

Software Methods and Tools

Spring 2018

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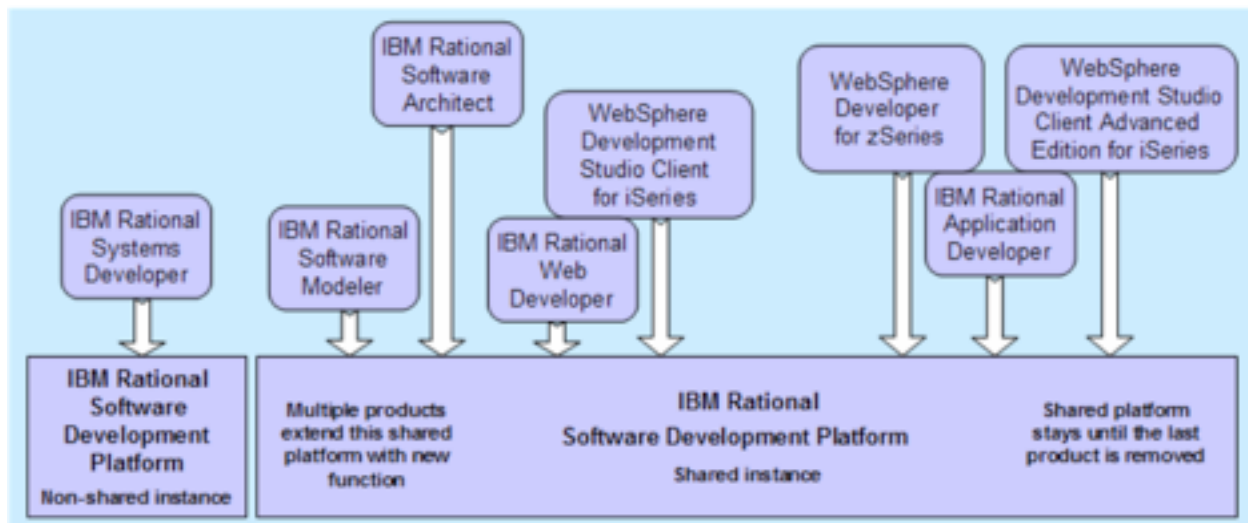
Lab #2: Creating UML Class Diagrams with IBM Rational Software Modeler

Description:

In this lab, we are going to use IBM Rational Software Modeler to create UML class diagrams. Students need to finish an exit exercise and show it to the TA before they leave the lab. Specifically, we will create a UML class diagram that has classes (i.e. attributes, operations) and associations (e.g. generalization, aggregation, composition). We will also organize the created classes into a package diagram.

About IBM Rational Software Modeler

IBM has several products that support Model-Driven Development (MDD), such as IBM Rational Software Architect, Rational Software Modeler, and IBM Rational Systems Developer. They are all based on the IBM Rational Software Development Platform, as illustrated in the figure below.



