MFG466271

The Golden Ticket: Working with Vault & Fusion Team

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Learning Objectives

- Learn how to access data remotely without requiring a VPN
- Learn how to assist your team with the setup of remote access to their files
- Discover the relationship and differences between Fusion Team and Vault
- Learn how to set up Fusion Team to work with your Vault

Description

2020 imposed upon us an unprecedented need to shift our workforces from office environments to remote ones. With this, many Vault users found themselves struggling to access their data, IT personnel had to scramble to set up previously unnecessary VPNs, and many companies found themselves struggling to maintain status quo amid the pandemic. Fusion Team is a suggested resolution to this data-access issue but setting it up to work with Vault software without knowing the intricacies of that relationship will usually end with more frustrations than solutions. In this class, we will provide guidelines to maximize the efficiency and productivity of using Fusion Team with Vault software in order to keep your team up and running no matter what life throws at them.

Speaker(s)

Lauren has a background in mechanical engineering from numerous sectors of the industry- including firearms, diesel engines, and fluidics. This year, Lauren transitioned from being an Autodesk customer to a member of the Autodesk partner channel when she joined D3 Technologies' Data Management team. This is her third AU and second team teaching.

Brian Schanen works for Autodesk, Inc., as a PLM/PDM Readiness Program Manager in the Business Strategy & Marketing division. He is responsible for evangelizing global technical and sales on PLM and PDM and the design, creation, implementation, and delivery of PLM/PDM based curriculum, technical and sales tools, and live events. With 18 years of PDM and PLM experience, he is a seasoned presenter. On any given day, you can find him coaching internal teams, prospects, mentoring new customers, and even assisting in deployments of Autodesk PLM/PDM software.

Accessing Data without a VPN

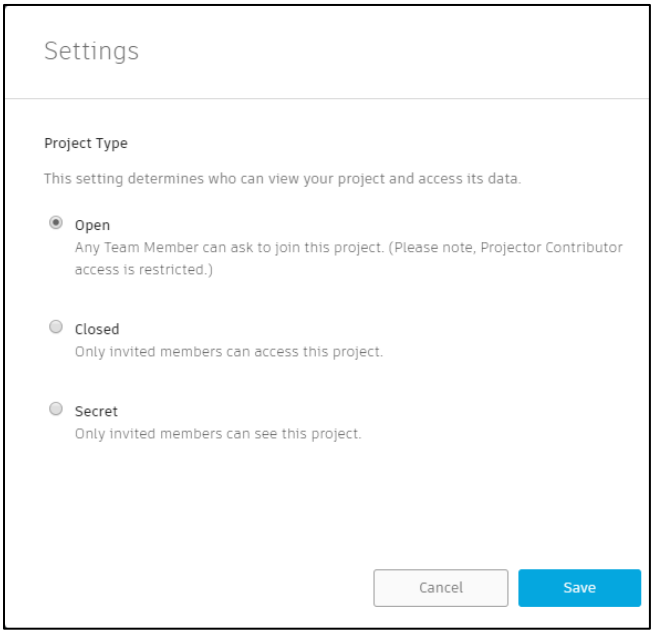
Users may need to access data while working outside of the office for a variety of reasons- working from home, from a customer's facility, or perhaps when working as a contractor for a company. Without VPN access, this can be a very cumbersome and nearly impossible process.

What is Fusion Team?

Fusion Team is the data experience catered to Fusion 360 users, but the good thing is it is available to all Product Design & Manufacturing Collection subscribers and compatible will all file types. If you are a PDMC customer, you already have access to this feature- no additional purchase is required.

Because it is cloud-based just like Fusion 360, there is no need for a VPN to access the files housed in Fusion Team! All that is required to is the Autodesk account your licensing is based on and an internet connection.

Hubs & Projects



Project Types in Fusion Team

Fusion Team is comprised of Hubs and Projects. The Hub is the central workplace for your projects. Each organization should only have one Hub, which should be set up by your local contract owner or IT administrator. Within the Hub are projects. These are working areas within the Hub. There are three types of projects: open, closed and secret. Open projects are intended for all internal Team members. Closed projects are used when better control is needed over your data- membership is available only through invitation. The most secure project type are secret projects. These projects are intended for sensitive or personal data. Only invited members can see the project- it will not appear as an option for other users. The only exception to that is the Team Hub, who will be able to see the contents of the project but will be able to see it exists.

Any Team Member can join an open project, whereas you must be invited into a closed or secret project. Team Members can see closed projects but must request access to view their contents.

Role Types

Roles can be assigned at both the Hub and Project level. There are three Hub roles: Team Administrator, Team Members and Project Contributors. Please see the below summary of the actions each role can take:

	Team Administrators	Team Members	Project Contributor
Project Creation	✓	✓	
Browse and Join Projects	✓	✓	
Invite Team Members * Requires Team Admin Approval	✓	*✓	*✓
Invite Project Contributor	✓	✓	
Can Upload Files	✓	✓	✓
Can See other Members	✓	✓	
Can Approve Invitations from other contributors	✓	✓	
Can approve and share public links	✓	✓	
Right to assign hub-level roles to users	✓		
Can purchase seats	✓		

At the project level, there are also three roles which can be assigned: Project Administrator, Project Editor & Project Viewer. As one can imagine, the Viewer role only allows view access, and the permissions for Editor and Administrator grow from there.

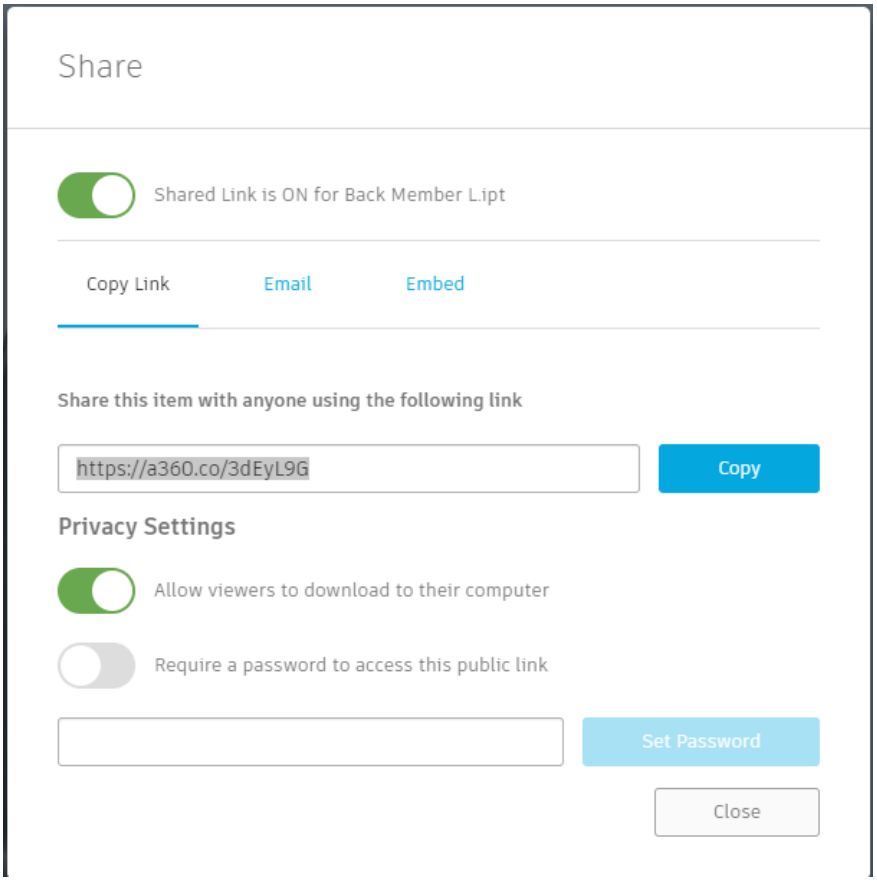
	Project Admin	Editor	Viewer
View Files(online), folders, comments (view and post) and people	✓	✓	✓
Get Link and Live Review Get link for shared files and initiate live review	✓	✓	
Edit, Upload, Download Copy, move, rename, and delete files/folder	✓	✓	
Manage Sharing Enable and set public sharing, invite others to the project	✓	✓	
Project Admin Project settings, approve people in the project, set access levels	✓		

