



SOFTWARE
DESIGN SOLUTIONS

CTC BIM and HIVE Suites Installation and Configuration Guide

Contents

CTC Express Tools Overview	5
General Security Requirements Summary.....	5
Revit Workstations.....	5
Network Floating License Servers.....	6
Upgrading a CTC Suite	6
Upgrading the Same Year Suite	6
Upgrading to a New Year Suite	6
General Licensing Information (Excluding HIVE)	7
Timed Trial Licensing.....	8
Standalone – Locked Licensing	8
Network Licensing.....	9
Network Server Path(s).....	10
Floating License Server Installation	11
Floating License Server Overview	11
License Server Installation Process	11
Floating License Server Tools.....	15
CTC License Server Web Application	16
Accessing the License Server Web Application.....	16
First Time Usage.....	17
Viewing Purchased and Available Licenses.....	18
Viewing Licenses that are Currently in Use.....	19
Viewing License Usage History.....	20
Using the Options File to do things like Reserve Licenses	20
Revit Workstation Installation	23
Standard Installation Using the Setup Program.....	23
Custom Installation (Using Command-Line Parameters).....	27
Silent Installation	27
Automatically Activating a Standalone Locked License	27
Automatically Referencing a Floating License Server	28
Excluding the Free CTC PDF Writer (BIM Batch Suite Only).....	28
Installation Using File Copying ("X-Copy Deployment")	29
Detecting the Version Installed	32
Digitally Signed Code (Autodesk 2017 or Later Products).....	33
CTC Certificate Installer Utility.....	34
Post-Installation Configuration.....	36

Silently Activating a Standalone (Locked) License After Installation	36
Controlling Licensing Settings	37
Controlling Ribbon Button Visibility and Using Active Directory Group Memberships.....	38
Method 1: Direct settings text file	38
Method 2: Using Active Directory Group Memberships.....	42
Managing the Contact Support Button Visibility	47
Managing the Revit Ribbon Tab Used and Button Appearance	48
Using the Suite Settings Program	48
Using the Icon Settings Configuration File	51
Deploying Default User Settings	53
Controlling BIM List Browser	54
The BIM List Settings File	54
BIM List Cloud Settings	55
Controlling Family Processor	56
Controlling Model Compare.....	57
ModelCompareDefaultSettings.xml.....	57
ModelCompareDefaultSnapshotFilters.xml.....	58
FileOpenDialogAutomation.txt	58
Email SMTP Server Settings.xml.....	59
TaskSchedulerDefaultSettings.xml.....	60
TaskSchedulerClientSettings.xml	61
ScheduledExecutableSettings.xml	61
Scheduler Troubleshooting Tools	62
Controlling Plotter and Exporter.....	63
PlotterandExporterDefaultSettings.xml.....	63
Email SMTP Server Settings.xml.....	65
TaskSchedulerDefaultSettings.xml.....	66
TaskSchedulerClientSettings.xml	67
ScheduledExecutableSettings.xml	67
Dialog Automation Files	68
WildcardFilteringAdditionalParametersLibrary.xml	68
WildcardFilteringExcludedViewParametersList.txt & WildcardFilteringExcludedSheetParametersList.txt	69
Troubleshooting Tools	69
Controlling Project Snapshot Exporter	71
ProjectSnapshotExporterDefaultSettings.xml	71
BIM Data Suite Server Connection Timeouts.xml.....	71
Controlling Projects and Families Upgrader	72

Dialog Automation Files	72
Controlling Schedule XL	73
Controlling Type Swapper	73
Controlling SuperDoor	74
Revit Workstation Uninstallation	75
Using Apps & features.....	75
Using Control Panel.....	76
Silent Uninstallation Using a Command Line	77

CTC Express Tools Overview

The CTC Express Tools™ products from CTC Software offer many utilities for enhancing the productivity of users of Revit® software from Autodesk®. Revit users launch these tools from within the Revit software.

These tools are available in suite packages, and typically each of the suites contains both free tools and paid (“premium”) tools. Although written to function correctly with the international community in mind wherever possible, CTC Express Tools software products are only tested on English USA versions of Revit running on English USA versions of Windows.

The single setup programs for each suite will install the tools for all versions of Revit supported. For example, “CTC HIVE Suite 2021” will install the suite for Revit 2021, Revit 2020, Revit 2019, Revit 2018 and Revit 2017.

The installation and configuration of these suites is fairly straightforward. This guide will explain how the installation works, how to set up a network floating license server (if using network floating licenses) and how to change the configuration on the Revit workstations after the suite has already been installed.

General Security Requirements Summary

The installation programs must be run by someone who is logged in with administrative privileges on the computer to which the software is being installed.

Revit Workstations

In accordance with Autodesk standards for add-ins, during the installation the user does not get to choose where the suites will be installed on their local hard drives.

The CTC Express Tools suites will always get installed to folders like the following examples, as applicable:

```
%ProgramData%\Autodesk\Revit\Addins\202x\CTC-BIM-Project-Suite.bundle\Contents
%ProgramData%\Autodesk\Revit\Addins\202x\CTC-BIM-Manager-Suite.bundle\Contents
%ProgramData%\Autodesk\Revit\Addins\202x\CTC-BIM-Batch-Suite.bundle\Contents
%ProgramData%\Autodesk\Revit\Addins\202x\CTC-HIVE-Suite.bundle\Contents
%ProgramData%\Autodesk\Revit\Addins\202x\CTC-BIM-Data-Suite.bundle\Contents
%ProgramData%\Autodesk\Revit\Addins\202x\CTC-BIM-SuperDoor-Suite.bundle\Contents
%ProgramData%\Autodesk\Revit\Addins\202x\CTC-BIM-Casework-Suite.bundle\Contents
```

The “202x” subfolder will actually be specific to the versions of Revit for which the suite being installed was created. Since one suite installer will configure tools for multiple versions of Revit, for example if installing only “BIM Project Suite 2021” the following installation folders will be used:

```
%ProgramData%\Autodesk\Revit\Addins\2021\CTC-BIM-Project-Suite.bundle\Contents
%ProgramData%\Autodesk\Revit\Addins\2020\CTC-BIM-Project-Suite.bundle\Contents
%ProgramData%\Autodesk\Revit\Addins\2019\CTC-BIM-Project-Suite.bundle\Contents
%ProgramData%\Autodesk\Revit\Addins\2018\CTC-BIM-Project-Suite.bundle\Contents
%ProgramData%\Autodesk\Revit\Addins\2017\CTC-BIM-Project-Suite.bundle\Contents
```

The following folder will also contain files needed by the CTC Express Tools suites:

```
%ProgramData%\CTC
```

IMPORTANT: The workstation setup program will create and permission all of the folders as needed during the install, giving “Authenticated Users” the ability to modify files within them.

The user must also be able to read from, and write to, their own personal default Temp folder, as CTC Express Tools components occasionally need to create temporary files in this folder, which are typically deleted when no longer needed. By default, Windows allows the user to read from and write to their own personal temporary folder.

Network Floating License Servers

At a minimum, license servers must have firewall TCP ports **5052** and **5053** open in order for the workstations to be able to successfully check-out and check-in network floating licenses. TCP port 5054 must also be open if it is desirable to remotely access the web application that is used for monitoring and managing license usage.

The license server software is available for 32-bit or 64-bit Windows operating systems, but only 64-bit workstation (Revit) clients are supported.

Upgrading a CTC Suite

Upgrading the Same Year Suite

When upgrading a Revit workstation to a new release of the same year of a suite product (e.g. “BIM Project Suite 2021” from version **21.0.1** to version **21.0.2**), typically uninstalling an old version is NOT required. Running the latest setup is all that should be needed.

Upgrading to a New Year Suite

If the install for the older version had used command-line parameters to pre-activate a node-locked license, the same command-line parameters will be needed again for the new version. Note that this requires your subscription to be current, and will NOT consume an additional activation against the total number of licenses originally purchased.

When upgrading a Revit workstation to a new year of a suite product (e.g. “BIM Project Suite **2020**” to “BIM Project Suite **2021**”) the only other special thing to consider is whether or not the oldest year supported in the older version needs to continue to be used.

For example, “BIM Project Suite 2019” also included tools for Revit 2016, 2017 and 2018, but “BIM Project Suite 2020” no longer includes tools for Revit 2016. Installing “BIM Project Suite 2020” will actually first automatically uninstall “BIM Project Suite 2019,” which would cause the tools for Revit 2016 to be lost, given that they are no longer in development and are no longer part of the latest suite.

If keeping the tools running for the oldest version of Revit (2016 in this example) is NOT important, then simply run the latest installer. However, if it is important to continue using the oldest version of Revit, a manual workaround can be performed. Note, however, that in this example there would be no more updates in the future for the 2016 tools.

IMPORTANT: This is an UNSUPPORTED configuration. There are no guarantees the older software will work.

This example uses an upgrade from BIM Project Suite 2019 to BIM Project Suite 2020, but the process is the same for all CTC Express Tools suite software:

1. **Before installing BIM Project Suite 2020**, open Windows File Explorer and navigate to this folder:

C:\ProgramData\Autodesk\Revit\Addins\2016

2. Create a new temporary folder in this folder called: Preserve

C:\ProgramData\Autodesk\Revit\Addins\2016\Preserve

3. Copy the following existing file and folder from the ...\\Addins\\2016 folder into the new Preserve subfolder:

File: **CTC-BIM-Project-Suite.addin**

Folder: **CTC-BIM-Project-Suite.bundle**

4. Run the BIM Project Suite 2020 installer
5. Once the installer is complete, move the saved file and folder still in the “Preserve” subfolder back up one level to the original “2016” folder.
6. Delete the now-empty subfolder: Preserve

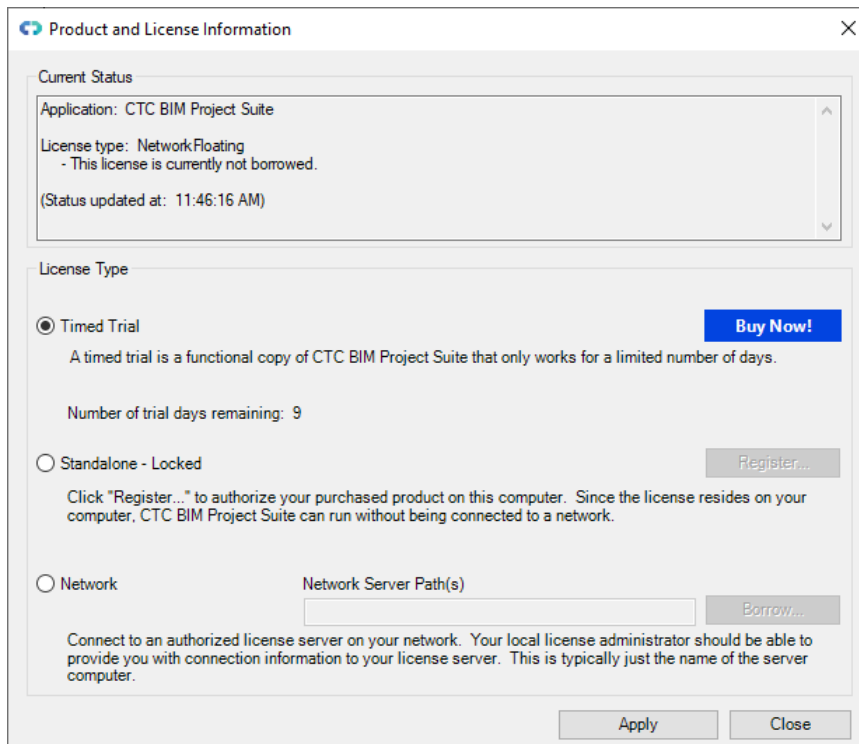
The tools should now still be available for Revit 2016.

Note that this is a one-time procedure per suite. Future updates to a 2020 or later suite should no longer try to remove files that were originally installed for Revit 2016.

General Licensing Information (Excluding HIVE)

The free tools have light background colors on the ribbon button icons, and have no licensing requirements. The tools with dark background colors on the ribbon button icons do require licensing, but are available for a 14 day free trial.

Unless the licensing is pre-configured during installation (see below), the first time a user launches one of the tools that require licensing they will see the *Product and License Information* dialog:



The ability for a user to change these settings can be controlled with configuration files or by Active Directory group membership, as described below.

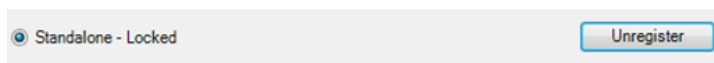
Timed Trial Licensing

“Timed Trial” licenses allow the user to use the software without any special licensing for a limited time, typically 14 days. The software will generally be fully functional during the timed trial, with a few exceptions where functionality will be limited during a timed trial.

NOTE: Timed Trial licensing is not supported on virtual machines. If this software is installed on a virtual machine, network licensing will need to be used instead.

Standalone – Locked Licensing

“Standalone – Locked” (“node-locked”) licenses register a license over the Internet one time and locks it to the computer. Once registered on a computer, the software can be used by any user that logs in. This license can also be “Unregistered” from this computer using the Product and License Information screen, which will return the license over the Internet and allow it to be registered again on another computer. The button for that looks like this:



IMPORTANT: If your organization has chosen to use standalone (node-locked) licensing, **YOU** are responsible for tracking and managing on which computers the software has been registered. To have that process be automatically managed requires using network floating licenses instead, which are discussed below.

Uninstalling the software from a computer **DOES NOT** unregister a license that has been activated on that computer. Licenses must be unregistered from within the software using the license management tools provided, e.g. via the Product and License Information screen.

IMPORTANT: If the computer on which a Standalone license has been registered will be having any of the following hardware changed, first unregister the license, then make the hardware change, then re-register the license:

- Hard drive
- Processor
- Network card

Failing to unregister the license before changing the hardware can result in the permanent loss of the license activation.

IMPORTANT: Users of CTC software that are using node-locked licensing may experience their license failing if they are using an external Ethernet adapter ("dongle") and that adapter is sometimes present and sometimes not present. For example, if they are wired into their work network using the external Ethernet adapter when they activate their license, then they remove that adapter and go traveling, their CTC node-locked licenses will correctly see this as a hardware change and become invalid. However, if they plug the dongle back in (whether or not it's wired to any network) the license should begin working correctly again.

In summary, if the user has an external Ethernet adapter, they may need to have it with them and plugged in to their computer for their CTC node-locked licenses to work correctly.

NOTE: Standalone-Locked licensing will probably not successfully register or unregister on the Revit workstation if a proxy server is used in the network environment to access the Internet. Network licensing may need to be used instead, otherwise bypassing proxy server authentication when accessing <http://www.ctcsoftware.com> may also work.

NOTE: Standalone-Locked licensing is not supported on virtual machines. If this software is installed on a virtual machine, network licensing will need to be used instead. Standalone licenses can also not be registered or unregistered remotely (e.g. using Remote Desktop, or perhaps running in a Terminal Services or Citrix-type environment, etc.).

Network Licensing

“Network” licenses, which are also referred to as “floating network licenses” allow multiple users to share licenses. For example, if you have 20 users but only a maximum of 5 of those 20 need to use the software at the same time, you may choose to purchase only 5 network licenses.

To facilitate this, special software needs to be installed on a computer to manage the licenses. That computer becomes the license server computer.

When the Revit user is running an add-in tool that uses network floating licenses, they must have a network connection to the license server and the software will automatically ‘check out’ a license from the license server when the tool starts up. When the user shuts down the tool, the license is automatically returned (‘checked in’) to the license server.

Only the maximum number of licenses purchased for a software product can be checked out at the same time. When one extra user tries to run the software, they are informed that no floating licenses are available and they will have to try to run the software again later after another user has closed a tool and their license is checked back in to the license server.

Licenses acquired for a version of a CTC product will be available for users of that version of the product as well as for users of older versions of the product. For example, if there are 10 floating licenses for “BIM Project Suite 2021” then users running “BIM Project Suite” either in Revit 2020 or in Revit 2019 or in any older version of Revit can all get licenses from that pool of 10. This can make it easier to determine how many total licenses are needed.

A user never uses up more than one license for a product while on a single computer. For example, if the user has Revit 2021 running and starts a tool that checks out a license for “BIM Project Suite” from the license server, and while that tool is running they start up another Revit session – even for a different version of Revit – and launch another tool from the same suite, only 1 license will be considered in use by that user. The license is not returned to the server until all instances of the tools from that suite have been shut down for all instances of Revit that are running on that computer.

If, however, the user leaves the tool running which has checked out a license and they go to another computer and start up another licensed tool for the same product, then another license will be checked out on that second computer. So licenses are specific to the *combination* of user, computer and CTC product.

A user may “borrow” a license from the server for a fixed number of days, unless this feature has been disabled by an administrator (see below). When a license is borrowed, it is temporarily locked to the computer of the user that borrowed the license. This allows that user to use the software when not connected to the company network, which can be useful, for example, if they are leaving to go on a business trip. However, it also temporarily removes one of the available floating licenses for all the remaining users in the office to share.

The license will automatically be available again on the license server even if the user who borrowed it doesn't connect to the license server after the period in which it was borrowed comes to an end. The license will stop working on their computer after the period in which it was borrowed comes to an end, even if they don't connect to the license server.

IMPORTANT: A borrowed license CAN NOT be forcibly returned to the license server. It will be automatically available on the license server when the borrow time has expired, or when the user who borrowed it connects to the license server and manually returns the borrowed license from their computer early.

IMPORTANT: Using network floating licenses on a remote Revit workstation which is using a software VPN connection to the company network is NOT recommended. This typically includes workstations that need to start up VPN client software in order to connect to the company network. Because software VPN connections are generally less reliable, the quality of maintaining the license after starting the software is in jeopardy and cannot be ensured. If the remote Revit workstation is to use network floating licenses, then a hardware VPN connection is strongly recommended. If a hardware VPN connection is not available, the remote workstation should use a borrowed license instead.

Network Server Path(s)

The *Network Server Path(s)* value in the *Product and License Information* dialog is a value that must be provided to the Revit user, or configured on the workstation by the system administrator who installs and configures one or more license servers. Installing the license server software is discussed in the next section.

IMPORTANT: In most cases the *Network Server Path(s)* value is simply the name (or TCP/IP address) of the server on which the floating network licensing service software has been installed.

The user guide that comes with the suite contains a section called "License Activation and Management" which discusses how the licensing works for the Revit user, including going into more detail about the use of the *Product and License Information* dialog.

The section below called "Controlling Licensing Settings" explains in detail how license configuration settings are stored in a file on the workstations, and how they can be modified after the suite has previously been configured for licensing.

The CTC Express Tools suite system allows the client workstations to be installed and also configured for licensing silently, using a variety of methods, including command-line parameters provided to the MSI installer packages.

This is explained in detail later in this document.

Floating License Server Installation

Floating License Server Overview

In order to support a floating network license environment, at least one computer must be configured as a license server. It is strongly recommended to set up the floating license server on a computer that uses a server-class Windows operating system, but the license server software can be successfully configured on a computer that uses a workstation-class operating system, such as Windows 7.

Both 32- and 64-bit versions of the license server software are available:

- CTCLicenseServerSetup_32-bit.msi
- CTCLicenseServerSetup_64-bit.msi

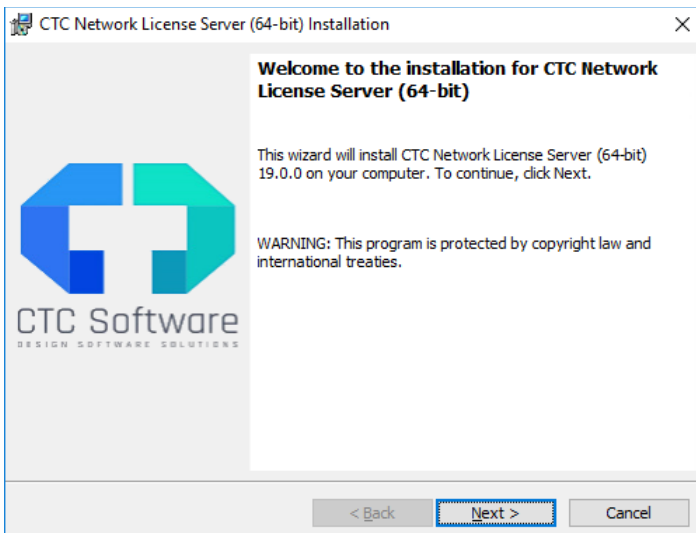
These setups must be run by someone with administrative privileges on the license server computer. When either of these setups is run, a Windows service will be configured for serving licenses. This service also includes a web application which can be used for managing licenses, such as for seeing how many licenses of a suite are currently in use.

The web server software for the web application is embedded into the windows service, and does **not** require Internet Information Services to be installed, nor should it conflict with other web server software.

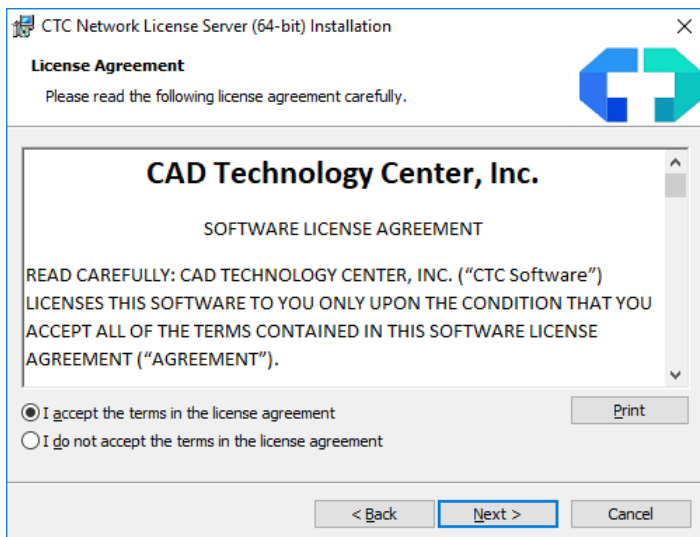
IMPORTANT: At a minimum, firewall TCP ports **5052** and **5053** on the server computer *and on the Revit workstations* must be open for the license server service to communicate with the workstations. To access the web application for managing licenses from another computer, firewall TCP port 5054 must also be open.

License Server Installation Process

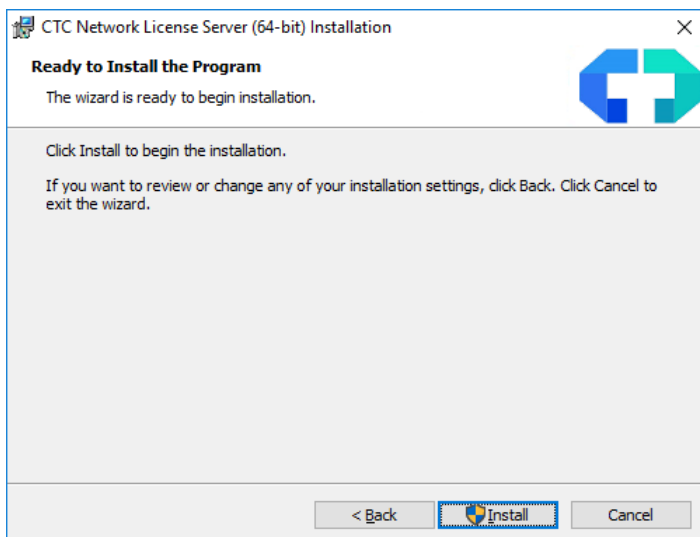
When the setup is launched, this introductory screen is displayed:



Clicking on the “Next” button will display the software license agreement screen:

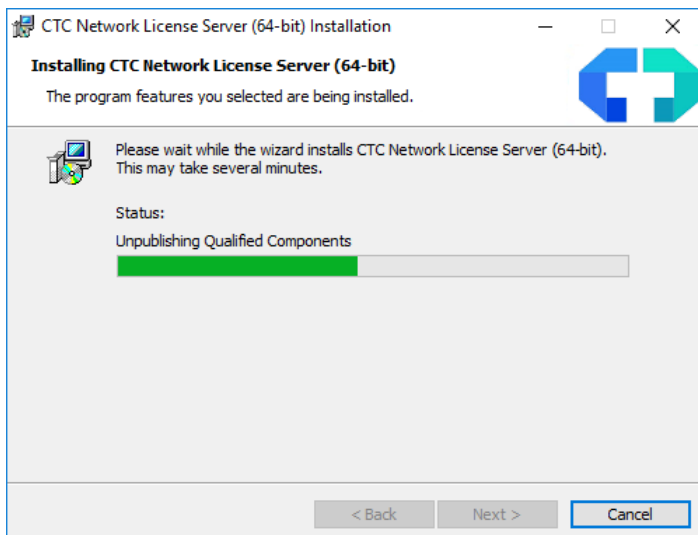


After reading and agreeing to the SLA, clicking the “Next” button will display the confirmation screen:



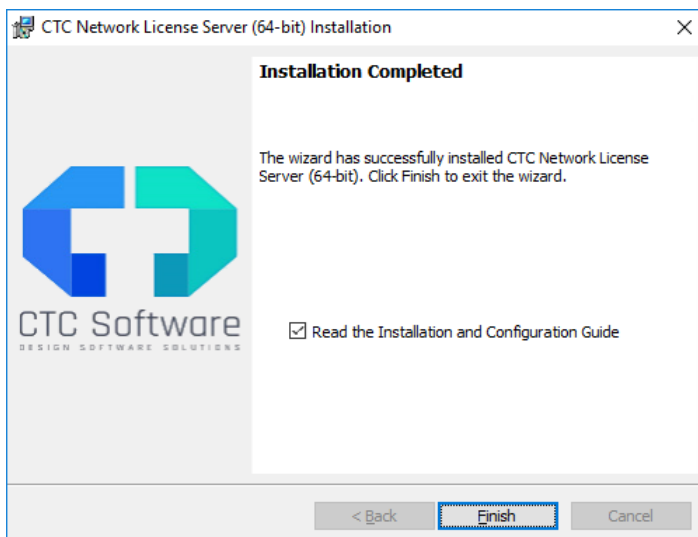
If User Account Control is turned on, you may need to explicitly confirm that you want to install the software.

