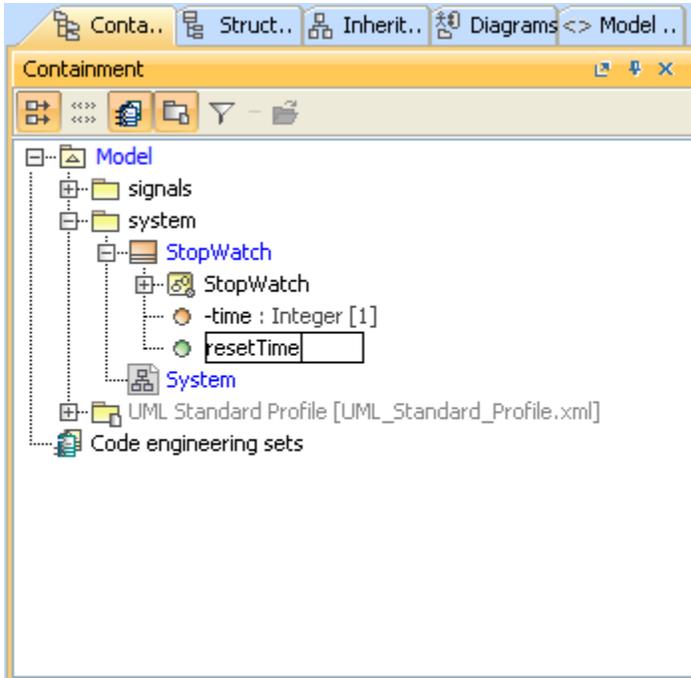


Creating resetTime Operation and resetTime Activity

To create a **resetTime** operation

1. Right-click the **StopWatch** Class in the containment browser and select **New Element > Operation**.
2. Name the new operation "*resetTime*". The resetTime operation will be created.

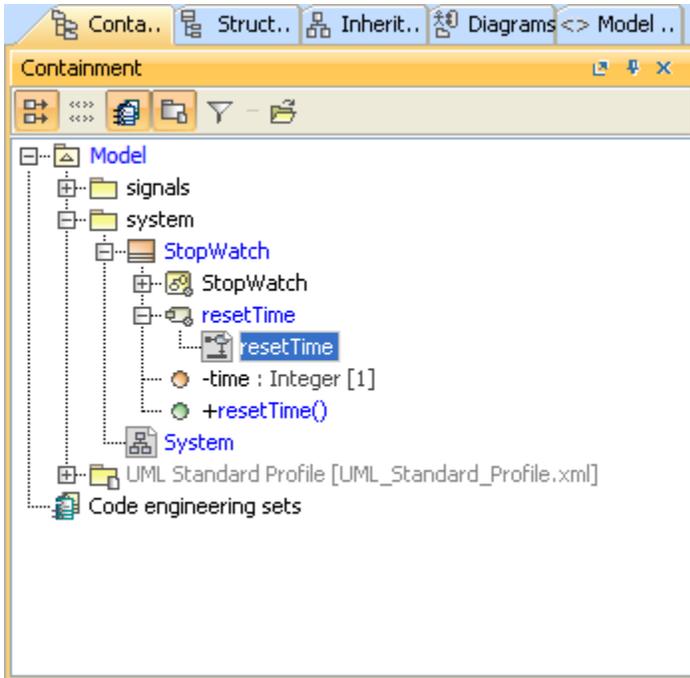


Next, we will use an Activity to define the **resetTime** operation. The Activity will contain the Actions and the flows that will show the steps to set the **time** value to zero.

To create a **resetTime** Activity

1. Right-click the **StopWatch** Class in the containment browser and select **New Element > Activity**.
2. Name the created Activity "*resetTime*".
3. Add an Activity diagram to the **resetTime** Activity by right-clicking the **resetTime** Activity in the containment browser and select **New Diagram > ActivityDiagram**. The new Activity diagram will be created under the **resetTime** Activity. We will use the default name of this diagram, which is "res

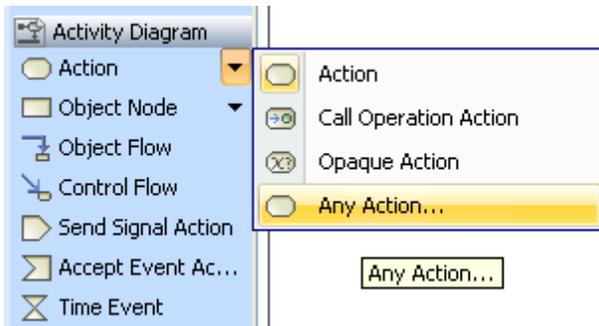
etTime".



