

C# to ActionScript tutorial

In this tutorial you will learn what must be done to start developing actionscript applications in c# with the jsc compiler. Jsc enables you to write your code in c# and it will be compiled into actionscript for you.

Post your questions at [google groups](#).

Read my blog at [wordpress](#).

Visit [jsc homepage](#).

View [the result](#) of this tutorial.

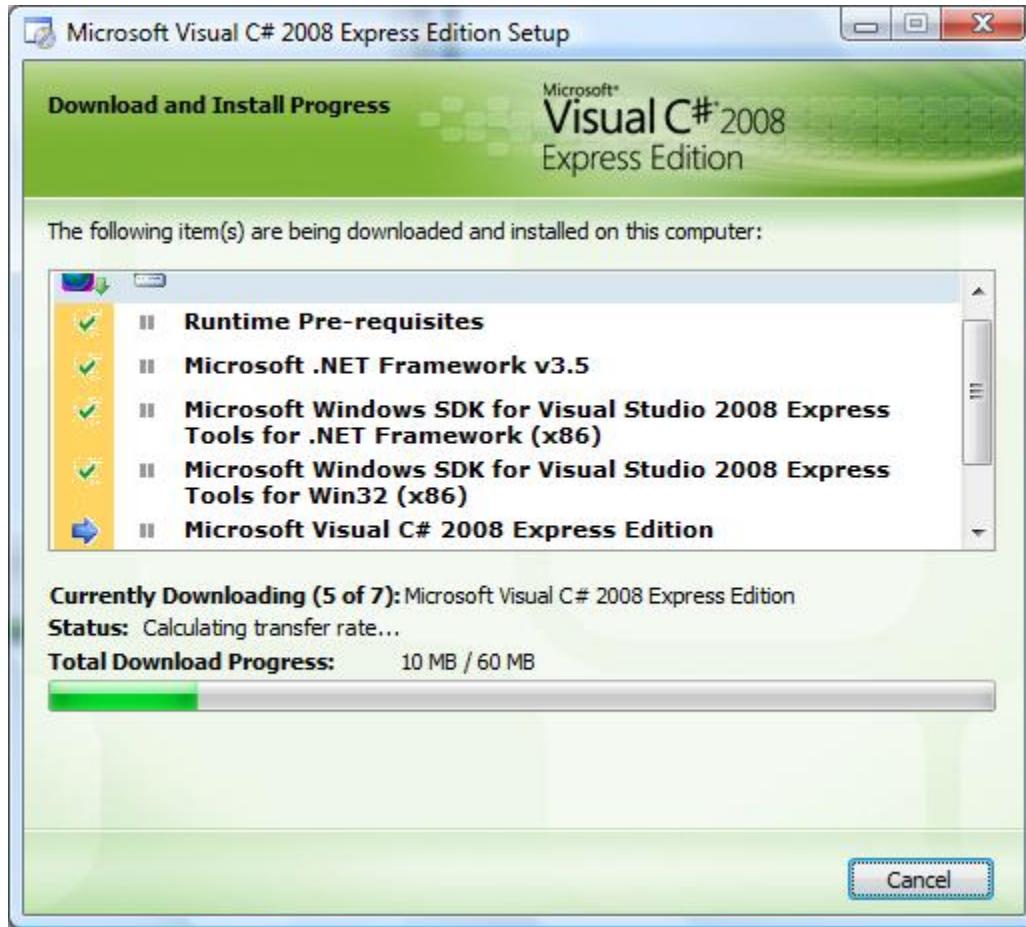
Written by Arvo Sulakatko 2008 April.

You can skip some steps if you have already installed the software needed.

Step 1: Visual Studio

Install [Visual Studio 2008 C# Express Edition](#). ~60mb





Step 2: Flex

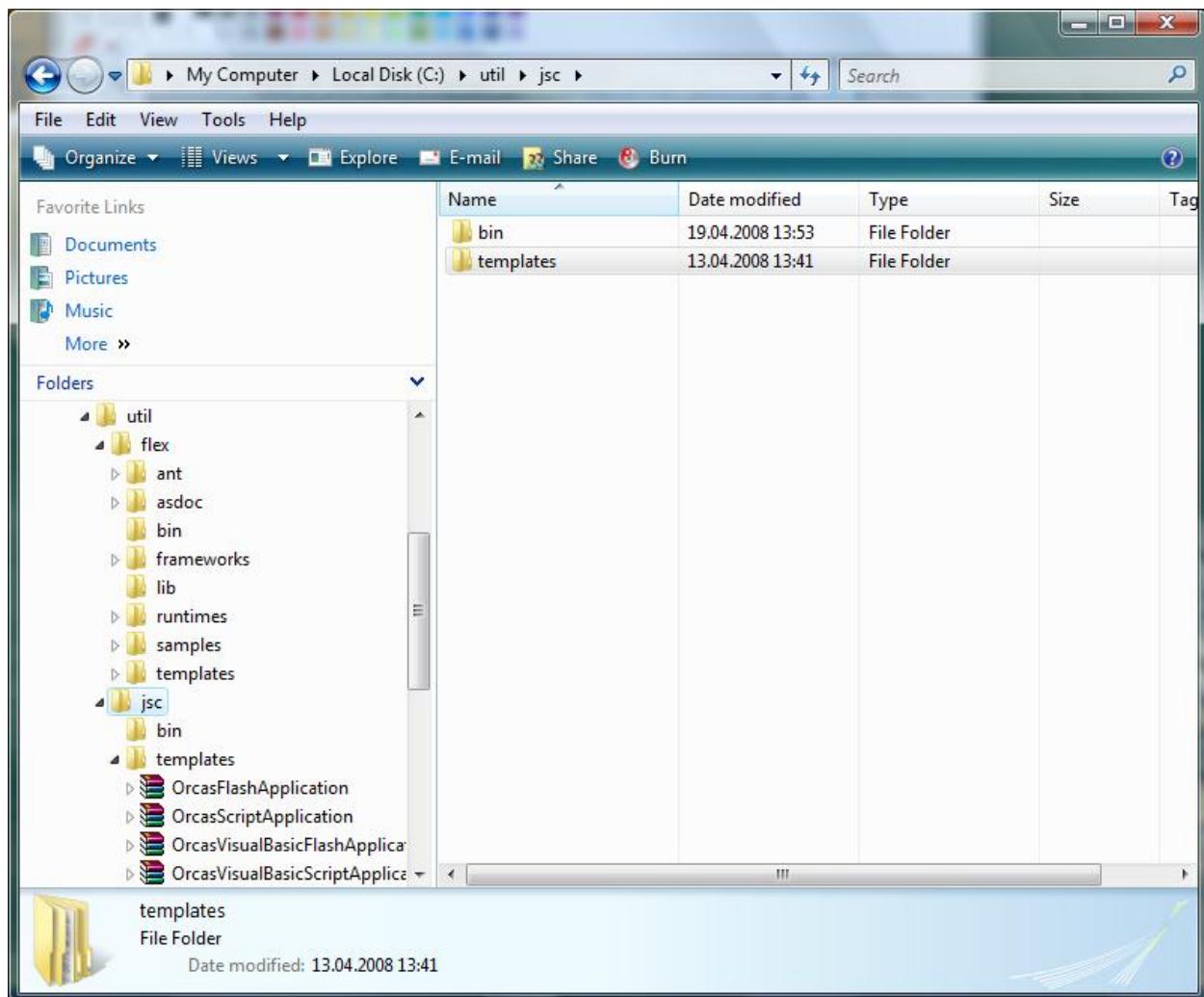
Download [Free Adobe Flex SDK](#). ~75mb

Choose **c:\util\flex** as the target location.

