Visual ◆ Paradigm

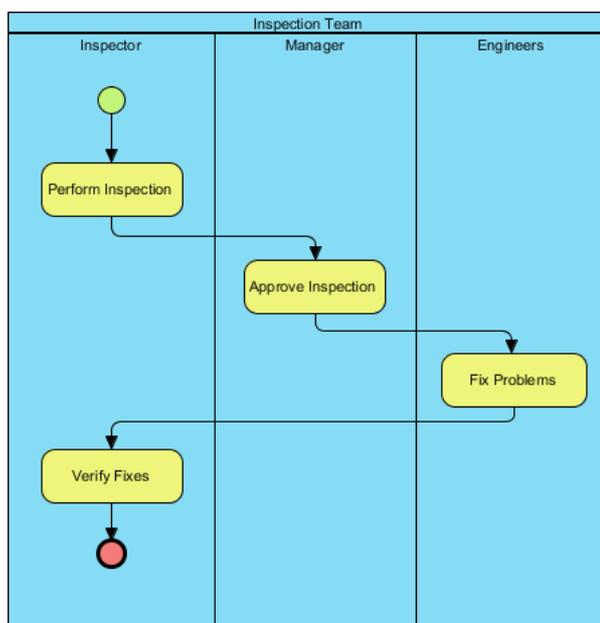# BPMN Tutorial: How to Use BPMN Data Object?

Written Date : February 06, 2016

An execution of business process often involves the use, creation and manipulation of data items. For example, invoice in an ordering process. In BPMN, these items can be visually depicted by a document-like symbol called data object.
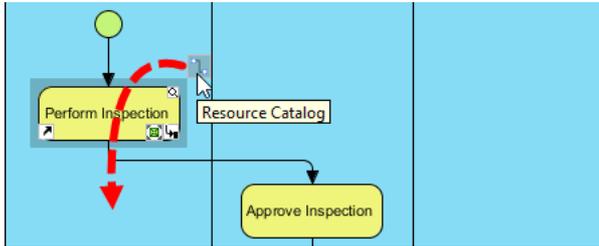

The state of a data object may keep changing throughout a process or processes. Just take invoice as an example. Typically, an invoice will undergo states like open, canceled, unpaid, pending, paid, overpaid and underpaid. In this tutorial, we will show you how to create data object in a BPD, and how to define its states. You will also learn how to reuse a data object in a process, with different states selected for different instances.
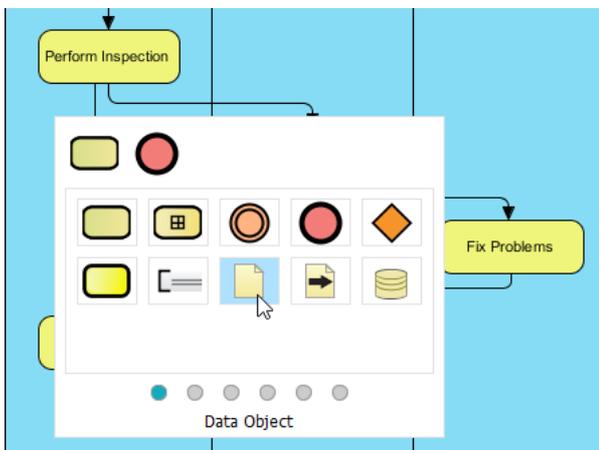
Creating data object with state

1. Download Tutorial.vpp. You can also find this file at the bottom of this tutorial.

2. Open the downloaded .vpp file in Visual Paradigm. To open a project, select **Project > Open** from the application toolbar.

