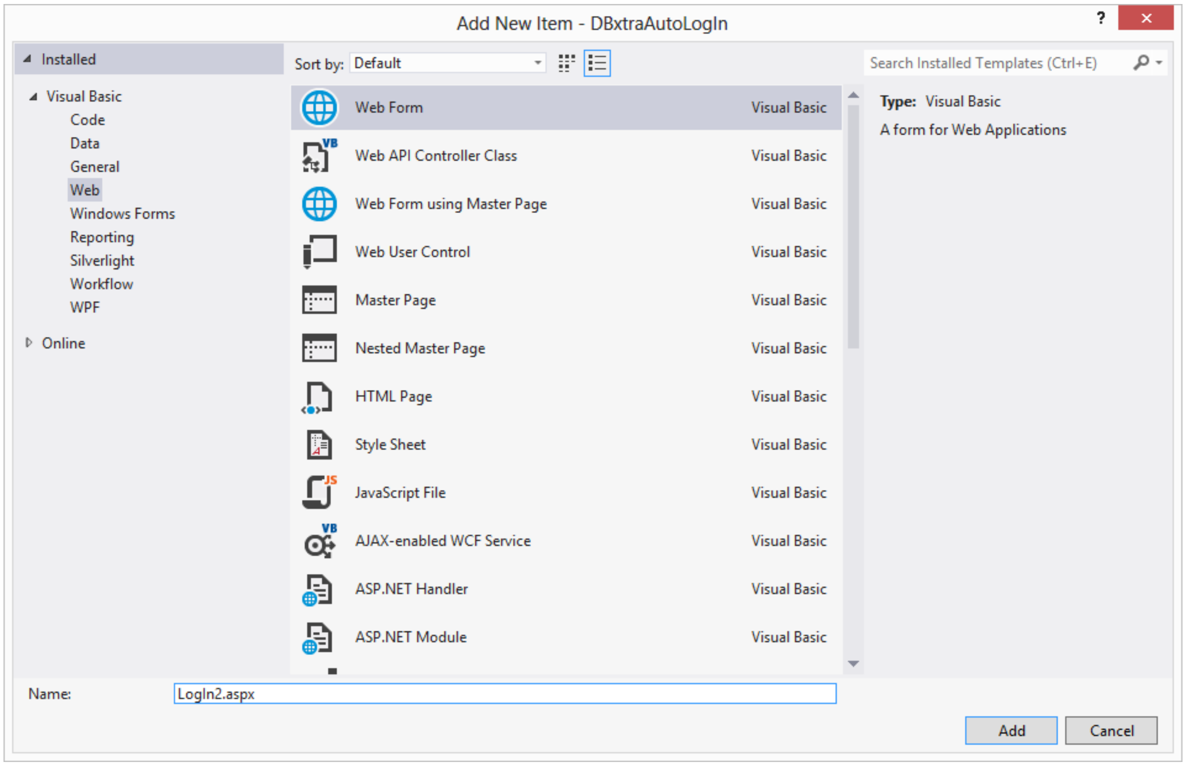
Location: c:\users\garay\documents\visual studio 2012\Projects

