



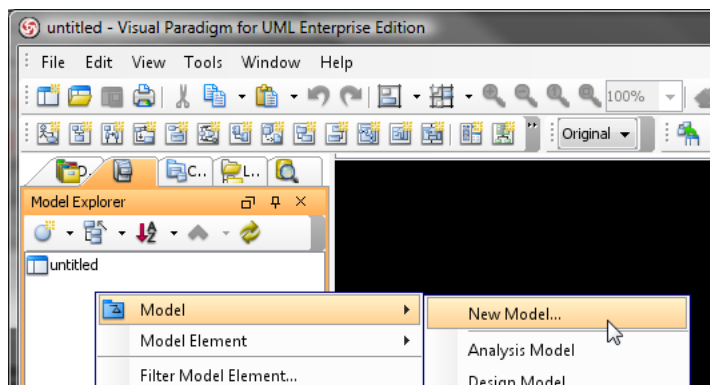
Generate class diagrams from entity relationship diagrams

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[Visual Paradigm for UML \(VP-UML\)](#) supports generating [class diagrams](#) from [ER diagrams](#) (entity relationship diagram). Entities and relationships are mapped with classes and associations accordingly. This tutorial teaches generating class diagrams from entity relationships diagrams and how to synchronize documentation between classes and entities.

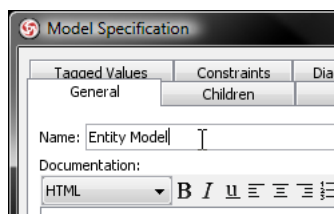
To generate class diagrams from entity relationship diagrams:

1. We first create *Entity Model* in **Model Explorer**. Right click on the **Model Explorer** and select **Model > New Model**.



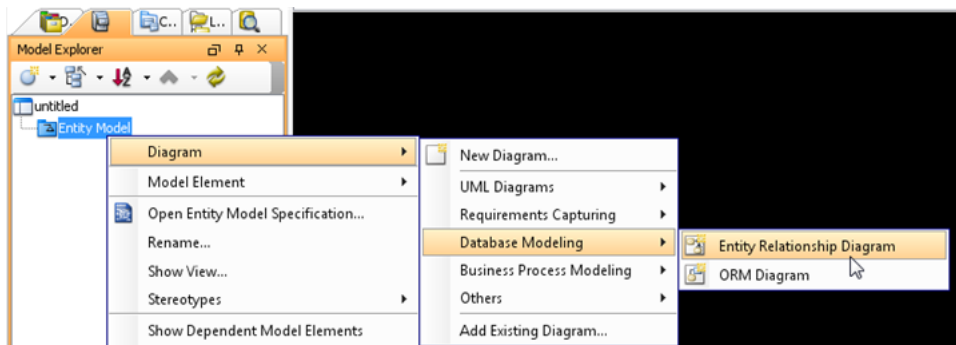
Create entity model in Model Explorer

2. Enter the name as *Entity Model*.



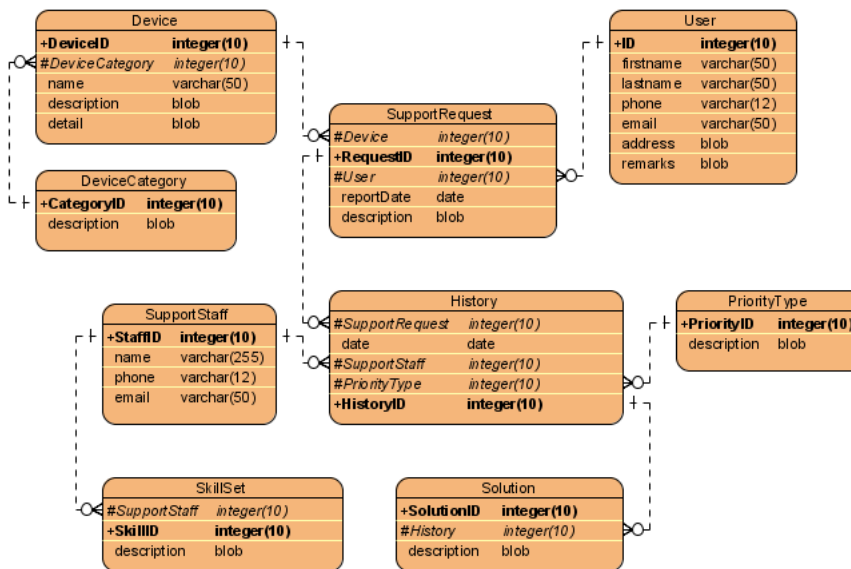
Input "Entity Model" in model specification dialog box

- Now let's create entity relationship diagram under *Entity Model*. Right click on the *Entity Model* and select **Diagram > Database Modeling > Entity Relationship Diagram**.