Fusion Team Data Management

Not only is Fusion Team a cloud-based location to store your files, but it also offers some simplified data management tools to increase the security and usefulness of your data. For users that do not have access to CAD tools, Fusion Team provides the ability to add comments or markups to files for critique. This is extremely helpful when submitting designs to customers or suppliers for approval- they can now provide feedback directly within the model without having to send an email, get on a conference call, or otherwise try to communicate the change needed.

In addition to markups and change comments, users can also view files in Fusion Team without needing CAD software or Design Review. This is because Fusion Team has its own previewer module that operates within the Fusion Team interface. Within this previewer, users can rotate, measure- all the functions they can utilize within Design Review, but without having to ever leave Fusion Team. This previewer window is also where any markups or comments can be added. Fusion Team's previewer module also allows the user to section the part to view internal features, as well as explode assemblies for a better view on component interaction.

Shared links allow users to send a hyperlink to other parties for viewing access- regardless of if the recipient is a member of the Fusion Team project or not. For enhanced security, add a password to the link to prevent the link from being opened by unintended parties. This ability to share data with anyone, without fear of sharing intellectual property unintentionally is a major benefit of Fusion Team's previewing capabilities.



Data can be archived within Fusion Team, so users are not sifting through dozens of legacy projects while trying to find the one they are actively working on. If a project comes back to life after a dormant period, administrators can restore those projects at any time to allow users' access again.

To that end, if any files or folders need to be permanently removed from Fusion Team, there is also the ability to delete. In addition, all files and folders can be moved or copied.

One feature that Fusion Team utilizes which is Fusion 360 specific are the use of milestones. This acts as a moment-in-time snapshot of the design at the time the milestone was created. This is more than just a version of the design- this is a significant marker of the design's progression through its life. Perhaps this was the design when submitted for customer approval, or the first design freeze, or another significant moment in the design's life. However, note that this functionality is most commonly used with Fusion 360, although you can use it with any file format.

In addition to milestones, versions are also created every time you save a file in Fusion Team. Similar to how Vault functions, these versions can be used to track changes and if necessary, can be promoted to be made the most current version. This is helpful if an older version needs to be made current, this can be done quickly and without having to redo all design changes from that timeframe.

Desktop Connector

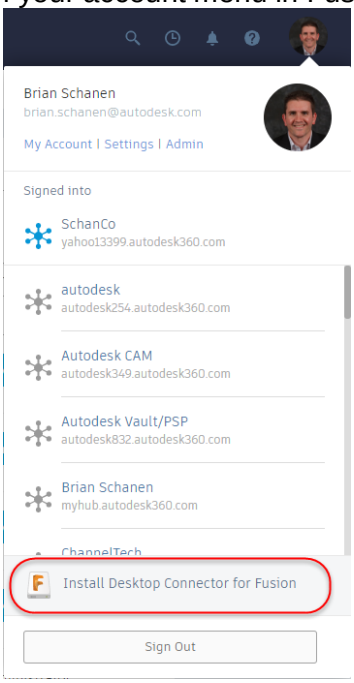
Fusion Team utilizes a tool called Desktop Connector to communicate with cloud drives from your local machine. This connector creates a virtual drive in Windows Explorer and from this virtual drive you can upload, open, save files to be deposited directly in Fusion Team. Not only is Desktop Connector used with Fusion Team, but also BIM 360 and Autodesk Drive. Using the same interface as Windows Explorer allows users to begin using Desktop Connector without any learning curve associated with navigating a new interface. However, be aware that Desktop Connector is only available with Windows operating systems- namely Windows 8 and Windows 10.

To get into some further detail on how Desktop Connector works, it has a 10 minute refresh or poll time. Essentially, every 10 minutes (by default) Desktop Connector will look at the files you have in your local cache and check to see if these files are newer than what is in Fusion Team. Additionally, during that time Desktop Connector also polls Fusion Team to see if additional files have been added. If there have been new files added, the sync will be set up to bring those files down to your Fusion 360 drive.

If you plan to be off the grid, Desktop Connector offers a 15-day offline mode. Simply right-click the Desktop Connector icon in your tray and select Work Offline. This will prevent any communication back up to the cloud for up to 15 days. Upon going back online, any changes you've made will be pushed up to the cloud.

In addition to the offline capabilities, Desktop Connector also features a diagnostic mode. From here, you can view logs which capture any failures the Desktop Connector, check any pending actions that are upcoming, and much more. If you hold the shift key and hover over the Help menu in the Desktop Connector, extended offerings become available.

