FORTIFY SCA TRANSLATION
Visual Studio COOKBOOK
SCA V18.20

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NOTE: This document will not duplicate what is written in the Official documentation.

The official documentation URL:

https://www.microfocus.com/documentation/fortify-static-code-analyzer-and-tools/1820/

Visual Studio Translation Basics

- SCA will translate successfully when you have all the Visual Studio Source code (C#,VB, C/C++,etc..) and do not have to reference custom external DLL files.
- SCA will translate successfully on the command line when you use the Visual Studio Solution File and Fortify SCA VS Plugin.
- SCA will translate correctly if the DLLs, PDBs for Source Code and configure the Translate Arguments listed next to point to all the referenced required files, dlls built in DEBUG modes.

List of arguments for command line without plugin.
- "-dotnet-assembly-name"
- "-dotnet-preproc-symbols"
- "DEBUG;TRACE"
- "-cs-extern-alias"
- "-dotnetwebroot"
- "-libdirs-only"
- "-libdirs"
- "-dotnet-applibs"
- "-dotnet-output-dir"
- "-dotnet-codebehind"

Recommended Install SCA VS Plugin on All SCA Translation Build systems.

It is recommended, but not required to install the SCA VS Plugin. The SCA VS Plugin will configure the above argument for you when you specify a solution (sln) file. See example on next page.

Errors in Translation.

SCA will not give an error if the SCA VS plugin is not installed or installed incorrectly. The translation will not be complete if all the required DLL or Source Code files are are not specified. There are no errors related to missing references.

There may be missing file references that mat indicate a DLL is missing.   I

It is recommended that you verify that a Solution file compiles correctly before translation using a clean non developer system with just Visual Studio installed and check out from source code system. This will verify that any third party or externally referenced files are available in a plain Visual Studio, otherwise you need to duplicate the developer system on all the build systems.

SCA will translate successfully for the following versions:
- .NET 2.0 up to .Net 4.7.2
- .NET Core 1.x, 2.0, 2.1
- ASP.NET 2.0 up to ASP.Net 4.7
- C# 5, 6, and 7

Visual Studio Translation Arguments File Example:

The following is an example of a simple Argument File created by the Visual Studio IDE Plugin.

NOTE: The DLL references and the code behind references below are required to ensure all of the pre-compile translation is complete.

The Solution file for each project and a file with all the references is created like the following below.
When you run a scan in Visual Studio or use the MSBUILD or DEVENV command on the command line with a Solution file.

This file is located in the Directory:

```
C:\Users\fortify\AppData\Local\Fortify\MSBuildPlugin\<Solution Name>
```