During the installation, a screen like this showing the installation progress will be visible:



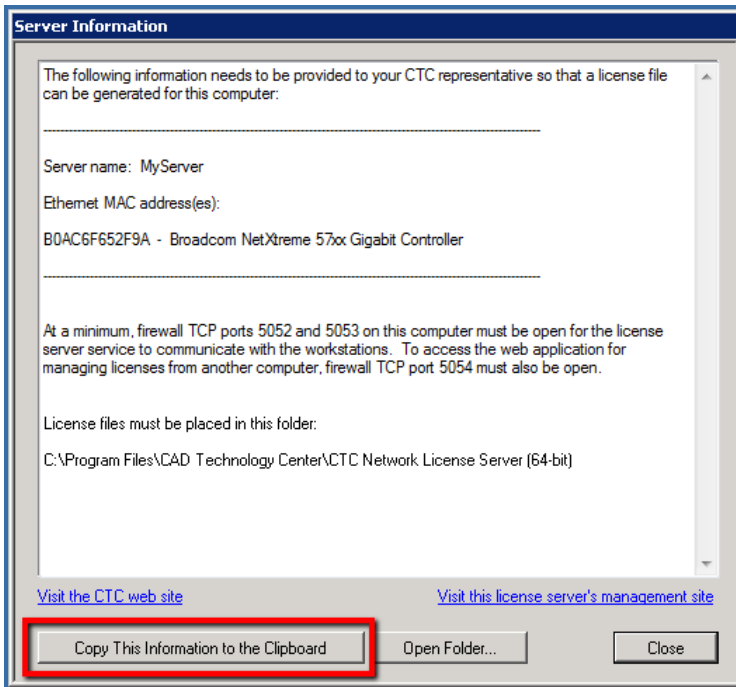
Once this screen completes and the installation is successful, two screens will appear.

First:



Just click the "Finish" button on this screen.

Second:



This screen contains very important information that needs to be provided to your CTC representative so that a license file can be generated for this license server computer.

The license file to be provided by CTC will contain information required for this computer to properly serve the licenses for the products that have been purchased.

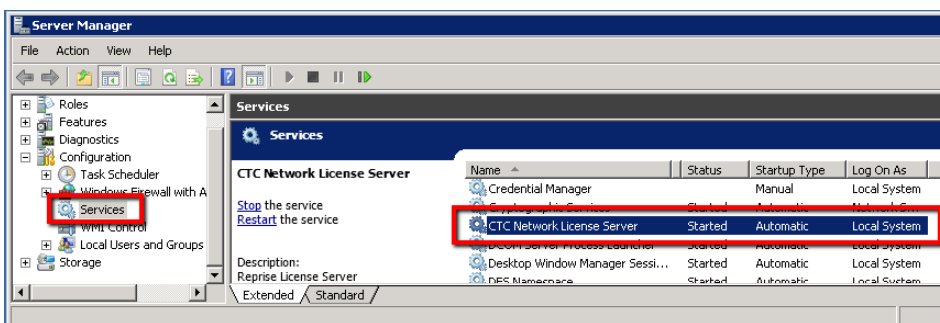
You may wish to use the “Copy This Information to the Clipboard” button so that it can more easily and accurately be sent to your CTC representative, who can then use this information to generate a license file for this computer.

The “Open Folder...” button will launch Windows Explorer and open the folder into which the license file must be placed. This also happens to be the folder where the Windows service was installed.

The “Visit this license server’s management site” link will open the default web browser on this computer to the web site that allows managing the floating licenses. This will be discussed in greater detail in a later section of this document.

This dialog may be closed before the license file is received, because (as will be discussed in the next section) a shortcut is provided to make it easy to get back to this information at any time.

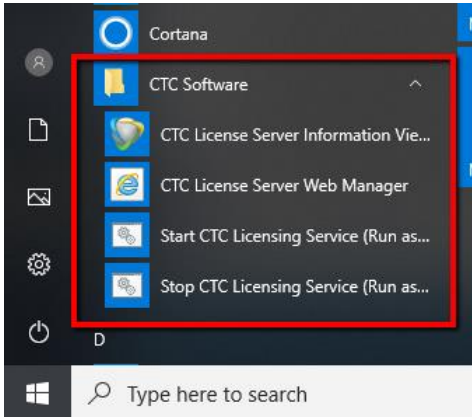
Once the installation is complete, if you visit the Services list in the Server Manager tool, you should see that the CTC Network License Server Windows service has been installed and started automatically:



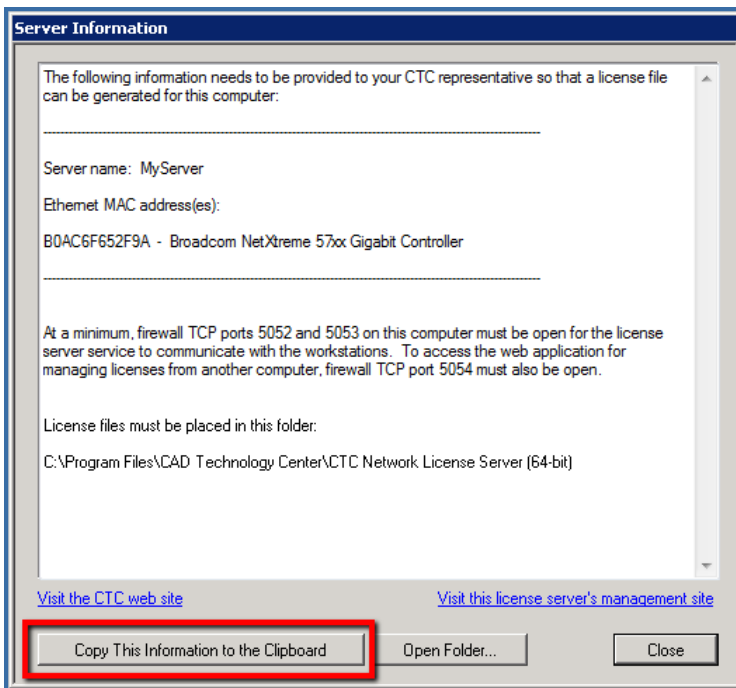
If for any reason the CTC Network License Server service doesn't appear in the list, scripts can be found in the installation folder for "installing" or "uninstalling" the Windows service itself. Running the installation script may provide more information about why the setup program could not add the service to the services list.

Floating License Server Tools

After installing the floating license server software, the following tools are available from the Start menu:



The “CTC License Server Information Viewer” Start Menu button launches the same dialog that was seen at the end of the setup:



The “CTC License Server Web Manager” button on the Start menu launches the web application that is used for managing licenses, and is discussed in the next section.

The other two commands can be used to easily stop or start the CTC Network License Server Windows service.

CTC License Server Web Application

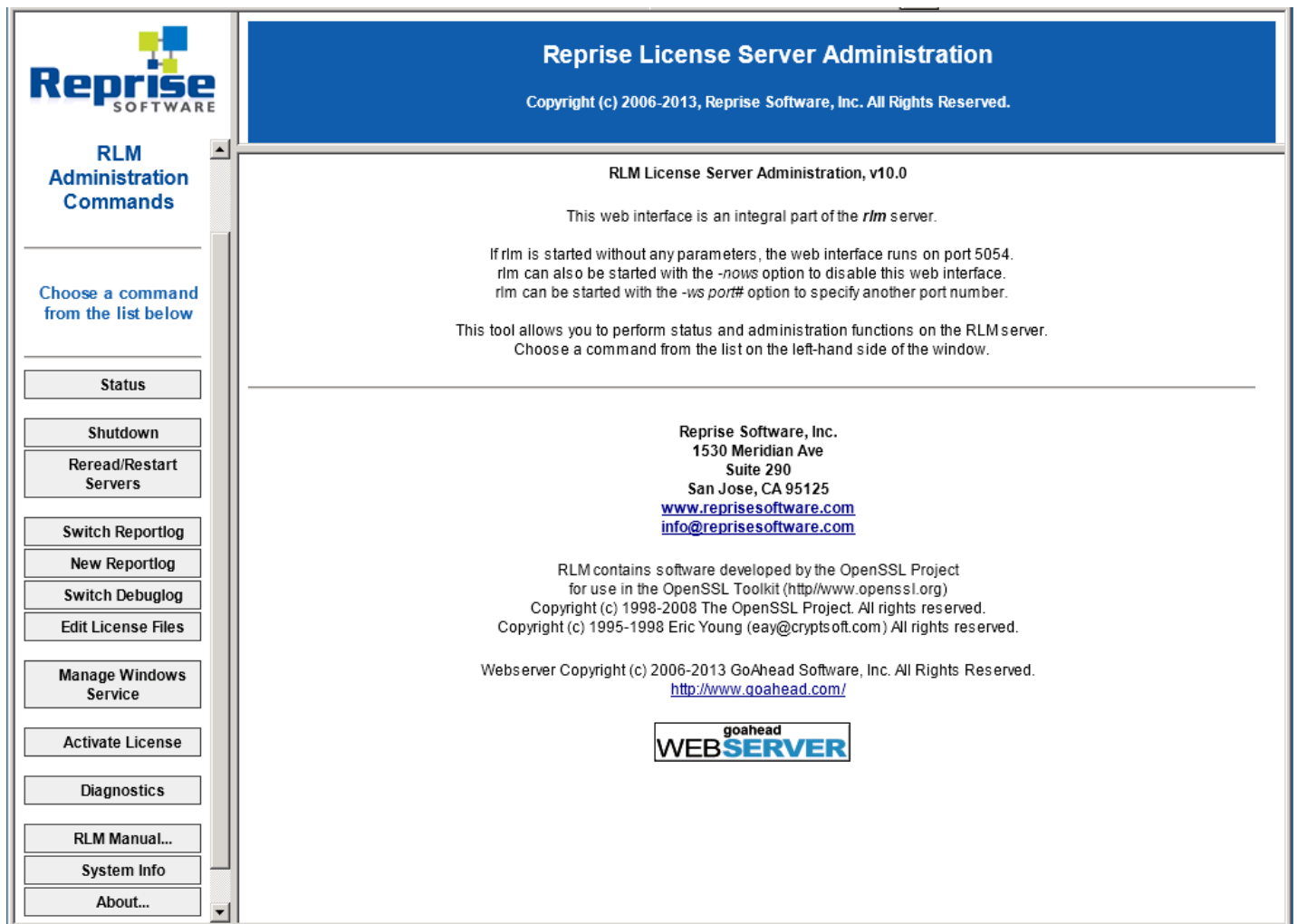
Accessing the License Server Web Application

A web browser-based interface exists for managing licenses on the License Server. This can easily be accessed using the “CTC License Server Web Manager” icon that is added to the Start menu during the installation of the license server software.

The address of this web site will be: `http://<server name>:5054`

or, if you are logged into the server already: `http://localhost:5054`

The CTC network floating licensing engine is based on the [Reprise License Manager](#), which is also what drives the web application. When opened, the initial screen looks like this:



In this document only a limited set of the most commonly used features available in this management tool will be explored. For full documentation on this licensing engine, click on the “**RLM Manual...**” button near the bottom of the navigation buttons on the left.

First Time Usage

The first button, “Status” will likely be the starting point most of the time.

When initially installed, and before a license file from CTC is copied to the installation folder, clicking the “Status” button shows a screen like this:

Choose a command from the list below

Status

Shutdown

Reread/Restart Servers

Switch Reportlog

New Reportlog

Switch Debuglog

Edit License Files

Manage Windows Service

Activate License

RLM software version	v10.0 (build:2)		
RLM comm version	v1.2		
debug log file	C:\Program Files\CAD Technology Center, Inc\CTC Network License Server (64-bit)\rlm_debug_log.bt		
license files			

rlm Statistics	Since Start	Since Midnight	Recent
Start time	01/23 15:49:16	01/24 00:00:24	01/24 10:41:00
Messages	0 (0/sec)	0 (0/sec)	0 (0/sec)
Connections	0 (0/sec)	0 (0/sec)	0 (0/sec)

EDIT rlm Options

SHOW rlm Debug Log

No ISV servers running

Note that it says “No ISV servers running” near the bottom of the main information area. CTC is an “ISV” for this licensing engine. The CTC ISV server cannot run until the license file generated by CTC is installed on the server.

Once the license file is received from CTC, it needs to be placed in the installation folder. The easiest way to get to the installation folder is to use the Start menu to run the “License Server Information Viewer” program, and then click on the “Open Folder...” button, which will open Windows Explorer to the correct folder.

This folder will usually be: **C:\Program Files\CTC Software\CTC Network License Server (64-bit)**

Older versions previously installed to: **C:\Program Files\CAD Technology Center\CTC Network License Server (64-bit)**

(or ending in “32-bit” if installed on a computer that is running a 32-bit operating system)

Once a new or updated license file from CTC has been copied to the installation folder on the license server, click the “Reread/Restart Servers” button on the left, then click the “REREAD/RESTART” button in the middle of the screen:

Choose a command from the list below

Status

Shutdown

Reread/Restart Servers

Switch Reportlog

ISV: all

REREAD/RESTART

Viewing Purchased and Available Licenses

Once the CTC license file has been copied to the installation folder and read into the license manager, if the “Status” button is clicked, the “ctc_inc” ISV Server will appear at the bottom of the screen:

Choose a command from the list below

Status

Shutdown

Reread/Restart Servers

Switch Reportlog

New Reportlog

Switch Debuglog

Edit License Files

Manage Windows Service

Activate License

Diagnostics

RLM Manual...

RLM software version	v10.0 (build:2)		
RLM comm version	v1.2		
debug log file	C:\Program Files\CAD Technology Center, Inc\CTC Network License Server (64-bit)\rlm_debug_log.txt		
license files	Revit Express Tools Licenses.lic		

rlm Statistics	Since Start	Since Midnight	Recent
Start time	01/23 15:49:16	01/24 00:00:24	01/24 11:11:31
Messages	2 (0/sec)	2 (0/sec)	2 (0/sec)
Connections	1 (0/sec)	1 (0/sec)	1 (0/sec)

EDIT rlm Options

SHOW rlm Debug Log

ISV Servers											
Name	port	Running	Restarts	Server Status	License Usage	Debug Log	REREAD	OPTIONS	TRANSFER	SHUTDOWN	
ctc_inc	5052	Yes	0	ctc_inc	ctc_inc	ctc_inc	ctc_inc	ctc_inc	ctc_inc	ctc_inc	

When the “ctc_inc” button is clicked in the “Server Status” column, the information about purchased licenses and their statuses is displayed. The columns of most interest are highlighted here:

License pool status

Product	Pool	Ver	Expires	count	soft lim	inuse	res	timeout	share	transactions	Show License Usage
bimproj	1	2015	permanent	10	10	0	0	0	User&Host	0	usage...
bimmgr	2	2015	permanent	10	10	0	0	0	User&Host	0	usage...
superdoor	3	2015	permanent	10	10	0	0	0	User&Host	0	usage...

In this example there are 10 floating licenses purchased for each of the suite products for Revit 2015, and no users happen to be using any of them (none are “inuse”).

NOTE: Users with versions of these products running on older versions of Revit, for example BIM Manager Suite™ running in Revit 2013, will also be able to draw licenses from this same pool for the Revit 2015 version of the product. So only the total number of licenses needed by all users up to the version licensed (“Ver” column) needs to be known and taken into consideration when determining how many licenses are needed.

Viewing Licenses that are Currently in Use

As seen in the previous image, the list of licenses purchased and in use can be seen on the status screen.

If, for example, a user starts up a tool in the suite, we might see the following in this status list:

Product	Pool	Ver	Expires	count	soft lim	inuse	res	timeout	share	transactions	Show License Usage
bimproj	1	2015	permanent	10	10	1	0	0	User&Host	2	
bimmgr	2	2015	permanent	10	10	0	0	0	User&Host	0	
superdoor	3	2015	permanent	10	10	0	0	0	User&Host	0	

Notice that one license is now in use. By clicking on the associated “usage...” button, we can see who is using that license:

License status for ISV ctc_inc




Product	Pool	Ver	user	host	PID	req ver	# lic	# res	Out time
bimproj	1	2015	david	ctcltmn	13996	2015	1	0	07/01 09:01

The “user” is the user’s login name, the “host” is the name of the computer they are using.

The CTC license files that are generated define things such that **regardless of how many licensed tools in the suite are running at the same time by a single user on one computer, even in different versions of Revit simultaneously, only one network license is considered “in use” by the server.**

For example, the user could have the window open for two licensed tools in the suite, and open another licensed tool in the suite at the same time.

In that case, we would still see this on the License Pool Status screen:

Product	Pool	Ver	Expires	count	soft lim	inuse	res	timeout	share	transactions	Show License Usage
bimproj	1	2015	permanent	10	10	1	0	0	User&Host	2	
bimmgr	2	2015	permanent	10	10	0	0	0	User&Host	0	
superdoor	3	2015	permanent	10	10	0	0	0	User&Host	0	

But on the usage screen we would see three entries for this user, like this:


Product	Pool	Ver	user	host	PID	req ver	# lic	# res	Out time
bimproj	1	2015	david	ctcltmn	13996	2015	1	0	07/01 09:05
bimproj	1	2015	david	ctcltmn	13996	2015	1	0	07/01 09:06
bimproj	1	2015	david	ctcltmn	13996	2015	1	0	07/01 09:06

So even though only one license is considered “in use,” there are three instances of that single license running on the workstation at the same time.

When the last tool is shut down, the license is returned to the pool for another user to be able to use.

In the case where a user is borrowing a license, the status screen looks like this:

License pool status

Product	Pool	Ver	Expires	count	soft lim	inuse	res	roam	timeout	share	transactions	Show License Usage
bimproj	1	2015	permanent	10	10	1	0	1	0	User&Host		 usage...
bimmgr	2	2015	permanent	10	10	0	0	0	0	User&Host	0	usage...
superdoor	3	2015	permanent	10	10	0	0	0	0	User&Host	0	usage...

When clicking on the “usage” button, the next screen looks like this:

Product	Pool	Ver	user	host	PID	req ver	# lic	# res	Out time	In (hold) time
bimproj	1	2015	david	ctcltmn	13996	2015	1	0	07/01 09:17	07/12 00:00

In this example, the user has borrowed a license until midnight on July 12th. That is to say, the license is borrowed **through the end of the day on July 11th**. As soon as the clock ticks over to July 12th, the server will report the license as having been returned to the server and the workstation will no longer use the borrowed license and must contact the server again to get a regular floating license the next time the software is to be used.

Viewing License Usage History

Although turned off by default in the RLM licensing engine, the logging of detailed license usage over time is available in the engine. Please see this article for more details:

<http://www.reprisesoftware.com/blog/2011/03/how-to-produce-rlm-report-logs/>

Using the Options File to do things like Reserve Licenses

The licensing engine allows you to do things like reserve licenses for one or more users. This allows scenarios where 5 licenses are purchased but 1 is kept in reserve for a specific user, who is always allowed to get one license. However, this reduces to 4 the number of licenses that are available for everyone else.

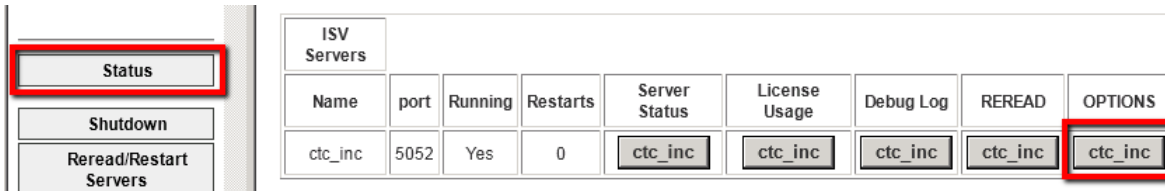
Other rules can be set up to do things like *prevent* one or more specific users from being able to get a license.

A default options file (ctc_inc.opt) is provided when the server software is installed. It can be edited manually using a text editor such as Notepad, or it can be edited from within the web user interface.

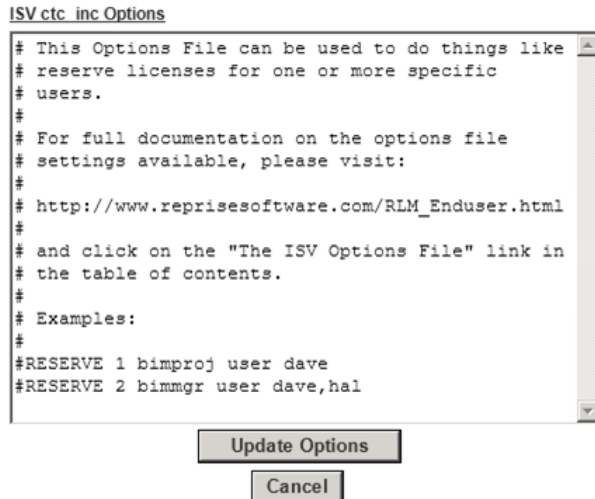
IMPORTANT: Whenever the options file is edited, the license information for the “ctc_inc” ISV must be re-read for it to take effect. An example of this is shown below.

IMPORTANT: For full documentation on all of the options file settings available, please visit: http://www.reprisesoftware.com/RLM_Enduser.html and click on “The ISV Options File” in the table of contents.

To edit the options file in the web user interface, click on the “Status” button on the left, and then click on the “ctc_inc” button in the OPTIONS column:



This is what the editor looks like with the default Options file:



Although the RESERVE lines are commented out by default, this example shows how to reserve a license for 1 specific user for the CTC BIM Project Suite product, and for two specific users for the CTC BIM Manager Suite product.

If these two items are uncommented (the “#” is removed from the front of their lines), then the “Update Options” button is clicked, and then back on the general status screen **the ctc_inc ISV license is re-read**:

Name	port	Running	Restarts	Server Status	License Usage	Debug Log	REREAD	OPTIONS	TRANSFER	SHUTDOWN
ctc_inc	5052	Yes	0	ctc_inc	ctc_inc	ctc_inc	ctc_inc	ctc_inc	ctc_inc	ctc_inc

When clicking on the “Server Status” button:

Name	port	Running	Restarts	Server Status	License Usage	Debug Log	REREAD	OPTIONS	TRANSFER	SHUTDOWN
ctc_inc	5052	Yes	0	ctc_inc	ctc_inc	ctc_inc	ctc_inc	ctc_inc	ctc_inc	ctc_inc

The status now shows:

Product	Pool	Ver	Expires	count	soft lim	inuse	res	timeout	share	transactions	Show License Usage
bimproj	1	2015	permanent	9	10	0	1	0	User&Host	18	usage...
bimmgr	2	2015	permanent	8	10	0	2	0	User&Host	0	usage...
superdoor	3	2015	permanent	10	10	0	0	0	User&Host	0	usage...

The “count” column shows the number of licenses available to float, and the “res” column shows the number of licenses that are reserved for specific users.

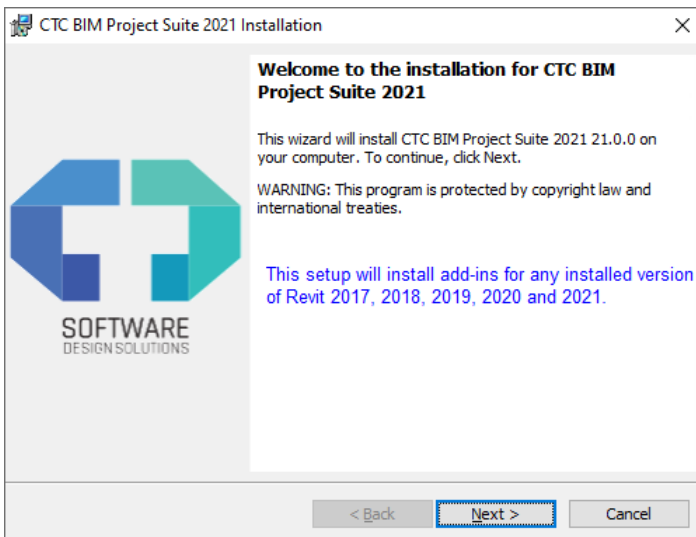
Revit Workstation Installation

To perform an installation of a CTC Express Tools suite, first download the setup program zip file from <https://www.ctcsoftware.com/>. Once the download is complete, unzip the files.

Standard Installation Using the Setup Program

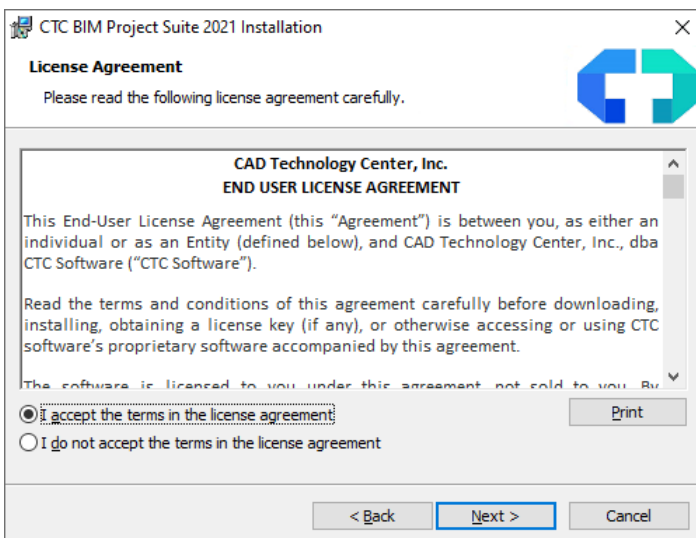
A standard installation simply involves running the interactive setup program, accepting all of the default values, and then starting up Revit.

Double-click the installation “msi” file to begin the installation process. In this example we will install CTC BIM Project Suite, but the process is the same for all suites. First, you should see a screen that looks something like this:



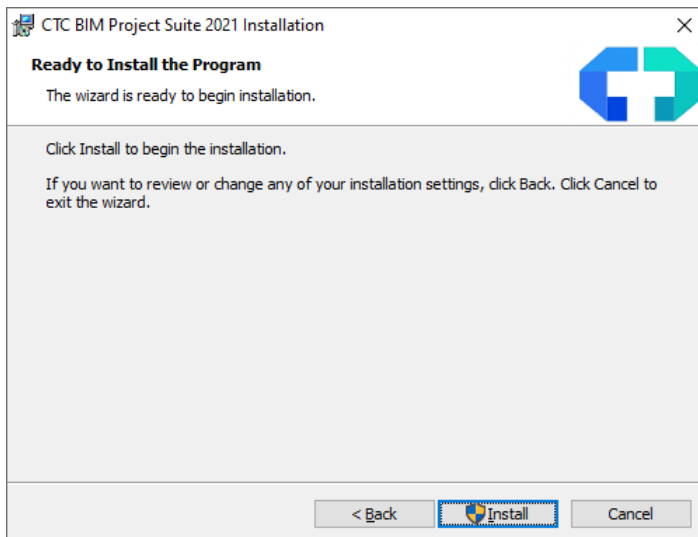
This is a standard welcome screen. Click the “Next” button to proceed.

