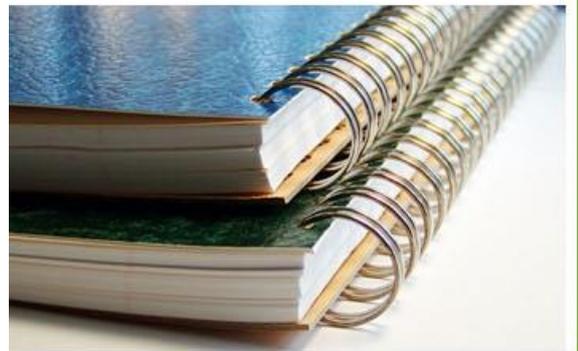


Multi-user guide

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- *How it works*
- *Connecting to the Master model*
- *Modifying the local copy*
- *Publish modifications to the Master model*
- *Reloading the master model*
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Introduction

With the “Model share” technology, users can work simultaneously at the same project.

Each member of a project team has access to a master model and can check-out the elements he needs to work on. In addition, users get real-time notifications enabling them to identify which parts of the model are being worked on by other members. Areas of the model that have been checked-out by other members are always available in a read-only mode. When the work is done, users have the ability to "publish" their work back to the master model, thus making it instantly accessible to other members.

What is the Master model

The Master model is a model saved in a .dwg file that stores all project information and is shared in a network. The users work on a local copy and send the changes to the Master model.

How it works

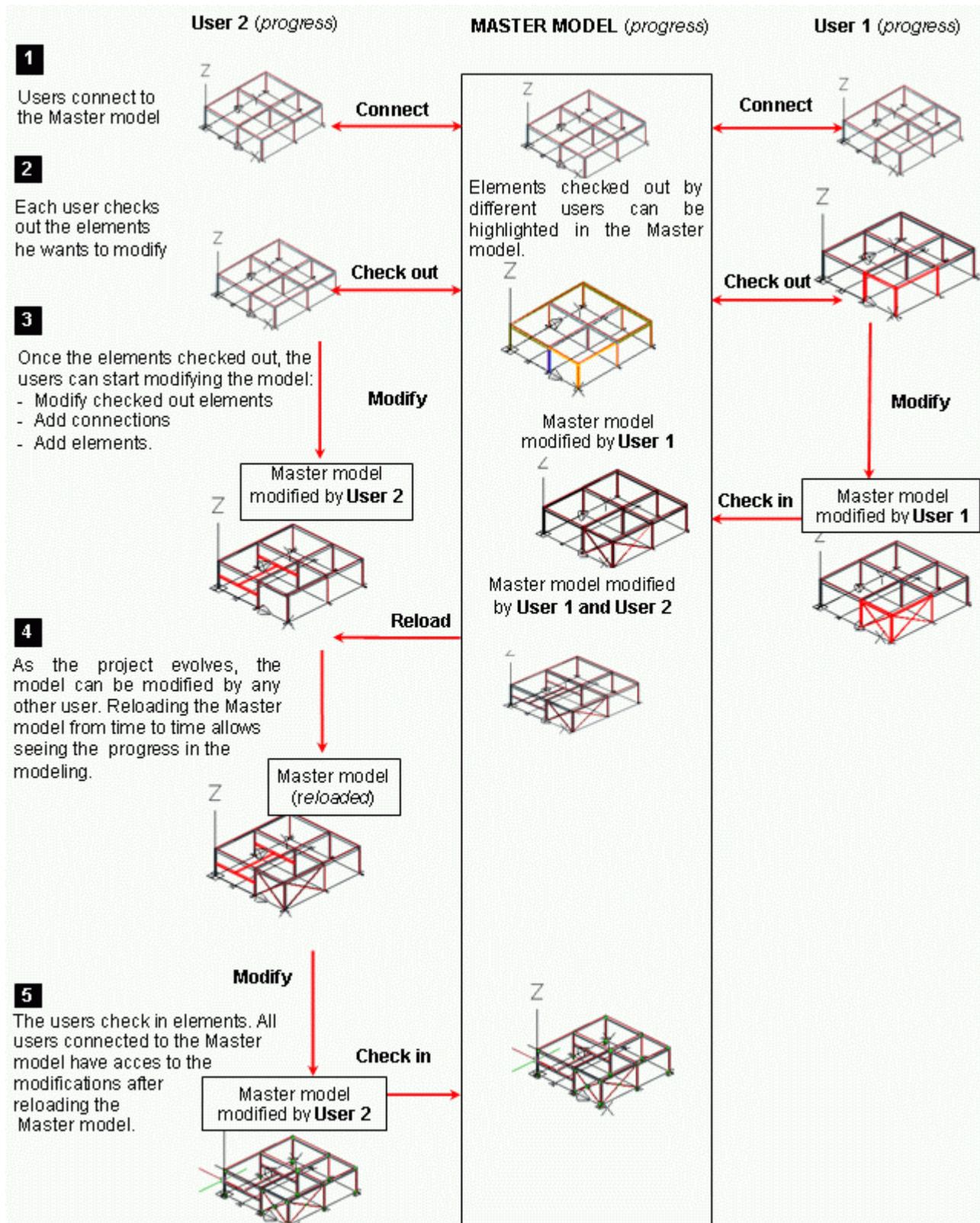
To work in a multi-user environment, first create the Master model in a .dwg file and share it in a network.

