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# scrML Tool Implementation on a C# Environment

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# Main Goal

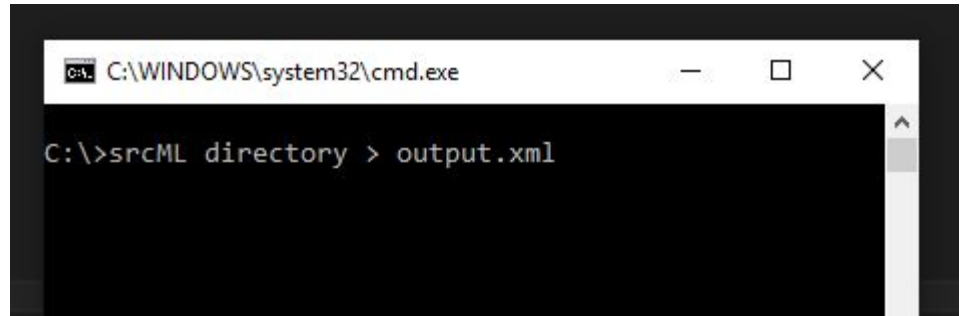
Detect common coupling on a C# code base using:

- scrML for Windows
- scrML.NET
- Visual Studio 2015
- Sando Search for Visual Studio

# Option 1 - Command Line Tool

## srcML.org

1. Go to [www.srcml.org](http://www.srcml.org)
2. Click on Downloads
3. Select the version for your OS
4. Install the executable.
5. Open a command line.
6. Execute srcML command.



A screenshot of a Windows command prompt window. The title bar shows the path `C:\WINDOWS\system32\cmd.exe`. The command prompt displays the command `C:\>srcML directory > output.xml` entered at the prompt.

# Option 2 - As a package in a Visual Studio project

## Nuget Gallery

1. Open visual studio and create a new project.
2. Click on View > Other windows > Package Management Console
3. Enter the following command:

```
PM> Install-Package ABB.SrcML
```

4. Now you can import ABB.SrcML and code a small tool.

## Option 2 - As a package in a Visual Studio project

```
using System;
using System.Collections.Generic;
using System.Linq;
using System.Text;

namespace srcML_Test
{
    class srcML_TestApp
    {
        public void main() {
            ABB.SrcML.SrcML srcml = new ABB.SrcML.SrcML();

            srcml.GenerateSrcMLFromDirectory("c:\\path\\codefolder", "results.xml");
        }
    }
}
```

# Option 3 - As a Visual Studio Services

## srcML Service

1. Open visual studio.
2. Click on Tools > Extensions and Updates > Online
3. Search srcML Service and Install.

**NOTE:** This is only for developing Visual Studio plugins such as **Sando Search** tool.

Sando Search tool was also sponsored by ABB and uses the SrcML Service to get notified of file changes.

# srcML vs ABB srcML.NET

srcML.NET framework:

- Used by ABB Corporate Research
- Based on srcML project from Kent State University Software Development Laboratory
- Used within [ABB](#) to do both program transformation and code analysis
- It includes the same tools as srcML but allows integration to Visual Studio in order to develop tools.

# Code conversion: C# to XML

Results after converting code base into xml file.

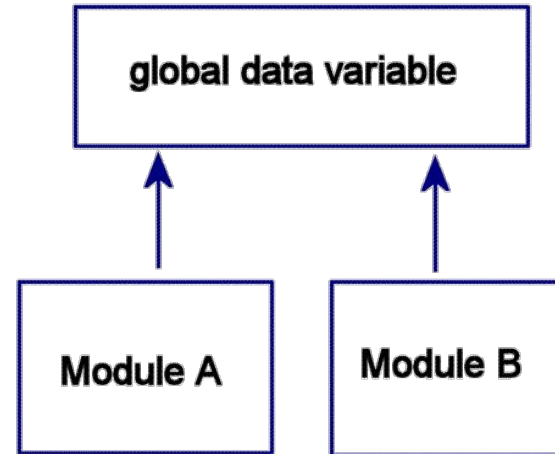
Project	Number of .cs files	Total Size (MB)	Total Size of XML
CodeHub	344	1.64 MB	4.55 MB
MonoGame	1,229	9.24 MB	24 MB
Newtonsoft.Json	2,014	2.46 MB	6.57 MB
Mono (<1min)	24,819	161 MB	455 MB



# Next Steps

Develop a tool using srcML.NET that:

- Converts the selected code base to srcML format.
- Queries the selected srcML File.
- Detects Common Coupling.



**Thank you!**