

**SIEMENS**



**James Singleton – *Prion Cutting Edge* & Dave Rothan – *Majenta PLM***

# Solid Edge Automation Through Programming

Solid Edge University UK 2015  
July 8<sup>th</sup>, Silverstone UTC

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**SOLID EDGE UNIVERSITY UK 2015**  
Design Without Boundaries



#SEU15UK

# Agenda



- Introduction (DR/JS)
- What you will learn (JS)
- Solid Edge Custom Folder (JS)
- Variable Table Scripts (JS)
- Microsoft Excel & VBA (JS)
- VS, .NET & The SE API (DR)
- Addin Walkthrough (DR)
- Links & Resources (DR)
- Q&A (DR/JS)



## Who am I?

Dave Rothan  
Technical Consultant  
Majenta PLM – Solid Edge Division

Dave is part of the growing team of Solid Edge technical consultants at Majenta PLM, having joined the company in 2011 and has been involved in some capacity with Solid Edge since it's launch.

Prior to joining Majenta, Dave ran a successful engineering design consultancy for over ten years. He has a general engineering background, gaining a large amount of experience in general mechanical design and has developed many bespoke applications, extending the capabilities of Solid Edge.

Dave works in a predominantly 'post-sales' capacity for Majenta, providing bespoke application development, product support and training to the Majenta Solid Edge customer base.



## Who am I?

James Singleton  
Senior Applications Engineer  
Prion Cutting Edge

James is part of the technical team at Prion Cutting Edge and has been with Solid Edge for the last 11 years.

In a previous life he was a CAD Manager and Design Engineer at a global water meter manufacturer. He implemented a global CAD standard and successfully migrated from several other CAD systems to Solid Edge.

James roles are diverse not only looking at Solid Edge but also Siemens portfolio of data management applications and IT systems along with providing training and consultancy. He has implemented a number of bespoke applications for a variety of clients from small applications to full product configurators.



## What you will learn

The session will provide a brief introduction to adding value to Solid Edge via the API (Application Programming Interface), built into Solid Edge.

We will take a look at programming tools and fundamental methodologies to get you started.

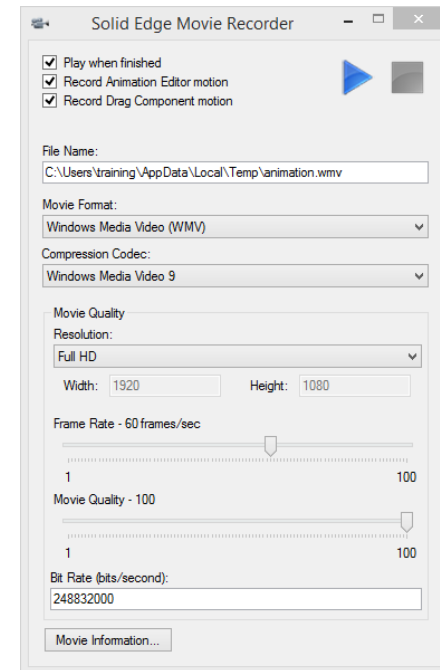
Exploit the potential of the Solid Edge API to achieve massive productivity gains, by tailoring Solid Edge to suit your particular company requirements.



