Using Vault Pro and BIM360 Docs
Publishing Drawings to the Outside World

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AUTODESK.
UNIVERSITY

eMails!

139 B	83	20	10,000
eMails/day	eMails/day	eMails have attachments	HDD's

Business eMails per day, worldwide

for the average office worker

average of 500KB per attachment

1TB hard drives per day
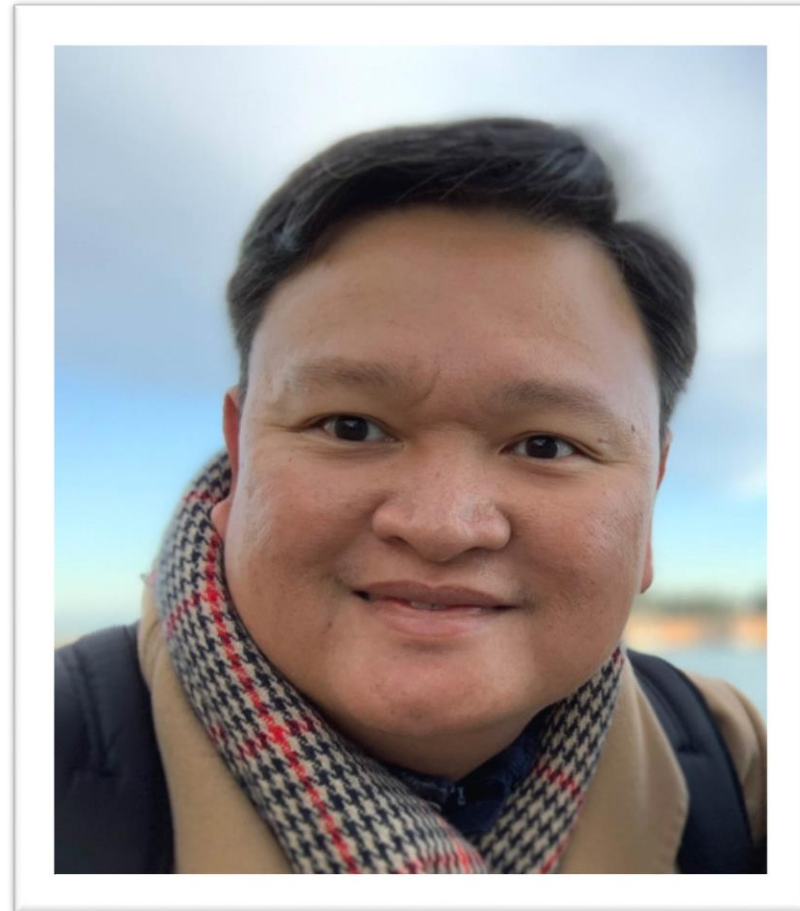
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Helping people find and use technology to make things work better.

- There's got to be a better way than using eMails for sharing files.

- You may have a high-tech data management system, but is external file sharing your bottleneck?

- Vault is great as your on-premise Data Management System.
- BIM360 Docs is the mirror to your Vault
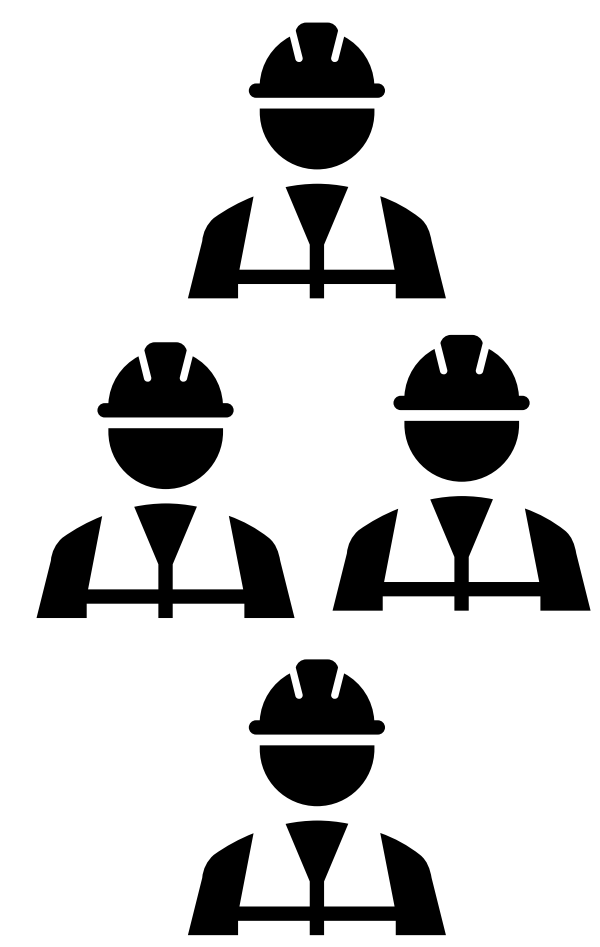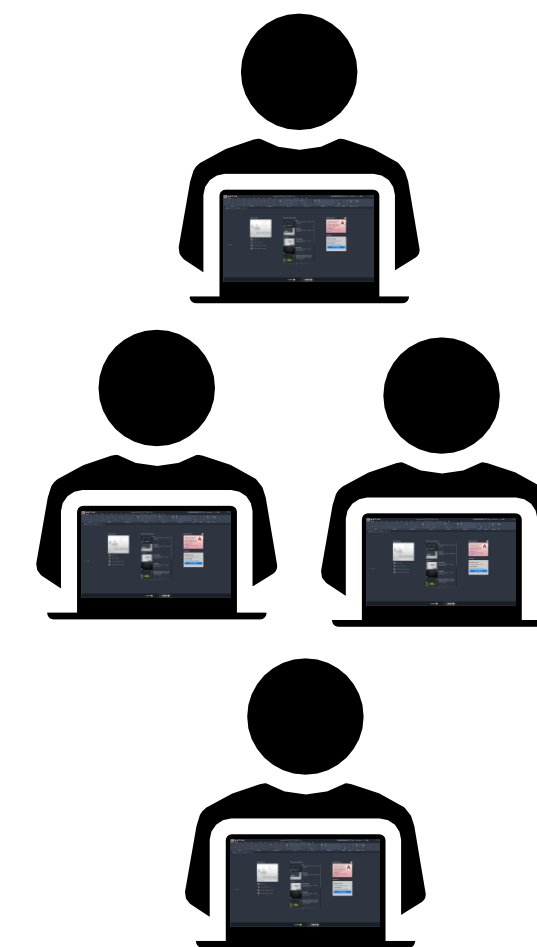
Controlled

The right person, the right access, at the right time

Convenient

Automated processes with minimum human intervention

Consolidated

Single Source of Truth

Publishing DXF and PDF Files

Design is ready to be fabricated

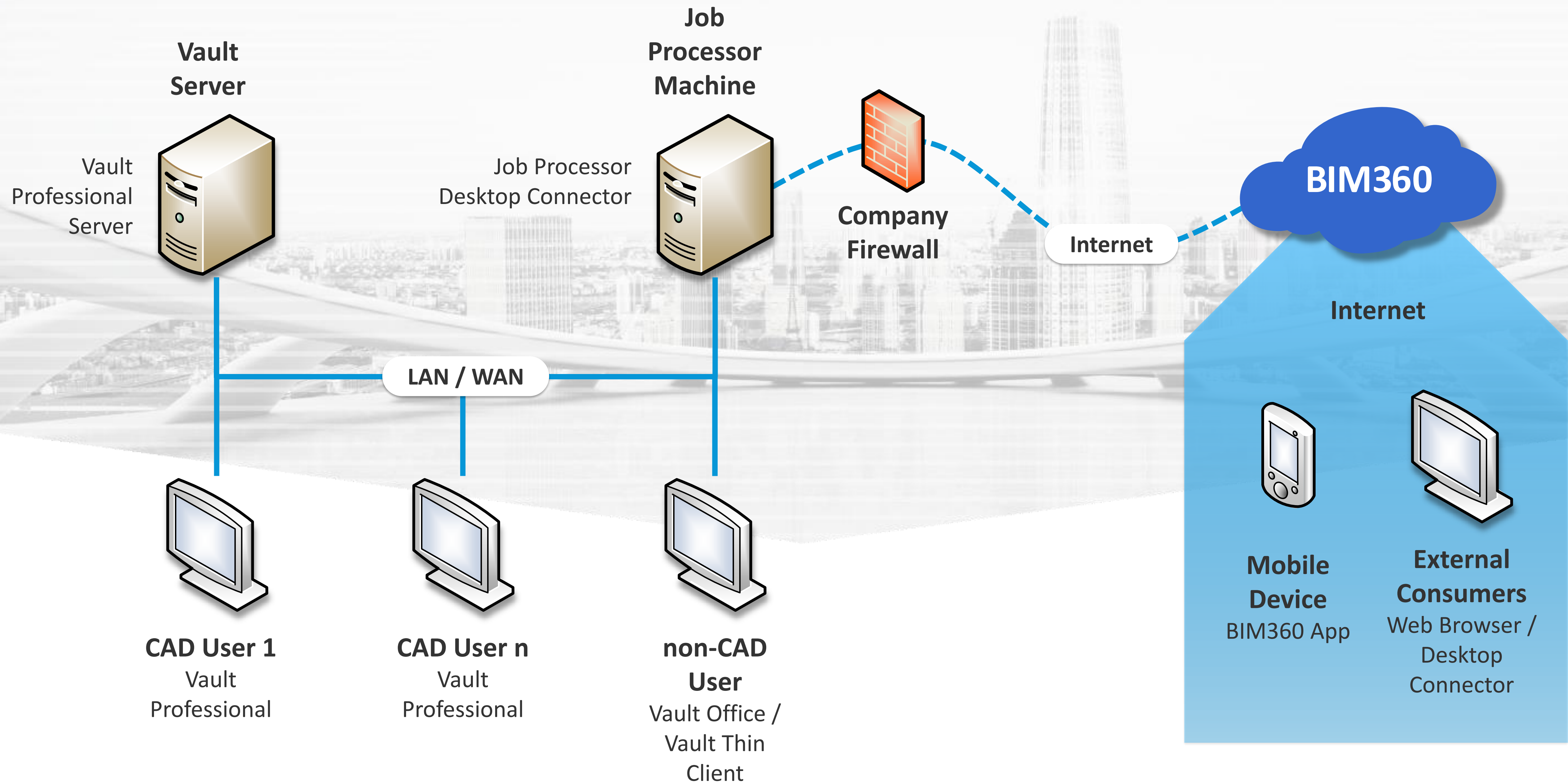Publish DXF and PDF files to a contractor
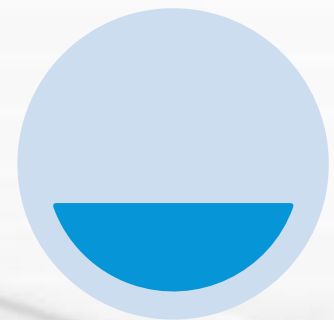
Issuing Drawings for Construction

Design is ready to be sent out at the IFC state

Publish the 3D model and 2D drawings

The Building Blocks

Vault Server

Vault Professional Server

Job Processor Machine

Job Processor Desktop Connector

Company Firewall

Internet

BIM360

Internet

LAN / WAN

CAD User 1
Vault Professional

CAD User n
Vault Professional

non-CAD User
Vault Office / Vault Thin Client

Mobile Device
BIM360 App

External Consumers
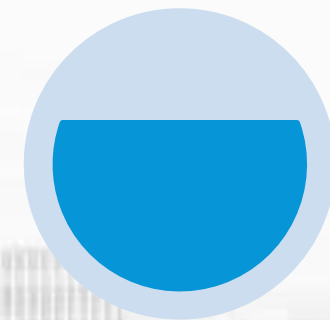Web Browser / Desktop Connector

Project Sync is triggered in **Vault**

The Project Sync command is triggered automatically at specified intervals or time schedule, or manually by selecting a file and choosing to Upload to Cloud Drive command.