Solution name: DBxtraAutoLogIn

☑ Create directory for solution

☐ Add to source control

2.- On this project add a new Web Form, let's name it LogIn2.aspx



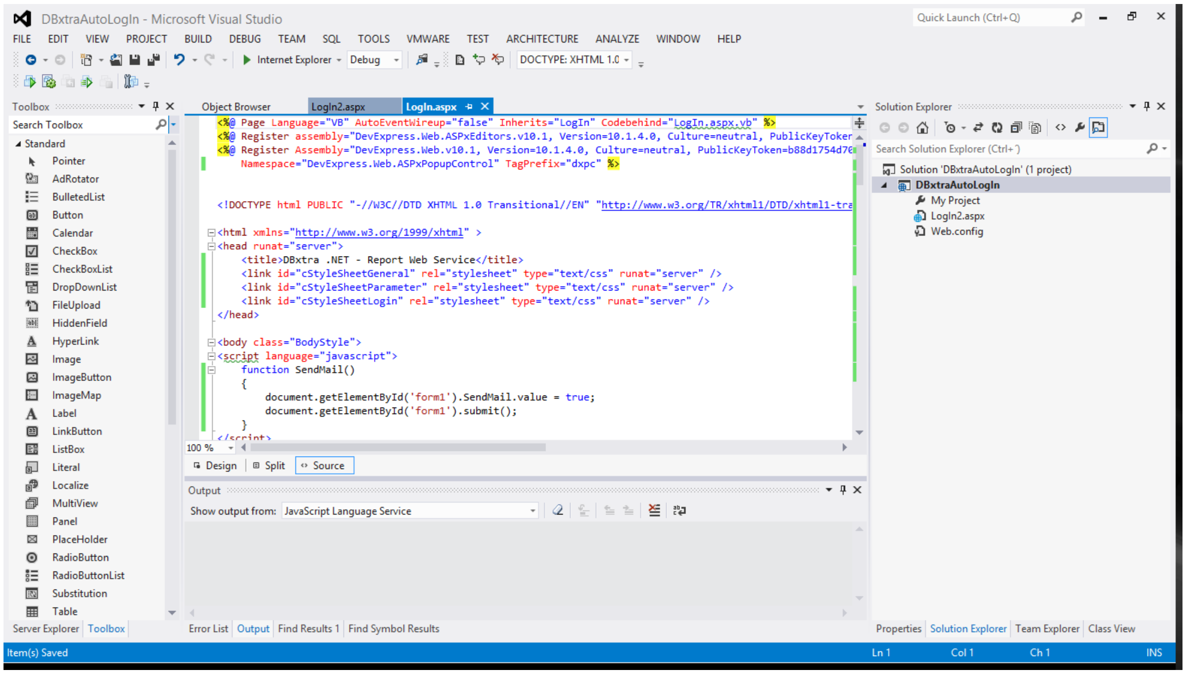
Sort by: Default

Type: Visual Basic

A form for Web Applications

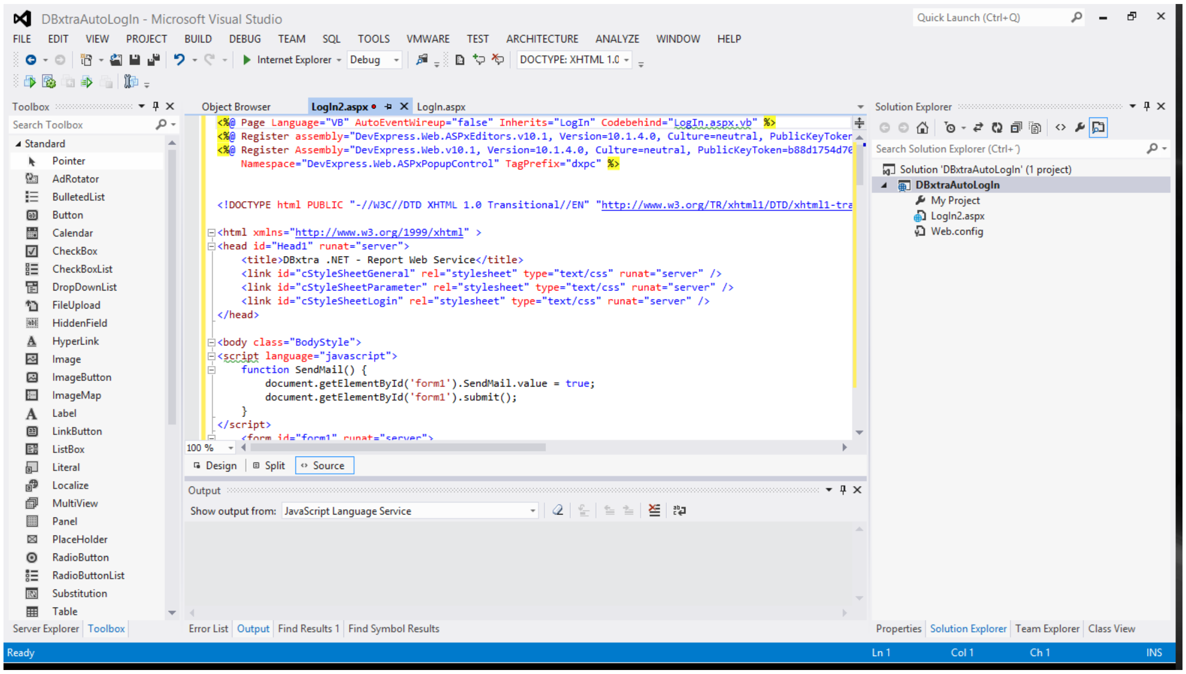
Name: LogIn2.aspx

3.- Go to the Report Web Service physical folder (Utilities->DBxtra Repository->DBxtra Repository Path) and open the LogIn.aspx file



```
<%@ Page Language="VB" AutoEventWireup="false" Inherits="LogIn" Codebehind="LogIn.aspx.vb" %>
<%@ Register assembly="DevExpress.Web.ASPxEditors.v10.1, Version=10.1.4.0, Culture=neutral, PublicKeyToker
<%@ Register Assembly="DevExpress.Web.v10.1, Version=10.1.4.0, Culture=neutral, PublicKeyToken=b88d1754d7
    Namespace="DevExpress.Web.ASPxPopupControl" TagPrefix="dxpc" %>


<!DOCTYPE html PUBLIC "-//W3C//DTD XHTML 1.0 Transitional//EN" "http://www.w3.org/TR/xhtml1/DTD/xhtml1-tra

<html xmlns="http://www.w3.org/1999/xhtml" >
<head runat="server">
    <title>DBxtra .NET - Report Web Service</title>
    <link id="cStyleSheetGeneral" rel="stylesheet" type="text/css" runat="server" />
    <link id="cStyleSheetParameter" rel="stylesheet" type="text/css" runat="server" />
    <link id="cStyleSheetLogin" rel="stylesheet" type="text/css" runat="server" />
</head>

<body class="BodyStyle">
<script language="javascript">
    function SendMail()
    {
        document.getElementById('form1').SendMail.value = true;
        document.getElementById('form1').submit();
    }
</script>
```

4.- Copy all the contents of this file into the LogIn2.aspx file



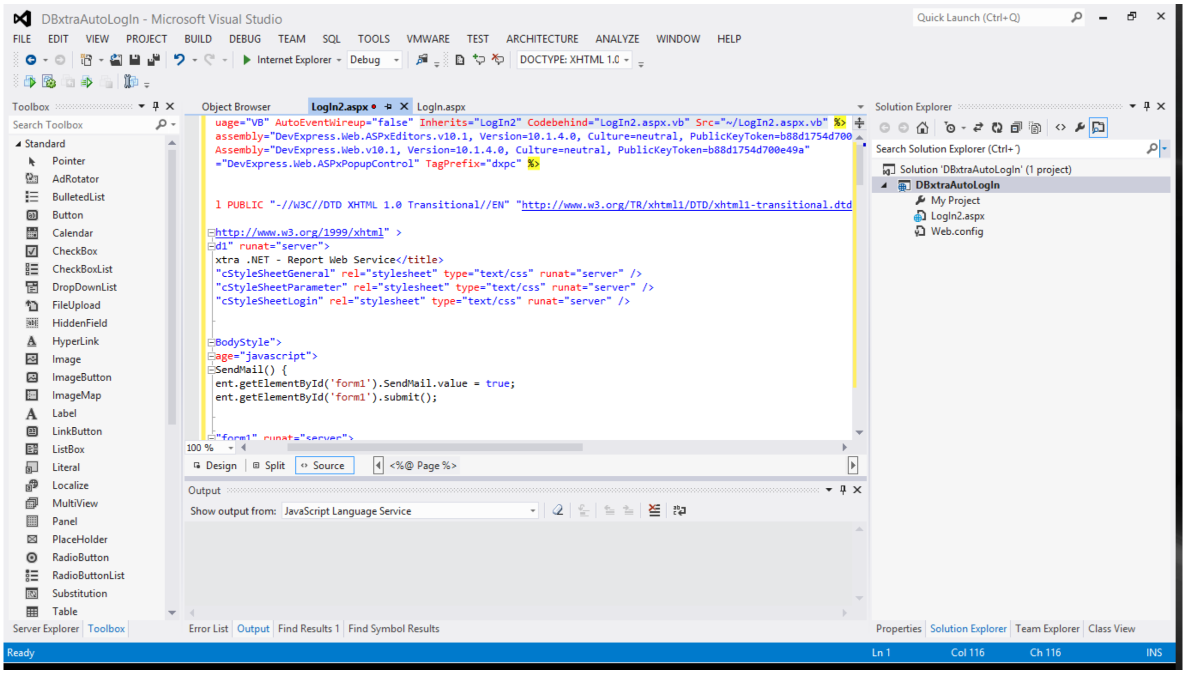
```
<%@ Page Language="VB" AutoEventWireup="false" Inherits="LogIn" Codebehind="LogIn.aspx.vb" %>
<%@ Register assembly="DevExpress.Web.ASPxEditors.v10.1, Version=10.1.4.0, Culture=neutral, PublicKeyToker
<%@ Register Assembly="DevExpress.Web.v10.1, Version=10.1.4.0, Culture=neutral, PublicKeyToken=b88d1754d7
    Namespace="DevExpress.Web.ASPxPopupControl" TagPrefix="dxpc" %>


<!DOCTYPE html PUBLIC "-//W3C//DTD XHTML 1.0 Transitional//EN" "http://www.w3.org/TR/xhtml1/DTD/xhtml1-tra

<html xmlns="http://www.w3.org/1999/xhtml" >
<head id="Head1" runat="server">
    <title>DBxtra .NET - Report Web Service</title>
    <link id="cStyleSheetGeneral" rel="stylesheet" type="text/css" runat="server" />
    <link id="cStyleSheetParameter" rel="stylesheet" type="text/css" runat="server" />
    <link id="cStyleSheetLogin" rel="stylesheet" type="text/css" runat="server" />
</head>

<body class="BodyStyle">
<script language="javascript">
    function SendMail() {
        document.getElementById('form1').SendMail.value = true;
        document.getElementById('form1').submit();
    }
</script>
    <form id="form1" runat="server">
```

5.- Change the first line of the LogIn2.aspx file from this:

```
<%@ Page Language="VB" AutoEventWireup="false" Inherits="LogIn"
Codebehind="LogIn.aspx.vb" %>
```

