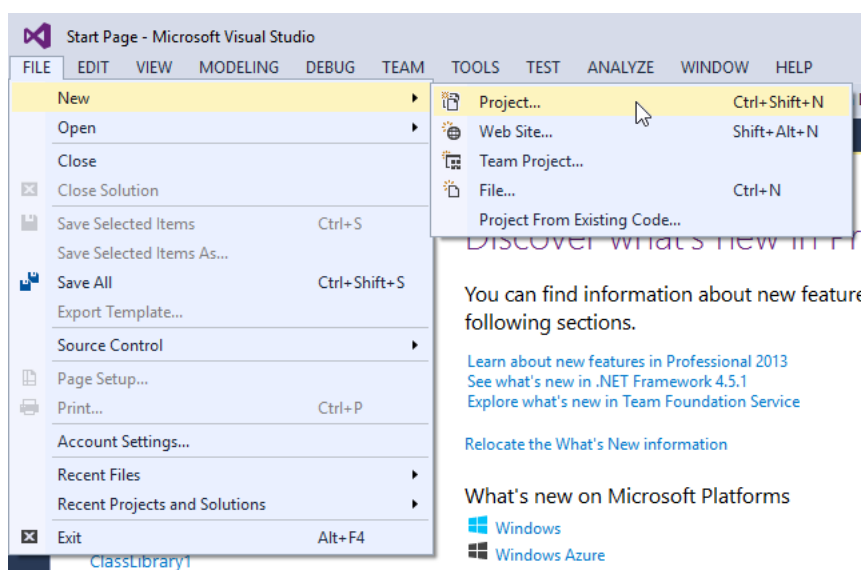




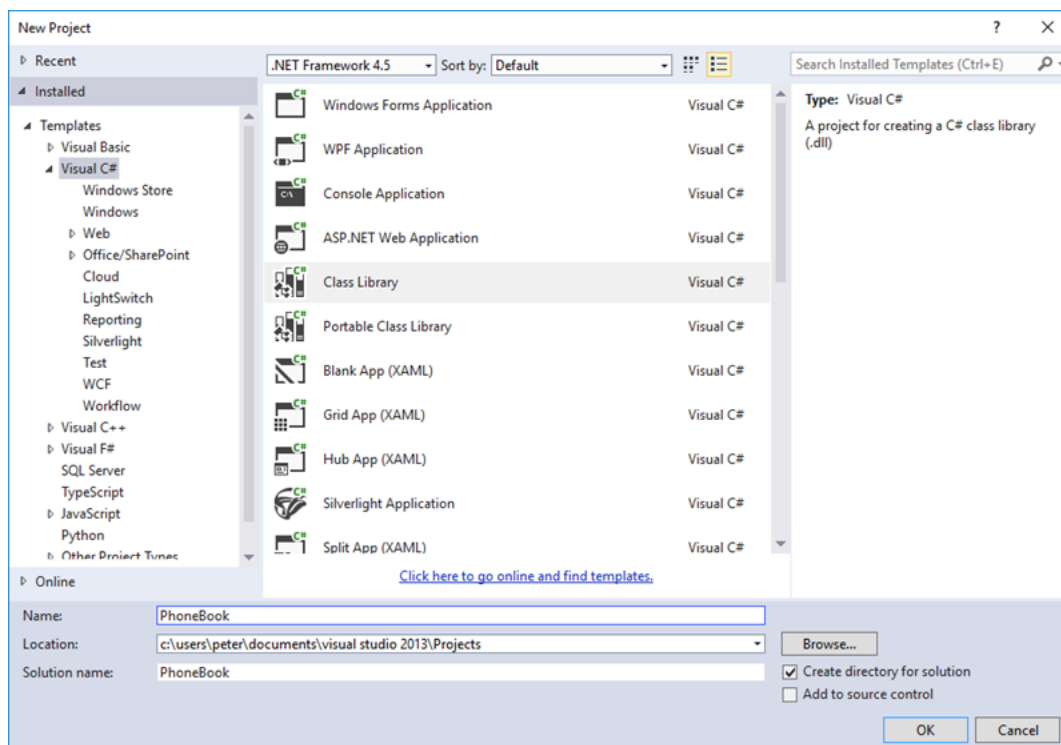
## C# Round-trip Engineering

Written Date : November 22, 2010

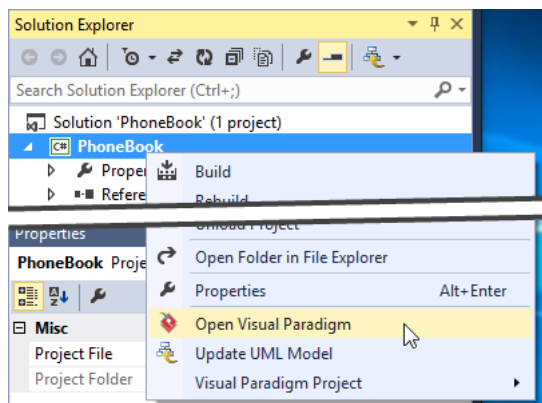
1. Select **File > New > Project...** from the main menu of Visual Studio.



