

Course API Comparison

Chapter C6: A Silverlight 4 Browser Application written in Xaml and C#

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For an introduction into Microsoft Silverlight see: [Silverlight](#)
 Comparison of XBAP with Silverlight: [XBAP and Silverlight](#)

Microsoft Silverlight is a lightweight subsets of WPF aimed to compete with Adobe Flex 3 for RIAs.
 Advantages: own SDK, integration in DotNet, all DotNet-languages, seamless with server programming.
 Disadvantages: fewer graphical components, smaller developer community, fewer browser plug-ins.

Preliminaries

Install 1) [Visual Web Developer 2010 Express Edition English](#)
 and 2) [Silverlight 4 Tools for Visual Studio 2010](#) .

Guidance for **Visual Web Developer 2010 Express** and **Silverlight 4**:

1) Main menu after start of VWD Express: Tools → Options... →
 check lower left checkbox: Show all Settings →
 → Projects and Solutions → General →
 Projects location: → C:\temp.
 → Text Editor (double click) → All Languages (double click) →
 Tabs →
 Indenting: None → Tab size: 2 → Insert spaces.
 → Text Editor (double click) → C# (double click) → Formatting →
 uncheck all three check boxes → OK.
 → Text Editor (double click) → XAML (double click) → Tabs →
 Indenting: None → Tab size: 1, Indent size: 1 →
 Insert spaces.
 → Text Editor (double click) → XAML (double click) → Formatting →
 uncheck all Auto-Formatting Events → OK.

2) Main menu after start of VWD 2010 Express: File → New
 Project... → Project types: Visual C# (double click) →
 Silverlight → Silverlight Application
 Name: compareSilverlight_Browser → Location:
 C:\temp\API → Create directory for solution: switch off →
 OK.
 An Add Silverlight Application-Window appears.
 Uncheck the checkbox "Host the Silverlight application in
 a new Web site" → OK.

Open View → Solution Explorer. The Solution Explorer-
 window is shown on the right.

MainPage.xaml

Replace the default code of MainPage.xaml by the following lines:

```
<UserControl x:Class="compareSilverlight_Browser.MainPage"
  xmlns="http://schemas.microsoft.com/winfx/2006/xaml/presentation"
  xmlns:x="http://schemas.microsoft.com/winfx/2006/xaml">
  <Viewbox x:Name="viewbox">
    <Border BorderBrush="Black" BorderThickness="2">
      <StackPanel Orientation="Horizontal" Margin="2">
        <Button Content="Talk!" Click="button1Click" HorizontalAlignment="Left"/>
        <TextBox Margin="2,0,2,0" MinWidth="300" TextAlignment="Center"/>
        <Button Content="Clear" Click="button2Click" HorizontalAlignment="Right"/>
      </StackPanel>
    </Border>
  </Viewbox>
</UserControl>
```

MainPage.xaml.cs

Because of the bug in the Viewbox from the Toolkit we have to declare a new TextBox and link it manually in 3 steps to the TextBox that already has been defined in MainPage.xaml.

Replace the default code of MainPage.xaml.cs by the following lines:

```
using System;
using System.Windows;
using System.Windows.Controls;
namespace compareSilverlight_Browser
{ public partial class MainPage : UserControl
  { TextBox textBox; //because of Viewbox bug
  public MainPage()
  { InitializeComponent();
  Border b = (Border)viewbox.Child; //because of Viewbox bug
  StackPanel s = (StackPanel)b.Child; //because of Viewbox bug
  textBox = (TextBox)s.Children[1]; //because of Viewbox bug
  }
  private void button1Click( object sender, RoutedEventArgs e )
  { textBox.Text = "Silverlight Browser Application in XAML + C#. Resize!";
  }
  private void button2Click( object sender, RoutedEventArgs e )
  { textBox.Text = "";
  }
  }
}
```

Click Debug → Start Without Debugging Ctrl F5.

Click the Talk!-button and resize the browser.

Switch the compiler to produce a release-mode XAP-file via the main menu after start of VWD 2010 Express:

Build → Configuration Manager... → Active solution configuration: Release → Close.

Click Debug → Start Without Debugging Ctrl F5.

Your C:\temp\API\compareSilverlight_Browser\bin\Release-directory will contain a XAP-file compareSilverlight_Browser.xap that can be incorporated into any HTML-page by:

1) Store it in the same directory as the housing HTML-page.

2) Call it at any line from inside the <body></body> tags of the HTML-page by inserting the following HTML-code:

```
<div id="silverlightControlHost" Align="Center">
  <object data="data:application/x-silverlight," type="application/x-silverlight-2"
  width="100%" height="100">
    <param name="source" value="compareSilverlight_Browser.xap">
    <param name="minRuntimeVersion" value="4.0.50401.0" >
    <param name="autoUpgrade" value="true" >
```

```

<a href="http://go.microsoft.com/fwlink/?LinkId=149156&v=4.0.50401.0"
  style="text-decoration: none;">
  </a>
</object>
</div>

```

The current HTML-page has these lines here:

Out of Browser OOB

It is possible to detach `compareSilverlight_Browser.xap` from its embedding `compareSilverlight_BrowserTestPage.html` and to create a stand-alone program that can be started in its own window. This mechanism works with all platforms and all browsers running the Silverlight plug-in. See: www.microsoft.com/getsilverlight/Get-Started/Install/Outside-the-Browser-Sandboxed.aspx.

1. Main menu after start of VWD 2010 Express: Project → `compareSilverlight_Browser Properties...` → Check the checkbox: Enable running application out of the browser → Click Debug. → Start Without Debugging Ctrl F5.

VWD 2010 Express will no show `compareSilverlight_Browser.xap` in a stand-alone-out-of-the-browser-window.

Right click this window and Remove this application....

Look for `C:/temp/compareSilverlight_Browser/Bin/Release/TestPage.html` and start it with your browser.

Your browser will show `compareSilverlight_Browser.xap` inside `compareSilverlight_BrowserTestPage.html` as before.

2. **Right**-click the browser content. A context menu will appear showing a line:

Install `compareSilverlight_Browser...` onto this computer.... Click it. →

An Install application-window appears. →

Uncheck the checkbox Start menu and check the checkbox Desktop → OK.

3. Our program now starts a window: `compareSilverlight_Browser...` - localhost and at the same time a persistent new icon named: `compareSilverlight_Browser...` will appear on your desktop.

From now our application behaves on any platform as any normal application does.

4. You can de-install everything and remove the icon from your desktop by a **Right**-click onto the content of a running `compareSilverlight_Browser...` - localhost. A context menu will appear. Click the line: Remove this application... → Are you sure you want to permanently remove this application ? → Yes.

For more information how to make better "Out of Browser Silverlight Applications" see: [Tim Heuer's video](#).