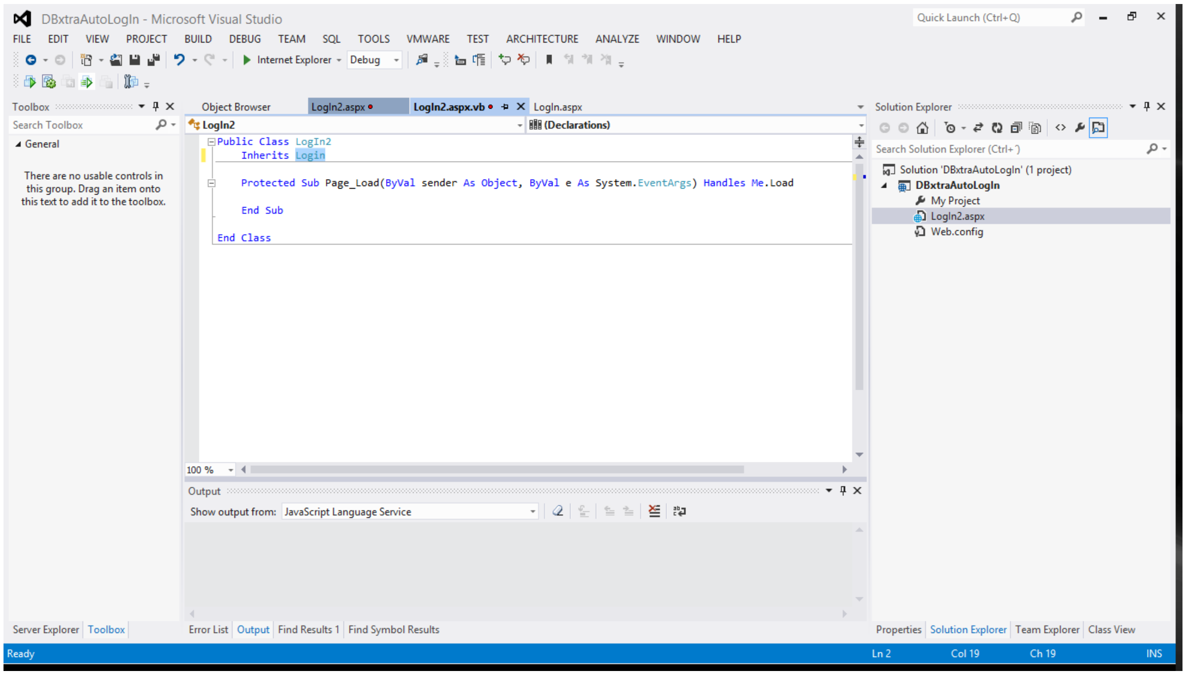
Into this:

```
<%@ Page Language="VB" AutoEventWireup="false" Inherits="LogIn2"
Codebehind="LogIn2.aspx.vb" Src="~/LogIn2.aspx.vb" %>
```



```
uage="VB" AutoEventWireup="false" Inherits="LogIn2" Codebehind="LogIn2.aspx.vb" Src="~/LogIn2.aspx.vb" %>
assembly="DevExpress.Web.ASPxEditors.v10.1, Version=10.1.4.0, Culture=neutral, PublicKeyToken=b88d1754d700
Assembly="DevExpress.Web.v10.1, Version=10.1.4.0, Culture=neutral, PublicKeyToken=b88d1754d700e49a"
="DevExpress.Web.ASPxPopupControl" TagPrefix="dxpc" %>


l PUBLIC "-//W3C//DTD XHTML 1.0 Transitional//EN" "http://www.w3.org/TR/xhtml1/DTD/xhtml1-transitional.dtd

http://www.w3.org/1999/xhtml" >
d1" runat="server">
xtra .NET - Report Web Service</title>
"cStyleSheetGeneral" rel="stylesheet" type="text/css" runat="server" />
"cStyleSheetParameter" rel="stylesheet" type="text/css" runat="server" />
"cStyleSheetLogin" rel="stylesheet" type="text/css" runat="server" />


BodyStyle">
age="javascript">
SendMail() {
ent.getElementById('form1').SendMail.value = true;
ent.getElementById('form1').submit();


"form1" runat="server">
```

6.- Make the LogIn2 class in the LogIn2.aspx.vb file inherits from `LogIn` instead of `System.Web.UI.Page`

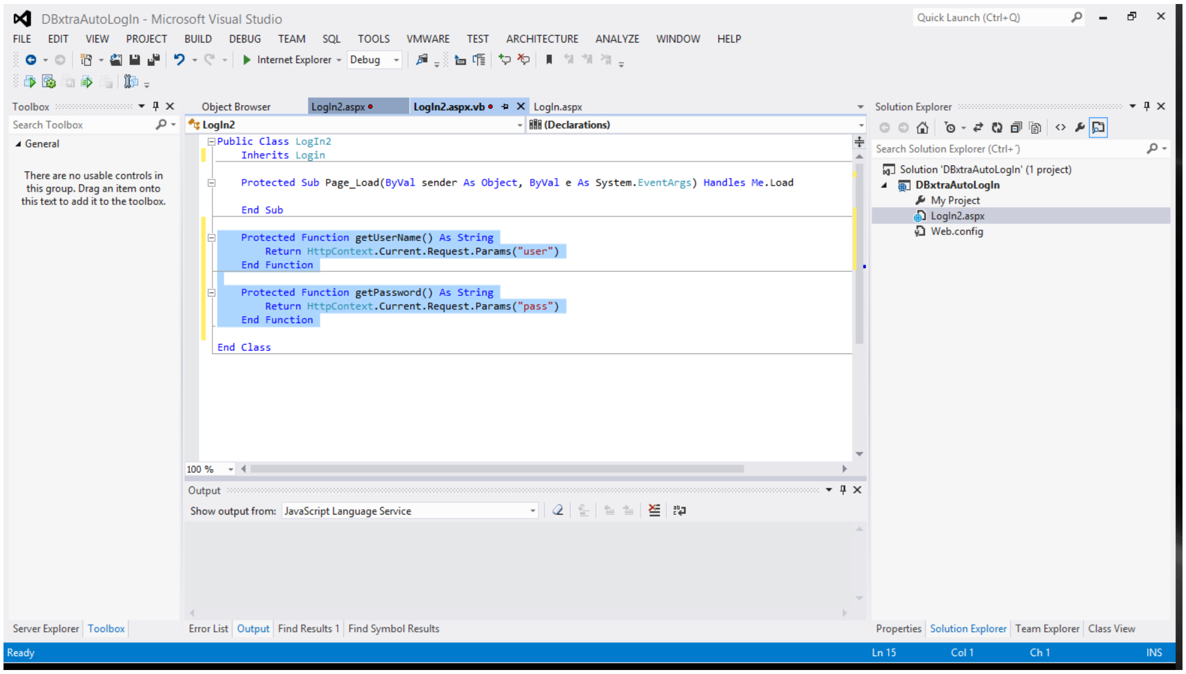


There are no usable controls in this group. Drag an item onto this text to add it to the toolbox.

```
Public Class LogIn2
    Inherits LogIn

    Protected Sub Page_Load(ByVal sender As Object, ByVal e As System.EventArgs) Handles Me.Load

    End Sub

End Class
```

7.- Create some functions in the LogIn2.aspx.vb file to get both the user name and the password from the URL:

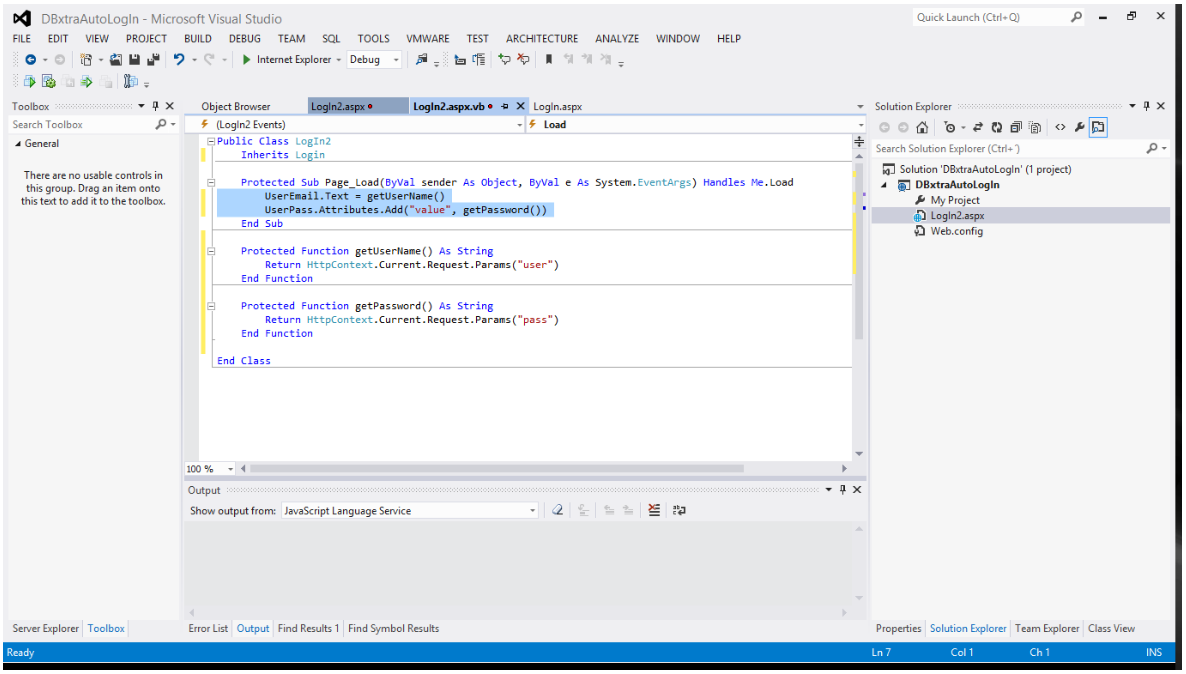
```
Protected Function getUserName() As String
    Return HttpContext.Current.Request.Params("user")
End Function

Protected Function getPassword() As String
    Return HttpContext.Current.Request.Params("pass")
End Function
```



```
Public Class LogIn2
    Inherits Login

    Protected Sub Page_Load(ByVal sender As Object, ByVal e As System.EventArgs) Handles Me.Load

    End Sub

    Protected Function getUserName() As String
        Return HttpContext.Current.Request.Params("user")
    End Function

    Protected Function getPassword() As String
        Return HttpContext.Current.Request.Params("pass")
    End Function

End Class
```