Job Processor extracts file from Vault and passes it to **Desktop Connector**

The specific Project Sync job is submitted to the Job Queue.

The Job Processor then gets the necessary files from Vault, then passes it on to the Desktop Connector, which is installed on the same machine as the Job Processor
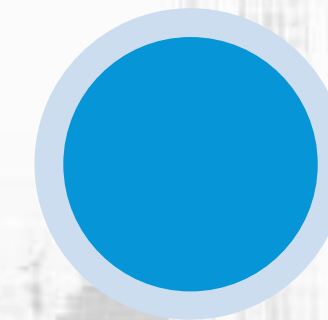
Desktop Connector syncs the file to **BIM360 Docs**

Once the Desktop Connector receives the files, it then syncs this to the BIM360 Docs location. If the file in Docs is the same as the file in Vault, then the upload is skipped. If the file in Vault is newer than the one in Docs, then the file is uploaded.

Create the BIM360 Docs Project

- Set up the BIM360 Docs Project

- Add the Primary Admin

Video – Installing Autodesk Desktop Connector

https://knowledge.autodesk.com/community/collection/using-vault-professional-and-bim360-docs-–-publishing-drawings-to-the-outside-world

Installing Autodesk Desktop Connector

- Install the Desktop Connector on the Job Processor machine.

- Log in with a BIM360 Docs Account.
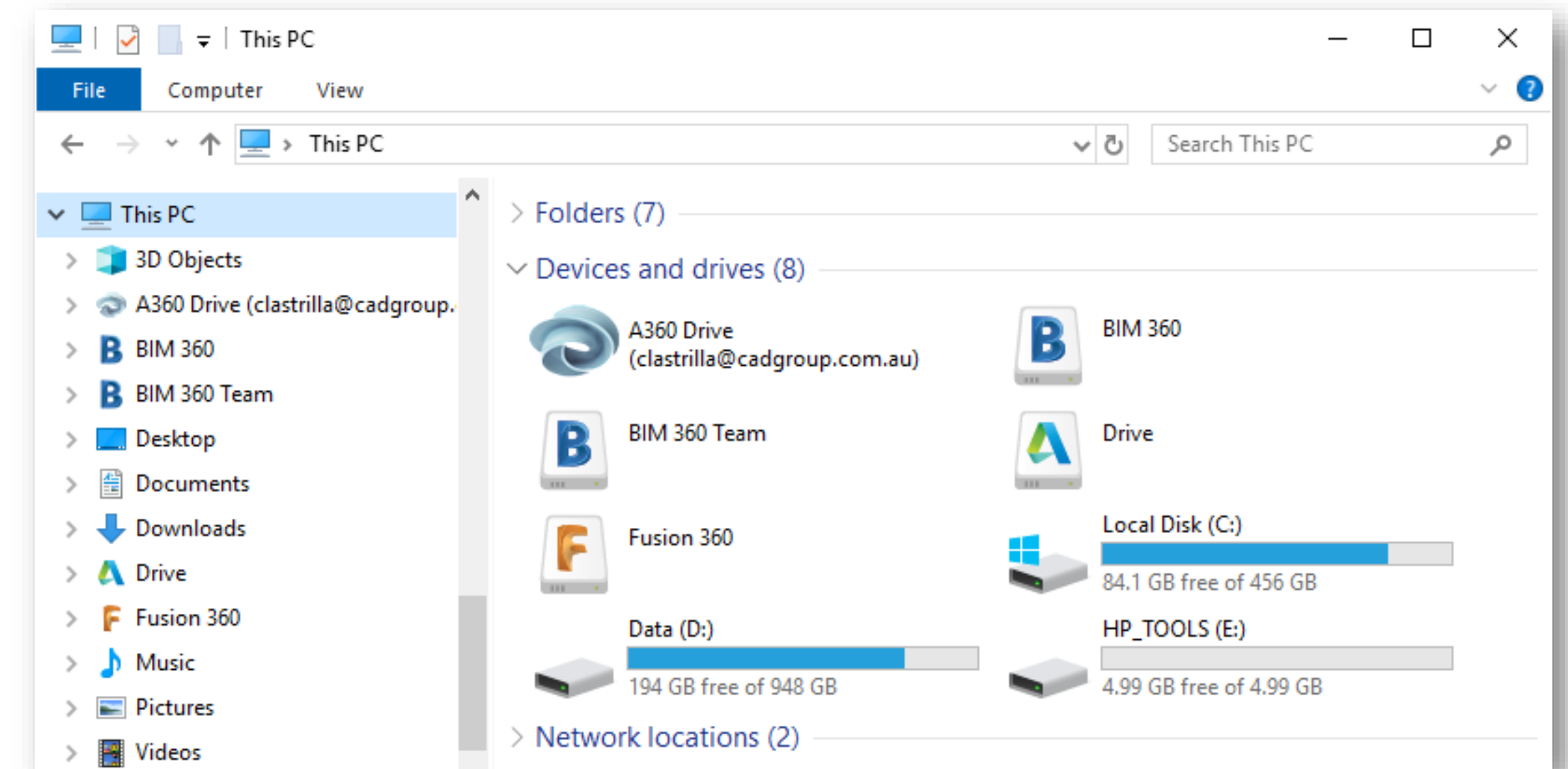
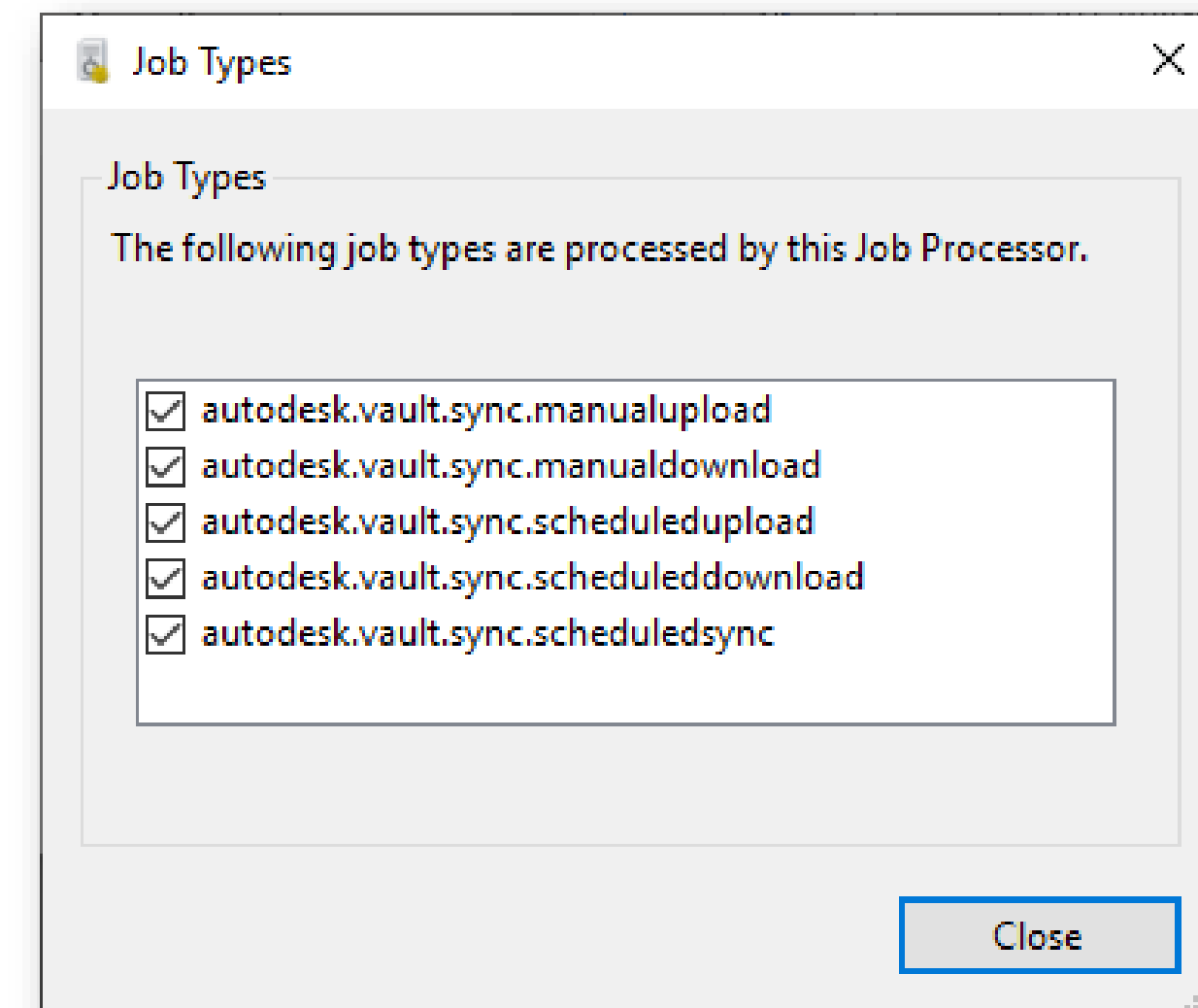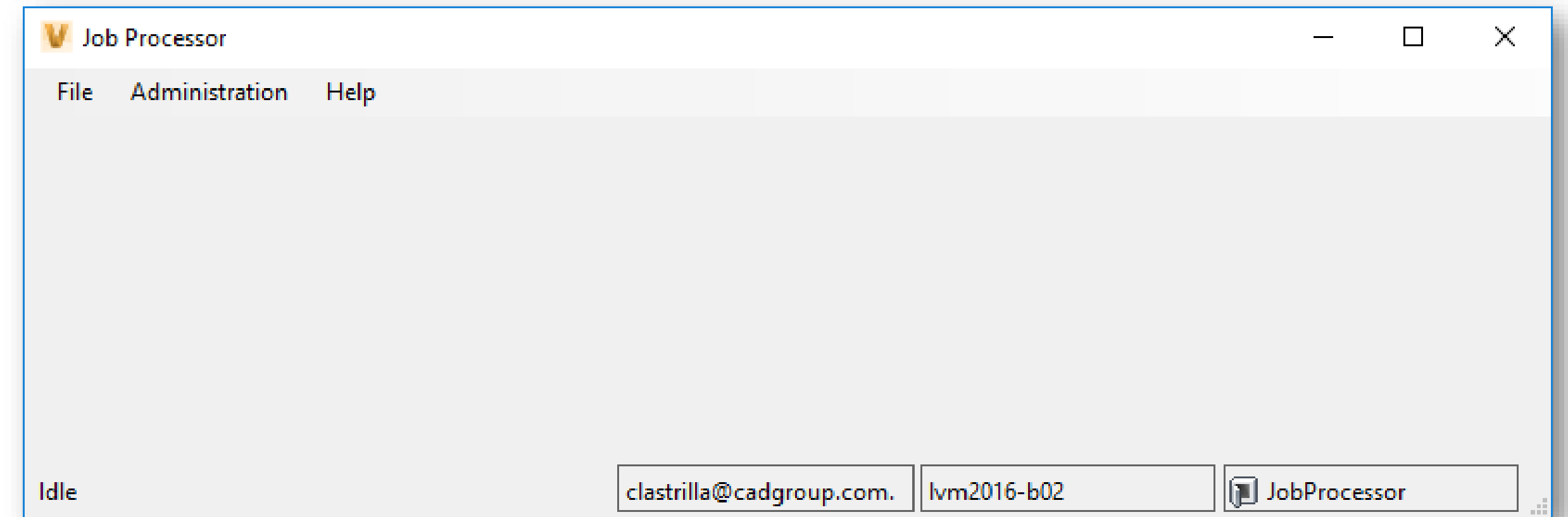- Make sure the correct hub and project is available.

