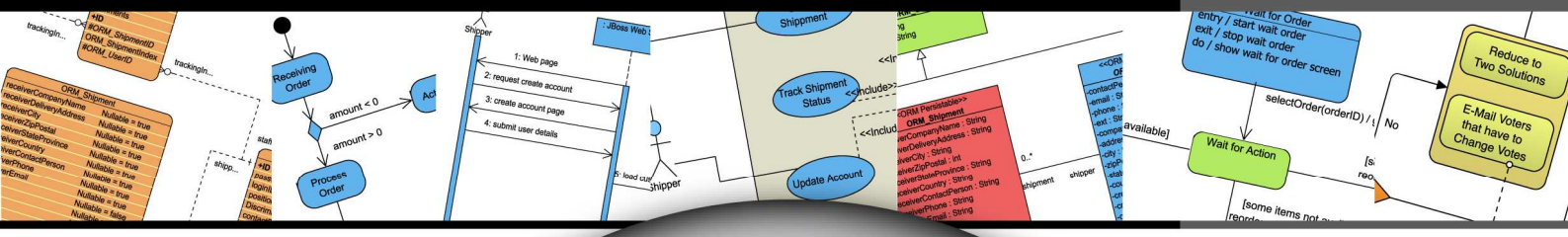
Visual Paradigm

*Build Quality Applications Faster, Better and Cheaper*

# Visual Paradigm SDE for Java User's Guide [Part 1]

## Streamlined design and development environment



**Smart Development Environment 4.0 User's Guide**

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**Acknowledgements**

**Table of Contents**

**Part 1 - Working with Smart Development Environment**

**Chapter 1 - Getting Started with SDE for Eclipse**



**Chapter 2 - Working with Diagrams**

**Chapter 4 - Visual Modeling**



**Chapter 5 - Automatic Diagrams Layout**

**Chapter 6 - Generating Documentation**



**Chapter 7 - Export and Import**

**Chapter 8 - User Interface Designer**



**Chapter 9 - Instant Reverse**



**Chapter 10 - Instant Generator**



**Chapter 11 - Java Round-Trip Engineering**

**Chapter 12 - State Machine Diagram Code Generation**



**Chapter 13 - Team Collaboration with VP Teamwork Server**



**Chapter 14 – Team Collaboration with CVS Repository**

# Part 1 – Working with Smart Development Environment

# Part 1 - Working with Smart Development Environment

Welcome to Smart Development Environment, a powerful visual UML plug-in for your IDE. SDE, short for Smart Development Environment, is an award winning UML modeling plugin seamlessly integrated with most of the leading IDEs in the market such as Microsoft Visual Studio .NET, Eclipse, Borland JBuilder, NetBeans/Sun ONE, IntelliJ IDEA, Oracle JDeveloper, and BEA WebLogic Workshop.

This part explains in detail how to use SDE to perform UML modeling and code-model round-trip engineering with your IDE, such that you can develop your application in a faster better and cheaper way.

In this part:

# 1

# Getting Started with SDE fo Java

# Chapter 1 - Getting Started with SDE for Eclipse

Aside from a collection of menus, tool-bars and windows that make up the development workspace, one special feature is our Resource-centric interface, which lets the user access modeling tools easily without referring back and forth from the workspace to various toolbars. Incorporating shortcuts such as mouse gestures into our modeling tools allow our users to draw as with a pen and paper, executing complicated modifications with just a click and drag, creating a completely visual environment.

This chapter will describe how to get started with Smart Development Environment for Eclipse. You will learn following techniques in this chapter:

- How to Launch Smart Development Environment for Eclipse?
- What is Workspace?
- Importing License Key
- Working with Floating License Server
- Basic Environment
- Dockable User Interface
- Browse your work by trees and tables
- Basic diagram editing functionalities

## Launching SDE for Eclipse

SDE for Eclipse can run in different operating systems.

### Windows

To launch SDE for Eclipse in Windows:
Select **start** > **All Programs > Visual Paradigm > SDE for Eclipse**.

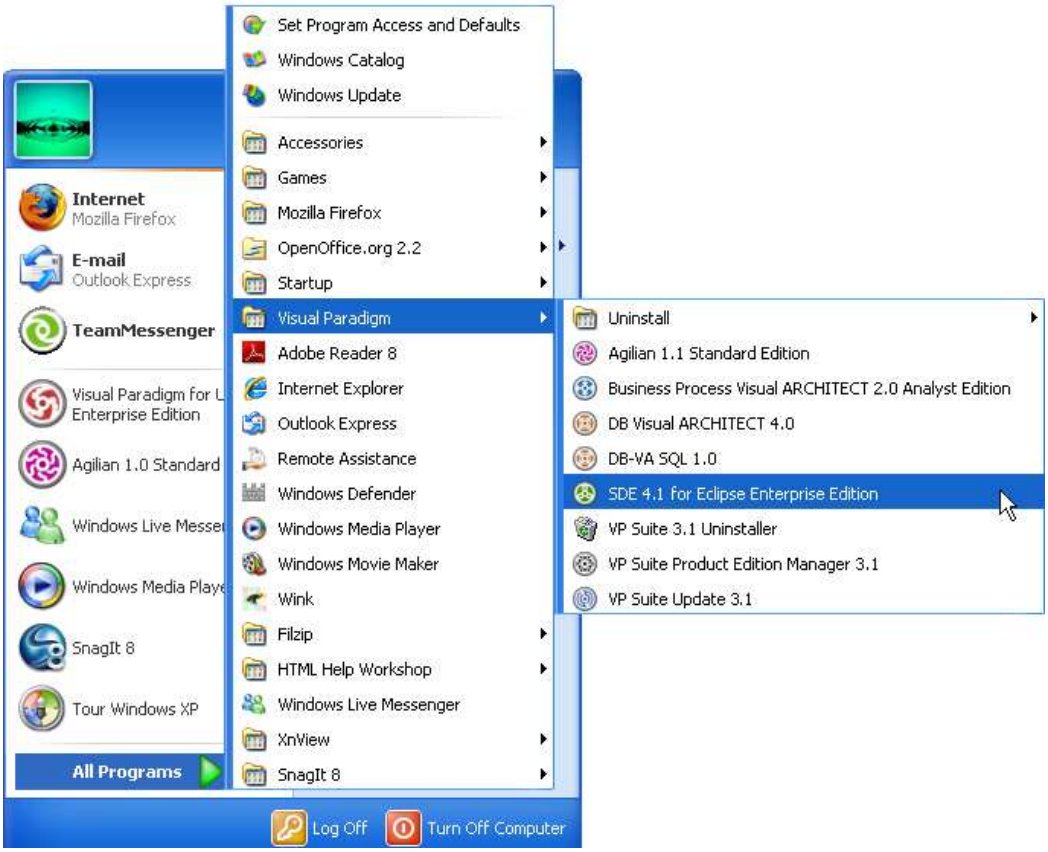



*Figure 1.1 - Launch SDE for Eclipse in Windows*

## Linux

To launch SDE for Eclipse in Linux:
Select **SDE_for_Eclipse** icon on the desktop.


*Figure 1.3 - Launch SDE for Eclipse in Linux*

# Managing License Key and Edition

All VP products need a license key to activate. A License key of a higher edition can be used on a lower edition. For example, you can run Standard Edition of SDE for Eclipse with Professional Edition of SDE for Eclipse key.
SDE for Eclipse also provides a 30-days evaluation key for trial. After the evaluation key expires, you can choose to purchase the full license from our website or resellers, or un-install the program.

The license key for Community Edition will not expire. However, Community Edition cannot be used for commercial purposes.

## Importing a Single Seat License Key

A Visual Paradigm's Single Seat (developer based) license allows a licensee to install the software on more than one machine, such as desktop and notebook, which belong to the licensee only. As the license is developer based, the software must be used by the licensee only, without running more for than one instance concurrently.

To import a single seat License Key:
1. You should first open the License Key Manager. There are two ways of opening License Key Manager:

- If there are no valid license keys imported, the License Key Manager will show up for importing license key.
- Select from the main menu **Modeling** > **Key Manager...**

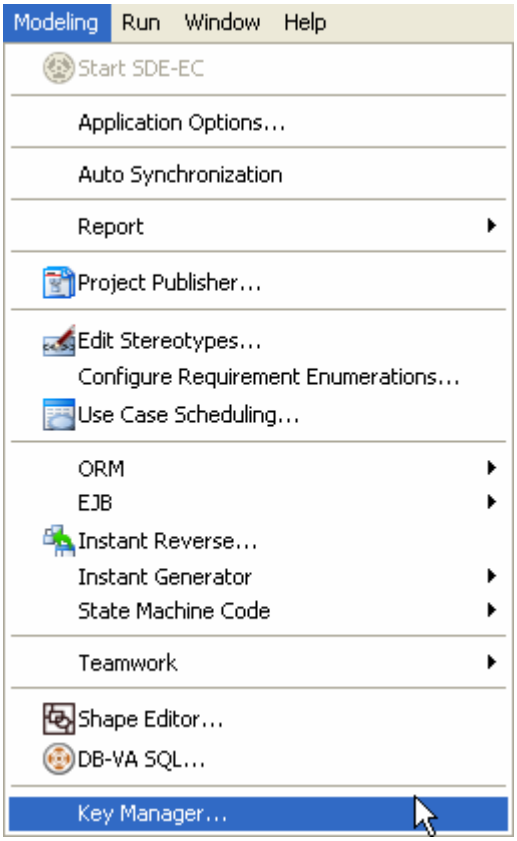



*Figure 1.7 - Select Key Manager*

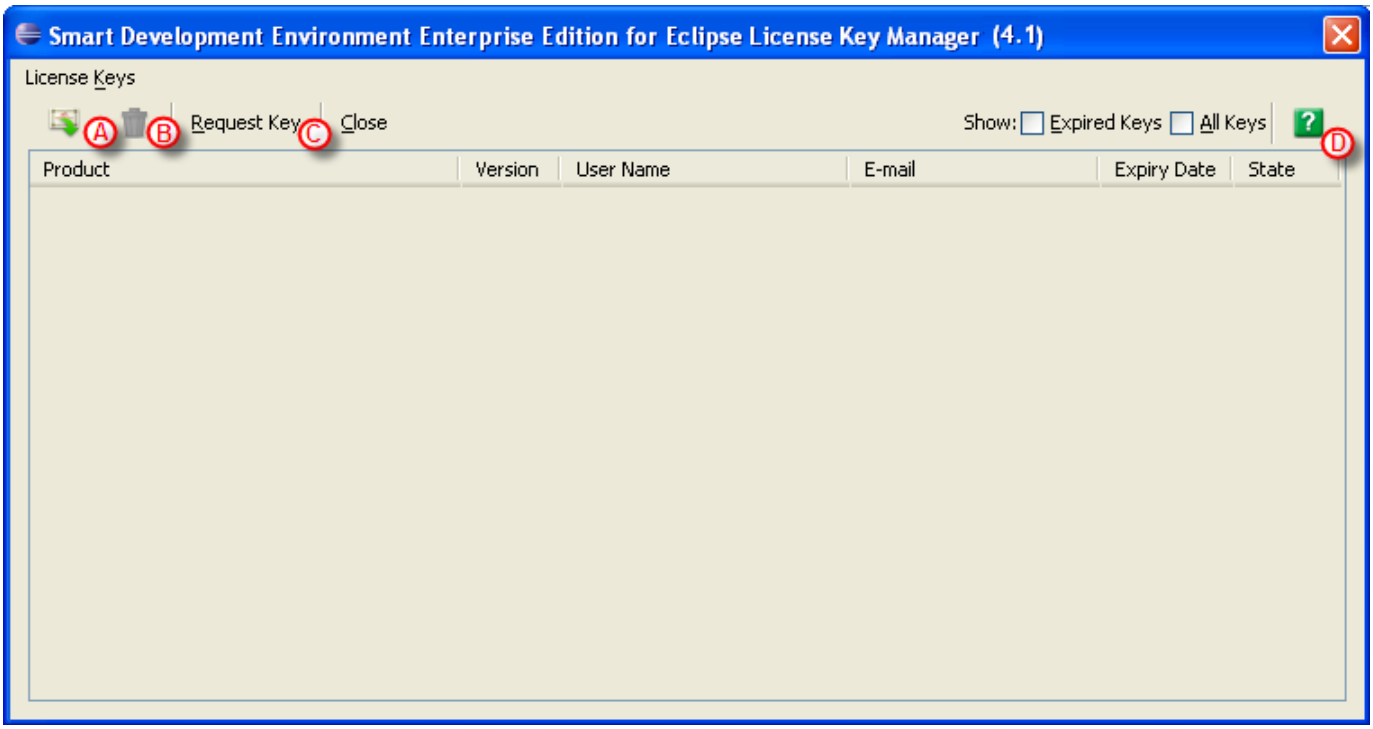



*Figure 1.8 - License Key Manager*

| | Name | Function |
|---|---|---|
| A | Import license key | To import a license key. |
| B | Delete the license key | To delete the license key imported. |
| C | Request Key | To request a 30 days evaluation key if you are not using the Community Edition. If you are using the Community Edition, it will request an activation key. Both keys will be sent to you by email. |
| D | Help | To show the Help. If no Help has been installed before, the Download Help dialog box will appear to enable downloading and installation of Help. |

*Table 1.1*

2. Then, you can either select **License Keys > Import...** or press on the **Import License Key** button on the toolbar. This displays the **Import License Key** dialog box.
From the **File** field, enter the file path of license key. You can enter the path in the text field directly, or you can click on the **...** button to browse for license key file. Click **OK**.

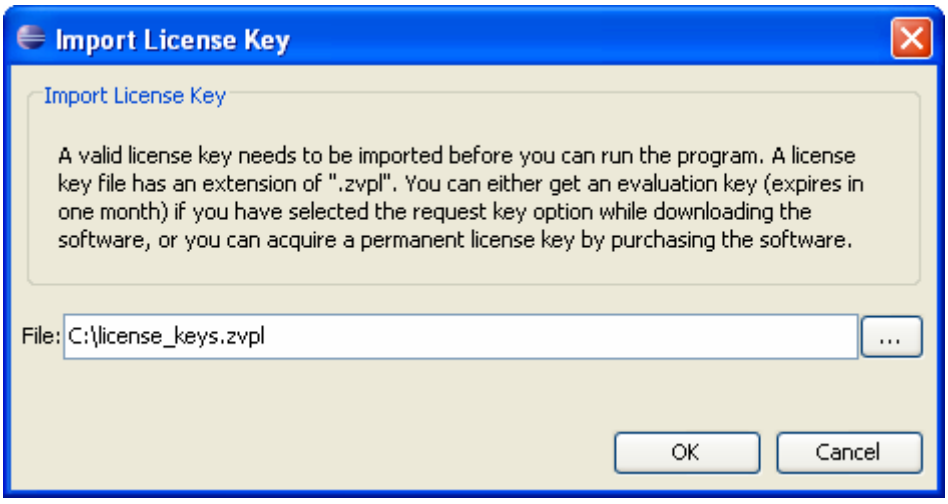



*Figure 1.9 - Import License Key dialog*

3. The imported key is then displayed in the Key Manager.

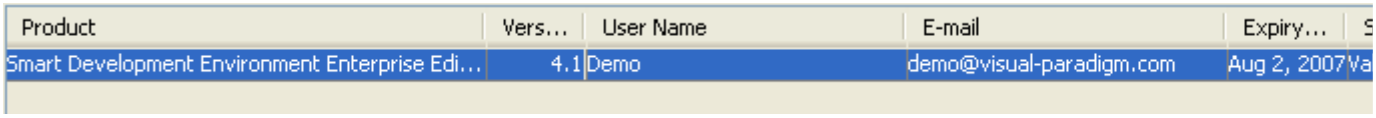



*Figure 1.10 - The imported key displayed in Key Manager*

Then, click **Close** from the **License Key Manager** to start using SDE for Eclipse.

## Switching from Evaluation Key to Permanent Key

You can try SDE for Eclipse by using an evaluation key for 30 days. Then, you will need to buy a permanent key if you want to continue to use it. After purchasing, you should follow the steps below to switch your evaluation key to a permanent one.
To switch from evaluation key to permanent key:
1. Open the License Key Manager from the main menu **Modeling** > **Key Manager...**.

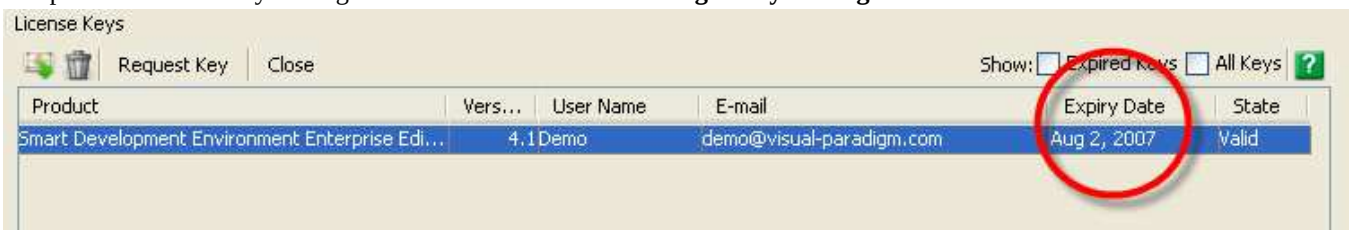



*Figure 1.11 - License Key Manager with evaluation key with expiry date*

2. Remove the evaluation key by clicking the **Delete the license key** button in License Key Manager dialog. You can also remove the key by clicking **License Keys** > **Remove**. If your key has expired, you have to check the **Expired Keys** to show your expired evaluation key in order to delete.

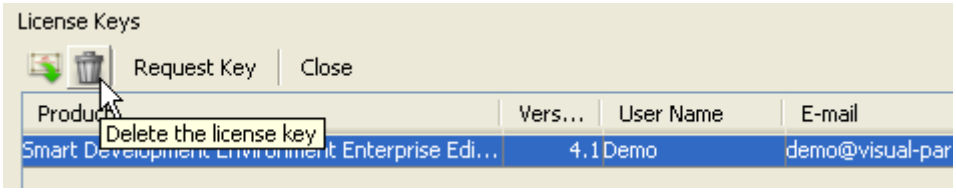



*Figure 1.12 - Delete by clicking Delete the license key button*

If your key has not expired, **Delete License Key** dialog will appear and ask if you really want to remove the key. Click **Yes** to confirm.

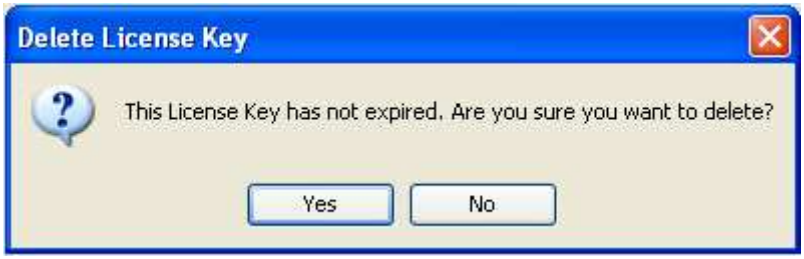



*Figure 1.13 - Confirm deleting license key*

3. Click **Import license Key** to import the permanent key. You can also select **License Keys** > **Import...** to import the key.

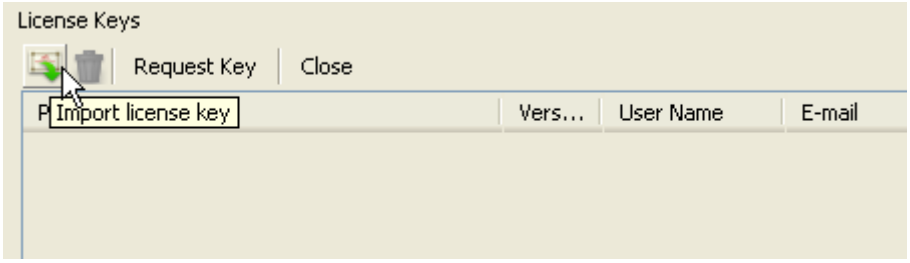



*Figure 1.14 - Import by clicking Import license key button*

4.Select or type a path for the permanent key in **Import License Key** dialog. Click **OK** to confirm.

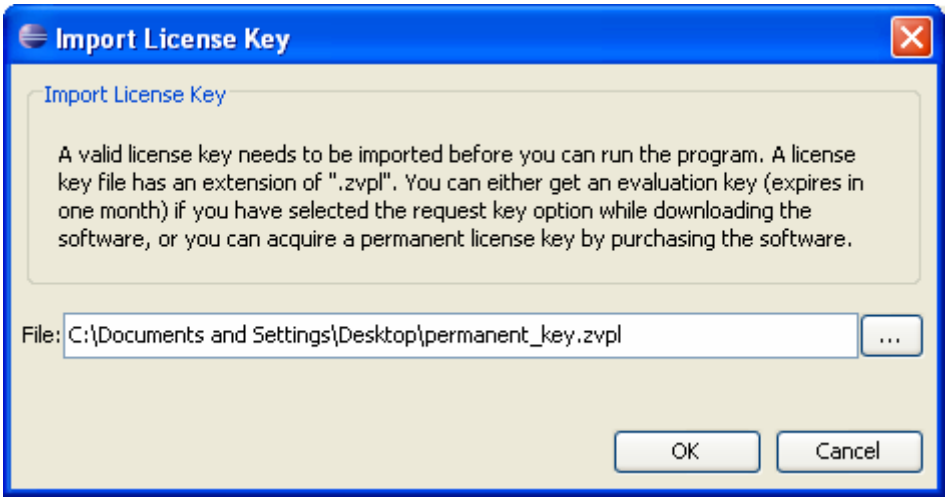



*Figure 1.15 - Select or type a path for permanent key*

5. Permanent key imported. Unlike an evaluation key, the permanent key does not have expiry date.

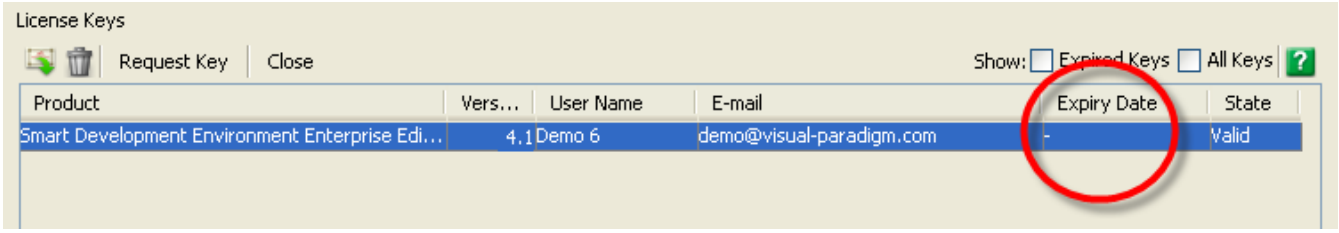



*Figure 1.16 - Permanent Key with no expiry date*

## Importing Upgrade Keys

From time to time, VP releases new versions. If your license keys are covered by the maintenance period, the latest version will be available to you without any payment. You can login to the Customer Service Center (https://cs.visual-paradigm.com) to download the latest version and get an upgrade key. The upgrade key should be used with the original license key, i.e. the original key should neither have been delete or expired.
After you have installed the latest version and downloaded the upgrade key, follow the steps below to import upgrade keys to use that version. Here, a license key of version 4.0 is used as an example to replace the key of version 3.1.

To import upgrade keys:
1. Open the License Key Manager from the main menu **Modeling** > **Key Manager...**

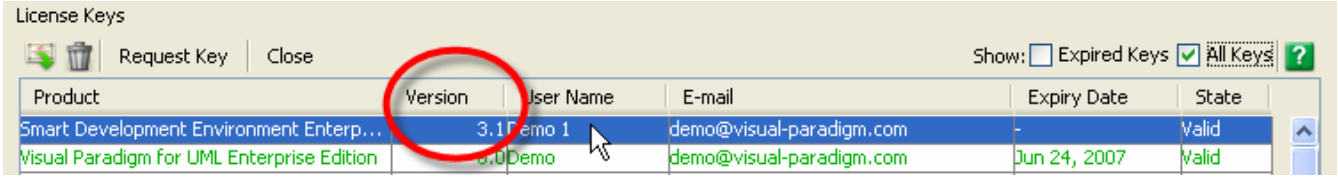



*Figure 1.17 - License Key Manager with license key of version 3.1*

2. Click **Import license Key** to import the upgrade key. You can also select **License Keys** > **Import...** to import the key. Remember the old key must still exist before you import the upgrade key.

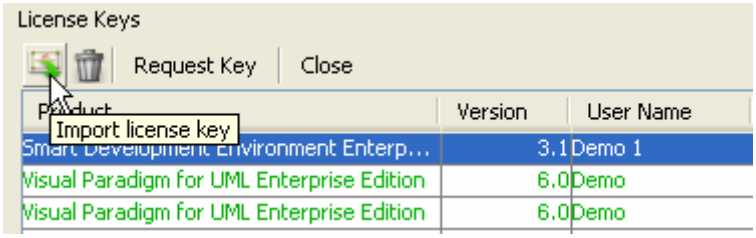



*Figure 1.18 - Import by clicking Import license key button*

3. Select or type a path for the upgrade key in **Import License Key** dialog. Click **OK** to confirm.

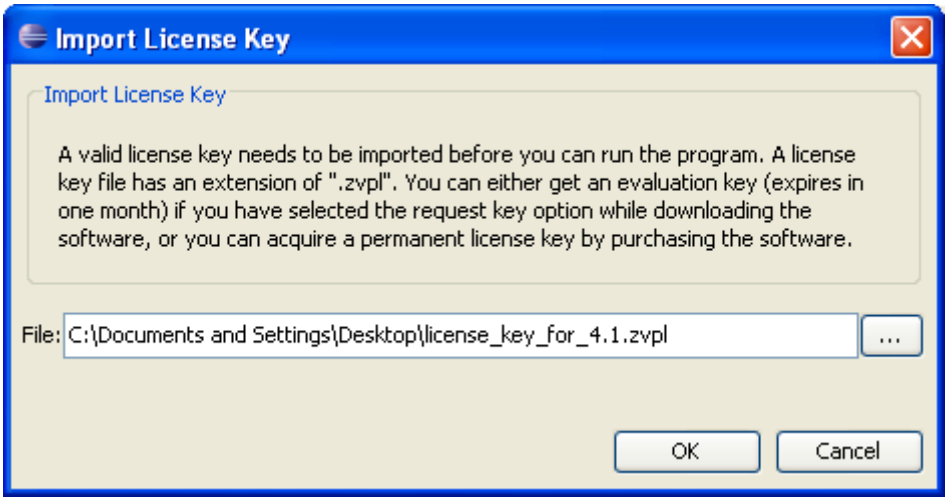



*Figure 1.19 - Select or type a path for upgrade key*

4. The upgrade key has replaced your old one.

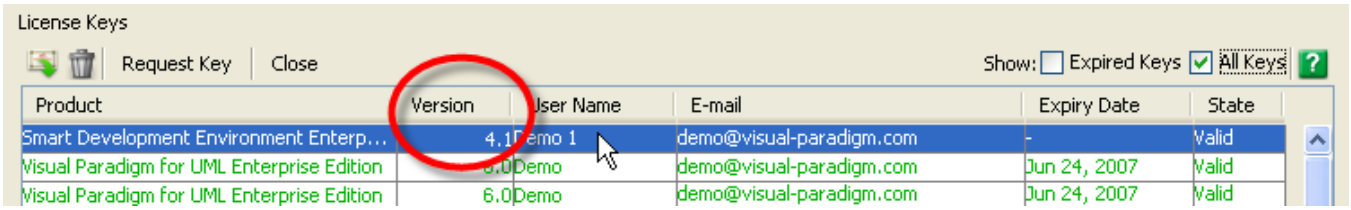



*Figure 1.20 - License Key Manager with license key of version 4.0*

# Floating License Key

VP Floating License allows you to deliver development software to every user in your organization without paying for unique licenses for every developer.When you use a floating license, the entire organization can access to SDE for Eclipse but the number of people that use VP at the same time is limited to the number of license keys you buy.

By using a floating license, you can reduce the cost of buying licenses, as you just need to purchase enough number of licenses that will run VP at the same time, instead of buying licenses for all developers in your organization.

The installation of floating license server and the configuration of client pointing to the server is a simple process. Our license server can be run on multiple platforms and can be installed in less than 10 minutes.

The license sharing process is automatic, which is convenient to use. VP Floating License automatically manages and shares the licenses through the network. When the client connects to the license server, the server will assign him a license until the license limit has been reached. Once it disconnects from the server, the license will be released automatically and the other user can start using VP with that license.

This kind of key is particularly useful for organizations which have limited access to VP at a certain time each time, e.g. a company has ten staff but only two staff will use SDE for Eclipse at the same time. The the company can then purchase just two floating license keys but the whole company will be able to use SDE for Eclipse at different times.

Before you use SDE for Eclipse with a floating license key, your machine need to access to the license server via LAN to acquire a license key first. For more details, you can refer to the Floating License Server Installation Guide about floating license server installation for more details.

## Configuring Floating License Server

To configure floating license server:
1. Open the License Key Manager.
2. Select **License Keys** > **Floating License** > **Configure...** .

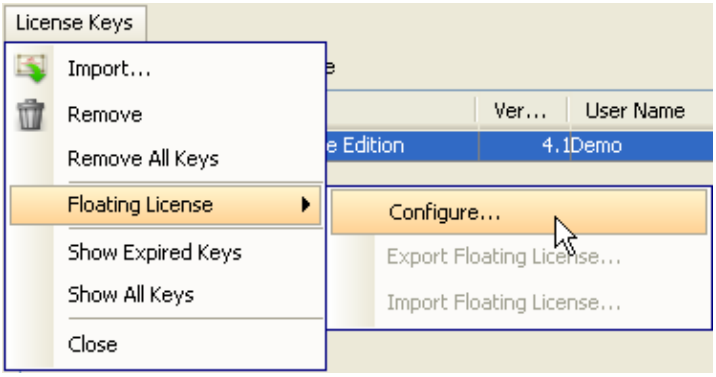



*Figure 1.21 - Select configuration of floating license*

3. Input the host and port. You can refer to Floating License Server User's Guide for more details.

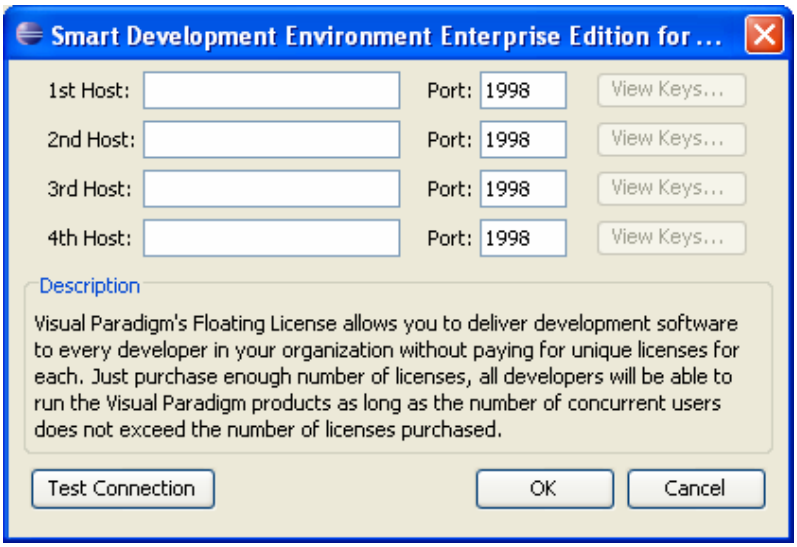



*Figure 1.22 - Configuration dialog box*

## Exporting Floating License Key

To use a Floating License key, you need to have Local Area Network (LAN) access to the *Floating License Server*. You may choose to export one of the floating license keys to your laptop if you need to use it out of the office (e.g. a meeting with a client). If you export a floating license key the number of floating licenses in the server will decrease. This will be reverted when you import the licence key back to the server from your laptop.

To export floating license key:
1. Select **License Keys** > **Floating License** > **Export Floating License...** .

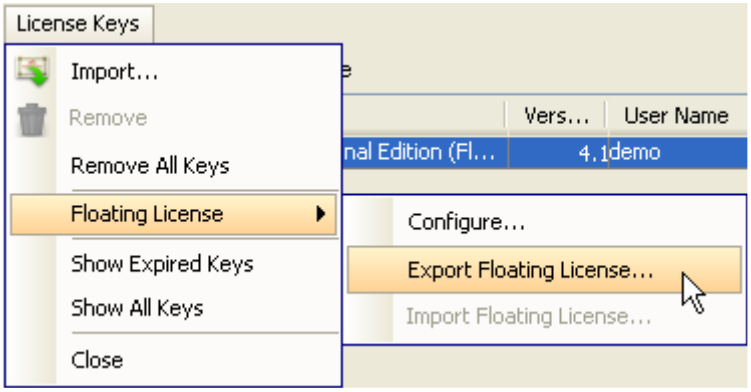



*Figure 1.23 - Export the Floating License*

2. Floating license key is exported from server.


*Figure 1.24 - Floating license exported*

## Importing Floating License Key

When you finish using the exported license key, you can import the key back to the server.

To import floating license key:
1. Select **License Keys > Floating License** > **Import Floating License...** . The **Import Floating License Key** dialog is displayed.

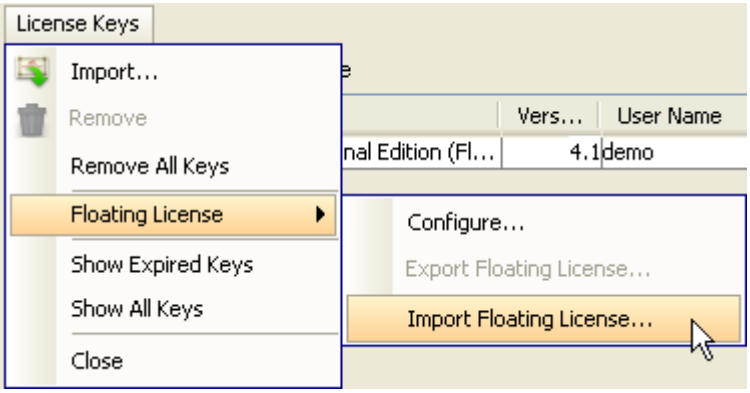



*Figure 1.25 - Import Floating License*

2. Select the key you want to import and click **OK** to confirm.

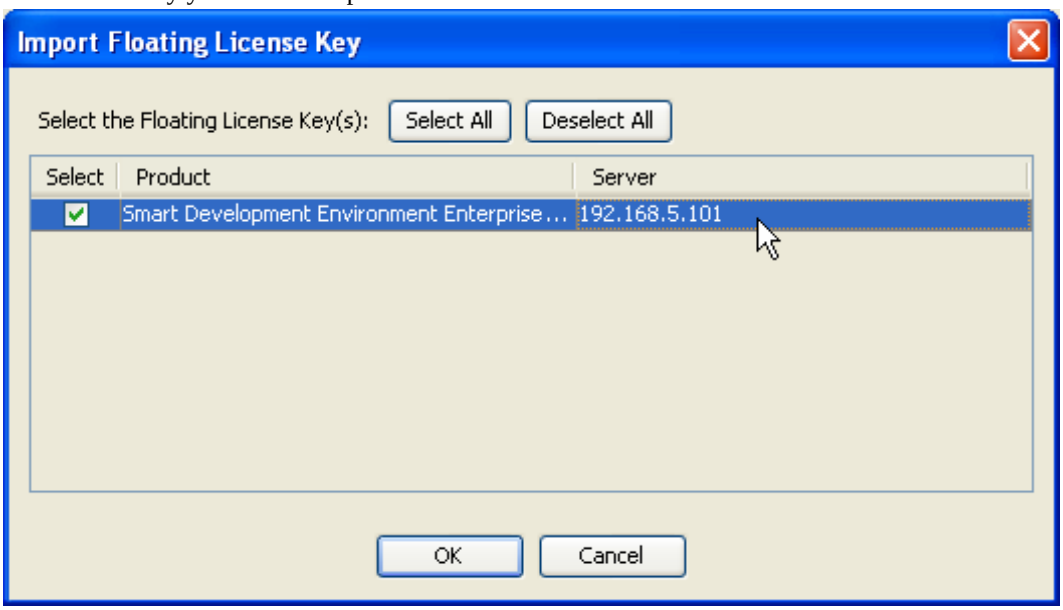



*Figure 1.26 - Select license key to import*

3.The key is imported successfully.

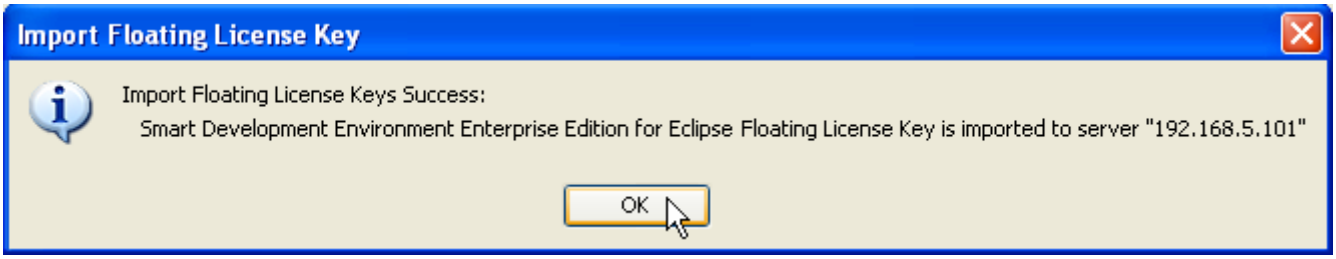



*Figure 1.27 - License key imported successfully*

If you did not import the exported key to the server when you switch off SDE for Eclipse, the next time you switch on SDE for Eclipse, it will ask if you want to import it to the server.

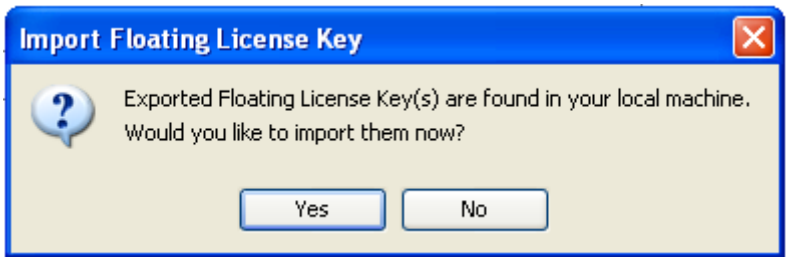



*Figure 1.28 - Asking whether to import the license key*

## Switching Edition

There is a single installer for all editions. You can install any edition with the same installer. If you want to change your installed edition, you can either re-install the software or use the VP Suite Product Edition Manager as long as you have a valid key for that edition to run.

When evaluating SDE for Eclipse, you can ensure the features you want and are most likely to use are available in different editions.

1. Select **start** > **All Programs** > **Visual Paradigm** > **VP Suite Product Edition Manager** .

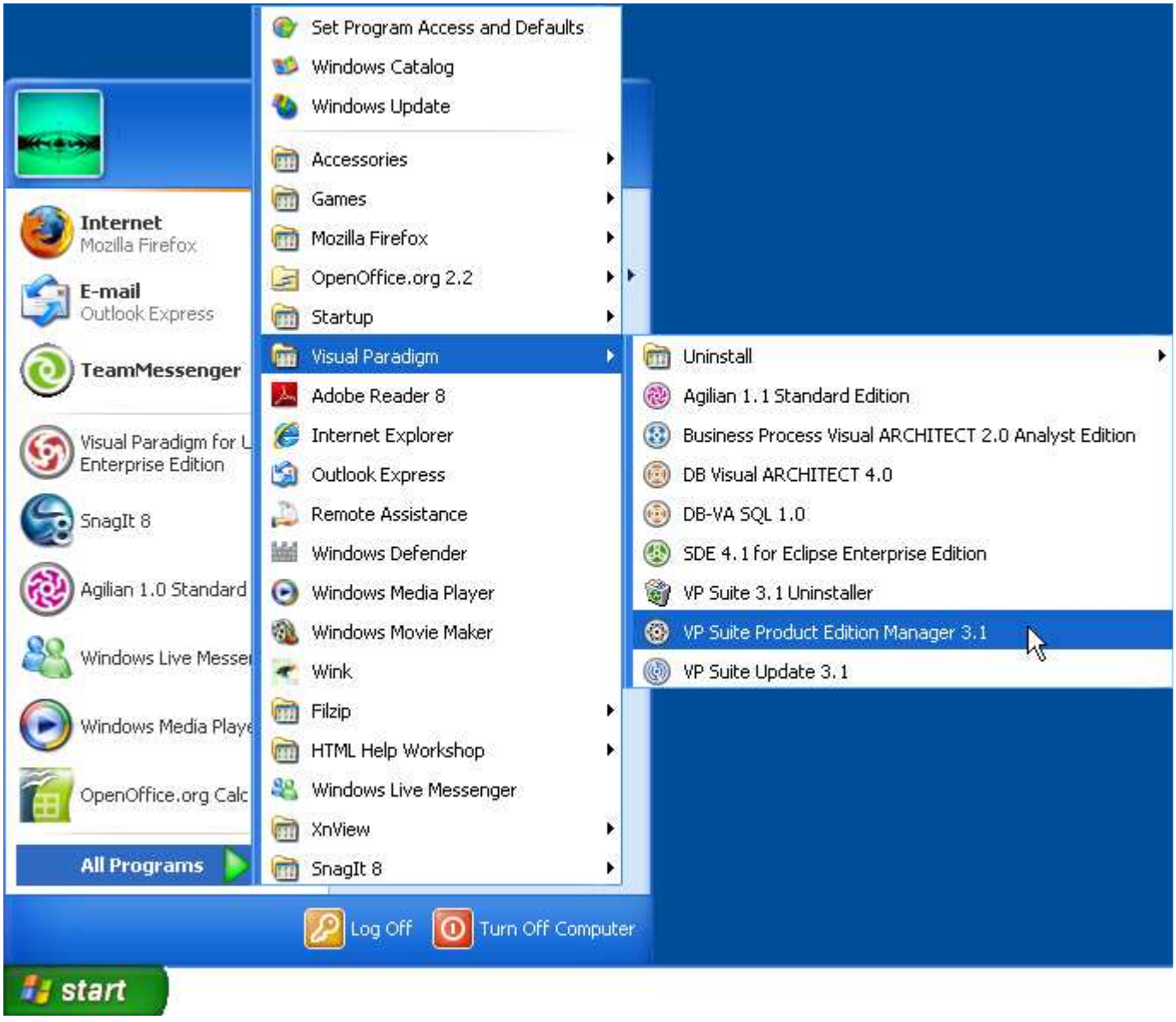



*Figure 1.29- Select Product Edition Manager*

2. Select the desired edition in the edition manager.


*Figure 1.30 - Select desired edition*

## Auto Switch Edition

When you start SDE for Eclipse of an edition other than the edition you have a license key for, the Switch Edition dialog will appear and ask whether you want to switch to the other edition.

For example, if you have imported a Standard Edition license key, when you run the Enterprise Edition, SDE for Eclipse will ask you if you want to switch to Standard Edition.

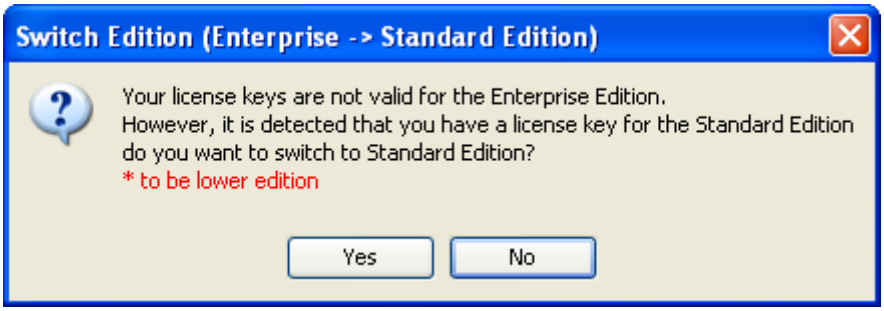



*Figure 1.31 - Switch Edition dialog*

You may click **Yes** to switch to a lower edition, or **No** to display the License Key Manager dialog to import another key.

## VP Suite Product Selector

Product selector is for a flexible license scheme, and is only for users using a floating license key.
The selector is flexible so that you can view the license keys available in the floating license server and start a product with the selected key.

To start the Product Selector:

Select Product Selector from 'bin' folder in the directory where VP Suite is installed.

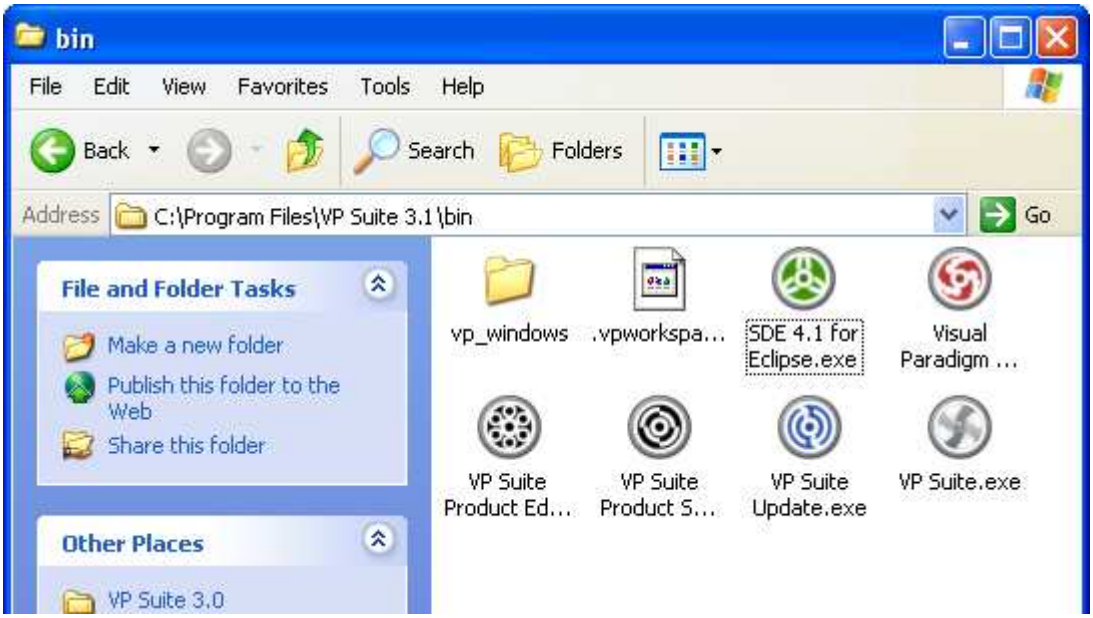



*Figure 1.32 - Bin folder*

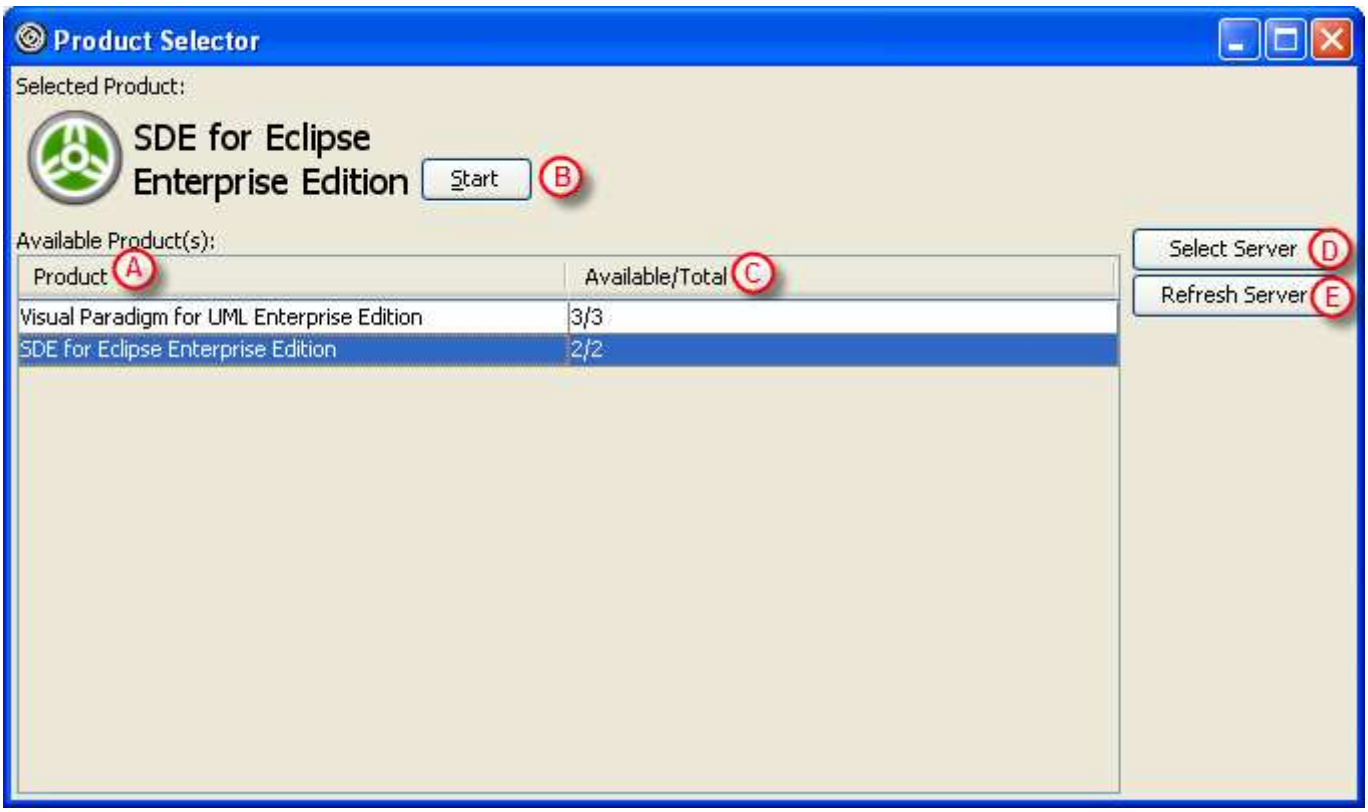



*Figure 1.33 - Product Selector*

| | Name | Function |
|---|---|---|
| A | Product | Name of products available. |
| B | Start | To start the selected product. |
| C | Available/Total | The number of products in the server available. This is a fraction that the number of product available over the total product purchase. |
| D | Select Server | To select floating license server(s). |
| E | Refresh Server | To refresh a floating license server(s). |

*Table 1.2*

# Basic Environment

In this section, you will learn the basic environment of the SDE for Eclipse user interface, and get to know how to use it to perform modeling more efficiently.
After you have imported the license key, you will see the SDE for Eclipse main screen.

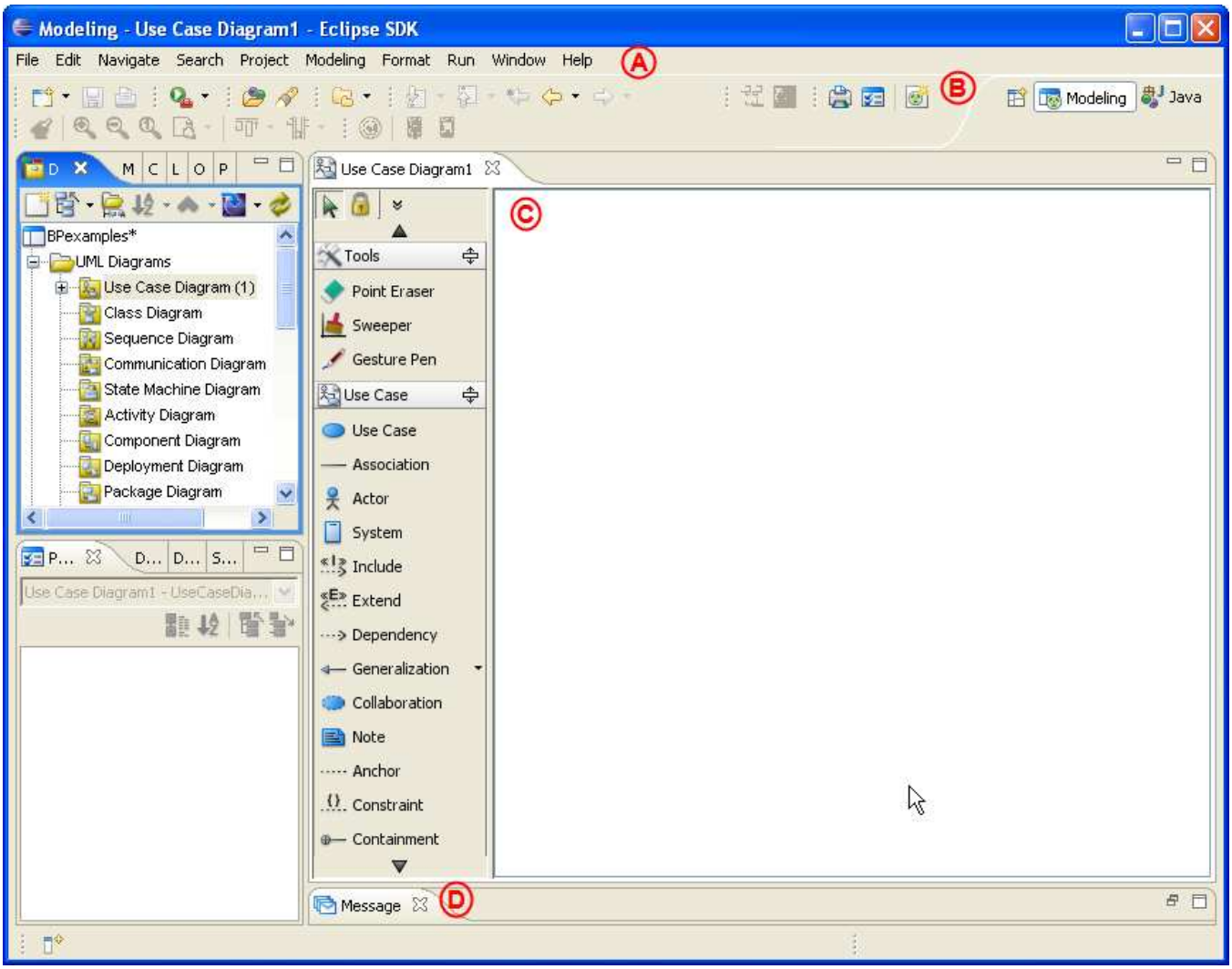



*Figure 1.34 - Basic environment*

| | Name | Description |
|---|---|---|
| A | Menu | All the commands for execution. |
| B | Toolbar | Frequently used commands. |
| C | Diagram pane | Area where you create your diagram. |
| D | Message pane | Display messages that are generated by performed operations. |

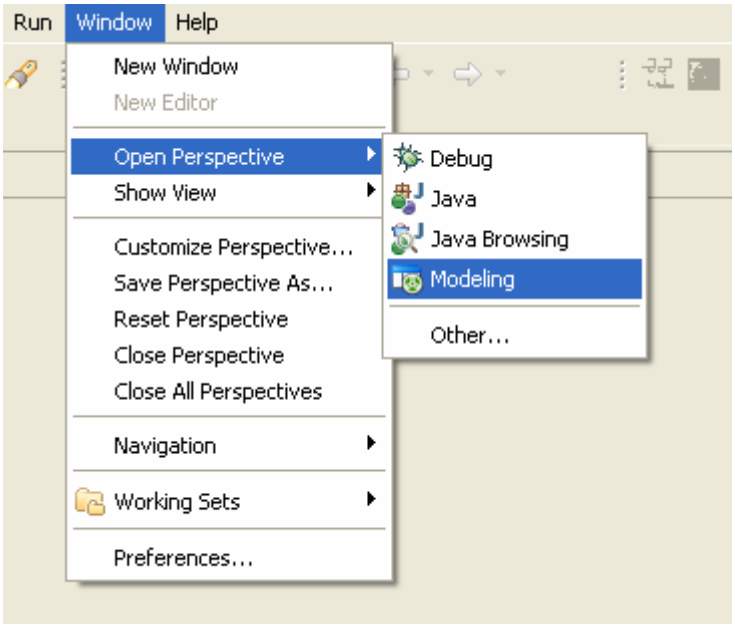
*Table 1.3*

# Panes

SDE for Eclipse provides various panes for performing different tasks and for displaying the modeling project in different views.

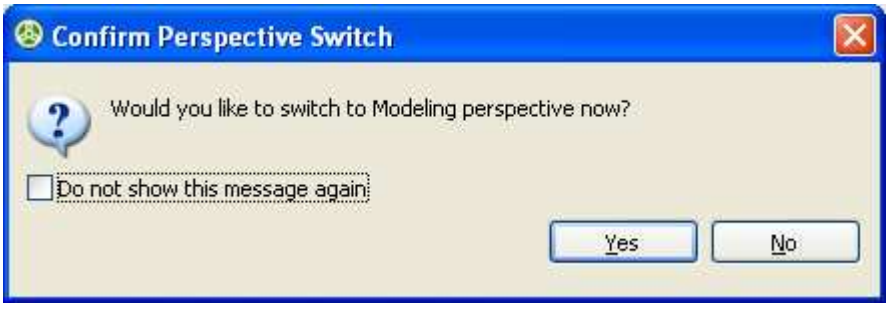
# Modeling Perspective

SDE for Eclipse provides different views, however, not all the views will be shown on the Eclipse's "Java" or "Resources" perspective automatically. Therefore, SDE for Eclipse provides Modeling Perspective to show all the views.
To switch to Modeling Perspective. Select **Windows > Open Perspective > Modeling**. **Modeling** may not shown on the menu, then you may need to select **Other...** and select Modeling on the dialog.




If you want to show SDE for Eclipse's view on other perspective. Select **Windows > Show View > Other...**. Then select **SDE for Eclipse**. You can select the view you wanna to be shown.

Note that if SDE for Eclipse is starting and current perspective is not Modeling Perspective. SDE for Eclipse will ask you switch to Modeling Perspective.



## Diagram Navigator Pane

The Diagram Navigator Pane displays diagrams and their diagram elements in the project, which are categorized by diagram type.
To open this pane:

- Select **Windows** > **Show View** > **Diagram Navigator**

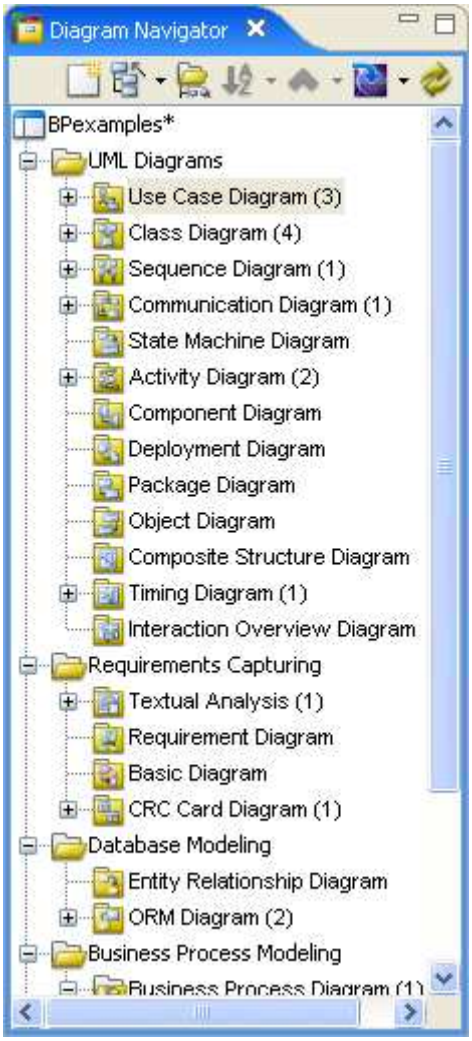



*Figure 1.41 - Diagram Navigator Pane*

## Model Pane

The Model Pane displays models in the project.
To open this pane:

- Select **Windows** > **Show View** > **Model**

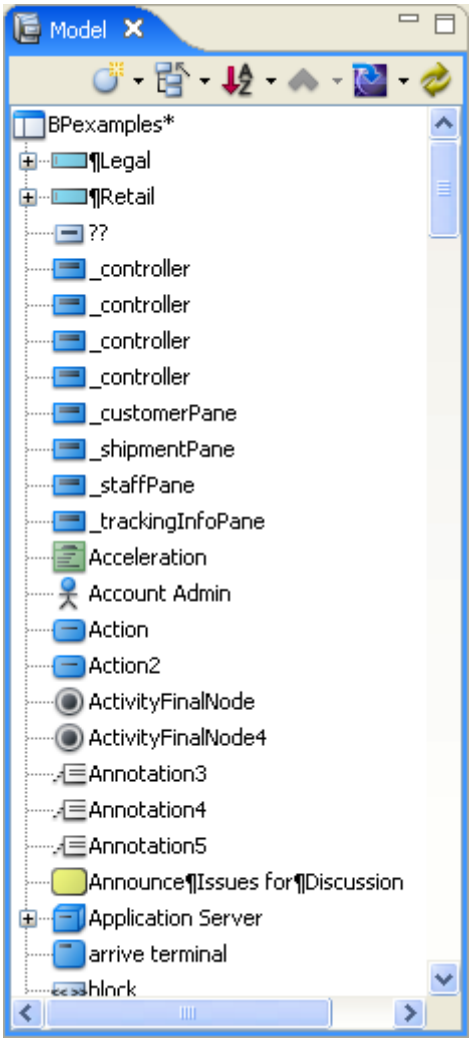



*Figure 1.42 - Model Pane*

## Class Repository Pane

The Class Repository Pane displays packages and class models in the project.
To open this pane:

- Select **Windows** > **Show View** > **Class Repository**

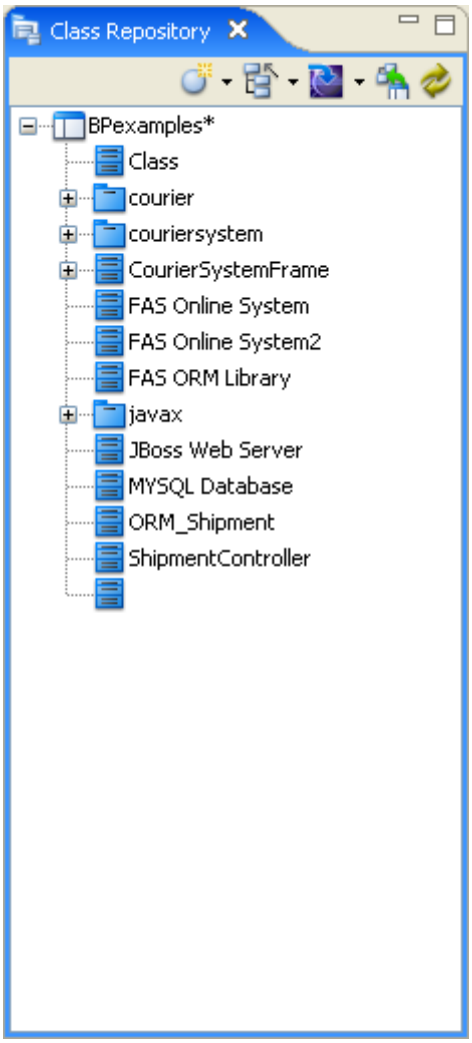



*Figure 1.43 - Class Repository Pane*

## Logical View Pane

Logical View Pane displays logical view of the project that can be customized to the desired structure.
To open this pane:

- Select **Windows** > **Show View** > **Logical View**

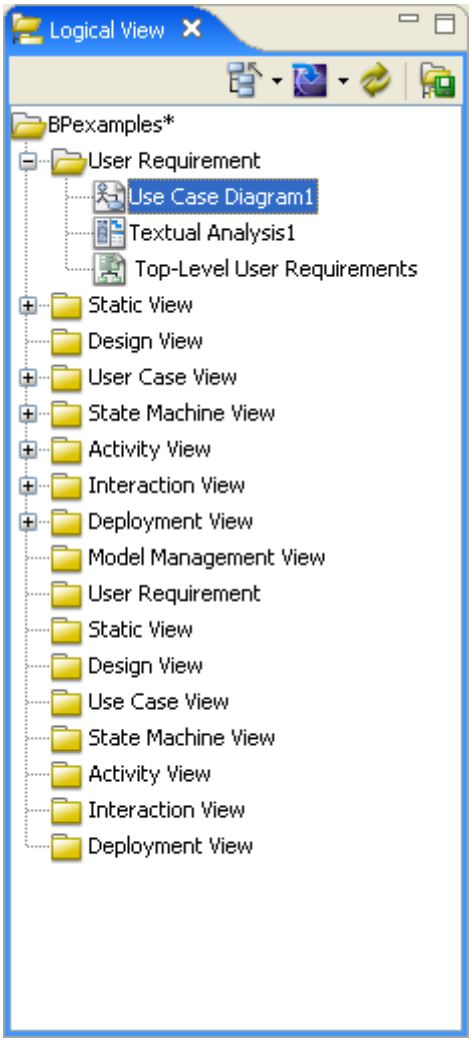



*Figure 1.44 - Logical View Pane*

## ORM Pane

ORM Pane displays ORM-related views including classes and database configurations.
To open this pane:

- Select **Windows** > **Show View** > **ORM**

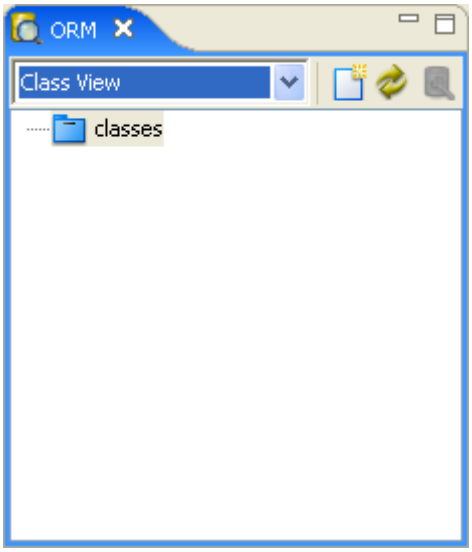



*Figure 1.45 - ORM Pane*

## Stencil Pane

Stencil Pane displays stencils that can be used to create custom shapes. You can also organize and select stencils here.
To open this pane:

- Select **Windows** > **Show View** > **Stencil**


*Figure 1.46 - Stencil Pane*

## Property Pane

Property Pane displays the properties of the selected element(s). You can also edit the properties here.
To open this pane:

- Select **Windows** > **Show View** > **Property**

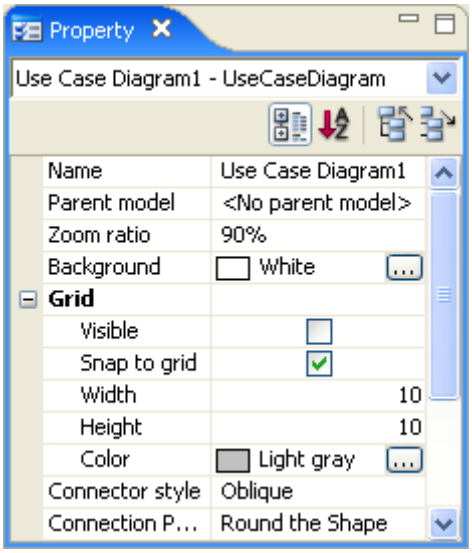



*Figure 1.47 - Property Pane*

## Diagram Overview Pane

This pane displays the overview of the active diagram which is scaled to fit the display area. The rectangle represents the visible area of diagram. You can navigate to different parts of the diagram by dragging the display area.
To open this pane:

- Select **Windows** > **Show View** > **Diagram Overview**

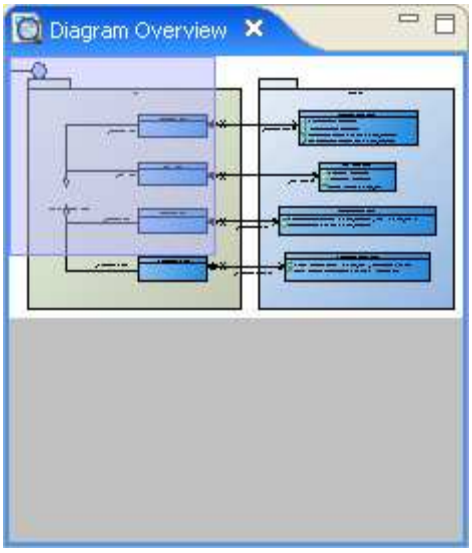



*Figure 1.48 - Diagram Overview Pane*

## Documentation Pane

Documentation Pane can display documentation of the selected element. SDE for Eclipse also provides rich text documentation. You can edit your documentation directly here.
To open this pane:

- Select **Windows** > **Show View** > **Documentation**

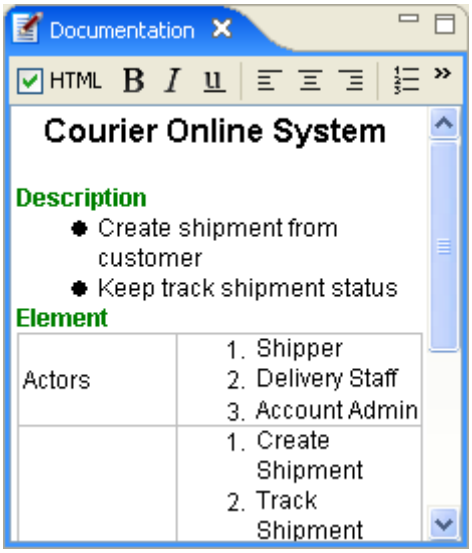



*Figure 1.49 - Documentation Pane*

## Message Pane

Message Pane displays information, warning and error messages shown by SDE for Eclipse.
To open this pane:

- Select **Windows** > **Show View** > **Message**

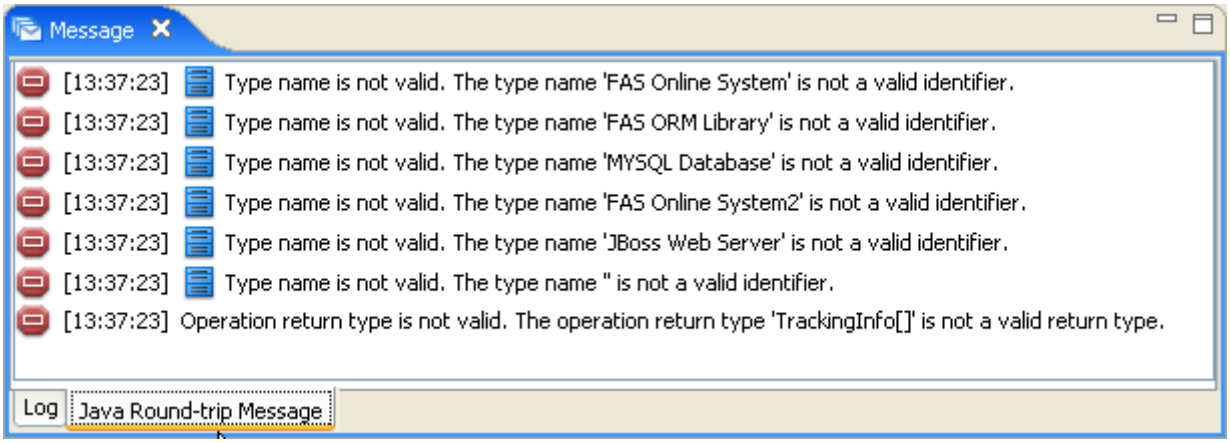



*Figure 1.50 - Message Pane showing XMI Results*

# Open Specification Dialog Box

The open specification dialog box is a top-level window which enables you to browse for and edit the detail of model elements or diagrams. It can be invoked by right-clicking on either a model or a diagram and selecting **Open Specification...** from the popup menu.

