Consuming Cat.NET outside VisualStudio

The objetive is to consume Cat.Net Guis outside VisualStudio.

Note that the current version of this scripts uses the original Cat.NET dlls which have a dependency on the visualStudio Dlls (namely ENVDTE.dll)

Script that opens a report file inside the SummaryView

```
var topPanel = panel.clear().add_Panel();
//var topPanel = "CatNet GUI test".popupWindow();

var summaryView = topPanel.clear().add_Control<SummaryView>();
var listSummary = (ListView)summaryView.field("_lvSummary");
var detailView = (DetailView)summaryView.field("_detailView");

//remove this event since it will use a method with DTE dependencies
listSummary.remove_Event_SelectedIndexChanged();

Func<VsConnect> get_VsConnect =
        ()=>{
                    var vsConnect = new VsConnect();
                    var rulesSettings = new RulesSettings();
                    rulesSettings.Activate();
                    vsConnect.invoke("AddDefaultSettingsProvider", new GeneralSettings());
                    vsConnect.invoke("AddDefaultSettingsProvider", rulesSettings);
                    vsConnect.invoke("AddDefaultSettingsProvider", new TargetsSettings());
                    vsConnect.invoke("AddDefaultSettingsProvider", new SuppressionSettings());
                    vsConnect.invoke("AddDefaultSettingsProvider", new VectorsSettings());
                    var defaultSettings = vsConnect.field("_defaultSettings");
                    vsConnect.field("_currentSettings", defaultSettings);

                    summaryView.Controller = vsConnect;
                    return vsConnect;
            };

var _vsConnect = get_VsConnect();

// open report;
var path = @"E:\_Tests\Demos_Files\SuperSecureBank\SecurityInnovation-SuperSecureBank-938fde3
\MicrosoftACECodeAnalysisReport.xml";
Report report = Report.Load(path);
summaryView.LoadReport(report, Path.ChangeExtension(path, ".htm"));


return "ok";

//using System.IO
//using Microsoft.ACESec.CATNet.Core
//using Microsoft.ACESec.CATNet.UI
//O2Ref:EnvDTE.dll
//O2Ref:Extensibility.dll
//O2Ref:CatNet_1.1/SourceDir/Microsoft.ACESec.CATNet.Core.dll
//O2Ref:CatNet_1.1/SourceDir/Microsoft.ACESec.CATNet.UI.VSAddIn.dll
```
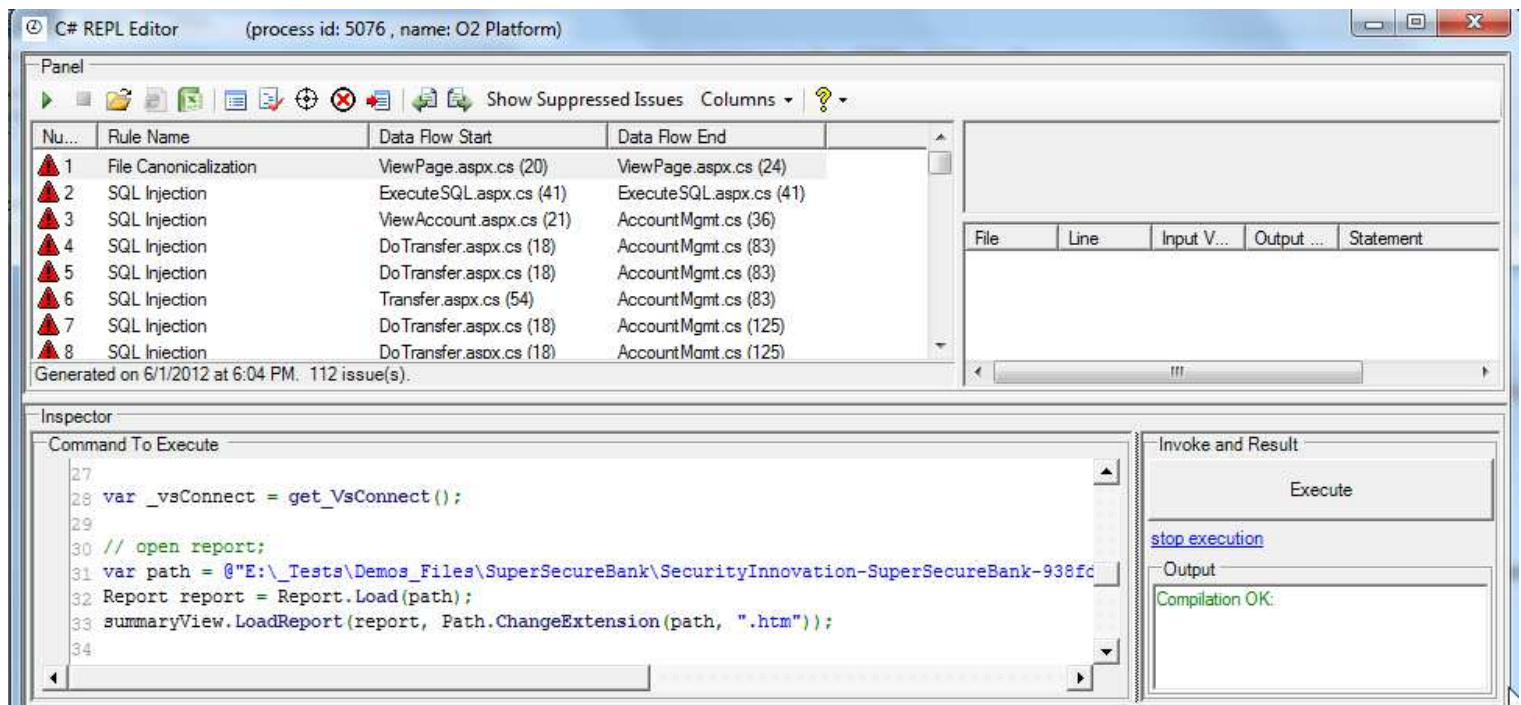
Note in the code (and screenshot) that we had to remove the listView *SelectedIndexChanged* event which is why there is no data loaded on the right-hand-side cat.net gui