# Solid Edge Custom Folder – What's new

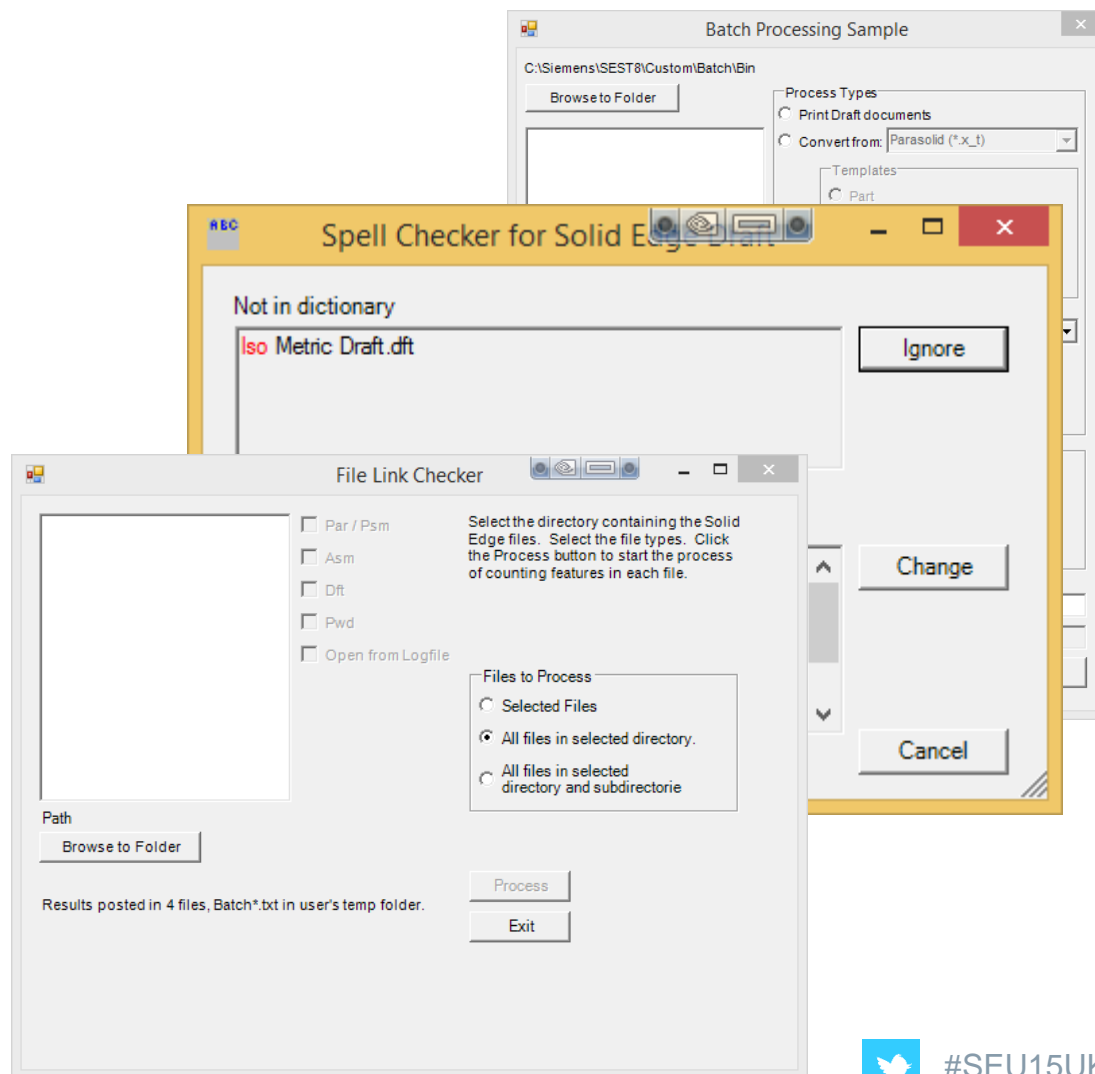
## • Solid Edge Movie Recorder

- Constants
  - seMovieFormatConstants Enumeration
  - seMovieFormatConstants.seMovieFormatAVI Constant
  - seMovieFormatConstants.seMovieFormatWMV Constant
  - seMovieStandardResolutionConstants Enumeration
  - seMovieStandardResolutionConstants.seMovieStandardResolutionCurrentView Constant
  - seMovieStandardResolutionConstants.seMovieStandardResolutionFullHD Constant
  - seMovieStandardResolutionConstants.seMovieStandardResolutionHD Constant
  - seMovieStandardResolutionConstants.seMovieStandardResolutionNTSC Constant
  - seMovieStandardResolutionConstants.seMovieStandardResolutionPAL Constant
- Methods
  - View.AddFrameToMovie Method
  - View.BeginMovieRecording Method
  - View.CreateMovieRecorder Method
  - View.DestroyMovieRecorder Method
  - View.EndMovieRecording Method
  - View.GetAvailableMovieCodecs Method
  - View.SetCustomMovieResolution Method
  - View.SetMovieResolution Method
- Property
  - View.AnimationEvents Property
  - View.MovieAuthor Property
  - View.MovieAuthorURL Property
  - View.MovieBitRate Property
  - View.MovieCodec Property
  - View.MovieCopyright Property
  - View.MovieDescription Property
  - View.MovieFrameRate Property
  - View.MovieQuality Property
  - View.MovieSubTitle Property
  - View.MovieTitle Property



# Solid Edge Custom Folder

- **Batch**
  - Global constants
- **AsmRelDoctor**
  - Assembly Relationships
  - Occurrences
- **Draft Spell Checker**
  - Sheets
  - Drawing views
  - Balloons/Callouts
  - Dimensions
  - Text Boxes
  - Word
- **HoleDatabaseConverter**
  - XML
  - Excel file
- **File Link Checker**
  - Revision Manager



# Variable Table Scripts

Create a basic file

Create a function

Use the *fx* function to use the macro

Links do not get resolved for basic files

```
Public Function HolePattern (Length)
```

```
    If Length => 200 then
```

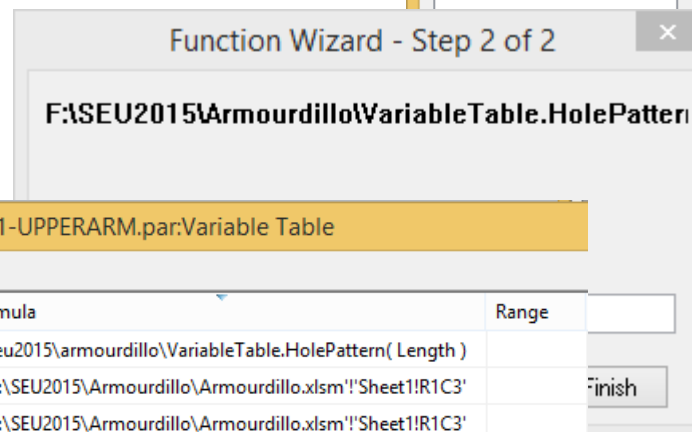
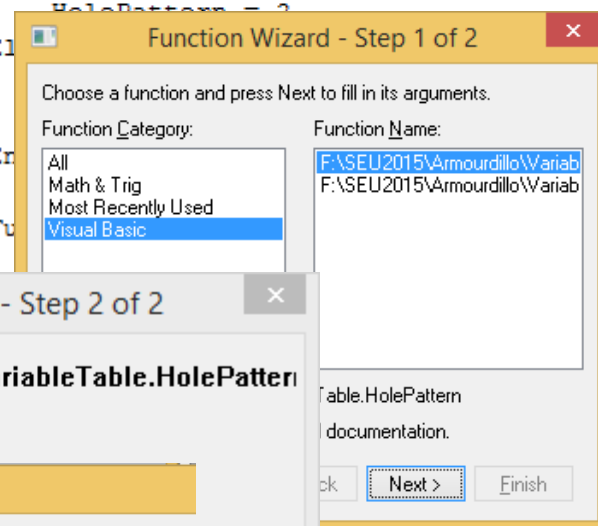
```
        HolePattern = 3
```

```
    Else if Length => 120 Then
```

```
        HolePattern = 2
```

```
    End If
```

```
End Function
```



MINI ARM DEV2.1-UPPERARM.par:Variable Table

Type	Name	Value	Rule	Formula	Range
Va.	PatternOccurrence_14_XDirOffset	2.00 mm	Formula	f:\seu2015\armourdillo\VariableTable.HolePattern( Length )	
Va.	Pattern_1_Suppress	0.000	Paste Link	@'F:\SEU2015\Armourdillo\Armourdillo.xlsm'!Sheet1!R1C3'	
Va.	ExtrudedCutout_32_Suppress	0.000	Paste Link	@'F:\SEU2015\Armourdillo\Armourdillo.xlsm'!Sheet1!R1C3'	



# Microsoft Excel & VBA

Suppression Variables

Ordered and Synchronous Dimensions  
Patterns

Limitations with native Excel

- Cant suppress parts in assembly
- Extra file to link and maintain

Lightweight Arm	No
-----------------	----

Description	Left Arm	Right Arm
Gripper Open/Closed	Open	Open
Joint 1 Angle	0	0
Joint 1 Rotation	0	0
Joint 2 Angle	0	0
Joint 3 Angle	0	0

Default

Maximum Length

Sides 45

Sides



# Visual Studio, .NET & The Solid Edge API

- Visual Studio 2015 Product Offerings

## Visual Studio Community

Free, full-featured and extensible tool for developers building non-enterprise applications

- **Full-featured** Integrated Development Environment for building Web, Windows Desktop and cross-platform iOS, Android, and Windows apps
- **Ecosystem** with thousands of extensions to choose from in the [Visual Studio Gallery](#), or [create your own](#)
- **Free** for open source projects, academic research, training, education and small professional teams

## Visual Studio Professional with MSDN

Professional developer tools and services for individual developers or small teams

- **Professional** developer tool for building any application type
- **Powerful features** to improve your team's productivity such as CodeLens
- **Improve team collaboration** with Agile project planning tools, Team Rooms, charts and more
- **MSDN subscription benefits** including access to core software for dev/test, Team Foundation Server, Visual Studio Online Basic, \$50/month in Azure credits, training and support.

## Visual Studio Enterprise with MSDN

Enterprise grade solution with advanced capabilities for teams working on projects of any size or complexity, including advanced testing and DevOps

NEW

- **End-to-end solution** for your development teams, including the most feature-rich Visual Studio IDE for working on any type of project
- **Build quality applications** at scale with advanced features such as Load Testing, automated and manual testing and new IntelliTest capabilities
- **Manage complexity and resolve issues quickly** with features such as Code Map and IntelliTrace
- **Enhanced MSDN subscription benefits** including comprehensive access to software for dev/test, Team Foundation Server, Visual Studio Online Advanced, \$150/month in Azure credits, training and support

# Visual Studio, .NET & The Solid Edge API

- DOT NET
  - VB6 vs DOT NET
  - Framework
  - Library
  - CLR
  - Visual Studio

The **.NET Framework** (pronounced *dot net*) is a **software framework** developed by **Microsoft** that runs primarily on **Microsoft Windows**. It includes a large **library** and provides **language interoperability** (each language can use code written in other languages) across several **programming languages**. Programs written for the .NET Framework execute in a **software** environment (as contrasted to **hardware** environment), known as the **Common Language Runtime (CLR)**, an **application virtual machine** that provides services such as security, **memory management**, and **exception handling**. The class library and the CLR together constitute the .NET Framework.