Step 3: jsc

Download [jsc](#). ~2mb

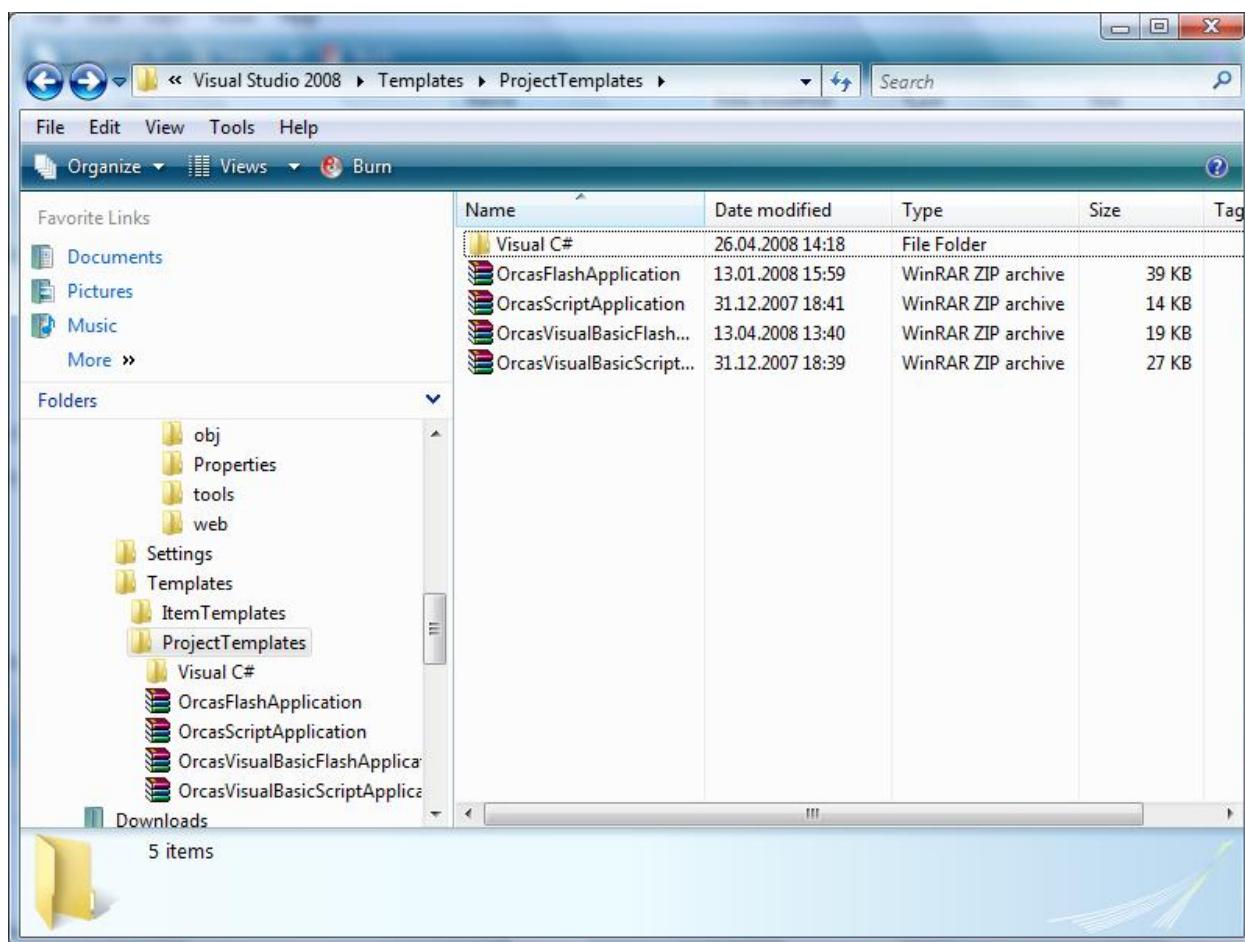
Choose **c:\util\jsc** as the target location.



Step 4: Project Templates

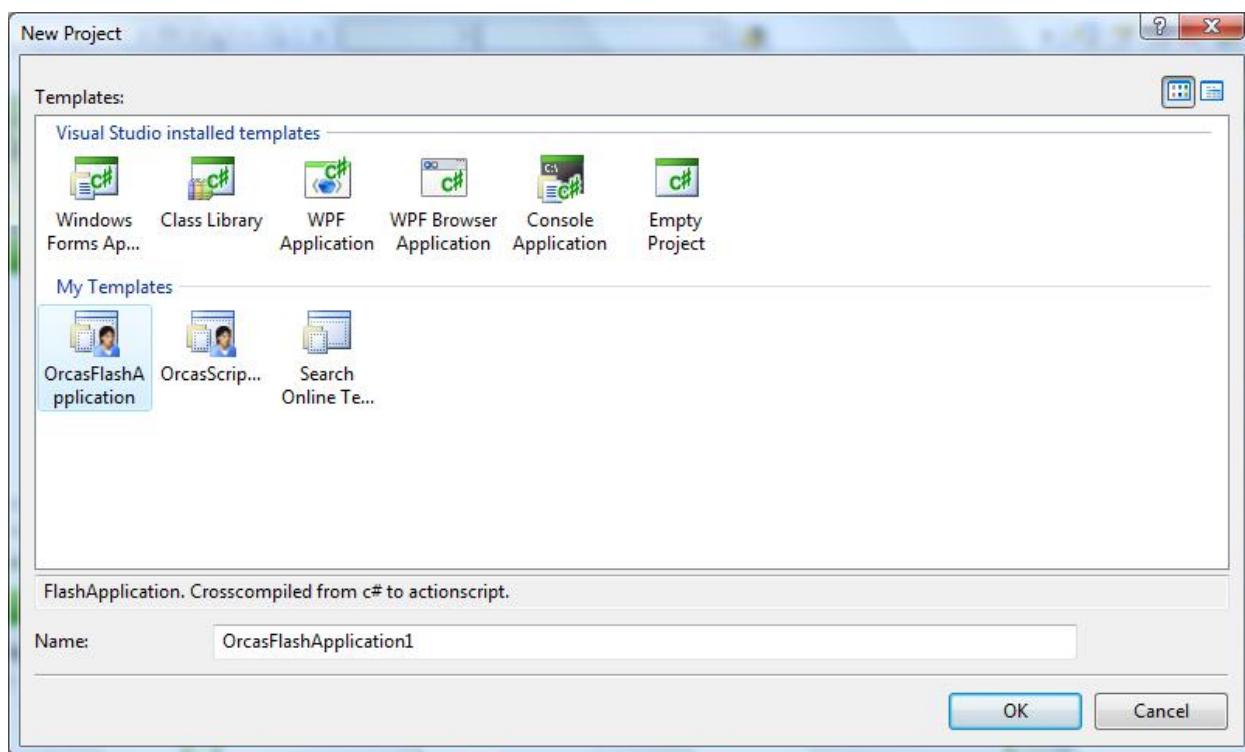
Copy the project templates from **C:\util\jsc\templates** to **My Documents\Visual Studio 2008\Templates\ProjectTemplates**.