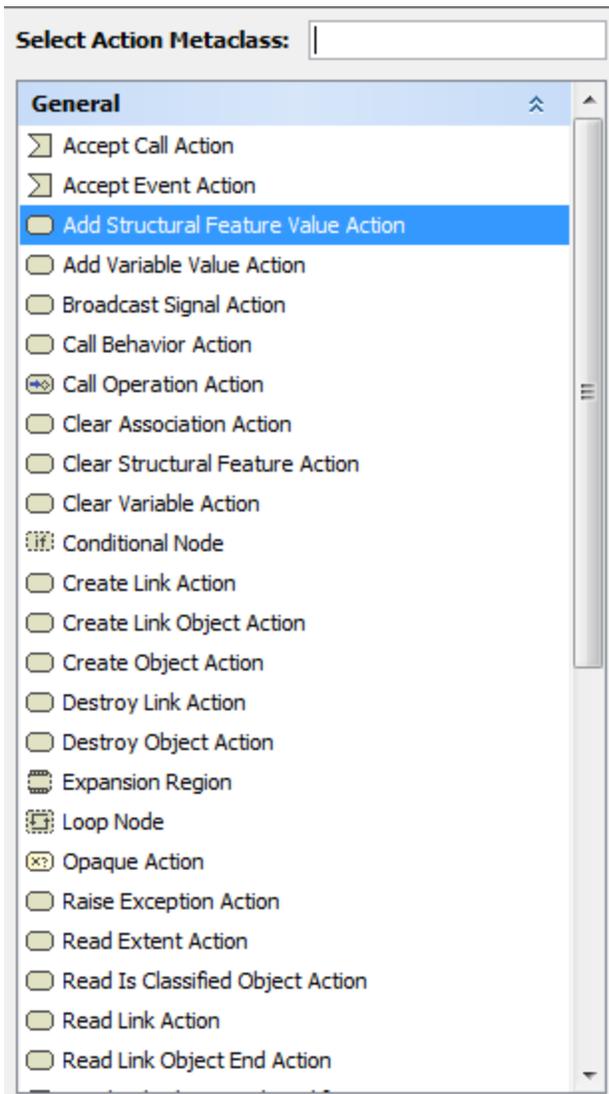
On the **resetTime** Activity diagram, you will need an **AddStructuralFeatureValueAction** to set the value of **time:Integer[1]** to zero. The structural feature of the **AddStructuralFeatureValueAction** must be set as the time attribute of the **StopWatch** Class.

To reset the time value of the **StopWatch** Object to zero using an **AddStructuralFeatureValueAction**

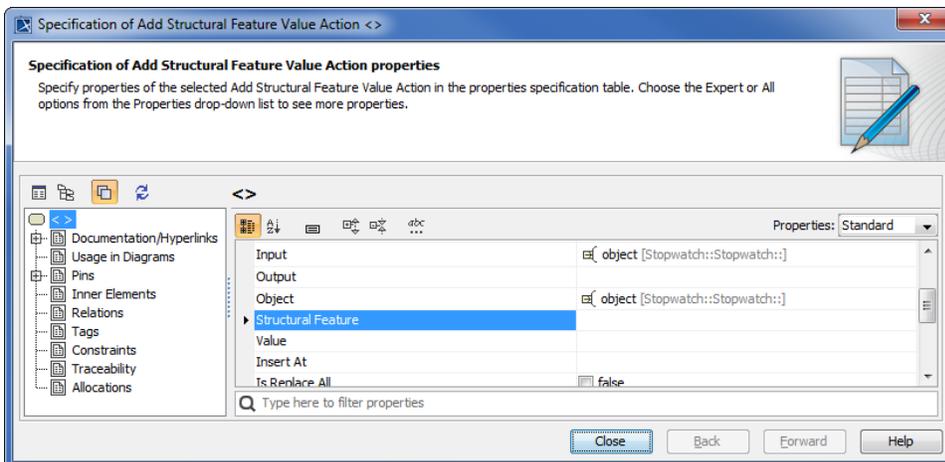
1. Click **Action > Any Action...** on the Activity diagram toolbar (see the following figure). The **Select Action MetaClass** dialog will open.