Download Desktop Connector from your account menu in Fusion Team:



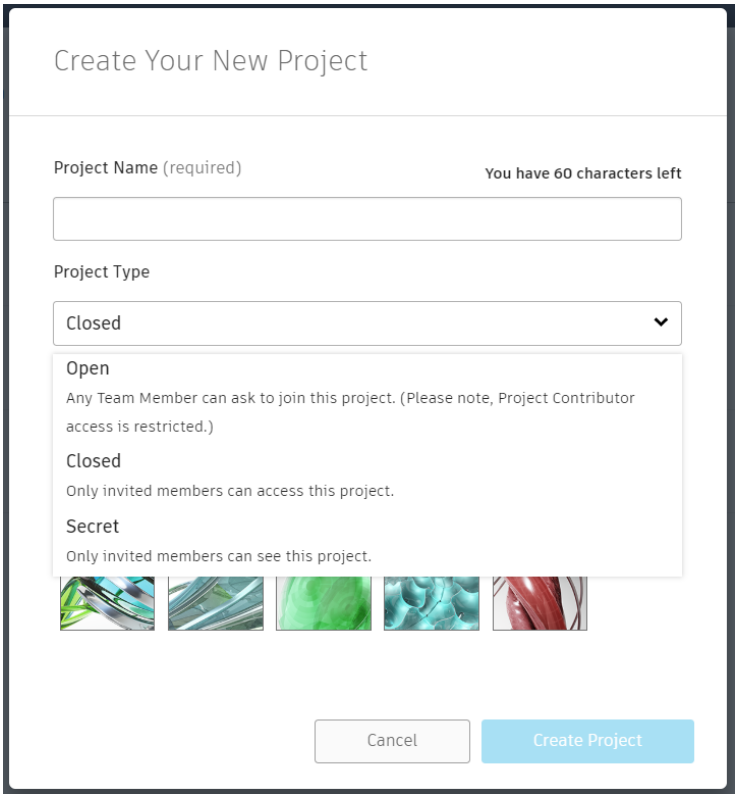
This will launch an installer exe- from here simply type in your Autodesk account information and you should see the Fusion drive appear in your available drives. If you do not see the Fusion drive appear, right-click the tray icon and select Refresh Drives. Note that you might see more than just your Fusion drive appear- if you are entitled or subscribed to a BIM drive or Autodesk drive, you might see that appear as well.

Just as a reminder, Fusion Team as a whole can be access through Chrome, Firefox, Safari and Microsoft Edge without issue. Fusion Team is also accessible with Internet Explorer 11, but it does have limited capabilities. Moving forward, you should not rely on Internet Explorer as your primary browser to use Fusion Team with.

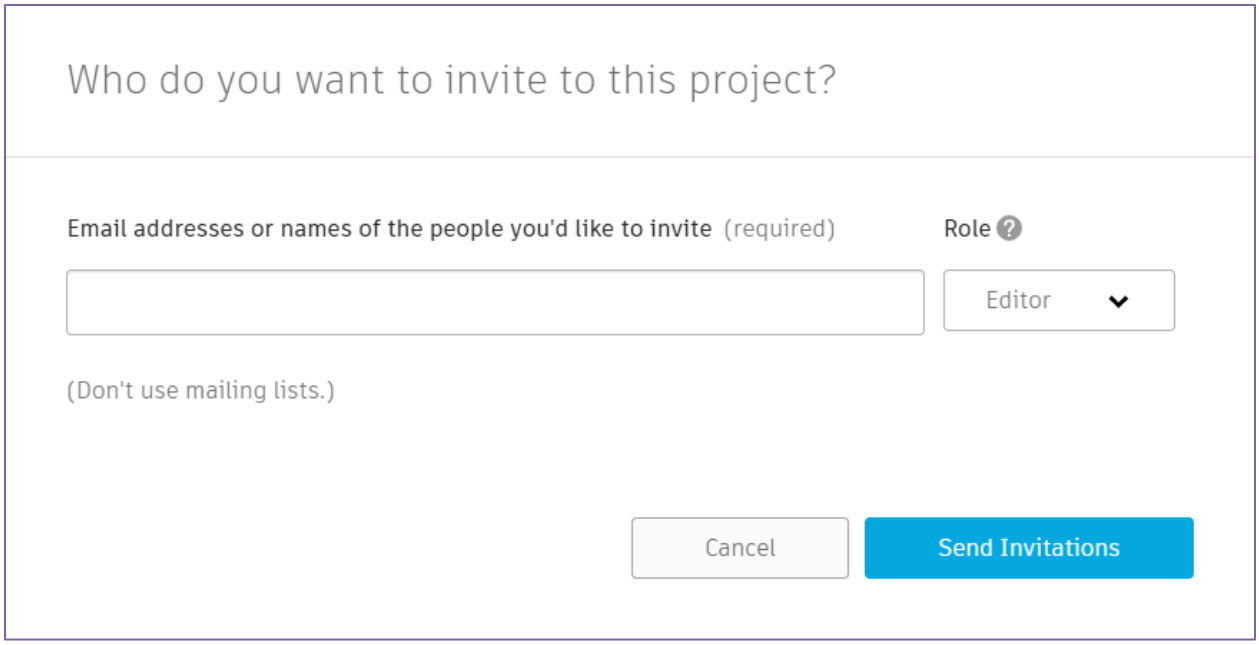
Setting Up A Fusion Team Project

Please note that the following steps are shown with the assumption that you are already a member of a commercial Fusion Team hub. This needs to be set up by your IT administrator or Autodesk contract manager. Additionally, please make sure you have the rights to be able to create projects within your hub. You must be either a Team Administrator or Team Member to create projects.

1. Click “Create Project” within Fusion Team
2. Name project, select project type & choose an avatar. The avatar can be a pre-defined one supplied by Autodesk, or a company logo or other photo.



3. Add users by email address and assign roles accordingly. Users cannot be added to a project as an administrator- they must first accept the invitation into the project and then elevated to administrator.