The .NET Framework's **Base Class Library** provides **user interface**, **data access**, **database connectivity**, **cryptography**, **web application** development, numeric **algorithms**, and **network communications**. Programmers produce software by combining their own **source code** with the .NET Framework and other libraries. The .NET Framework is intended to be used by most new applications created for the Windows platform. Microsoft also produces an **integrated development environment** largely for .NET software called **Visual Studio**.

# Visual Studio, .NET & The Solid Edge API

- Solid Edge API
  - 'Core' Type Libraries
  - The Solid Edge core COM type libraries are the APIs that are available to automate the Solid Edge application
  - These APIs can be used by any programming or scripting language that supports COM

Name	Description	Type Library
<a href="#"><u>SolidEdgeFramework</u></a>	Solid Edge Framework Type Library	framewrk.tlb
<a href="#"><u>SolidEdgeFrameworkSupport</u></a>	Solid Edge FrameworkSupport Type Library	fwksupp.tlb
<a href="#"><u>SolidEdgePart</u></a>	Solid Edge Part Type Library	part.tlb
<a href="#"><u>SolidEdgePartSync</u></a>	Solid Edge Part Synchronous Type Library	partsync.tlb
<a href="#"><u>SolidEdgeGeometry</u></a>	Solid Edge Geometry Type Library	geometry.tlb
<a href="#"><u>SolidEdgeAssembly</u></a>	Solid Edge Assembly Type Library	assembly.tlb
<a href="#"><u>SolidEdgeAssemblySync</u></a>	Solid Edge Assembly Synchronous Type Library	assemblysync.tlb
<a href="#"><u>SolidEdgeDraft</u></a>	Solid Edge Draft Type Library	draft.tlb
<a href="#"><u>SolidEdgeConstants</u></a>	Solid Edge Constants Type Library	constant.tlb



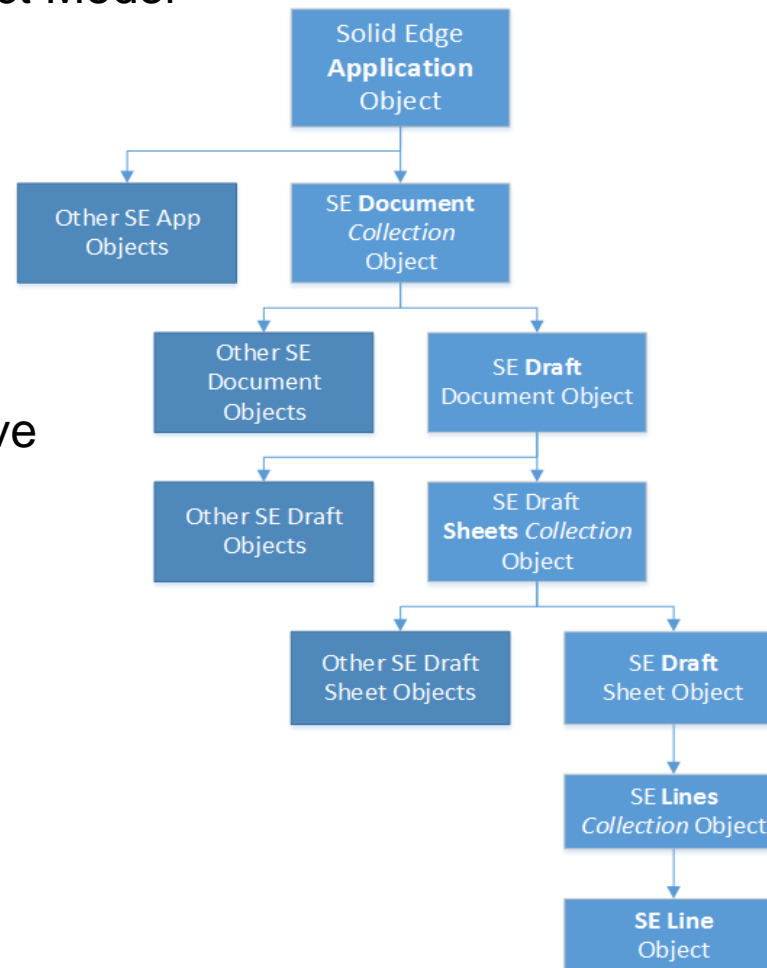
# Visual Studio, .NET & The Solid Edge API

- Solid Edge API
  - Utility APIs
  - These 'lightweight' APIs allow you to work quickly with Solid Edge data without automating Solid Edge.
  - Each is focused for a specific area of tasks.
  - Install Data
  - File Properties
  - Revision Manager

Name	Description	Type Library
<a href="#">SEInstallDataLib</a>	Solid Edge Install Data Library	SEInstallData.dll
<a href="#">SolidEdgeFileProperties</a>	Solid Edge File Properties Object Library	PropAuto.dll
<a href="#">RevisionManager</a>	Solid Edge Revision Manager Object Library	RevMgr.tlb

# Visual Studio, .NET & The Solid Edge API

- Solid Edge API Object Model
  - Object Hierarchy
  - Properties
    - Line.Colour
  - Methods
    - Line.Delete
  - Events
    - Document.OnSave



# Visual Studio, .NET & The Solid Edge API

- Adding (only the required) Solid Edge 'References' to your project...

Application Configuration: N/A Platform: N/A

Compile

Debug

**References**

Resources

Services

Settings

Signing

My Extensions

Security

Publish

Code Analysis

References:

Reference Name	Type	Vers...	Copy Local	Path
Solid Edge Framework Type Library	COM	1.0.0.0	False	C:\Users\...
System	.NET	4.0.0.0	False	C:\Program...
System.Core	.NET	4.0.0.0	False	C:\Program...
System.Windows.Forms	.NET	4.0.0.0	False	C:\Program...
System.Xml	.NET	4.0.0.0	False	C:\Program...
System.Xml.Linq	.NET	4.0.0.0	False	C:\Program...