Adding an *SelectedIndexChanged* event handler, replacing the detailview with a propertyGrid to showing the selected ReportItem

```csharp
var summaryView = topPanel.clear().add_Control<SummaryView>();
var listSummary = (ListView)summaryView.field("_lvSummary");
var detailView = (DetailView)summaryView.field("_detailView");
//remove this event since it will use a method with DTE dependencies
listSummary.remove_Event_SelectedIndexChanged();

//replace the detailview with a propertyGrid
var propertyGrid = detailView.parent().clear().add_PropertyGrid();


listSummary.afterSelected<ReportItem>(
        (reportItem) => {
                                "report: {0}".info(reportItem);
                                propertyGrid.show(reportItem);
                        });
```
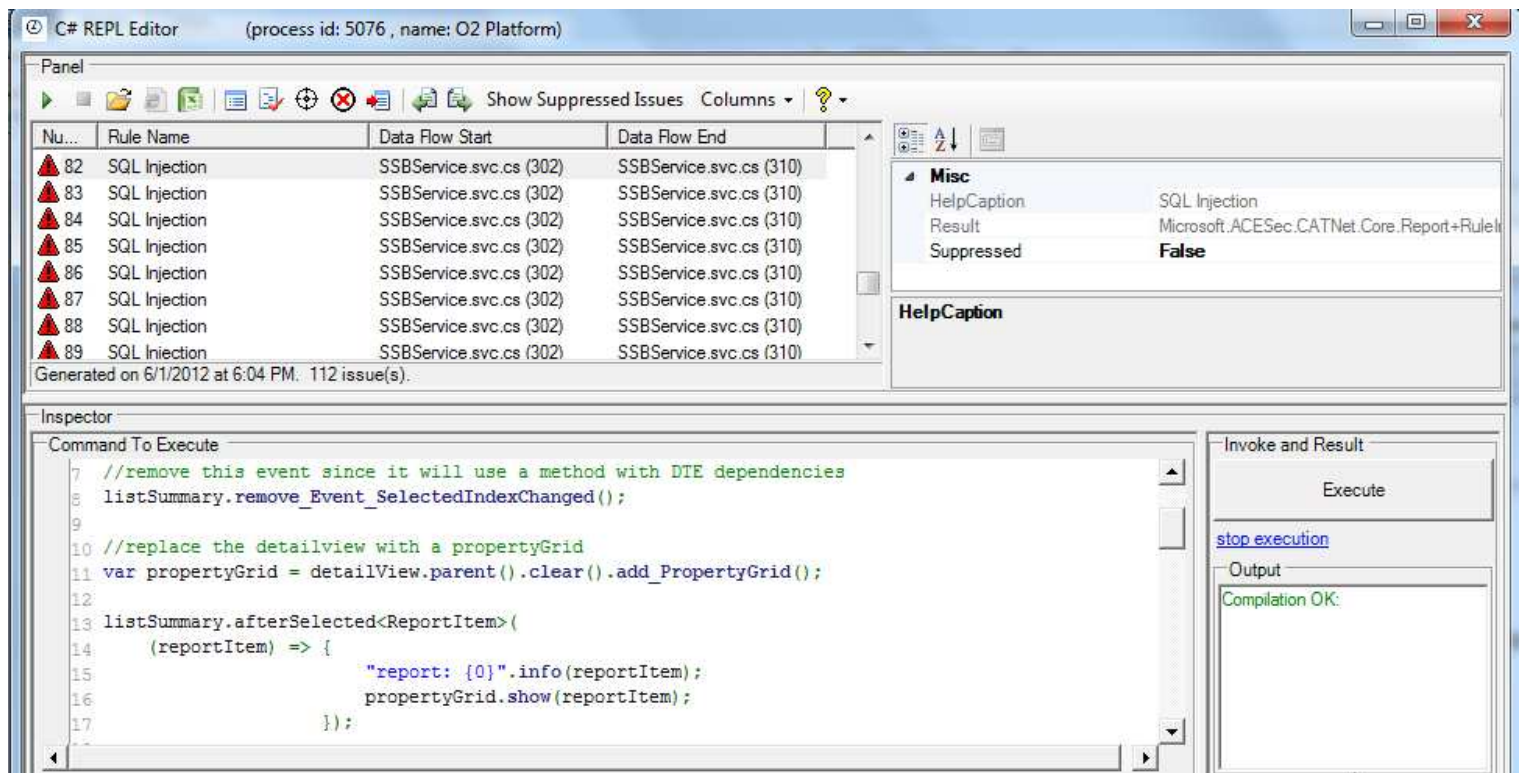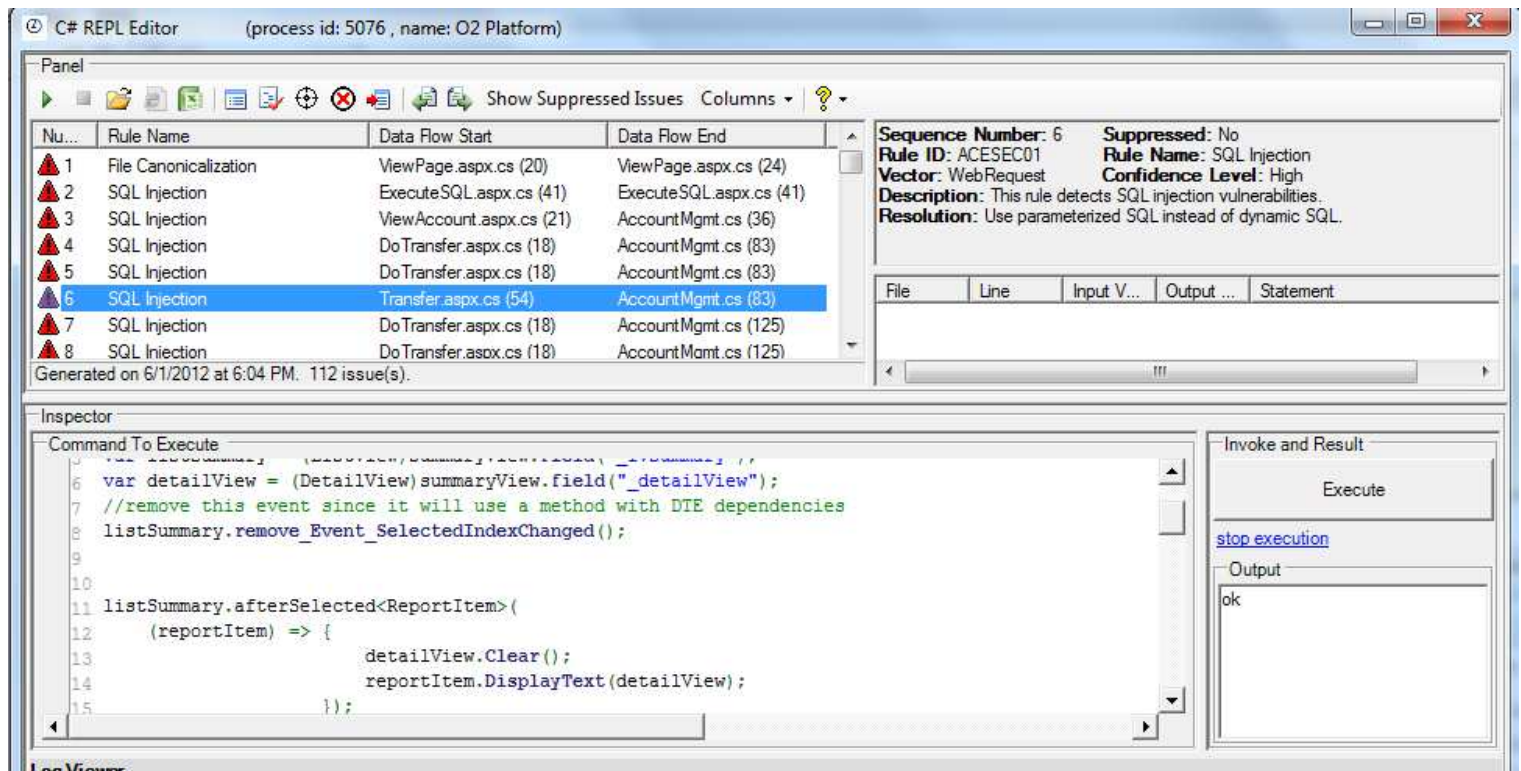
Show selected Report in DetailView (top right)

```
listSummary.afterSelected<ReportItem>(
        (reportItem)=>{
                        detailView.Clear();
                        reportItem.DisplayText(detailView);
                });
```


