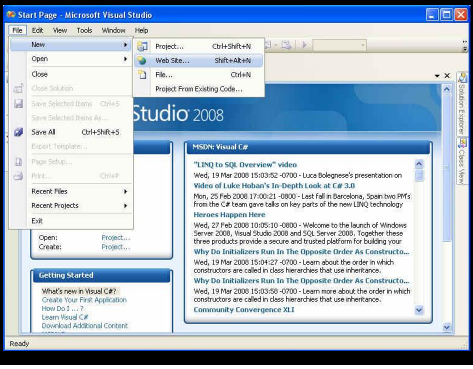
ASP.NET

Building Web Forms

ASP.NET

- Traditional web pages typically run Javascript, VB script, or Perl on the client.
- In contrast, ASP.NET pages consist of a user interface defined by html and an interface logic written in a .NET language that runs on the web server.
- How do we create a web form?

Creating a New Web site



MSDN: Visual C#

"LINQ to SQL Overview" video
Wed, 19 Mar 2008 15:03:52 -0700 - Luca Bolegnese's presentation on

Video of Luke Hoban's In-Depth Look at C# 3.0
Mon, 25 Feb 2008 17:00:21 -0800 - Last fall in Barcelona, Spain two PM's from the C# team gave talks on key parts of the new LINQ technology

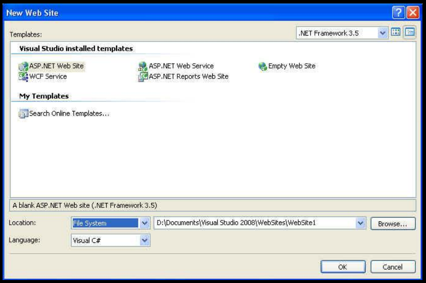
Heroes Happen Here
Wed, 27 Feb 2008 10:05:10 -0800 - Welcome to the launch of Windows Server 2008, Visual Studio 2008 and SQL Server 2008. Together these three products provide a secure and trusted platform for building your

Why Do Initializers Run In The Opposite Order As Constructo...
Wed, 19 Mar 2008 15:04:27 -0700 - Learn about the order in which constructors are called in class hierarchies that use inheritance.

Why Do Initializers Run In The Opposite Order As Constructo...
Wed, 19 Mar 2008 15:03:58 -0700 - Learn more about the order in which constructors are called in class hierarchies that use inheritance.

Community Convergence XLI

New web site dialog box



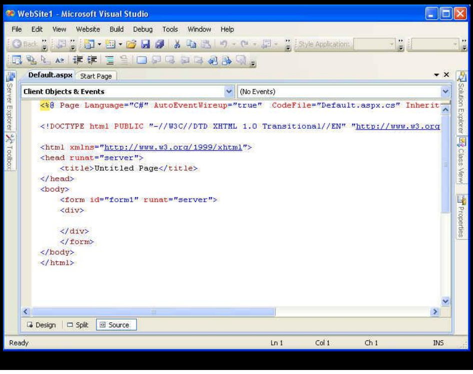
Templates: .NET Framework 3.5

A blank ASP.NET Web site (.NET Framework 3.5)

