Bringing your Inventor Add-in into Forge Design Automation

Andrew Akenson

Software Architect | Autodesk

```
if (!you.IntoCode()) {
   System.Console.WriteLine("This may not be for you");
}
```

Design Automation Overview

Inventor C# Add-in example

During the course of this presentation, we may make statements regarding future events and/or statements regarding planned or future development efforts for our existing or new products and services. We wish to caution you that such statements reflect our current expectations, estimates and assumptions based on factors currently known to us and that actual events or results could differ materially. Also, these statements are not intended to be a promise or guarantee of future delivery of products, services or features but merely reflect our current plans, which may change. Purchasing decisions should not be made based upon reliance on these statements. The statements made in this presentation are being made as of the time and date of its live presentation. We do not assume any obligation to update any statements we make to reflect events that occur or circumstances that exist after the date of this presentation.


FORGE OFFERING

Data Management API

Reality Capture API

Design Automation API

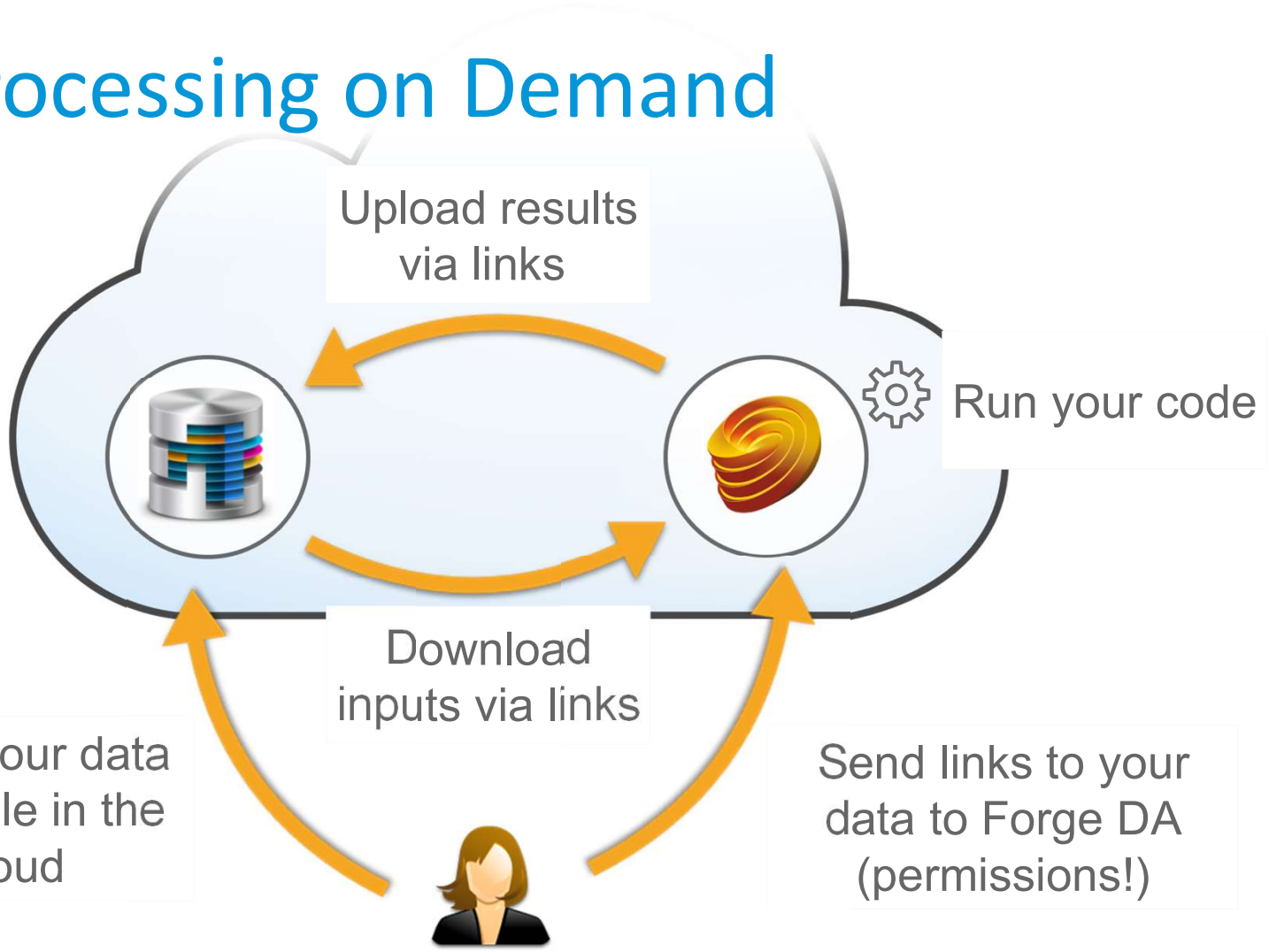
BIM 360 API

Model Derivative API & Viewer

Webhooks API

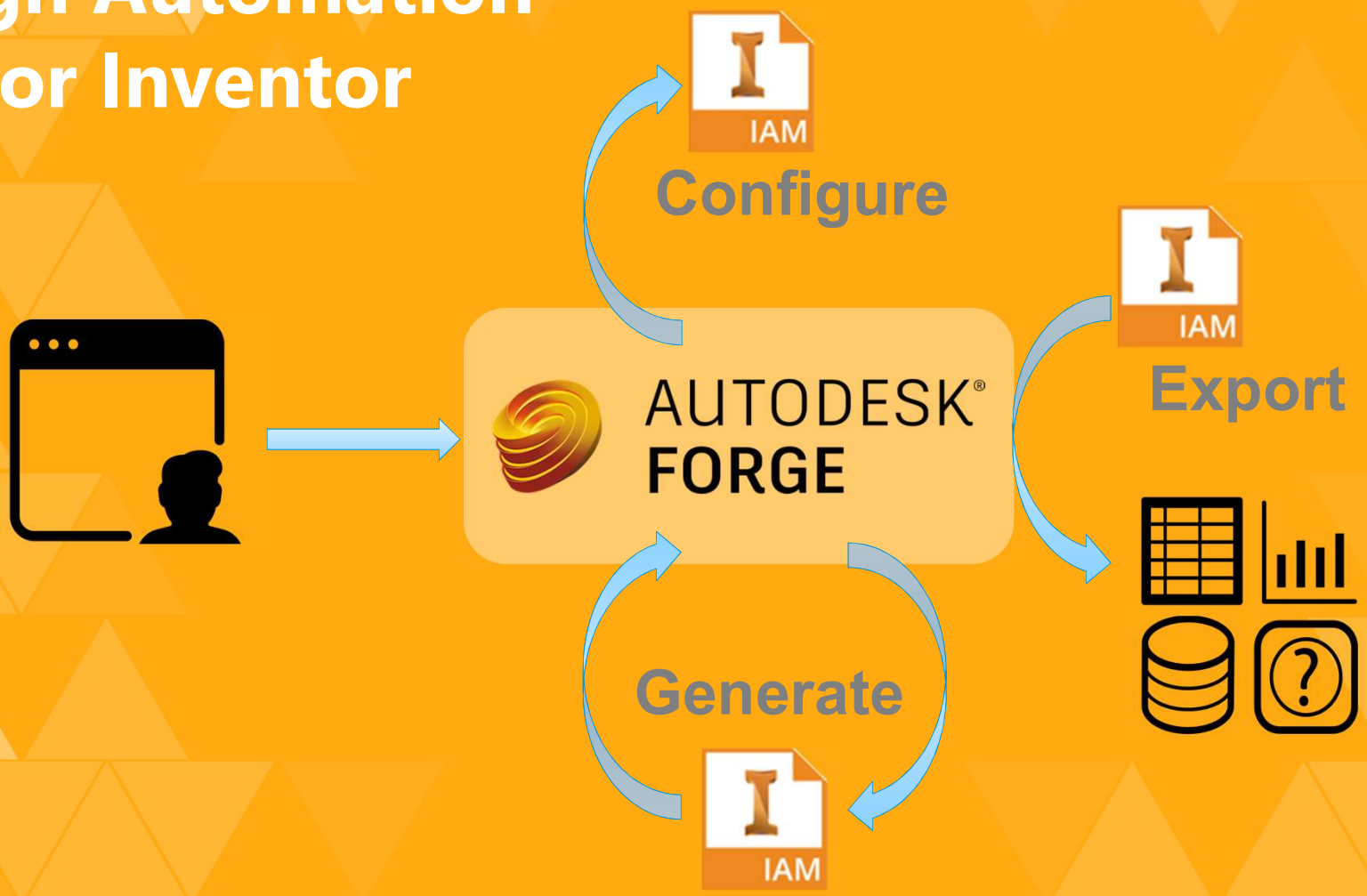
Design Automation for Inventor now in Public Beta!

Data Processing on Demand



ⓘ Input/outputs are **NOT** stored, they are downloaded/processed and **DISCARDED**

Design Automation API for Inventor



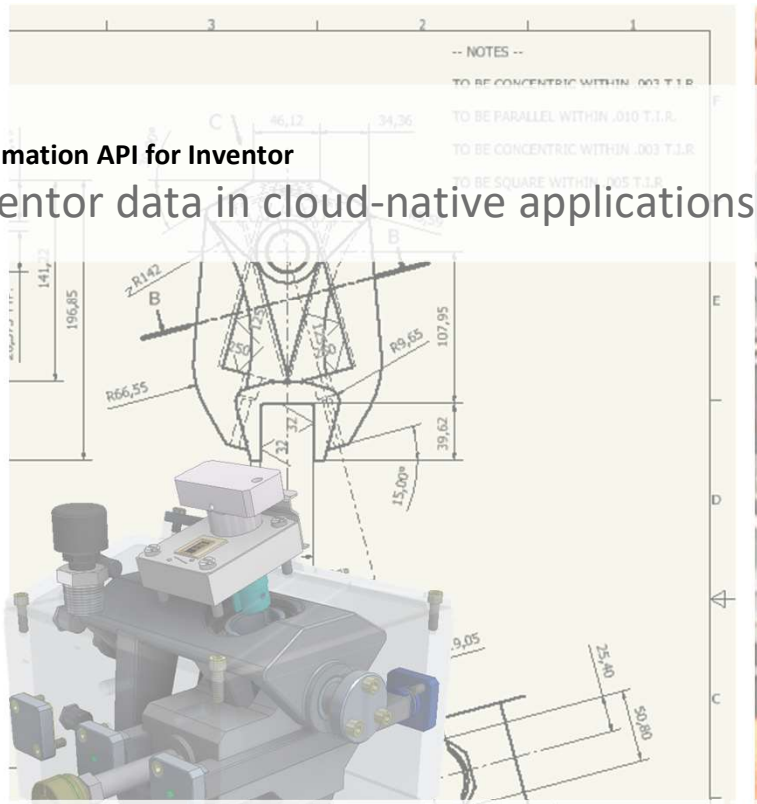
AUTODESK® FORGE

Design Automation API for Inventor

Use Inventor data in cloud-native applications to automate at scale

Configure

- Engineering Automation
- Sales Configuration
- iLogic



Export

- CAD Formats
- Drawings
- BOM
- Custom Interop

Generate

- Design Alternatives
- Product Families
- Model Validation
- Bulk Operations

Add-in Proof of Concept

coolOrange

Who

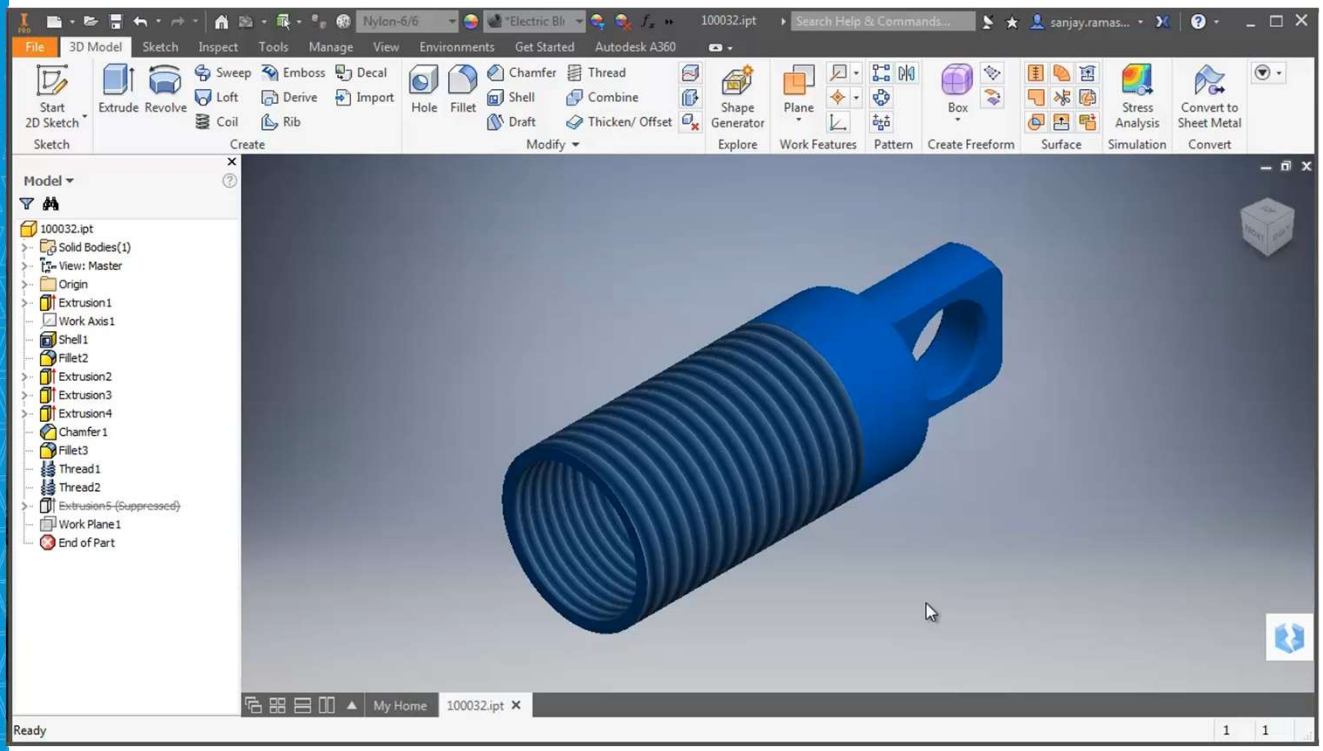
Development partner working with customers in data management and custom Add-ins.

Situation

Work with the Design Automation team to bring an Add-in into Design Automation for Demos

Solution

Starting with an existing Inventor Add-in that takes cosmetic threads and creates models threads for printing, convert this to a Design Automation plug-in to show how to take existing Inventor Add-ins and automate that workflow in Forge.



