

# Simulink import

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## What is Simulink?

Simulink is a MATLAB-based graphical environment that allows modeling, simulating, and analyzing dynamic systems. It enables users to simulate the dynamic behavior of the modeled system, for example, it is now widely used in automatic control and digital signal processing for multi-domain simulation.

## Simulink file import

Our modeling tools support .slx file format, which means that you must have your Simulink model in this format to import it. Following the Simulink file import, the **Simulink Import Options** dialog opens. It enables users to customize the Simulink model import options. For example, you can specify whether the parameters from the model should be imported as ports or value properties, set the name for the Simulink Block (the Simulink file name is used by default), and select the check box to attach the file to the model on import automatically.

### Dragging and Dropping Simulink file on diagrams

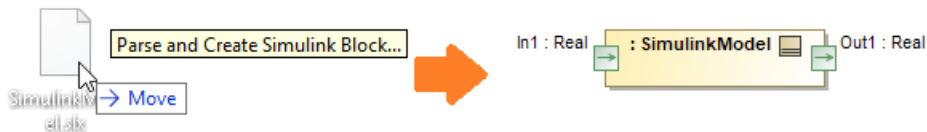
You can import the Simulink model by dragging and dropping the Simulink file directly onto the Block Definition (BDD) and Internal Block (IBD) diagrams:

To import the Simulink model

1. Locate the **SLX** or **MDL** file on your file system.
2. Do either:
  - Drag and drop the file from your file system onto the BDD diagram. A Block with the applied «SimulinkBlock» stereotype is created in the model after customizing Simulink import via the **Simulink Import Options** dialog.



- Drag and drop the file from your file system onto the IBD diagram. A Part property is created in the model after customizing Simulink import via the **Simulink Import Options** dialog.



The **Simulink Import Options** dialog opens immediately after dropping the file. Specify the Simulink import options and click **OK** when you are done.

**Simulink Import Options**

Select which features and how to import them from the Simulink file. Specify a Block name and select which Simulink variables to import as value properties or ports. Inputs and outputs are imported as ports by default. If you drop the Simulink file onto an existing Block as implementation, you can also select which Simulink variables map and redefine Block properties. You can attach the Simulink file to a project for a more effective team collaboration as well.

Block name:  ☒ Select All ☐ Select None

| # |                                     | Direction | Name | Type                          | Description | As Port                                  |
|---|-------------------------------------|-----------|------|-------------------------------|-------------|------------------------------------------|
| 1 | <input checked="" type="checkbox"/> | in        | In1  | <input type="checkbox"/> Real |             | <input checked="" type="checkbox"/> true |
| 2 | <input checked="" type="checkbox"/> | out       | Out1 | <input type="checkbox"/> Real |             | <input checked="" type="checkbox"/> true |

☐ Attach file to the project

OK Cancel

Simulink Import Options dialog.

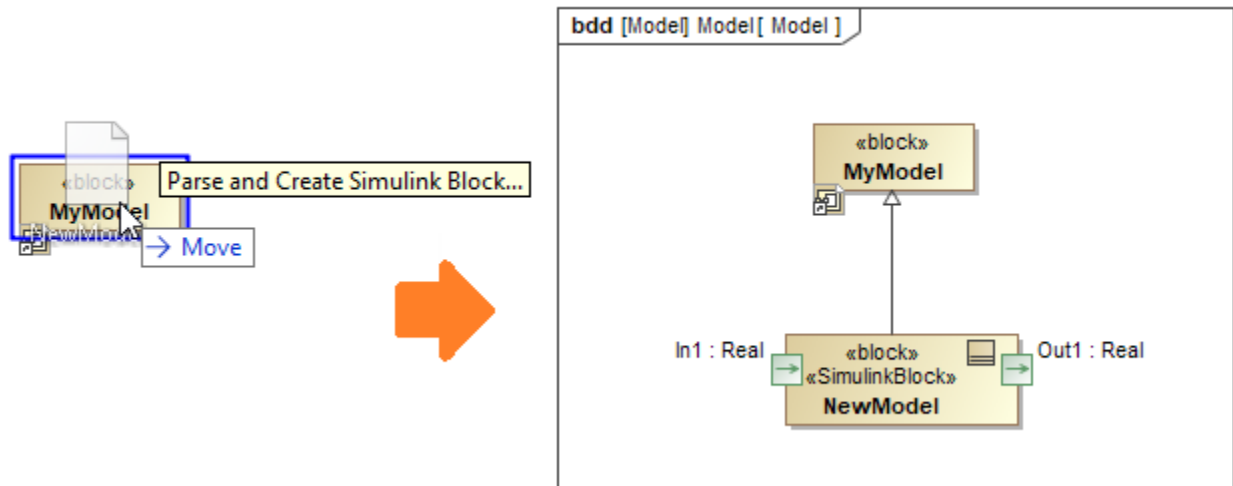
The **Simulink Import Options** dialog has the following options:

| Option name                                                | Description                                                                                                                                  |
|------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------|
| As Port                                                    | If the checkbox under <b>As Port</b> is selected, the property is imported into the model as a Flow port.                                    |
| Description                                                | The textual description of the property.                                                                                                     |
| Direction                                                  | The direction of the port: <i>In</i> or <i>Out</i> . <i>Inputs</i> and <i>Outputs</i> are selected to be imported as ports by default.       |
| Name                                                       | The name of the property/parameter.                                                                                                          |
| Redefine                                                   | The <b>Redefine</b> option allows redefining inherited value and part properties.                                                            |
| Type                                                       | The type of the property, for example, value property.                                                                                       |
| Select All                                                 | Click to select all listed properties at once.                                                                                               |
| Select None                                                | Click to deselect all listed properties at once.                                                                                             |
| <input type="checkbox"/> Attach file to the project        | If the checkbox next to <b>Attach file to the project</b> is selected, the imported Simulink file is automatically attached to the model.    |
| Block name: <input type="text" value="WaterTank.Control"/> | The name of the element created in the model on import. By default, the name of the Simulink file is used, but you can set the one you like. |

Dragging and dropping Simulink file on existing Block

You can drag and drop the external Simulink model directly onto the existing element in your model. Once the **.slx** or **.mdl** file is dropped, the **Simulink Import Options** dialog opens. It allows redefining value and part properties.

In this case, a new Block is created as a subtype of the existing Block together with the [Generalization](#) relationship.



Dropping the Simulink file on the existing Block.

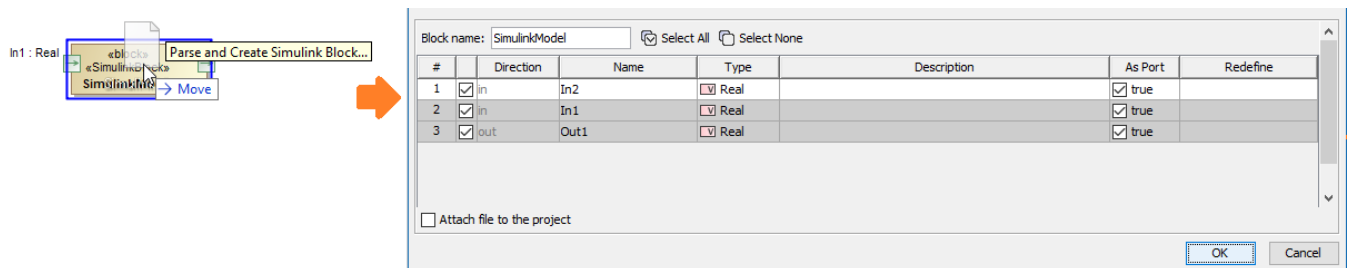
**In/Out properties** in the **Simulink Import Options** dialog are selected by default to be imported in the model as ports of a Flow type.

## Updating existing Simulink Block

An existing Simulink Block can be updated by dragging and dropping the .slx or .mdl file directly on it. This is useful in those cases when there is a need to update the Block, for example, import properties that were left out at first or update the model with the latest version of the Simulink file.

To update a Simulink Block

1. Locate the **SLX** or **MDL** file on your file system.
2. Drag and drop it on the shape of your Simulink Block.
3. In the opened **Simulink Import Options** dialog, select the properties to update the Simulink Block with.
4. Click **OK**.



Dragging and dropping the Simulink file on the existing Simulink Block.

Already imported properties are grayed out and cannot be edited in the **Simulink Import Options** dialog.

If the **Attach file to the project** is checked in the **Simulink Import Options** dialog, a previous version of the attached file is replaced with a new one on import.

## Co-simulation

The Simulink model can be simulated using [Cameo Simulation Toolkit](#) (CST). To learn more, please click [here](#).