

# Best Practices for Loading Autodesk Inventor Data into Autodesk Vault

The most important item to address during the implementation of Autodesk® Vault software is the cleaning and loading of data. This white paper outlines steps and tools to facilitate this process.

The steps outlined here use a “Post Process” approach to cleaning the data. You can use the powerful tools in Autodesk Vault to help clean the data after it is in the Vault. Only minimal cleaning is necessary before the data is uploaded to the vault.

No single method works for everyone. It takes a combination of techniques to get data clean and ready for use by other consumers. The first task is loading the data with valid file references or links. Without valid links, you can't take advantage of the power of Vault.

To do this you use Autoloader, a utility provided with Autodesk Vault and Autodesk® Productstream® software.

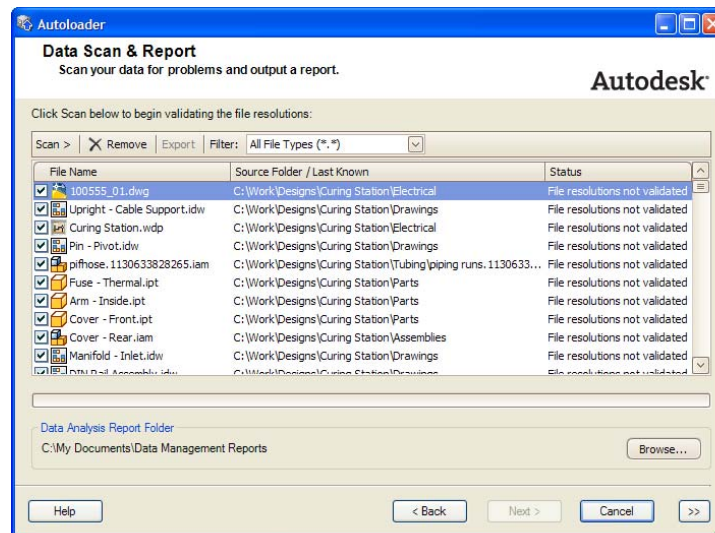
## Autoloader

Autoloader greatly increases efficiency when loading data into the vault. It is designed to produce reliable results when loading data in a format that allows Autodesk Vault to work the most efficiently in the long term. Although there are many ways to set up Autodesk Vault, Autodesk recommends using this tool to perform your initial data load and using the resultant folder structure and an Autodesk® Inventor™ project file for all of your work.

*Autoloader's main benefit is to help users identify problems with broken links in their Inventor data and upload data that is more likely to resolve properly.*

To be successful with Autoloader, Autodesk recommends the following:

- **Default Folders** — Be sure to respect the default folder structure as it's defined out of the box. Although you can change the default folder names if you want, Autodesk recommends that you retain the default names: *Content Center Files*, *Designs*, and *Libraries* (for the English version of the software). These folders are designed to take full advantage of Autodesk Inventor and Autodesk Vault features. Retaining these folder names provides the best long-term results. If you require a different structure, use the *Designs* folder as the root for best results.
- **Adding Data** — When adding data to the Vault, you will find that the following order results in the highest level of efficiency and success:
  - **Libraries** — Scan and add libraries first. If these all add and resolve on their own, chances are good that subsequent data will upload smoothly as well.



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- **Adding the First Project** — After the libraries have been added, you can import the first project into the vault. If a single project encapsulates many “logical” projects, you can use the “excluded from upload” feature of Autoloader to reduce the amount of data added at one time. This process is covered later in this document.
- **Subsequent Projects** — Repeat the preceding process until all projects have been loaded cleanly into the Vault.
- **Inventor Project Types** — Any Inventor project type (Single User, Vault, Semi-Isolated, or Shared) can be used with Autoloader. It automatically cleans up and removes any additional paths that were supported in these project types and consolidates them into a new single Inventor project.

