



Tekla Structures 2016

Tekla Model Sharing

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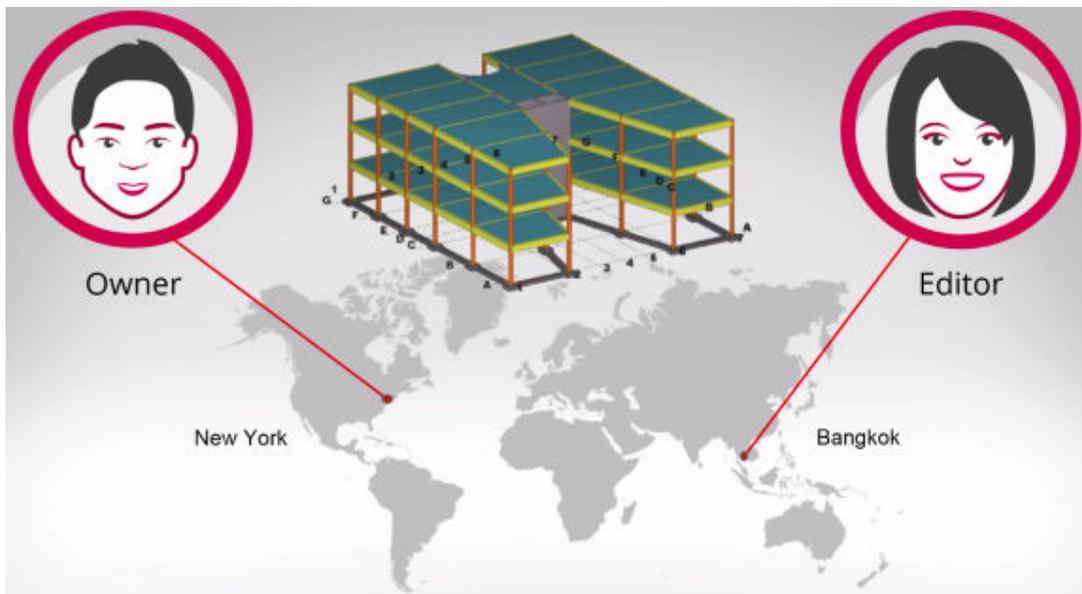


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1 What is Tekla Model Sharing

Tekla Model Sharing enables efficient global collaborative modeling within one Tekla Structures model. Tekla Model Sharing gives users the freedom to work with the same model at the same time in different locations and time zones.



With Tekla Model Sharing you can work locally and share the model changes globally. For example, one Tekla Model Sharing team of users can work in New York, one in London and one in Bangkok. They all contribute to the same model, working around the globe during their office hours in different time zones while the model keeps building up all the time.

In Tekla Model Sharing each user has a local version of the model on their computer or on a network drive, and the model data is shared and synchronized over the Internet using a Microsoft Azure cloud sharing service. When a model is shared, it is connected to the [cloud-based sharing service \(page 6\)](#). You can then easily share your changes by *writing out* them to the sharing service. When you want to update your model with the changes made by other users, you do it by *reading in* the changes from the sharing service.

Even though the changes are shared over the Internet, you do not need to be connected to the sharing service all the time. You need to be online only when you want to write out or read in the changes. This enables offline work if your Internet connection is not always available.

With Tekla Model Sharing you can

- [invite \(page 12\)](#) other users to your shared models
- [join \(page 13\)](#) someone else's shared models
- [share \(page 14\)](#) model changes

NOTE Tekla Model Sharing requires a single-user model.

A model cannot be simultaneously shared and used in multi-user mode. If you want to start using multi-user mode as a means to share your model instead of Tekla Model Sharing, you need to first exclude your local version of the model from the sharing service and then [convert \(page 21\)](#) it to a multi-user model.

The excluded model has no connection to the original shared model in the sharing service. This means that if you exclude your local version of the model from the sharing service and start to use the model in multi-user mode, you cannot later merge the original shared model and the multi-user model.

See also

[Prerequisites for Tekla Model Sharing \(page 4\)](#)

[Can I link excluded model back to shared model?](#)

[User roles in Tekla Model Sharing \(page 10\)](#)

1.1 Prerequisites for Tekla Model Sharing

Before you can start using Tekla Model Sharing and share your models, the following prerequisites need to be met:

- Internet connection
You need to establish a connection to the Tekla Model Sharing [service \(page 6\)](#) to perform any model sharing actions.
 - TCP port 443 (the default HTTPS) outbound must be open.
If an HTTP proxy is used, it must support HTTP 1.1.
 - For optimal performance, TCP port 9354 outbound must be open.
- [Tekla account](#)

All sharing actions require authentication, and the authentication is done with Tekla account username, password, and organization. Your Tekla account needs to be a part of a valid organization.

If you do not have a Tekla account, contact your organization's Tekla account administrator.

- [License \(page 5\)](#)

All sharing actions require a valid Tekla Model Sharing license. Tekla Model Sharing licenses are tied to users' Tekla accounts.

Tekla Model Sharing licenses

Tekla Model Sharing requires a valid Tekla Model Sharing license and a Tekla account which is a part of a valid organization. Based on the Tekla account information, the organization administrator can assign and manage Tekla Model Sharing licenses in the web-based Tekla Account Admin Tool. To obtain a Tekla Model Sharing license and have your Tekla account added to your company organization, contact your organization's Tekla account administrator.

Tekla Model Sharing uses enterprise type, floating licenses that are purchased as a yearly subscription. The license use is limited to a maximum number of concurrent users, so you can assign more license users than you have in purchased licenses. If more than the allowed number of users try to join Tekla Model Sharing at the same time, the users attempting to join see a message that all license seats are reserved. If a user joins from several devices, the user reserves a separate license seat for each device.

Users can work on a shared model offline without reserving a license. A license is reserved when a user starts a Tekla Model Sharing operation. The license is released within three hours after the user logs out of Tekla Structures by shutting down Tekla Structures. Licenses can be temporarily assigned outside of your organization to any users. All license holders must have a valid Tekla account, but they do not need to purchase their own licenses since Tekla Model Sharing uses floating licenses .

The configuration, type and maintenance status of your Tekla Structures license has no effect on your Tekla Model Sharing license. Keep track of the number of licenses and users as well as your license expiration dates to ensure continued service.

Examples

- The license can be used by two different people in the same day. Because the license is a floating one, it can be released back to the license pool when it is not needed anymore.
- The license can be temporarily assigned to a subcontractor outside your organization.

- The organization's Tekla account administrator can limit a user's access to the license pool, if needed.