The next screen should look something like this:

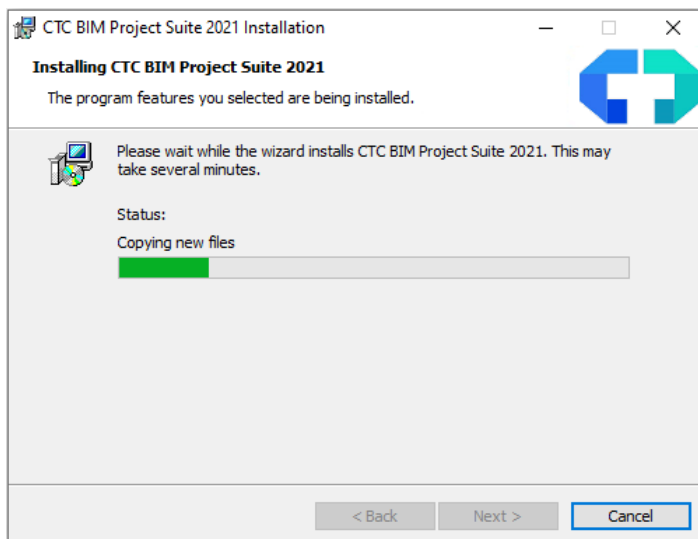


This is the license agreement screen. In order to be able to move forward with the installation, you must read the software license agreement and then click the “I accept the terms in the license agreement” option. You will then be allowed to click the “Next” button, which needs to be done to proceed with the installation.

The next screen should look something like this:



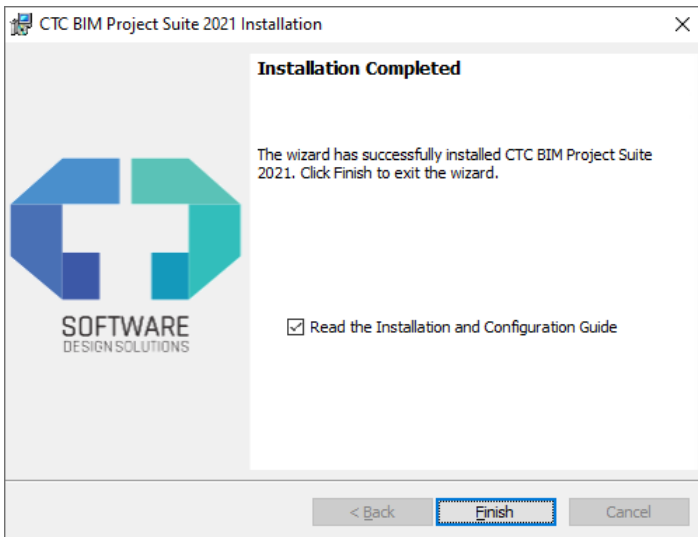
This is the standard confirmation screen. It provides one last chance to cancel this process without anything being installed. Click the “Next” button to proceed. The screen during the actual installation should look like this:



Note: If a user is logged in who is not a system administrator and attempts an installation, the installer may prompt them for administrative credentials to allow the installation to continue.

A file called CTCInstallLog.txt can be found in the installation folder once the setup completes. Checking that log can be useful when verifying something like a silent installation (discussed below) worked correctly.

When the installation is complete, the final screen should look like this:

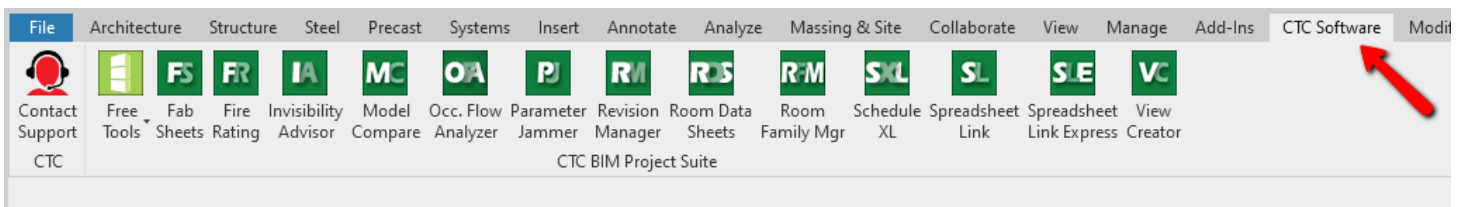


Click the “Finish” button to complete the installation process.

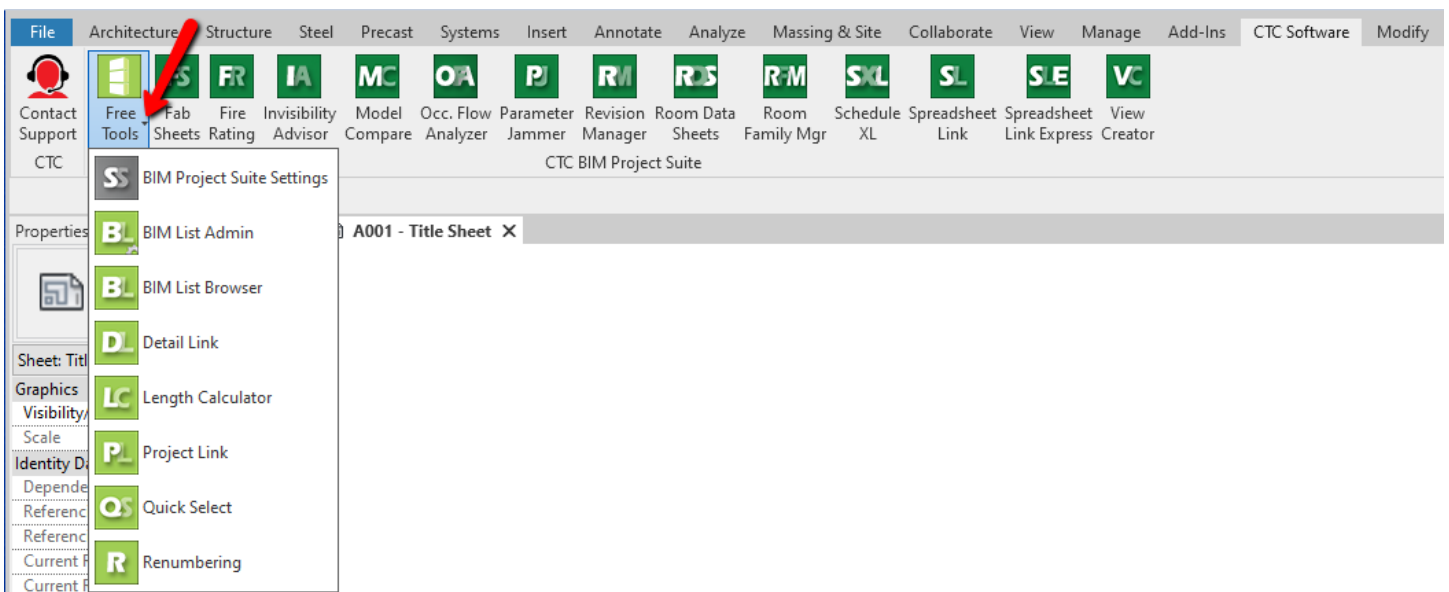
If the checkbox option is selected, this document will be displayed.

The next time the user starts the Revit software and opens a project or family document, a “CTC Software” tab will appear in the ribbon at the top of the Revit window, and within that tab will be the buttons needed to launch the tools.

Here is an example of how BIM Project Suite will look in Revit when installed on a computer for the first time:

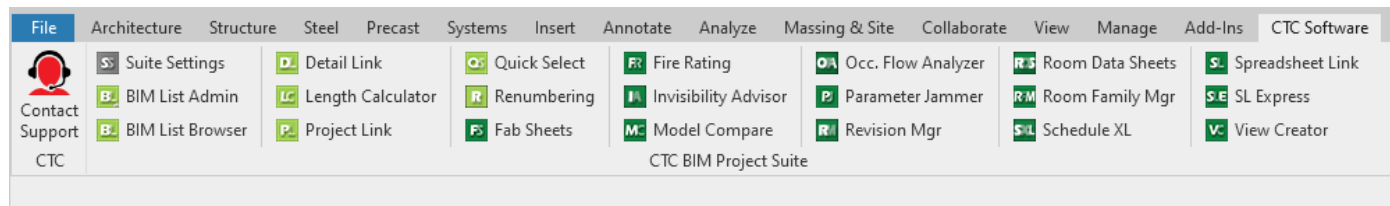


Free tools can be found within the left-most drop-down button. For example:



The icons are color-coded. The icons with the light background color indicate free tools, whereas the icons for the “Premium” (paid) tools have a dark background color. The premium tools require licensing.

Note that it is possible to use the “BIM Project Suite Settings” free tool to turn off some buttons, or to host them natively on the ribbon panel instead of within drop-down buttons. When hosted on the ribbon panel, they can be set to be small as well. For example, this is what it looks like when small icons are used:



The “CTC Software” tab can also be renamed, or the tools can be placed on the generic “Add-Ins” tab as well. However, the Revit user cannot configure the host tab using the Suite Settings tool. The settings for configuring the host tab can only be made by editing a configuration text file. This is described in detail below, as is a general description of using the Suite Settings tool.

The use of the Suite Settings tool is also described in the detail within the user guides for each suite.

Custom Installation (Using Command-Line Parameters)

Silent Installation

VERY IMPORTANT: Just as when running the setup interactively, when running it silently it must be run with elevated privileges (“as Administrator”).

The msi installers for the Revit workstations support performing silent installations. A silent installation does not show any dialogs on the screen during the install.

This is accomplished by using the command-line parameter: /q

So an example command to install BIM Project Suite for Revit 2020 (and older) silently would be:

```
msiexec /i CTCBIMProjectSuite2021Setup.msi /q
```

IMPORTANT: By choosing to do a silent installation, you are automatically agreeing to the software license agreement.

Automatically Activating a Standalone Locked License

If you are installing a licensed suite that locks the license to the computer on which it is being installed, you may automatically activate that license with setup command-line parameters.

IMPORTANT: If your organization has chosen to use standalone (node-locked) licensing, **YOU** are responsible for tracking and managing on which computers the software has been registered. Uninstalling the software from a computer **DOES NOT** unregister a license that has been activated on that computer. Licenses must be unregistered from within the software using the license management tools provided, e.g. via the Product and License Information screen.

If the license isn’t activated during the installation process this way, the first user on the computer who launches one of the suite tools which requires a license will be prompted to enter the licensing information needed.

The following command-line parameters are supported for automatically activating a node-locked license:

name	The “registered user” name to which the software is licensed. Typically this is the company name.
sn	The serial number for this license

These values are provided in an email message when the software is purchased.

Here is an example command line for silently installing BIM Project Suite 2016 and automatically activating it:

```
msiexec /i CTCBIMProjectSuite2021Setup.msi /q name="A & B Consulting" sn=DEAE5FFC8C96A909D2B8
```

IMPORTANT:

- Node-locked license activation command-line parameters should only be provided on the first install of the suite on a computer. When updating the software to a newer suite version, the node-locked license will remain unchanged, so **do not provide activation values when installing updates**.
- Both of the values for these parameters are case-sensitive, and must **exactly** match the values provided by CTC
- The *name* parameter value must always be enclosed in double quotes
- There should be no spaces around the equals (=) symbols
- Setting these values will automatically configure the suite for “Standalone – Node Locked” licensing

- Successfully activating a node-locked license requires an Internet connection
- The workstation must be able to connect with the server at **<http://www.ctcsoftware.com>**
- Activation may not succeed if something like a proxy server is between the workstation and the Internet

The results of a node-locked activation can be found in the “CTCInstallLog.txt” file, which will be located in the installation folder.

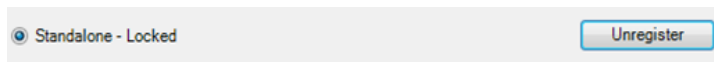
For example, a successful activation looks like this:

01/30/2014 06:39:34.063 PM Automatic license activation was successful (or previously activated).

Whereas an unsuccessful activation might look like this:

01/30/2014 06:32:25.354 PM Automatic license activation returned an exit code of: -532459699

IMPORTANT: Uninstalling the software **DOES NOT** “unregister” the license and return it to your CTC license pool. Unregistering a license can only be done manually in the software using the Product and License Information screen. The button to unregister the license looks like this:



Automatically Referencing a Floating License Server

If you are installing a licensed suite that will be using network floating licenses, you may pre-configure the suite to reference your license server(s) with setup command-line parameters.

The following command-line parameter is supported for automatically referencing a floating license server:

floatinglicserver The license server name

Here is an example command line for silently installing BIM Project Suite 2016 and instructing it to use the license server computer with the name MyServer:

msiexec /i CTCBIMProjectSuite2021Setup.msi /q floatinglicserver=MyServer

Excluding the Free CTC PDF Writer (BIM Batch Suite Only)

If you do not want to install the free CTC PDF Writer automatically when BIM Batch Suite is installed, you can exclude it using the following command-line parameter:

installctcpdfwriter 0 to exclude it

Here is an example command line for silently installing BIM Batch Suite 2017 and instructing it to NOT install the CTC PDF Writer:

msiexec /i CTCBIMBatchSuite2021Setup.msi /q installctcpdfwriter=0

Installation Using File Copying ("X-Copy Deployment")

IMPORTANT: This technique only works when using network floating licensing or only using the free tools.

All of the suites can be deployed using a simple file copy. This may be useful in larger environments, with many Revit workstations. It is strongly recommended to do the first install on each workstation using the setup program. This is because it automatically installs the CTC digital certificate and correctly permissions the installation folders, specifically:

%ProgramData%\CTC	-- Authenticated Users / read-write
%ProgramData%\Autodesk\Revit\Addins\<202x>\<Product>.bundle	-- Authenticated Users / read-write
%ProgramData%\Autodesk\Revit\Addins\<202x-1>\<Product>.bundle	-- Authenticated Users / read-write
%ProgramData%\Autodesk\Revit\Addins\<202x-2>\<Product>.bundle	-- Authenticated Users / read-write
%ProgramData%\Autodesk\Revit\Addins\<202x-3>\<Product>.bundle	-- Authenticated Users / read-write
%ProgramData%\Autodesk\Revit\Addins\<202x-4>\<Product>.bundle	-- Authenticated Users / read-write

Where:

- %ProgramData% is the system Program Data folder. This is typically the **C:\ProgramData** folder (often hidden)
- <202x> is the Revit version for the installer, e.g. 2021
- <202x-1> is the previous Revit version, e.g. 2020
- <202x-2> is two previous Revit versions, e.g. 2019
- <202x-3> is three previous Revit versions, e.g. 2018
- <202x-4> is three previous Revit versions, e.g. 2017
- <Product> is the product name folder, with hyphens, e.g. CTC-BIM-Project-Suite.bundle

For example, with the "2021" products whose setups install add-ins for Revit 2017, 2018, 2019, 2020 and 2021, the following folders need to have Authenticated Users granted read and write ("modify") permissions, as appropriate for the installed suites:

C:\ProgramData\CTC

C:\ProgramData\Autodesk\Revit\Addins\2021\CTC-BIM-Project-Suite.bundle
C:\ProgramData\Autodesk\Revit\Addins\2020\CTC-BIM-Project-Suite.bundle
C:\ProgramData\Autodesk\Revit\Addins\2019\CTC-BIM-Project-Suite.bundle
C:\ProgramData\Autodesk\Revit\Addins\2018\CTC-BIM-Project-Suite.bundle
C:\ProgramData\Autodesk\Revit\Addins\2017\CTC-BIM-Project-Suite.bundle

C:\ProgramData\Autodesk\Revit\Addins\2021\CTC-BIM-Manager-Suite.bundle
C:\ProgramData\Autodesk\Revit\Addins\2020\CTC-BIM-Manager-Suite.bundle
C:\ProgramData\Autodesk\Revit\Addins\2019\CTC-BIM-Manager-Suite.bundle
C:\ProgramData\Autodesk\Revit\Addins\2018\CTC-BIM-Manager-Suite.bundle
C:\ProgramData\Autodesk\Revit\Addins\2017\CTC-BIM-Manager-Suite.bundle

C:\ProgramData\Autodesk\Revit\Addins\2021\CTC-BIM-Batch-Suite.bundle
C:\ProgramData\Autodesk\Revit\Addins\2020\CTC-BIM-Batch-Suite.bundle
C:\ProgramData\Autodesk\Revit\Addins\2019\CTC-BIM-Batch-Suite.bundle
C:\ProgramData\Autodesk\Revit\Addins\2018\CTC-BIM-Batch-Suite.bundle
C:\ProgramData\Autodesk\Revit\Addins\2017\CTC-BIM-Batch-Suite.bundle

Other suites for Revit not shown here, such as CTC HIVE Suite or SuperDoor Configurator, would need to work in similar fashion.

All files and subfolders within these folders must inherit the read-write permissions for Authenticated Users, with the possible exception of some specific configuration files for which more restrictive permissions may be desired, as discussed in the "Post-Installation Configuration" section, below. After copying those files, it may be necessary to permission them again to be more restrictive on the workstations.

The best practice is to use the MSI installer on the “master” computer to get all the proper files installed the first time, and then copy those to the other computers for deployment.

The following folders and files, including all contained files and subfolders, must be copied from the “master” computer to each of the appropriate Revit workstations (examples only, may vary depending on operating system installation):

BIM Project Suite 2021

- C:\ProgramData\Autodesk\Revit\Addins\2021\CTC-BIM-Project-Suite.bundle
- C:\ProgramData\Autodesk\Revit\Addins\2020\CTC-BIM-Project-Suite.bundle
- C:\ProgramData\Autodesk\Revit\Addins\2019\CTC-BIM-Project-Suite.bundle
- C:\ProgramData\Autodesk\Revit\Addins\2018\CTC-BIM-Project-Suite.bundle
- C:\ProgramData\Autodesk\Revit\Addins\2017\CTC-BIM-Project-Suite.bundle
- C:\ProgramData\CTC\CommonRevit
- C:\ProgramData\CTC\CommonBIMProjectSuite
- C:\ProgramData\Autodesk\Revit\Addins\2021\CTC-BIM-Project-Suite.addin
- C:\ProgramData\Autodesk\Revit\Addins\2020\CTC-BIM-Project-Suite.addin
- C:\ProgramData\Autodesk\Revit\Addins\2019\CTC-BIM-Project-Suite.addin
- C:\ProgramData\Autodesk\Revit\Addins\2018\CTC-BIM-Project-Suite.addin
- C:\ProgramData\Autodesk\Revit\Addins\2017\CTC-BIM-Project-Suite.addin
- C:\ProgramData\CTC\Licensing\CTC BIM Project Suite License Settings.txt
- C:\ProgramData\CTC\Suite Settings\CTC BIM Project Suite Icon Settings.txt

BIM Manager Suite 2021

- C:\ProgramData\Autodesk\Revit\Addins\2021\CTC-BIM-Manager-Suite.bundle
- C:\ProgramData\Autodesk\Revit\Addins\2020\CTC-BIM-Manager-Suite.bundle
- C:\ProgramData\Autodesk\Revit\Addins\2019\CTC-BIM-Manager-Suite.bundle
- C:\ProgramData\Autodesk\Revit\Addins\2018\CTC-BIM-Manager-Suite.bundle
- C:\ProgramData\Autodesk\Revit\Addins\2017\CTC-BIM-Manager-Suite.bundle
- C:\ProgramData\CTC\CommonRevit
- C:\ProgramData\CTC\CommonBIMManagerSuite
- C:\ProgramData\Autodesk\Revit\Addins\2021\CTC-BIM-Manager-Suite.addin
- C:\ProgramData\Autodesk\Revit\Addins\2020\CTC-BIM-Manager-Suite.addin
- C:\ProgramData\Autodesk\Revit\Addins\2019\CTC-BIM-Manager-Suite.addin
- C:\ProgramData\Autodesk\Revit\Addins\2018\CTC-BIM-Manager-Suite.addin
- C:\ProgramData\Autodesk\Revit\Addins\2017\CTC-BIM-Manager-Suite.addin
- C:\ProgramData\CTC\Licensing\CTC BIM Manager Suite License Settings.txt
- C:\ProgramData\CTC\Suite Settings\CTC BIM Manager Suite Icon Settings.txt

BIM Batch Suite 2021

- C:\ProgramData\Autodesk\Revit\Addins\2021\CTC-BIM-Batch-Suite.bundle
- C:\ProgramData\Autodesk\Revit\Addins\2020\CTC-BIM-Batch-Suite.bundle
- C:\ProgramData\Autodesk\Revit\Addins\2019\CTC-BIM-Batch-Suite.bundle
- C:\ProgramData\Autodesk\Revit\Addins\2018\CTC-BIM-Batch-Suite.bundle
- C:\ProgramData\Autodesk\Revit\Addins\2017\CTC-BIM-Batch-Suite.bundle
- C:\ProgramData\CTC\CommonRevit

C:\ProgramData\CTC\CommonBIMBatchSuite
C:\ProgramData\Autodesk\Revit\Addins\2021\CTC-BIM-Batch-Suite.addin
C:\ProgramData\Autodesk\Revit\Addins\2020\CTC-BIM-Batch-Suite.addin
C:\ProgramData\Autodesk\Revit\Addins\2019\CTC-BIM-Batch-Suite.addin
C:\ProgramData\Autodesk\Revit\Addins\2018\CTC-BIM- Batch-Suite.addin
C:\ProgramData\Autodesk\Revit\Addins\2017\CTC-BIM- Batch-Suite.addin
C:\ProgramData\CTC\Licensing\CTC BIM Batch Suite License Settings.txt
C:\ProgramData\CTC\Suite Settings\CTC BIM Batch Suite Icon Settings.txt

SuperDoor Configurator 2021

C:\ProgramData\Autodesk\Revit\Addins\2021\CTC-SuperDoor-Suite.bundle
C:\ProgramData\Autodesk\Revit\Addins\2020\CTC-SuperDoor-Suite.bundle
C:\ProgramData\Autodesk\Revit\Addins\2019\CTC-SuperDoor-Suite.bundle
C:\ProgramData\Autodesk\Revit\Addins\2018\CTC-SuperDoor-Suite.bundle
C:\ProgramData\Autodesk\Revit\Addins\2017\CTC-SuperDoor-Suite.bundle
C:\ProgramData\CTC\CommonRevit
C:\ProgramData\CTC\CommonSuperDoorSuite
C:\ProgramData\Autodesk\Revit\Addins\2021\CTC-SuperDoor-Suite.addin
C:\ProgramData\Autodesk\Revit\Addins\2020\CTC-SuperDoor-Suite.addin
C:\ProgramData\Autodesk\Revit\Addins\2019\CTC-SuperDoor-Suite.addin
C:\ProgramData\Autodesk\Revit\Addins\2018\CTC-SuperDoor-Suite.addin
C:\ProgramData\Autodesk\Revit\Addins\2017\CTC-SuperDoor-Suite.addin
C:\ProgramData\CTC\Licensing\CTC SuperDoor Configurator License Settings.txt
C:\ProgramData\CTC\Suite Settings\CTC SuperDoor Configurator Icon Settings.txt

Casework Configurator 2021

C:\ProgramData\Autodesk\Revit\Addins\2021\CTC-Casework-Configurator.bundle
C:\ProgramData\Autodesk\Revit\Addins\2020\CTC-Casework-Configurator.bundle
C:\ProgramData\Autodesk\Revit\Addins\2019\CTC-Casework-Configurator.bundle
C:\ProgramData\Autodesk\Revit\Addins\2018\CTC-Casework-Configurator.bundle
C:\ProgramData\Autodesk\Revit\Addins\2017\CTC-Casework-Configurator.bundle
C:\ProgramData\CTC\CommonRevit
C:\ProgramData\CTC\CommonCaseworkConfigurator
C:\ProgramData\Autodesk\Revit\Addins\2021\CTC-Casework-Configurator.addin
C:\ProgramData\Autodesk\Revit\Addins\2020\CTC-Casework-Configurator.addin
C:\ProgramData\Autodesk\Revit\Addins\2019\CTC-Casework-Configurator.addin
C:\ProgramData\Autodesk\Revit\Addins\2018\CTC-Casework-Configurator.addin
C:\ProgramData\Autodesk\Revit\Addins\2017\CTC-Casework-Configurator.addin
C:\ProgramData\CTC\Licensing\CTC Casework Configurator License Settings.txt
C:\ProgramData\CTC\Suite Settings\CTC Casework Configurator Icon Settings.txt

Other suites would follow this same pattern.

IMPORTANT: For Revit 2017 and later, your process may also need to install the CTC digital certificate into Windows, which is discussed in the “Digitally Signed Code” section, below. CTC provides tools to assist with this process.

It may be desirable to copy tool-specific subfolders of the **C:\ProgramData\CTC** folder as well, depending on how well the related tools were configured on the “master” computer. For example:

C:\ProgramData\CTC\SuperDoor

This folder typically contains settings and content (Revit family files) that are specific to the SuperDoor tool.

Or:

C:\ProgramData\CTC\Plotter and Exporter

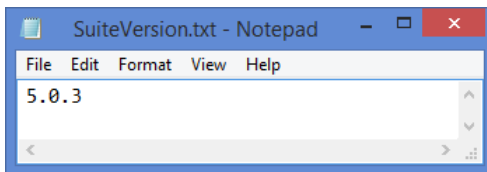
Which contains settings and configuration files for the Plotter and Exporter tool in BIM Batch Suite.

Most of the time it will be simpler and may make sense to copy the entire **C:\ProgramData\CTC** folder from the “master” computer.

Detecting the Version Installed

As of the 5.0.3 release of all CTC Express Tools suites, a text file called "SuiteVersion.txt" with only the Suite version (e.g. "5.0.3") in it can be found in the installation folder. For example:

C:\ProgramData\Autodesk\Revit\Addins\2021\CTC-BIM-Project-Suite.bundle\Contents\SuiteVersion.txt



The contents of this file may be useful for checking to see whether an update is appropriate to deploy. For example, you may have master copies of all files to deploy located on a server, and a script that runs on the workstations which compares the contents of these SuiteVersion.txt files (or perhaps just dates on these files) to know whether or not the server's updated versions of the files should be copied to the workstation.

The installed suite version can also be seen in the "About" dialog for any of the tools, which simply gets the value to display from this file.