### Step 1: Preparing Your Data

A few best practices will help you get your data loaded fast. It's best to upload either all your data or a complete project when making the transition to Vault. This means that you must perform this operation when there aren't people working on these files.

Copy all of your project data to a local server first. If you need to make changes to your Inventor project files to get your data to resolve, then do so before loading your data. Having all of your data local gives you the best performance. Avoid loading data over the network if possible.

Because you are copying this data locally, you need to ensure that other users aren't making changes to the data while you are doing this. Be sure that you can accomplish your goal by performing several test uploads.

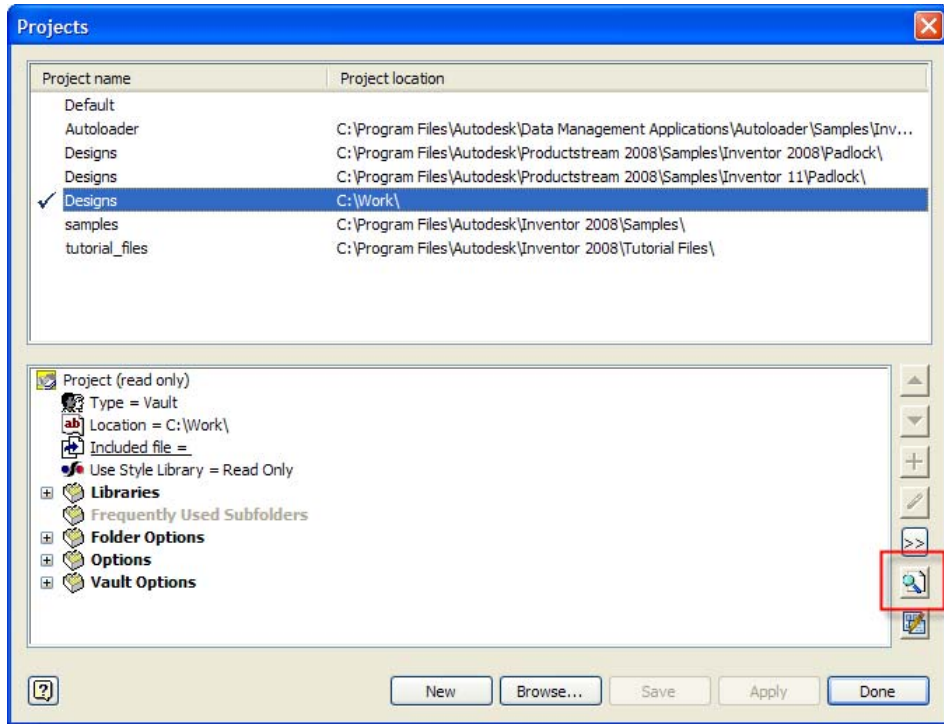
### Step 2: Scrubbing Duplicate Files

The only process that is done before using Autoloader is to scrub for duplicate files in the project. It isn't crucial that all duplicate files be removed. However, any obvious duplicate data should be removed, for example, a duplicated directory for a design iteration that was never cleaned up.