In this tutorial we only need **OrcasFlashApplication** template.



Step 5: New Project

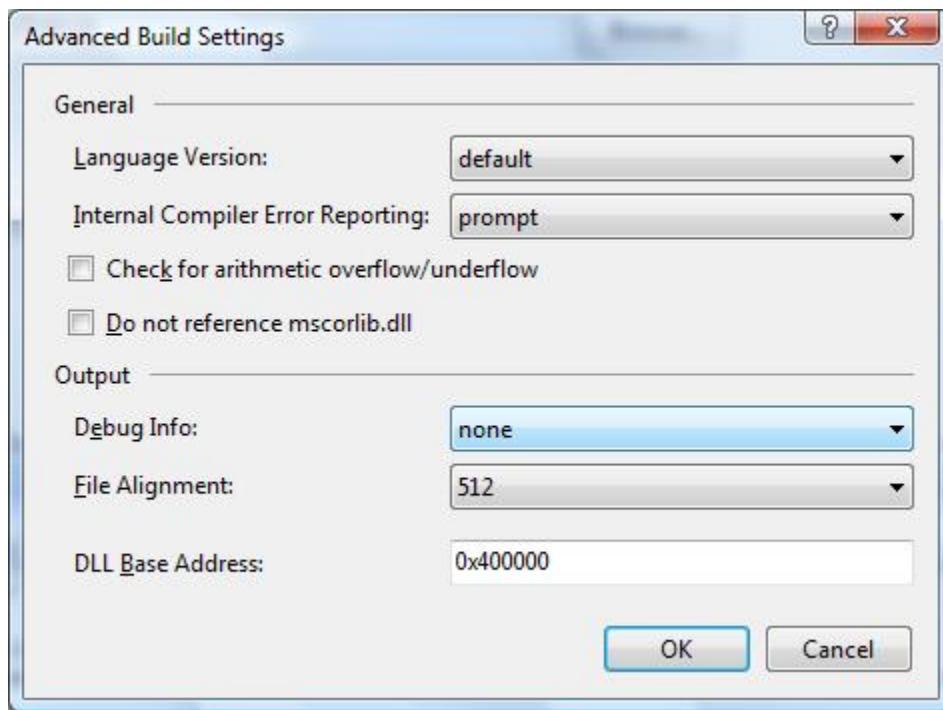
Run **Microsoft Visual C# 2008 Express Edition** and open the new project dialog and create a new project.



Step 6: Debug Interface Access SDK

More about DIA [here](#).

As there seems to be no public download, you should delete all **.pdb** files at **c:\util\jsc\bin** and disable debug info output. Otherwise jsc will try to load DIA to get variable names and if you do not have DIA installed it will crash.



Step 7: Some fixups

We need to change the **tools/mxmlc.bat** file to target the installed flex SDK.

The screenshot shows the Microsoft Visual Studio 2008 Express Edition interface. The Solution Explorer on the right displays a project named 'OrcasFlashApplication1' with files like build.bat, jsc.bat, mxmllc.bat, and IAssemblyReferenceToken.cs. The main code editor window on the left contains a batch file named 'jsc.bat'. The code in 'jsc.bat' is as follows:

```
@echo off
setlocal
pushd ..\bin\debug\web

call :build OrcasFlashApplication1\ActionScript OrcasFlashApplication1

popd
endlocal
goto :eof

:build
echo - %2
:: http://www.adobe.com/products/flex/sdk/
call C:\util\flex\bin\mxmllc.exe -keep-as3-metadata -incremental=true -output=%2.swf -strict -sp
goto :eof
```

We need to change the **tools/jsc.bat** file to target current project.

The screenshot shows the Microsoft Visual Studio 2008 Express Edition interface. The main window displays two open files: 'jsc.bat' and 'mxmlc.bat'. The 'jsc.bat' file contains the following script:

```
@echo off
pushd ..\bin\debug

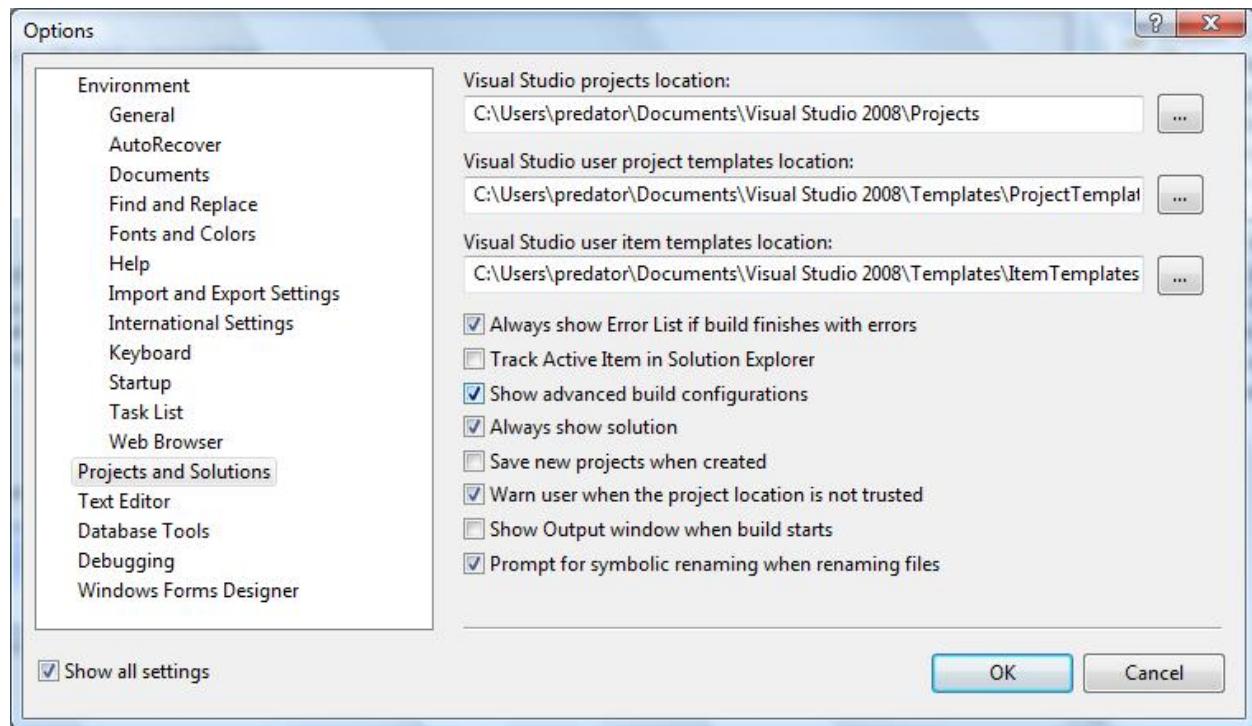
call c:\util\jsc\bin\jsc.exe OrcasFlashApplication1.dll -as

popd
```