Video – Installing Autodesk Desktop Connector

https://knowledge.autodesk.com/community/collection/using-vault-professional-and-bim360-docs-–-publishing-drawings-to-the-outside-world

Preparing the Job Processor

- Run the Job Processor.

- 2 log-ins to consider:

  - Log in with the Job Processor Vault Account.

  - Log in with the BIM360 Docs account (same as Desktop Connector).
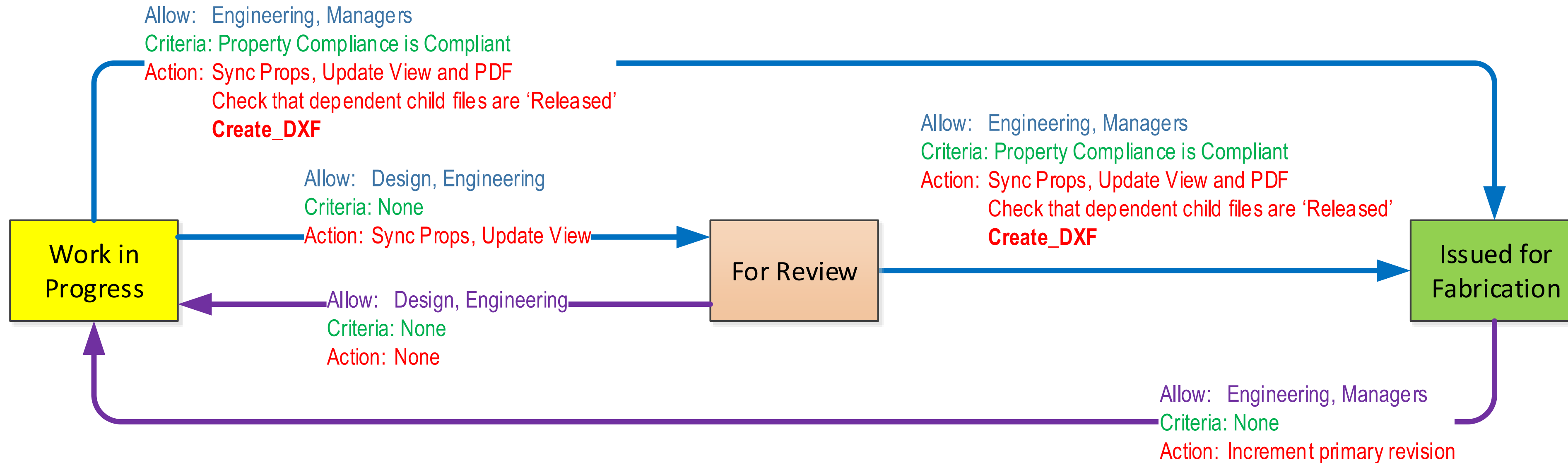
- Make sure the Project Sync jobs are enabled.

Video – Job Processor with Autodesk Desktop Connector

https://knowledge.autodesk.com/community/collection/using-vault-professional-and-bim360-docs-–-publishing-drawings-to-the-outside-world

Use Case 1

Publishing DXF and PDF files

Allow: Engineering, Managers
Criteria: Property Compliance is Compliant
Action: Sync Props, Update View and PDF
Check that dependent child files are 'Released'
Create_DXF

Allow: Design, Engineering
Criteria: None
Action: Sync Props, Update View

Allow: Engineering, Managers
Criteria: Property Compliance is Compliant
Action: Sync Props, Update View and PDF
Check that dependent child files are 'Released'
Create_DXF

Allow: Design, Engineering
Criteria: None
Action: None

Allow: Engineering, Managers
Criteria: None
Action: Increment primary revision

Work in Progress

For Review

Issued for Fabrication

Sending out files for Fabrication

- The design is ready for fabrication by an external contractor.

- You want to send the DXF files out to the plasma cutting contractor to cut from, but also send out the PDF so they can verify details

- Vault generates the PDF files from the DWG files.

- powerJobs generates the DXF files from Inventor Sheet Metal IPT files.

- Only upload the files with a property called PROCESS that has a value of PLASMA

