

Provided and Required Interfaces

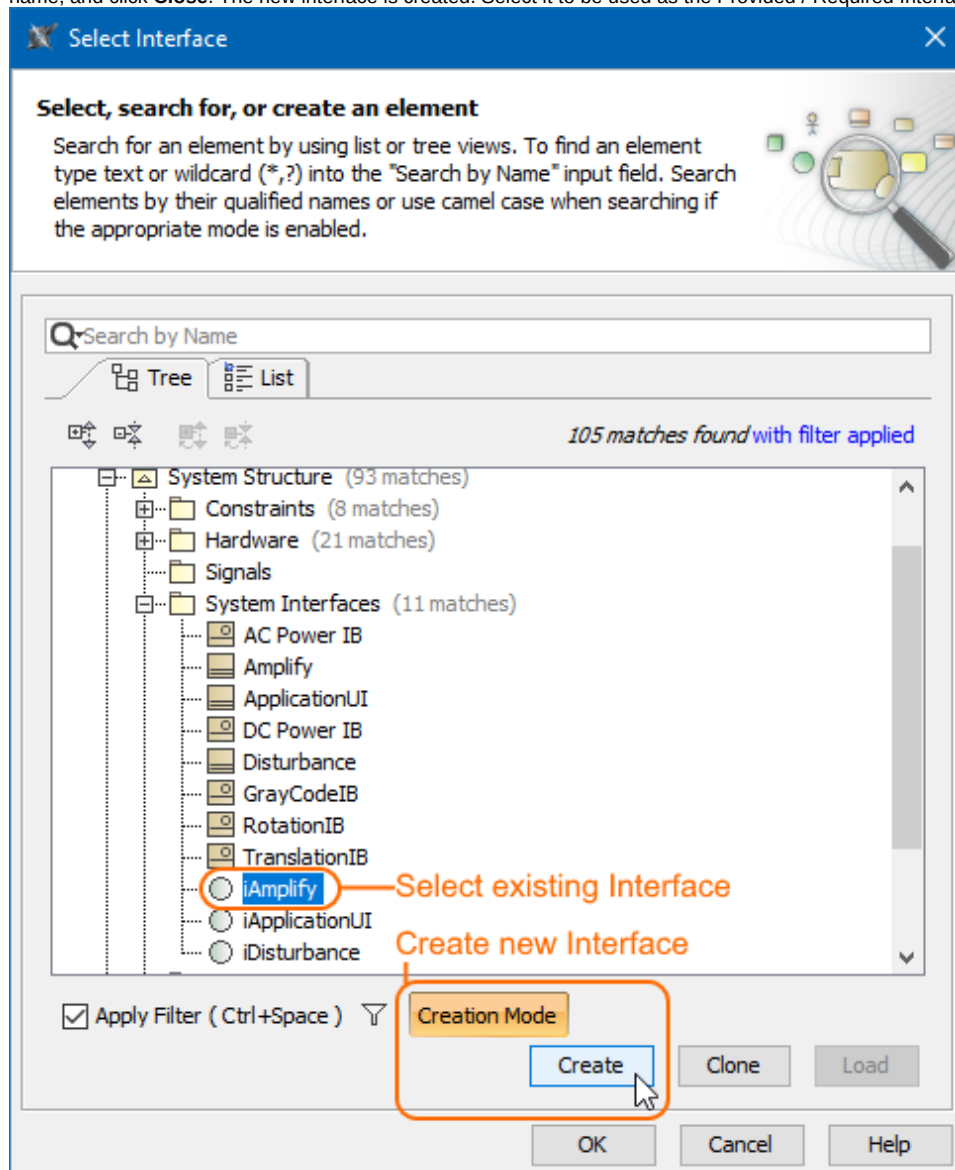
Provided/Required Interfaces help to identify compatible ports that can be connected together in the [SysML Internal Block Diagram](#). On a port, you can:

- [Creating provided and required interfaces](#)
- [Displaying provided/required interfaces](#)

Creating provided and required interfaces

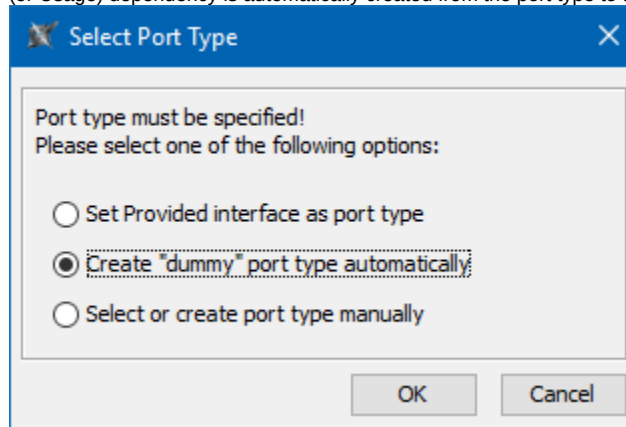
To create new Provided/Required Interface of a port

1. Do one of the following:
 - Right-click any kind of port shape and from the shortcut menu select **Specification**. In the [Specification window](#), select the **Provided/Required Interfaces** property group.
 - Select a Port shape and from its smart manipulator, click .
2. In the **Provided/Required Interfaces** pane, click the **Add** button and select either Provided or Required.
3. Two situations are available:
 - If the port is typed, the **Select Interface** dialog opens (see the following figure). In this dialog you can do the following:
 - Select an existing interface (and flow specifications) to be used as the Provided / Required Interface of the port.
 - Make sure the **Creation Mode** is switched on, click the **Create** button, and select **Interface**. In the specification window, type its name, and click **Close**. The new interface is created. Select it to be used as the Provided / Required Interface of the port.



- If the port is not typed, the **Select Port Type** dialog opens (see the following figure). You can do the following:

- **Set provided interface as port type** (for Provided Interface only). The **Select Interface** dialog opens. In this dialog, you can either choose an existing interface or create a new one, to be used as the Provided Interface and the type of the port.
- **Create “dummy” port type automatically**. The **Select Interface** dialog opens. In this dialog, you can either choose an existing interface or create a new one, to be used as the Provided or Required Interface of the port. In addition, a dummy classifier, realizing (for Provided) or using (for Required) the interface, is automatically created and used as the type of the port.
- **Select or create port type manually**. If you select this option, the **Select Port Type** dialog opens. In this dialog, choose a classifier to be used as the type of the port. Click **OK**, the **Select Interface** dialog opens. In this dialog, you either choose an existing interface or create a new one, to be used as the Provided or Required Interface of the port. In addition, a Realization (or Usage) dependency is automatically created from the port type to the Provided (or Required) Interface of the port.



Displaying provided/required interfaces

To display provided/required interfaces

1. Select the port shape that has the provided/required interfaces you want to display.
2. Do one of the following:
 - From the port shortcut menu, select **Display > Display Provided/Required Interfaces**.
 - On the diagram toolbar, click  and select **Display Provided/Required Interfaces**.

The Required/Provided Interfaces are displayed on the port, in the form of ball-socket (lollipop) notation.

Ports can provide or require many interfaces, therefore, you can choose which ones to display or hide. Use the [Edit Compartment dialog](#) to manage the visibility of these interfaces.

Related pages

- [Specifying feature directions](#)
- [Managing Block Interfaces](#)

Sample model

The model used in the figure of this page is the **InvertedPendulum** sample model. To open this sample do one of the following:

- Download [InvertedPendulum.mdzip](#).
- Find in modeling tool <modeling tool installation directory>\samples\SysML\Inverted Pendulum\Inverted Pendulum.mdzip.