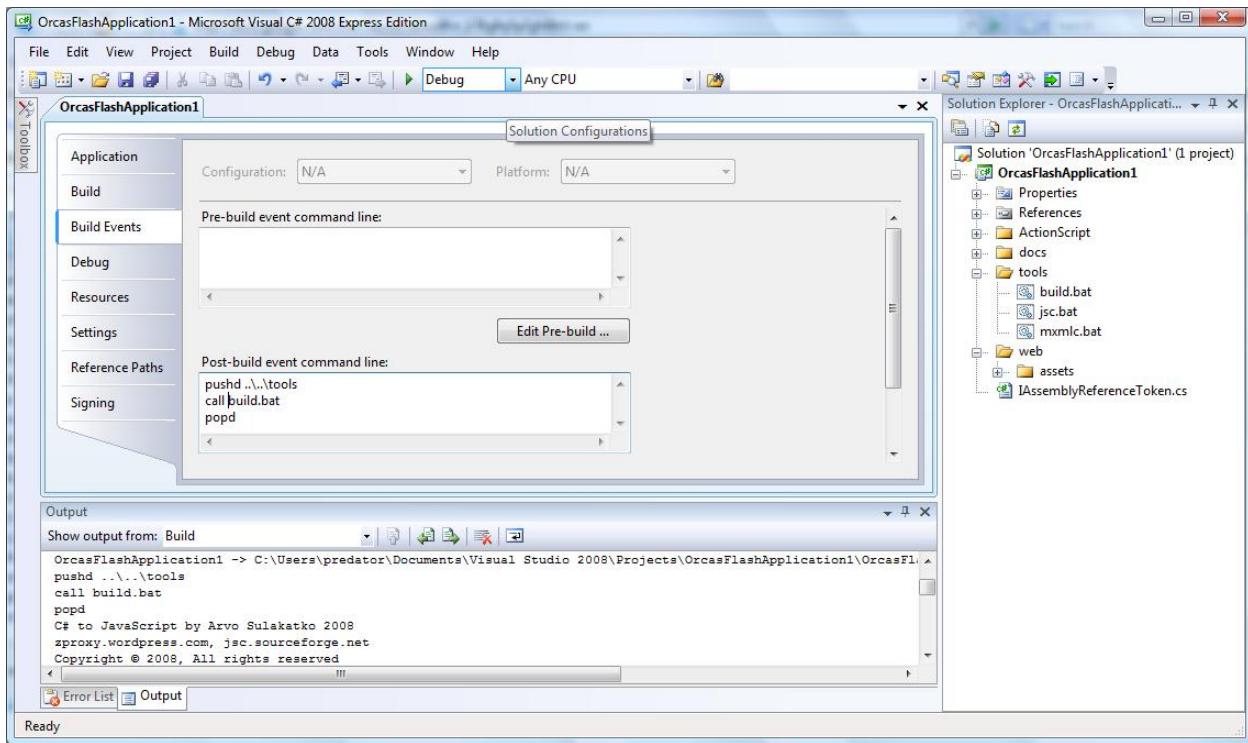
The 'mxmlc.bat' file is also visible in the editor. To the right, the 'Solution Explorer' pane shows the project structure for 'OrcasFlashApplication1' (1 project). The project includes:

- Properties
- References
- ActionScript
- docs
- tools
 - build.bat
 - jsc.bat
 - mxmlc.bat
- web
 - assets
- IAssemblyReferenceToken.cs

Enable **Show advanced build configurations** option.



Select the **Debug** build and add a post build event.



Step 8: Build

Build the project.

