

Creating and displaying contextual relationships


Once you enable the creation of contextual relationships in the **Project Options** dialog, you can start creating them immediately.

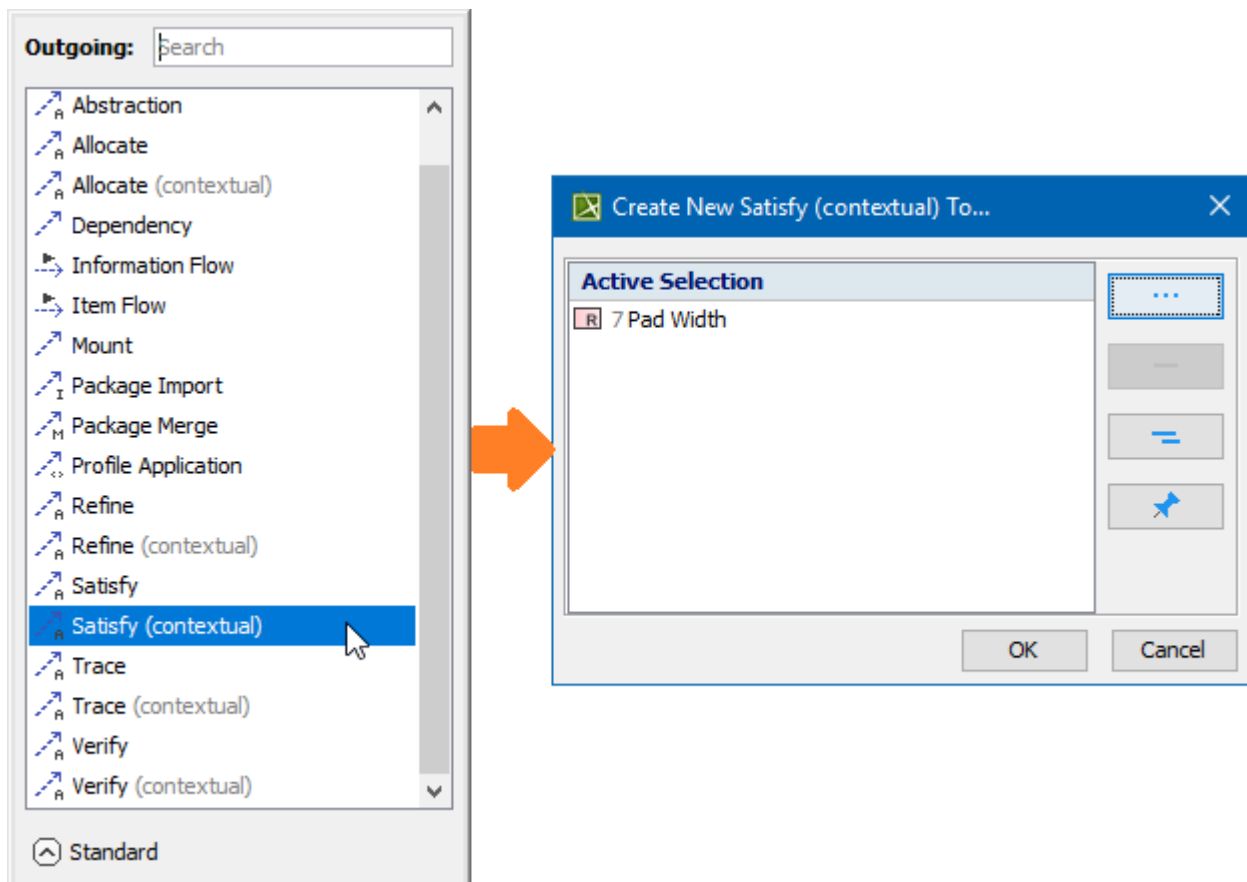
You can create contextual relationships from multiple places in your modeling tool:

- Structure tab ([Model Browser](#))
- [Internal Block Diagram and Block Definition Diagram](#)
- [Structure tree-view Dependency Matrix](#)
- [Structure tree-view table](#)

Creating contextual relationships from all the places listed above

To create contextual relationships from the **Create Relations** dialog

1. Right-click an element, click **Create Relation > Outgoing/Incoming**, and then select the contextual relationship type to create. The **Create New <relation name> (contextual) To / From** dialog opens.
2. Do one or more of the following:
 - In the Model Browser, select the element to create a relationship to / from.
 - On the diagram pane, select the element to create a relationship to / from.
 - In the **Create New <relation name> (contextual) To / From** dialog, click , and select the element to create a relationship to / from.
3. Click **OK**.




