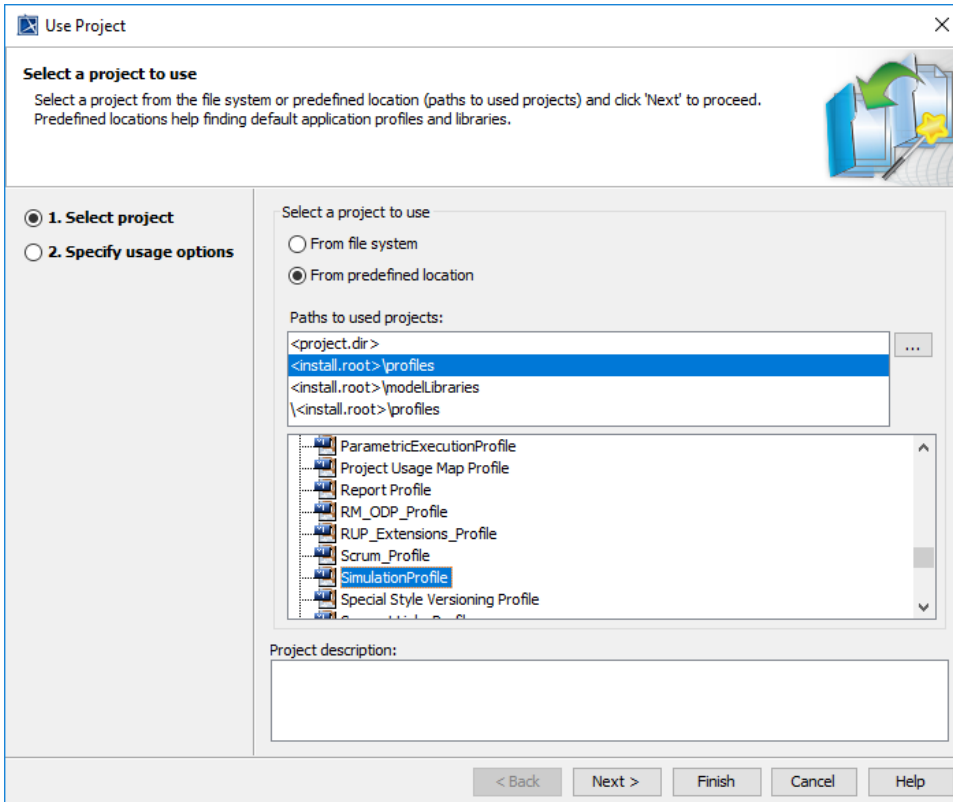


Executing the StopWatch using Simulation Configuration

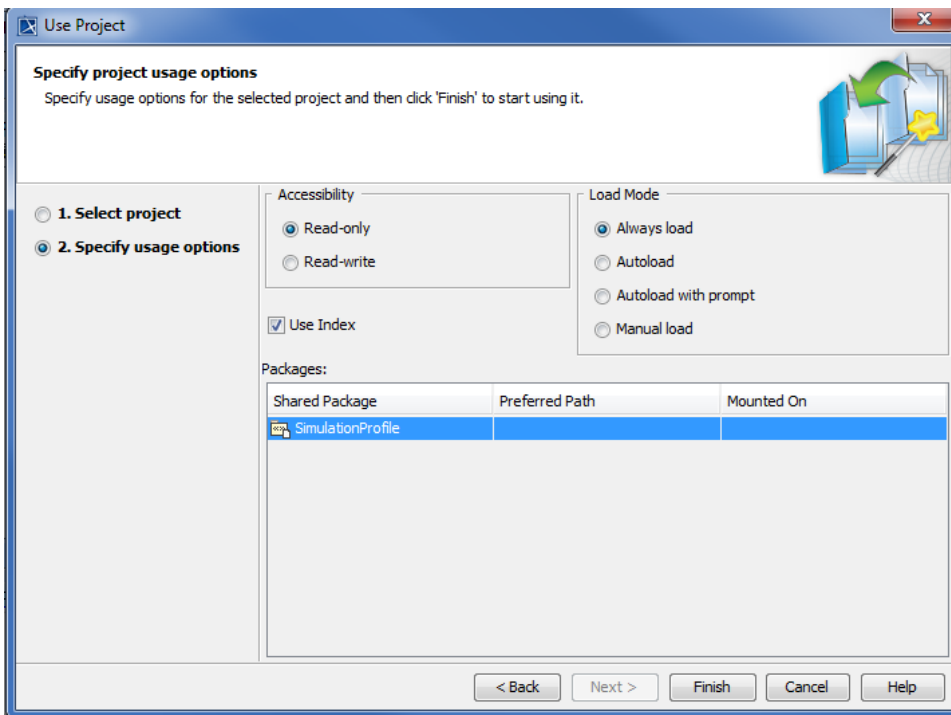
Magic Model Analyst allows you to customize model execution by using an Simulation Configuration. The Simulation Configuration is a stereotype that can be applied to a Class Element. This stereotype contains tag definitions for model execution customization such as enable or disable animation and UI mockups. To be able to use the Simulation Configuration, we need to add the *SimulationProfile.mdzip* file to our project.