Video – DXF and PDF files synced from Vault to BIM360 Docs

https://knowledge.autodesk.com/community/collection/using-vault-professional-and-bim360-docs---publishing-drawings-to-the-outside-world
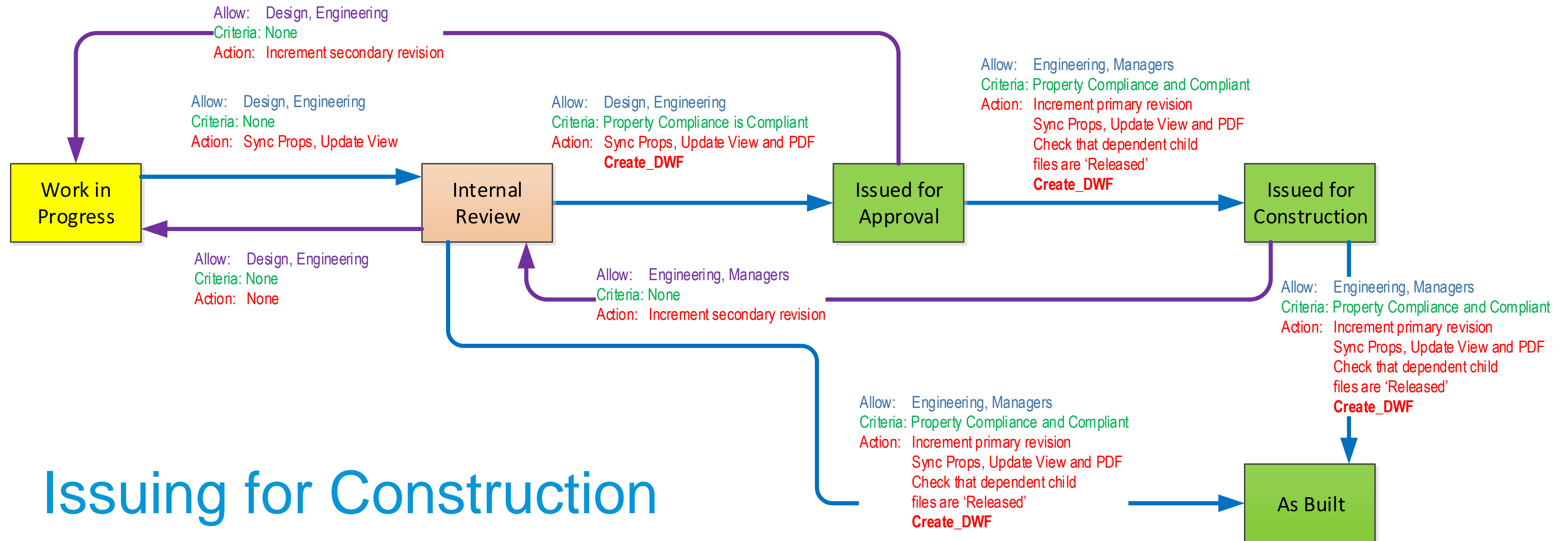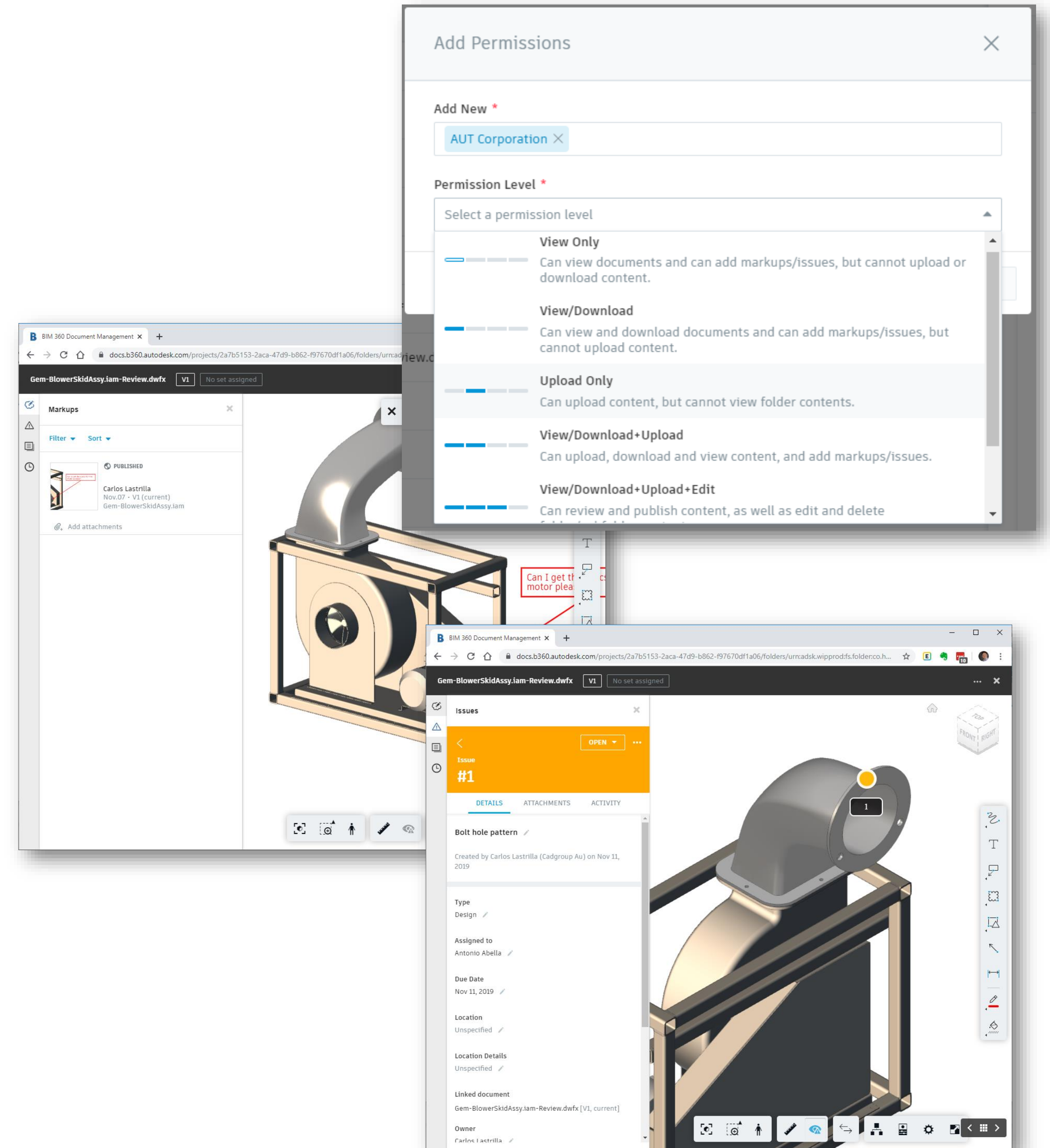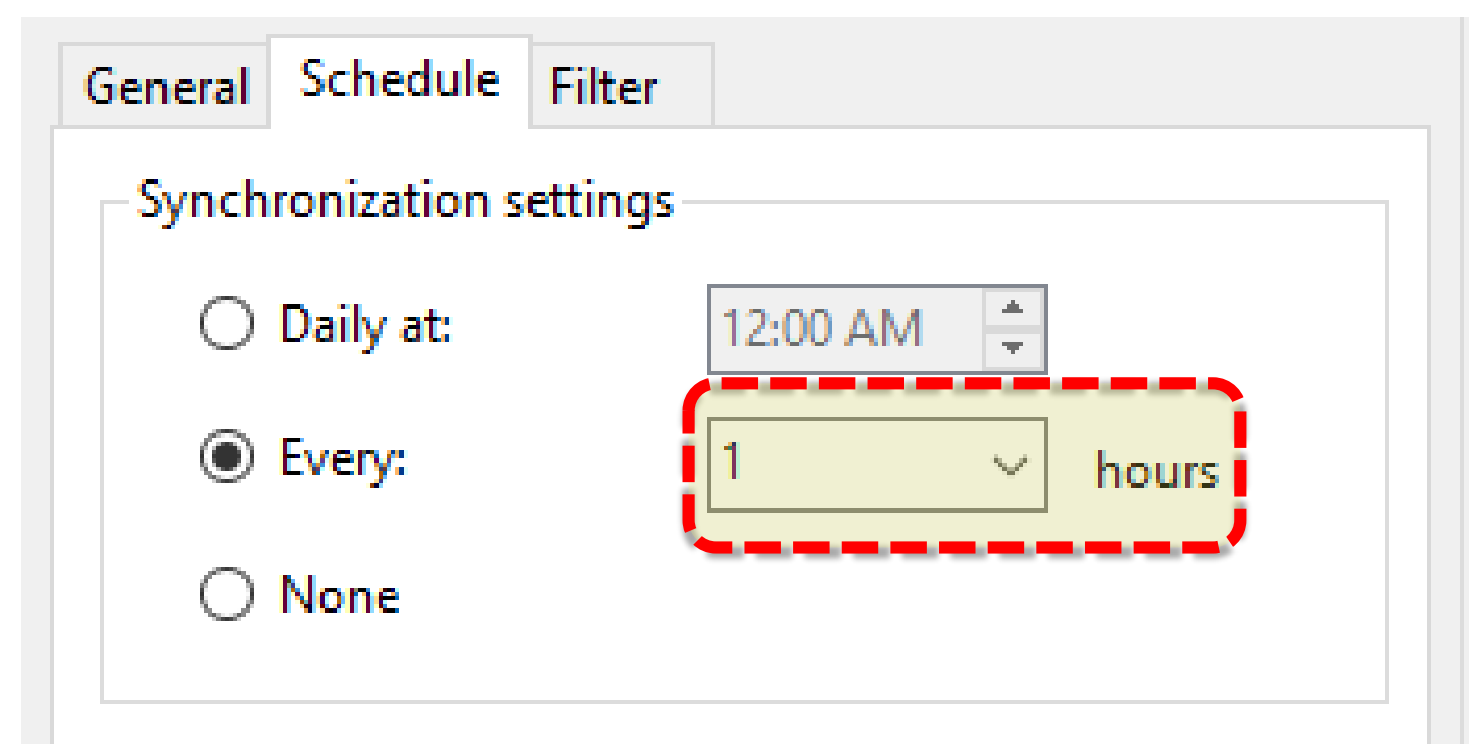
Video – Configuring Use Case 1

https://knowledge.autodesk.com/community/collection/using-vault-professional-and-bim360-docs-–-publishing-drawings-to-the-outside-world

Use Case 2

Issuing for Construction

Allow: Design, Engineering
Criteria: None
Action: Increment secondary revision

Allow: Design, Engineering
Criteria: None
Action: Sync Props, Update View

Allow: Design, Engineering
Criteria: Property Compliance is Compliant
Action: Sync Props, Update View and PDF
Create_DWF

Allow: Engineering, Managers
Criteria: Property Compliance and Compliant
Action: Increment primary revision
Sync Props, Update View and PDF
Check that dependent child
files are 'Released'
Create_DWF

Work in Progress

Internal Review

Issued for Approval

Issued for Construction

Allow: Design, Engineering
Criteria: None
Action: None

Allow: Engineering, Managers
Criteria: None
Action: Increment secondary revision

Allow: Engineering, Managers
Criteria: Property Compliance and Compliant
Action: Increment primary revision
Sync Props, Update View and PDF
Check that dependent child
files are 'Released'
Create_DWF

Allow: Engineering, Managers
Criteria: Property Compliance and Compliant
Action: Increment primary revision
Sync Props, Update View and PDF
Check that dependent child
files are 'Released'
Create_DWF

As Built

Issuing for Construction

- The design is ready to be issued at IFC for the contractors.

- We need to send out the 3D model and associated 2D drawings.

  o Vault generates the PDF from the DWG files.

  o powerJobs generates the DWFx from the 3D models.

Video – Issuing files for Construction

https://knowledge.autodesk.com/community/collection/using-vault-professional-and-bim360-docs-–-publishing-drawings-to-the-outside-world

Video – Configuring Use Case 2

https://knowledge.autodesk.com/community/collection/using-vault-professional-and-bim360-docs-–-publishing-drawings-to-the-outside-world

Getting BIM360 Docs Ready

- Add the Company Name of the External stakeholder.

- Add a User for the External stakeholder and include them in the Project.

- Set Issue permissions.

- Set Folder permissions.
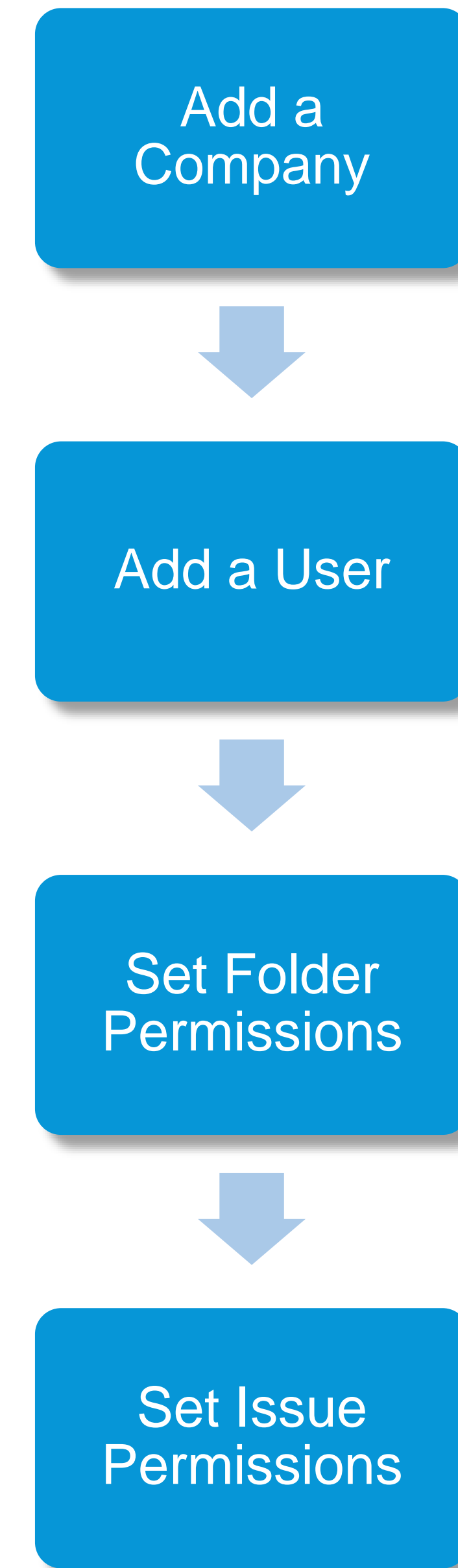
- Set Issue permissions.