Location: File System D:\Documents\Visual Studio 2008\WebSites\WebSite1

Language: Visual C#

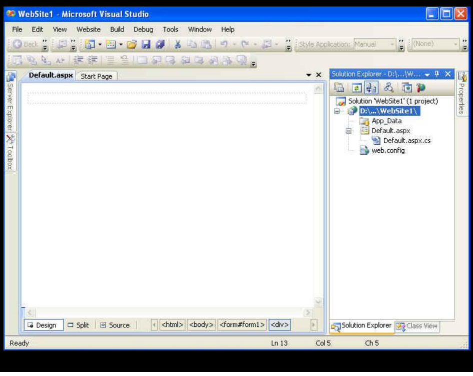
New web form in Source View



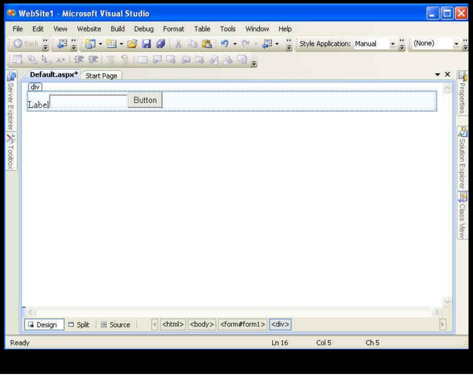
Client Objects & Events (No Events)

```
<%@ Page Language="C#" AutoEventWireup="true"  CodeFile="Default.aspx.cs" Inherit

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

<html xmlns="http://www.w3.org/1999/xhtml">
<head runat="server">
    <title>Untitled Page</title>
</head>
<body>
    <form id="form1" runat="server">
    <div>

    </div>
    </form>
</body>
</html>
```

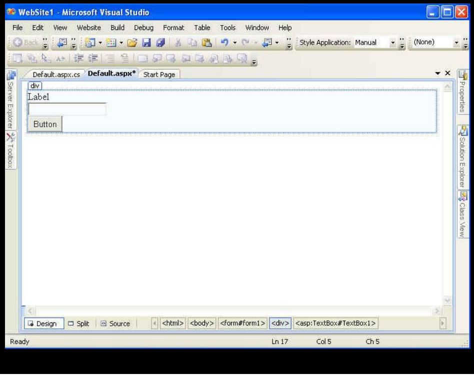
New web form in Design View



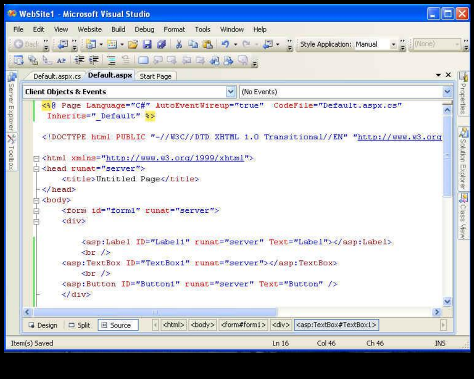
Web form with Label, TextBox, and Button


WebSite1 - Microsoft Visual Studio
File Edit View Website Build Debug Format Table Tools Window Help
Style Application: Manual
(None)
Default.aspx*
Start Page
div
Label
Button
Design
Split
Source
<html> <body> <form#form1> <div>
Ready
Ln 16
Col 5
Ch 5

Label, TextBox, Button aligned on left

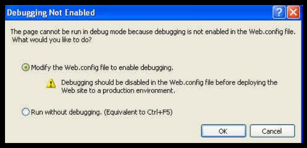

WebSite1 - Microsoft Visual Studio
File Edit View Website Build Debug Format Table Tools Window Help
Style Application: Manual
(None)
Default.aspx.cs
Default.aspx*
Start Page
div
Label
Button
Design
Split
Source
<html> <body> <form#form1> <div> <asp:TextBox#TextBox1>
Ready
Ln 17
Col 5
Ch 5

The web form in source view


WebSite1 - Microsoft Visual Studio
File Edit View Website Build Debug Format Tools Window Help
Style Application: Manual
Default.aspx.cs
Default.aspx
Start Page
Client Objects & Events
(No Events)
Design
Split
Source
<html> <body> <form#form1> <div> <asp:TextBox#TextBox1>
Item(s) Saved
Ln 16
Col 46
Ch 46
INS

```
<%@ Page Language="C#" AutoEventWireup="true"  CodeFile="Default.aspx.cs"
 Inherits="_Default" %>

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

<html xmlns="http://www.w3.org/1999/xhtml">
<head runat="server">
    <title>Untitled Page</title>
</head>
<body>
    <form id="form1" runat="server">
    <div>

        <asp:Label ID="Label1" runat="server" Text="Label"></asp:Label>
        <br />
    <asp:TextBox ID="TextBox1" runat="server"></asp:TextBox>
        <br />
    <asp:Button ID="Button1" runat="server" Text="Button" />
    </div>
```