APIs Used:

Design Automation

Viewer

GENERATE

Design Automation Terminology

The API

V3 HTTP Endpoint	Programming concept	Product concept	V2 HTTP Endpoint
/workitems	Function call	Product execution, job	/WorkItems
/activities	Function definition	Input/Output types, parameters	/Activities
/appbundles	Shared library	Plugin	/AppPackages
/engines	Instruction set	Product (inventor, autocad..) to use	/Engines

Slide 12

JS4 This seems to be to deeply technical. But it depends on the auditorium - who it is targeted at.
Jirka Stejskal, 6/6/2018

Design Automation in Inventor Terminology

APPBUNDLES

Inventor Plugins

ACTIVITIES

Interface between AppBundle and Work Item

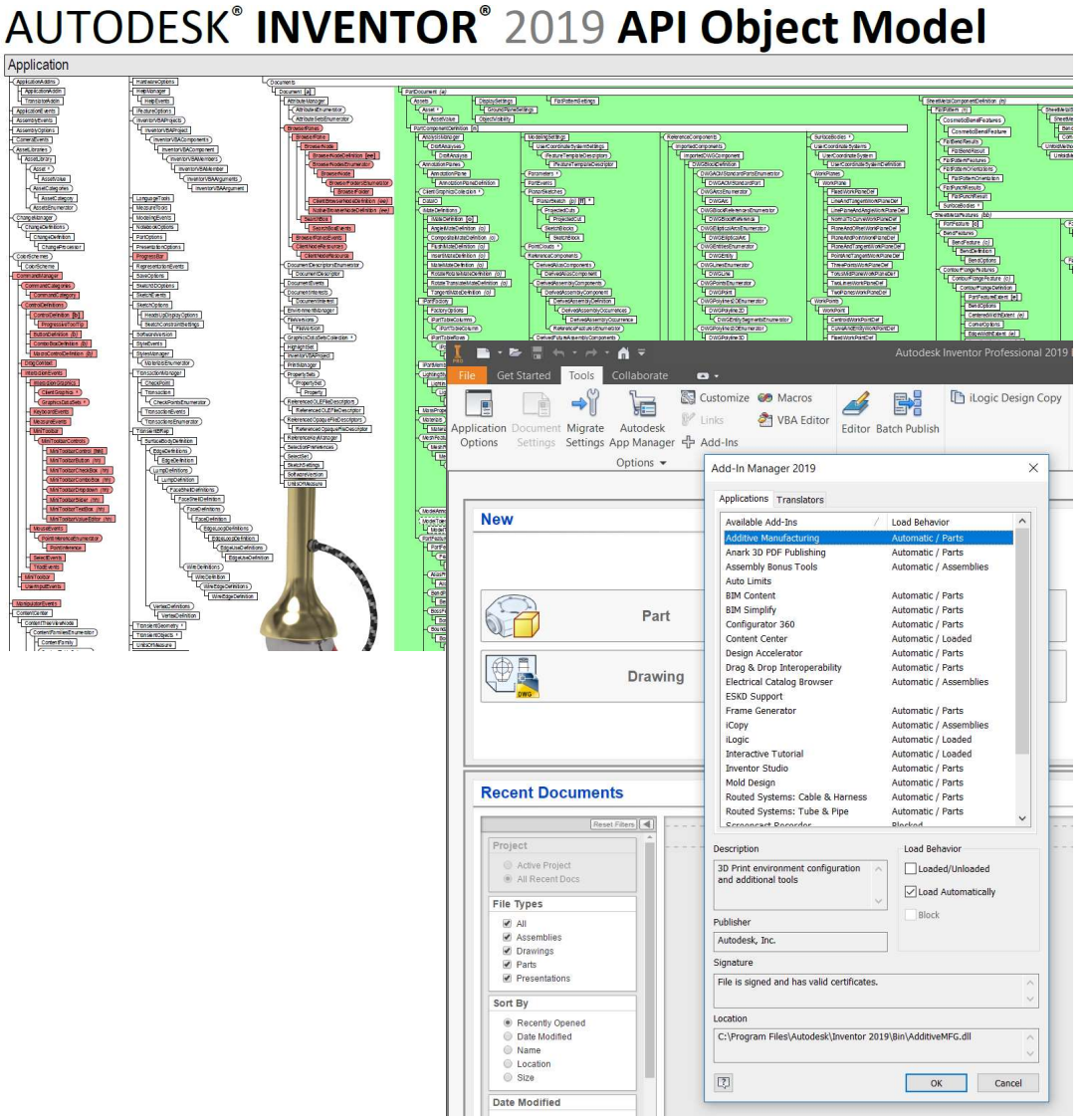
WORKITEMS

Job to run on InventorServer in Forge

ENGINE

InventorServer – multiple versions

Inventor AppBundles



Upload Inventor plug-in **code**

- Plug-ins are like Add-ins without UI.
- Supports all Inventor API languages (C++, C#, VB.NET)
- Upload your own code or use shared AppBundles
- Specify Inventor version
- Zip file containing plug-in and any other dependencies

Can also be:

- **Shared** – By Forge ID or everyone
- **Aliased** – Production, Beta, Alpha
- **Versioned**

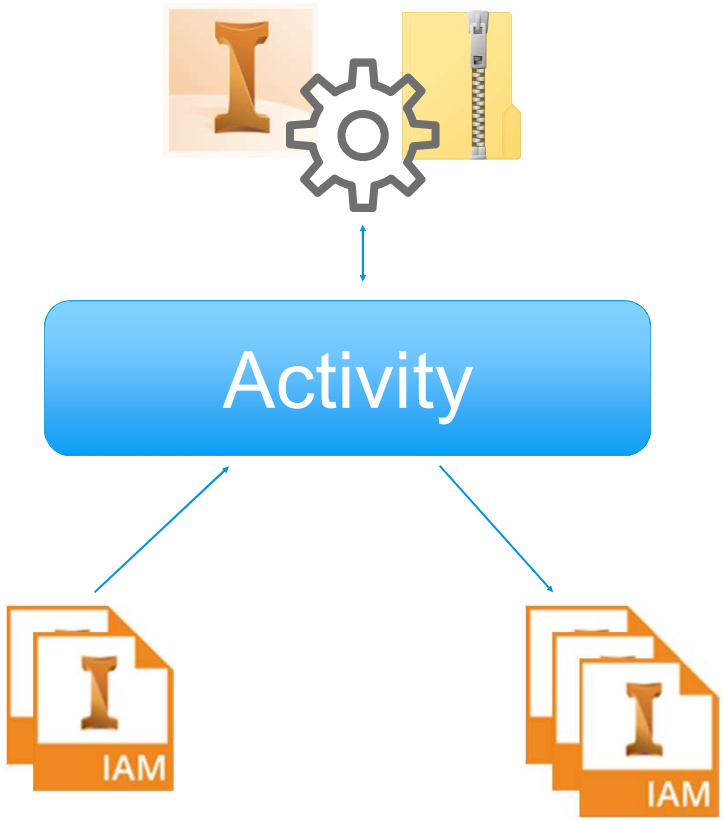
Inventor Activities

Describes:

- Which **AppBundle** to use
- How many **input** files
- **Zip** files (data sets)
- **Type of Parameter**
- How many **outputs**

Can also be:

- **Shared** – By Forge ID or everyone
- **Aliased** – Production, Beta, Alpha
- **Versioned**



Slide 15

JS3 It would be great to have some real life example - commented JSon?
Jirka Stejskal, 6/6/2018

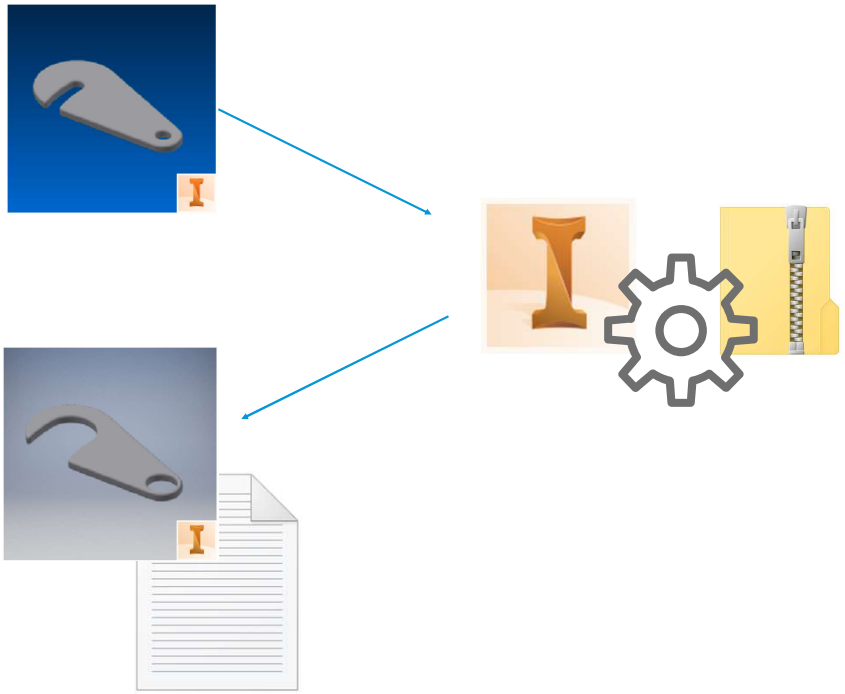
Inventor WorkItems

Describes:

- **Link(s)** to input file(s)
- Link to output file **location(s)**
- Parameter **values**

Results

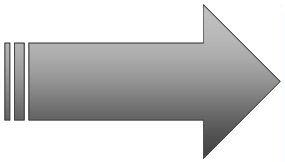
- **Status** – Complete, Error, Pending
  - **Polling** or **Callback**
- **Log file** – Debug output, error handling

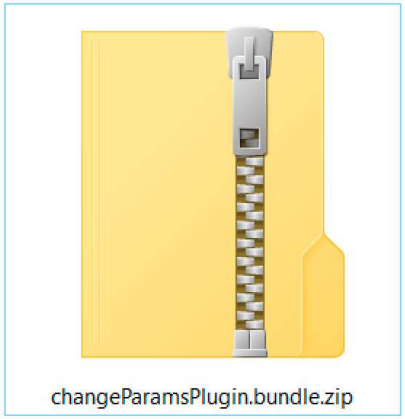


Inventor AppBundle Example

```
\---changeParamsPlugin.bundle
    |   PackageContents.xml
    |
    \---Contents
            changeParamsPlugin.dll
            changeParamsPlugin.Inventor.addin
```

```
Platform="Inventor"
ModuleName=
  "./Contents/changeParamsPlugin.Inventor.addin"
```





Inventor Engines

- Multiple Versions
- Run jobs in parallel
- Optimized for Inventor workflows
- iLogic and translator plugins loaded
- Custom plug-ins
- No license needed, just pay for use

- Limited Excel
- No sticky sessions
- No Application Add-ins (Frame Generator, T&P…)
- No ETO

Runs in a “sandbox”

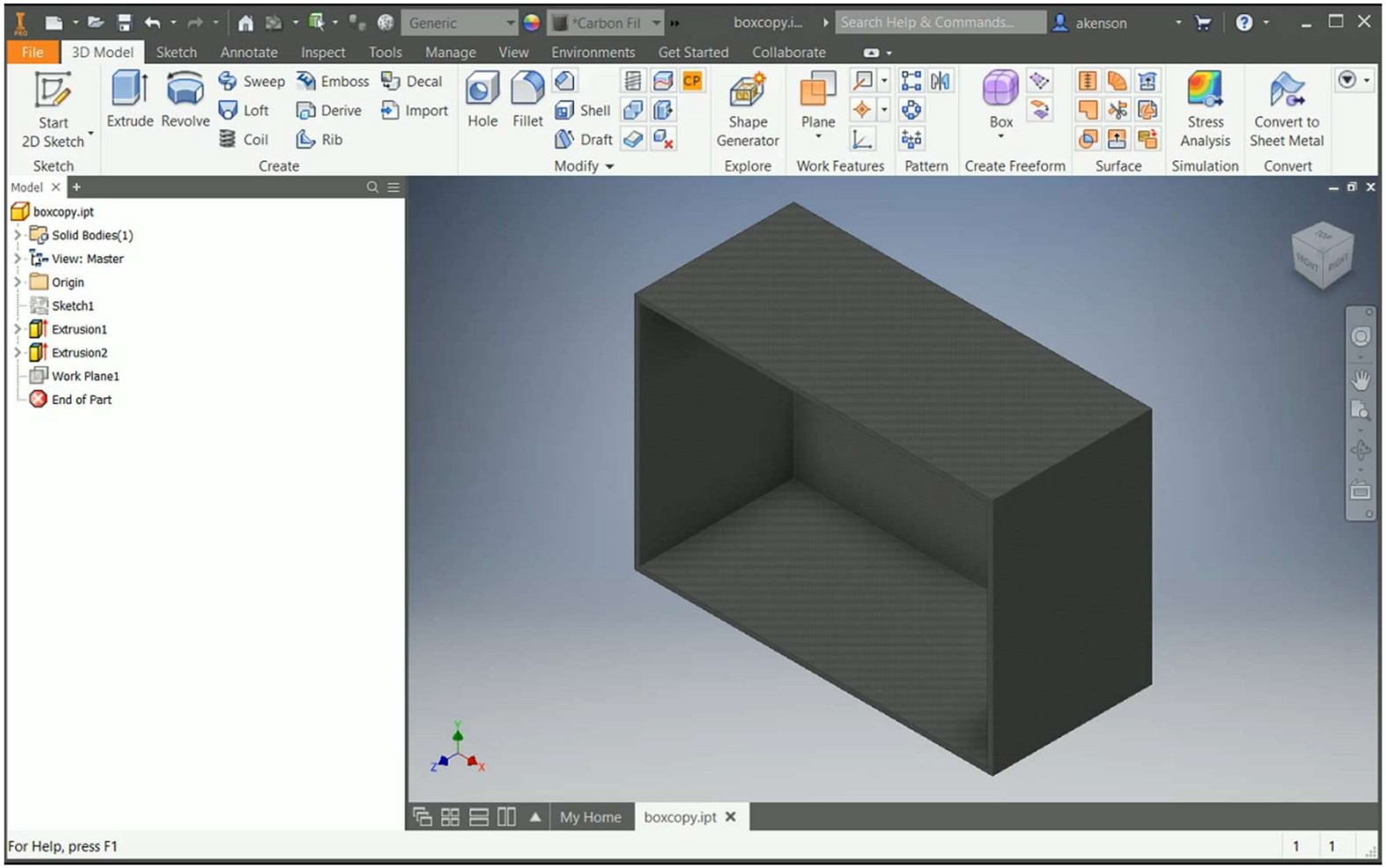
- One job per worker, nothing shared with anyone else
- Protects your code, protects our infrastructure
- No access outside of working directory

Quotas and Limits

- Input and Output file size
- Job duration

Debug locally before uploading

Simple Add-in example: “Change Param”



“Change Param” source Github

```
$ git clone https://github.com/akenson/change-param-addin.git
```