Add a Company

↓

Add a User

↓

Set Folder Permissions

↓

Set Issue Permissions

Video – Adding Companies and Users to the Project

https://knowledge.autodesk.com/community/collection/using-vault-professional-and-bim360-docs-–-publishing-drawings-to-the-outside-world

Video – Granting Users permissions to create Issues

https://knowledge.autodesk.com/community/collection/using-vault-professional-and-bim360-docs---publishing-drawings-to-the-outside-world

Using BIM360 Docs

- Subscribing to folders.

- Viewing the files in BIM360 Docs.

- Marking up the file in BIM360 Docs.

- Creating issues in BIM360 Docs.

Video – Setting up Folder Permissions and Subscribing to Folders

https://knowledge.autodesk.com/community/collection/using-vault-professional-and-bim360-docs-–-publishing-drawings-to-the-outside-world

Video – Viewing Files, Adding Mark-ups and Creating Issues in BIM360 Docs

https://knowledge.autodesk.com/community/collection/using-vault-professional-and-bim360-docs-–-publishing-drawings-to-the-outside-world

Other Tips

Project Sync Intervals

- Out-of-the-box, the minimum sync interval is 8 hours.

- This can be set to as low as 1 hour by editing **Connectivity.VaultPro.exe.config**

- Add the key "ProjectSyncMinimumFrequency"

- The value format is in HH:MM:SS

- The minimum value is 1 hour.

- This file is in:

C:\Program Files\Autodesk\Vault Professional 2020\Explorer

Job Processor running only Project Sync Jobs

- In scenarios where you have a dedicated Job Processor for syncing to BIM360 Docs.

- The dedicated Job Processor can be configured to run only Project Sync jobs by modifying the **JobProcessor.exe.config** file located in:

C:\Program Files\Autodesk\Vault Professional 2020\Explorer

- Comment out all jobs except the `<!- Portal Handlers -->`
- Restart the Job Processor after making these changes
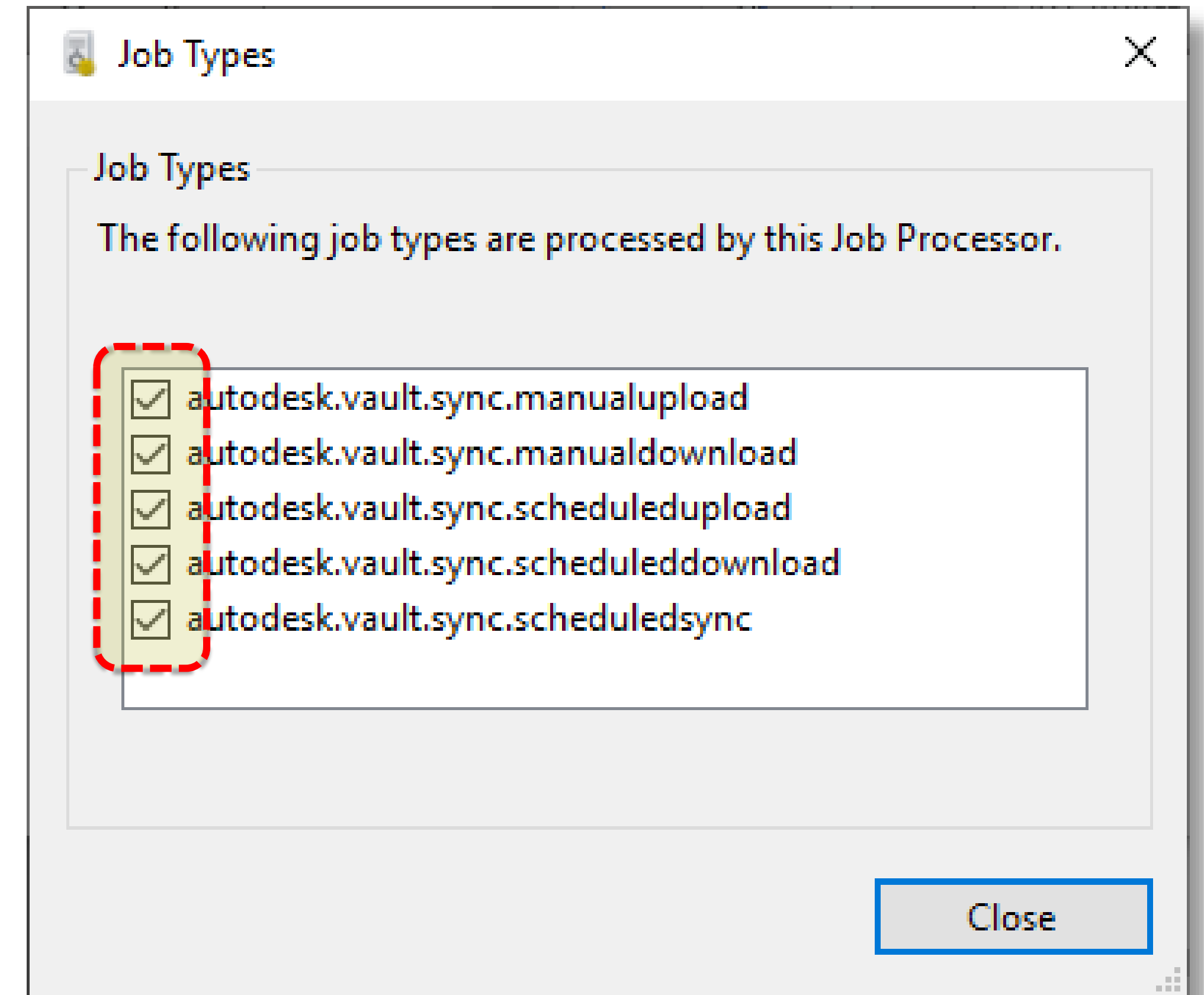
```
35        <extHandler command="Document.PropertyUpdate" handler="Connectivity.Explorer.ExtensionHandlerOffice.OLEExtHandler, Connectivity.Explorer.ExtensionHandler.Office"
          extensions="doc,dot,xls,xlt,xla,ppt,pot,ppa,mpp,mpt,vsd,vst"/>
36        <extHandler command="Document.PropertyUpdate" handler="Connectivity.Explorer.ExtensionHandlerOffice.OpenOfficeExtHandler, Connectivity.Explorer.ExtensionHandler.Office"
          extensions="docx,dotx,xlsx,xltx,xlax,pptx,potx,ppax,mppx,mptx,vsdx,vstx"/>
37      </extHandlers>
38      <jobHandlers>
39        <!-- <jobHandler class="Autodesk.Vault.PDF.Create.idw" handler="Connectivity.Explorer.JobHandlerPdfPublish.PdfJobHandler, Connectivity.Explorer.JobHandlerPdfPublish"/>
          -->
40        <!-- <jobHandler class="Autodesk.Vault.PDF.Create.dwg" handler="Connectivity.Explorer.JobHandlerPdfPublish.PdfJobHandler, Connectivity.Explorer.JobHandlerPdfPublish"/>
          -->
41        <!-- <jobHandler class="Autodesk.Vault.DWF.Create.iam" handler="Connectivity.Explorer.JobHandlerDwfPublish.DwfJobHandler, Connectivity.Explorer.JobHandlerDwfPublish"/>
          -->
42        <!-- <jobHandler class="Autodesk.Vault.DWF.Create.ipt" handler="Connectivity.Explorer.JobHandlerDwfPublish.DwfJobHandler, Connectivity.Explorer.JobHandlerDwfPublish"/>
          -->
43        <!-- <jobHandler class="Autodesk.Vault.DWF.Create.ipn" handler="Connectivity.Explorer.JobHandlerDwfPublish.DwfJobHandler, Connectivity.Explorer.JobHandlerDwfPublish"/>
          -->
44        <!-- <jobHandler class="Autodesk.Vault.DWF.Create.idw" handler="Connectivity.Explorer.JobHandlerDwfPublish.DwfJobHandler, Connectivity.Explorer.JobHandlerDwfPublish"/>
          -->
45        <!-- <jobHandler class="Autodesk.Vault.DWF.Create.dwg" handler="Connectivity.Explorer.JobHandlerDwfPublish.DwfJobHandler, Connectivity.Explorer.JobHandlerDwfPublish"/>
          -->
46        <!-- <jobHandler class="Autodesk.Vault.DWF.Create.rvt" handler="Connectivity.Explorer.JobHandlerDwfPublish.DwfJobHandler, Connectivity.Explorer.JobHandlerDwfPublish"/>
          -->
47        <!-- <jobHandler class="Autodesk.Vault.DWF.Create.rfa" handler="Connectivity.Explorer.JobHandlerDwfPublish.DwfJobHandler, Connectivity.Explorer.JobHandlerDwfPublish"/>
          -->
48        <!-- <jobHandler class="Autodesk.Vault.DWF.Create.rte" handler="Connectivity.Explorer.JobHandlerDwfPublish.DwfJobHandler, Connectivity.Explorer.JobHandlerDwfPublish"/>
          -->
49        <!-- <jobHandler class="Autodesk.Vault.SyncProperties" handler="Connectivity.Explorer.JobHandler.SyncProperties.ExtHandlerSyncPropertiesJobHandler,
          Connectivity.Explorer.JobHandlerSyncProperties"/> -->
50        <!--Update revision block handlers -->
51        <!-- <jobHandler class="Autodesk.Vault.UpdateRevisionBlock.idw" handler="Connectivity.Explorer.JobHandlerUpdateRevisionBlock.UpdateRevisionBlockJobHandler,
          Connectivity.Explorer.JobHandlerUpdateRevisionBlock"/> -->
52        <!-- <jobHandler class="Autodesk.Vault.UpdateRevisionBlock.dwg" handler="Connectivity.Explorer.JobHandlerUpdateRevisionBlock.UpdateRevisionBlockJobHandler,
          Connectivity.Explorer.JobHandlerUpdateRevisionBlock"/> -->
53        <!--revit add sheets creation hanlder -->
54        <!-- <jobHandler class="Autodesk.Vault.AddSheetsPSGPath.rvt" handler="Connectivity.Explorer.JobHandlerAddSheets.AddSheetsJobHandler,
          Connectivity.Explorer.JobHandlerAddSheets"/> -->
55        <!-- Extract BOM handlers -->
56        <!-- <jobHandler class="Autodesk.Vault.ExtractBOM.Inventor" handler="Connectivity.Explorer.JobHandler.ExtractBOM.ExtractBomJobHandler,
          Connectivity.Explorer.JobHandlerExtractBOM"/> -->
57        <!-- Portal handlers -->
58        <jobHandler class="Autodesk.Vault.Sync.ManualUpload" handler="Connectivity.Explorer.JobHandler.Portal.PortalJobHandler, Connectivity.Explorer.JobHandlerPortal"/>
59        <jobHandler class="Autodesk.Vault.Sync.ManualDownload" handler="Connectivity.Explorer.JobHandler.Portal.PortalJobHandler, Connectivity.Explorer.JobHandlerPortal"/>
60        <jobHandler class="Autodesk.Vault.Sync.ScheduledUpload" handler="Connectivity.Explorer.JobHandler.Portal.PortalJobHandler, Connectivity.Explorer.JobHandlerPortal"/>
61        <jobHandler class="Autodesk.Vault.Sync.ScheduledDownload" handler="Connectivity.Explorer.JobHandler.Portal.PortalJobHandler, Connectivity.Explorer.JobHandlerPortal"/>
62        <jobHandler class="Autodesk.Vault.Sync.ScheduledSync" handler="Connectivity.Explorer.JobHandler.Portal.PortalJobHandler, Connectivity.Explorer.JobHandlerPortal"/>
63      </jobHandlers>
64      <syncPropertiesPostJobExtensions>
65        <queueDwfCreateJob extension=".iam"/>
66        <queueDwfCreateJob extension=".ipt"/>
67        <queueDwfCreateJob extension=".ipn"/>
```
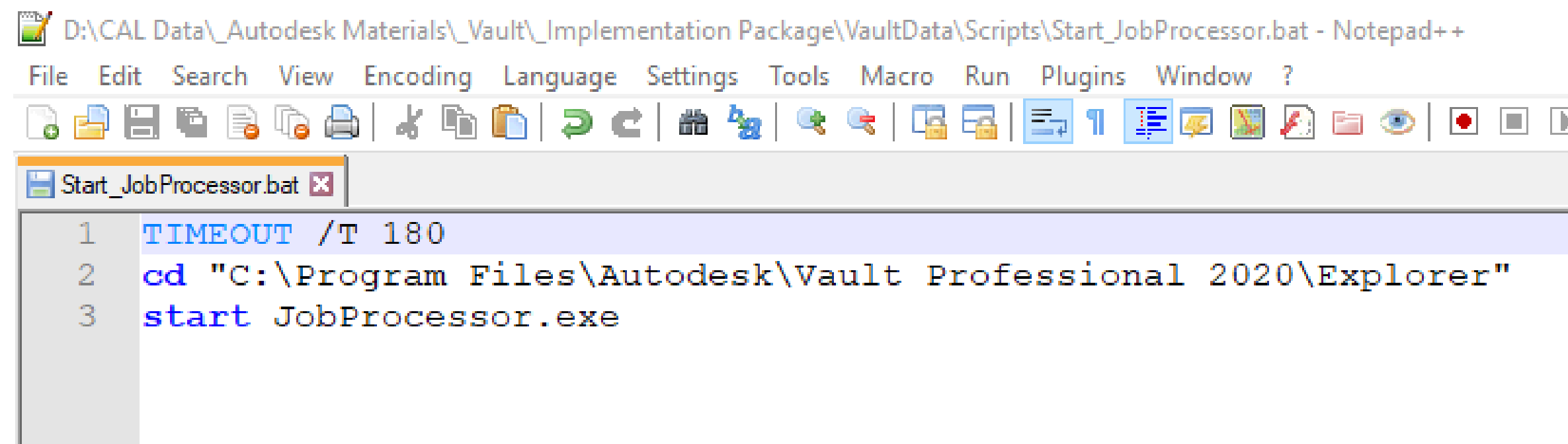
Modifying the PDF filename