Dialog box prompting you to create a web.config file before debugging


Debugging Not Enabled

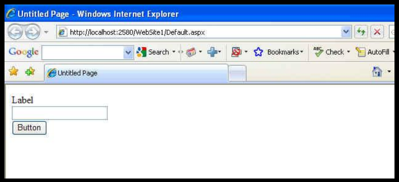
The page cannot be run in debug mode because debugging is not enabled in the Web.config file. What would you like to do?

● Modify the Web.config file to enable debugging.

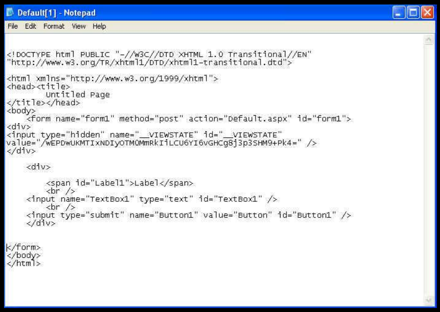
⚠ Debugging should be disabled in the Web.config file before deploying the Web site to a production environment.

○ Run without debugging. (Equivalent to Ctrl+F5)

The web app running in IE


Untitled Page - Windows Internet Explorer
http://localhost:2580/WebSite1/Default.aspx
Google
Search
Bookmarks
Check
AutoFill
Untitled Page
Label
Button

Page source for the web app



```
<!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><title>
        Untitled Page
</title></head>
<body>
    <form name="form1" method="post" action="Default.aspx" id="form1">
<div>
<input type="hidden" name="__VIEWSTATE" id="__VIEWSTATE"
value="/wEPDwUKMTIxNDIyOTM0MmRkIiLCU6YI6vGHCg8j3p3SHM9+Pk4=" />
</div>

    <div>

        <span id="Label1">Label</span>
        <br />
    <input name="TextBox1" type="text" id="TextBox1" />
        <br />
    <input type="submit" name="Button1" value="Button" id="Button1" />
    </div>


</form>
</body>
</html>
```

Viewstate

- Because all display controls (label, list, grid, repeater) maintain their state here, it can impact performance.
- Others – input types – ListBox, CheckBox, TextBox – remember state as postback data which is a dedicated field in the http header – cannot disable this.

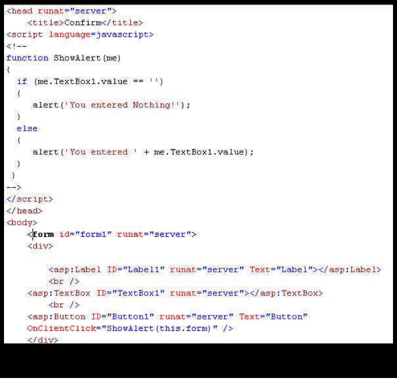
Viewstate

- Can disable _viewstate with <%@ Page Language=”C#” EnableViewState=”False” %>
- Then you can also enable/ disable viewstate on a control by control basis using the property editor.

Mix Client/Server Code

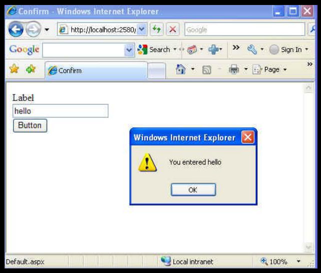
- Client code must operate in the browser.
- Javascript is the most popular.
- <input type=“submit” id=“btn” OnClick=“HandleClick()”>
- alert(‘Any String’)
- In ASP.NET, use OnClientClick

