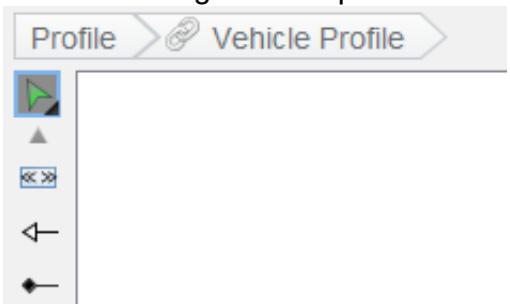
How to draw a Profile Diagram

A profile diagram enables you to create domain and platform specific stereotypes and define the relationships between them. You can create stereotypes by drawing stereotype shapes and relate them with composition or generalization through the resource-centric interface. You can also define and visualize tagged values of stereotypes.

Creating a profile diagram

To create a profile diagram:

1. Select **Modeling > Profile > New Profile** from the toolbar
2. Name the diagram and press **Enter** to confirm.

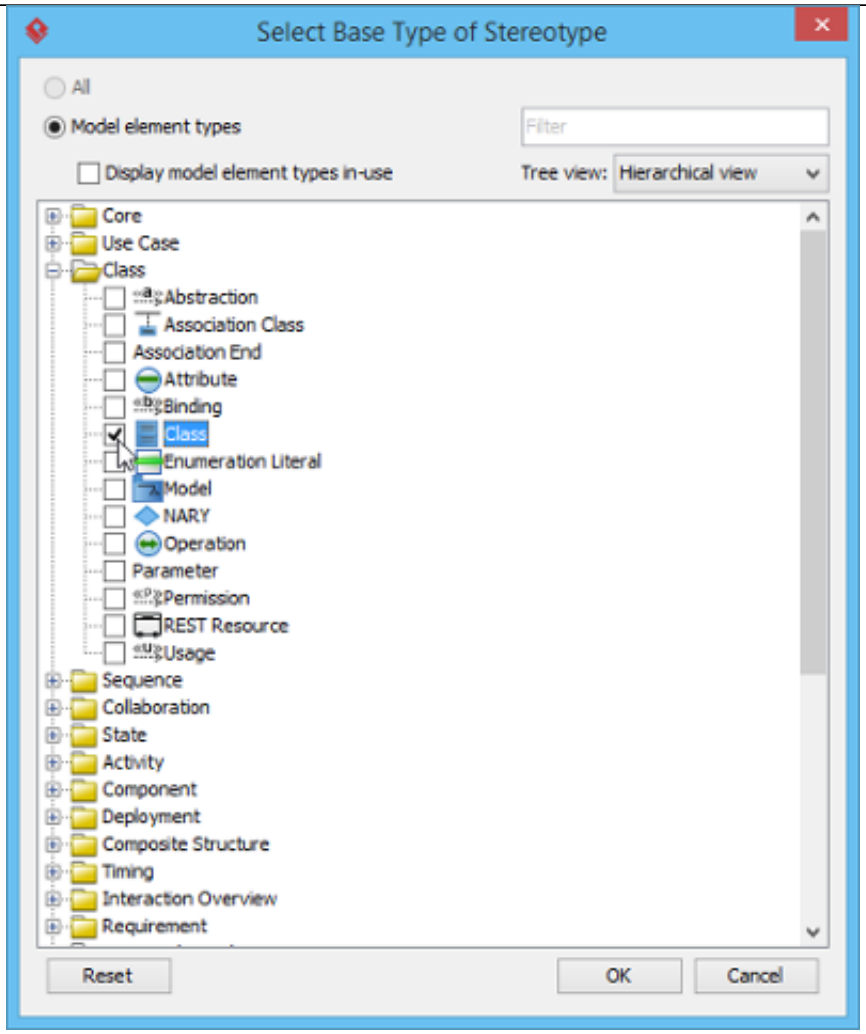


Drawing a stereotype

To draw a stereotype in profile diagram:

1. Select **Stereotype** in diagram toolbar.

2. Click on the diagram to create a stereotype.
3. In the **Select Base Type of Stereotype** window, select the base type of stereotype from the model type tree. A base type is the type of model element that the stereotype will extend.



Note: You can check **Display model element types in-use** to list only the types of model elements used in project. The text box **Filter** enables you to filter model element type base on the type name. (e.g. enter class to list only class)

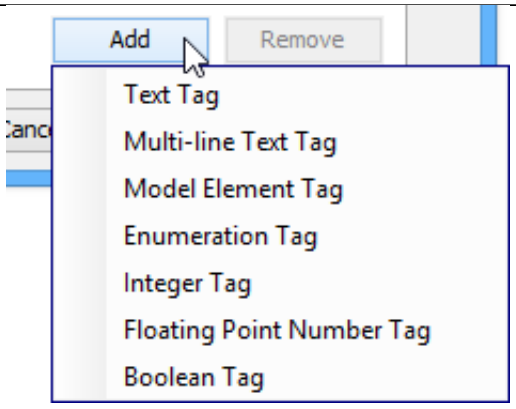
4. Click **OK**. Name the stereotype and press **Enter** to confirm creation.

