



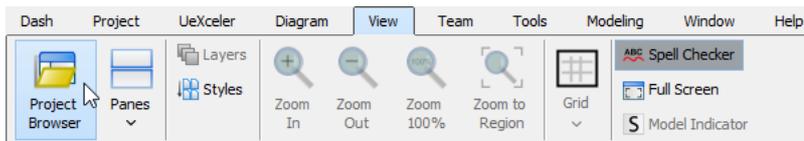
How to Organize Domain and Implementation Model?

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This tutorial is aimed to introduce the concept of organizing project with the use of model. By reading this tutorial, you will learn how to create domain model, how to transcribe it into implementation model, and eventually compare their differences.

Creating domain class model

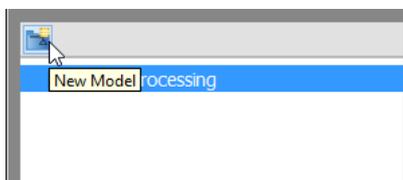
1. Create a new project by selecting **Project > New** from the application toolbar. In the **New Project** window, enter *Order Processing* as project name and click **Create Blank Project**.
2. Open the **Project Browser** by selecting **View > Project Browser** from the application toolbar.



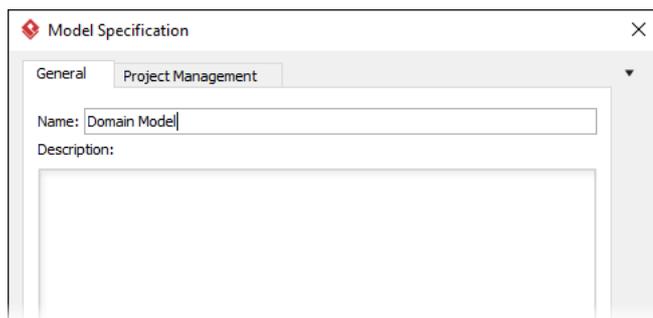
3. Open the **Model Structure** page.



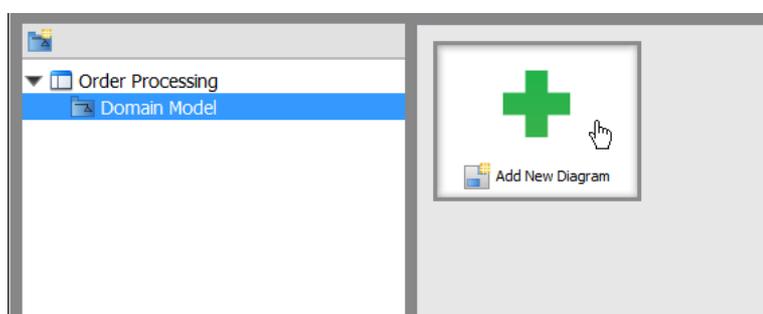
4. On the left hand side, keep the project node selected in the list and then click **New Model**.



