

Forum:[Hack Forums](#)

Thread: [Safe Plugin Architecture \[Imports ,Jailed, IO Limited, Plugin Communications\]](#)

Barret - November 10, 2017, 10:45 am

So i started with some side projects with plugin architecture and decided to write an entire new proper plugin model basis.

This base does all of the former projects (except remote assemblies for the time being) and makes use of jailing (sandboxed), controlled read/write/ACL ([https://msdn.microsoft.com/en-us/library/ms229742\(v=vs.90\).aspx](https://msdn.microsoft.com/en-us/library/ms229742(v=vs.90).aspx)), and being able to import plugin(s) inside the domain from another plugin so they can interact with each other.

In this demo one assembly containing the exported types (can be separate assemblies ofc), the first one tests the read/write on local folder and then on C:\ the second one attempts to import the first plugin that has a specific interface on it, and once its imported, invokes a method that is defined from this specific interface, this is useful for plugin communications.

These interfaces don't need to be defined inside the assembly but can also be separate, the loader will load all assemblies found into the domain.

Keep in mind that interfaces work both ways of course.

Importing plugins from and to a plugin

Inside a plugin, one could import plugins with specific interfaces:

```
Code Dim plugin As CommunicationTest = Me.Parent.Import(Of CommunicationTest)()
```

```
If (plugin IsNot Nothing) Then
    plugin.SayHello(Me.Name)
End If
```

The interface used in this example

```
Code Public Interface CommunicationTest
    Sub SayHello(sender As String)
End Interface
```

or if more then one is using that particular interface,

```
Code For Each plug In Me.Parent.ImportAll(Of CommunicationTest)()
    '...code....
Next
```

Setup the base

To setup and load plugins from a folder you would approach it like this

```
Code Dim plugins As String = Path.GetFullPath(".\Plugins\")
```

Using host As New Host("sandboxie", plugins)

```
If (host.Load) Then
    Try
        For Each container As Container(Of IContainer) In host.ImportAll(Of IContainer)()

            Dim plugin As IContainer = container.RefObject

            Console.WriteLine("+-----+")
            Console.WriteLine("Type: {0} {1}", plugin.Name, plugin.Version)
            Console.WriteLine(String.Empty)

            If (plugin.Initialize) Then
                plugin.Run()
            End If
        Next

        Catch ex As Exception
            Console.WriteLine(ex.Message)
        End Try
    End If
```

End Using

Plugin Base Structure

The IContainer is the basis for all plugins that want to be able to use the internal functions of the Loader , the base methods include:

Test to see if a plugin can read a specified filename or directory

Code Public Function CanRead(path As String) As Boolean Implements IContainer.CanRead

Test to see if a plugin can write a specified filename or directory

Code Public Function CanWrite(path As String) As Boolean Implements IContainer.CanWrite

Test to see if a plugin can do a specified action for that filename or directory

Code Public Function Access(path As String, rights As FileSystemRights) As Boolean Implements IContainer.Access

Access the parent (loader) that contains the Import/ImportAll methods and Assembly collection

Code Public ReadOnly Property Parent As ILoader Implements IContainer.Parent

Get the current base directory where the plugin resides in

Code Public ReadOnly Property BaseDirectory As String Implements IContainer.BaseDirectory

Github: <https://github.com/TheBarret/PluginLoader>

Changes will be made along the way, for suggestions or questions post them in here.

StaPol - November 11, 2017, 7:21 am

Not bad! Here is the converted source for CSharp...

Link: anonfile(.)com/dbG0Ufcdb3/CSharp-PluginLoader(.)rar

Password: TheBarret

Barret - November 11, 2017, 7:47 am

(Nov 11, 2017 08:21 AM)StaPol Wrote: [CITE](#) Not bad! Here is the converted source for CSharp...

Link: anonfile[dot]com/G0D1U9cfb8/CSharp-PluginLoader[dot]rar

Password: TheBarret

The conversion is nice but it seems the IDE you are using left some personal info in some of the

files.

StaPol - November 11, 2017, 8:53 am

(Nov 11, 2017 08:47 AM)Barret Wrote: [\[CITE\]](#) The conversion is nice but it seems the IDE you are using left some personal info in some of the files.

I upload a new archive :)