

Supplementary information that deals with the potential compilation error for one of the projects in the source code.

"Developing Application Frameworks in .NET"

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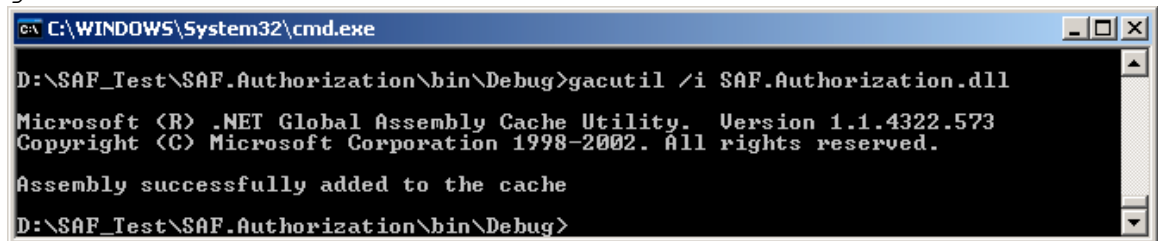
When you try to compile the Test.SAF.Authorization solution using VS.NET 2003, you will get the following compile error:

```
Error emitting 'SAF.Authorization.SAFSecurityAttribute'
attribute -- 'Failed to load assembly SAF.Authorization --
System.IO.FileNotFoundException: File or assembly name
SAF.Authorization, or one of its dependencies, was not
found.
```

However, this is not a problem if you compile the Test.SAF.Authorization using VS.NET 2002. You may get similar error, but the error usually goes away after you remove and re-add the SAF.Authorization.dll to the Reference of Test.SAF.Authorization project.

To compile the Test.SAF.Authorization using VS.NET 2003, you need to make sure that the SAF.Authorization is added to the GAC (Global Assembly Cache). Following steps show you how to make this work.

1. Load SAF.Authorization project in VS.NET by opening the SAF.sln file.
2. Open AssemblyInfo.cs file and provide a key file, such as following:  
`[assembly: AssemblyKeyFile("..\\..\\..\\SAF.snk")]`
3. Now, repeat the same steps for SAF.Library.Security project and SAF.Configuration project, because SAF.Authorization depends on these two projects.
4. Compile the SAF.Authorization project.
5. Install strong named SAF.Authorization.dll to GAC with following line at command prompt  
`gacutil /i SAF.Authroization.dll`



```
C:\WINDOWS\System32\cmd.exe
D:\SAF_Test\SAF.Authorization\bin\Debug>gacutil /i SAF.Authorization.dll
Microsoft (R) .NET Global Assembly Cache Utility. Version 1.1.4322.573
Copyright (C) Microsoft Corporation 1998-2002. All rights reserved.
Assembly successfully added to the cache
D:\SAF_Test\SAF.Authorization\bin\Debug>
```