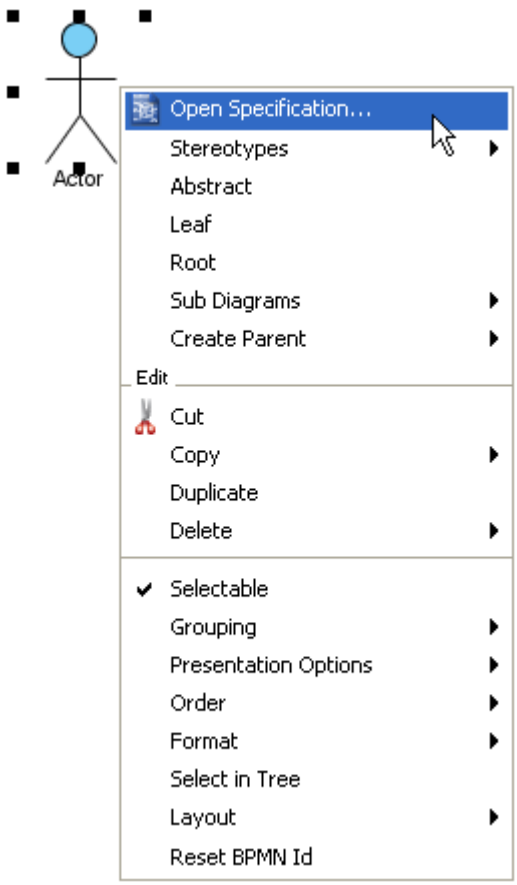



*Figure 1.56 - Open Actor Specification*

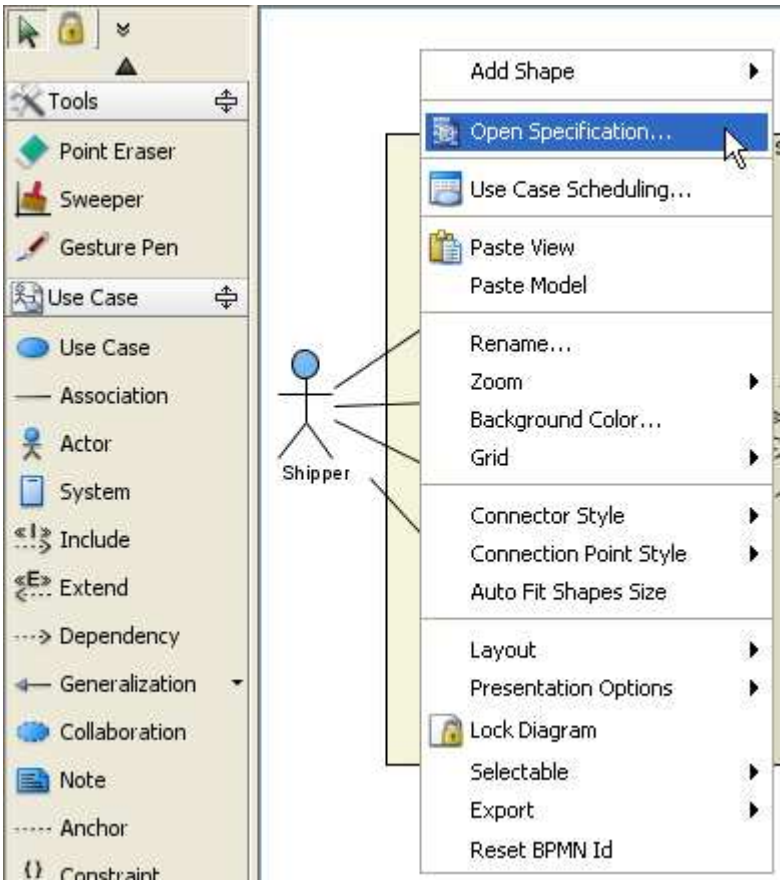



*Figure 1.57 - Open Diagram Specification*

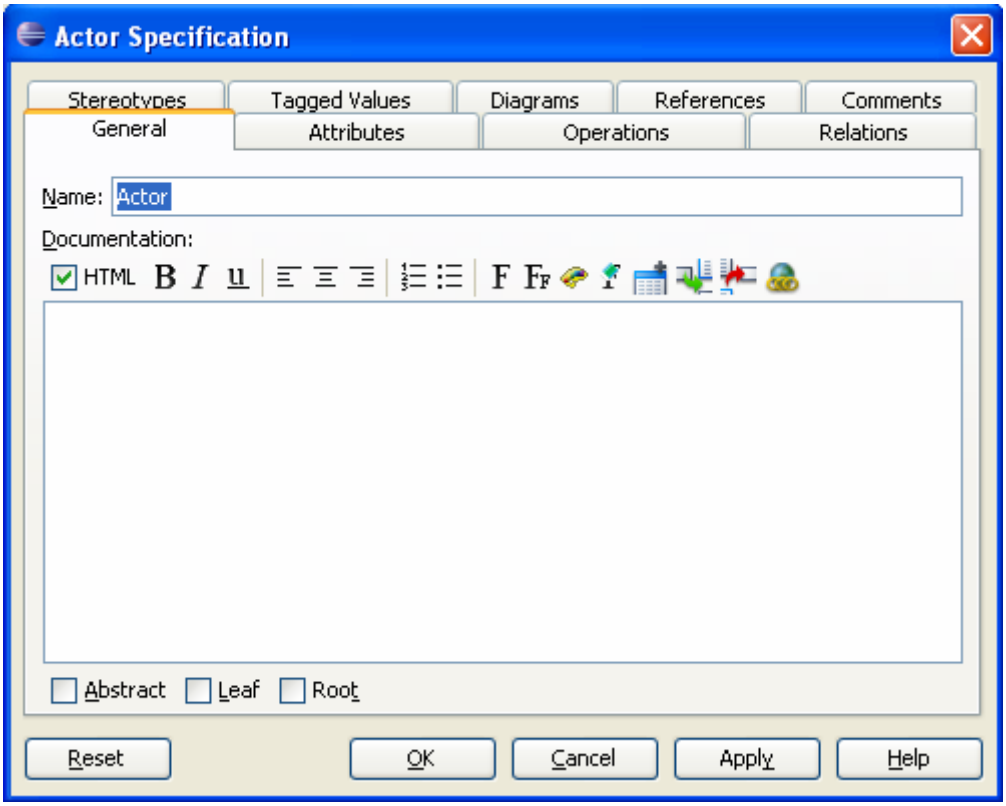


*Figure 1.58 - Actor Specification*

The open specification dialog box contains several pages which show different aspects of the selected item. General information such as name, stereotype, documentation, files are included in most of the model elements. For some of the model elements, relationship between other model elements (children, relations) and information that is specific to the model elements. (attributes/operations in Class, sub-diagrams of Package) will be displayed as well.
There are five buttons at the bottom of the dialog box: **Reset**, **OK**, **Cancel**, **Apply** and **Help**.

| Button | Description |
|---|---|
| Reset | Reset the changes made in the dialog box. |
| OK | Accept the changes and close the dialog box. |
| Cancel | Cancel and close the dialog box. |
| Apply | Apply the changes immediately without closing the dialog box. |
| Help | Display the help information of the Open Specification dialog box. |

*Table 1.4*

## Navigating between Model Elements

You can navigate to other model elements via the open specification dialog box. This can be done in two ways. For model elements with a one-to-many relationship such as relations, children, you can invoke the open specification dialog box of a selected model elements by clicking on the **Open Specification...** button.

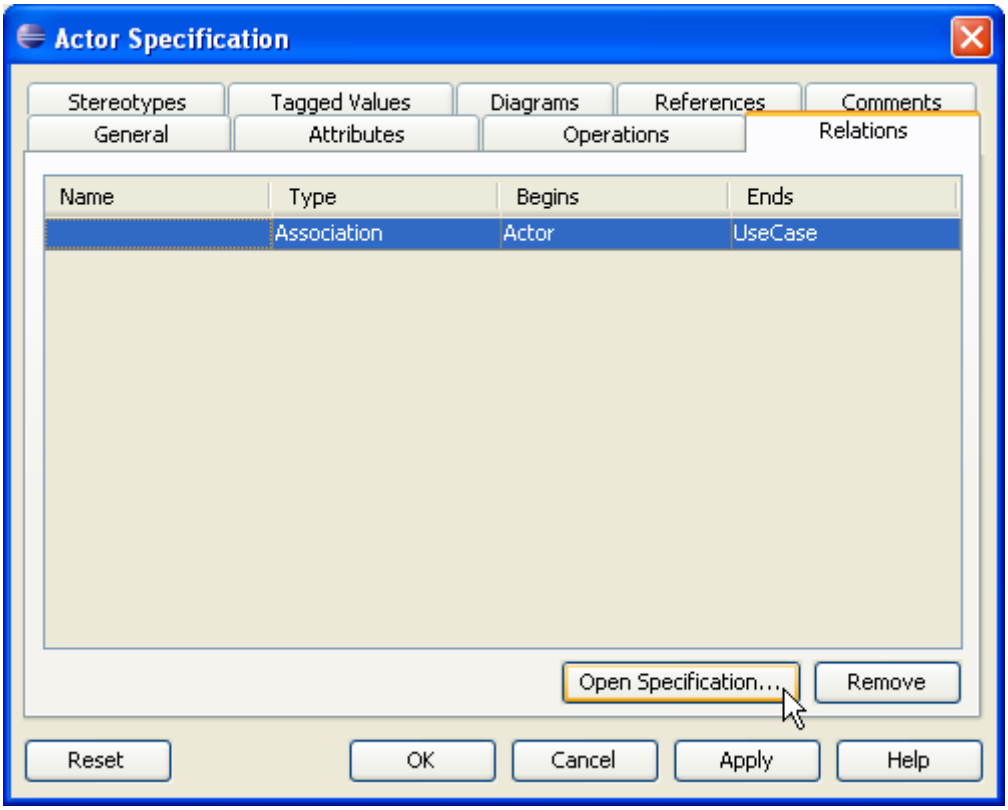



*Figure 1.59 - Open Association Specification*

Some of the properties of the model element are references to another model element (or a reference to itself) such as Supplier/Client of a Dependency, or Role A/Role B of an Association. In this case you can click on the **...** button besides this property to navigate to that model element.

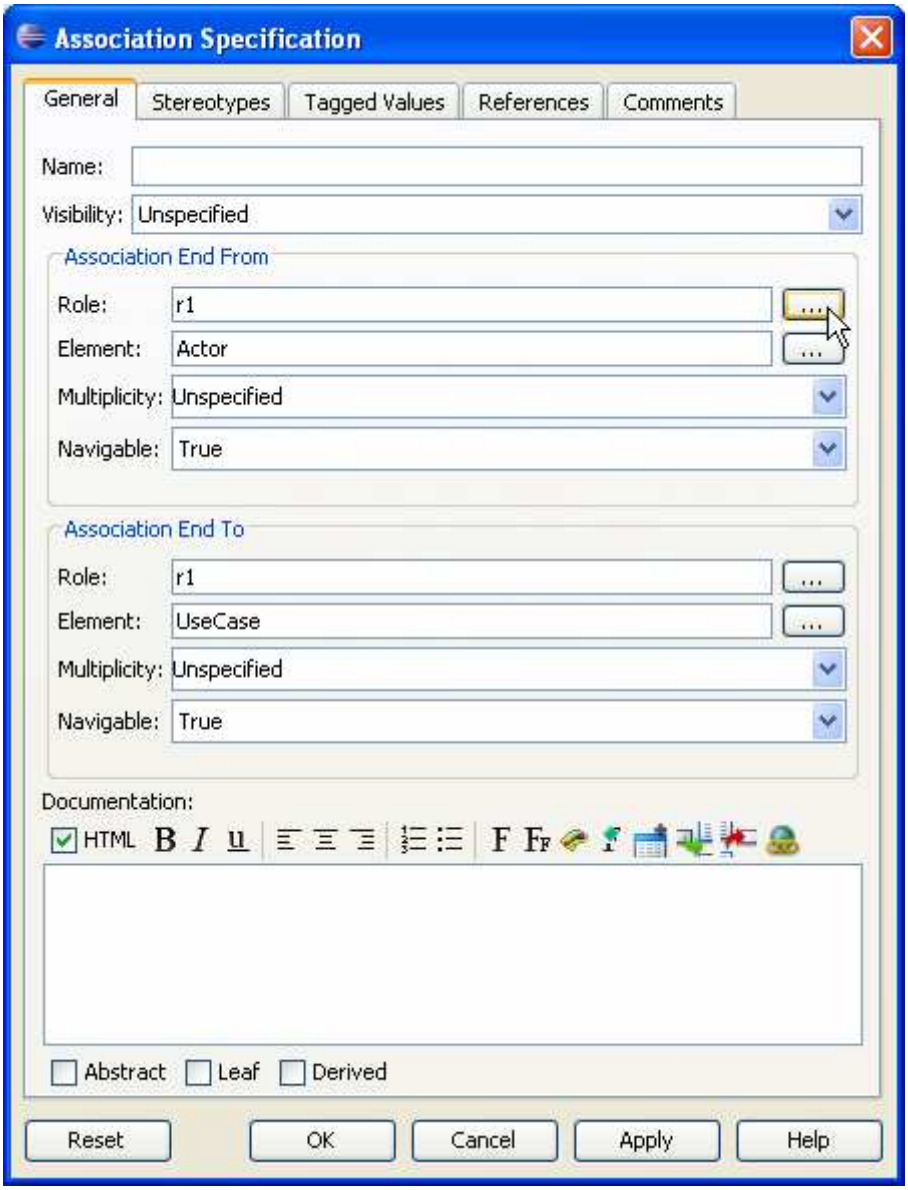



*Figure 1.60 - Association Specification*

Note that if the open specification dialog box of the referenced model element is already opened, this button will be disabled.

# 2 Working with Diagrams

# Chapter 2 - Working with Diagrams

SDE for Eclipse is a visual modeling tool that provides all well-known modeling toolsets to cover all aspects of modeling and documentation, from business process modeling to detailed system specification. SDE for Eclipse supports more than 20 diagram types including all diagram types in UML, BPMN, SysML, ERD, DFD and more. Visual Paradigm strives to continuously enhance the diagramming environment to increase effectiveness and efficiency of modeling, as when using SDE for Eclipse, most of your working time is with diagrams.

In this chapter you will learn:

- Creating Diagram
- Creating Diagram Elements and connecting them
- Basic Diagram editing
- Different Copy and Paste strategies
- Grouping Diagram Elements for easier management
- Some diagramming techniques

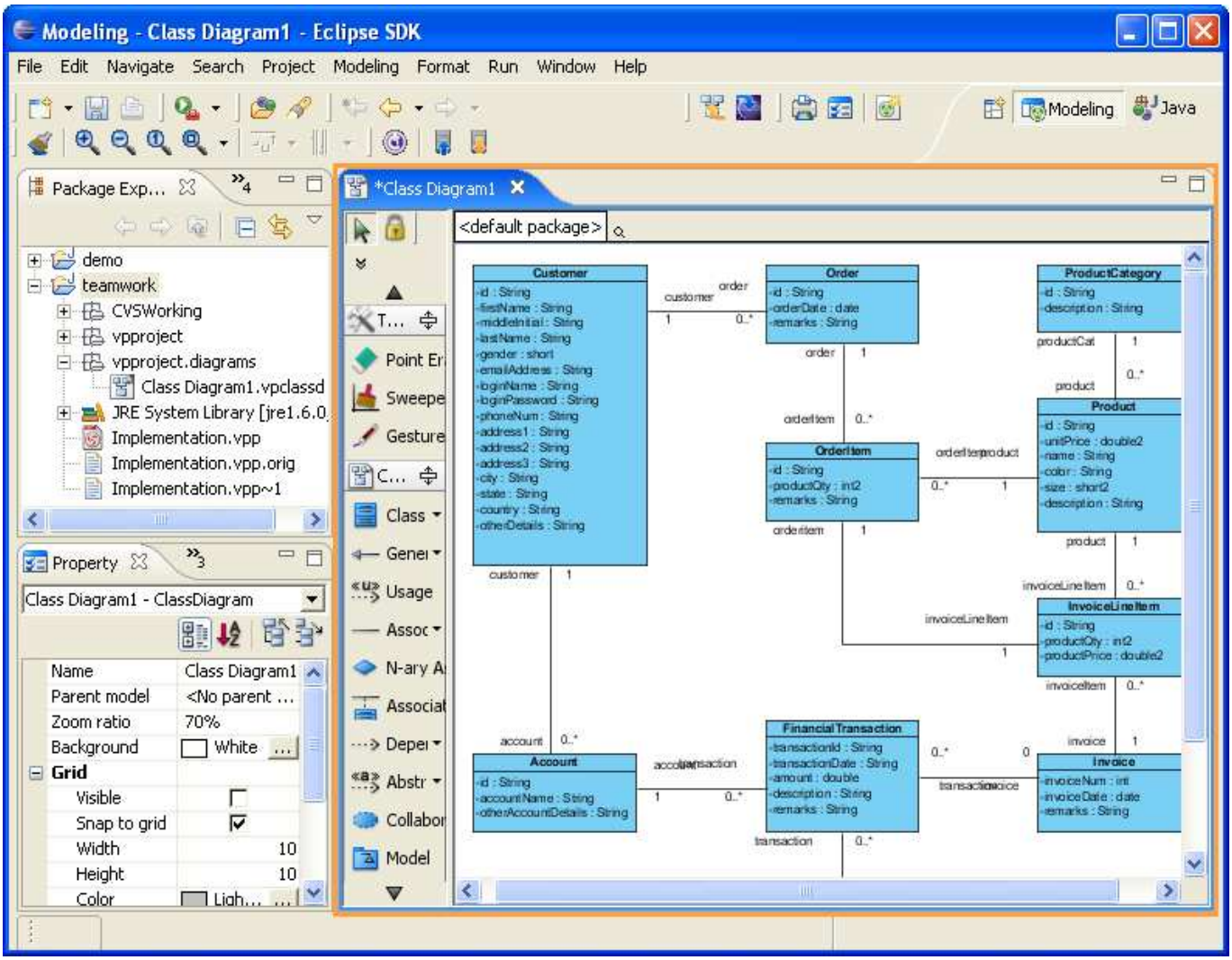



*Figure 2.1 - Diagram pane*

# Creating Diagram

You can create diagrams in different ways:

- Using toolbar
- Using popup menu of Diagram Navigator

To use toolbar to create:
Click on the icon on the toolbar and select the diagram you want to create from the dialog box.

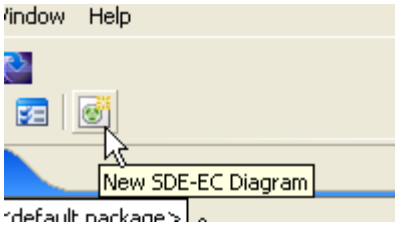



*Figure 2.2 - New Class Diagram icon on the toolbar*

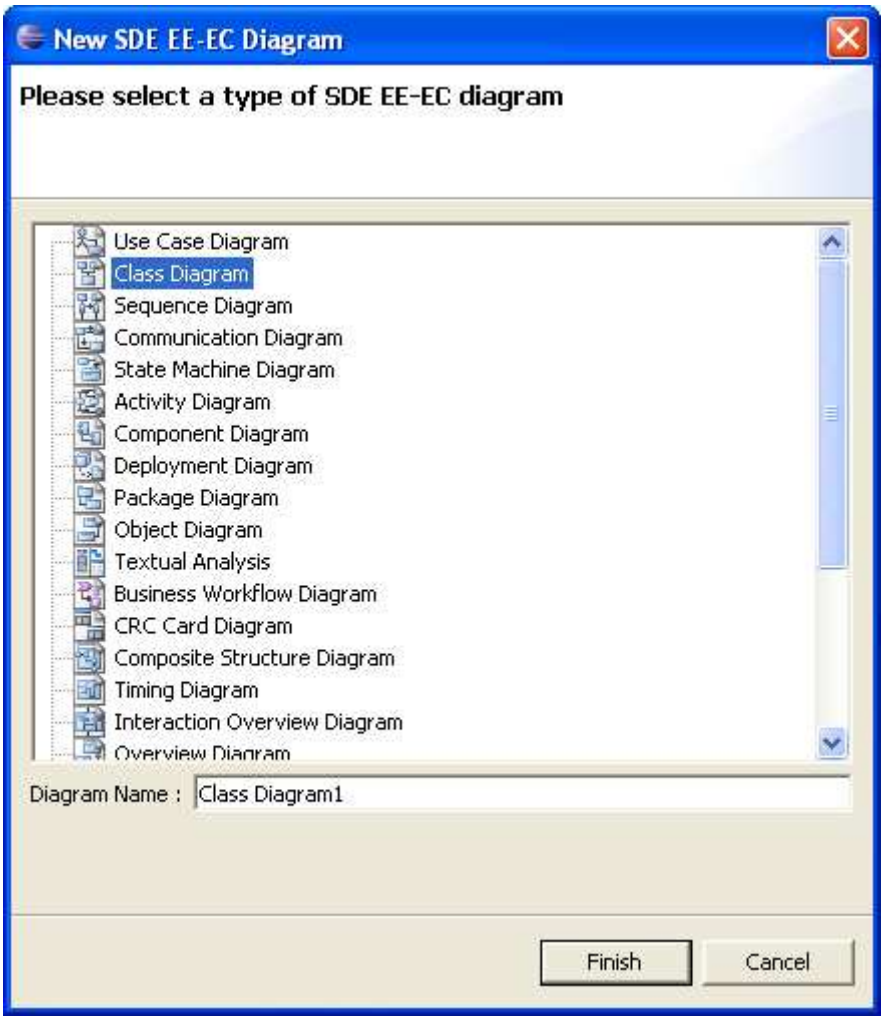



*Figure 2.3 - Select New SDE EE-EC Diagram*

To use the popup menu of Diagram Navigator to create:
Right click on the diagram type node in Diagram Navigator and select **New Class Diagram** in popup menu.

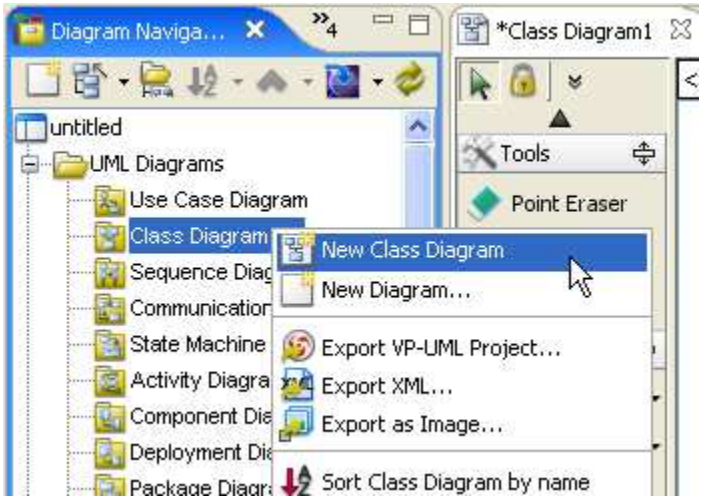



*Figure 2.4 - Select New Class Diagram from popup menu of Diagram Navigator*

# Creating Diagram Elements

After creating a new diagram, you can create diagram elements using the diagram toolbar. In this section, we will introduce the techniques of how to create diagram elements and connectors:

- Creating Shapes
- Creating Connectors
- Creating Self-Connection

## Creating Shapes

To create a shape, click on a diagram element button from the diagram toolbar and click on the diagram pane to create it. The element generated will have a default size.

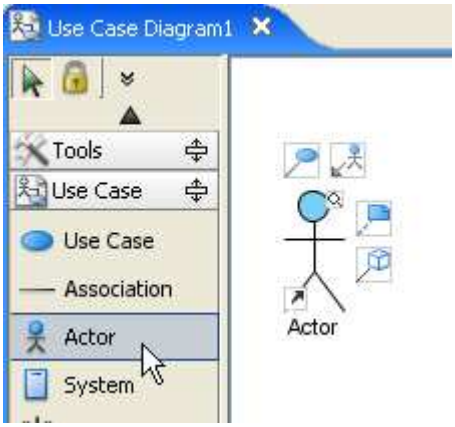



*Figure 2.5 - Click to Create Shapes*

You can also drag a specific boundary before releasing the mouse to define a shape's initial size.

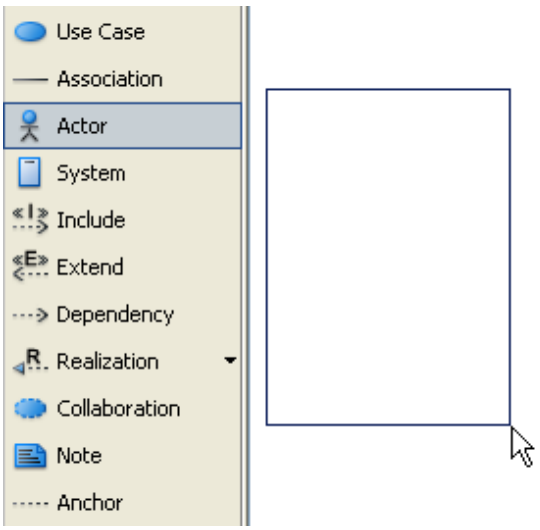



*Figure 2.6 - Create Shapes with specific size*

Alternatively, you can also create a diagram element by dragging a diagram element button then dropping it on the diagram pane.

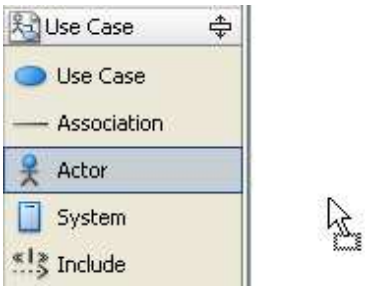



*Figure 2.7 - Drag and drop to Create Shapes*

Apart from that, you can use the diagram popup menu to add a shape.

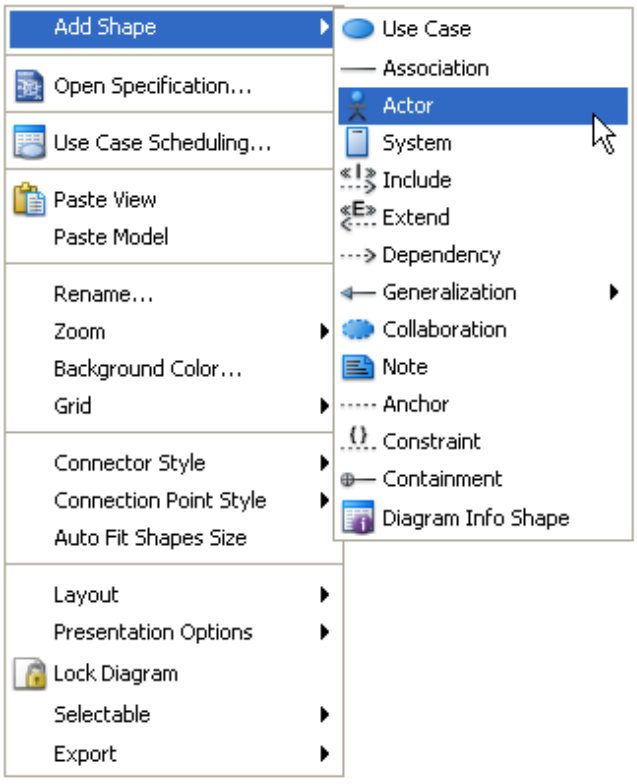



*Figure 2.8 - Create Shapes using diagram popup menu*

## Creating Connectors

To create a connector, select the desired connector from the diagram toolbar and click on the source shape. Drag the connector to the destination shape.

SDE for Eclipse provides continuous UML syntax checking. You will see a stop sign when you try to create an invalid connection, e.g. you cannot create a generalization relationship between an actor and a use case.

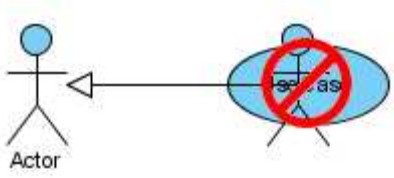



*Figure 2.9 - Try to create an invalid connection*

If the connection is valid you will see a blue rounded rectangle surrounding the destination shape.

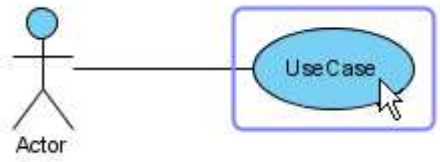



*Figure 2.10 - Try to create a valid connection*

You may also use resource to create connectors.
Click on the Association resource of a shape and drag over the shape you want to connect to. If you release the mouse on an empty space, a shape will be created with the connector.

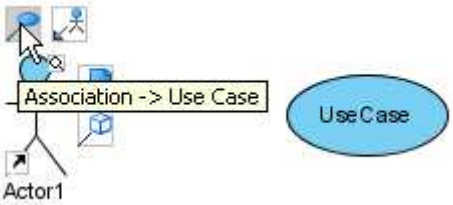



*Figure 2.11 - Click on resource*

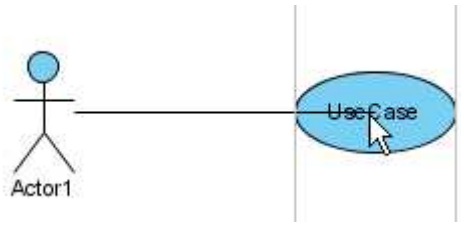



*Figure 2.12 - Drag over the shape*

## Creating Self-Connection

Some of the shapes can have a connection to itself, for example Self-Association of a Class or Self-Link of an Object in a Communication Diagram. To create a self-connection, click on the connector button on the diagram toolbar and click once on the target object.

Alternatively, you can click on the **Self Association** resource.


*Figure 2.13 - Create Self-Connection*

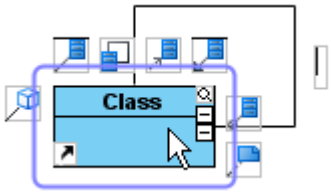



*Figure 2.14 - Self-Connection*

# Resource-Centric Interface

Visual Paradigm is the first vendor to introduce the resource centric diagramming interface. The resource centric interface greatly improves the efficiency of modeling. You no longer needs to go back and forth between the toolbar and the diagram to create diagram elements, make connections and modify the diagrams. The resource centric interface can make sure the modeler is able to create a diagram with correct syntax more quickly.
There are three types of resource:

- Connection Resource
- Manipulation Resource
- Branching Resource

## Connection Resource

It is designed for creating elements and making connections. Here, the connection between an actor and a use case is used as an example.
To use Connection Resource:
1. Move mouse over **Association - > Use Case** resource.

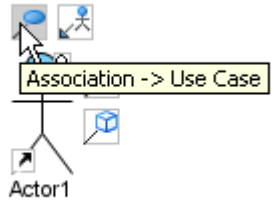



*Figure 2.15 - Association - > Use Case resource*

2. Drag resource to empty space on diagram pane.

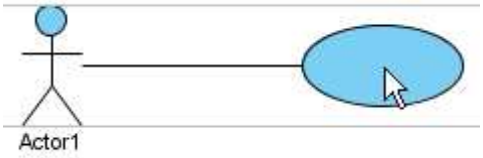



*Figure 2.16 - Drag resource*

3. Release the mouse, new connector and shape are created.


*Figure 2.17 - Connector and shape created*

## Manipulation Resource

You can use Manipulation Resource to modify properties or appearance of elements. For example, you can show or hide compartments, add references, add sub-diagram and fit size.
To use Manipulation Resource, simply click once on it.

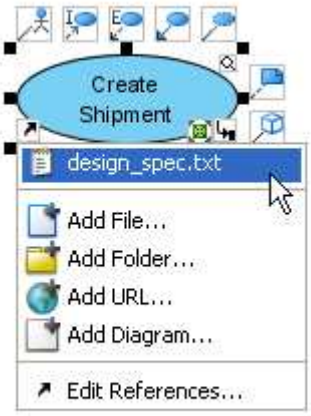



*Figure 2.18 - Reference of Manipulation Resource*

## Branching Resource

Branching Resource helps you to create decision structure in diagram.
To use branching resource:
1. Move mouse over a Branching Resource.


*Figure 2.19 - Branching Resource*

2. Drag resource to empty space on diagram.

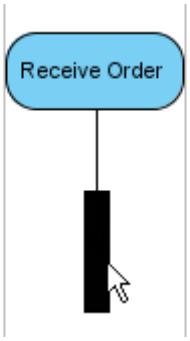



*Figure 2.20 - Drag resource*

3. Release mouse, a branch is created.

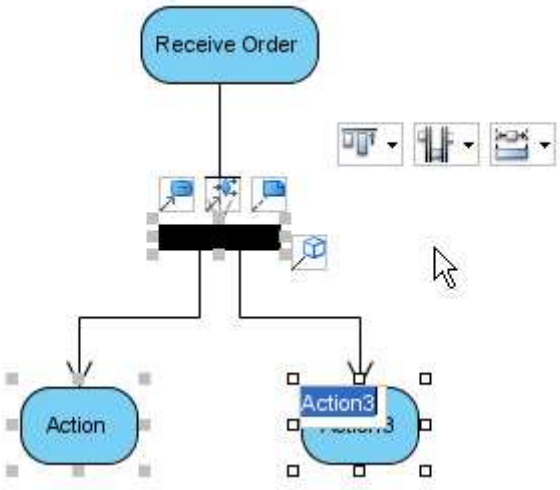



*Figure 2.21 - Create branch*

Alternatively, if a shape in the branch already exists, you can drag the resource over it.

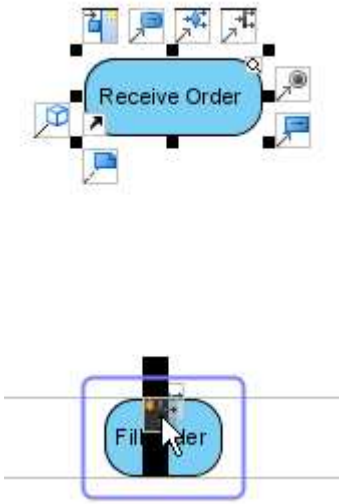



*Figure 2.22 - Drag resource over existed shape*

When mouse is released, a branch is created involving the target shape.

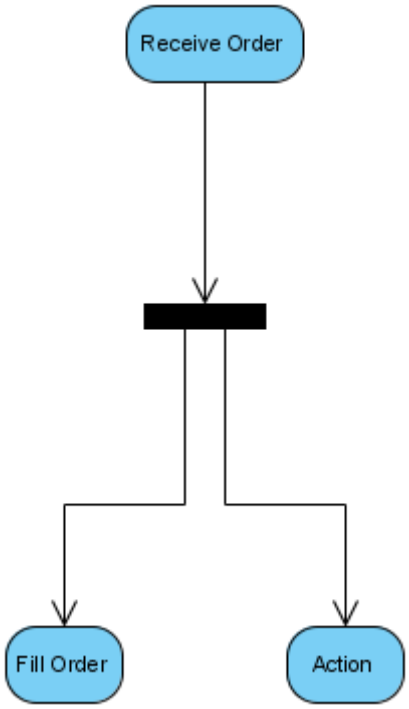



*Figure 2.23 - Create branch*

## Enabling/Disabling the Resource-Centric Interface

To enable/disable the resource centric interface feature, select/deselect menu **Format** > **Resource Centric**. This option will be applied to all diagrams.

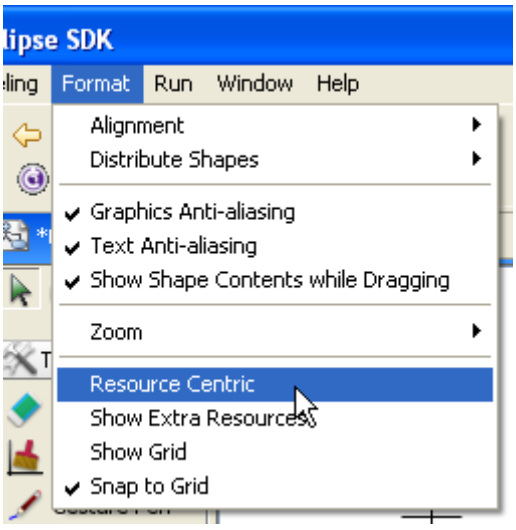



*Figure 2.24 - Enable/Disable Resource Centric Interface*

## Enabling/Disabling Group Resource-Centric Interface

Group resources appear when two or more shapes are selected. They are used to perform actions on the selected shapes, e.g. alignment and distribute shapes.
To enable/disable, select/deselect **Modeling** > **Application Options...** to open the Options dialog box, select **Diagramming > Resource Centric** tab. This option will be applied to all diagrams.

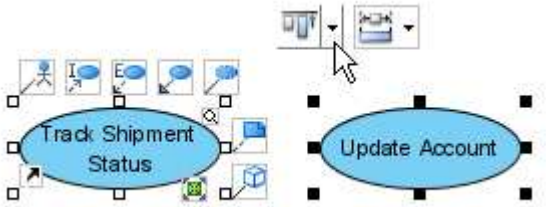



*Figure 2.25 - Group Resources Centric Interface for use case*

## Show Extra Resources

By default the resource centric interface displays the most commonly used resources of a diagram element. You can choose to view less common resourcesby clicking on the **Format** > **Show Extra Resources** in the main menu. The figures below show the view of a Action element with "Show Extra Resources" turned off and on.


*Figure 2.26 - Resource-Centric of Action*


*Figure 2.27 - Action with an Extra Resource-Centric*

## Show Generic Resource-Only

Generic Resource is a special kind of resource in the Resource-Centric Interface. Unlike other resources, the type of the connector and/or shape type that will be created is undetermined, you will be asked for the desired connector/shape type when the creation is confirmed.
To show/not to show Generic Resource Only, select **Modeling > Application Options...** to open the Options dialog box, select **Diagramming > Resource Centric** tab.


*Figure 2.28- Show Generic Resources-Only*

# Basic Editing

## Multiple Selection

Multiple selection can be made with mouse alone or with keyboard and mouse.
With mouse alone:
Click on an empty space of the diagram and drag to include desired shapes in the dashed-line rectangle.

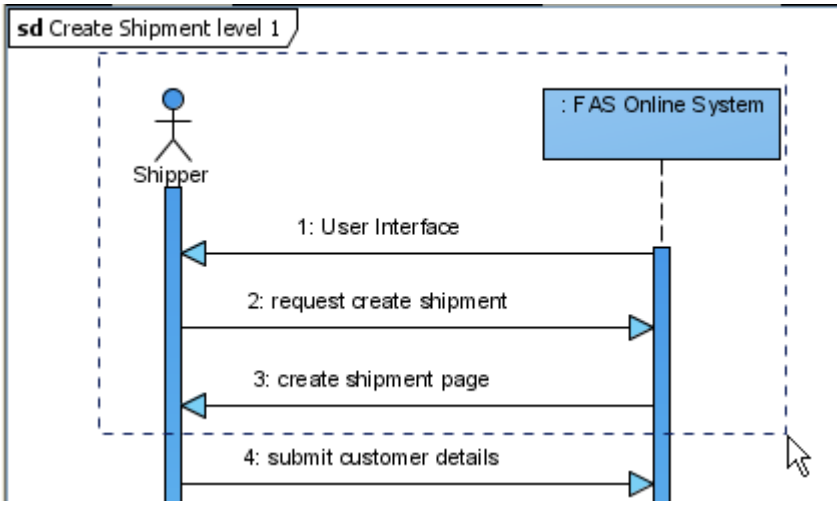



*Figure 2.29 - Multiple selection using mouse*

With keyboard and mouse:
With the **Shift** or **Ctrl** key held down, click on the shapes to select them. After selecting a shape, you may click it again to deselect it.

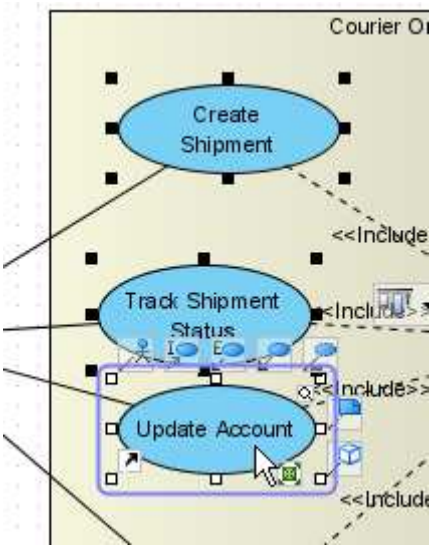



*Figure 2.30 - Multiple selection using mouse and keyboard*

## Moving Shape

SDE for Eclipse diagram editor supports true WYSIWYG diagram editing. You can move shapes with the mouse or keyboard.

With mouse:
Click on a shape to drag it to the desired direction to move it.

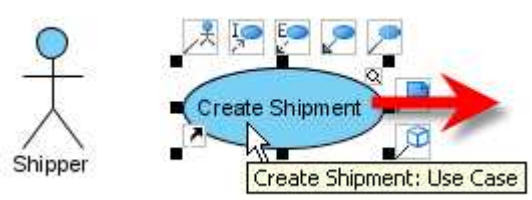



*Figure 2.31 - Shape before moving to the right*

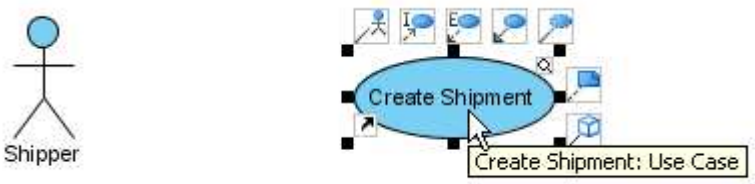



*Figure 2.32 - Shape after moving to the right*

With keyboard:
1. Select shape(s) which you want to move.
2. Press the **up**/**down**/**left**/**right** arrow key to move the shape(s).

## Moving Shape in One Direction

Instead of moving shapes in any direction, you may restrict the shapes to move in one direction only for easier alignment, i.e. you may move the shapes vertically or horizontally, but not diagonally.
This can be done by pressing **Shift** key while dragging the shapes.

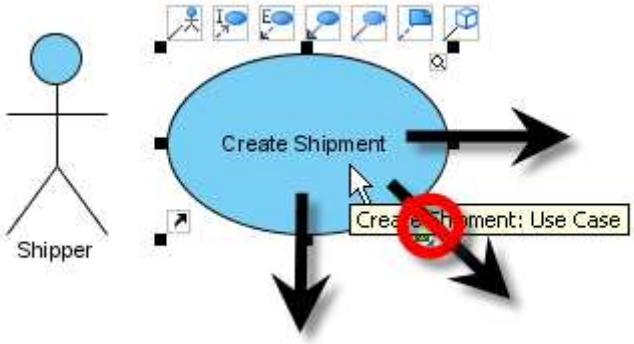



*Figure 2.33 - Restrict moving direction*

# Delete

The main difference between CASE Tool and drawing tools is that CASE Tool has a Model and View concept. The model is where information is stored, while the view is a presentation of the model. A model can have multiple views, for example, you can show the same class in different class diagrams. Upon pressing 'delete', SDE for Eclipse will assume you are deleting the view of the model, but will prompt you to delete the model if all views of a specific model are deleted. This section will show you how to delete models and views.

## Delete

To delete view together with model:
1. perform one of the following action:

- Select **Delete** > **Delete** in the popup menu of that element.
- Press the **Delete** button on the keyboard.

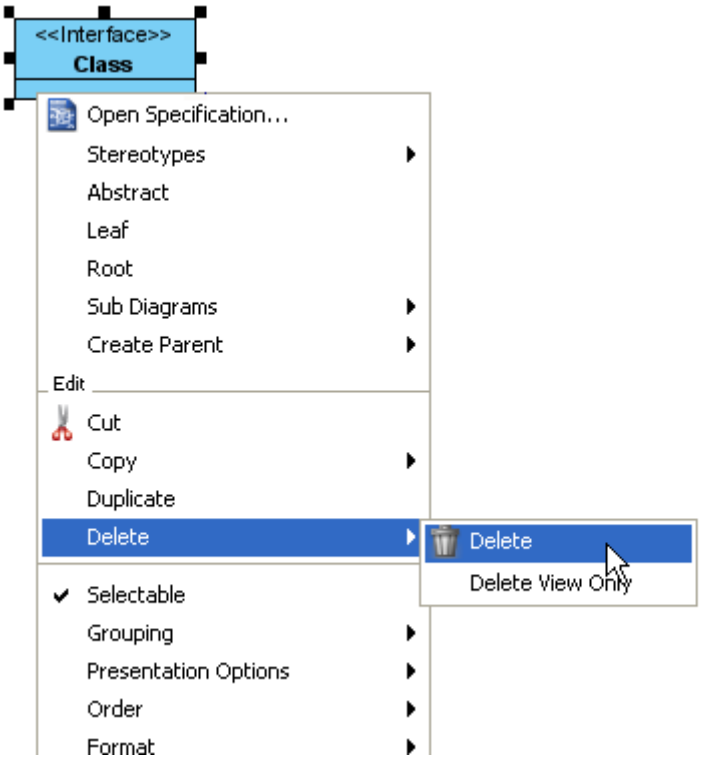



*Figure 2.34 - Select Delete*

2. A Delete dialog box will display and ask you if you want to delete. Click **Yes** to confirm. If you want to set this option as default, check **Use this option as default and don't ask again**.

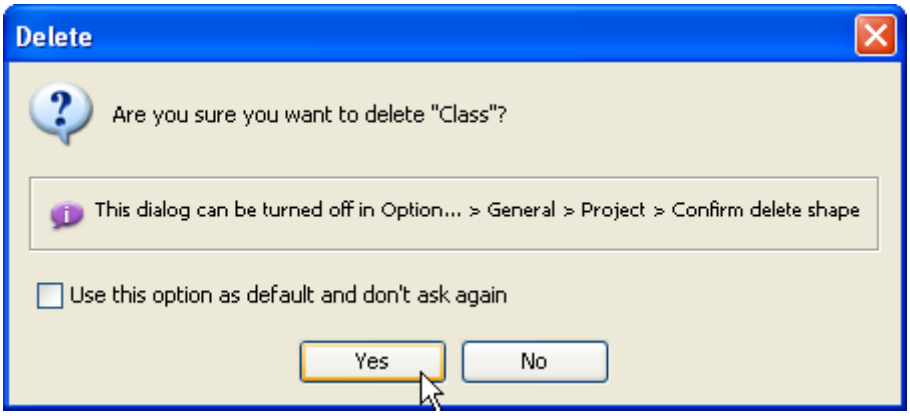



*Figure 2.35 - Delete dialog box for confirming deleting*

3. If there is no referenced view other than deleted view, the Delete dialog will ask you if you want to delete the model from the repository. Click **Yes** to confirm. If you delete more than one diagram element at one time, you may click **Yes to all** to confirm.

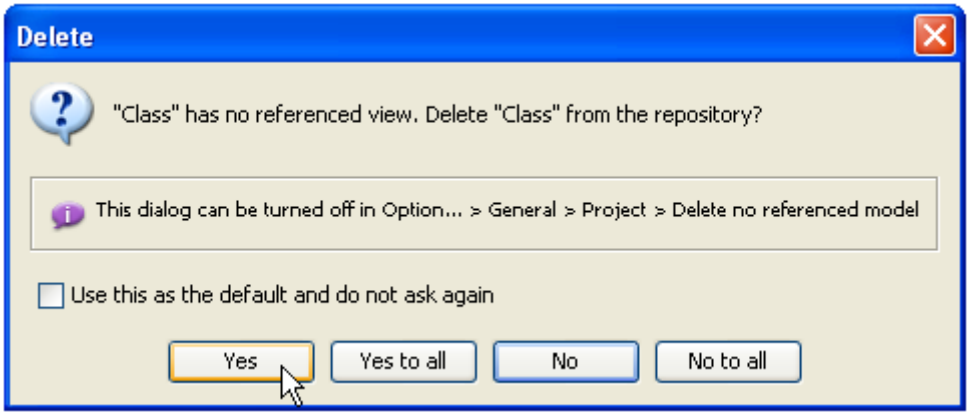



*Figure 2.36 - Confirm deleting from the repository*

## Delete View Only

To delete view(diagram element of model) only:
1. Select **Delete** > **Delete View Only** in the popup menu of that element.

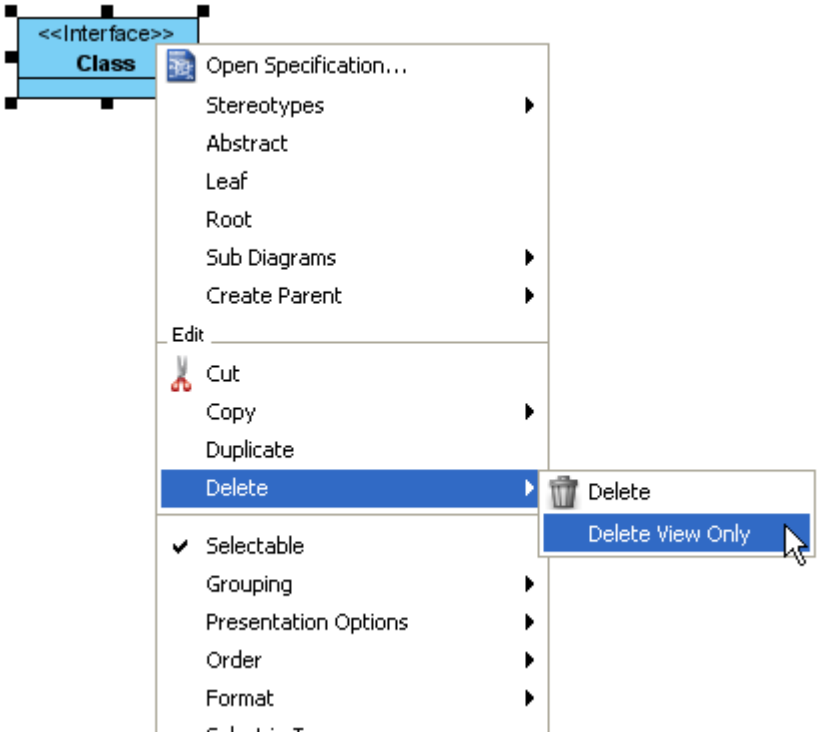



*Figure 2.37 - Select Delete View Only*

2. A Delete dialog box will display and ask you if you want to delete. Click **Yes** to confirm. If you want to set this option as default, check **Use this option as default and don't ask again**.

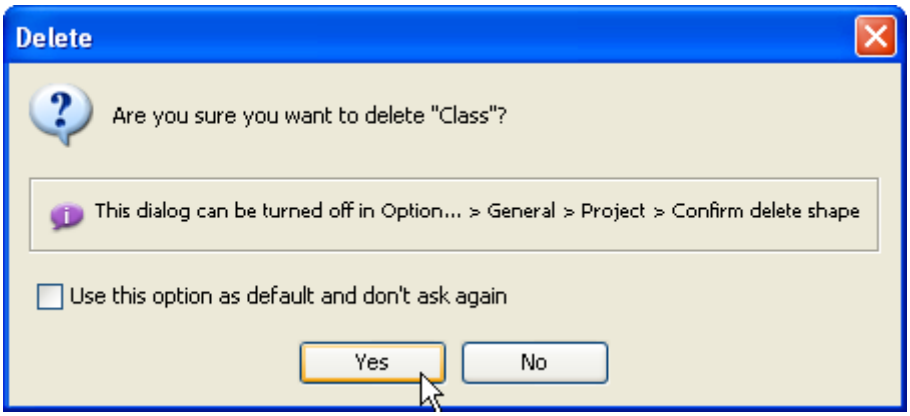



*Figure 2.38 - Delete dialog box to confirm deleting*

# Copy and Paste

## Copy

SDE for Eclipse support various copy and paste options. By default your copy will only within SDE for Eclipse and will not affect the content in your system clipboard. If you want to copy the content to other application, you can copy to clipboard as image then you can paste your design to other application. This section, we will show you different copy and pasts options SDE for Eclipse provides.

### Copy within SDE-EC

Copying diagram elements within SDE-EC allows you to copy selected diagram elements to the application clipboard. You can paste the diagram elements to other SDE-EC diagrams from the current project or across another project.

You cannot paste the selected content to other applications.

To copy selected diagram elements within SDE-EC, perform one of the following actions:

- Select **Edit > Copy** from main menu.
- Right-click on the selected diagram elements and choose **Copy > Copy within SDE EE-EC** from popup menu.
- Press ***Ctrl-C***.

Copy within SDE-EC is the default copy action. For more details about the default copy action, please reference to the section "Setting Default Copy Action" below.

### Copying to the Clipboard as Image (JPG)


Copying diagram elements as JPG image will copy the selected diagram element as a JPG image to the system clipboard, which you can copy to other applications.

To copy selected diagram elements to the system clipboard as JPG image, perform one of the following actions:

- Select **Edit > Copy to Clipboard as Image (JPG)** from main menu.
- Click on the **Copy** drop down button on the toolbar and select **Copy to Clipboard as Image (JPG)**  from the drop down menu.
- Right-click on the selection and choose **Copy > Copy to Clipboard as Image (JPG)** from popup menu.
- Press ***Ctrl-Alt-C***.

## Copying to the Clipboard as Image (EMF)

Copying diagram elements as EMF (Enhanced Metafile) image will copy the selected diagram element as an EMF image to the system clipboard, which you can copy to other applications. Unlike copy as JPG image, the copied content is in EMF format, which is a more scalable format where image quality can be retained even after being resized/zoomed.

The copy to system clipboard as EMF image feature is available on Windows platforms only.

To copy selected diagram elements to the system clipboard as EMF image, perform one of the following actions:

- Select **Edit > Copy to Clipboard as Image (EMF)** from main menu.
- Click on the **Copy** drop down button on the toolbar and select **Copy to Clipboard as Image (EMF)**  from the drop down menu.
- Right-click on the selection and choose **Copy > Copy to Clipboard as Image (EMF)** from popup menu.
- Press ***Ctrl-Alt-Shift-C***.

### Setting Default Copy Action

The default copy is triggered when the hotkey ***Ctrl + C*** is pressed. The actual action performed by default copy follows the SDE for Eclipse application option (as configured in the Options dialog box -> Diagramming category -> Environment page). The default copy action can be set to one of the following:

- Copying within SDE-EC
- Copying to Clipboard as OLE
- Copying to Clipboard as Image (JPG)
- Copying to Clipboard as Image (EMF)

## Paste

You can select different paste methods according to what you have copied.

### Pasting View

The pasted diagram elements share the same content of the copied diagram elements. Any changes made on the pasted elements will result in the same changes appearing on the elements copied, as the model elements are shared on the diagram elements.

To paste diagram element with model sharing, perform one of the following actions:

- Select **Edit > Paste** from main menu.
- Right-click on the target diagram and choose **Paste View**  from popup menu.
- Press ***Ctrl-V***

### Pasting Model

It clones a copy of the copied diagram elements and the model element, then pastes them to the diagram. It is enabled to copy within SDE-EC.

To paste diagram element without model sharing, perform one of the following actions:

- Right-click on the target diagram and choose **Paste Model** from popup menu.

## Pasting as Image Shape

With image shape, you can easily annotate and document your diagrams with related images. Instead of creating an image shape manually, you can copy an image from any application to the clipboard and then paste it to the diagram as a new shape.

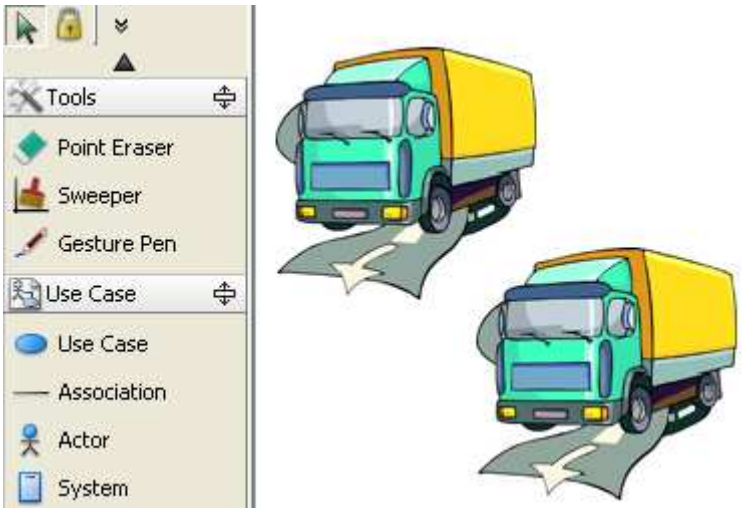



*Figure 2.39 - Paste as Image Shape*

To paste an image shape, perform one of the following actions:

- Select **Edit > Paste** from main menu.
- Right-click on the target diagram and choose **Paste View** from popup menu.
- Press ***Ctrl-V***

# Undo/Redo

When you create and edit a diagram, you may make mistakes like accidentally deleting a diagram element. You can use the Undo function to cancel the previous action. On the other hand, you may re-perform the action using the Redo action. The undo/redo feature in SDE for Eclipse is diagram based.

## Undo

You can roll back undesirable changes by performing Undo. To undo an action, perform one of the following actions:

- Select **Edit > Undo** from main menu.
- Press ***Ctrl-Z***.

## Redo

This feature is to re-perform actions that were just undone. To redo an action, perform one of the following actions:

- Select **Edit > Redo** from main menu.
- Press ***Ctrl-Y***.

# Grouping

After you have applied alignment to a group of shapes, you may want to keep its configuration and not want them to get messed up. Grouping feature is designed for this usage. After shapes are grouped, you can treat the grouped shapes as a single shape.
In SDE for Eclipse, you can perform multiple level grouping - that is, group a shape with other shapes, and even with other groups.

## Grouping Shapes

To group shapes, select shapes in the diagram and perform one of the following actions:

- Select menu **Edit > Group**.
- Right-click on the selection and select **Grouping > Group** from the popup menu.

## Ungrouping Shapes

To ungroup shapes, select the grouped shapes in the diagram and perform one of the following actions:

- Select menu **Edit > Ungroup**.
- Right-click on the selection and select **Grouping > Ungroup** from the popup menu.

## Resizing Shapes in Group

In some cases, you may want to resize multiple shapes on the diagram, SDE for Eclipse allows you to resize the shapes in a group, which in turn reduces the handling time for resizing the shapes individually. When you resize one shape of the selected shapes, all the selected shapes will resize by the same amount, regardless of their original sizes.
To resize the shapes in a group:

1. Select multiple desired shapes on the diagram.

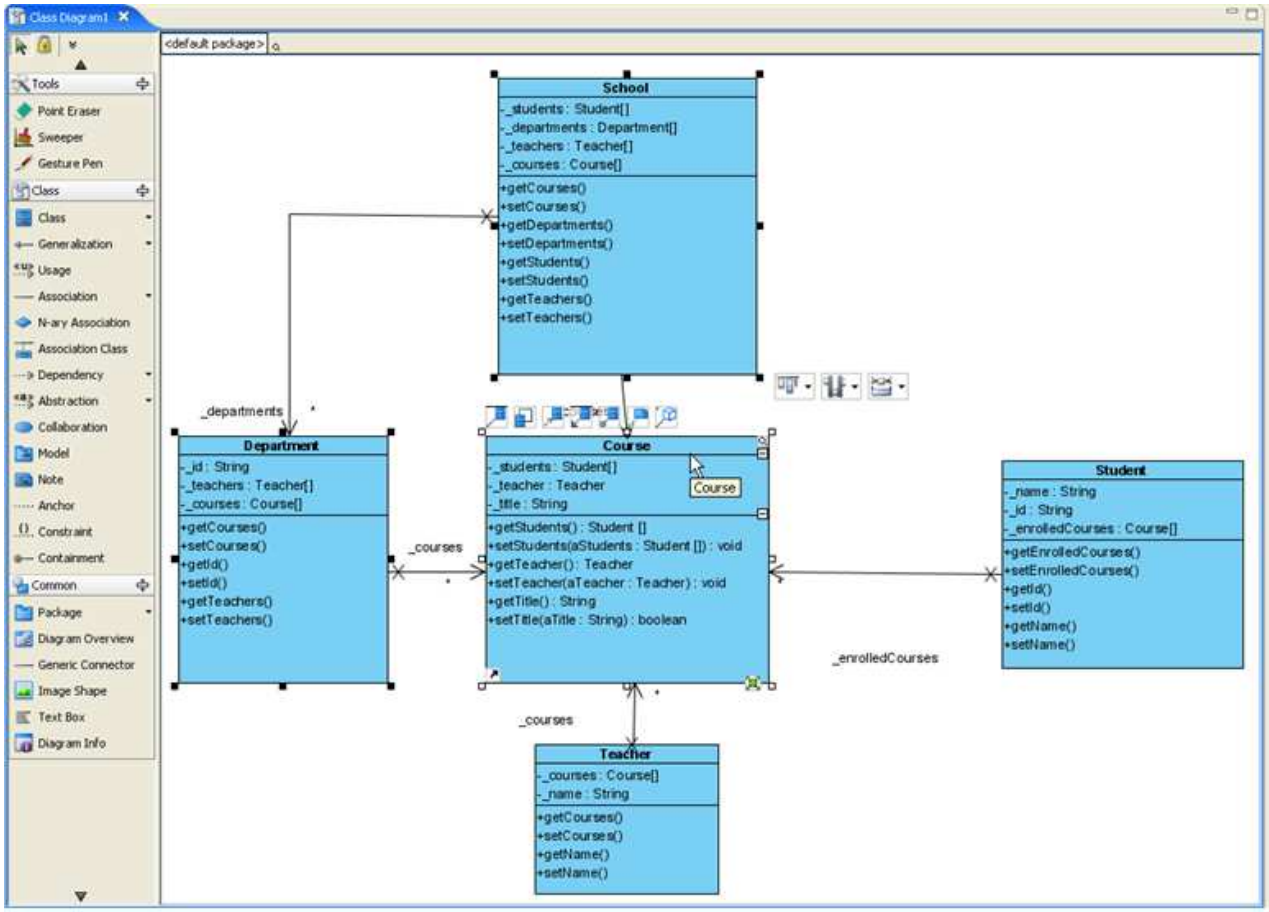



*Figure 2.40 - Multiple desired shapes on diagram*

2. Resize one of the selected shapes. All selected shapes will resize proportionally.

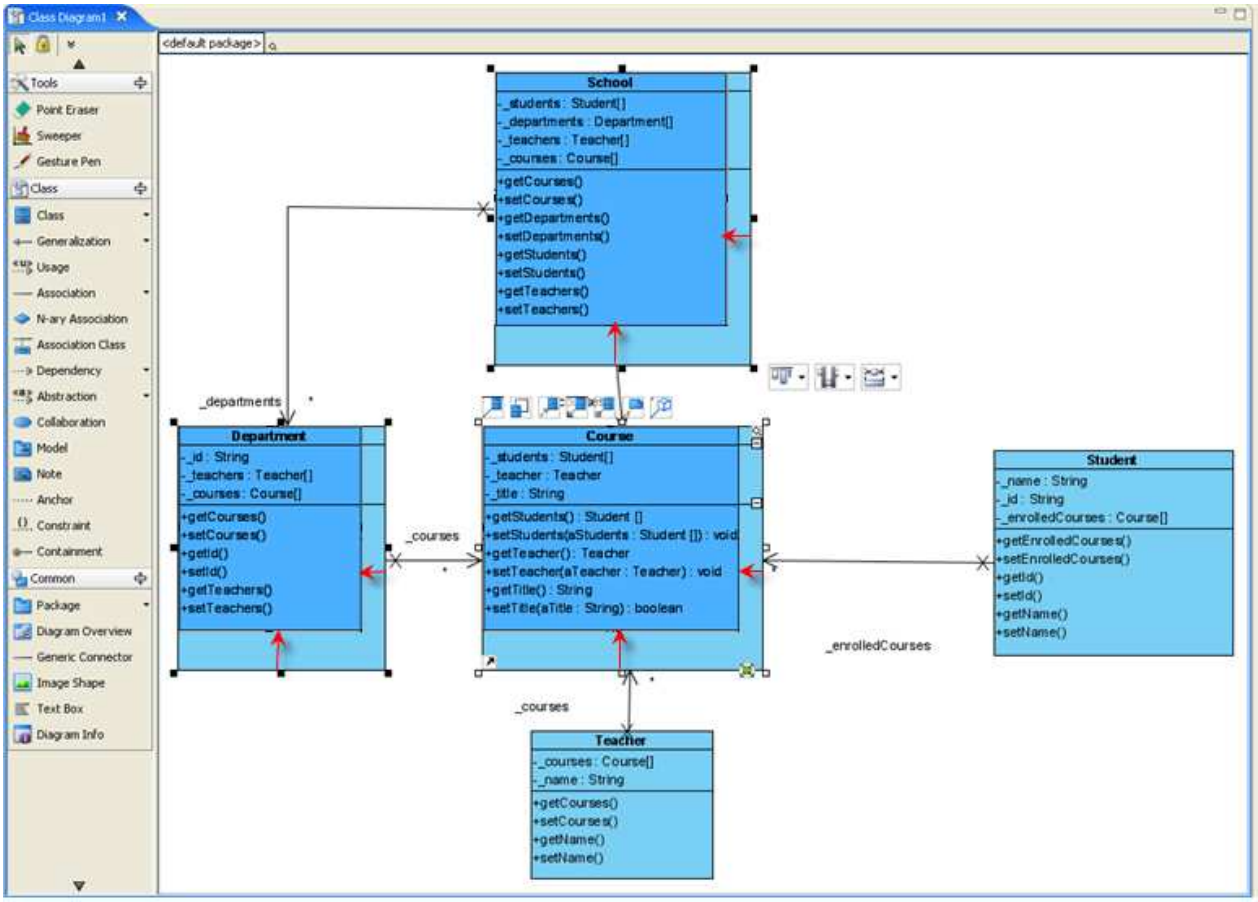



*Figure 2.41 - Resize one of the selected shapes. All selected shapes will resize proportionally*

Note If the size of the resizing shape returns to its original shapes before resizing, all selected shapes will not resize accordingly

# Reversing Connector Direction

Reverse Connector can be used to reverse the direction of connector.

Here, the direction of connector between Shipper and FAS Online System is inverted.

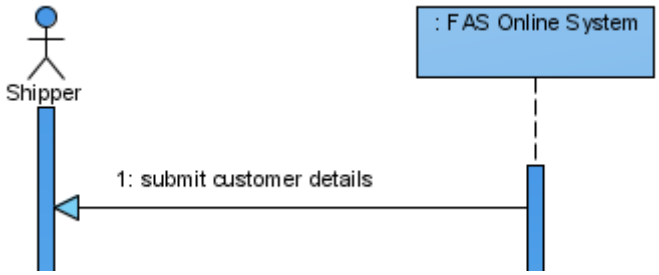



*Figure 2.42 - Before reversing Connector Direction*

To reverse the connector, right-click on the connector and select **Reverse Connector** from the popup menu.