8.- In the Page_Load method add the following to print the user name and password into the page:

```
UserEmail.Text = getUserName()
UserPass.Attributes.Add("value", getPassword())
```

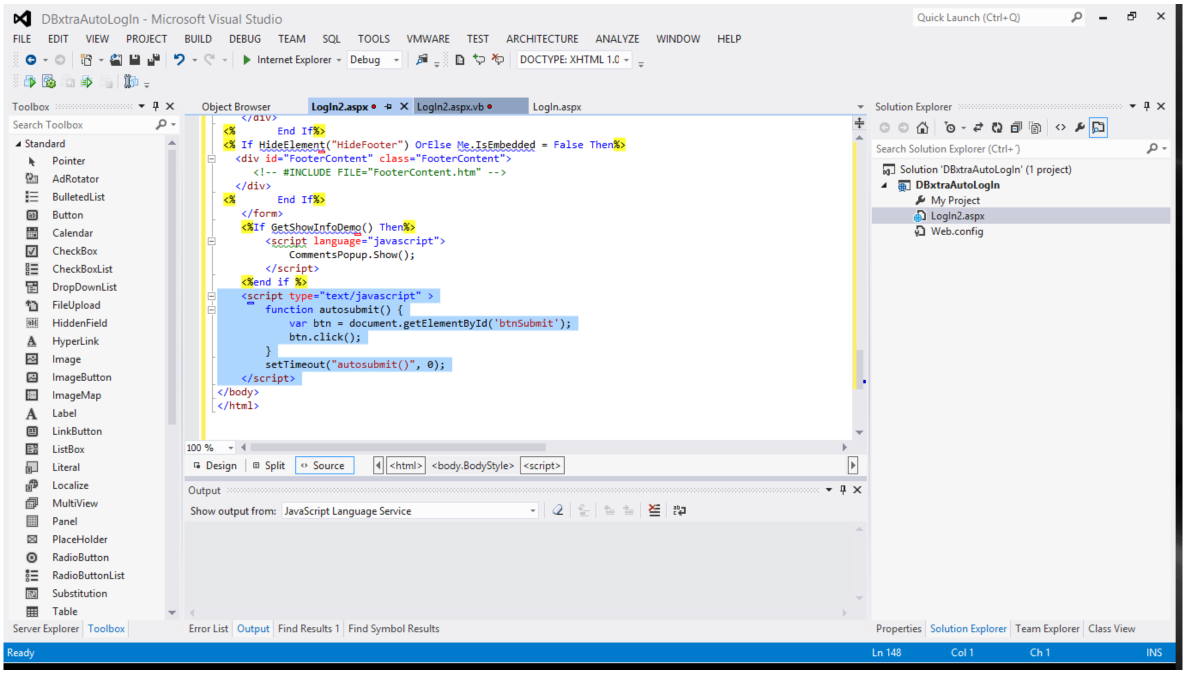


There are no usable controls in this group. Drag an item onto this text to add it to the toolbox.

```
Public Class LogIn2
    Inherits Login

    Protected Sub Page_Load(ByVal sender As Object, ByVal e As System.EventArgs) Handles Me.Load
        UserEmail.Text = getUserName()
        UserPass.Attributes.Add("value", getPassword())
    End Sub

    Protected Function getUserName() As String
        Return HttpContext.Current.Request.Params("user")
    End Function

    Protected Function getPassword() As String
        Return HttpContext.Current.Request.Params("pass")
    End Function

End Class
```

9.- Anywhere before the closing body tag of the LogIn2.aspx file add the following auto submit javascript code:

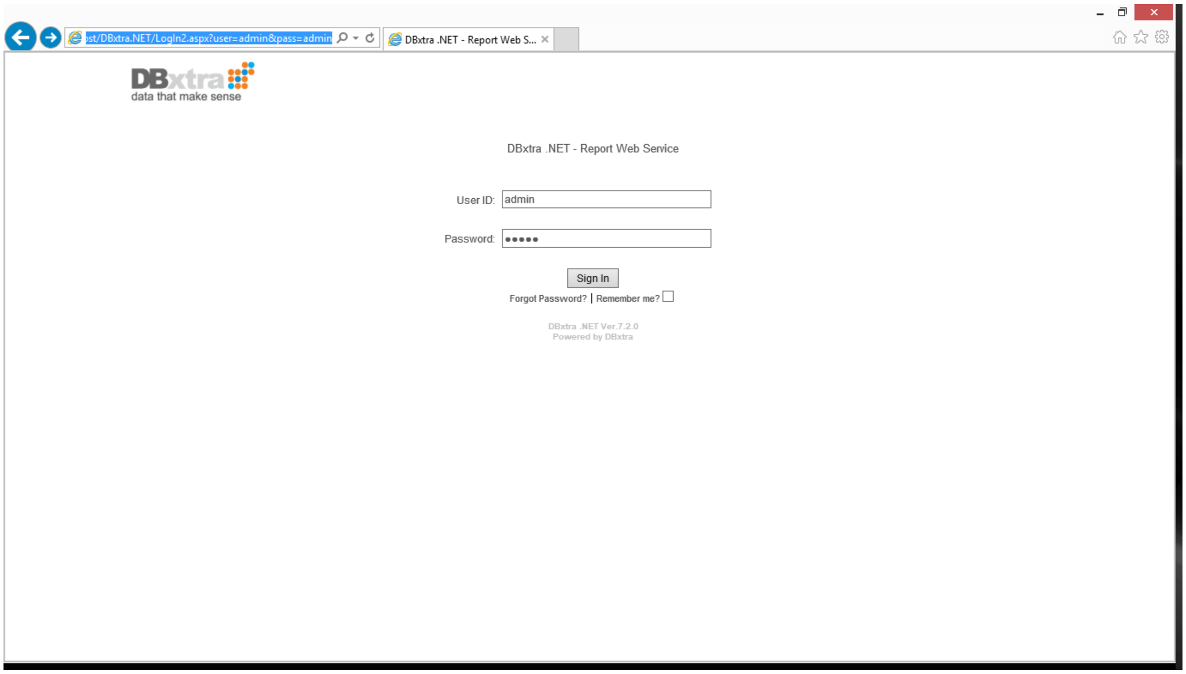
```
<script type="text/javascript" >
    function autosubmit()
    {
        var btn = document.getElementById('btnSubmit');
        btn.click();
    }
    setTimeout("autosubmit()", 0);
</script>
```



```
  </div>
<%       End If%>
<% If HideElement("HideFooter") OrElse Me.IsEmbedded = False Then%>
 <div id="FooterContent" class="FooterContent">
    <!-- #INCLUDE FILE="FooterContent.htm" -->
 </div>
<%       End If%>
  </form>
  <%If GetShowInfoDemo() Then%>
      <script language="javascript">
          CommentsPopup.Show();
      </script>
  <%end if %>
  <script type="text/javascript" >
      function autosubmit() {
          var btn = document.getElementById('btnSubmit');
          btn.click();
      }
      setTimeout("autosubmit()", 0);
  </script>
</body>
</html>
```

10.- Test the new auto log in page, copy the LogIn2.aspx and LogIn2.aspx.vb files into the Report Web Service folder, open your browser and type an address like this:

http://localhost/DBxtra.NET/LogIn2.aspx?user=admin&pass=admin



st/DBxtra.NET/LogIn2.aspx?user=admin&pass=admin
DBxtra .NET - Report Web S...
DBxtra
data that make sense
Sign In
Forgot Password? | Remember me? □