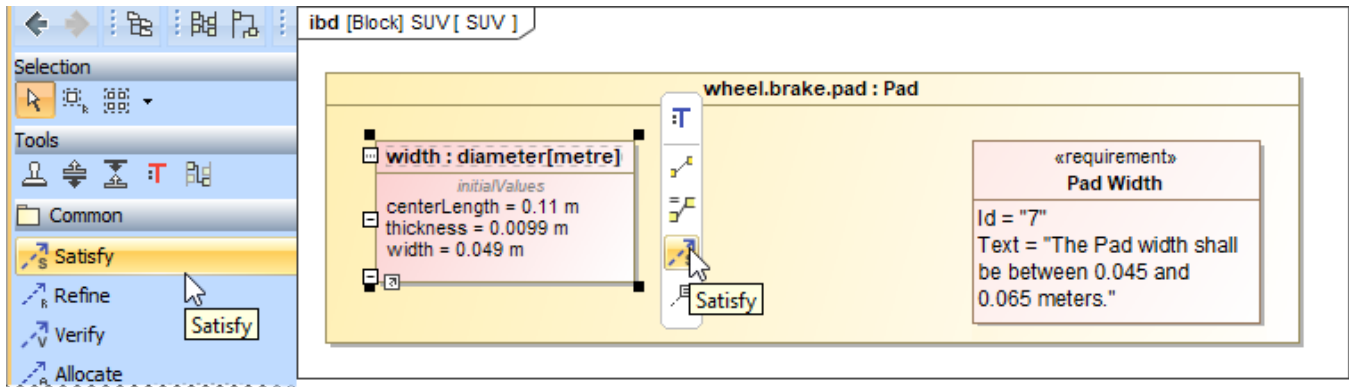
Creating contextual relationships using the Create Relations dialog.

[Learn more about creating relationships >>](#)

Creating and displaying contextual relationships in diagrams


To create contextual relationships from the **diagram palette** or **smart manipulator toolbar**


- Do one of the following:
 - On the diagram palette, select the relationship type to create.
 - On the diagram pane, select the relationship end and click  in the smart manipulator toolbar.
- Select the appropriate elements on the diagram pane.

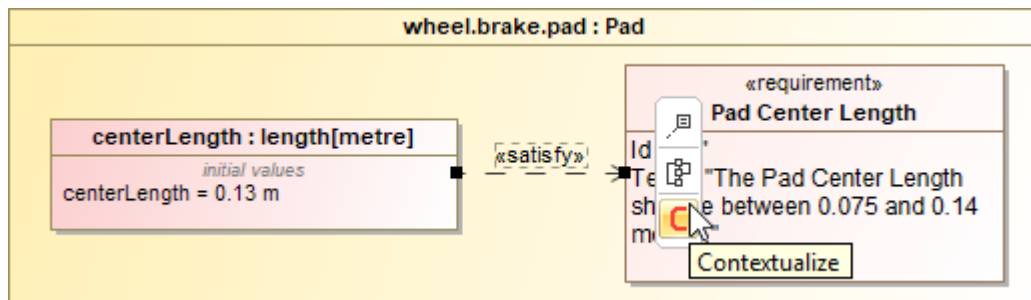


Creating contextual relationships from the diagram palette or smart manipulator toolbar.



To contextualize relationships from the **smart manipulator toolbar**

- In the diagram pane, click on the existing relationship. The smart manipulator toolbar appears.
- Click  to contextualize the selected relationship.

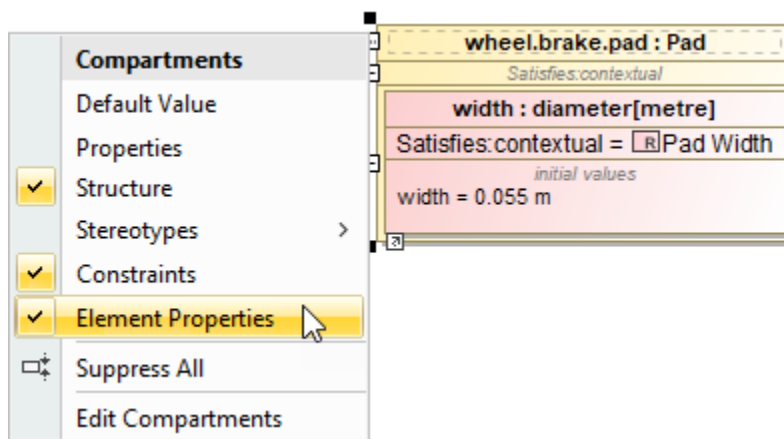
 You can contextualize only *Allocate*, *Refine*, *Satisfy*, *Trace*, and *Verify* relationships.



Contextualizing relationships using the smart manipulator toolbar.


 You can decontextualize the existing contextual relationship by clicking  (Decontextualize) in the smart manipulator toolbar.