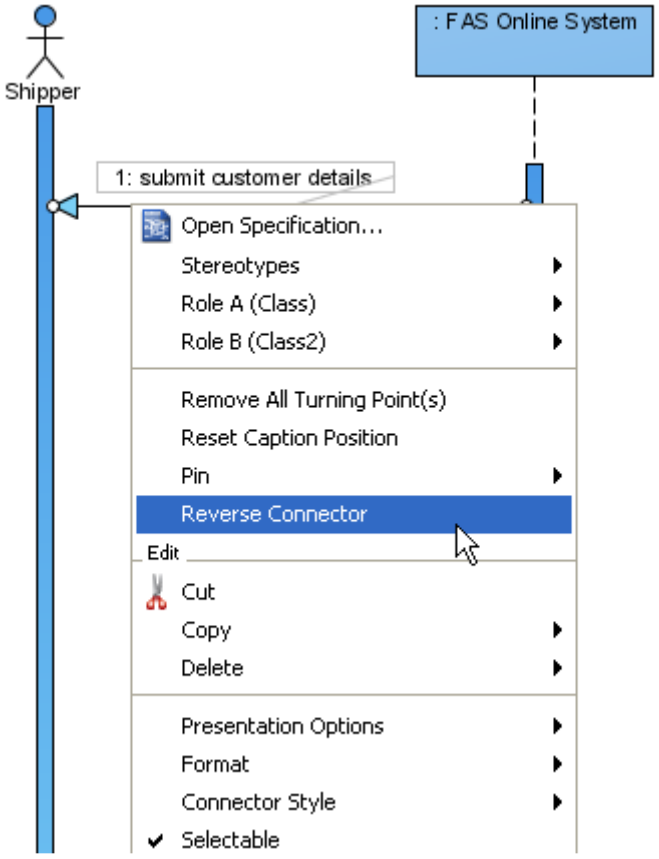



*Figure 2.43 - Select Reverse Connector*

The direction of connector is now inverted.

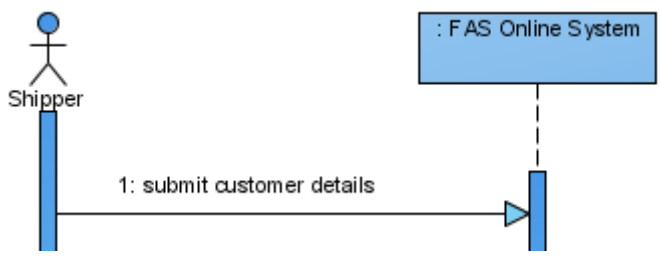



*Figure 2.44 - After reversing Connector Direction*

# Grid

## Showing/Hiding Grids

To toggle the visibility of grid lines, perform one of the following actions:

- Check/Uncheck **Format > Show Grid** from main menu to show/hide grid lines.

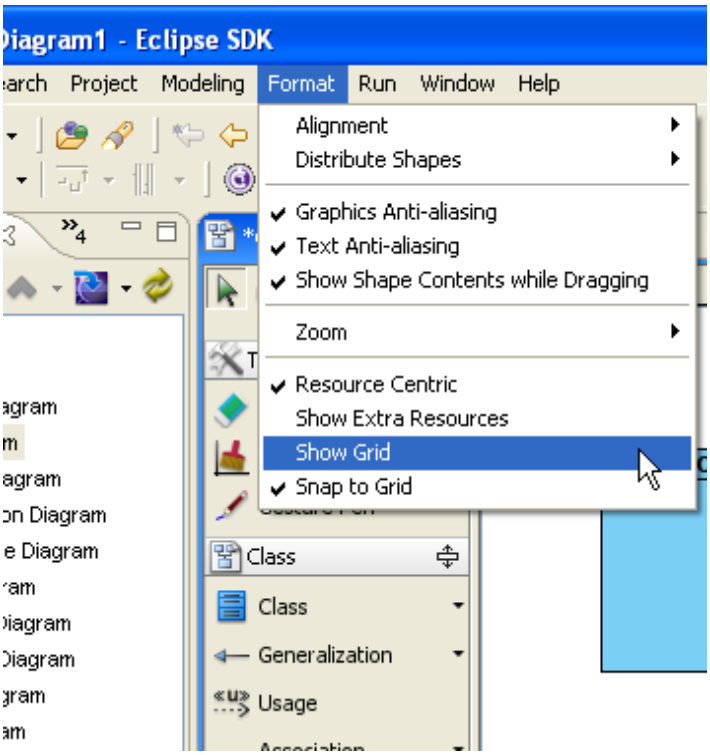



*Figure 2.45 - Select Grid*

- Right-click on the target diagram, check/uncheck **Grid > Grid Visible** from popup menu to show/hide grid lines.

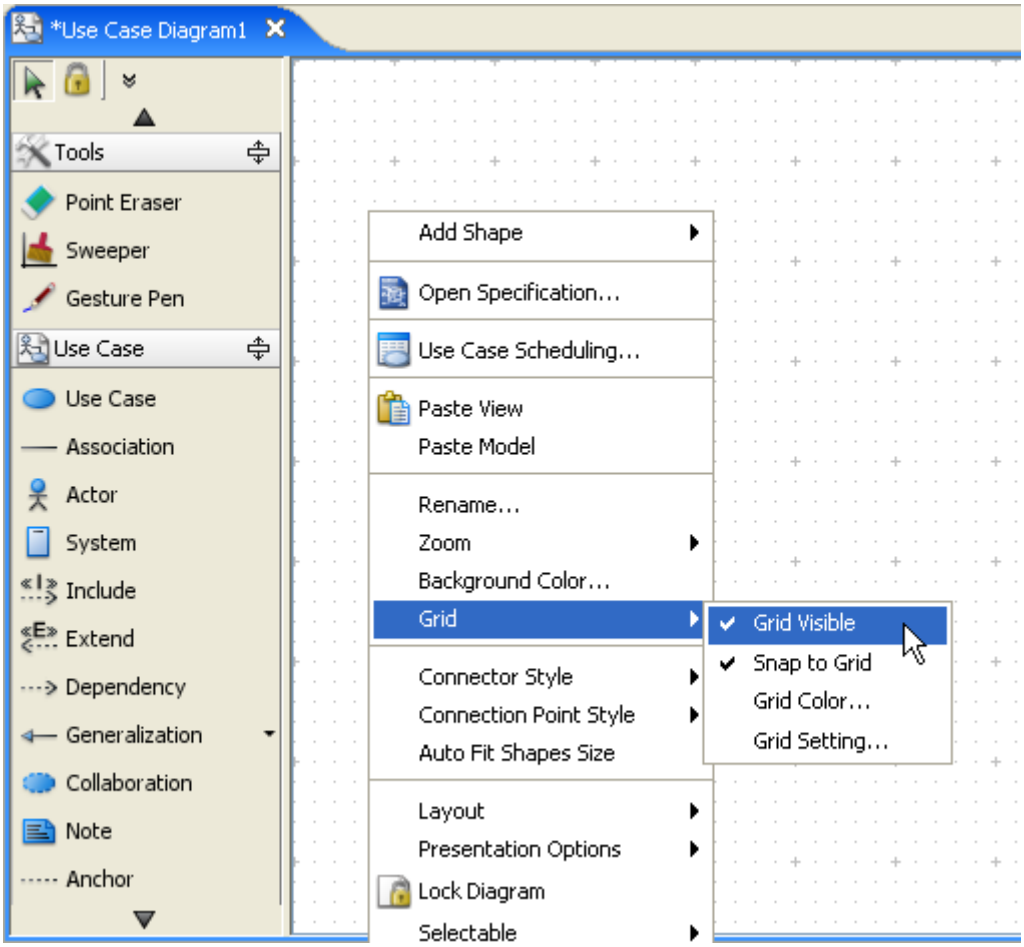



*Figure 2.46 - Select Grid Visible*

- From the property table, check/uncheck **Visible** under **Grid** heading to show/hide grid lines.

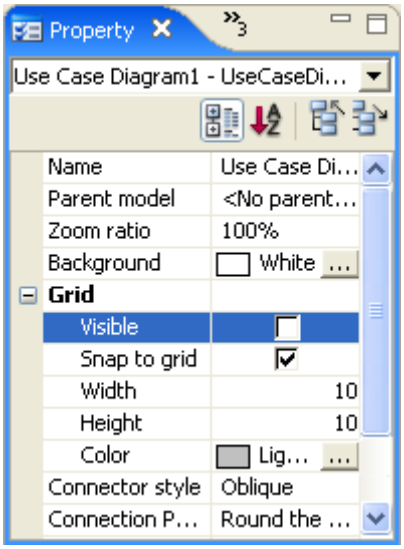



*Figure 2.47 - Check Visible*

- Right-click on the target diagram and choose **Open Specification** from popup menu. This displays the **Diagram Specification** dialog box. From the dialog box, switch to **Grid Setting** tab and check/uncheck **Grid Visible** to show/hide grid lines.

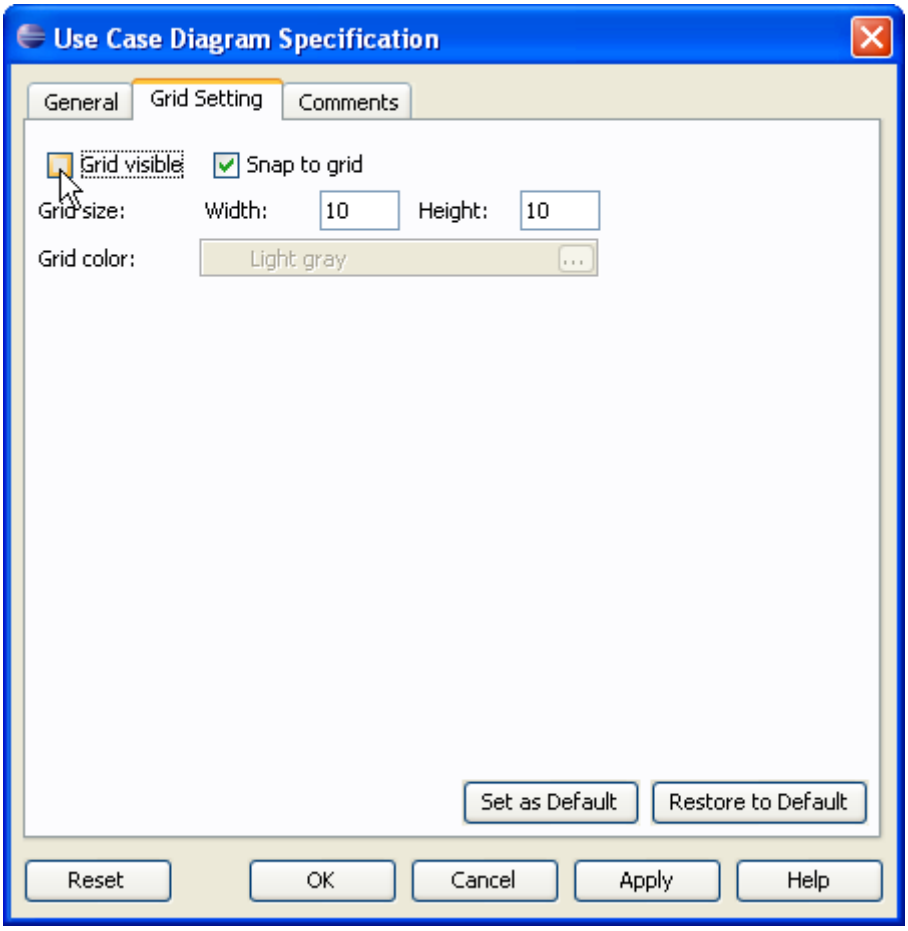



*Figure 2.48 - Check Grid visible*

## Snap to Grid

This feature is used to set whether diagram elements should stick to grid lines when moving in the diagram. To turn the option on/off, perform one of the following actions:

- Check/Uncheck **Format > Snap to Grid** from main menu to turn on/off the snap to grid option.

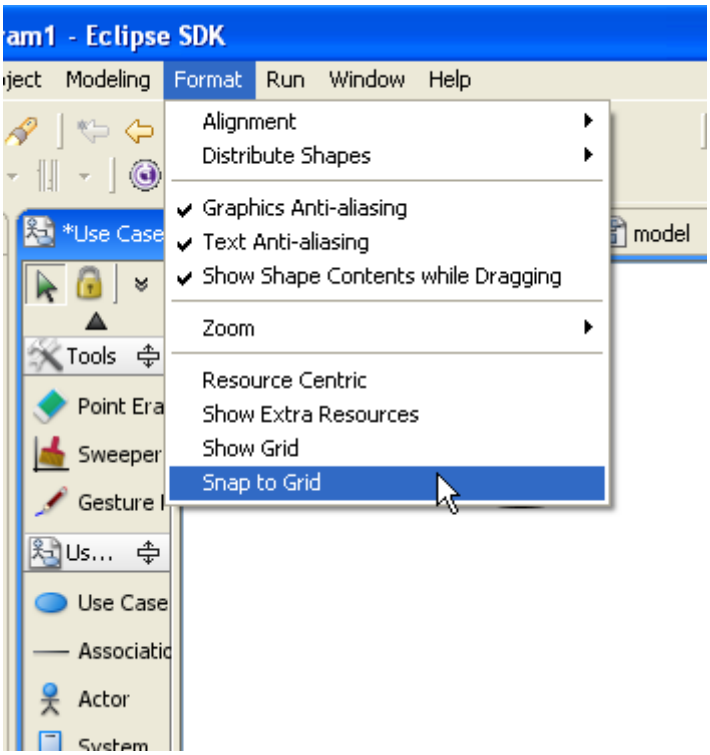



*Figure 2.49 - Select Snap to Grid*

- Right-click on the target diagram, check/uncheck **Grid > Snap to Grid** from popup menu to turn on/off the snap to grid option.

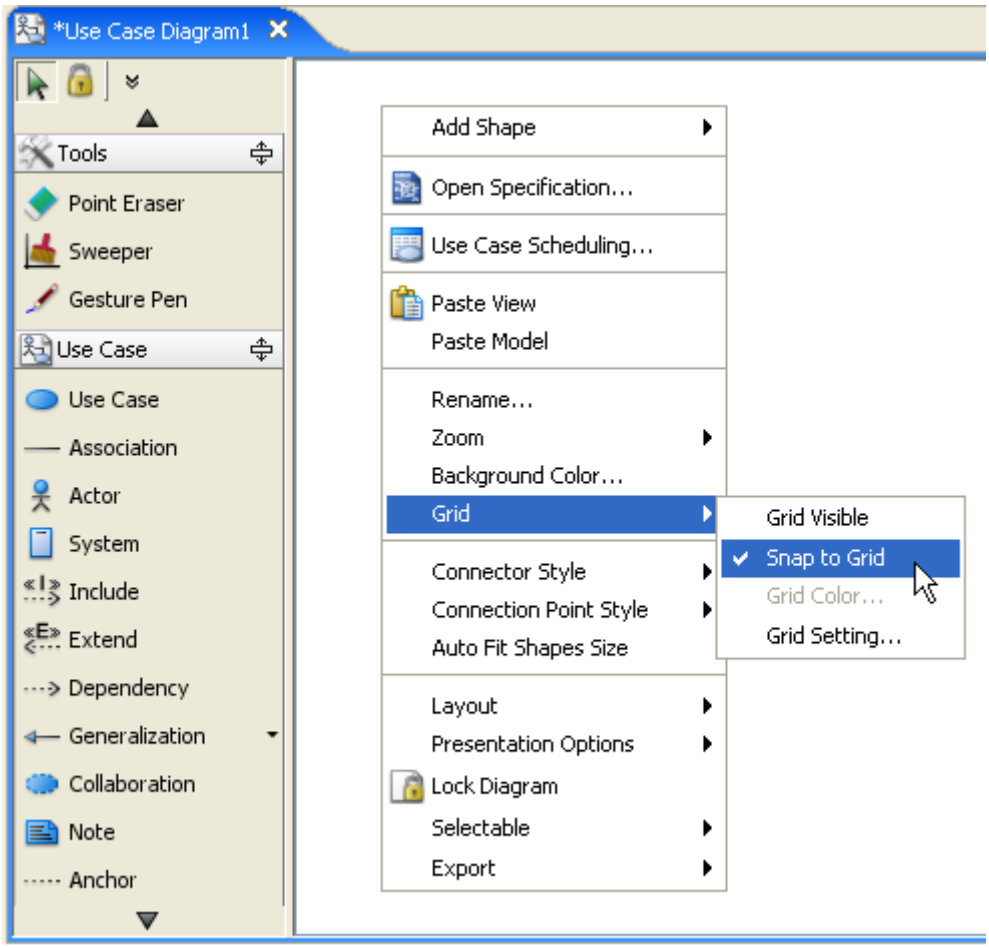



*Figure 2.50 - Select Snap to Grid using popup menu*

- From the property table, check/uncheck **Snap to Grid** under **Grid** heading to turn on/off the snap to grid option.

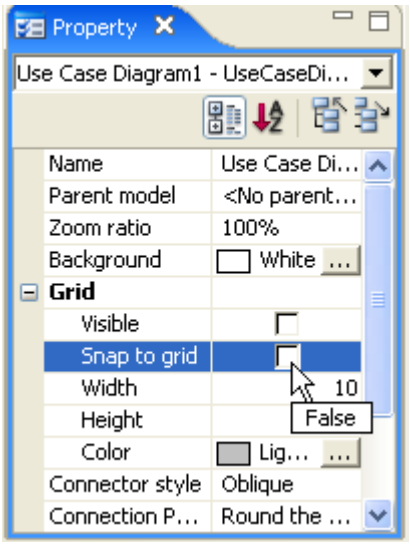



*Figure 2.51 - Select Snap to grid*

- Right-click on the target diagram and choose **Open Specification** from popup menu. This displays the **Diagram Specification** dialog box. From the dialog box, switch to **Grid Setting** tab and check/uncheck **Snap to Grid** to turn on/off the snap to grid option.

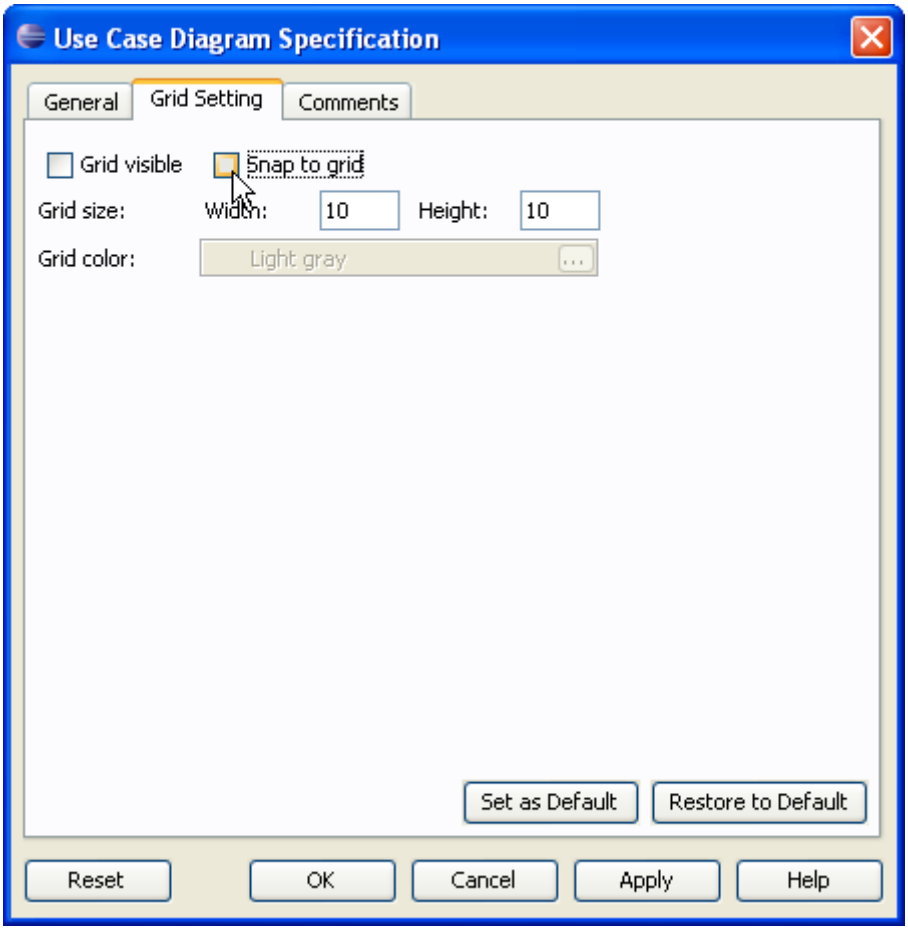



*Figure 2.52 - Check Snap to grid in Specification*

## Grid Size

To adjust the grid size, perform one of the following actions:

- From the property table, enter the value for Width and Height property under **Grid** heading.

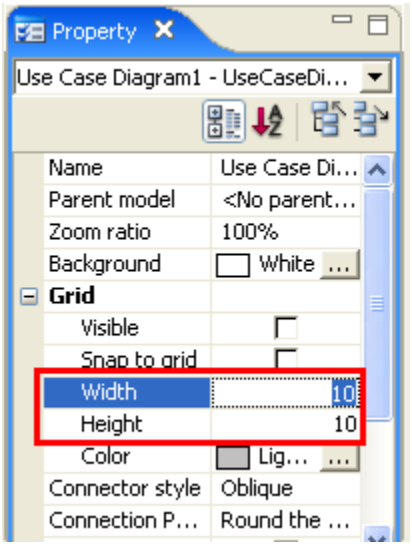



*Figure 2.53 - Adjust grid size in property table*

- Right-click on the target diagram and choose **Open Specification** from popup menu. This displays the **Diagram Specification** dialog box. From the dialog box, switch to **Grid Setting** tab and enter the value for Width and Height.

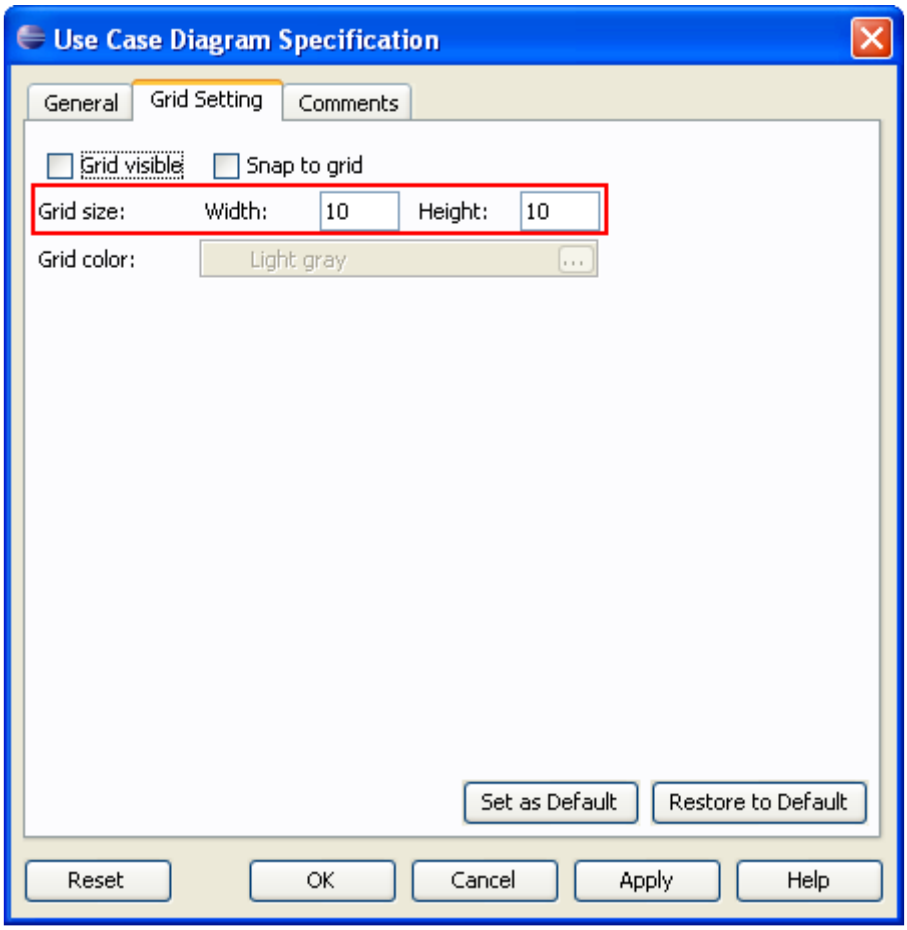



*Figure 2.54- Adjust grid size in specification*

## Grid Color

To adjust the grid color, perform one of the following actions:

- Right-click on the target diagram and select **Grid > Grid Color...**from the popup menu. This displays the **Select Grid Color** dialog box for setting the grid color.

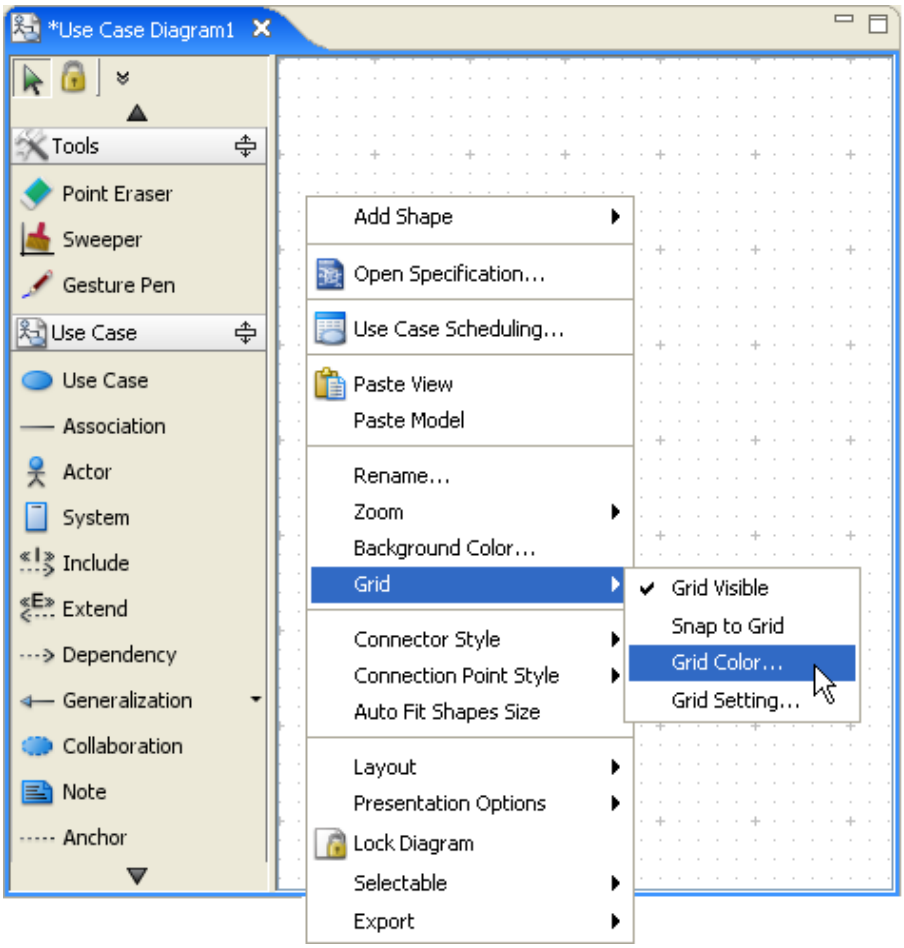



*Figure 2.55 - Select Grid Color*

- From the property table, click the **...** button in the Value column of **Color** property under **Grid** heading. This displays a color chooser for selecting a grid color

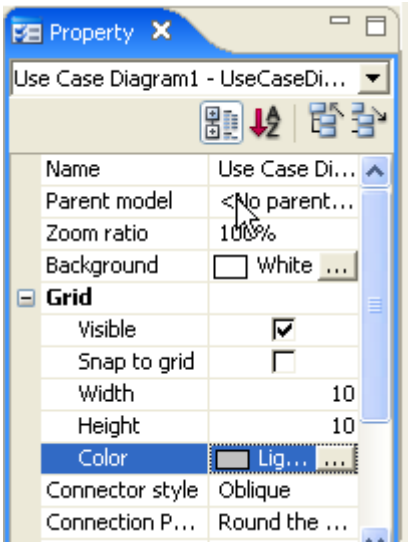



*Figure 2.56- Select Color*

- Right-click on the target diagram and choose **Open Specification** from the popup menu. This displays the **Diagram Specification** dialog box. From the dialog box, switch to **Grid Setting** tab, click on the button ...from the Grid Color field and select the grid color from the drop-down color chooser.

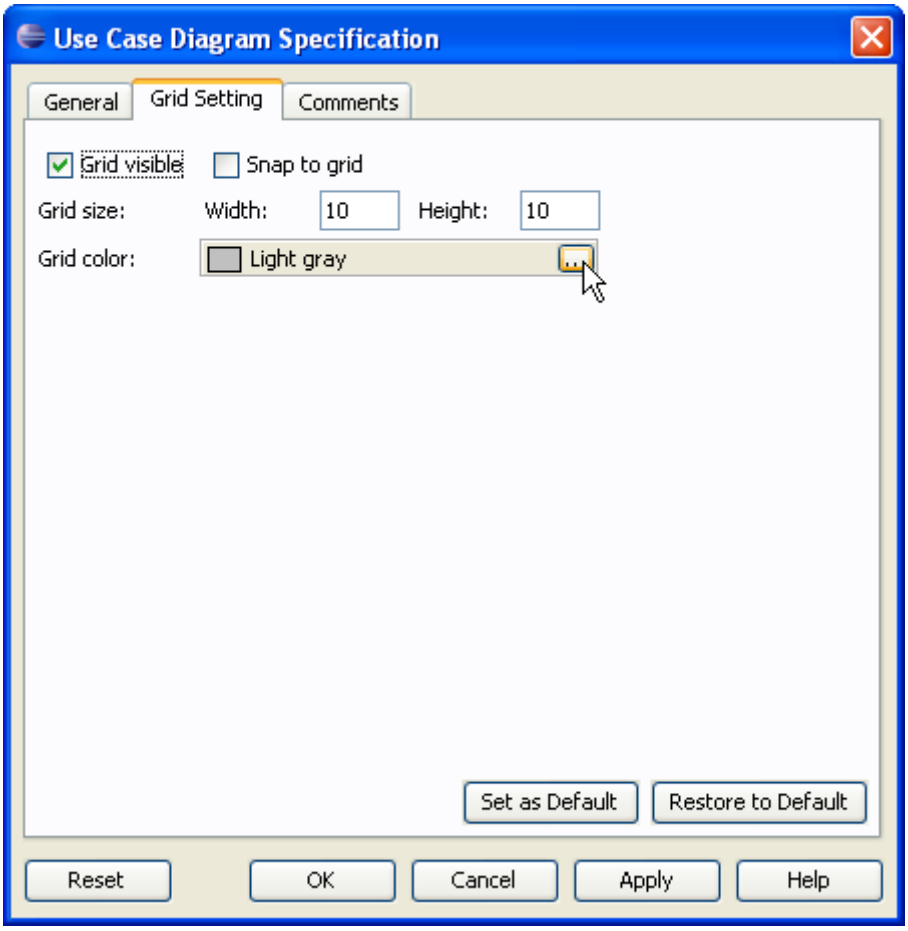



*Figure 2.57- Select Grid Color*

The grids must be visible before setting the grid color.

# Zooming

## Zooming In

The zoom in feature allows you to get a close-up view of the diagram. To perform zoom in, perform one of the following actions:

- Select **Format > Zoom > Zoom in** from main menu.
- Click on the **Zoom In** button on the toolbar.
- Right-click on the target diagram and choose **Zoom > Zoom In** from the popup menu.
- Press ***Ctrl-= (Ctrl-Equals).***

## Zooming Out

The zoom out feature allows you to see more of the diagram at a reduced size. To perform zoom out, perform one of the following actions:

- Select **Format > Zoom > Zoom Out** from main menu.
- Click on the **Zoom Out** button on toolbar.
- Right-click on the target diagram and choose **Zoom > Zoom Out** from popup menu.
- Press ***Ctrl-- (Ctrl-Minus).***

## Zooming to 100%

The zoom to 100% feature allows you to view the diagram in its actual size (100%). To restore the zoom ratio to 100%, perform one of the following actions:

- Select **Format > Zoom > Zoom 100%** from main menu.
- Click on the **Zoom 100%** button on toolbar.
- Right-click on the target diagram and choose **Zoom > Zoom 100%** from popup menu.
- Press ***Ctrl-0***.

## Zooming to a Specific Ratio

The zoom to a specific ratio feature allows you to choose the zooming ratio from the main menu. To perform zoom to a specific ratio, perform one of the following actions:

- Select **Format > Zoom > Zoom Selection** on the main menu, select a zoom ratio from the menu.

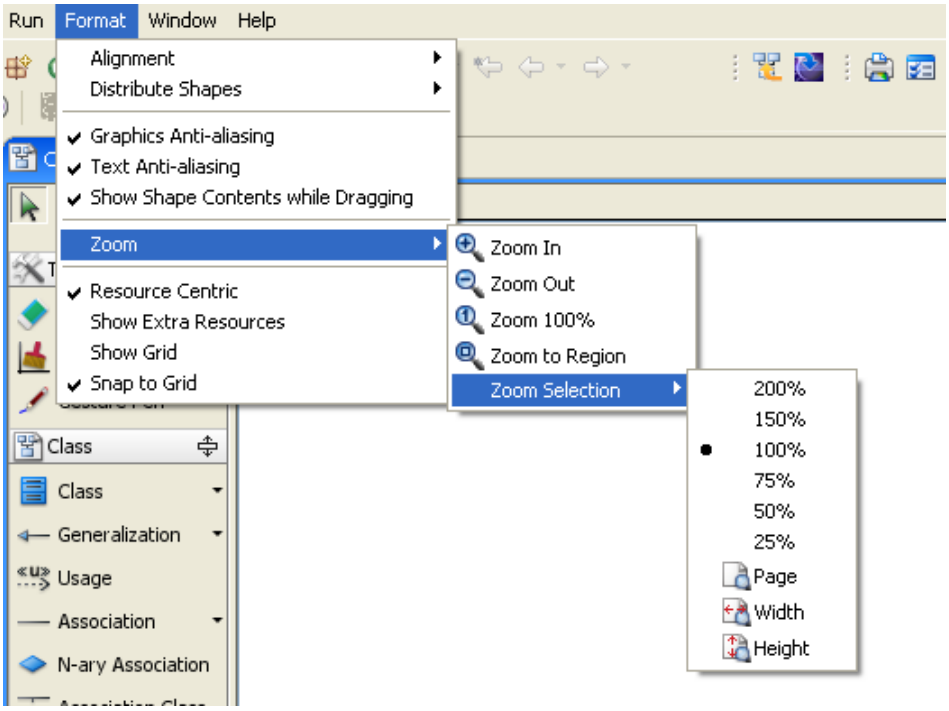



*Figure 2.58 - Select zoom ratio*

- Right-click on the target diagram and choose **Open Specification** from the popup menu. This displays the **Diagram Specification** dialog box. From the dialog box, select a zoom ratio from the **Zoom ratio** drop down menu, or enter the specific zoom ratio to the field.
- From the property table, select a zoom ratio from the drop down menu on the row **Zoom ratio**, or enter the specific zoom ratio to the field.

# Zooming to Fit Diagram to Window

Beside standard zoom in/out and zoom to ratio, there are dynamic zoom options that allow you to zoom the diagram to fit its content to the window.
Select **Format** > **Zoom** > **Zoom Selection** on the main menu (or click on the **Zoom ratio** combo box in the Property pane when a diagram is active), you will see the **Page**, **Width** and **Height** zoom items.

- **Page** - Zoom the whole diagram to fit to window
- **Width** - Zoom the width of the diagram to fit to window
- **Height** - Zoom the height of the diagram to fit to window

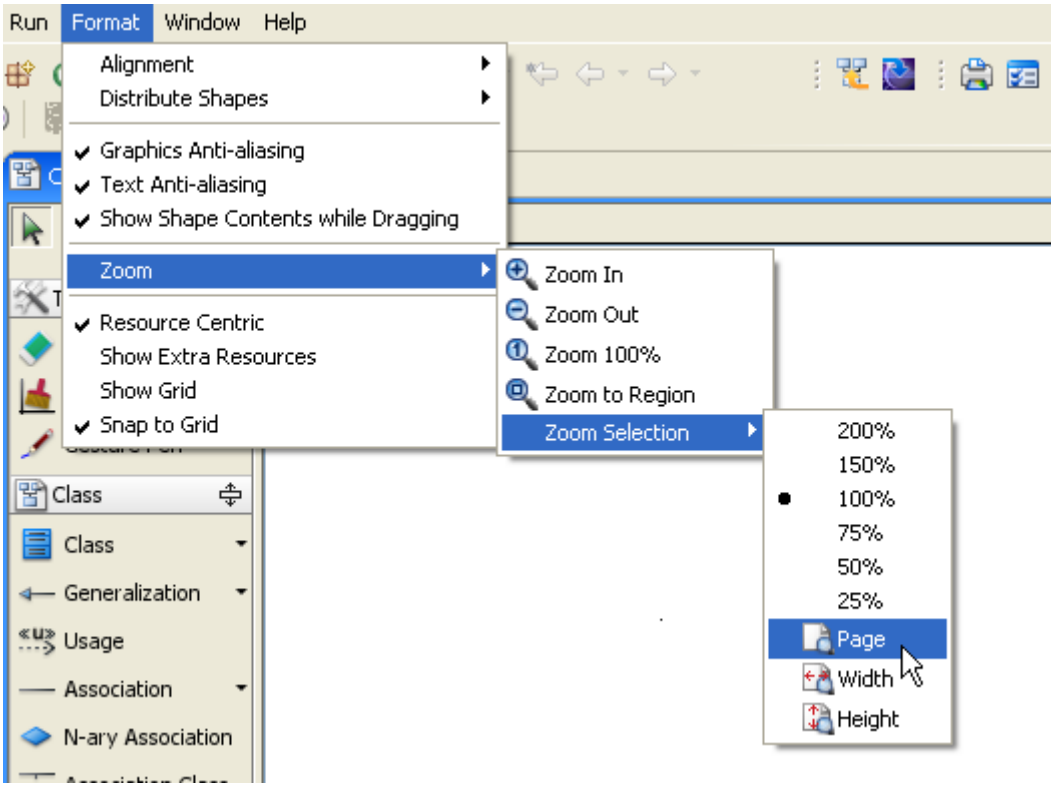



*Figure 2.59 - Select zoom ratio to fit with page*

Just select the zoom item to apply the corresponding zoom option.

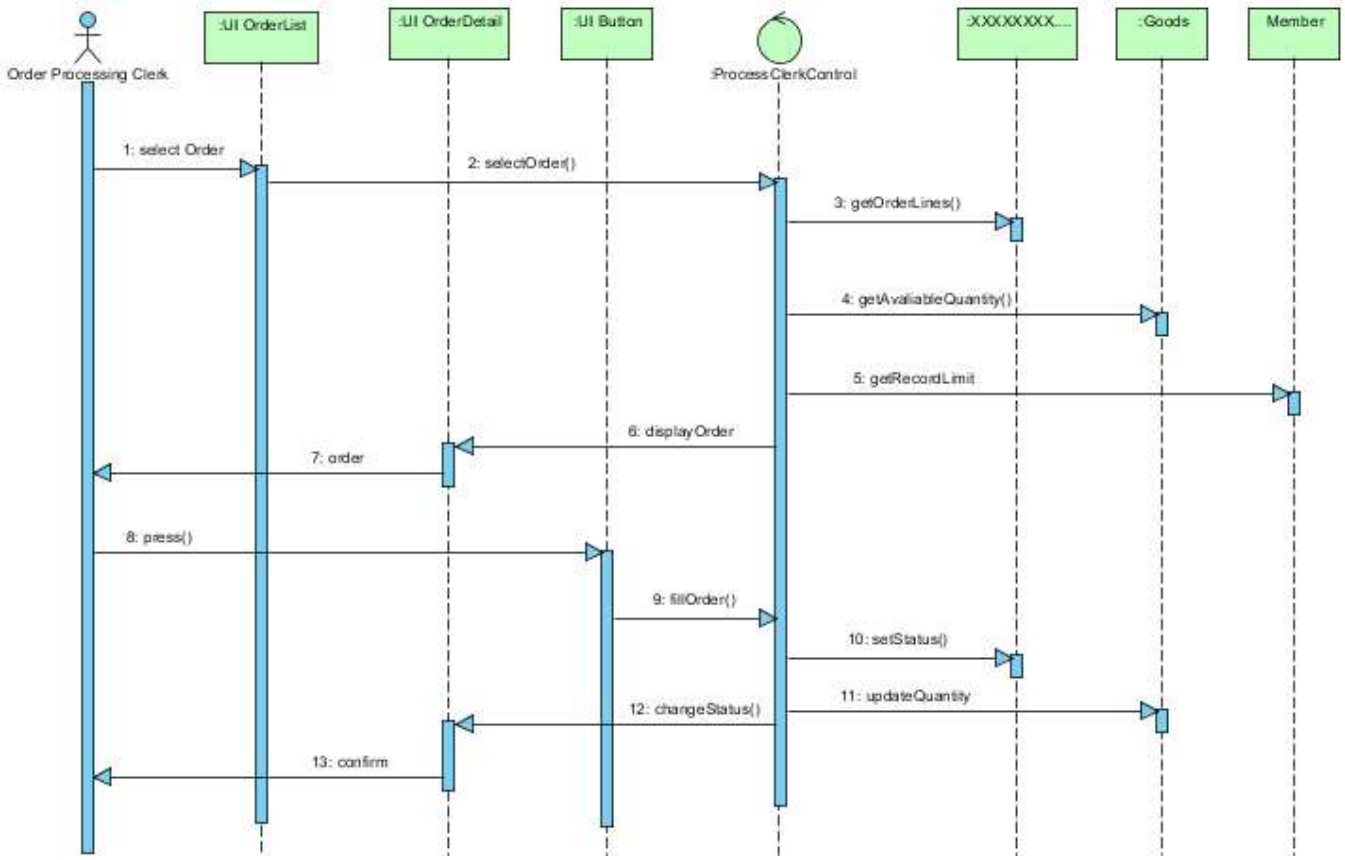



*Figure 2.60 - Zoom to show all the Page*

## Zooming to Region

The zoom to region feature allows you to zoom the diagram to any selected region.

1. To zoom a diagram to region, click on the **Zoom to Region** button on the toolbar.

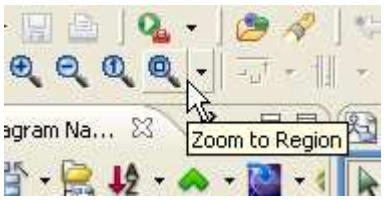



*Figure 2.61 - Zoom to region*

2. Press the mouse on the diagram, hold and drag the desired zoom region (just like multi-select shapes). The region is indicated by the dotted-line rectangle.

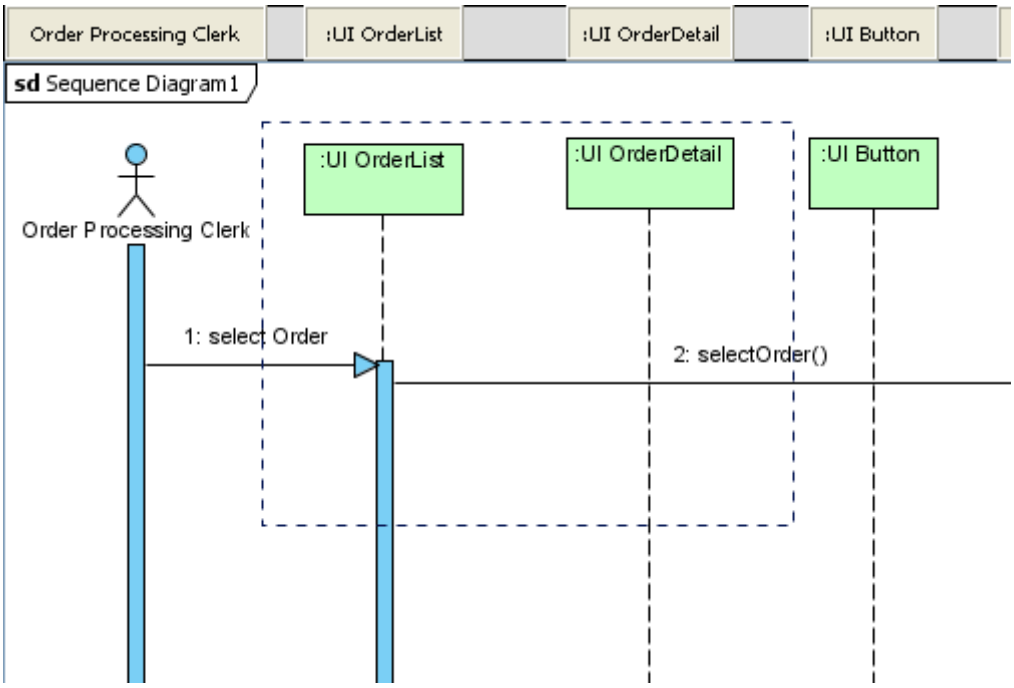



*Figure 2.62 - Select the zoom region in the diagram*

3. Release the mouse button and you will see the diagram is zoomed to the desired region.

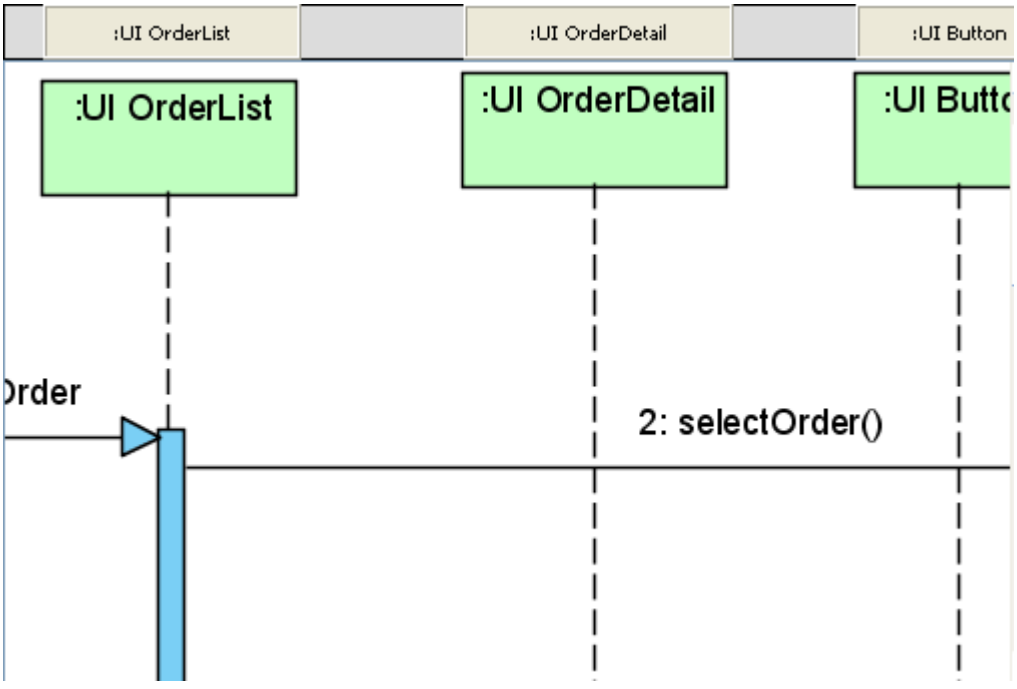



*Figure 2.63 - Zoom to the Region*

# Quick Previewer

SDE for Eclipse provides a quick previewer in Diagram Navigator tree. You can preview the diagram before open the diagram.

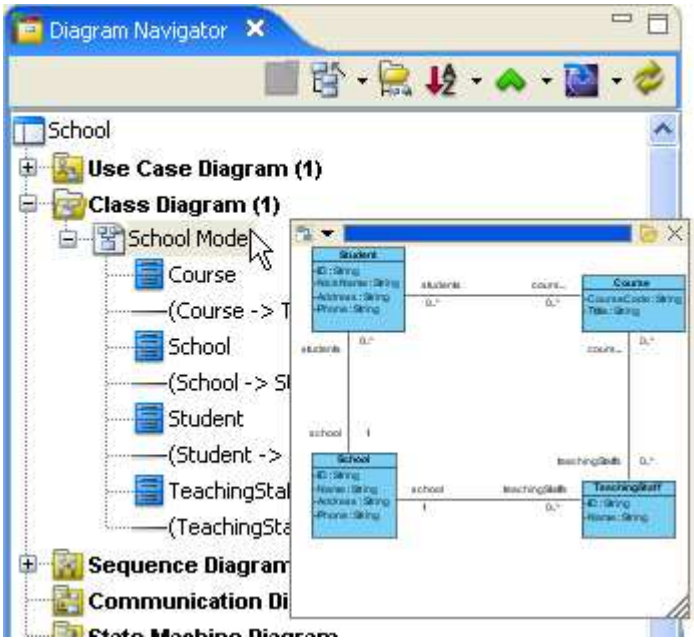



*Figure 2.64 - Quick Previewer*

To preview a diagram, move the mouse cursor over a Diagram node on Diagram Navigator. This displays the Quick Previewer.
To open the diagram, click the button on the toolbar.
To resize the Quick Previewer window:

1. Move the cursor to the bottom right-hand corner of the Quick Previewer window. The cursor changes to " " , indicating that you can resize the window.
2. Press on it.
3. Drag to resize the window.
4. Releases the mouse press until you are satisfied with the size of Quick Previewer.

Apart from preview image, Quick Previewer also shows the documentation of diagrams. To display the documentation of a diagram, Click the button on the toolbar of the previewer and choose Documentation.

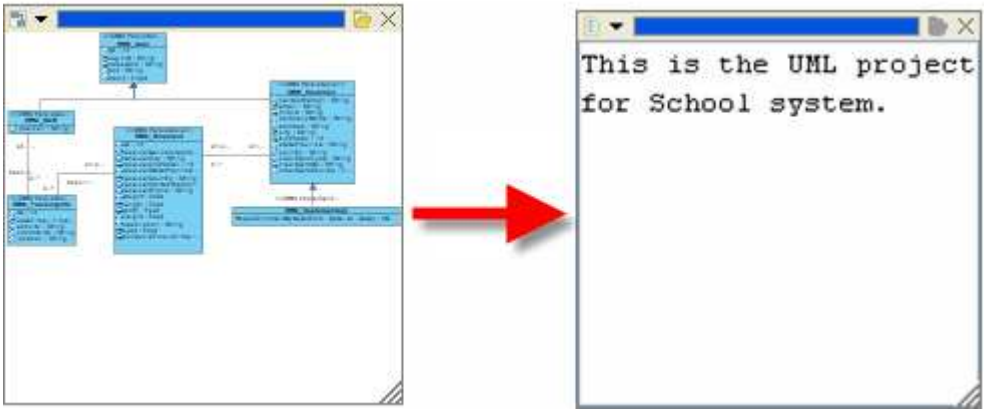



*Figure 2.65 - Preview documentation*

SDE for Eclipse records the size and position of the previewer and restores this when displaying again. To reset this record, double-click the toolbar of the previewer window.

# Generic Connector

A generic connector allows you to connect any shapes, so it can represent the idea beyond the standard UML notation.You can edit the connector using resource.

To edit an arrow head of a connector using **Format Arrow Head** resource:

1. Click on the **Format Arrow Head** resource. The Format Arrow Head resource which is nearer to one end of line controls the arrow head at that end.

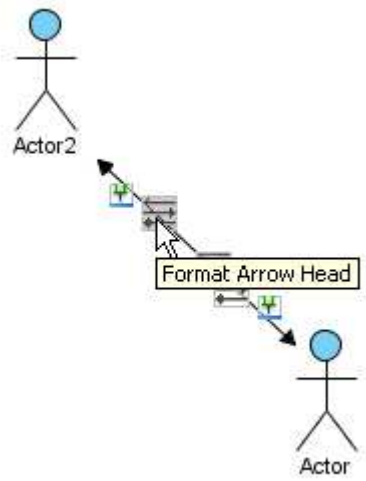



*Figure 2.66 - Resources for Format Arrow Head*

2. Select a format of arrow head in the popup menu.

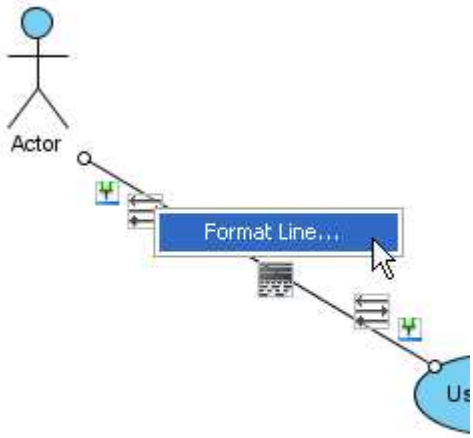



*Figure 2.67 - Edit arrow head of generic connector*

To edit the line style of a connector using the **Format Line** resource:

1. Click on the **Format Line** resource (located in the middle of the connector).

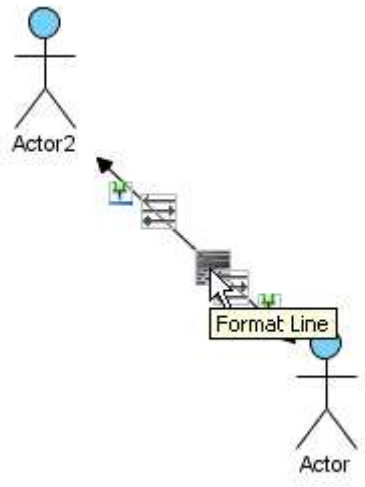



*Figure 2.68 - Resources for Format Arrow Head*

2. Select a style of line using the Style combo box in the Format Line dialog box.

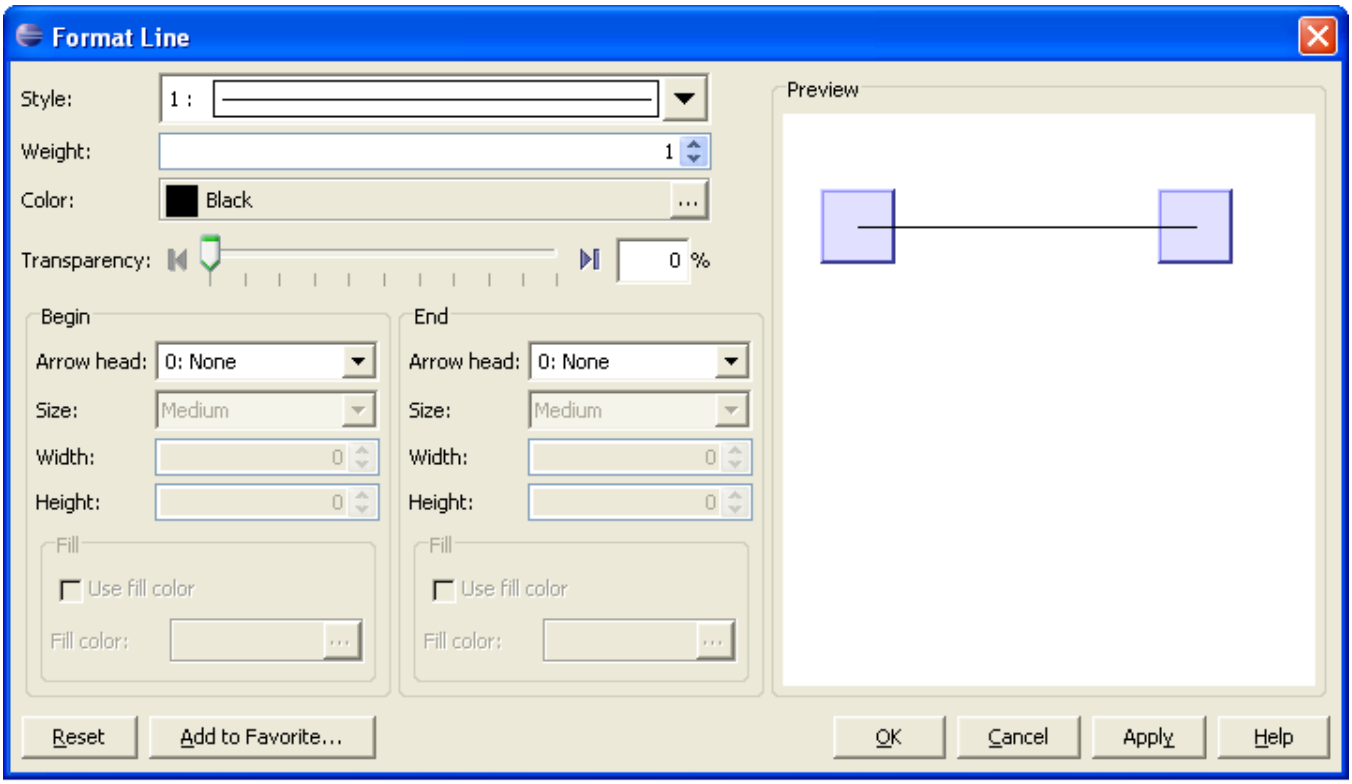



*Figure 2.69 - Select format of generic connector*

You can also apply your favorite connectors. There are two methods:

You can right click on the connector and select **Format** from popup menu and select **Favorite Connectors** > **Apply Favorite Connectors...**.

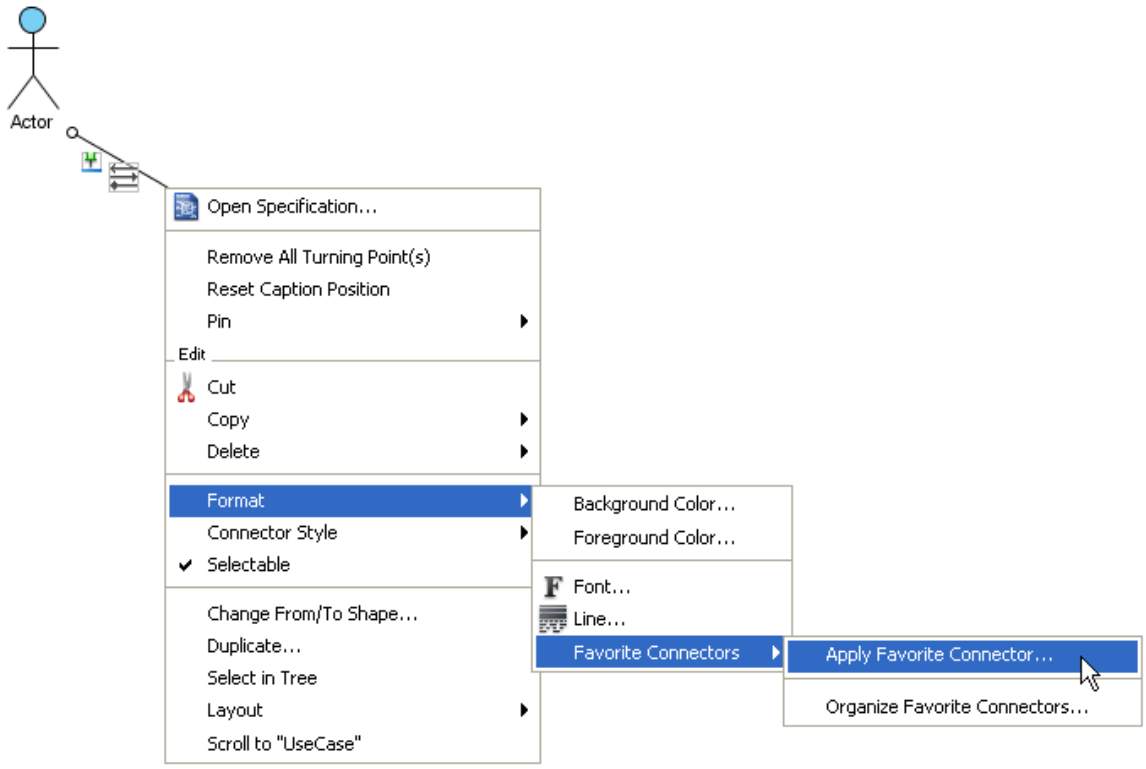



*Figure 2.70 - Select Apply Favorite Connectors*

Alternatively, you can click on the **Format Line** resource and select **Apply Favorite Connector...**.

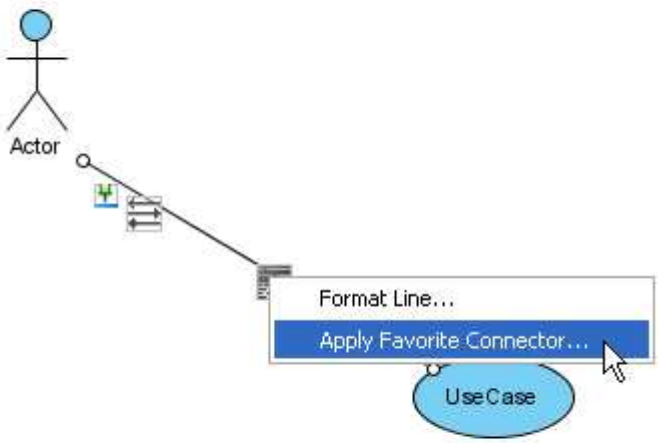



*Figure 2.71 - Select Apply Favorite Connectors*

Then, select your favorite connector to apply it.

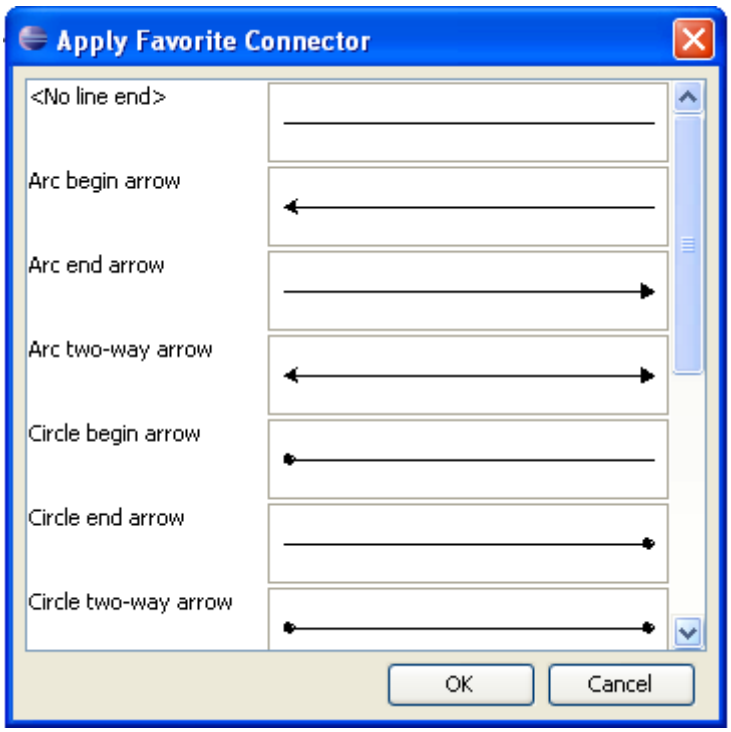



*Figure 2.72 - Save your favorite connectors*

Apart from apply, you can organize your favorite connectors:

1. Right click on the connector and select **Format** from the popup menu.
2. Select **Favorite Connectors** > **Organize Favorite Connectors**.

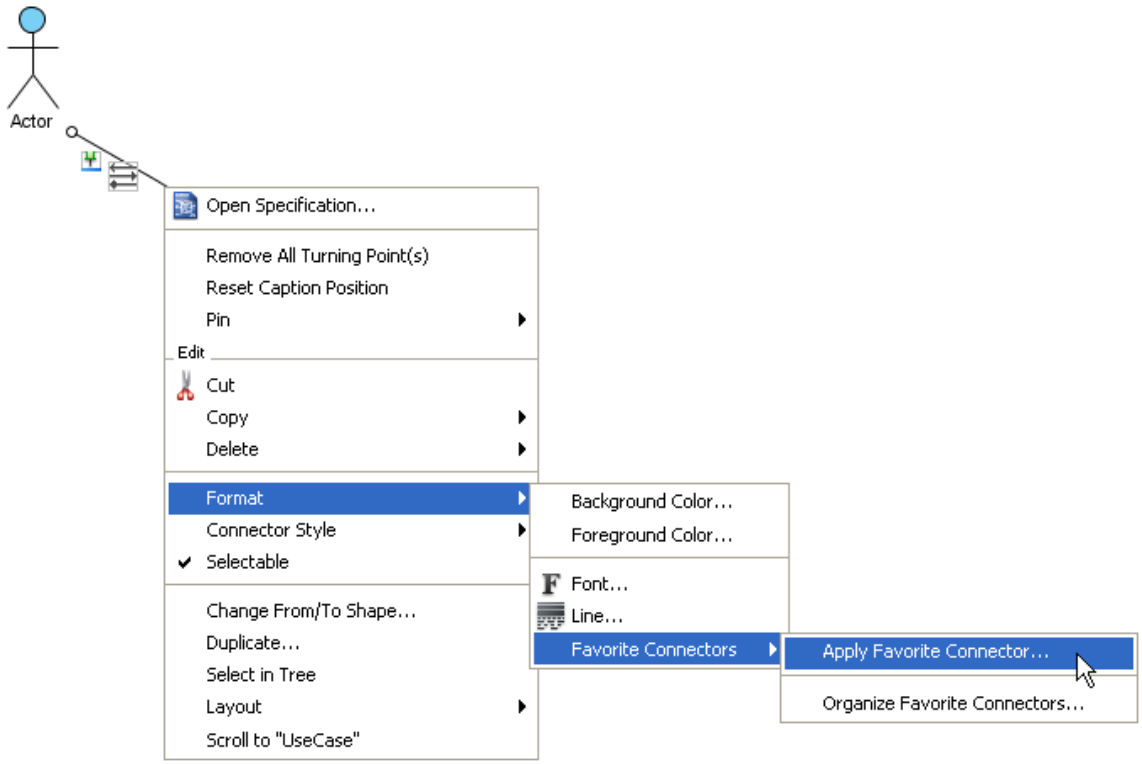



*Figure 2.73 - Select Organize Favorite Connectors*

3. You can choose to **Create...**, **Duplicate...**, **Edit...** or **Remove** any connectors.

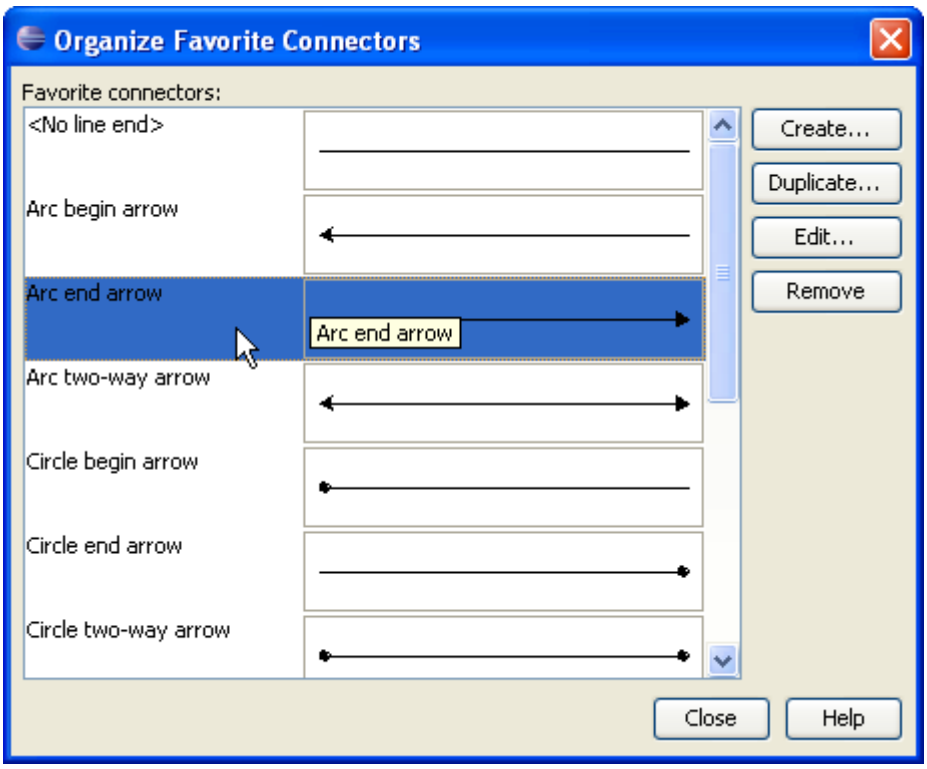



*Figure 2.74 - Organize Favorite Connectors*

# Text Box

A Text Box allows you to add free text to a diagram.