DBxtra .NET - Report Web Service

User ID: admin

Password: ●●●●●

DBxtra .NET Ver.7.2.0
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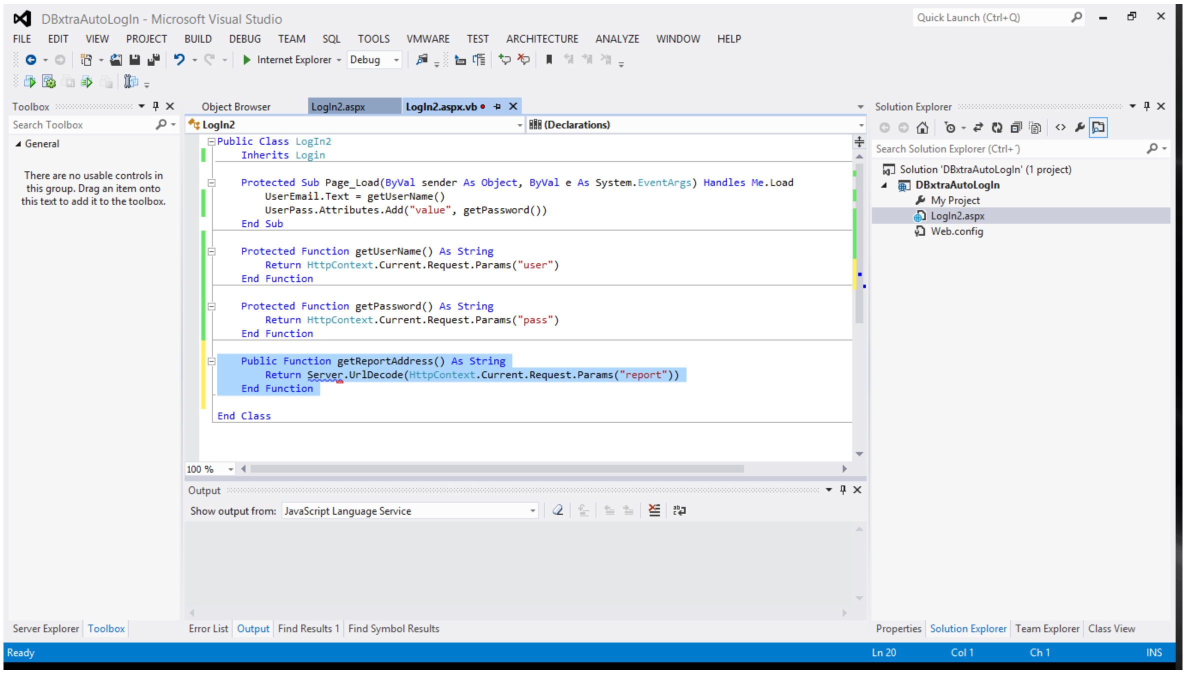
You should be sent to the Home page of the Report Web Service logged in as the Admin user.

Adding Redirection

If you want to be redirected to some specific report after logging in, you can do as follows:

1.- Create a function in the LogIn2.aspx.vb file to get the redirection address from the URL:

```
Public Function getReportAddress() As String
    Return Server.UrlDecode(HttpContext.Current.Request.Params("report"))
End Function
```



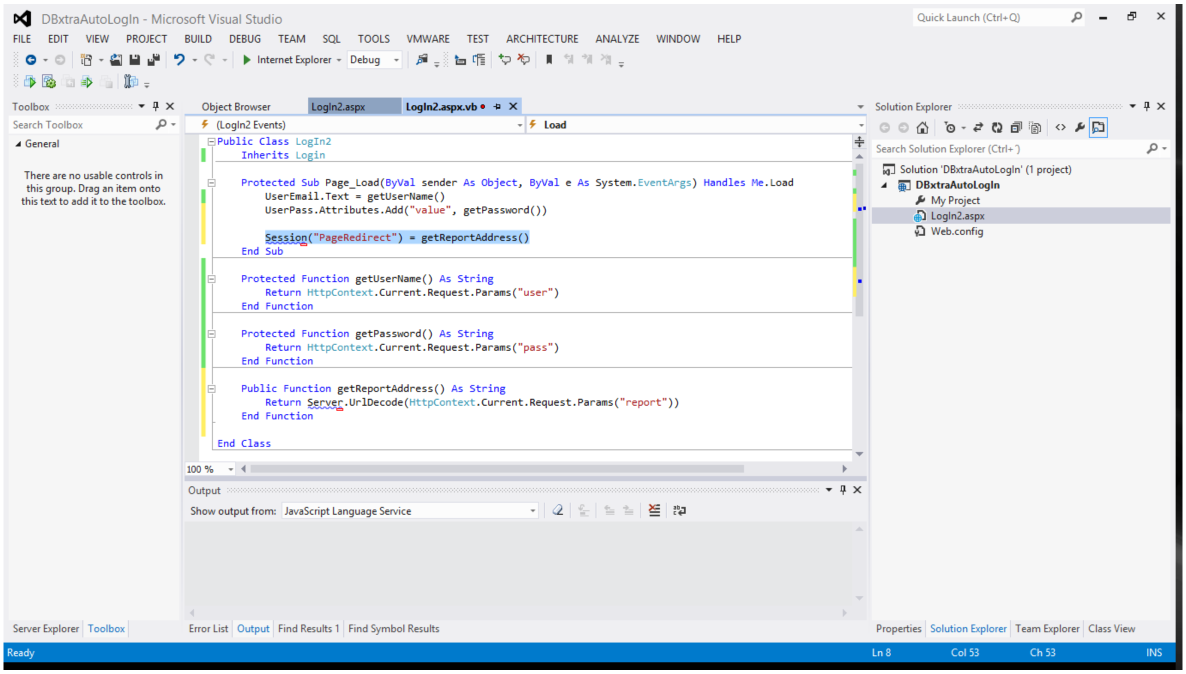
There are no usable controls in this group. Drag an item onto this text to add it to the toolbox.

```
Public Class LogIn2
    Inherits Login

    Protected Sub Page_Load(ByVal sender As Object, ByVal e As System.EventArgs) Handles Me.Load
        UserEmail.Text = getUserName()
        UserPass.Attributes.Add("value", getPassword())
    End Sub

    Protected Function getUserName() As String
        Return HttpContext.Current.Request.Params("user")
    End Function

    Protected Function getPassword() As String
        Return HttpContext.Current.Request.Params("pass")
    End Function

    Public Function getReportAddress() As String
        Return Server.UrlDecode(HttpContext.Current.Request.Params("report"))
    End Function

End Class
```

Show output from: JavaScript Language Service

2.- In the Page_Load method add the following to store the redirection address:

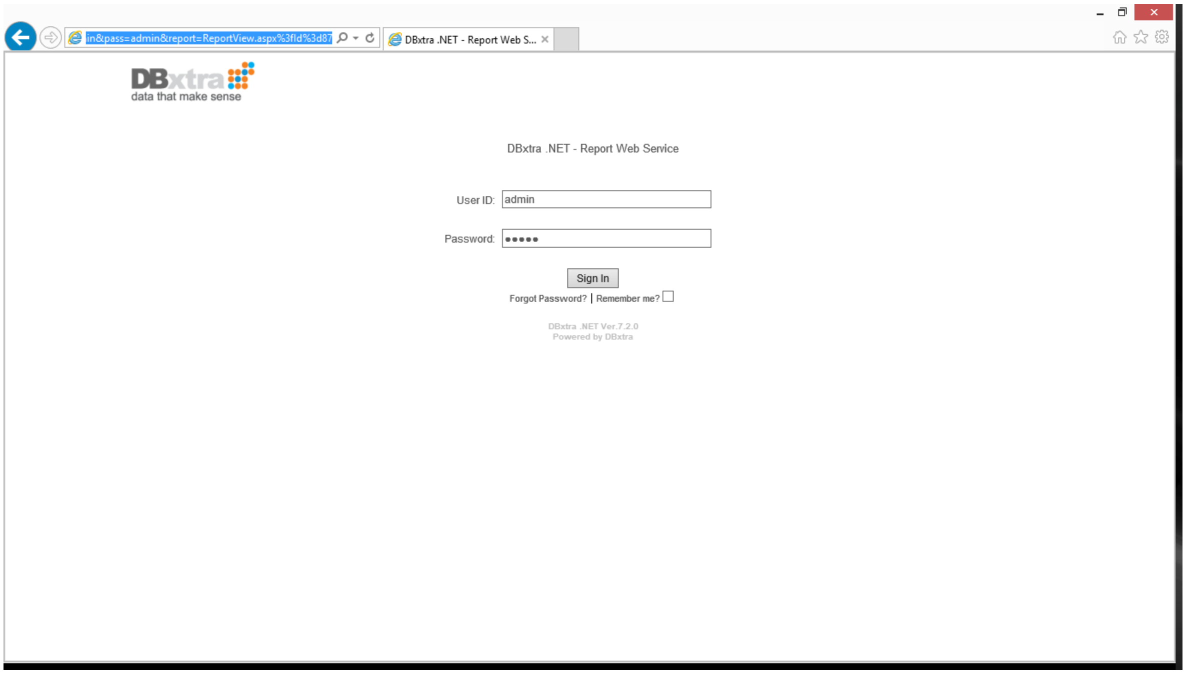
```
Session("PageRedirect") = getReportAddress()
```



```
Public Class LogIn2
    Inherits Login

    Protected Sub Page_Load(ByVal sender As Object, ByVal e As System.EventArgs) Handles Me.Load
        UserEmail.Text = getUserName()
        UserPass.Attributes.Add("value", getPassword())

        Session("PageRedirect") = getReportAddress()
    End Sub

    Protected Function getUserName() As String
        Return HttpContext.Current.Request.Params("user")
    End Function

    Protected Function getPassword() As String
        Return HttpContext.Current.Request.Params("pass")
    End Function

    Public Function getReportAddress() As String
        Return Server.UrlDecode(HttpContext.Current.Request.Params("report"))
    End Function

End Class
```

