How to Use Profile Diagram to Manage Stereotypes?
Written Date: March 6, 2016

Unified Modeling Language (UML) is a general purpose modeling language which is widely used in modeling software systems. In some occasions, UML may not be precise enough for modeling specific problem domain. The UML Profile is an extension mechanism to customize the models for specific domains or platforms. This tutorial will teach you how to create customized profile in Visual Paradigm.

Drawing a UML Profile Diagram
1. Create a profile by selecting Modeling > Profile > New Profile from the application toolbar.

2. A new profile diagram is created and you are prompted to enter a name. Enter Vehicle Engineering Profile as name and press Enter to confirm.

3. You are going to model your profile in this diagram. Let's create a stereotype first. Select the Stereotype tool from the diagram toolbar.
4. Click on the diagram to create a stereotype. You are immediately prompted to choose the base type of this stereotype, which is the type of element for which the creating stereotype will be used. Expand the **Class** node and select **Class**.

![Select Base Type of Stereotype](image)

5. Click **OK** to confirm.

6. A stereotype is created in the diagram. Enter **Vehicle** as its name and **Enter** to confirm.

![Vehicle (Class)](image)

7. Let's define some tags associated with this stereotype. Right-click on the **Vehicle** stereotype and select **Open Specification...** from the popup menu.

8. Open the **Tagged Value Definitions** tab.

9. At the bottom of the tab, click **Add** and then select **Floating Point Number Tag** from the popup menu.
10. Enter *speed-limit* as tag name and press **Enter** to confirm.

11. Create two integer tags *passenger* and *id*, and one enumeration tag *automatic-transmission*.

12. Let's configure the possible values for the enumeration tag *automatic-transmission*. Click on the ... button in its **Default Value** cell.
13. In the **Edit Enumeration** window, click **Add** to add and then enter *yes* as value. Add another value *no*.

14. Select *yes* and check **Default value** to make it the default option.

15. Click **OK** to confirm and return to the specification window.

16. Click **OK** in the specification window to return to the diagram.
17. Let's create the other stereotypes in this profile. Move your mouse pointer over the `Vehicle` stereotype.

18. Press on the **Resource Catalog** button that appear at the top right of shape. Drag it out.

19. Release the mouse button in empty space. Select **Composition -> Stereotype** from Resource Catalog.

20. A new stereotype is created and has **Class** automatically chosen as base type. Enter **Body** as name and press **Enter** to confirm.
21. Besides composition, you can also create specialized stereotypes. Let's create a stereotype *Pickup Truck* which is a specialized type of vehicle, using Resource Catalog. This time, choose the resource **Generalization -> Stereotype**.

22. Up to now, your profile diagram should look like this:

23. Apply the techniques taught above to add tags to the new stereotypes. Add a text tag *painting* to *Body* and a floating point number tag *cargo-capacity* to *Pickup Truck*.
24. Draw two more specialized stereotypes Mini and Convertible from Vehicle. Draw another composite stereotype Interior from Vehicle, and another composite stereotype Seat from Interior. Add a text tag int-painting to Interior and two text tags texture and pattern to Seat. Your diagram should look like this:

![Diagram showing Stereotypes]

**Creating a Class with Stereotype**

The profile is now ready to use. Let’s create a class diagram with the stereotype defined in Profile Diagram.

1. Create a class diagram by selecting **Diagram > New** from the application toolbar. Select **Class Diagram** in the **New Diagram** window and click **Next**. Keep the diagram name as provided and click **OK** to confirm.

2. Create a class **Light Motor Vehicle**.
3. Right-click on *Light Motor Vehicle* and select **Stereotypes > Edit Stereotypes** from the popup menu.

4. Select **Pickup Truck** on the left hand side and then click > to add it.
5. Open the **Tagged Values** tab. The tags defined in the stereotypes are listed. Besides the tag defined in <<Pickup Truck>>, there are tags defined under its generalized stereotype <<Vehicle>> and its composited stereotypes.

![Image of Tagged Values tab](https://www.visual-paradigm.com/tutorials/how-to-configure-stereotypes-with-profile-diagram.jsp)

6. Click the ... button in the **Value** cell of **Body** tag. The **Sub-level Tagged Values** window is shown. You can specify the tagged values of the **Body** stereotype there.

![Image of Sub-level Tagged Values](https://www.visual-paradigm.com/tutorials/how-to-configure-stereotypes-with-profile-diagram.jsp)

**Related Links**

- [What is Profile Diagram in UML?](https://www.visual-paradigm.com/tutorials/how-to-configure-stereotypes-with-profile-diagram.jsp)
- [Know-how: Define and specify stereotype in BPD](https://www.visual-paradigm.com/tutorials/how-to-configure-stereotypes-with-profile-diagram.jsp)
Visual Paradigm

Visual Paradigm home page
(https://www.visual-paradigm.com/)

Visual Paradigm tutorials
(https://www.visual-paradigm.com/tutorials/)