To add text using Text Box:

1. Click on the **Text Box** in the toolbar.
2. Click on the diagram pane where you want to add text.
3. Add text in the box provided.


*Figure 2.75 - Add a free text*

# Diagram Info Shape

Diagram Info Shape allows you to add useful information to a diagram.
To use **Diagram Info Shape**:
1. Right-click on the blank area of the diagram and select **Add Shape > Diagram Info Shape** from the popup menu.

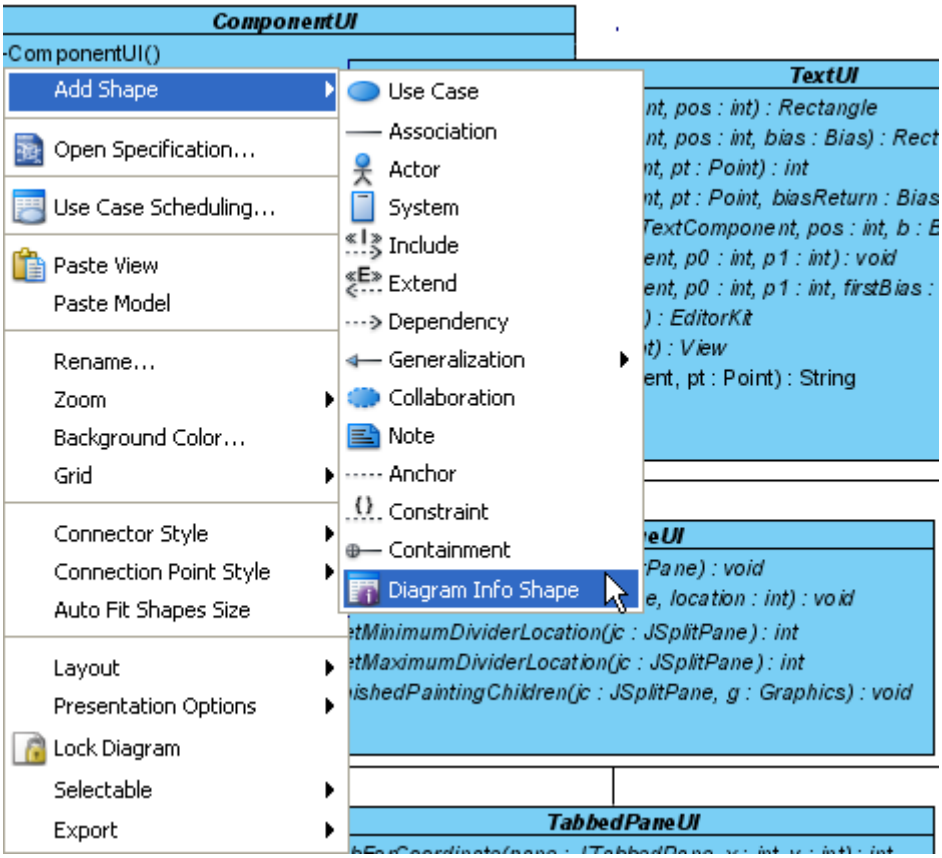



*Figure 2.76 - Select Diagram Info Shape from popup menu*

2. The diagram info shape will be added to the diagram.

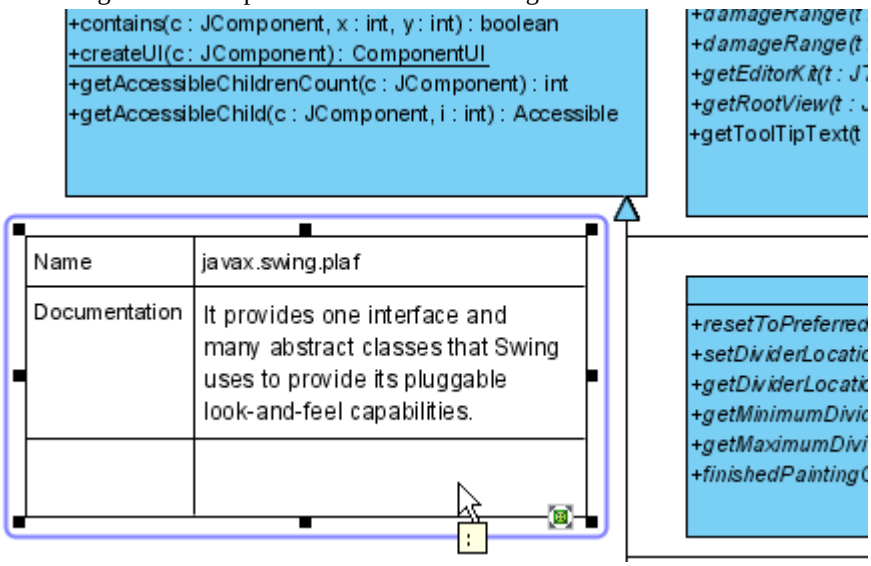



*Figure 2.77 - Diagram info shape is added*

By default, there are 2 items provided in the diagram info shape table:
The **Name** cell follows the diagram name.
The **Documentation** cell follows the diagram documentation.

To add a new item:
1. Right-click on the diagram info shape, select **Add Item** from the pop-up menu. A new row will be created.

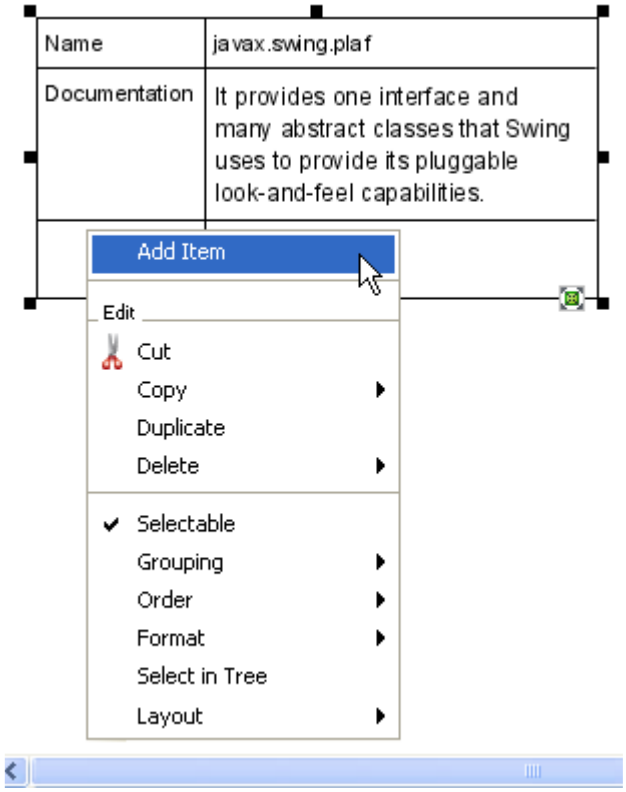



*Figure 2.78 - Select Add Item*

2. Type in the newly added item and the information in the new row. You can add as many new items as needed.

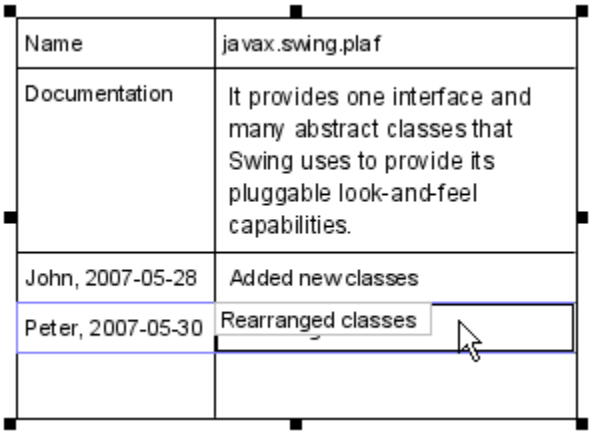



*Figure 2.79 - New item added*

The diagram info shape is added.

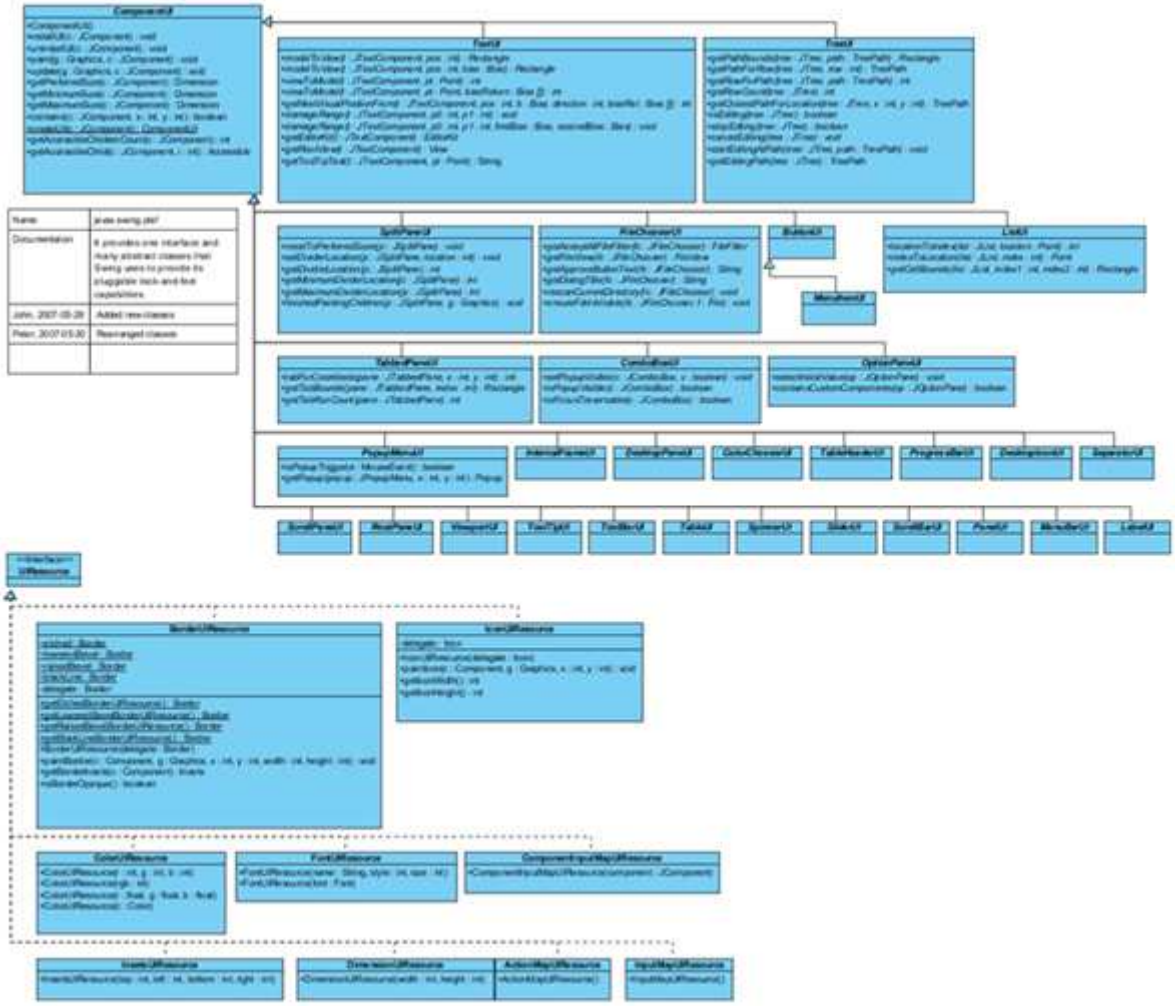


*Figure 2.80 - Diagram info shape added*

# Rich Text Documentation

In SDE for Eclipse, you can add rich text documentation on different models and diagrams. The styles and formats of the documentation can be included when you generate a document.

Rich text documentation can also be used in:

- Notes

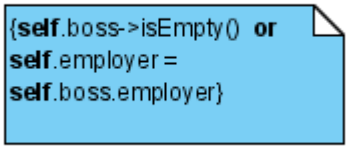



*Figure 2.81 - Note with rich text documentation*

- Textboxes


*Figure 2.82 - Text box with rich text documentation*

To add rich text documentation:
1. Right click the diagram element and select **Open Specification** from popup menu.

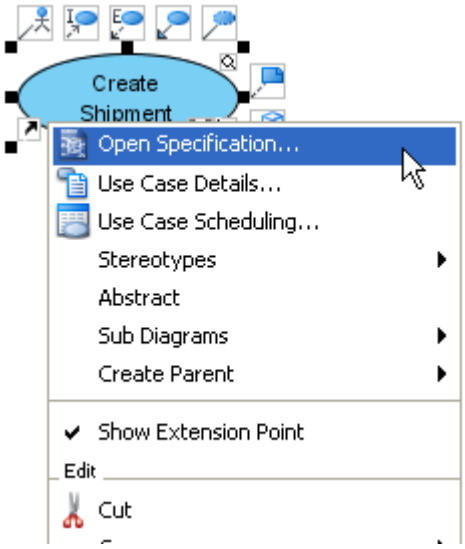



*Figure 2.83 - Select Open Specification*

2. Specify the documentation.

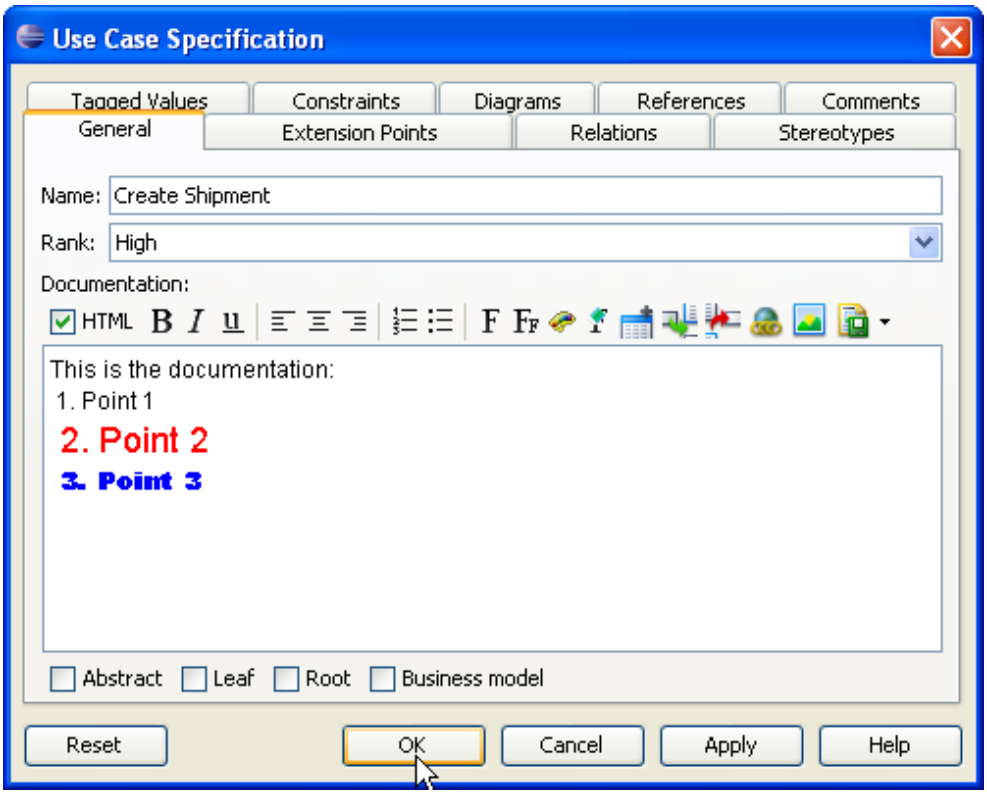



*Figure 2.84 - Specify the documentation*

You can then switch to the **Documentation** pane to preview.

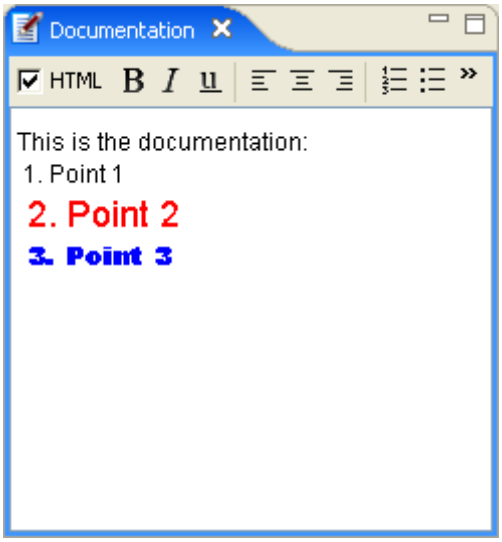



*Figure 2.85 - Documentation pane*

You can also see the result in the report generated.

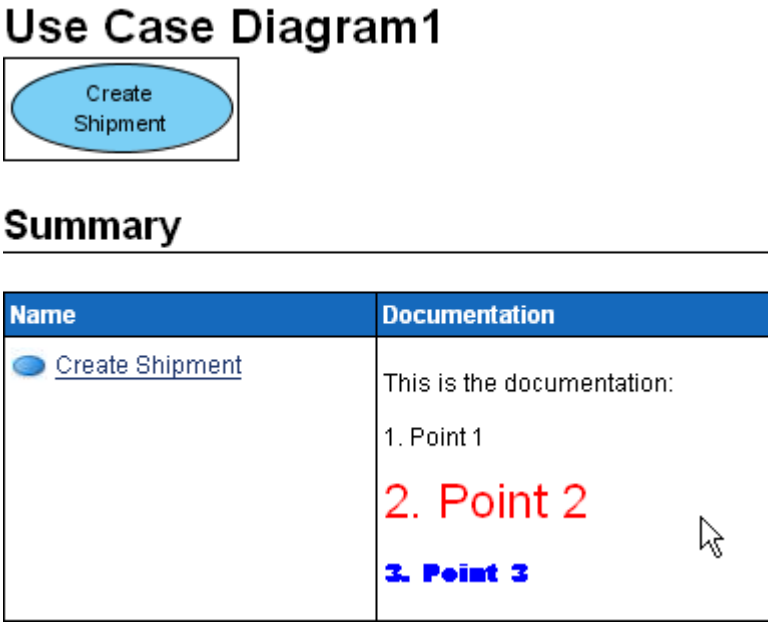



*Figure 2.86 - Documentation generated*

## Inserting Image to Documentation

You can further visualize your concept by incorporating images into documentation.
1. Select an element in the diagram.


*Figure 2.87 - Select a diagram element*

2. Place the text cursor in the **Documentation** pane to locate where you want to insert the image, and then click the **Insert image...** button on the documentation toolbar (if this button is hidden, click the double-arrow button to expand the toolbar).

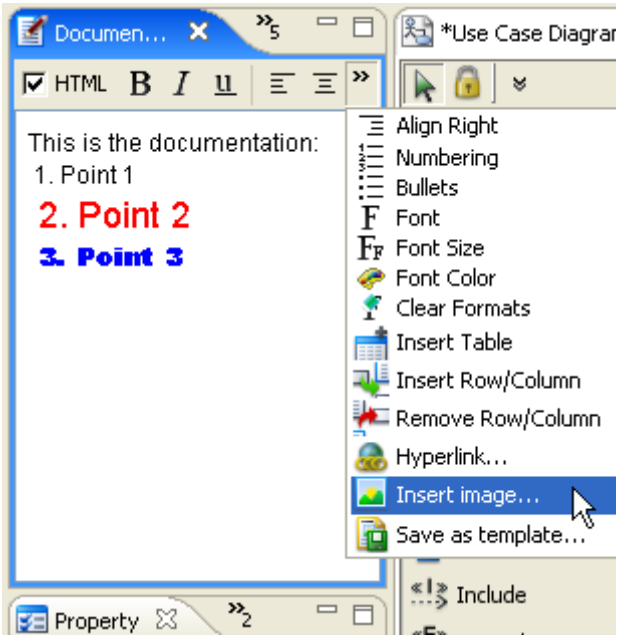



*Figure 2.88 - Select Insert Image...*

3. Select one or more images to insert.

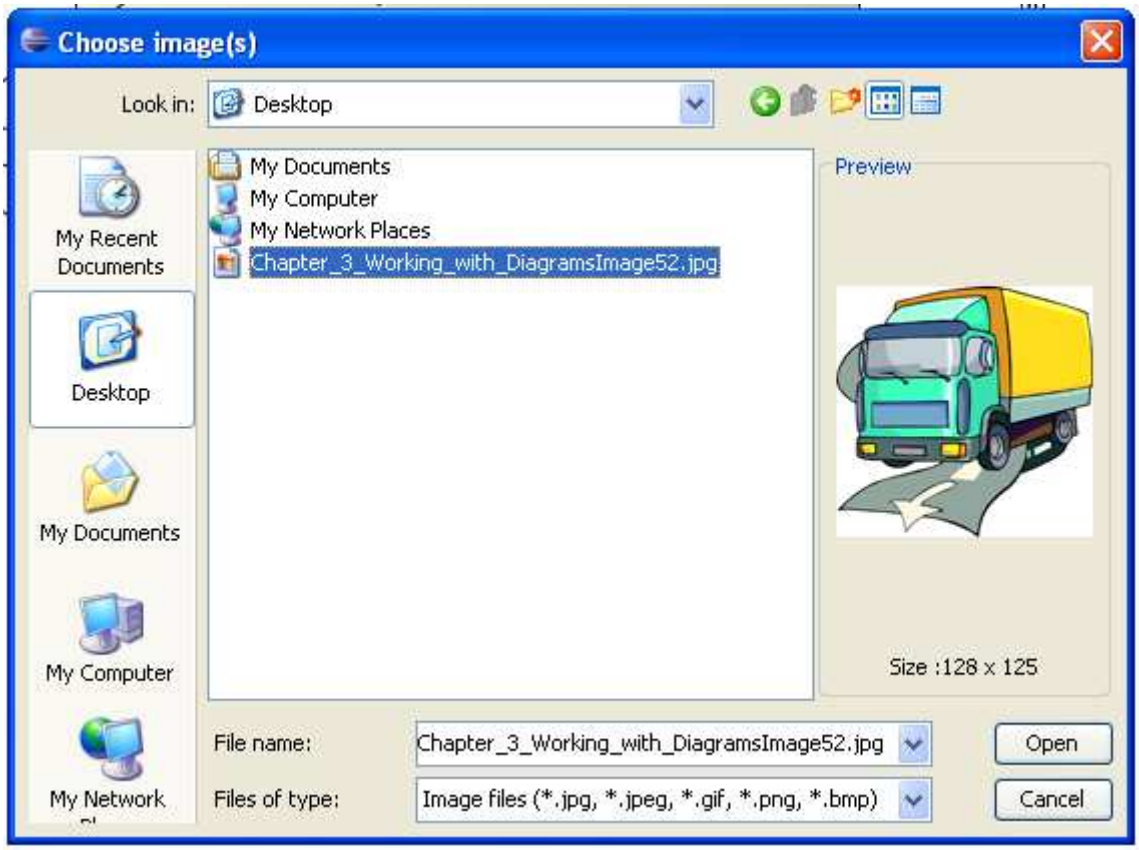



*Figure 2.89 - Choose one or more images*

4. The image(s) will be inserted to the documentation.

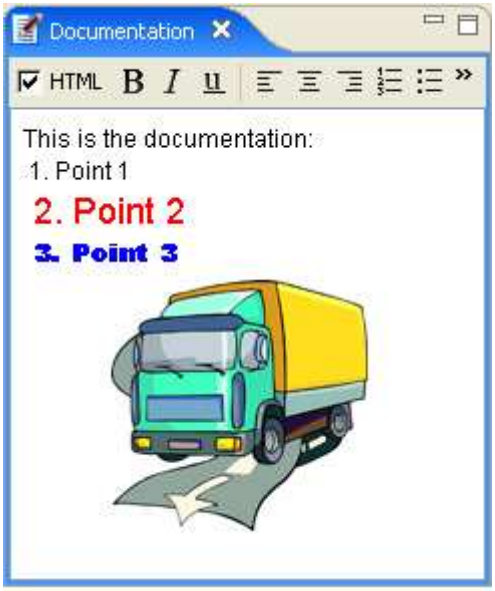



*Figure 2.90 - Image added*

## Using Template

By using template, you can reuse pre-defined documentation structures to save time and effort.

To save documentation as template:

1. Open the specification dialog box of a model.

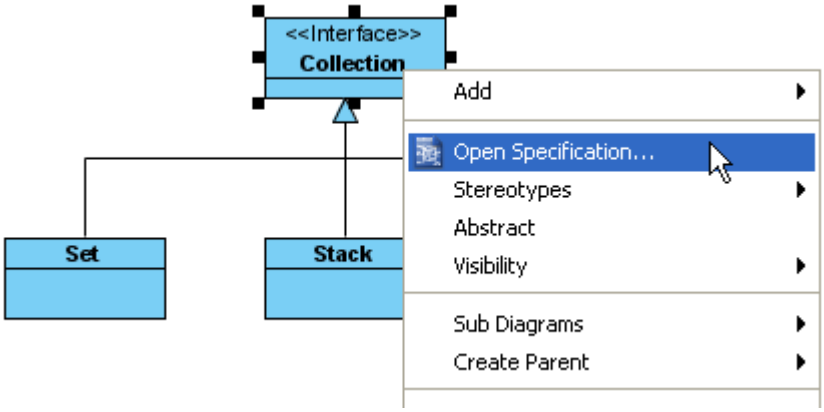



*Figure 2.91 - Select Open Specification*

2. After editing the documentation, click the **Save as template...** button on the documentation toolbar.


*Figure 2.92 - Save the template*

3. Specify the template name and click **OK** to save the template.

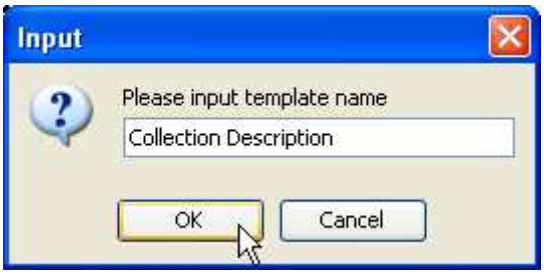



*Figure 2.93 - Specify the template name*

To load documentation from a template:
1. Open the specification dialog box of a model. Click the template drop-down button on the documentation toolbar to select a saved template.


*Figure 2.94 - Select a saved template*

2. The template content is loaded. Even if you edit the documentation of the model, the template will still remain the same.

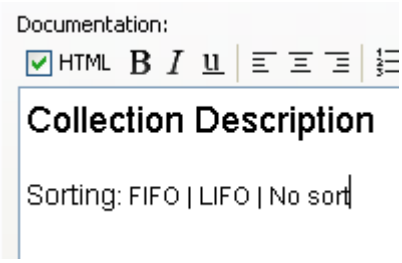



*Figure 2.95 - A template is loaded*

# Compartment Visibility Control

SDE for Eclipse provides a visibility control in class diagram. It allows you to hide or show the attributes or operation using the resource-centric of a class.
To show the attributes compartment or operations compartment click the "⊞" sign button in resource-centric. To hide the attributes or operation click the "⊟"sign button in resource-centric.
You can also use popup menu to change visibility.


*Figure 2.96 - Compartment Visibility Control*

When you reverse the code into class diagram(s) the attributes and operations are visible by default. The compartment visibility control is useful when you want to hide the attributes or operations in one click (saves time from choosing the presentation option in the popup menu).

# Printing Diagrams

## Print Preview

The **Print Preview** dialog box allows you to preview the printout and provides a set of options for changing the printout style. To display the dialog box, perform one of the following actions:

- Select **File > Print SDE-EC Diagrams...** from main menu
- Click on the **Print** button on the toolbar

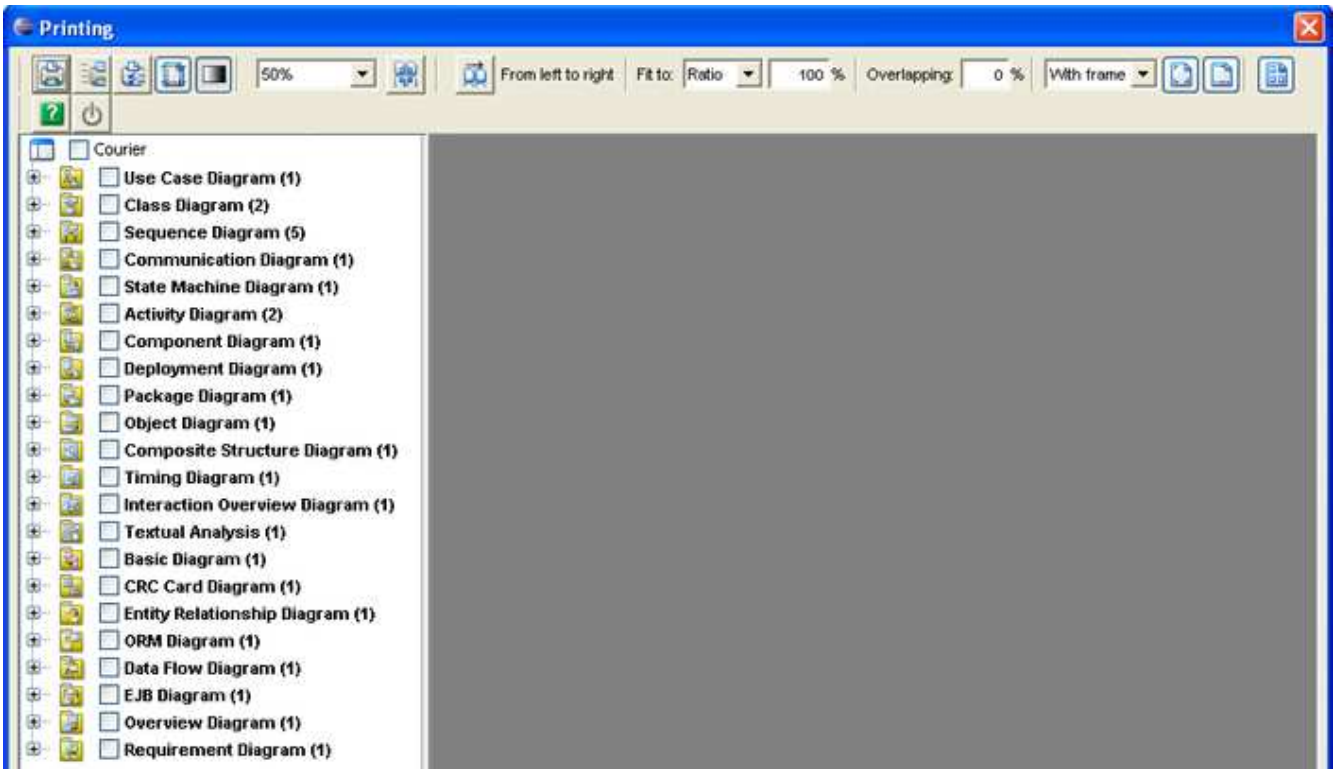



*Figure 2.97 - Print preview dialog*

The toolbar of the print preview pane allows you to configure the print settings. The buttons and their descriptions are shown in the table below:

| Icon | Button | Function |
|---|---|---|
| | Print | Print the diagram(s). The Print dialog box will be opened. |
| | Quick Print | Print diagrams without previewing them. The Quick Print dialog will be opened. |
| | Page Setup | Set up the page properties such as paper size and orientation. |
| | Adjust Margins | Adjust the margins of the pages. |
| | Use Gradient Color | Select to use gradient color in printout. Since printing gradient color will use up lots of memory, it is recommended to turn this option off for better performance. |
| 50% | Zoom | Select the percentage to reduce/enlarge the print preview of diagrams. |
| / | Paper Base Layout/Diagram Base Layout | If the **Fit to Pages** option is selected, and there are multiple pages in the printout, selecting **Paper Base Layout** will cause the distribution of pages to be paper-oriented (the diagram size is ignored in arranging the preview); |

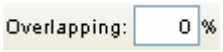
| | | |
|---|---|---|
| | | while selecting **Diagram Base Layout** will cause the distribution of pages to be diagram-oriented. Note that this option affects the preview only; the order of the printout remains unchanged. |
|  | Paper Place Style | To change the order of the printout. A large diagram is divided into many pages, selecting **From left to right** will arrange the printout order from the pages on the left to the pages on the right, while selecting **From top to bottom** will arrange the print order from the pages on the top to the pages on the bottom. |
|  | Fit to Ratio | Set the diagram size to fit to the specified ratio. |
|  | Fit to Pages | Set the diagram to be printed on the number of pages specified. |
|  | Overlapping | Set the percentage of the margins to overlap among adjacent pages. |
|  | Show/Hide Clip Marks on Page | Select/deselect to show/hide the clip marks on the printout. |
|  | Edit Header/Footer | Edit the header and the footer of the printout. |
|  | Multiple Page Mode | Switch to the Multiple Page Mode to set the multiple page options. |
|  | Help | Calling the SDE-EC help file |
|  | Close Print Preview | Close the print preview pane and return to the design area. |

*Table 2.1*

## Printing a Diagram with Preview

You can use the Print command to select the printer. Set the range of pages and number of copies to be printed.

1. Select the desired diagrams for printing. The selected diagrams will be shown at the preview area.

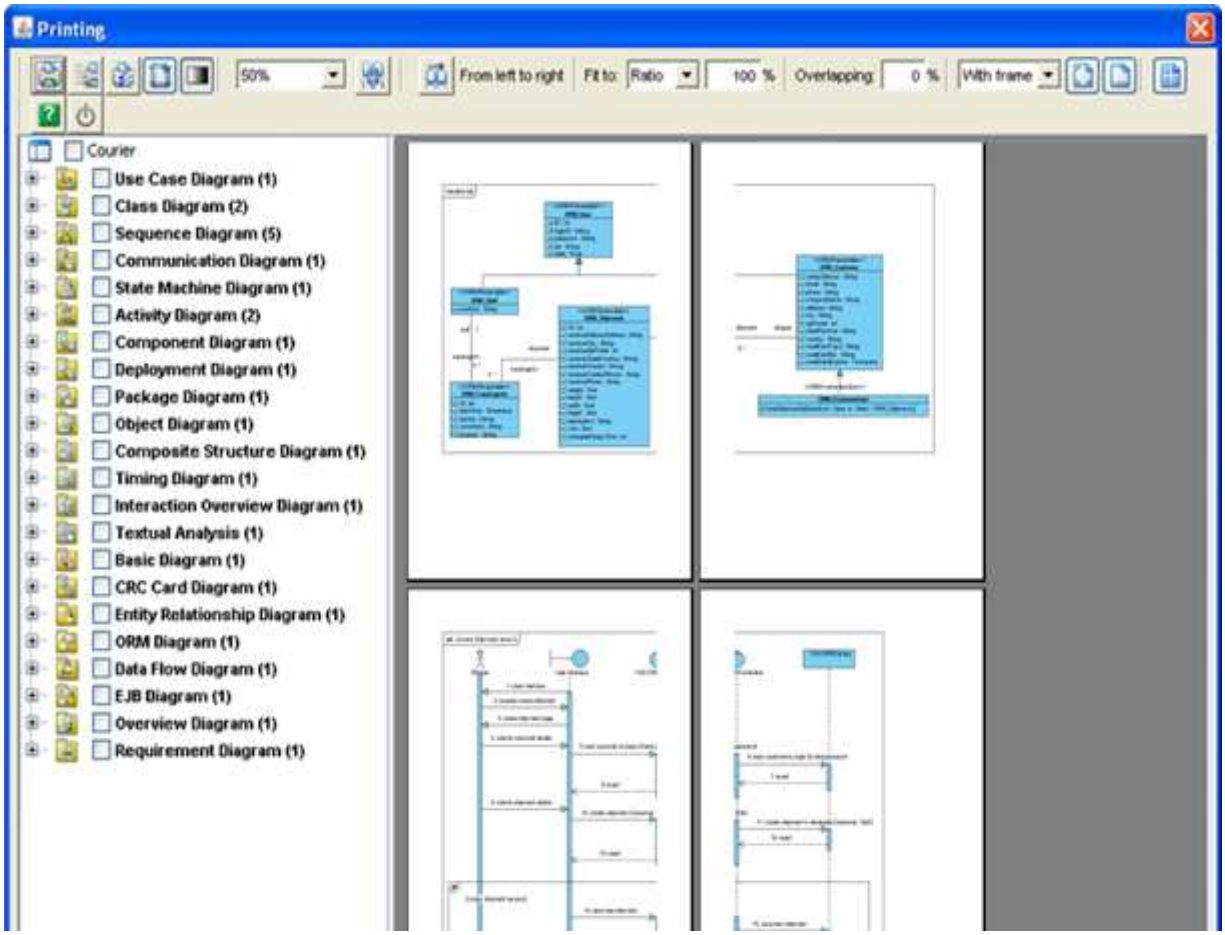



*Figure 2.98 - Diagram Preview*

2. Click on the **Print** button on the Print Preview Toolbar. The **Print** dialog box appears.

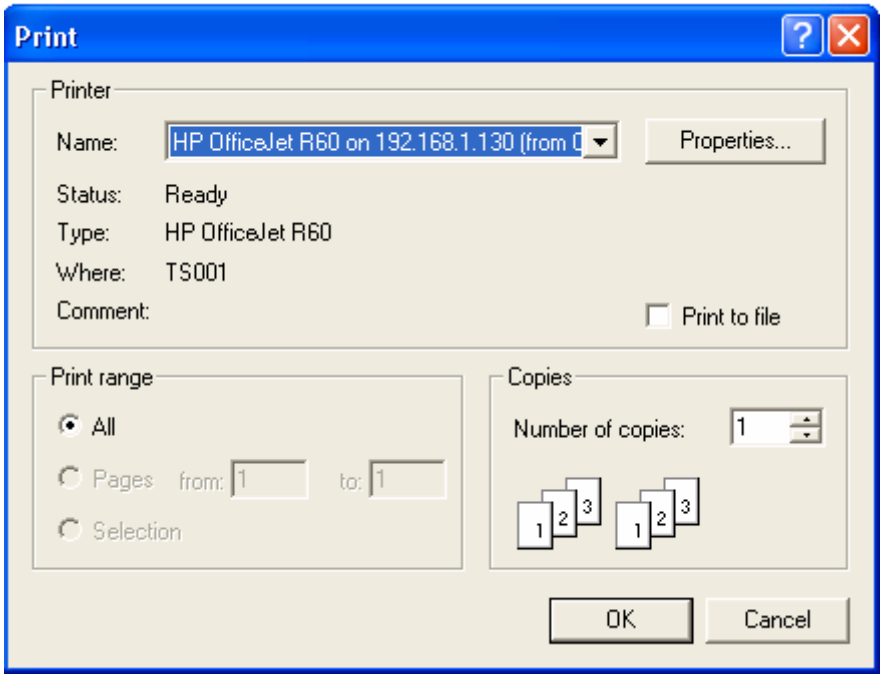



*Figure 2.99 - Print the Diagram*

3. Select the printer to use, the page range and the number of copies to be printed. You may click on the **Properties...**button to configure the printer-specific properties as well.
4. Click **OK** to start printing.

## Page Setup

Page Setup allows the user to specify the page size, orientation as well as the margins of the pages.

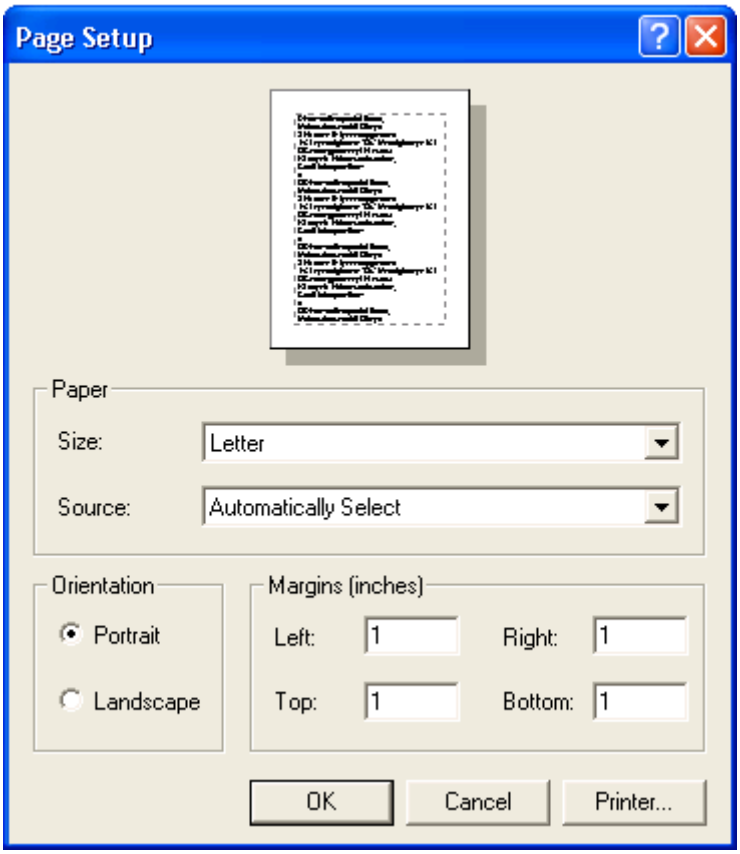



*Figure 2.100 - Page setup*

1. Click on the **Page Setup** button on the toolbar. The **Page Setup** dialog box appears.
2. You can click on the **Size** drop-down menu to select the paper size to use.
3. You can select the orientation for the page(s) to be printed (either **Portrait** or **Landscape**) in the **Orientation** field.
4. You can enter the value into the **Left**, **Right**, **Top** and **Bottom** text fields to adjust the size of the corresponding margin.
5. Click **OK** to confirm the settings.

## Adjusting Margins

The Margins pane allows user to specify the margins of the pages, header and footer.

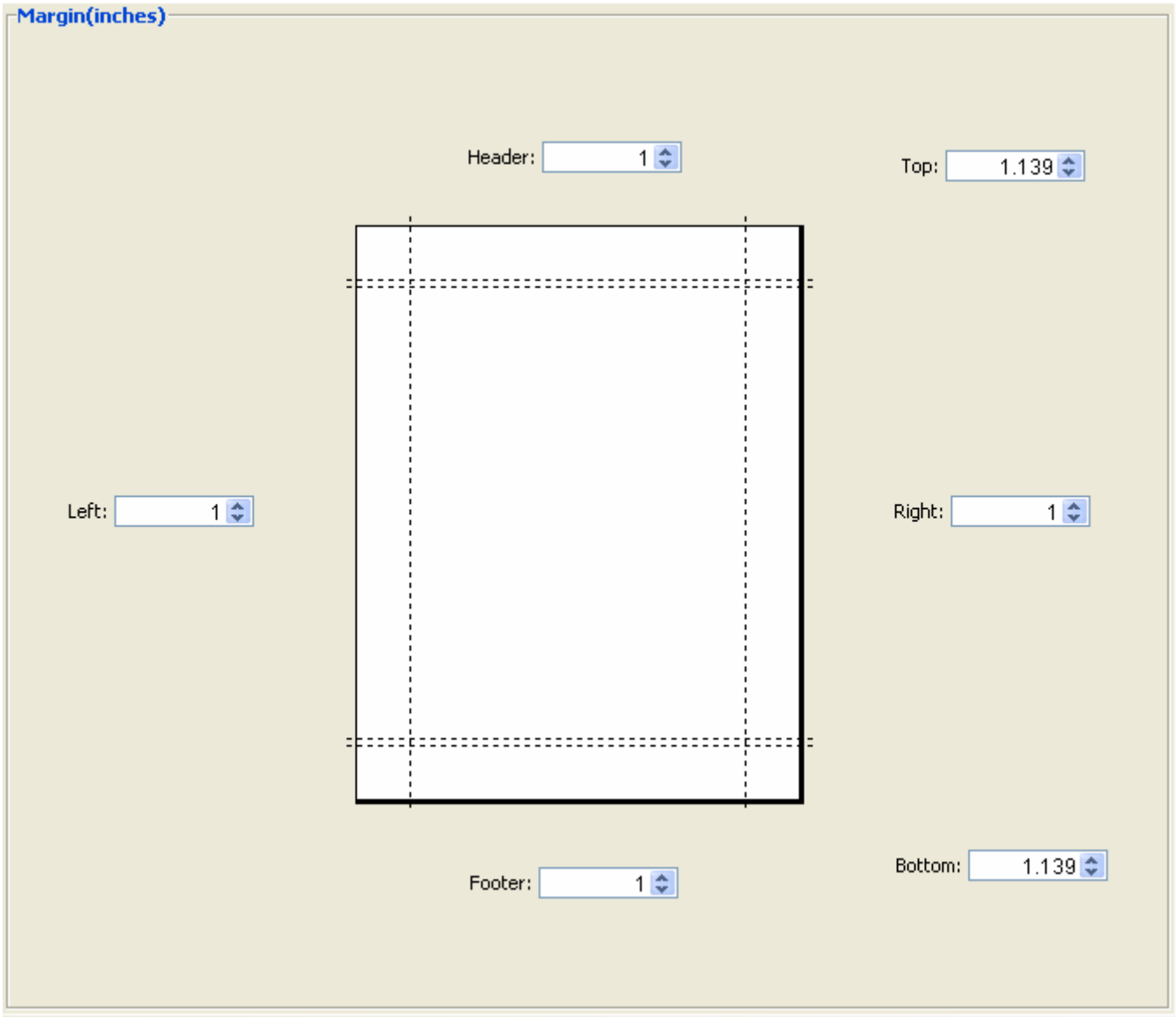



*Figure 2.101 - Adjusting Margins*

1. Click on the **Adjust Margins** button on the Toolbar. The preview area shows the margin setting page.
2. You can edit the margins sizes by entering the sizes into the text fields. Alternatively, click on the spinner buttons to increase/decrease the margin sizes.
3. Click the **Finish Adjust Margin** button when you have finished configuring the margin settings. The margin sizes will then be updated.

## Zooming Pages

Diagrams can be zoomed in or zoomed out according to user preference.
Click on the **Zoom** drop-down menu to select the desired zoom ratio.

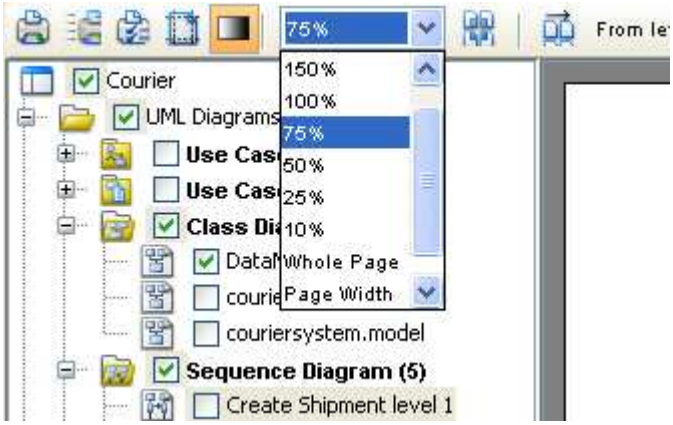



*Figure 2.102- Set the Zoom ratio*

The preview area will show the diagrams in the zoom ratio that you have selected.

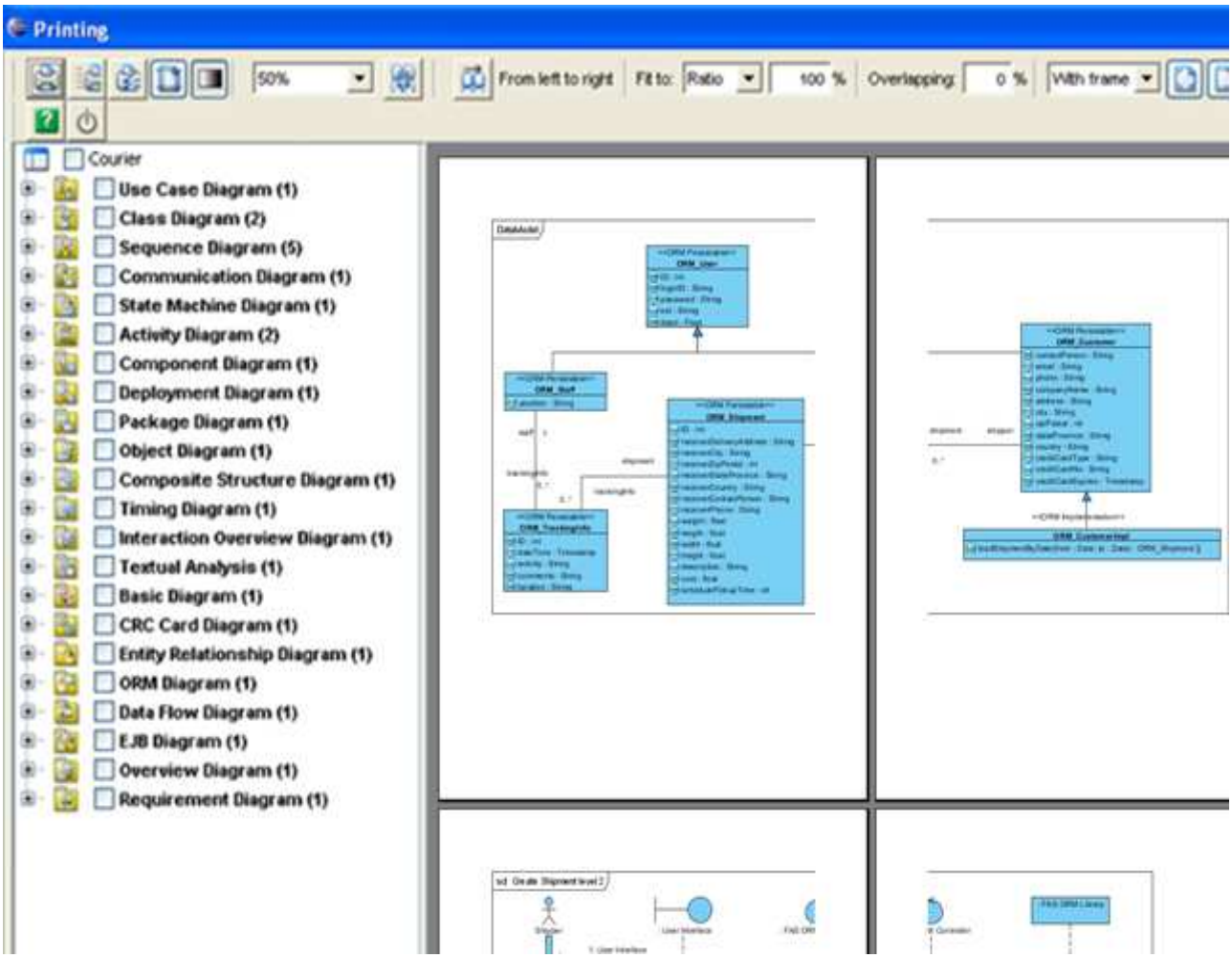



*Figure 2.103 - Preview in the preview dialog*

## Selecting the Preview Layout

There are two layouts that you can select for the print preview, the **Paper Base Layout** and the **Diagram Base Layout**.
If the **Fit to Pages** option is selected and there are multiple pages in the printout, selecting **Paper Base Layout** will cause the distribution of pages to be paper-oriented (the diagram size is ignored in arranging the preview); while selecting **Diagram Base Layout** will cause the distribution of pages to be diagram-oriented.
Note that this option affects the preview only; the order of the printout remains unchanged

To select a layout of the preview, click on the **Paper Base Layout** button or **Diagram Base Layout** button on the toolbar. A popup menu will appear where you can select the layout to use.
The preview after applying the Paper Base Layout:

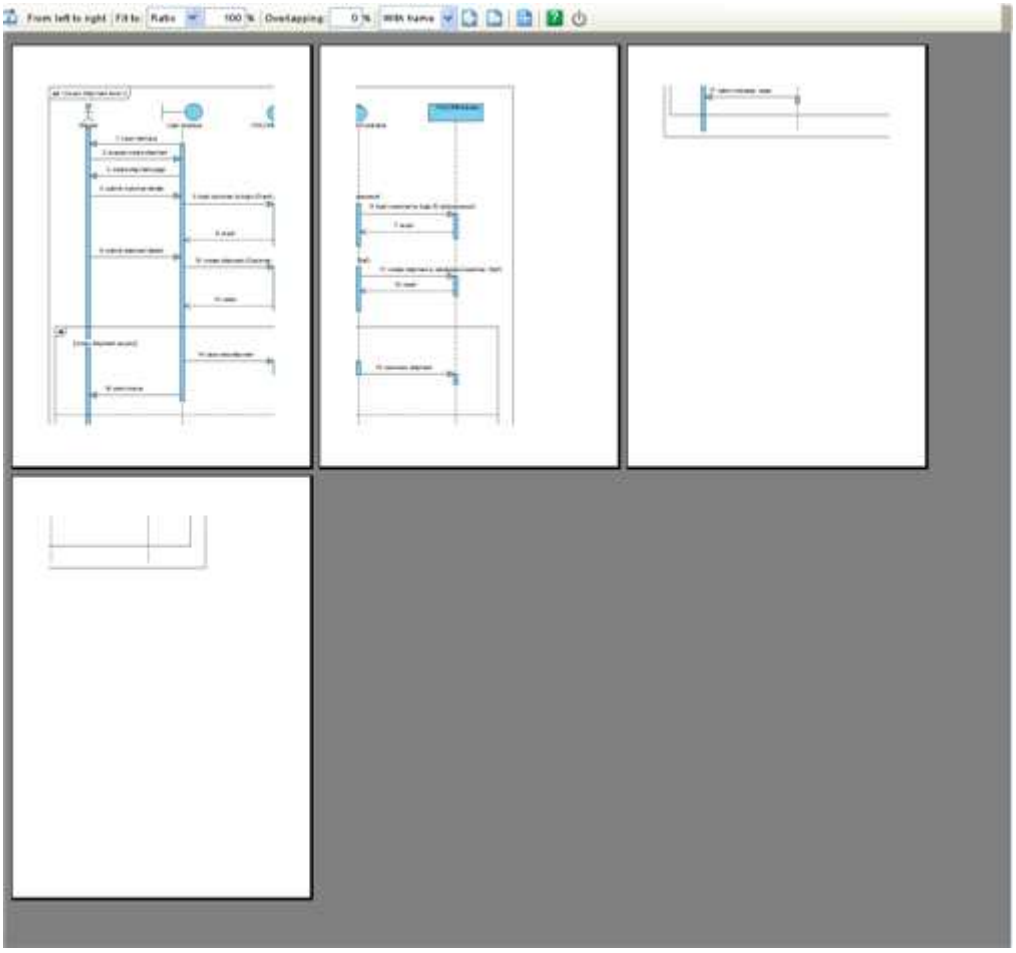


*Figure 2.104 - Preview in paper Base Layout*

The preview after applying the Diagram Base Layout:

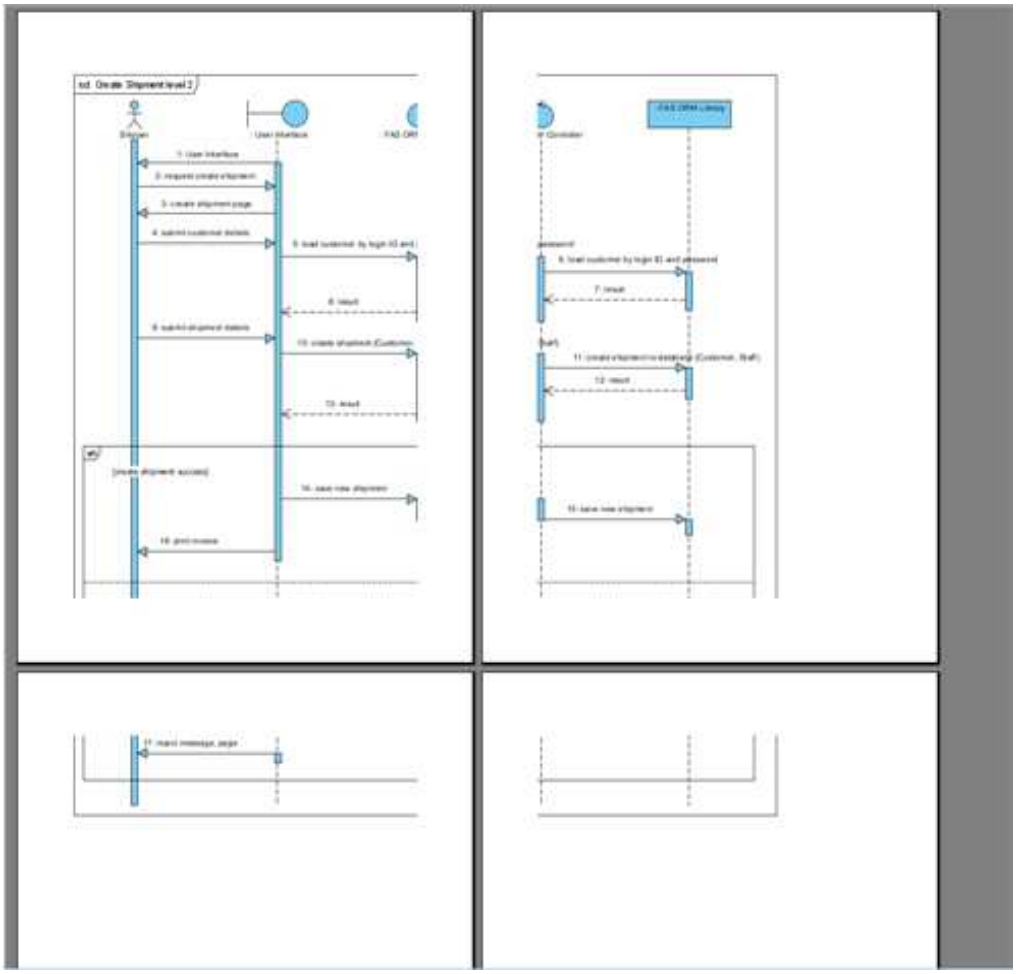


*Figure 2.105 - Preview in Diagram Base Layout*

## Setting Paper Place Style

You can select the paper place style to change the order of the printout. To select the paper place style, click on the **Paper Place Style** button on the toolbar. A popup menu appears where you can select a paper place style.
Consider a large diagram is divided into many pages, selecting '**From left to right**' will arrange the printout order from the pages on the left to the pages on the right, while selecting '**From top to bottom**' will arrange the print order from the pages on the top to the pages on the bottom
The order of the printout after selecting **From left to right**.

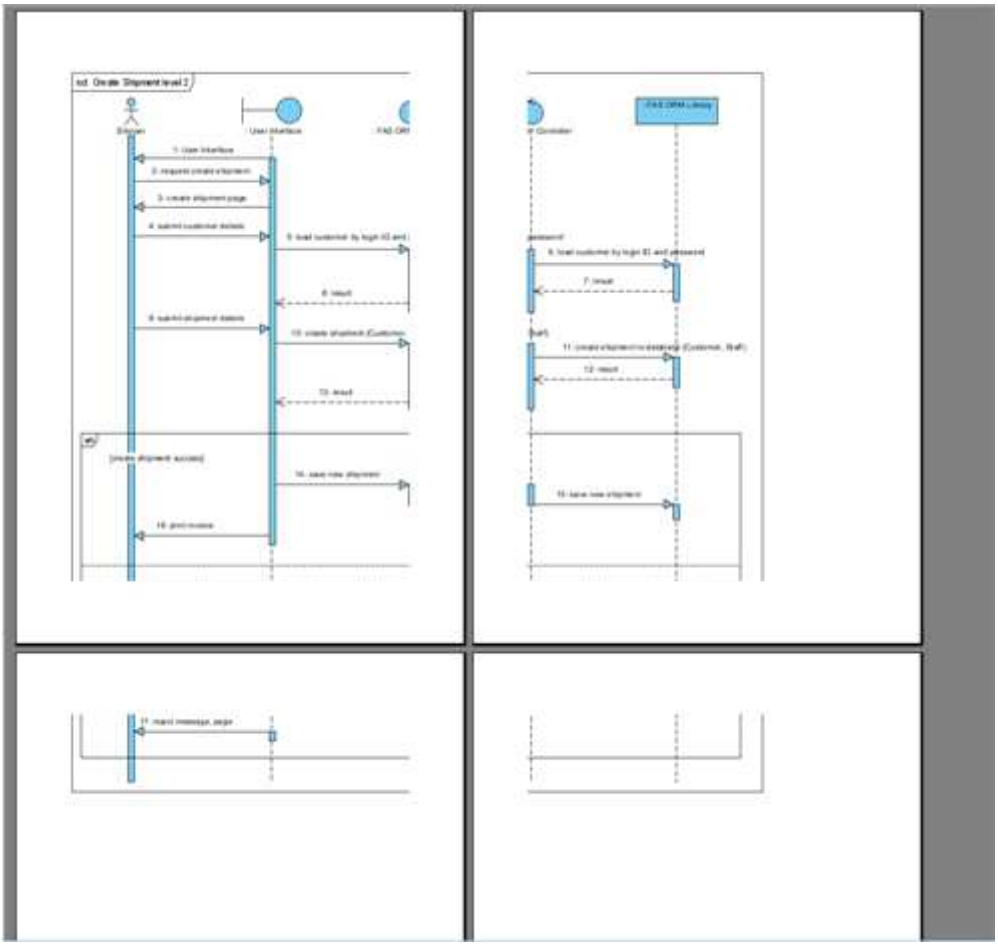


*Figure 2.106 - Printout order is left to right*

## Fit to Ratio

Fit to Ratio is used to resize the diagrams in the printout to a specific ratio.
Click on the **Fit to** drop-down menu and select **Ratio**.
You can enter the ratio into the textbox, e.g. enter 150 to set the ratio to 150%. After you have edited the ratio, the diagrams in the printout will be resized to the new ratio.

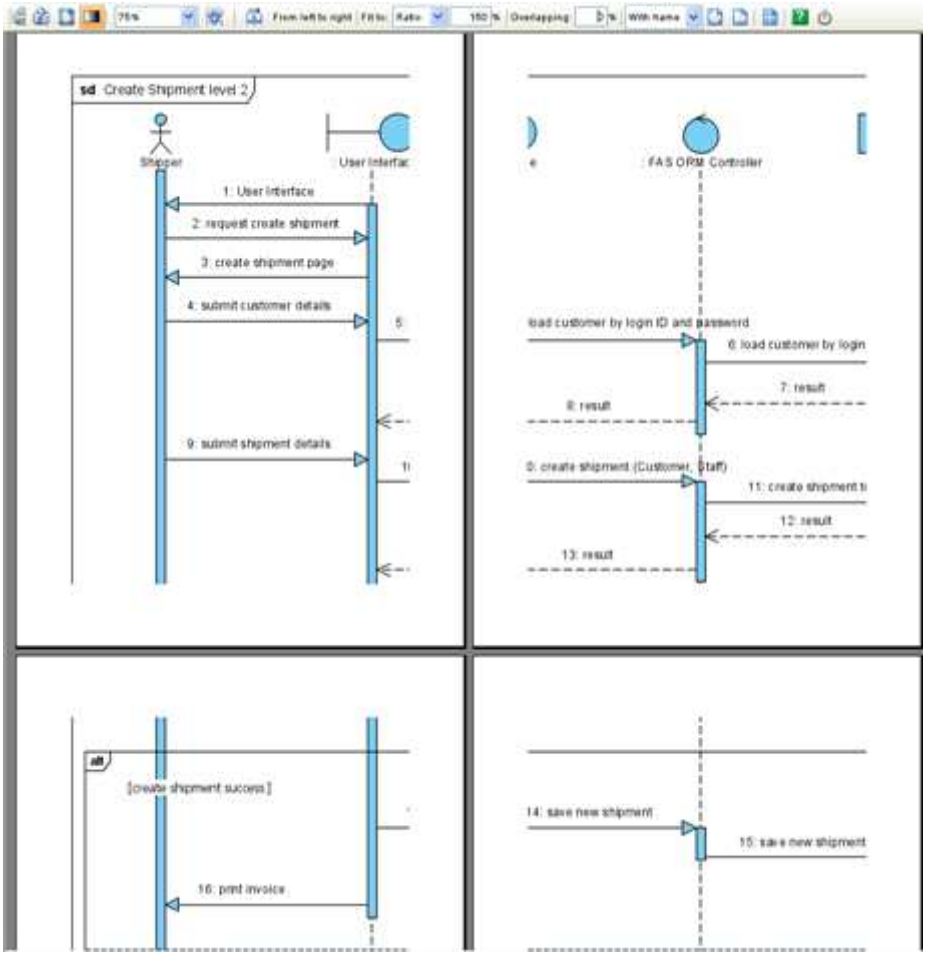



*Figure 2.107 - Fit to ratio*

## Fit to Pages

Fit to Pages is used to split the diagram to a desired number of pages when printing.

1. Click on the **Fit** to drop-down menu and select **Pages**.
2. Click on the Multiple Pages button on the toolbar. The page selector appears.

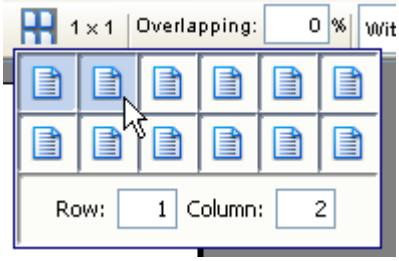



*Figure 2.108 - Select multiple pages Page*

3.

4. Click on the row-column combination to select it (note that you can click and drag on the page selector to extend the selection). The diagram will be split into multiple pages by the rows and columns that you have selected.

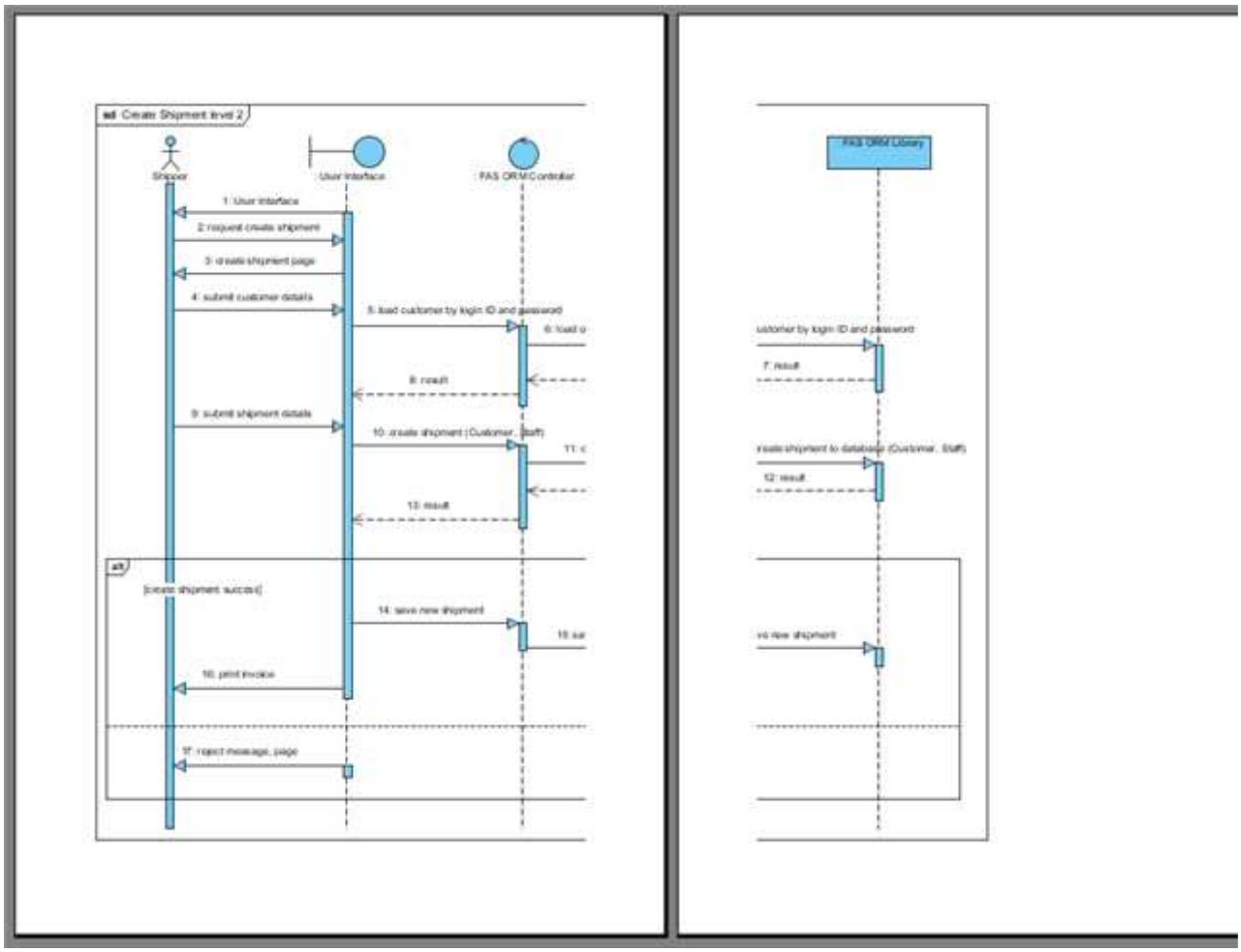


*Figure 2.109 - Fit to page*

## Setting the Diagram Overlap Percentage

Overlapping is used when users want the diagrams to have overlapping at the boundaries between pages. This is particularly useful when you have a large diagram that span multiple pages and you want to stick the pages of the printout together; the overlapping area can then be used as a hint when sticking the pages.