3.- Test your changes using an address like this, the example brings the Customer Address Book example of the DBxtra Sample project:

http://localhost/DBxtra.NET/LogIn2.aspx?user=admin&pass=admin&report=ReportView.aspx%3fId%3d87



in&pass=admin&report=ReportView.aspx%3fId%3d87

DBxtra .NET - Report Web S...

DBxtra .NET - Report Web Service

User ID: admin

Password: ●●●●●

Forgot Password? | Remember me? □

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4.- Modify your system so it passes the report address encoded for the url, this is important so the address can be parsed correctly, to do this, you can use the Server.UrlEncode function of the .NET Framework like this:

```
Server.UrlEncode("ReportView.aspx?Id=87")
```

Which will give you:

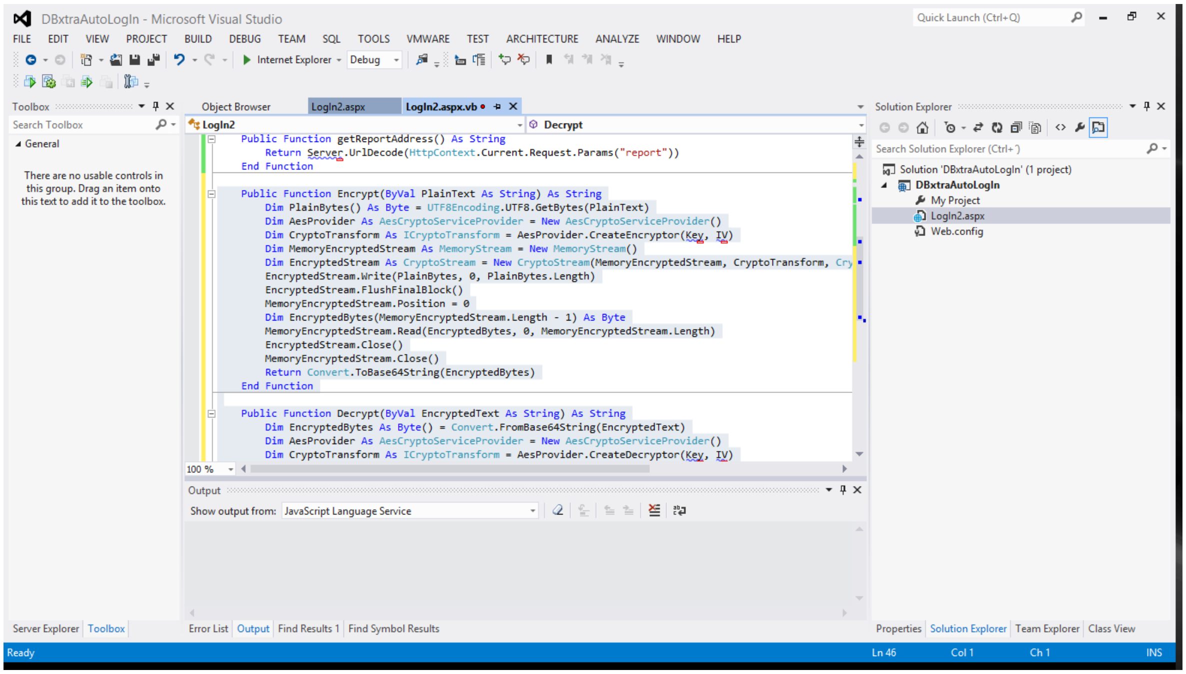
ReportView.aspx%3fId%3d87

Adding Encryption

If for some reason you don't want the password plain visible to the end users, you can add encryption as follows:

1.- Create two functions in the LogIn2.aspx.vb file to encrypt and decrypt the password from the URL:

```
Public Function Encrypt(ByVal PlainText As String) As String
      Dim PlainBytes() As Byte = UTF8Encoding.UTF8.GetBytes(PlainText)
      Dim AesProvider As AesCryptoServiceProvider = New
            AesCryptoServiceProvider()
      Dim CryptoTransform As ICryptoTransform =
            AesProvider.CreateEncryptor(Key, IV)
      Dim MemoryEncryptedStream As MemoryStream = New MemoryStream()
      Dim EncryptedStream As CryptoStream = New
            CryptoStream(MemoryEncryptedStream, CryptoTransform,
            CryptoStreamMode.Write)
      EncryptedStream.Write(PlainBytes, 0, PlainBytes.Length)
      EncryptedStream.FlushFinalBlock()
      MemoryEncryptedStream.Position = 0
      Dim EncryptedBytes(MemoryEncryptedStream.Length - 1) As Byte
      MemoryEncryptedStream.Read(EncryptedBytes, 0,
            MemoryEncryptedStream.Length)
      EncryptedStream.Close()
      MemoryEncryptedStream.Close()
      Return Convert.ToBase64String(EncryptedBytes)
End Function

Public Function Decrypt(ByVal EncryptedText As String) As String
      Dim EncryptedBytes As Byte() =
            Convert.FromBase64String(EncryptedText )
      Dim AesProvider As AesCryptoServiceProvider = New
            AesCryptoServiceProvider()
      Dim CryptoTransform As ICryptoTransform =
            AesProvider.CreateDecryptor(Key, IV)
      Dim MemoryDecryptedStream As MemoryStream = New MemoryStream()
      Dim DecryptedStream As CryptoStream = New
            CryptoStream(MemoryDecryptedStream, CryptoTransform,
            CryptoStreamMode.Write)
      DecryptedStream.Write(EncryptedBytes, 0, EncryptedBytes.Length)
      DecryptedStream.FlushFinalBlock()
      MemoryDecryptedStream.Position = 0
      Dim PlainBytes(MemoryDecryptedStream.Length - 1) As Byte
      MemoryDecryptedStream.Read(PlainBytes, 0,
            MemoryDecryptedStream.Length)
      DecryptedStream.Close()
      MemoryDecryptedStream.Close()
      Return UTF8Encoding.UTF8.GetString(PlainBytes)
End Function
```