To add the *SimulationProfile.mdzip* file to a project

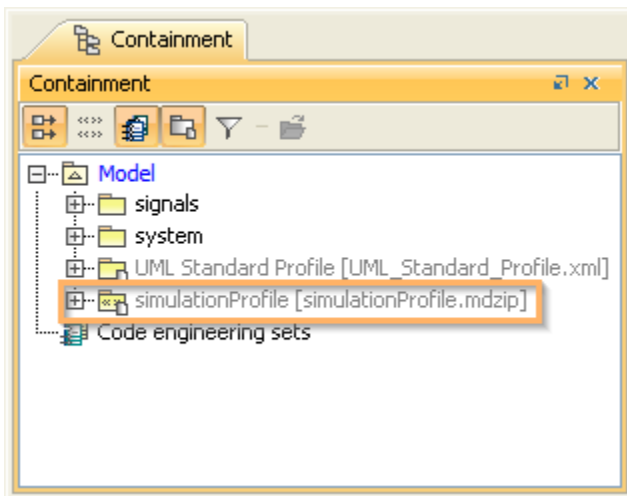
1. Click **File > Use Project** on the main menu. The **Use Project** wizard dialog opens.
2. Select the **From predefined location** option.
3. Select `<install.root>\profiles` in **Project modules paths**, and then select *SimulationProfile.mdzip*.



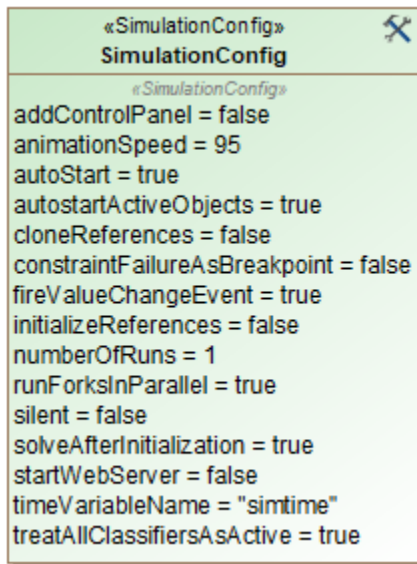
4. Click **Next** to go to the second step, **Module Settings**.



5. Use the default settings and click **Finish**. The simulation profile will be added to the project. You can see it in the containment browser.