My output looks like this:

```
----- Rebuild All started: Project: OrcasFlashApplication1, Configuration:  
Debug Any CPU -----  
C:\Windows\Microsoft.NET\Framework\v3.5\Csc.exe /noconfig /nowarn:1701,1702  
/errorreport:prompt /warn:4 /define:DEBUG;TRACE  
/reference:..\..\..\..\util\jsc\bin\ScriptCoreLib.dll  
/reference:..\..\..\..\util\jsc\bin\ScriptCoreLib.Query.dll  
/reference:..\..\..\..\util\jsc\bin\ScriptCoreLibA.dll  
/reference:"C:\Program Files\Reference  
Assemblies\Microsoft\Framework\v3.5\System.Core.dll"  
/reference:C:\Windows\Microsoft.NET\Framework\v2.0.50727\System.Data.dll  
/reference:C:\Windows\Microsoft.NET\Framework\v2.0.50727\System.dll  
/reference:C:\Windows\Microsoft.NET\Framework\v2.0.50727\System.Xml.dll
```

```
/debug- /filealign:512 /optimize- /out:obj\Debug\OrcasFlashApplication1.dll
/resource:web\assets\AlphaTest\Preview.png,OrcasFlashApplication1.web.assets.AlphaTest.Preview
/resource:web\assets\AlphaTest\rain_1.mp3,OrcasFlashApplication1.web.assets.AlphaTest.rain
/target:library ActionScript\Assets.cs ActionScript\OrcasFlashApplication.cs
ActionScript\Extensions.cs Properties\AssemblyInfo.cs
IAssemblyReferenceToken.cs

Compile complete -- 0 errors, 0 warnings
OrcasFlashApplication1 -> C:\Users\predator\Documents\Visual Studio
2008\Projects\OrcasFlashApplication1\OrcasFlashApplication1\bin\Debug\OrcasFlashApplication1.dll
pushd ..\..\tools
call build.bat
popd
C# to JavaScript by Arvo Sulakatko 2008
zproxy.wordpress.com, jsc.sourceforge.net
Copyright © 2008, All rights reserved

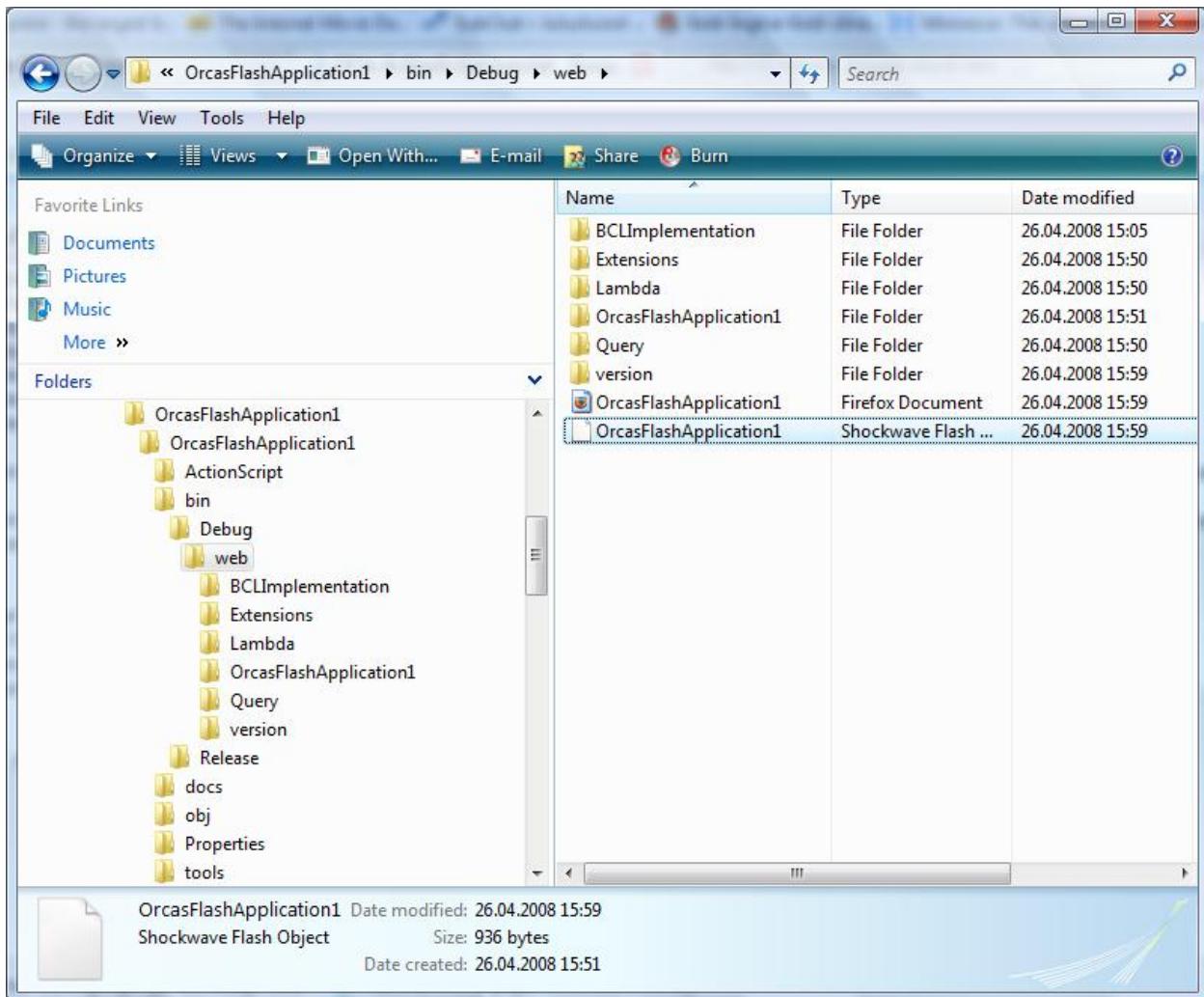
Current Path: C:\Users\predator\Documents\Visual Studio
2008\Projects\OrcasFlashApplication1\OrcasFlashApplication1\bin\Debug
assembly: file:///c:/util/jsc/bin/ScriptCoreLib.DLL
assembly: file:///c:/util/jsc/bin/ScriptCoreLib.Query.DLL
assembly: file:///C:/Users/predator/Documents/Visual Studio 2008/Projects/
OrcasFlashApplication1/OrcasFlashApplication1/bin/Debug/
OrcasFlashApplication1.dll
will compile 'c:\util\jsc\bin\ScriptCoreLib.dll'
found 103 types to be compiled
ScriptCoreLib.ActionScript.Extensions.flash.events.__EventDispatcher ->
Extensions.flash.events.__EventDispatcher
ScriptCoreLib.ActionScript.BCLImplementation.System.__Object ->
BCLImplementation.System.__Object
ScriptCoreLib.ActionScript.BCLImplementation.System.__Exception ->
BCLImplementation.System.__Exception
ScriptCoreLib.ActionScript.BCLImplementation.System.__NotSupportedException ->
BCLImplementation.System.__NotSupportedException
ScriptCoreLib.ActionScript.BCLImplementation.System.__Math ->
BCLImplementation.System.__Math
ScriptCoreLib.ActionScript.Query.InternalSequenceImplementation ->
Query.InternalSequenceImplementation
pdb not found c:\util\jsc\bin\ScriptCoreLib.pdb
ScriptCoreLib.ActionScript.BCLImplementation.System.__String ->
BCLImplementation.System.__String
ScriptCoreLib.ActionScript.BCLImplementation.System.__NotImplementedException ->
BCLImplementation.System.__NotImplementedException
ScriptCoreLib.ActionScript.BCLImplementation.System.__ArgumentNullException
```

```
-> BCLImplementation.System.__ArgumentNullException
ScriptCoreLib.Shared.Query.SZArrayEnumerator`1 -> Query.SZArrayEnumerator`1
ScriptCoreLib.ActionScript.BCLImplementation.System.Collections.__IEnumerable
-> BCLImplementation.System.Collections.__IEnumerable
ScriptCoreLib.ActionScript.BCLImplementation.System.__Random ->
BCLImplementation.System.__Random
ScriptCoreLib.ActionScript.BCLImplementation.System.Collections.Generic.__ICollection`1
-> BCLImplementation.System.Collections.Generic.__ICollection`1
ScriptCoreLib.ActionScript.Extensions.flash.text.__TextField ->
Extensions.flash.text.__TextField
ScriptCoreLib.ActionScript.BCLImplementation.System.__Action ->
BCLImplementation.System.__Action
ScriptCoreLib.ActionScript.BCLImplementation.System.__Action`1 ->
BCLImplementation.System.__Action`1
ScriptCoreLib.ActionScript.BCLImplementation.System.__Action`2 ->
BCLImplementation.System.__Action`2
ScriptCoreLib.ActionScript.BCLImplementation.System.__Action`3 ->
BCLImplementation.System.__Action`3