SCA Translation File:

```
"-machine-output"
"-b"
"DemoDotNet3.sln"
"-dotnet-assembly-name"
"DemoDotNet3"
"-dotnet-preproc-symbols"
"DEBUG;TRACE"
"-cs-extern-alias"
"global=C:\Users\fortify\source\repos\visualStudiotips\ExternalLib\lib\ExternalLib.dll,global=C:\Us
ers\fortify\source\repos\visualStudiotips\DemoDotNet3\packages\Microsoft.CodeDom.Providers.DotNetCo
mpilerPlatform.2.0.0\lib\net45\Microsoft.CodeDom.Providers.DotNetCompilerPlatform.dll,global=C:\Pro
gram Files (x86)\Reference
Assemblies\Microsoft\Framework\.NETFramework\v4.7.2\Microsoft.CSharp.dll,global=C:\Users\fortify\so
urce\repos\visualStudiotips\DemoDotNet3\packages\Microsoft.Web.Infrastructure.1.0.0.0\lib\net40\Mic
rosoft.Web.Infrastructure.dll,global=C:\Program Files (x86)\Reference
Assemblies\Microsoft\Framework\.NETFramework\v4.7.2\mscorlib.dll,global=C:\Users\fortify\source\rep
os\visualStudiotips\DemoDotNet3\packages\Newtonsoft.Json.11.0.1\lib\net45\Newtonsoft.Json.dll,globa
l=C:\Program Files (x86)\Reference
Assemblies\Microsoft\Framework\.NETFramework\v4.7.2\System.ComponentModel.DataAnnotations.dll,globa
l=C:\Program Files (x86)\Reference
Assemblies\Microsoft\Framework\.NETFramework\v4.7.2\System.Configuration.dll,global=C:\Program
Files (x86)\Reference
Assemblies\Microsoft\Framework\.NETFramework\v4.7.2\System.Core.dll,global=C:\Program Files
(x86)\Reference
Assemblies\Microsoft\Framework\.NETFramework\v4.7.2\System.Data.DataSetExtensions.dll,global=C:\Pro
gram Files (x86)\Reference
Assemblies\Microsoft\Framework\.NETFramework\v4.7.2\System.Data.dll,global=C:\Program Files
(x86)\Reference Assemblies\Microsoft\Framework\.NETFramework\v4.7.2\System.dll,global=C:\Program
Files (x86)\Reference
Assemblies\Microsoft\Framework\.NETFramework\v4.7.2\System.Drawing.dll,global=C:\Program Files
(x86)\Reference
Assemblies\Microsoft\Framework\.NETFramework\v4.7.2\System.EnterpriseServices.dll,global=C:\Program
Files (x86)\Reference
Assemblies\Microsoft\Framework\.NETFramework\v4.7.2\System.Net.Http.dll,global=C:\Users\fortify\sou
rce\repos\visualStudiotips\DemoDotNet3\packages\Microsoft.AspNet.WebApi.Client.5.2.4\lib\net45\Syst
em.Net.Http.Formatting.dll,global=C:\Program Files (x86)\Reference
Assemblies\Microsoft\Framework\.NETFramework\v4.7.2\System.Web.ApplicationServices.dll,global=C:\Pr
ogram Files (x86)\Reference
Assemblies\Microsoft\Framework\.NETFramework\v4.7.2\System.Web.dll,global=C:\Program Files
```

```
(x86)\Reference
Assemblies\Microsoft\Framework\.NETFramework\v4.7.2\System.Web.DynamicData.dll,global=C:\Program
Files (x86)\Reference
Assemblies\Microsoft\Framework\.NETFramework\v4.7.2\System.Web.Entity.dll,global=C:\Program Files
(x86)\Reference
Assemblies\Microsoft\Framework\.NETFramework\v4.7.2\System.Web.Extensions.dll,global=C:\Users\forti
fy\source\repos\visualStudiotips\DemoDotNet3\packages\Microsoft.AspNet.Webpages.3.2.4\lib\net45\Sys
tem.Web.Helpers.dll,global=C:\Users\fortify\source\repos\visualStudiotips\DemoDotNet3\packages\Micr
osoft.AspNet.WebApi.Core.5.2.4\lib\net45\System.Web.Http.dll,global=C:\Users\fortify\source\repos\v