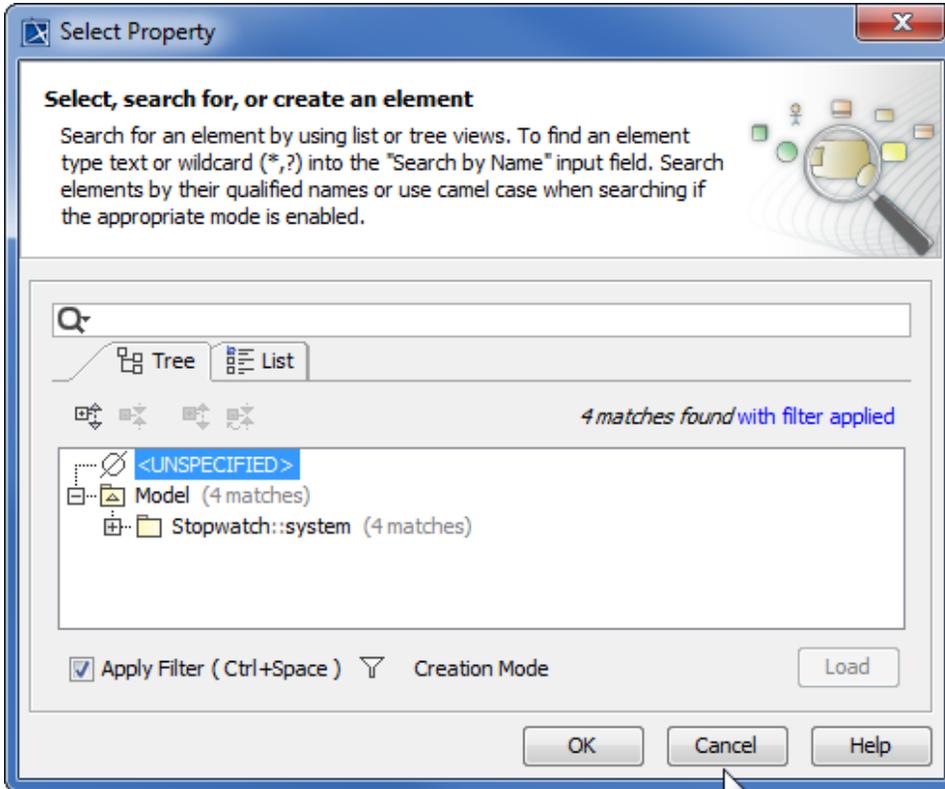
2. Select **AddStructuralFeatureValueAction** and click **OK**.



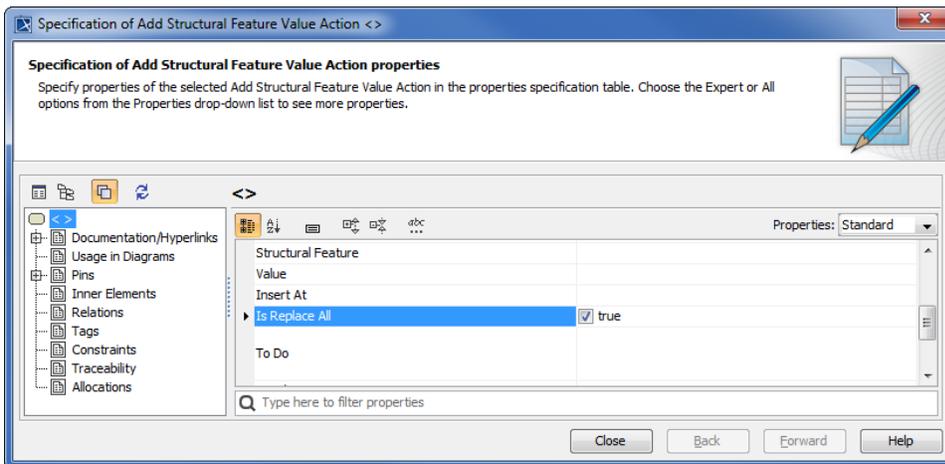
3. Click the **resetTime** Activity diagram to place the position of the created **AddStructuralFeatureValueAction**.
4. Right-click the symbol of the **AddStructuralFeatureValueAction** on the **resetTime** Activity diagram and select **Specification** to open its Specification window.



5. Scroll down to the **Structural Feature** row, select it, and click the  button. The **Select Property** dialog will open.