Defining tagged values for stereotypes

A stereotype may have properties, which may be referred as tag definitions. When a stereotype is applied to a model element, the values of the properties may be referred as tagged values.

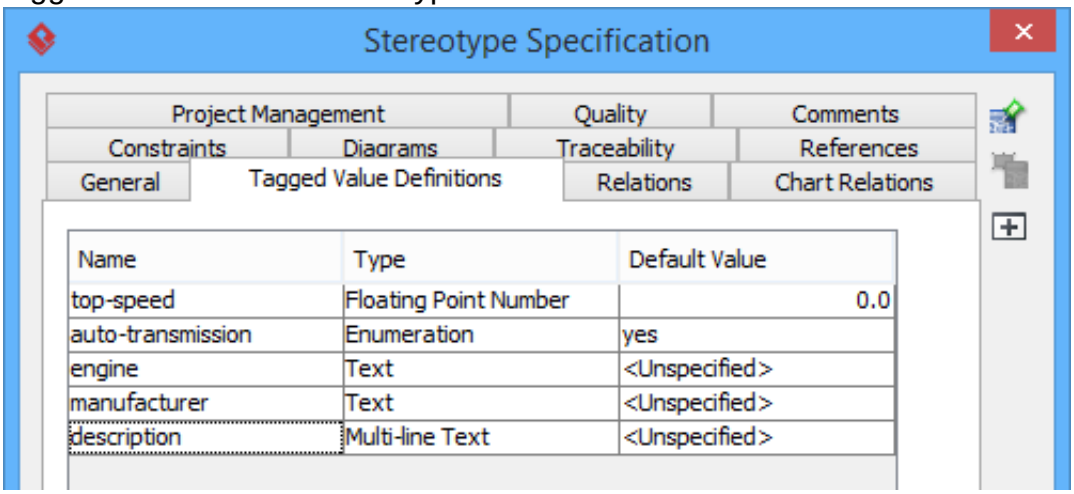
You can define tagged values for a stereotypes. By doing so, when you apply the stereotype with tagged values defined to a model element, you can fill in the values for the model element.

1. Right click on a stereotype shape and select **Open Specification...** from the popup menu.
2. In the **Stereotype Specification** window, open the **Tagged Value Definitions** tab.
3. Click **Add**. Select the type of tagged value to define. The type of tagged value limits the type of content user can enter for a tag.

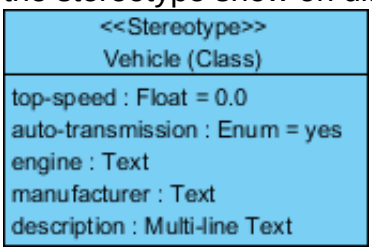


Tag type	Description
Text	The most common and general type of tagged value that consists of words.
Multi-line Text	The value of tag is a text in multiple lines.
Model element	The value of tag is a model element in project.
Enumeration	The value of tag can be chosen from a list of possible values. For example, to select "red" out of values red, green and blue.
Integer	The value of tag must be a real number.
Floating point number	The value of tag must be a number that consists of one or more digits.
Boolean	The value of tag is a boolean (true/false).

4. Double click the name cell and enter the name of tag. Repeat step 3 and 4 to add all tagged values for this stereotype.



5. You can assign a default value to a tag by editing the **Default Value** cell. Usually, you give a tag a default value when the value is true in most cases. For example, a tag "in-door-temperature" can have "25" as default value. By confirming changes, you can see the stereotype show on diagram, with tagged values show below the stereotype name.

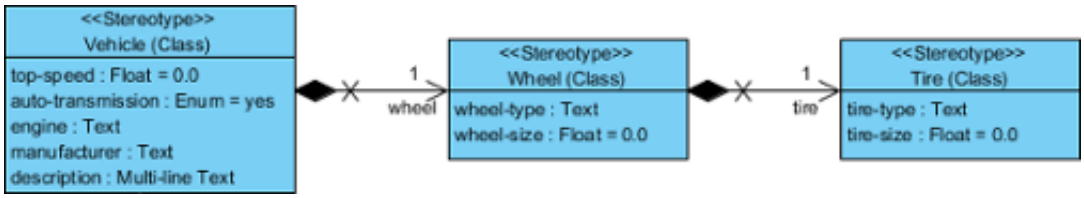


Relating stereotypes

Stereotypes can be related with each other by composition or generalization. Relating stereotypes not just affect the modeling in profile, but also the model elements that the stereotypes will be applied to.