Once the model is shared, it can be accessed by several users which will share their work through the Master model.

Each user who wants to work on the Master model must go through the following stages:

- Connect to the Master model. The model is loaded into the workspace, in read only mode.
- Modify the local copy (modify existing elements, add new elements...)
- Send the modifications to the Master model.

The next diagram illustrates the entire workflow.



Accessing multi-user tools

Advance Steel provides a complete range of tools, all grouped in the **Multi-User** toolbar.

On the **Advance Steel** toolbar, click  to display the **Multi user tools** toolbar.



Connecting to the Master model

Each user who wants to modify the model must first connect to it.

Note: *The Master model must be closed as working directly on the Master model is not a best practice.*

1. Create a new .dwg file and save it.
2. On the **Multi user tools** toolbar, click  to connect to the Master model.



The Master model is loaded to the workspace and appears in “read-only” mode.

 *The model loaded in the workspace is the local copy of the Master model. AutoCAD Save command saves the local copy on the local computer. In order to share modification with other user the modifications must be “published” in the Master model.*

Modifying the local copy

When working with a shared model, the users can modify the existing elements by changing their properties or their geometry (holes, cuts, copes, etc). Users can also add new elements and create connections as usually Advance Steel elements are connected or should be connected.

Only the elements that are checked out from the Master model can be modified.

Checking out elements

There are two ways to check-out elements:

- Complete check out:
Not only the selected elements are checked out, but also the connected elements (if there are any). Tough, only directly selected elements can be modified. The others – partial load of the properties (only some properties can be modified).

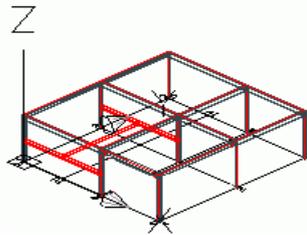
Elements can be checked out “completely” only by one user at a time.

- Partial check out:
If several users have to work on the same element (for example each user adds a connection at different end of a beam) then the element should be partially checkout.
Only the selected elements are checkout, regardless their connections; the element properties cannot be changed, only connections and features are allowed.

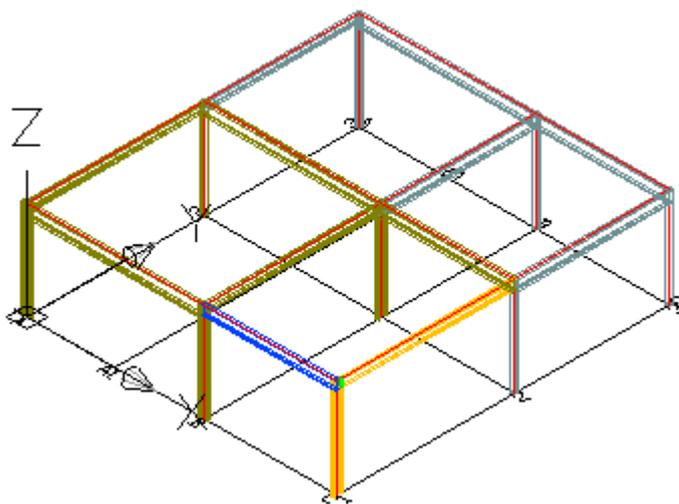
Several users can add features and connections on the same element

Example

- In a shared model, a column is connected to a rafter by a rule-based joint. Two users have to add new elements and create all connections.
- User 1:
 - modifies the section of the connected column -> the column must be checked out completely
 - connects the column to the other rafter -> the other rafter must be checked out partially so that another user can work on it.
- User 2:
 - adds sub floor beams as in the picture below -> the columns must be checked out (completely or partially)



- connects the rafters with the supporting columns except the column checked out by the User 1 which must be checked out partially.