isualStudiotips\DemoDotNet3\packages\Microsoft.AspNet.WebApi.WebHost.5.2.4\lib\net45\System.Web.Htt
p.WebHost.dll,global=C:\Users\fortify\source\repos\visualStudiotips\DemoDotNet3\packages\Microsoft.
AspNet.Mvc.5.2.4\lib\net45\System.Web.Mvc.dll,global=C:\Users\fortify\source\repos\visualStudiotips
\DemoDotNet3\packages\Microsoft.AspNet.Razor.3.2.4\lib\net45\System.Web.Razor.dll,global=C:\Program
Files (x86)\Reference
Assemblies\Microsoft\Framework\.NETFramework\v4.7.2\System.Web.Services.dll,global=C:\Users\fortify
\source\repos\visualStudiotips\DemoDotNet3\packages\Microsoft.AspNet.Webpages.3.2.4\lib\net45\Syste
m.Web.Webpages.Deployment.dll,global=C:\Users\fortify\source\repos\visualStudiotips\DemoDotNet3\pac
kages\Microsoft.AspNet.Webpages.3.2.4\lib\net45\System.Web.Webpages.dll,global=C:\Users\fortify\sou
rce\repos\visualStudiotips\DemoDotNet3\packages\Microsoft.AspNet.Webpages.3.2.4\lib\net45\System.We
b.Webpages.Razor.dll,global=C:\Program Files (x86)\Reference
Assemblies\Microsoft\Framework\.NETFramework\v4.7.2\System.Xml.dll,global=C:\Program Files
(x86)\Reference Assemblies\Microsoft\Framework\.NETFramework\v4.7.2\System.Xml.Linq.dll"
"-dotnetwebroot"
"C:\Users\fortify\source\repos\visualStudiotips\DemoDotNet3\DemoDotNet3\\"
"-libdirs-only"
"-libdirs"
"C:\Program Files (x86)\Reference
Assemblies\Microsoft\Framework\.NETFramework\v4.7.2\Microsoft.CSharp.dll;C:\Program Files
(x86)\Reference Assemblies\Microsoft\Framework\.NETFramework\v4.7.2\mscorlib.dll;C:\Program Files
(x86)\Reference
Assemblies\Microsoft\Framework\.NETFramework\v4.7.2\System.ComponentModel.DataAnnotations.dll;C:\Pr
ogram Files (x86)\Reference
Assemblies\Microsoft\Framework\.NETFramework\v4.7.2\System.Configuration.dll;C:\Program Files
(x86)\Reference Assemblies\Microsoft\Framework\.NETFramework\v4.7.2\System.Core.dll;C:\Program
Files (x86)\Reference
Assemblies\Microsoft\Framework\.NETFramework\v4.7.2\System.Data.DataSetExtensions.dll;C:\Program
Files (x86)\Reference
Assemblies\Microsoft\Framework\.NETFramework\v4.7.2\System.Data.dll;C:\Program Files
(x86)\Reference Assemblies\Microsoft\Framework\.NETFramework\v4.7.2\System.dll;C:\Program Files
(x86)\Reference Assemblies\Microsoft\Framework\.NETFramework\v4.7.2\System.Drawing.dll;C:\Program
Files (x86)\Reference
Assemblies\Microsoft\Framework\.NETFramework\v4.7.2\System.EnterpriseServices.dll;C:\Program Files
(x86)\Reference Assemblies\Microsoft\Framework\.NETFramework\v4.7.2\System.Net.Http.dll;C:\Program
Files (x86)\Reference
Assemblies\Microsoft\Framework\.NETFramework\v4.7.2\System.Web.ApplicationServices.dll;C:\Program
Files (x86)\Reference Assemblies\Microsoft\Framework\.NETFramework\v4.7.2\System.Web.dll;C:\Program
Files (x86)\Reference
Assemblies\Microsoft\Framework\.NETFramework\v4.7.2\System.Web.DynamicData.dll;C:\Program Files
(x86)\Reference
Assemblies\Microsoft\Framework\.NETFramework\v4.7.2\System.Web.Entity.dll;C:\Program Files
(x86)\Reference
Assemblies\Microsoft\Framework\.NETFramework\v4.7.2\System.Web.Extensions.dll;C:\Program Files