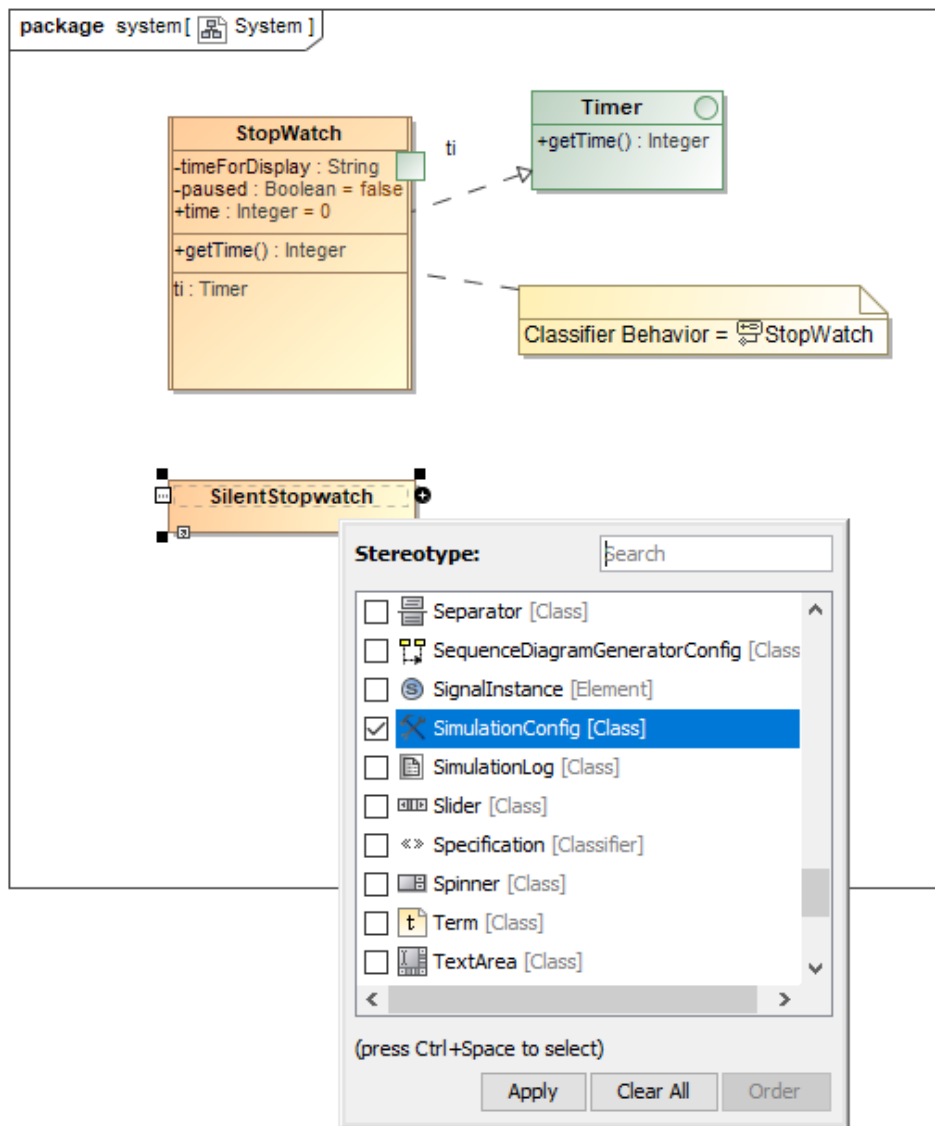
An Simulation Configuration is a Class Element, which is applied with the «SimulationConfig» stereotype (see the following figure). This stereotype contains tag definitions to customize model execution (see [SimulationConfig stereotype](#)).



Next, we will create the Simulation Configuration to execute our Stopwatch model without using animation.