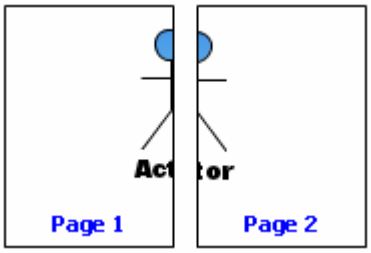



*Figure 2.110- Multiple page without overlap*

1. Click on the **Overlapping** textbox to input the overlapping percentage and press the Enter key.
2. The printing area near the boundaries of the pages will be duplicated by the overlapping percentage inputted.

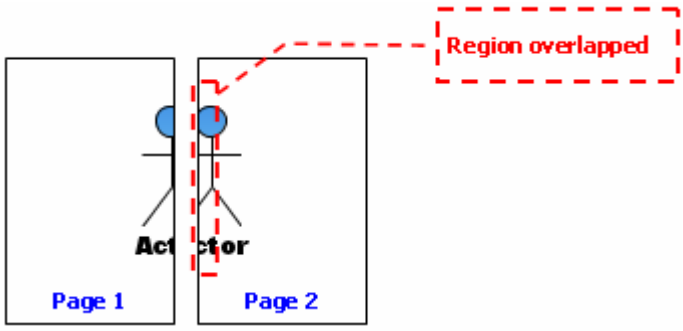



*Figure 2.111 - Multiple page with overlap*

## Printing with Frame/Border Option

You can print your diagram with a frame or border. There are three options:

- With frame
- With border
- No border

Select **With frame/ With border/No border** option from the drop-down menu.


*Figure 2.112 - Select option from drop-down menu*

Output of printing with frame

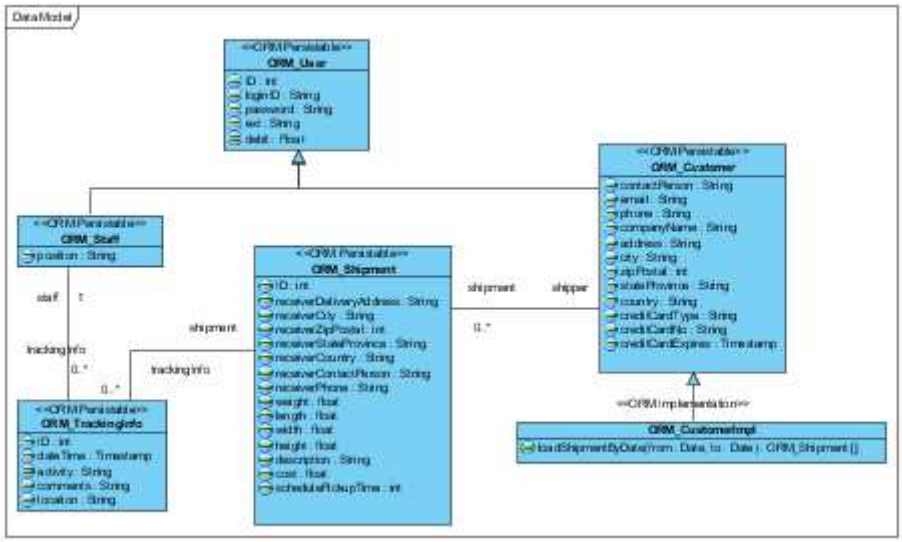


*Figure 2.113 - Printing with frame*

Output of printing with border

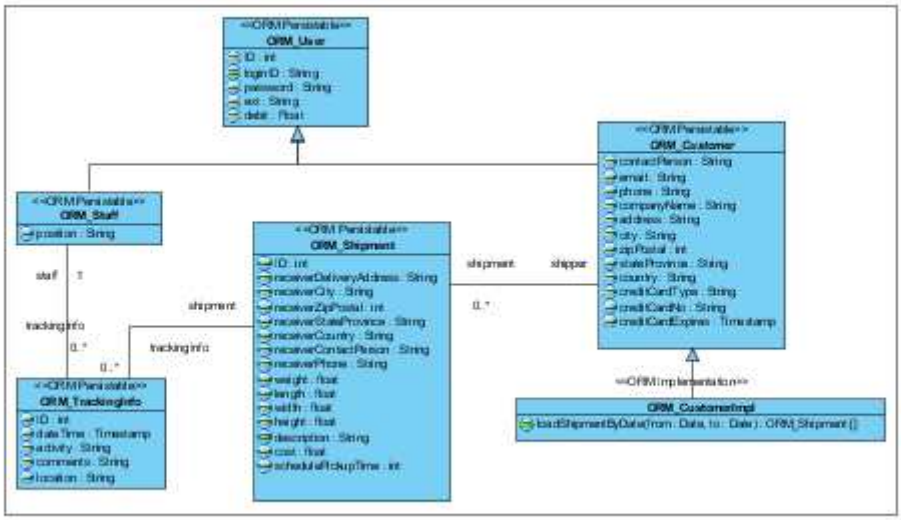



*Figure 2.114 - Printing with border*

Output of printing with no border

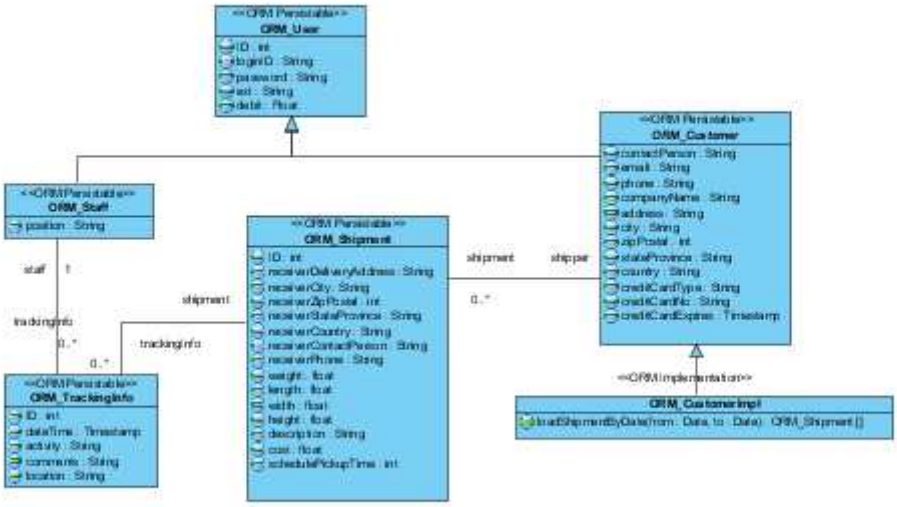



*Figure 2.115 - Printing with no border*

## Showing/Hiding Clip Marks on Page

Clip marks act as an indication of the boundary of a page.

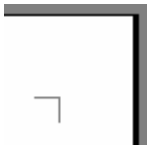


*Figure 2.116 - Clip marks*

To show clip marks on the printout click on the **Show Clip Marks on Page** button . You will see the boundaries of the pages are surrounded by clip marks. To hide the clip marks click on the **Hide Clip Marks on Page** button again.

## Editing Header/Footer of the Pages

To edit the header/footer of the printout click on the **Edit Header/Footer** button on the toolbar. You will then switch to the edit header/footer pane.

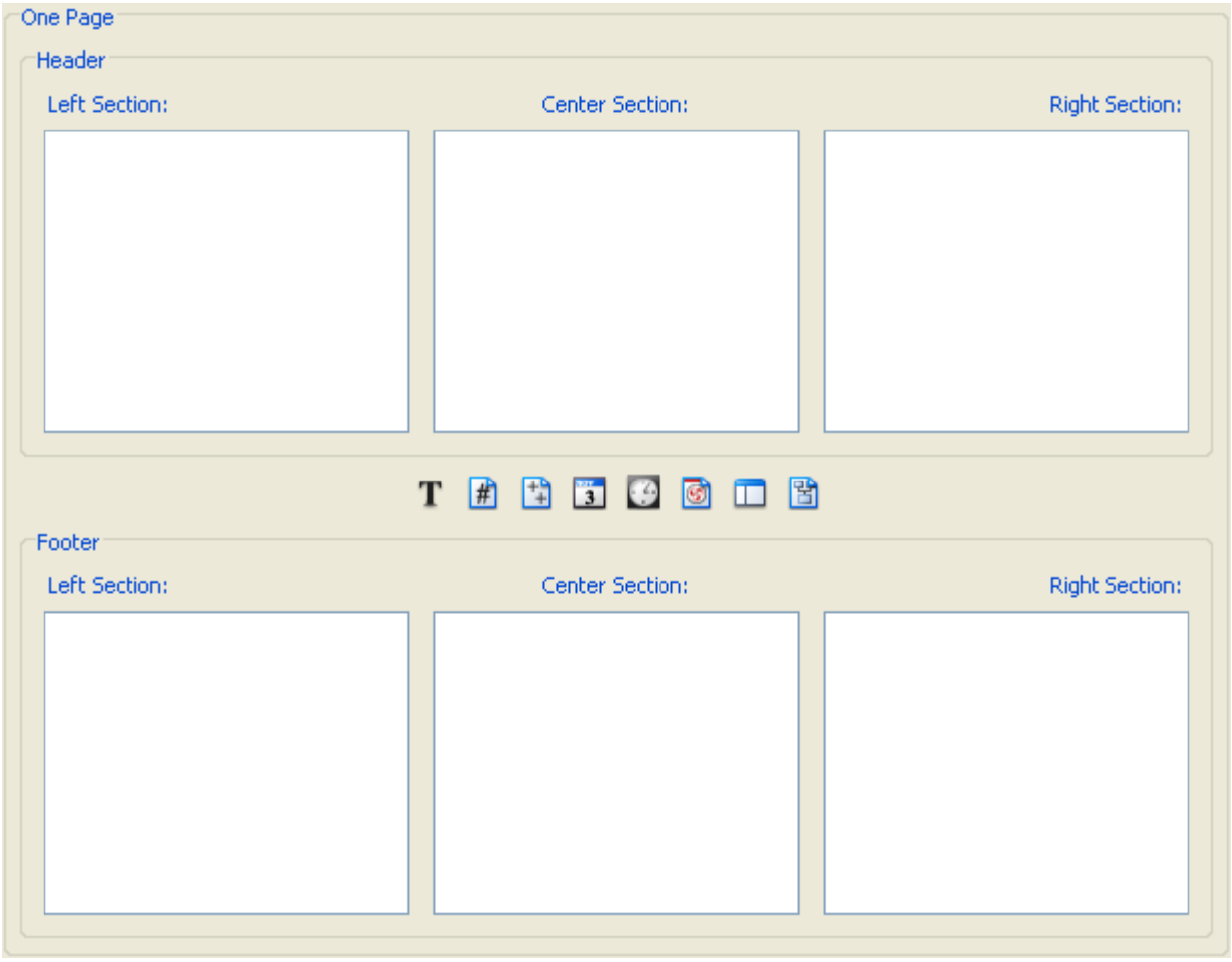



*Figure 2.117 - Editing Header/Footer of the Pages*

You can edit the header and the footer in the **Header** panel and the **Footer** panel respectively. Each of the panel consists of the **Left Section, Center Section** and the **Right Section**, which represents the position that the content will be located in the header/footer.

There is a toolbar between the **Header** panel and the **Footer** panel, which facilitates the editing of header/footer. The description of the buttons in the toolbar can be found in the following table:

| Icon | Name | Description |
|---|---|---|
| | Select Font | Select the font to use for the selected section. Note that you must click on the section once in order to select it |
| | Insert Page Number | Insert the page number |
| | Insert Number of Page | Insert the total number of pages |
| | Insert Date | Insert the date that the printing starts |
| | Insert Time | Insert the time that the printing starts |
| | Insert File Name | Insert the file name of the SDE-EC project |
| | Insert Project Name | Insert the name of the SDE-EC project |
| | Insert Diagram Name | Insert the diagram name |

*Table 2.2*

After you have finished editing the header/footer, click on the **Close Edit Header/Footer** button to switch to the print preview mode. A sample page that has the header and footer formatted is shown in the picture below:

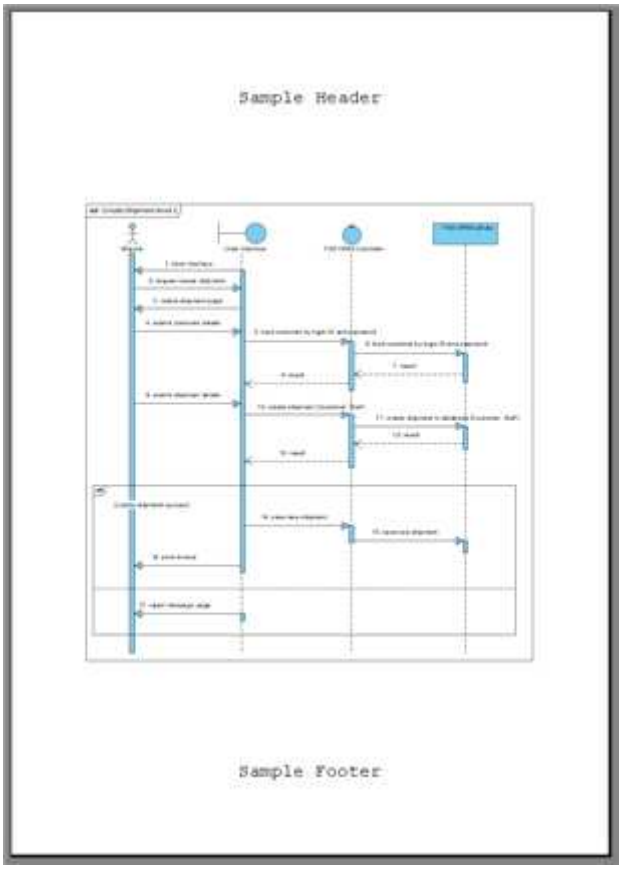



*Figure 2.118 - Page with header and footer*

## The Multiple Page Mode

The Multiple Page Mode allows users to configure how the diagrams should be distributed in multiple pages. To switch to the Multiple Page Mode click on the **Multiple Page Mode** button on the toolbar.
Clicking on the button beside the **Multiple Pages** field will invoke the page selector, where you can select the row-column combination for the printout. Alternatively, you can type in the **Row** and **Column** text field directly.

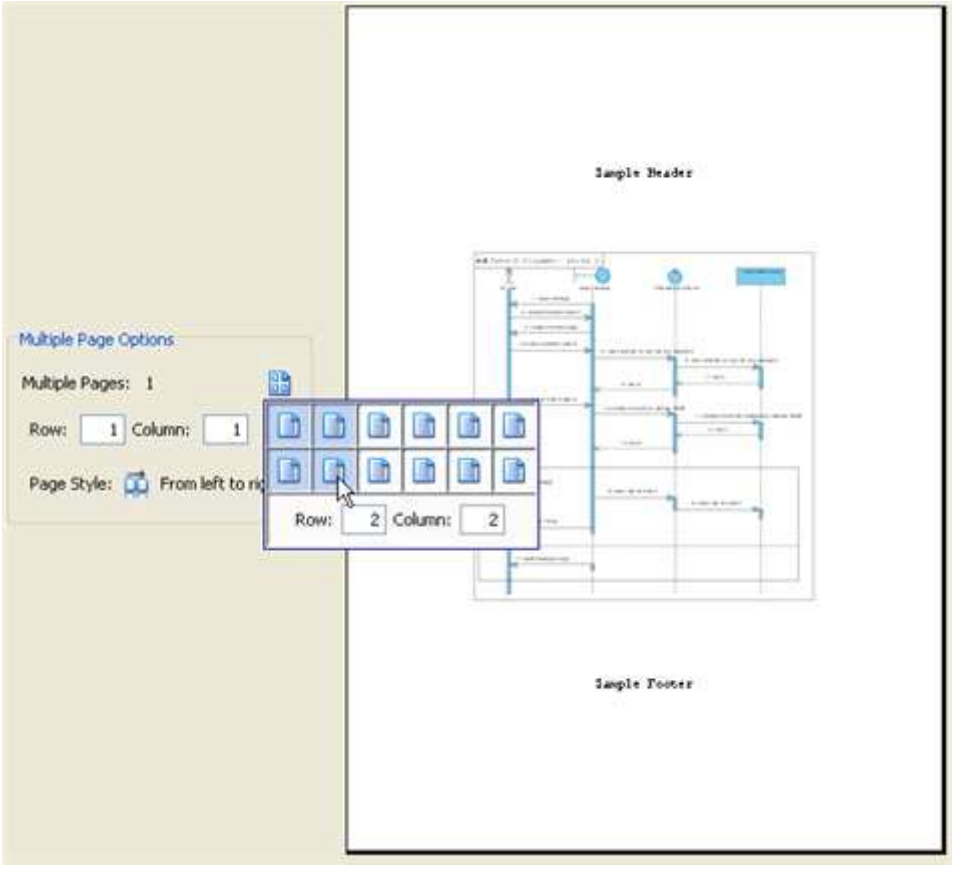



*Figure 2.119 - Select multiple page*

Click on the button beside the **Page Style** field to change the printout order. Consider a large diagram is divided into many pages, selecting **'From left to right'** will arrange the printout order from the pages on the left to the pages on the right, while selecting **'From top to bottom'** will arrange the print order from the pages on the top to the pages on the bottom.

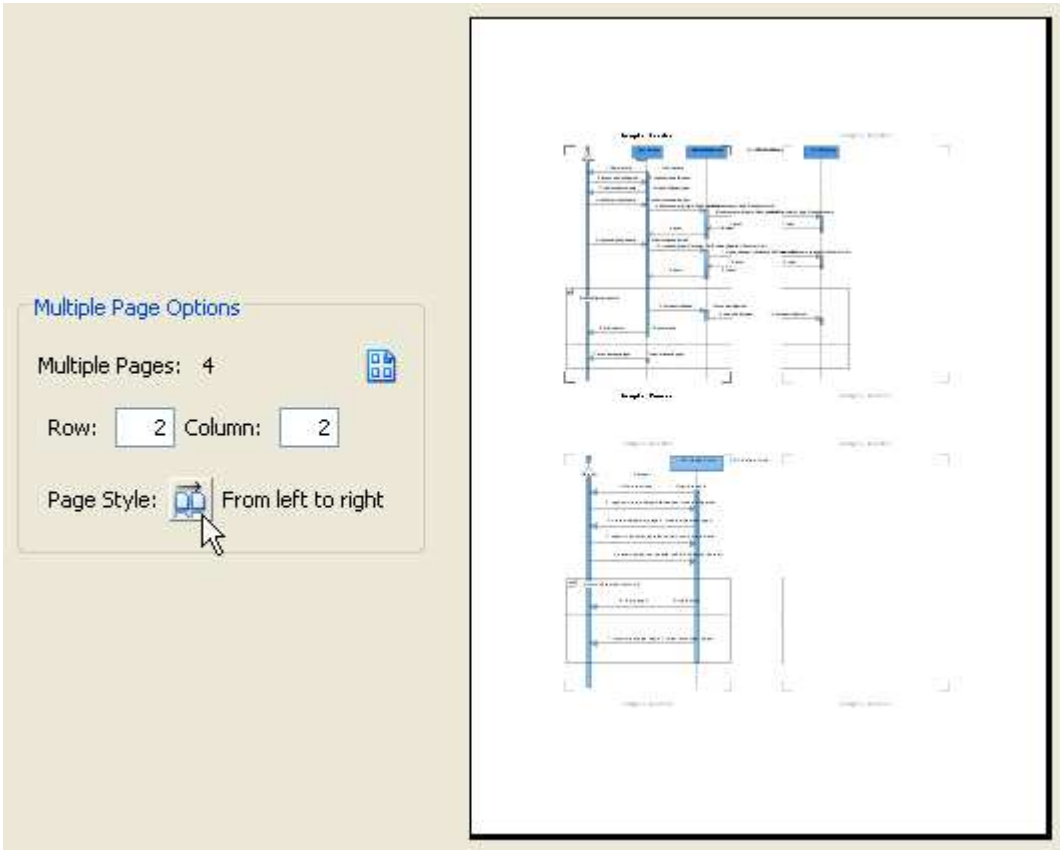



*Figure 2.120 - Distributes diagram in multiple page*

After you have finished configuring the multiple page settings click on the **Close Multiple Page Mode** button to close the Multiple Page Mode.

## Printing a Diagram with Quick Print

The Quick Print feature allows you to print diagrams without previewing them, hence speeding up the print job. To quick print, perform one of the following actions:

- Select **File > Print SDE-EC Diagrams...** from main menu. This displays the **Print Preview** dialog box. Click on the toolbar of the **Print Preview** dialog box.

In both cases, the **Quick Print** dialog box will show.

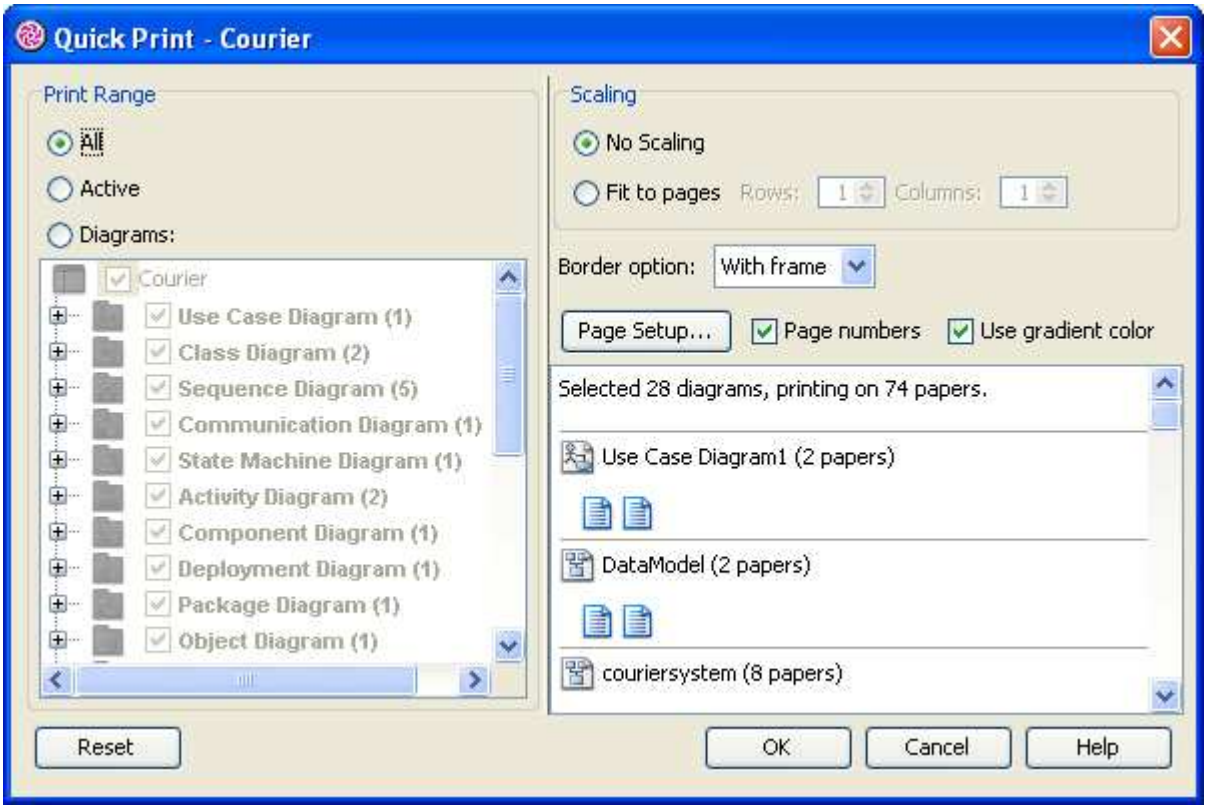



*Figure 2.121- Quick Print dialog*

| Field | Description |
|---|---|
| Print Range | Click on either of the below options to specify the print range.<br>All - Print all the diagrams within the current project<br>Active - Print only the active diagram<br>Diagrams - Check from the diagram tree to select the diagram(s) for printing |
| Scaling | Select No scaling to print with diagrams' original size. Numbers of pages used for each diagram are subject to the scale of diagrams. Select Fit to pages to print with specified number of pages per diagram with respect to the specified number of rows and columns. |
| Border option | Select border option of printout. |
| Page Setup... | Page Setup allows you to specify the page size, the orientation as well as the margins of the pages. |
| Page numbers | Select to print diagrams with page number on it. |
| Use gradient color | Select to use gradient color in printout. |

*Table 2.3*

# Shape Alignment

## Aligning Shapes

This feature provides a facility to align selected diagram elements. You can align using toolbar, popup menu or group resource. All alignment methods calculate the resulting shape boundaries on a referenced shape. You can refer to the section 'Referenced Shape for Alignment' for details.
Before you use any one of the methods to align, you should first select more than one shape.

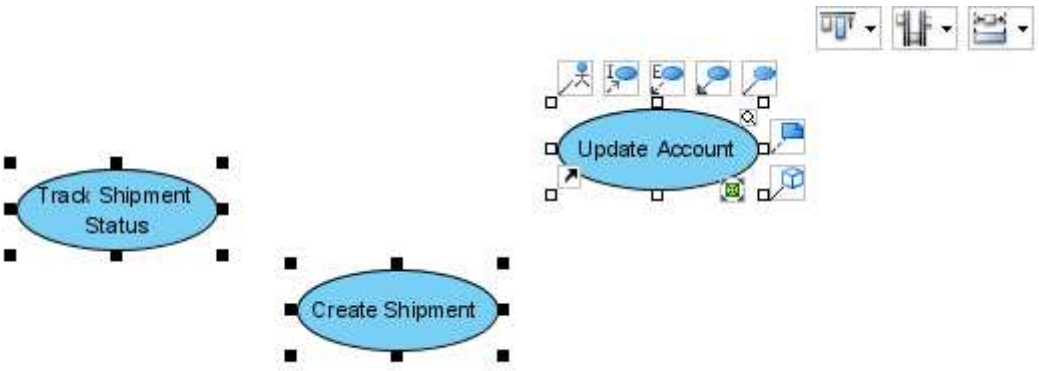



*Figure 2.122 - Three use cases selected*

Here, three use cases aligning towards the top is used as an example.

To align using toolbar, you can select **Format** > **Alignment** > **Top** from the main menu.

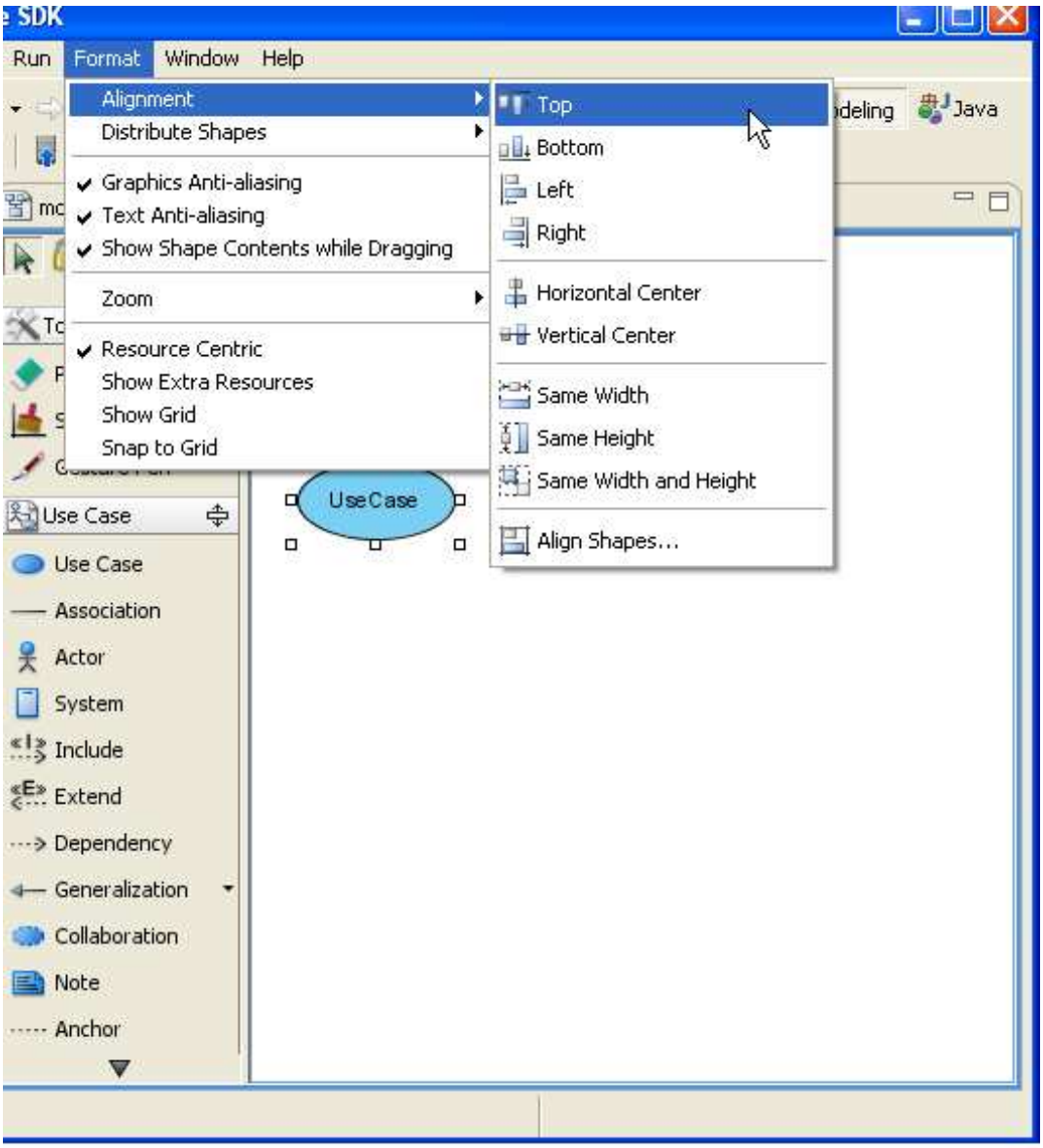



*Figure 2.123 - Select Top from main menu*

To align using popup menu, you can select **Alignment** > **Top** in the popup menu.

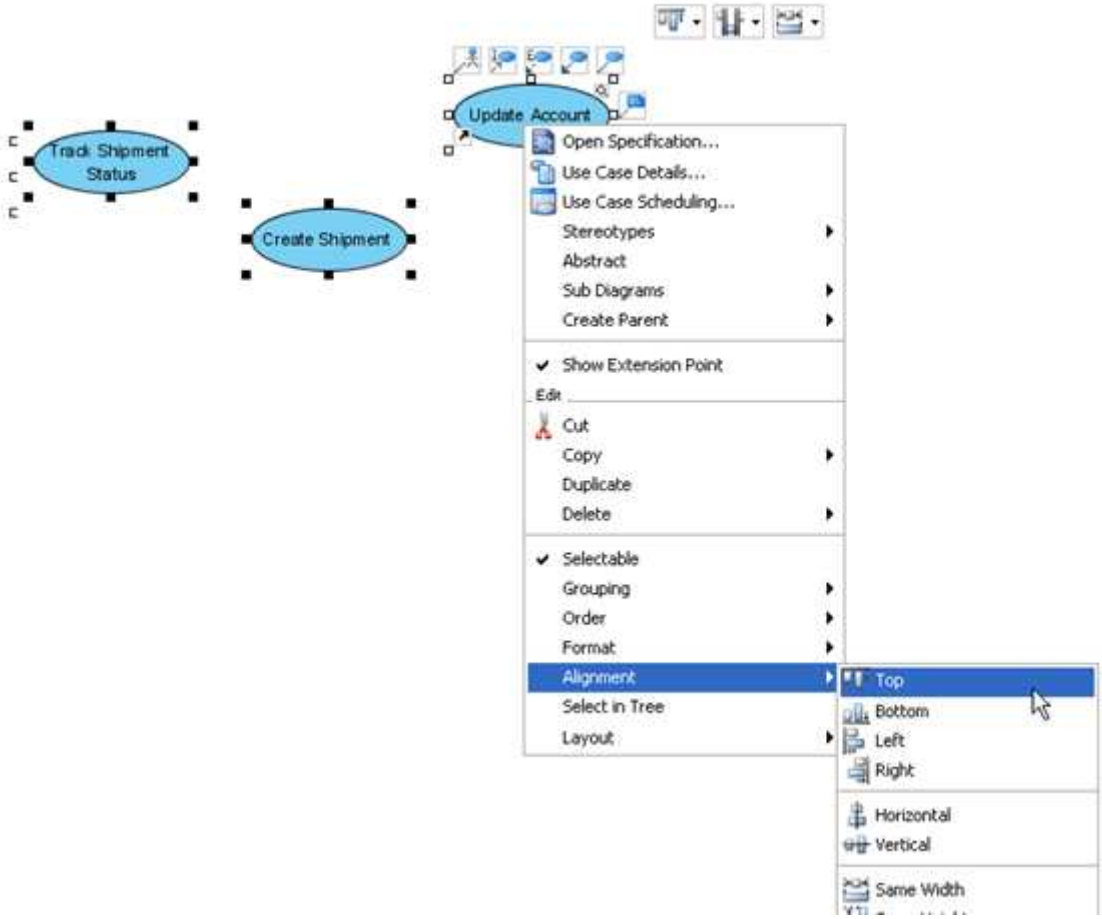



*Figure 2.124 - Select Top from popup menu*

To align using group resource, you can select the **Alignment** resource > **Align Top** which appears when two or more shapes are selected.
You can select the way of aligning from the drop-down menu.

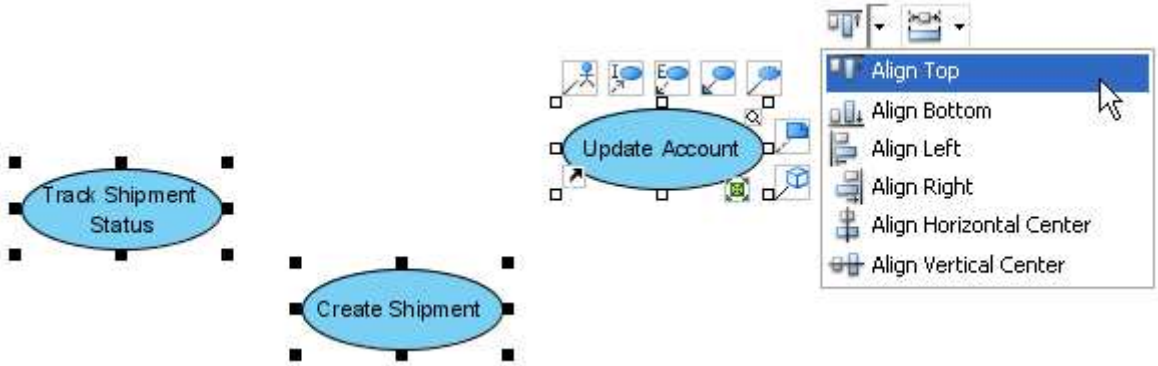



*Figure 2.125 - Select Align Top from Alignment resource*

By using any of the above methods, the shapes are aligned.


*Figure 2.126 - Shape aligned*

# Distributing Shapes

This feature provides a facility to distribute selected diagram elements with uniform space. You can use resource, toolbar and menu to distribute shapes.
Before you use any one of the methods to distribute shapes, you should first select more than two shapes.

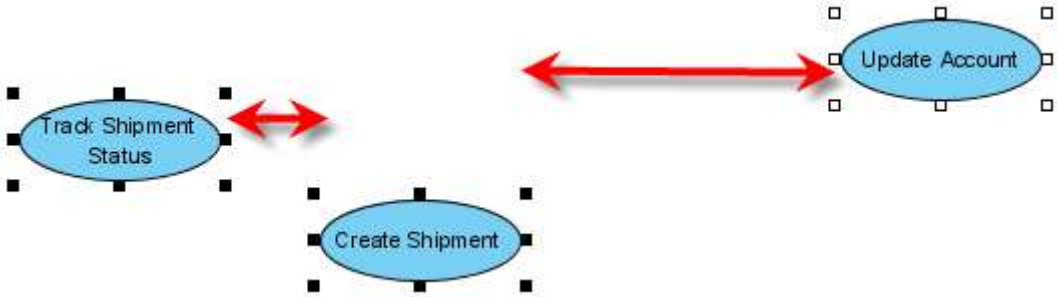



*Figure 2.127 - Three use cases selected*

Here, three use cases distributing horizontally is used as an example.

Use resource to distribute shapes:
To align using group resource, you can select the **Distribute** resource > **Distribute Horizontally** which appear when more than two shapes are selected.

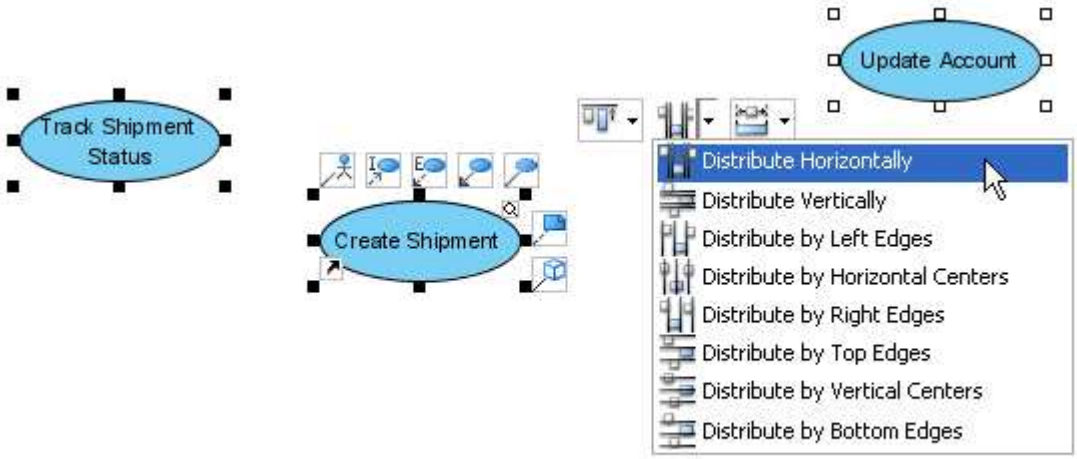



*Figure 2.128 - Select Distribute Horizontally*

The use cases after **Distribute Horizontally**.

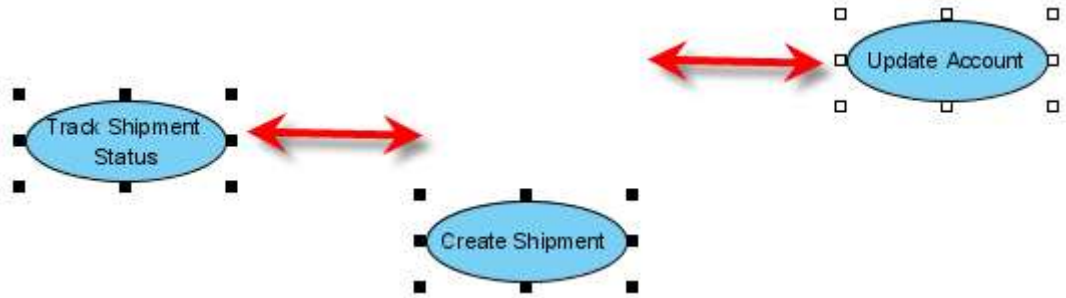



*Figure 2.129 - Three use cases distribute horizontally*

## Making Shapes Same Width and Height

This feature provides a facility to set selected diagram elements to the same width, same height, or both. You can use resource, toolbar and menu to make the shapes being the same width/height.
The methods calculate the resulting shape boundaries based on a referenced shape. You may refer to the section 'Referenced Shape for Alignment section' below for details.

You need to select two or more shapes in order to apply this feature. Here, making three use cases the same width is used as an example.

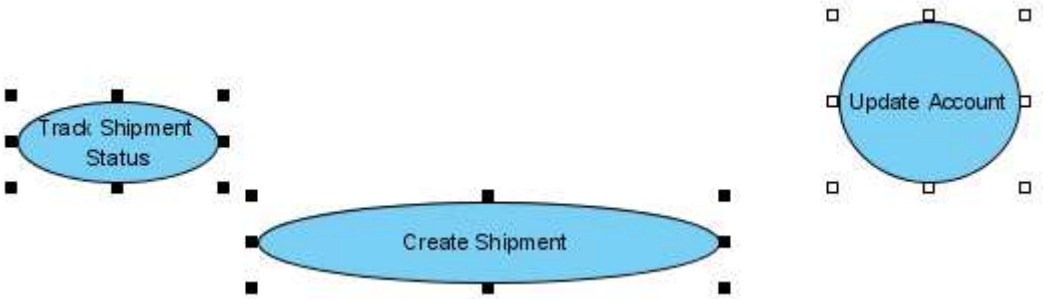



*Figure 2.130 - Three use cases selected*

To make shapes same width, you can select **Make Same Width** resource > **Same Width**.

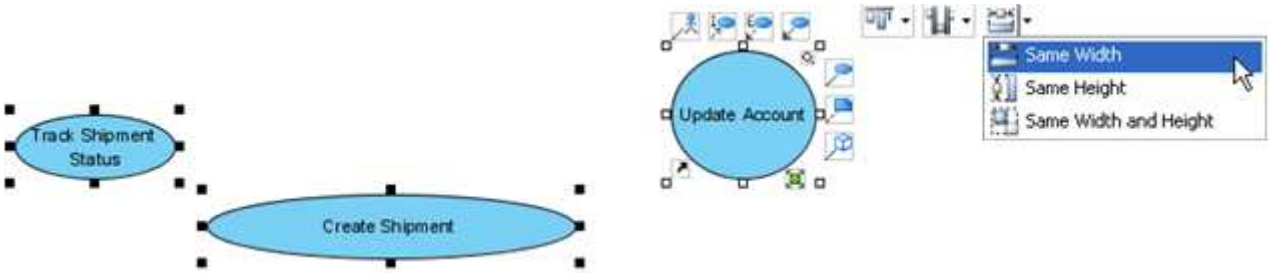



*Figure 2.131 - Select Same Width*

The resultant use cases now have the same width.

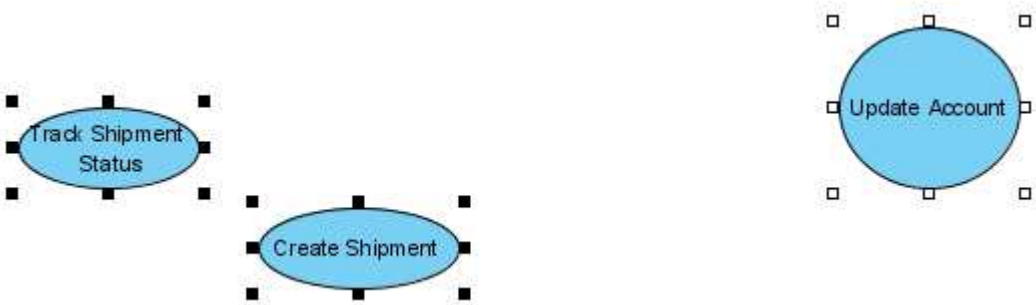



*Figure 2.132 - Resultant use cases*

## Referenced Shape for Alignment

When there are multiple shapes selected, the last selected shape will be used as the referenced shape for alignment. That is, the alignment method will be performed based on the position/size of the referenced shape. The referenced shape will be rendered with its resize handles surrounded by white rectangles.

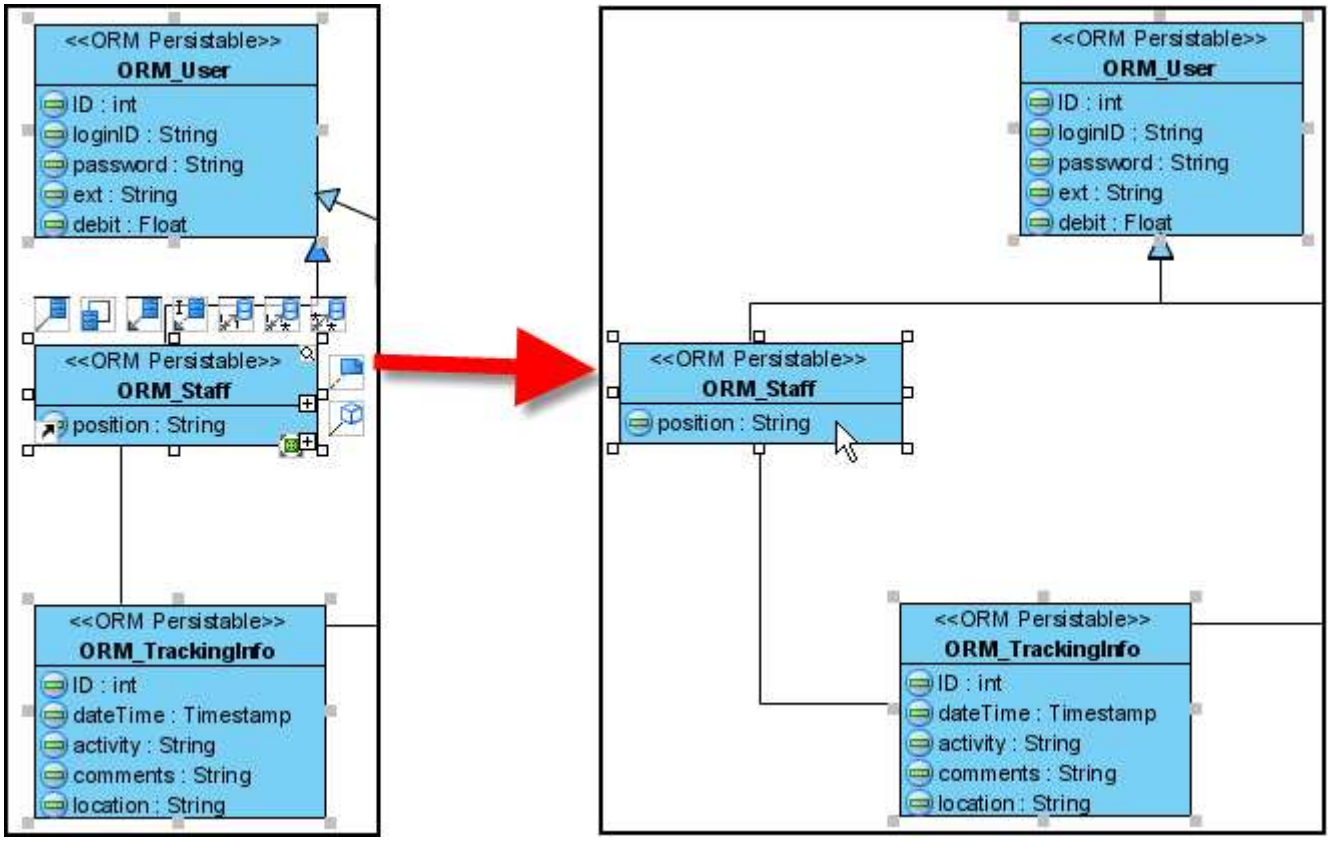



*Figure 2.133- before and after Alignment left*

You can set a shape as the referenced shape for alignment (if it is currently not) by shift-clicking on the shape for two times (the first time to deselect the shape, and the second time to reselect it).

## Using the Align Shapes Dialog Box

You can invoke the **Align Shapes Dialog** either **Format** > **Alignment** > **Align shapes...** in the menu bar or the toolbar, or using the hot key ***F12***. The **Align Shapes** dialog box allows you to configure the top/bottom, left/right alignments and same width/same height options all at a time. Select the desired options and click **OK** to apply the settings.

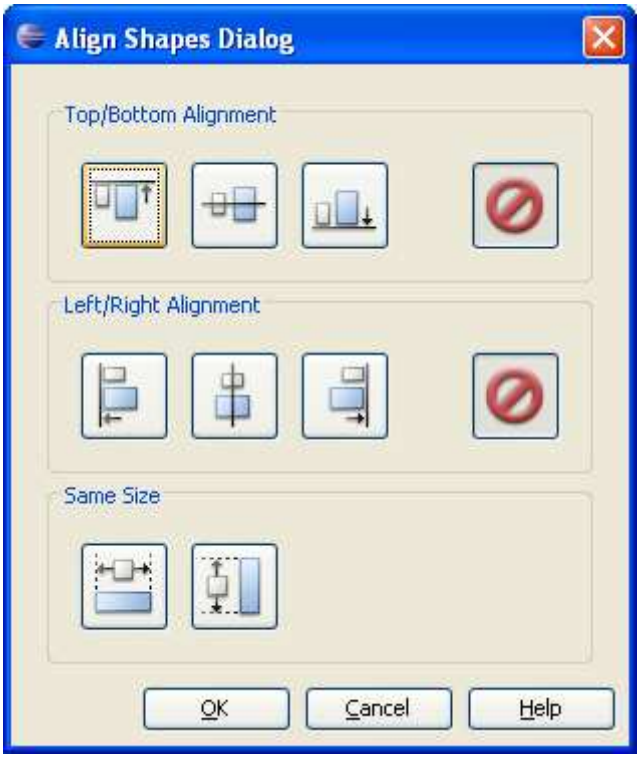



*Figure 2.134 - Align Shapes Dialog*

## Visual Alignment Guide

When you move a shape, visual alignment guide helps you to align with the closest shape. The guide lines show the vertical edge of the closest shape if you move a shape horizontally. Similarly, the guide lines show the horizontal edge if you move a shape vertically.
Here, a use case moving horizontally to align with other use cases is used as an example.

To align with other shapes:
1. Move the use case which you want to align with others. You can see the Visual Alignment Guide line.

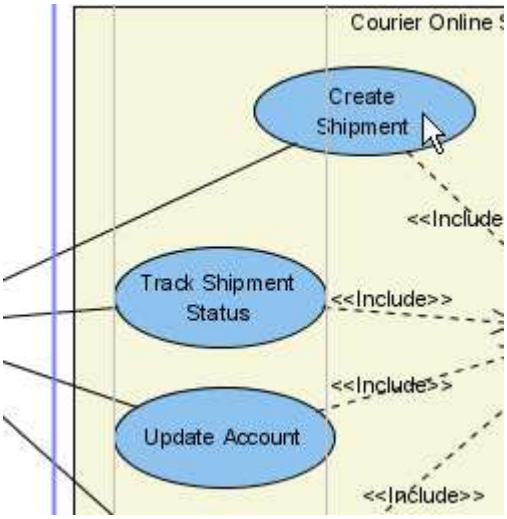



*Figure 2.135 - Use case with guide lines before alignment*

2. Move until the use case align with the others.

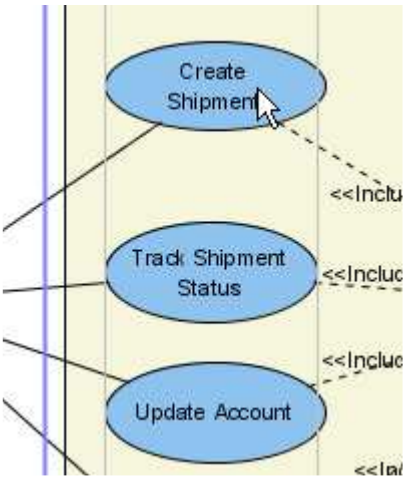



*Figure 2.136 - Move the use case*

3. Release the mouse and you will see the aligned use case.

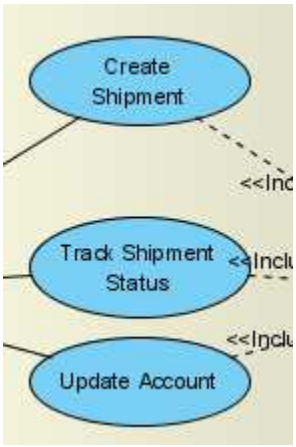



*Figure 2.137 - Use case aligned*

You may also change the alignment guide style, or enable/disable it.
1. To perform these task, select **Modeling** > **Application Options...** to open the Options dialog box.

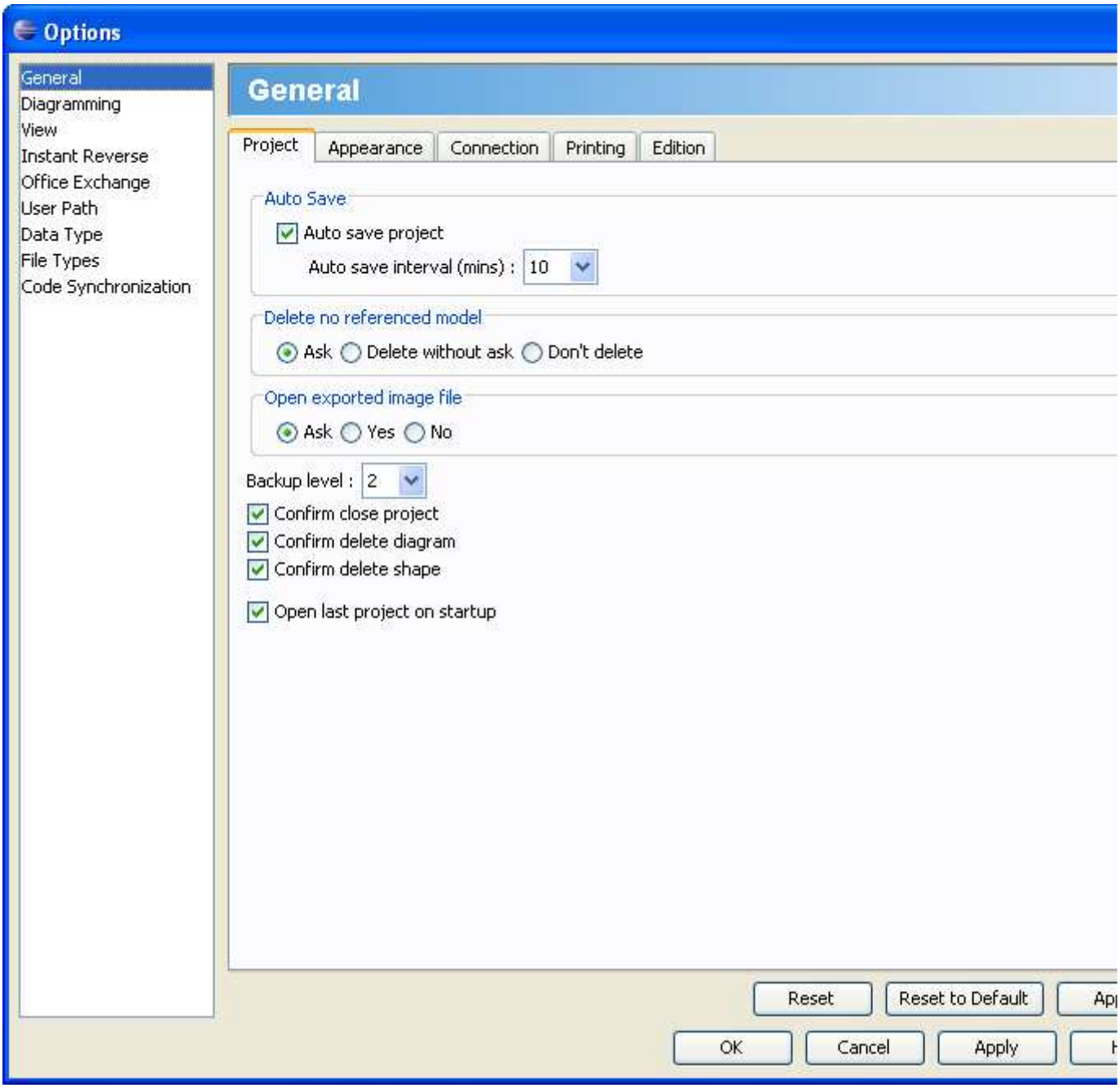



*Figure 2.138- Options dialog box*

2. Select **Diagramming** > **Environment** tag.

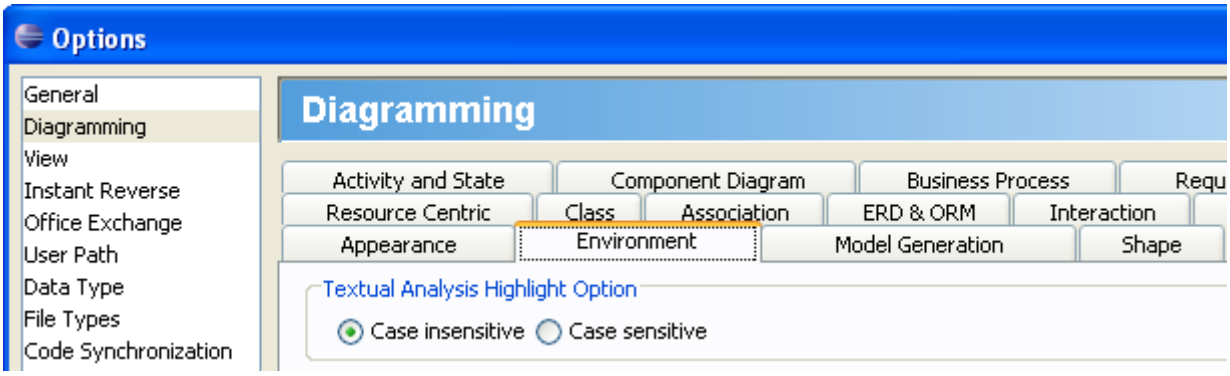



*Figure 2.139 - Select Environment tag*

To enable/disable the guide lines, check/uncheck the option **Show diagram alignment guide**.

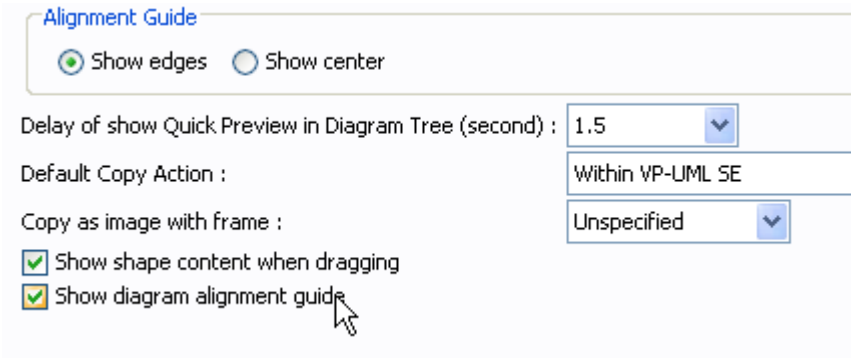



*Figure 2.140 - Enable/disable the guide lines*

You can also change the guide line style by choosing **Show edges** or **Show center**.

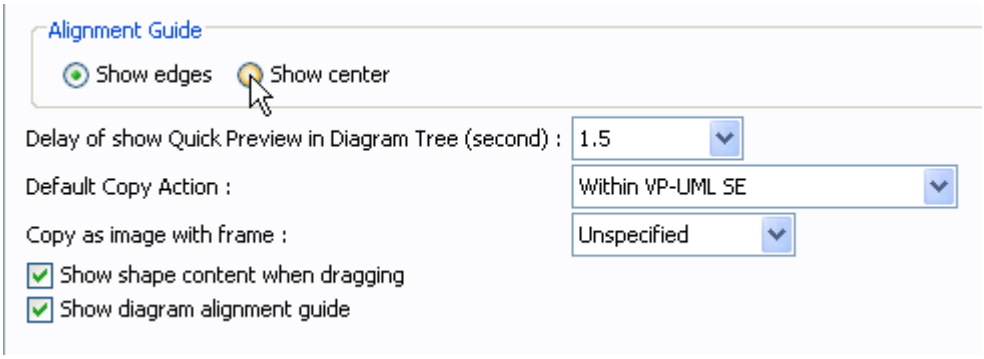



*Figure 2.141- Change the style of guide lines*

If you choose **Show center**, the guide line shows the center of the closest shape.

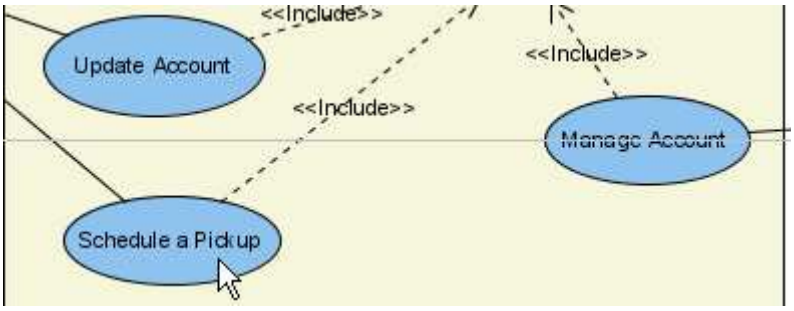



*Figure 2.142 - Show center of the closest shape*

If you choose **Show edges**, the guide lines show the edge of the closest shape.

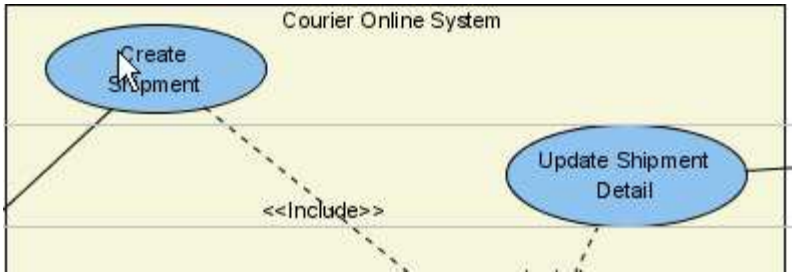



*Figure 2.143 - Show edges of the closest shape*

# Selectable

The option allows you to make certain diagram elements read-only so that you can focus on editing other elements. All diagram elements are selectable by default.

To make one or more diagram elements non-selectable:

1. Right-click on the elements and deselect from the popup menu to make the selected element non-selectable.

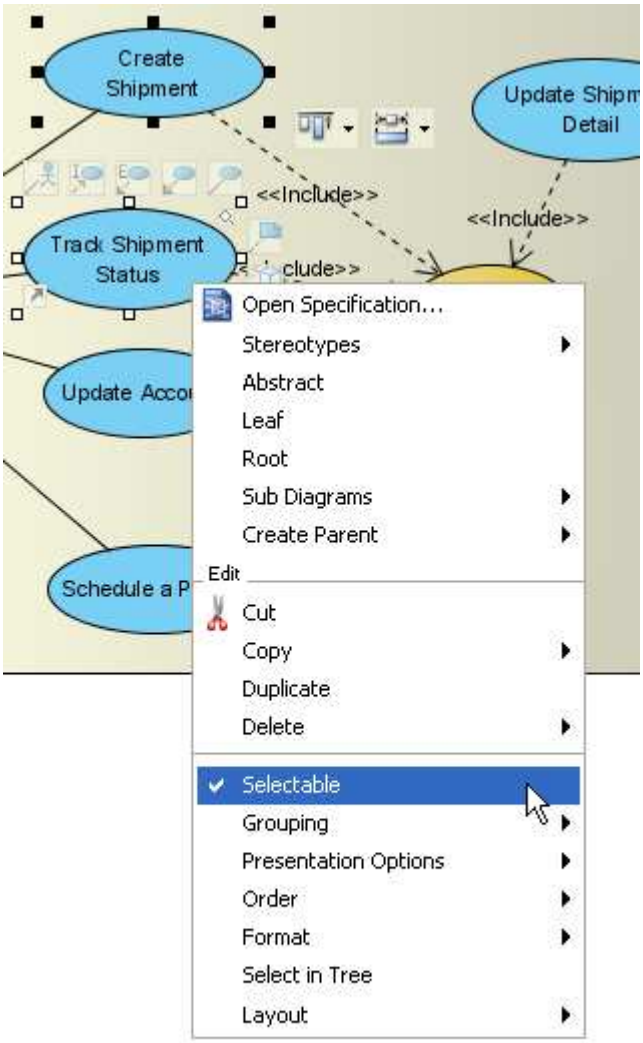



*Figure 2.144 - Deselect the selectable option*

2. When a diagram element is non-selectable, it can not be detected by mouse or key actions. This means that if you click or drag on it, it will be the same as clicking or dragging on the white space of the diagram and nothing with happen

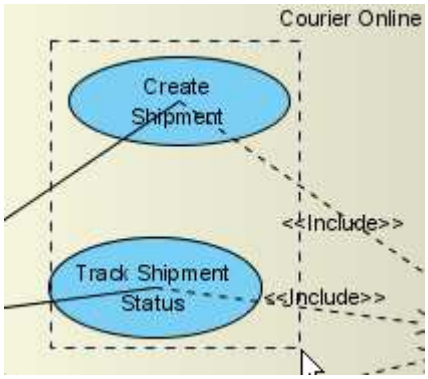



*Figure 2.145 - Diagram element after deselection*

.

3. To make a non-selectable diagram element selectable again, right-click on it and select **Selectable** from the popup menu.

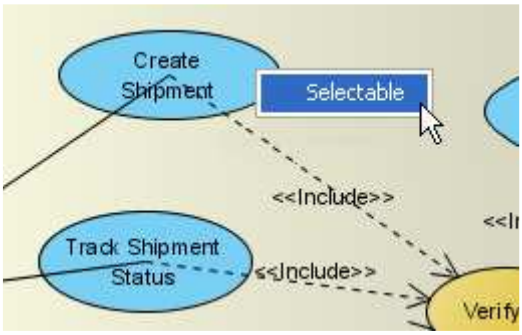



*Figure 2.146 - Diagram element can be selected again*

4. You may also right-click on the diagram and select **Make All Non-Selectable**/**Make All Selectable** from the popup menu to make all elements non-selectable/selectable.

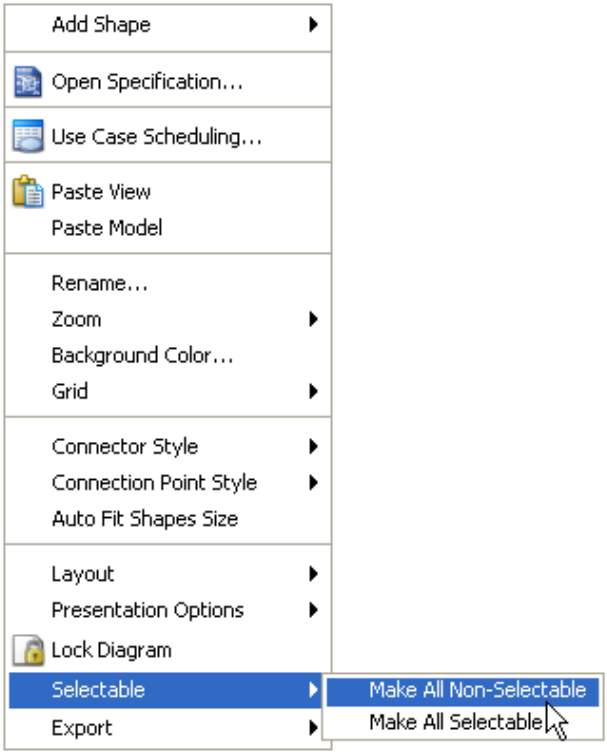



*Figure 2.147 - Make all diagram elements Selectable or Non-selectable*

# Locking a Diagram

If a diagram is locked, you can only view but not change the elements on the diagram.
A diagram is locked by right-clicking the diagram and then selecting **Lock Diagram** from the popup menu.


*Figure 2.148- Locking a diagram*

# 3 Style and Formatting

# Chapter 3 - Style and Formatting

This chapter will show you how to change the style and format of diagram elements.

One of the goals of modeling is help the modeler and readers to understand the subject being modeled. As a result, applying consistent style and formatting can greatly improve the efficiency of modeling. In SDE for Eclipse, it supports a rich array of tools in a set to help the modeler to perform modeling.

In this chapter:

- Changing connector styles
- Setting and pinning connection end points
- Filling color
- Formatting lines

## Connector Styles

Connectors are the lines that connect two shapes. When more shapes are created and more connectors appear, you may find that it is difficult to handle the straight spaghetti-like connectors. To overcome this problem, SDE for Eclipse provides five connector styles to help you handle the connectors, namely Rectilinear, Oblique, Curve, Round Oblique and Round Rectilinear.