(x86)\Reference
Assemblies\Microsoft\Framework\.NETFramework\v4.7.2\System.Web.Services.dll;C:\Program Files
(x86)\Reference Assemblies\Microsoft\Framework\.NETFramework\v4.7.2\System.Xml.dll;C:\Program Files
(x86)\Reference
Assemblies\Microsoft\Framework\.NETFramework\v4.7.2\System.Xml.Linq.dll;C:\Users\fortify\source\rep
os\visualStudiotips\DemoDotNet3\packages\Microsoft.AspNet.Mvc.5.2.4\lib\net45\System.Web.Mvc.dll;C:
\Users\fortify\source\repos\visualStudiotips\DemoDotNet3\packages\Microsoft.AspNet.Razor.3.2.4\lib\
```

```
net45\System.Web.Razor.dll;C:\Users\fortify\source\repos\visualStudiotips\DemoDotNet3\packages\Micr
osoft.AspNet.WebApi.Client.5.2.4\lib\net45\System.Net.Http.Formatting.dll;C:\Users\fortify\source\r
epos\visualStudiotips\DemoDotNet3\packages\Microsoft.AspNet.WebApi.Core.5.2.4\lib\net45\System.Web.
Http.dll;C:\Users\fortify\source\repos\visualStudiotips\DemoDotNet3\packages\Microsoft.AspNet.WebAp
i.WebHost.5.2.4\lib\net45\System.Web.Http.WebHost.dll;C:\Users\fortify\source\repos\visualStudiotip
s\DemoDotNet3\packages\Microsoft.AspNet.Webpages.3.2.4\lib\net45\System.Web.Helpers.dll;C:\Users\fo
rtify\source\repos\visualStudiotips\DemoDotNet3\packages\Microsoft.AspNet.Webpages.3.2.4\lib\net45\
System.Web.Webpages.Deployment.dll;C:\Users\fortify\source\repos\visualStudiotips\DemoDotNet3\packa
ges\Microsoft.AspNet.Webpages.3.2.4\lib\net45\System.Web.Webpages.dll;C:\Users\fortify\source\repos
\visualStudiotips\DemoDotNet3\packages\Microsoft.AspNet.Webpages.3.2.4\lib\net45\System.Web.Webpage
s.Razor.dll;C:\Users\fortify\source\repos\visualStudiotips\DemoDotNet3\packages\Microsoft.CodeDom.P
roviders.DotNetCompilerPlatform.2.0.0\lib\net45\Microsoft.CodeDom.Providers.DotNetCompilerPlatform.
dll;C:\Users\fortify\source\repos\visualStudiotips\DemoDotNet3\packages\Microsoft.Web.Infrastructur
e.1.0.0.0\lib\net40\Microsoft.Web.Infrastructure.dll;C:\Users\fortify\source\repos\visualStudiotips
\DemoDotNet3\packages\Newtonsoft.Json.11.0.1\lib\net45\Newtonsoft.Json.dll;C:\Users\fortify\source\
repos\visualStudiotips\ExternalLib\lib\ExternalLib.dll"
"-dotnet-applibs"
"C:\Users\fortify\source\repos\visualStudiotips\DemoDotNet3\DemoDotNet3\bin\DemoDotNet3.dll;C:\User
s\fortify\source\repos\visualStudiotips\DemoDotNet3\DemoDotNet3\bin\ExternalLib.dll;C:\Users\fortif
y\source\repos\visualStudiotips\DemoDotNet3\DemoDotNet3\bin\Microsoft.CodeDom.Providers.DotNetCompi
lerPlatform.dll;C:\Users\fortify\source\repos\visualStudiotips\DemoDotNet3\DemoDotNet3\bin\Microsof
t.Web.Infrastructure.dll;C:\Users\fortify\source\repos\visualStudiotips\DemoDotNet3\DemoDotNet3\bin
\Newtonsoft.Json.dll;C:\Users\fortify\source\repos\visualStudiotips\DemoDotNet3\DemoDotNet3\bin\Sys
tem.Net.Http.Formatting.dll;C:\Users\fortify\source\repos\visualStudiotips\DemoDotNet3\DemoDotNet3\
bin\System.Web.Helpers.dll;C:\Users\fortify\source\repos\visualStudiotips\DemoDotNet3\DemoDotNet3\b
in\System.Web.Http.dll;C:\Users\fortify\source\repos\visualStudiotips\DemoDotNet3\DemoDotNet3\bin\S