Client code to do an alert



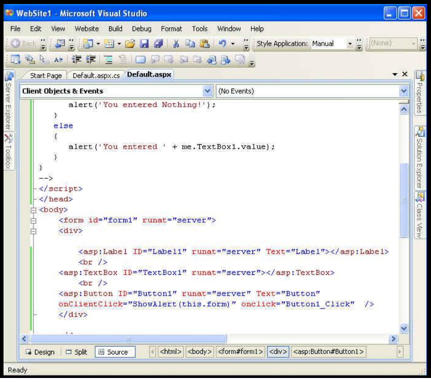
```
<head runat="server">
    <title>Confirm</title>
<script language=javascript>
<!--
function ShowAlert(me)
{
  if (me.TextBox1.value == '')
  {
     alert('You entered Nothing!');
  }
  else
  {
     alert('You entered ' + me.TextBox1.value);
  }
 }
-->
</script>
</head>
<body>
    <form id="form1" runat="server">
    <div>

        <asp:Label ID="Label1" runat="server" Text="Label"></asp:Label>
        <br />
    <asp:TextBox ID="TextBox1" runat="server"></asp:TextBox>
        <br />
    <asp:Button ID="Button1" runat="server" Text="Button"
    OnClientClick="ShowAlert(this.form)" />
    </div>
```

alert() in action



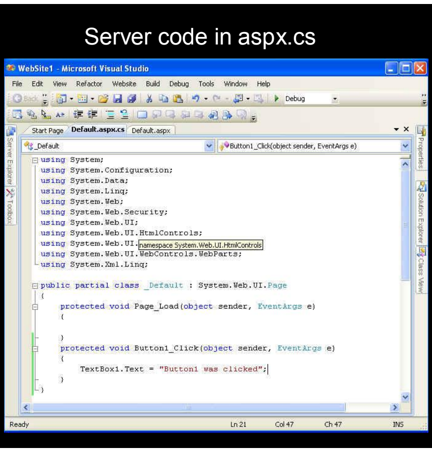
You entered hello

Add server side click with client side click



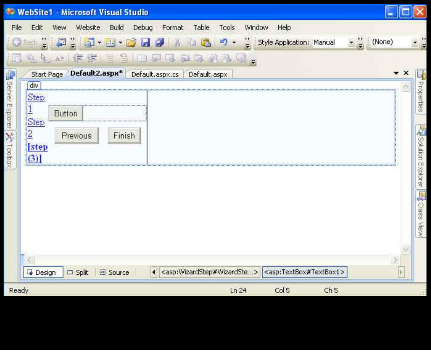
```
        alert('You entered Nothing!');
     }
     else
     {
        alert('You entered ' + me.TextBox1.value);
     }
 }
 -->
</script>
</head>
<body>
    <form id="form1" runat="server">
    <div>

        <asp:Label ID="Label1" runat="server" Text="Label"></asp:Label>
        <br />
    <asp:TextBox ID="TextBox1" runat="server"></asp:TextBox>
        <br />
    <asp:Button ID="Button1" runat="server" Text="Button"
    onClientClick="ShowAlert(this.form)" onclick="Button1_Click"  />
    </div>
```