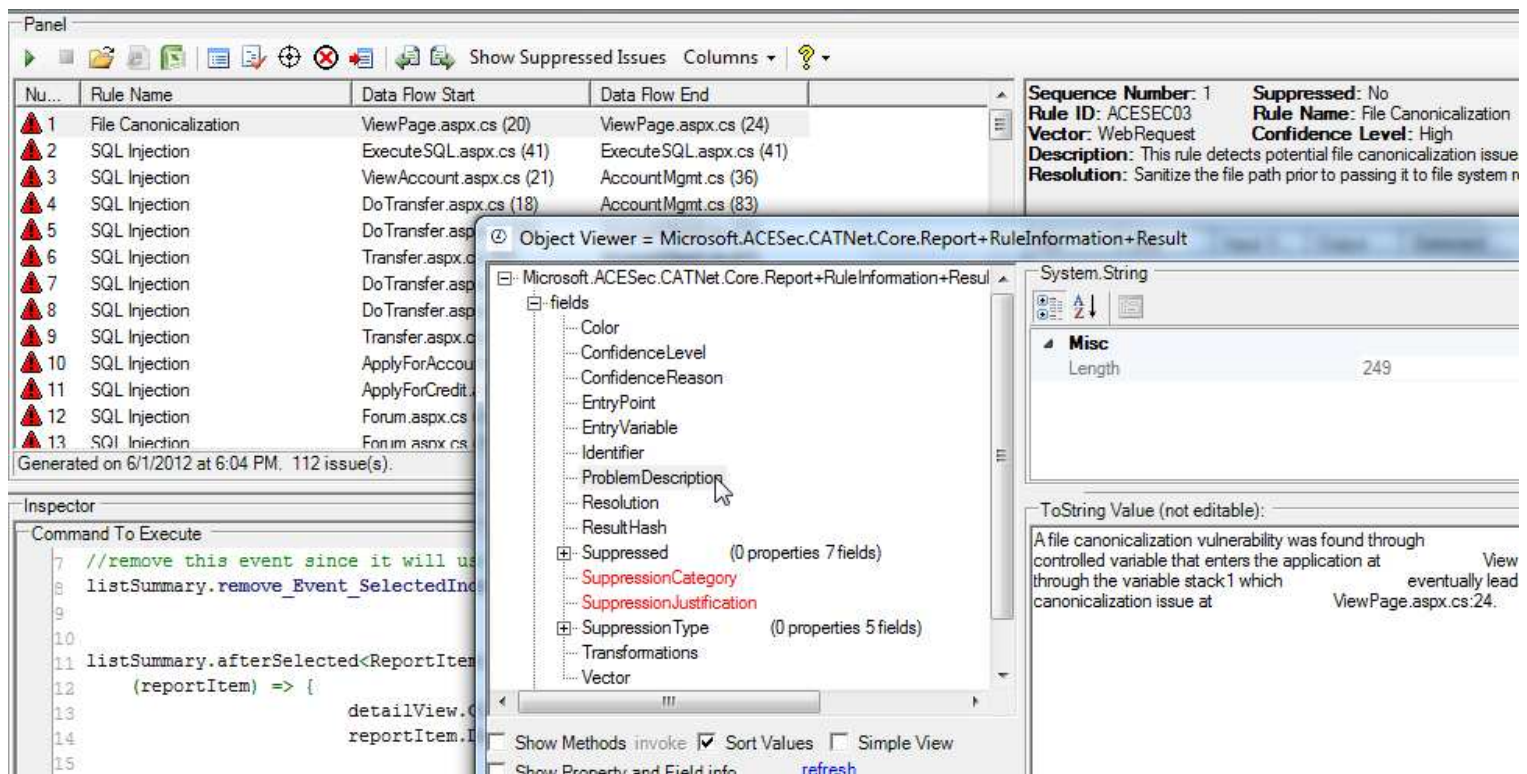**Viewing details of the _report value inside the ReportItem object**

```
listSummary.afterSelected<ReportItem>(
        (reportItem) => {
```

```
                        detailView.Clear();
                        reportItem.DisplayText(detailView);
                        var result = reportItem._result;
                        result.details();
              });
```


