Sync with Excel or CSV files

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Introduction

You can transfer data between Excel/CSV files and modeling tool tables. After sync, the data on the Excel file of the selected sheet or CSV file matches the data in the modeling tool table. This mechanism is bidirectional and ensures continuous work between Excel/CSV files and modeling tool tables. If you don't have the ability to collaborate via the internet but you need to share information through Excel or CSV files, you can use this feature. The Excel/CSV

file syncing is available in all tables of the modeling tool by using the **Excel/CSV Sync** button ⬛ ▼ in the table toolbar.

Preparing Excel or CSV files to sync

To sync data from Excel or CSV files, the files must meet the following prerequisites:

- The heading is located in the first row.
- When creating relationships, the spreadsheet must contain the source and target columns. The source and target columns contain the names /qualified names of elements respectively that are the client and supplier of the relationship.

Recommended prerequisites:

- Eliminate merged cells.
- Every column has a unique column name.
- Every row has the same number and name of columns.
  Every cell has the element name or qualified element name.

How to synchronize your data

To synchronize the table with the Excel or CSV file

1. Create new or open an existing table.
2. In the table Criteria area, select the **Element Type** or **Classifier**.
3. Click the **Columns** button and select properties and/or slots to which you want to sync data from the Excel or CSV file.

4. On the table toolbar, click [icon] ▾ and then choose **Excel/CSV File** > **Select File**. In the **Excel/CSV Sync Options** dialog, select the Excel or CSV file either from your file system or from the model, if the file is already attached. How to attach the file to a project >
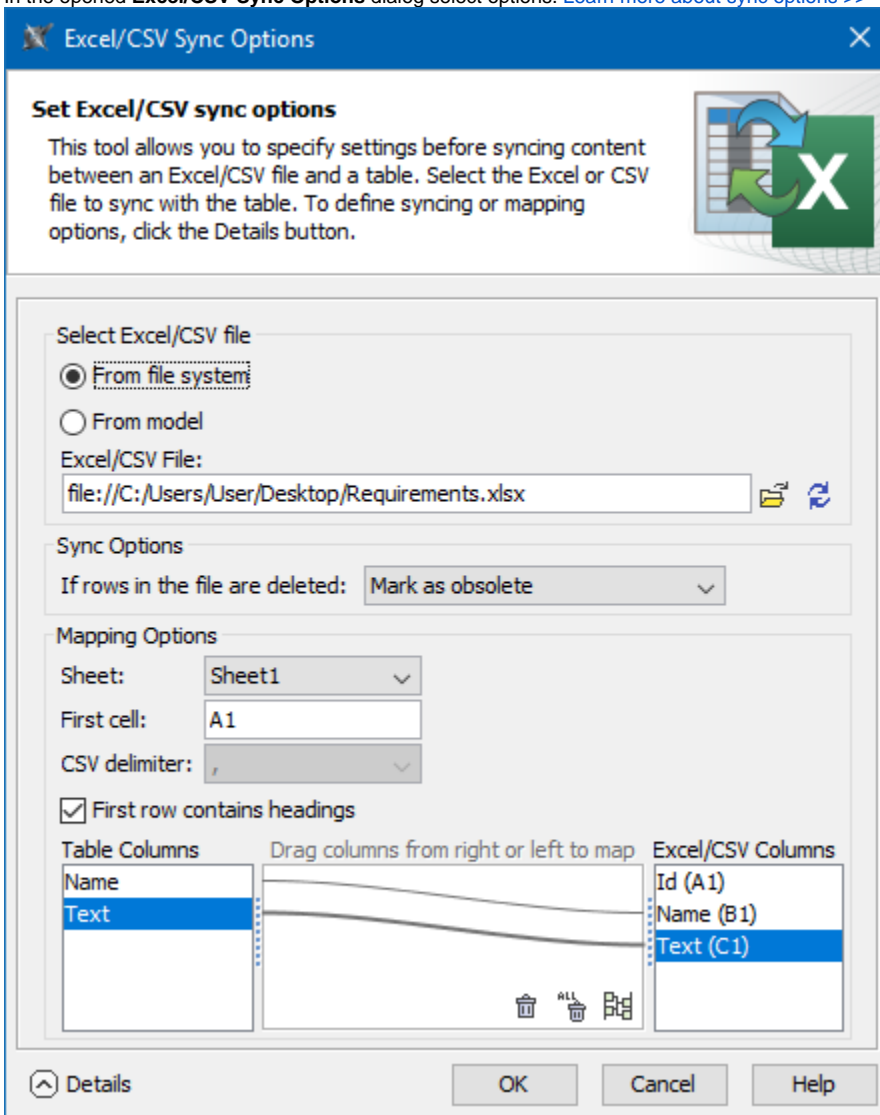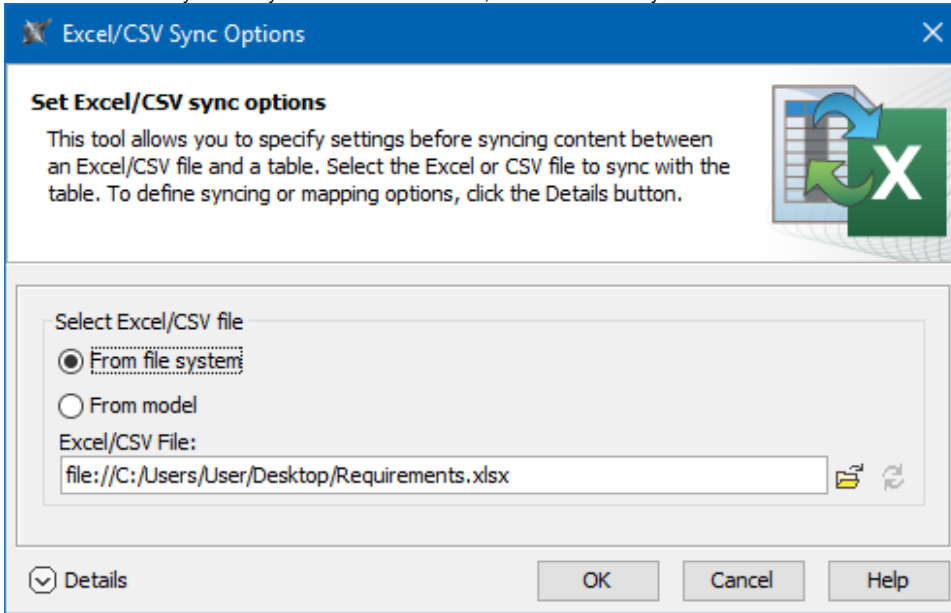