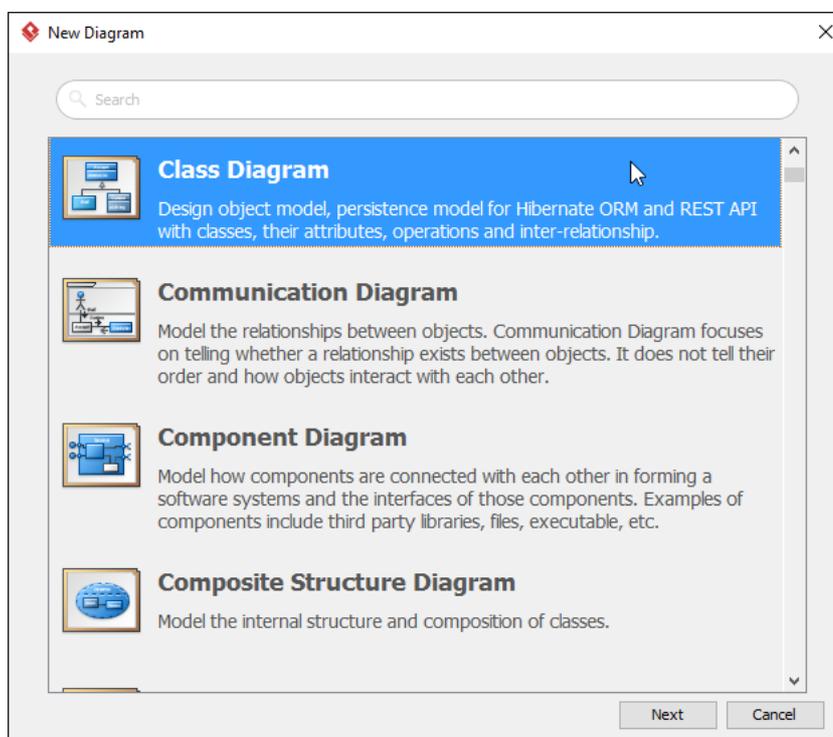
5. In the **Model Specification** window, enter *Domain Model* as model name. Click **OK** to confirm.



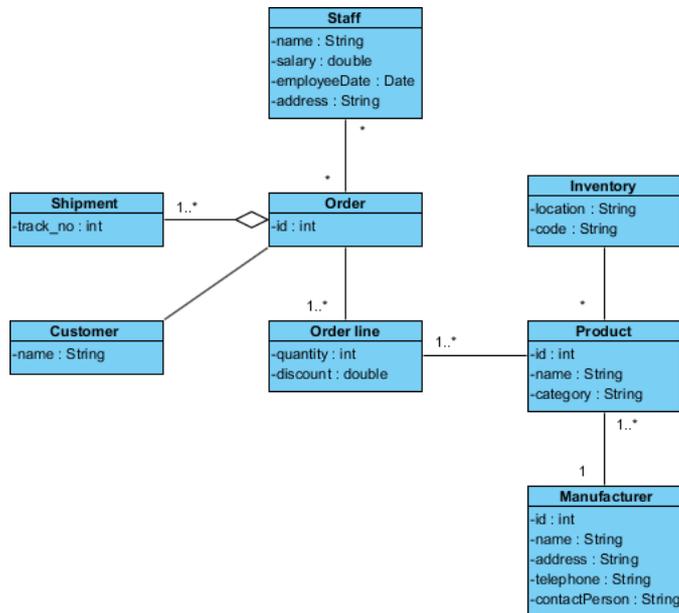
6. Keep **Domain Model** selected in the list. Then, click **Add New Diagram**.



7. In the **New Diagram** window, select **Class Diagram** and then click **Next** to continue.



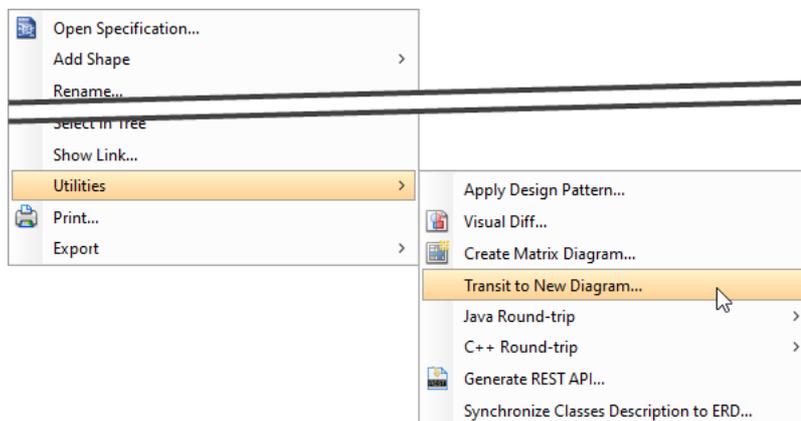
- Keep the diagram name unchanged and then click **OK** to create the diagram.
- Draw a domain model class diagram like this:



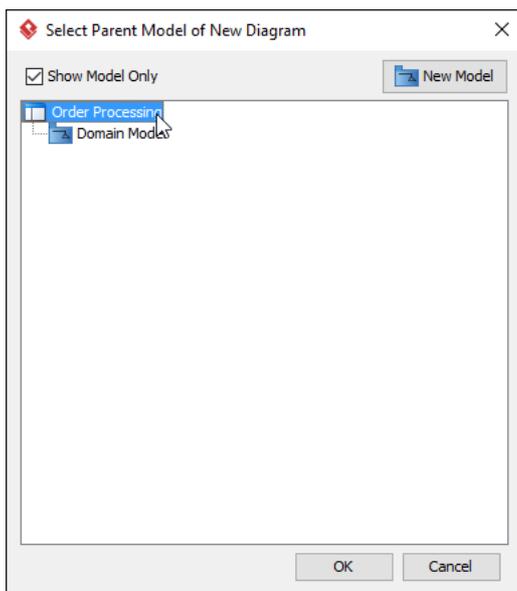
Creating implementation class model

Having completed the domain model, we are going to transcribe it into implementation model.

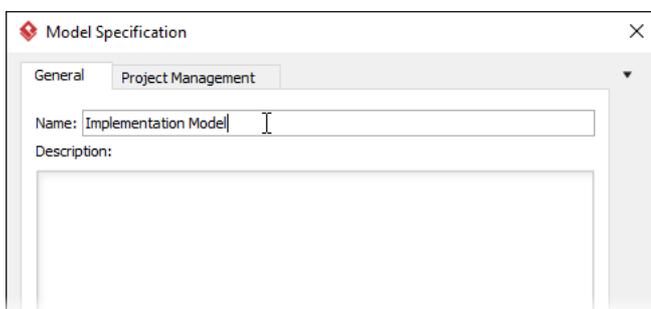
- Right-click on the diagram background and select **Utilities > Transit to New Diagram...** from the popup menu.



2. In the **Select Parent Model of New Diagram** window, select the project root node.

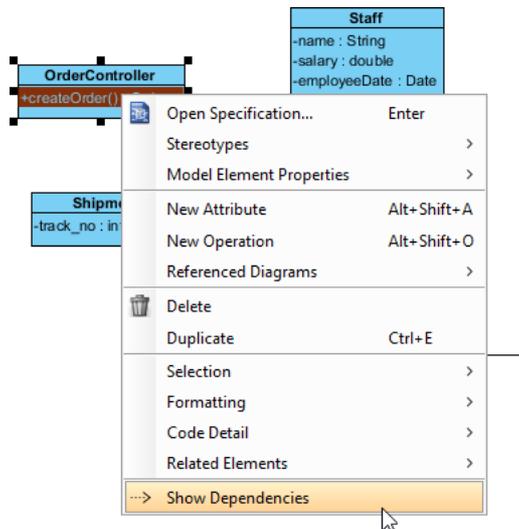


3. Click **New Model** at the top right of window.
4. In the **Model Specification** window, enter *Implementation Model* as model name. Click **OK** to confirm.