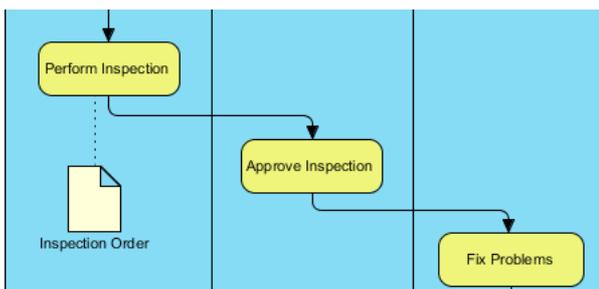3. Open the business process diagram *Inspection*. You should see the diagram below:

4. Let's create a data object from the task *Perform Inspection*. Move your mouse pointer over the task. Press on the **Resource Catalog** icon and drag it out.
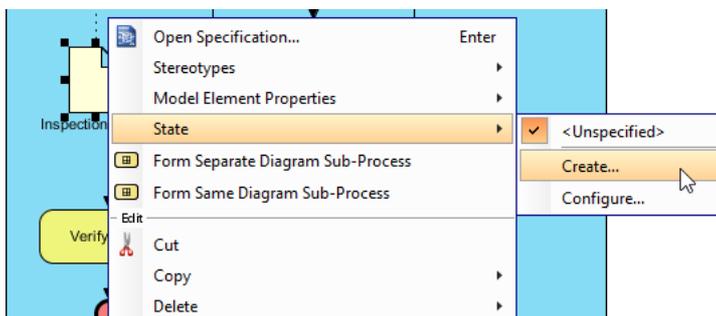
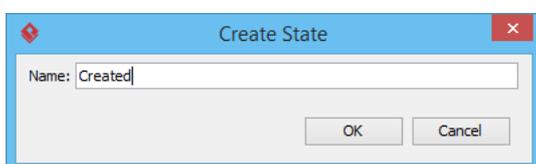5. Release the mouse button and select **Data Object** from Resource Catalog.

6. Enter *Inspection Order* as the name of data object and press **Enter** to confirm.
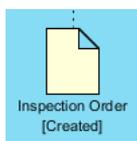
7.   Let's set the state of the *Inspection Order* Right-click on it and select **State > Create...** from the popup menu.

8.   In the **Create State** dialog box, enter *Created* as (state) name and then click **OK**.
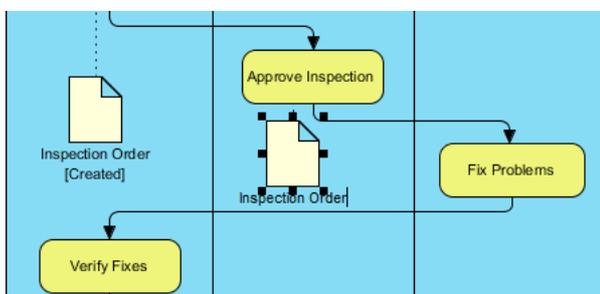

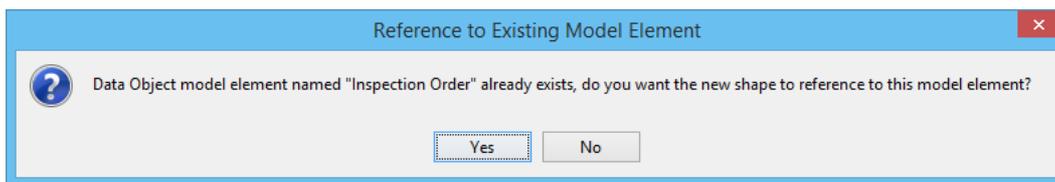You should see the name of the data object appear, like this:
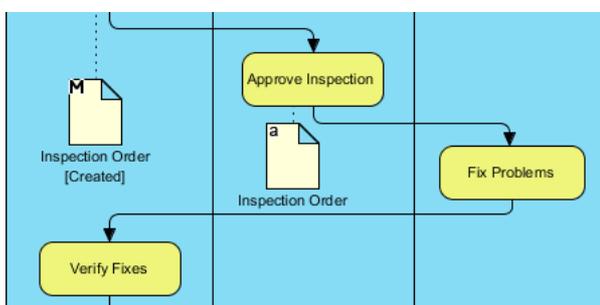