- Adding the Description UDP to the filename of the Vault-
  generated PDF.

- Modify the **JobProcessor.exe.config** file located in:

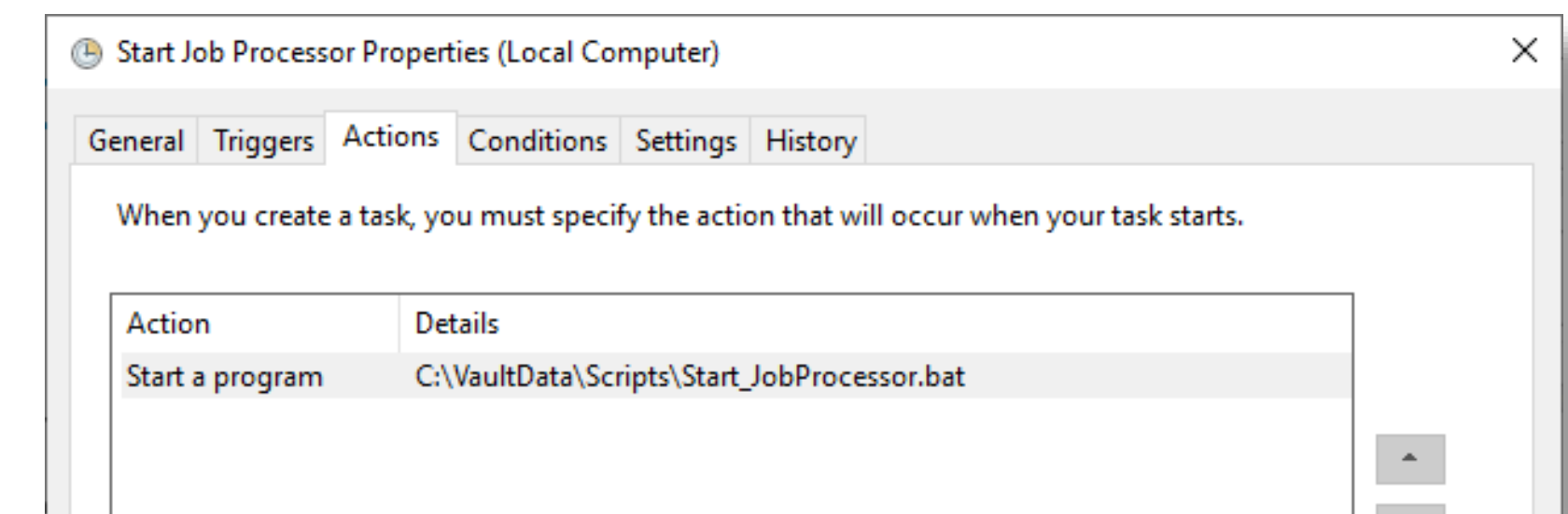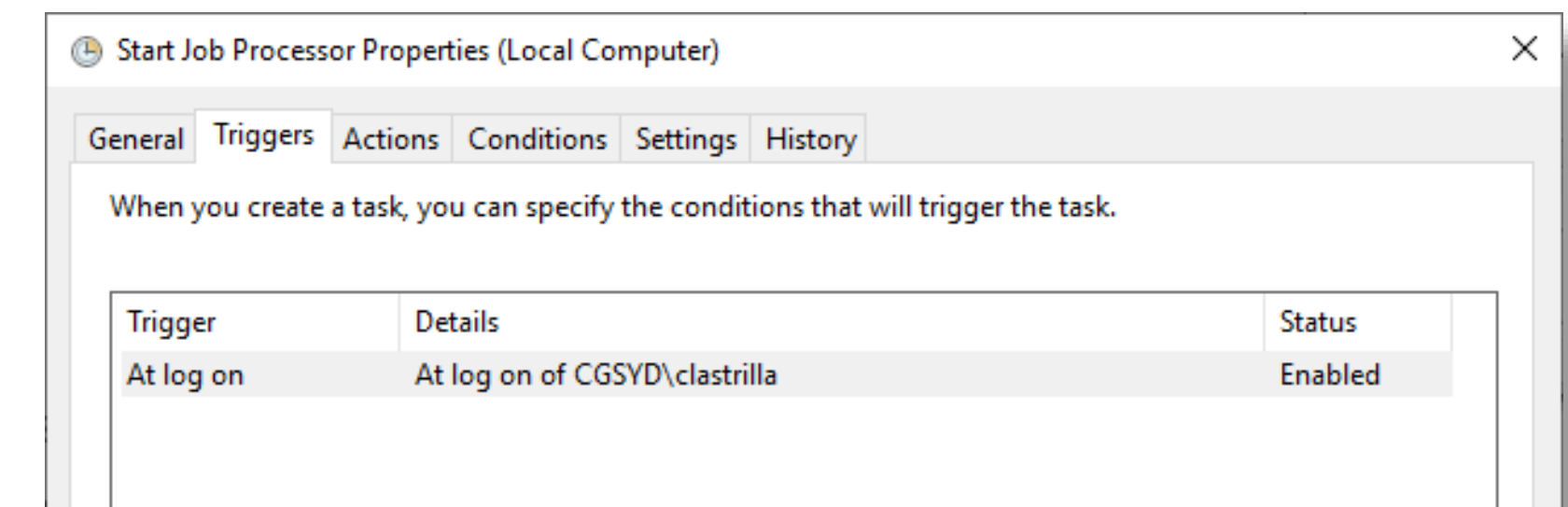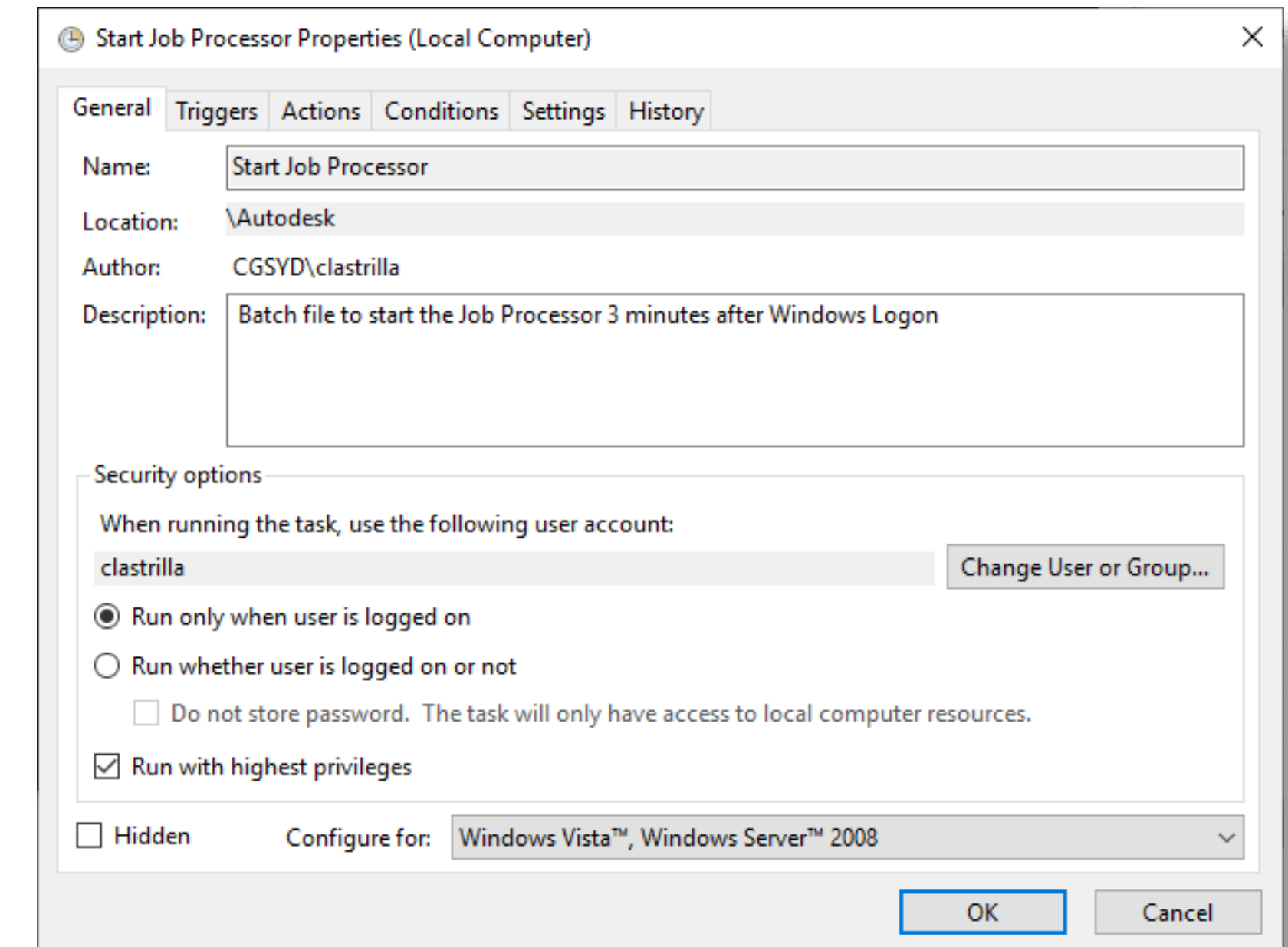C:\Program Files\Autodesk\Vault Professional 2020\Explorer

```
<!--Inventor PDF file format-->
    <add key="DesignRepresentation.Naming" value="\.(DWG)$/&lt;_name_&gt;-
&lt;Description&gt;"/>
```
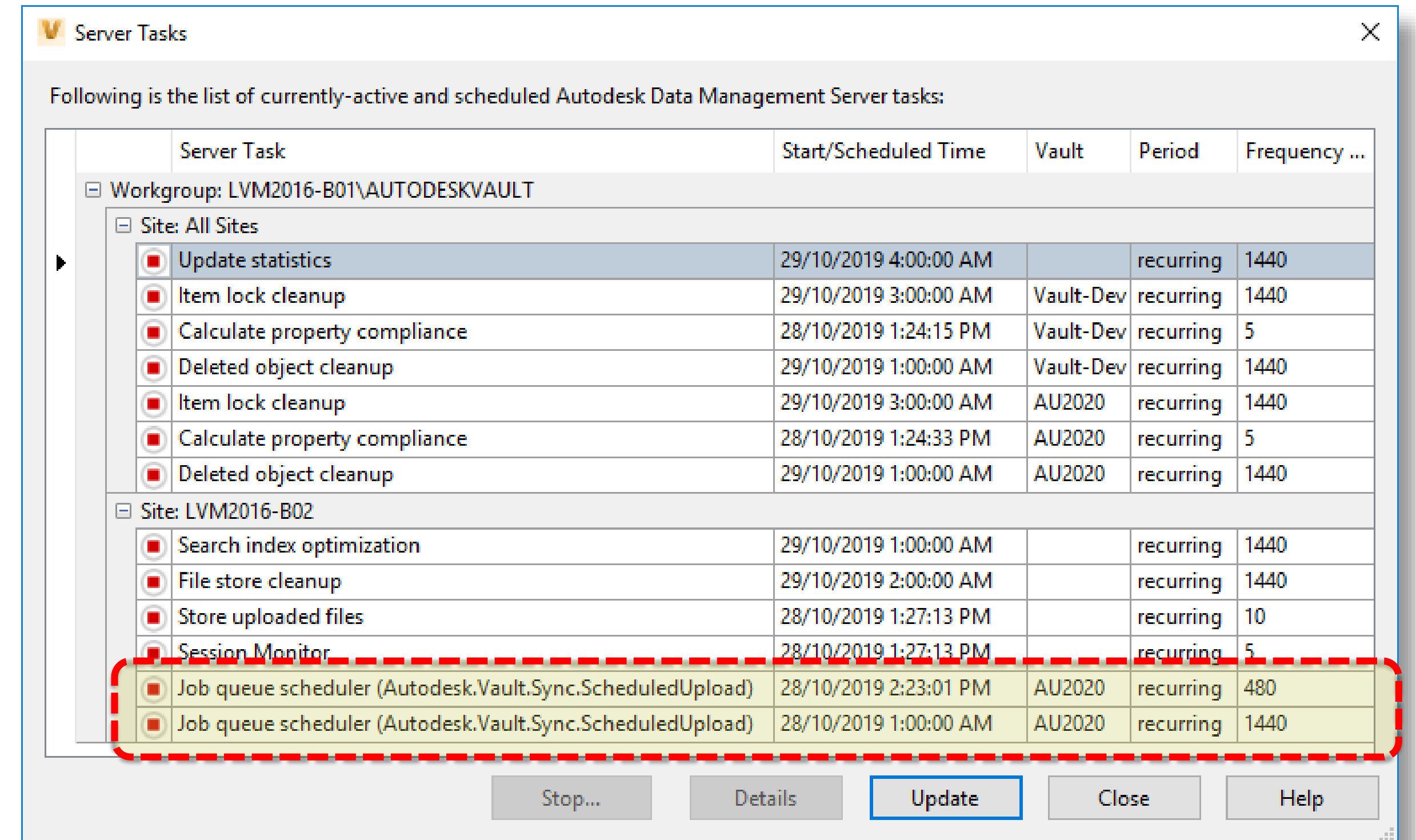
Starting the Job Processor automatically