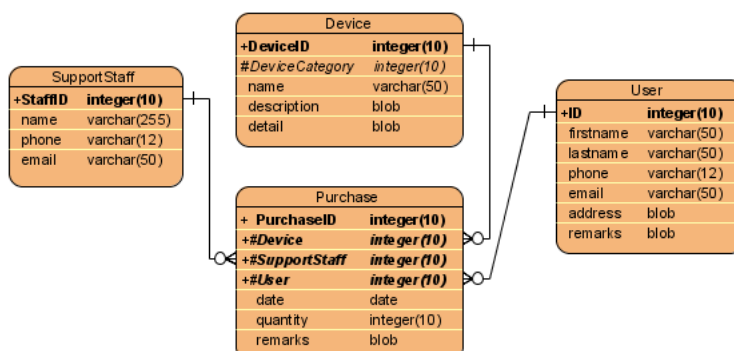
Create entity relationship diagram under "Entity Model"

- Develop the following entity relationship diagram.



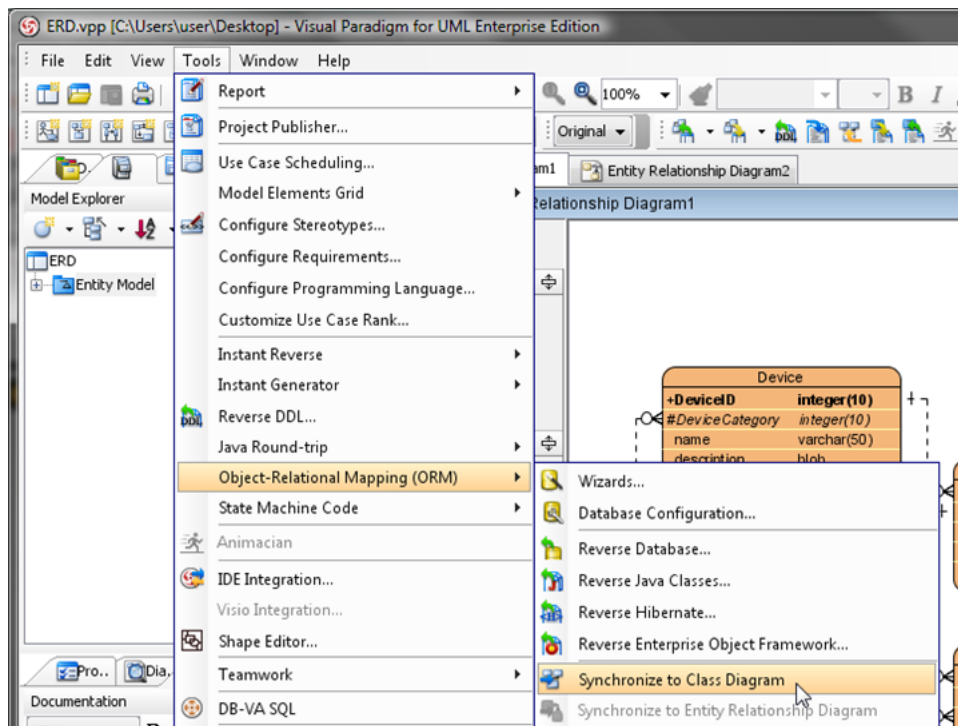
Device support history ER diagram

- Repeat the above steps to create the following entity relationship diagram under *Entity Model*.