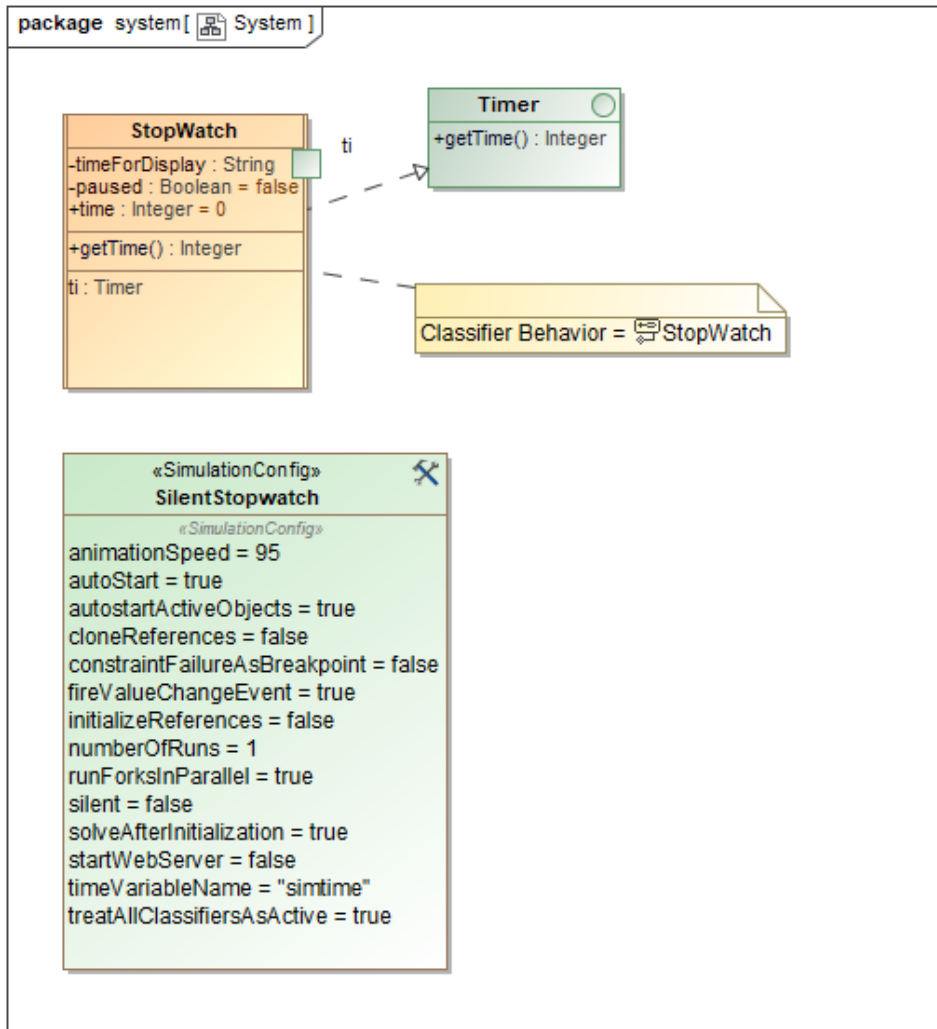
To execute our Stopwatch model without using animation

1. Open a **System** Class diagram.
2. Create a new Class Element by clicking the **Class** button on the Class diagram toolbar.
3. Click the diagram to create the Class Element.
4. Name the created Class Element "*SilentStopwatch*".
5. Right-click the **SilentStopwatch** Class and select **Stereotype** to apply the «SimulationConfig» stereotype to the created Class. The **Stereotype** context menu group will open.



6. Select **SimulationConfig** from the list of available stereotypes for the Class Element.

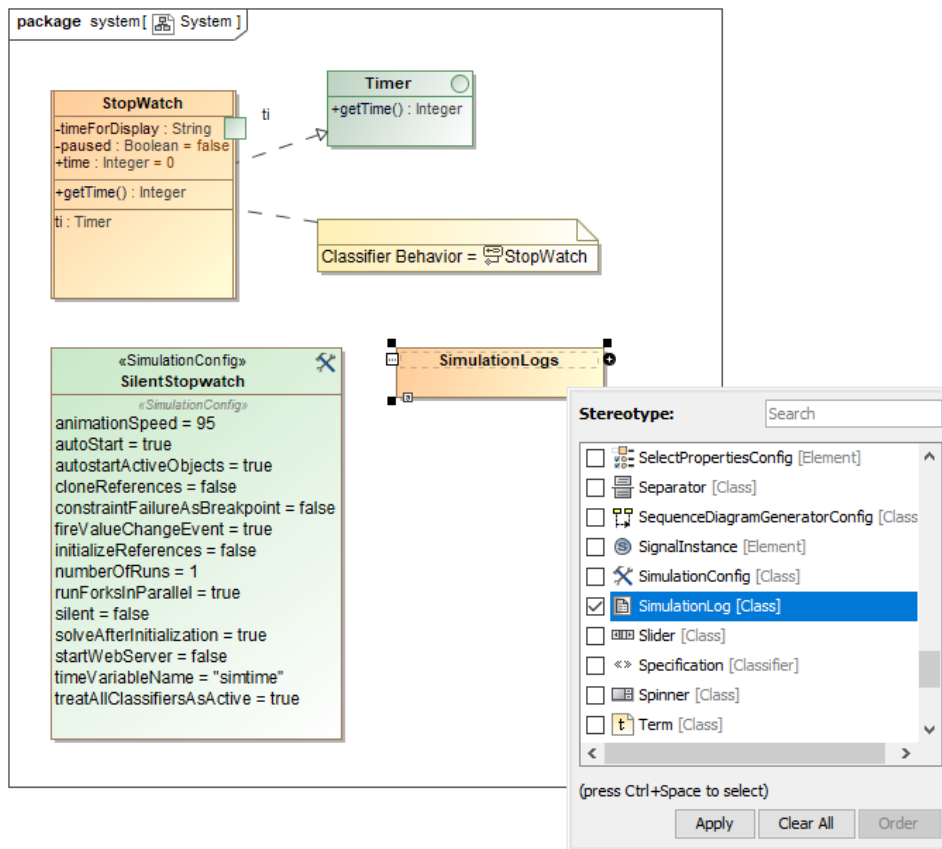
7. Click **Apply**. The SilentStopwatch Class will be with the applied SimulationConfig stereotype.