Digitally Signed Code (Autodesk 2017 or Later Products)

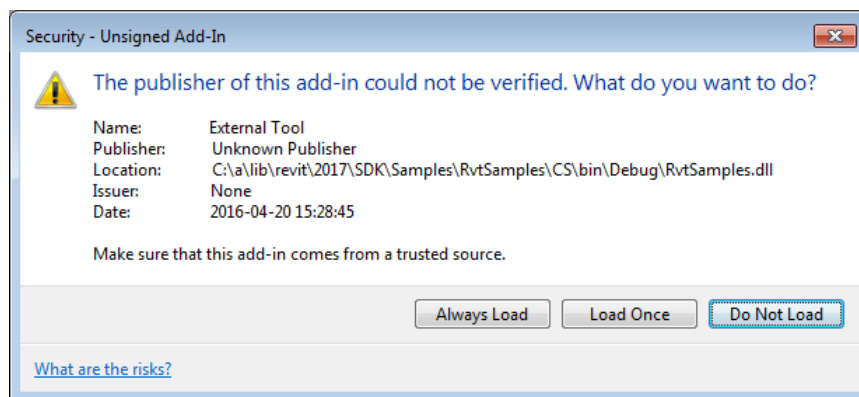
As of the 2017 versions of Autodesk products, Autodesk is strongly encouraging add-in developers to have their code be digitally signed. Digitally signing add-ins means the code being run was verified as published by the stated author, and that the code has not been tampered with since it was published.

In other words, it sets up a level of trust that the code running is exactly as published, and that the identity of the publisher has been verified.

If add-ins are not digitally signed, when the Autodesk 2017 (or later) product starts up, the end user is prompted as to whether or not they want to allow the add-in from an unknown publisher to be loaded.

The user can tell it to always load this add-in, but they would have to do that for each unsigned add-in they install the first time they launch the Autodesk product after the add-in has been installed.

For example, in Revit 2017 the dialog looks like this:



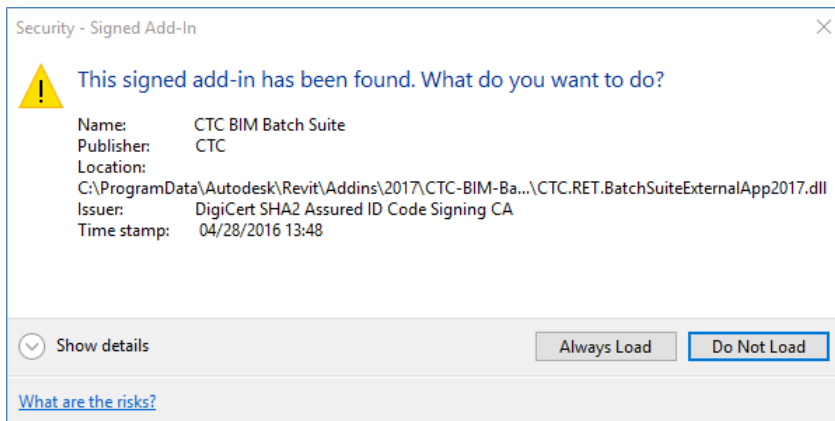
IMPORTANT: All CTC Express Tools add-ins ARE digitally signed as of the 2017 releases.

Things are better for add-in authors who digitally sign their code, as CTC does. Under normal circumstances, even for digitally signed add-ins, the user is still prompted when Revit starts up to allow the add-in to be loaded.

However, once the user has allowed any digitally signed add-in for an author to “Always Load,” all other add-ins from the same author will automatically load in the future, without prompting the user again the first time an Autodesk product is run after they install the new add-in.

This is true even for other add-ins installed from the same author, but for other Autodesk products. In other words, once a verified author is trusted to always load an add-in, all of their tools installed in the future will always start right up with no further prompting, regardless of Autodesk product.

For example, the user may see a dialog like this the first time they launch Revit 2017 or later after installing a new add-in that was digitally signed:



IMPORTANT: The 2017 and later MSI setup programs from CTC will automatically install the CTC digital certificate file into the Windows Trusted Publishers certificates section for the computer.

So when a CTC MSI setup is used to install the add-ins, **all users on that computer will never be prompted to allow the add-ins to load.** The Autodesk product (e.g. Revit, Civil 3D) will simply start up as normal, with the CTC add-ins available for immediate use. This behavior is the same as it had been for 2016 and earlier Autodesk products.

However, if the CTC add-ins are deployed using another method, such as an X-Copy deployment, or perhaps as embedded in an Autodesk deployment, the CTC certificate will NOT automatically get installed into Windows, and the user will be prompted to allow the CTC add-in to load the first time they launch the Autodesk product.

The CTC digital certificate file can be found in the suite's installed "Contents" folder for the highest version of the Autodesk product supported. For example, for BIM Batch Suite 2018 the CTC digital certificate file can be found in this location:

C:\ProgramData\Autodesk\Revit\Addins\2018\CTC-BIM-Batch-Suite.bundle\Contents\CTCCodeSigningCertificate.cer

This file can be added to the Trusted Publisher's store in any normal manner, for example via Group Policy.

CTC Certificate Installer Utility

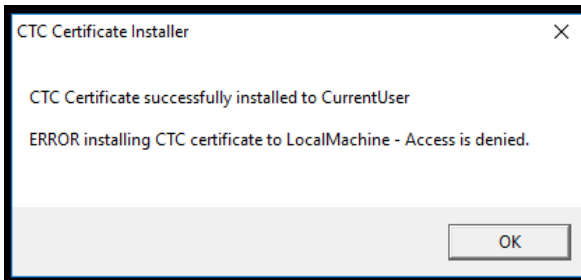
CTC also provides a small utility to add the CTC Certificate to Windows, which can be used for non-MSI deployments. This program is called **CTCCertificateInstaller.exe** and, like the certificate file itself, is located in the suite's installed "Contents" folder for the highest version of the Autodesk product supported. For example, for BIM Batch Suite 2018 the CTC Certificate Installer program can be found in this location:

C:\ProgramData\Autodesk\Revit\Addins\2018\CTC-BIM-Batch-Suite.bundle\Contents\CTCCertificateInstaller.exe

IMPORTANT: For this program to work, the CTCCodeSigningCertificate.cer certificate file must be in the same folder as this program.

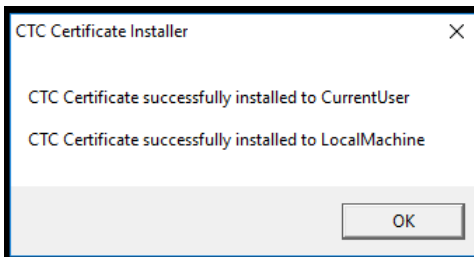
In order for this program to install the certificate such that it will work for all users who login to the computer, it must be run with the highest privileges (e.g. "As Administrator"). If it is not run "As Administrator" it will only install the certificate for the currently logged in user.

When run as a regular user, a window appears when complete showing this:



In this case, when the current user starts up the Autodesk product(s), no messages from Autodesk will interrupt the startup process for any CTC products. However, if another user logs into this machine, they will see the dialog asking what to do with the signed add-in that was found, as seen above.

When the program is run "As Administrator", a window appears when complete showing this:



In this case, regardless of who logs into the computer, the Autodesk product for the add-ins will open smoothly, without asking the user what to do.

The CTCCertificateInstaller.exe program supports the following command-line parameters:

/Q – quiet. In quiet mode, no dialog window is ever displayed.

/L – Log file location. If a log file is specified, the results seen in the example dialogs above will be written to a new text file specified, overwriting any previous file that may have been there previously.

Example:

CTCCertificateInstaller.exe /Q /L "C:\My Folder\My Cert Installer Log File.txt"

(The /Q and /L may be lowercase)

Post-Installation Configuration

Once installed, you can change how a CTC Express Tools Suite installation behaves.

Silently Activating a Standalone (Locked) License After Installation

IMPORTANT: If you have chosen to use standalone (node-locked) licensing, **YOU** are responsible for tracking and managing on which computers the software has been registered. Uninstalling the software from a computer **DOES NOT** unregister a license that has been activated on that computer. Licenses must be unregistered from within the software using the license management tools provided, e.g. via the Product and License Information screen.

A tool is installed to allow node-lock license activation to be done using a command-line approach, allowing it to be done silently. This tool is called **Licutil.exe**, located in the folder **%ProgramData%\CTC\CommonRevit** and it supports the following command-line parameters:

-name	The “registered user” name to which the software is licensed. Typically this is the company name.
-sn	The serial number for this license
-pid	The numeric Program ID for this suite version

The Name and Serial Number values are typically provided to you in an email message when you purchase the software. **You will need to contact CTC technical support to get the Program ID number for the specific version of the suite to which the computer is moving.**

Example:

Licutil.exe -pid=100 -name="A & B Consulting" -sn=DEAE5FFC8C96A909D2B8

IMPORTANT:

- This program must be executed from its folder for it to find necessary dependencies
- The values for the *name* and *sn* parameters are case-sensitive and must exactly match the values provided by CTC
- The *name* parameter value must always be enclosed in double quotes
- There should be no spaces around the equals (=) symbols
- **The ‘pid’ value must come from CTC technical support**
- Successfully activating a node-locked license requires an Internet connection
- The workstation must be able to connect with the server at **<http://www.ctcsexpresstools.com>**
- Activation may not succeed if something like a proxy server is between the workstation and the Internet
- There is no log created to report success or failure when using this approach

Controlling Licensing Settings

On the workstation, the suites store license configuration information in simple text files. These are located in this folder:

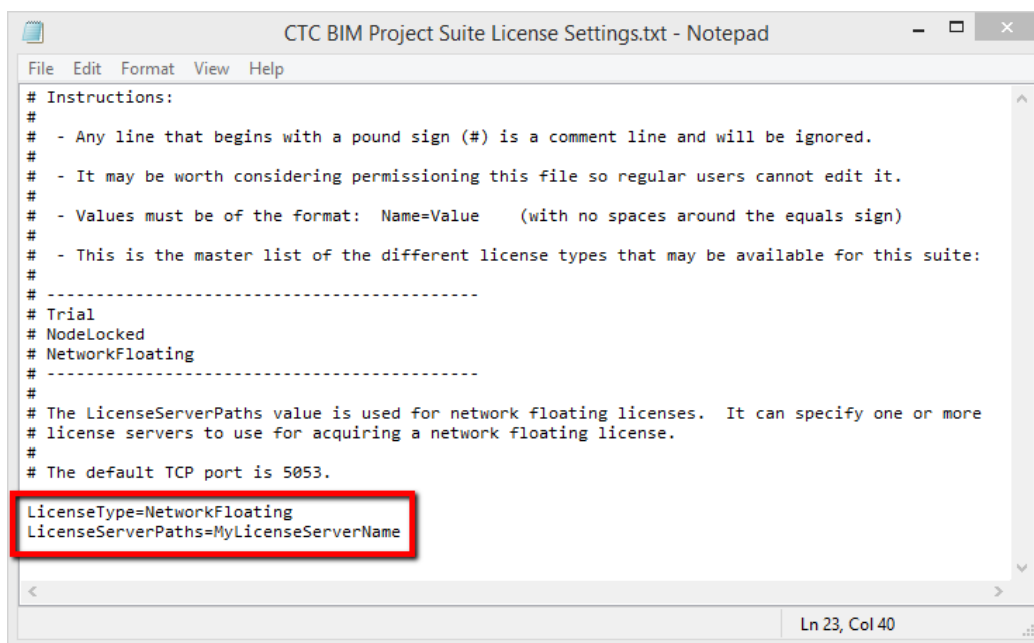
%ProgramData%\CTC\Licensing

On most recent operating systems, this is the folder: **C:\ProgramData\CTC\Licensing**

These files have names such as:

CTC BIM Project Suite License Settings.txt
CTC BIM Manager Suite License Settings.txt

Here is an example of what one of these files looks like:



```
# Instructions:
#
# - Any line that begins with a pound sign (#) is a comment line and will be ignored.
# - It may be worth considering permissioning this file so regular users cannot edit it.
# - Values must be of the format: Name=Value (with no spaces around the equals sign)
# - This is the master list of the different license types that may be available for this suite:
#
# -----
# Trial
# NodeLocked
# NetworkFloating
# -----
#
# The LicenseServerPaths value is used for network floating licenses. It can specify one or more
# license servers to use for acquiring a network floating license.
#
# The default TCP port is 5053.
LicenseType=NetworkFloating
LicenseServerPaths=MyLicenseServerName
```

Note: Regular users without special privileges can typically change files in this folder. For a truly secure environment, it may be desirable to change the permissions on this file so the user cannot edit it and save those changes themselves.

Access to the dialogs for changing the licensing settings can be controlled using Active Directory groups. This is discussed as “Method 2” in the next section.

Controlling Ribbon Button Visibility and Using Active Directory Group Memberships

It may be desirable to turn off some buttons in the Revit ribbon for specific users. For example, some tools have an Administration button, and it may be that some specific users should not be allowed to have that button available on the Revit ribbon.

There are 2 ways to control the availability of specific ribbon buttons for a Revit user:

- 1) Direct settings text file (older method, affects all users on the workstation)
- 2) Using Active Directory group memberships (user-specific regardless of workstation, also controls other things)

Only 1 of these methods can be used. The Active Directory group membership settings file (Method 2) also allows controlling which users can change licensing settings and/or borrow a network floating license, as well as access the button for downloading the latest installation program for the currently running suite.

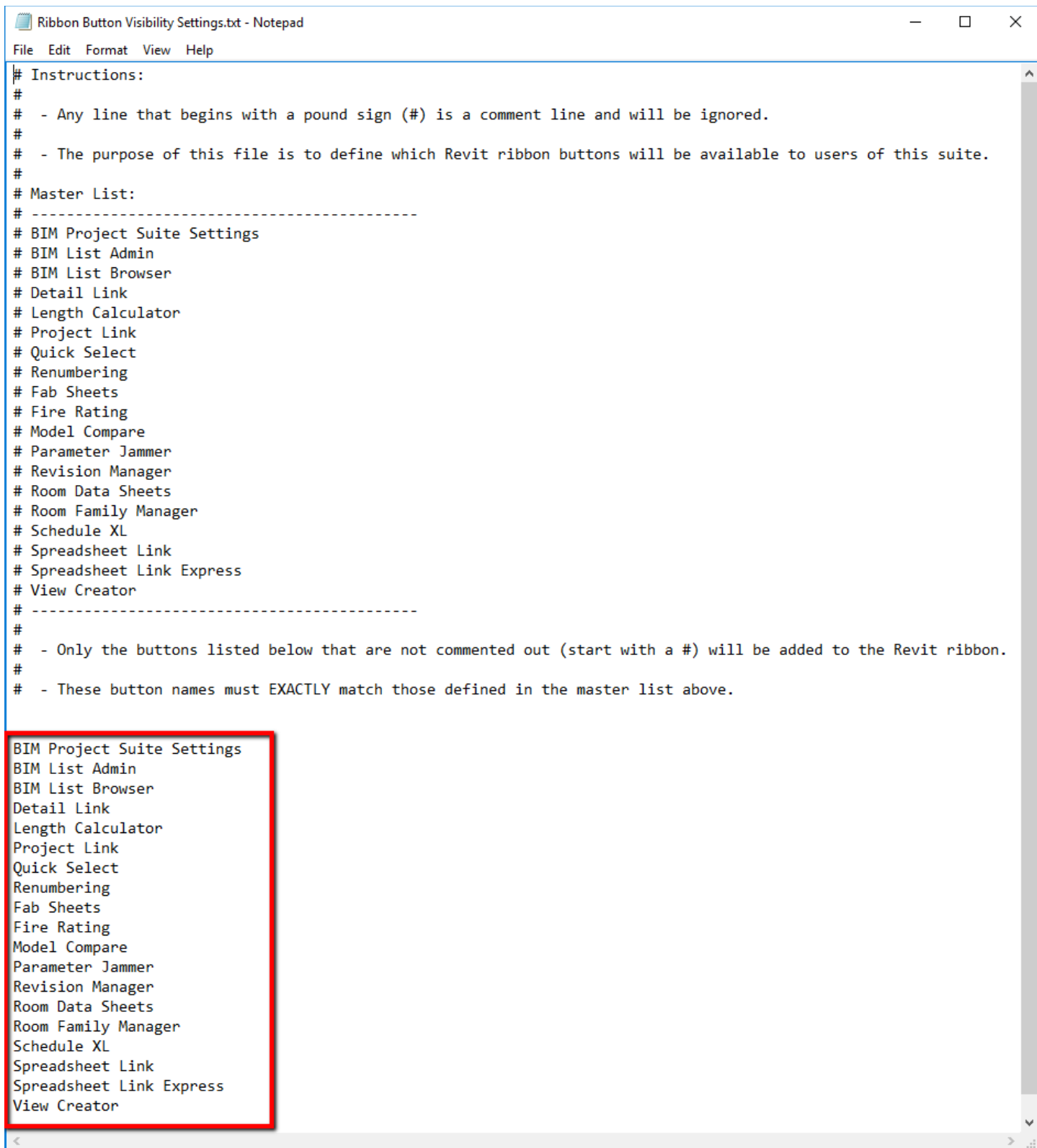
Method 1: Direct settings text file

This method is the simplest, and may be better for use by smaller organizations or for those organizations who want to give ribbon button visibility control directly to the user. This method is also used out-of-the-box. It provides a very simple, self-explanatory text file which is stored within the installation folder that controls which buttons are visible. It is called **Ribbon Button Visibility Settings.txt**. For example:

C:\ProgramData\Autodesk\Revit\Addins\2018\CTC-BIM-Project-Suite.bundle\Contents\Ribbon Button Visibility Settings.txt

This file gets manipulated by the Suite Settings tool.

This file looks like this:



```
# Ribbon Button Visibility Settings.txt
File Edit Format View Help

# Instructions:
#
# - Any line that begins with a pound sign (#) is a comment line and will be ignored.
#
# - The purpose of this file is to define which Revit ribbon buttons will be available to users of this suite.
#
# Master List:
# -----
# BIM Project Suite Settings
# BIM List Admin
# BIM List Browser
# Detail Link
# Length Calculator
# Project Link
# Quick Select
# Renumbering
# Fab Sheets
# Fire Rating
# Model Compare
# Parameter Jammer
# Revision Manager
# Room Data Sheets
# Room Family Manager
# Schedule XL
# Spreadsheet Link
# Spreadsheet Link Express
# View Creator
# -----
#
# - Only the buttons listed below that are not commented out (start with a #) will be added to the Revit ribbon.
#
# - These button names must EXACTLY match those defined in the master list above.

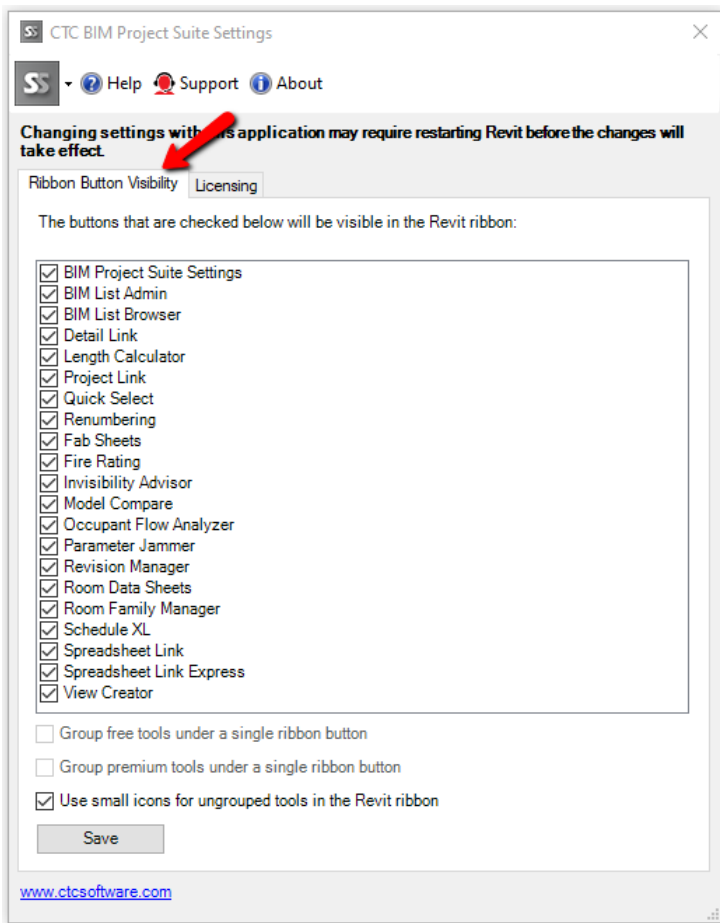
BIM Project Suite Settings
BIM List Admin
BIM List Browser
Detail Link
Length Calculator
Project Link
Quick Select
Renumbering
Fab Sheets
Fire Rating
Model Compare
Parameter Jammer
Revision Manager
Room Data Sheets
Room Family Manager
Schedule XL
Spreadsheet Link
Spreadsheet Link Express
View Creator
```

To remove a button from the user's Revit ribbon, simply delete its name from the bottom of the file, or prefix that line with a pound sign (#) to comment it out. This file may need to be updated in separate folders if multiple versions of Revit supported by the product are installed.

IMPORTANT: This file will get overwritten if installing a new **or updated** version of the suite. This is to help ensure buttons for any new tools get added to the list, in particular for most users who don't turn off any buttons. Periodically pushing out the correct version of this file for a user by using a mechanism such as Group Policy or a login script may be appropriate.

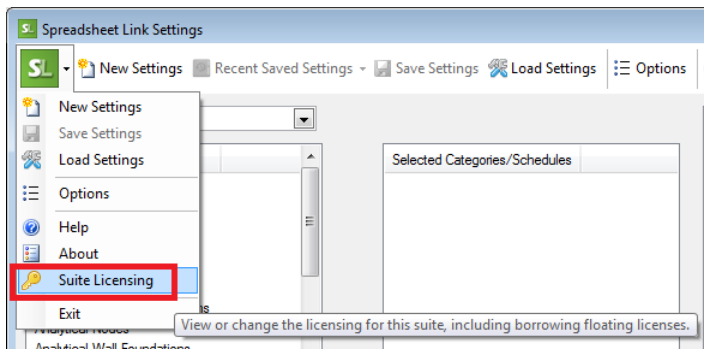
Note: Regular users without special privileges can typically change files in this folder. For a truly secure environment, you may wish to change the permissions on this file so the user cannot edit it and save those changes themselves.

The first item on the list is the *Suite Settings* tool. If this tool is available to the user, it will allow them to turn on and off buttons themselves unless Method 2 (Active Directory, see below) has been implemented and forbids doing that, or if the user doesn't have permissions to change the settings file. The Suite Settings tool does that by simply modifying the text file, and looks like this:



Removing the Suite Settings (first) item from the list will remove this tool itself from the user's Revit ribbon bar.

Changing licensing settings or borrowing a network floating license can also be accomplished using the "Licensing" tab of this add-in. However, each premium add-in also has a "Suite Licensing" menu choice which provides an alternate path to changing the licensing functionality. It is therefore possible to not allow the Suite Settings button to be available while still providing a means for the Revit user to do things like borrow and return a floating license.



Method 2: Using Active Directory Group Memberships

Active Directory group membership can be used to determine the availability of individual ribbon buttons as well as the ability to change licensing settings or to borrow a network floating license.

It can also be used to control things such as who has access to the “Download Latest Suite Installer” button on the About dialog in each add-in.

This approach applies these settings, defined in one place, for all versions of Revit, unlike Method 1.

Also unlike Method 1, this approach does not define ribbon button visibility based on the workstation, but instead based on the *user* logged into the workstation. With the Active Directory approach, different users can login to the same workstation, and the buttons that are available can vary by user.

Further unlike Method 1, this method must be manually deployed and configured. It is not put in place immediately during installation, nor does it have an application such as Suite Settings to change the configuration settings. The configuration settings can only be changed by editing the file with a text editor such as Notepad.

In the suite installation folder, a self-explanatory template text file for configuring these settings will be found. On more recent operating systems, the installation folder where this template file can be found is typically like one of the following:

C:\ProgramData\Autodesk\Revit\Addins\2021\CTC-BIM-Project-Suite.bundle\Contents
C:\ProgramData\Autodesk\Revit\Addins\2021\CTC-BIM-Manager-Suite.bundle\Contents

The template file must be copied to the **%ProgramData%\CTC\Suite Settings** folder in order for it to take effect when Revit is started.

Note that “%ProgramData%” will get translated to the local ProgramData folder on your computer. For most recent operating systems, this is typically the **C:\ProgramData** folder, which is likely set to be hidden.

The name of this file will be like one of these, depending on the suite:

CTC BIM Project Suite Settings.txt
CTC BIM Manager Suite Settings.txt

When copied to the correct folder, the final full file name will be like one of these:

C:\ProgramData\CTC\Suite Settings\CTC BIM Project Suite Settings.txt
C:\ProgramData\CTC\Suite Settings\CTC BIM Manager Suite Settings.txt

The default settings in this file match how the system works when not using this file, with the exception that it assumes Active Directory group membership should be used for controlling the visibility of Revit ribbon buttons instead of the default Method 1 approach, described above.

Here is an example of the default contents for the file for BIM Manager Suite:

```
CTC BIM Manager Suite Settings.txt - Notepad
File Edit Format View Help
# Instructions:
#
# - To be used, this file must be manually deployed to the folder: %PROGRAMDATA%\CTC\Suite Settings
#
# - Any line that begins with a pound sign (#) is a comment line and will be ignored.
#
# - It may be worth permissioning the deployed copy of this file so regular users cannot edit it.
#
# - This file affects the settings for this product for all versions of Revit
#
# Active Directory-based access syntax (only security groups from Active Directory are supported):
#
# <function> = <Comma-delimited list of Active Directory Groups whose members can use this functionality>
#
#         Leave blank to not allow any users to access this functionality, e.g. <function> =
#         To allow all users access, the Everyone group is fastest to check: <function> = Everyone
#         (Domain Users also works, but would be slower. Authenticated Users does not work)
#
# Changing the list of groups for a functionality in this file requires restarting Revit for
# the changes to take effect.
#
# Adding a user to an Active Directory Group requires them to log out and log back in for
# group membership to work
#
# Groups must be defined in the same domain to which the current Revit user is logged in.
#
# This setting controls who can change the license type (trial, node-locked or network floating and
# network server name)
AllowChangingLicensingSettingsADGroups = Everyone
#
# This setting controls for whom the network floating licensing 'Borrow' button is available
# Does not affect Options File settings on the actual license server.
AllowBorrowingAFloatingLicenseADGroups = Everyone
#
# This setting controls for whom the "Download Latest Suite Installer" button on the About dialog is available
AllowDownloadingLatestInstallerADGroups = Everyone
#
# This setting controls for whom the "Buy Now!" button on the About and Licensing dialogs is available
AllowBuyNowButton = Everyone
#
# This section controls how ribbon buttons are made available to users. Manual button visibility means the
# RibbonButtonVisibilitySettings.txt file in the suite installation folder is used. This is the file that is
# edited by the Suite Settings add-in. If the value for manual settings below is false, the user will also
# not be able to edit that list in the Suite Settings add-in. If both values below are false, the user
# will have access to all available tool buttons.
# If both settings below are true, ONLY manual button visibility will be used.
AllowManualRibbonButtonVisibilityChanging = false
UseActiveDirectoryForRibbonButtonVisibility = true
#
# This setting controls how buttons that exist but are not specified in the section below
# will be made available to users. For example, new tools that exist after updating the software.
ShowUnspecifiedRibbonButtonsADGroups = Everyone
#
# This section defines who can access each ribbon button for this suite (which buttons are visible)
# based on Active Directory group memberships.
# The latest list of available tool buttons can always be found in the master copy of this file, which
# is in the installation folder. That master copy may be changed whenever the software is updated.
BIM Manager Suite Settings = Everyone
Family Preview Manager = Everyone
Family Tools = Everyone
Project Cleaner = Everyone
Revision Cloud Remover = Everyone
Dimension Checker = Everyone
Family Checker = Everyone
Family Processor = Everyone
Import and Link Manager = Everyone
Schedule Parameter Resolver = Everyone
Shared Parameter Manager = Everyone
Type Swapper = Everyone
```

As the comments in the settings file show, it is possible to control access to license settings and borrowing licenses using Active Directory group memberships while still allowing the user to control which ribbon buttons are available.