Assemblies

Solution

COM

Type Libraries

Recent

Browse

Name	Version
SimpleProp	10.0
SketchUp 2.0 Type Library	2.0
SkyDriveLibrary 1.0 Type Library	1.0
SkyDriveShell 1.0 Type Library	1.0
Skype4COM 1.0 Type Library	1.0
SkypeDialog 1.0 Type Library	1.0
SkypeIEPlugin 1.0 Type Library	1.0
SkypeIEPluginBroker 1.0 Type Library	1.0
SmartFTP 1.0 Type Library	1.0
SmartFTP Favorites 1.0 Type Library	1.0
SmartFTP Favorites Import 1.0 Type Library	1.0
SmartFTP TransferQueue 1.0 Type Library	1.0
snap 1.0 Type Library	1.0
SoftwareUpdate	1.0
<input checked="" type="checkbox"/> Solid Edge Assembly Type Library	1.0
<input checked="" type="checkbox"/> Solid Edge Constants Type Library	1.0
<input checked="" type="checkbox"/> Solid Edge Draft Type Library	1.0
<input checked="" type="checkbox"/> Solid Edge File Properties Object Library	1.0
<input checked="" type="checkbox"/> Solid Edge Framework Type Library	1.0
<input checked="" type="checkbox"/> Solid Edge FrameworkSupport Type Library	1.0
<input checked="" type="checkbox"/> Solid Edge Geometry Type Library	1.0
<input checked="" type="checkbox"/> Solid Edge Install Data Library	1.0
<input checked="" type="checkbox"/> Solid Edge Part Type Library	1.0
<input checked="" type="checkbox"/> Solid Edge Part Viewer Control	1.0
<input checked="" type="checkbox"/> Solid Edge Revision Manager Object Library	1.0
<input checked="" type="checkbox"/> Solid Edge Structure Editor Object Library	1.0
<input checked="" type="checkbox"/> Solid Edge Web Parts 1.0 Type Library	1.0
SPP WMI Provider 1.0 Type Library	1.0



## Visual Studio, .NET & The Solid Edge API


- When you add a reference to a Solid Edge type library, Visual Studio .NET automatically build a .NET assembly for use in your project
- This assembly will contain all of the type library definitions in a format that can be consumed from any .NET programming language
- These generated assemblies are referred to as 'Interop Assemblies'





# Visual Studio, .NET & The Solid Edge API

- <https://github.com/SolidEdgeCommunity/SolidEdge.Community>


 SolidEdgeCommunity / SolidEdge.Community

Watch 4 Star 1 Fork 3

Community enhancements to the Solid Edge API.

42 commits 1 branch 0 releases 1 contributor

branch: master SolidEdge.Community +

Update README.md		
 jlnewell	authored 14 days ago	latest commit 5959a638a2
media	107.6.0 release.	14 days ago
src	Removed unnecessary files.	14 days ago
test	107.6.0 release.	14 days ago
.gitignore	107.6.0 release.	14 days ago
LICENSE.md	Initial commit.	a year ago
README.md	Update README.md	14 days ago
SolidEdge.Community.sln	107.6.0 release.	14 days ago

README.md

Code Issues 1 Pull requests 0 Wiki Pulse Graphs

HTTPS clone URL  
<https://github.com/SolidEdgeCommunity/SolidEdge.Community>

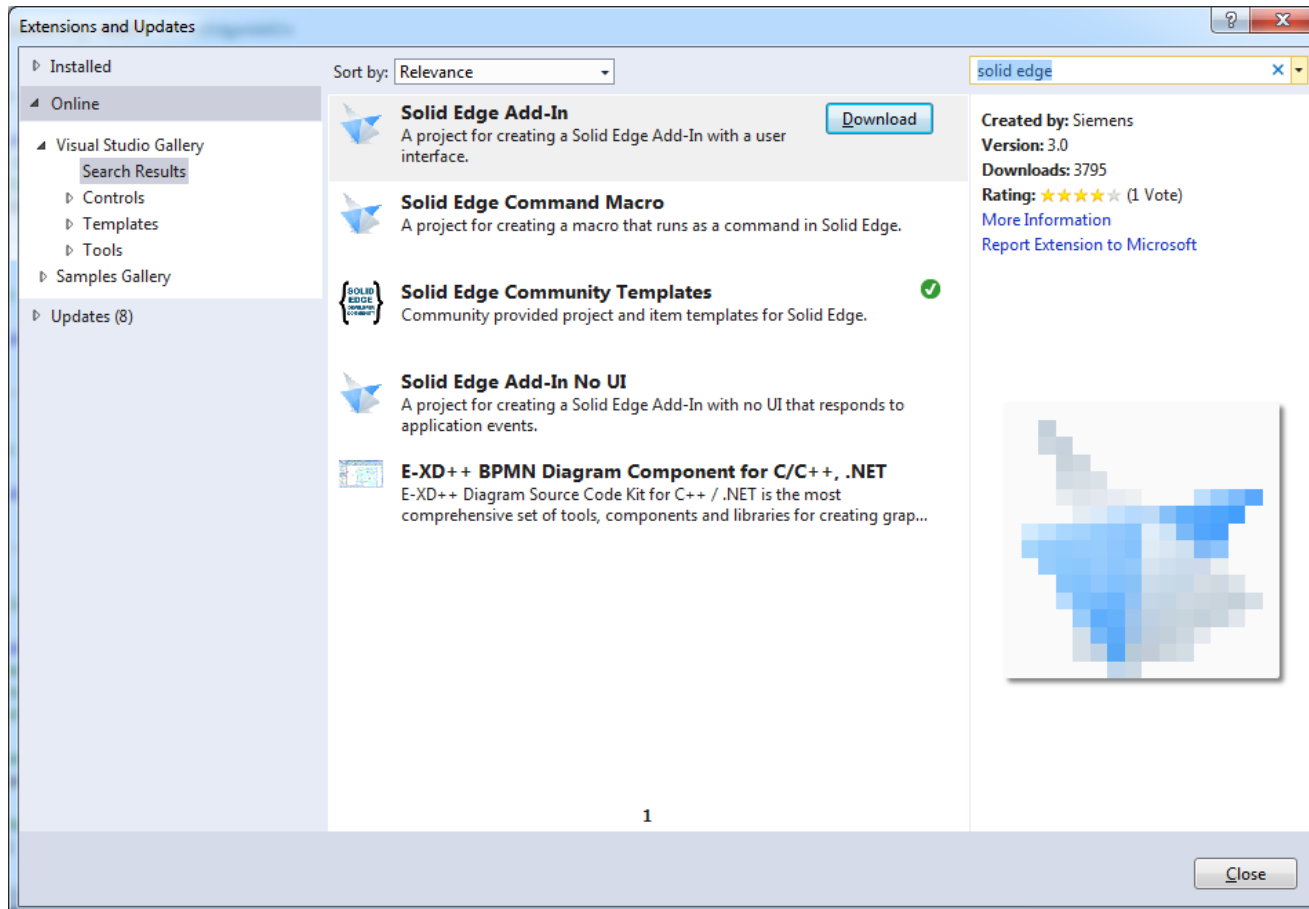
You can clone with HTTPS or Subversion.