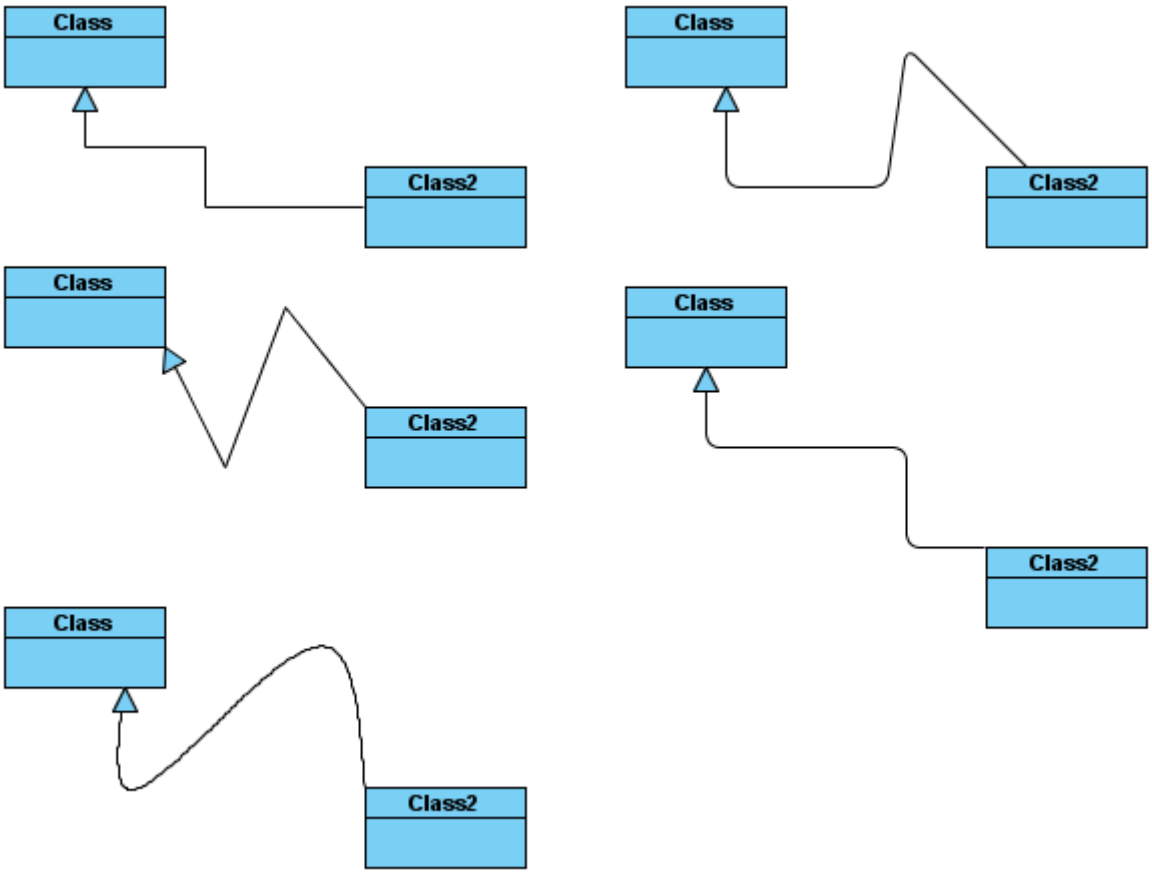



*Figure 3.1 - Different types of connectors*

## Setting Connector Style

When a new connector is created, it follows the default connector style defined in the Options of the application. It is possible to change the connector style individually. There are two ways to change the connector style. The first one is via a popup menu and the other is via the **Property table**.
To change the connector style via popup menu:

1. Right click the connector that you want to change the style of.
2. Select the **Connector Style** menu and then the connector style sub-menu will appear.
3. Select either **Rectilinear**, **Oblique**, **Curve**, **Round Oblique** or **Round Rectilinear**.

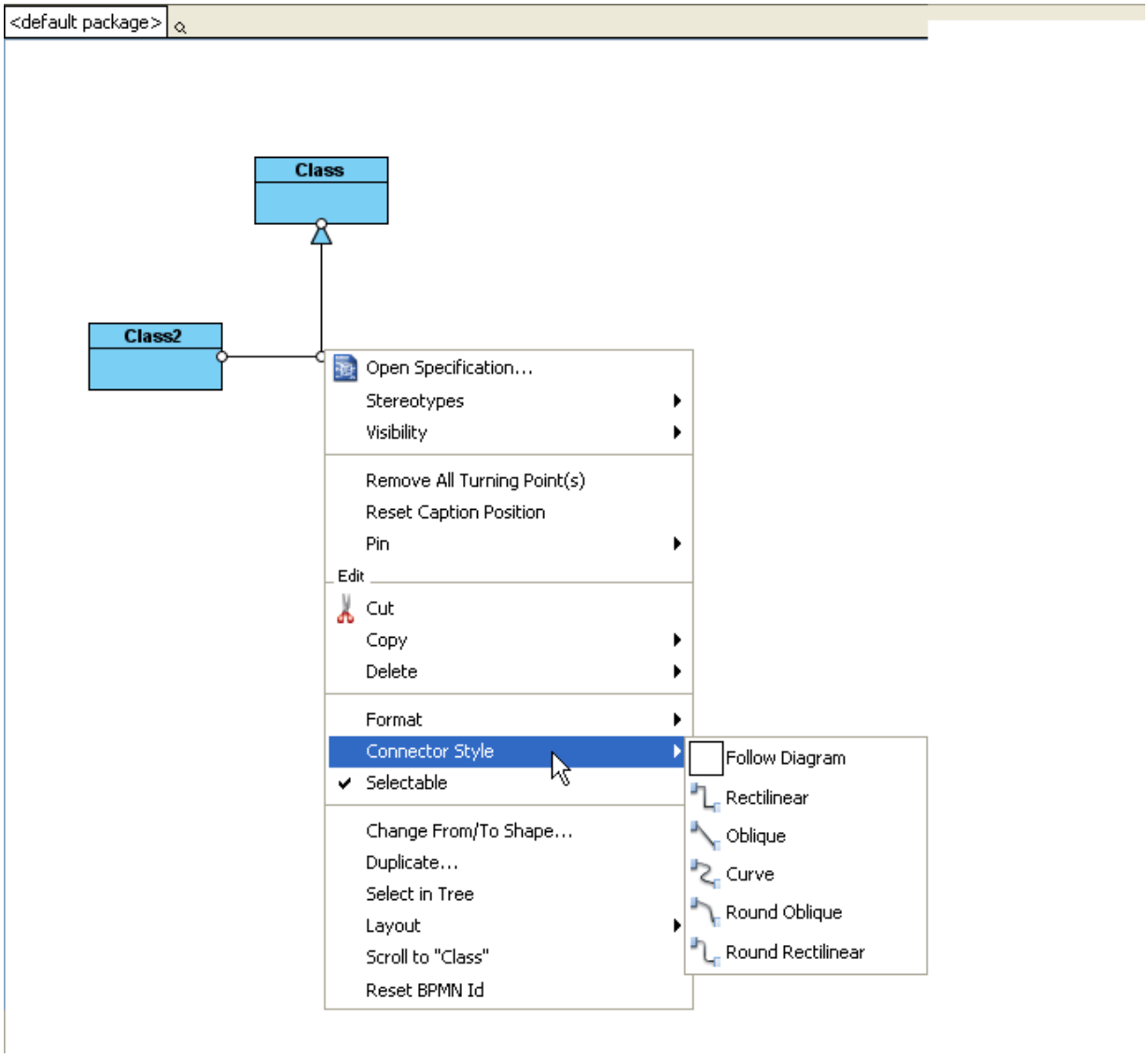



*Figure 3.2 - Change connector style on popup menu*

To change the connector style via **Property table**:

1. Select the connector whose style you want to change.
2. Find the **Connector style** row in the Property table.
3. Click the Value column of **Connector style** row.
4. Select either **Rectilinear**, **Oblique**, **Curve**, **Round Oblique** or **Round Rectilinear**.

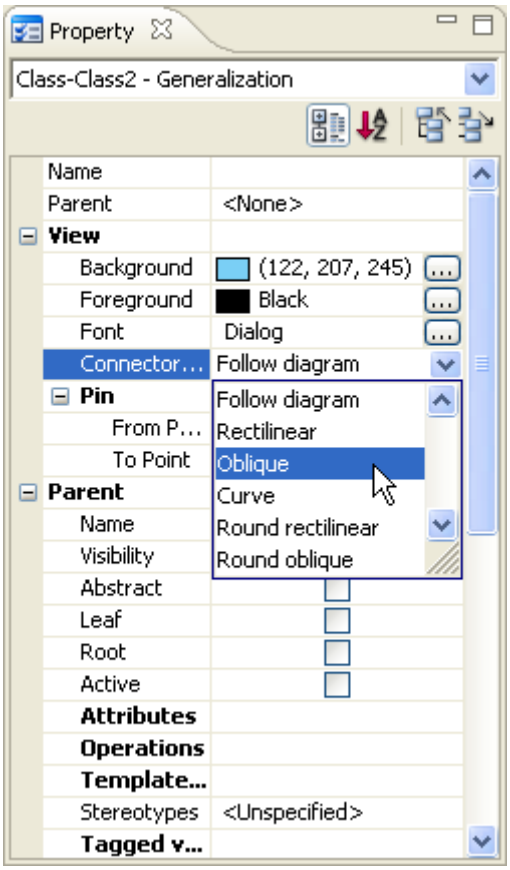



*Figure 3.3 - Change connector style on properties table*

## Rectilinear Connector Style

Once the connector is set to Rectilinear, the connector always remains either horizontal or vertical. You cannot create a breakpoint on the connector by yourself. The breakpoints are generated on the connector automatically after you reshape the line.

In the following figure, there is a pin icon at each end of the connector. Pinning a connection end point allows the pinned end point of a connector to be fixed, no matter how the connecting shapes are moved. For further details, please refer to **Connection Point Style> Pinning the Connection End Point** in this chapter.

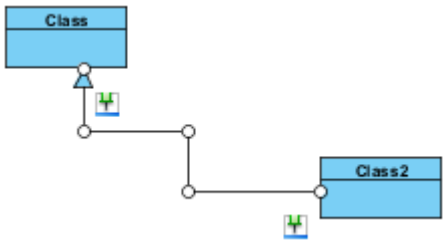



*Figure 3.4 - Rectilinear Connector Style*

To reshape the connector, you can drag the lines or the break points at the connector.

## Dragging on Lines

There is a horizontal line and vertical line along the connector. If you are dragging on the horizontal lines, the lines can only move up or down. In the following figures, the line we want to move is in blue. As you can see, the right end point of the blue line is touching Class2. After moving the red line upwards, the right end point of the blue line does not touch Class2. To rectify this, a vertical line is automatically created to continue the connection between Class and Class2.

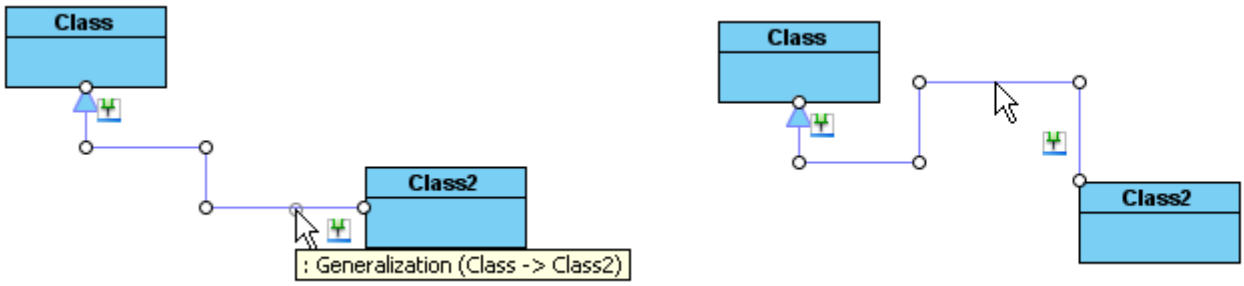



*Figure 3.5 - Drag on the line*

The result of dragging the vertical line is similar to dragging the horizontal line. The difference is that the line is restricted to vertical movement (either from left to right or from right to left). When two shapes are disconnected, a horizontal line will be created at the end of point to continue the connection between shapes.

## Dragging on Break Points

Dragging on break points provides two dimensional movements to the point, modifying the connectors. The point being moved may affect all lines of the connector that depends on the numbers of line in the connector. The following figures demonstrate the result of dragging the orange point along the red arrow.

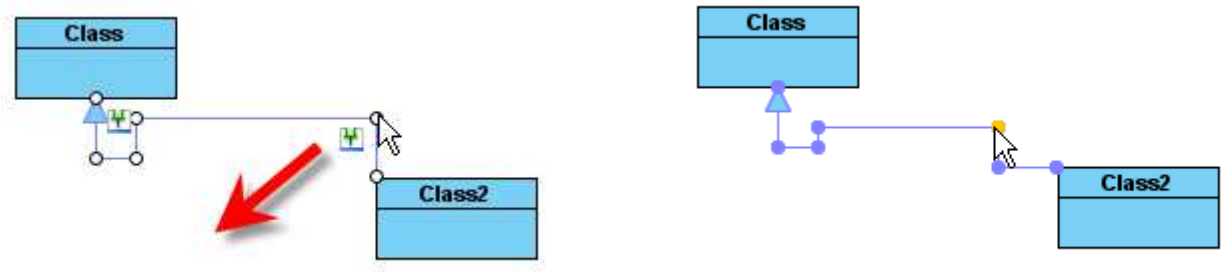



*Figure 3.6 - Drag on break point*

# Oblique Connector Style

There is no boundary for the modification of the connectors. You can create break points anywhere you like on the connector, and the lines in the connector will not be aligned with the horizontal or vertical axis. If you drag a line, a new breakpoint will be created at the drag point and two lines will be created. If you wish to modify a line to be horizontal or vertical, you may do this by hand.

The following figures demonstrate modifications to the connector. The new breakpoint is created when you drag the connector away from its starting point. When you release the mouse click the breakpoint will be finalized.

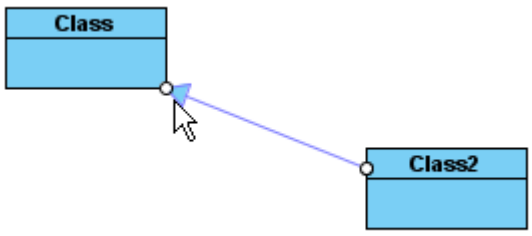



*Figure 3.7 - Oblique Connector Style*

The figure below shows the modification to the connector with the oblique connector style. The connector is divided into two lines and a new break point is created on the connector.

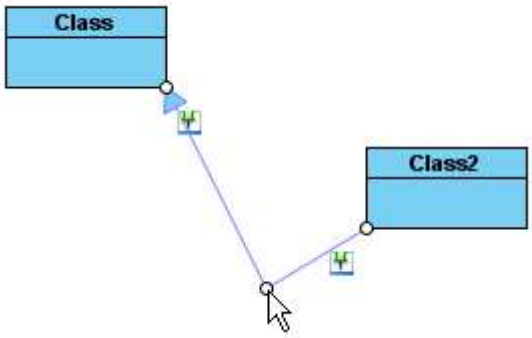



*Figure 3.8 - Create a break point by drag on the line*

You can use the **Point Eraser**  in the Diagram Toolbar or double click on the connector point to erase that points.

## Curve Connector Style

By applying the Curve connector style, the connector will be arranged as a smooth curve line. To change the curve shape, simply add/move/remove point(s) on the connector and the curve will be automatically re-calculated according to the points. The Curve connector style makes the connectors much easier to route in complex diagrams to avoid crossing connectors.

The following figures demonstrate the modifications to the connector. The new breakpoint is created when you drag the connector away from its starting point. When you release the mouse click the breakpoint will be finalized. Another breakpoint is created in the middle of the connector to make a curvature.

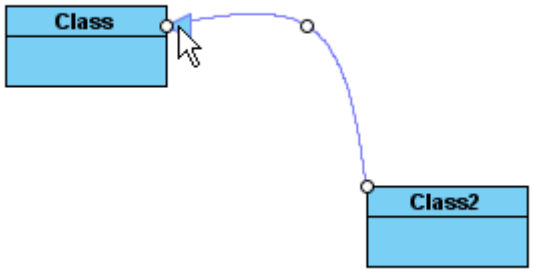



*Figure 3.9 - Curve Connector Style*

The figure below shows the modification to the connector with the curve connector style. The connector has one more curvature and a new break point is created on the connector.

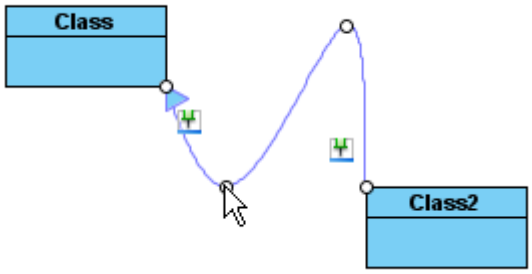



*Figure 3.10 - Create a break point by drag on the line*

## Round Oblique Connector Style

The behavior of the Round Oblique connector is the same as that of the Oblique connector style. The only difference is the corners of the connector using Round Oblique style will appear rounded.

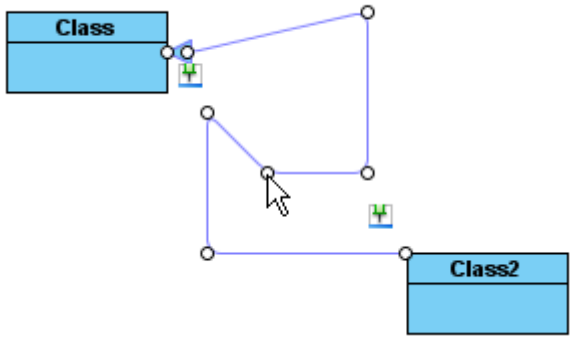



*Figure 3.11 - Round Oblique Connector Style*

## Round Rectilinear Connector Style

The behavior of Round Rectilinear connector style is the same as that of Rectilinear connector style. The only difference is the corners of the connector using Round Rectilinear style will appear rounded.

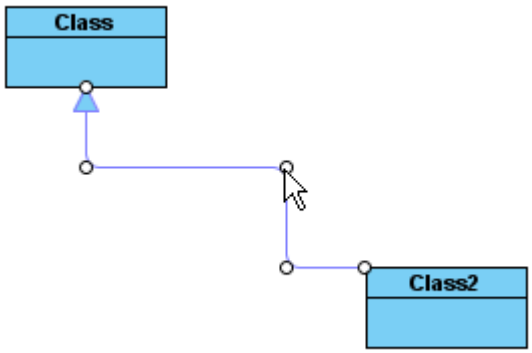



*Figure 3.12 - Round Rectilinear Connector Style*

## Setting a Default Connector Style

Default connector style can be set from the Options. To set default connector style:

1. Select **Modeling > Application Options...**from main menu. This displays the **Options** dialog box.
2. Open the **Diagramming** category.
3. Select the **Environment** page.
4. From the row **Connector Style**, select either **Rectilinear**, **Round Rectilinear**, **Oblique**, **Round Oblique** or **Curve**.
5. Press **OK** button to confirm changes.

## Follow Diagram Connector Style

In SDE for Eckuose, with the Follow Diagram feature, you do not need to set connector style one by one if you want to change all connectors in the diagram. When you right-click on a diagram you can set its default connector style from its popup menu, so that once the diagram connector style is changed, all connectors whose connector style is set to 'Follow Diagram' will be updated to the new style.

# Connection Point Style

Each shape has a property called **Connection Point** that specifies how the connection points of the connectors should move if the shape is being moved. Unlike the connector style that is connector oriented, the connection point style is shape oriented.

## Setting Connection Point Style

To set the connection point style:
Using popup menu:

1. Select one or more shapes and right-click on the selection.
2. Select the **Format > Connection Point...**from popup menu. This displays the **Select Connection Point Style** dialog box.

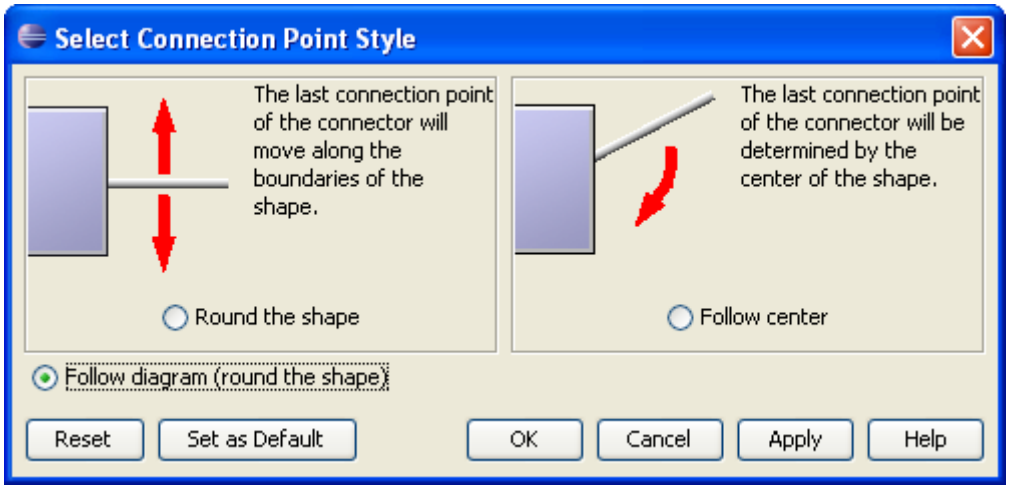



*Figure 3.13 - Select Connection Point Style Dialog*

3. Select either **'Round the shape'** or **'Follow center'** for the connection point style. Upon selecting a style an animation will appear to emulate the effect of the selected connection point style.
4. Click **OK** to confirm the change.

Using the property table

1. Select a shape.
2. Select either '**Round the shape**' or '**Follow center**' from the **Value** field of the **Connection point** property.

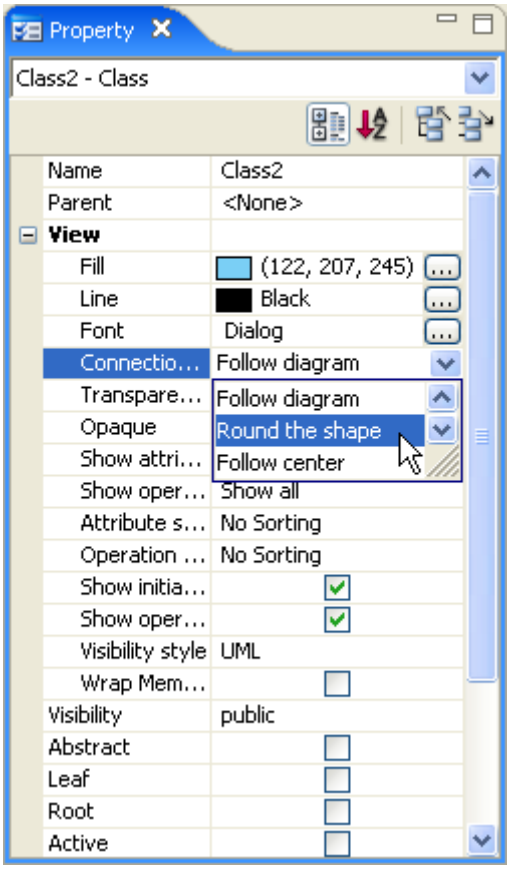



*Figure 3.14 - Properties Table*

## Round the Shape

Upon selecting the 'Round the shape' connection point style, the last connect point of the connector will move along the bounds of the shape.

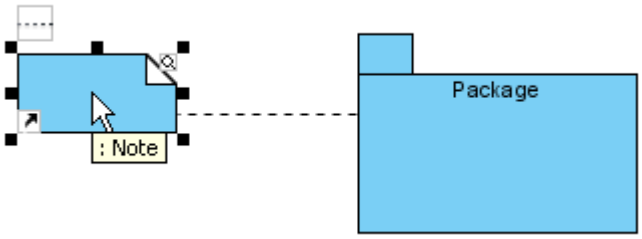



*Figure 3.15 - Round the shape*

## Follow Center

Upon selecting the 'Follow center' connection point style, the last connect point of the connector will be determined by the center of the shape.

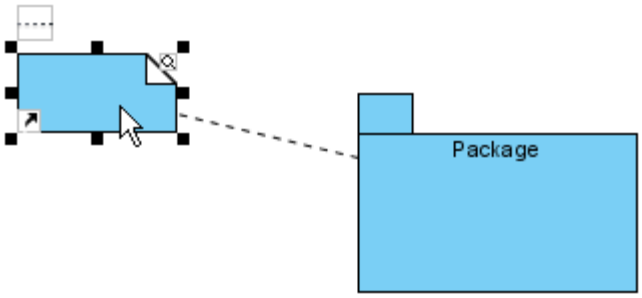



*Figure 3.16 - Follow center*

# Pinning the Connection End Point

Pinning a connection end point allows the pinned end point of a connector to be fixed, no matter how the connecting shapes are moved. In figure below, the connection end point linking the class **Bank** is pinned to the location of the **getAccount** operation.

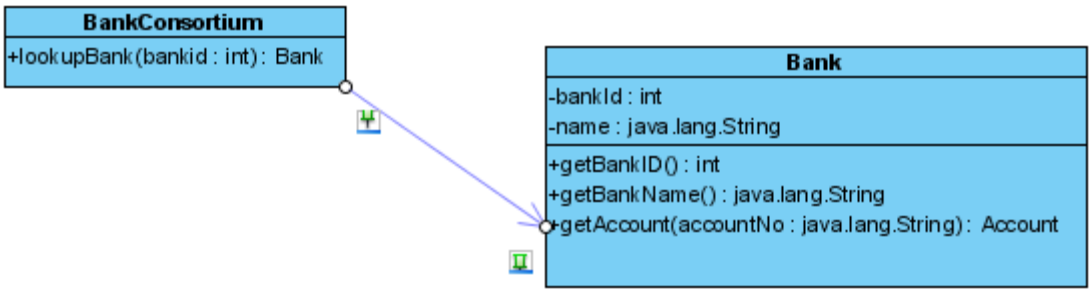



*Figure 3.17 - Pin a connector point*

In SDE for Eclipse a connecting end point is unpinned by default. If a connecting end point is unpinned, its location will be determined by the connection point style of the connecting shape.

To pin a connection and an end point:
**Using Resource-Centric Interface**

1. Select the connector.
2. There is a "pin" resource for each connection end point. If the end point is currently pinned an icon will be displayed (a pin with shorter needle). If the end point is currently unpinned, an "unpinned" icon will be displayed (a pin with longer needle). In the figure below, the end point connecting the class **Bank** is pinned, while the end point connecting the class **BankConsortium** is unpinned.
3. Click once on the resource to toggle its pin state.

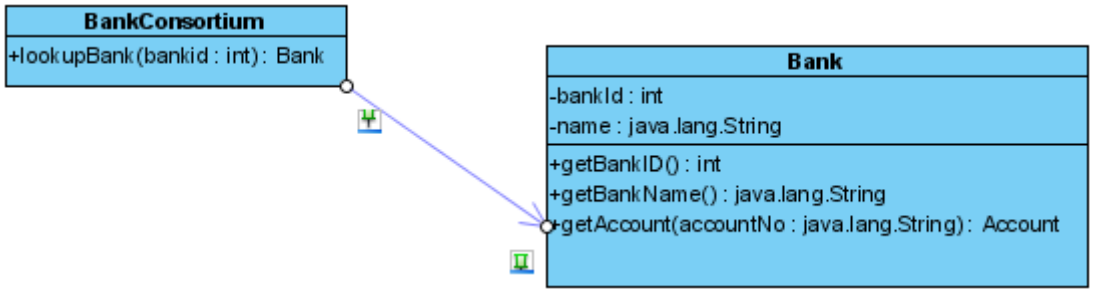



*Figure 3.18 - Toggle the pin state*

**Using the popup menu**

1. Right-click on the connector.
2. Select the **Pin** menu from the popup menu, the Pin sub-menu appears.
3. Select either From Point or To Point to pin/unpin the desired connection end point.

# Fill Color

All of the shapes have a fill color property, which allows you to select a solid fill color or a gradient fill color as well as define its transparency.

To format fill color for shapes, select the desired shapes and perform one of the following actions:

- Right-click on the selection and choose **Format > Fill...**from popup menu.
- From the property table, click on the **...**button of the **Fill** property to invoke the **Format Fill Color** dialog box.

In both cases, the **Format Fill Color** dialog box will be displayed.

## Format Fill Color Dialog Box

The **Format Fill Color** dialog box allows you to select the fill color type (solid or gradient) and you can create your own fill color by configuring the transparency, gradient style and colors.

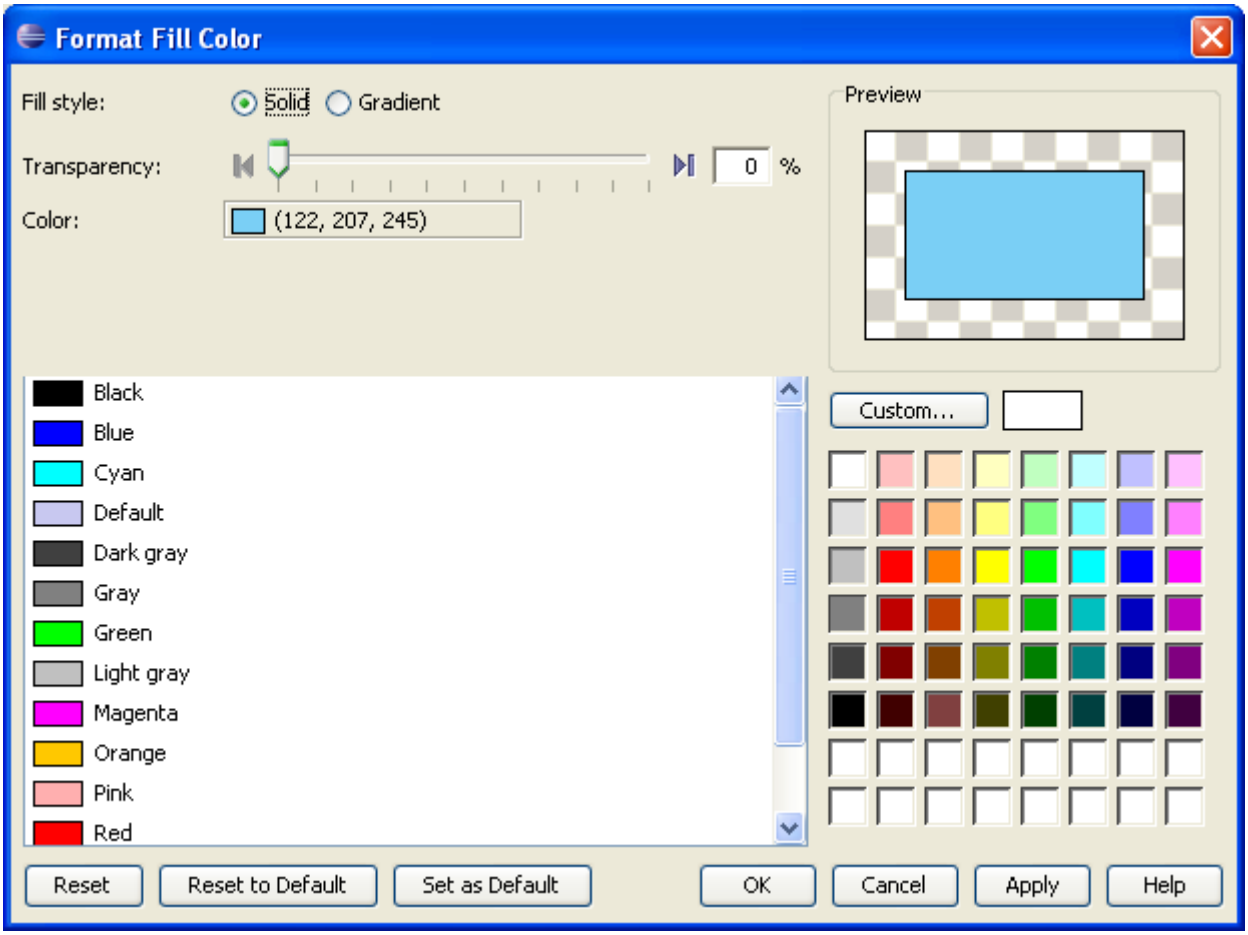



*Figure 3.19 - Format Fill Color Dialog*

| Field | Description |
|---|---|
| Fill Style | Select the fill style of the fill color. It can either be **Solid** (a single color) or **Gradient** (a fill color that is mixed |

| | |
|---|---|
| | by two colors). |
| Transparency | Specify the transparency of the fill color. The greater the value, the more transparent is the shape. 0 (zero) transparency makes the fill color completely opaque, while 100 (one hundred) transparency makes the fill color completely transparent.<br>You can adjust the transparency by dragging the slider, or by typing the value in the text field.<br>Alternatively, you can click the Opaque button to set the fill color to opaque, or click the Transparent button to set the fill color to transparent. |
| Preview | The Preview pane displays a rectangle that is filled with the editing fill color. The background is checked so that you can also preview the transparency of the fill color as well. |
| Save as Default | To save the current fill color as the default fill color for new shapes, click the **Set as Default** button. |

*Table 3.1*

## Formatting a Solid Fill Color

Upon selecting **Solid** from the **Fill style** field, you will see the detail pane for formatting a solid fill color.

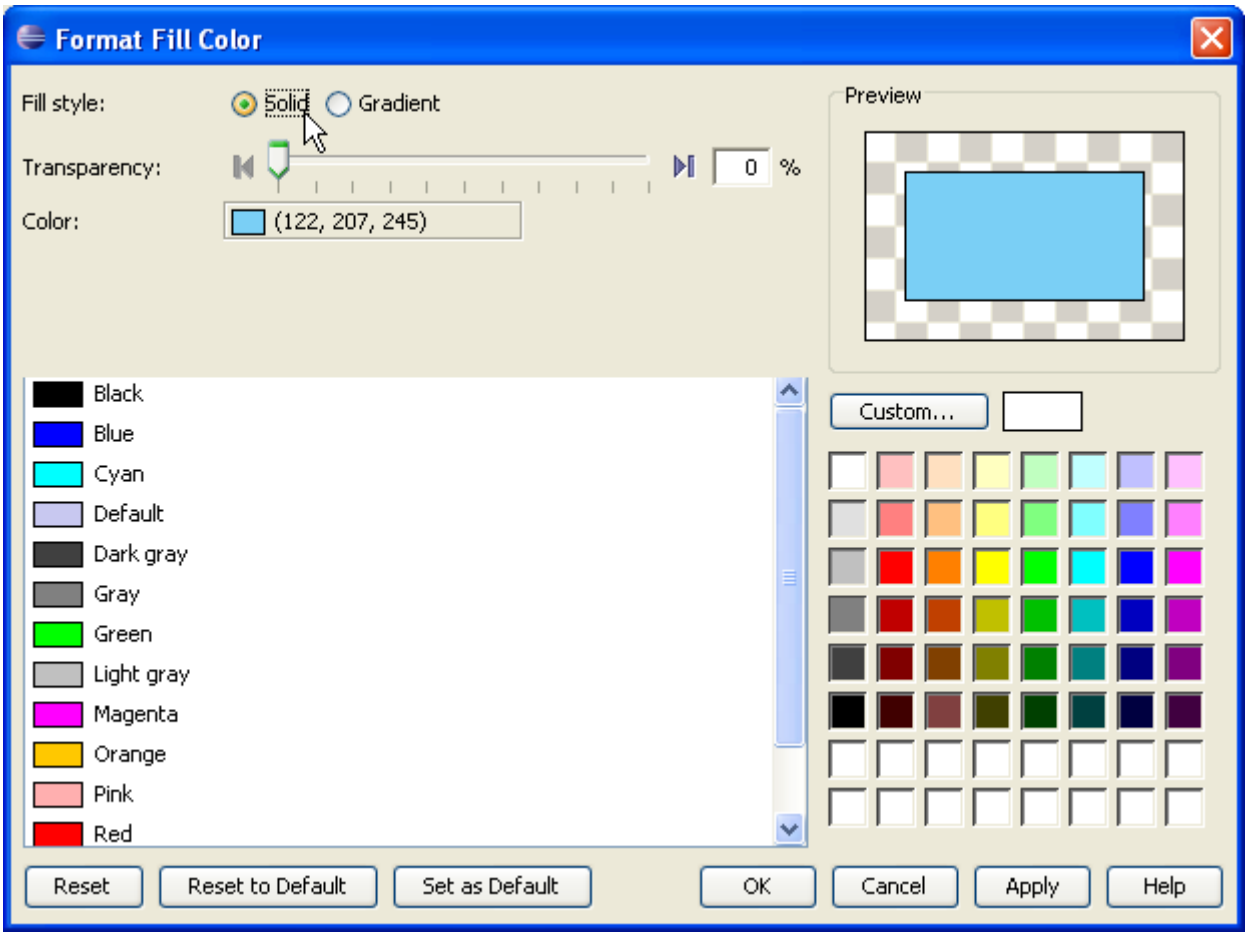



*Figure 3.20 - Select Solid Fill Style*

| Field | Description |
|---|---|
| Color | This field displays the current selected color. It will display the color name if the selected color is a default color (Black, White, Yellow, etc); otherwise the RGB value of the selected color will be displayed. |
| Default Color List | The default color list displays a list of pre-defined colors. Each color is displayed with a color preview and a color name. You can view the RGB value of a color by moving the mouse pointer over the color. |
| Custom Color Pane | The custom color pane displays a wider range of colors that you can choose from, and you may define a new custom color by clicking on the **Custom...**button. The new color will be added to the recent color list (located at the bottom two rows of the custom color pane) for later reuse. |

*Table 3.2*

## Formatting a Gradient Fill Color

Upon selecting **Gradient** from the **Fill style** field you will see the detail pane for formatting a gradient fill color.

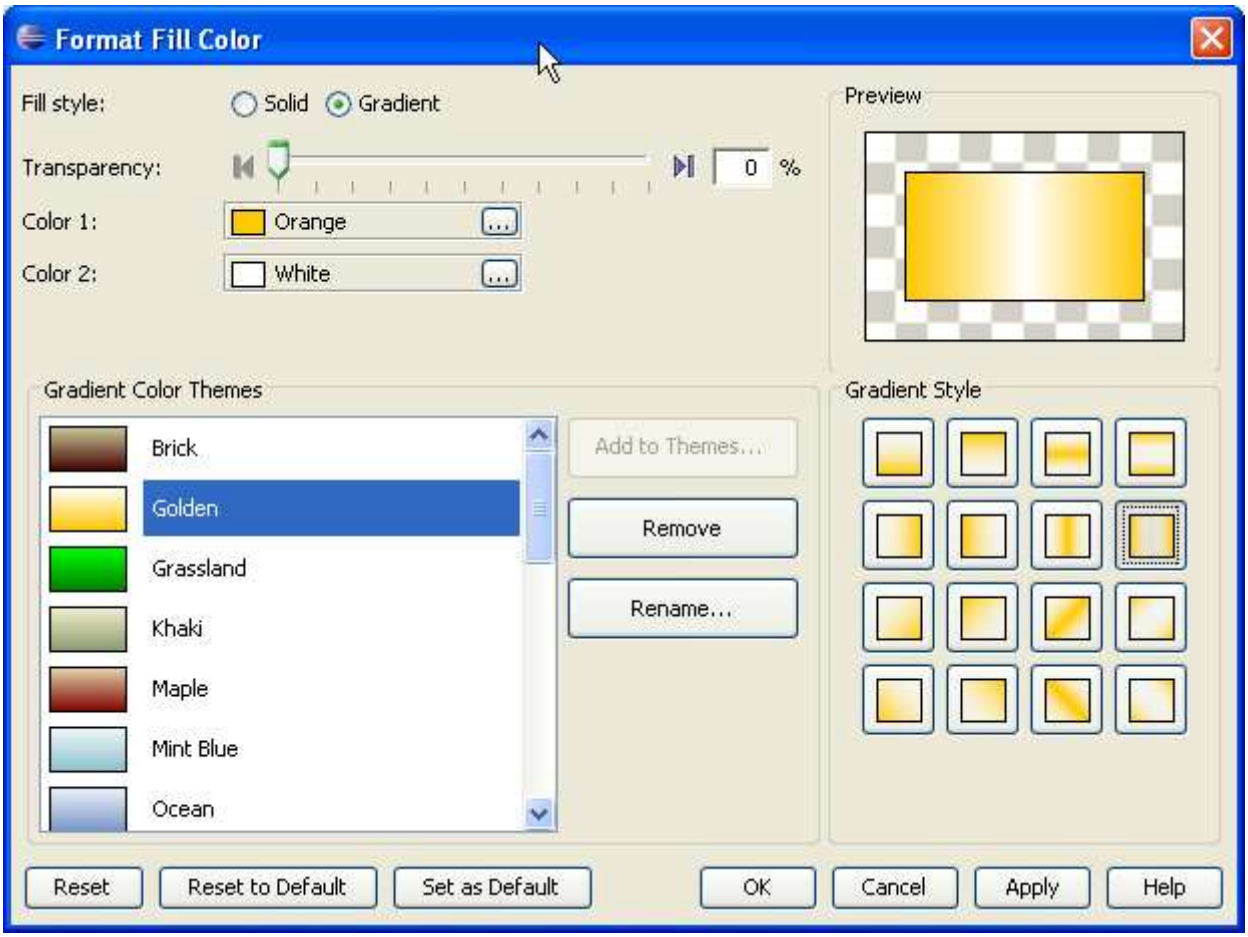



*Figure 3.21 - Select Gradient Fill style*

| Field | Description |
|---|---|
| Color 1 | You can select the first color of the gradient from the **Color 1** field. To select a color click the **...** button or double-click on the color editor. A color chooser will appear for you to select a color. |
| Color 2 | You can select the second color of the gradient from the **Color 2** field. To select a color click on the ...button or double-click on the color editor. A color chooser will appear for you to select a color. |
| Gradient Color Themes | The Gradient Color Themes pane displays a list of pre-defined gradient color themes.<br>To add a new color theme select **Color 1** and **Color 2** then click the **Add to Themes...**button. Please note that you must select a combination of colors that does not already exist in the color themes.<br>To rename a theme click on the **Rename...**button or double-click on the desired theme. An input dialog will appear for you to enter a new name.<br>To remove a theme select the theme and click on the **Remove** button, or use the Delete key instead. |
| Gradient Style | The Gradient Style pane allows you to select the gradient style of the gradient fill color (the angle of how the gradient color is drawn). There are sixteen pre-defined gradient styles, which are shown as toggle buttons in the Gradient Style pane. To select a gradient style to use click on one of the styles. |

*Table 3.3*

# Line Format

You can format the line of a shape so that you can adjust its stroke style, weight (thickness), color and transparency.
To format the line of a shape, select the desired shape and perform one of the following actions:

- Right-click on the selection and choose **Format > Line...**from popup menu.
- From the property table, click on the **...** button of the **Line** property to invoke the **Format Line** dialog box.

In both cases, the **Format Line** dialog box will be displayed.

## Format Line Dialog Box

The **Format Line** dialog box allows you to format the line of a shape.

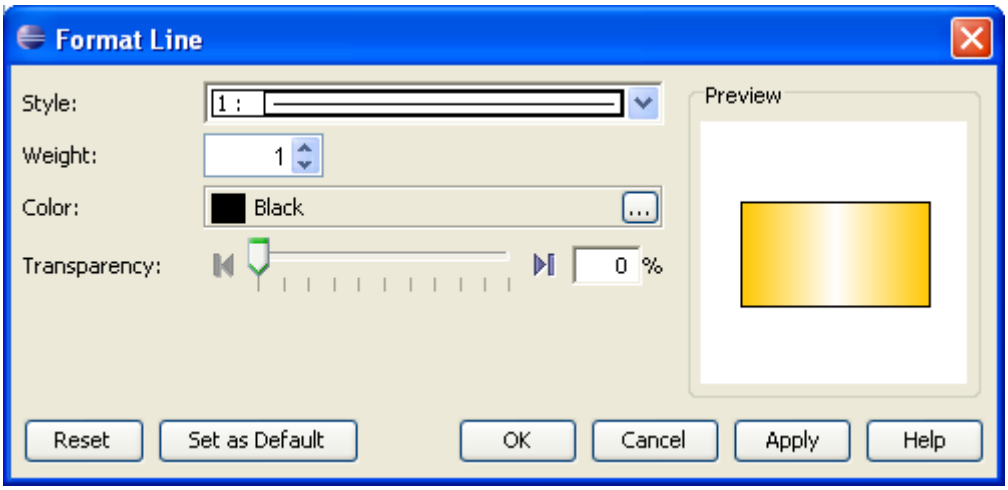



*Figure 3.22 - Format Line Dialog*

| Field | Description |
|---|---|
| Style | Select the style (stroke) of the line. You can select one of the 23 styles (including "None" , which means no line) to apply in the combo box. A preview will be shown for each of the style items. |
| Weight | Adjust the weight (thickness) of a line. The greater the value, the thicker the line. You can use the up/down button to increase/decrease the line weight, or you can type directly into the text field. The line weight ranges from 1 to 20.<br>Note: Only integer values can be used for line weight. If you type 2.8 in the text field, 2 will be applied instead. |
| Color | Specify the line color. Click on the **...** button beside the **Color** field to select a color, either from the **Default** page (which shows predefined colors) or from the **Custom** page (which shows a larger variety of colors, and allows you to define any custom colors). |
| Transparency | Specify the transparency of the line. The greater the value, the more transparent the line. 0 (zero) transparency makes the line completely opaque, while 100 transparency makes the line completely transparent.<br>You can adjust the transparency either by dragging the slider, or by typing the value in the text field. Alternatively you can click on the Opaque button to set the fill color to opaque, or click on the Transparent button to set the fill color to transparent. |
| Preview | The Preview pane displays a rectangle surrounded by the line with the selected line format applied. |
| Save as Default Line Format | To save the current line format as the default line format for new shapes click the **Set as Default** button. |

*Table 3.4*

# Font

You can change the font format such as color and size.
To format the font, select the desired shapes or text boxes and perform one of the following actions:

- Right-click on the selection and choose **Format > Font...** from the popup menu.
- From the property table, click on the **...** button of the **Font** property to invoke the **Select Font** dialog box.

In both cases, the **Select Font** dialog box will be displayed.

## Select Font Dialog Box

The **Select Font** dialog box allows you to format the font of a shape or a textbox.

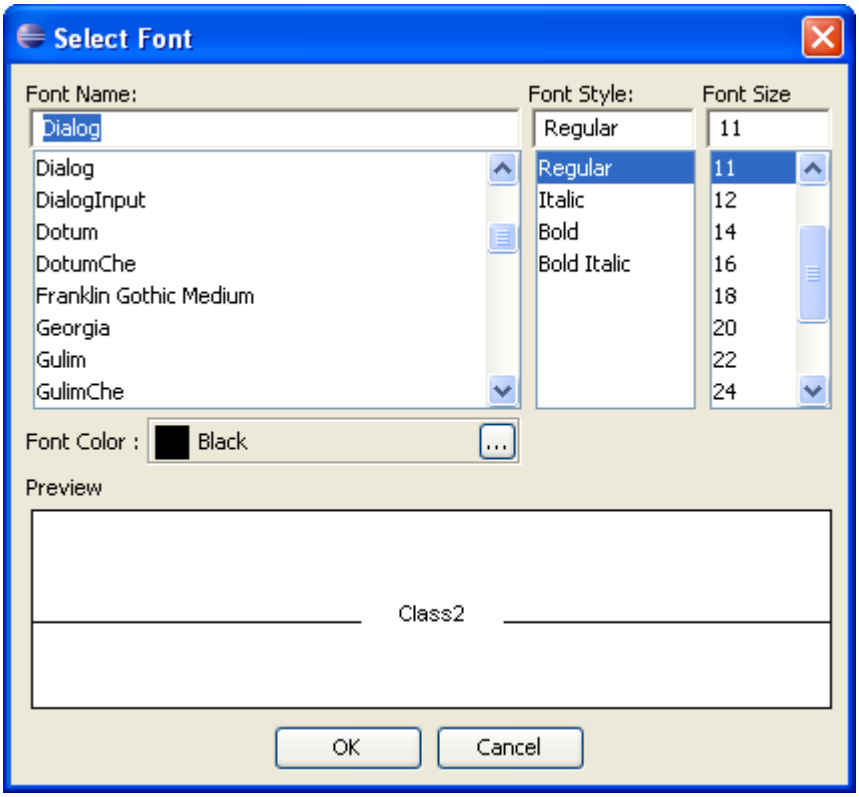



*Figure 3.23 - Select Font dialog box*

| Field | Description |
|---|---|
| Font Name | Select different types of font. The number of fonts depends on the fonts available in your computer. |
| Font Style | Select the style of font. You can select one of the 4 styles, a preview will be shown for each of the style items. |
| Font Color | Specify the font color. Just click on the **...** button beside the **Color** field to select a color either from the **Default** page (which shows predefined colors) or from the **Custom** page (which shows a larger variety of colors, and allows you to define any custom colors). |
| Font Size | Select the size of font. You may either click on the default sizes or enter the font size in the text field. |
| Preview | The Preview pane displays the selected font format. |

*Table 3.5*

# Format Copier

Format copier enables you to copy the fill, line and font settings of one shape to another.

To copy format of a shape to another:

1. Select the source shape.

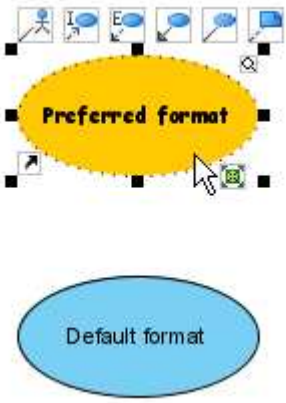



*Figure 3.24 - Select the source shape*

2. Click **Format Copier** on the toolbar.

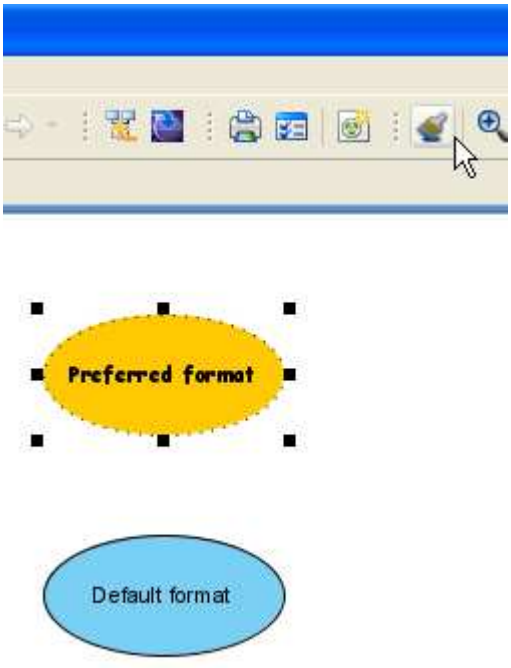



*Figure 3.25 - Click Format Copier*

3. Click on the targeted shape to apply the formatting.

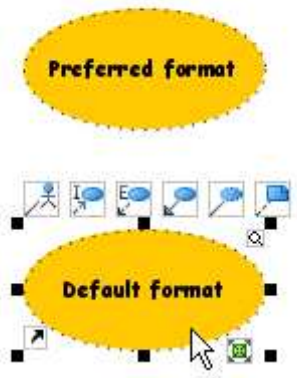



*Figure 3.26 - Apply formatting*

# Stereotyped Element Appearance

With the configurable stereotype appearance including fill, line and font, stereotyped elements can be easily distinguished and emphasized in the diagram.

Here, a stereotype of class is used as an example.

## Configuring Stereotype Appearance

1.Select main menu **Modeling** > **Edit Stereotypes...**. to open **Configure Stereotypes** dialog box.

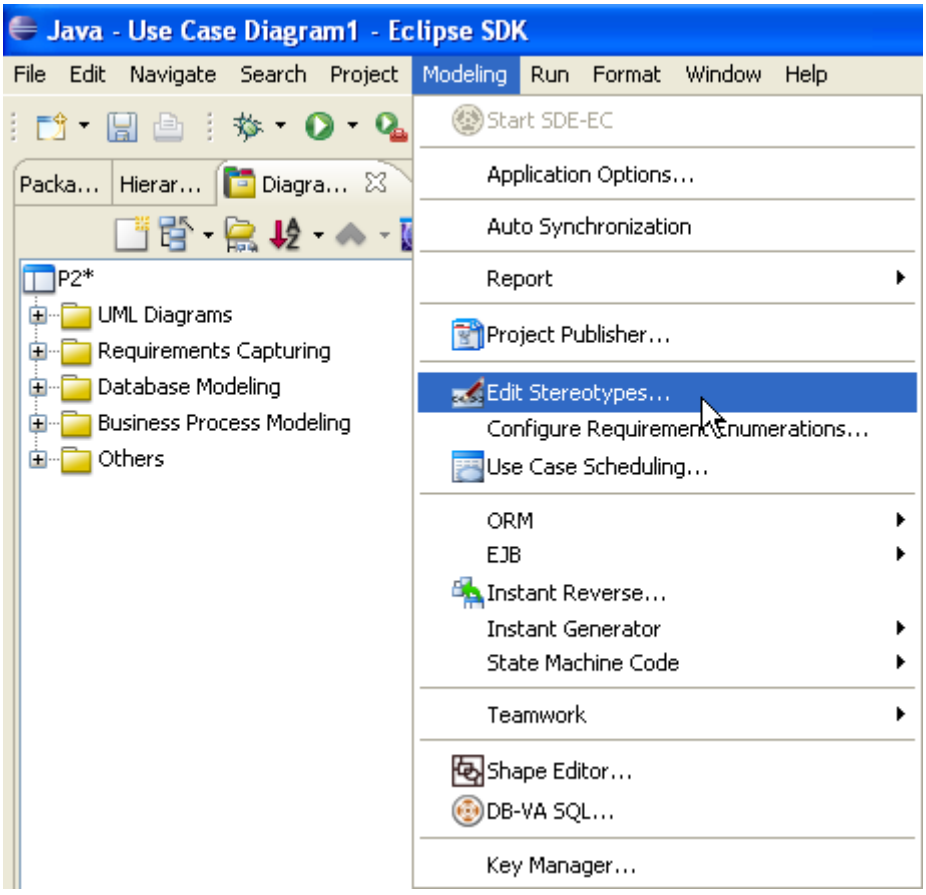



*Figure 3.27 - Select Edit Stereotypes...*

2. In the **Configure Stereotypes** dialog box, select a model type in **Model elements** and the target stereotype in **Stereotypes** (in this example we selected "Entity Bean" - a pre-defined stereotype of Class). Click the **Edit...** button.

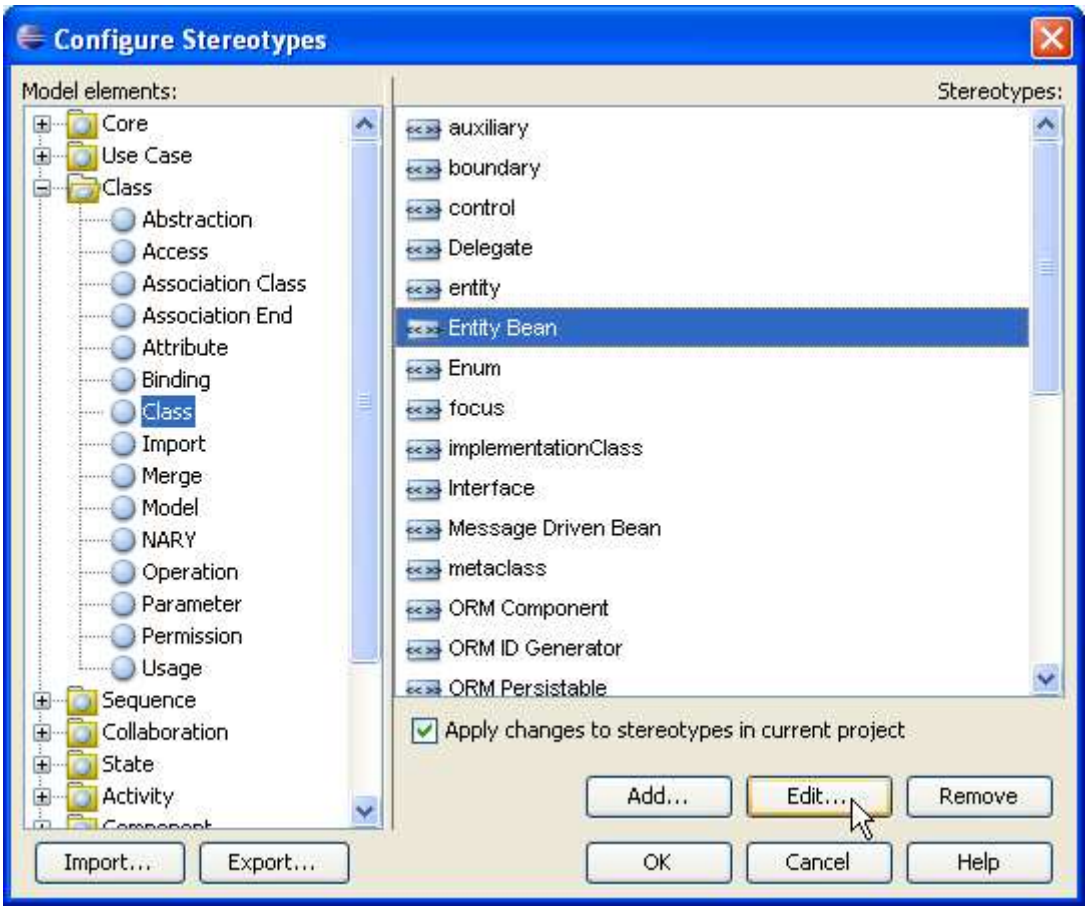



*Figure 3.28 - Configure Stereotypes dialog box*

3. The **Stereotype Specification** is shown.

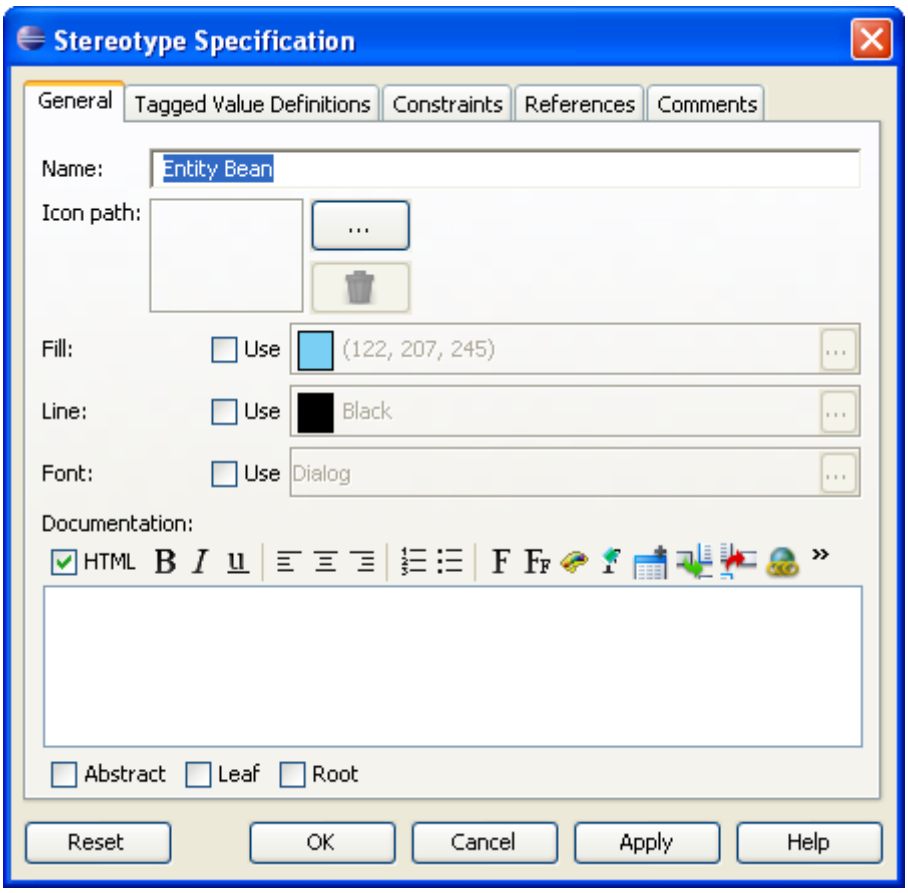



*Figure 3.29 - Stereotype Specification*

To apply fill color to stereotype:
1. select the **Use** checkbox and click the **...** button of the **Fill** property.


*Figure 3.30 - Check Use and edit Fill property*

2. Select a fill color in the **Format Fill** dialog box and click **OK**.

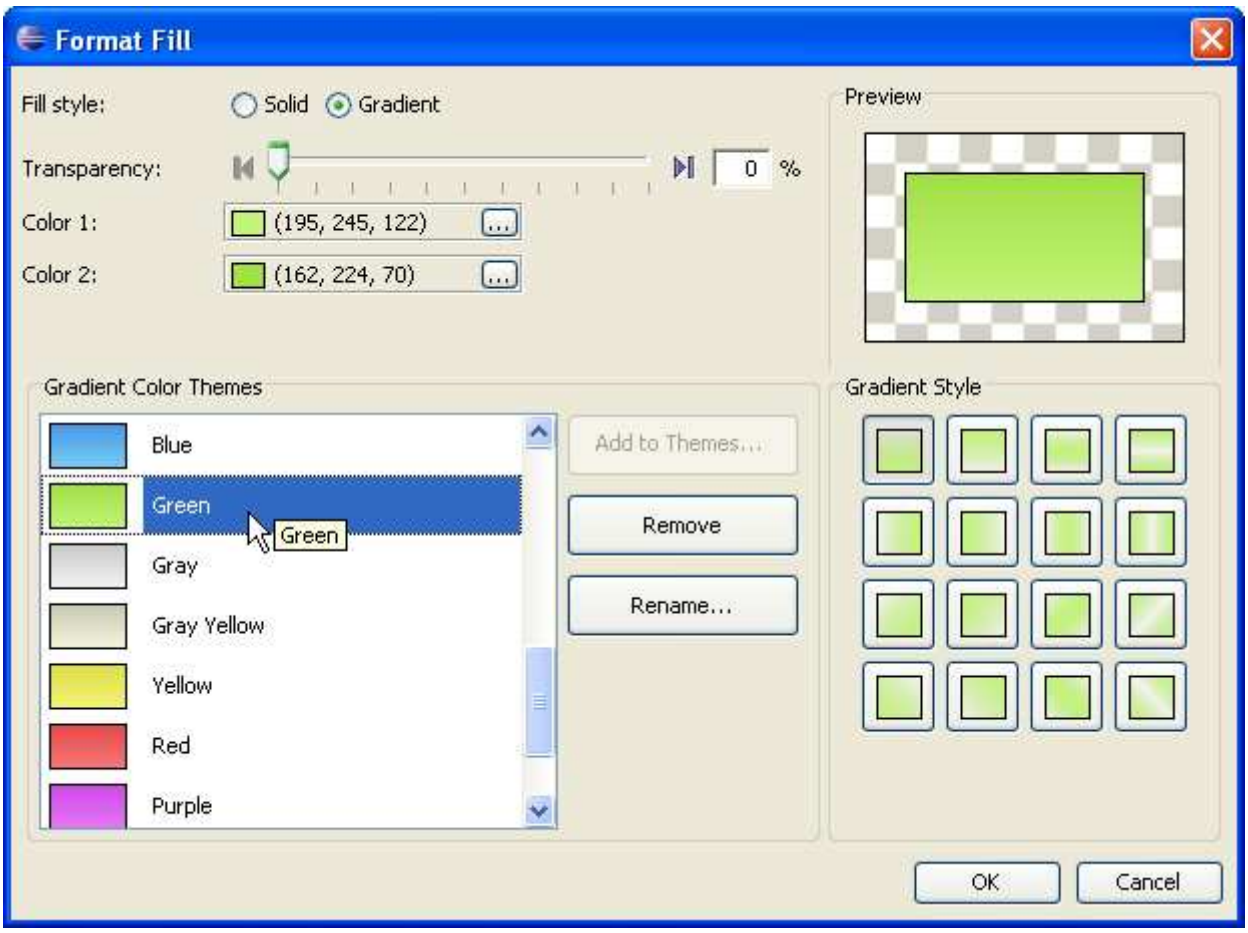



*Figure 3.31 - Format Fill dialog box*

To apply line style to stereotype:
1. Select the **Use** checkbox and click the **...** button of the **Line** property.

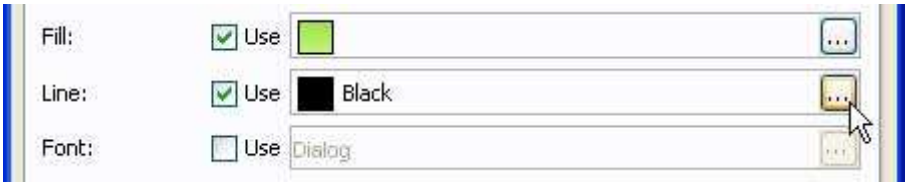



*Figure 3.32 - Check Use and edit Line property*

2. Configure the line style in the **Format Line** dialog box and click **OK**.

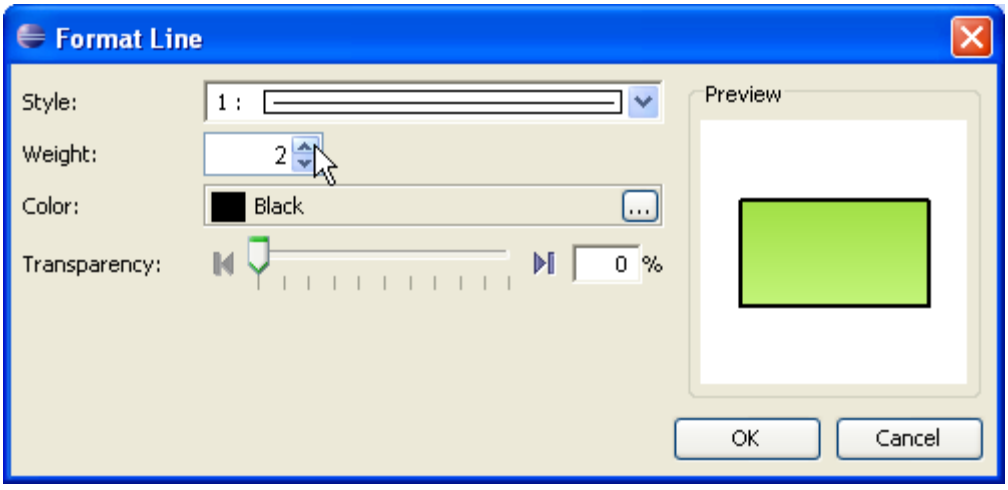



*Figure 3.33 - Format Line dialog box*

To apply font to stereotype:
1. Select the **Use** checkbox and click the **...** button of the **Font** property.

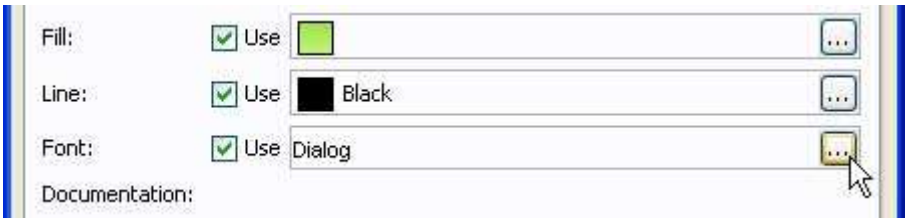



*Figure 3.34 - Check Use and edit Font property*

2. Select a font in the **Select Font** dialog box and click **OK**.

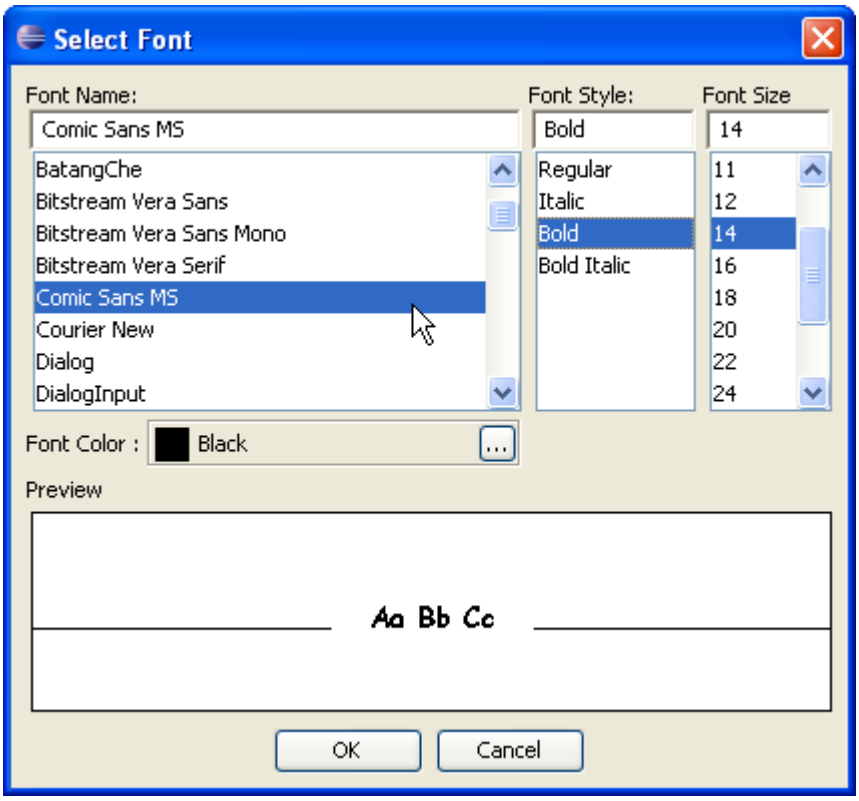



*Figure 3.35 - Select Font dialog box*

After configuring stereotype appearance, click **OK** in the **Stereotype Specification**. Then, Click **OK** when returned to the **Configure Stereotypes** dialog box.