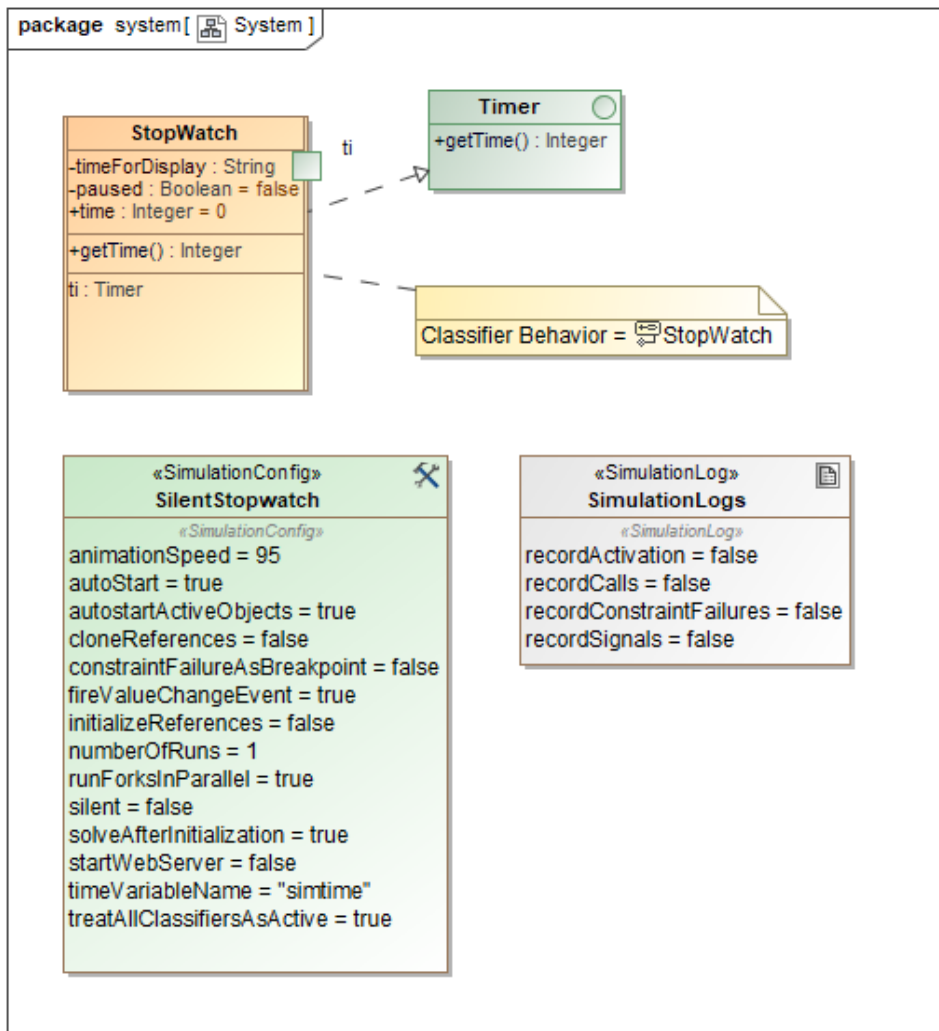
Next, we will create a SimulationLog to record the runtime events occurrence and assign this SimulationLog to the SimulationConfig.