Adding selected finding taint items to listView

```
listSummary.afterSelected<ReportItem>(
        (reportItem) => {
                        detailView.Clear();
                        reportItem.DisplayText(detailView);
                        var lvDataFlow = (ListView)detailView.field("_lvDataFlow");
                        var transformations = (ArrayList)reportItem._result.Transformations;
                        foreach(DataTransformation dataTransformation in transformations)
                        {
                              var fileSnippet = (dataTransformation.SourceFile.fileExists())
                                                ?       dataTransformation.SourceFile.fileContents
().split_onLines().value(dataTransformation.SourceLine-1).trim()
                                                :       "";
                        lvDataFlow.add_Row(  dataTransformation.StatementMethodName,
                                     dataTransformation.SourceLine.ToString(),
                                     dataTransformation.InputVariableString,
                                     dataTransformation.OutputVariableString,
                                     fileSnippet)
                              .tag(dataTransformation);
                        }
                        detailView.AutoResizeColumns();
                });
```

Complete Script of working SummaryView GUi outsite VisualStudio

```
//var topPanel = panel.clear().add_Panel();
var topPanel = "CatNet OutsideVisualStudio".popupWindow(1000, 600);

var summaryView = topPanel.clear().add_Control<SummaryView>();
var listSummary = (ListView)summaryView.field("_lvSummary");
var detailView = (DetailView)summaryView.field("_detailView");

listSummary.remove_Event_SelectedIndexChanged(); //remove this event since it will use a method with DTE
dependencies
```