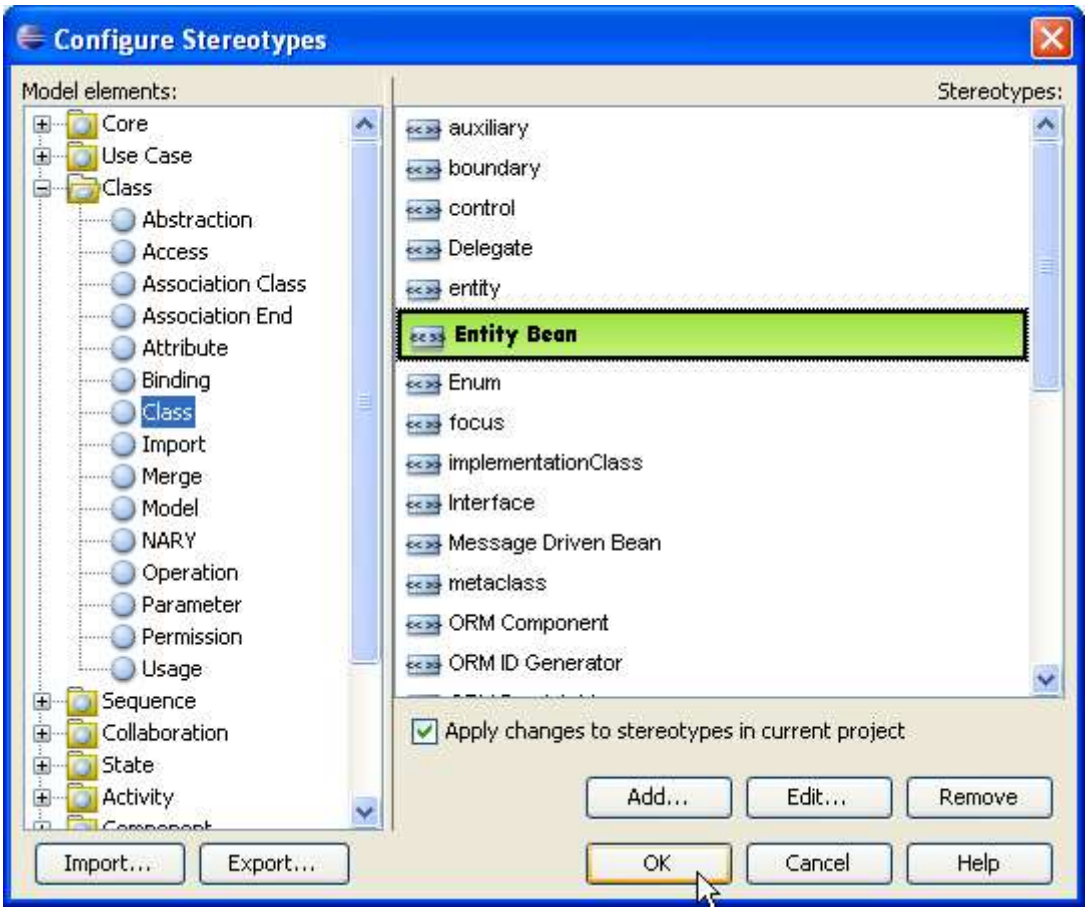



*Figure 3.36 - Stereotype appearance configured*

## Applying Stereotypes to Shape

1. Right-click on a shape and select **Stereotypes** > **Stereotypes...** from the popup menu to open the Class Specification Dialog.

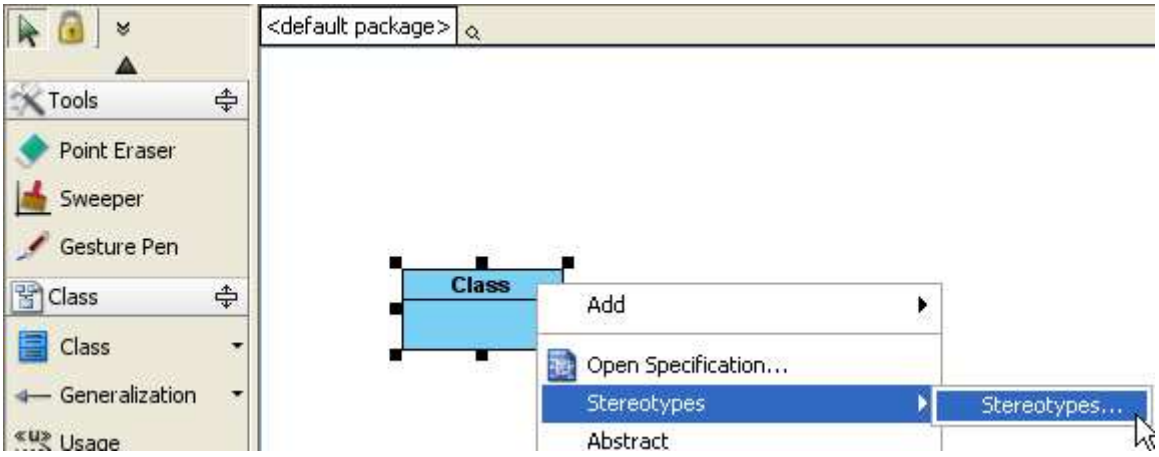



*Figure 3.37 - Select Stereotypes...*

2. Select a stereotype in the **All** list, click **Add Selected** to add it to the **Selected** list.

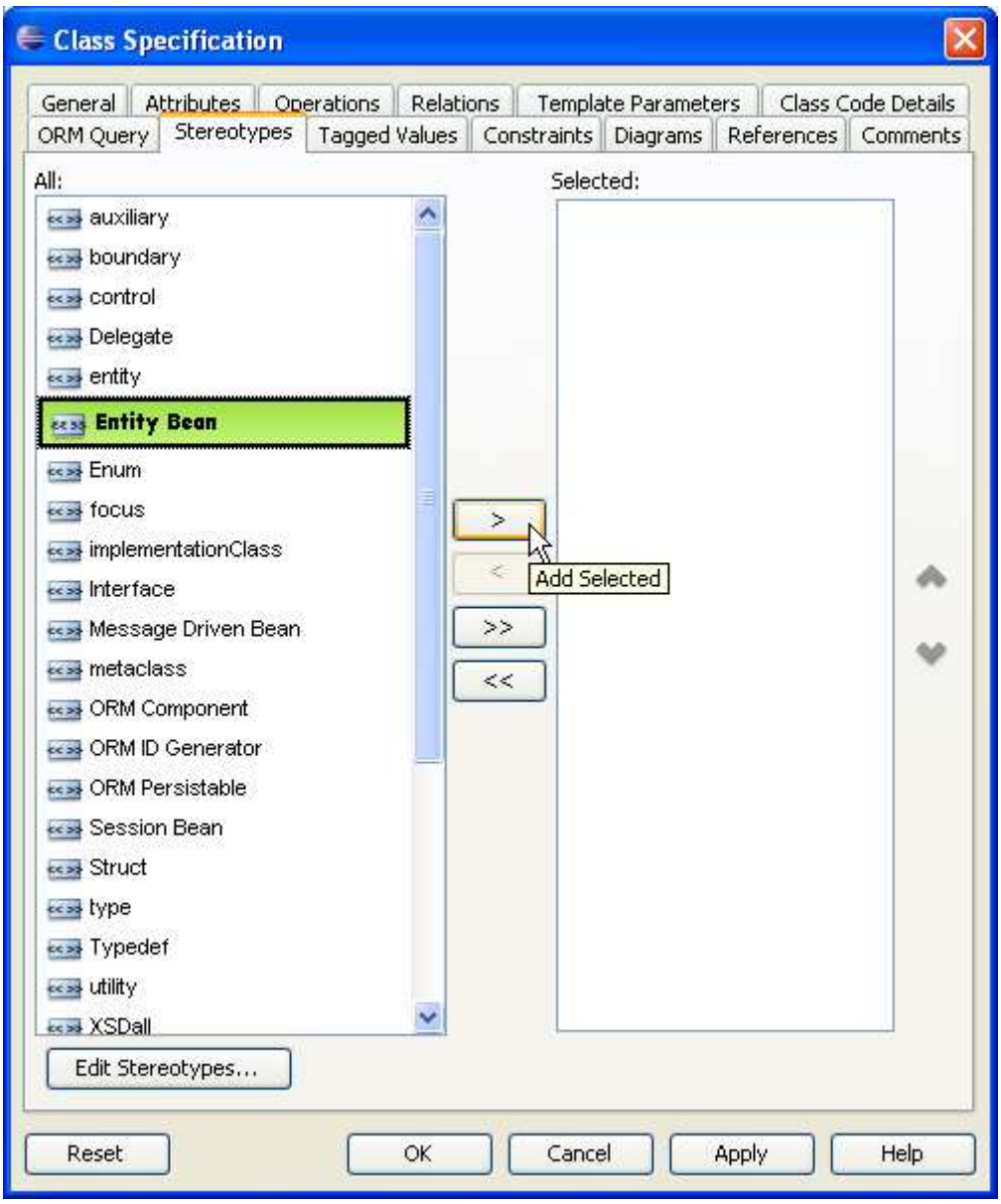



*Figure 3.38 - Add a stereotype to Selected list*

3. Click **OK** in the specification dialog box. The stereotype is applied to the model, and the stereotype's appearance is applied to the shape.

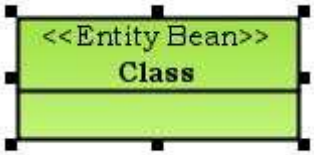



*Figure 3.39 - Stereotype applied*

## Changing Stereotype Appearance

1. Select main menu **Modeling** > **Edit Stereotypes...** to open the Configure Stereotype dialog box. Select a model type in **Model elements** and the target stereotype in **Stereotypes**. Click the **Edit...** button.

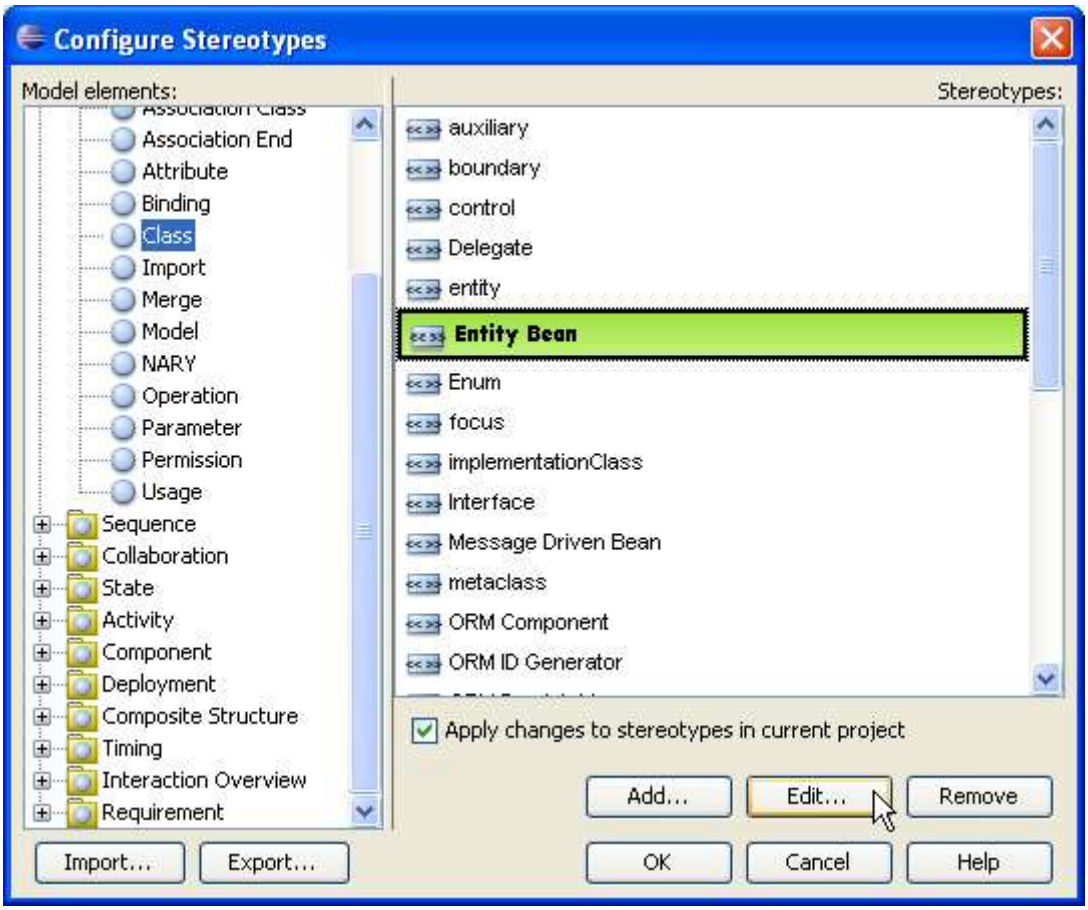



*Figure 3.40 - Select a model type and the target stereotype*

2. We will modify the stereotype fill color in this example. Click the **...** button of the **Fill** property.


*Figure 3.41 - Modify the stereotype fill color*

3. Select orange as fill color, click **OK**.

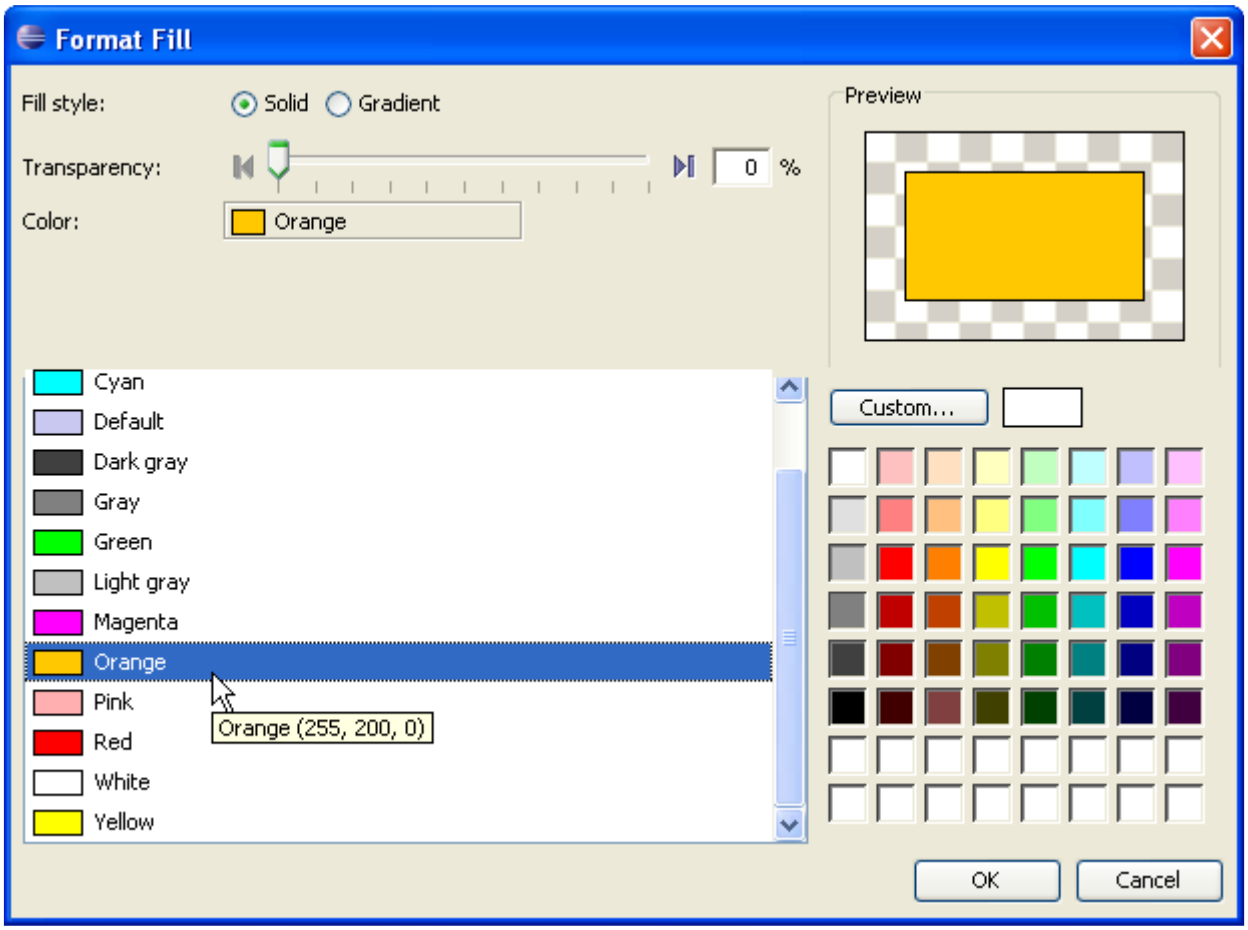



*Figure 3.42 - Select a fill color*

4. When returned to the Stereotype Specification dialog box, ensure the **Apply changes to stereotypes in current project** option is selected, otherwise stereotypes already used in the current project will not be updated. After that, click **OK** to close the dialog box.

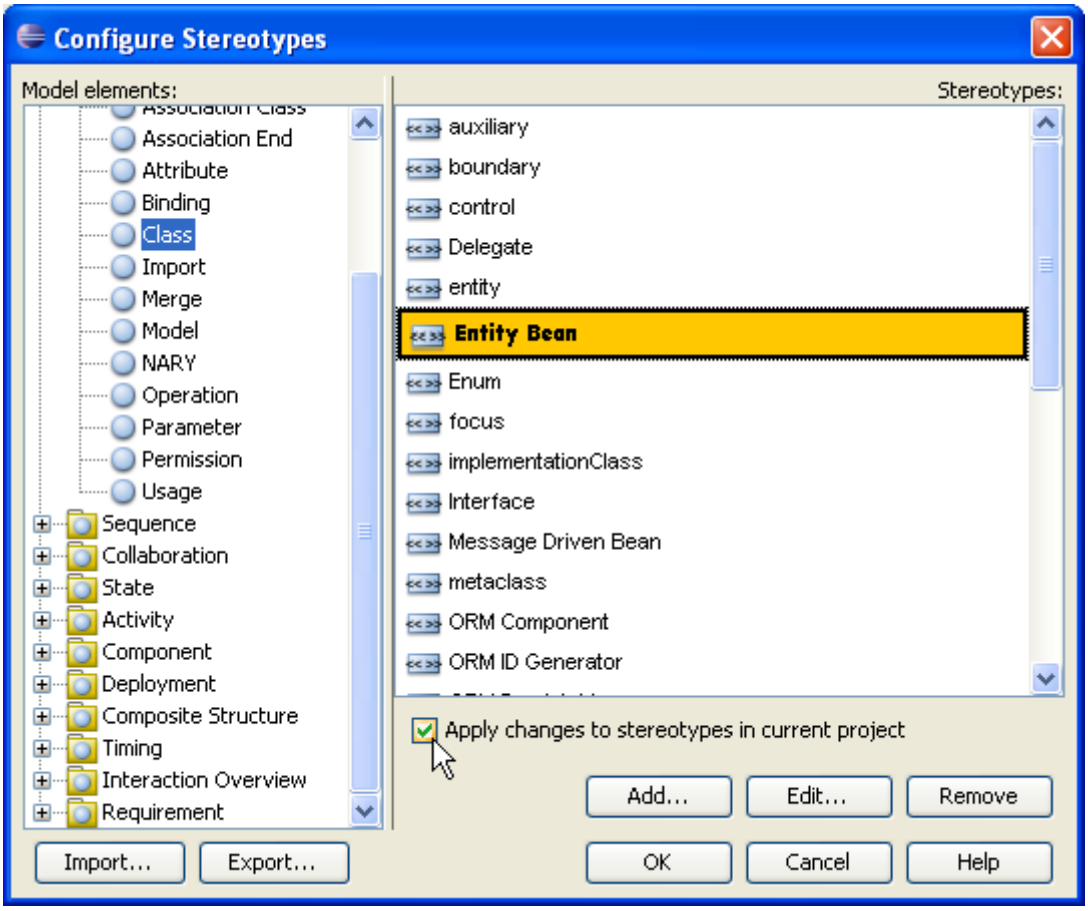



*Figure 3.43 - Return to Configure Stereotypes*

5. The appearances of shape that assigned the changed stereotype are updated.

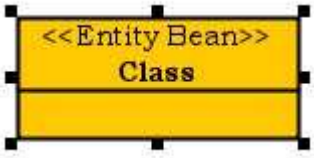



*Figure 3.44 - Appearances of shape updated*

# 4

# Visual Modeling

# Chapter 4 - Visual Modeling

This chapter will show you the features of performing UML modeling.

In this chapter:

- Creating multiple views for model
- Finding and jumping in diagrams and projects
- Forming diagrams from models
- Controlling the visibility of compartment
- Creating and editing sub-diagrams, references and logical views.
- Customizing data types
- Using mouse gesture

## Showing Model in Different Diagram

A model is a specific collection of interconnected objects and their properties. A diagram element is the view associated with the model. In SDE for Eclipse, one model can have multiple views. Also, SDE for Eclipse supports sharing models to show the same model in different diagrams. This can help to avoid putting everything in a single giant diagram, leading to difficulties in modeling and understanding.

Here, a class model is used as an example.

To show the model in a different diagram:

1. Select a class model in the **Model** pane.

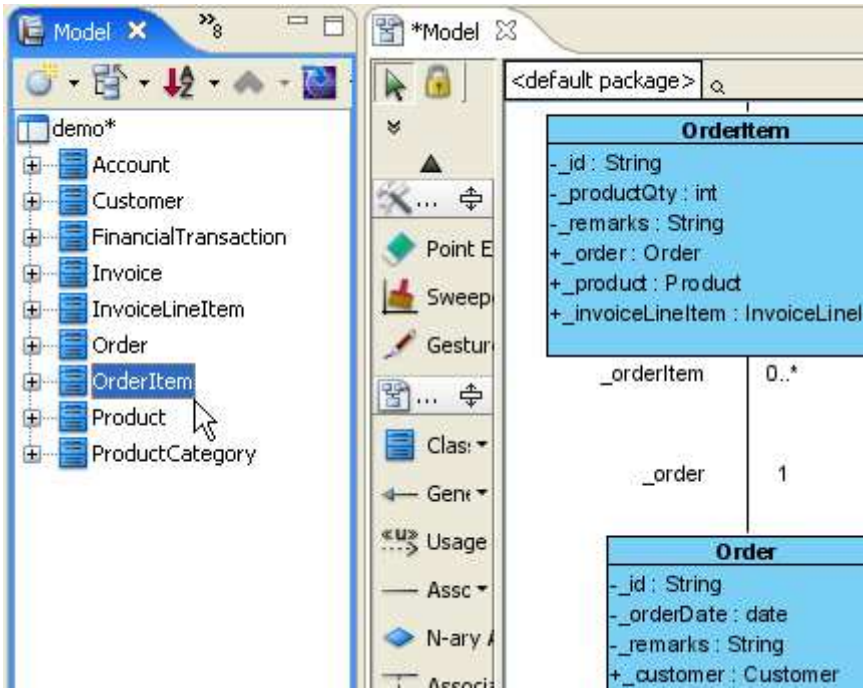



*Figure 4.1 - Select a class model*

2. Create a new class diagram, drag the model from model tree.

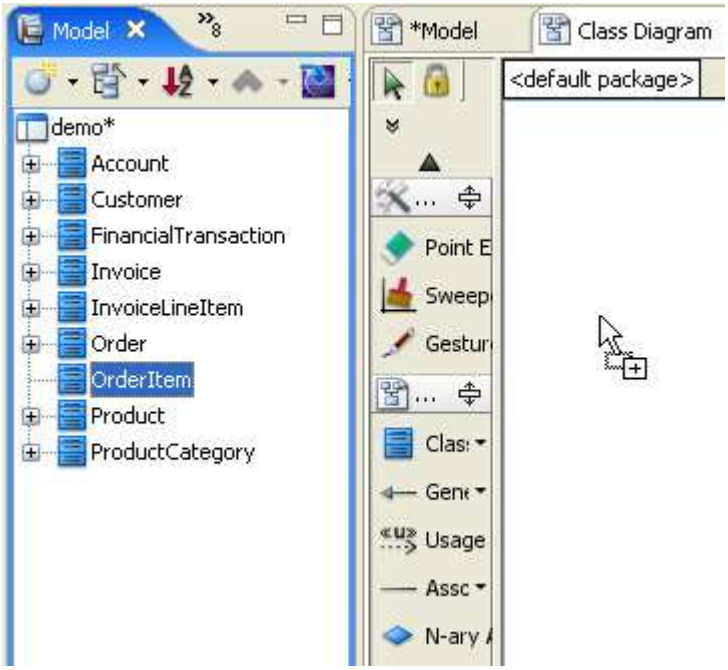



*Figure 4.2 - Drag the model*

3. A new view of the model is created.

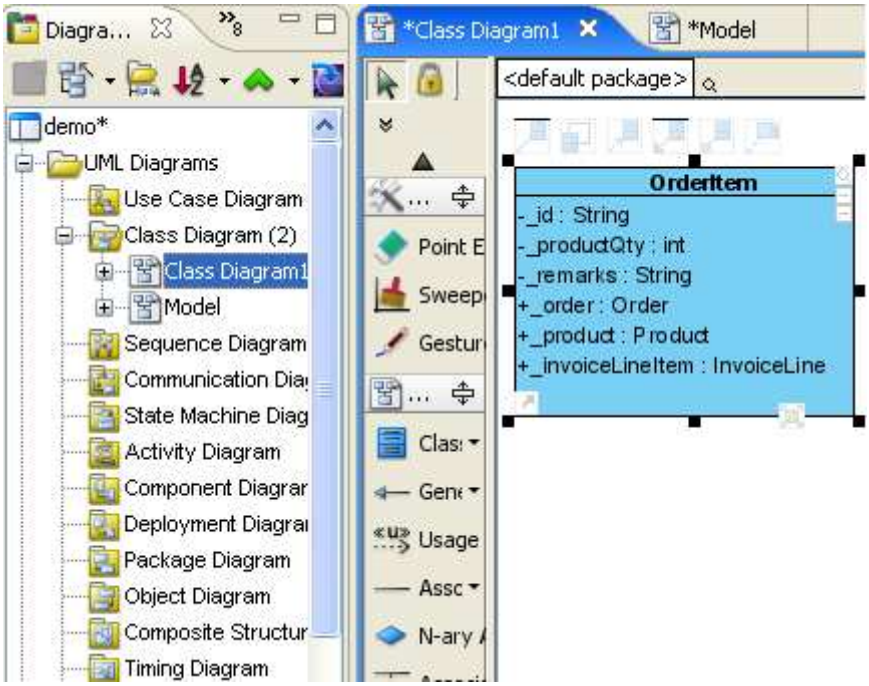



*Figure 4.3 - View created*

# Form Diagram from Model

This feature can help you visualize a set of model and transfer it to a diagram with a few clicks. There are different options to form diagrams to fit different needs.
You can form a diagram with the selected models (classes/packages) in the **Model pane** and **Class Repository pane**.

1. Open/Activate the **Model pane** or **Class Repository pane**.
2. Select the classes and packages you would like to appear in the new Class Diagram.
3. Right-click on the selection and select **Form Diagram** from the popup menu.
4. Choose from one of the **Form Diagram** types (**Customize...**, **Hierarchical**, or **Navigation**) in the cascading menu.

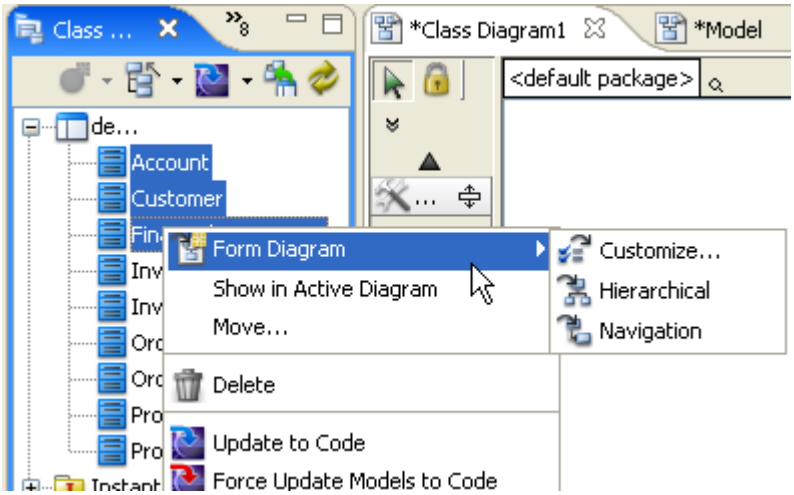



*Figure 4.4 - Form diagram from model*

Note Currently SDE for Eclipse allows you to form diagrams with only packages and classes.

# Customize Form Diagram Properties

You can use the Form Diagram dialog box to customize form diagram properties.
To open the Form Diagram dialog box:
1. Select more than one classes or packages in **Model** pane or **Class Repository**.

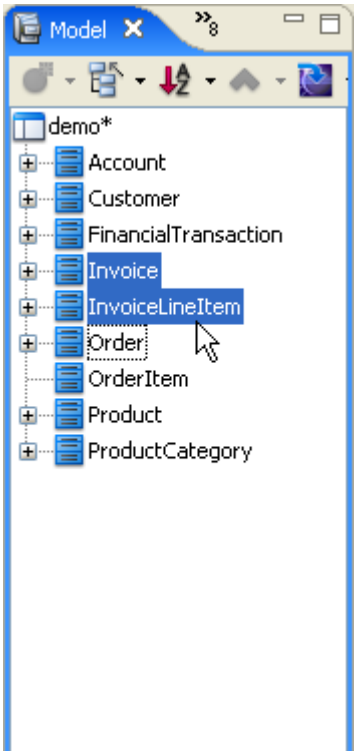



*Figure 4.5 - Select models*

2. Right click on them and select **Customize...** from the popup menu, the **Form Diagram** dialog box appears.

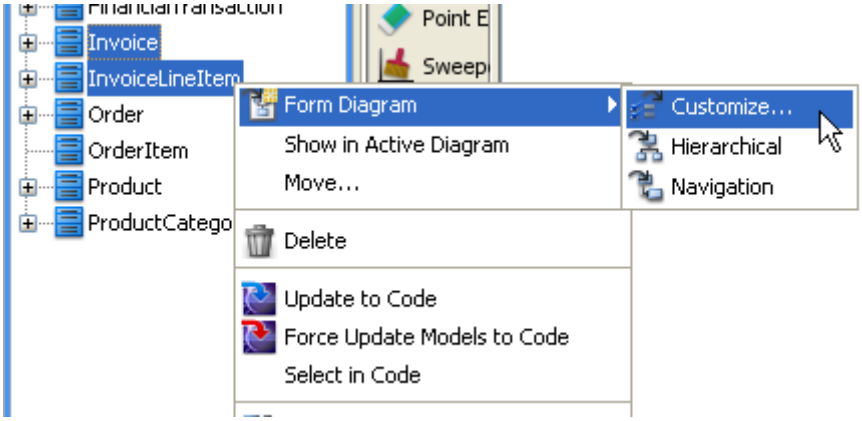



*Figure 4.6 - Open Form Diagram dialog box*

Select the relationships you want to show in the new diagram in the Form Diagram tab. The relationships can be between the diagram elements of the selected models and their related diagram elements.

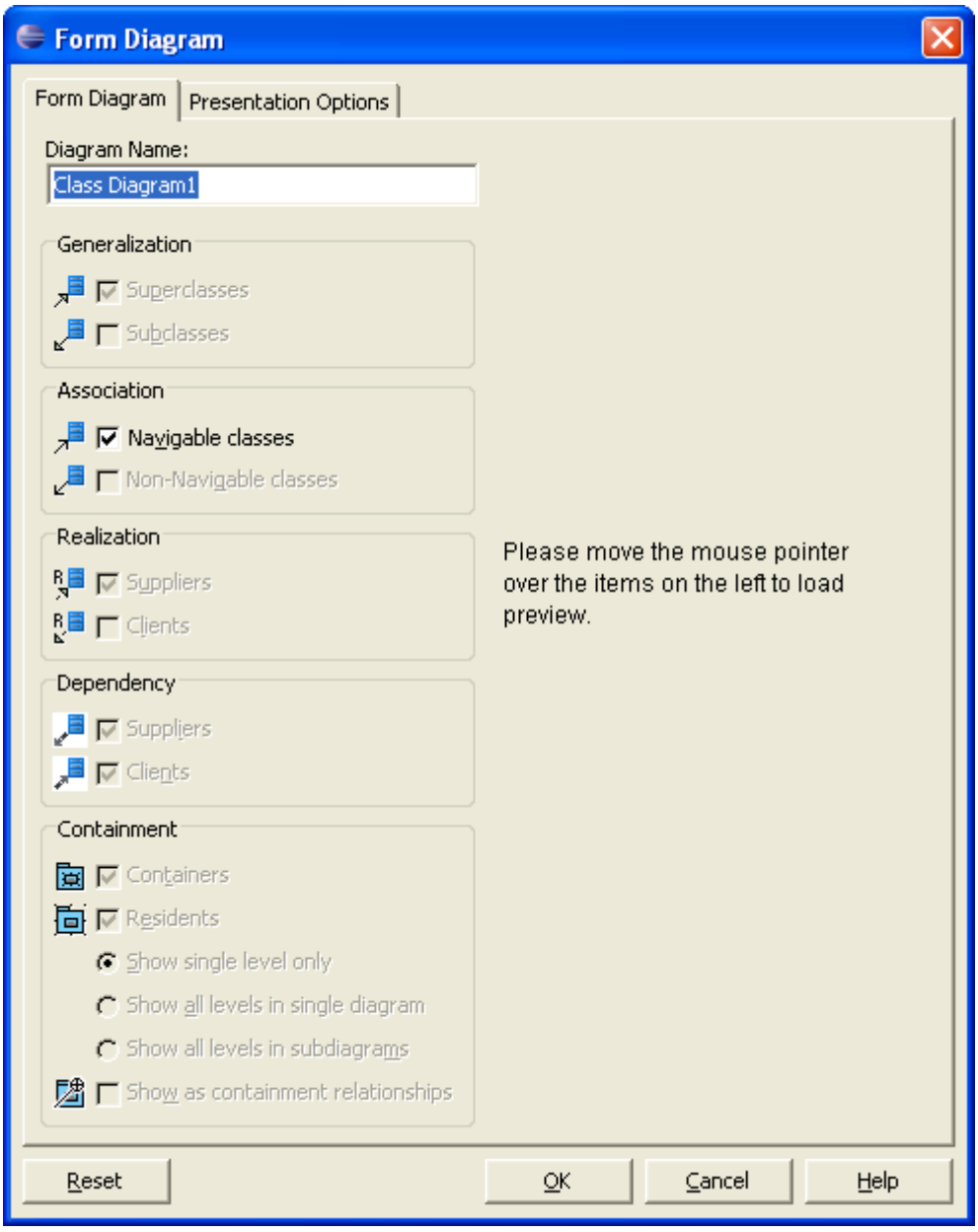



*Figure 4.7 - Form Diagram Dialog*

A new diagram is created with the diagram elements of the selected models, the related diagram elements and the relationships between the diagram elements.

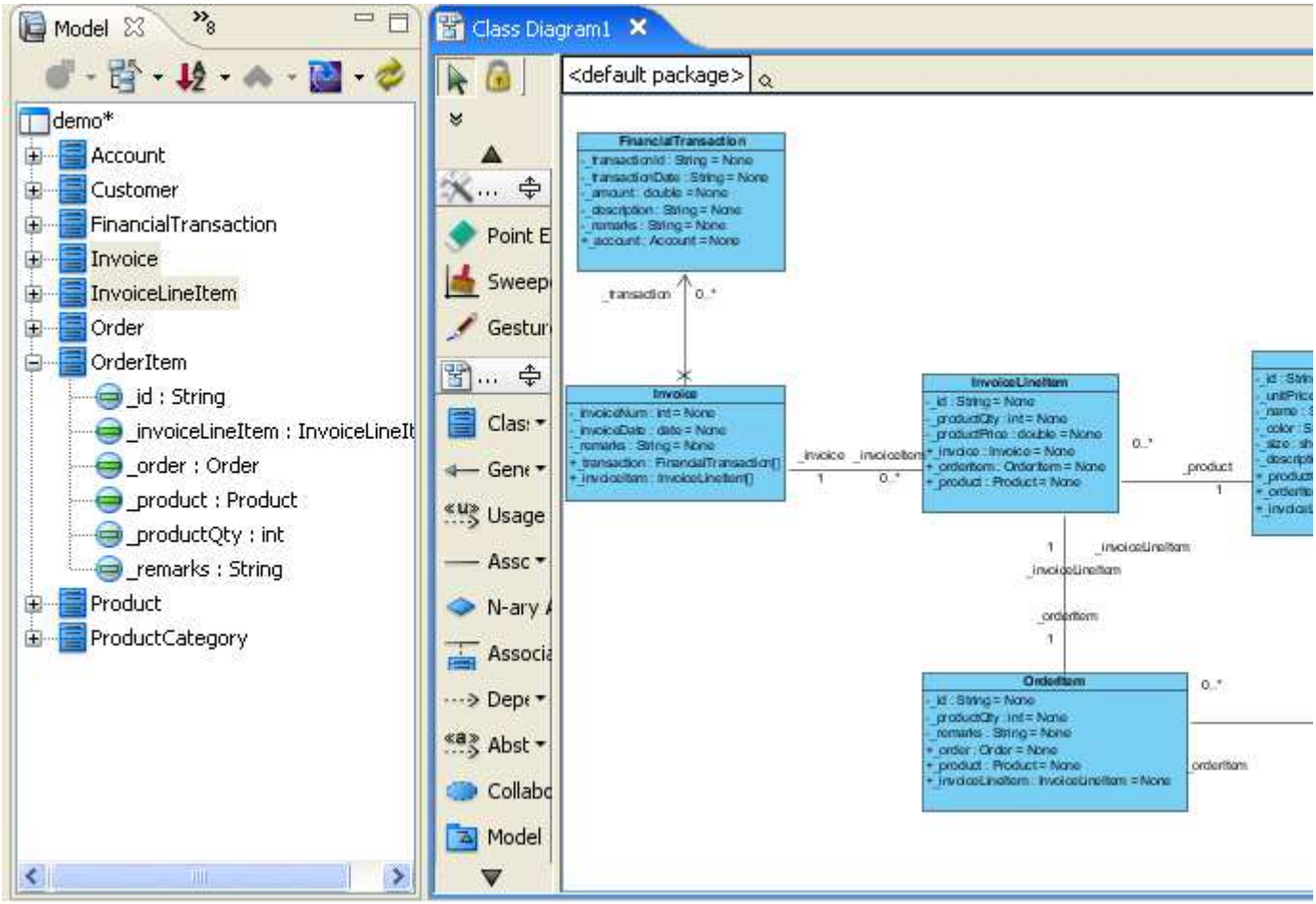



*Figure 4.8 - The generated Class Diagram*

In this case, the class model called "Invoice" and "InvoiceLineItem" are selected. The new diagram (on the right hand side) shows the relationships between the the two models and other models.

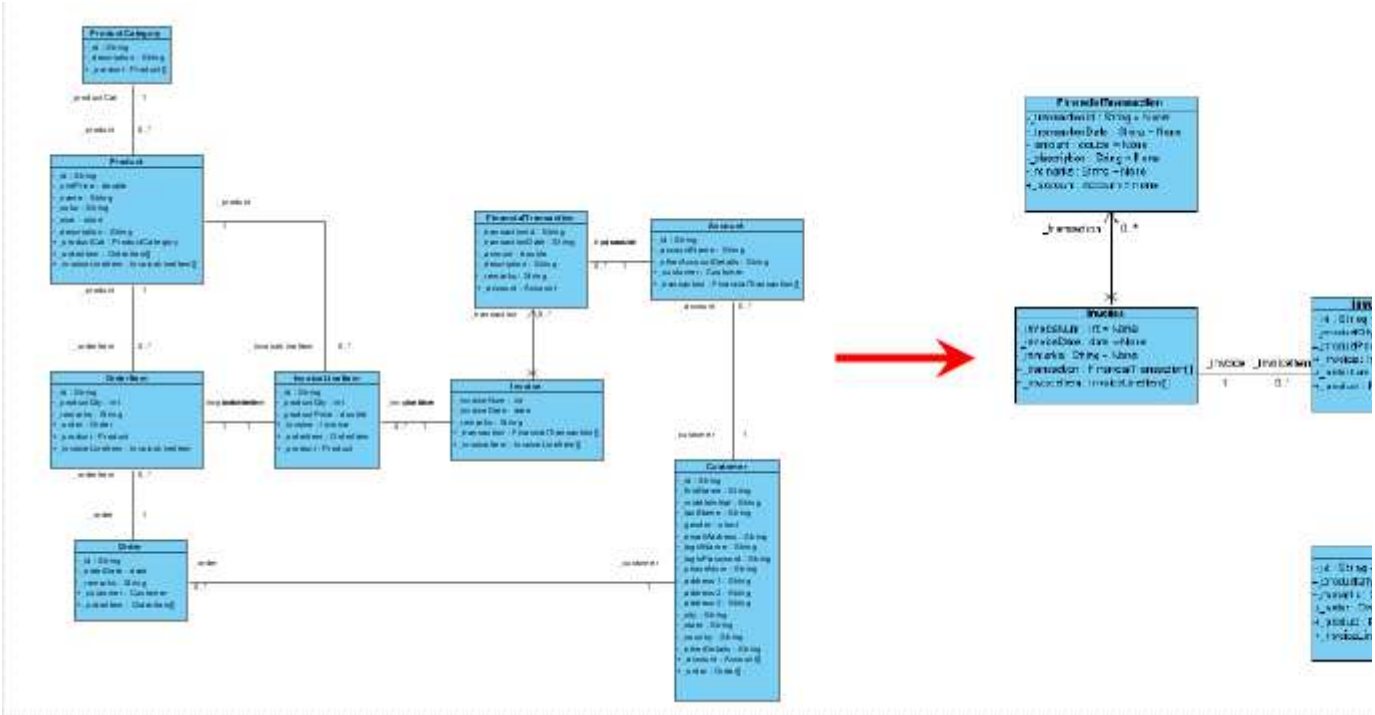


*Figure 4.9 - The association of the selected classes are included in the new diagram*

## Presentation Options

Click the **Presentation Options tab** on the **Form Diagram** dialog box to set the presentation options for the classes in the new diagram.

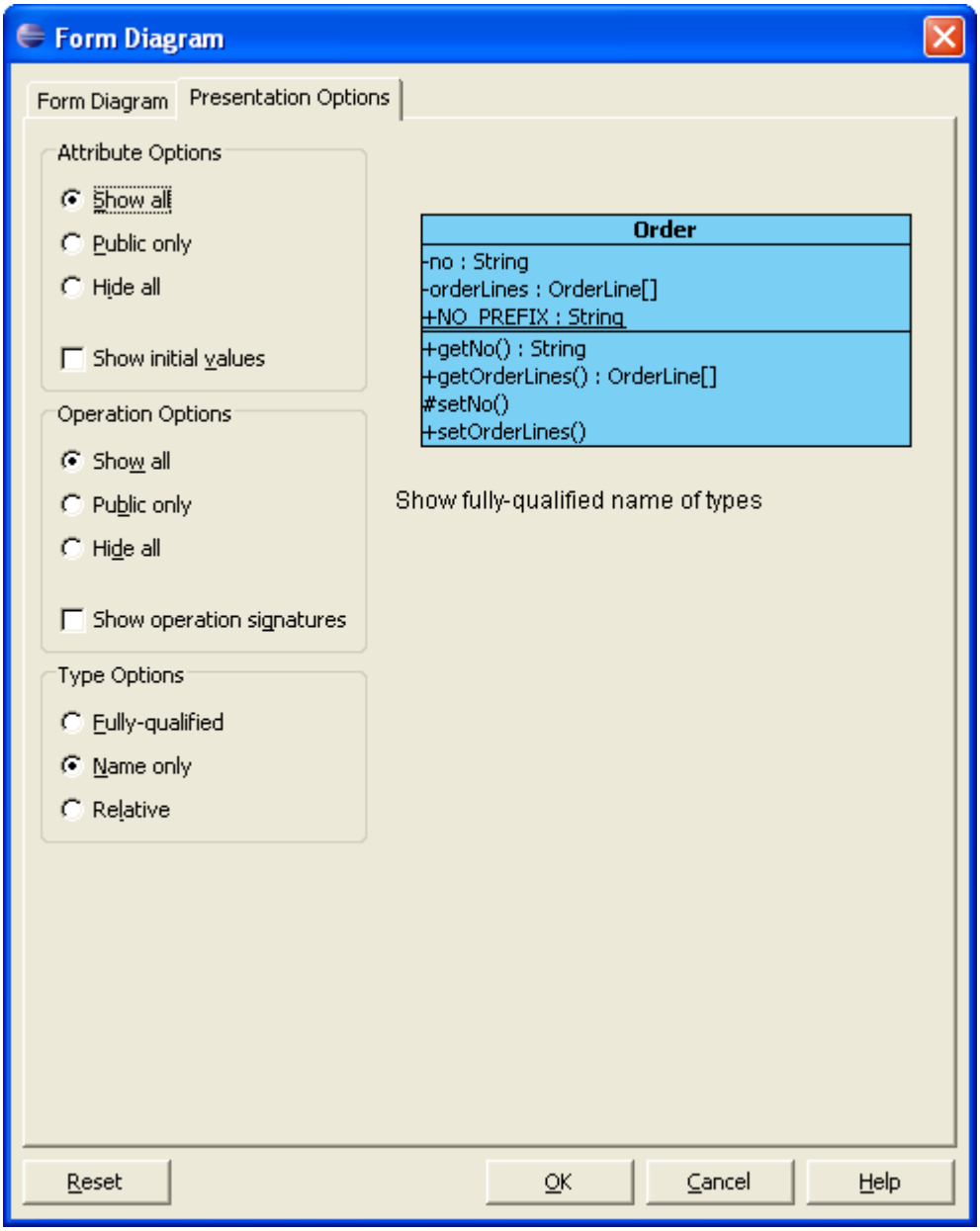



*Figure 4.10 - The presentation options*

## Hierarchical Diagram

If you selected Hierarchical in the cascading menu, a new diagram is created with the diagram elements of the selected models, the parents and children of the diagram elements and the general relationships between the diagram elements.

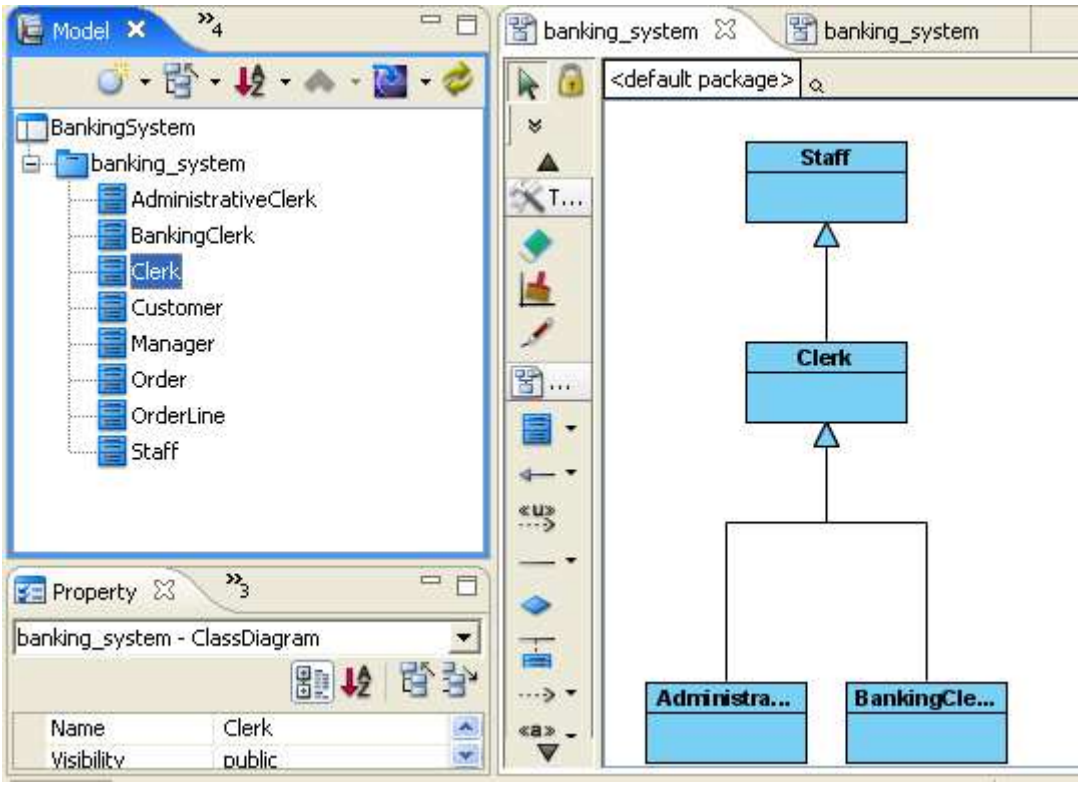



*Figure 4.11 - Hierarchical Diagram*

In this case, the class model called "Clerk" is selected. The new diagram (on the right hand side) shows the generalization relationships between the "Clerk" model and other related models.

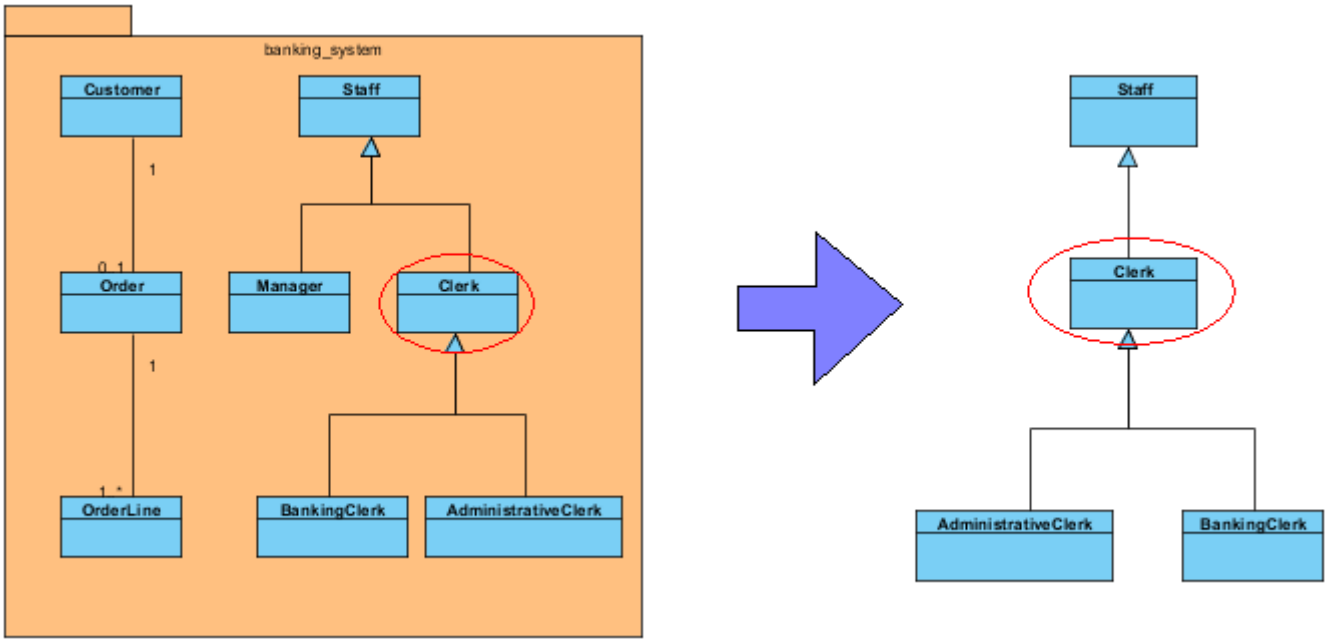



*Figure 4.12 - Show the inheritance hierarchical in the new diagram*

## Navigation Diagram

If you selected Navigation in the cascading menu, a new diagram is created with the diagram elements of the selected models, the sources (non-navigable diagram elements) and targets (navigable diagram elements) of the diagram elements and the association relationships between the diagram elements.

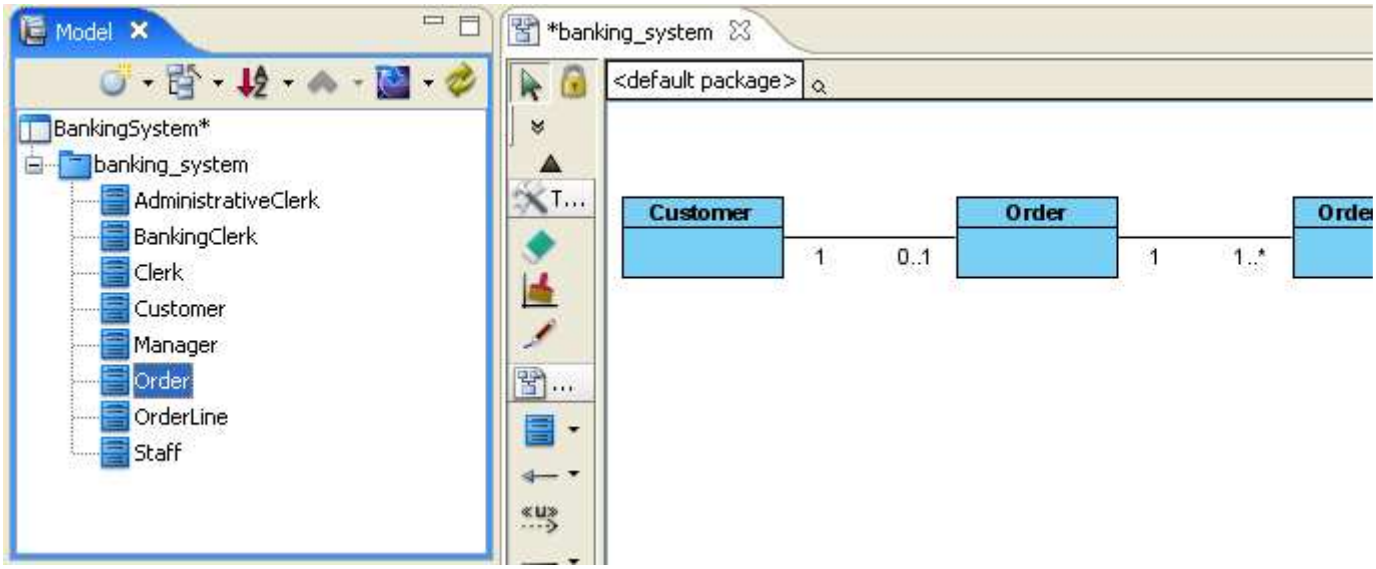



*Figure 4.13 - Navigation Diagram*

In this case, the class model called "Order" is selected. The new diagram (on the right hand side) shows the association relationships between the "Order" model and other related models.

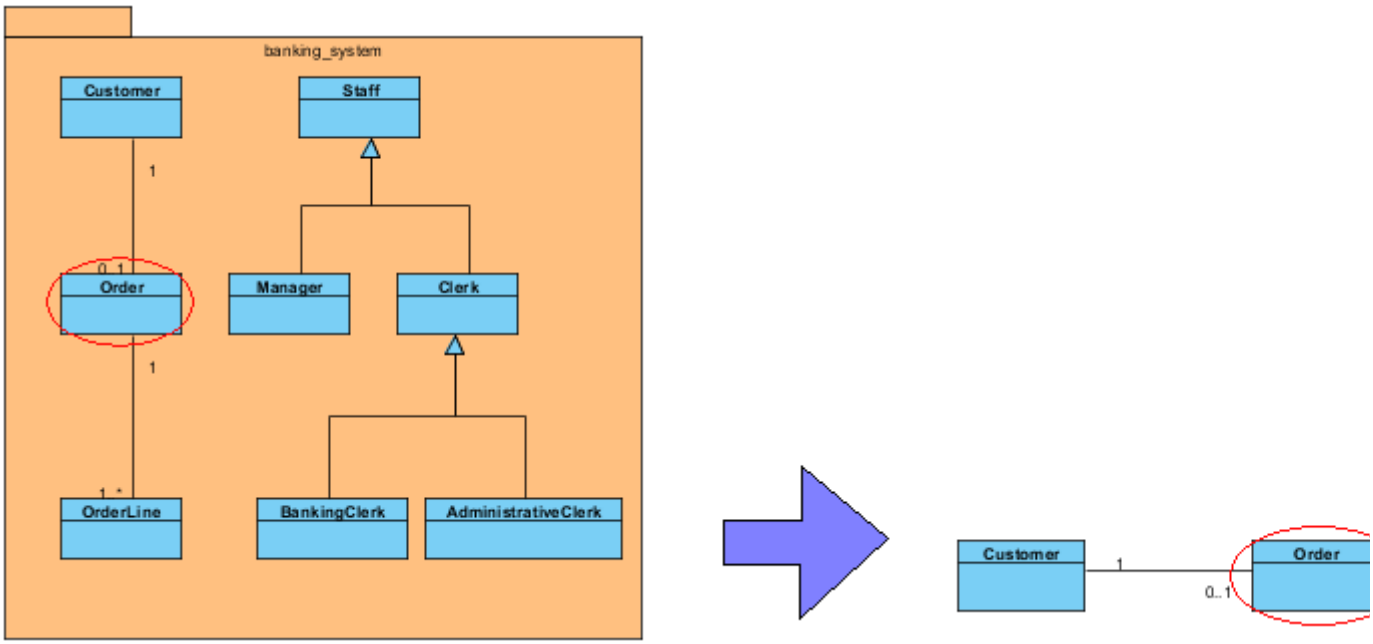



*Figure 4.14 - show the navigation association of the selected classes.*

# Sub-Diagrams

It is a known fact that elaboration is one of the common modeling techniques.
SDE for Eclipse supports sub-diagrams to facilitate elaboration. For example, we have a Use Case Diagram to elaborate each use case by a Sequence Diagram.
You can create new sub-diagram or associate with existing diagrams as a sub-diagram.

## Creating a Sub-Diagram

To create a new sub-diagram for a model, perform one of the following actions:

- Right-click on the diagram element and choose **Sub Diagrams** from the popup menu to expand it. A list of recommended sub-diagram types (according to the nature of the model) is shown. If the type of diagram you want to add is not one of the recommended types, select **Other Diagrams** to expand it. From the **Sub Diagrams** or **Other Diagrams** menu, select **%SUB_DIAGRAM_TYPE% > Create %SUB_DIAGRAM_TYPE%** (e.g. Sub Diagrams > Use Case Diagram > Create Use Case Diagram).
- Right-click on the diagram element and choose **Open Specification** from the popup menu. This displays the **Open Specification** dialog box. From the dialog box, switch to the **Diagrams** tab and click **Add**. A list of recommended sub-diagram types (according to the nature of the model) is shown. If the type of diagram you want to add is not one of the recommended types, select **Other Diagrams** to expand it. From the root menu or **Other Diagrams** menu, select the desired type of sub-diagram to create it.

For example, here is a Use Case creating sequence diagram.

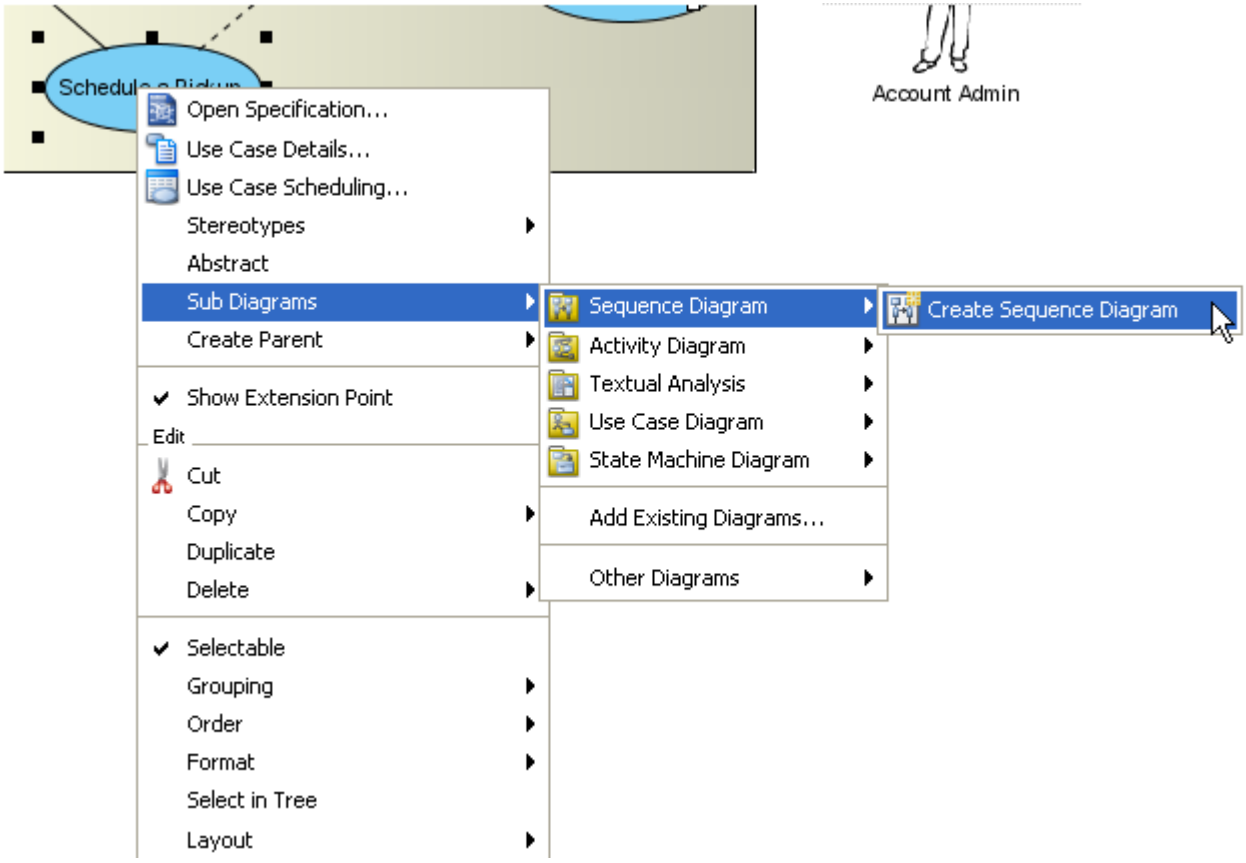



*Figure 4.15 - Create Sequence Diagram*

## Selecting Existing Diagrams as Sub-Diagrams

To select existing diagrams as sub-diagrams:

- Right-click on the diagram element for adding sub-diagrams and choose **Sub Diagrams > Add Existing Diagram...** from the popup menu.
- Right-click on the diagram element for adding sub-diagrams and choose **Open Specification...** from the popup menu. This displays the **Open Specification** dialog box for that model element. Switch to the **Diagrams** tab, press **Add** and select **Existing Diagrams...**from the popup menu.

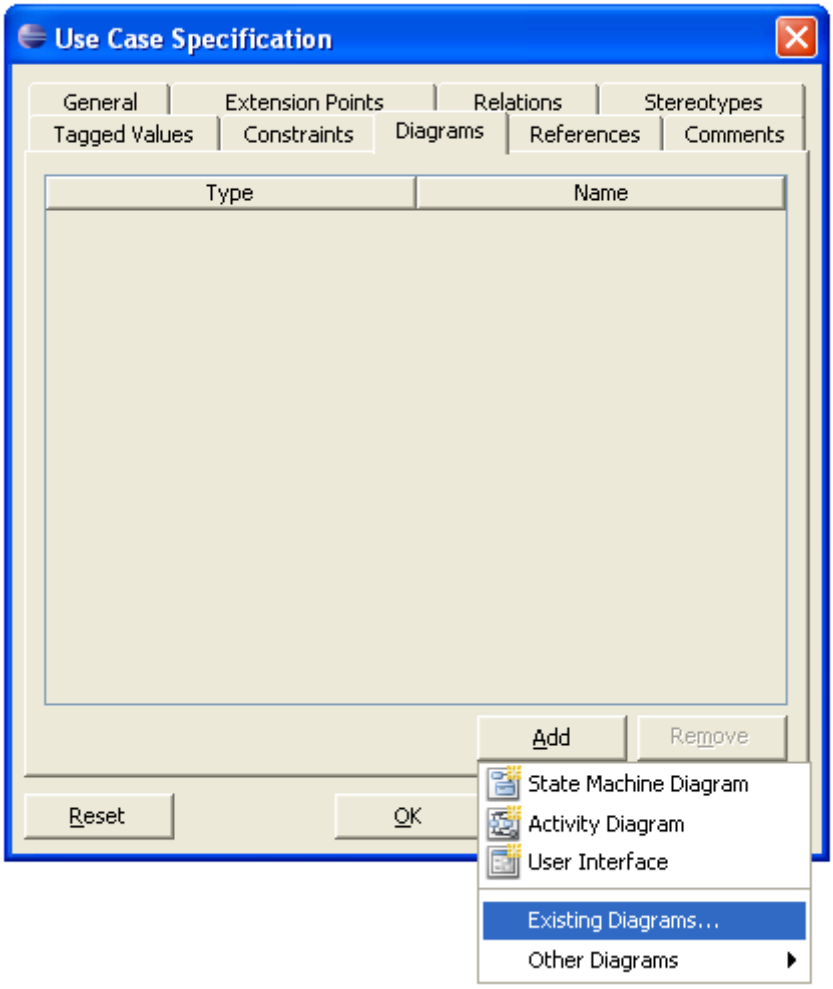



*Figure 4.16 - Add existing diagram to Sub-Diagram*

In both cases, the **Add Sub Diagrams Dialog** will be displayed.

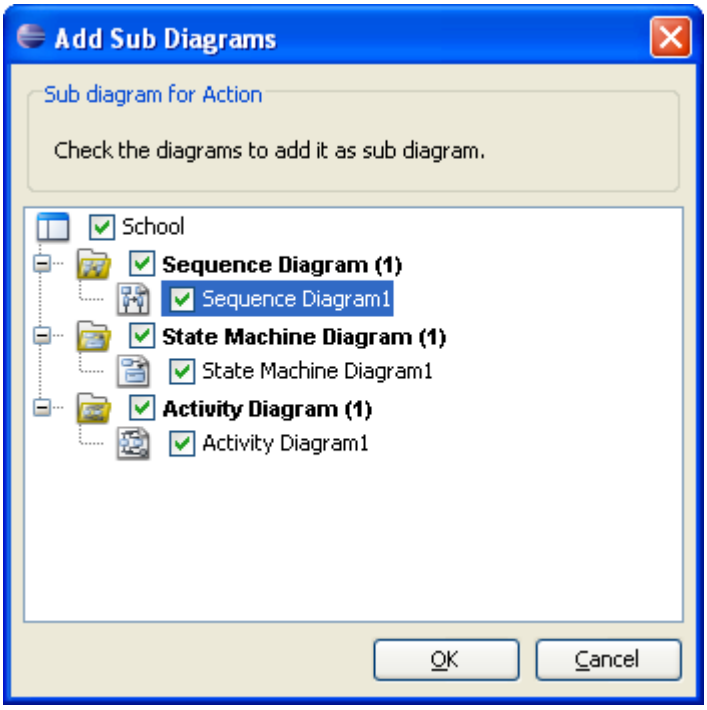



*Figure 4.17 - Select the existing diagram*

The **Add Sub Diagrams dialog** shows all the selectable diagrams. Selectable diagrams are all the diagrams in the project excluding the following:

- The parent diagram of the selected diagram element
- All diagrams which are sub-diagrams of any model

Select the diagrams to add as sub-diagrams, and then click **OK** to confirm.

## Viewing the List of Sub-Diagrams

To view sub-diagram from its parent model element:

- Right-click on the diagram element and choose **Open Specification...** from the popup menu. This displays the **Open Specification** dialog box. From the dialog box, switch to **Diagrams** tab. Sub-diagrams of that diagram element are shown in the table.

## Opening Sub-Diagrams

To open a sub-diagram from a parent diagram element, perform one of the following actions:

- Right-click on the diagram element and choose **Sub Diagrams > %SUB_DIAGRAM_TYPE% > %SUB_DIAGRAM_NAME%** from the popup menu.
- Select the sub-diagram from resource icon of that diagram element:

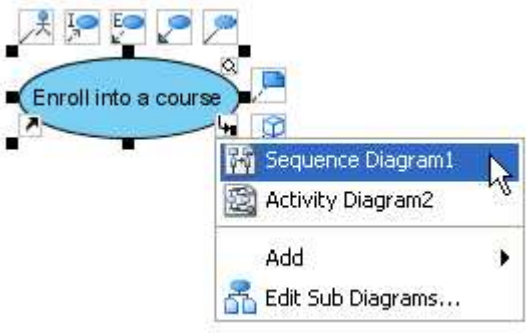



*Figure 4.18 - Open Sub-diagram*

## Removing Sub-Diagrams

To remove a sub-diagram from its parent diagram element, perform one of the following actions:

- Right-click on the diagram element and choose **Open Specification...** from the popup menu. This displays the **Open Specification** dialog box. From the dialog box, switch to **the Diagrams** tab. Sub-diagrams of that diagram element are shown in the table. Select the sub-diagram that you want to remove and click **Remove** to remove it.
- Activate the **Diagram Navigator/Model** pane, expand the tree node of that diagram element, select the sub-diagrams that you want to remove and then right-click on them and select **Detach from Parent** from the popup menu.