To record all runtime events occurrence and assign a SimulationLog to the SimulationConfig

1. Create a new Class Element by clicking the **Class** button on the Class diagram toolbar.
2. Click the diagram to create the Class Element.
3. Name the created Class "*SimulationLogs*".
4. Right-click the **SimulationLogs** Class and select **Stereotype** to apply the «SimulationLog» stereotype to the created Class. The **Stereotype** context menu will open.



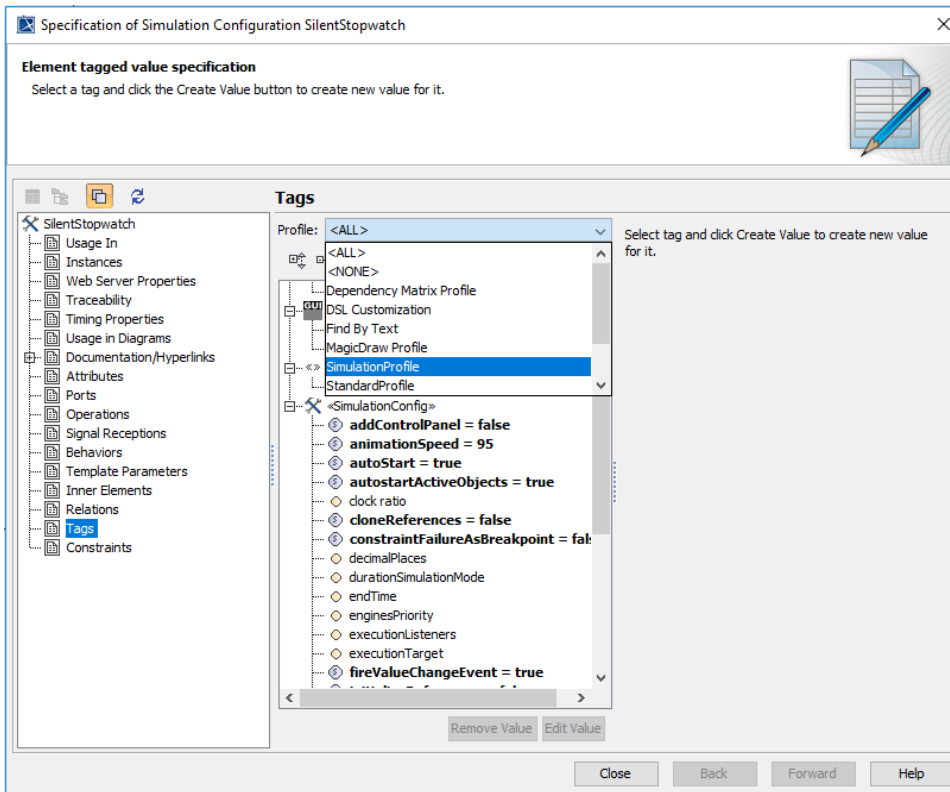
5. Select **SimulationLog** and click **Apply**. The **SimulationLogs** Class will be with the applied «SimulationLog» stereotype.