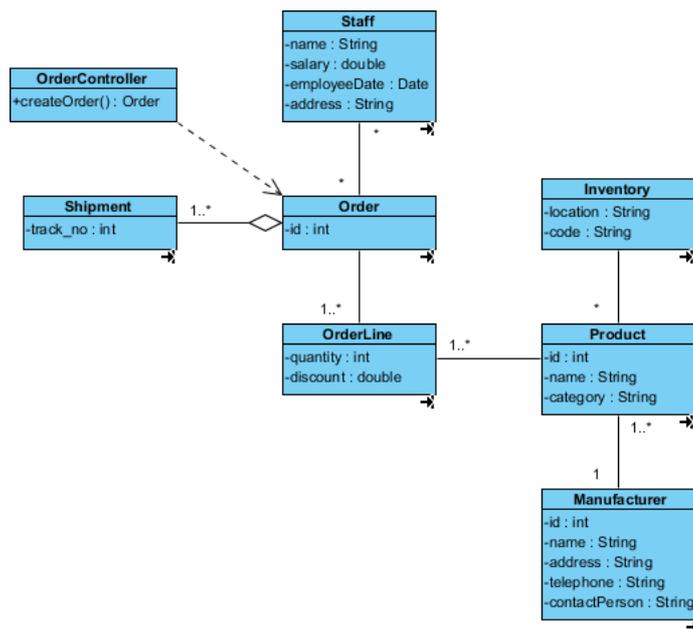


5. Keep *Implementation Model* selected, click **OK** to confirm. This forms a new diagram with name *Implementation Model*, which looks the same as *Domain Model*. What we are going to do is to refine the design to make it become an implementation model.
6. Delete the class *Customer* by selecting it, and hit the delete key.
7. Rename class *Order line* to *OrderLine*.
8. Create a class *OrderController*.
9. Add an operation *createOrder() : Order* into *OrderController*.

10. Right-click on the operation `createOrder() : Order`, select **Show Dependencies** from the popup menu.



Up to now, the implementation model should look like this:

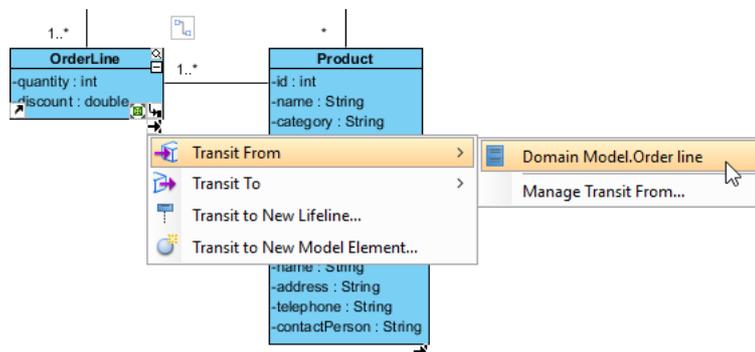


Using Model Transitor

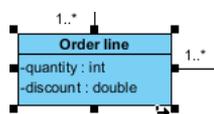
Let's refresh our memory on what we have changed for the class `OrderLine`.

1. Move your mouse pointer over the class `OrderLine`.

2. Click on the **Model Transitor** resource icon at the bottom right of the class shape and then select **Transit From > Domain Model.Order line** from the popup menu.



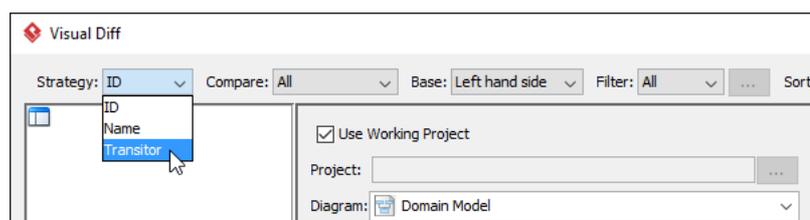
This populates the domain model, with former version of class *OrderLine* selected, which was named *Order line*.



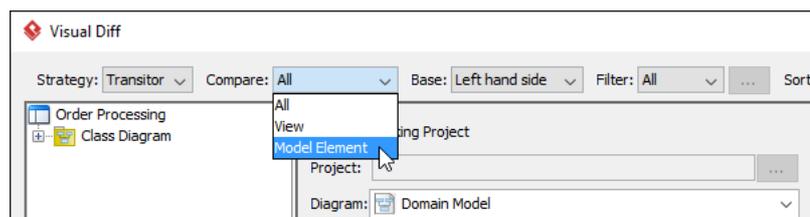
Comparing models with Visual Diff

In order to identify all the refinements made in implementation model, we need to make use of the Visual Diff tool.