ScriptCoreLib.ActionScript.Extensions.flash.ui.__ContextMenuItem ->
Extensions.flash.ui.__ContextMenuItem
ScriptCoreLib.ActionScript.BCLImplementation.System.Collections.Generic.__IEnumerable`1
-> BCLImplementation.System.Collections.Generic.__IEnumerable`1
ScriptCoreLib.ActionScript.BCLImplementation.System.Text.__StringBuilder ->
BCLImplementation.System.Text.__StringBuilder
ScriptCoreLib.ActionScript.BCLImplementation.System.__Delegate ->
BCLImplementation.System.__Delegate
ScriptCoreLib.ActionScript.BCLImplementation.System.__IntPtr ->
BCLImplementation.System.__IntPtr
ScriptCoreLib.ActionScript.BCLImplementation.System.Collections.Generic.__List`1
-> BCLImplementation.System.Collections.Generic.__List`1
ScriptCoreLib.ActionScript.BCLImplementation.System.Collections.Generic.__List`1+__Enumera
-> BCLImplementation.System.Collections.Generic.__List`1+__Enumerator
ScriptCoreLib.ActionScript.Extensions.flash.display.__DisplayObject ->
Extensions.flash.display.__DisplayObject
ScriptCoreLib.ActionScript.BCLImplementation.System.__MulticastDelegate ->
BCLImplementation.System.__MulticastDelegate
ScriptCoreLib.ActionScript.BCLImplementation.System.__Convert ->
BCLImplementation.System.__Convert
ScriptCoreLib.ActionScript.BCLImplementation.System.Collections.__IEnumerator
-> BCLImplementation.System.Collections.__IEnumerator
ScriptCoreLib.ActionScript.Extensions.flash.util.__Timer ->
Extensions.flash.util.__Timer
ScriptCoreLib.ActionScript.Extensions.CommonExtensions ->
Extensions.CommonExtensions
```

```
ScriptCoreLib.ActionScript.Extensions.CommonExtensions+IFill_Dispose ->
Extensions.CommonExtensions+IFill_Dispose
ScriptCoreLib.ActionScript.BCLImplementation.System.Collections.Generic.__IList`1
-> BCLImplementation.System.Collections.Generic.__IList`1
ScriptCoreLib.ActionScript.BCLImplementation.System.Collections.Generic.__IEnumerator`1
-> BCLImplementation.System.Collections.Generic.__IEnumerator`1
ScriptCoreLib.ActionScript.Extensions.flash.display.__InteractiveObject ->
Extensions.flash.display.__InteractiveObject
ScriptCoreLib.ActionScript.BCLImplementation.System.__IDisposable ->
BCLImplementation.System.__IDisposable
actionscript type compiler - 3973ms
will compile 'c:\util\jsc\bin\ScriptCoreLib.Query.dll'
found 137 types to be compiled
ScriptCoreLib.ActionScript.Query.DefinedError -> Query.DefinedError
pdb not found c:\util\jsc\bin\ScriptCoreLib.Query.pdb
ScriptCoreLib.ActionScript.Query.__Enumerable -> Query.__Enumerable
ScriptCoreLib.ActionScript.Query.__Enumerable+__SelectIterator_d__b`2 ->
Query.__Enumerable+__SelectIterator_d__b`2
ScriptCoreLib.ActionScript.Query.__Enumerable+__SelectManyIterator_d__37`3 ->
Query.__Enumerable+__SelectManyIterator_d__37`3
ScriptCoreLib.ActionScript.Query.__Enumerable+__SelectManyIterator_d__16`2 ->
Query.__Enumerable+__SelectManyIterator_d__16`2
ScriptCoreLib.ActionScript.Query.__Enumerable+__RangeIterator_d__91 ->
Query.__Enumerable+__RangeIterator_d__91
ScriptCoreLib.ActionScript.Query.__Enumerable+__WhereIterator_d__0`1 ->
Query.__Enumerable+__WhereIterator_d__0`1
ScriptCoreLib.ActionScript.Lambda.LambdaExtensions -> Lambda.LambdaExtensions
ScriptCoreLib.ActionScript.Lambda.YFunc`2 -> Lambda.YFunc`2
ScriptCoreLib.ActionScript.Lambda.YFunc`3 -> Lambda.YFunc`3
ScriptCoreLib.ActionScript.Lambda.YAction`1 -> Lambda.YAction`1
ScriptCoreLib.ActionScript.Lambda.YAction`2 -> Lambda.YAction`2
ScriptCoreLib.ActionScript.BCLImplementation.System.__Func`1 ->
BCLImplementation.System.__Func`1
ScriptCoreLib.ActionScript.BCLImplementation.System.__Func`2 ->
BCLImplementation.System.__Func`2
ScriptCoreLib.ActionScript.BCLImplementation.System.__Func`3 ->
BCLImplementation.System.__Func`3
ScriptCoreLib.ActionScript.BCLImplementation.System.__Func`4 ->
BCLImplementation.System.__Func`4
ScriptCoreLib.ActionScript.BCLImplementation.System.__Func`5 ->
BCLImplementation.System.__Func`5
ScriptCoreLib.ActionScript.Lambda.LambdaExtensions+<>c__DisplayClass1 ->
Lambda.LambdaExtensions+<>c__DisplayClass1
ScriptCoreLib.ActionScript.Lambda.LambdaExtensions+<>c__DisplayClass4`1 ->
```