Clone in Desktop Download ZIP



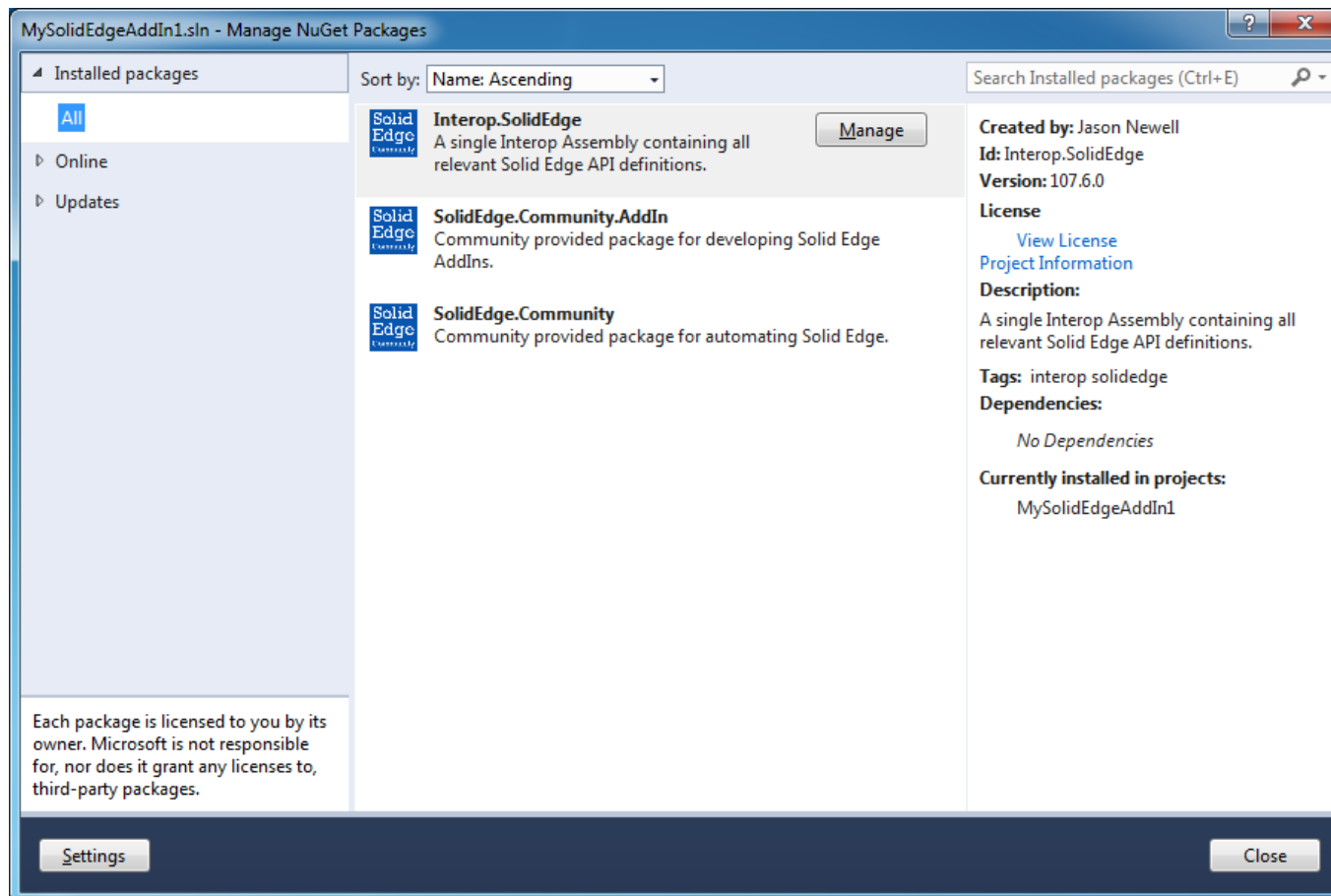
# Visual Studio, .NET & The Solid Edge API

- Available through VS 'Extensions and Updates'



# Visual Studio, .NET & The Solid Edge API

- NuGet Package Manager



# Visual Studio, .NET & The Solid Edge API

- Writing your first macro...

```
Sub Main()  
  
    Dim seApp As SolidEdgeFramework.Application 'se  
  
    seApp = Marshal.GetActiveObject("SolidEdge.Application") 'connect to se  
    With seApp  
        .DisplayAlerts = False 'hides prompts to save each open doc  
    End With  
  
    Dim seDoc As Object = Nothing 'doc  
    For Each seDoc In seApp.Documents 'go through each open doc and...  
        '...if it's not the active doc, close it  
        If Not seDoc Is seApp.ActiveDocument Then seDoc.Close()  
    Next  
  
    With seApp  
        .DisplayAlerts = True 'switch alerts back on!  
    End With  
  
    If Not seDoc Is Nothing Then Marshal.ReleaseComObject(seDoc) 'release the doc  
    Marshal.ReleaseComObject(seApp) 'release se  
  
End Sub
```