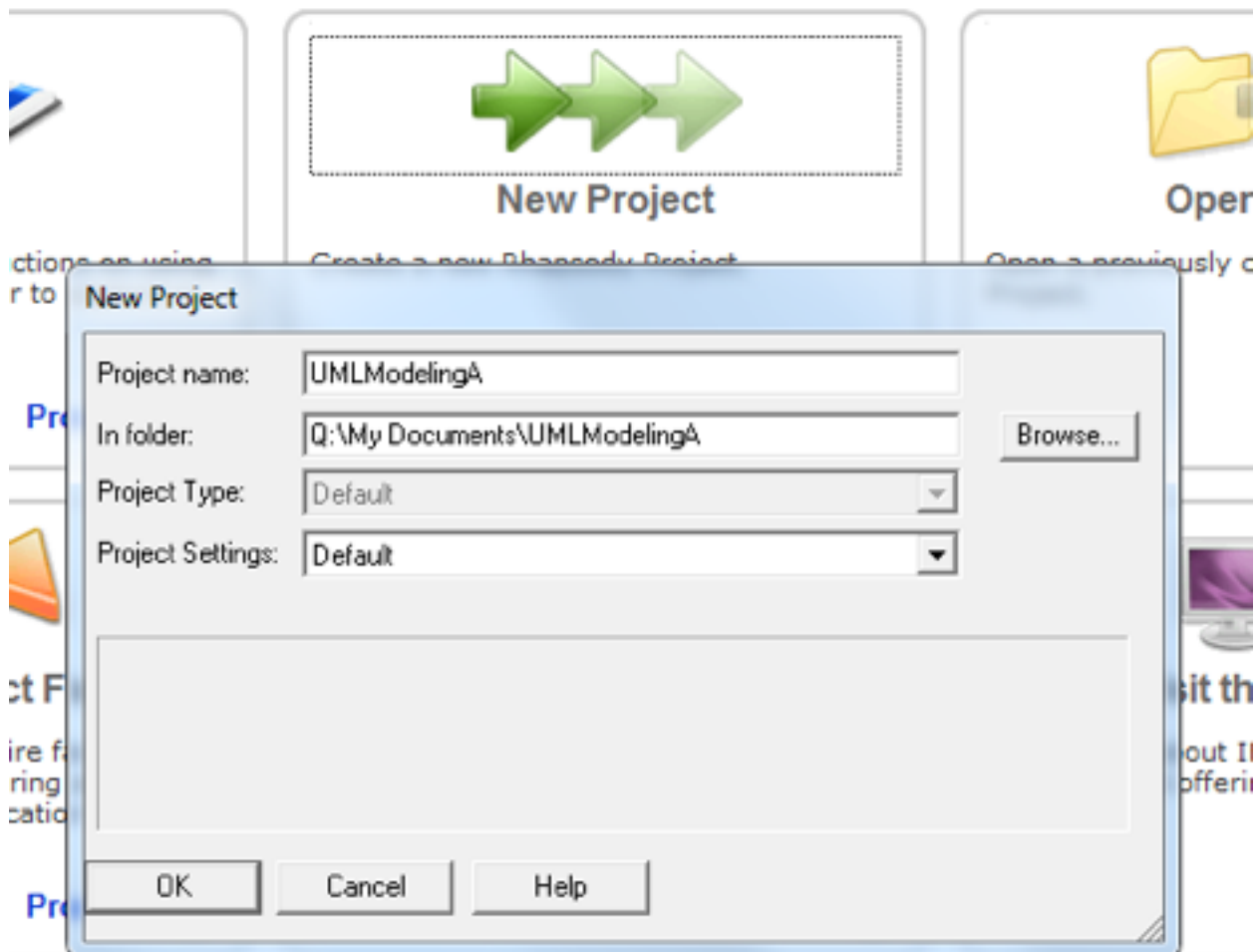
The version installed in our lab is IBM Rational Rhapsody Modeler v7.5.

You may have heard of Rational Rose and IBM Rational XDE, which are the predecessors of IBM Rational Systems Developer. Rational Rose does not support UML 2.x. Another IBM's solution for MDD is Rational Rhapsody that was bought from Telelogic in 2008.

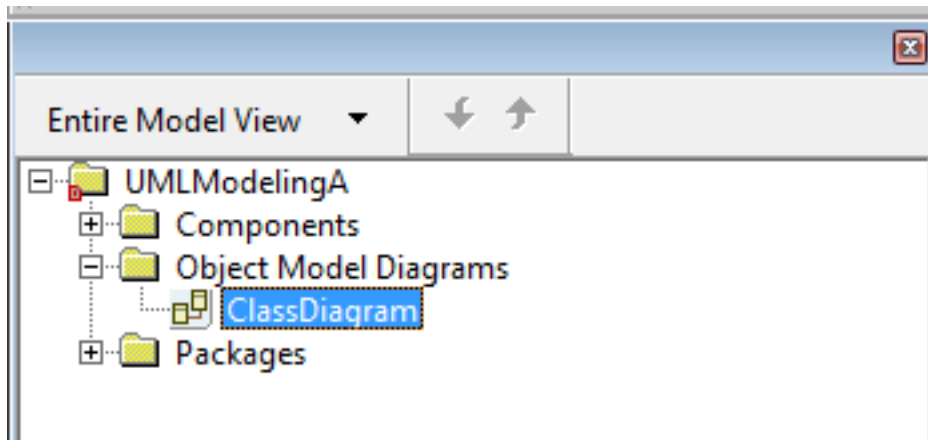
Instructions:

1. Creating a UML modeling project in IBM Rational Software Modeler

To create a new project, click *New Project* in the pop-up wizard. Enter *UMLModelingA* in the *Project name* field. Click OK.



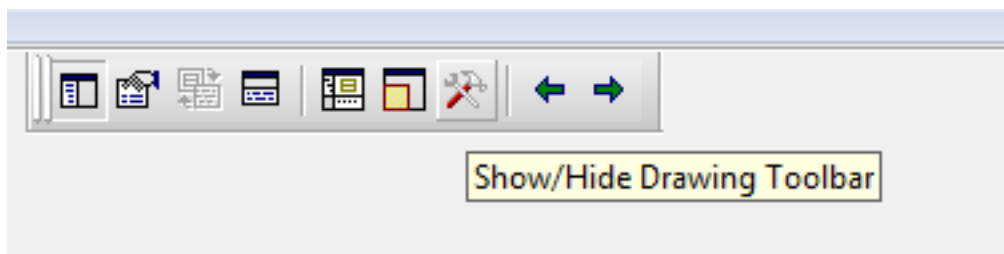
In the Project Explorer window, expand the element named *Object Model Diagrams*. An object model diagram was created automatically. Change its name to *ClassDiagram* as shown in the following figure.



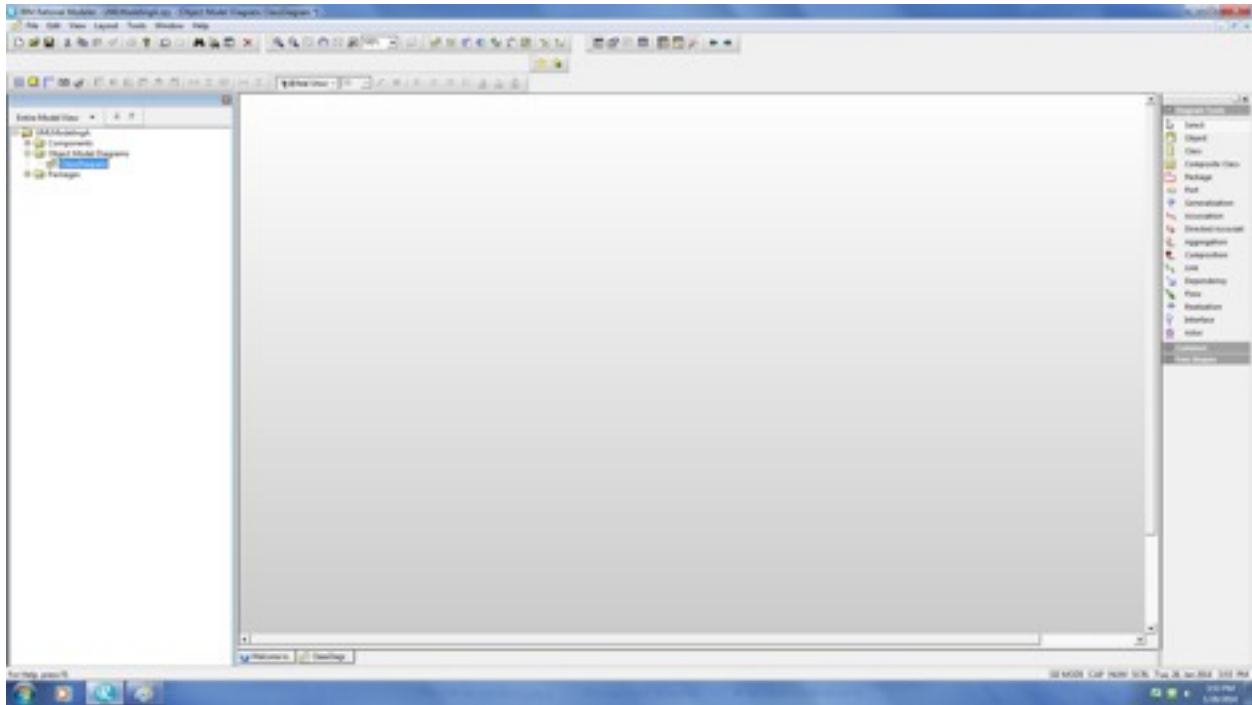
Note: **Object Model Diagrams in IBM Rational Modeler basically are just class diagrams.**