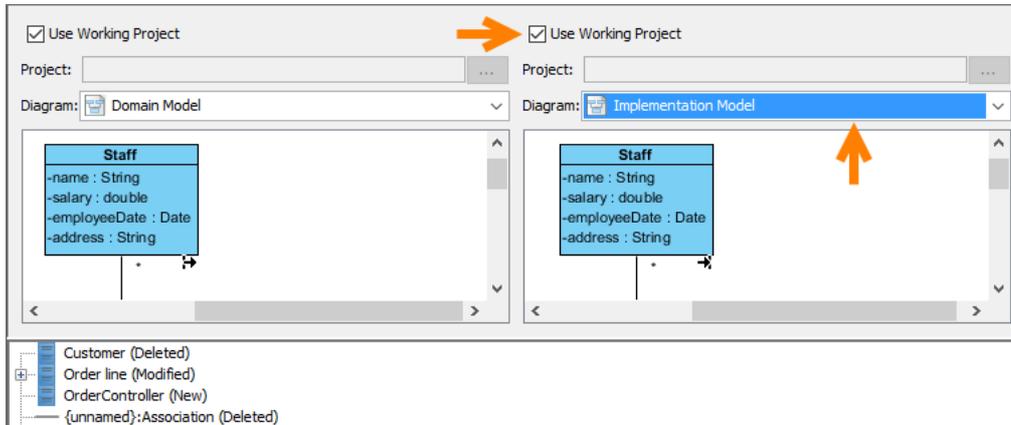
1. Open Visual Diff by selecting **Modeling > Visual Diff** from the application toolbar.
2. In the **Visual Diff** window, select **Transitor** as **Strategy**.



3. We wanted to know the changes of model element details rather than view details such as shape coordinate. Therefore, next to **Strategy** we select **Model Element** to **Compare**.



- For the diagram pane on the right, keep **Use Working Project** selected, and pick up *Implementation Model* for the diagram to compare.



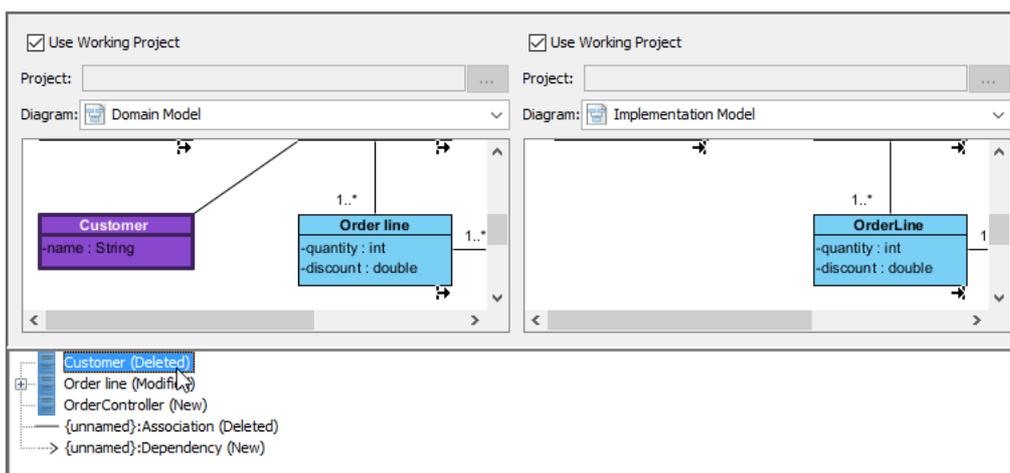
- Now, we have obtained the differences between domain (left hand side) and implementation (right hand side) model, at the bottom pane. Click on the node **OrderController (New)**. From the tag (New), and from the diagram, we know that it is newly added in the implementation model.



6. Select and expand the node **Order line (Modified)**. We know that it is renamed.



7. Select the node **Customer (Deleted)**. We can see that it does not exist anymore in the implementation model.



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

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