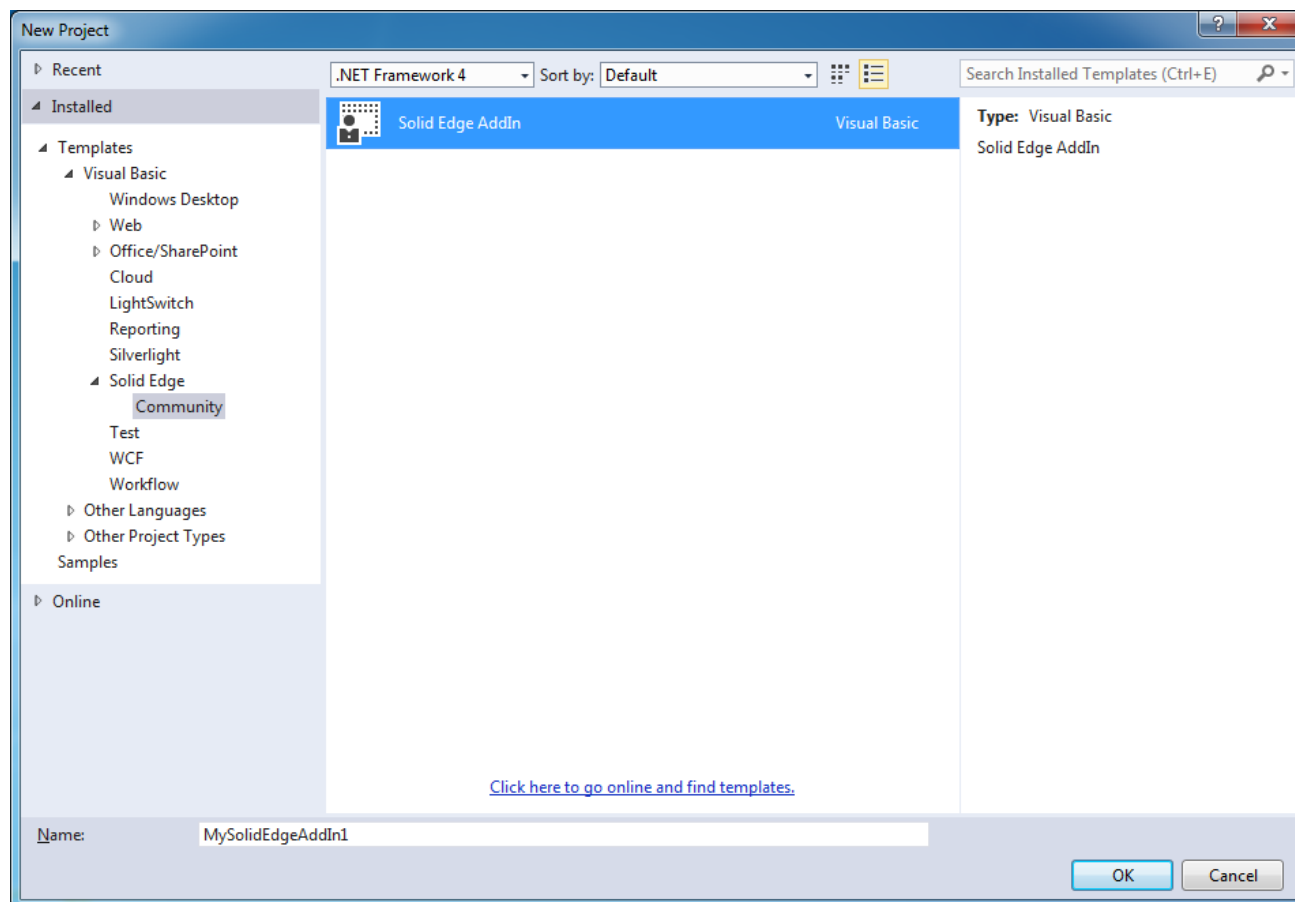
# Macros vs Addins

- Overview
  - Macro
    - Simple to develop, easy to deploy
    - Starts, does something, finishes
  - Addin
    - More complex to develop and deploy
    - Registers as Solid Edge 'Addin'
    - Launches when Solid Edge starts
    - Tighter integration
    - 'Intercept' Solid Edge functionality
    - Provide multiple tools

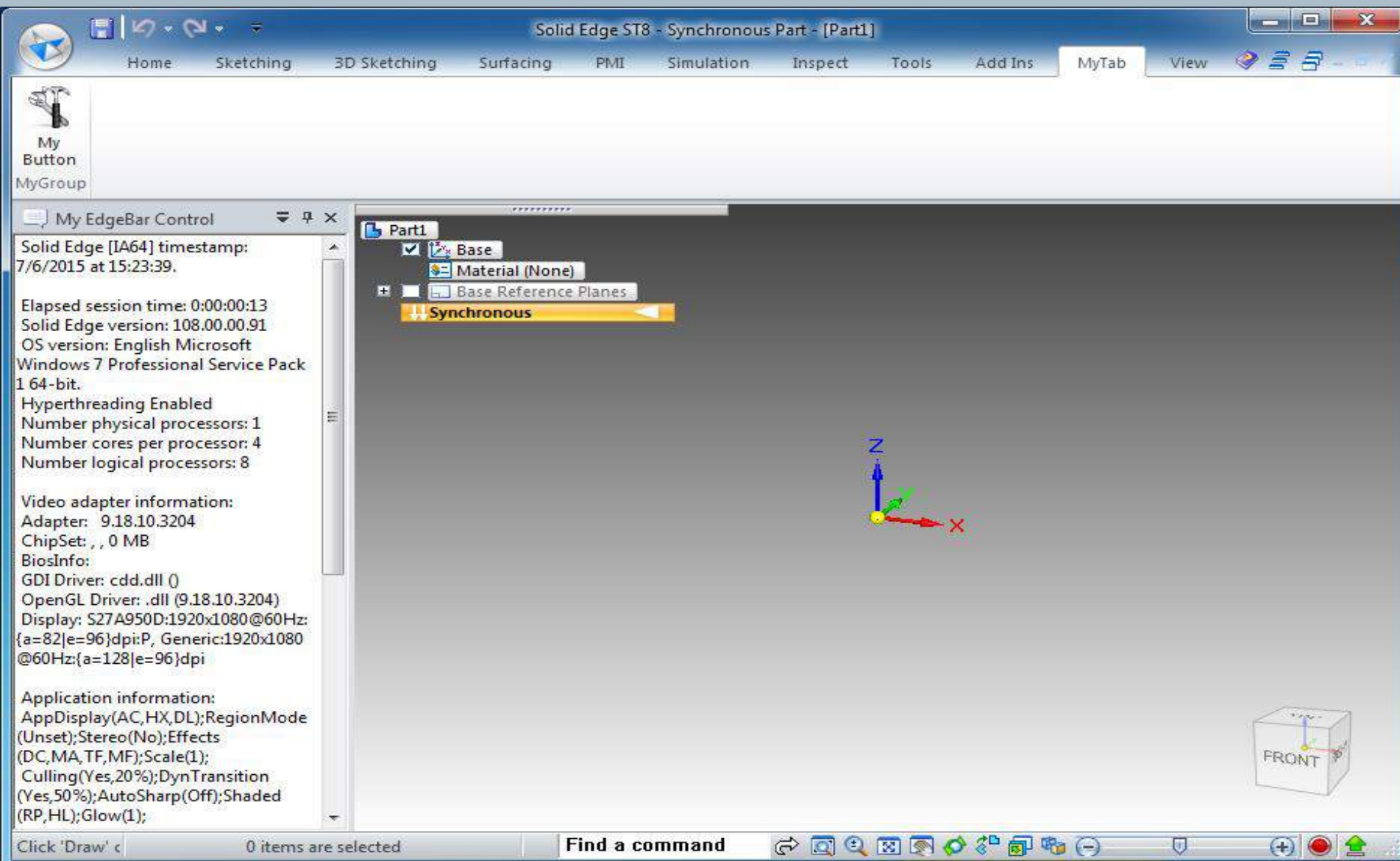


# Addin Walkthrough

- Solid Edge Community Template



# Addin Walkthrough



## Links & Resources

- Siemens Solid Edge Developer Help

<http://support.industrysoftware.automation.siemens.com/training/se/107/api/webframe.html>

**Table of Contents**

- Welcome
- What's New
- Programmer's Guide
  - Solid Edge
    - File Properties
    - .NET Garbage Collection
    - Glossary
  - Type Libraries
  - User Assistance
  - Technical Support

**Solid Edge ST7 SDK**

### Programmer's Guide

► Collapse All

Welcome to the .NET Programmer's Guide for Solid Edge. This book was written in an effort to enable .NET developers to quickly get up to speed with automating Solid Edge. Learning the Solid Edge API can be a monumental task in itself. It takes most people several years before they feel comfortable with the API. The most important thing to remember is that it takes time and effort to fully understand and appreciate all of the techniques that this book will cover.

While there are many .NET programming \ scripting languages that can be used, I will focus primarily on Visual Basic .NET and C#. Other than syntax, there are relatively few differences between Visual Basic.NET and C#. A good example of this is the Microsoft Certified Application Developer (MCAD) exam. There is not a Visual Basic.NET version and C# version of the exam. There is only one version that asks questions for both languages. The reason is, from a .NET framework point of view, if you know how to use the framework in Visual Basic .NET, then you also know how to do it in C#. For this reason, focus of this book will be in the Visual Basic .NET environment with C# specific examples where necessary.

#### Who Should Read This Book

This book is for anyone wanting to learn how to automate Solid Edge using .NET programming languages. While prior programming experience will indeed help, it is not necessary. The goal of this book is to enable developers new to Solid Edge programming to quickly get started. There will be an abundance of source code examples to learn from.