See also

[Managing Tekla accounts](#)

[Tekla Account Admin Tool](#)

[Start sharing a model in Tekla Model Sharing \(page 12\)](#)

1.2 How Tekla Model Sharing uses the sharing service

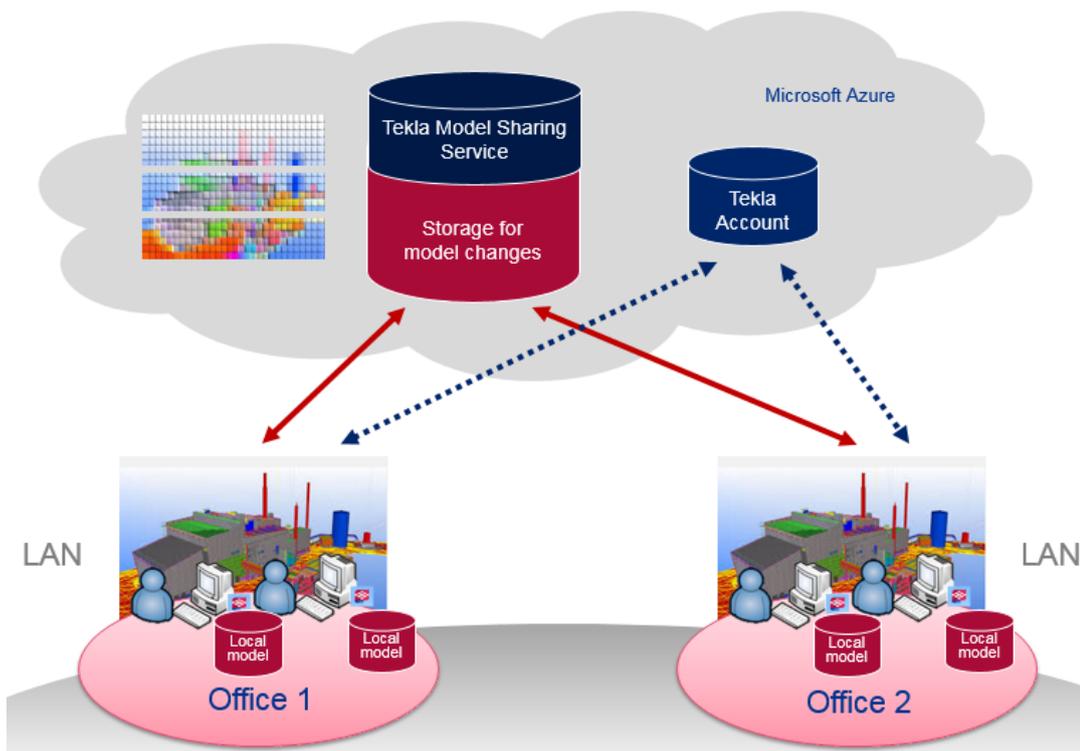
When you start to share a model using Tekla Model Sharing, the model is connected to the cloud-based sharing service.

- To send model changes to the sharing service, you [write out \(page 14\)](#).
- To fetch other users' model changes from the sharing service, you [read in \(page 14\)](#).

When you read in other users' changes, the updates to your local version of the shared model are delivered to you as incremental packets. This means that when you read in, the data that is fetched from the sharing service is merged with the data on your computer. You need to read in all shared changes before you can write out your own changes to the sharing service.

Note that there is no central model in the sharing service as such, only a model instance that consists of a model baseline and incremental updates. You cannot open the model in the sharing service or access any files.

The image below shows how the model data is stored to the sharing service. Each user fetches the model data from the sharing service to their local versions of the model when they read in. User authentication is done with Tekla account.



NOTE If you use Tekla Model Sharing in regions where the download speed may be limited, we recommend you to install a separate [cache service \(page 7\)](#), and thus reduce the download effort and enable faster download times.

If your region has good Internet connections, the cache service is not needed.

See also

[Prerequisites for Tekla Model Sharing \(page 4\)](#)

[Start sharing a model in Tekla Model Sharing \(page 12\)](#)

Install a cache service for Tekla Model Sharing

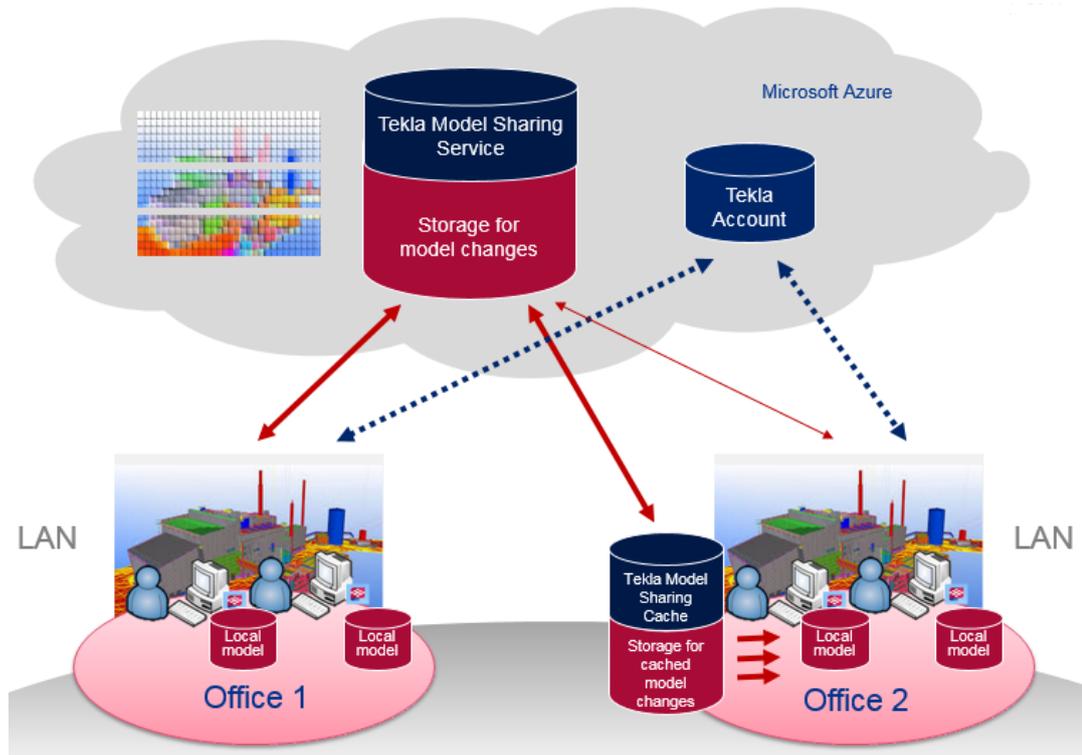
If you use Tekla Model Sharing in regions where the download speed may be limited, we recommend you to install a separate Tekla Model Sharing Cache service, and thus reduce the download effort and enable faster download times.

Tekla Model Sharing Cache service downloads model data from the Tekla Model Sharing service and stores it in the file system and then caches it inside a LAN. The first user who reads in a packet from the sharing service loads it to

the cache, and the next user gets the data faster from the cache inside the LAN than from the sharing service through the Internet.

Note that the cache is not used for packets that are written out.

The image below shows how the model data is stored to the sharing service and used with the Tekla Model Sharing Cache service.



Cache deployment workflow

Software and system requirements for a cache installation:

- Windows Server 2008 R2, or later
 - .NET Framework 4.5.1
1. Ensure you have an active Windows computer or a server with enough disk space to store the cached model data.
 2. Download the Tekla Model Sharing Cache service installation file from [Tekla Downloads](#).
 3. Run the installation file and follow the steps in the installation wizard to complete the installation.
 - The default cache folder is `.. \TeklaModelSharingCache`. If needed, you can change the folder destination.

Ensure that the destination folder has enough disk space for the estimated usage of the service. The required disk space can vary from

a few gigabytes to terabytes, depending on the amount of Tekla Model Sharing users and the size of the models.

- The default TCP/IP port number for the cache service is 9998.
Use this port number when you configure Tekla Structures client workstations to use the cache. This port is the main communication and control channel to the cache service.
- The default TCP/IP port number for internal communication is 9001.
This port is automatically fetched from the cache service, and it is used for the actual data transfer.