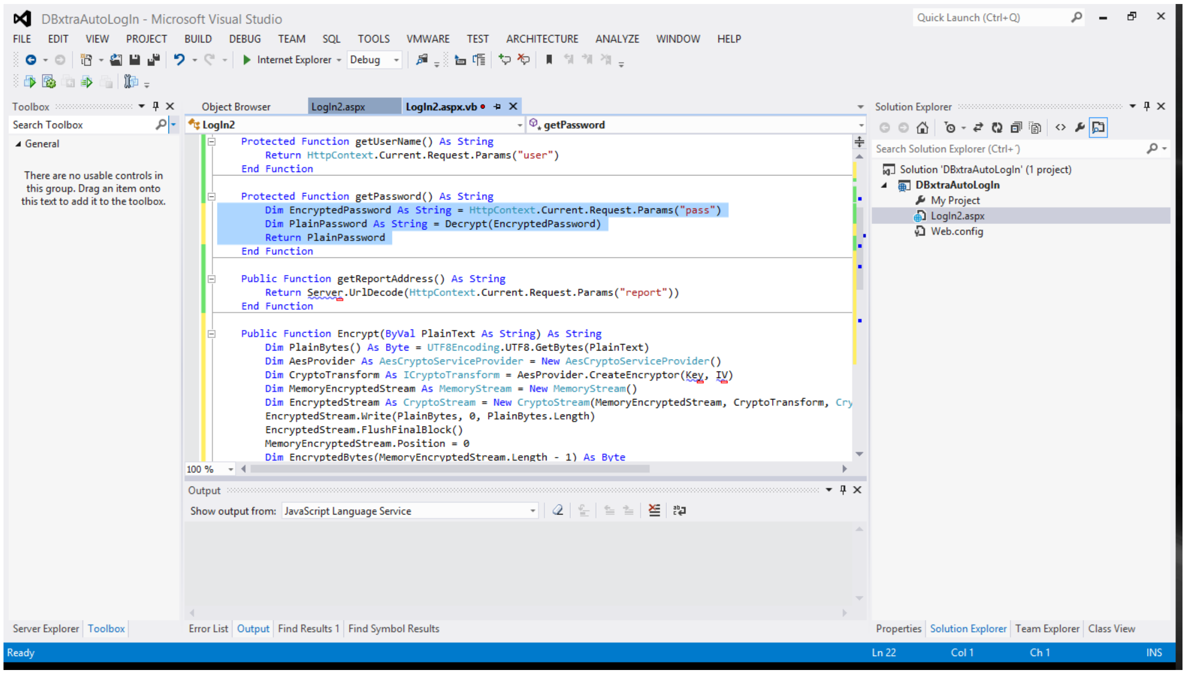


```
    Public Function getReportAddress() As String
        Return Server.UrlDecode(HttpContext.Current.Request.Params("report"))
    End Function

    Public Function Encrypt(ByVal PlainText As String) As String
        Dim PlainBytes() As Byte = UTF8Encoding.UTF8.GetBytes(PlainText)
        Dim AesProvider As AesCryptoServiceProvider = New AesCryptoServiceProvider()
        Dim CryptoTransform As ICryptoTransform = AesProvider.CreateEncryptor(Key, IV)
        Dim MemoryEncryptedStream As MemoryStream = New MemoryStream()
        Dim EncryptedStream As CryptoStream = New CryptoStream(MemoryEncryptedStream, CryptoTransform, Cry
        EncryptedStream.Write(PlainBytes, 0, PlainBytes.Length)
        EncryptedStream.FlushFinalBlock()
        MemoryEncryptedStream.Position = 0
        Dim EncryptedBytes(MemoryEncryptedStream.Length - 1) As Byte
        MemoryEncryptedStream.Read(EncryptedBytes, 0, MemoryEncryptedStream.Length)
        EncryptedStream.Close()
        MemoryEncryptedStream.Close()
        Return Convert.ToBase64String(EncryptedBytes)
    End Function

    Public Function Decrypt(ByVal EncryptedText As String) As String
        Dim EncryptedBytes As Byte() = Convert.FromBase64String(EncryptedText)
        Dim AesProvider As AesCryptoServiceProvider = New AesCryptoServiceProvider()
        Dim CryptoTransform As ICryptoTransform = AesProvider.CreateDecryptor(Key, IV)
```

DBxtraAutoLogIn - Microsoft Visual Studio
FILE EDIT VIEW PROJECT BUILD DEBUG TEAM SQL TOOLS VMWARE TEST ARCHITECTURE ANALYZE WINDOW HELP
Quick Launch (Ctrl+Q)
Internet Explorer
Debug
Toolbox
Search Toolbox
General
There are no usable controls in this group. Drag an item onto this text to add it to the toolbox.
Object Browser
LogIn2.aspx
LogIn2.aspx.vb
LogIn2
Decrypt
100 %
Output
Show output from: JavaScript Language Service
Solution Explorer
Search Solution Explorer (Ctrl+´)
Solution 'DBxtraAutoLogIn' (1 project)
DBxtraAutoLogIn
My Project
LogIn2.aspx
Web.config
Server Explorer
Toolbox
Error List
Output
Find Results 1
Find Symbol Results
Properties
Solution Explorer
Team Explorer
Class View
Ready
Ln 46
Col 1
Ch 1
INS

2.- Modify the getPassword method to decrypt the password:

```
Protected Function getPassword() As String
        Dim EncryptedPassword As String =
            HttpContext.Current.Request.Params("pass")
        Dim PlainPassword As String = Decrypt(EncryptedPassword)
        Return PlainPassword
End Function
```

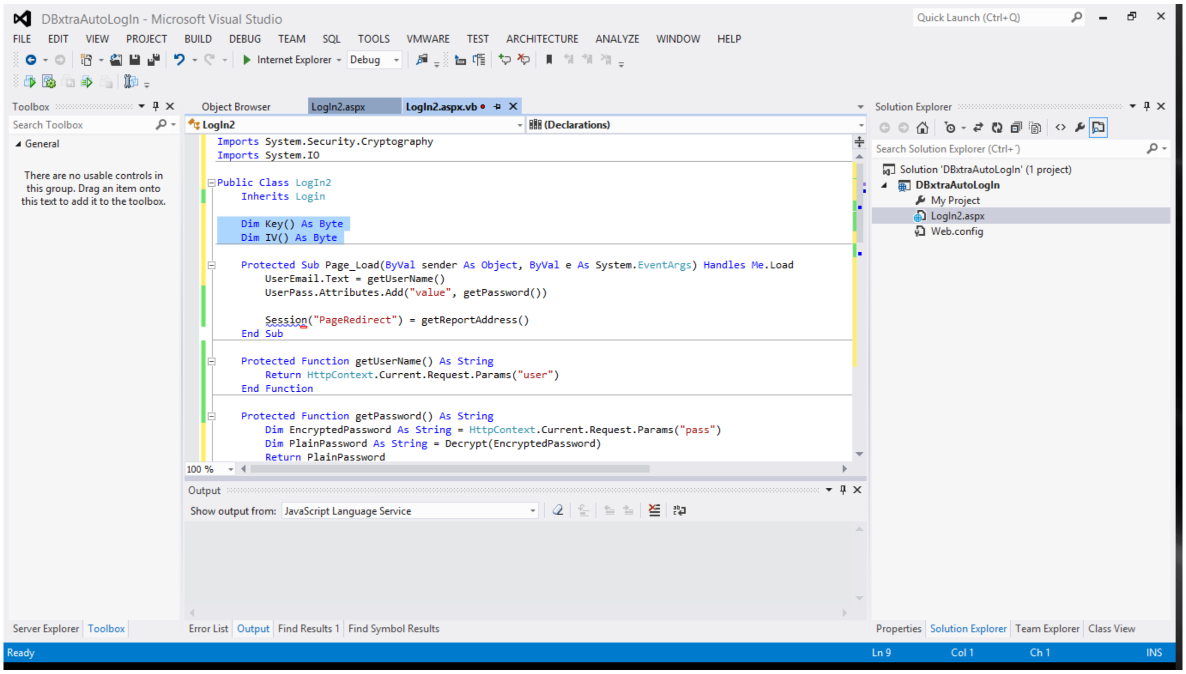


```
    Protected Function getUserName() As String
        Return HttpContext.Current.Request.Params("user")
    End Function

    Protected Function getPassword() As String
        Dim EncryptedPassword As String = HttpContext.Current.Request.Params("pass")
        Dim PlainPassword As String = Decrypt(EncryptedPassword)
        Return PlainPassword
    End Function

    Public Function getReportAddress() As String
        Return Server.UrlDecode(HttpContext.Current.Request.Params("report"))
    End Function

    Public Function Encrypt(ByVal PlainText As String) As String
        Dim PlainBytes() As Byte = UTF8Encoding.UTF8.GetBytes(PlainText)
        Dim AesProvider As AesCryptoServiceProvider = New AesCryptoServiceProvider()
        Dim CryptoTransform As ICryptoTransform = AesProvider.CreateEncryptor(Key, IV)
        Dim MemoryEncryptedStream As MemoryStream = New MemoryStream()
        Dim EncryptedStream As CryptoStream = New CryptoStream(MemoryEncryptedStream, CryptoTransform, Cry
        EncryptedStream.Write(PlainBytes, 0, PlainBytes.Length)
        EncryptedStream.FlushFinalBlock()
        MemoryEncryptedStream.Position = 0
        Dim EncryptedBytes(MemoryEncryptedStream.Length - 1) As Byte
```