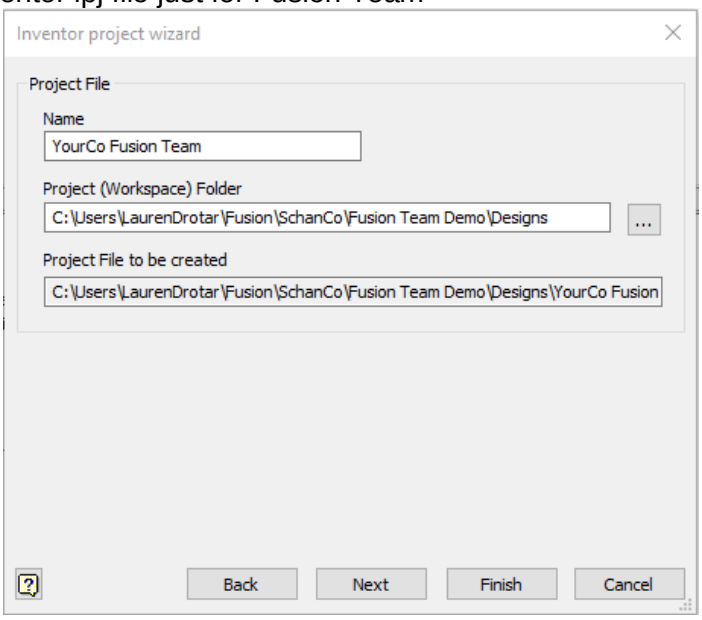


4. Create your folder hierarchy. As a minimum, create the following folders directly within your project:

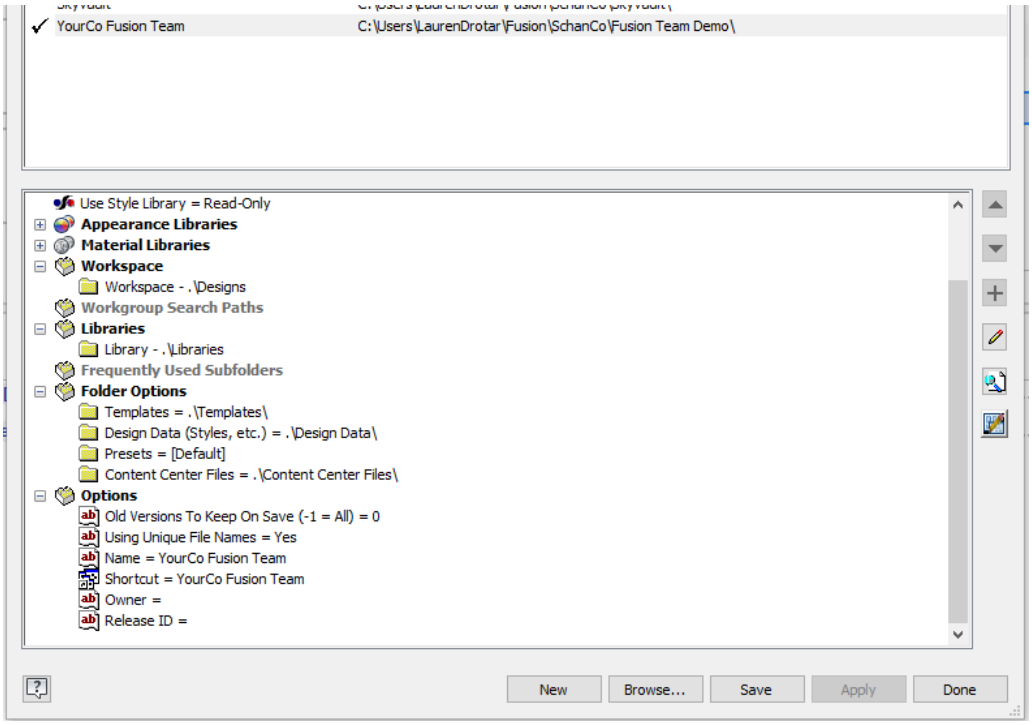
a. Content Center Files
b. Design Data
c. Libraries
d. Templates
e. Designs (Or whatever your central engineering data folder is called)

5. Make sure you have Desktop Connector installed per the earlier instructions

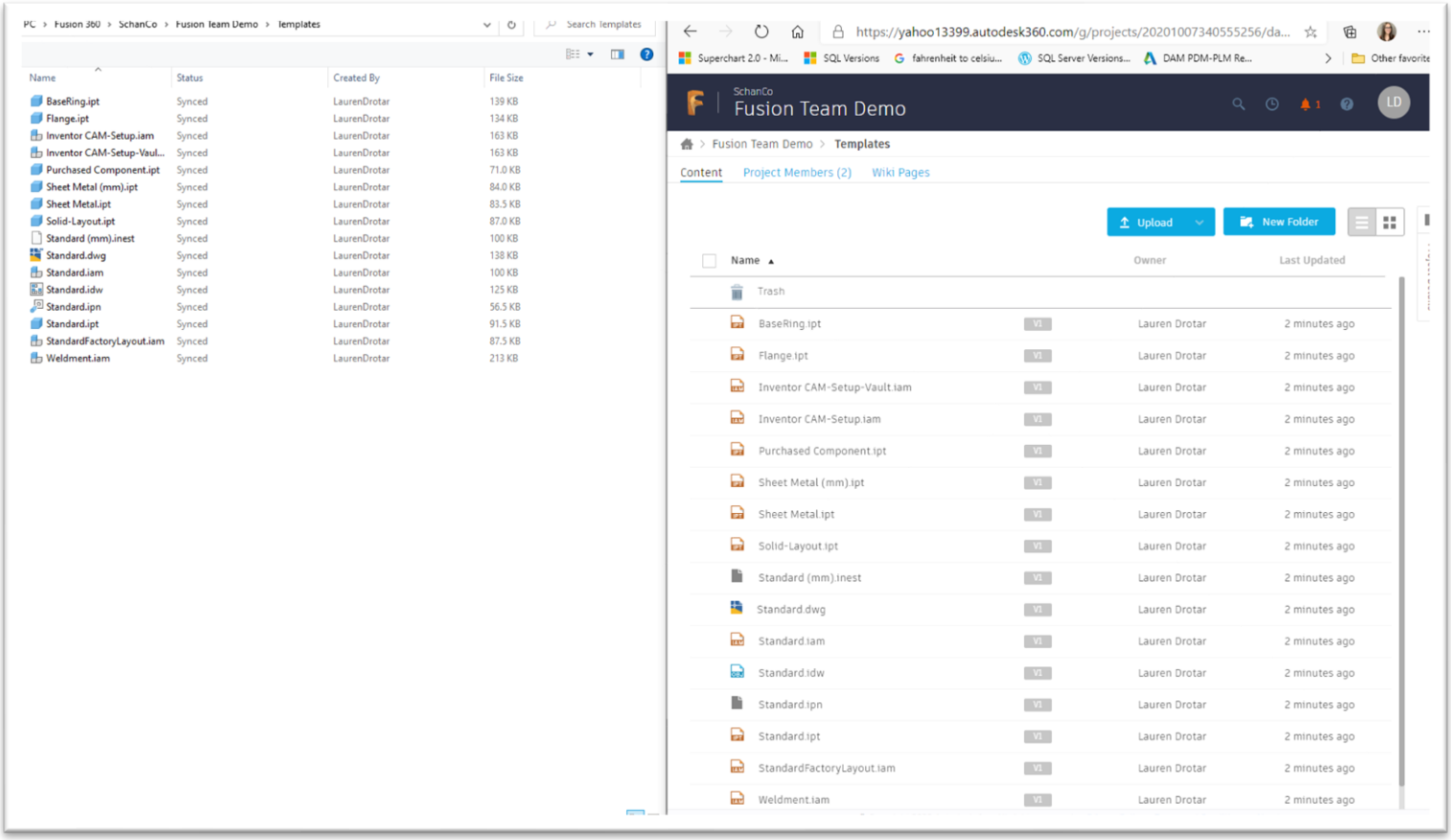
6. Create an Inventor ipj file just for Fusion Team



   a. When selecting the new Design Data location, you will be prompted to copy all Design Data to this location. Say yes.
   b. Copy all templates, libraries, etc. to the Fusion hub location in Desktop Connector. Desktop Connector will prompt you to choose an ipj file to use for this transfer. Select the ipj you've just created. This will prompt every time you copy or drag files into your Fusion drive- always pick your dedicated Fusion ipj.

