C# Round-trip Engineering

Written Date : November 22, 2010

Visual Paradigm's Visual Studio integration enables you to design your system with class diagram and generate code. On the other hand, you can update changes made in code back to the model. This makes sure both the design and source code are updated.

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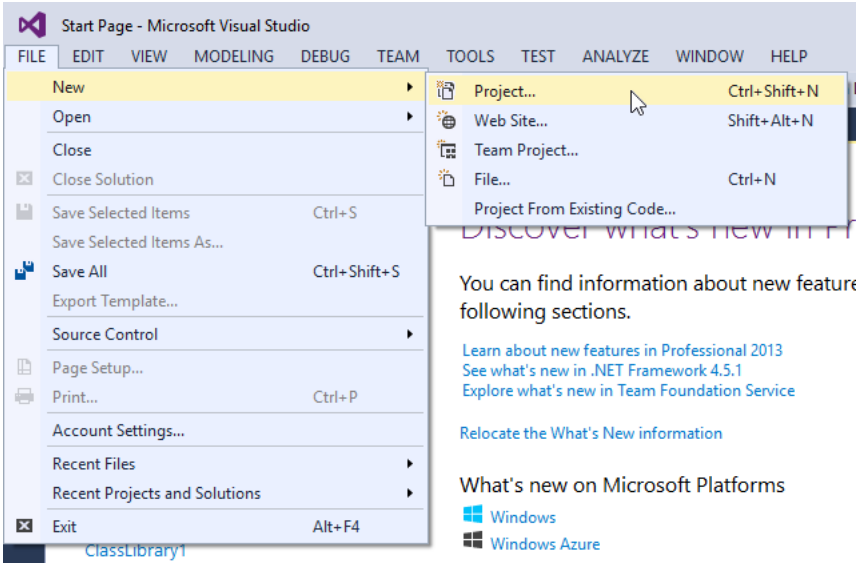
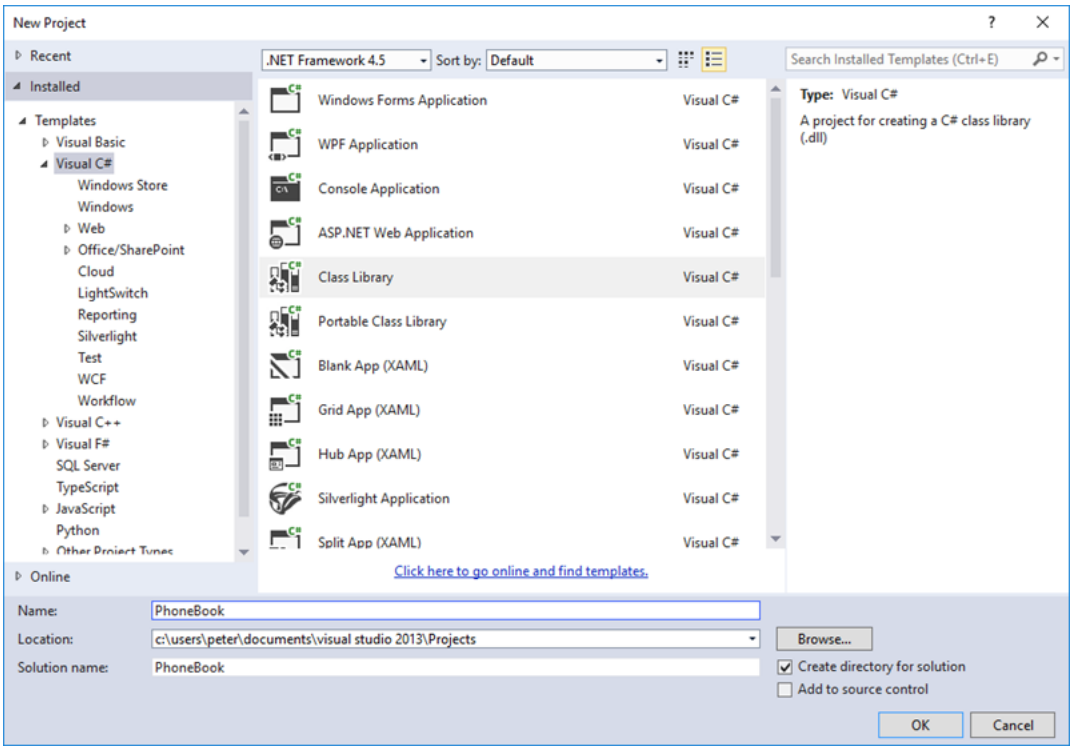
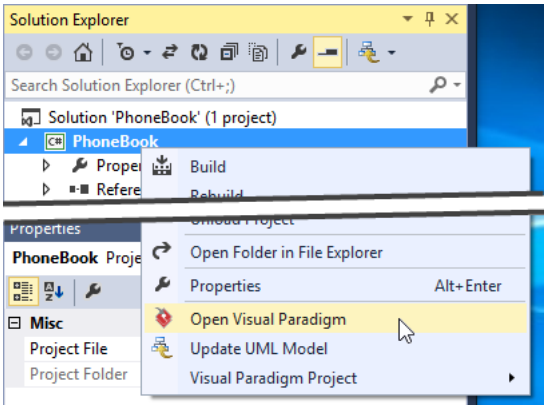
1. Select **File > New > Project...** from the main menu of Visual Studio.