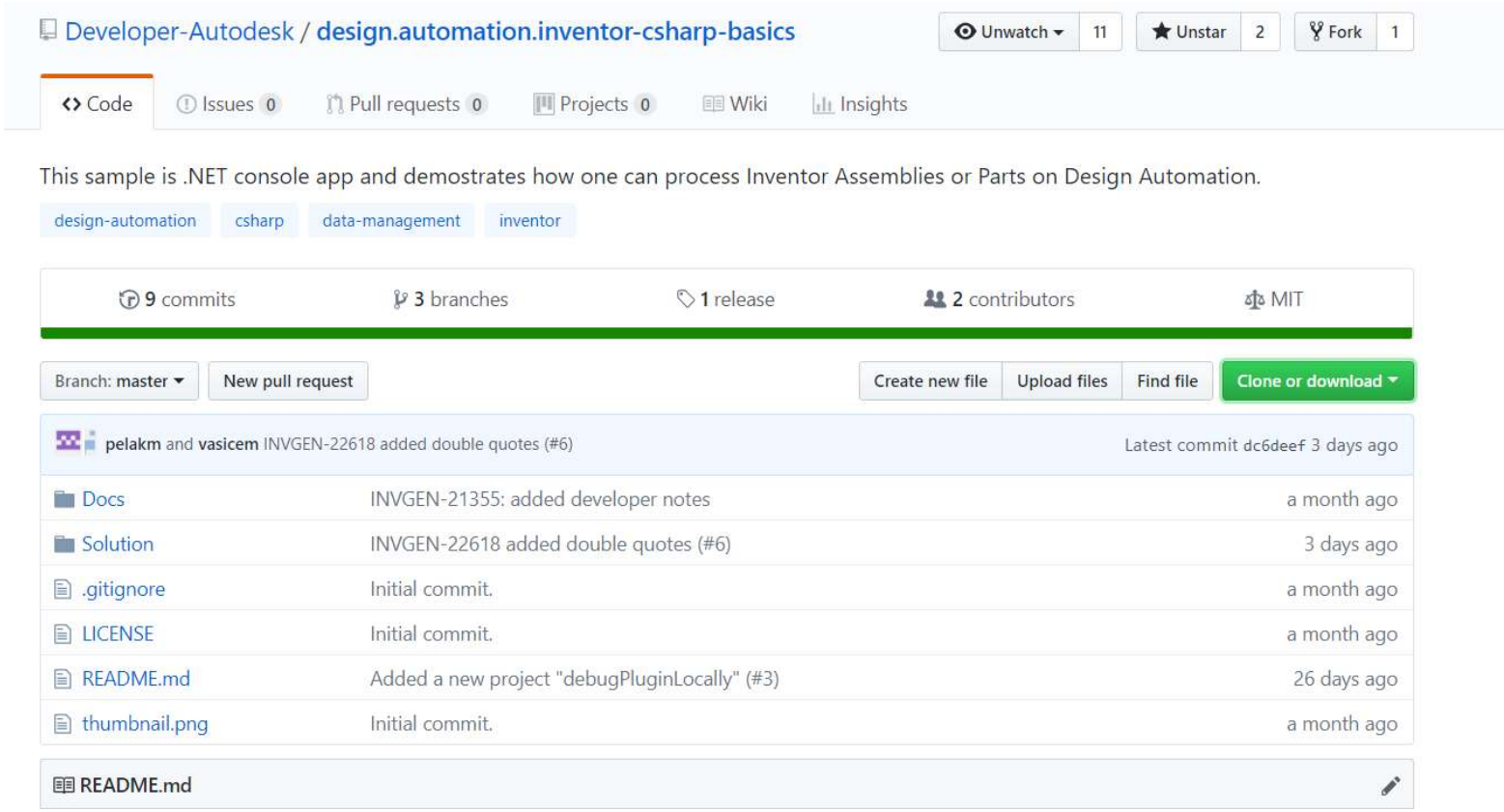
change-param-addin

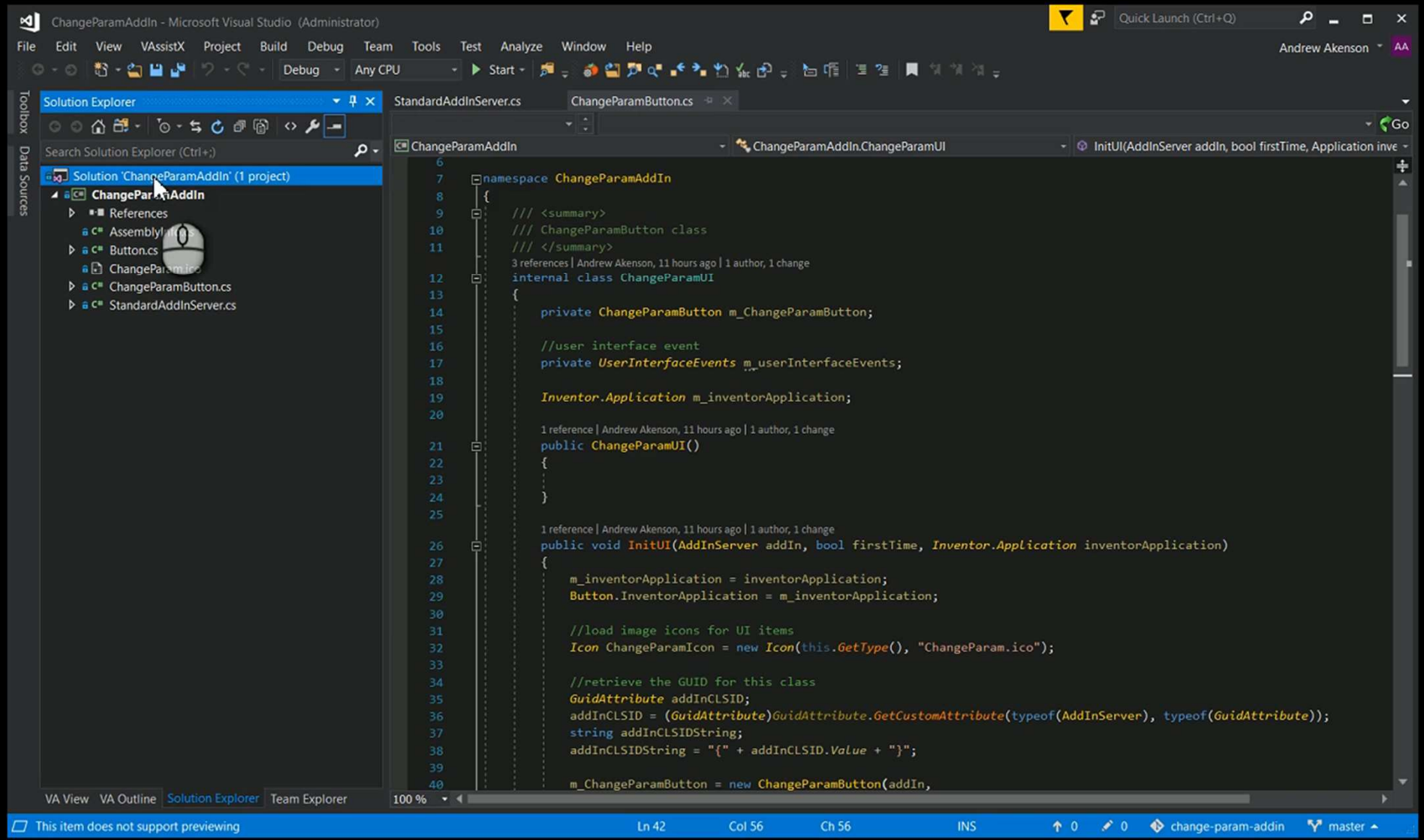
This Add-in is intented as a very simple Inventor add-in to show how to take an existing Inventor Add-in and turn it into an AppBundle as a learning excersize for AU 2018.

1. Start Visual Studio 2017 or later as Administrator
2. Open TurnBlueAddIn.sln in Visual Studio
3. Build solution
4. Copy Autodesk.ChangeParam.Inventor.addin to %PROGRAMDATA%/Autodesk/Inventor <version>/Addins
5. Copy the ouptut dll in bin//ChangeParamAddIn.dll that you built in step 2 to %PROGRAMFILES%/Autodesk/Inventor <version>/Bin
6. Run Inventor, you should see a Message Box stating that the Change Param add-in is enabled.
7. Open a Part
8. Got to the Model Tab and Modify Pane.
9. Click on the "Change Param" button and it should change the "height" parameter to "1"

Get the “Debug Local” project from Github

```
$ git clone https://github.com/Developer-Autodesk/design.automation.inventor-csharp-basics.git
```