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```csharp
listSummary.afterSelected<ReportItem>(
        (reportItem) => {
                        detailView.Clear();
                        reportItem.DisplayText(detailView);
                        var lvDataFlow = (ListView)detailView.field("_lvDataFlow");
                        var transformations = (ArrayList)reportItem._result.Transformations;
                        foreach(DataTransformation dataTransformation in transformations)
                        {
                                var fileSnippet = (dataTransformation.SourceFile.fileExists())
                                                ?       dataTransformation.SourceFile.fileContents
().split_onLines().value(dataTransformation.SourceLine-1).trim()
                                                :       "";
                        lvDataFlow.add_Row(  dataTransformation.StatementMethodName,
                                                dataTransformation.SourceLine.ToString(),
                                                dataTransformation.InputVariableString,
                                                dataTransformation.OutputVariableString,
                                                fileSnippet)
                                        .tag(dataTransformation);
                        }
                        detailView.AutoResizeColumns();
                });

Func<VsConnect> get_VsConnect =
        ()=>{
                var vsConnect = new VsConnect();
                var rulesSettings = new RulesSettings();

                vsConnect.invoke("AddDefaultSettingsProvider", new GeneralSettings());
                vsConnect.invoke("AddDefaultSettingsProvider", rulesSettings);
                vsConnect.invoke("AddDefaultSettingsProvider", new TargetsSettings());
                vsConnect.invoke("AddDefaultSettingsProvider", new SuppressionSettings());
                vsConnect.invoke("AddDefaultSettingsProvider", new VectorsSettings());
                var defaultSettings = vsConnect.field("_defaultSettings");
                vsConnect.field("_currentSettings", defaultSettings);

                rulesSettings.Activate();

                summaryView.Controller = vsConnect;
                return vsConnect;
        };

var _vsConnect = get_VsConnect();

// open report;
var path = @"E:\_Tests\Demos_Files\SuperSecureBank\SecurityInnovation-SuperSecureBank-938fde3
\MicrosoftACECodeAnalysisReport.xml";
Report report = Report.Load(path);
summaryView.LoadReport(report, Path.ChangeExtension(path, ".htm"));

return "ok";