If the ports cause conflicts or other problems because of other services or a firewall, you can change the ports to some other ports.

The TCP/IP ports for the cache service need to be open inside LAN/VPN. The cache service is never accessed from the Internet but the cache service downloads and caches the model changes on behalf of the Tekla Structures client workstations.

NOTE If you later need to modify the installation, re-run the `TeklaModelSharingCacheService.exe` installation file and select **Repair**. You can then change the previously set cache folder or port numbers.

Alternatively, if you are used to editing configuration files, you can use the cache service configuration file `TmsConfiguration.xml` in `..\ProgramData\Tekla\ModelSharingCache\` to modify the cache installation. Modify the `TmsConfiguration.xml` file using any standard text editor, for example, Microsoft Notepad or an XML editor. Open the text editor as administrator by right-clicking and selecting **Run as administrator**. This ensures that the file can be saved in the same location from where it was opened.

-
4. Check that the Tekla Model Sharing Cache service has started.
 - Locate **Tekla Model Sharing Cache** from the Windows services by using, for example, the Computer Management console `compmgmt.msc` or the Services management console `services.msc`.
 - Use Windows Event Viewer to verify that there are no errors from the service and that there are Information messages showing that the service has started.
 5. Configure Tekla Structures client workstations to use the cache.
In Tekla Structures, on the **File** menu, click **Sharing --> Sharing settings**.
In the **Sharing settings** dialog box:

- **Name** is the name of the computer on which the cache is installed. To check the computer name, click **Windows Control Panel --> System and Security --> System** .
- **Port** is the cache service port number that you have set when you installed the cache service. The default value is 9998.

Troubleshooting tips

If you cannot connect to the service from Tekla Structures:

- Ensure that the **Tekla Model Sharing** Windows Service is running.
- Ensure sure that the firewalls do not block TCP/IP ports configured to Tekla Structures, for example 9001 or 9998 when you use the default ports.

If the service does not start:

- Check the Windows Event Viewer's Application Log for possible errors.

See also

[Cache server deployment](#)

[How Tekla Model Sharing uses the sharing service \(page 6\)](#)

1.3 User roles in Tekla Model Sharing

When you start sharing your model in Tekla Model Sharing, you become the **Owner** of the model. The **Owner** can invite other users and give them one of the three different roles. The role defines the user's permission level to the model.

The three different user roles in Tekla Model Sharing are **Owner**, **Editor** and **Viewer**.

Role	Access level
As an Owner you can	<ul style="list-style-type: none"> • read in other users' changes and write out your own changes to the sharing service • invite new users • list other users and change their roles • remove users from the model • remove the model instance and all the model related data from the sharing service • change the model code and description properties <p>As an Owner you can select the roles when you invite users to a shared model, or any time during a project. If you change the role of a user in File</p>

Role	Access level
	<p>menu --> Sharing --> Users, you can send a notification e-mail to the user. If you include a short message in the e-mail, all the invited users and the users whose role has been changed receive the same message.</p> <p>There can be several Owners within one model. The Owner who has started to share the model can give the Owner role to any selected user.</p>
As an Editor you can	<ul style="list-style-type: none"> • read in other users' changes and write out your own changes to the sharing service • list other users
As a Viewer you can	<ul style="list-style-type: none"> • read in other users' changes but you cannot write out any changes to the sharing service

See also

[Information on users and sharing actions in Tekla Model Sharing \(page 24\)](#)

[Start sharing a model in Tekla Model Sharing \(page 12\)](#)

[What is shared in Tekla Model Sharing \(page 27\)](#)

2 Start sharing a model in Tekla Model Sharing

Before you can start sharing your models in Tekla Model Sharing, you need to be logged in with your Tekla account in Tekla Structures. If you are not logged in, the Tekla account log in dialog box opens and prompts you to enter your username and password.

1. Open a single-user model you want to share.
2. On the **File** menu, click **Sharing** --> **Share**.
The **Start sharing** dialog box opens.
3. If needed, enter a **Code** and **Description** for the model.
 - **Code** can be, for example, a site number, a project number, or an accounting number.
 - Add **Description** according to your company conventions.
4. Invite other users to share your model by entering their e-mail addresses to the **Invite users** box and set their [user role \(page 10\)](#) and access level either to **Editor**, **Owner**, or **Viewer**.
You can add several users at one go. Separate the e-mail addresses with semicolons. If you add several users at one go, they all get the same user role. The role can be changed later.
5. Click the **Add** button to add the users to the model.
6. Select whether to send a notification e-mail to the invited users. Select the **Send e-mail notification to user** check box and write a message to the invited users, if needed.
7. Click **Start** to start sharing your model.
The model is saved and written out to the [sharing service \(page 6\)](#).

Next time you open the model, you can open it from the list of all models in **File menu --> Open --> All models**. Shared models have the cloud icon . Alternatively, you can open the model from the list of shared models in **File menu --> Open --> Shared models**.

See also

[Join a shared model in Tekla Model Sharing \(page 13\)](#)

[Share your model changes in Tekla Model Sharing \(page 14\)](#)

[Information on users and sharing actions in Tekla Model Sharing \(page 24\)](#)

2.1 Join a shared model in Tekla Model Sharing

When someone using Tekla Model Sharing has invited you to join a shared Tekla Structures model, you will receive an invitation e-mail.

The e-mail contains information about the model, the used environment and your [role \(page 10\)](#). The role is your level of permission to the model. You can join a model at any stage of sharing, and as many times you need.

1. On the **File** menu, click **Sharing --> Shared models**.

The **Shared models** dialog box opens.

2. In **Save in**, browse for the location where you want to save a local version of the model.

If you later want to join the same model again, you need to save a new local version of the model on your computer. If you use the same name for the model, the local versions of the model need to be saved in different locations on your computer, because you cannot have two or more models of the same name in the same folder.

3. From the **Shared models** list, select the model you have been invited to. You find the name of the model in the invitation e-mail.
4. Click **Join**.

When you join the model:

- Tekla Structures checks that the local version of the model does not already exist in the selected folder. A warning message is displayed if the selected folder already contains the model. In that case, you need to browse for a different folder where to save the model.
- Tekla Structures checks the environment you are using and displays a message if you are using a different environment than the shared

model. We recommend that all users within the same shared model use the same environment.

The **Available updates** list opens.

5. From the list of available updates, select [an update or a baseline \(page 19\)](#) that you want to join.

You can select any baseline, which is a snapshot of the model state on a certain date, or update to join, not only the latest. Selecting a baseline is beneficial if you join the model when there already are many changes made. Joining a baseline instead of an update is also faster.

By joining an earlier baseline or update you can go back in the model history, and, for example, check the model state on a certain date.

6. Start working with the model and [share your model changes \(page 14\)](#).

When you read in, only [incremental update packets \(page 27\)](#) are fetched from the sharing service.

Next time you open the model, you can open it from the list of all models in

File menu --> Open --> All models. Shared models have the cloud icon .

Alternatively, you can open the model from the list of shared models in **File menu --> Open --> Shared models**.

See also

[Start sharing a model in Tekla Model Sharing \(page 12\)](#)

[Information on shared models in Tekla Model Sharing \(page 22\)](#)

[Information on users and sharing actions in Tekla Model Sharing \(page 24\)](#)

2.2 Share your model changes in Tekla Model Sharing

After you have modified your local version of the Tekla Model Sharing model, you can share your changes with other users who are working with the model.