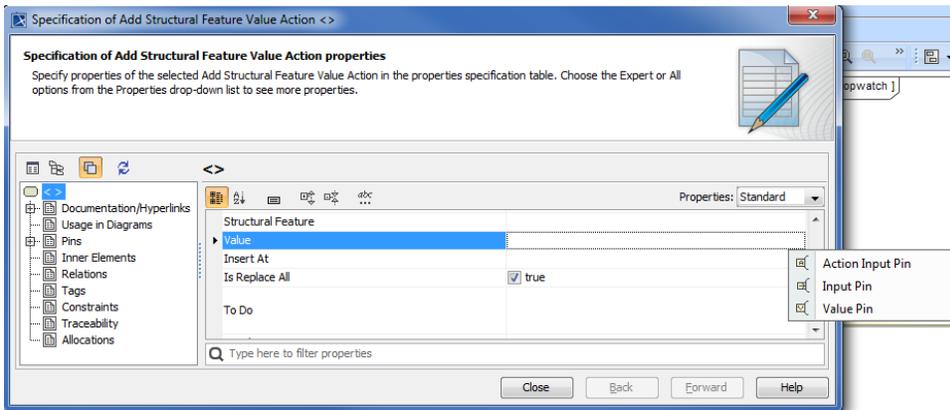
6. The Attribute **time:Integer[1]** of the **StopWatch** Class will be selected as the structural feature of this Action in this example.
7. Click **OK** to close the **SelectProperty** dialog and return to the Specification window.
8. Click the **Is ReplaceAll** row and select the check box. The **AddStructuralFeatureValueAction** will remove any existing value and assign a new value to the structural feature.



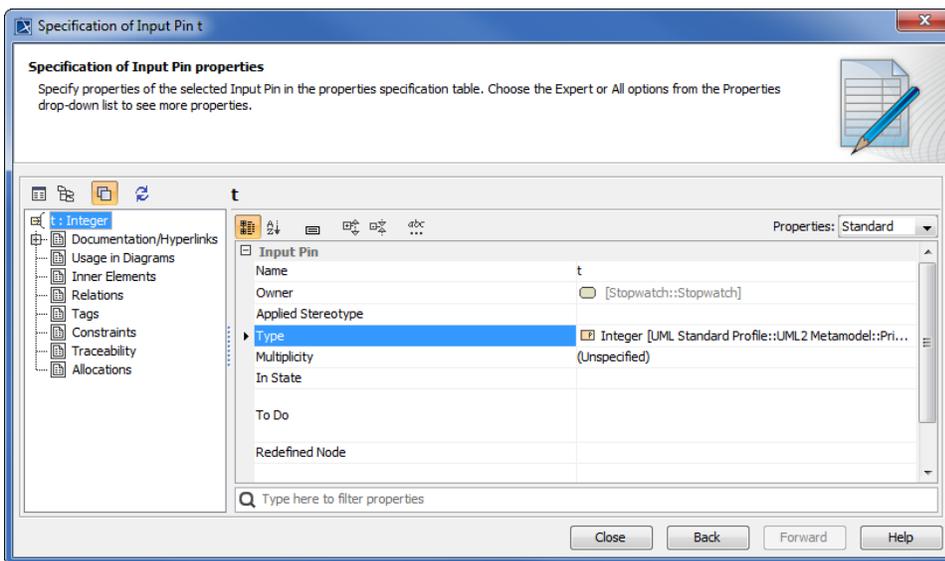
We need to specify input pins for both the Object and the value of the **AddStructuralFeatureValueAction** metaClass. The object of the Classifier that contains the structural feature and its value will be supplied through these input pins respectively.

To create input pins

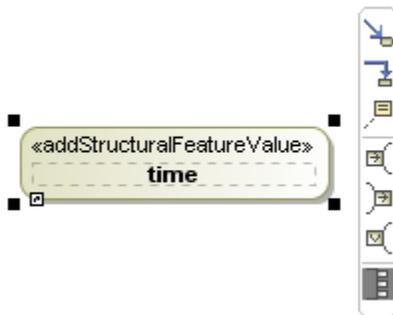
1. Click the **Pins** node on the left-hand side of the **AddStructuralFeatureValueActionSpecification** dialog. The pins that are related to the **AddStructuralFeatureValueAction** will appear.
2. Click the **Value** row and select **InputPin**.