ystem.Web.Http.WebHost.dll;C:\Users\fortify\source\repos\visualStudiotips\DemoDotNet3\DemoDotNet3\b
in\System.Web.Mvc.dll;C:\Users\fortify\source\repos\visualStudiotips\DemoDotNet3\DemoDotNet3\bin\Sy
stem.Web.Razor.dll;C:\Users\fortify\source\repos\visualStudiotips\DemoDotNet3\DemoDotNet3\bin\Syste
m.Web.Webpages.Deployment.dll;C:\Users\fortify\source\repos\visualStudiotips\DemoDotNet3\DemoDotNet
3\bin\System.Web.Webpages.dll;C:\Users\fortify\source\repos\visualStudiotips\DemoDotNet3\DemoDotNet
3\bin\System.Web.Webpages.Razor.dll"
"-dotnet-output-dir"
"C:\Users\fortify\source\repos\visualStudiotips\DemoDotNet3\DemoDotNet3\bin\\"
"-dotnet-codebehind"
"c:\users\fortify\source\repos\visualstudiotips\demodotnet3\demodotnet3\global.asax.cs"
"c:\users\fortify\source\repos\visualstudiotips\demodotnet3\demodotnet3\app_start\routeconfig.cs"
"c:\users\fortify\source\repos\visualstudiotips\demodotnet3\demodotnet3\app_start\webapiconfig.cs"
"c:\users\fortify\source\repos\visualstudiotips\demodotnet3\demodotnet3\externalclass1.cs"
"c:\users\fortify\source\repos\visualstudiotips\demodotnet3\demodotnet3\properties\assemblyinfo.cs"
"c:\users\fortify\appdata\local\temp\.netframework,version=v4.7.2.assemblyattributes.cs"
"c:\users\fortify\source\repos\visualstudiotips\demodotnet3\demodotnet3\global.asax"
"c:\users\fortify\source\repos\visualstudiotips\demodotnet3\demodotnet3\web.config"
"c:\users\fortify\source\repos\visualstudiotips\demodotnet3\demodotnet3\views\web.config"
"c:\users\fortify\source\repos\visualstudiotips\demodotnet3\demodotnet3\packages.config"
"c:\users\fortify\source\repos\visualstudiotips\demodotnet3\demodotnet3\web.debug.config"
"c:\users\fortify\source\repos\visualstudiotips\demodotnet3\demodotnet3\web.release.config"
"C:\Users\fortify\source\repos\visualStudiotips\DemoDotNet3\DemoDotNet3\bin\DemoDotNet3.dll.config"
"C:\Users\fortify\source\repos\visualStudiotips\DemoDotNet3\DemoDotNet3\bin\Microsoft.CodeDom.Provi
ders.DotNetCompilerPlatform.xml"
"C:\Users\fortify\source\repos\visualStudiotips\DemoDotNet3\DemoDotNet3\bin\Newtonsoft.Json.xml"
"C:\Users\fortify\source\repos\visualStudiotips\DemoDotNet3\DemoDotNet3\bin\System.Net.Http.Formatt
ing.xml"
"C:\Users\fortify\source\repos\visualStudiotips\DemoDotNet3\DemoDotNet3\bin\System.Web.Helpers.xml"
"C:\Users\fortify\source\repos\visualStudiotips\DemoDotNet3\DemoDotNet3\bin\System.Web.Http.WebHost
.xml"
"C:\Users\fortify\source\repos\visualStudiotips\DemoDotNet3\DemoDotNet3\bin\System.Web.Http.xml"
"C:\Users\fortify\source\repos\visualStudiotips\DemoDotNet3\DemoDotNet3\bin\System.Web.Mvc.xml"
"C:\Users\fortify\source\repos\visualStudiotips\DemoDotNet3\DemoDotNet3\bin\System.Web.Razor.xml"
```

```
"C:\Users\fortify\source\repos\visualStudiotips\DemoDotNet3\DemoDotNet3\bin\System.Web.Webpages.Dep
loyment.xml"
"C:\Users\fortify\source\repos\visualStudiotips\DemoDotNet3\DemoDotNet3\bin\System.Web.Webpages.Raz
or.xml"
"C:\Users\fortify\source\repos\visualStudiotips\DemoDotNet3\DemoDotNet3\bin\System.Web.Webpages.xml
"
```