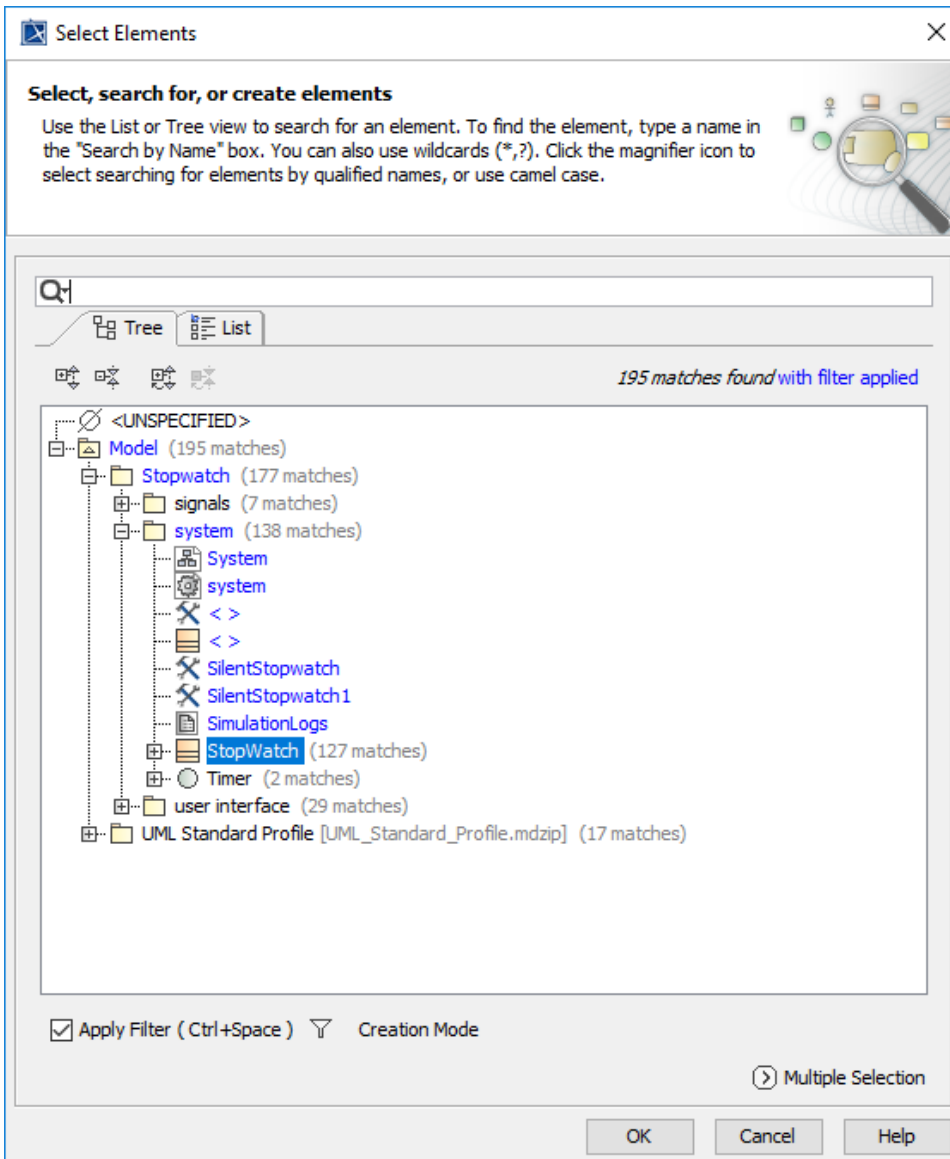
Now we need to specify the tagged values of the «SimulationConfig» stereotype that is applied to the SilentStopwatch Class.

To specify the tagged values of the «SimulationConfig» stereotype

1. Open the **Specification** dialog of the **SilentStopwatch** Simulation Configuration by right-clicking the **SilentStopwatch** symbol and select **Specification**.
2. Select the **Tags** node on the left-hand side of the dialog.
3. Select **SimulationProfile** from the **Profile** drop-down menu.