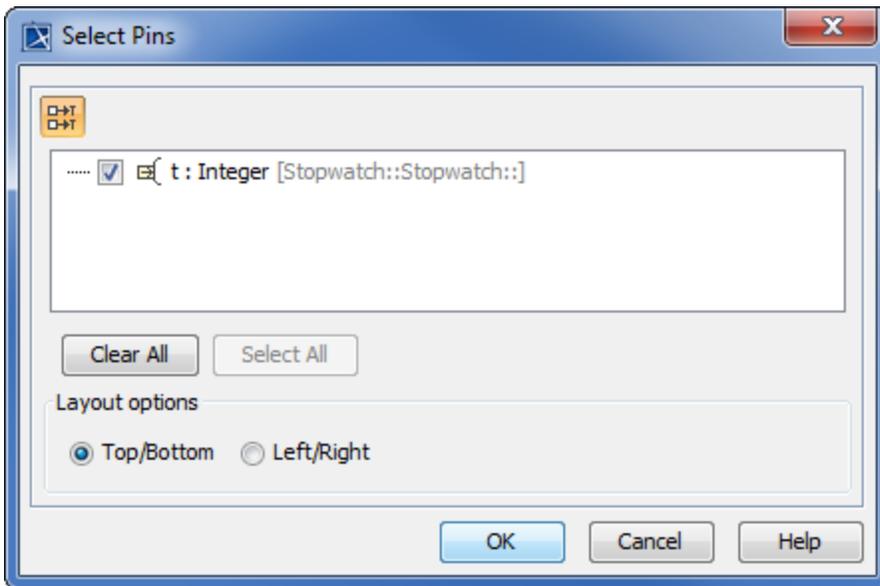
3. Name the input pin "t" and specify its type as **Integer**.



4. Click the **Close** button.



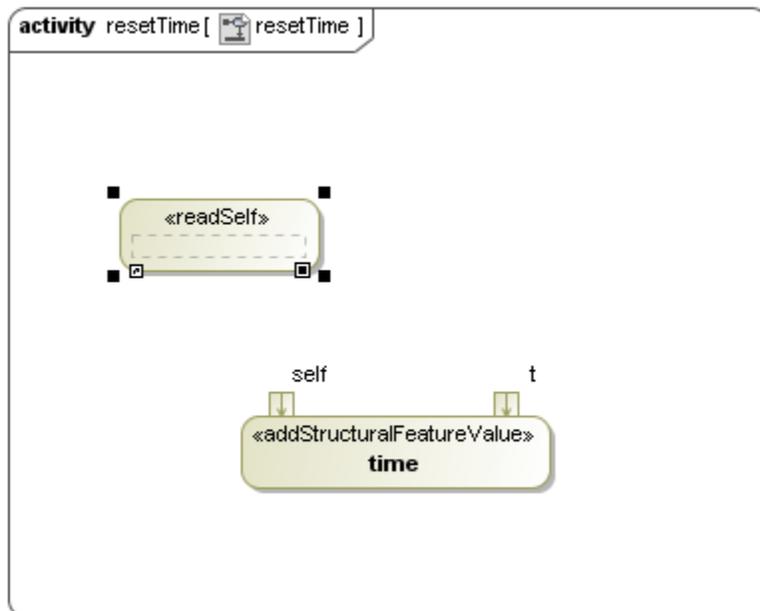
5. Select **AddStructuralFeatureValueAction** on the **resetTime** Activity diagram and click the **Display Pins** icon on the smart manipulator toolbar. The **Select Pins** dialog will open.



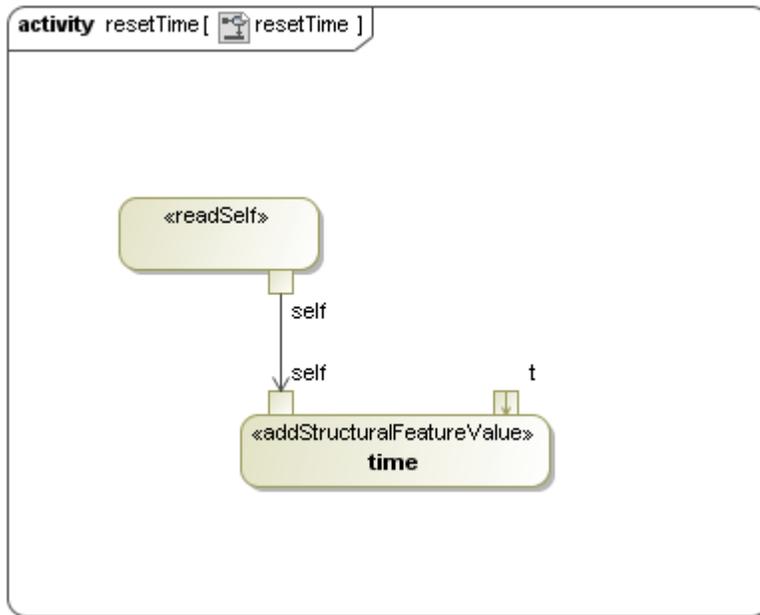
6. Select all pins and click **OK**.