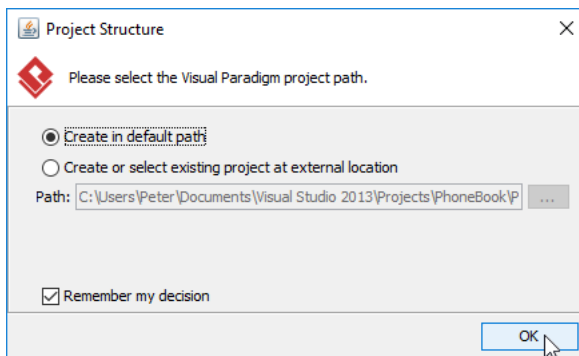
2. In the **New Project** window, select **Class Library** as the template, enter *PhoneBook* as the project name, and click **OK**.



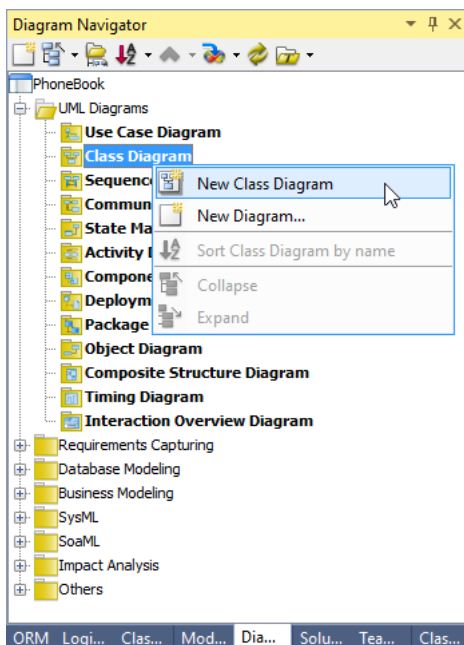
3. In the **Solution Explorer**, right-click on the *PhoneBook* project and select **Open Visual Paradigm** from the popup menu.



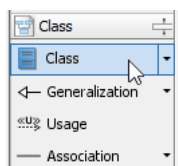
4. Click **OK** when the **Project Structure** dialog box appears.



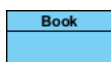
5. From the **Diagram Navigator**, right-click on the **Class Diagram** node and select **New Class Diagram** from the popup menu. This creates a blank class diagram.



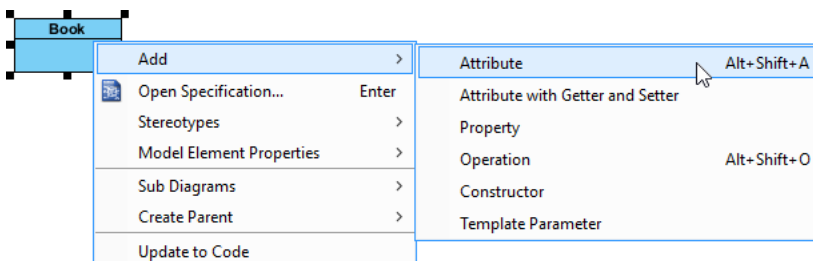
6. Select **Class** from the diagram toolbar.



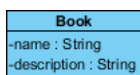
- Click on the diagram to create a class, name it *Book*, and press **Enter** to confirm.



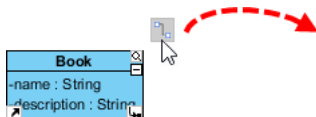
- Right-click on the *Book* class and select **Add > Attribute** from the popup menu.



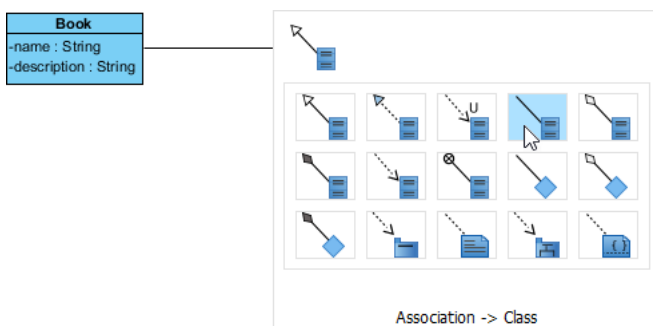
- Enter *name : string* and press **Enter**.
- Enter *description : string* and press **Enter**. Press **Esc** to confirm.



- 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.



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



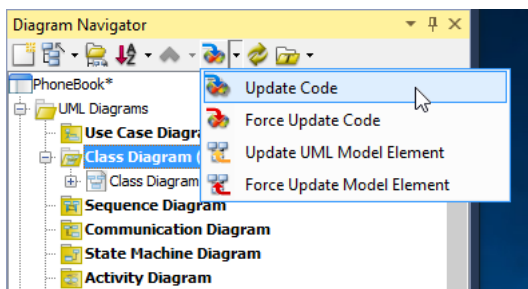
13. Name the class *Contact*.



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



18. Click **Update Code** in the **Diagram Navigator**. You can see that two code files have been generated.



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

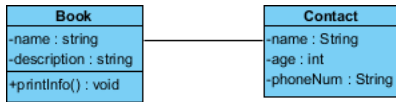
```
using System;

public class Book
{
    private String name;

    private String description;

    public void printInfo()
    {
        Console.Out.WriteLine(name + @ - @ + description);
    }
}
```

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



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

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