> An alternative way to link Excel or CSV file to the table is to drag it onto the table, hold it down until the Tooltip appears (long drag), then drop it, and select either **Link Excel/CSV File** or **Attach and Link Excel/CSV File**. If you want to modify sync options, select on the table toolbar,

> - If you select another file, e.g. Vehicle Requirements.xlsx on a modeling tool table that is already linked with the file, e.g. Stakeholder Requirements.xlsx, the previous file named *Stakeholder Requirements.xlsx* is replaced with the latest one *Vehicle Requirements.xlsx*.
> - You can link only one Excel/CSV file with the same modeling tool table.

5. Click **Details** to expand the dialog.
6. The modeling tool might require refreshing the dialog before setting the mappings. Therefore, if you see this notification at the bottom of the dialog, click **Refresh**.

> Before uploading the mapping of the older version to Teamwork Cloud, you need to recreate the mapping in the local project and resave it first.

7. In the opened **Excel/CSV Sync Options** dialog select options. Learn more about sync options >>

> If you are importing requirements, they are first mapped by ID if the ID column is displayed. If the ID column is not displayed, then the
> requirements are mapped by name. If the name is changed, then a new requirement is created in the table.

8. Click **OK**.
9. Import data from the linked file in one of the following ways:
   - The notification appears on the down-right corner of the modeling tool window (see the following figure), click **Read from File**.
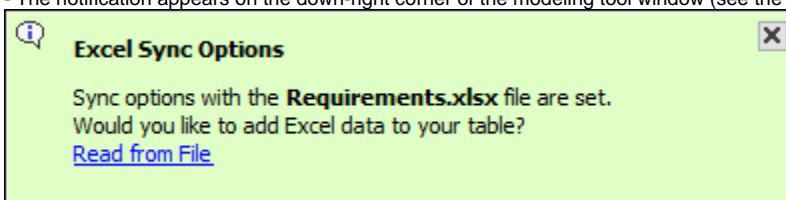
   - On the table toolbar, click and select the **Read From File** command.

> ⊘ **Read From File exceptions**

10. If you synchronize requirements, in the **Select Type** dialog, select the element you want to create in the modeling tool table.

11. Wait while data are imported into the table. The relevant notification displays in the down-right corner, when synchronization is completed. Items synchronized to the SysML requirements table appear in the Model Browser, too.

After making any changes in the Excel or CSV file you must save them before using the **Read From File** command. Otherwise, the changes will not be imported to the modeling tool table.

Excel Import Status:	New	Obsolete	Unchanged	Updated		

#	Name	Text
1	Original Statement	Describe a system for purifying dirty water. - Heat dirty water and condense steam are performed by a Counter Flow Heat Exchanger - Boil dirty water is performed by a Boiler. Drain residue is performed by a Drain. The water has properties: vol = 1 liter, density 1 gm/cm3, temp 19 deg C, specific heat 1cal/gm deg C, heat of vaporization 540 cal/gm.
2	Purify Water	The system shall purify dirty water.
3	Heat Exchanger	Heat dirty water and condense steam are performed by a Counter Flow Heat Exchanger
4	Boiler	Boil dirty water is performed by a Boiler.
5		Water has properties: density 1 gm/cm3, temp 20 deg C, specific heat 1cal/gm deg C, heat of vaporization 540 cal/gm.
6		
7	Drain	Drain residue is performed by a Drain.

Data cannot be imported or imported correctly if:

- The CSV file format is invalid
- Cells are non-editable
- Data types of columns are not compatible with source information.
- Columns do not support information updates.
- Elements with the same names but different types exist.
- The owner is not set or updated because this element does not exist in the model.

Also, some text formatting may not be transferred.

If you made changes in the file and saved them, the table Legend displays automatically and highlights the **New**, **Obsolete**, **Unchanged**, and **Updated** rows. In the figure above, the first requirement is updated, the seventh is newly created, and the second is deleted. All the items in the table are highlighted. The legend above reveals that all new items are highlighted like this. You can change the legend colors or hide the legend from the table. Learn more about legends >>

12. After making changes in the modeling tool table, export that data to the linked file as follows: on the table toolbar, click and select the **Write To File** command.

Write To File exceptions

The data cannot be exported or exported correctly if:

- The Excel file is corrupted.
- The CSV file is open.
- The CSV file is locked or you do not have the necessary permissions to access it.

The data is synchronized between the modeling tool table and Excel or CSV file.

If you want to use UML properties when importing the file, add the following system property to the properties file:

-DUSE_UML_TYPES_IN_EXCELSYNC=true

To add the system property

1. Go to the <modeling_tool_installation_dir>\bin\ and open for editing the *<modeling_tool>.properties* file.
2. In the file, find JAVA_ARGS and add *-DUSE_UML_TYPES_IN_EXCELSYNC=true* as one of the values.
3. Save the file and start the modeling tool.

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