To allow the object of the Stopwatch to supply the value to self input using a ReadSelfAction

1. Click **Action > AnyAction...** on the Activity diagram toolbar. The **SelectActionMetaClass** dialog will open.
2. Select **ReadSelfAction** and click **OK**.
3. Click the **resetTime** Activity diagram. A ReadSelfAction will be created on the diagram.



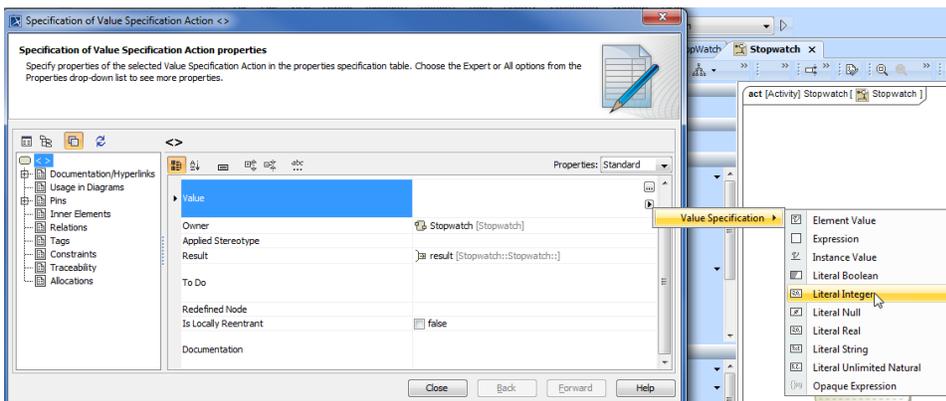
- Click **ObjectFlow** on the Activity diagram toolbar and click the **self** output pin of the ReadSelfAction and the **self** input pin of the AddStructuralFeatureValueAction. An object flow will be created to connect these two pins together.



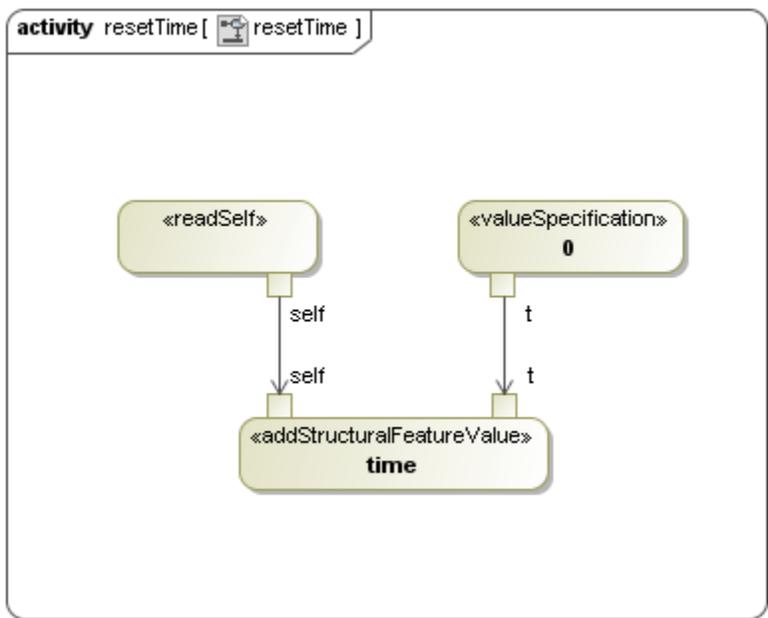
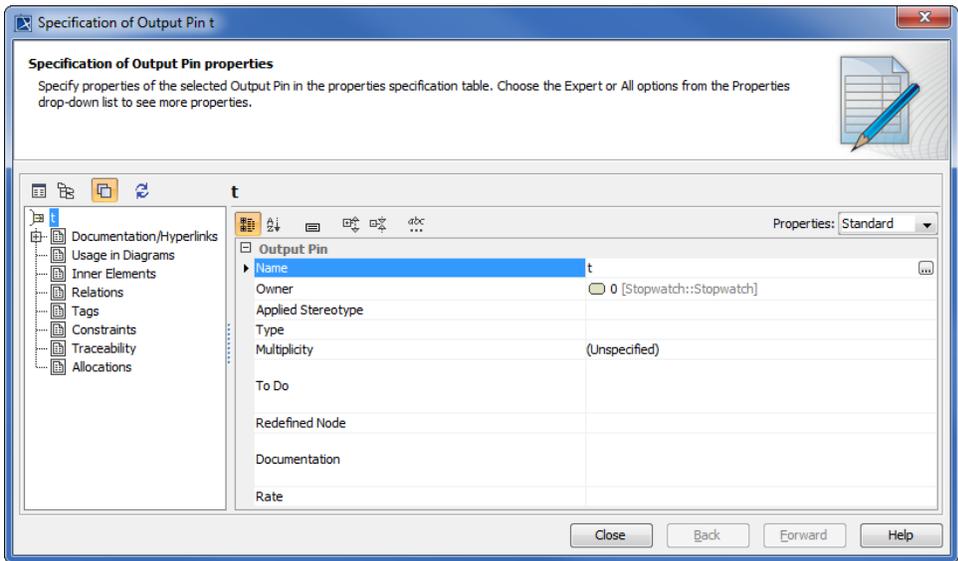
Next, we will create a ValueSpecificationAction to supply a value to the input pin **t** of the AddStructuralFeatureValueAction.