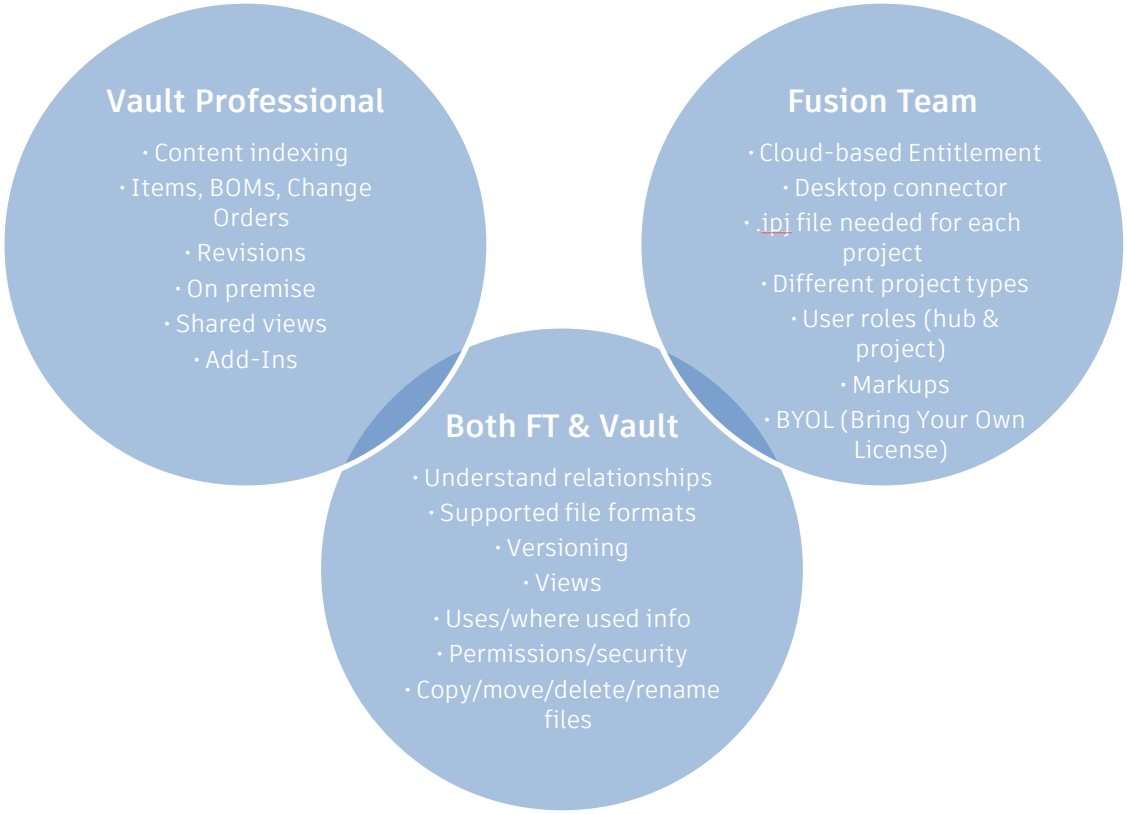


7. Go enjoy Fusion Team! You are officially done setting up your project. Feel free to rinse and repeat these steps as much as necessary to get your project set up to where you're ready to start working in this environment. Check back with the internet-based Fusion Team environment regularly to double-check your files are landing in the location you are expecting.



Fusion Team & Vault: Differences and Similarities

Fusion Team is essentially a lightweight PDM system- it doesn't have all the bells and whistles that Vault does with categories, lifecycles, change orders, etc. but it does offer many of the more essential offerings such as versioning, security models and helpful uses/where used information.



Vault (especially Vault Professional) brings so much to the table as far as supporting a variety of functions and software- from drafters using AutoCAD to construction managers referencing Navisworks files. However, the inherent drawback (and benefit) of using Vault is that all of your data is securely nestled behind the firewall. This is a blessing and a curse as you want to be sure no one can access your data outside of your organization…which is great until you need users outside of your organization to access your data! This is where Fusion Team can assist. Fusion Team can provide a gateway to access only the data you want to leave the confines of the firewall.

Setting up Vault for Fusion Team

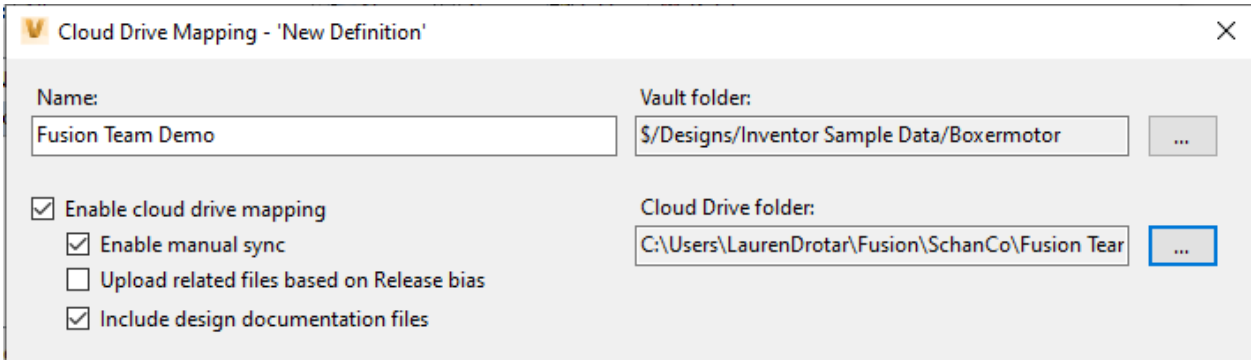
Using the Project Sync function within Vault Professional, we can configure Vault to communicate regularly with cloud drives such as Fusion Team. Note that this requires the use of Vault's job processor capabilities. For those unfamiliar, the job processor is a machine which functions only to process jobs that Vault sends to it. For example, the publication of DWF files, syncing properties or creating PDFs. Communicating with Fusion Team will be another job added to the job processor's list.

The Selective Exchange of CAD Documents

To enable project sync, first we need to go to the Collaborate tab within Vault Settings and select Configure. Click New to create a new cloud drive mapping. We will see a number of options appear here, but to demystify what we're creating- we are configuring the communication preferences for when the job processor talks to Fusion Team.

1. Create a name for your mapping. This should be something relevant- if you're syncing a specific project, list that project name. If you are syncing to a project in Fusion Team which is dedicated to a specific contractor, name that company.
2. Select which Vault folder you would like synchronized.
3. Select the corresponding cloud drive folder location within Desktop Connector. Again, finding that Fusion hub that appeared earlier when we logged into Desktop Connector.
4. Enable or disable any appropriate options.

