



How to Use Java Round-Trip Engineering?

Written Date : June 24, 2015

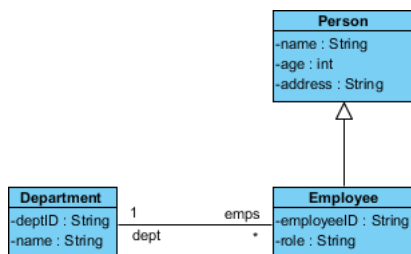
Overview of This Tutorial

In this tutorial, we will show you how to perform round-trip engineering of Java with a given project file.

To complete this tutorial, you must have Visual Paradigm installed. You also need basic knowledge of [UML modeling](#) with Visual Paradigm.

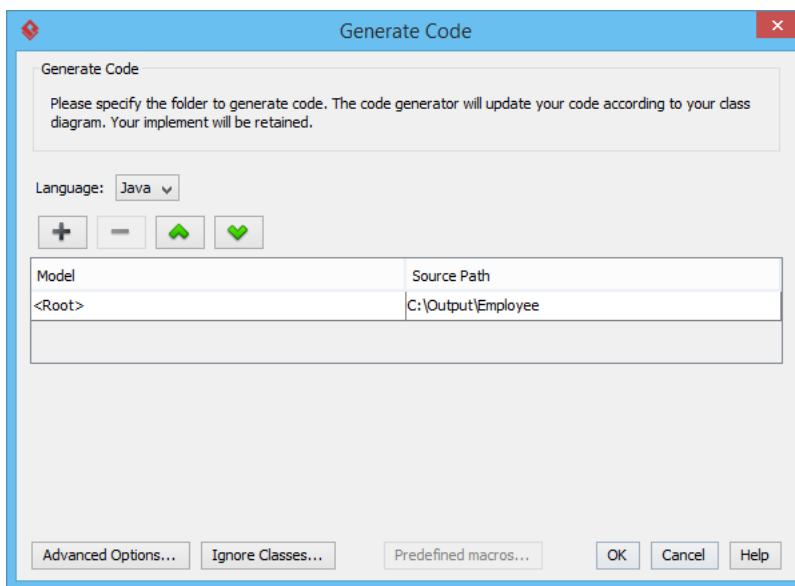
Generating Java Source Files from a Class Diagram

1. Download [Employee.vpp](#). You can also find this file at the bottom of this tutorial, under the **Resources** section.
2. Open the downloaded project file in Visual Paradigm.
3. Open the class diagram *Employee*. You should see the class diagram below:

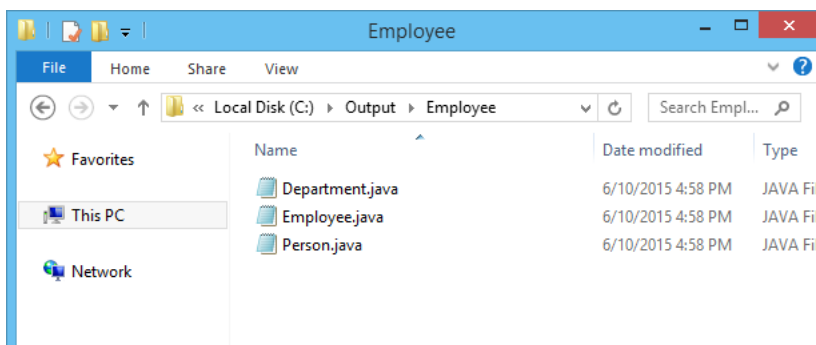


4. There are a few ways you can generate Java code - generate code from a diagram, from selected classes, or for the whole project. In this tutorial, let's try to generate code for the whole project. Select **Tools > Code > Generate Java Code** from the toolbar.

5. In the **Generate Code** window, specify the **Source Path**. You can specify a path by clicking on the cell and then clicking on the ... to open the file chooser for selecting a folder.