To share your changes with other users, send your changes to the sharing service by writing them out.

To update your model with the changes done by other users, fetch the changes from the sharing service by reading them in. You always need to read in the most current changes to a model before you can write out.

Write out

1. On the **File** menu, click **Sharing --> Write out**, or click  on the Quick Access Toolbar.

The **Write out** button shows a green arrow  when there are no packets that need to be read in before you can write out. You can write out changes immediately.

The **Write out** button shows a gray arrow  when there are packets that need to be read in before you can write out changes.

When you write out, Tekla Structures saves the model, creates a packet of the model changes, writes out the changes to the sharing service and saves the model again.

Only new or changed data is written out. If you attempt to write out your changes, but some other user has shared some changes earlier and you have not yet read in all the available updates, you are asked to read in first. If there is no new data to be read in, Tekla Structures writes out your changes to the sharing service immediately.

If one of the users who shares the model has selected the **Enable write out revision comment** option in the [Sharing settings \(page 31\)](#) dialog box, you can enter a code or a comment for the update that you are writing out.

If you delete objects and share the deletion to the sharing service, the deletion is shared with other users, and the deleted objects cannot be recovered.

2. Continue working with the model.

Note that if several users modify the same objects at the same time, the model will contain the changes by the user who first wrote out the changes.

If you want to automate the write out process, you can use the [Sharing Automation Tool](#) from Tekla Warehouse. The tool first reads in and then tries to write out the changes until it succeeds.

Read in

1. On the **File** menu, click **Sharing** --> **Read in**, or click  on the Quick Access Toolbar.

The **Read in** button shows the number of packets  that are available to be read in.

If one of the users who shares the model has selected the **Show available updates when reading in** option in the [Sharing settings \(page 31\)](#) dialog box, the **Available updates** list opens after you have clicked the **Read in** button.

The dialog box lists all the available packets. You can read in the changes packet-by-packet, if you want to check the model changes in phases. If you

want to receive all the updates at once, you can select the latest packet and all the previous packets are read in as well.

When you read in, the updates to the shared model are delivered as incremental packets that only include the changed data. You need to read in all shared changes before you can again write out your own changes to the sharing service.

If you have selected the **Show changes after read in** option in the [Sharing settings \(page 31\)](#) dialog box, a list of sharing changes opens at the bottom pane after the selected packets are read in. The list shows the changes according to how they affect the model.

2. Continue working with the model.

NOTE If you encounter problems with sharing, check the sharing related [log files](#) in the current model folder and in `..\Users\\AppData\Local\Tekla DataSharing` for troubleshooting.

See also

[What is shared in Tekla Model Sharing \(page 27\)](#)

[View sharing changes and sharing history in Tekla Model Sharing \(page 16\)](#)

[Exclude files and folders from Tekla Model Sharing \(page 33\)](#)

[Conflict handling and limitations in Tekla Model Sharing \(page 37\)](#)

[Collect model history in Tekla Model Sharing \(page 35\)](#)

2.3 View sharing changes and sharing history in Tekla Model Sharing

Sharing changes

After you have [read in \(page 14\)](#) the changes from the [sharing service \(page 6\)](#), you can check the changes included in the packets in more detail. A list of sharing changes is shown at the bottom pane of Tekla Structures. The changes are visualized with colors both in the changes list and in the model.

To	Do this
Open the changes list	Do one of the following: <ul style="list-style-type: none"> • On the Quick Access Toolbar, click the Show read in changes button . • Click File menu --> Sharing --> Show sharing changes.

To	Do this
	<ul style="list-style-type: none"> To automatically show the list after each read in, select the Show changes after read in option in File menu --> Sharing --> Sharing settings.
View changes in the list	<p>Click the separate tabs to see the changes according to how they affect the model. The changes are divided to the following tabs: Physical objects, Other objects, Drawings, Options, Attribute definitions, Model folder files, and UDA changes.</p> <p>The changes are visualized with colors in the list.</p> <p>Deleted objects are listed in the changes list but they do not have any information available in the Name column.</p> <p>The UDA changes tab includes user-defined attributes that have a definition included in the environment.db file. Reference objects are detected as changed if there are physical or material changes.</p> <p>Tabs do not exist if there are no items on the tab. If the tab content becomes empty because of filtering, the tab is not shown.</p>
View changes in the model	<p>Select the Select objects in model view check box and a row in the list to highlight the changed objects in the model. The changes are visualized with colors in the model. Deleted objects are not visualized in the model.</p> <ul style="list-style-type: none"> Added objects = green Modified objects = yellow Conflicting objects = orange Existing objects that have not been modified by another user = gray

To	Do this
Filter changes in the list	On each tab, you can filter the changes in every column. Click the filter icon  and select how to filter the changes.
Edit the filter	Click the filter icon  and select a filter from the filter list. Name of the selected filter is visible on the bottom left corner of the list. To edit the filter, click the edit filter icon  on the bottom right corner of the list. The Filter editor dialog box opens, and you can edit the selected filter.
Zoom to changed objects in the model	Select the Zoom to selected check box and a row in the list to zoom to the changed object in the model.
Search for specific changes	Type a search word to the search box on the bottom right corner of the list. 
Move the changes list somewhere else on the screen	You can <ul style="list-style-type: none"> • move the list around the screen • drag the list to a second screen • dock the list to the bottom pane or to the side pane of Tekla Structures. <p>The list has  icon in the side pane. If you drag the list to a second screen, click the icon to return the list to the main screen.</p>

Sharing history

After you have [read in and written out \(page 14\)](#) model changes, you can check the sharing history of the model. The **Sharing history** dialog box shows all your read in and write out events, and the packets included in each event. You can check the sharing history event-by-event, and see how the model has evolved by the changes made by other users.

To	Do this
Open the sharing history	On the File menu, click Sharing --> Sharing history .
Check the read in and write out events	Click the Collapse all button to see all your read in or write out events and their date and time.

To	Do this
Check the packet information	Click the Expand all button to see all the packets in each read in or write out event. The packet number, person who wrote out the packet and the packet upload date and time is shown.
View the model changes included in a single event	Select the event and click the Show changes button. A list of model changes is displayed at the bottom pane of Tekla Structures.

See also

[What is shared in Tekla Model Sharing \(page 27\)](#)

[Conflict handling and limitations in Tekla Model Sharing \(page 37\)](#)

2.4 Create a baseline for a model in Tekla Model Sharing

If you are **Owner** of a model in Tekla Model Sharing, and you want to keep a record of the current progress of the model or to make the model faster to join for a new user, you can create a new starting point for the model in the sharing service. This new starting point is achieved by creating a *baseline*. Baseline is a snapshot of the current state of the model. When you create a baseline, a full model is always written out to the sharing service. We recommend **Owner** to create a new baseline when a new user has been invited to the model.

1. On the **File** menu, click **Sharing** --> **Create baseline** .
2. Enter a code or a comment, if entering revision comments has been enabled in the [Sharing settings \(page 31\)](#) dialog box.

A full model is written out to the sharing service. Files and folders that have been excluded from the sharing are not included in the baseline.

If you need to read in while you are creating the baseline, you need to repeat the **Create baseline** command after you have read in other users' changes.

3. If needed: Invite someone to join the model.

When the new user joins the model, the **Available updates** list opens.