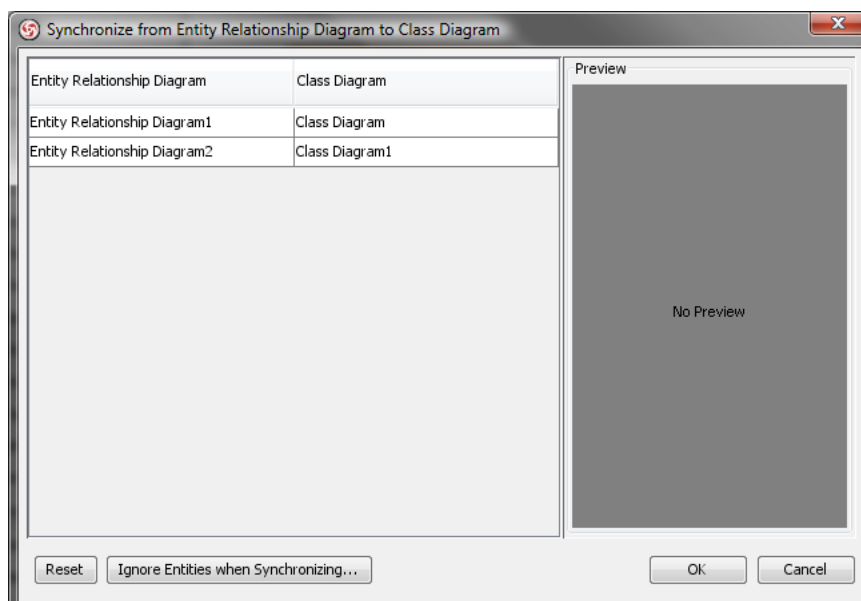
Device purchase ER diagram

- Once the entity relationship diagrams are ready, we can then generate class diagrams from our entity relationship model. Select **Tools > Object-Relational Mapping (ORM) > Synchronize to Class Diagram**.



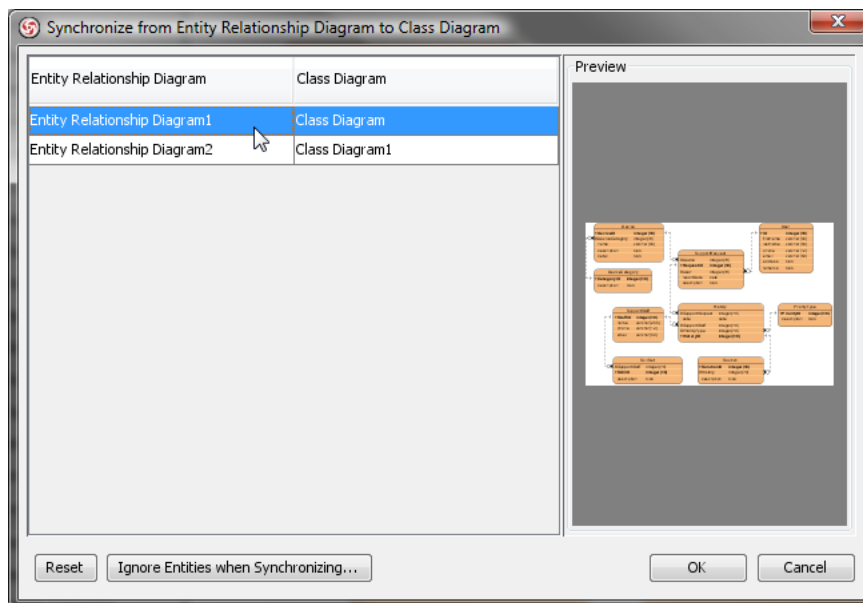
Select "Synchronize to Class Diagram" menu item

- The **Synchronize from Entity Relationship Diagram to Class Diagram** dialog will be shown. The entity relationship diagrams in your project shows on the left hand side of the table, and the target class diagram shows on the right hand side.



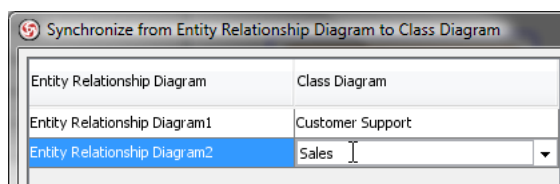
ER diagram to UML class diagram mapping dialog box

8. Click on the entity relationship diagram cell and the preview will be show up.



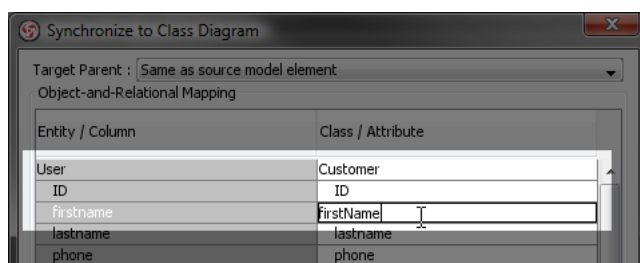
Preview ERD diagram

9. You can name the target class diagram directly in the class diagram cell, or you can synchronize to existing class diagram (if any).



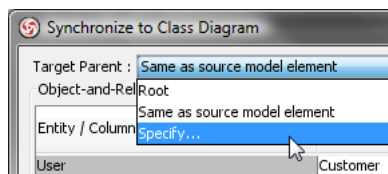
Assign meaningful name to UML class diagram

10. Press **OK** to proceed.
11. Now the **Synchronize to Class Diagram** dialog will show up. The mapping between entity name and class name, also the column name and attribute name will be listed in the dialog. Let's change the name of the *User* class to *Customer*. And change the attribute name from *firstname* to *firstName*.