ChangeParamAddIn - Microsoft Visual Studio (Administrator)
File Edit View VAssistX Project Build Debug Team Tools Test Analyze Window Help
Andrew Akenson
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Solution 'ChangeParamAddIn' (1 project)
ChangeParamAddIn
References
Button.cs
ChangeParamButton.cs
StandardAddInServer.cs
StandardAddInServer.cs
ChangeParamButton.cs
ChangeParamAddIn
ChangeParamAddIn.ChangeParamUI
InitUI(AddInServer addIn, bool firstTime, Application inve
namespace ChangeParamAddIn
{
/// <summary>
/// ChangeParamButton class
/// </summary>
3 references | Andrew Akenson, 11 hours ago | 1 author, 1 change
internal class ChangeParamUI
{
private ChangeParamButton m_ChangeParamButton;
//user interface event
private UserInterfaceEvents m_userInterfaceEvents;
Inventor.Application m_inventorApplication;
1 reference | Andrew Akenson, 11 hours ago | 1 author, 1 change
public ChangeParamUI()
{
}
1 reference | Andrew Akenson, 11 hours ago | 1 author, 1 change
public void InitUI(AddInServer addIn, bool firstTime, Inventor.Application inventorApplication)
{
m_inventorApplication = inventorApplication;
Button.InventorApplication = m_inventorApplication;
//load image icons for UI items
Icon ChangeParamIcon = new Icon(this.GetType(), "ChangeParam.ico");
//retrieve the GUID for this class
GuidAttribute addInCLSID;
addInCLSID = (GuidAttribute)GuidAttribute.GetCustomAttribute(typeof(AddInServer), typeof(GuidAttribute));
string addInCLSIDString;
addInCLSIDString = "{" + addInCLSID.Value + "}";
m_ChangeParamButton = new ChangeParamButton(addIn,
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This item does not support previewing
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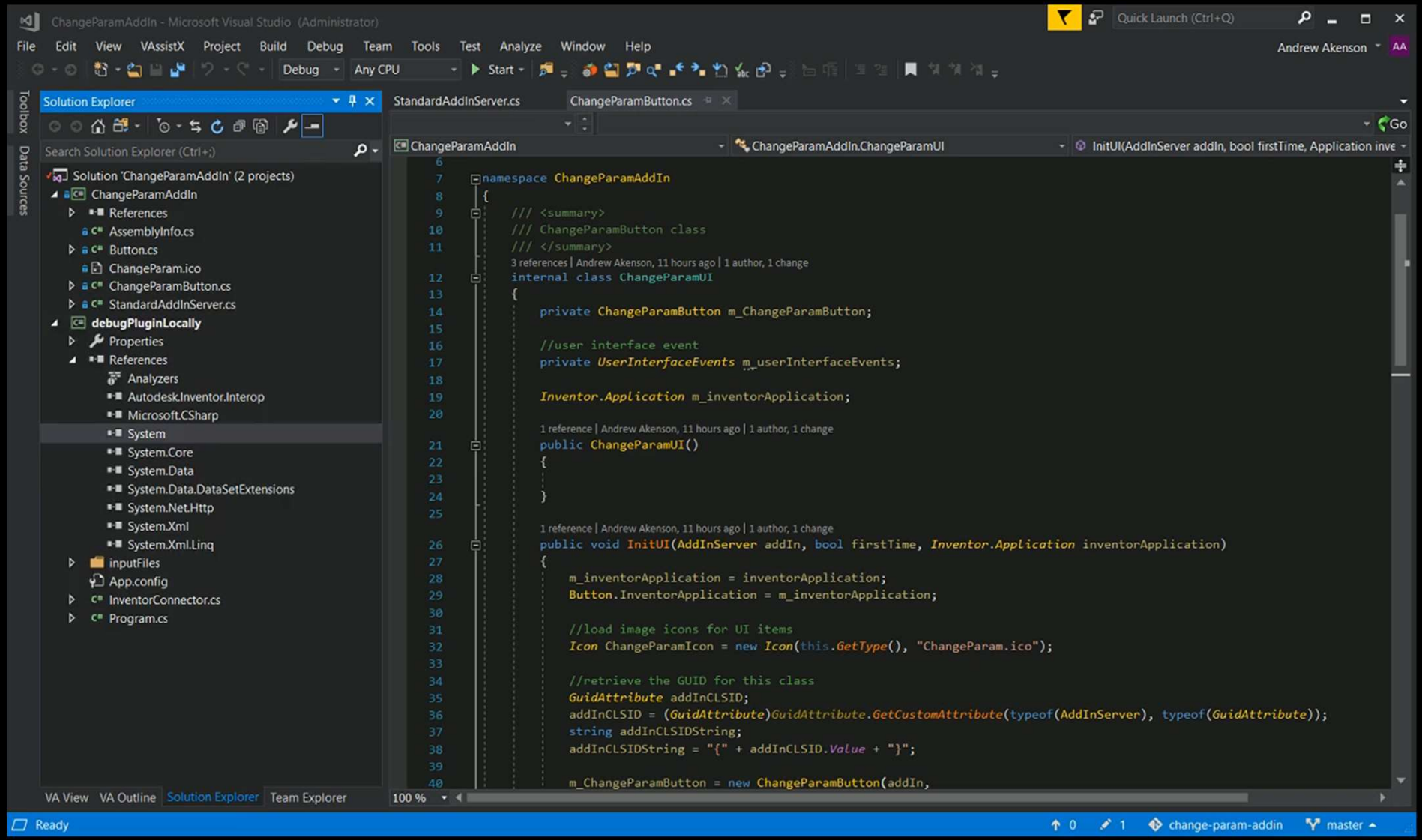
change-param-addin
master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ChangeParamAddIn
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AssemblyInfo.cs
Button.cs
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Analyzers
Autodesk.Inventor.Interop
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System.Xml.Linq
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InventorConnector.cs
Program.cs
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ChangeParamButton.cs
ChangeParamAddIn
ChangeParamAddIn.ChangeParamUI
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Go
namespace ChangeParamAddIn
{
/// <summary>
/// ChangeParamButton class
/// </summary>
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internal class ChangeParamUI
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private ChangeParamButton m_ChangeParamButton;
//user interface event
private UserInterfaceEvents m_userInterfaceEvents;
Inventor.Application m_inventorApplication;
1 reference | Andrew Akenson, 11 hours ago | 1 author, 1 change
public ChangeParamUI()
{
}
1 reference | Andrew Akenson, 11 hours ago | 1 author, 1 change
public void InitUI(AddInServer addIn, bool firstTime, Inventor.Application inventorApplication)
{
m_inventorApplication = inventorApplication;
Button.InventorApplication = m_inventorApplication;
//load image icons for UI items
Icon ChangeParamIcon = new Icon(this.GetType(), "ChangeParam.ico");
//retrieve the GUID for this class
GuidAttribute addInCLSID;
addInCLSID = (GuidAttribute)GuidAttribute.GetCustomAttribute(typeof(AddInServer), typeof(GuidAttribute));
string addInCLSIDString;
addInCLSIDString = "{" + addInCLSID.Value + "}";
m_ChangeParamButton = new ChangeParamButton(addIn,
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Ready
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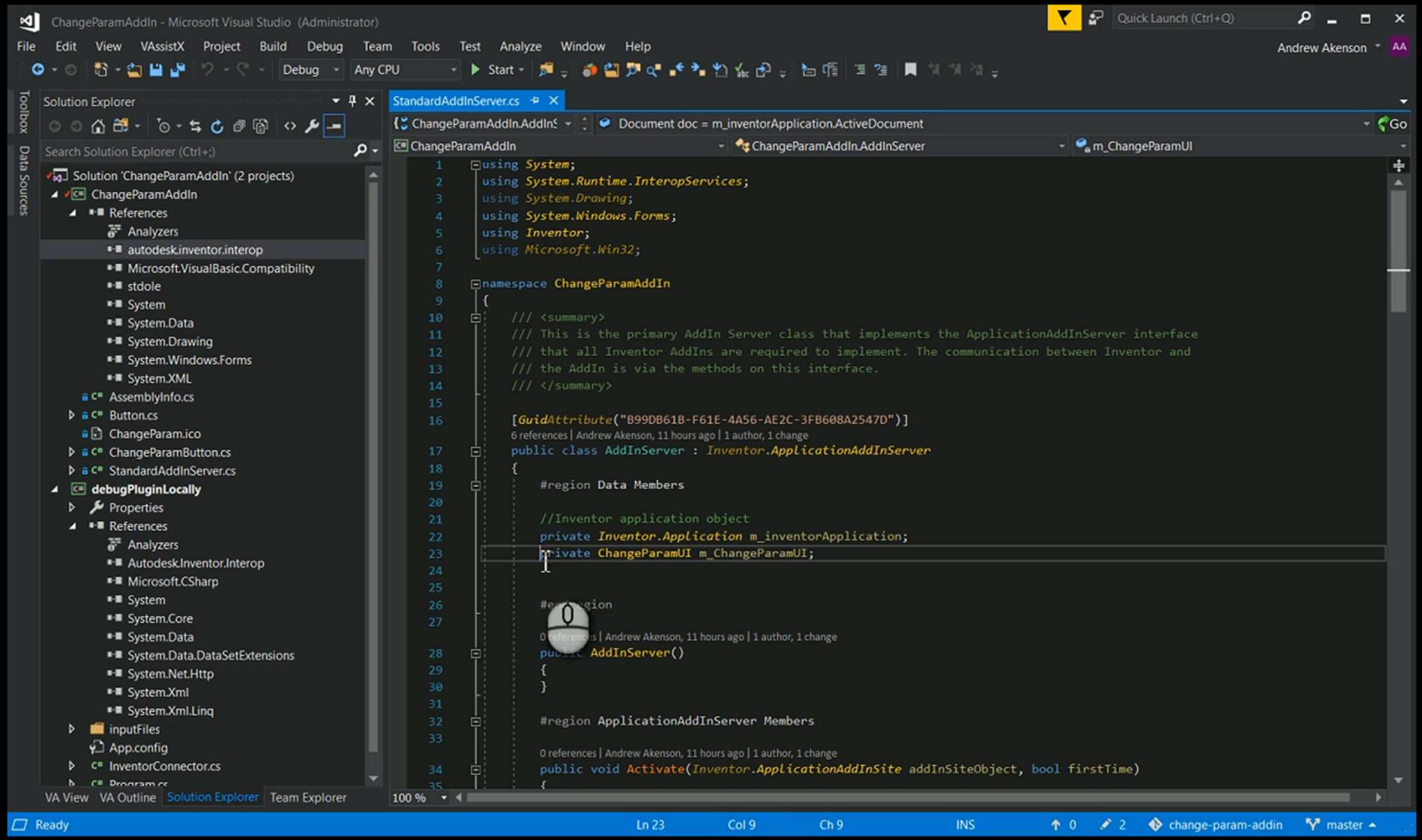
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Document doc = m_inventorApplication.ActiveDocument
Go
ChangeParamAddIn
ChangeParamAddIn.AddInServer
m_ChangeParamUI
using System;
using System.Runtime.InteropServices;
using System.Drawing;
using System.Windows.Forms;
using Inventor;
using Microsoft.Win32;
namespace ChangeParamAddIn
{
/// <summary>
/// This is the primary AddIn Server class that implements the ApplicationAddInServer interface
/// that all Inventor AddIns are required to implement. The communication between Inventor and
/// the AddIn is via the methods on this interface.
/// </summary>
[GuidAttribute("B99DB61B-F61E-4A56-AE2C-3FB608A2547D")]
6 references | Andrew Akenson, 11 hours ago | 1 author, 1 change
public class AddInServer : Inventor.ApplicationAddInServer
{
#region Data Members
//Inventor application object
private Inventor.Application m_inventorApplication;
private ChangeParamUI m_ChangeParamUI;
#endregion
0 references | Andrew Akenson, 11 hours ago | 1 author, 1 change
public AddInServer()
{
}
#region ApplicationAddInServer Members
0 references | Andrew Akenson, 11 hours ago | 1 author, 1 change
public void Activate(Inventor.ApplicationAddInSite addInSiteObject, bool firstTime)
{
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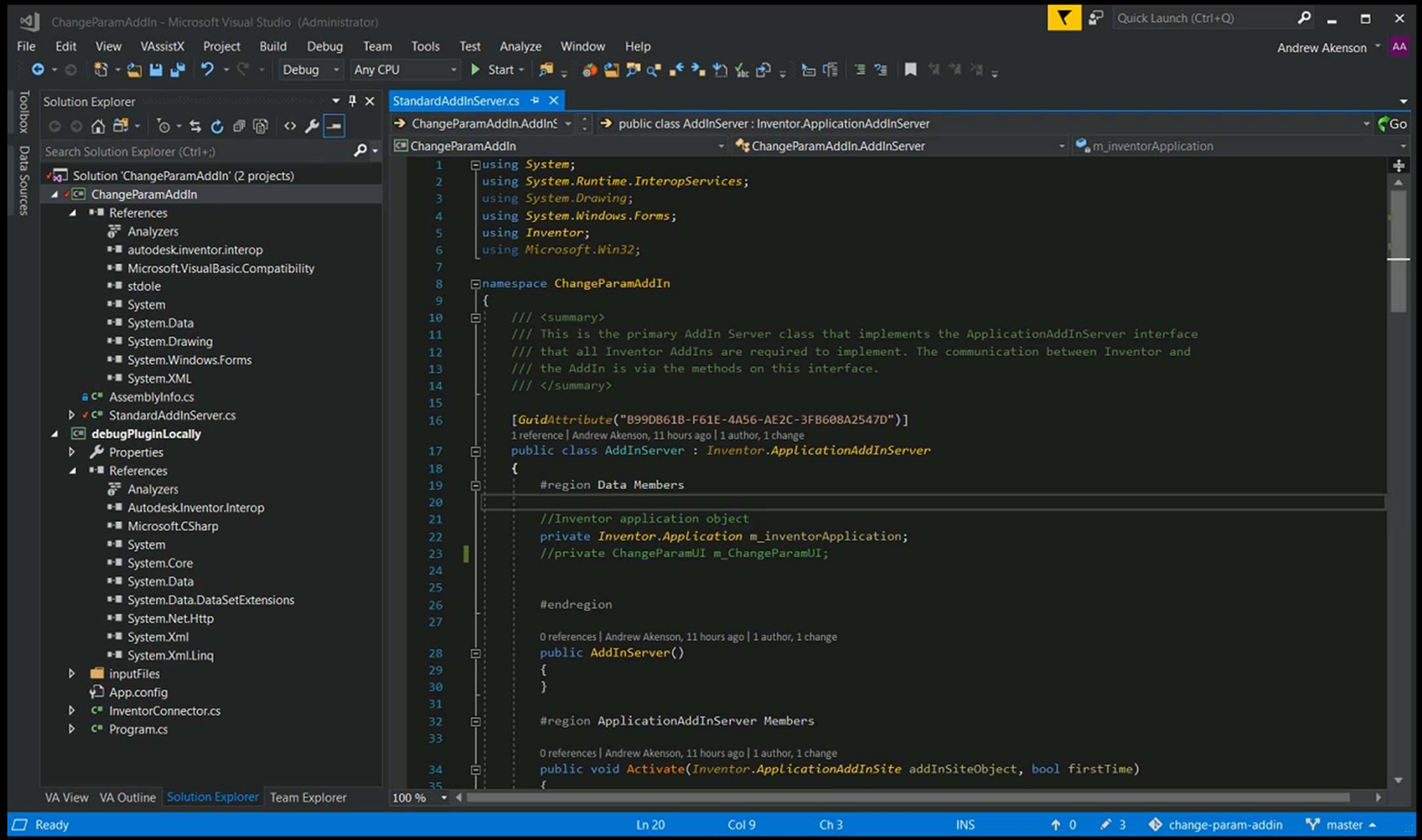
master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ChangeParamAddIn.AddInS
public class AddInServer : Inventor.ApplicationAddInServer
Go
ChangeParamAddIn
ChangeParamAddIn.AddInServer
m_inventorApplication
using System;
using System.Runtime.InteropServices;
using System.Drawing;
using System.Windows.Forms;
using Inventor;
using Microsoft.Win32;
namespace ChangeParamAddIn
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/// <summary>
/// This is the primary AddIn Server class that implements the ApplicationAddInServer interface
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/// the AddIn is via the methods on this interface.
/// </summary>
[GuidAttribute("B99DB61B-F61E-4A56-AE2C-3FB608A2547D")]
1 reference | Andrew Akenson, 11 hours ago | 1 author, 1 change
public class AddInServer : Inventor.ApplicationAddInServer
{
#region Data Members
//Inventor application object
private Inventor.Application m_inventorApplication;
//private ChangeParamUI m_ChangeParamUI;
#endregion
0 references | Andrew Akenson, 11 hours ago | 1 author, 1 change
public AddInServer()
{
}
#region ApplicationAddInServer Members
0 references | Andrew Akenson, 11 hours ago | 1 author, 1 change
public void Activate(Inventor.ApplicationAddInSite addInSiteObject, bool firstTime)
{
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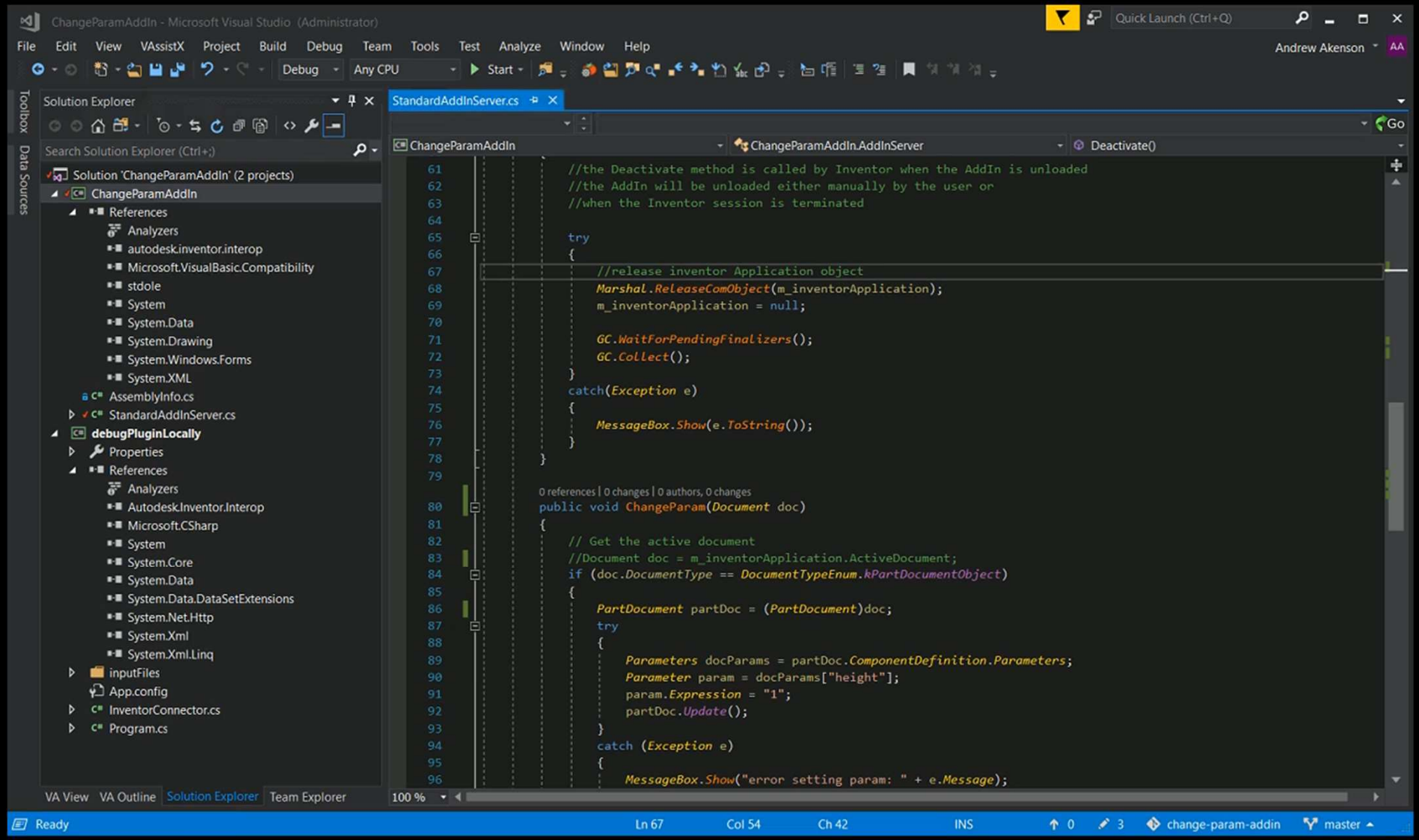
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Deactivate()
Go
//the Deactivate method is called by Inventor when the AddIn is unloaded
//the AddIn will be unloaded either manually by the user or
//when the Inventor session is terminated
try
{
//release inventor Application object
Marshal.ReleaseComObject(m_inventorApplication);
m_inventorApplication = null;
GC.WaitForPendingFinalizers();
GC.Collect();
}
catch(Exception e)
{
MessageBox.Show(e.ToString());
}
}
0 references | 0 changes | 0 authors, 0 changes
public void ChangeParam(Document doc)
{
// Get the active document
//Document doc = m_inventorApplication.ActiveDocument;
if (doc.DocumentType == DocumentTypeEnum.kPartDocumentObject)
{
PartDocument partDoc = (PartDocument)doc;
try
{
Parameters docParams = partDoc.ComponentDefinition.Parameters;
Parameter param = docParams["height"];
param.Expression = "1";
partDoc.Update();
}
catch (Exception e)
{
MessageBox.Show("error setting param: " + e.Message);
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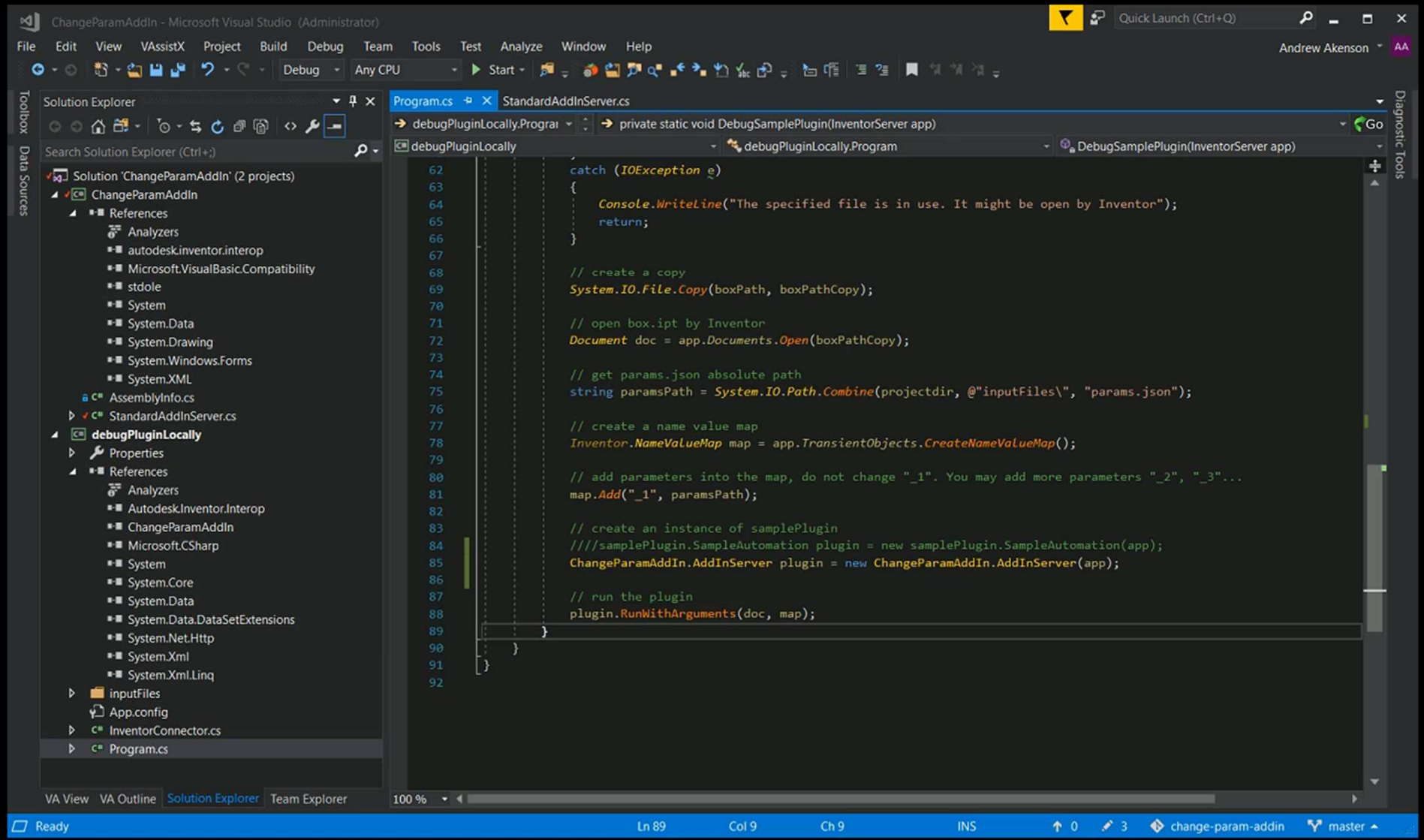
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private static void DebugSamplePlugin(InventorServer app)
Go
debugPluginLocally
debugPluginLocally.Program
DebugSamplePlugin(InventorServer app)
62 catch (IOException e)
63 {
64 Console.WriteLine("The specified file is in use. It might be open by Inventor");
65 return;
66 }
67
68 // create a copy
69 System.IO.File.Copy(boxPath, boxPathCopy);
70
71 // open box.ipt by Inventor
72 Document doc = app.Documents.Open(boxPathCopy);
73
74 // get params.json absolute path
75 string paramsPath = System.IO.Path.Combine(projectdir, @"inputFiles\", "params.json");
76
77 // create a name value map
78 Inventor.NameValueMap map = app.TransientObjects.CreateNameValueMap();
79
80 // add parameters into the map, do not change "_1". You may add more parameters "_2", "_3"...
81 map.Add("_1", paramsPath);
82
83 // create an instance of samplePlugin
84 ////samplePlugin.SampleAutomation plugin = new samplePlugin.SampleAutomation(app);
85 ChangeParamAddIn.AddInServer plugin = new ChangeParamAddIn.AddInServer(app);
86
87 // run the plugin
88 plugin.RunWithArguments(doc, map);
89 }
90 }
91 }
92
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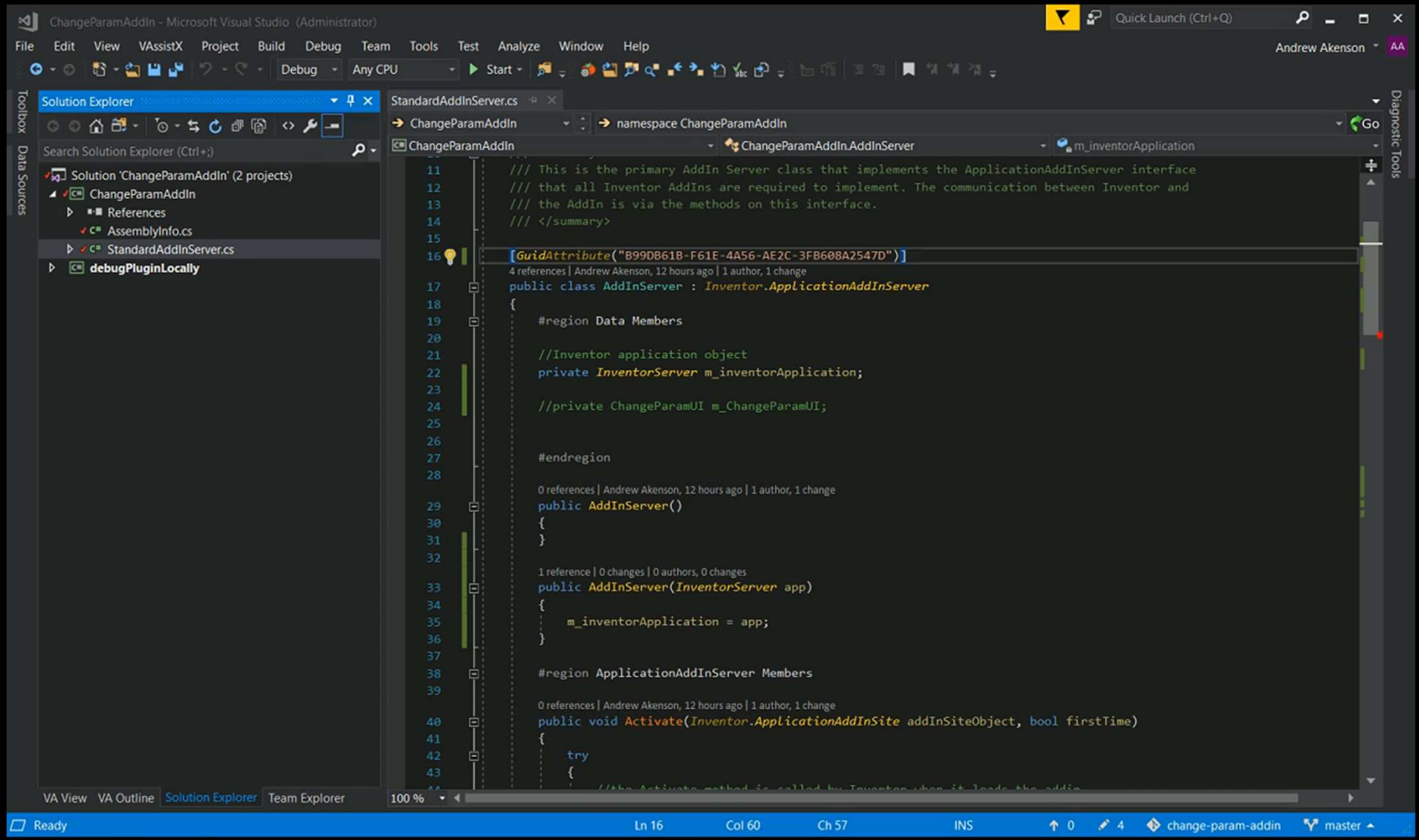
0 3 change-param-addin master
Toolbox
Data Sources
Diagnostic Tools