■	- elements checked out by User 1
■	- elements checked out partially by both users
■	- elements checked out by User 2

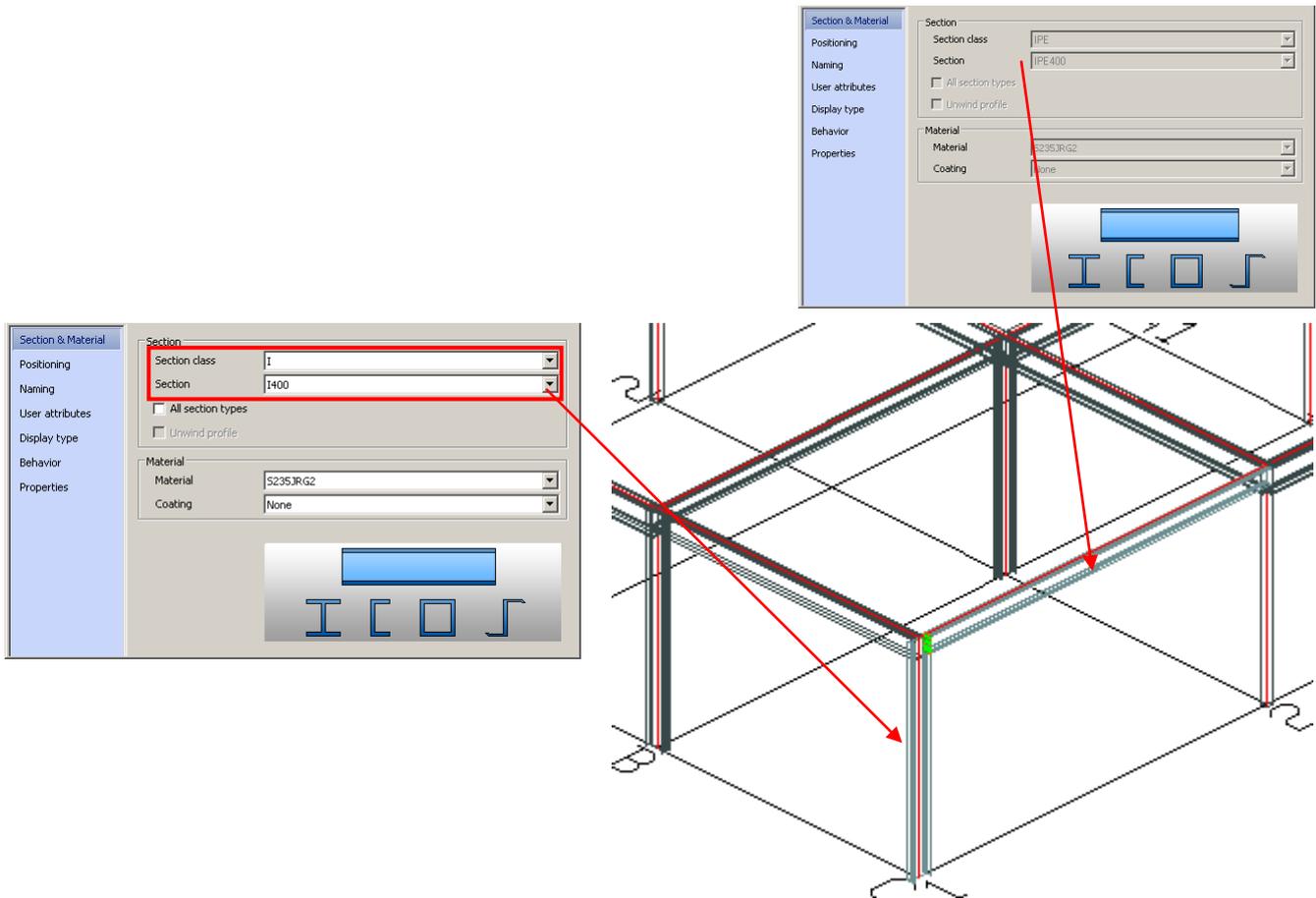
Example: Check out complete a connected column

In a shared model, a column is connected with two rafters by rule-based joints.