6. Click **OK** to generate. Source files are generated to the output path specified.

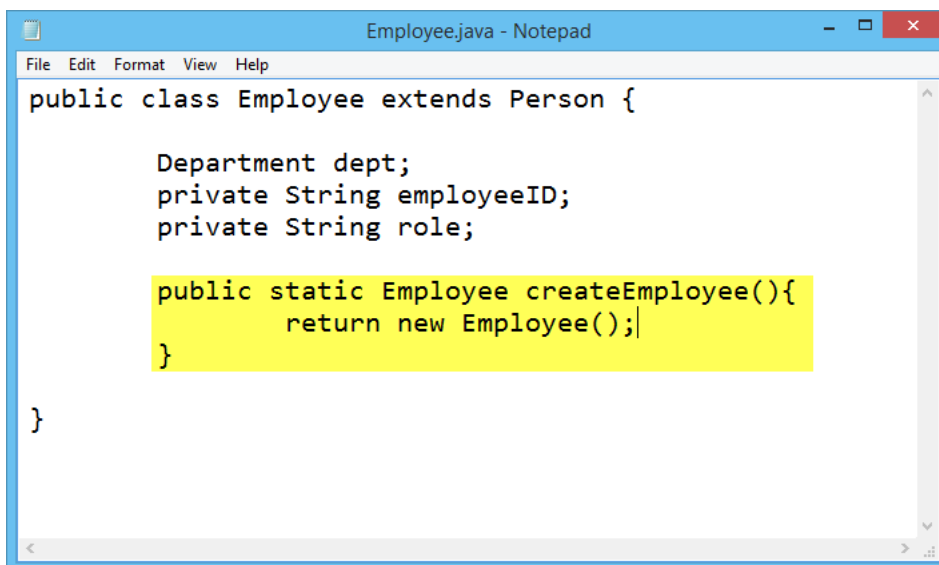


Updating a UML Class Model from Java

Once you have finished generating code, you can modify it with your IDE or with any text editor. When you've finished the modification, you can reverse the code-base back to Visual Paradigm for an update of the UML class model. Let's have a try.

1. Open the generated file *Employee.java* in a text editor.

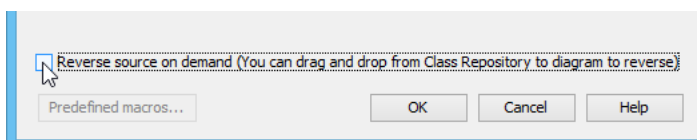
- Let's say we want to add a static operation for creating an Employee object. Let's write the `createEmployee()` method in the code as shown in the image below.



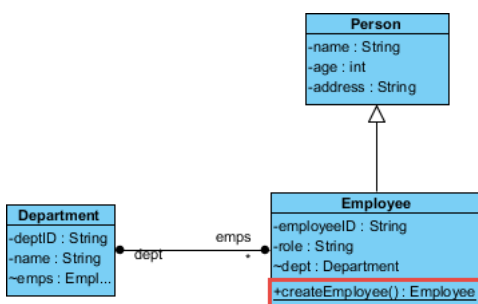
```
Employee.java - Notepad
File Edit Format View Help
public class Employee extends Person {
    Department dept;
    private String employeeID;
    private String role;

    public static Employee createEmployee(){
        return new Employee();
    }
}
```

- Save the changes.
- Let's update our UML model to reflect the change just made. Select **Tools > Code > Reverse Java Code...** from the toolbar.
- Uncheck **Reverse source on demand** at the bottom of the **Reverse Code** window. If you keep it checked, the UML model won't be updated directly. Instead, an index tree will be formed from the source files specified in the source folder. We want our model updated, so let's uncheck it.



- Click **OK**. Now, the class diagram is updated, and you should see the operation `createEmployee()` added to the `Employee` class.



Resources

1. [Employee.vpp](#)

Related Links

- [Code Engineering features in Visual Paradigm](#)
- [State Machine Diagram feature description](#)



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

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