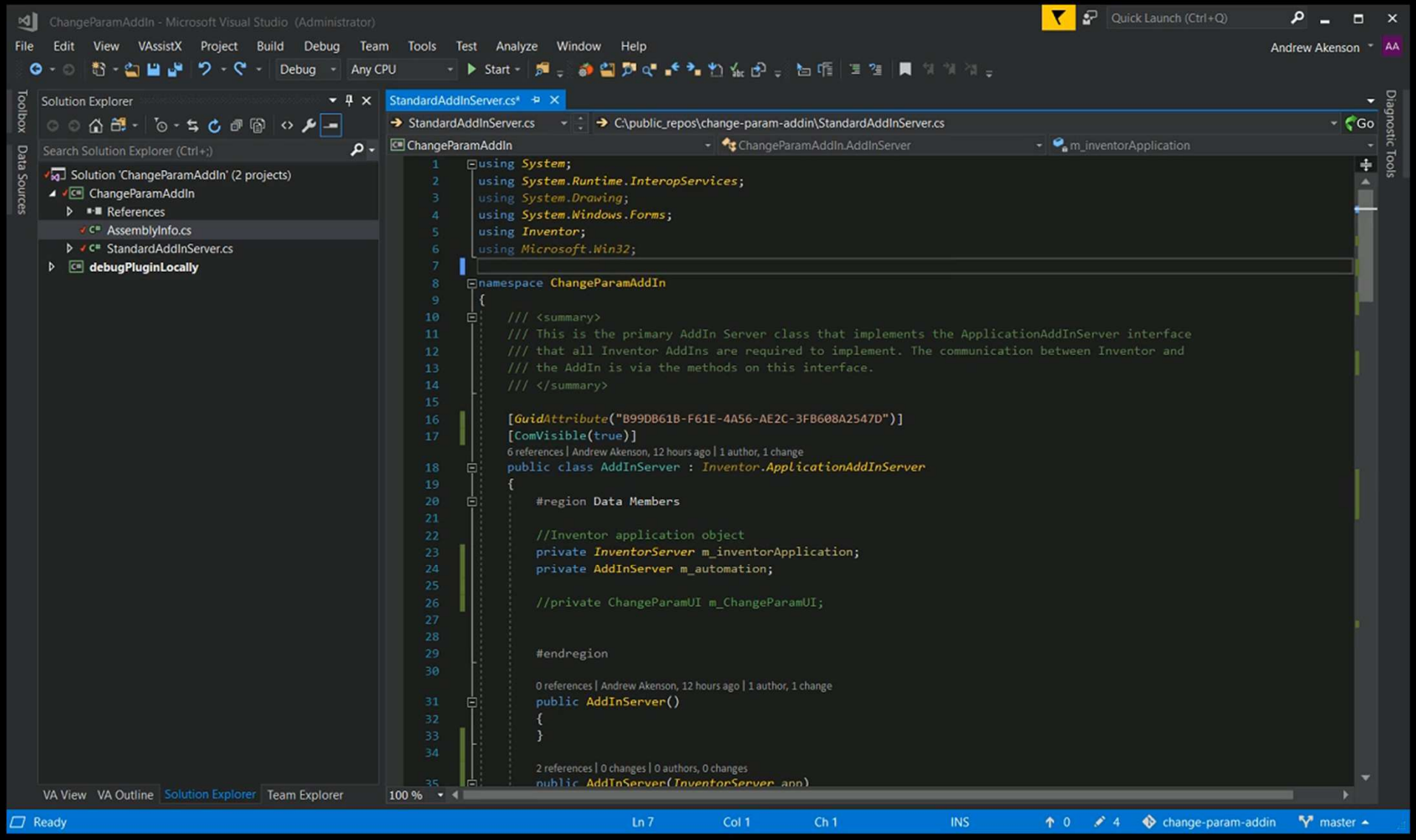
A little more work to do on the environment…

[11/09/2018 23:29:31] Starting work item b1f8908ced664131b6746c1750df9f80
[11/09/2018 23:29:31] Start download phase.
[11/09/2018 23:29:31] Start downloading file https://s3-us-west-2.amazonaws.com/inventorio-prod/documentation/APIBasics/Box.ipt.
[11/09/2018 23:29:31] Start preparing AppPackage ChangeParam.
[11/09/2018 23:29:31] Download bits and install app to local cache.
[11/09/2018 23:29:31] Embedded resource [{"height":"16 in", "width":"10 in"}] is saved as file: T:\Aces\Jobs\b1f8908ced664131b6746c1750df9f80\params.json.
[11/09/2018 23:29:31] End downloading file https://s3-us-west-2.amazonaws.com/inventorio-prod/documentation/APIBasics/Box.ipt. 117760 bytes have been written to T:\Aces\Jobs\b1f8908ced664131b6746c1750df9f80\Box.ipt.
[11/09/2018 23:29:31] End download phase.
[11/09/2018 23:29:32] Error: Failed to prepare app package(s).
[11/09/2018 23:29:32] Error: An unexpected error happened during phase Downloading of job.
[11/09/2018 23:29:32] Job finished with result FailedEnvironmentSetup


ChangeParamAddIn - Microsoft Visual Studio (Administrator)
Quick Launch (Ctrl+Q)
File Edit View VAssistX Project Build Debug Team Tools Test Analyze Window Help
Andrew Akenson
Debug
Any CPU
Start
Solution Explorer
Search Solution Explorer (Ctrl+;)
Solution 'ChangeParamAddIn' (2 projects)
ChangeParamAddIn
References
AssemblyInfo.cs
StandardAddInServer.cs
debugPluginLocally
StandardAddInServer.cs
ChangeParamAddIn
namespace ChangeParamAddIn
ChangeParamAddIn.AddInServer
m_inventorApplication
/// This is the primary AddIn Server class that implements the ApplicationAddInServer interface
/// that all Inventor AddIns are required to implement. The communication between Inventor and
/// the AddIn is via the methods on this interface.
/// </summary>
[GuidAttribute("B99DB61B-F61E-4A56-AE2C-3FB608A2547D")]
4 references | Andrew Akenson, 12 hours ago | 1 author, 1 change
public class AddInServer : Inventor.ApplicationAddInServer
{
#region Data Members
//Inventor application object
private InventorServer m_inventorApplication;
//private ChangeParamUI m_ChangeParamUI;
#endregion
0 references | Andrew Akenson, 12 hours ago | 1 author, 1 change
public AddInServer()
{
}
1 reference | 0 changes | 0 authors, 0 changes
public AddInServer(InventorServer app)
{
m_inventorApplication = app;
}
#region ApplicationAddInServer Members
0 references | Andrew Akenson, 12 hours ago | 1 author, 1 change
public void Activate(Inventor.ApplicationAddInSite addInSiteObject, bool firstTime)
{
try
{
VA View VA Outline Solution Explorer Team Explorer
100 %
Ready
Ln 16 Col 60 Ch 57 INS
0 4 change-param-addin master

Still some UI to remove…

[11/10/2018 00:42:48] InventorCoreConsole.exe Information: 0 : Activating plug-in: ChangeParamAddIn
[11/10/2018 00:42:48] InventorCoreConsole.exe Information: 0 : Deactivating plug-in: ChangeParamAddIn
[11/10/2018 00:42:48] Showing a modal dialog box or form when the application is not running in UserInteractive mode is not a valid operation. Specify the ServiceNotification or DefaultDesktopOnly style to display a notification from a service application.
[11/10/2018 00:42:48]
[11/10/2018 00:42:48] Process exit code: -1
[11/10/2018 00:42:48]
[11/10/2018 00:42:48] End Inventor Core Engine standard output dump.
[11/10/2018 00:42:48] Error: Inventor Core Engine Core Console output contains error(s).
[11/10/2018 00:42:48] End script phase.
[11/10/2018 00:42:48] Error: An unexpected error happened during phase CoreEngineExecution of job.
[11/10/2018 00:42:48] Job finished with result FailedExecution


ChangeParamAddIn - Microsoft Visual Studio (Administrator)
Quick Launch (Ctrl+Q)
File Edit View VAssistX Project Build Debug Team Tools Test Analyze Window Help
Andrew Akenson
Debug
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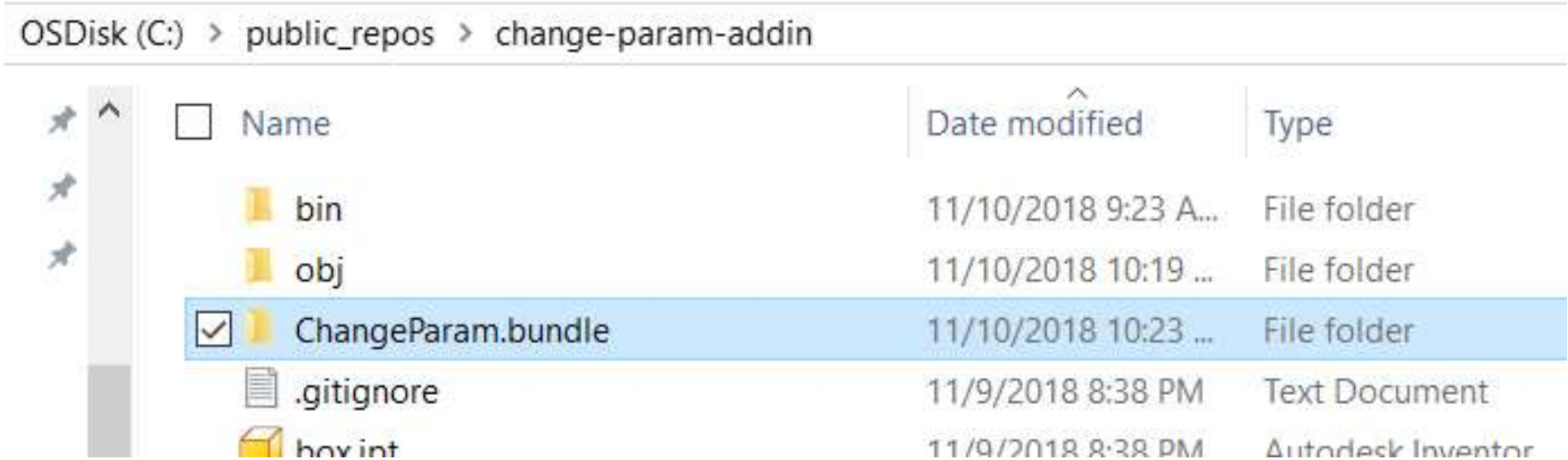
Start
Solution Explorer
Search Solution Explorer (Ctrl+;)
Solution 'ChangeParamAddIn' (2 projects)
ChangeParamAddIn
References
AssemblyInfo.cs
StandardAddInServer.cs
debugPluginLocally
StandardAddInServer.cs*
StandardAddInServer.cs
C:\public_repos\change-param-addin\StandardAddInServer.cs
Go
ChangeParamAddIn
ChangeParamAddIn.AddInServer
m_inventorApplication
using System;
using System.Runtime.InteropServices;
using System.Drawing;
using System.Windows.Forms;
using Inventor;
using Microsoft.Win32;
namespace ChangeParamAddIn
{
/// <summary>
/// This is the primary AddIn Server class that implements the ApplicationAddInServer interface
/// that all Inventor AddIns are required to implement. The communication between Inventor and
/// the AddIn is via the methods on this interface.
/// </summary>
[GuidAttribute("B99DB61B-F61E-4A56-AE2C-3FB608A2547D")]
[ComVisible(true)]
6 references | Andrew Akenson, 12 hours ago | 1 author, 1 change
public class AddInServer : Inventor.ApplicationAddInServer
{
#region Data Members
//Inventor application object
private InventorServer m_inventorApplication;
private AddInServer m_automation;
//private ChangeParamUI m_ChangeParamUI;
#endregion
0 references | Andrew Akenson, 12 hours ago | 1 author, 1 change
public AddInServer()
{
}
2 references | 0 changes | 0 authors, 0 changes
public AddInServer(InventorServer app)
VA View VA Outline Solution Explorer Team Explorer
100 %
Ready
Ln 7 Col 1 Ch 1 INS
0 4 change-param-addin master
Toolbox Data Sources Diagnostic Tools