Also as mentioned in the file, multiple Active Directory groups can be used to grant access to any item. For example:

AllowBorrowingAFloatingLicenseADGroups = BIM_Managers, Domain Admins

In this case, regular daily users of Revit would not be able to borrow a CTC Express Tools suite network floating license; the button for doing that would be disabled. Only BIM managers or domain administrators could do that.

Note: Nested Active Directory group membership checking is supported.

For the example above, if Jeff is a member of the *SeniorManagement* Active Directory group, and that group is a member of the *Domain Admins* group, but Jeff is not directly a member of the *Domain Admins* group, Jeff would still be able to borrow a floating license.

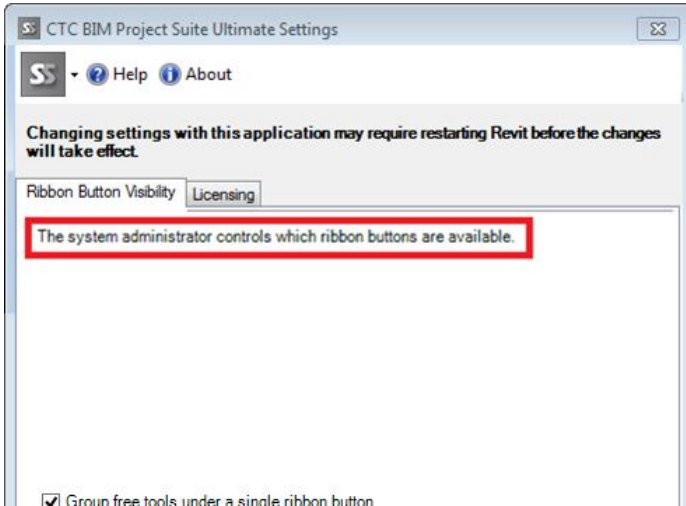
At the bottom of the file is the list of valid button names that will be visible only to those members of the specified Active Directory group(s) for each button.

This list may change when new versions of the suite are released. For example, more buttons may be available in a later release should more tools be added to the suite. Any button that is available in the suite but that is not specifically listed at the bottom of this file is considered an “unspecified” button.

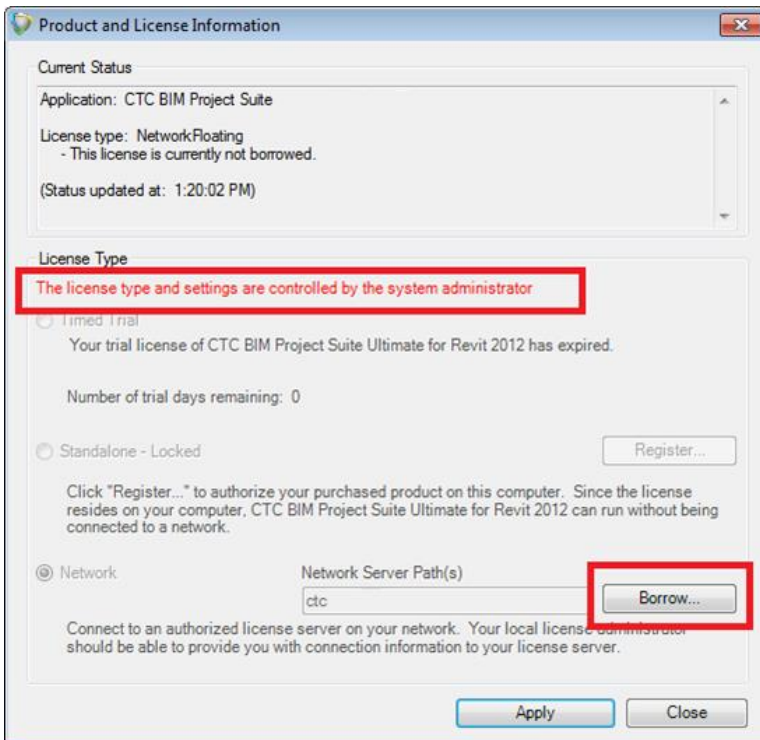
The ShowUnspecifiedRibbonButtonsADGroups setting allows specifying which, if any, users can see buttons that haven’t been specifically configured.

IMPORTANT: When a new version of the suite is installed, the person responsible for maintaining and deploying this security file should review the master copy of this file (found in the suite installation folder) to see if any new buttons are available, and update the copy of the file being used on the Revit workstation(s) to include those new button definitions and define the security groups that are allowed to use those new buttons, as appropriate.

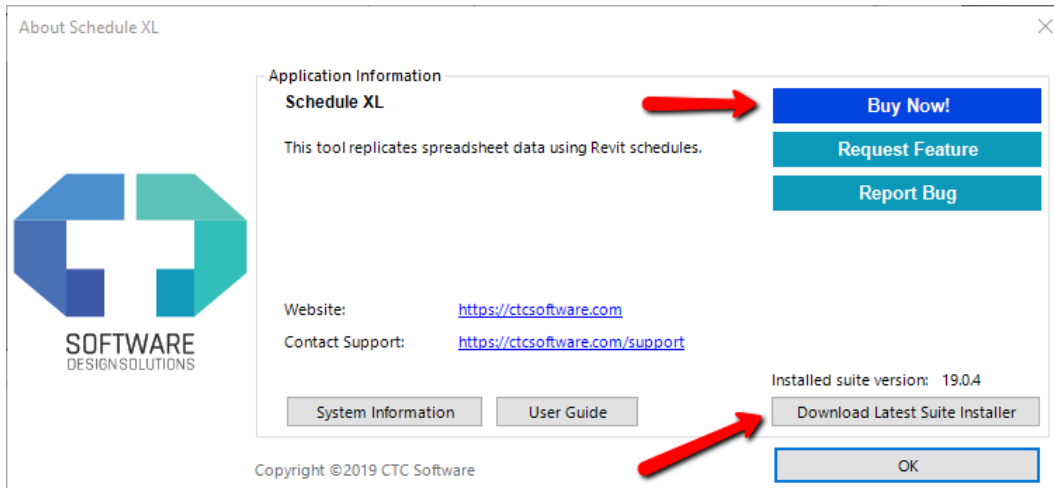
When using Active Directory to control which ribbon buttons are available to the user, the Suite Settings dialog prevents the user from trying to change which buttons are available. The dialog looks like this:



This is what the licensing screen looks like when a user is not allowed to see the “Buy Now” button (to the right of the “Timed Trial” choice) and is not permitted to change licensing settings, but is permitted to borrow a network floating license:



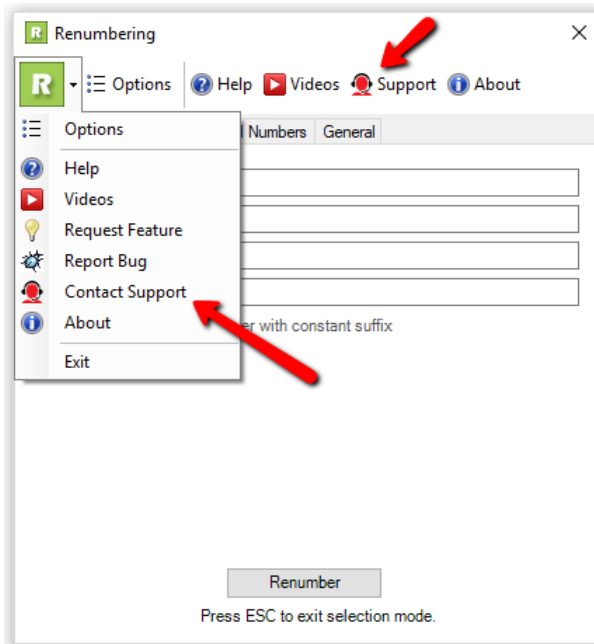
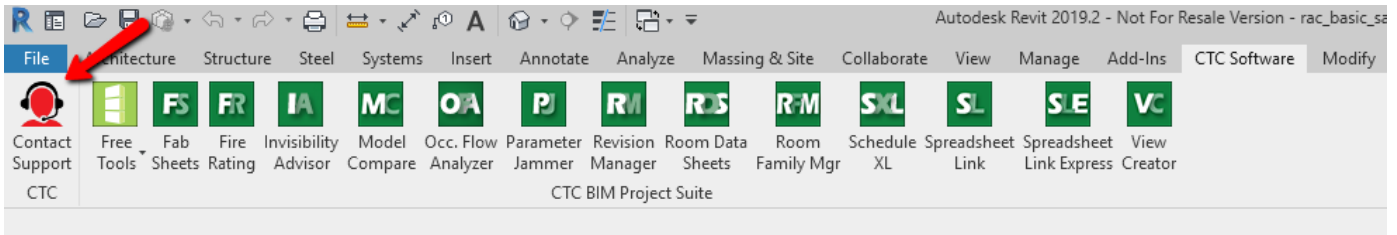
This is what an About dialog looks like when the Revit user is allowed to see the “Buy Now” button and the “Download Latest Suite Installer” button (the default):



These buttons can only be hidden when using the Active Directory configuration file system. It may be desirable to hide the download button to help control exactly which version of a suite is installed.

Managing the Contact Support Button Visibility

The *Contact Support* button can be found in both the Revit ribbon as well as within each tool:



The first time Revit is run with a CTC suite installed, a configuration file is created which controls the visibility of this button:

C:\ProgramData\CTC\Suite Settings>Contact Support Settings.xml

Which looks like this:

```
<?xml version="1.0" encoding="utf-8"?>
<CTCSupportSettings xmlns:xsd="http://www.w3.org/2001/XMLSchema" xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance">
  <Version>1</Version>
  <CTCSupportButtonVisible>true</CTCSupportButtonVisible>
  <CTCSupportURL>https://ctcsoftware.com/support</CTCSupportURL>
</CTCSupportSettings>
```

As some organizations may want to control how support for Revit users is handled (e.g. internally) this tool can be turned off. Changing the highlighted value to: **false** will prevent this button from being visible in either the ribbon or from within the tools.

If this file is deployed to Revit workstations before the first time Revit is run with a CTC suite installed, the deployed file will be used. Errors in the file will result in the button being displayed, which is the default behavior.

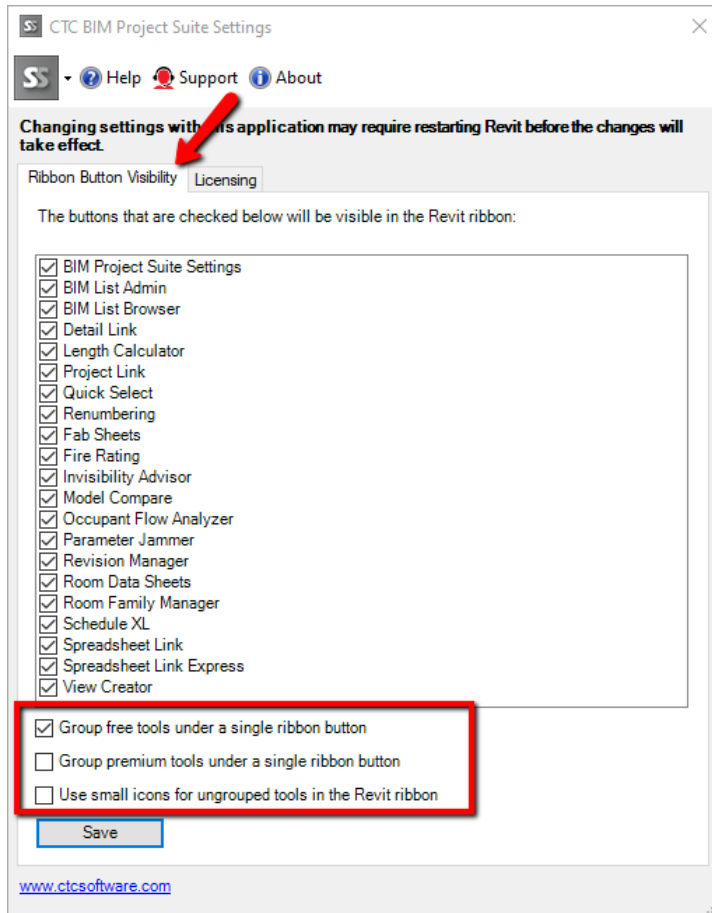
If turned off, the support link in the About dialog (seen above) for each tool will also be hidden.

Managing the Revit Ribbon Tab Used and Button Appearance

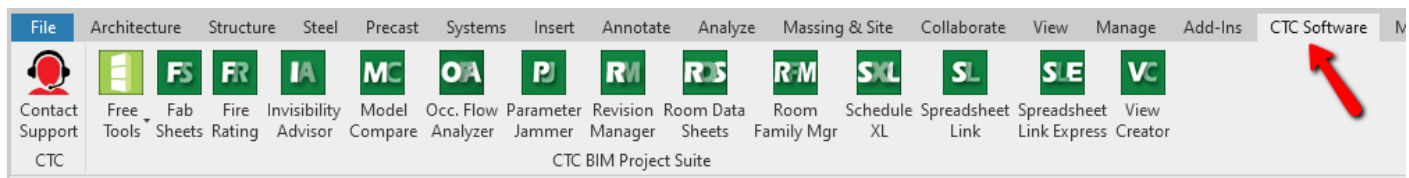
Managing the Revit ribbon can be difficult, particularly as one gets more and more 3rd-party add-in tools installed. The CTC Express Tools suites offer many tools which assist with managing the Revit ribbon.

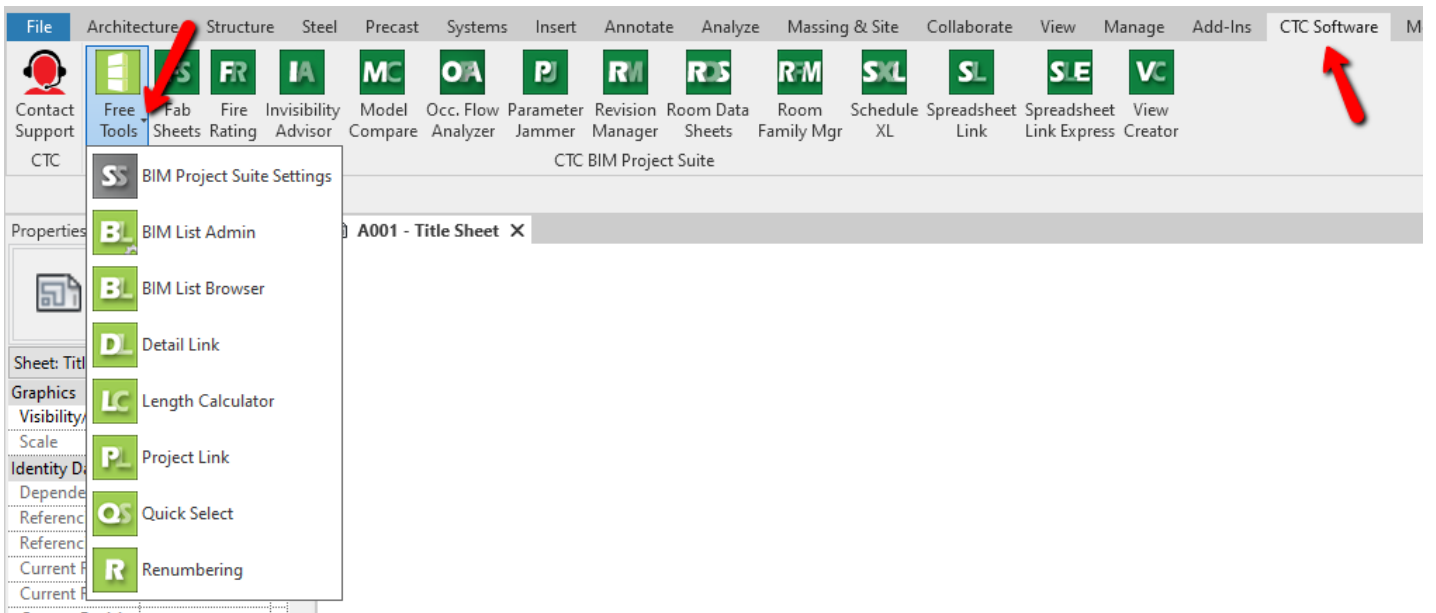
Using the Suite Settings Program

The Suite Settings program lets the user specify how the buttons to which they have access appear. The default settings are shown in this image:



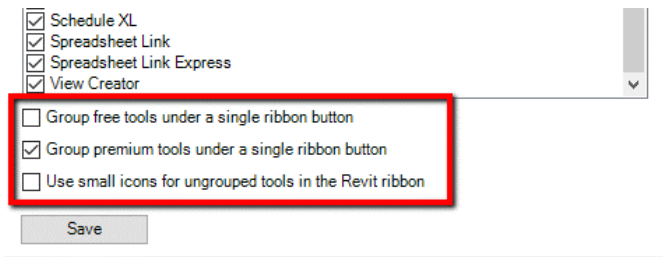
This is how they appear in Revit:





NOTE: If only one tool is visible within a group when grouping is enabled, the group dropdown button will NOT appear. Instead, only that one tool's icon will appear in its place.

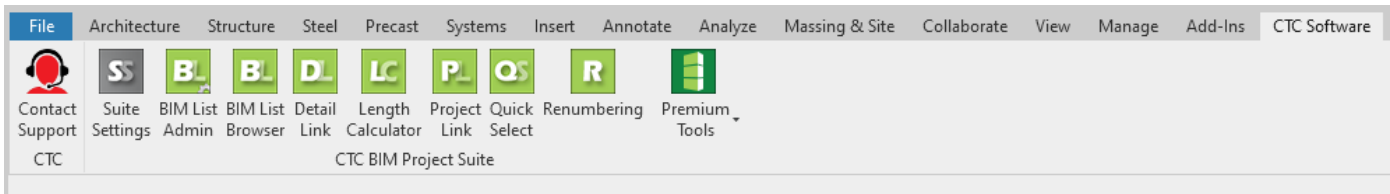
The Suite Settings program also lets the user ungroup either free or paid tools:



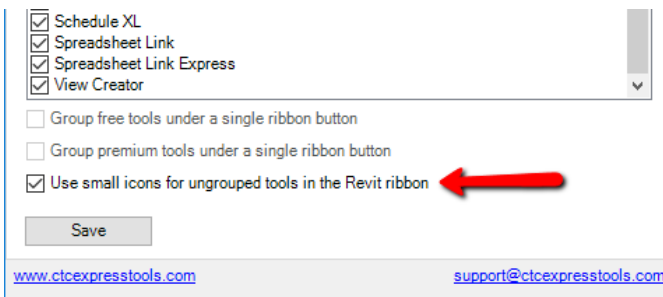
☒ Schedule XL
☒ Spreadsheet Link
☒ Spreadsheet Link Express
☒ View Creator
☐ Group free tools under a single ribbon button
☒ Group premium tools under a single ribbon button
☐ Use small icons for ungrouped tools in the Revit ribbon

Save

The results of these settings look like this:



The user can also specify to use small icons for those buttons hosted directly on the Revit ribbon, instead of using the default large icons:

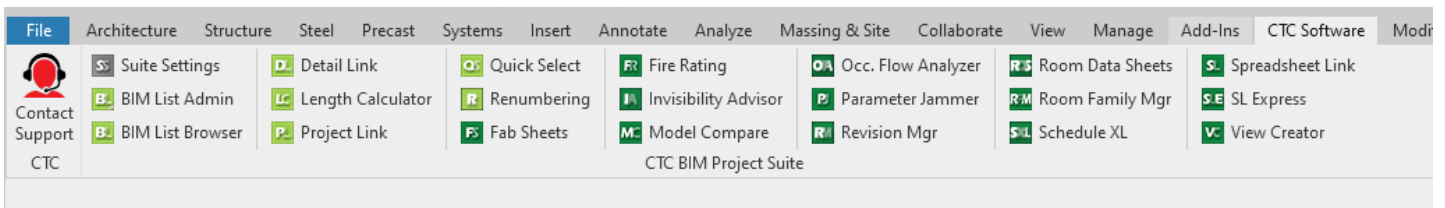


☒ Schedule XL
☒ Spreadsheet Link
☒ Spreadsheet Link Express
☒ View Creator
☐ Group free tools under a single ribbon button
☐ Group premium tools under a single ribbon button
☒ Use small icons for ungrouped tools in the Revit ribbon

Save

www.ctcexpresstools.com support@ctcexpresstools.com

The results of these settings look like this:



Using the Icon Settings Configuration File

The settings for ribbon button icon appearance are stored in a text file located in the **%ProgramData%\CTC\Suite Settings** folder. This file gets manipulated by the Suite Settings tool.

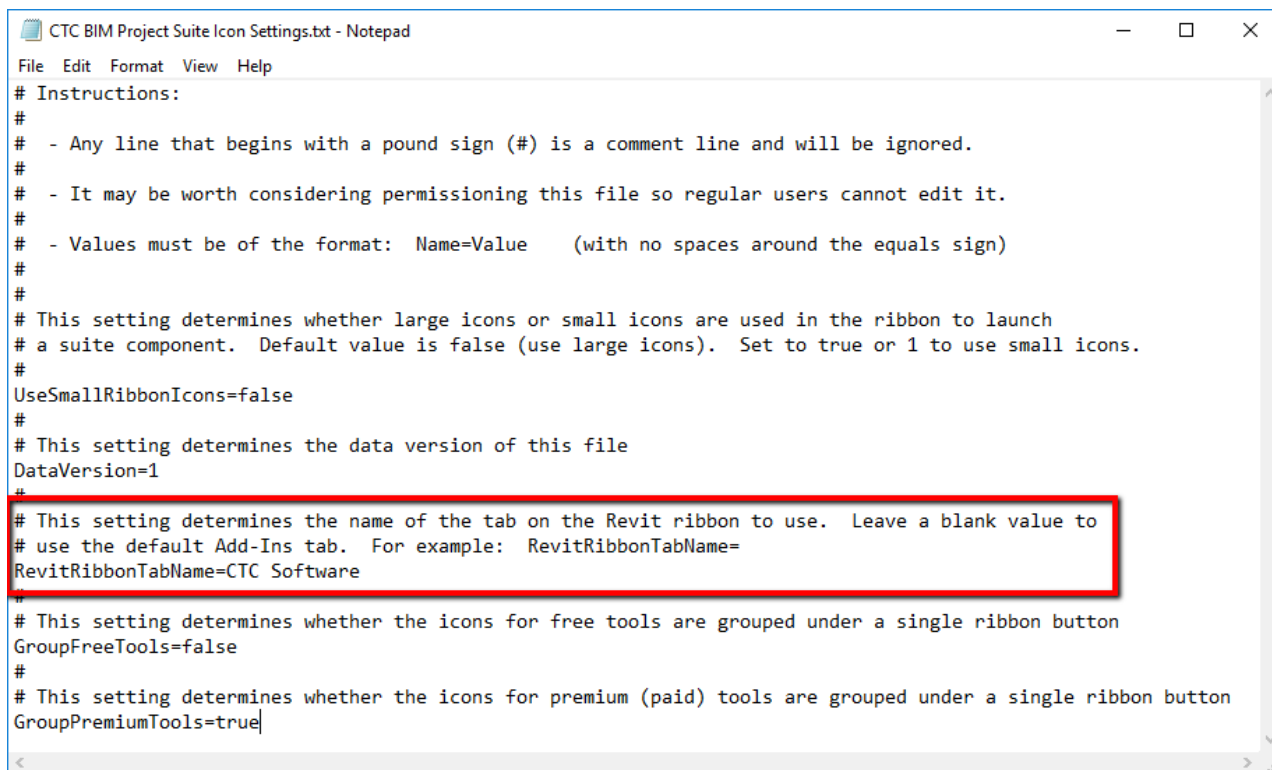
Note that “%ProgramData%” will get translated to the local ProgramData folder on your computer. For most recent operating systems, this is typically the **C:\ProgramData** folder, which is likely set to be hidden.

Example settings file names:

C:\Program Data\CTC\Suite Settings\CTC BIM Project Suite Icon Settings.txt
C:\Program Data\CTC\Suite Settings\CTC BIM Manager Suite Icon Settings.txt

These files may not appear in the folder until Revit is started the first time. These settings will apply to their respective suite regardless of which version of Revit is launched, and **will not** be overwritten if an updated version of the suite is installed.