1. On the **Multi-user tools** toolbar, click .



2. Select the column and press **Enter**.



Notice that not only the selected column is checked out, but also the rafter connected to the column and the elements of the intelligent connections in which the column is involved. The user can modify any of the column properties and the connections. On the other hand, only some properties of the rafters can be changed – those that do not affect the section. The joint can be modified in any way.

Example: Check out partially elements that should be connected

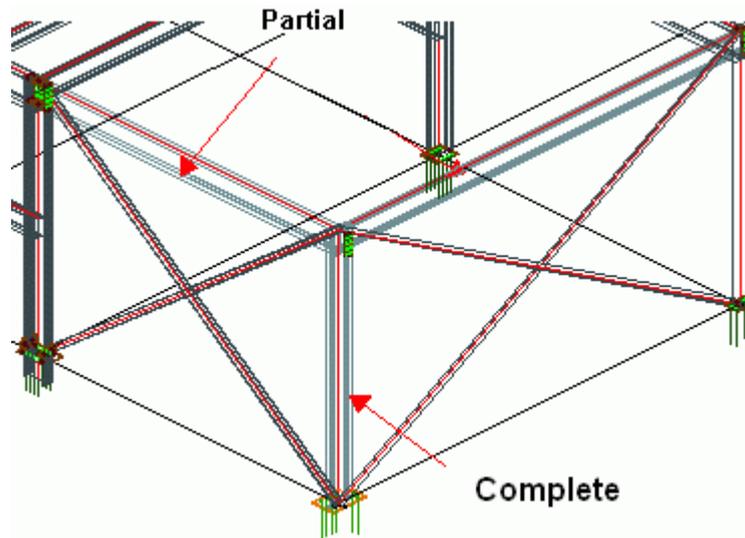
The column was checked out completely in the previous example to allow the user to modify the section. Next, check out partially the elements to connect (the other rafter) knowing that another user should work on the other end of the rafter. This way the two rafters can be checked out partially by another user who can add connections or features at the other end of the element.

1. On the **Multi-user tools** toolbar, click  to check out partially.



2. Select the elements to connect (the rafter) and press **Enter**.

The properties of the two rafters cannot be modified, but connections and features can be added.



The elements can be clicked (single selection) or selected using AutoCAD tools like crossing windows or enclosing windows. Another option is to use check out by filter to select a group of elements that have the same properties.

Check out by filter

Another option is to use check out by filter to select a group of elements that have the same properties.

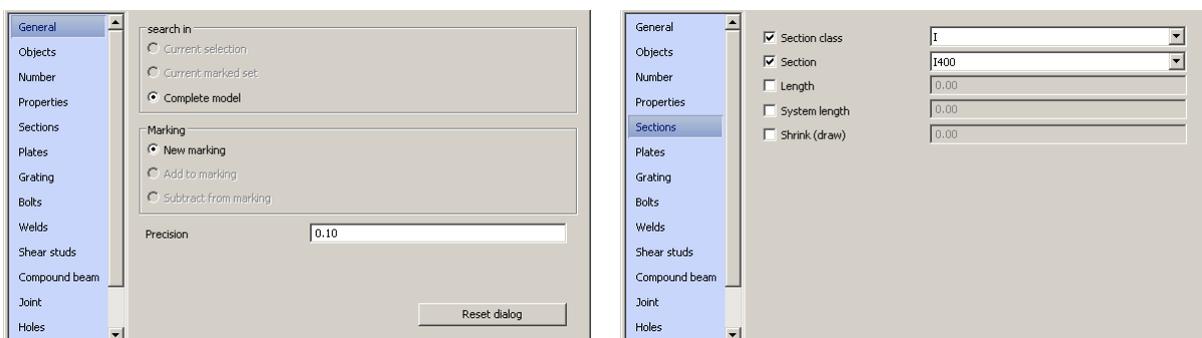
Two icons are available on the Multi user tools toolbar:



Example: Checking out partially elements with I400 section

From the whole model, select all beams and columns with I400 section.