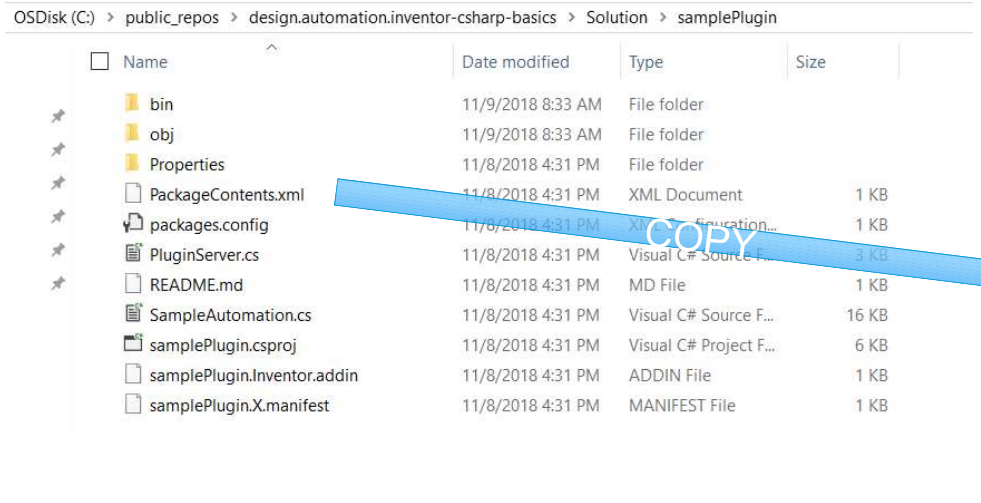
Make your AppBundle

1 Create a new folder ending in ".bundle"



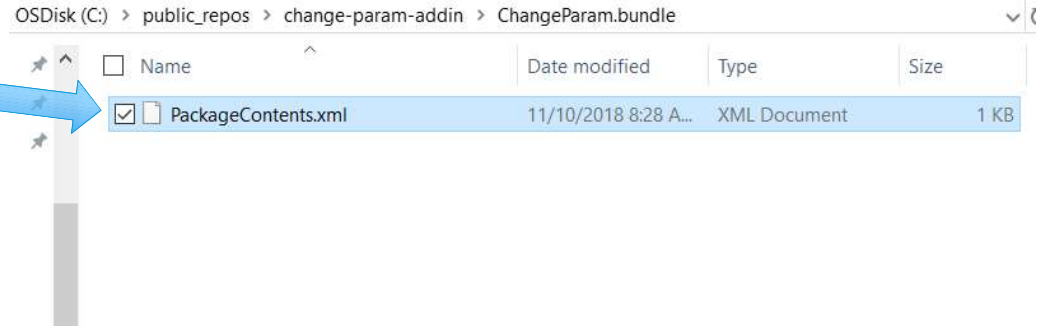
2 Copy template PackageContents.xml

C# Sample PackageContents.xml



COPY

New ".bundle" Folder

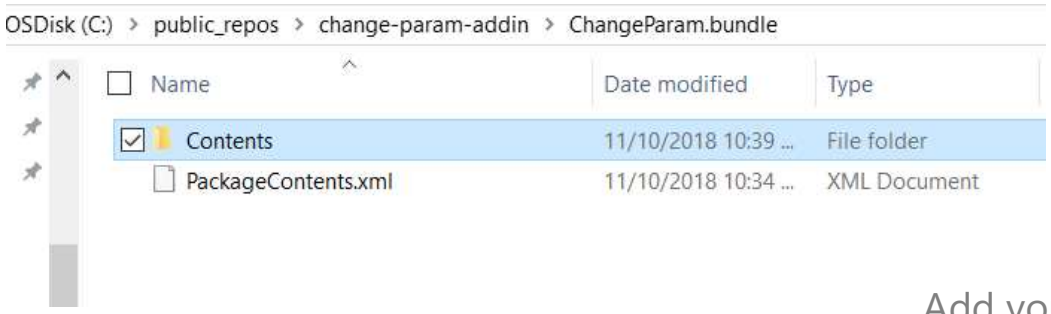


3 Update the PackageContents.xml

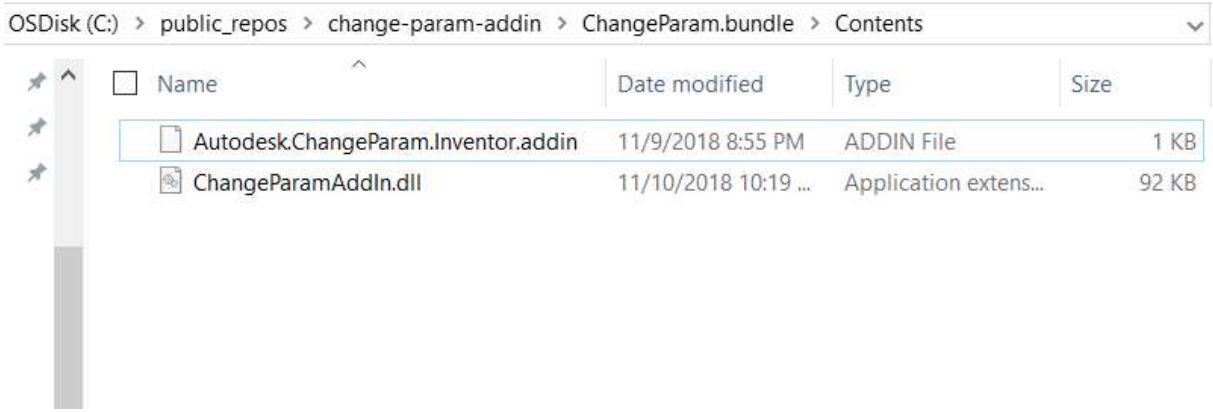
```
<ApplicationPackage SchemaVersion="1.0" Version="1.0" ProductCode=
"{B99DB61B-F61E-4A56-AE2C-3FB608A2547D}" Name="ChangeParam" Description="AU2018 Demo Plugin" Author
="Andrew Akenson">
    <CompanyDetails Name="Autodesk, Inc" Phone="415.555.5555" Url="www.autodesk.com" Email=
    "inventoronforge@autodesk.com" />
    <Components>
        <!-- For Inventor Engine, "Platform" attribute must be "Inventor" -->
        <RuntimeRequirements  OS="Win64" Platform="Inventor" />
        <!-- For Inventor Plug-in, the "Module" attribute must point to the .addin manifest file.
        -->
        <ComponentEntry LoadOnAutoCADStartup="False" LoadOnCommandInvocation="False"
            AppDescription="AU2018 demo App Package."
            ModuleName="./Contents/Autodesk.ChangeParam.Inventor.addin" AppName="ChangeParam"/>
    </Components>
    <EnvironmentVariables>
    </EnvironmentVariables>
</ApplicationPackage>
```

4 Add content to the AppBundle

Create “Contents” folder



Add your assembly and .addin file

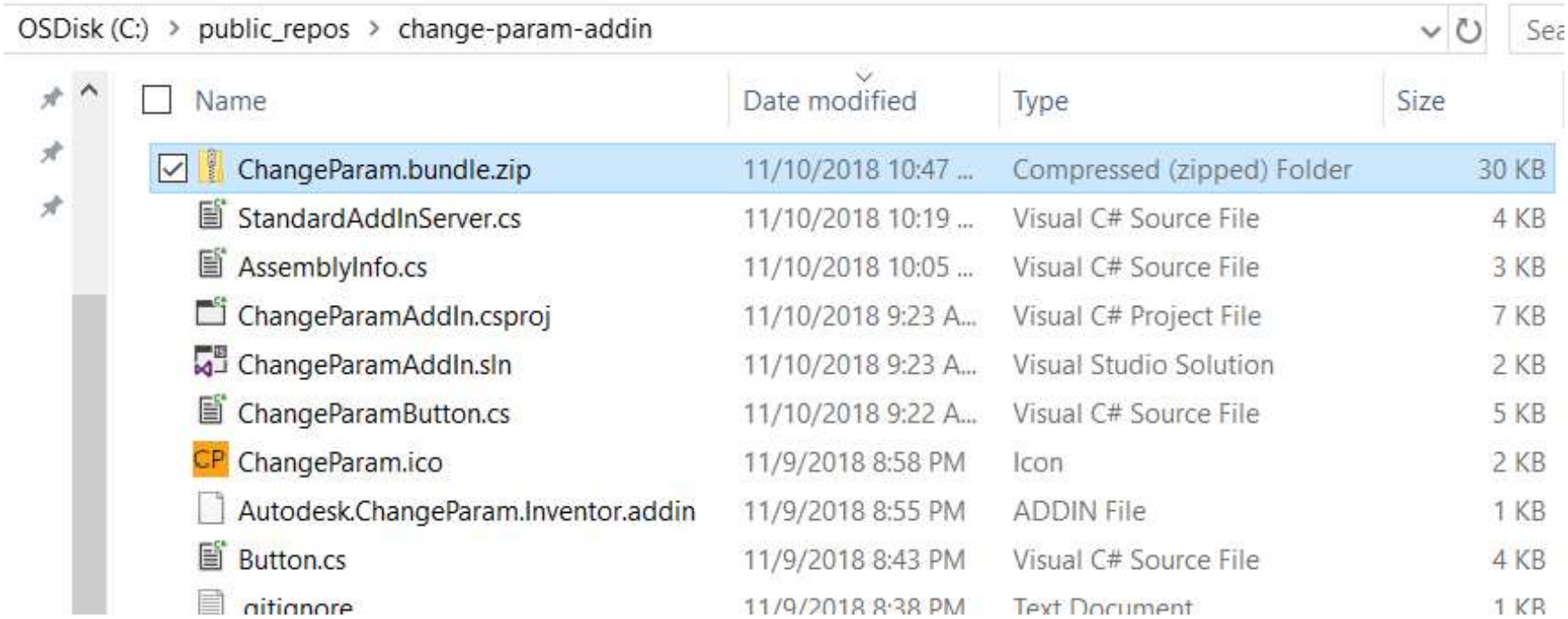


5 Update your .addin file

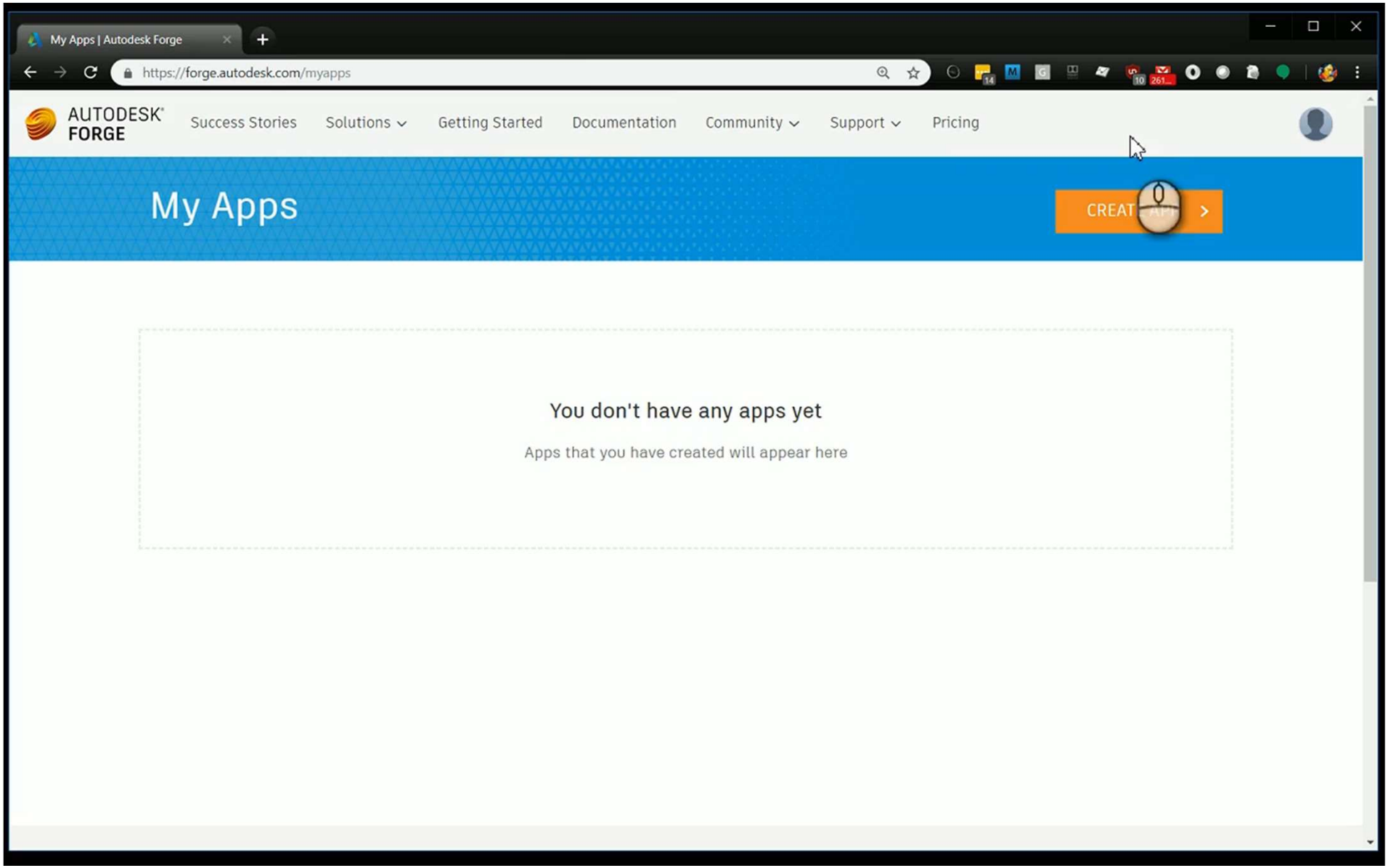
```
<!-- Type attribute is same as Type registry key (Standard, Translator, Plugin (Server only)
-->
<Addin Type="Plugin">
<ClassId>{B99                -AE2C-3FB608A2547D}</ClassId>
<ClientId>{B99DB61B-F61E-4A56-AE2C-3FB608A2547D}</ClientId>

<!-- Both of the following fields should be translated. NO OTHER FIELDS SHOULD BE TRANSLATED!
-->
<DisplayName>ChangeParamAddIn</DisplayName>
<Description>ChangeParamAddIn</Description>

<!-- Assumes that SimpleAddIn.dll is underneath Inventor\bin -->
<Assembly>ChangeParamAddIn.dll</Assembly>

<SupportedSoftwareVersionGreaterThan>17..</SupportedSoftwareVersionGreaterThan>
<LoadOnStartUp>1</LoadOnStartUp>
<Hidden>0</Hidden>
</Addin>
```