#### Visual Basic 6.0 Users

If you are a Visual Basic 6.0 programmer and new to Visual Basic .NET, there are new concepts that you'll need to learn. While Visual Basic 6.0 was written with COM programming in mind, Visual Basic .NET was written with .NET in mind. COM and .NET are two completely different architectures that don't natively understand each other. They must interact via an "Interop" layer. This interop layer can be a source of much pain and frustration if not

**Table of Contents**

- Index
- Search
- Favorites



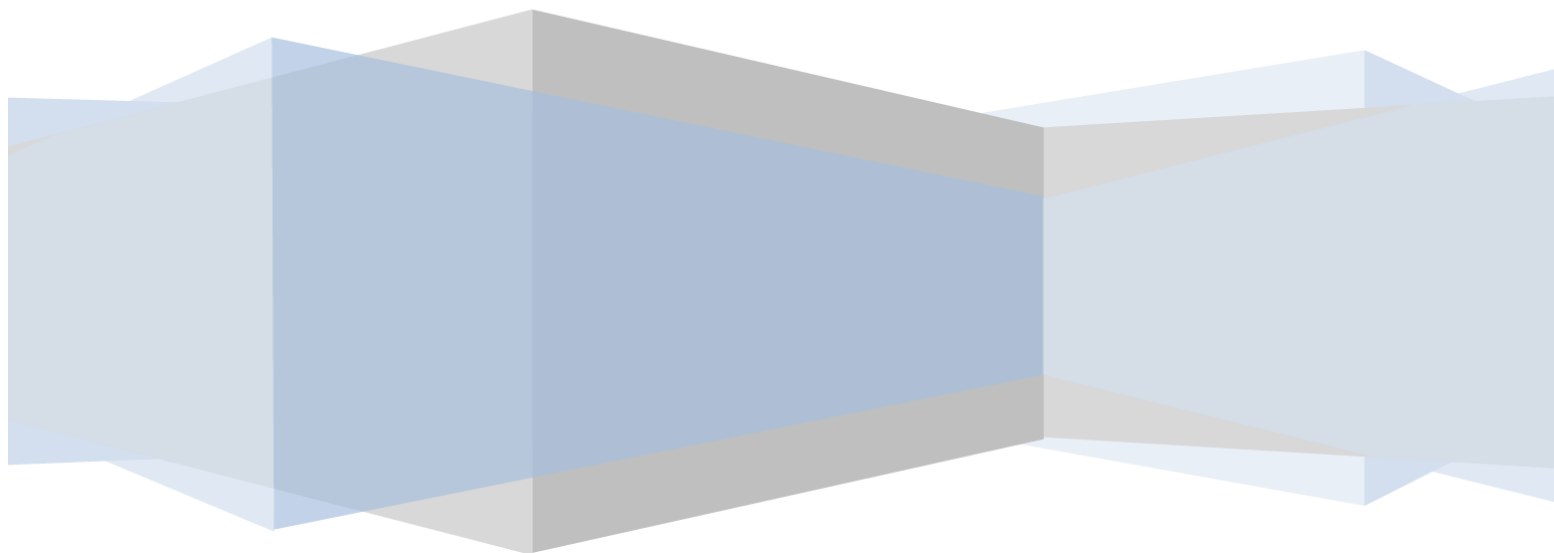


## Links & Resources

- The old programmers guide!

# .NET Programmer's Guide

Solid Edge with Synchronous Technology API



# Links & Resources

- The old programmers guide!

The screenshot shows the Siemens PLM Software website. The top navigation bar includes 'Siemens PLM Software', 'Site Explorer', and 'Contact'. Below this, a breadcrumb trail is highlighted in yellow: '> Home > Training & Support > GTAC > Documentation > Solid Edge'. The main content area is titled 'Solid Edge' and lists various documentation links for Solid Edge ST6, ST5, ST4, ST3, and ST2. At the bottom of the list, the 'Solid Edge ST Programmer's Guide' is highlighted with a red box. To the right, there is a section titled 'Additional Document Links' with a list of other resources. A search bar is located in the top right corner.

SIEMENS

GTAC  
Transforming the process of innovation

Siemens PLM Software Site Explorer Contact

> Home > Training & Support > GTAC > Documentation > Solid Edge

Solid Edge

↓ PDF Solid Edge ST6 Embedded Client Administrator's Guide  
 ↓ PDF Solid Edge ST6 Insight Implementation Guide  
 ↓ PDF Solid Edge ST6 Solid Edge SP Implementation Guide  
 ↓ PDF Solid Edge ST6 Standard Parts Installation Guide  
 Solid Edge ST6 Standard Parts User Guide  
 ↓ PDF Solid Edge ST6 Installation and Licensing  
 ↓ PDF Solid Edge ST6 Release Notes  
 ↓ PDF Solid Edge Insight XT Implementation Guide  
 ↓ PDF Solid Edge ST5 Embedded Client Administrator's Guide  
 ↓ PDF Solid Edge ST5 Insight Implementation Guide  
 ↓ PDF Solid Edge ST5 Release Notes  
 ↓ PDF Solid Edge ST5 Standard Parts Installation Guide  
 Solid Edge ST5 Standard Parts User Guide  
 ↓ PDF Solid Edge ST4 Embedded Client Administrator's Guide  
 ↓ PDF Solid Edge ST4 Insight Implementation Guide  
 ↓ PDF Solid Edge ST4 Node-Locked Pre-Registration Guide  
 ↓ PDF Solid Edge ST4 Release Notes  
 ↓ PDF Solid Edge ST4 Standard Parts User Guide  
 ↓ PDF Opening Solid Edge Documents via IE Hyperlinks  
 ↓ PDF Solid Edge ST3 Embedded Client Administrator's Guide  
 ↓ PDF Solid Edge ST3 Insight Implementation Guide  
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 ↓ PDF Solid Edge ST3 Standard Parts User Guide  
 ↓ PDF Solid Edge ST2 Embedded Client Administrator's Guide  
 Solid Edge ST2 Release Notes  
 ↓ PDF Solid Edge ST2 Standard Parts User Guide  
 ↓ PDF Solid Edge ST2 Insight Implementation Guide  
 ↓ PDF Solid Edge ST Embedded Client Administrator's Guide  
 ↓ PDF Solid Edge ST Programmer's Guide  
 ↓ PDF Solid Edge ST Standard Parts User Guide

Additional Document Links

> Common Licensing Toolkit  
 > Cortona3d  
 > Factory  
 > FEMAP  
 > Geolus  
 > Grip  
 > I-deas  
 > Imageware  
 > Jack  
 > Newsletter  
 > NX  
 > NX Nastran  
 > PLM Open  
 > SE Software (formerly Vistagy)  
 > SLATE  
 > Solid Edge  
 > Teamcenter (By Product)  
 > Tecnomatix  
 > Unigraphics Archive

↓ PDF Solid Edge ST Programmer's Guide

## Links & Resources

- The old programmers guide!
  - This was written in an effort to enable .NET developers to quickly get up to speed with automating Solid Edge
  - Learning the Solid Edge API can be a monumental task in itself
  - It takes most people several years before they feel comfortable with the API
  - While prior programming experience will indeed help, it is not necessary
  - Enables developers new to Solid Edge programming to quickly get started
  - There is an abundance of source code examples to learn from



# Links & Resources

- Siemens Solid Edge Developer Community

<http://community.plm.automation.siemens.com/t5/Solid-Edge-Developer-Community/ct-p/SolidEdgeDeveloperCommunity>

[Register](#) · [Sign In](#) · [Help](#)

Select Language ▼

> [Siemens PLM Community](#) > [Solid Edge Developer](#)


## Welcome to the Solid Edge Developer Community!

Ask questions, get help, find resources, learn new topics and latest news.