For more compact Internal Block Diagram view, contextual relationships can be represented in the **Element Properties** compartment of the element shape. For this, you need to create the appropriate [derived property](#) (the expression has to be identical to the dependency matrix criteria for displaying contextual relationships) first.

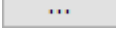


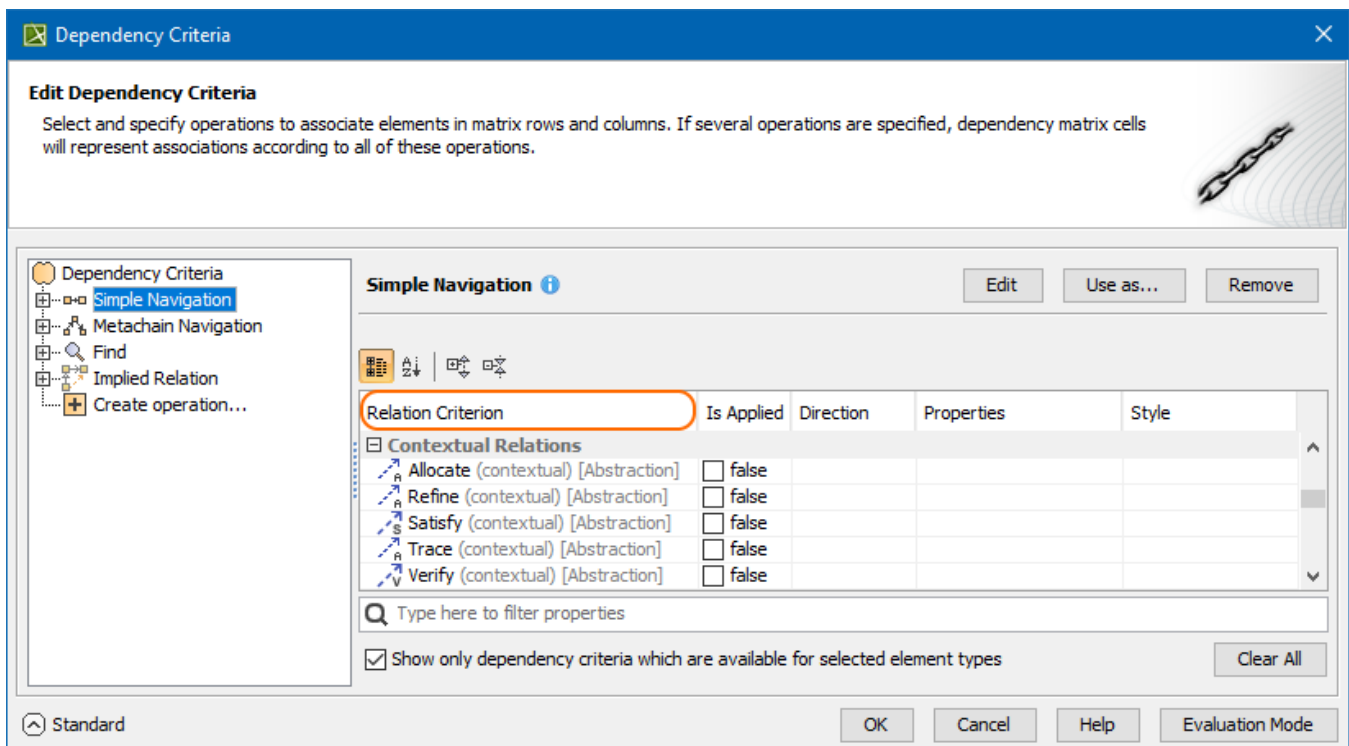
Displaying Contextual Relationship in the element compartment.

Creating contextual relationships in dependency matrices

 Contextual relationships can only be created in **Structure tree-view dependency matrices**.

To create contextual relationships in **dependency matrices**

1. In the **Criteria** area of the **Dependency Matrix**, next to **Dependency Criteria**, click .
2. Click the **Simple Navigation** operation and scroll down to the **Contextual Relations** category.
3. Under **Relation Criterion**, select the contextual relationship type to create.
4. When you are done, click **OK**.



Specifying Relation Criterion to build a Dependency Matrix.

Creating contextual relationships in tables



Contextual relationships can only be created in **Structure tree-view tables**.

Before you can create contextual relationships in your structure tree-view table, you need to add a custom column or create a **derived property** to represent them.

To add a custom column/derived property to represent contextual relationships

1. In the diagram toolbar, click **Columns > New Custom Column/New Derived Property**.



- Select **New Custom Column** to add a custom column to the specific table only.
- Select **New Derived Property** to add a column to be able to use in all future tables.

2. In the **Expression** dialog, click the **Simple Navigation** operation and scroll down to the **Contextual Relations** category.
3. Under **Relation Criterion**, select the contextual relationship type, e.g., contextual Satisfy, to create.