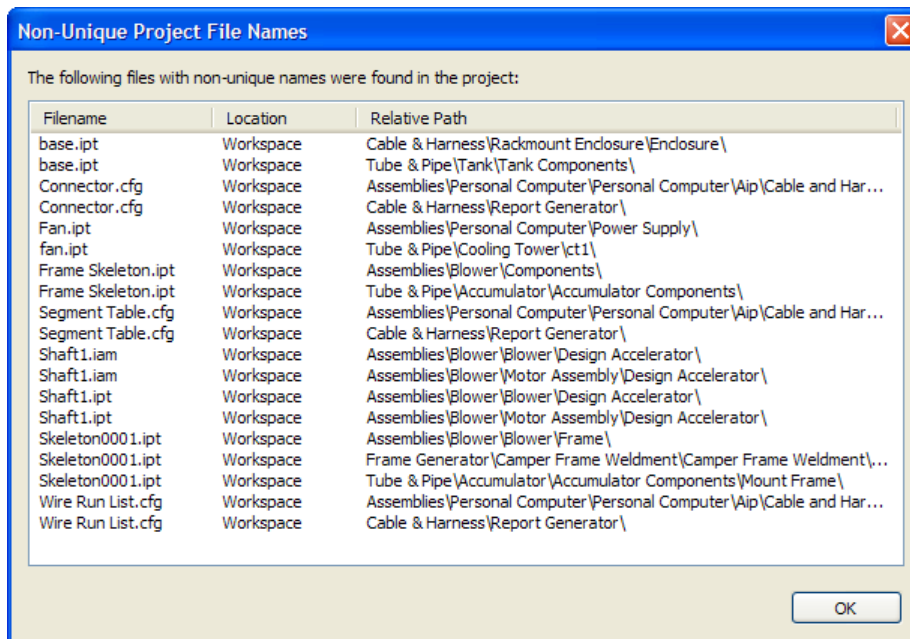
After data has been loaded, the remaining duplicates can be reported on and removed using Vault software's duplicate file check (administration tools), as follows:

1. Launch Autodesk Inventor.
2. From the File menu, choose Projects.
3. Set the current active project to the one you want to load.
4. Click the Find Duplicate Files button in the lower-right section of the Projects dialog box, as shown in the following image.

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5. A report shows the duplicates in your project and where they exist. Resolving duplicates may require input from the people most familiar with the data. You can run another report from Vault and resolve duplicates later if needed. A good rule is that if you need to rename or manipulate the files in any way other than deleting the duplicates, then you probably should wait until after the data has been loaded into the vault.



6. Close Inventor.

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**Note:** Many free and for-pay utilities are available for download from the Internet. If you have many duplicates, third-party tools might help with the cleaning and merging of duplicates.

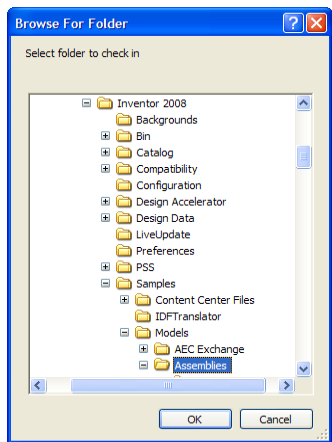
### Step 3: Autoload Data

After you have removed as many duplicate files as practical, you can now attempt to load this data. This process does the following:

- Scans data for broken links and other problems that might cause errors in Vault or Inventor
- Copies data to a temporary directory and redirects<sup>1</sup> all references to help ensure that they resolve properly
- Removes existing locks (or reservations) that were left over from the Semi-Isolated and Shared modes of Inventor
- Uploads the data into Vault and optionally creates DWF™ files

During this process you implement a few different techniques that make this process easier and helps to ensure the best level of performance. Follow these steps to use the Autoloader utility to load your data. In the following example the Inventor Samples project is used to demonstrate some of these techniques.

1. Launch Autoloader, and log into the appropriate Vault as an Administrator. Disable any unique file names set to True (Administrative settings). You can always turn this on after data has been uploaded and cleaned.
2. Select the folder that you want to upload data from. It can be a single subfolder from an existing project or a top-level workspace for larger amount of data. This example uses the *Assemblies* folder. Notice that this is a subfolder of the top-level *Samples* folder. This is one technique to reduce the amount of data loaded. You can easily repeat this process with other parallel folders.

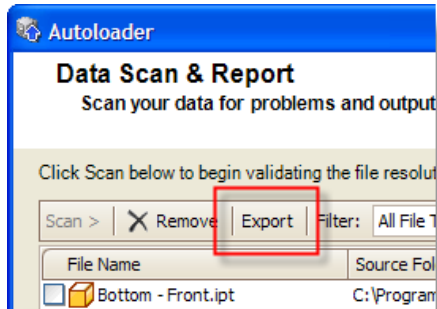


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<sup>1</sup> Redirection refers to the process that Autoloader uses to manipulate the file path information stored in Inventor and AutoCAD® data that instructs the files how to open. The redirection process helps to ensure that all of this path data is in an acceptable format for Vault and Productstream.