To create a LiteralInteger of zero value using a ValueSpecificationAction

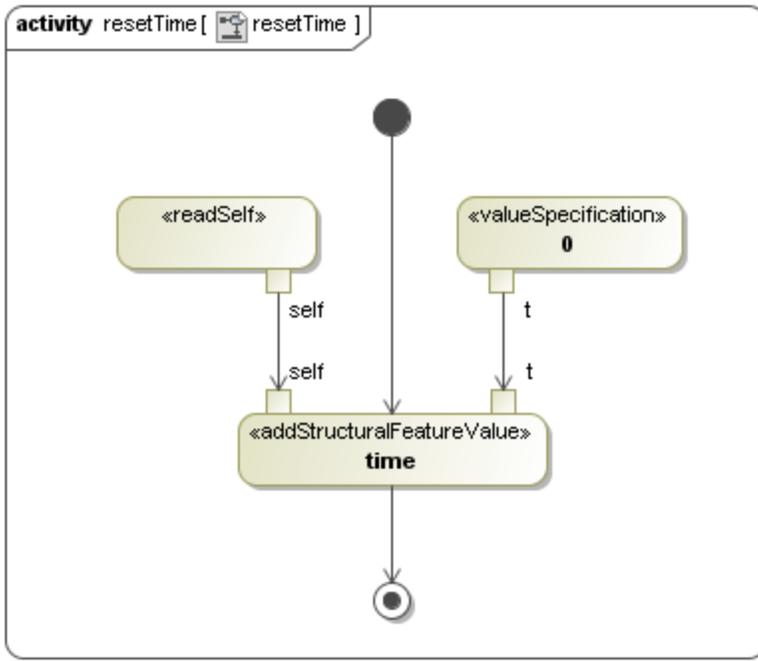
- Click **Action > AnyAction...** on the Activity diagram toolbar. The **Select Action MetaClass** dialog will open.
- Select **ValueSpecificationAction** and click **OK** to close the **Select Action MetaClass** dialog.
- Click the resetTime Activity diagram to create a ValueSpecificationAction.
- Right-click the ValueSpecificationAction on the resetTime Activity diagram and select **Specification** to open its Specification window.
- Select the **Value** row and click the **ShowShortcutMenu** button, and select **Value Specification > Literal Integer** to create a Literal Integer.



- A new Literal Integer with a default value of **0** will be created as the value of the ValueSpecificationAction.
- Right-click the pin **result** of the **ValueSpecificationAction** on the resetTime Activity diagram and select **Specification** to open its Specification window.
- Rename the output pin (**result**) to "t" and specify its type as **Integer**.