The user can then select a baseline or an update to join. The **Available updates** list shows all the baselines and the updates after the latest baseline. You can select any baseline or update to join, not only the latest. By joining an earlier baseline or update you can go back in the model history, and, for example, check the model state on a certain date.

Joining a baseline is beneficial for users who join the model when there already are many changes made. Joining a baseline instead of an update is also faster.

After joining a model, only incremental update packets are read in from the sharing service.

See also

[Join a shared model in Tekla Model Sharing \(page 13\)](#)

[User roles in Tekla Model Sharing \(page 10\)](#)

[Start sharing a model in Tekla Model Sharing \(page 12\)](#)

2.5 Exclude a model from the sharing service in Tekla Model Sharing

If needed, you can exclude yourself and your local version of the model from the sharing service. When you exclude a model, your local version of the model is no longer connected to the sharing service and you cannot share your changes anymore. However, the model instance still exists in the sharing service and other users can continue working with the model normally.

All users, regardless of their [user role \(page 10\)](#) (**Owner, Editor, Viewer**), can exclude their local version of the model from the sharing service.

NOTE After you have excluded your local version of the model from the sharing service, you cannot merge the excluded model back to the original shared model. The excluded model is completely new and it has no connection to the model in the sharing service.

1. On the **File** menu, click **Sharing --> Exclude from sharing** .
A confirmation message is displayed.
2. Click **Continue** .
Your local version of the model is disconnected from the sharing service, and you cannot write out or read in changes anymore.
The model automatically becomes a single-user model.

After the model has been excluded

After you have excluded your local version of the model from the sharing service

- you can continue working with the model in single-user mode.
- you can start working with the model in [multi-user mode \(page 21\)](#).
- you can start working with the model again in Tekla Model Sharing.

If you continue working with the excluded model in Tekla Model Sharing

After you have excluded your local version of the model from the sharing service, and you still want to use Tekla Model Sharing, you can either

- [start sharing \(page 12\)](#) the model and invite other users to join the model.

If you start to share the model, the model is completely new and it has no connection to the previous model in the sharing service, even though the model retains its old name.

- [join \(page 13\)](#) the same model again in the **Shared models** dialog box in **File menu --> Sharing --> Shared models**.

When you join the model, you can select [a baseline or an update \(page 19\)](#) that you want to join.

If you join the model again, you need to save a new local version of the model on your computer. If you do not change the name of the model, you may have several models that have the same name in the **Shared models** dialog box. All these local versions of the model need to be saved in different locations on your computer, because you cannot have two or more models of the same name in the same folder.

See also

[Can I link excluded model back to model sharing model?](#)

2.6 Convert a shared model to a multi-user model in Tekla Model Sharing

If needed, you can stop working with a shared model in Tekla Model Sharing and convert your local version of the model to a multi-user model.

A model cannot be simultaneously shared and used in multi-user mode. If you want to start using multi-user mode as a means to share your model instead of Tekla Model Sharing, you need to first exclude your local version of the model from the sharing service and then convert it to a multi-user model.

NOTE The excluded model has no connection to the original shared model in the sharing service. This means that if you exclude your local version of the model from the sharing service and start to use the model in multi-user mode, you cannot later merge the original shared model and the multi-user model.

1. Exclude your local version of the shared model from the sharing service to make it a single-user model:
 - a. Open the shared model that you want to convert to a multi-user model.

- b. On the **File** menu, click **Sharing** --> **Exclude from sharing** .
A confirmation message is displayed.
 - c. Click **Continue**.
The model automatically becomes a single-user model.
Your local version of the model is disconnected from the sharing service, and you cannot write out or read in changes anymore. However, the model instance still exists in the sharing service and other users can continue working with the model normally.
2. Convert the current single-user model to a multi-user model:
 - a. On the **File** menu, click **Sharing** --> **Convert to multi-user model**.
 - b. Enter the multi-user server name or select the name from the list in the **Convert** dialog box.
 - c. Click **Convert to multi-user model**.
The current model is converted to a multi-user model and you can start using the model in multi-user mode.

See also

[Start sharing a model in Tekla Model Sharing \(page 12\)](#)

2.7 Information on shared models in Tekla Model Sharing

When you want to join a shared model in Tekla Model Sharing, you select the model to join in the **Shared models** dialog box, in **File menu** --> **Sharing** --> **Shared models**.

Option	Description
Service	Sharing service that is being used.
Save in	Location where the local version of the model is saved on your computer. If you want to save to another location, click the Browse button.
Shared models <ul style="list-style-type: none"> • Show also hidden • Show shared models on this computer 	List of models that you have shared or have been shared with you. <ul style="list-style-type: none"> • If you have hidden some models from the Shared models list, select the Show also hidden check box to see the full list of models that have been shared with you, or you have shared. • Select the Show shared models on this computer check box to see the models that you have locally saved on your computer.

Option	Description
	Click to hide the model from the Shared models list. If you have many models on the list, it can be useful to hide the models you are not actively working with.
Code	Code of the model. The code can be, for example, a site number, a project number, or an accounting number.
Name	Name of the model.
Description	Description of the model.
Environment	Environment of the model.
From	Person who has invited you to the shared model, or has changed your role the last.
Date	Date when the sharing of the model was started.
Your role	Your role and your access level to the model. The options are Owner , Editor , or Viewer . Only Owner can change the roles of the other users.
	If you are Owner , you can edit the Code and Description of the model.
	If you are Owner , you can invite new users to the model, or remove existing users. If you are Editor , you can see which users have been invited or have joined the shared model.
	If you are Owner , you can remove the model from the sharing service. This discontinues the sharing, and the users who have been working with the shared model cannot share changes anymore.
Local copies of selected model on this computer • Edited • Model •  • 	When you select a model from the Shared models list, the model information is displayed here. • The date when the local version of the model has been edited. • The location of the local version of the model on your computer. • Click  to open the selected local version of the model. • Click  to remove the selected local version of the model from your computer.

See also

[Join a shared model in Tekla Model Sharing \(page 13\)](#)

[Start sharing a model in Tekla Model Sharing \(page 12\)](#)

[Information on users and sharing actions in Tekla Model Sharing \(page 24\)](#)

2.8 Information on users and sharing actions in Tekla Model Sharing

When you want to check the Tekla Model Sharing users and the basic sharing actions on the model, or invite new users to the shared model, open the **Users** dialog box in **File menu --> Sharing --> Users**.

Option	Description
Name	Name of the user.
E-mail	E-mail address of the user.
Role	Role of the user: Owner , Editor , or Viewer . When you start to share a model, you become Owner of the model and you can set other users' roles. The roles can be changed later, if needed. Use the different roles to control the permission levels to the model. Note that there can be several Owners within one model.
Joined	Indicates whether the invited user has joined the model.
Date	Date when the user has joined the model.
By	Person who invited the user or changed the user role the last.
Last read in	Date when the user last read in.
↓	Number with the arrow down indicates the total number of update packets available in the sharing service. The number next to the arrow indicates how many of the packets the user has read in.
Last write out	Date when the user last wrote out.
↑	Number with the arrow up indicates the total number of update packets available in the sharing service. The number next to the arrow indicates the number of the last packet that the user has written out.

Option	Description
✘	Remove the selected user's permission to the model. Only Owner can remove other users from the sharing service.

See also

[User roles in Tekla Model Sharing \(page 10\)](#)

[Conflict handling and limitations in Tekla Model Sharing \(page 37\)](#)

Privileges and locks in Tekla Model Sharing

You can use privileges and locks to control specific users' access and editing rights to the model.