Server code in aspx.cs

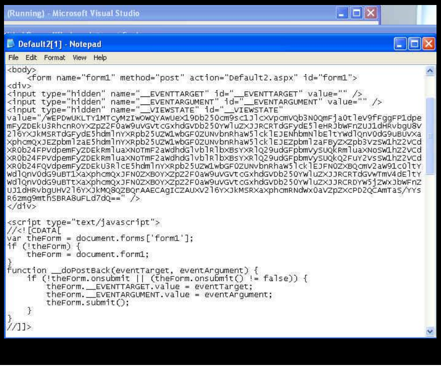

WebSite1 - Microsoft Visual Studio
File Edit View Refactor Website Build Debug Tools Window Help
Back
Debug
Start Page
Default.aspx.cs
Default.aspx
_Default
Button1_Click(object sender, EventArgs e)
namespace System.Web.UI.HtmlControls
Server Explorer
Toolbox
Properties
Solution Explorer
Class View
Ready
Ln 21
Col 47
Ch 47
INS

```
using System;
using System.Configuration;
using System.Data;
using System.Linq;
using System.Web;
using System.Web.Security;
using System.Web.UI;
using System.Web.UI.HtmlControls;
using System.Web.UI.
using System.Web.UI.WebControls.WebParts;
using System.Xml.Linq;

public partial class _Default : System.Web.UI.Page
{
    protected void Page_Load(object sender, EventArgs e)
    {

    }
    protected void Button1_Click(object sender, EventArgs e)
    {
        TextBox1.Text = "Button1 was clicked";
    }
}
```

asp:Wizard on a web form



Rendered source of Wizard page


(Running) - Microsoft Visual Studio
Default2[1] - Notepad
File Edit Format View Help

```
<body>
    <form name="form1" method="post" action="Default2.aspx" id="form1">
<div>
<input type="hidden" name="__EVENTTARGET" id="__EVENTTARGET" value="" />
<input type="hidden" name="__EVENTARGUMENT" id="__EVENTARGUMENT" value="" />
<input type="hidden" name="__VIEWSTATE" id="__VIEWSTATE"
value="/wEPDwUKLTY1MTcyMzIwOWQYAwUeX19Db250cm9sc1JlcXVpcmVQb3N0QmFja0tleV9fFggFP1dpe
mFyZDEkU3RhcnROYXZpZ2F0aW9uVGVtcGxhdGVDb250YWluZXJJRCRTdGFydE5leHRJbWFnZUJ1dHRvbgU8V
2l6YXJkMSRTdGFydE5hdmlnYXRpb25UZW1wbGF0ZUNvbnRhaW5lckJENhbmNlbEltYWdlQnV0dG9uBUVXa
XphcmQxJEZpbmlzaE5hdmlnYXRpb25UZW1wbGF0ZUNvbnRhaW5lckJEZpbmlzaFByZXZpb3VzSW1hZ2VCd
XR0b24FPVdpemFyZDEkRmluaXNoTmF2aWdhdGlvblRlbXBsYXRlQ29udGFpbmVySUQkRmluaXNoSW1hZ2VCd
XR0b24FPVdpemFyZDEkRmluaXNoTmF2aWdhdGlvblRlbXBsYXRlQ29udGFpbmVySUQkQ2FuY2VsSW1hZ2VCd
XR0b24FQVdpemFyZDEkU3RlcE5hdmlnYXRpb25UZW1wbGF0ZUNvbnRhaW5lckJFJFN0ZXBQcmV2aW91c0ltY
WdlQnV0dG9uBT1XaXphcmQxJFN0ZXBOYXZpZ2F0aW9uVGVtcGxhdGVDb250YWluZXJJRCRTdGVwTmV4dEltY
WdlQnV0dG9uBTtXaXphcmQxJFN0ZXBOYXZpZ2F0aW9uVGVtcGxhdGVDb250YWluZXJJRCRDYW5jZWxxJbWFnZ
UJ1dHRvbgUHV2l6YXJkMQ8QZBQrAAECAgICZAUXV2l6YXJkMSRXaXphcmRNdWx0aVZpZXcPD2QCAmTaS/YYS
R6zmg9mthSBRA8uFLd7dQ==" />
</div>

<script type="text/javascript">
//<![CDATA[
var theForm = document.forms['form1'];
if (!theForm) {
    theForm = document.form1;
}
function __doPostBack(eventTarget, eventArgument) {
    if (!theForm.onsubmit || (theForm.onsubmit() != false)) {
        theForm.__EVENTTARGET.value = eventTarget;
        theForm.__EVENTARGUMENT.value = eventArgument;
        theForm.submit();
    }
}
//]]>
```