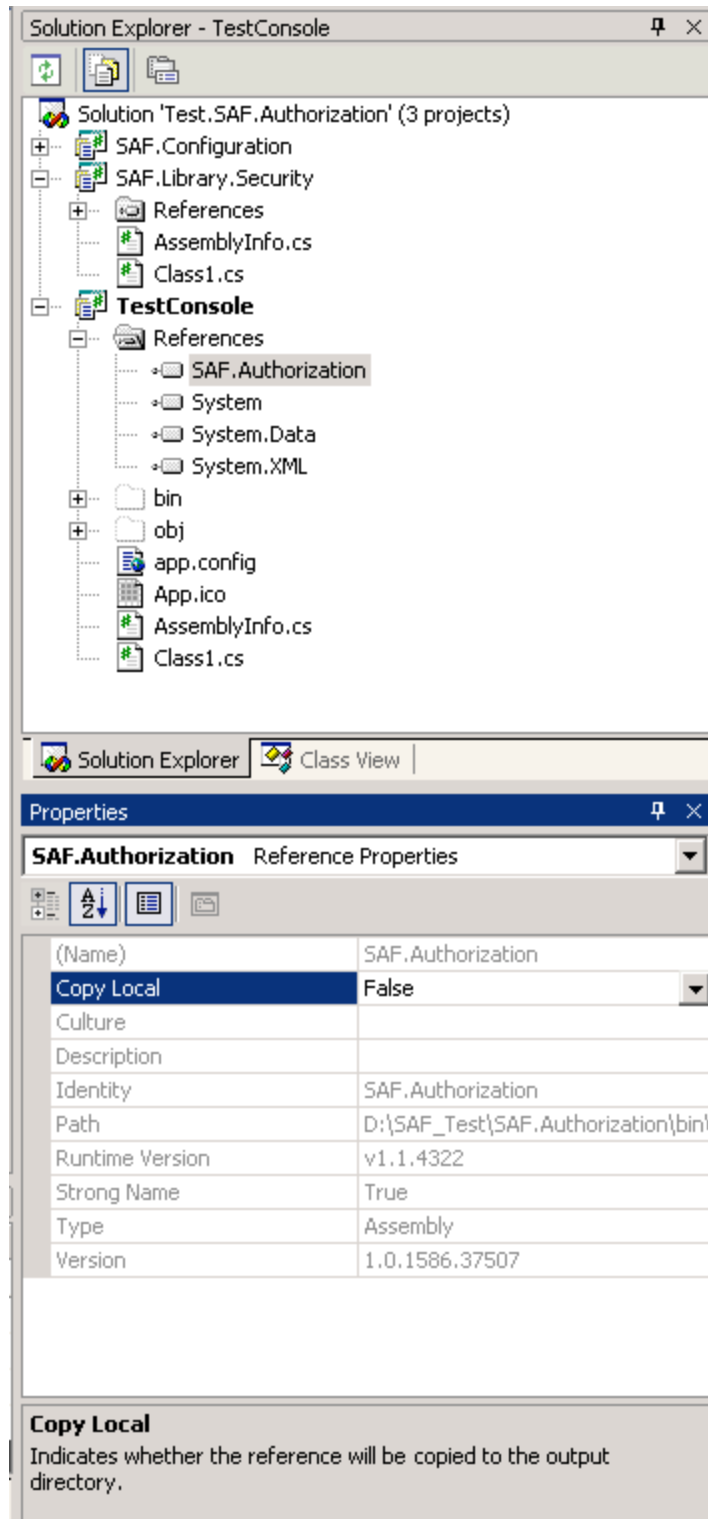
6. Next, Open **Test.SAF.Authorization** solution in VS.NET and remove the SAF.Authorization from the Reference, then add the strong named SAF.Authorization.dll you have just compiled to the Reference.
7. On the property window of SAF.Authorization reference, change the Local Copy to "false" to signal we want to load the assembly from GAC, as shown below.

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8. Save the Test.SAF.Authorization solution and then recompile it. You should now be able to compile the Test.SAF.Authorization successfully. You can then debug the program as you normally do by hitting F5 or F11 and stepping into the code in SAF.Authorization assembly.

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Although no official words from Microsoft on why the same code compiles in VS.NET 2002, but wouldn't compile in VS.NET 2003, my guess is that .NET framework 1.1 (used by VS.NET 2003) requires the important security class to be put into GAC to ensure its authenticity. Because SAF.Authorization contains class extending CodeAccessSecurityAttribute, .NET framework 1.1 will only try to load it from GAC during compilation (so that it can call SAFSecurityPermission.ToXml() method to inject the security xml into the metadata of TestConsole.exe). If SAF.Authorization is not installed in GAC, you would get the error message as the one shown earlier.

Please let me know if you know other (or better) ways to achieve this so that project can compile and run successfully. You can send your ideas to me at [xchen@xtremework.com](mailto:xchen@xtremework.com)