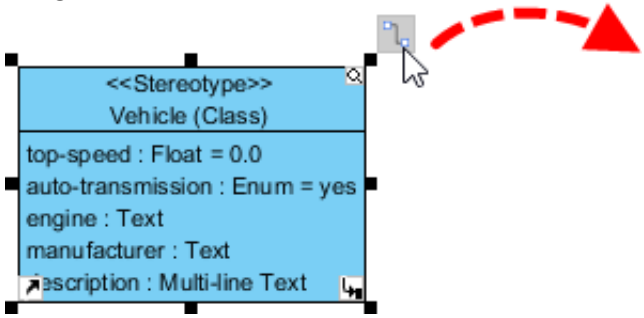
Composition

A composition relationship shows a "part of" relationship between stereotypes. The composite stereotype has responsibility for the existence and storage of the composed stereotype.

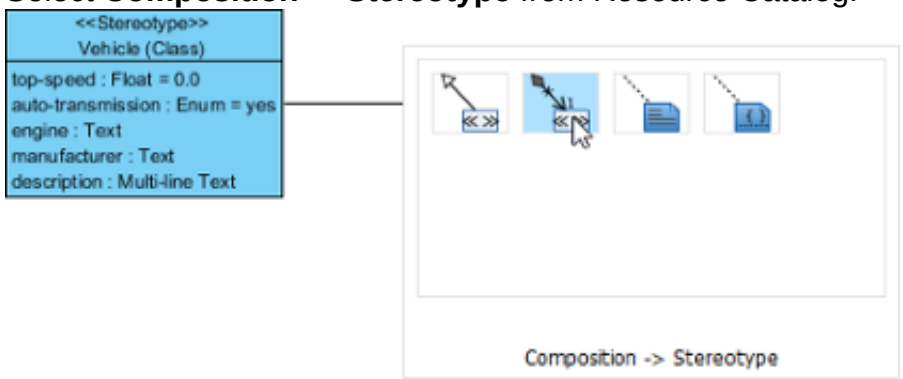


To create a composed stereotype:

1. Move the mouse pointer over a stereotype. Press on the **Resource Catalog** button and drag it out.



2. Select **Composition -> Stereotype** from Resource Catalog.

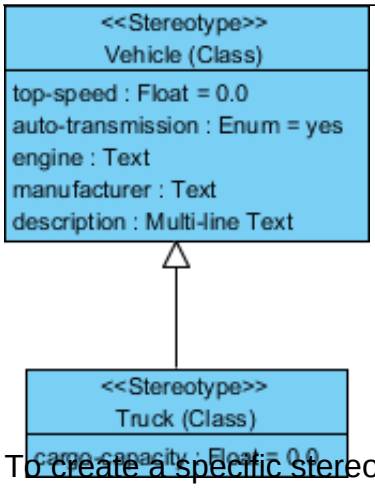


3. Name the stereotype and press **Enter**.

Since composition models a "part of" relationship, when you apply a composite stereotype to a model element, you can add tagged value defined in composed stereotype in the model element. For example, stereotype *Vehicle* is composed of stereotype *Wheel*. If you apply stereotype *Vehicle* to a class, you can specify the properties of tagged values as defined by both stereotype *Vehicle* and *Wheel*.

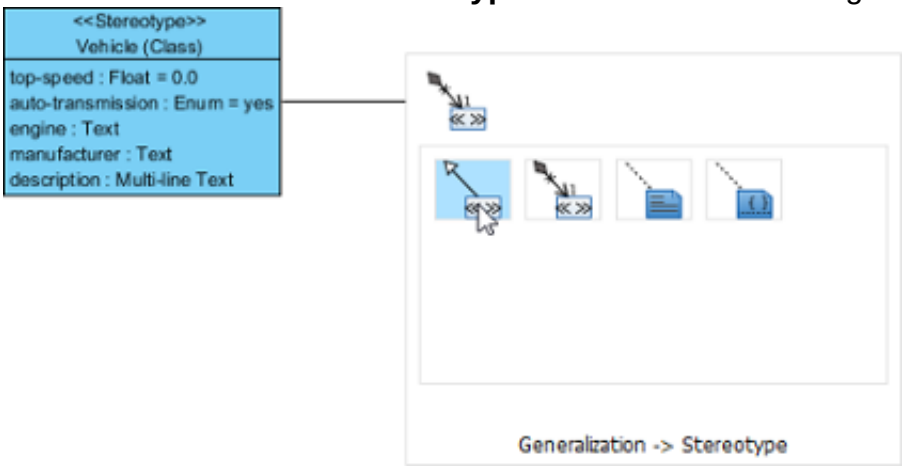
Generalization

A generalization relationship shows a "kind of" relationship between stereotypes.



To create a specific stereotype from a general stereotype:

1. Move the mosue pointer over a stereotype. Press on the **Resource Catalog** button and drag it out.
2. Select **Generalization-> Stereotype** from Resource Catalog.



3. Name the stereotype and press **Enter**.

Since generalization models a "kind of" relationship, when you apply a specialized stereotype to a model element, you can add tagged value defined in general stereotype in the model element. For example, stereotype *Vehicle* is a generalized stereotype of *Truck*. If you apply stereotype *Truck* to a class, you can specify the properties of tagged values as defined by both stereotype *Vehicle* and *Truck*.