The default file for all suites looks like this:



```
CTC BIM Project Suite Icon Settings.txt - Notepad
File Edit Format View Help
# Instructions:
#
# - Any line that begins with a pound sign (#) is a comment line and will be ignored.
#
# - It may be worth considering permissioning this file so regular users cannot edit it.
#
# - Values must be of the format: Name=Value (with no spaces around the equals sign)
#
#
# This setting determines whether large icons or small icons are used in the ribbon to launch
# a suite component. Default value is false (use large icons). Set to true or 1 to use small icons.
#
UseSmallRibbonIcons=false
#
# This setting determines the data version of this file
DataVersion=1
#
# This setting determines the name of the tab on the Revit ribbon to use. Leave a blank value to
# use the default Add-Ins tab. For example: RevitRibbonTabName=
RevitRibbonTabName=CTC Software
#
# This setting determines whether the icons for free tools are grouped under a single ribbon button
GroupFreeTools=false
#
# This setting determines whether the icons for premium (paid) tools are grouped under a single ribbon button
GroupPremiumTools=true
```

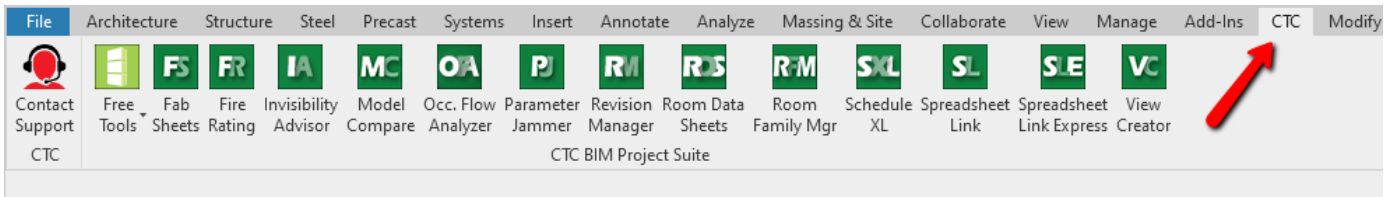
Note the area highlighted. **This is the only way to control which Revit ribbon tab the suite buttons appear on.**

The name of the tab on which the suite buttons appear cannot be controlled with the Suite Settings tool, or any other tool that comes with the suite. It can only be configured by editing this text file, which (again) will NOT be overwritten when updating the software.

For example, this setting:

RevitRibbonTabName=CTC

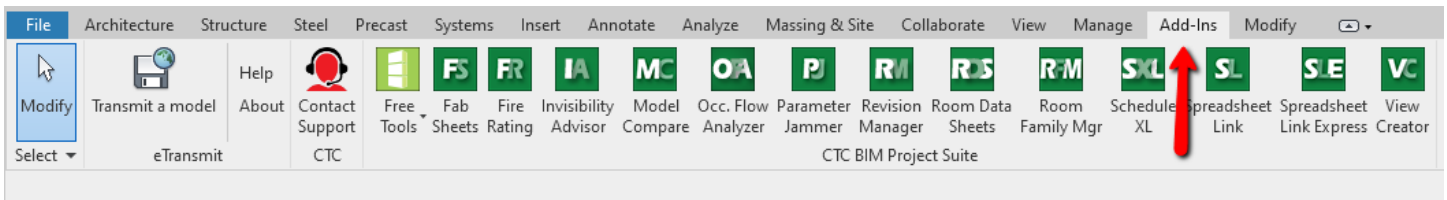
appears this way in Revit:



whereas this setting:

RevitRibbonTabName=

appears this way in Revit:



Deploying Default User Settings

Most CTC Express Tools plug-ins have settings which the user can control. Some have even more settings which can be overridden by an administrator by pushing out various settings files (described below).

As of the 18.0.1 release, the general user settings for most tools are stored in a location with the following pattern:

%AppData%\CTC\<Tool Name>\<Tool Name> User Settings.xml

For example:

C:\Users\<UserName>\AppData\Roaming\CTC\Project Cleaner\Project Cleaner User Settings.xml

A user settings file for a tool is typically not created until the tool is launched the first time by that user. Once these files are created and configured for a user, they can be copied to the Roaming folder for other users (e.g. via login script, Group Policy, etc.) to provide default user settings, should the desired settings be different than the standard settings that come with the tool.

Controlling BIM List Browser

The free BIM List Browser tool, available in BIM Project Suite, has a separate settings file which controls how it operates. This settings file is created the first time BIM List Browser is launched. This file is called: **CTC.RET.BIMListSettings.xml** and is located in the folder: **%APPDATA%\CTC\BIM-List** (typically "C:\users\[your username]\AppData\Roaming\CTC\BIM-List"). Copy this file to "%ProgramData%\CTC\BIM-List".

Note that for most recent operating systems, "%ProgramData%" is typically the **C:\ProgramData** folder, which is usually hidden by Windows' security settings.

The BIM List Settings File

```
<?xml version="1.0" standalone="yes"?>
<BIMListSettingsDS xmlns="http://tempuri.org/BIMListSettingsDS.xsd">
  <Setting>
    <DatabaseFolderPath>%AppData%\CTC\BIM-List</DatabaseFolderPath>
    <DatabaseUpdateIntervalInMins>5</DatabaseUpdateIntervalInMins>
    <DefaultBIMListServerAddress>yourBIMListServer</DefaultBIMListServerAddress>
    <DefaultPreviewImageSizeInPixels>50</DefaultPreviewImageSizeInPixels>
    <EnlargePreviewImageOnHover>>false</EnlargePreviewImageOnHover>
    <EnlargedPreviewImageSizeInPixels>300</EnlargedPreviewImageSizeInPixels>
    <BIMListCloudServiceAddress>bimlistcloud.ctcexpresstools.com</BIMListCloudServiceAddress>
    <ShowBrowserOnProjectOpen>>false</ShowBrowserOnProjectOpen>
    <AlwaysUseDefaultBrowserKeyFile>>false</AlwaysUseDefaultBrowserKeyFile>
    <DefaultBrowserDatabaseID>0fcda1e-69f6-4267-b609-64b992cc8bd1</DefaultBrowserDatabaseID>
    <DefaultBrowserDatabaseNameFilter2015>2015</DefaultBrowserDatabaseNameFilter2015>
    <DefaultBrowserDatabaseNameFilter2016>2016</DefaultBrowserDatabaseNameFilter2016>
    <DefaultBrowserDatabaseNameFilter2017>2017</DefaultBrowserDatabaseNameFilter2017>
    <DefaultBrowserToTabDisplayMode>>true</DefaultBrowserToTabDisplayMode>
    <DefaultBrowserKeyFilePath>%UserProfile%</DefaultBrowserKeyFilePath>
    <DefaultAdminKeyFolderPath>%AppData%\CTC\BIM-List</DefaultAdminKeyFolderPath>
    <DefaultConnectToOption>Cloud</DefaultConnectToOption>
    <AlwaysUpgradeProjectBeforeCopyingTypes>>false</AlwaysUpgradeProjectBeforeCopyingTypes>
    <AskBeforeSavingDatabaseChanges>>true</AskBeforeSavingDatabaseChanges>
  </Setting>
</BIMListSettingsDS>
```

The highlighted sections are useful in most deployment scenarios and are detailed below

BIM List Browser can communicate with BIM List Server software, installed separately onto a server, to use remotely-defined, shared databases. This allows an administrator to define one or more databases of family content in a central location which can be synchronized to Revit workstations by those users that subscribe to those databases. The `<DatabaseFolderPath>` setting defines where BIM List Admin and Browser store their locally cached databases.

The default database folder path can be changed which is recommended in virtualized environments such as Citrix or Hyper-V to prevent simultaneous access issues by multiple users logged on to the same workstation running BIM List. For example, to direct BIM List to a folder within the Windows user profile, prefix the path with **%appdata%** in place of "C:\ProgramData\". *The path must exist and have appropriate write/modify/read permissions.*

When a remotely-defined database is being used in BIM List Browser on a Revit workstation, BIM List Browser will periodically check with the server to see if updates are available for the currently open database. Updates would be available if an administrator made changes to the database.

If updates are available, an “Update Database” alert button will appear in BIM List Browser, which allows the Revit user to begin the process for updating their local cache of the data.

The frequency for checking for updates is controlled by the <DatabaseUpdateIntervalInMins/> setting in the configuration file. If the value is 0, BIM List Browser will not check for updates automatically.

A manual update button in BIM List Browser is always available to allow the user to check for updates to their local copy of the data at any time. Automatic update checks are only attempted if the currently selected database is a remote database, and only those checks for the currently selected database are performed.

The DefaultBIMListServerAddress setting allows specifying the name of the default server where remotely-defined databases exist. This is the computer onto which the BIM List Server software has been installed.

Additionally, BIMList browser’s preview image behavior can be initially set in the configuration with the preview image nodes.

To cause the browser to open automatically after loading a project by default, change <ShowBrowserOnProjectOpen/> from *false* to *true*.

To control which database is active when user first launches the browser:

<DefaultBrowserDatabaseID/> -- *requires the database to exist in the cache*

To control which databases are shown in the browser lists via the database name filters node (version specific):

<DefaultBrowserDatabaseNameFilter{version} />

Example: <DefaultBrowserDatabaseNameFilter2017>R17</DefaultBrowserDatabaseNameFilter2017> would show only databases in the browser of Revit 2017 which contain the characters ‘R17’ in their name.

BIM List Cloud Settings

In addition to the settings which control the browser and admin, some BIM List Cloud specific defaults are defined in the settings files.

<BIMListCloudServiceAddress/> defines the entry point to the BIM List Cloud Service. This should not need to be changed.

<AlwaysUseDefaultBrowserKeyFile/> defines whether BIM List Browser will offer the user a choice to pick a key when connecting. This can also be set in the user interface.

Setting up the default keys for BIM List Cloud use (optional)

Organizations using BIM List Cloud can generate and deploy the default keys to use for access to the cloud service via log on scripts or deployment packages. Using the processes described in the BIM Project Suite User Guide (beginning on page 56), create a Browser key file with the desired levels of access. The Browser add-in will find the key files with the default name and automatically configure the connections. The key name must be “BIM List Browser Key.blbk” and should be deployed to the “%appdata%\CTC\BIM-List” folder. *Alternatively, set the path to a network share containing the default key file.*

Admin keys can also be deployed to the same location and must be named “BIM List Admin Key.blak”. As mentioned in the guide, *it is not recommended to provide the Master Key File to all BIM List Admins*. Instead, generate the admin key files with the maximum level of access required.

Controlling Family Processor

The Family Processor tool, available in BIM Manager Suite, allows users to make many changes to one or more family files.

A settings file, which can be pushed out to workstations, controls some of the options in Family Processor.

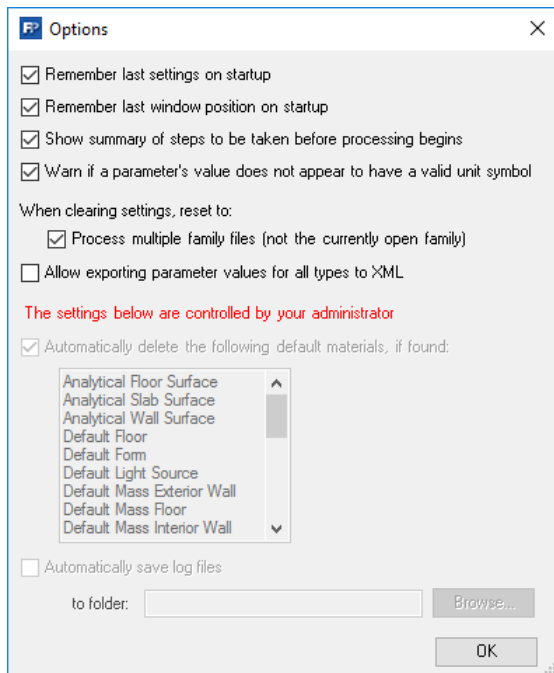
This settings file is initially created on Family Processor startup, and is located here:

C:\ProgramData\CTC\Family Processor\Family Processor Options.xml

The contents of this file look like this:

```
<?xml version="1.0" encoding="utf-8"?>
<AutoDeleteDefaultMaterials>true</AutoDeleteDefaultMaterials>
<AutoSaveLogFiles>>false</AutoSaveLogFiles>
<AutoSaveLogFilesToFolder />
</FamilyProcessorOptions>
```

If the current user does not have permission to update this file, the options in Family Processor will alert them that they cannot change these settings:



Controlling Model Compare

The Model Compare tool, available in BIM Project Suite, allows users take data “snapshots” of a project file and compare the differences. These snapshots can also be scheduled to run, for example after regular business hours.

It has several settings files which control how it operates. Most of these files are simple XML or text files whose settings are self-explanatory.

These files are all stored in the **%PROGRAMDATA%\CTC\Model Compare** folder. These files can be pushed out by a system administrator to control the behavior of Model Compare.

IMPORTANT: The default versions of these files may not appear until after the Model Compare tool is launched the first time.

ModelCompareDefaultSettings.xml

This file controls much of how the main Model Compare add-in runs. These are the default values of interest:

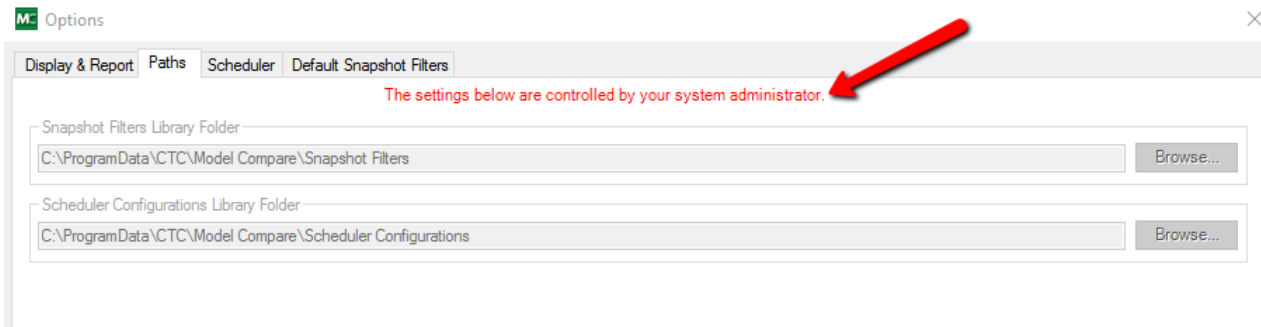
```
<DefaultSnapshotFilterSettingsFile>C:\ProgramData\CTC\Model Compare\ModelCompareDefaultSnapshotFilters.xml</DefaultSnapshotFilterSettingsFile>
<CreateScheduledSnapshotLogFiles>true</CreateScheduledSnapshotLogFiles>
<AutoDeleteOldLogFiles>true</AutoDeleteOldLogFiles>
<AutoDeleteLogFilesOlderThanDays>14</AutoDeleteLogFilesOlderThanDays>
<ScheduledSnapshotLogFilesFolder>C:\ProgramData\CTC\Model Compare\Scheduler Logs</ScheduledSnapshotLogFilesFolder>
<WorkToDoFolder>C:\ProgramData\CTC\Model Compare\Next Scheduled Work To Do</WorkToDoFolder>
<ShowTakeSnapshotToolBarButton>true</ShowTakeSnapshotToolBarButton>
<ShowEditFiltersLibraryToolBarButton>true</ShowEditFiltersLibraryToolBarButton>
<ShowEditScheduleConfigsToolBarButton>true</ShowEditScheduleConfigsToolBarButton>
<ShowSchedulerToolBarButton>true</ShowSchedulerToolBarButton>
<FolderBrowserShowsSavedUNCPaths>true</FolderBrowserShowsSavedUNCPaths>
<SnapshotFiltersLibraryFolder>C:\ProgramData\CTC\Model Compare\Snapshot Filters</SnapshotFiltersLibraryFolder>
<SchedulerConfigurationsLibraryFolder>C:\ProgramData\CTC\Model Compare\Scheduler Configurations</SchedulerConfigurationsLibraryFolder>
<DateFormat>yyyy-MM-dd</DateFormat>
<DefaultFileNameComponentSeparatorCharacter>_</DefaultFileNameComponentSeparatorCharacter>
<FileNameIllegalCharacterReplacementCharacter>-</FileNameIllegalCharacterReplacementCharacter>
<ShowSchedulerInstructions>true</ShowSchedulerInstructions>
```

The name of each setting should be fairly self-descriptive.

The highlighted options cannot be edited within the Model Compare add-in itself. They can only be edited by modifying this file in a text editor, such as Notepad. The *WorkToDoFolder* is the folder in which the add-in looks for work to do on Revit startup. A file may be placed there by the scheduler which tells it what to do in terms of the project file to open and what to plot and/or export from that project.

When *FolderBrowserShowsSavedUNCPaths* is true (the default) any “favorite” UNC paths **that don’t have drive letters mapped** and are saved in Windows will be available under the “This PC” node when browsing for folders. However, when this is set, if the “Network” node is expanded, domain computers will not be visible.

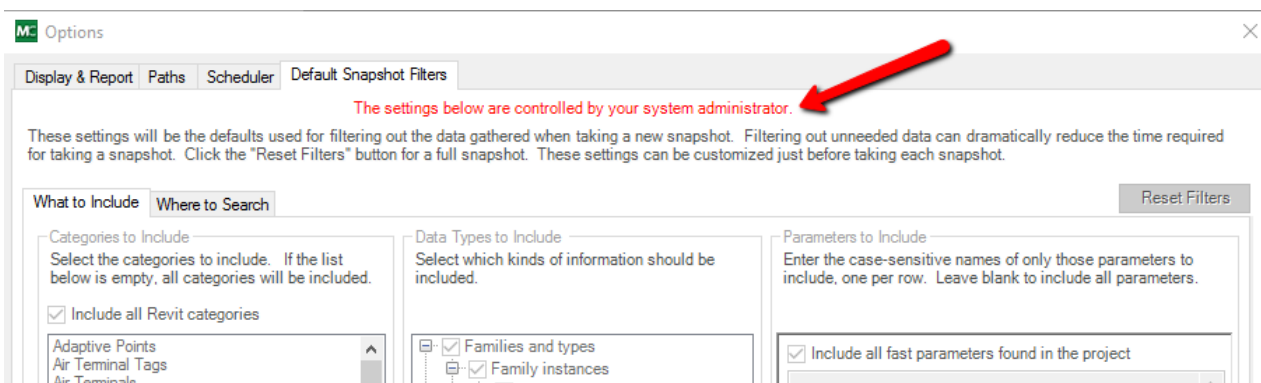
If this file is not writeable by the user, whether by file permissions or simply setting the ReadOnly attribute, the user will not be able to make changes to these settings, and will see a notification such as:



ModelCompareDefaultSnapshotFilters.xml

This file contains the default snapshot filters that will be used whenever the user clicks the “Take Snapshot” button. The user can always change the filter settings to use for actually taking their snapshot, these are just the default values that appear when they first specify to take a snapshot.

If this file is not writeable by the user, whether by file permissions or simply setting the ReadOnly attribute, the user will not be able to make changes to these settings, and will see a notification such as:



FileOpenDialogAutomation.txt

This file controls how pop-up dialogs are automatically dismissed when a Revit file is opened during scheduled snapshot processing. The default file is written based on the **English** version of Revit, but can be edited to work in other languages.

While detailed instructions are provided in the file itself, here is a small example:

TitleContains=Audit Warning
 ButtonAction=Yes

TitleContains=Opening Worksets
 ButtonAction=OK

TitleContains=Copied Central Model
 ButtonAction=Close

When using Model Compare if you see an (English) window that pops up during processing and doesn't go away automatically, please contact support@ctcsoftware.com with that information and screen image so the necessary rule can be added to the next release of Project and Families Upgrader.

But in the meantime, you can edit this file yourself to prevent a dialog from appearing which would then stop the scheduled processing.

Email SMTP Server Settings.xml

This file controls how the email SMPT server is defined for Model Compare to use for sending emails (e.g. sending log files). It is where settings seen on the "Email Server Settings" area of the "Scheduler" tab of the Options are stored. If this file is not writeable by the user, whether by file permissions or simply setting the ReadOnly attribute, the edit controls will be disabled and the user will see the following:

The screenshot shows the 'Options' dialog box with the 'Scheduler' tab selected. The 'Email Server Settings' section is highlighted, and a red arrow points to the text 'The settings below are controlled by your system administrator'. The settings are as follows:

- ☒ Show scheduler instructions
- Default date format: yyyy-MM-dd
- Default file naming separator: <Underscore>
- Replace invalid file naming characters with: -
- ☒ Save log files
- ☒ Delete log files older than 14 days
- Log files folder: C:\ProgramData\CTC\Model Compare\Scheduler Logs
- Email Server Settings**
 - The settings below are controlled by your system administrator
 - Email (SMTP) server: [disabled text box]
 - Email server port: 25
 - From/Reply To address: [disabled text box]
 - ☐ This server requires authentication
 - Username: [disabled text box]
 - Password: [disabled text box]
 - ☐ Send messages securely using SSL
 - Send Test Message To: [disabled text box]

The main contents of this file are as follows (default values shown):

```
<ApplicationDisplayName>Model Compare</ApplicationDisplayName>
<EmailServer />
<EmailServerPort>25</EmailServerPort>
<EmailFromAddress />
<EmailFromDisplayText>Model Compare</EmailFromDisplayText>
<EmailServerRequiresAuthentication>>false</EmailServerRequiresAuthentication>
<EmailServerAuthUserName />
<EmailServerAuthPassword />
<EmailServerSendUsingSSL>>false</EmailServerSendUsingSSL>
```

The highlighted items cannot be edited within the application. For some email servers, when providing a valid “from address” it will force the “from display text” in the emails sent to match the user name for that email account. However, some mail servers do not require providing an existing “from address,” so if a made-up from address is provided, perhaps “modelcompare@mydomain.com” then the text set here will be seen in the “From” field of email messages sent.

IMPORTANT: The “EmailServerAuthPassword” value **cannot** be edited directly in this file using a text editor. This is because Model Compare stores that password in an encrypted format. Here is an example demonstrating this:

```
<ApplicationDisplayName>Plotter and Exporter</ApplicationDisplayName>
<EmailServer>MyMailServer</EmailServer>
<EmailServerPort>25</EmailServerPort>
<EmailFromAddress>PlotterAndExporter@mydomain.com</EmailFromAddress>
<EmailFromDisplayText>Plotter and Exporter</EmailFromDisplayText>
<EmailServerRequiresAuthentication>true</EmailServerRequiresAuthentication>
<EmailServerAuthUserName>MyUserName</EmailServerAuthUserName>
<EmailServerAuthPassword>e78N9k8ueGGqBOYzpCU3J8vcA86eFwJLPcxXioAz0lg=</EmailServerAuthPassword>
<EmailServerSendUsingSSL>>false</EmailServerSendUsingSSL>
```

The add-in will need to be used to specify the password, but the other values in this file may be edited with a text editor at a later time, if desired.

TaskSchedulerDefaultSettings.xml

This file controls the default values that are applied when a new Model Compare configuration file is added to the list for processing when defining a scheduled task. These are the default settings.

```
<SaveLogFiles>true</SaveLogFiles>
<SaveLogFilesFolder>C:\ProgramData\CTC\Model Compare\Export Logs</SaveLogFilesFolder>
<DeleteOldLogFiles>true</DeleteOldLogFiles>
<DeleteOldLogFilesOlderThanDays>14</DeleteOldLogFilesOlderThanDays>
<EmailLogFiles>>false</EmailLogFiles>
<EmailLogFilesRecipient />
<AutoRunLowestRevitVersion>true</AutoRunLowestRevitVersion>
<SpecificRevitEXETorun />
<OpenRevitFilesWithAudit>>false</OpenRevitFilesWithAudit>
```

These settings are self-explanatory, and correspond directly with the configuration file settings user interface in the scheduler.

TaskSchedulerClientSettings.xml

This configuration file controls how the Plotter and Exporter add-in communicates with the task scheduler, **and generally should not be edited.**

ScheduledExecutableSettings.xml

This configuration file controls the program which launches Revit at a scheduled time. The following lines from this file may be reasonable to edit:

```
<ScheduledProcessorWritesLogFiles>true</ScheduledProcessorWritesLogFiles>
<ScheduledProcessorLogFilesFolder>C:\ProgramData\CTC\Model Compare\Scheduled Task Logs</ScheduledProcessorLogFilesFolder>
<ScheduledProcessorLogFileDetailLevel>0</ScheduledProcessorLogFileDetailLevel>
<AutoDeleteOldScheduledProcessorLogFiles>true</AutoDeleteOldScheduledProcessorLogFiles>
<AutoDeleteScheduledProcessorLogFilesOlderThanDays>14</AutoDeleteScheduledProcessorLogFilesOlderThanDays>
<EmailScheduledProcessorLogFiles>false</EmailScheduledProcessorLogFiles>
<EmailSMTPServerSettingsFile>C:\ProgramData\CTC\Model Compare\Email SMTP Server Settings.xml</EmailSMTPServerSettingsFile>
<EmailScheduledProcessorLogFilesToRecipientAddresses />
<RevitAddInKeepsScheduledLogFiles>true</RevitAddInKeepsScheduledLogFiles>
<LaunchRevitInvisibly>true</LaunchRevitInvisibly>
<RunBeforeScriptInvisibly>false</RunBeforeScriptInvisibly>
<RunAfterScriptInvisibly>false</RunAfterScriptInvisibly>
<MaximumRevitLaunchTimeOutInSeconds>0</MaximumRevitLaunchTimeOutInSeconds>
<RunRevitAsAdmin>false</RunRevitAsAdmin>
<RunBeforeScriptAsAdmin>false</RunBeforeScriptAsAdmin>
<RunAfterScriptAsAdmin>false</RunAfterScriptAsAdmin>
```

The scheduled processor log files are always saved in comma-delimited (*.csv) file format. These log files list things like what task is being processed, what project file is being processed, what version of Revit is about to be launched, etc.

A ScheduledProcessorLogFileDetailLevel of 0 will store only those events from the scheduler itself, as mentioned immediately above. A value of 1 will include the details of the taking of the snapshot as well.