1. On the **Multi-user** tools toolbar, click  for a complete check out by filter.
2. In the “Search and mark objects” dialog box, define the following settings
 - On the **General** tab select the search field: complete model.
 - On the **Sections** tab select the elements you want to modify (for example, all **I, I400** sections).



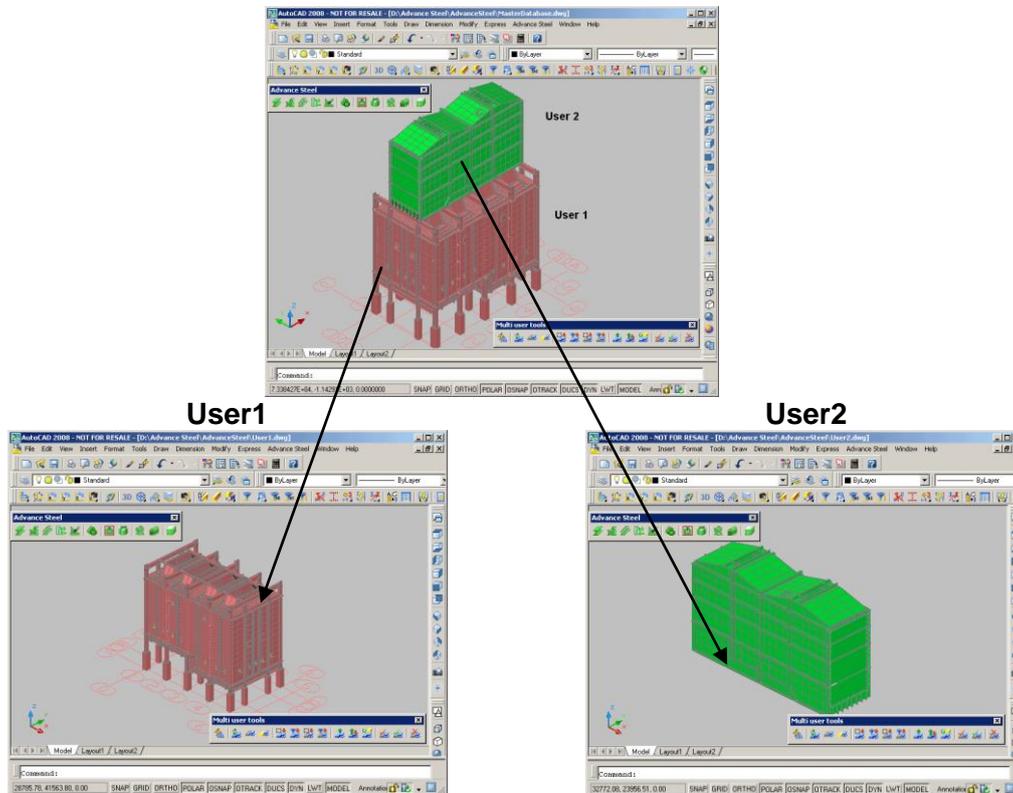
Note: Using the “Partial check out” function, only the selected sections are checked out, regardless their connections.

Notice that not only the selected sections are checked out, but also the elements which are connected to the searched sections.

Displaying only the checked out elements

Users can display only their checked out elements, so that only part of the model is visible. This avoids adding elements in undesired areas of the model and improves the display.

Master model



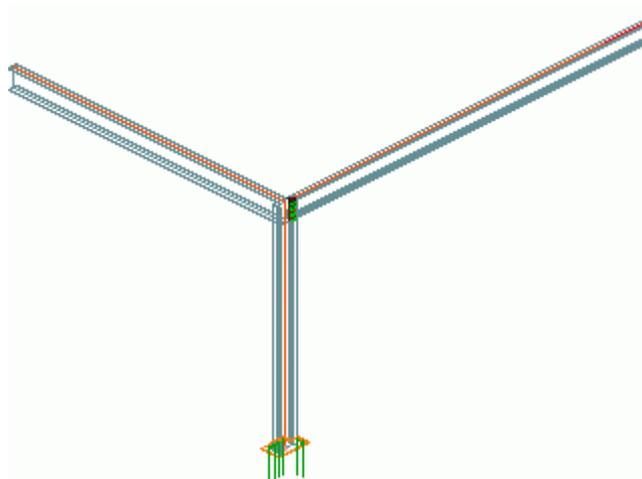
Example: Displaying checked out elements

Display only the elements checked out by **User 1**.