//using System.IO
//using System.Collections
//using Microsoft.ACESec.CATNet.Core.Analysis
//using Microsoft.ACESec.CATNet.Core
//using Microsoft.ACESec.CATNet.UI
//O2Ref:EnvDTE.dll
//O2Ref:Extensibility.dll
//O2Ref:CatNet_1.1/SourceDir/Microsoft.ACESec.CATNet.Core.dll
//O2Ref:CatNet_1.1/SourceDir/Microsoft.ACESec.CATNet.UI.VSAddIn.dll
```
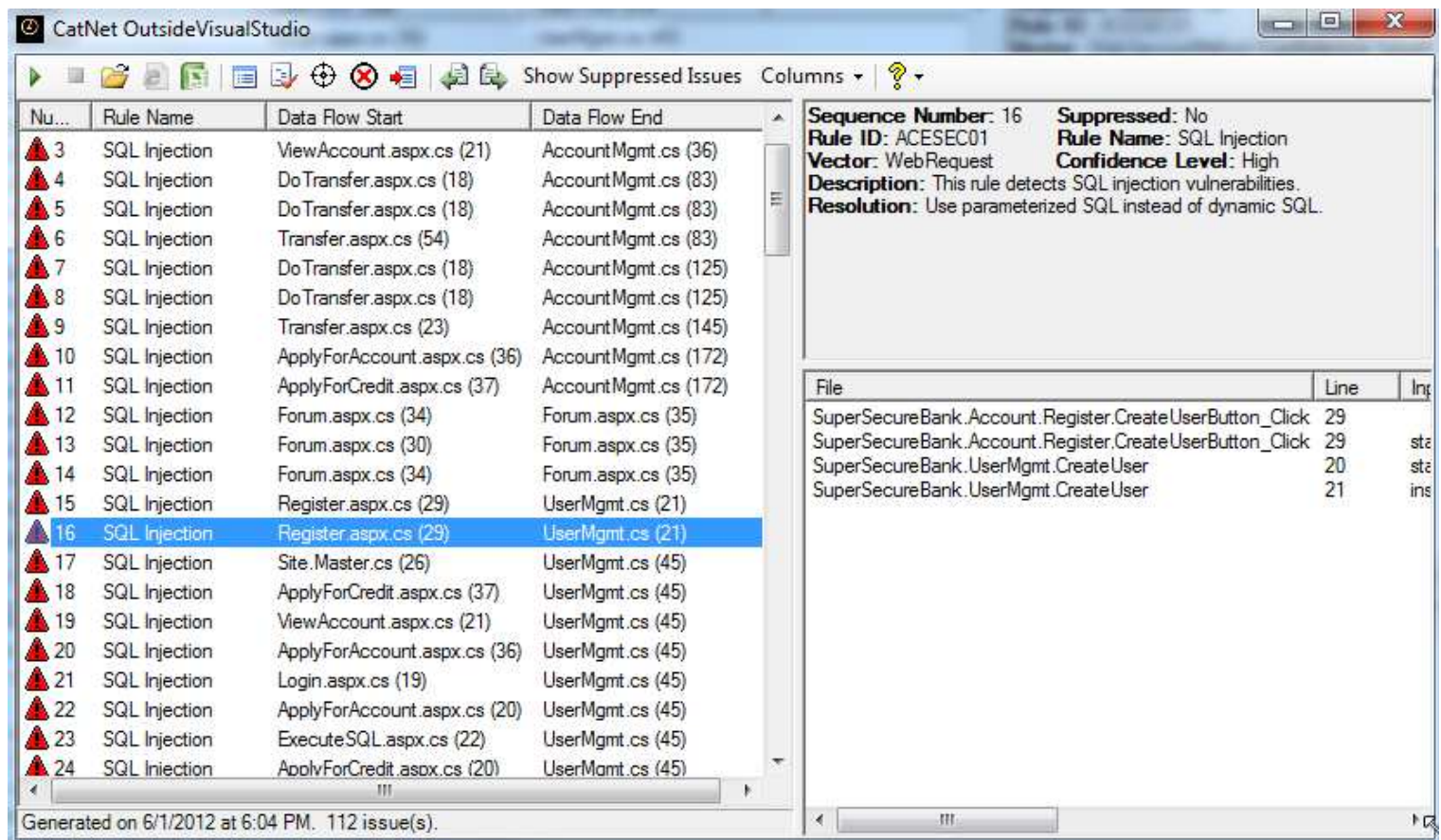
Adding some new features

Now that we have the basic Gui working lets add some extra features

A source code viewer that opens the source file (and line) of of the selected trace

```
var codeViewer = detailView.insert_Below().add_SourceCodeViewer();

lvDataFlow.afterSelected<DataTransformation>(
        (dataTransformation)=>{
                        codeViewer.open(dataTransformation.SourceFile)
                                .gotoLine(dataTransformation.SourceLine);
                        lvDataFlow.focus();
                });
```

Removing the buttons from the top bar (since none of them are working at the moment) **and adding a new one**

```
_tsActions.Items.Clear();
_tsActions.add_Button("Open sample report #1");
```


Refactoting load actions into Lambda method, opening report on button click