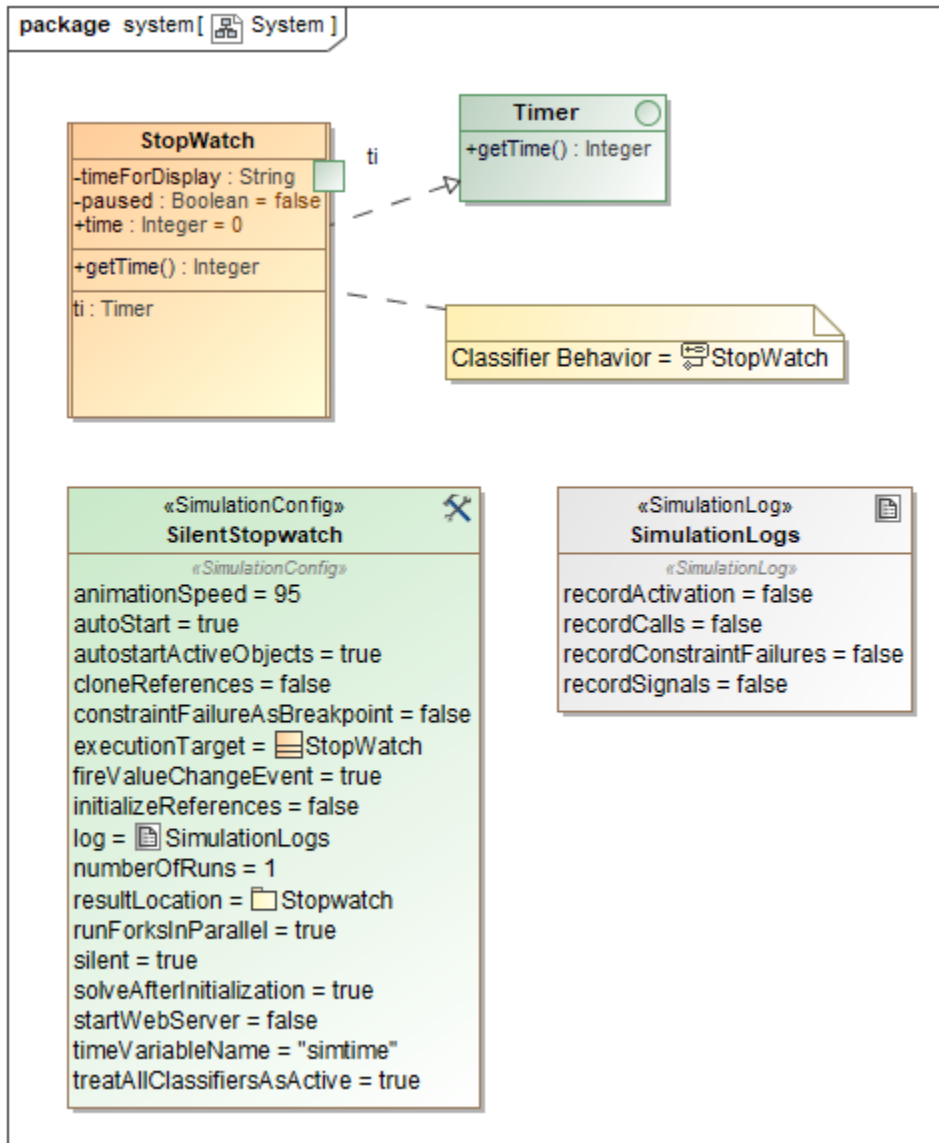


4. Specify the tagged value of the execution target to the **StopWatch** Class by selecting **executionTarget** and click **CreateValue**. The **SelectElements** dialog will open for you to select the Element that will be the execution target.



5. Select the **StopWatch** Class (you can also select the **stopwatch** InstanceSpecification, which has been created in the previous section) as the **executionTarget**.
6. Click **OK** to close the **Select Elements** dialog.
7. Follow the same steps used to set the tagged value of **executionTarget** to the **StopWatch** Class and specify the tagged values of the following tag definitions
 - i. **log** to **SimulationLogs**.
 - ii. **resultLocation** to the **Stopwatch** folder.
 - iii. **silent** to **true**.

8. Click **Close** to close the **Specification** dialog.



To execute the Simulation Configuration

1. Right-click the **SilentStopwatch** symbol on the diagram and select **Simulation > Execute**.
2. Click the **RunSimulation** button on the **Simulation** window toolbar to start the simulation. The **StopWatch** Class will then be executed without animation. You will need to wait until the runtime object of **StopWatch** is at the **ready** State. You can see the State of the runtime object at the **Variables** tab. The State of the object will be displayed in square brackets.
3. Select the **StopWatch** node in the **Variables** tab.
4. Select the **start** signal from the **Triggers** drop-down menu on the **Simulation** window toolbar.

Now, you can see that the value of **time:Integer**, which is displayed in the **Variables** tab, will increase by one every second.

To stop the execution

1. Select the **StopWatch** node in the **Variables** tab.
2. Select the **stop** signal from the **Triggers** drop-down menu. The **StopWatch** object will go to the **stopped** State.
3. Select the **stop** signal again to move the object to the **final** stage to close the simulation session. The latest value of **time:Integer** will be saved into the slot value of the **stopwatch** InstanceSpecification.