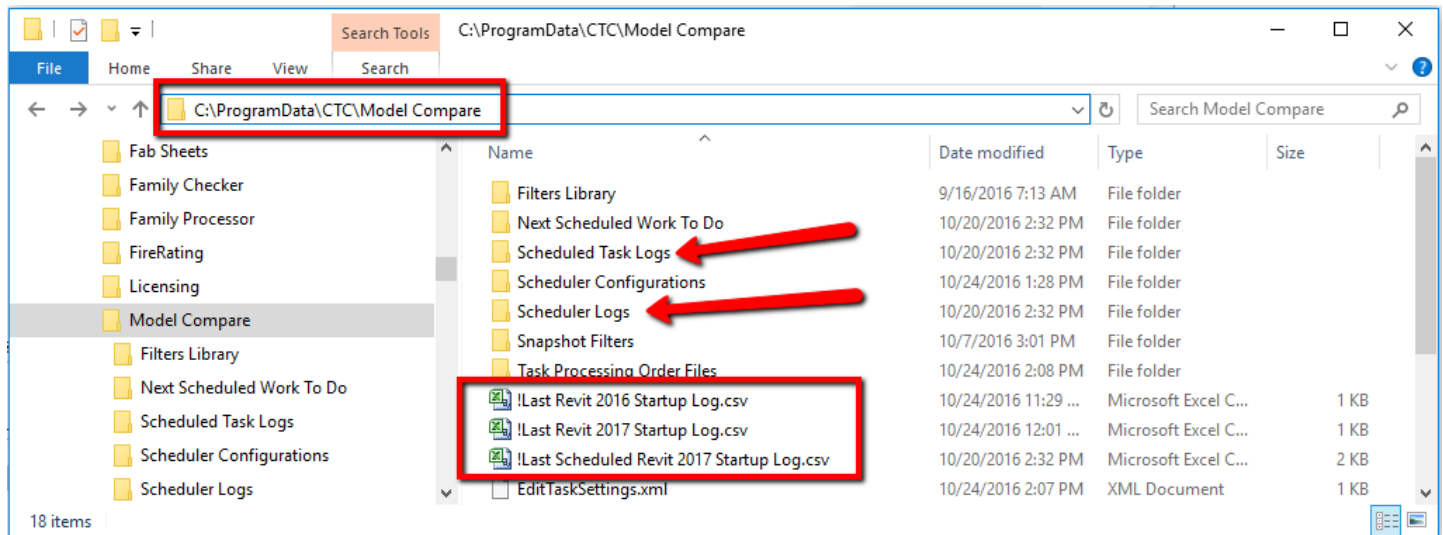
By default, any script or program set to run before or after the export will be run visibly (e.g. with a visible window). These two settings can be changed here if it's desirable to have these run without a window. Running them with a window may be useful for testing or debugging a script, for example.

A MaximumRevitLaunchTimeOutInSeconds value of 0 will allow each Revit session opened (one per project file to process) to run as long as required. A value greater than zero will force the Revit process to be terminated if it runs for longer than the value specified.

RunRevitAsAdmin, RunBeforeScriptAsAdmin and RunAfterScriptAsAdmin control whether or not these things are run with the highest permissions the user has. Default values are False. On some systems (e.g. Windows 10 with User Account Control turned on) this can stop the scheduled processing by prompting whether or not it's ok to allow the software (including Revit) being launched to make changes to the system. However, if for some reason these do need to be run with the highest privileges that can be accomplished by changing these values to true. They are false by default to ensure maximum security.

Scheduler Troubleshooting Tools

The primary tools for troubleshooting issues are the log files. These can be found in the following locations:



The “Scheduler Logs” folder contains the “mlog” XML files which have information about the actual snapshot creation process from a Revit project. These don’t usually list much information, but can include details about why a snapshot file couldn’t be created due to something like permissions issues.

The “Scheduled Task Logs” folder contains friendlier CSV files with similar information. These can readily be opened in spreadsheet software.

The “!Last Scheduled Revit 201x Startup Log.csv” files contain information generated when Revit starts up after the last time it was launched by the scheduler. These logs show what Revit did on startup, such as to where it copied a central file temporarily for opening as a new central file for processing, and other information about the processing that occurred within Revit as a result of the scheduler launching Revit.

The “!Last Revit 201x Startup Log.csv” files contain information generated the last time Revit started up, whether or not it was started by the scheduler. Most of the time these files report there’s no work for Model Compare to do, but the information will match the information found in the last **scheduled** startup log file if the scheduler was the last thing to launch Revit.

Controlling Plotter and Exporter

The Plotter and Exporter tool, available in BIM Batch Suite, allows users to plot and export from the currently open project (using the “Run Now” button) or they can schedule a plot and/or export to happen in the future.

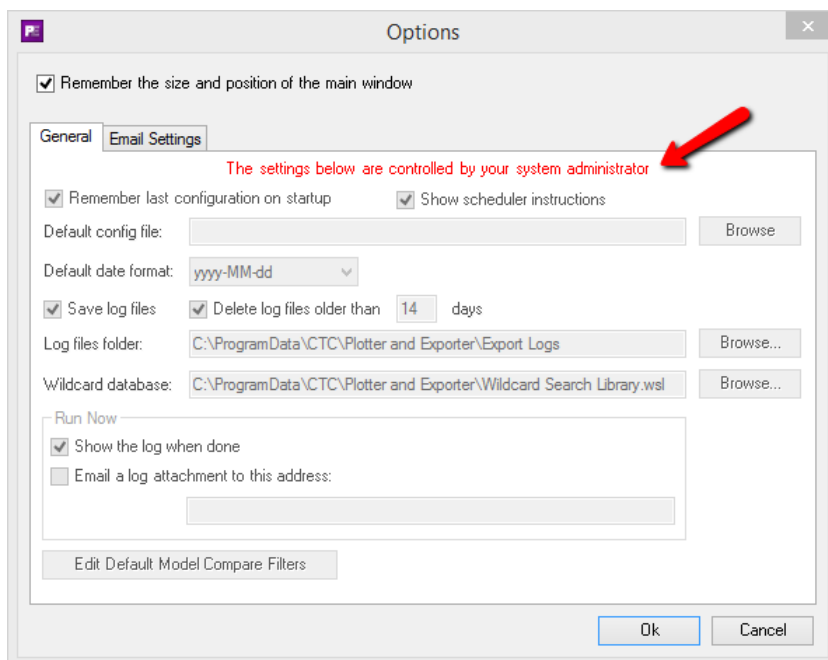
It has several settings files which control how it operates. Most of these files are simple XML or text files whose settings are self-explanatory.

These files are all stored in the **%PROGRAMDATA%\CTC\Plotter and Exporter** folder. These files can be pushed out by a system administrator to control the behavior of Plotter and Exporter.

IMPORTANT: The default versions of these files may not appear until after the Plotter and Exporter tool is launched the first time.

PlotterandExporterDefaultSettings.xml

This file controls most of how the main Plotter and Exporter add-in runs. It is where settings seen on the “General” tab of the Options are stored. If this file is not writeable by the user, whether by file permissions or simply setting the ReadOnly attribute, the edit controls will be disabled and the user will see the following:



The main contents of this file are as follows (default values shown):

```

<DefaultConfigFile />
<RememberLastConfigOnStartup>true</RememberLastConfigOnStartup>
<CreateLogFiles>true</CreateLogFiles>
<AutoDeleteOldLogFiles>true</AutoDeleteOldLogFiles>
<AutoDeleteLogFilesOlderThanDays>14</AutoDeleteLogFilesOlderThanDays>
<LogFilesFolder>C:\ProgramData\CTC\Plotter and Exporter\Export Logs</LogFilesFolder>
<WildcardSearchLibraryDatabaseFileName>C:\ProgramData\CTC\Plotter and Exporter\Wildcard Search
Library.wsl</WildcardSearchLibraryDatabaseFileName>
<DateFormat>yyyy-MM-dd</DateFormat>
<RunNowShowLogWhenDone>true</RunNowShowLogWhenDone>
<RunNowEmailLog>false</RunNowEmailLog>
<RunNowEmailToAddress />
<MaxTimeInSecondsToRetryPDFFileWriteStart>15</MaxTimeInSecondsToRetryPDFFileWriteStart>
<MaxTimeInSecondsToRetryPDFFileWriteComplete>15</MaxTimeInSecondsToRetryPDFFileWriteComplete>
<ShowSchedulerInstructions>true</ShowSchedulerInstructions>
<WorkToDoFolder>C:\ProgramData\CTC\Plotter and Exporter\Next Scheduled Work To Do</WorkToDoFolder>
<HideRunNowToolBarButton>false</HideRunNowToolBarButton>
<HideSchedulerToolBarButton>false</HideSchedulerToolBarButton>
<FolderBrowserShowsSavedUNCPaths>true</FolderBrowserShowsSavedUNCPaths>
<WildcardFilteringAllowUsingAdditionalParameters>true</WildcardFilteringAllowUsingAdditionalParameters>

<WildcardFilteringAdditionalParametersLibraryFileName>C:\ProgramData\CTC\Plotter and
Exporter\WildcardFilteringAdditionalParametersLibrary.xml</WildcardFilteringAdditionalParametersLibraryFileName>

<WildcardFilteringIncludeAdditionalParametersByDefault>true</WildcardFilteringIncludeAdditionalParametersByDefault>
<WildcardFilteringWarnIfUnitSymbolsMissing>true</WildcardFilteringWarnIfUnitSymbolsMissing>

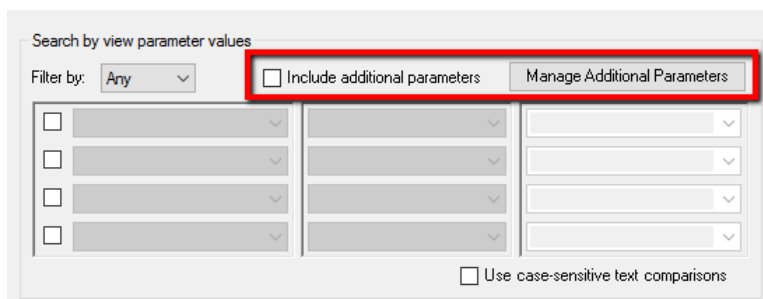
<WildcardFilteringExcludedParametersListFileName>C:\ProgramData\CTC\Plotter and
Exporter\WildcardFilteringExcludedParametersList.txt</WildcardFilteringExcludedParametersListFileName>

```

The highlighted options cannot be edited within the Plotter and Exporter add-in itself. They can only be edited by modifying this file in a text editor, such as Notepad. The *WorkToDoFolder* is the folder in which the add-in looks for work to do on Revit startup. A file may be placed there by the scheduler which tells it what to do in terms of the project file to open and what to plot and/or export from that project.

When *FolderBrowserShowsSavedUNCPaths* is true (the default) any “favorite” UNC paths **that don’t have drive letters mapped** and are saved in Windows will be available under the “This PC” node when browsing for folders. However, when this is set, if the “Network” node is expanded, domain computers will not be visible.

When *WildcardFilteringAllowUsingAdditionalParameters* is true, the user is allowed to edit the list of “additional parameters” from which they can choose when building a wildcard search for views or sheets, and control whether or not they are used in the list of choices. This is helpful because Plotter and Exporter allows building settings to use on many project files, and parameters in other project files may not be available as choices in the currently open project file. The highlighted controls below will be visible and accessible:



The *WildcardFilteringAdditionalParametersLibraryFileName* value controls the location of the file which lists the additional parameters add to the list of choices.

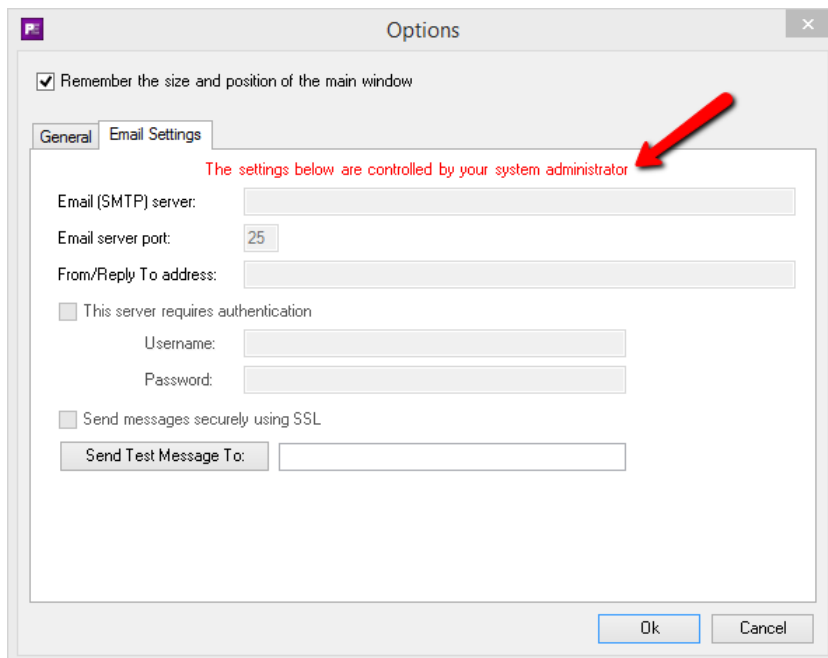
When *WildcardFilteringIncludeAdditionalParametersByDefault* is true, by default any additional parameters will be in the list of choices when the user starts the add-in. Even if *WildcardFilteringAllowUsingAdditionalParameters* is false (denying the user to control their use and their definitions) if *WildcardFilteringIncludeAdditionalParametersByDefault* is true, any parameters defined in the file will be on the list of choices. The user will simply not be able to get them out of the list of choices or change their definitions.

When *WildcardFilteringWarnIfUnitSymbolsMissing* is true, if the user enters a comparison value for a parameter whose type has units of measure, if the user doesn't enter units of measure, a warning will appear with a list of choices of valid units of measure which the user can copy and paste into the comparison value field.

The *WildcardFilteringExcludedViewParametersListFileName* and *WildcardFilteringExcludedSheetParametersListFileName* values control the file names whose contents list the names of parameters that should never be visible to the user. These may be common parameters that would never be needed for wildcard searching, and would otherwise just clutter the list of choices the user has to read.

Email SMTP Server Settings.xml

This file controls how the email SMPT server is defined for Plotter and Exporter to use for sending emails (e.g. sending log files). It is where settings seen on the "Email Settings" tab of the Options are stored. If this file is not writeable by the user, whether by file permissions or simply setting the ReadOnly attribute, the edit controls will be disabled and the user will see the following:



The main contents of this file are as follows (default values shown):

```
<ApplicationDisplayName>Plotter and Exporter</ApplicationDisplayName>
<EmailServer />
<EmailServerPort>25</EmailServerPort>
<EmailFromAddress />
<EmailFromDisplayText>Plotter and Exporter</EmailFromDisplayText>
<EmailServerRequiresAuthentication>>false</EmailServerRequiresAuthentication>
<EmailServerAuthUserName />
<EmailServerAuthPassword />
<EmailServerSendUsingSSL>>false</EmailServerSendUsingSSL>
```

The highlighted items cannot be edited within the application. For some email servers, when providing a valid “from address” it will force the “from display text” in the emails sent to match the user name for that email account. However, some mail servers do not require providing an existing “from address,” so if a made-up from address is provided, perhaps “plotterandexporter@mydomain.com” then the text set here will be seen in the “From” field of email messages sent.

IMPORTANT: The “EmailServerAuthPassword” value **cannot** be edited directly in this file using a text editor. This is because Plotter and Exporter stores that password in an encrypted format. Here is an example demonstrating this:

```
<ApplicationDisplayName>Plotter and Exporter</ApplicationDisplayName>
<EmailServer>MyMailServer</EmailServer>
<EmailServerPort>25</EmailServerPort>
<EmailFromAddress>PlotterAndExporter@mydomain.com</EmailFromAddress>
<EmailFromDisplayText>Plotter and Exporter</EmailFromDisplayText>
<EmailServerRequiresAuthentication>true</EmailServerRequiresAuthentication>
<EmailServerAuthUserName>MyUserName</EmailServerAuthUserName>
<EmailServerAuthPassword>e78N9k8ueGGqBOYzpCU3J8vcA86eFwJLPcxXioAz0lg=</EmailServerAuthPassword>
<EmailServerSendUsingSSL>>false</EmailServerSendUsingSSL>
```

The add-in will need to be used to specify the password, but the other values in this file may be edited with a text editor at a later time, if desired.

TaskSchedulerDefaultSettings.xml

This file controls the default values that are applied when a new Plotter and Exporter configuration file is added to the list for processing when defining a scheduled task. These are the default settings.

```
<SaveLogFiles>true</SaveLogFiles>
<SaveLogFilesFolder>C:\ProgramData\CTC\Plotter and Exporter\Export Logs</SaveLogFilesFolder>
<DeleteOldLogFiles>true</DeleteOldLogFiles>
<DeleteOldLogFilesOlderThanDays>14</DeleteOldLogFilesOlderThanDays>
<EmailLogFiles>>false</EmailLogFiles>
<EmailLogFilesRecipient />
<AutoRunLowestRevitVersion>true</AutoRunLowestRevitVersion>
<SpecificRevitEXEToRun />
<OpenRevitFilesWithAudit>>false</OpenRevitFilesWithAudit>
```

By default, the “SaveLogFilesFolder” value is the same as the regular log files folder. The setting in this file specifies where to save log files to for scheduled exports, whereas the “LogFilesFolder” value in the PlotterAndExporterDefaultSettings.xml specifies where to store logs when the “Run Now” button is clicked.

While not required to be the same folder, it’s helpful to have them match so reviewing logs within the Plotter and Exporter add-in will easily show all the logs from both “Run Now” and scheduled exports in one, convenient list.

TaskSchedulerClientSettings.xml

This configuration file controls how the Plotter and Exporter add-in communicates with the task scheduler, **and generally should not be edited.**

ScheduledExecutableSettings.xml

This configuration file controls the program which launches Revit at a scheduled time. The following lines from this file may be reasonable to edit:

```
<ScheduledProcessorWritesLogFiles>true</ScheduledProcessorWritesLogFiles>
<ScheduledProcessorLogFilesFolder>C:\ProgramData\CTC\Plotter and Exporter\Scheduled Task Logs</ScheduledProcessorLogFilesFolder>
<ScheduledProcessorLogFileDetailLevel>0</ScheduledProcessorLogFileDetailLevel>
<AutoDeleteOldScheduledProcessorLogFiles>true</AutoDeleteOldScheduledProcessorLogFiles>
<AutoDeleteScheduledProcessorLogFilesOlderThanDays>14</AutoDeleteScheduledProcessorLogFilesOlderThanDays>
<EmailScheduledProcessorLogFiles>false</EmailScheduledProcessorLogFiles>
<EmailSMTPServerSettingsFile>C:\ProgramData\CTC\Plotter and Exporter\Email SMTP Server Settings.xml</EmailSMTPServerSettingsFile>
<EmailScheduledProcessorLogFilesToRecipientAddresses />
<RevitAddInKeepsScheduledLogFiles>true</RevitAddInKeepsScheduledLogFiles>
<LaunchRevitInvisibly>true</LaunchRevitInvisibly>
<RunBeforeScriptInvisibly>false</RunBeforeScriptInvisibly>
<RunAfterScriptInvisibly>false</RunAfterScriptInvisibly>
<MaximumRevitLaunchTimeOutInSeconds>0</MaximumRevitLaunchTimeOutInSeconds>
<RunRevitAsAdmin>false</RunRevitAsAdmin>
<RunBeforeScriptAsAdmin>false</RunBeforeScriptAsAdmin>
<RunAfterScriptAsAdmin>false</RunAfterScriptAsAdmin>
```

The scheduled processor log files are always saved in comma-delimited (*.csv) file format. These log files list things like what task is being processed, what project file is being processed, what version of Revit is about to be launched, etc.

A ScheduledProcessorLogFileDetailLevel of 0 will store only those events from the scheduler itself, as mentioned immediately above. A value of 1 will include the details of the export as well, which are the same as normally seen within the add-in at the end of a “Run Now” execution. These will include things like when the current printer settings are changed, which view is being exported to which file, etc.

If RevitAddInKeepsScheduledLogFiles is set to false, then the export logs will not be saved (will not appear in the “View Log” list within the add-in. In that case, only the export logs when the “Run Now” button was clicked would be available for viewing.

By default, any script or program set to run before or after the export will be run visibly (e.g. with a visible window). These two settings can be changed here if it’s desirable to have these run without a window. Running them with a window may be useful for testing or debugging a script, for example.

A MaximumRevitLaunchTimeOutInSeconds value of 0 will allow each Revit session opened (one per project file to process) to run as long as required. A value greater than zero will force the Revit process to be terminated if it runs for longer than the value specified.

RunRevitAsAdmin, RunBeforeScriptAsAdmin and RunAfterScriptAsAdmin control whether or not these things are run with the highest permissions the user has. Default values are False. On some systems (e.g. Windows 10 with User Account Control turned on) this can stop the scheduled processing by prompting whether or not it's ok to allow the software (including Revit) being launched to make changes to the system. However, if for some reason these do need to be run with the highest privileges that can be accomplished by changing these values to true. They are false by default to ensure maximum security.

Dialog Automation Files

FileOpenDialogAutomation.txt

ConfigurationDialogAutomation.txt

ExportProcessingDialogAutomation.txt

These files are all of the same structure and control how pop-up dialogs are automatically dismissed when processing is in progress. They are written based on the **English** version of Revit, but can be edited to work in other languages.

While detailed instructions are provided in the files themselves, here is a small example:

TitleContains=Printing Setting Changed For Shaded Views
ButtonAction=Close

TitleContains=DGN Export Unsupported Elements
ButtonAction=CommandLink1

MessageContains=print settings will be used
ButtonAction=Close

TitleContains=Opening Worksets
ButtonAction=OK

When using Plotter and Exporter if you see an (English) window that pops up during processing and doesn't go away automatically, please contact support@ctcsoftware.com with that information and screen image so the necessary rule can be added to the next release of Plotter and Exporter.

But in the meantime, you can edit this file yourself to prevent a dialog from appearing which would then stop the processing.

WildcardFilteringAdditionalParametersLibrary.xml

This file controls the additional parameters that users see when creating a wildcard search for views or sheets. These parameters may be those found in some projects, but not all projects, but should always be available for the user to choose from.

This file should only be edited using Plotter and Exporter itself, via the "Manage Additional Parameters" button on the wildcard definition screen.

WildcardFilteringExcludedViewParametersList.txt & WildcardFilteringExcludedSheetParametersList.txt

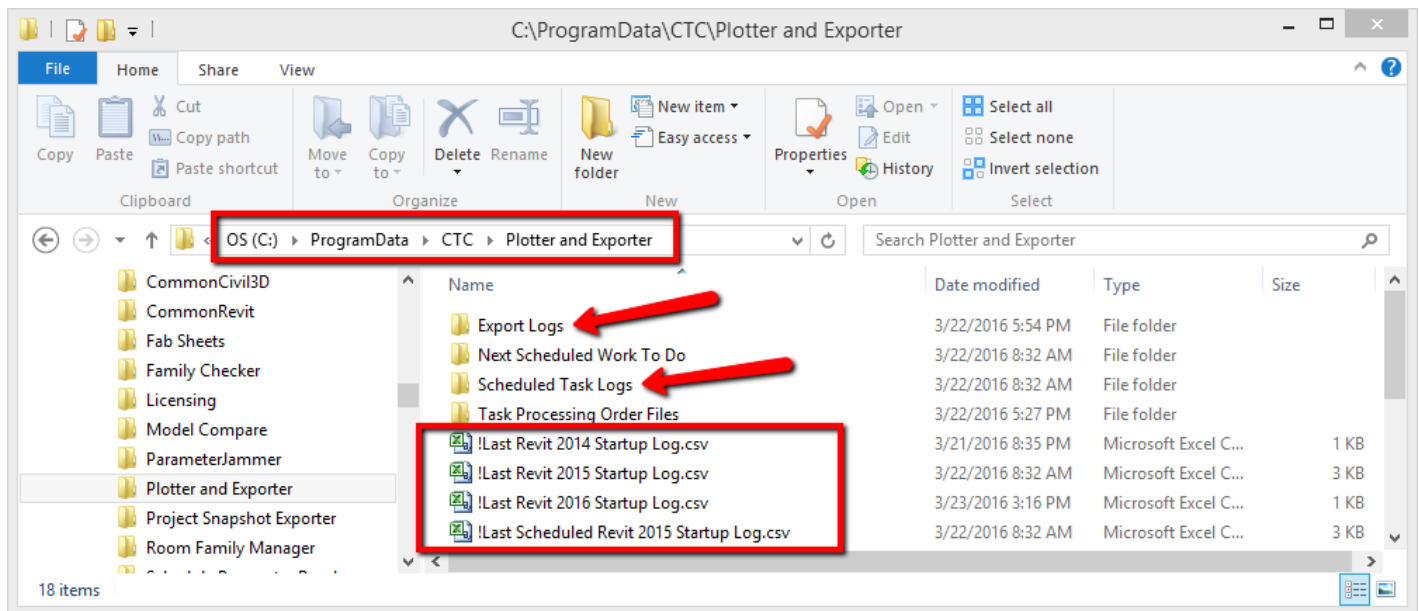
These are simple text files which lists parameters users should never see when building a wildcard search for views or sheets. These may be common parameters that would never be needed for filtering, and would otherwise just clutter the list of choices the user has to read.

This file can only be edited using a text editor, such as notepad. Its contents look like this (top few lines):

```
# Instructions:
#
# - Any line that begins with a pound sign (#) is a comment line and will be ignored.
# - This file contains a list of parameter names which, if found in the project for views
#   WILL NOT appear as choices from which to select parameters for filtering when building a
#   wildcard search for views. This list *is* case-sensitive.
#
# Examples:
# -----
# Annotation Crop
# Associated Datum
# Category
# -----
#
Annotation Crop
Associated Datum
Category
<...>
```

Troubleshooting Tools

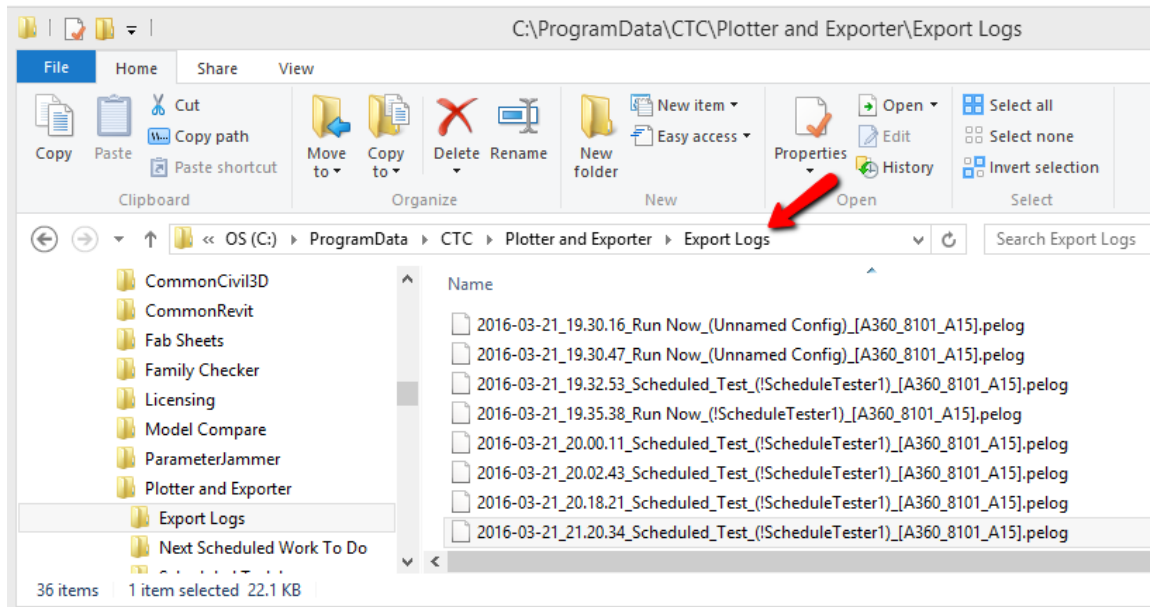
The primary tools for troubleshooting issues are the log files. These can be found in the following locations:



The “Export Logs” folder contains the “pelog” files which have information about the actual export process from a Revit

project. For example, they'll list which views or sheets were found, the locations and filenames of files generated, etc. Pelog files are in XML format, and are really only viewable in the Plotter and Exporter tool directly.