Plugin

6 Zip it up!

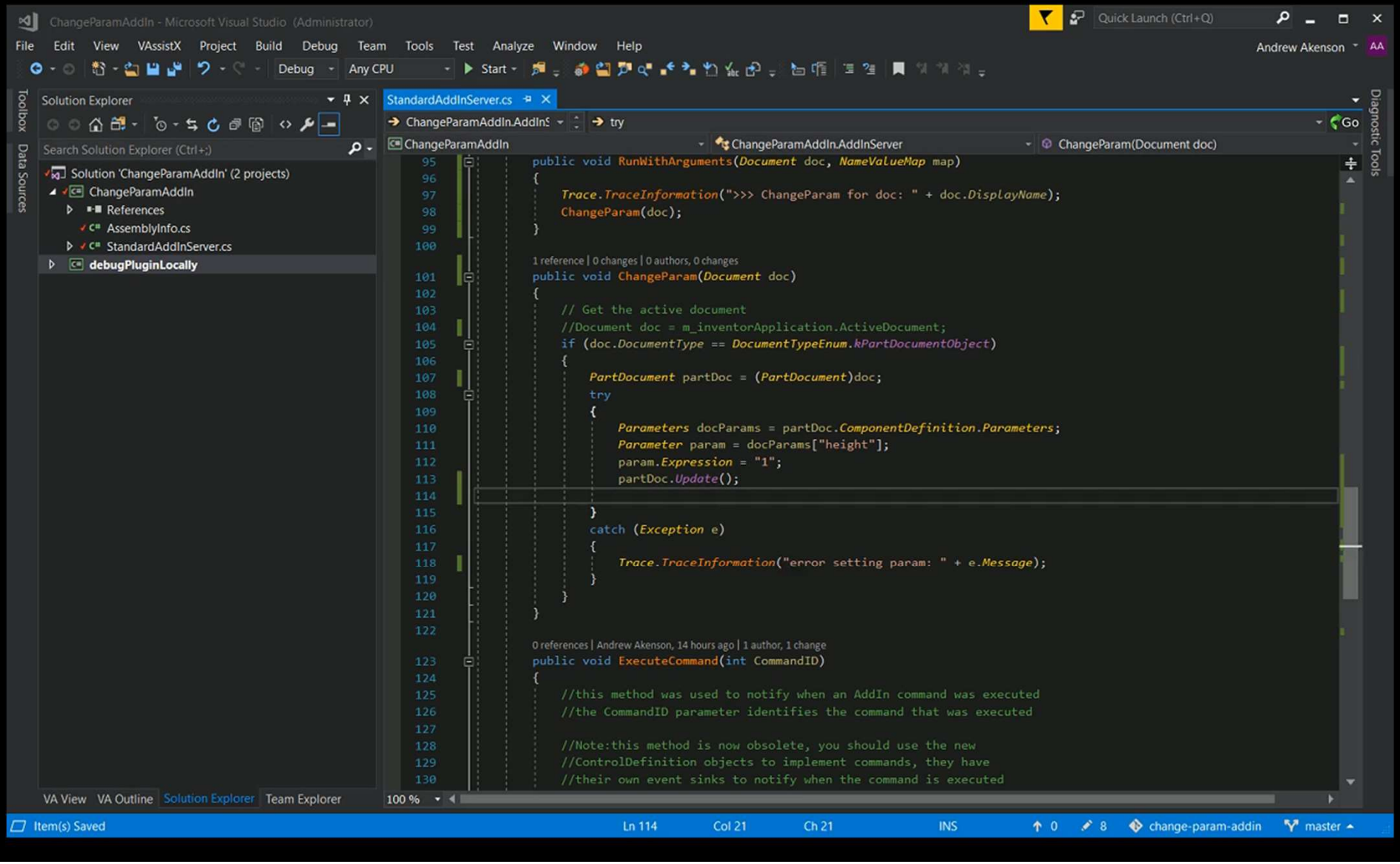

OSDisk (C:) > public_repos > change-param-addin
Name
Date modified
Type
Size
ChangeParam.bundle.zip 11/10/2018 10:47 ... Compressed (zipped) Folder 30 KB
StandardAddInServer.cs 11/10/2018 10:19 ... Visual C# Source File 4 KB
AssemblyInfo.cs 11/10/2018 10:05 ... Visual C# Source File 3 KB
ChangeParamAddIn.csproj 11/10/2018 9:23 A... Visual C# Project File 7 KB
ChangeParamAddIn.sln 11/10/2018 9:23 A... Visual Studio Solution 2 KB
ChangeParamButton.cs 11/10/2018 9:22 A... Visual C# Source File 5 KB
ChangeParam.ico 11/9/2018 8:58 PM Icon 2 KB
Autodesk.ChangeParam.Inventor.addin 11/9/2018 8:55 PM ADDIN File 1 KB
Button.cs 11/9/2018 8:43 PM Visual C# Source File 4 KB
.gitignore 11/9/2018 8:38 PM Text Document 1 KB

Test it out in Design Automation

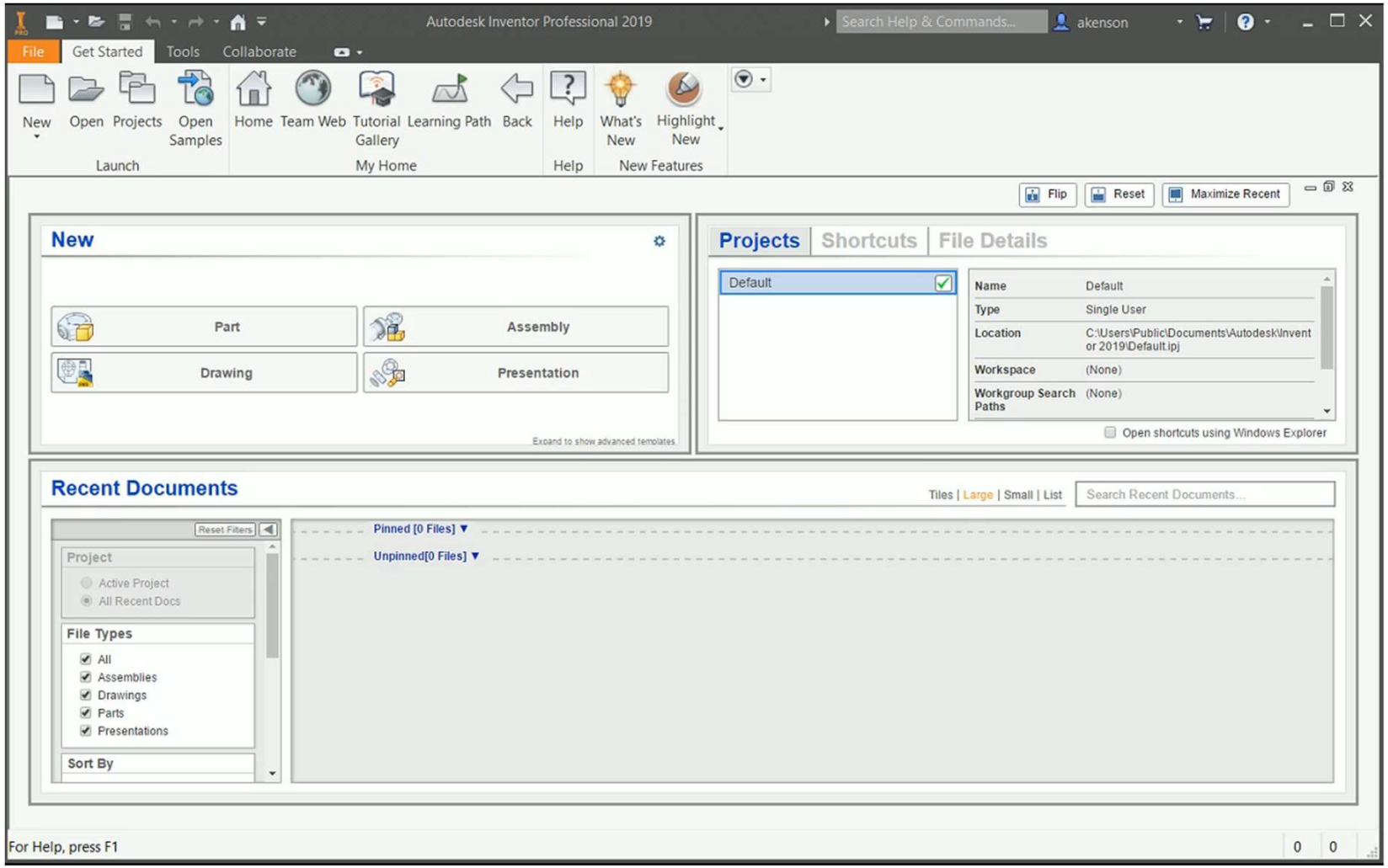

My Apps | Autodesk Forge
https://forge.autodesk.com/myapps
AUTODESK FORGE
Success Stories
Solutions
Getting Started
Documentation
Community
Support
Pricing
My Apps
CREAT
You don't have any apps yet
Apps that you have created will appear here

So close, but need to save the output…

[11/10/2018 19:26:22] InventorCoreConsole.exe Information: 0 : Opening document: T:\Aces\Jobs\7b147563930242b591e145c5c4e12fa6\Box.ipt
[11/10/2018 19:26:22] Process exit code: 0
[11/10/2018 19:26:22] End Inventor Core Engine standard output dump.
[11/10/2018 19:26:22] End script phase.
[11/10/2018 19:26:22] Start upload phase.
[11/10/2018 19:26:22] Error: Non-optional output [Result.ipt] is missing .
[11/10/2018 19:26:22] Error: An unexpected error happened during phase Publishing of job.
[11/10/2018 19:26:22] Job finished with result FailedMissingOutput


ChangeParamAddIn - Microsoft Visual Studio (Administrator)
Quick Launch (Ctrl+Q)
File Edit View VAssistX Project Build Debug Team Tools Test Analyze Window Help
Andrew Akenson
Debug
Any CPU
Start
Solution Explorer
Search Solution Explorer (Ctrl+;)
Solution 'ChangeParamAddIn' (2 projects)
ChangeParamAddIn
References
AssemblyInfo.cs
StandardAddInServer.cs
debugPluginLocally
StandardAddInServer.cs
ChangeParamAddIn.AddInS
try
Go
ChangeParamAddIn
ChangeParamAddIn.AddInServer
ChangeParam(Document doc)
public void RunWithArguments(Document doc, NameValueMap map)
{
Trace.TraceInformation(">>> ChangeParam for doc: " + doc.DisplayName);
ChangeParam(doc);
}
1 reference | 0 changes | 0 authors, 0 changes
public void ChangeParam(Document doc)
{
// Get the active document
//Document doc = m_inventorApplication.ActiveDocument;
if (doc.DocumentType == DocumentTypeEnum.kPartDocumentObject)
{
PartDocument partDoc = (PartDocument)doc;
try
{
Parameters docParams = partDoc.ComponentDefinition.Parameters;
Parameter param = docParams["height"];
param.Expression = "1";
partDoc.Update();
}
catch (Exception e)
{
Trace.TraceInformation("error setting param: " + e.Message);
}
}
}
0 references | Andrew Akenson, 14 hours ago | 1 author, 1 change
public void ExecuteCommand(int CommandID)
{
//this method was used to notify when an AddIn command was executed
//the CommandID parameter identifies the command that was executed
//Note:this method is now obsolete, you should use the new
//ControlDefinition objects to implement commands, they have
//their own event sinks to notify when the command is executed
Toolbox
Data Sources
Diagnostic Tools
VA View VA Outline Solution Explorer Team Explorer
100 %
Item(s) Saved
Ln 114 Col 21 Ch 21 INS
0 8 change-param-addin master

Check out the Result.ipt!



Digging a bit deeper…

C# Sample Application and AppBundle

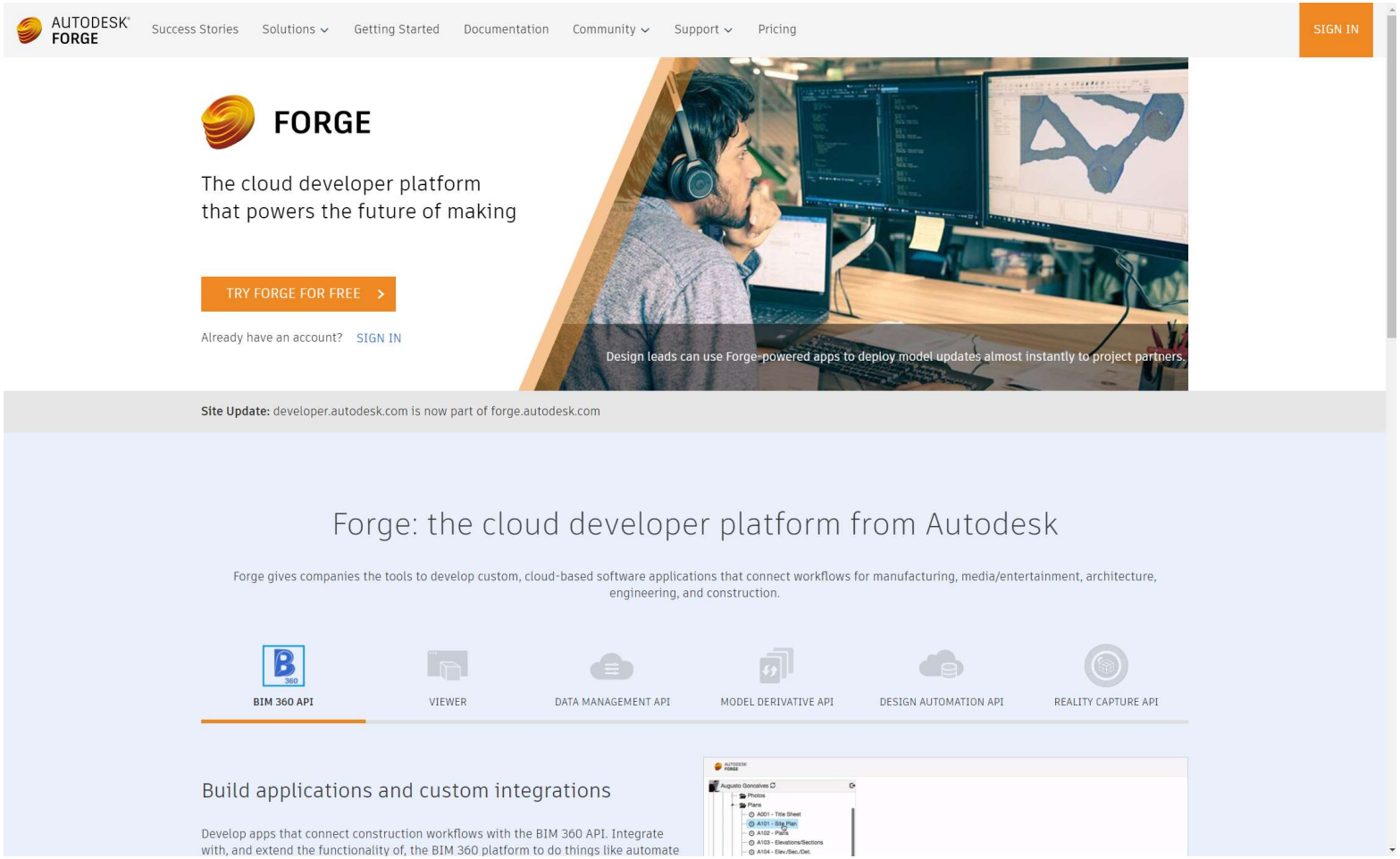
https://github.com/Developer-Autodesk/design.automation.inventor-csharp-basics

```
LogTrace("Zipping up updated Assembly.");

// assembly lives in own folder under WorkingDir. Get the WorkingDir
var workingDir = Path.GetDirectoryName(docDir);
var fileName = Path.Combine(workingDir, "Result.zip"); // the name must be in sync with OutputIam localName

if (File.Exists(fileName)) File.Delete(fileName);

// start HeartBeat around ZipFile, it could be a long operation
using (new HeartBeat())
{
    ZipFile.CreateFromDirectory(Path.GetDirectoryName(pathName), fileName, CompressionLevel.Fastest, false)
}
```