Privileges

The person who has created the model, or anyone from the same organization, can control access rights to the model using privileges. In practice the privileges of the model are controlled via the `privileges.inp` file.

By modifying the `privileges.inp` file you can control

- access to modify user-defined attributes
- access to modify object properties. This is done by locking and unlocking.
- access to modify numbering settings
- access to save standard files

To change the access rights:

1. Close the model.
2. Open the `privileges.inp` file in any text editor.
3. Change the desired settings and save the file to your model folder.
4. Re-open the model.

Locks

If you have created the model, you can also set object locks and drawing locks.

- To protect objects from being accidentally modified, you can use a user-defined attribute (UDA) called **Locked**.

Note that object locking needs to be set for the object before it is shared for the first time. This ensures that other users cannot modify the locked objects.

- To prevent changes to drawings and to reserve drawings for editing, you can use drawing locks in the **Drawing list** dialog box. If a drawing is locked

and the lock is shared, the lock prevents any changes to the drawing by other users.

To reserve a drawing:

1. Read in.
2. Reserve drawings by locking them in the **Drawing list** dialog box.
3. Write out.
4. Open the drawing locks.
5. Update the drawings.
6. Write out.

See also

[Start sharing a model in Tekla Model Sharing \(page 12\)](#)

[User roles in Tekla Model Sharing \(page 10\)](#)

[Conflict handling and limitations in Tekla Model Sharing \(page 37\)](#)

3

What is shared in Tekla Model Sharing

By default, all the model data is shared when you share a model in Tekla Model Sharing.

How data is shared in Tekla Model Sharing depends on the type of the shared data.

- Some data is shared incrementally.
This means that only the new and changed data is shared. When you read in, the data that is fetched from the sharing service is merged to the data on your computer.
- Some data is shared, but it cannot be updated incrementally.
When you read in, the data that is fetched from the sharing service overwrites the data on your computer.
- Some data is not shared.
By default, **Organizer** data is not shared.
However, you can use the **Organizer** import and export with Tekla Model Sharing to share the **Organizer** changes.

NOTE Some of the catalog files that are located in the environment folders (rebar_database.inp, assdb.db, screwdb.db, matdb.bin, profdb.bin) are copied to the model folder when the sharing is started.

Option	Description
Model database	Model database .db1 is shared incrementally.
Numbering database	Numbering database .db2 is shared, but it cannot be updated incrementally. If you have modified the family numbering settings and you read in, you lose the changes if another user has

Option	Description
	<p>changed the family numbering settings and has written out.</p> <p>We recommend that one user updates and shares the numbering settings with other users by writing them out. In case the user needs to read in before writing out the numbering updates, it is important to check that the settings are as they were before starting to share them.</p> <p>We recommend you to use the Numbering series of selected objects command on the Drawings & reports tab when numbering.</p> <p>Create your model output, such as drawings, reports, NC files and IFC files, after a successful write out.</p>
Model history database	Model history database <code>history.db</code> is shared incrementally.
Plan database	<p>Plan databases <code>.db3</code> are shared, but they cannot be updated incrementally.</p> <p>If you have imported a CIS/2 or a SDNF model and you read in, you lose the plan database changes if another user has imported the same CIS/2 or SDNF model and has written out.</p>
Analysis model database	<p>Analysis model database <code>.db6</code> and analysis results model database <code>.db5</code> are shared, but they cannot be updated incrementally.</p> <p>If you have modified an analysis model and you read in, you lose the analysis model changes if another user has changed the same analysis model and has written out.</p>
Custom components and sketched profiles	Custom components and sketched profiles database <code>xslib.db1</code> is shared incrementally.
Profile catalog	<p>Shared model contains profile catalog file <code>profdb.bin</code>.</p> <p>When you add and use a new profile definition in the shared model, the definition is shared the next time you write out. When another user reads in this new definition, the <code>profdb.bin</code> file in the user's model folder is updated to include the added definition.</p>
Reinforcing bar catalog	<p>Shared model contains reinforcing bar database <code>rebar_database.inp</code>.</p> <p>When you add and use a new reinforcing bar definition in the shared model, the definition is shared next time you write out. When another user reads in this new</p>

Option	Description
	definition, the <code>rebar_database.inp</code> file in the user's model folder is updated to include the added definition.
Bolt catalog Bolt assembly catalog	<p>Shared model contains bolt catalog file <code>screwdb.db</code> and bolt assembly catalog file <code>assdb.db</code>.</p> <p>When you add and use a new bolt or bolt assembly definition in the shared model, the definition is shared the next time you write out. When another user reads in this new definition, the <code>profdb.bin</code> and <code>assdb.db</code> files in the user's model folder are updated to include the added definition.</p>
Material catalog	<p>Shared model contains material catalog file <code>matdb.bin</code>.</p> <p>When you add and use a new material definition in the shared model, the definition is shared next time you write out. When another user reads in this new definition, the <code>matdb.bin</code> file in the user's model folder is updated to include the added definition.</p>
User-defined attribute (UDA) definitions	<p>When a model is created, the user-defined attribute definitions are read from the <code>objects.inp</code> files and the definitions are stored to the <code>environment.db</code> database. Modified and added new attribute definitions are shared incrementally.</p> <p>New attribute definitions are added to the database automatically when the model is opened. If the current <code>objects.inp</code> file has a different definition than the <code>environment.db</code>, it is possible to take changes to use by clicking File menu --> Diagnose & repair --> Diagnose and change attribute definitions .</p> <p>If the <code>objects.inp</code> file is in the model folder, it is shared as a file and it overrides the local <code>objects.inp</code> file when you read in.</p>
Options	<p>When a model is created, the options are read from the <code>options.ini</code> files and the model-specific options are stored to <code>options_model.db</code> and <code>options_drawings.db</code> databases.</p> <p>Model-specific options can be modified using the Options and Advanced Options dialog boxes. Model-specific option modifications are shared incrementally.</p> <ul style="list-style-type: none"> • Some of the options are of the type SYSTEM(ROLE). These options are read from the <code>.ini</code> files and are not shared. It is possible to change SYSTEM(ROLE) model option to MODEL(ROLE) option and the drawing option to DRAWINGS(ROLE) option. The options are then stored to the <code>options_model.db</code>

Option	Description
	<p>or <code>options_drawings.db</code> databases in the model folder, and the value is shared incrementally.</p> <ul style="list-style-type: none"> • Some of the options are of the type USER. These options are user-specific and they are not shared. • Some of the options are of the type SYSTEM. These options are user-specific and they are not shared. It is possible to change a SYSTEM option to a MODEL(SYSTEM) option. If you change a SYSTEM option to MODEL(SYSTEM), the changed value only works for the current model. These options are not shared.
Other important files in the model folder	<p>The database ID range mapper file <code>db.idrm</code> and the library database ID range mapper file <code>xslib.idrm</code> are related to the handling of IDs. These files are needed, for example, to open drawings that have been created in single-user or multi-user modes.</p>
View sharing	<p>By default, views are not shared. Views are shared if they have a name, and the Share option in the View Properties dialog box is set to Shared.</p> <p>Note that when you join a model, you get all the model views but changes to the views are not shared if the Share option is set to Not Shared.</p>

If you want to check the files that have been overwritten when you read in, click **File menu --> Sharing --> Open file backup folder**. You can then, for example, copy the files back to your model or check the files for change detection.