The screenshot shows the 'Expression' dialog box. The 'Name' field is set to 'Satisfies (contextual)'. The 'Expression' section on the left shows a tree view with 'Simple Navigation' selected. The main area displays the 'Simple Navigation' operation with a table of 'Contextual Relations'.

Relation Criterion	Is Applied	Direction
Contextual Relations		
Allocate (contextual) [Abstraction]	<input type="checkbox"/> false	
Refine (contextual) [Abstraction]	<input type="checkbox"/> false	
Satisfy (contextual) [Abstraction]	<input checked="" type="checkbox"/> true	Source To Target
Trace (contextual) [Abstraction]	<input type="checkbox"/> false	
Verify (contextual) [Abstraction]	<input type="checkbox"/> false	

Below the table is a search bar: 'Type here to filter properties'. At the bottom, there is a checkbox 'Show Relations Criteria Available Only for Context' and a 'Clear All' button.

4. When you are done, click **OK**.

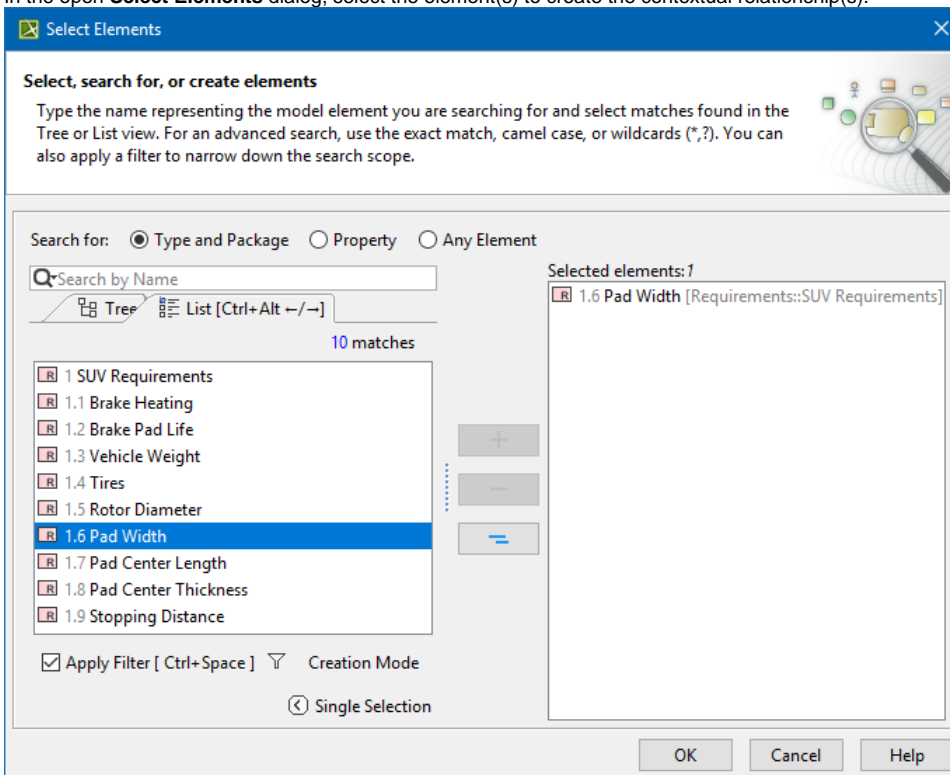
Once you have added a custom column, you can now create contextual relationships right in your table.

To create contextual relationships in **structure tree-view tables**

1. In the structure tree-view table, select the appropriate row and then click

#	Name	Satisfies (contextual)
1	SUV	
2	transmission	
6	grossMass	
7	wheel	
8	tire	
11	brake	
12	pad	
13	brakeMU	
14	width	
15	centerLength	
16	thickness	
17	rotor	
19	caliper	
25	diameter	
26	numberOfWheels	
27	engine	

2. In the open **Select Elements** dialog, select the element(s) to create the contextual relationship(s).



3. When you are done, click **OK**.

The contextual relationship is created in the model and represented in the table.

#	Name	Satisfies (contextual)
1	[-] [SUV]	
2	[+] [P] transmission	
6	[V] grossMass	
7	[-] [P] wheel	
8	[+] [P] tire	
11	[-] [P] brake	
12	[-] [P] pad	
13	[V] brakeMU	
14	[V] width	[R] 1.6 Pad Width
15	[V] centerLength	[R] 1.7 Pad Center Length
16	[V] thickness	[R] 1.8 Pad Center Thicknes
17	[+] [P] rotor	
19	[+] [P] caliper	
25	[V] diameter	
26	[V] numberOfWheels	
27	[+] [P] engine	