2. Creating a class, and adding attributes and operations to it.

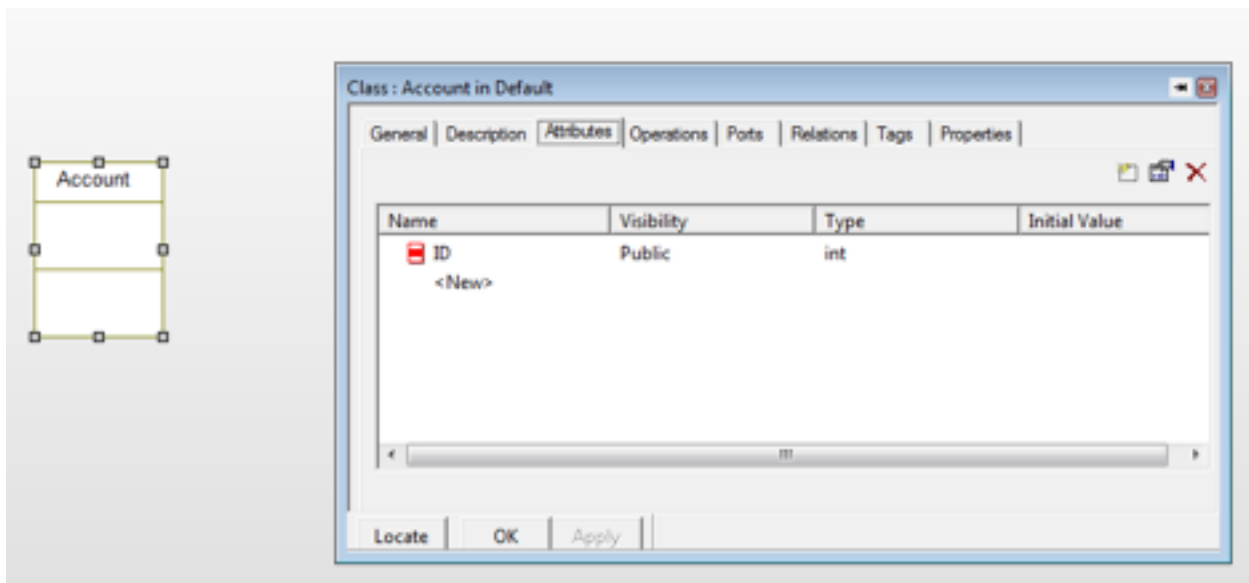
Select *ClassDiagram* in Project Explorer. Click the button that has a hammer icon and the hint of "Show/Hide Drawing Toolbar".