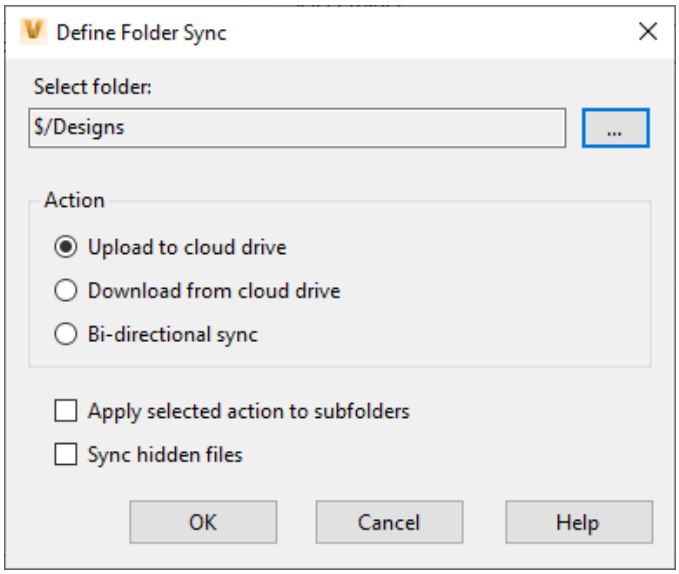
a. Enable cloud drive mapping should automatically be checked, but make sure.
b. Enable manual sync if you would like users to upload or download from the cloud at any time manually.
c. Enable upload related files based on Release bias if you would like to give preference to files that are released
d. Enable the option to include design documentation files to ensure drawings, etc. get synced to the cloud as well.



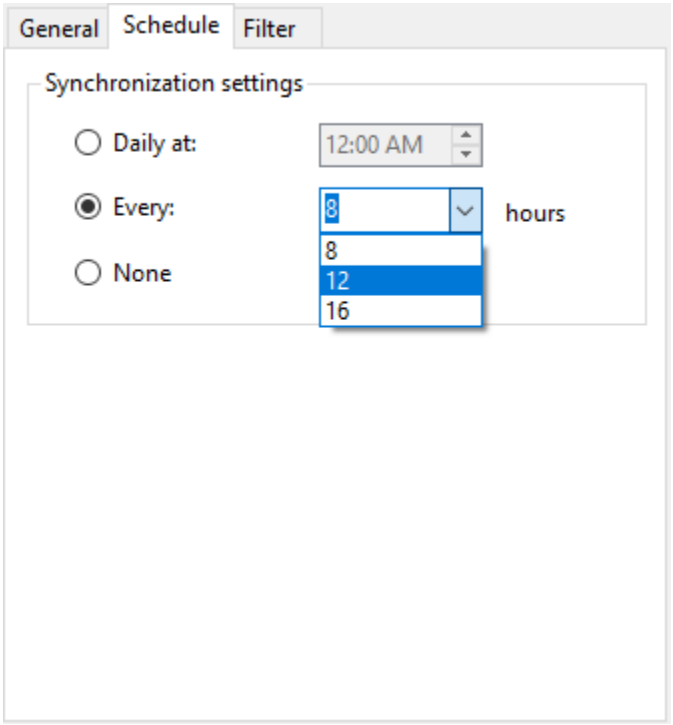
5. If desired, schedule when these synchronizations should occur.

a. Click the green "+" button to choose which Vault folder this scheduled sync will apply to
b. Choose if the sync should be an upload (from Vault to cloud), a download (from cloud to Vault) or a bidirectional sync to just push up-to-date data back and forth
c. Choose whether or not subfolders will be included in this sync

d. Choose if hidden files such as DWFs will be synced



6. On the Schedule tab, determine the frequency of the sync operation. The options include syncing daily at a designated time, or every 8, 12 or 16 hours.



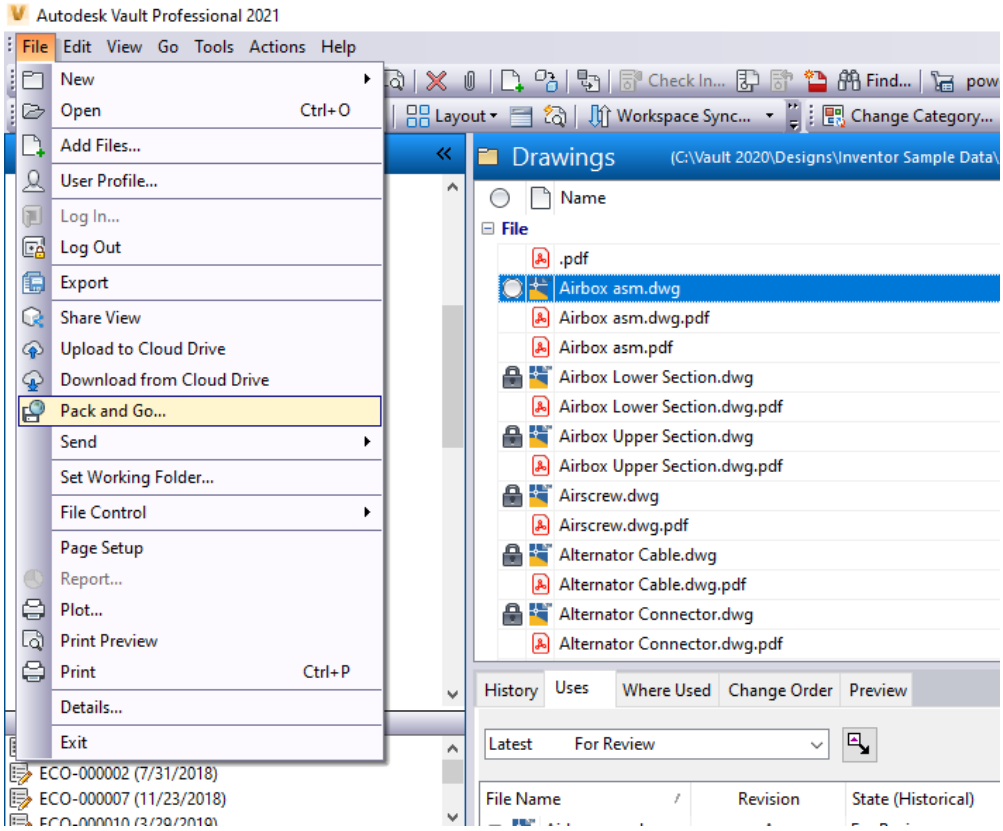
7. Lastly, choose if any filters should be applied to the sync. For example, it can be configured so only files that meet certain properties are included in the sync operation.

Vault Setup Tasks

After the synchronization has been scheduled, it's now time to take care of the more tedious setup tasks. First, we need to make sure the folder structure in Fusion Team is identical to the Vault folder structure. It's important to note that this is only necessary for any folders you are planning on syncing. If you have many folders within Vault, but are only synchronizing a handful to Fusion Team- no need to worry about the folders you're not syncing. We can replicate the folder structure and the files within a few different ways. This class will go over two methods- using Pack and Go to get your parts in Fusion and manually syncing your files to Fusion.