1. On the **Multi-user tools** toolbar, click  to turn off the other objects.



Only the column and the two rafters are displayed.



2. To display again all the elements of the model, on the **Multi-user tools** toolbar, click .



Publish modifications to the Master model

Each user involved in the project works on a local copy of the Master model. To share the work he must publish the modifications to the Master model, so that all connected users can see the progress in the modeling.

Two tools allow sending the modifications to the Master model:

- “Check in – keep check out” tool: the modifications are sent to the Master model but the elements are still checked out.



- “Check in” tool – the modifications are published to the Master model and the elements are released. If the user wants to modify again the element he must check it out again.



Each user sees a message about changes to the Master model on the bottom-right of the screen.

Marking objects for check in

After modifying the model, a user can mark all the checked out objects to check them in.

Note: The marked objects can be unmarked using the “Remove selected”  tool on the **Standard** toolbar.

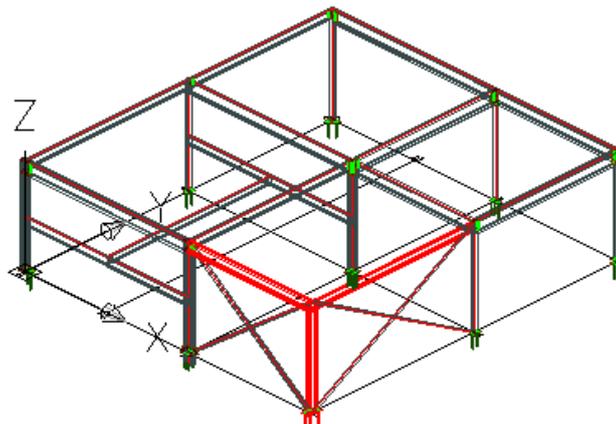
Example: Marking checked out objects

1. On the **Multi-user tools** toolbar, click .



The elements checked out by the User 1 are marked in red.

Then he may check in the elements and update the master model by clicking  on the **Multi-user tools** toolbar. If a user wants to continue working on the model even after checking in the modified elements, he can do that by clicking  on the **Multi-user tools** toolbar.



Adding elements to the model

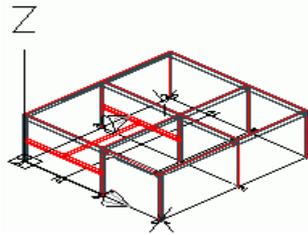
As the project evolves, it might be necessary to add new objects. The user adds new elements on the local copy where he can modify the elements or delete them. Added elements will be available for other users only after checking them to the Master model. Once the element is checked in, it can be modified only after check out.

Example: Adding sub floor rafters to a model

1. On the **Multi-user tools** toolbar, click .



2. Select the elements to add to the Master model and press **Enter**.



Reloading the master model

As the project evolves, the model can be modified by any other user. Therefore, it is recommended to reload the model from time to time and see the progress in the modeling.

To refresh the master model, click  on the **Multi-user tools** toolbar.



Administrator tools

Note: *The Master model must be closed as working directly on the Master model is not a best practice.*

Canceling checked out elements

The owner of the Master model may at anytime suspend the access to the master model for any user, by clicking  on the **Multi user tools** toolbar.



 *The selected users will no longer be able to check in the modifications made on their local copies.*

Marking checked out objects

Some checking tools allow seeing who checked out a part of the structure to work on it. The elements checked out by a selected user are highlighted.

The designer of “MasterDatabase” may also check which parts of the model are checked out and by whom by clicking



on the **Multi-user tools** toolbar.



In this example, the model is accessed for editing by 2 users, **User1** and **User2**.

Security warnings

To avoid having multiple users work on the same element, warning messages appear if a user wants to access an object already completely checked out by another user.

Also if any actions are started on the Master model (e.g., numbering, workshop or general arrangement drawing creation), a warning message informs the user if some elements are still checked out.



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