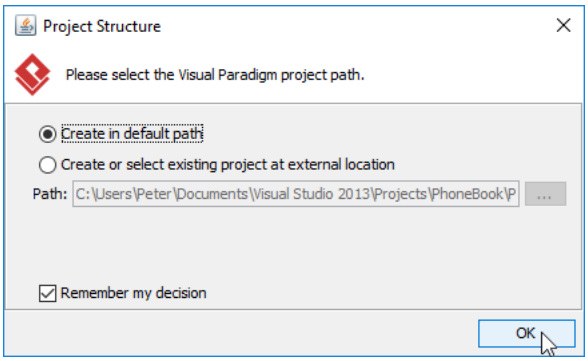
2. In the **New Project** window, select **Class Library** as template, enter *PhoneBook* as project name and click **OK**.



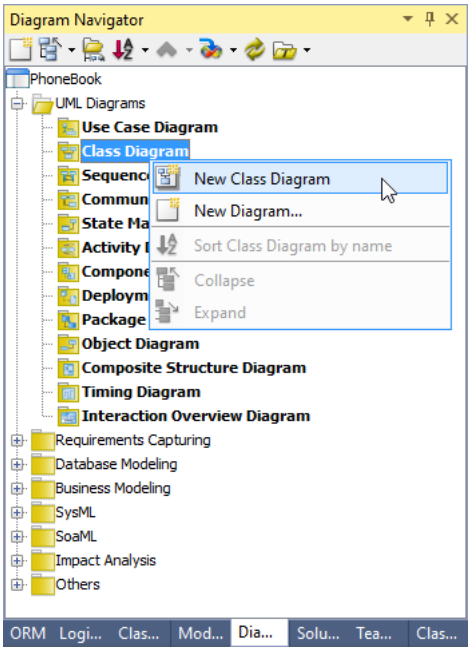
3. In the **Solution Explorer**, right-click on the project *PhoneBook* and select **Open Visual Paradigm** from the popup menu.



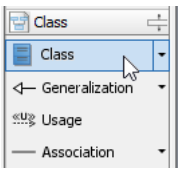
4. Click **OK** when the project structure dialog box appears.



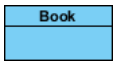
5. From the **Diagram Navigator**, right-click on **Class Diagram** node and select **New Class Diagram** from the popup menu. This creates a blank class diagram.



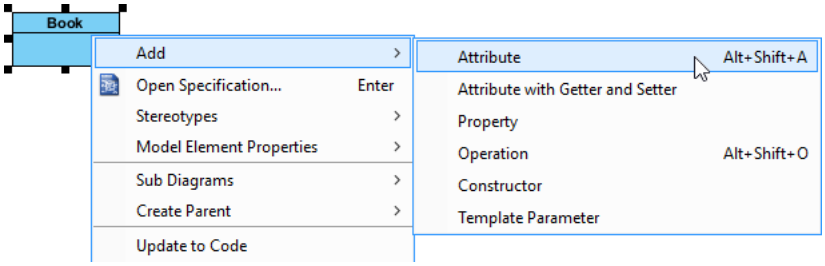
6. Select **Class** from the diagram toolbar.