Sharing catalog updates

Sometimes you may need to update catalogs with new definitions, such as new profiles, and share the changes without creating any objects with the new definitions.

1. Ensure that all users on the shared model write out their changes.
2. Read in all changes.
3. Update the needed catalogs.
4. Create a baseline.
5. Ensure that all users join the created baseline.
6. After users have joined the baseline:
 - a. Ensure that users check that their settings for excluded files and folders are up-to-date in **File menu --> Sharing --> Sharing settings --> Exclude**, or that they copy the `FileSharing.ini` file from the

previous local model in `..\TeklaStructuresModels\\ModelSharing\Settings`.

- b. Ensure that users remove their previous local versions of the model.

See also

[Conflict handling and limitations in Tekla Model Sharing \(page 37\)](#)

[How to share Organizer data in Tekla Model Sharing \(page 35\)](#)

3.1 Tekla Model Sharing settings

To modify the basic Tekla Model Sharing settings, use the options in the **Sharing settings** dialog box in **File menu --> Sharing --> Sharing settings**.

Option	Description
Model folder file sharing	Click the Exclude button to define files or folders in the model folder that you do not want to share (page 33) .
<ul style="list-style-type: none"> • Tekla Model Sharing cache • Name and Port 	<p>You can set up a separate Tekla Model Sharing Cache service (page 7) to be used with the Tekla Model Sharing service. With the Tekla Model Sharing Cache service, the model data is stored to the sharing service and then cached inside a LAN. This set-up is useful especially if you have a narrow bandwidth to the Internet, because using a cache reduces the download effort.</p> <p>The first user who reads in a packet from the sharing service loads it to the cache, and the next user gets the data faster from the cache inside the LAN than from the sharing service through the Internet. The cache is not used for packets that are written out.</p> <ul style="list-style-type: none"> • Name is the name of the computer on which the cache is installed. To check the computer name, click Windows Control Panel --> System and Security --> System. • Port is the cache service port number that you have set when you installed the cache service. The default value is 9998. • Click the Set button to connect to the cache. • Alternatively, you can set the advanced option <code>XS_CLOUD_SHARING_PROXY</code> to "name of the

Option	Description
	<p>server"; "port" in a .ini file. This advanced option is user-specific.</p> <p>To reset the cache settings in the dialog box to the ones defined in the .ini file, click the Reset button. If any .ini file has the advanced option defined, the settings appear in the dialog box.</p>
<p>Show available updates when joining the model</p>	<p>Select the check box to enable a list that shows all the available baselines and updates (page 19) when you join the model.</p> <p>The Available updates list shows all the baselines and the updates after the latest baseline. You can select any of the available baselines or updates to join, not only the latest. By joining an earlier baseline or update you can go back in the model history, and, for example, check the model state on a certain date.</p> <p>Alternatively, you can set the advanced option XS_SHARING_JOIN_SHOW_AVAILABLE_UPDATES to TRUE in a .ini file to enable the showing of updates. This advanced option is user-specific.</p>
<p>Show available updates when reading in the changes</p>	<p>Select the check box to enable a list that shows all the available updates (page 14) when you read in the model changes.</p> <p>The Available updates list shows all the available updates. You can select any of the available updates to be read in, not only the latest. By reading in an earlier update you can go back in the model history, and, for example, check the model state on a certain date.</p> <p>Alternatively, you can set the advanced option XS_SHARING_READIN_SHOW_AVAILABLE_VERSIONS to TRUE in a .ini file to enable the showing of updates. This advanced option is user-specific.</p>
<ul style="list-style-type: none"> • Show changes after read in • Only when conflicts exist 	<p>Select the check box to enable a list that shows the model changes (page 16) after you have read in. If you select the Only when conflicts exist option, the list is shown only when there are conflicts in the model after read in.</p> <p>Alternatively, you can set the advanced options XS_SHARING_READIN_SHOW_CHANGEMANAGER and XS_SHARING_READIN_SHOW_CHANGEMANAGER_CONFLICTSONLY to TRUE in a .ini file to enable</p>

Option	Description
	the showing of model changes. These advanced options are user-specific.
Enable write out revision comment	<p>Select the check box to enable the entering of revision comments.</p> <p>When you write out, you can enter a revision comment and code in the comment dialog box. If you enable the revision comments, the comment dialog box is displayed for all the model users.</p> <p>Alternatively, you can set the advanced option <code>XS_SAVE_WITH_COMMENT</code> to <code>TRUE</code> in <code>.ini</code> files to enable the revision comment. This advanced option is model-specific.</p>
<ul style="list-style-type: none"> • Copy project folder files to model folder • Copy firm folder files to model folder • Overwrite model folder files 	<p>Select whether the project or the firm folder files are copied to the model folder that you are going to share. Select the check boxes and click the Copy files button.</p> <p>We recommend you to copy the project and firm folder files.</p> <p>You can also select whether the copied project or firm folder files replace the existing files of the same name in the model folder.</p> <p>Individual files can be copied to a model folder at any time. The next time you write out, they are shared to all model users.</p>

See also

[Cache server deployment](#)

[Conflict handling and limitations in Tekla Model Sharing \(page 37\)](#)

3.2 Exclude files and folders from Tekla Model Sharing

By default, files and folders in the model folder are shared when you share a model in Tekla Model Sharing. If you do not want to share all of the model folder files or folders, you can select to exclude some of them from sharing. Note that some files are excluded automatically.

1. On the **File** menu, click **Sharing** --> **Settings** .
The **Sharing settings** dialog box opens.
2. Click the **Exclude** button to see which files and folders in the model folder are excluded from sharing, and to exclude more files or folders.

Some of the files and folders are excluded automatically from sharing. These files and folders appear on the **Excluded model folder files and directories** list, and they cannot be removed from the list.

The following folders are excluded by default:

- Directory=ModelSharing
- Directory=ModelSynchFiles
- Directory=RefCache
- Directory=RefCacheFolders
- Directory=PublicWeb
- Directory=Reports
- Directory=PlotFiles
- Directory=Logs
- Directory=StartSharingBackUp
- Directory=ProjectOrganizer
- Directory=SessionFileRepository

- a. If you want to exclude more folders or files, click the **Directory** or the **File** button.
- b. Select the folder or the file to be excluded.

The excluded folders and files are added to the **Excluded model folder files and directories** list.

If you exclude a folder, all its sub-folders and sub-files are also excluded from Tekla Model Sharing.

You can exclude files in several ways. For example, if you have a file called `TeklaStructures.bbb`, and you use the following settings to exclude the files:

Option	Description
(x.x)	<code>TeklaStructures.bbb</code> is excluded from sharing.
(x.*)	All the files with <code>TeklaStructures.</code> are excluded from sharing.
(*x)	All the files with <code>.bbb</code> are excluded from sharing.
(*.*)	All the files from that folder, but not from its sub-folders, are excluded from sharing.

- c. If you want to remove the added folders or files from the list of excluded files, click **Remove**.

You cannot remove a folder or a file that has been excluded automatically.

3. Click **OK** when you have finished selecting the excluded files.

See also

[Tekla Model Sharing settings \(page 31\)](#)

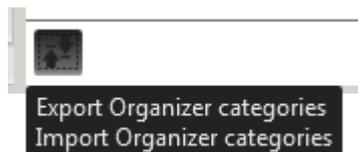
3.3 How to share Organizer data in Tekla Model Sharing

By default, **Organizer** data is not shared. However, you can use the **Organizer** import and export with Tekla Model Sharing to share the **Organizer** changes.