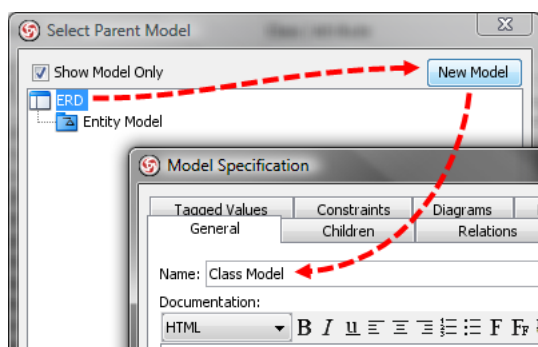
Entity column to class attribute mapping table

12. We can specify the target for storing the output class diagram. Select **Specify...** in the **Target Parent** combo box.



Selecting target model

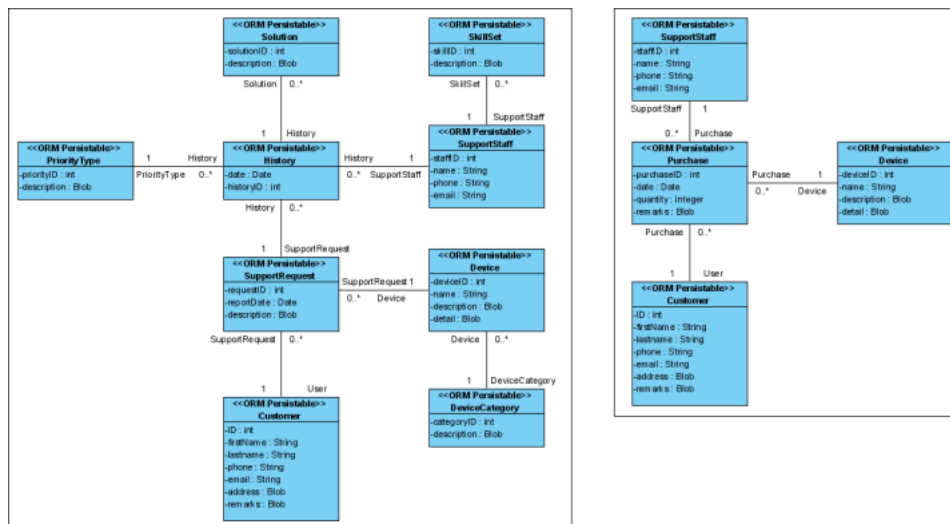
13. Select the root node in the tree and press the **New Model** button. Name the model as *Class Model*.



Create "Class Model"

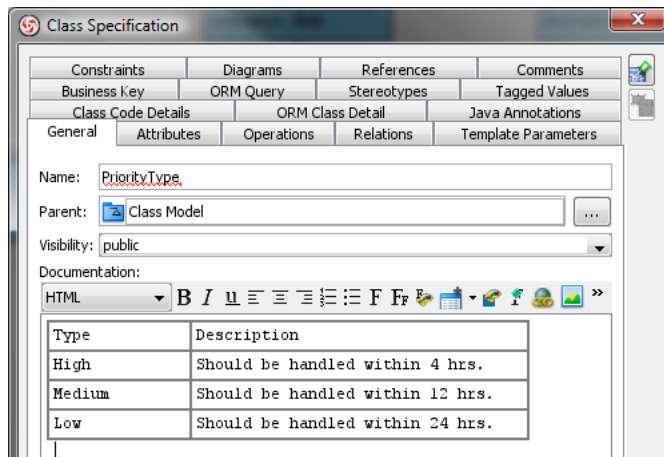
14. Press **OK** to proceed.