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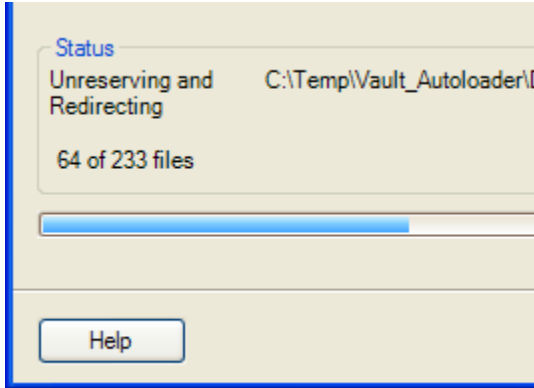


8. Launch Inventor and work through the errors. Start with top or high-level assemblies or any file that is reported to have “issues with children.” Open the files and see what sort of error Inventor gives you. If it is a missing file, Inventor instructs you to find it. If it is an unmigrated file, Inventor prompts you to save it when you close.
9. After you have corrected a few of the errors, click the Scan button again in Autoloader. The issues for the files you corrected should be gone.
10. Repeat this process until all errors have been corrected. By starting with higher-level assemblies you should find that more than one error is corrected with a single change. It’s often the case that a single part can ripple through many assemblies and look like a larger set of issues.
11. After all errors have been corrected, click Next.
12. In the Map Vault Folders section you need to assign a location for Autoloader to place each Path (Workspace, Workgroup or Library) in the vault. There is always a Content Center Files path that is set to a fixed location and cannot be changed; however, you need to specify where each of the other paths go. Workspace and Workgroup paths must be set to the *Designs* folder. Inventor Library paths must be set to a folder under *Libraries*. You can map these to almost any level of subfolder under the appropriate root locations. This is a good time to make minor changes to your folder structure.

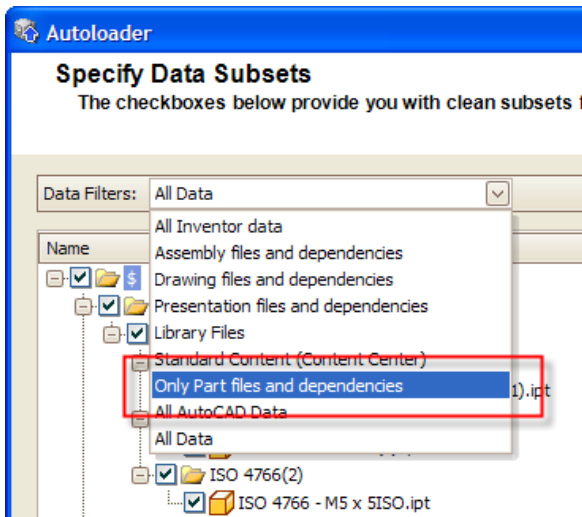


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13. After all folders have been mapped, click Next.
14. The next step (Copy and File Redirection) is simply a processing step. Autoloader performs the redirection mentioned earlier and makes sure all data is clean and resolved without any broken links.