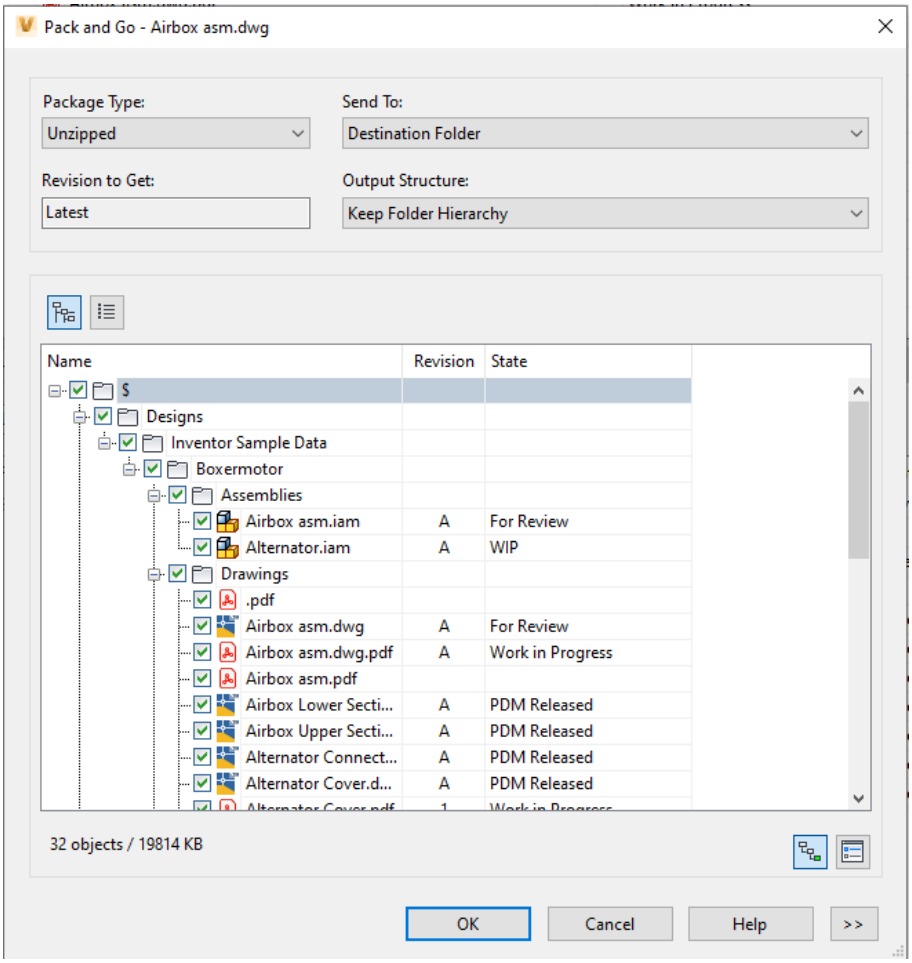
Using Pack and Go

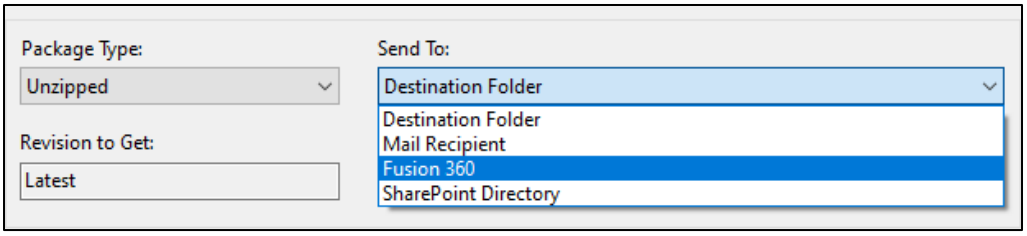
1. Find the file (or files) in Vault, select the File dropdown and click Pack and Go



2. Configure the Pack and Go options
    a. Select the package type as unzipped
    b. Send to: Fusion 360

c. Output structure: keep folder hierarchy



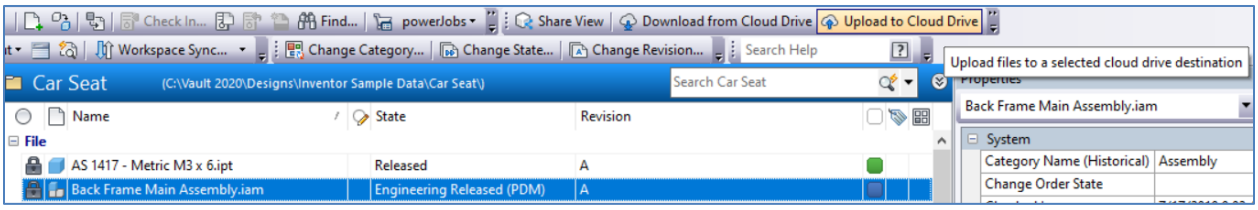


d. Under settings, choose which children and other files should be included
    i. Choose to exclude visualization files- Fusion Team doesn't use them

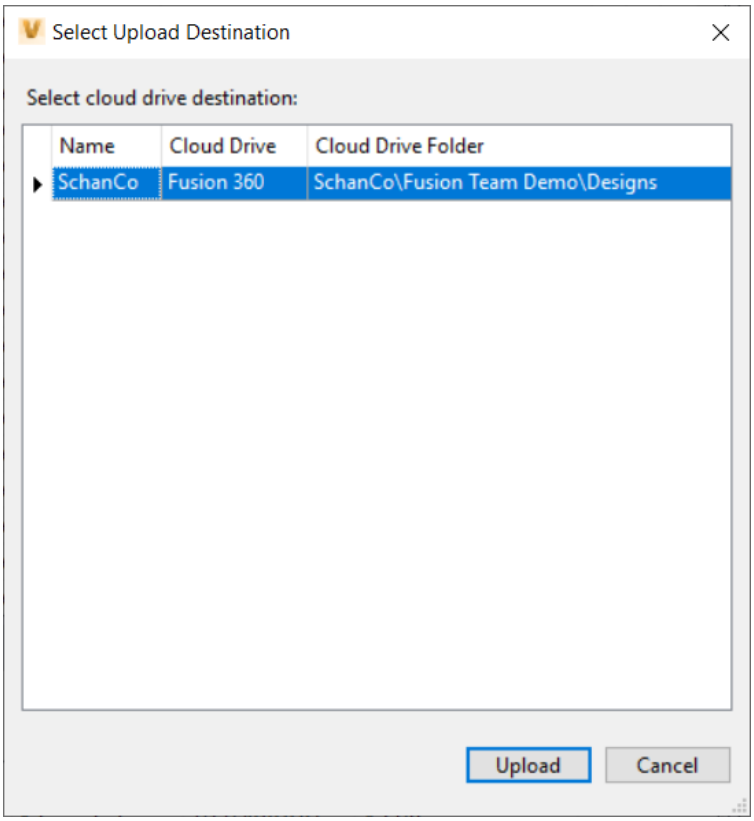
3. Click OK and choose the Fusion 360 destination your files should be placed within. Your folder hierarchy will be created under this folder, so think of this location as your new "Project Root ($)"
4. Watch your files get downloaded to the Fusion drive
5. Check their location in Fusion (desktop connector) or Fusion Team. Rearrange accordingly, but be aware that this will likely break all or some of your file references so go back and make sure those are still intact.