15. Now the class diagrams being generated.



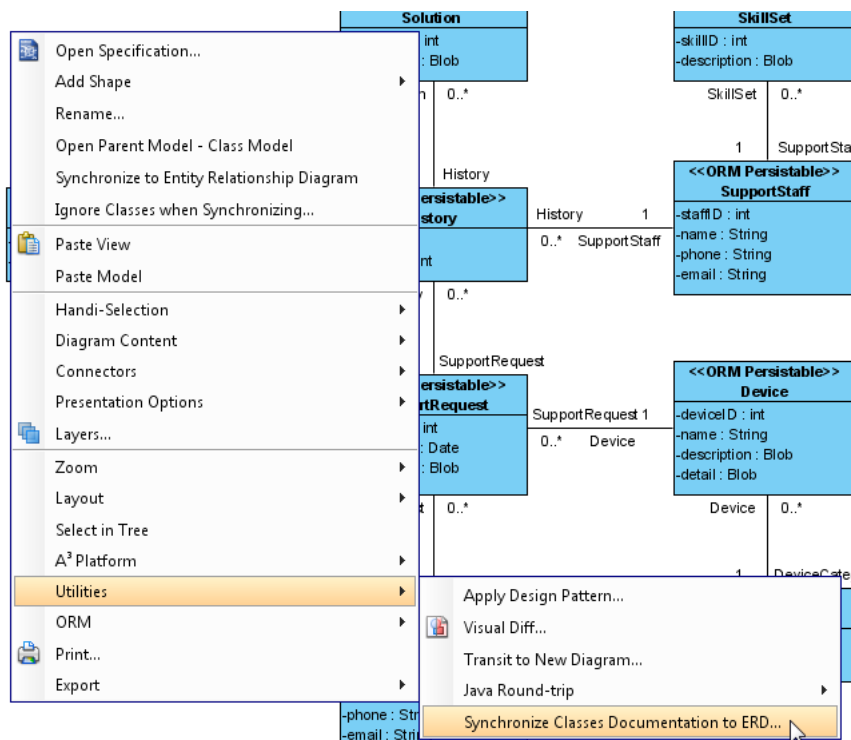
Generated UML class diagrams

16. Let's try to modify the documentation of the class *PriorityType*.



Modify "Priority Type" class's documentation

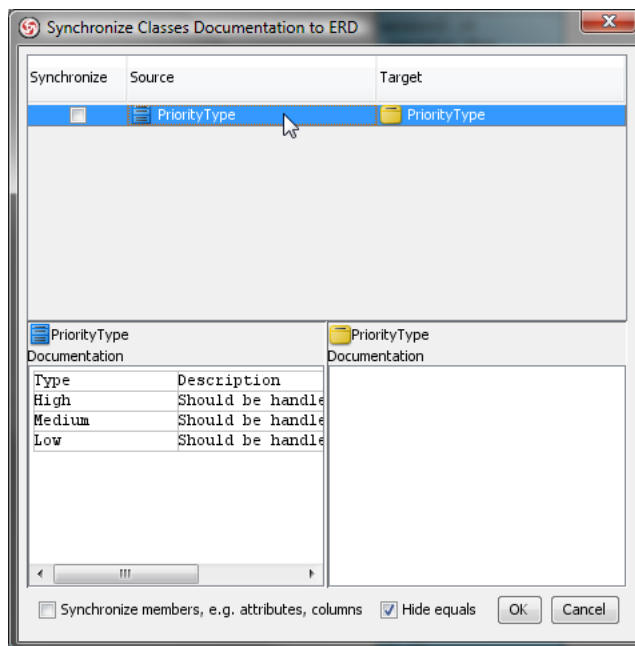
17. You can synchronize the documentation from class model to the associated entity model by right click on the diagram and select **Utilities > Synchronize Class Documentation to ERD**.



Synchronize class documentation to ER Diagram

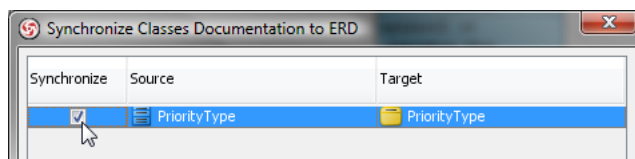
18. **Synchronize Class Documentation to ERD** dialog will list class model which contain different documentation with the entity model.

19. Click on the entity *PriorityType* in the list and the differences of documentation between class and entity model will be shown.



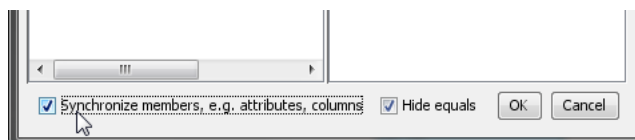
Synchronize class documentation dialog box

20. Select the checkbox under **Synchronize** column to specify the model you would like to synchronize their documentation.



Check synchronize classes and entities

21. By select **Synchronize members** checkbox, the documentation of the class attribute and entity column will also being synchronized.



Check "Synchronize members" checkbox

22. Uncheck the **Hide equals** checkbox and all the classes/entity will be listed, even their documentation are same.



Visual Paradigm for UML home page
(<http://www.visual-paradigm.com/product/vpuml/>)

UML tutorials
(<http://www.visual-paradigm.com/product/vpuml/tutorials.jsp>)



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