### Community

Solid Edge Developer Community	
Title	Posts
 Solid Edge Developer Forum	6665
 Solid Edge Developer Knowledge Base	24
 Solid Edge Developer Blog	46

### Latest Blog Posts




**How to configure Visual C++ 2013 for Solid Edge**

Programming in Visual C++ can be challenging at times for sure. Not only can the language be challenging, but knowing how to configure Visual Studio can also be difficult as settings change from version to version. In the following video, I demonstrate how to configure Visual C++ 2013 for Solid Edge development.

Read more...

2 weeks ago jnewell



**Closing Documents**

Prior to Solid Edge ST8 being released, one of the developers emailed me to give me a heads up on a new API to handle closing documents. The problem has always been that in order to close a document, you had to call the Close() method of that object. The problem was that Solid Edge couldn't fully close the document because we were still holding a reference to it. In ST8, we have a new option available.

Read more...








2 weeks ago jnewell

### Announcements

What are all these images  and what do they mean? Be sure to read the latest on [understanding your profile](#) to find out about all the latest Community changes.

### Explore, learn, and grow



-  [Get started and Rules of Participation](#)
-  [Enhance your profile and customize your avatar](#)
-  [Register for Solid Edge University and view the Developer Day Agenda](#)
-  [What's new in the Solid Edge Developer Community](#)
-  [Subscribe to the Solid Edge Developers Blog](#)
-  [Download the latest Solid Edge Maintenance Pack](#)
-  [Solid Edge API documentation](#)



## Links & Resources

- Siemens Solid Edge Developer Community
  - Knowledge Base















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Subject	Comments	Contributors	Latest Article
 <b>How can I learn Visual Basic or C#?</b> 	0		10-07-2013 04:33 PM by <b>burhop</b>
 <b>Interop for Solid Edge</b> 	0		10-02-2013 05:36 PM by <b>burhop</b>
 <b>Samples for Solid Edge - Codeplex</b> 	0		10-02-2013 05:33 PM by <b>burhop</b>
 <b>Deep dive into the Solid Edge Draft API</b> 	0		10-02-2013 05:30 PM by <b>burhop</b>
 <b>Solid Edge Develop Day Beginner Track</b> 	0		10-02-2013 05:29 PM by <b>burhop</b>



## Links & Resources

- Siemens Solid Edge Developer Community
  - Blog

### How to configure Visual C++ 2013 for Solid Edge

by  jnewell  2 weeks ago

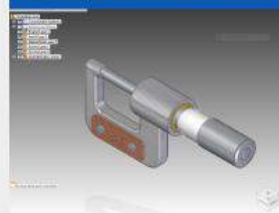
#### How to configure Visual C++ 2013 for Solid Edge

Programming in Visual C++ can be challenging at times for sure. Not only can the language be challenging, but knowing how to configure Visual Studio can also be difficult as settings change from version to version. In the following video, I demonstrate how to configure Visual C++ 2013 for Solid Edge development. Read more...

### Closing Documents

by  jnewell  2 weeks ago - last edited 2 weeks ago

#### Closing Documents



Prior to Solid Edge ST8 being released, one of the developers emailed me to give me a heads up on a new API to handle

closing documents. The problem has always been that in order to close a document, you had to call the Close() method of that object. The problem was that Solid Edge couldn't fully close the document because we were still holding a reference to it. In ST8, we have a new option available. Read more...

### Handling Solid Edge Events

by  jnewell  03-16-2015 09:26 PM

#### Handling Solid Edge Events

Solid Edge provides a wide range of COM event sets that notify us when certain things occur. In this article, I will

discuss how you can attach to these events from .NET. Prior to .NET, handling COM events was rather straightforward. It's a little trickier in .NET but still completely possible as you'll see. Read more...

### How to export draft images

by  jnewell  on 02-09-2015 06:08 AM

#### Export draft images



Have you ever had a need to export vector

### Solid Edge ST7 AddIn EdgeBar in C++

by  jnewell  12-15-2014 06:02 AM



### How to use NuGet for Solid Edge custom development

by  jnewell  01-23-2015 08:52 AM

#### How to use NuGet

# Links & Resources

- Siemens Solid Edge Developer Forum

<http://community.plm.automation.siemens.com/t5/Solid-Edge-Developer-Forum/bd-p/SEDeveloperForum>

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Subject	Replies	Author	Kudos	Views	Latest Post
Solid Edge App Marketplace	0	jnewell	3	1452	03-30-2015 01:41 PM by jnewell
Solid Edge University 2015 - Developer Day	8	jnewell	2	2139	05-31-2015 05:24 PM by jnewell
Useful Solid Edge Developer Community Links	4	jnewell	0	8324	03-31-2015 10:33 AM by jnewell
Show/Hide dimensions in assembly	0	AlanBaljeu	0	43	Saturday by AlanBaljeu
AddBlockByFile fails when file has underscore, onl...	0	__mike__	0	73	Saturday by __mike__
How do i use the command "SaveAsToTeamCenter"?	0	MarceloMarques	0	79	Thursday by MarceloMarques
hide thread on a draft	1	SolidEdgeDev	0	38720	Tuesday by MechtEngineer
Revision Manager, Copy both Draft and Part file	6	MAV21	0	629	a week ago by BalamuruganM
COPY ASSEMBLY FILE WITH ITS PART FILES AND LIKS	1	SergioH	0	198	a week ago by BalamuruganM
Drop Property Text	2	beachcomber	0	227	a week ago by beachcomber
Show/Hide specific Occurrences in an Assembly.asm ...	1	Don_E	0	230	2 weeks ago by GregLockett





## Links & Resources

- <http://www.experts-exchange.com>
  - Registration required
  - General programming
  - Pay, or help others

The screenshot shows the Experts Exchange website interface. At the top, there's a navigation bar with the site logo and various links like 'ASK', 'ANSWER', 'TOPICS', etc. Below the navigation bar, there's a search bar and a list of user statistics. The main content area displays a question titled 'How could I 'parse a matrix' recursively in VB.NET?'. The question is asked by DavidRothan and solved by Idle\_Mind. The question text describes a problem with a datagridview and provides a sample grid of values.

**How could I 'parse a matrix' recursively in VB.NET?**

Asked by: DavidRothan  
Solved by: Idle\_Mind

Hard to explain, much harder (for me) to solve, but here goes....

I have a matrix of information. The information is in a datagridview, but that is inconsequential. The question is relevant to any data in any grid.

So, Imagine a grid like this.

```
1,3,1
1,3,1
1,3,1
```

The first column is any start value, the second column is any end value and the third column is any increment (step) value.

**User Statistics:**

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My Participated Questions	0
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My Personal Knowledgebase	0
My Articles	0
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# Questions?

**James Singleton**

Senior Applications Engineer

Phone: 07990 575799

[JSingleton@PrionCuttingEdge.co.uk](mailto:JSingleton@PrionCuttingEdge.co.uk)

**Dave Rothan**

Technical Consultant

Phone: 07730 143734

[dave.rothan@majentaplms.com](mailto:dave.rothan@majentaplms.com)