Where to get started

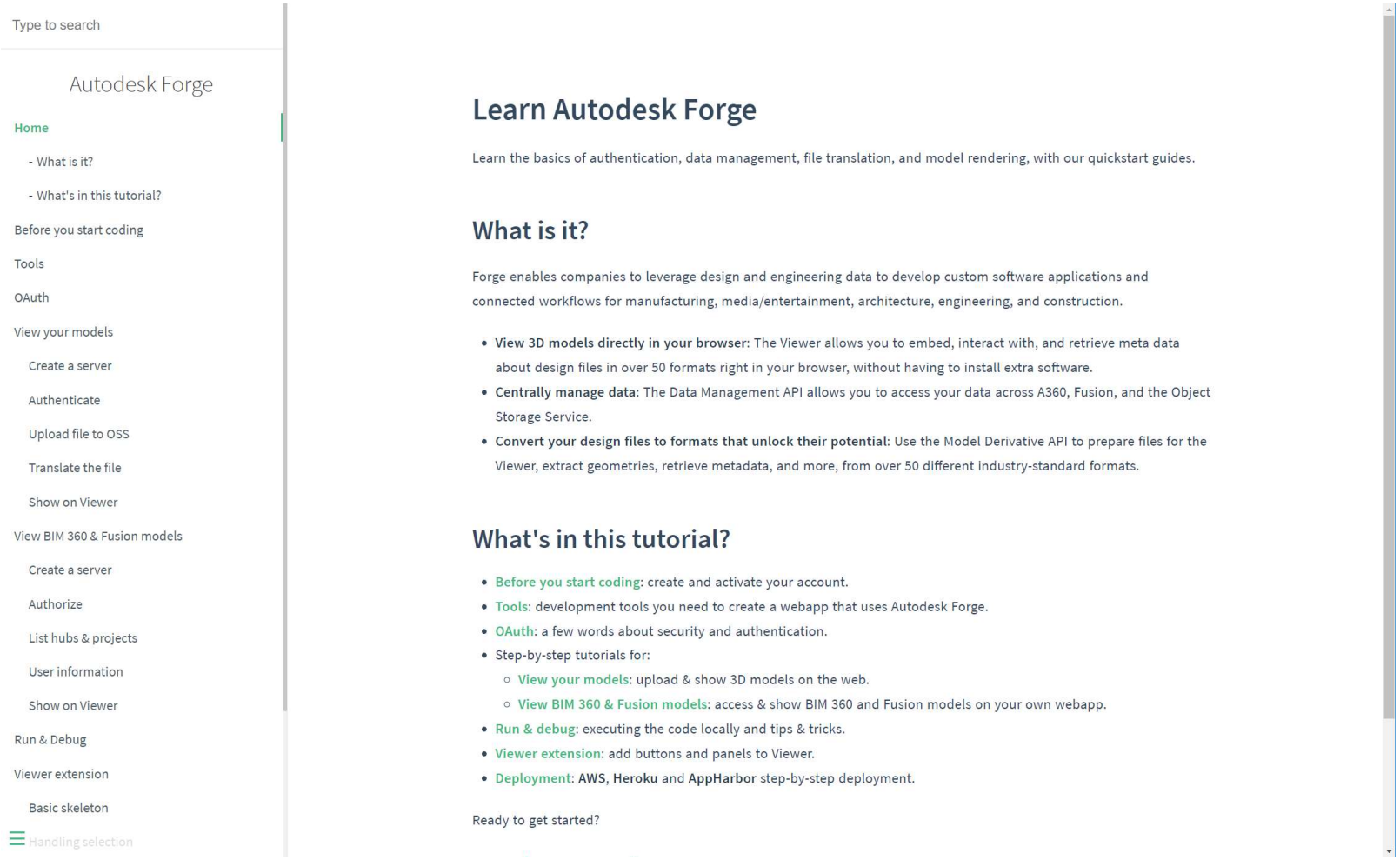
General Resources

https://forge.autodesk.com



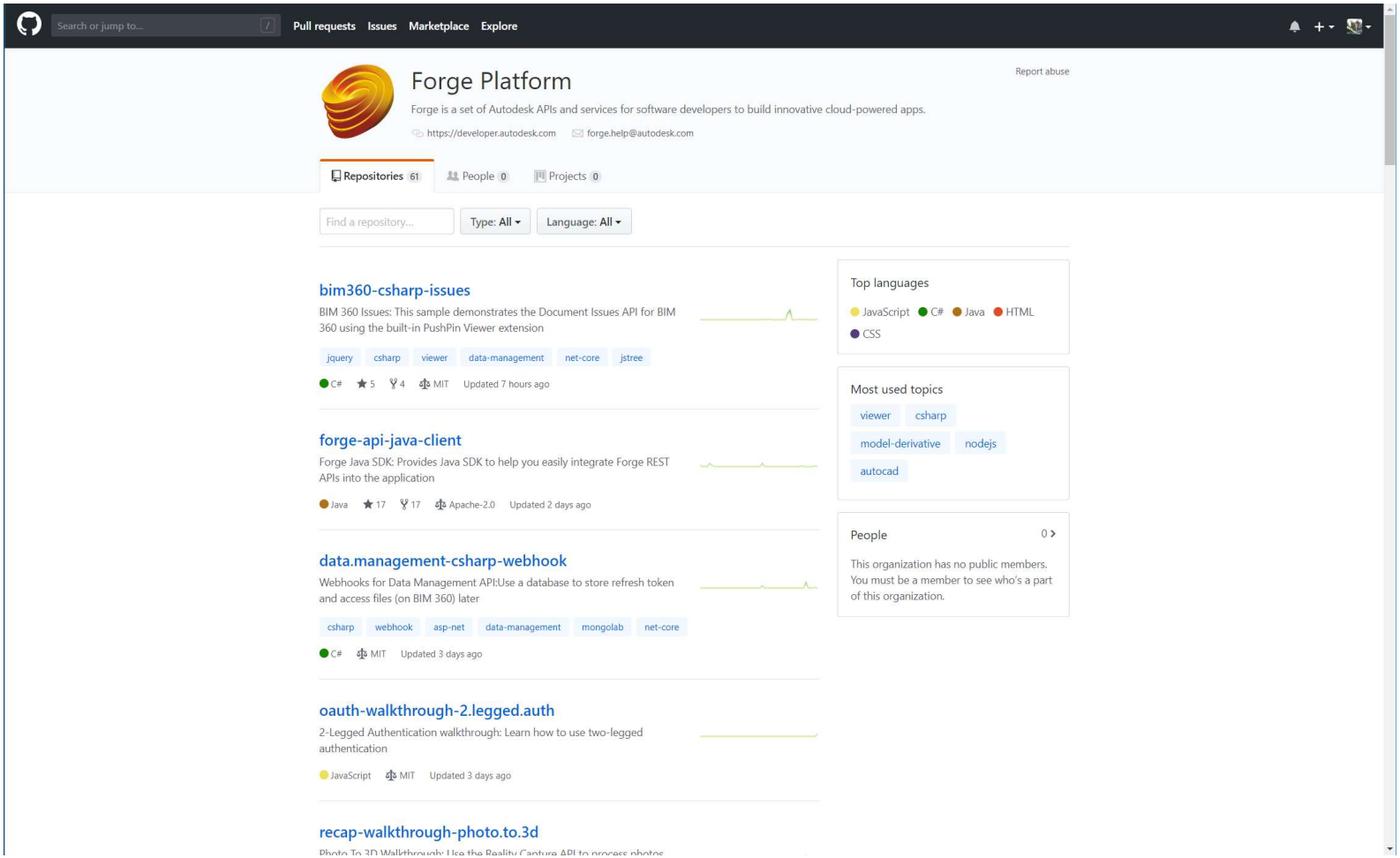
Learn Forge

https://forge.autodesk.com/LearnForge



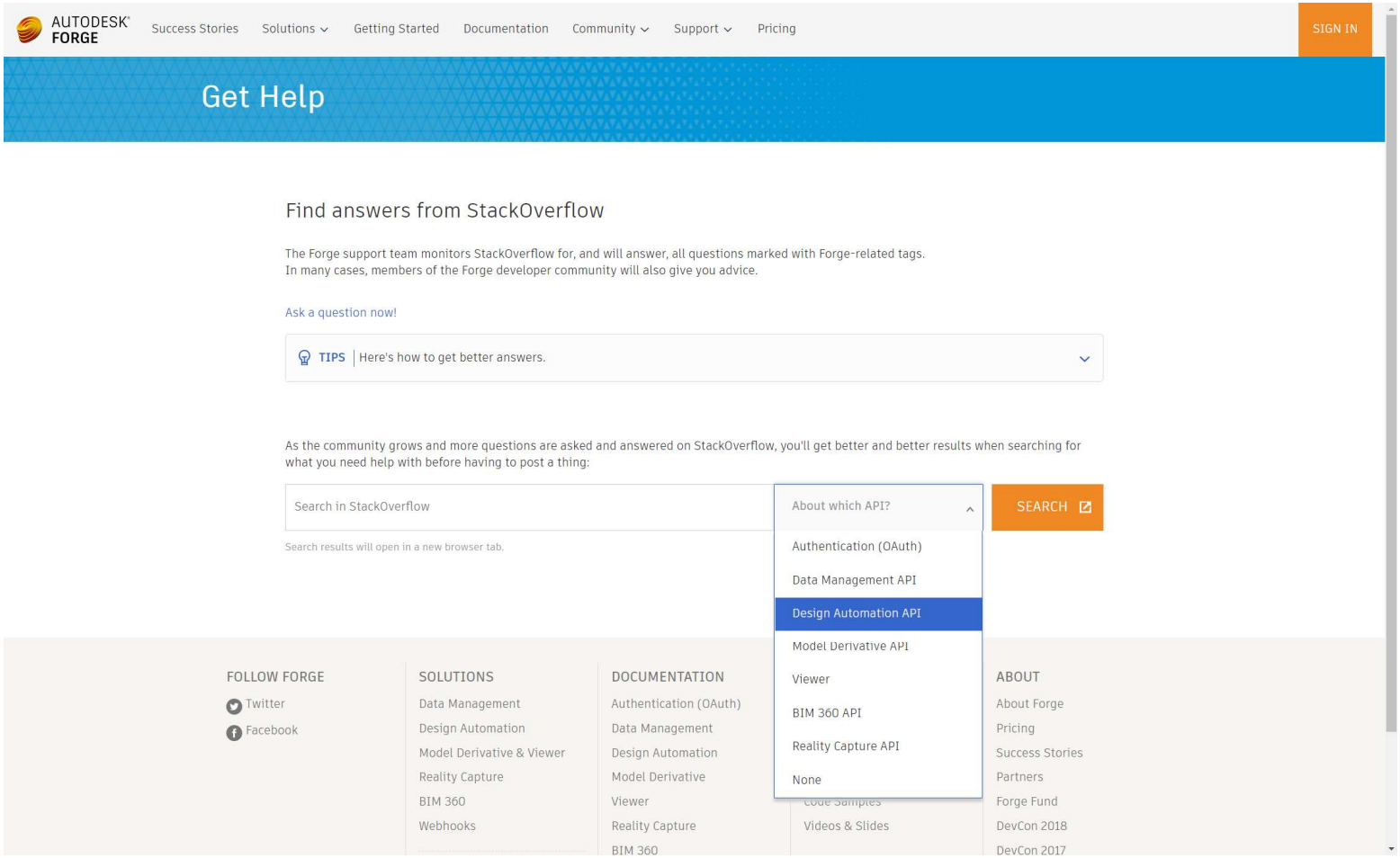
Forge on Github

https://forge.autodesk.com/GitHub



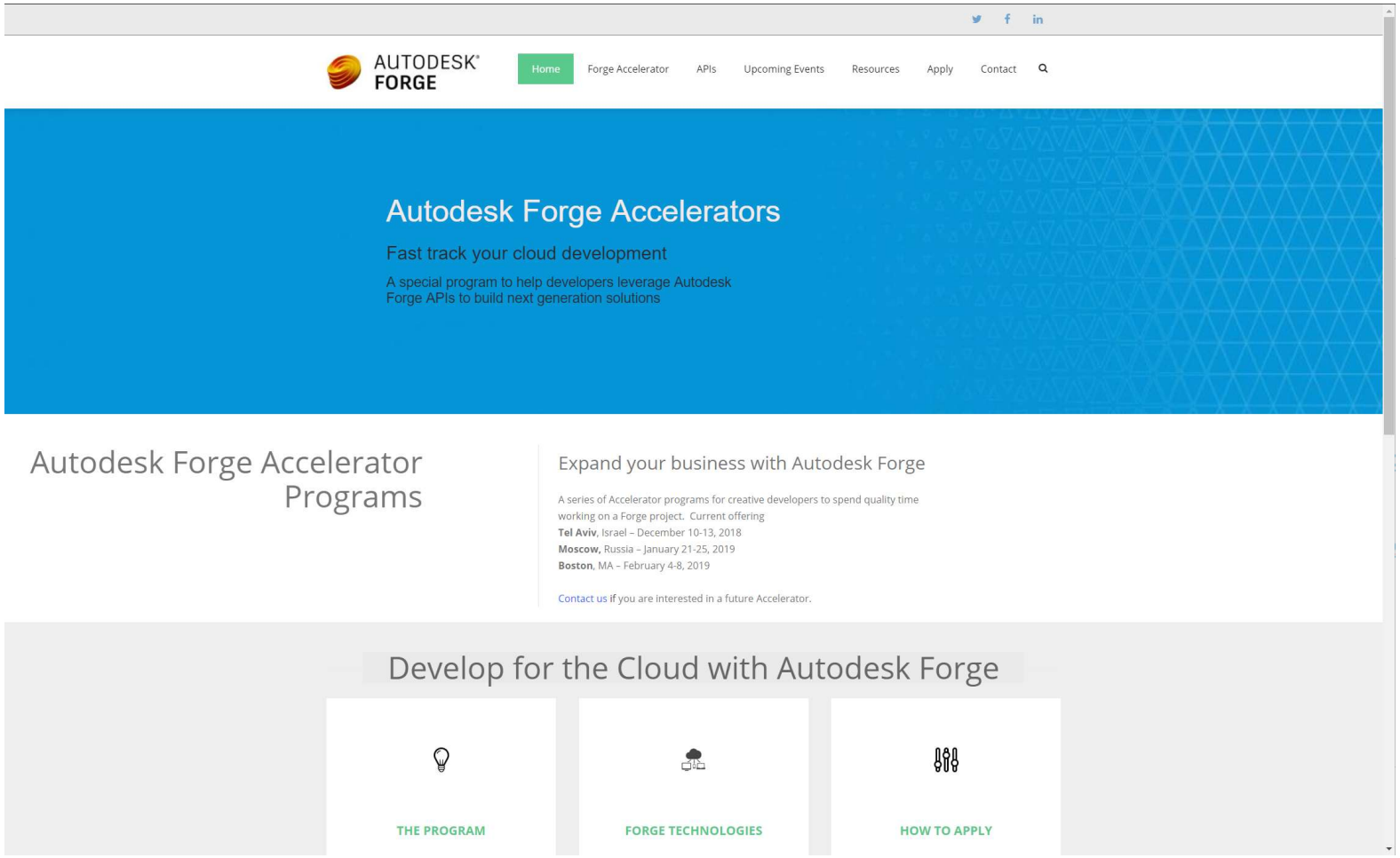
Find answers on StackOverflow

https://forge.autodesk.com/Stack



Join an Accelerator

https://forge.autodesk.com/accelerator



Forge Community

Community

- Twitter: @AutodeskForge
- Facebook @AdskForge
- YouTube: https://forge.autodesk.com/YouTube
- Blog: https://forge.autodesk.com/blog
- Design Automation for Inventor: InventorOnForge@autodesk.com

More here at DevCon and AU

Please Visit - Forge Experts Available!

- Forge Village at DevCon
- Autodesk Answer Bar in the AU Exhibit Hall
- Forge Quad in the AU Exhibit Hall

Forge DevLab - Forge Experts Available!

- **Tuesday, November 13, 1:30 p.m. – 5:30 p.m. in Galileo 1002 (Level 1)**
- Drop-in workshop / informal lab for software developers of all skill levels - come and go as you please
- **Get one-to-one** help and advice on using the Forge APIs
- DevLab is open to all **Forge DevCon and Autodesk University attendees**
- Book a 30 minute slot in the Class Catalog (enter Forge DevLab in the search bar) or drop by
- Forge experts available all afternoon to answer your questions or help you get started

Classes here at DevCon and AU

Design Automation

- AS226079 - Manage Revit Digital Content using Forge Design Automation API for Revit.

iLogic and Inventor Add-ins

- PM224007 - Taking It to the Next Level: Drawing Automation with Inventor
- IM227119 - Making the Leap from iLogic to Add-Ins—or Not?
- IM221410 - The Power of iLogic Design Automation: How Did We Get Here?