

Importing relationships

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Main conditions

You can create relationships between existing model elements by importing them from Excel/CSV files. For this the following conditions must be met:

- The source/client and target/supplier elements you want to create relationships between must exist in the project.
- The Excel/CSV source and target columns must be mapped with the Client/Source and Supplier/Target properties in the mapping area of the [Excel/CSV Import dialog](#).
- The source and target elements must be legal in terms of Metamodel, DSL and code rules, e.g., the satisfy relationship client must be a requirement.

Preparing the Excel file to import relationships

When creating relationships in the model by importing them, you need to make sure the Excel file contains the source and target columns. The source column contains the names of elements that are the client of the relationship. The target column contains the names of the elements that are the suppliers of the relationship. In the example below, the Source column contains the names of the Blocks and the Target column contains the names of Requirements.

	A	B
1	Source	Target
2	Brake	Rotor Diameter
3	Brake	Pad Center length
4	Brake	Pad Center Thickness
5	Pad	Pad Center length
6	Pad	Pad Center Thickness
7	Rotor	Rotor Diameter
8	Tire	Tires
9	Vehicle	Vehicle Weight
10	Vehicle	Tires
11	Vehicle	Rotor Diameter
12	Vehicle	Pad Center length
13	Vehicle	Pad Center Thickness
14	Wheel	Tires
15	Wheel	Rotor Diameter
16	Wheel	Pad Center length
17	Wheel	Pad Center Thickness

The screenshot shows the 'Containment' tool interface. On the left, a tree view displays the model structure: 'Model' contains 'Relations', 'Excel/CSV imports', 'Relationships', and 'Requirements'. The 'Requirements' folder is expanded, showing a list of 9 requirements: '1 Stopping Distance <Requirement>', '2 Brake Heating <Requirement>', '3 Brake Pad Life <Requirement>', '4 Vehicle Weight <Requirement>', '5 Tires <Requirement>', '6 Rotor Diameter <Requirement>', '7 Pad Width <Requirement>', '8 Pad Center length <Requirement>', and '9 Pad Center Thickness <Requirement>'. Below this, the 'Structure' folder is expanded, showing a list of 10 blocks: 'Brake <Block>', 'Caliper <Block>', 'Engine <Block>', 'Pad <Block>', 'Rotor <Block>', 'Tire <Block>', 'Transmission <Block>', 'Vehicle <Block>', and 'Wheel <Block>'. A blue arrow points from the 'Target' column of the Excel table to the 'Requirements' list, and an orange arrow points from the 'Source' column to the 'Blocks' list.

The Excel file content prepared with element names for the relationships import.



[How to import Blocks and their properties >>](#)

[How to import Requirements >>](#)

If you have to deal with a large a scope of information, the elements are not under the same target scope, or you want to increase the import speed, use the following:

- Select to search elements and references in the **Target Scope Only** in the [Excel/CSV Import dialog](#) when importing data.
- Define your source and target columns in the Excel file with qualified names of elements. In the example below, the Source column contains the qualified names of the Blocks and the Target column contains the qualified names of Requirements.

	A	B
1	Source	Target
2	Structure::Brake	Requiremnets::Rotor Diameter
3	Structure::Brake	Requiremnets::Pad Center length
4	Structure::Brake	Requiremnets::Pad Center Thickness
5	Structure::Pad	Requiremnets::Pad Center length
6	Structure::Pad	Requiremnets::Pad Center Thickness
7	Structure::Rotor	Requiremnets::Rotor Diameter
8	Structure::Tire	Requiremnets::Tires
9	Structure::Vehicle	Requiremnets::Vehicle Weight
10	Structure::Vehicle	Requiremnets::Tires
11	Structure::Vehicle	Requiremnets::Rotor Diameter
12	Structure::Vehicle	Requiremnets::Pad Center length
13	Structure::Vehicle	Requiremnets::Pad Center Thickness
14	Structure::Wheel	Requiremnets::Tires
15	Structure::Wheel	Requiremnets::Rotor Diameter
16	Structure::Wheel	Requiremnets::Pad Center length
17	Structure::Wheel	Requiremnets::Pad Center Thickness

The The Excel file content prepared with qualified element names for the relationships import.

Relationships import procedure

To import relationships

1. Prepare the Excel file for relationships import. [How to prepare the Excel for the relationships import >>](#)
2. Open the project in the modeling tool.



Make sure the elements you want to create relationships between exist in the project.