7. Click on the diagram to create a class. Name it as *Book* and press **Enter** to confirm editing.

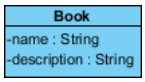


8. Right-click on the *Book* class and select **Add** > **Attribute** from the popup menu.

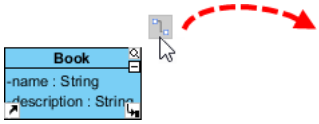


9. Input *name : String* and press **Enter**.

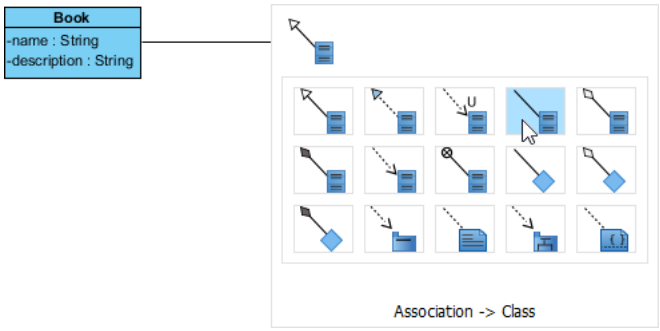
10. Input *description : String* and press **Enter**. Press **Esc** to confirm editing.



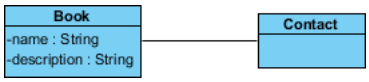
11. A phone book contains many contacts. Let's create a *Contact* class from the *Book* class with an association. Move the mouse pointer over the *Book* class. Press on the **Resource Catalog** icon and drag it out.



12. Release the mouse button. Select **Association -> Class** from Resource Catalog to create the class.

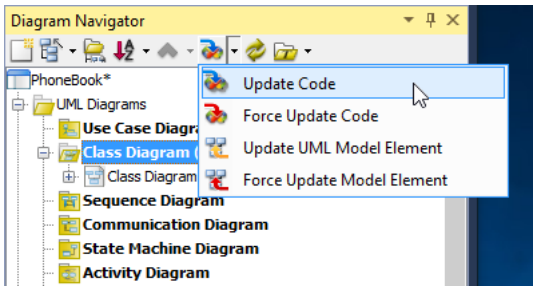


13. Name the class *Contact*.

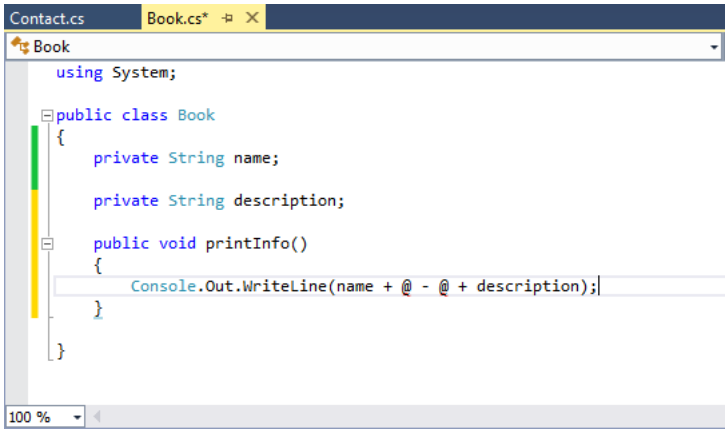


14. Right-click on the *Contact* class and select **Add** > **Attribute** from the popup menu.
15. Input *name : String* and press **Enter**.
16. Input *age : int* and press **Enter**.
17. Input *phoneNum : String* and press **Enter**. Press **Esc** to confirm editing.

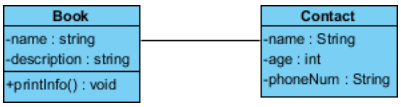
18. Select **Update Code** from **Diagram Navigator**. You can see that two code files are generated.



19. Add an operation *printInfo* in the source code of *Book* class.



20. Right-click on the code editor and select **Update UML Model** from the popup menu.
You can see that the operation *printInfo()* is added to the *Book* class at UML model side.



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