This is why all e-mailed log files are sent in comma-delimited (CSV) file format, so they may easily be opened and read in a spreadsheet program, such as Microsoft Excel, and do not require even having Revit installed to be able to be read. The files in the Export Logs folder may be from either the "Run Now" (manual) exports or the scheduled task (automated) exports.



The "Scheduled Task Logs" folder contains CSV files which are from the task scheduler. These logs contain information such as each of the configuration files and each of the project files being processed, the project files as they were found by the wildcard search, when and which version of Revit is launched for opening and processing each project file, etc.

The "!\Last Scheduled Revit 201x Startup Log.csv" files contain information generated when Revit starts up after the last time it was launched by the scheduler. These logs show what Revit did on startup, such as where it copied a central file temporarily for opening as a new central file for processing, and other information about the processing that occurred within Revit as a result of the scheduler launching Revit.

The "!\Last Revit 201x Startup Log.csv" files contain information generated the last time Revit started up, whether or not it was started by the scheduler. Most of the time these files report there's no work for Plotter and Exporter to do, but the information will match the information found in the last **scheduled** startup log file if the scheduler was the last thing to launch Revit.

These logs can contain important information, for example if there's a general problem with the Plotter and Exporter such that it will never plot or export information until that general problem is fixed.

Controlling Project Snapshot Exporter

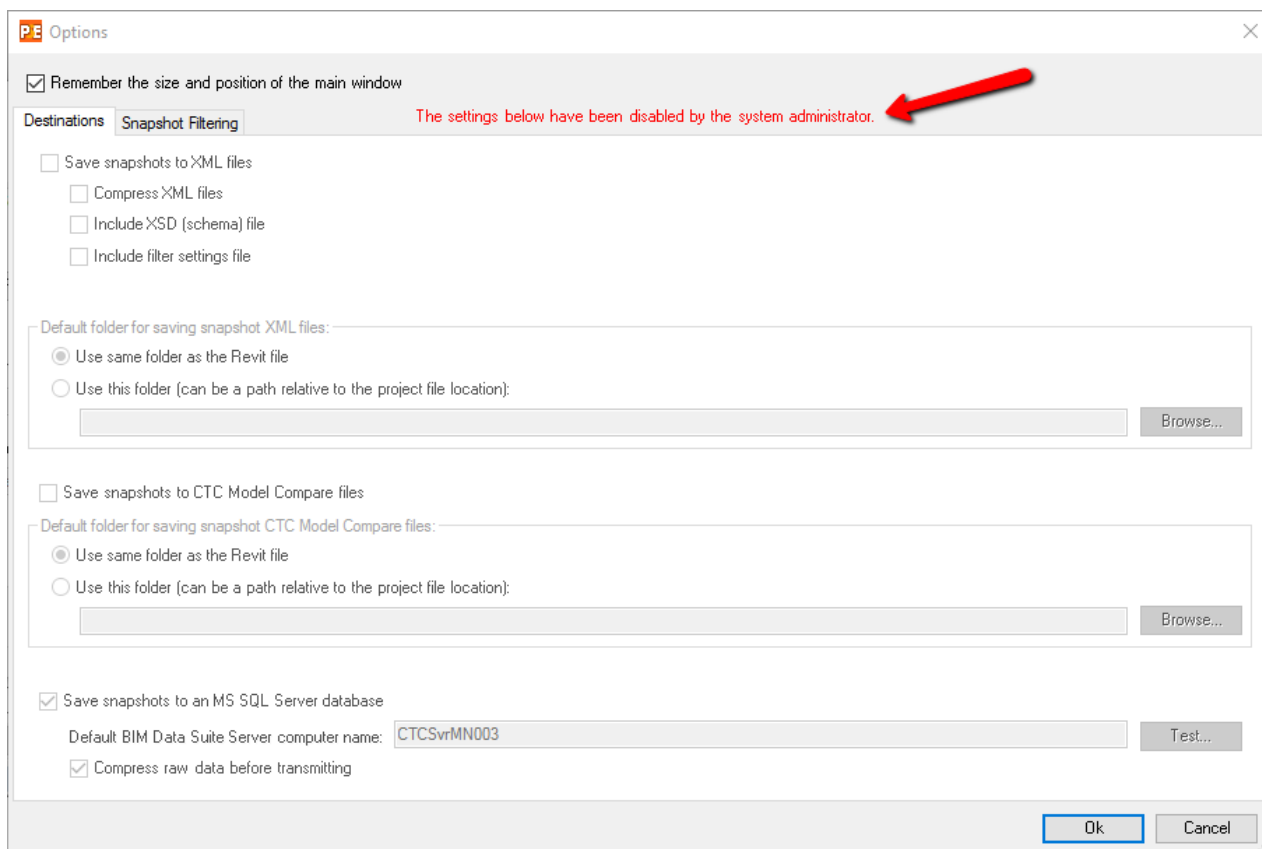
The Project Snapshot Exporter tool, available in BIM Data Suite, allows users to extract data from a Revit project and save that data to an XML file and/or Model Compare file and/or Microsoft SQL server database using BIM Data Suite Server.

The files for controlling Project Snapshot Exporter are initially created upon first running the tool, and are stored in the following folder:

C:\ProgramData\CTC\Project Snapshot Exporter

ProjectSnapshotExporterDefaultSettings.xml

This XML file controls the settings seen in the Options dialog. If the user does not have write permissions to this file (even if it's simply made read-only), they will not be allowed to change the options for this tool:



The settings in this file mirror the settings seen in the image above.

BIM Data Suite Server Connection Timeouts.xml

The settings in this file are self-explanatory, and control how long the tool will wait when sending data to the BIM Data Suite server for storage in a Microsoft SQL Server database. The default values should be high enough for even large data transmissions.

Controlling Projects and Families Upgrader

The Projects and Families Upgrader tool, available in BIM Batch Suite, allows users to upgrade project and family files to the current version of Revit being used.

Dialog Automation Files

FileOpenDialogAutomation.txt

This file will be created automatically the first time Projects and Families Upgrader is run. It is typically located in this folder:

C:\ProgramData\CTC\Projects and Families Upgrader

This file controls how pop-up dialogs are automatically dismissed when a Revit file is opened. The default file is written based on the **English** version of Revit, but can be edited to work in other languages.

While detailed instructions are provided in the file itself, here is a small example:

TitleContains=Audit Warning
ButtonAction=Yes

TitleContains=Opening Worksets
ButtonAction=OK

TitleContains=Copied Central Model
ButtonAction=Close

When using Project and Families Upgrader if you see an (English) window that pops up during processing and doesn't go away automatically, please contact support@ctcsoftware.com with that information and screen image so the necessary rule can be added to the next release of Project and Families Upgrader.

But in the meantime, you can edit this file yourself to prevent a dialog from appearing which would then stop the processing.

Controlling Schedule XL

Schedule XL default settings can be set in two configuration files. These files are called: **GraphicsOptions.xml** and **Options.xml**. They are located in the folder: **%PROGRAMDATA%\CTC\Schedule XL**.

In GraphicsOptions.xml, set defaults for cells, borders, titles, headers and font overrides.

In Options.xml, set the default state for automatic link updating to enabled or disabled.

As is the case with Spreadsheet Drafter, setting this file to a read-only state will prevent changes to these options in the application and will display a user message indicating that the settings are controlled by the administrator.

Controlling Type Swapper

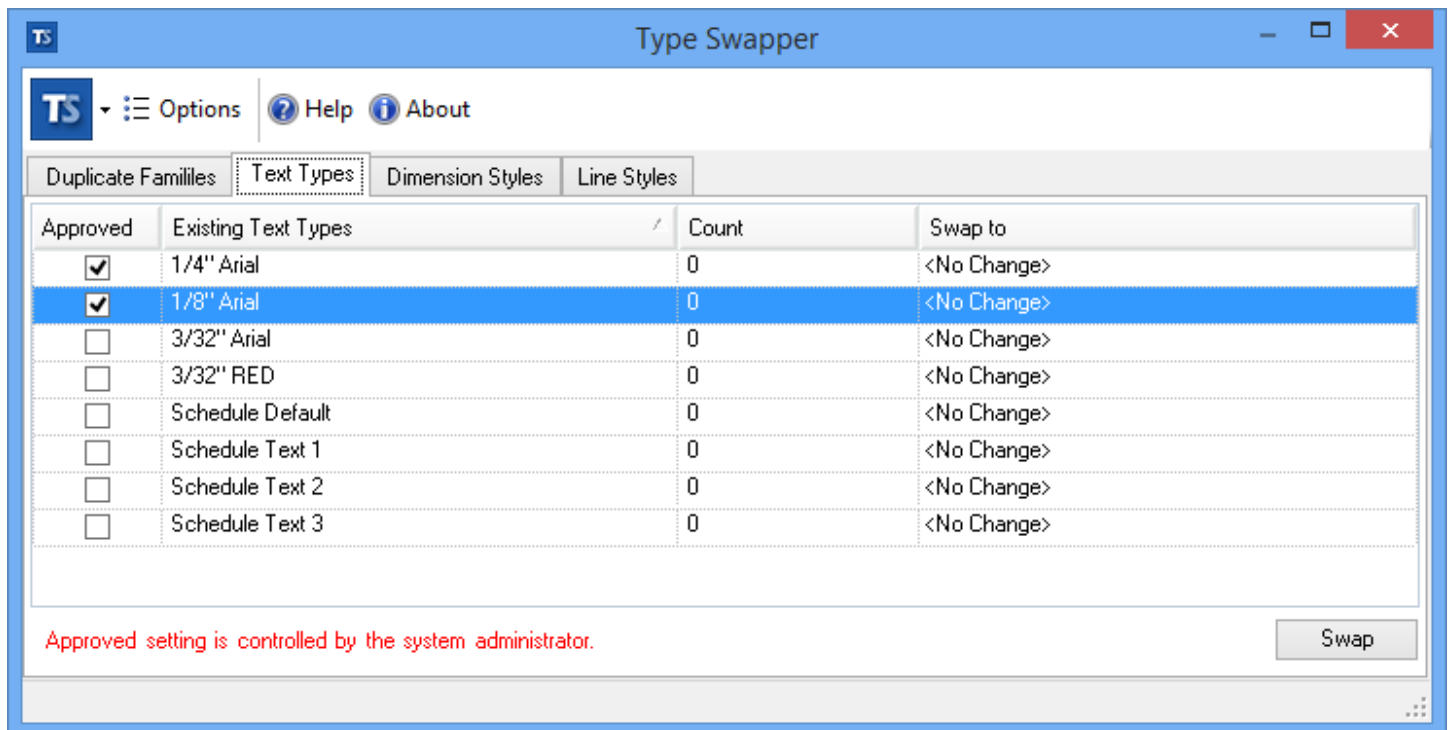
The Type Swapper tool, available in BIM Manager Suite, has a separate settings file which controls how it operates. This settings file is created the first time Type Swapper is launched.

This file is called: **Approved Type Settings.xml**
and is located in the folder: **%PROGRAMDATA%\CTC\Type Swapper**

Note that “%ProgramData%” will get translated to the local ProgramData folder on your computer. For most recent operating systems, this is typically the **C:\ProgramData** folder, which is likely set to be hidden.

If Type Swapper cannot write to this file, even if it's just made read-only, the user will not have the ability to change the approved types and styles within the Type Swapper tool. This can be useful for enforcing company standards.

This is what it looks like when this settings file is not writeable. Note that the Approved column shows the settings, but do not allow the user to change those settings.



Controlling SuperDoor

The SuperDoor tool, available in the CTC SuperDoor Configurator, has a separate settings file which controls how it operates. This settings file is created the first time SuperDoor is launched.

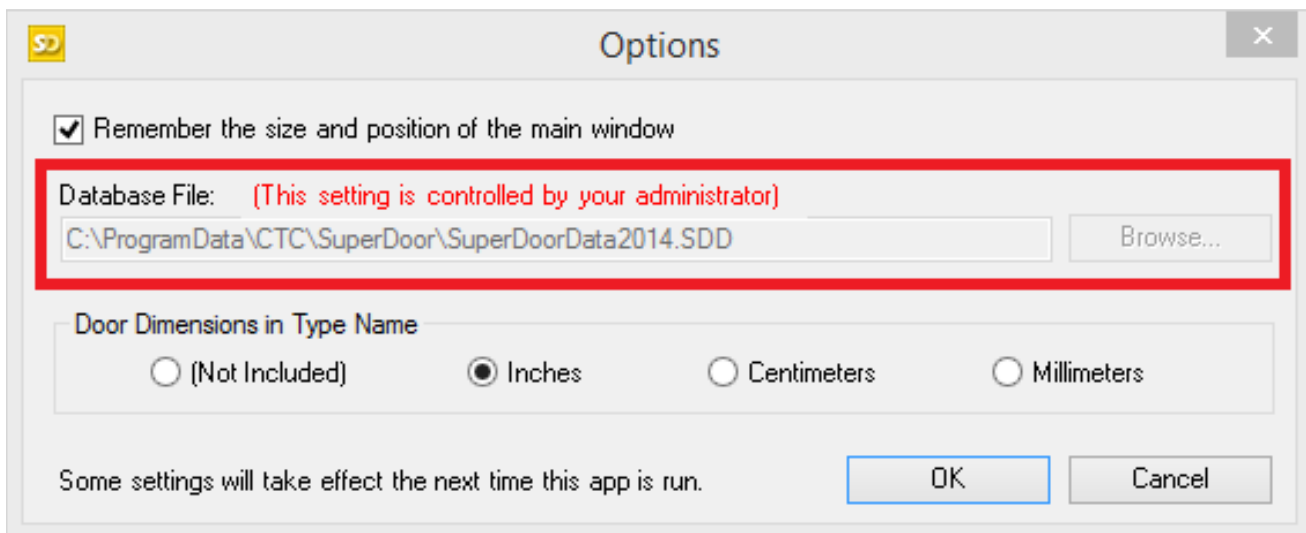
This file is called: **SuperDoor202x.settings**
and is located in the folder: **%PROGRAMDATA%\CTC\SuperDoor**

Note that “%ProgramData%” will get translated to the local ProgramData folder on your computer. For most recent operating systems, this is typically the **C:\ProgramData** folder, which is likely set to be hidden.

The “202x” will match the version of Revit in which it is used, for example: SuperDoor2021.settings

If the SuperDoor addin cannot write to this file, even if it's just made read-only, the user will not have the ability to change the SuperDoor database being used by this tool. This can be useful for enforcing a single database be used by certain users.

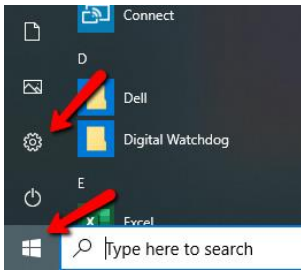
This is what it looks like when this settings file is not writeable.



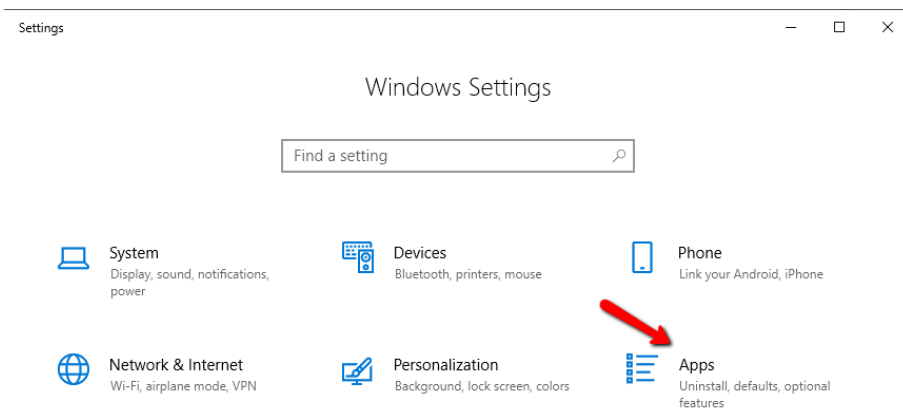
Revit Workstation Uninstallation

There are several ways to remove a CTC Express Tools suite from a Revit workstation.

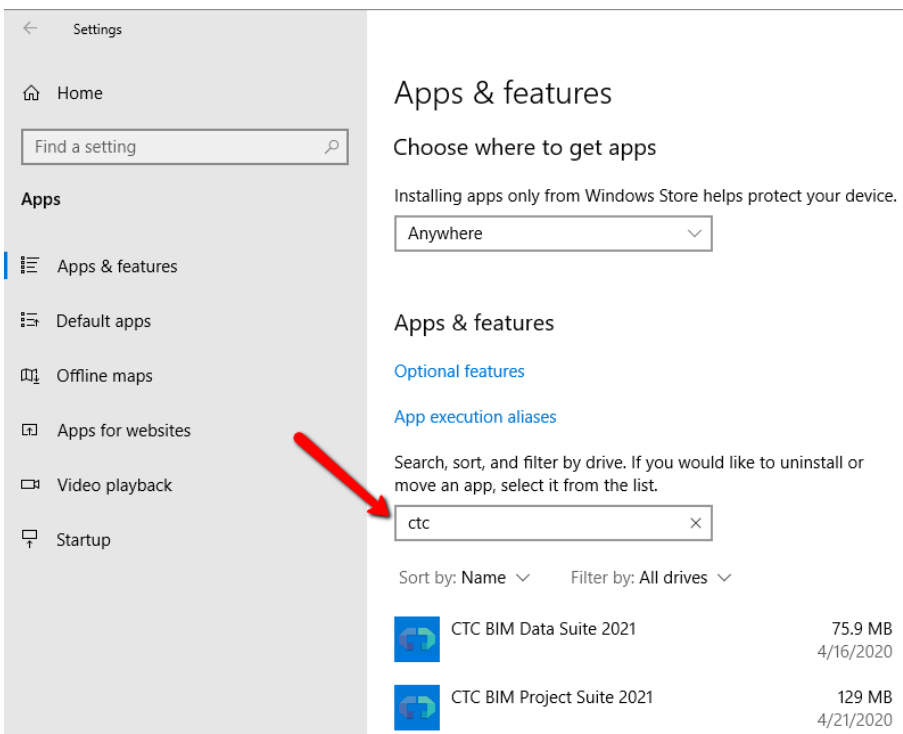
Using Apps & features



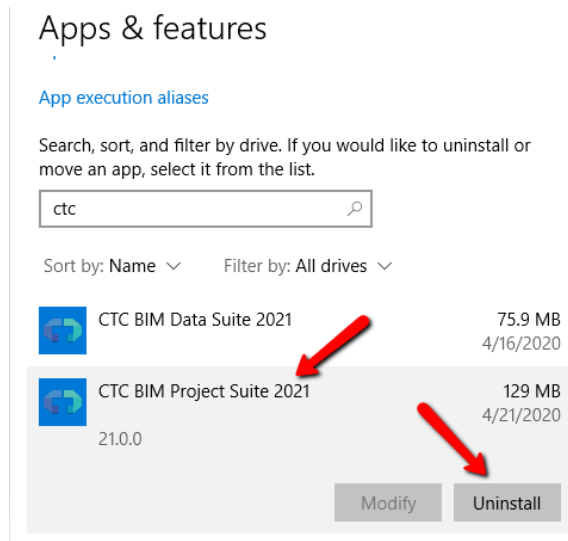
Select: Apps



Search for: ctc



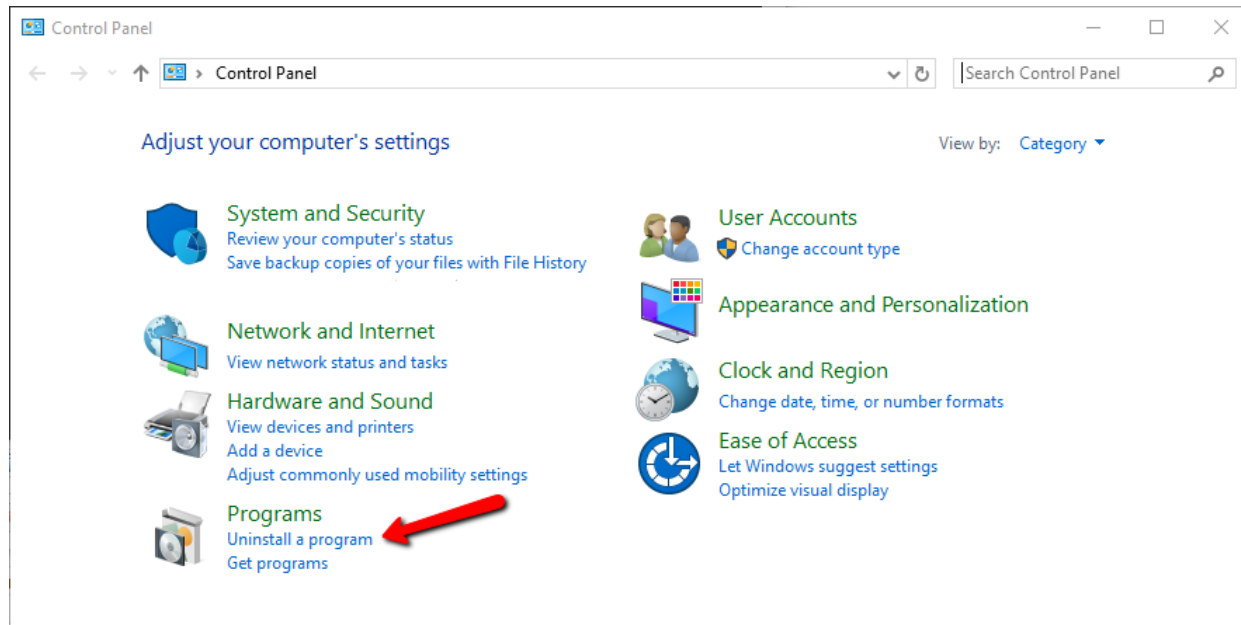
Select the product and click the Uninstall button.



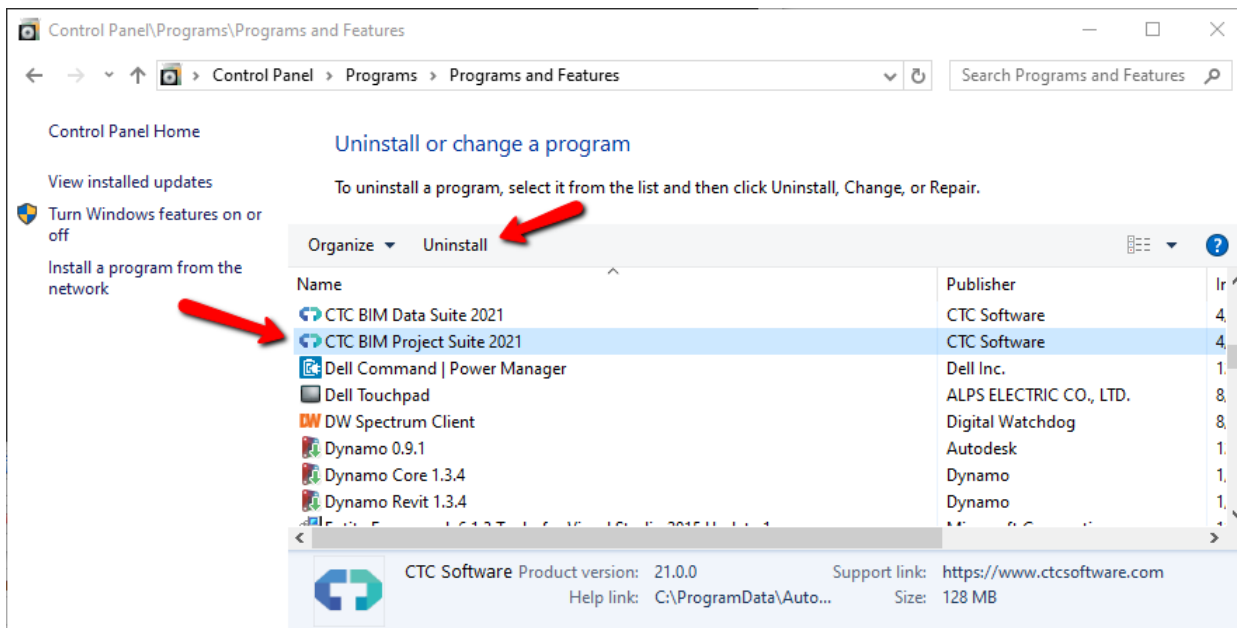
On the confirmation dialog that will appear, click the “Uninstall” button to begin the uninstallation process.

Using Control Panel

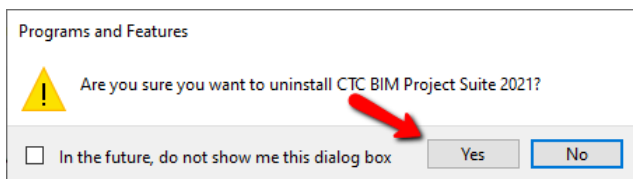
For older operating systems, this is typically found under “Add/Remove Programs.” For newer operating systems, it is usually listed under “Uninstall a program” –



Once on the “Uninstall or change a program” screen, click on the CTC add-in name that should be removed, then click on the “Uninstall” button on the toolbar:



You will be asked to confirm that you want to uninstall the product. Click the “Yes” button:



Once the uninstaller completes, the program will be uninstalled and it will be removed from the list of programs seen above.

Silent Uninstallation Using a Command Line

IMPORTANT: Just as when running the setup interactively, when running it silently it must be run with elevated privileges (“as Administrator”).

You can give a command like the following to uninstall the software from a workstation:

msiexec /x “CTCBIMProjectSuite2021Setup.msi” /q

This could be executed from a script or possibly pushed out via a group policy.

IMPORTANT: The original msi file used to install the software must be in the current working directory when this command is executed.