[How to import Blocks and their properties >>](#)

3. In the top-left corner of the modeling tool, click the **File > Import From > Excel/CSV File > Import Using New Map**.
[How to Import Requirements >>](#)



For element import via tables, use the [Excel/CSV Sync](#) functionality.

4. In the [Excel/CSV Import dialog](#), select the Excel file. [How to >>](#)
5. Specify the mapping options:
 - **Import Type** - select the Element value.
 - **Element Type** - select the relationship type you want to create.
 - **Properties to Map** - the Client and Supplier properties are selected by default.
 - **Target Scope** - select the Package you want to contain imported relationships. If the Owner property is selected as the **Properties to Map** option value, the data is imported according the owner.



You can specify more mapping options according to your needs. [Learn more about mapping options >>](#)

6. Create the mapping between Excel file columns and element properties by dragging the Source column on the right to the Client property on the left. Do the same with the Target and Supplier or other columns/properties. [Learn more about mapping area >>](#)
7. (Optional) Click the **Save Map** button to save your map options as the Import Map. [Learn more how to save Import Map >>](#)
8. Click the **Import** button.

The relationships are imported. If any of the imported relationships already exist in the model they are updated. To avoid duplication of elements

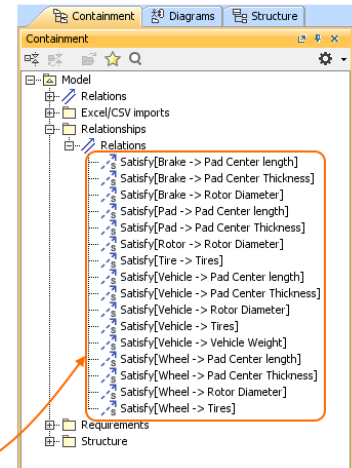
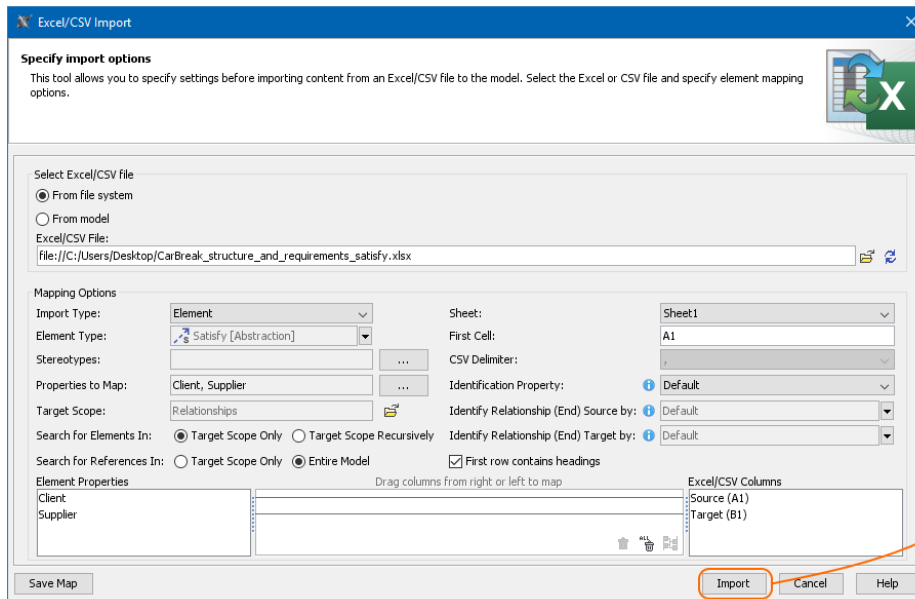
specify **Identification Property** value or **Identify Relationship (End) Source by** and **Identify Relationship (End) Target by** values. [Learn more about mapping options in the Excel/CSV Import dialog>>](#)



The relationship import can fail due to the following reasons:

- The relationship end is empty in the data file.

In the following example, you can see specified import options in the **Excel/CSV Import** dialog before the import. After the import the Satisfy relationships are created between the defined **Source** and **Target** elements: **Blocks** and **Requirements**.
The source or the target elements do not exist in the model or the mechanism didn't find any.



The import of Satisfy relationship.

Related pages

- [Importing data from Excel or CSV files](#)
- [Saving an Import Map](#)
- [Managing Map Groups](#)
- [Excel and CSV Import dialog](#)
- [Sync with Excel or CSV files](#)