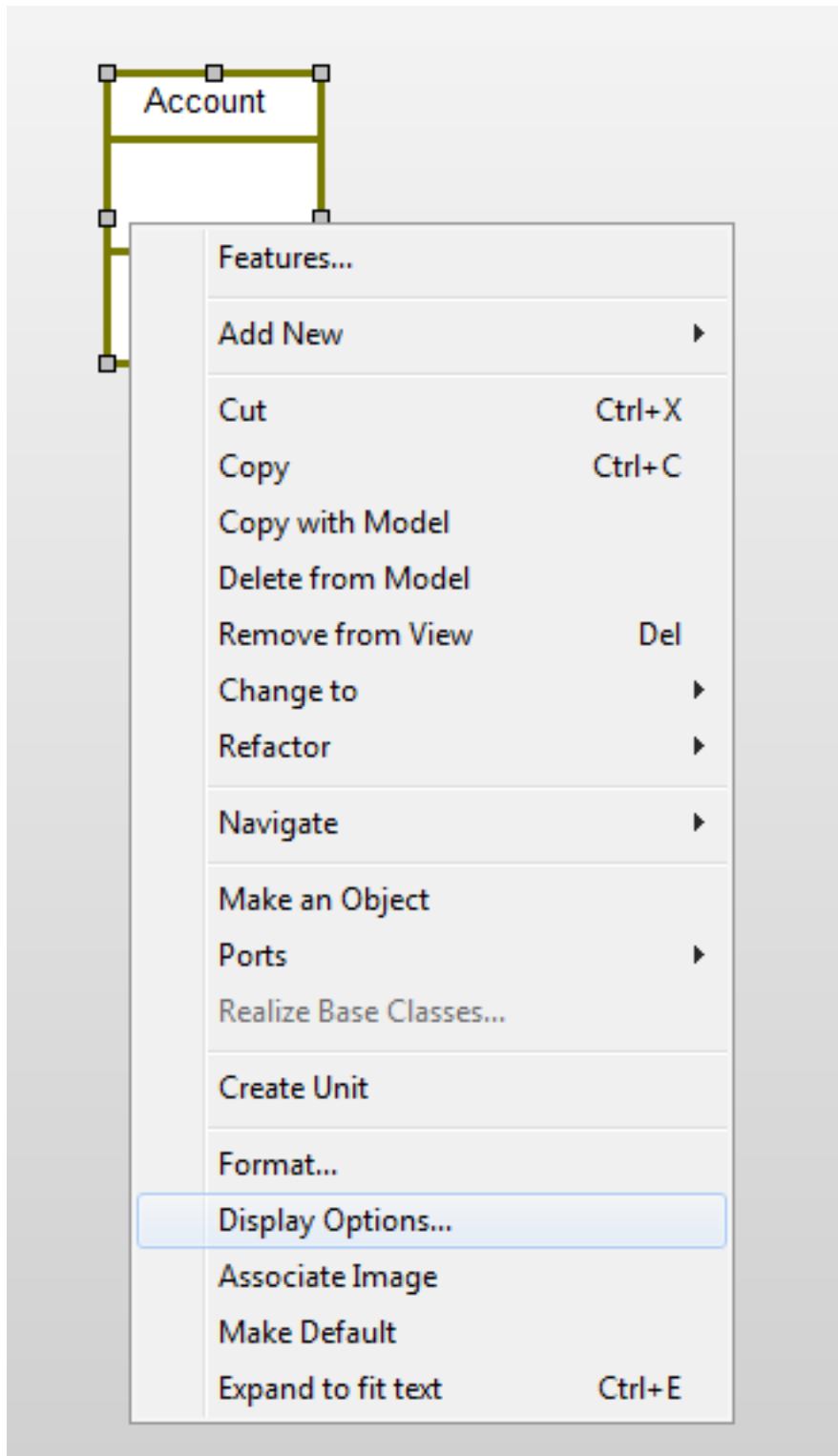
If everything is all right, you will see a palette window on the right side of your screen. Look at the following figure for the reference. You can select the objects you want to create from the palette.



To add an attribute or operation to a class, double click the class element you created. A panel will pop up. click the *Attributes* tab as shown in the figure below.



Note: once you created a class and added an attribute or operation to it, right click on the class, select *Display Options*. In the pop-up panel, select *Attributes* and check *All*.



3. Creating associations (including aggregation and composition) and generalizations.

Similar to Step 2.

4. Creating package diagrams.

Similar to Step 2.

Exit Exercise

Download the file “OnlineBanking.png”. Create a class diagram that is similar to the diagram included in the downloaded file. You are encouraged to add new attributes and operations to make the diagram complete.

Once you are done, show your diagram to the TA.

Save your file, and we will reuse the UML class diagram that you created in our next lab.