1. Select a user who is responsible for the **Organizer** data. This is `User A`.
2. `User A` creates the **Organizer** data and exports the data to a model subfolder.

Note that the selected folder cannot be the default `ProjectOrganizer` folder.

3. `User A` writes out.
4. `User B` reads in and notices that there is new data available.
5. `User B` opens **Organizer** and imports the data that `User A` has exported.



The data appears as new in **Organizer**.

6. `User B` removes the old **Organizer** data and saves the model.
7. `User A` updates the **Organizer** data, exports the update and writes out.
8. `User B` reads in and imports the updated data to **Organizer**.

The data appears as new in **Organizer**. `User B` removes the old data.

See also

[What is shared in Tekla Model Sharing \(page 27\)](#)

3.4 Collect model history in Tekla Model Sharing

Tekla Model Sharing collects model history on the actions in the shared model. Model history shows when the model has been changed, how the model has changed, and who has made the changes.

1. On the **File** menu, click **Settings** --> **Advanced Options** .
2. Go to the **Speed and Accuracy** tab.

3. Ensure that `XS_COLLECT_MODEL_HISTORY` is set to `TRUE`.
Tekla Structures automatically sets `XS_COLLECT_MODEL_HISTORY` to `TRUE` when a model is shared.
4. Set `XS_CLEAR_MODEL_HISTORY` to `FALSE`.
5. Click **OK**.
6. To view model history, do one of the following:
 - On the ribbon, click  and select an object in the model.
The model history is shown in the **Inquire Object** dialog box.
If the **Enable write out revision comments** option has been selected in the **Sharing settings** dialog box, the revision comments are displayed as well.
 - Create a model history report.
 - a. On the **Drawings & reports** tab, click **Reports**.
 - b. Select a report template that shows the model history.
The name of the report template may vary in different environments. In the Default environment, the report template is called `Q_Model_History_Report`.
 - c. Click **Create from all** to create a report on all the objects in a model, or select one or more objects in the model and click **Create from selected** to create a report from the selected objects.

See also

[Start sharing a model in Tekla Model Sharing \(page 12\)](#)

[Tekla Model Sharing settings \(page 31\)](#)

4 Conflict handling and limitations in Tekla Model Sharing

For general Tekla Model Sharing troubleshooting instructions, see [Troubleshooting Tekla Model Sharing](#).

Conflict handling

When several users modify the model at the same time in Tekla Model Sharing, conflicts may occur.

In general, all object types work similarly in Tekla Model Sharing. When you read in, the changes in the incoming packet override your local changes to the same object. In other words, if several users modify the same object, the user who first writes out the changes to the sharing service wins in conflicts.

Before you start to share models, agree on common ways of working.

For example,

- have users work on different areas of the model.
- check catalogs so that they include all the needed definitions.
- check family numbering settings.

Family numbering settings are shared but cannot be incrementally updated. We recommend that one user first reads in all the packets, makes the updates and then shares the settings by writing them out. If the user needs to read in before writing out, it is important to check that the settings are as they were before starting to share them.

Give start numbers in wide ranges so that you do not run out of numbers within a numbering series, and that any numbering series does not overlap with another.

We recommend you to use the **Numbering series of selected objects** command on the **Drawings & reports** tab when numbering.

- agree whether pours will be used in the model and set `XS_ENABLE_POUR_MANAGEMENT` accordingly.

If users modify different properties of the same object, the end result is a combination of modifications.

- **Model objects**

A shared modification to an object property overrides any other object property modification.

For example, one user modifies a beam profile and writes out. Another user has modified the material of the same beam and reads in. The user who modified the beam material loses the changes, because the shared changes override the local changes to the same object.

- **Grids**

If there is a conflict in sharing grids, grids are recreated using the original values that have been set in the grid properties. Any manually added grid lines are lost.

For example, when two users modify a grid by adding extra grid lines and write out, the added grid lines disappear from the model when they read in.

- **User-defined attributes (UDAs)**

A shared change to a user-defined attribute (UDA) overrides changes to the same UDA only.

For example, a change in the **Comment** UDA overrides a change to the **Comment** UDA but not to the **Shorten** UDA.

A shared change to a part does not override UDA changes and vice versa.

- **Part and the related component**

A shared change to a part does not override component changes and vice versa.

- **Drawings**

There can be duplicate drawings from the same part.

For example, two users create drawings from the same part when they are working on their local versions of the shared model. When both users write out their changes, two drawings appear on the drawing list. Tekla Structures does not delete either of the drawings, and it does not merge the changes from the drawings. You need to visually check the drawings and decide which drawing to delete.

- **Pours**

If the pours are enabled in the model, do not disable the pours using `XS_ENABLE_POUR_MANAGEMENT`, especially in the middle of the project. The pours and pour breaks in the model and in the drawings may get invalid, and you may lose all pour-related modeling work.

WARNING If an object deletion has been written out to the sharing service, the object will be deleted in your model when you read in. This happens regardless of whether you have modified the object before reading in. Deleted objects remain deleted if the deletion has been shared.

Deleted objects are not visualized when you read in.

Object IDs

Tekla Structures objects have an identifier that is shown as the object ID. With Tekla Model Sharing, Globally Unique Identifiers (GUIDs) are used as object IDs.

This means that features that do not use GUIDs need to be changed to use GUIDs.

- In cast unit drawings, the **Cast unit definition method: By cast unit ID**.
- Interoperability import/export actions:
 - FabTrol XML
 - ASCII
- All other applications, macros and report processes that rely on static IDs.
- Excel design that uses connection ID in the file name and that the user may use in reports and drawings.
- By default, **Organizer** data is not shared.

However, you can use the **Organizer** import and export with Tekla Model Sharing to share the **Organizer** changes.

See also

[What is shared in Tekla Model Sharing \(page 27\)](#)

[View sharing changes and sharing history in Tekla Model Sharing \(page 16\)](#)

[How to share Organizer data in Tekla Model Sharing \(page 35\)](#)

4.1 Restore a model in Tekla Model Sharing

Backing up shared models

We recommend you to back up the models used in Tekla Model Sharing. In case there are problems with a shared model, it is possible to select any user's local version of the model, or a model that has been backed up, and continue working using that model. Make sure that you have the complete backed up model in use and that the model folder includes, for example, drawings and different databases. This ensures that the model functions properly and you

do not lose any data. If the backed up version of the model is old, reading in all the changes may take some time.

Note that the **Save As** command cannot be used for backing up the model. If you use **Save As**, the model gets new IDs and it has no relation to the original model. Back up your models according to your company conventions, for example, by using Windows Backup.

With the **Save as** command the model history is not copied with the saved model.

Restoring shared models

If you have problems with the shared model, you can restore a previous version of the model, and start using that model in Tekla Model Sharing.

To take a previous version of the model into use:

1. [Join \(page 13\)](#) the model again.
2. [Read in \(page 14\)](#) the packets until you have reached the preferred level in the model history.
3. [Exclude \(page 20\)](#) the model from sharing.
4. [Start sharing \(page 12\)](#) and invite other users again to the model.

Ensure that all the users within the model start to use the restored version of the model.

See also

[What is shared in Tekla Model Sharing \(page 27\)](#)

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