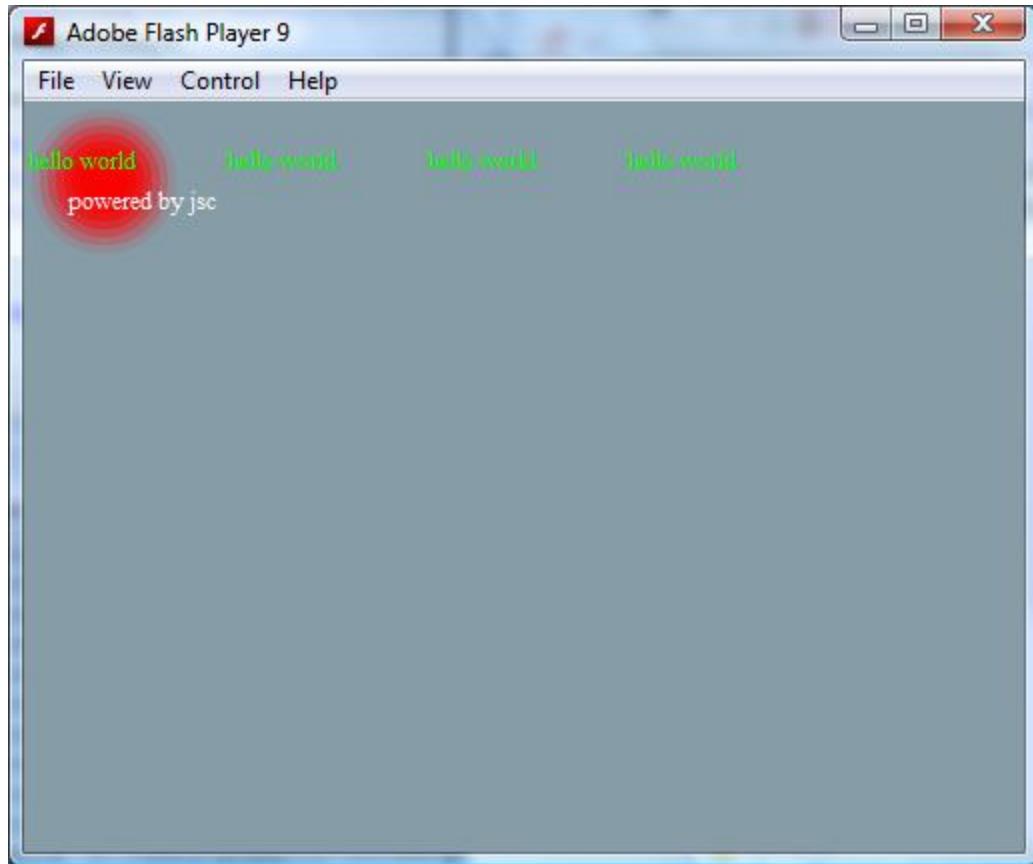
```
Lambda.LambdaExtensions+<>c__DisplayClass4`1
ScriptCoreLib.ActionScript.Lambda.LambdaExtensions+<>c__DisplayClass7`2 ->
Lambda.LambdaExtensions+<>c__DisplayClass7`2
ScriptCoreLib.ActionScript.Lambda.LambdaExtensions+<>c__DisplayClassa`3 ->
Lambda.LambdaExtensions+<>c__DisplayClassa`3
ScriptCoreLib.ActionScript.Lambda.LambdaExtensions+<>c__DisplayClassd`3 ->
Lambda.LambdaExtensions+<>c__DisplayClassd`3
ScriptCoreLib.ActionScript.Lambda.LambdaExtensions+<>c__DisplayClass10`2 ->
Lambda.LambdaExtensions+<>c__DisplayClass10`2
ScriptCoreLib.ActionScript.Lambda.LambdaExtensions+<>c__DisplayClass13`3 ->
Lambda.LambdaExtensions+<>c__DisplayClass13`3
ScriptCoreLib.ActionScript.Lambda.LambdaExtensions+<>c__DisplayClass16`2 ->
Lambda.LambdaExtensions+<>c__DisplayClass16`2
ScriptCoreLib.ActionScript.Lambda.LambdaExtensions+<>c__DisplayClass19`4 ->
Lambda.LambdaExtensions+<>c__DisplayClass19`4
ScriptCoreLib.ActionScript.Lambda.LambdaExtensions+<>c__DisplayClass1c`3 ->
Lambda.LambdaExtensions+<>c__DisplayClass1c`3
ScriptCoreLib.ActionScript.Lambda.LambdaExtensions+<>c__DisplayClass1f`2 ->
Lambda.LambdaExtensions+<>c__DisplayClass1f`2
ScriptCoreLib.ActionScript.Lambda.LambdaExtensions+<>c__DisplayClass22 ->
Lambda.LambdaExtensions+<>c__DisplayClass22
ScriptCoreLib.ActionScript.Lambda.LambdaExtensions+<>c__DisplayClass25`1 ->
Lambda.LambdaExtensions+<>c__DisplayClass25`1
ScriptCoreLib.ActionScript.Lambda.LambdaExtensions+<>c__DisplayClass28`2 ->
Lambda.LambdaExtensions+<>c__DisplayClass28`2
ScriptCoreLib.ActionScript.Lambda.LambdaExtensions+<>c__DisplayClass2b`3 ->
Lambda.LambdaExtensions+<>c__DisplayClass2b`3
ScriptCoreLib.ActionScript.Lambda.LambdaExtensions+<>c__DisplayClass2e`1 ->
Lambda.LambdaExtensions+<>c__DisplayClass2e`1
ScriptCoreLib.ActionScript.Lambda.LambdaExtensions+<>c__DisplayClass31`2 ->
Lambda.LambdaExtensions+<>c__DisplayClass31`2
actionscrip type compiler - 3511ms
will compile 'C:\Users\predator\Documents\Visual Studio
2008\Projects\OrcasFlashApplication1\OrcasFlashApplication1\bin\Debug\OrcasFlashApplication1
found 138 types to be compiled
pdb not found C:\Users\predator\Documents\Visual Studio
2008\Projects\OrcasFlashApplication1\OrcasFlashApplication1\bin\Debug\OrcasFlashApplication1
OrcasFlashApplication1.ActionScript.OrcasFlashApplication1
actionscrip type compiler - 176ms
- OrcasFlashApplication1
Loading configuration file C:\util\flex\frameworks\flex-config.xml
Recompile: C:\Users\predator\Documents\Visual Studio
2008\Projects\OrcasFlashApplication1\OrcasFlashApplication1\bin\Debug\web\OrcasFlashApplication1
Reason: The source file or one of the included files has been updated.
```

```
Files changed: 1 Files affected: 0
OrcasFlashApplication1.swf (936 bytes)
===== Rebuild All: 1 succeeded, 0 failed, 0 skipped =====
```