Show output from: JavaScript Language Service

3.- Declare the Key and IV properties in the LogIn2 class:

```
Dim Key() As Byte
Dim IV() As Byte
```

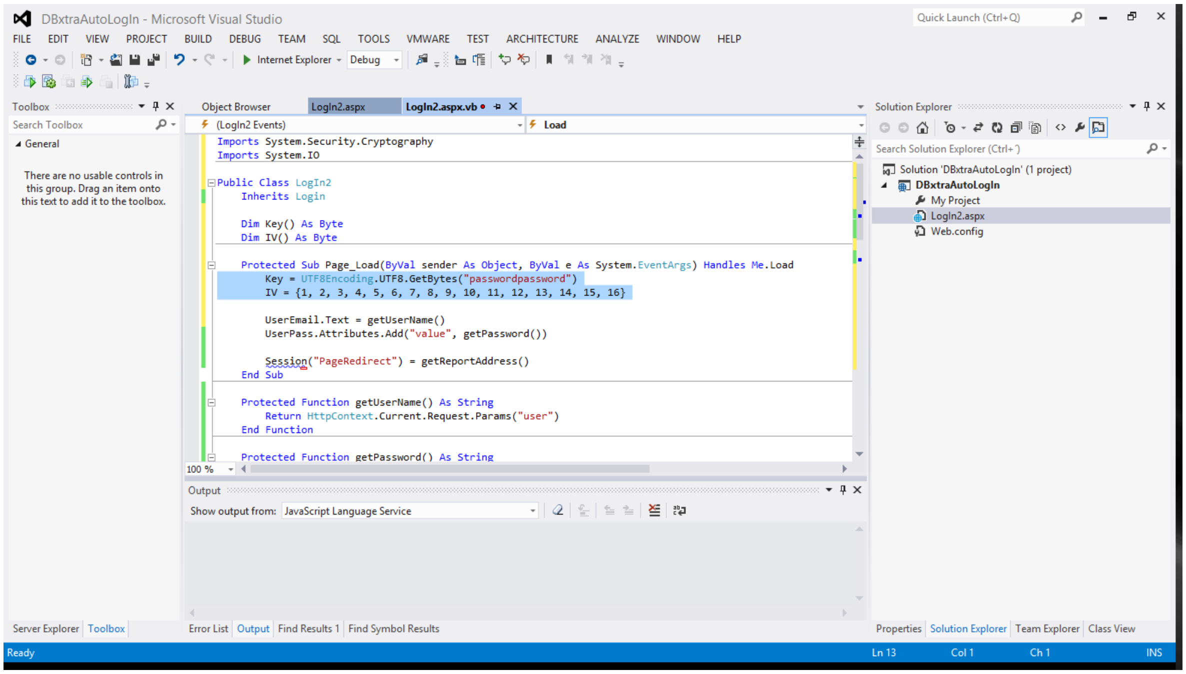


```
Imports System.Security.Cryptography
Imports System.IO

Public Class LogIn2
    Inherits Login

    Dim Key() As Byte
    Dim IV() As Byte

    Protected Sub Page_Load(ByVal sender As Object, ByVal e As System.EventArgs) Handles Me.Load
        UserEmail.Text = getUserName()
        UserPass.Attributes.Add("value", getPassword())

        Session("PageRedirect") = getReportAddress()
    End Sub

    Protected Function getUserName() As String
        Return HttpContext.Current.Request.Params("user")
    End Function

    Protected Function getPassword() As String
        Dim EncryptedPassword As String = HttpContext.Current.Request.Params("pass")
        Dim PlainPassword As String = Decrypt(EncryptedPassword)
        Return PlainPassword
```

Show output from: JavaScript Language Service

4.- In the Page_Load method add the following before getting the password:

```
Key = UTF8Encoding.UTF8.GetBytes("passwordpassword")
IV = {1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16}
```

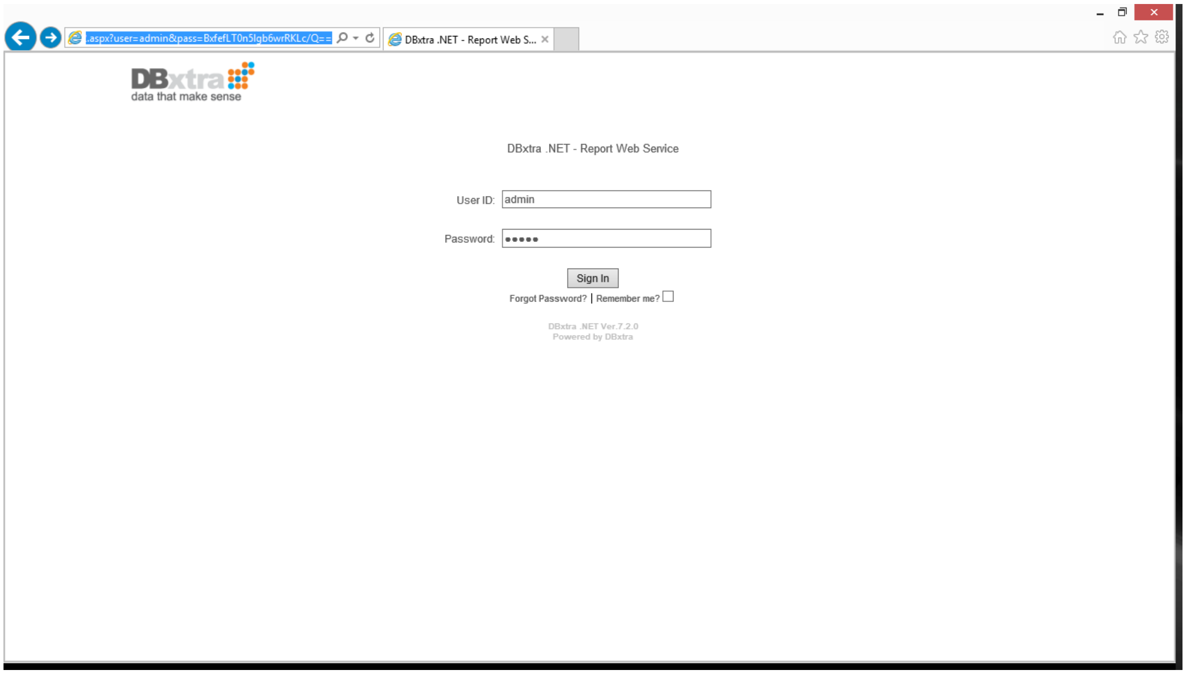


```
Imports System.Security.Cryptography
Imports System.IO

Public Class LogIn2
    Inherits Login

    Dim Key() As Byte
    Dim IV() As Byte

    Protected Sub Page_Load(ByVal sender As Object, ByVal e As System.EventArgs) Handles Me.Load
        Key = UTF8Encoding.UTF8.GetBytes("passwordpassword")
        IV = {1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16}

        UserEmail.Text = getUserName()
        UserPass.Attributes.Add("value", getPassword())

        Session("PageRedirect") = getReportAddress()
    End Sub

    Protected Function getUserName() As String
        Return HttpContext.Current.Request.Params("user")
    End Function

    Protected Function getPassword() As String
```

This is the key and initialization vector of the encrypt/decrypt method, modify this data to suit your needs, AES keys are 128 bits (16 bytes) at least, AES initialization vectors are 128 bits (16 bytes) always.

5.- Test your changes using an address like this:

http://localhost/DBxtra.NET/LogIn2.aspx?user=admin&pass=BxfefLT0n5lgb6wrRKLc/Q==



.aspx?user=admin&pass=BxfefLT0n5lgb6wrRKLc/Q==

DBxtra .NET - Report Web Service

User ID: admin

Password: •••••

Which will log in you as the Admin user, using the "admin" password.

Download the example files from here!

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