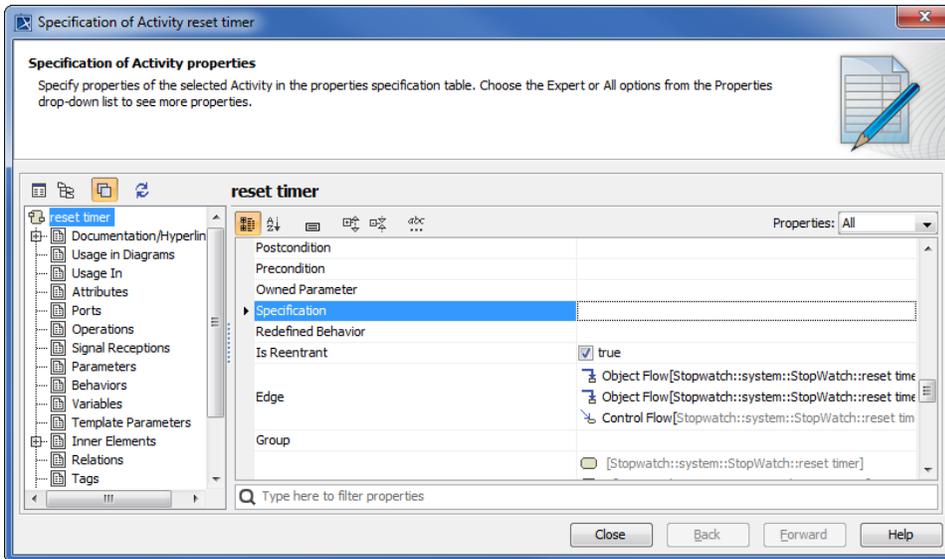
9. Add an Initial stage and an Activity Final stage to the resetTime Activity diagram.
10. Click **ControlFlow** on the Activity diagram toolbar to connect the Initial Node to the AddStructuralFeatureValueAction and the AddStructuralFeatureValueAction to the Final stage.



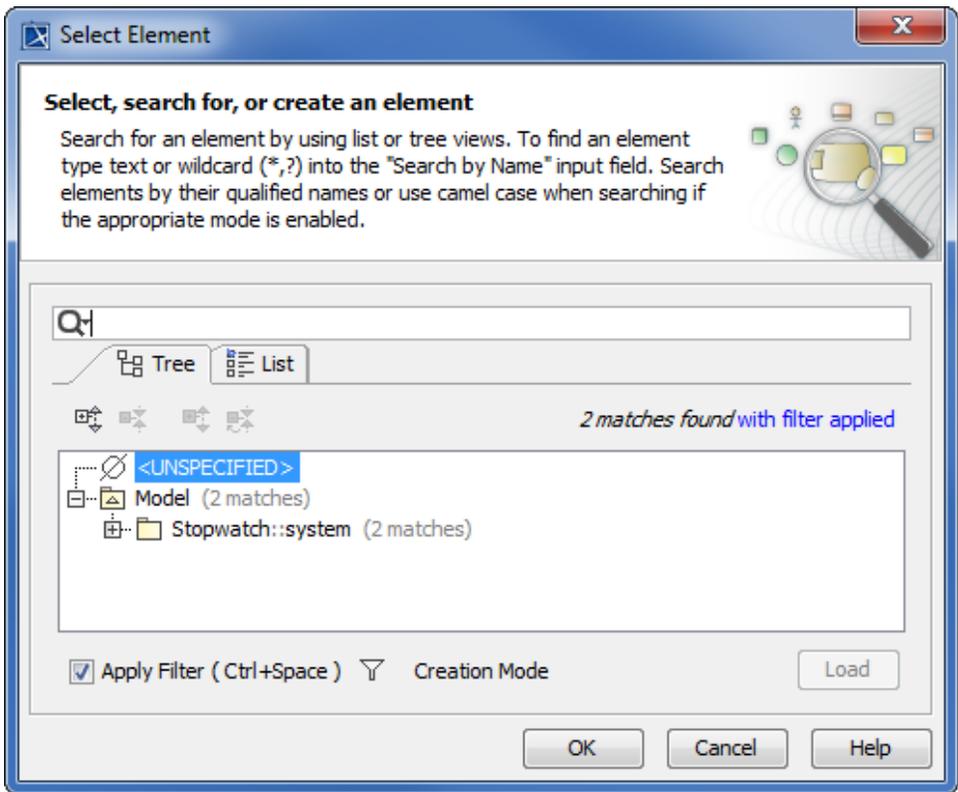
You have now created a complete resetTime Activity diagram. The next thing you will need to do is to set the **Specification** of the **resetTime** Activity to the **resetTime** operation.

To set the **Specification** of the **resetTime** Activity to the **resetTime** operation

1. Right-click the **resetTime** Activity in the containment browser and select **Specification** to open its Specification window.
2. Select the **Specification** row and click the  button (see the following figure). The **Select Element** dialog will open.



3. Select the **resetTime** operation of the **StopWatch** Class as the specification of the Activity and click **OK** to close the **Select Element** dialog.



4. Click **Close** to close the Specification window.