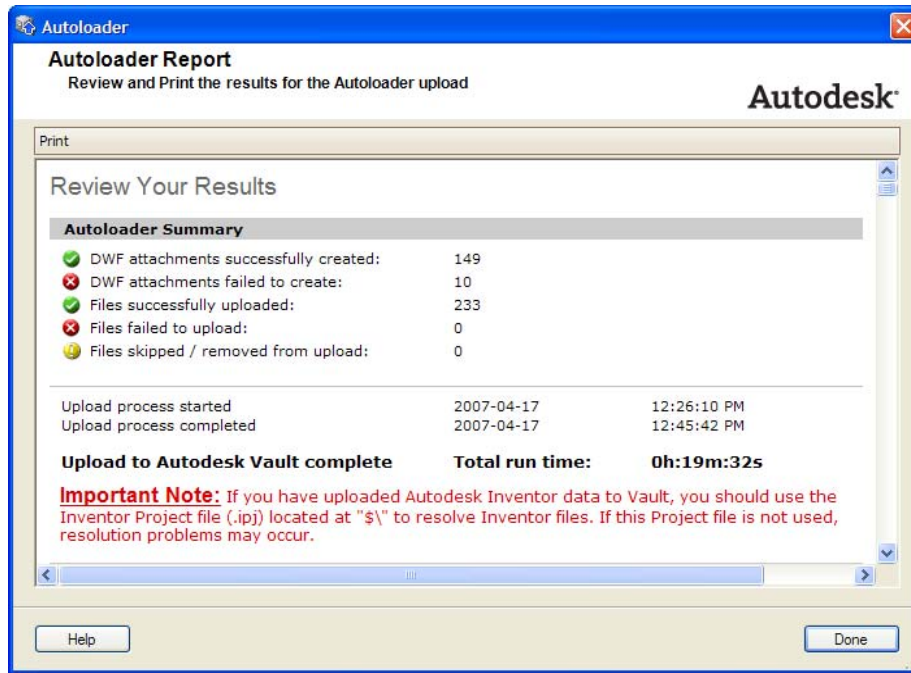
15. Click Next.
16. Autoloader displays the files that will be uploaded. This step can also be done as a multipass process. The filter at the top of the list enables you to filter by file types. It is a best practice to perform this from the bottom of the structure up. For example, start with parts, then assemblies, then presentations, and finally drawings and all other files. This provides a more structured approach to the task. Of course if your data set is under 2,500 files, you can simply do all at once.



17. Optionally, you can choose to publish a related DWF file for all AutoCAD and Inventor data. However, doing so increases the amount of time required to perform this operation. This is a required step for Productstream users.
18. Click the View Report button to see a complete report of the DWF generation as well as the upload status for all files. If there are any errors, make sure you investigate each one. The most productive way to resolve these is to open the files in Inventor or

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AutoCAD to correct any issues.



### Top 10 Things You Should Know

The following are the top 10 things you should know after reading this paper. Following these rules will give you the best results.

1. Copy your data to the server where Autodesk Vault is installed. Running Autoloader from this machine with local data helps to ensure the best performance during the scan and upload phases.
2. If your data was previously on a network drive, disconnect those mapped drives temporarily while performing the data load. This helps to ensure that Inventor doesn't try to resolve files from their original locations.
3. Practice makes perfect. Perform multiple dry runs on the data through the scan and upload phases. This can help you estimate the amount of work and how long it will take. You need to be able to get the data in by the time users need to access it again.
4. For the most reliable and predictable results, always use the default folder structure (top three folders) with Autoloader. These folders were designed to produce the best results.
5. Clean up any large groups of duplicate files before using Autoloader. Not all of the duplicates need to be removed; just the obvious ones.
6. You can use any Inventor project type to load data with Autoloader (Single User, Vault, Semi-Isolated, or Shared).

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7. The Exclude from Upload command is possibly the most powerful feature of Autoloader. It enables you to reduce the amount of data loaded by Autoloader and produces more reliable and predictable uploads of large data sets.
8. Use the Folder Mapping section of Autoloader to reorganize and change your folder structure if you want. Changing things here is easier than doing it elsewhere.
9. Generating DWF files take additional time. This is the best place to publish DWF files if you plan to use them. However, it does increase upload times.
10. After all your data has been loaded, clean your data using Autodesk Vault and Productstream tools such as Edit Properties, Rename, Copy Design, and Replace. Using these tools on a clean data set uploaded with Autoloader greatly accelerates the overall process.

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