Manual Sync to Fusion 360

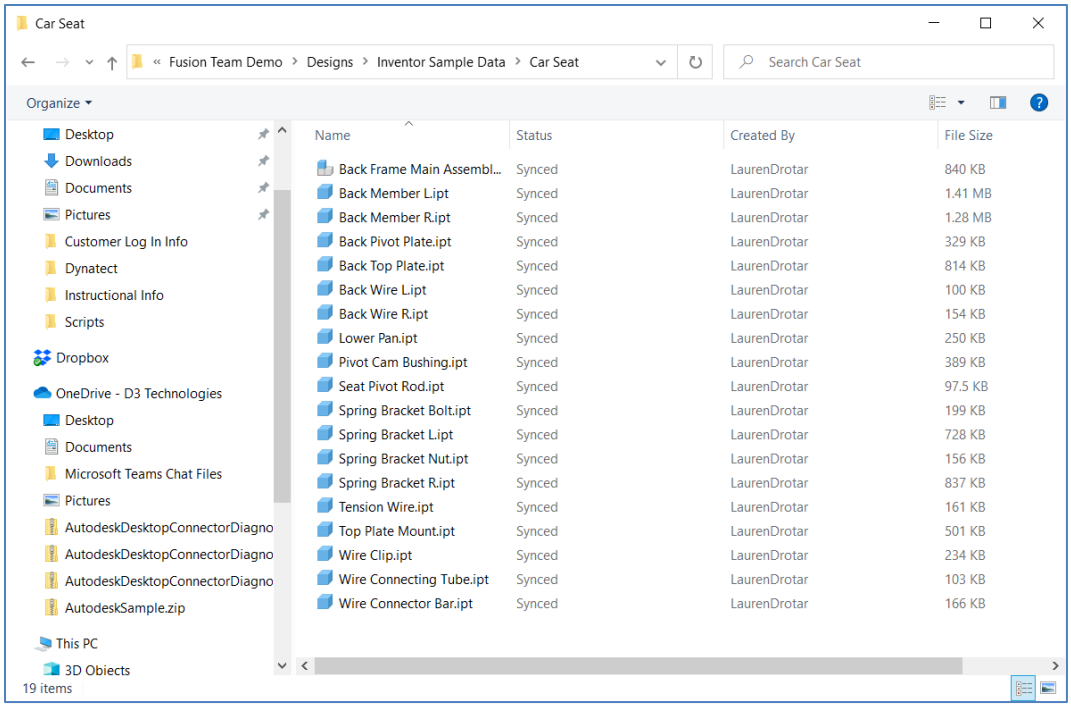
1. Highlight the desired file in the Maine Pane
2. Select Upload to Cloud Drive from the Collaborate toolbar



3. Confirm the cloud drive destination and click OK

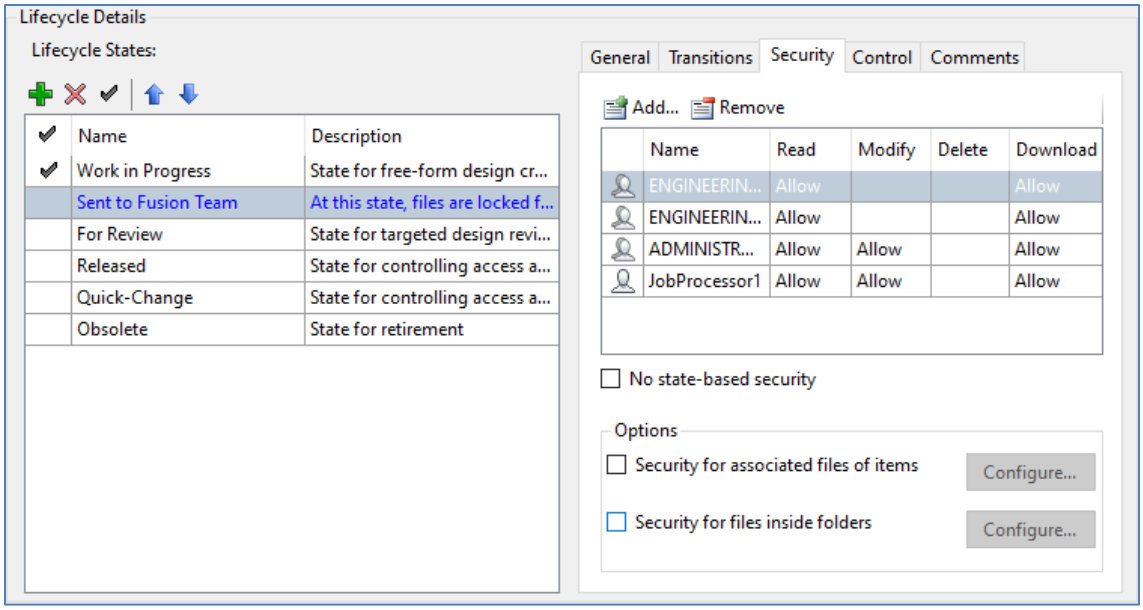


This manual sync creates the folder structure in the destination you chose and grabs any dependent files required and places those files in Fusion as well.



Create a Lifecycle for Use with Fusion Team

In order to prevent Vault users from editing files while they are being used in Fusion Team, a lifecycle needs to be set up to lock the files. The best way to do this is to create a state for when files are being edited by external members. I suggest this state be called something like “Out to Contractor” or “Sent to Fusion Team” so that it is obvious to users that the file is unavailable for edit. At this state, files should be locked for editing to all users except administrators and the job processor account. It is fine for users to be able to read files but should not have modify or delete access.



When files are done being edited in Fusion Team, some manual communication is required. Users in Vault will not automatically know when Fusion users are done working on the files, and Fusion users will not be able to change the state of files from the "Fusion" state in Vault to the next stop along the definition. Because of this, Fusion users will need to notify Vault users when they are OK to move the files along in the definition. This can be done via email, phone call, whatever communication preferences your organization has established.

Summary

When collaborating with users beyond the firewall, Autodesk offers an excellent tool to ensure your data gets to those users without a major risk to your file's security: Fusion Team. Using this cloud-based tool to manage your data is easy to set up and easy for users to get used to working within. Thanks to Desktop Connector users will be working out of a modified Windows file explorer interface, making the learning curve that much easier to work through. Fusion Team is a great tool on its own, but when coupled with Vault can be a tremendous asset to getting data to users working remotely without a VPN, to customers or suppliers without requiring those users to have access behind your firewall. While there is some setup required to start using Vault with Fusion Team, the benefits of being able to collaborate utilizing the cloud far outweigh any troubles associated with setting up a new workspace.