- The Job Processor needs to run after the Autodesk Desktop Connector has been initialized.

- This can be achieved by using a batch file and Windows Task Scheduler to run the Job Processor, after a certain delay.

- Create the **Start_JobProcessor.bat** batch file.

- Use Windows Task Scheduler to run the batch file on Log on
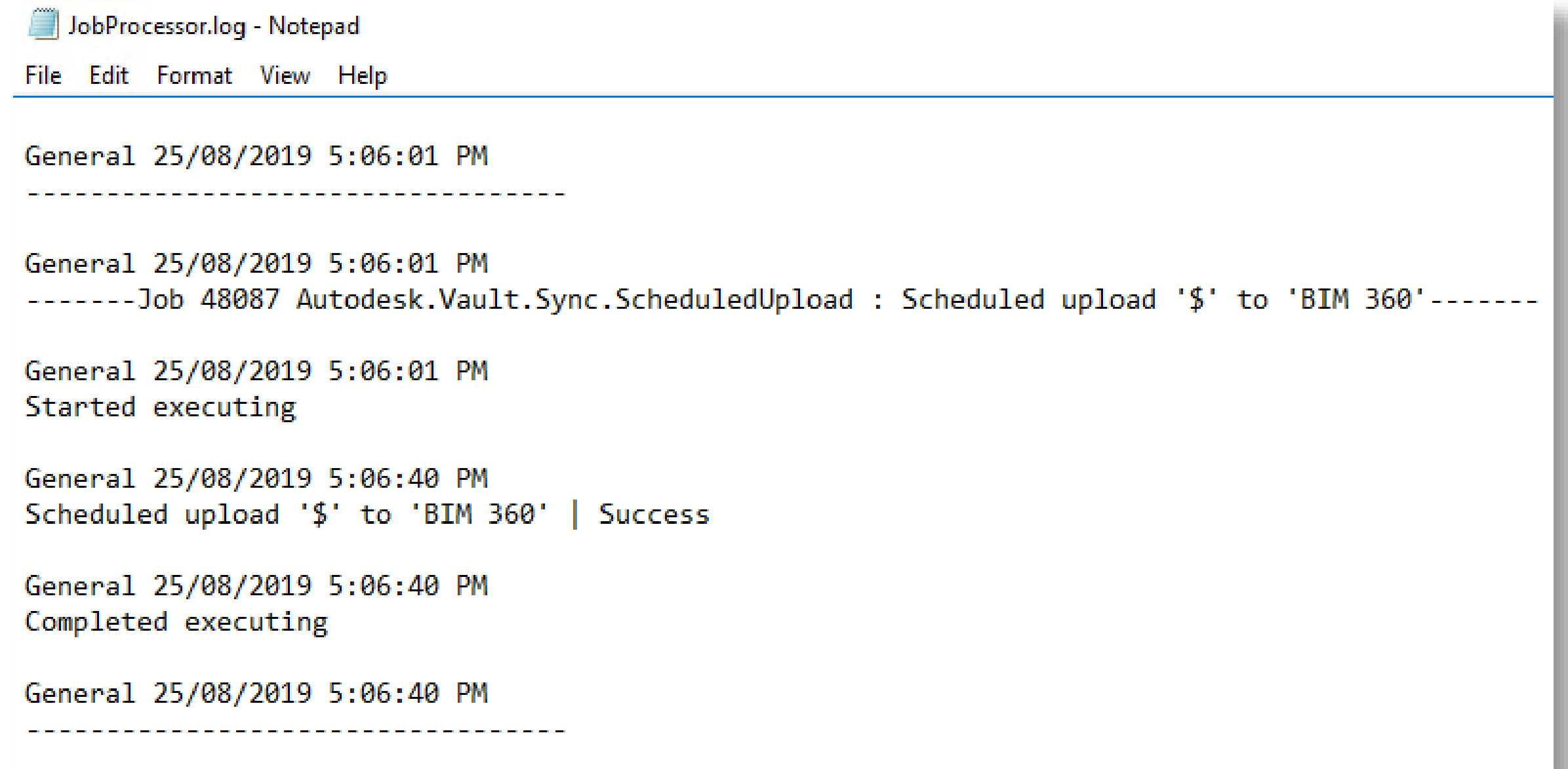

```
1  TIMEOUT /T 180
2  cd "C:\Program Files\Autodesk\Vault Professional 2020\Explorer"
3  start JobProcessor.exe
```

The Job Processor log files

- **JobProcessor.log** shows the jobs which the Job Processor has run.