Reusing data object

1.   Let's continue with the remaining flow of the diagram. Let's say after the task *Approve Inspection*, the *Inspection Order* will be in 'approved' state. Let's represent this. First, create a data object from the task *Approve Inspection* and name it *Inspection Order*, which is the as the previously created data object.
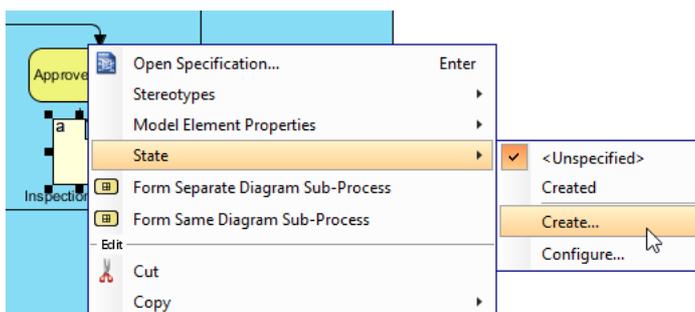
2. Press **Enter** and you will be prompted to confirm the reuse of data object. Click **Yes**.
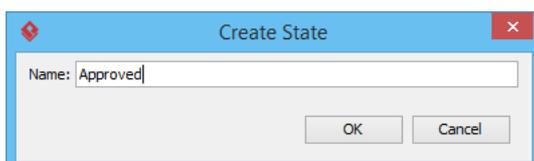

You can see the data object is created with letter 'a' appear at top left, while the original data object (shape) has an 'M' appear at same position. The letter 'a' stands for auxiliary view, while 'M' stands for master view. Each model element can have one master view and unlimited number of auxiliary views. The placement of element in model hierarchy is controlled by the master view.
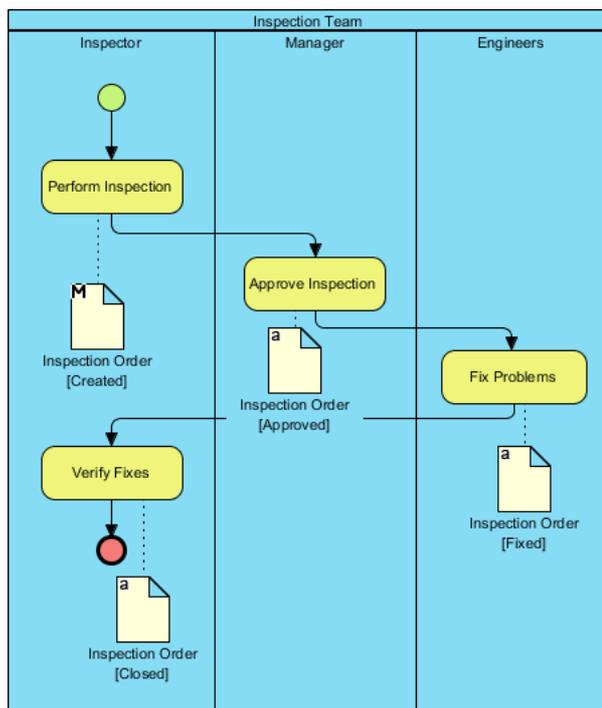

3. Let's create a state for *Inspection Order*. Right-click on it and select **State > Create...** from the popup menu. By the way, in the popup menu you can see the state **Created** available for selection. In case you need to represent a state that has been created before you can simply select the state there.

4. In the **Create State** dialog box, enter *Approved* as (state) name and then click **OK**.

5.   Repeatedly reuse *Approve Inspection* on other parts of the business process diagram, with different states selected. Finally, you diagram should look like this:

Resources

1.   [Tutorial.vpp](#)

Related Links

- [Tutorial: Introduction to BPMN Part IV - Data and Artifacts](#)

Visual Paradigm

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