Step 9: Test with flash player

Open your **OrcasFlashApplication1.swf** with
C:\util\flex\runtimes\player\win\FlashPlayer.exe.



Step 10: Write Some New Code

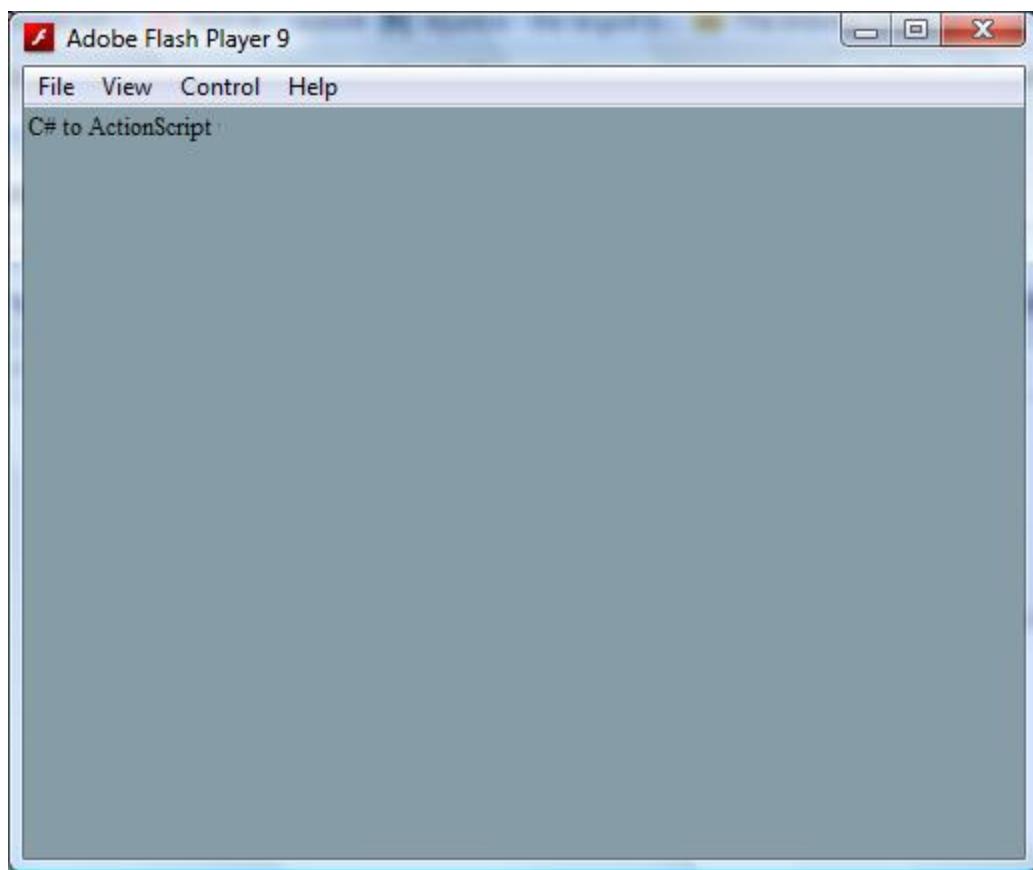
Create just a textfield and attach an event which will display *hello world*. Then build your project.

The screenshot shows the Microsoft Visual Studio 2008 Express Edition interface with the following details:

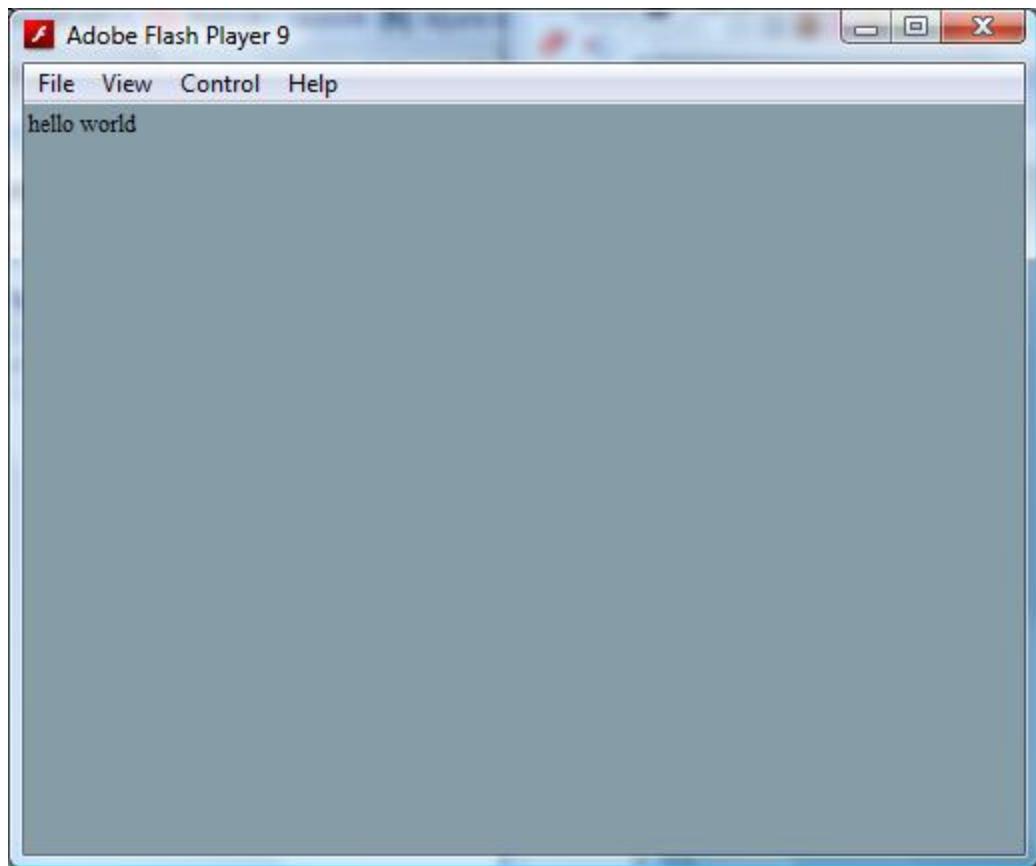
- Title Bar:** OrcasFlashApplication1 - Microsoft Visual C# 2008 Express Edition
- Menu Bar:** File, Edit, View, Refactor, Project, Build, Debug, Data, Tools, Window, Help
- Toolbars:** Standard, Debug, Task List, Solution Explorer, Properties, Toolbox, Status Bar.
- Code Editor:** OrcasFlashApplication.cs (ActionScript) tab selected. The code defines a class OrcasFlashApplication1 that extends Sprite. It contains a constructor that creates a TextField with the text "C# to ActionScript tutorial" and attaches it to the stage. A click event is added to the text field that changes its text to "hello world".
- Solution Explorer:** Shows the project structure: OrcasFlashApplication1 (1 project). The project includes Properties, References, ActionScript (Assets.cs, Extensions.cs, OrcasFlashApplication.cs), docs, tools (build.bat, jsc.bat, mxmcl.bat), and web (assets, IAssemblyReferenceToken.cs).
- Output Window:** Shows build output:

```
Files changed: 1 Files affected: 0
OrcasFlashApplication1.swf (5470 bytes)
===== Rebuild All: 1 succeeded, 0 failed, 0 skipped ======
```
- Status Bar:** Ready, Ln 11, Col 19, Ch 19, INS

Test it with flash player.



Click on the text.



Watch it online [here](#).