


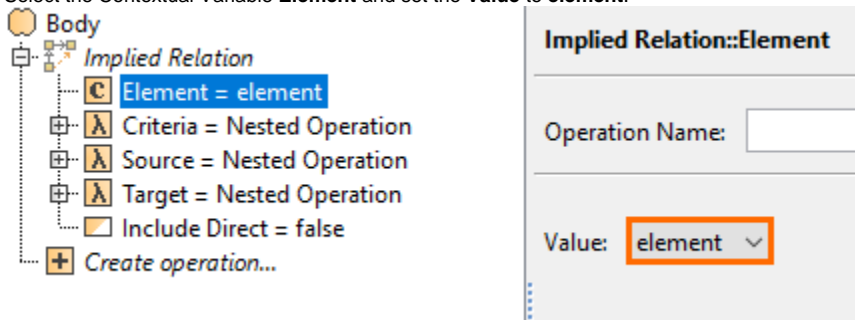
Case 7.3. Recursive Structure Decomposition

To create Recursive Structure Decomposition

1. Create an **Opaque Behavior** named 'Recursive Structure Decomposition'.
2. Right-click the **Opaque Behavior** element/symbol and open its **Specification window**. Do one of the following:
 - a. Click the plus sign next to the **Owned Parameter** property to edit it.

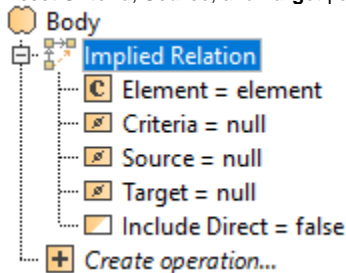
If you cannot see the **Owned Parameter** property, make sure the **Expert** mode is enabled.

- b. On the left side menu, select **Parameters > Create**.
3. In the **Specification of Parameter window**, set **Name** to **element**, **Type** to **Element**, **Direction** to **in**, and **Multiplicity** to **[1]**. Click **Back**.
 4. In the **Opaque Behavior Specification window**, click three dots  next to the **Body and Language** property to edit it.
 5. In the **Body and Language** dialog, select **Language > StructuredExpression**.
 6. Select **Create operation > Implied Relation**.
 7. Select the Contextual Variable **Element** and set the **Value** to **element**.



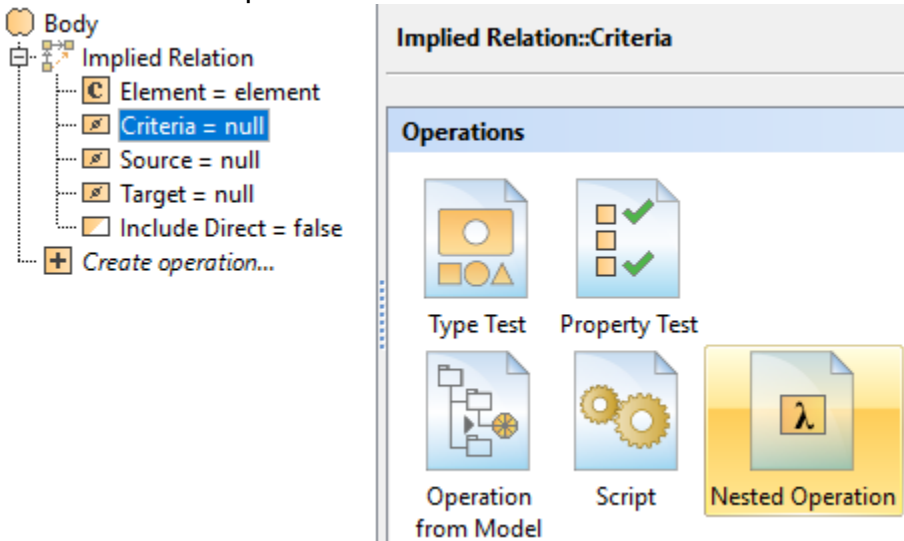
The screenshot shows the 'Body' section of the 'Opaque Behavior Specification' window. Under 'Implied Relation', the 'Element = element' property is highlighted. To the right, the 'Implied Relation::Element' dialog is open, showing 'Operation Name' and 'Value: element' (selected from a dropdown).

8. Reset **Criteria**, **Source**, and **Target** parameter values.



The screenshot shows the 'Body' section of the 'Opaque Behavior Specification' window. Under 'Implied Relation', the 'Element = element' property is highlighted. The 'Criteria', 'Source', and 'Target' properties are now set to 'null'.

9. Select **Criteria > Nested Operation**.



The screenshot shows the 'Body' section of the 'Opaque Behavior Specification' window. Under 'Implied Relation', the 'Criteria = null' property is highlighted. To the right, the 'Implied Relation::Criteria' dialog is open, showing a list of operations: 'Type Test', 'Property Test', 'Operation from Model', 'Script', and 'Nested Operation' (selected).

10. Select **Criteria > Body > Contextual Variable**.

Body

Implied Relation

Element = element

Criteria = Nested Operation1

Body = null

arg

Create parameter...

Source = null

Target = null

Include Direct = false

Create operation...

Body

Operations

Values

Other

Execute

Contextual Variable

11. Select **Source > Operation from Model > Structure Decomposition**.

Body

Implied Relation

Element = element

Criteria = Nested Operation1

Body = arg

arg

Create parameter...

Source = null

Target = null

Include Direct = false

Create operation...

Implied Relatio

Operations

Type Test

Operation from Model

12. Select **Source > Body > Element > Reset**.

Body

Implied Relation

Element = element

Criteria = Nested Operation1

Body = arg

arg

Create parameter...

Source = Nested Operation

Body = StructureDecomposition1

Element = unspecified

Include Inherited = true

arg

Create parameter...

Target = null

Include Direct = false

Create operation...

Operation from Model::Element

EditUse as...Reset

Operation Name:

Element:

13. Select **Source > Body > Element > Contextual Variable**.

Body

Implied Relation

Element = element

Criteria = Nested Operation1

Body = arg

arg

Create parameter...

Source = Nested Operation

Body = StructureDecomposition1

Element = null

Include Inherited = true

arg

Create parameter...

Target = null

Include Direct = false

Create operation...

Operation from Model::Elen

Element

Null

Other

Execute

Contextual Variable

14. Click **OK**.

Sample model

The model used in these examples is the *Case Studies for Querying the Model* sample model. To open this model, you need to download [case studies for querying the model.mdzip](#).