- This file is in:

C:\Program Files\Autodesk\Vault Professional 2020\Explorer

The Job Processor log files

- **[GUID]JobProcessor.log** shows a list of files that have been processed by the Job Processor Project Sync jobs.

- This file is in:

C:\Program Files\Autodesk\Vault Professional 2020\Explorer

9c9bcef3-4e33-41a4-a853-d5c1e06ce96aJobProcessor.log - Notepad

File   Edit   Format   View   Help

General 20/10/2019 11:57:14 AM
Job 116544 | Autodesk.Vault.Sync.ScheduledUpload | Cloud Drive Mapping Configuration:
Name: 'Published IFA PDF Drawings'
Vault Folder: '$'
Cloud Drive: 'BIM 360'
Cloud Drive Folder: 'Cadgroup\Cadgroup AU\Project Files'
Sync Folder: '$'
Action Name: 'Upload to Cloud Drive'

General 20/10/2019 11:58:21 AM
Job 116544 | Autodesk.Vault.Sync.ScheduledUpload | Files uploaded to Cloud Drive Mapping:
Skipped File: CGP19006-001.pdf
Skipped File: CGP19006-310.pdf
Skipped File: CGS17030-411-BOQ.pdf
Updated File: CGS17030-413.pdf
Updated File: CGS17030-421-BOQ.pdf
Updated File: CGS17030-423.pdf
Updated File: CGS17030-431-BOQ.pdf
Updated File: CGS17030-433.pdf
Updated File: CGS17030-441.pdf

Viewing the Job Queue

- The Job Queue tells you which jobs are pending processing, which are being processed, and any jobs that have errors.

- In the Vault Client, go to Tools → Job Queue.
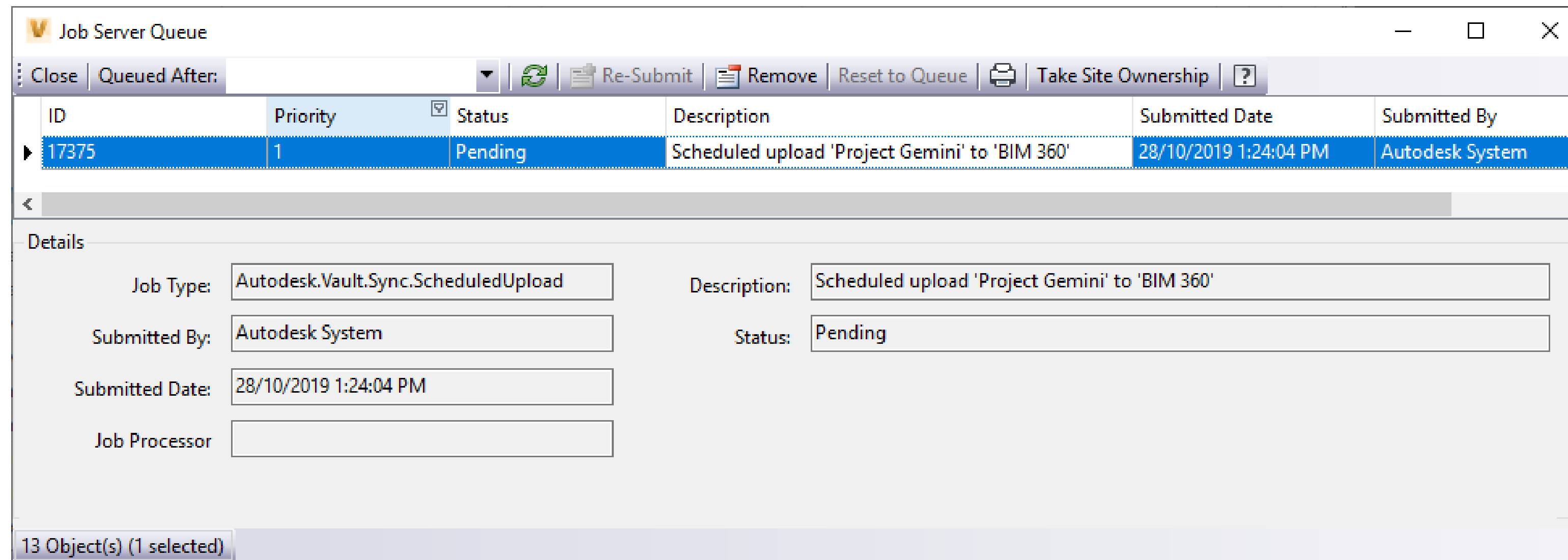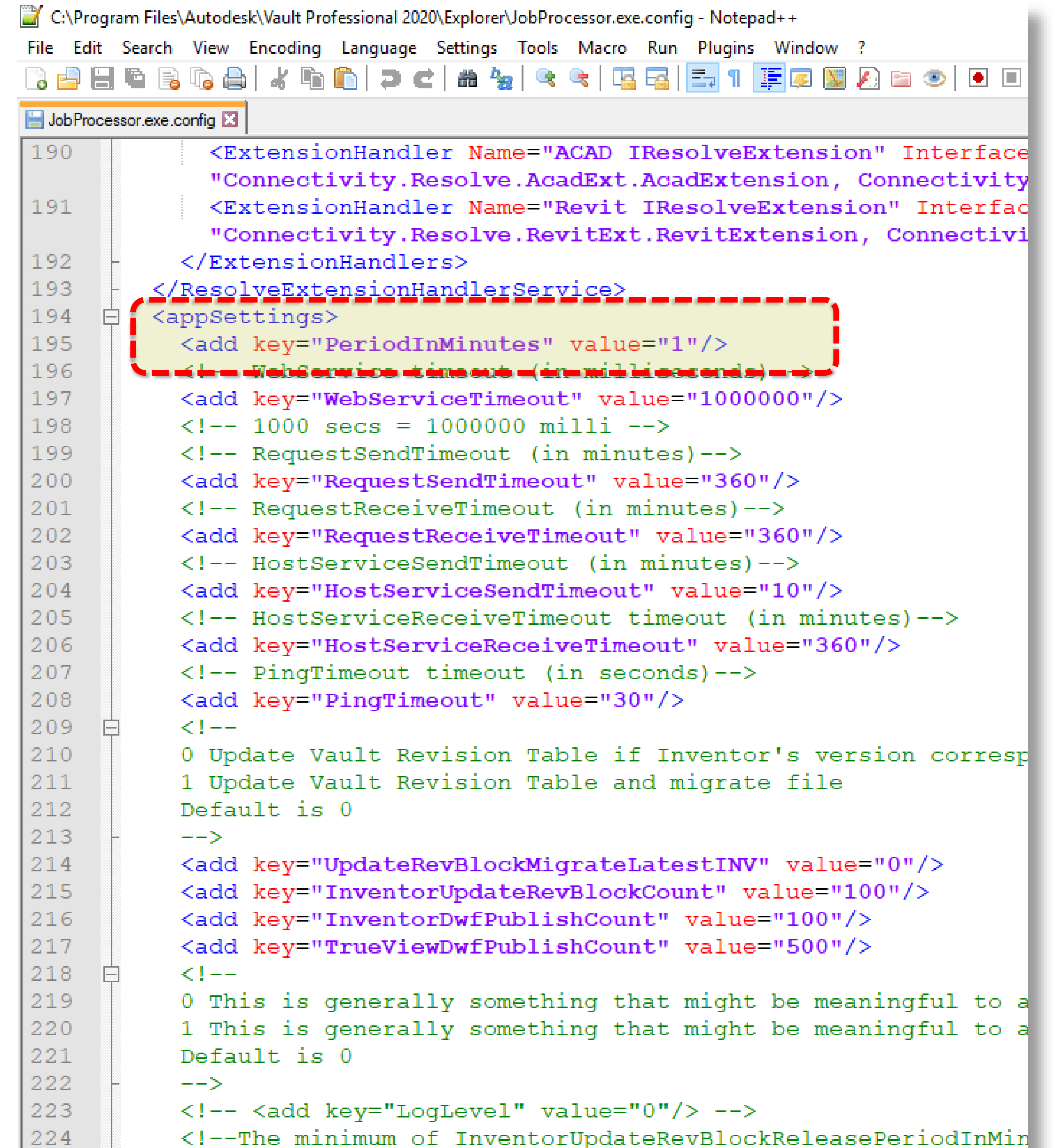
Job Processor Polling Intervals

- By default, the Job Processor polls for jobs to do every 10 minutes.

- This can be changed to a smaller interval by modifying the **JobProcessor.exe.config** file located in:

C:\Program Files\Autodesk\Vault Professional 2020\Explorer

- Modify the value of **PeriodInMinutes**

- Decimal values are acceptable.

- Restart the Job Processor after making these changes.

- Remember to take a backup of the file first!

Viewing Server Tasks

- For every Project Sync job, a Server Task is created to submit that job to the Job Queue.
- In ADMS Console, go to Tools → Server Tasks.

Better than eMails?

Controlled
The right person, the right access, at the right time

Convenient
Automated processes with minimum human intervention

Consolidated
Single Source of Truth

What next?

- Download the class handouts.

- Configure a test environment.

  - https://bim360.autodesk.com/trial-signup/

What next?

- Other classes of interest:

  - **MFG323371** - Sharing Is Caring: Sharing Vault Data Outside the Firewall (Wed 8:00AM – 9:00AM)

  - **MFG320861** - Technical Dive and Talk—Vault Professional Data Beyond Your Firewall (Wed 4:30PM – 5:30 PM)

Video Links

01-Creating a Project in BIM360 Docs

02-Installing Autodesk Desktop Connector

03-Job Processor with Autodesk Desktop Connector

04-DXF and PDF files synced from Vault to BIM360 Docs

05-Configuring Use Case 1

06-Issuing files for Construction

07-Configuring Use Case 2

08-Adding Companies and Users to the Project

09-Granting Users permissions to create Issues

10-SettingUpFolderPermissionsandSubscribingtoFolders

11-Viewing Files, Adding Markups and Creating Issues

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Make anything.