```
Action<string> openReport =
        (path)=>{
                        Report report = Report.Load(path);
                        summaryView.LoadReport(report, Path.ChangeExtension(path, ".htm"));
                };

_tsActions.add_Button("Open sample report #1 (HacmeBank)", () => openReport("CatNet_HacmeBank.xml".local
())).click();
```
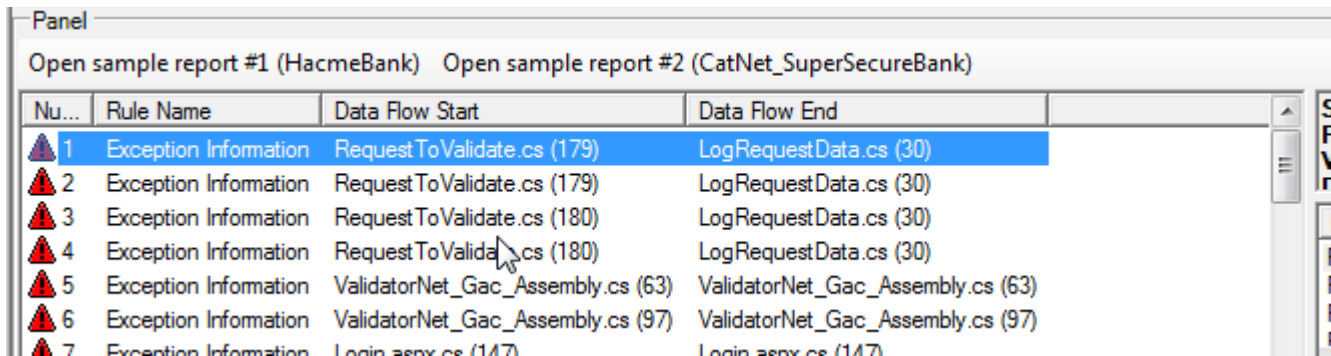
Note: files with *FileName.local()* will tried to be resolved into a file inside the *O2.Platform.Scripts* folder, for example:

Adding another button to open a 2nd sample report

Make the buttons better by reusing the Resources embedded in the SummaryView Control

```
_tsActions.add_Button("Open sample report #1 (HacmeBank)", () => openReport("CatNet_HacmeBank.xml".local
())).click().applyResources("_btOpenReport")
        .add_Button("Open sample report #2 (SuperSecureBank)", () => openReport
("CatNet_SuperSecureBank.xml".local())).applyResources("_btAnalyze");
```

Or more simply:

```
_tsActions.add_Button("Sample report #1 (HacmeBank)"        , "_btOpenReport", () => openReport
("CatNet_HacmeBank.xml".local())).click()
        .add_Button("Sample report #2 (SuperSecureBank)", "_btAnalyze", () => openReport
("CatNet_SuperSecureBank.xml".local()));
```

Open Report on Drop

```
summaryView.onDrop(openReport);
```

Add ability to scan a assembly

```
Action<string> scanAssembly =
        (file)=>{
                        var catNet = new API_CatNet().loadRules();
                        var savedReport = catNet.scan(file).savedReport();
                        openReport(savedReport);
                };

scanAssembly("SuperSecureBank.dll".local());
```

Add ability to scan a vs solution

```
Action<string> scanSolution =
        (solutionFile)=>{
                        var catNet = new API_CatNet().loadRules();
                        var assemblies = solutionFile.compileSolution();
                        var savedReport = catNet.scan(assemblies).savedReport();
                        openReport(savedReport);
                };
```

on Drop: scan assembly, scan solution or open report

```
Action<string> handleDrop =
        (file)=>{
                        "File Dropped: {0}".info(file);
                        switch(file.extension())
                        {
                                case ".dll":
                                case ".exe":
                                        scanAssembly(file);
                                        break;
                                case ".sln":
                                        scanSolution(file);
                                        break;
                                case ".xml":
                                        openReport(file);
                                        break;
                                default:
                                        "dropped file extension not supported: {0}".error(file.extension
());
                                        break;
                        }
                };
        .

.

.
```

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