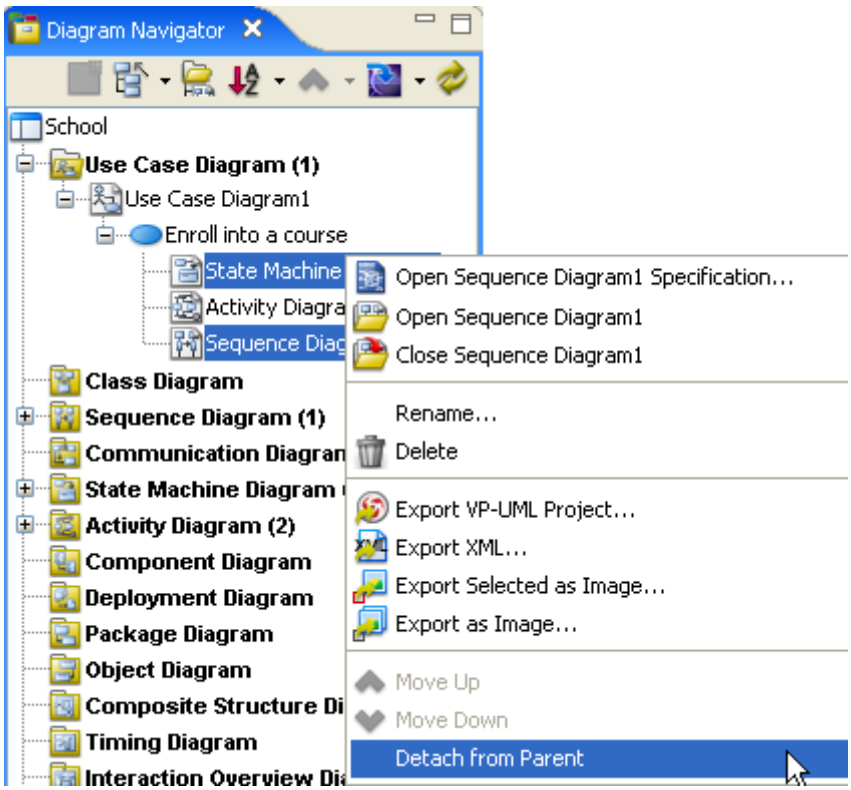



*Figure 4.19 - Remove Sub-Diagram*

# References

References can be added to a model to associate any kind of artifacts, including files, folders, URLs and diagrams with the model. After you have added the references, you can open them in the tool with the default application/web browser whenever you need them.
There are four kinds of reference you can add:

- File: Normal files like word documents
- Folder: Folders in the file system
- URL: Link of website
- Diagram: Diagrams in the current project

## Adding Referenced File

To add a referenced file using the open specification dialog box:

1. Open the specification dialog box of the model, select the **References** tab.
2. Click the **Add File...** button, or right-click on the table and select **Add File...** from the popup menu.

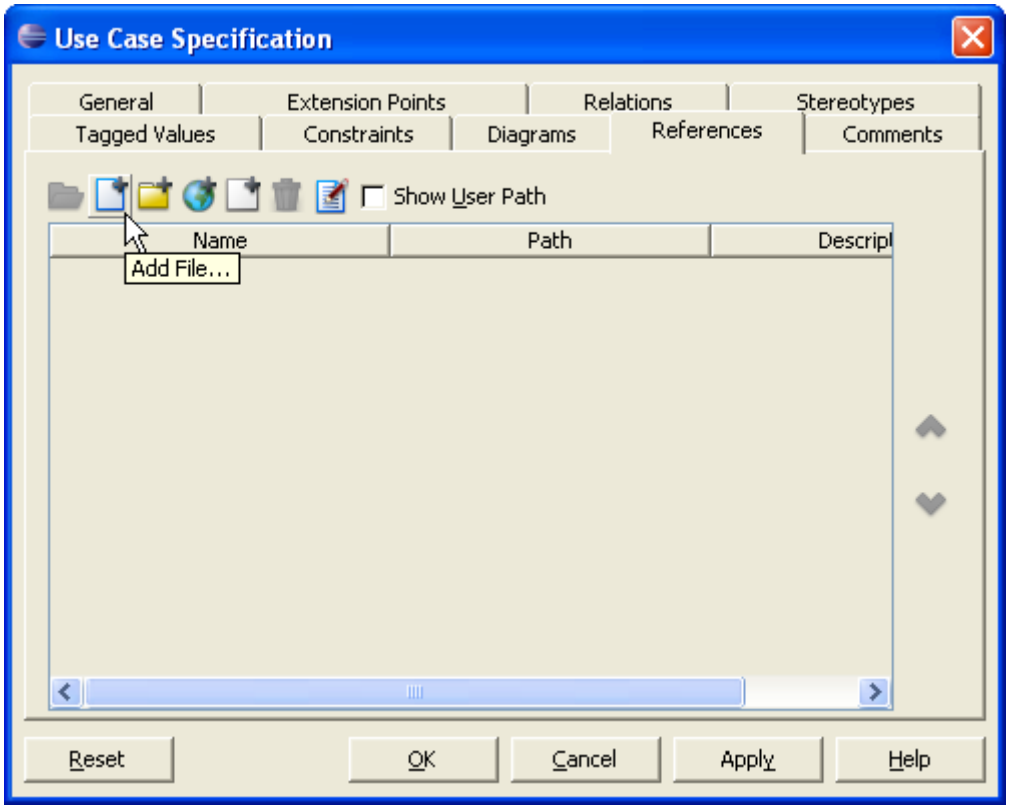



*Figure 4.20 - Add Reference Files*

To add a referenced file using the **References** resource:

1. Click on the **References** resource (located at the lower left corner of the shape, with a shortcut arrow icon).

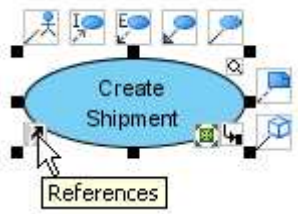



*Figure 4.21 - Edit reference resource-centric*

2. Select **Add File...** in the popup menu.

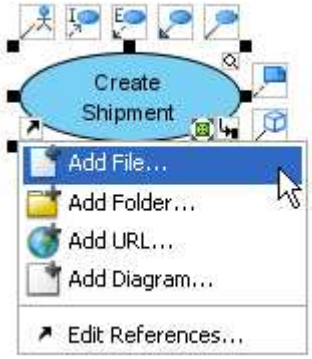



*Figure 4.22 - Select Add File in the popup menu*

Using either method, the reference details pane will be shown. Specify the file path in **Path** or browse by clicking the **...** button. You may also optionally provide a description for the reference in **Description**.

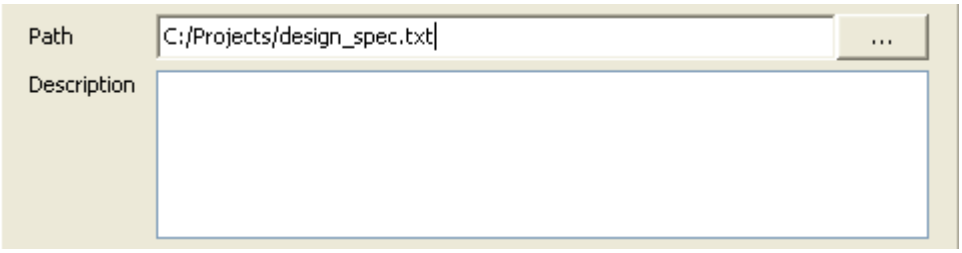



*Figure 4.23 - Edit Reference*

Adding folders, URLs and diagrams can be done by using a similar approach.

## Editing References

To edit references:

Open the open specification dialog box of the model, select the **References** page. Alternatively click on the **References** resource of a shape and select **Edit References** from the popup menu.

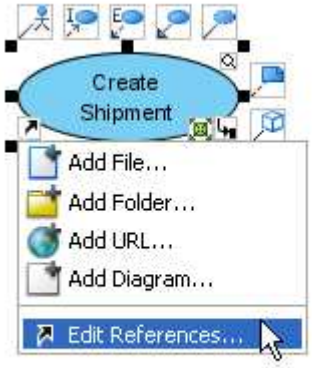



*Figure 4.24 - Open edit reference dialog*

Right-click on a reference and select **Edit** from the popup menu.

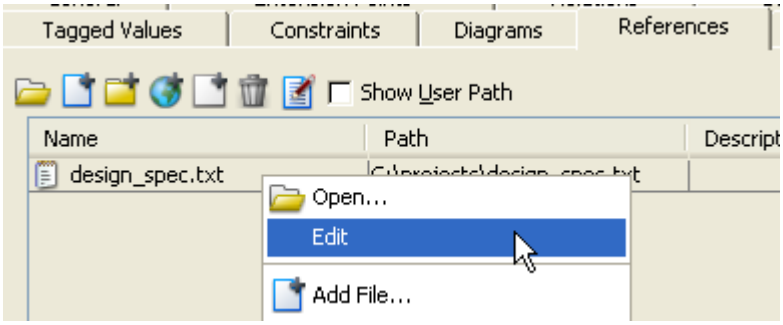



*Figure 4.25 - Edit reference by clicking on popup menu*

Alternatively, click the **Details** button to show the details pane if it is not already showing.

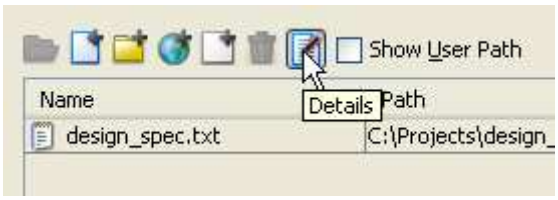



*Figure 4.26 - Show reference details*

Using either method, the reference details pane will be shown. You can then edit the path and description of the selected reference.

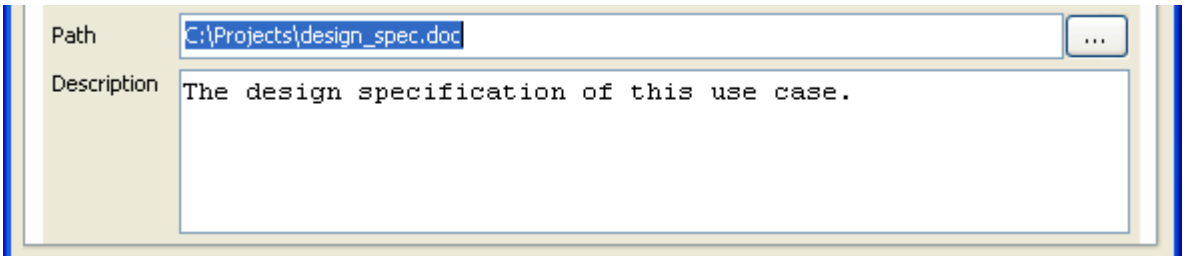



*Figure 4.27 - The reference details*

## Reordering References

To reorder references:

1. Open the specification dialog box of the model, select the **References** page.
2. Select one or more references in the table.
3. Click on the **Move up**/**Move down** button to move the selection upwards/downwards. Alternatively right-click on the selection and select **Move Up**/**Move Down** from the popup menu.

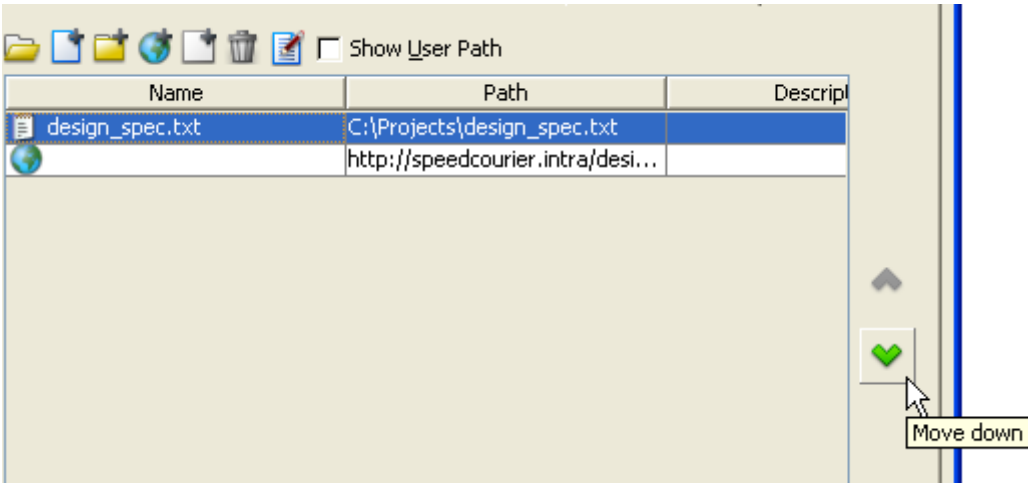



*Figure 4.28 - Re-ordering reference*

## Opening References

To open references:

1. Open the specification dialog box of the model, select the **References** page.
2. Select one or more references in the table.
3. Click on the **Open...** button, or press the **Enter** key, or right-click on the selection and select **Open...** from the popup menu.

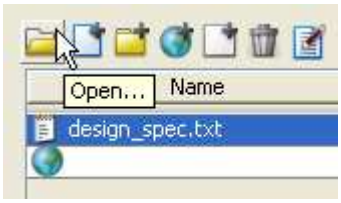



*Figure 4.29 - Press Open button to open the selected references.*

4. Alternatively, click on the **References** resource of a shape and select a reference from the popup menu.

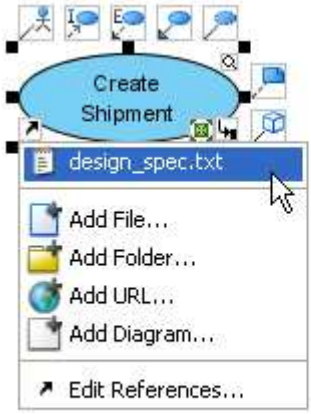



*Figure 4.30 - Open reference by clicking on popup menu*

5. The selected references will be opened by the default applications or web browser.

## Removing References

To remove references:

1. Open the specification dialog box of the model, select the **References** page.
2. Select the unwanted references in the table. Click the **Remove** button, or press the **Delete** key, or right-click on the selection and select **Remove** from the popup menu.

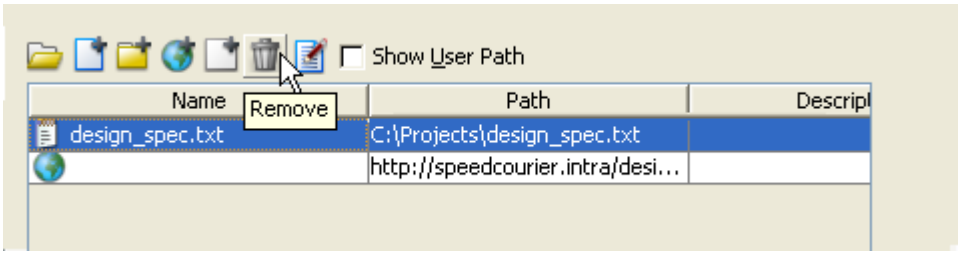



*Figure 4.31 - Remove reference*

## User Path

A user path is a variable that refers to a base path in a user's computer. You can add a reference to local file using a user path, so that the reference refers to a file relative to a user path, instead of an absolute path. This means you can move references files to a different location, or even to a different computer, and can still open them as long as the user path value is up-to-date.

## Configuring User Paths

To configure user paths, select menu **Modeling > Application Options....** Select the **User Path** category in the **Options** dialog box.

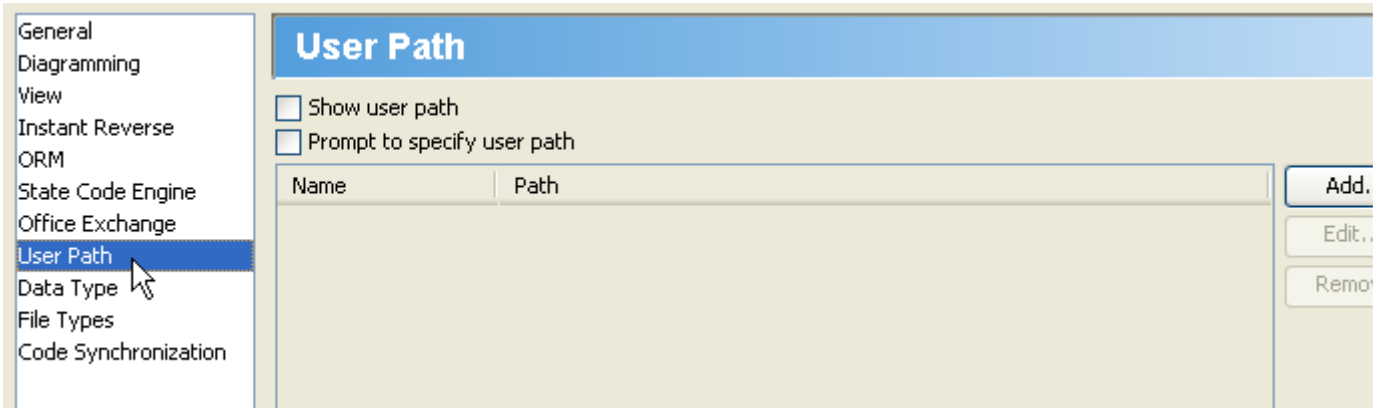



*Figure 4.32 - Configure User Paths*

- To add a user path, click **Add...**, and then enter the name and path in the **Add User Path** dialog box.

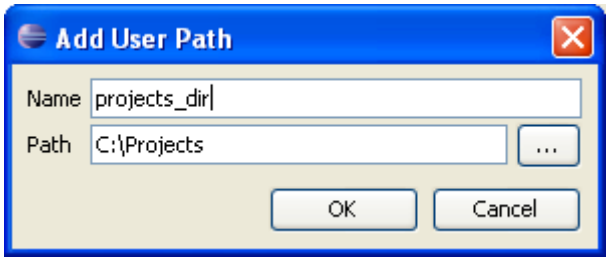



*Figure 4.33 - Add User Path*

- To edit a user path, select it in the table and click **Edit...**, and then edit the name and path in the **Edit User Path** dialog box.
- To remove user paths, select unwanted user paths in the table and click **Remove**.
- **Show user path** - Select to show user paths in references, instead of displaying resolved absolute paths. A user path is displayed with its name enclosed by ${ }.

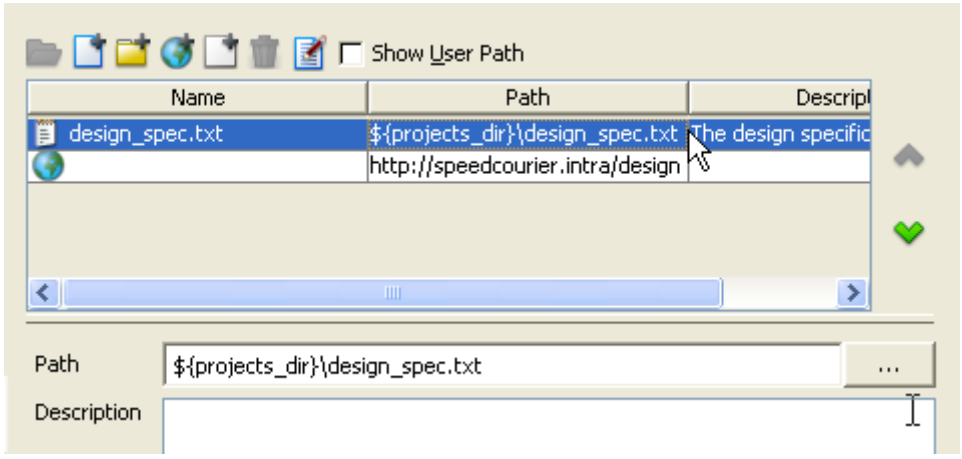



*Figure 4.34 - Using User Path in the references*

- **Prompt to specify user path** - Select to enable prompt for user path after adding a reference to file whose base path is not defined as a user path.

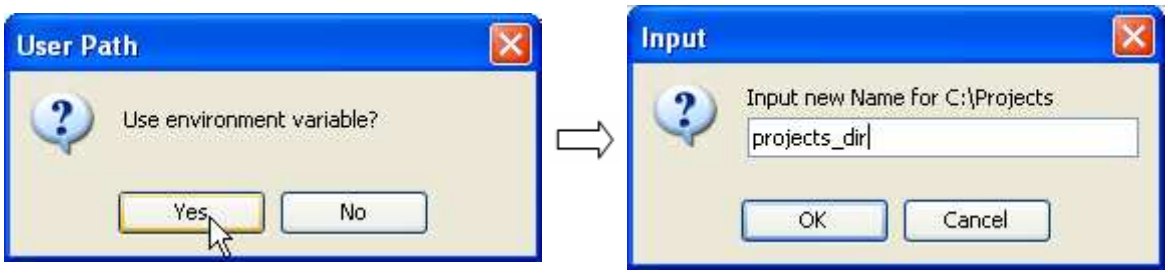



*Figure 4.35 - Specify user path*

# Logical View

The Logical View refers to a user's view of the way project is organized. It provides another view of creating, structuring and sharing the UML diagrams and models apart from the traditional Diagram Navigator, Model Tree View and Class Repository.

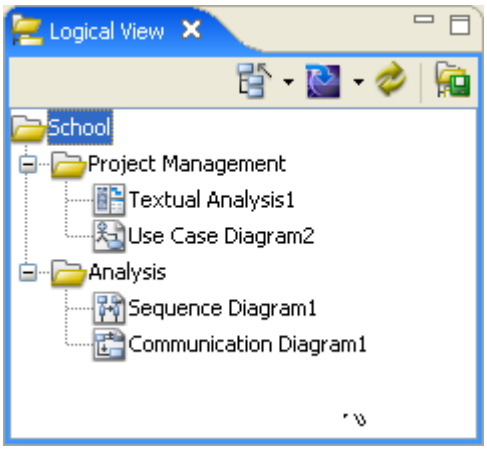



*Figure 4.36 - Logical View Pane*

## Creating a Logical View

To create a view:

1. Right-click on the project node (top-most node of the **Logical View** pane) and choose **Add View** from the popup menu. This creates a new View under the project node.
2. Right-click on the new view and choose **Rename...**from the popup menu to provide a name for the view.
3. Enter the name in the displayed input box and click **OK** to confirm the changes.

## Creating Diagram(s) under View

To create a diagram under a view, right-click on the view that holds the new diagram and choose **Create Diagram > Create %DIAGRAM_TYPE%** from the popup menu. This creates a blank diagram of the selected type under the chosen view.

## Moving Diagram(s) between Views

To move the diagram from one view to another, simply drag and drop it to the target view. The diagram will therefore transfer from original view to target view.

## Exporting and Importing View

You can export the current Logical View structure as an XML file and apply it over and again on other projects. There are two options for importing a Logical View structure.

**Append to existing structure**
The imported structure will append to the current structure, no modification will be made on the existing one.

**Replace existing structure**
The imported structure will replace the current structure, predefined structure will be removed.

For any diagram in the current project that has the same name as any of the diagrams in the XML file, the diagram name will be displayed in the Logical View of the current project. Otherwise the name will not be shown in the imported structure.

# Finding a Model Element

Model elements can be searched in the project. To find a model element, you should first display the **Find** dialog box. To display the **Find** dialog box, select **Edit > Find** from main menu.

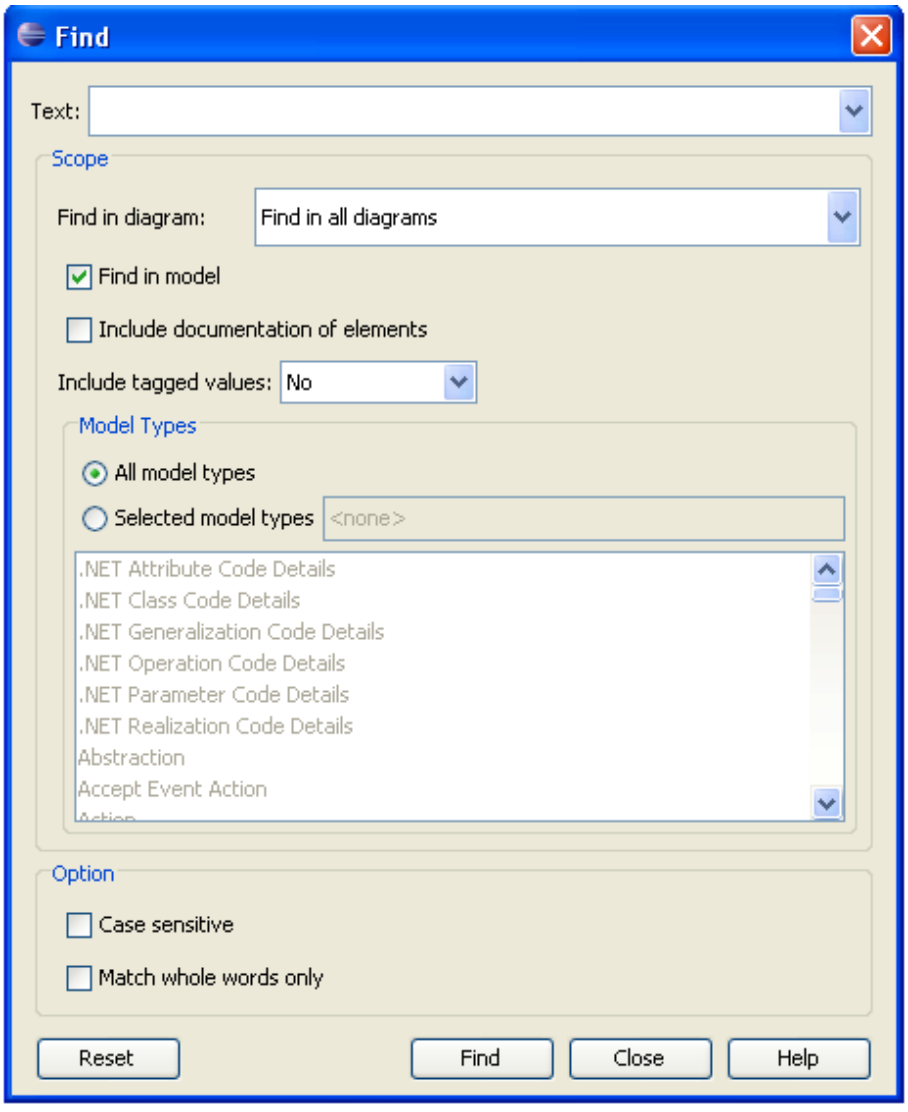



*Figure 4.37 - Find Model Element Dialog*

| Field | Description |
|---|---|
| Text | Enter the text for which you want to search. The text may be the name of the model element or part of the model documentation. |
| Scope | |
| Find in diagram | Select from drop-down menu any of the options to narrow the search in different ways:<br>Find in All Diagrams - To search for views in all diagrams within the project.<br>Find in Opened Diagrams - To search for views in all opened diagrams within the project.<br>Find in active diagram only - To search for views in the active diagram.<br>Do not find in diagrams - Not to search for views in any of the diagrams. |
| Find in model | Check/Uncheck to enable/disable searching for model elements from existing models within the project. |
| Include documentation of elements | Check/Uncheck to enable/disable searching not only for the name of the model, but also the documentation of the model. |
| Include tagged values | Select from the drop-down menu any of the options to include tagged values:<br>No - Do not include tagged value during searching<br>Name - Include Name of tagged value only during searching<br>Value - Include Value of tagged value only during searching<br>Name and Value - Include both Name and Value during searching |
| Model Types | |
| All model types | This option is available only when **Find in model** is checked. This enables to search model elements with all types. |
| Specified model types | This option is available only when **Find in model** is checked. This enables you to search model elements with the same model type as the one specified from the list beneath it. |
| Option | |
| Case Sensitive | Check/Uncheck to determine whether or not a case sensitive or insensitive search is to be performed. |
| Match whole words only | Accept models only if their name and/or documentation match exactly the word specified in **Text** field. |
| General commands | |
| Reset | Reset the changes made in the dialog box. |
| Find | Find model elements according to the scope specified from the Find dialog box. |
| Close | Close the Find dialog box without performing search. |
| Help | Display the Help content of Find dialog box. |

*Table 4.1*

Search result will be displayed in the **Find Results** page of the **Message pane**.

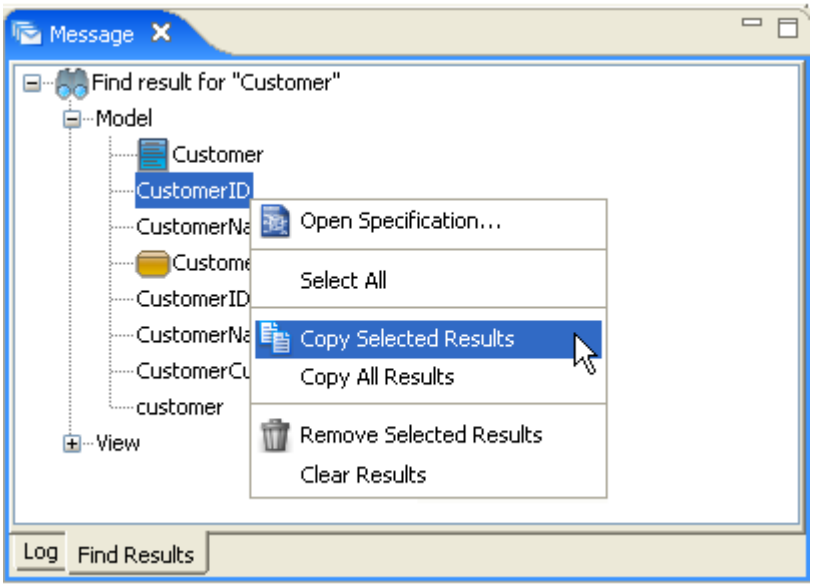



*Figure 4.38 - Find result*

There are two types of results found. One is for displaying the model found and the other one is for displaying view found.

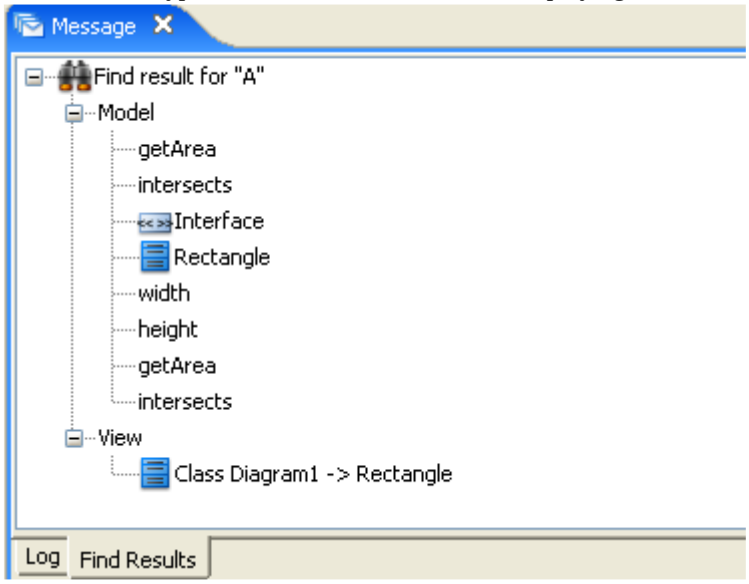



*Figure 4.39 - Types of result found*

You can copy, remove or clear result(s) by right-clicking on the result(s) and selecting the corresponding commands from the popup menu.

# Jumping to Shape/Model

In order to let you locate the desired shape/model easier and faster, the jump to shape/model facility is introduced. You can select either jump to a shape in the active diagram, or jump to any shape/model in the current project.

## Jumping to Shape in Active Diagram

1. With a diagram active, select menu **Edit > Jump to Element in Active Diagram...**, or press the hotkey ***Ctrl + J***.

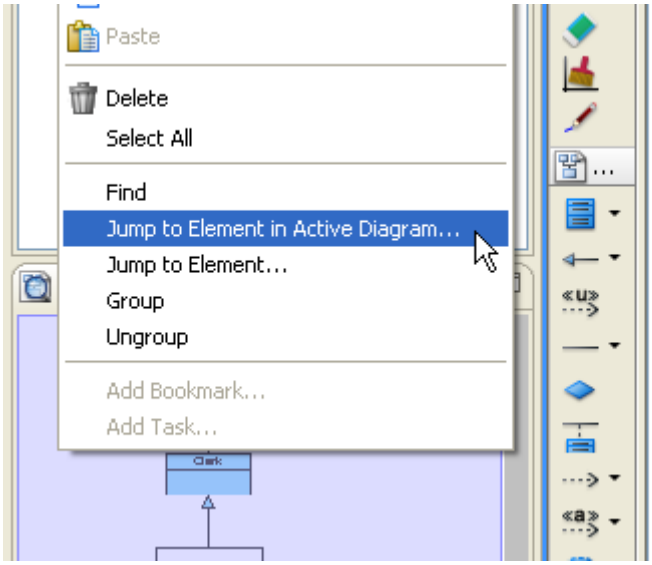



*Figure 4.40 - Select Jump to shape in active diagram*

2. The jump to shape pane is shown. If you are uncertain about the name of the shape to jump to, press the **Up**/**Down** arrow key to popup the shape list and browse for it there.

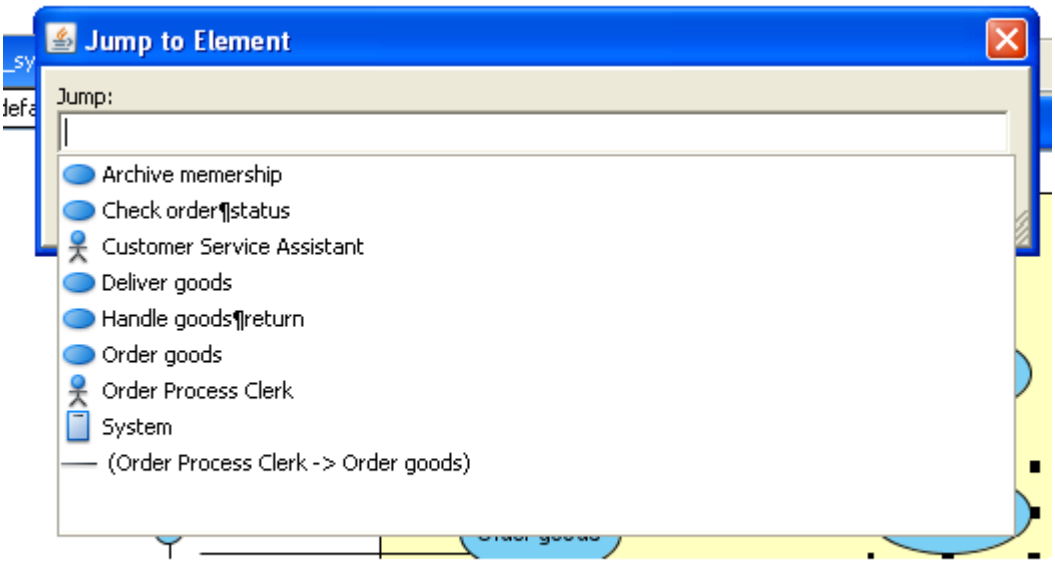



*Figure 4.41 - Shape in the active diagram is shown*

3. Upon the selection of an item in the list, extra information like the parent of the selected element is shown. If you keep selecting an item for one second, the corresponding element will be "spotlighted" in the diagram.

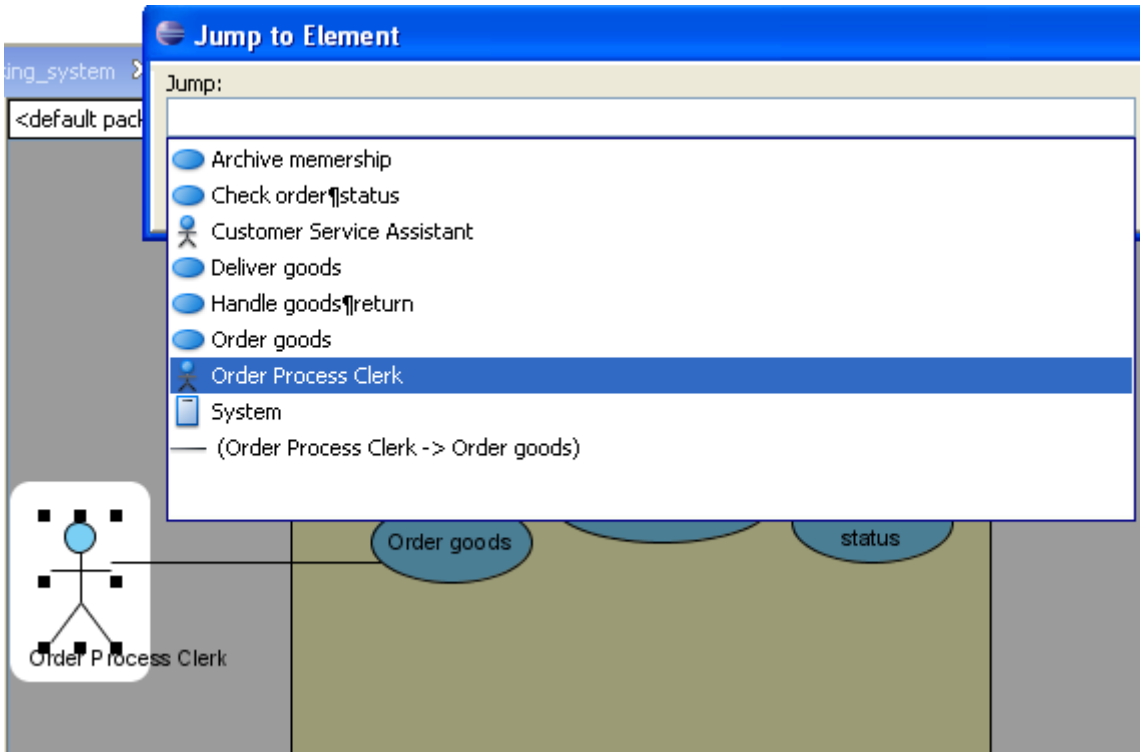



*Figure 4.42 - Spotlight on the diagram when select the shape*

4. When the spotlighting is in action, the jump to shape pane will reposition itself to avoid overlapping with the target shape if the **Auto position** option is selected.

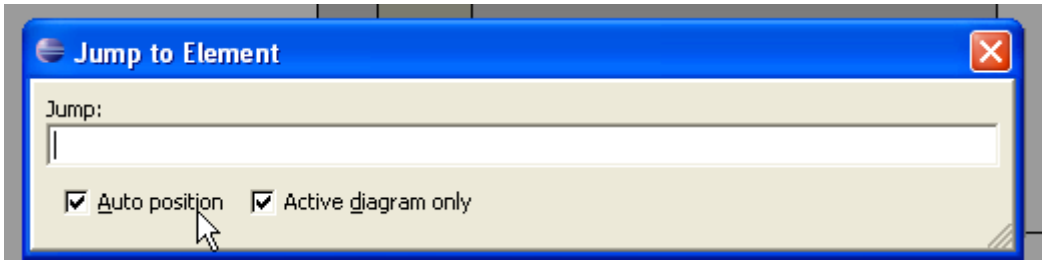



*Figure 4.43 - Auto position*

5. If you know the name of the shape to find, you can type all or part of its name to filter the items in the list to locate the shape faster. Wildcard characters * (all combination of characters) and ? (any one character) can also be used.

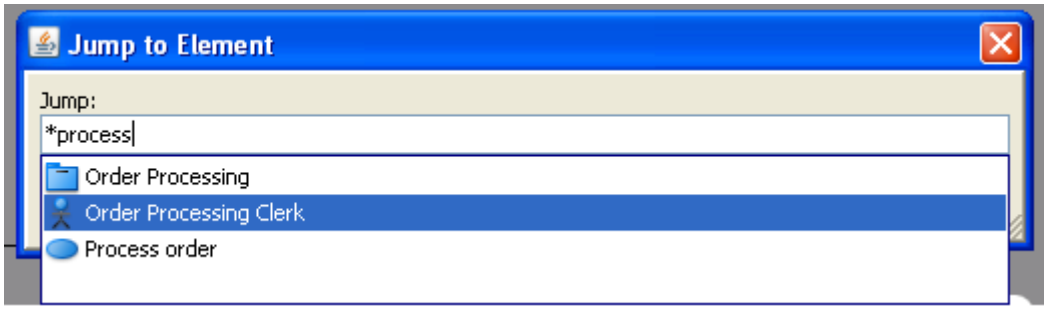



*Figure 4.44 - Filter the shapes*

6. With the desired item in the list selected, press the Enter Key. The corresponding element will be selected and centered in the diagram.

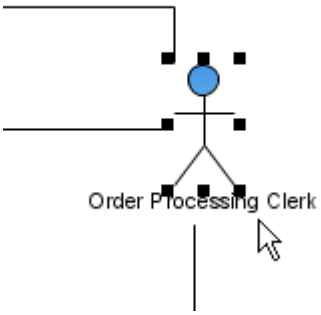



*Figure 4.45 - Auto select the shape and centered in diagram*

## Jumping to Element in Project

1. Select menu **Edit > Jump to Element...**, or press the hotkey ***Ctrl + Shift + J***.

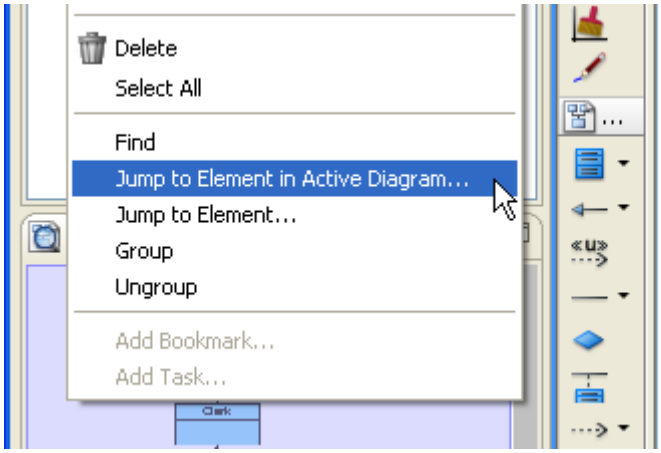



*Figure 4.46 - Select Jump to element*

2. The 'jump to element' pane is shown. Similar to 'jump to shape' in the active diagram, you can press the Up/Down arrow key to popup the list of elements, and type text to filter the list. But this time the list is filled with all shapes and models in the project, regardless of the diagram they reside in. To let you identify which diagram a selected element comes from, its diagram name is also displayed.

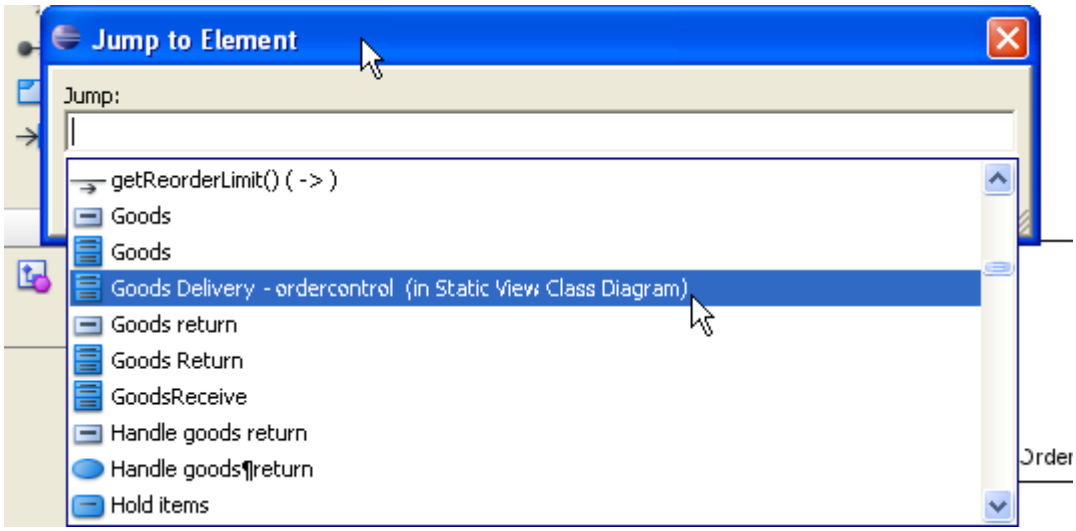



*Figure 4.47 - Select the Element*

3. If the selected item refers to an element in the active diagram, this element will be spotlighted in the diagram.

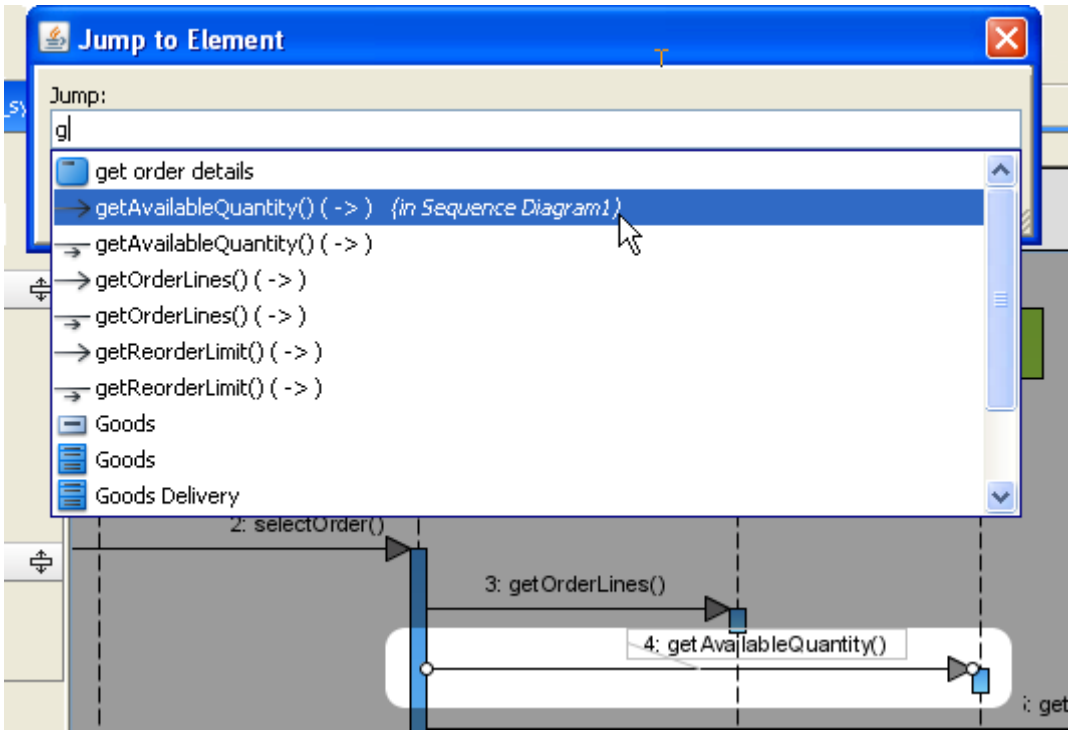



*Figure 4.48 - Spotlight in the diagram*

4. With the desired element in the list selected, press the Enter Key. If the selected element belongs to a diagram, this diagram will be opened, and the element will be selected and centered in the diagram. If the selected element is a model that does not have a view, it will be selected in the **Model** pane.

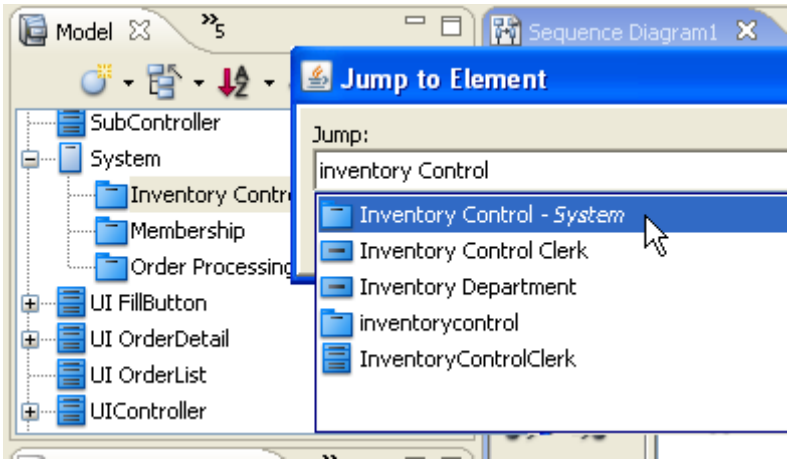



*Figure 4.49 - Select in Model pane*

# Mouse Gesture

Mouse gestures allow you to execute common commands and create UML models within the diagrams.

## Using Mouse Gesture in Windows

To use mouse gestures in Windows, simply hold down the right mouse button and move the mouse to form the gesture (a blue path will be shown indicating your gesture). When you release the button, the gesture command will be executed.

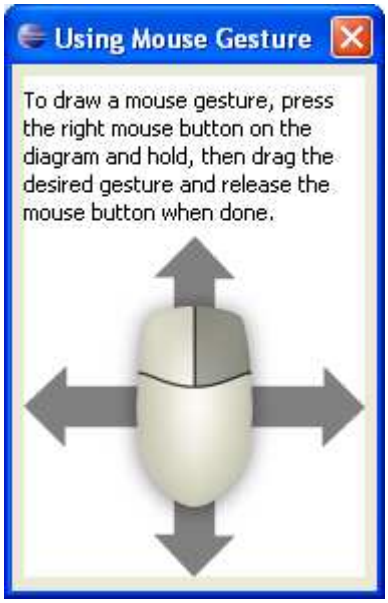



*Figure 4.50 - Using mouse gesture in Windows*

## Using Mouse Gesture in Linux

If you want to use mouse gestures in Linux, you can press the left mouse button on the diagram and drag the desired gesture while holding the Ctrl key, release the mouse button and key when done.

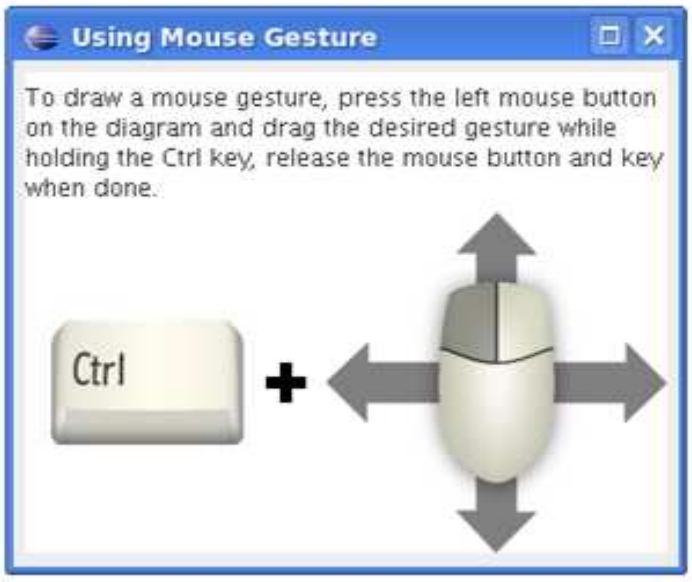
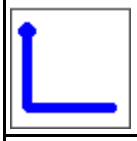
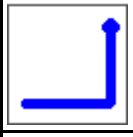
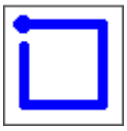
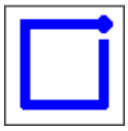



*Figure 4.51 - Using mouse gesture in Linux*

## General Features

The following is the 11 basic gestures supported by SDE for Eclipse:

| Gestures | Description | Gestures | Descriptions |
|---|---|---|---|
|  | Down V Right |  | Down V Left |
|  | Clockwise Rectangle* |  | Counter Clockwise Rectangle* |
|  | Folder Shape* |  | Right V Left# |
|  | Down V Up# |  | Right V Left V Right V Down V Left V Up*# |
|  | Left V Down V Right V Down V Left (squarish S) |  | Right V Down V Left V Up - Right |

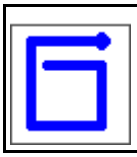
| | | | |
|---|---|---|---|
|  | Left V Down V Right V Up - Left | | |

*Table 4.2*

The node is the start point of each gesture
* Start at any point
# Bi-directional

A full list of gesture commands can be found in the Appendix C.

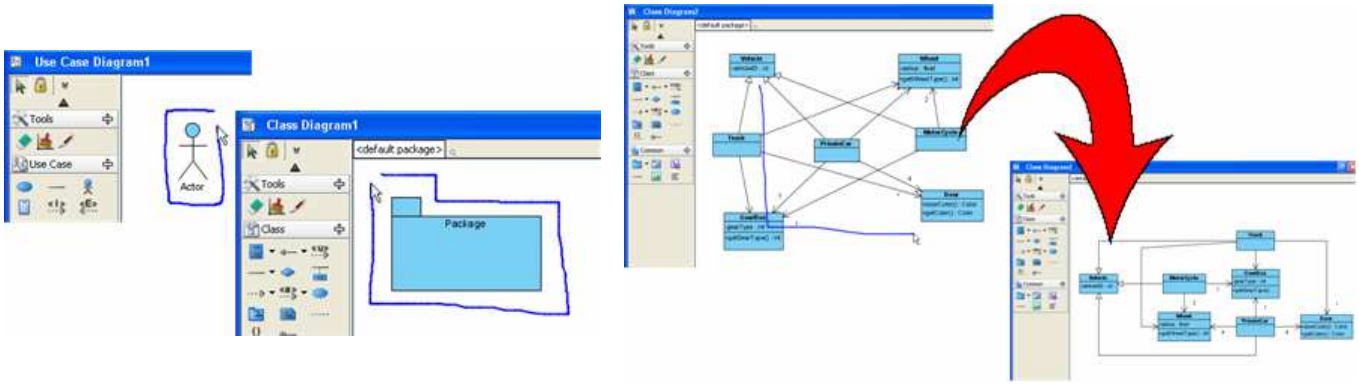



*Figure 4.52 - Mouse Gesture Example*

You can also draw with a Gesture Pen in the toolbar.


*Figure 4.53 - Draw with gesture pen*

## Gesture Start Point and Direction

For the gestures marked as "Start at Any Point" like the Clock-wise Rectangle, start from any corner will give you the same result. And for the gestures marked as "Bi-directional" like "Right-Left" , start from right or left will also give you the same results.

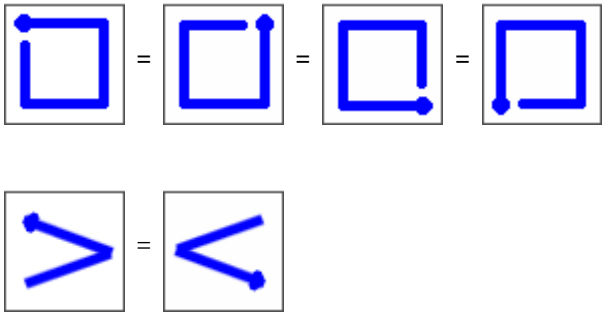


*Figure 4.54 - Gesture Start Point and Direction*

## Initial State and Final State

The initial state and final state use the same gestures. The gesture will create an initial state if an initial state is not exist in the diagram, and a final state will be created if there is an initial state but no final state. If the diagram has both initial state and final state, the gesture will do nothing.

## Connecting Shapes using Mouse Gesture

Right-click on a shape and then drag over another shape, release the mouse until you see the blue gesture path drawn between them. A connector will be created between the shapes, whose turning points are determined by the gesture path you dragged.

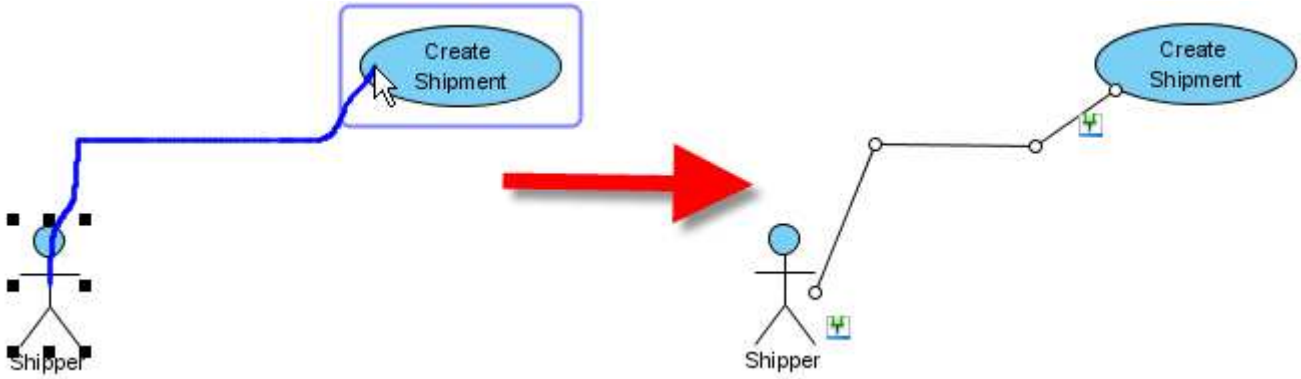



*Figure 4.55 - Create association*

If you drag the mouse gesture from a shape but release it over empty space of the diagram, a popup menu will appear for you to select a connector-shape pair. After selected a pair, a new shape together with a new connector of the selected types are created.

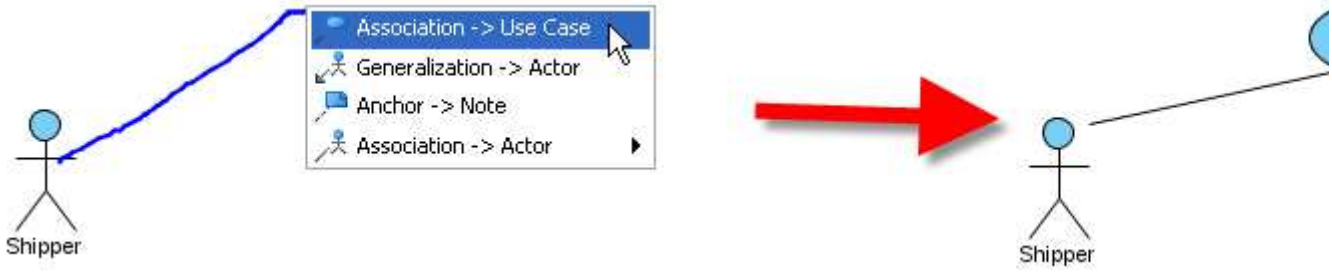



*Figure 4.56 - Create Use Case with Association*

# Creating Class Members using Mouse Gesture

## Creating Attribute

Right-click on a class, drag to the left and release the mouse until you see the blue gesture line, an attribute will be created.

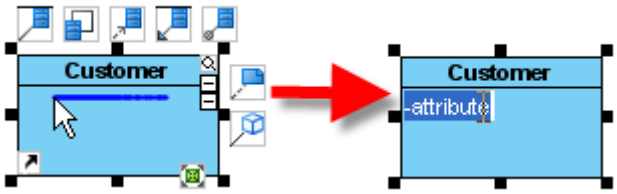



*Figure 4.57 - Create attribute*

Note that if you release the mouse OUTSIDE the class, the created attribute will be stereotyped as Property, and with its **Setter** and **Getter** properties automatically set to true.


*Figure 4.58 - Attribute created with getter and setter*

## Creating Operation

Right-click on a class, drag to the right and release the mouse until you see the blue gesture line, an operation will be created.


*Figure 4.59 - Create operation*

Note that if you release the mouse INSIDE the class, the created operation will have its visibility set to protected instead of public.

# Sweeper

A **sweeper** allows you to create space for placing shapes.
To use sweeper:
1. Click on the icon on the diagram toolbar.

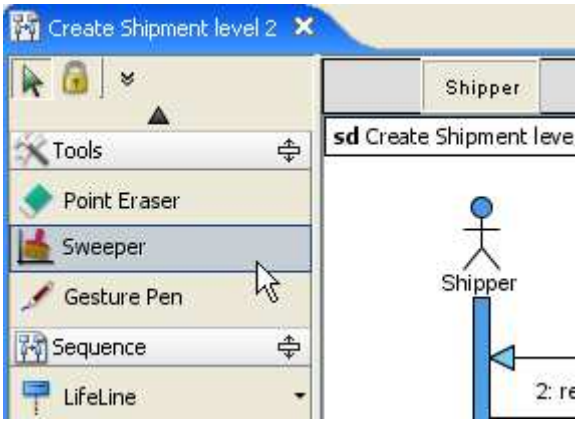



*Figure 4.60 - Select Sweeper icon*

2. Click anywhere on the diagram while holding your left click, a plus sign will appear in the diagram.

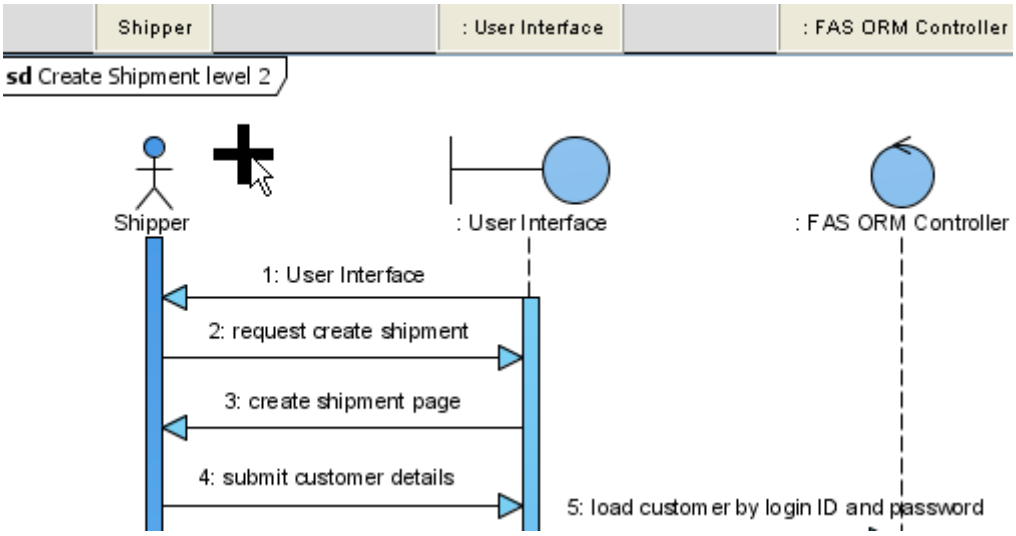



*Figure 4.61 - Sweeper appears as Plus sign*

3. You can then move the mouse left and right to create some horizontal spaces between shapes.

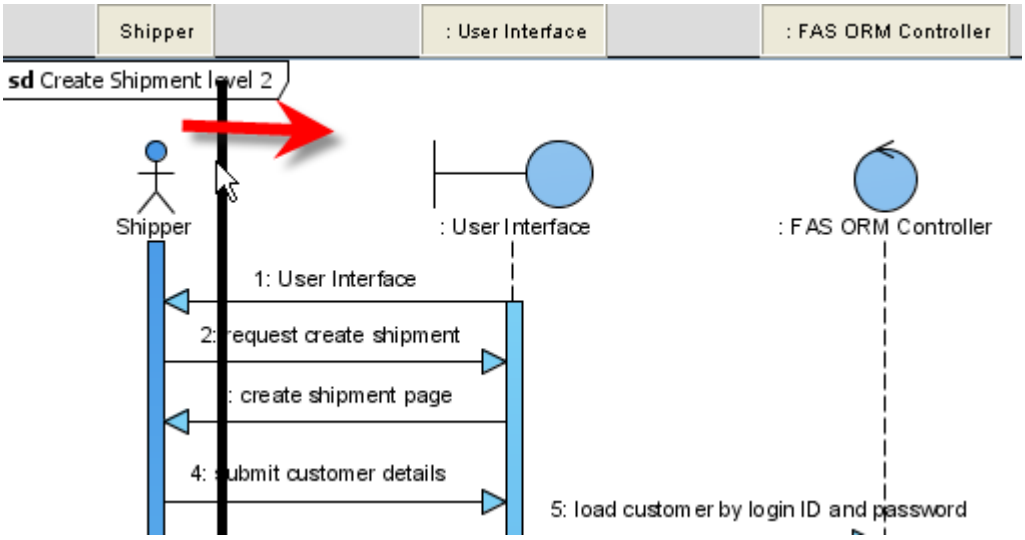



*Figure 4.62 - Use Sweeper to create horizontal Space*

4. Horizontal space created.

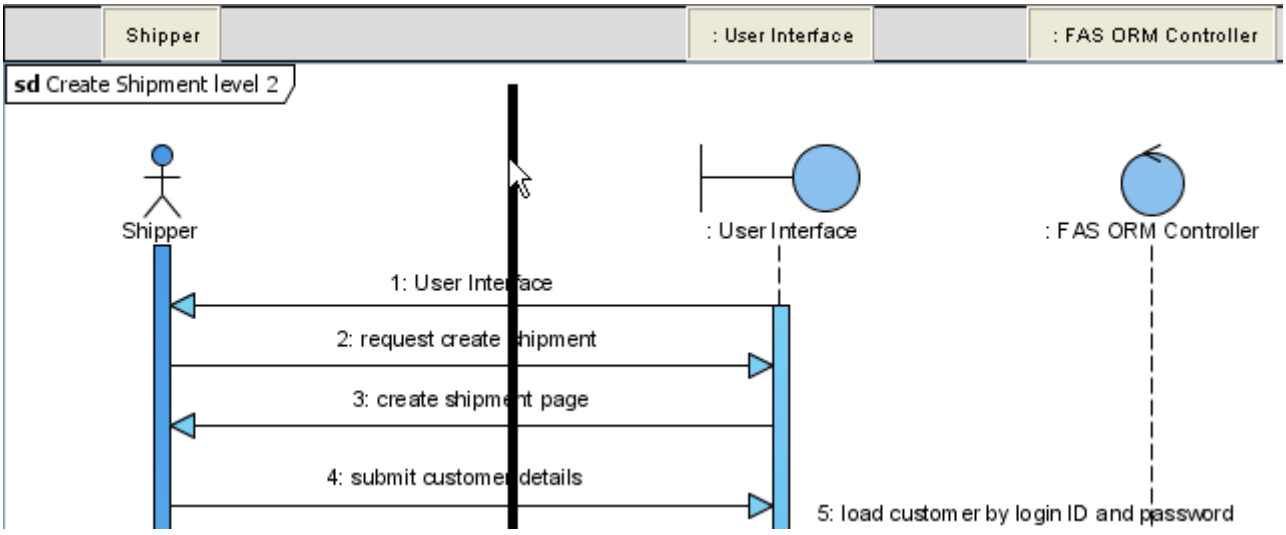



*Figure 4.63 - Horizontal space created*

Similarly, you can move the mouse up and down to create some vertical spaces between shapes.

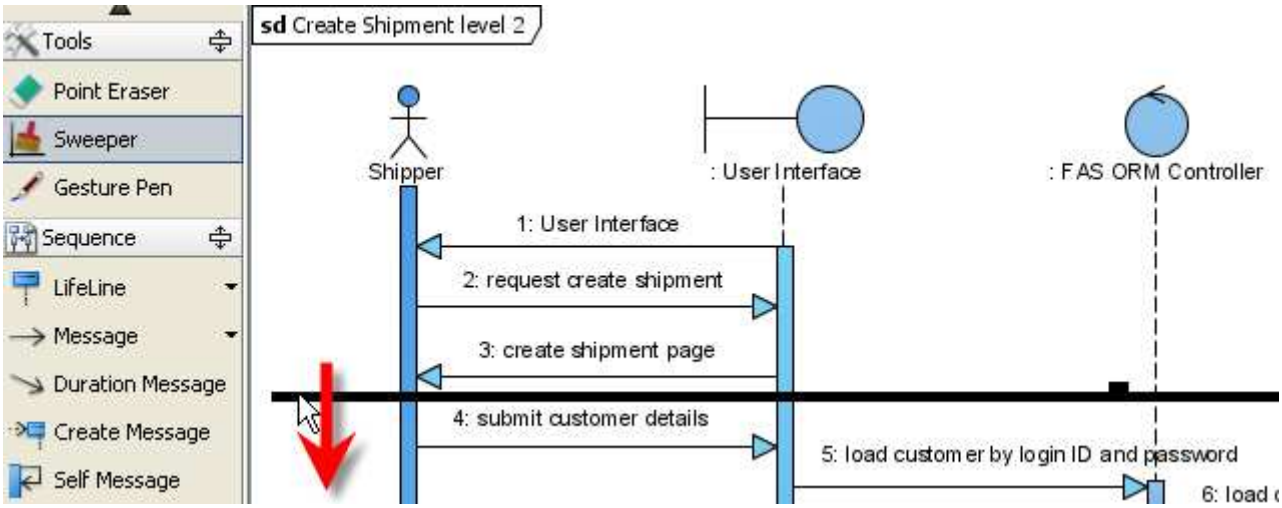



*Figure 4.64 - Use Sweeper to create vertical space*

Vertical space is created.

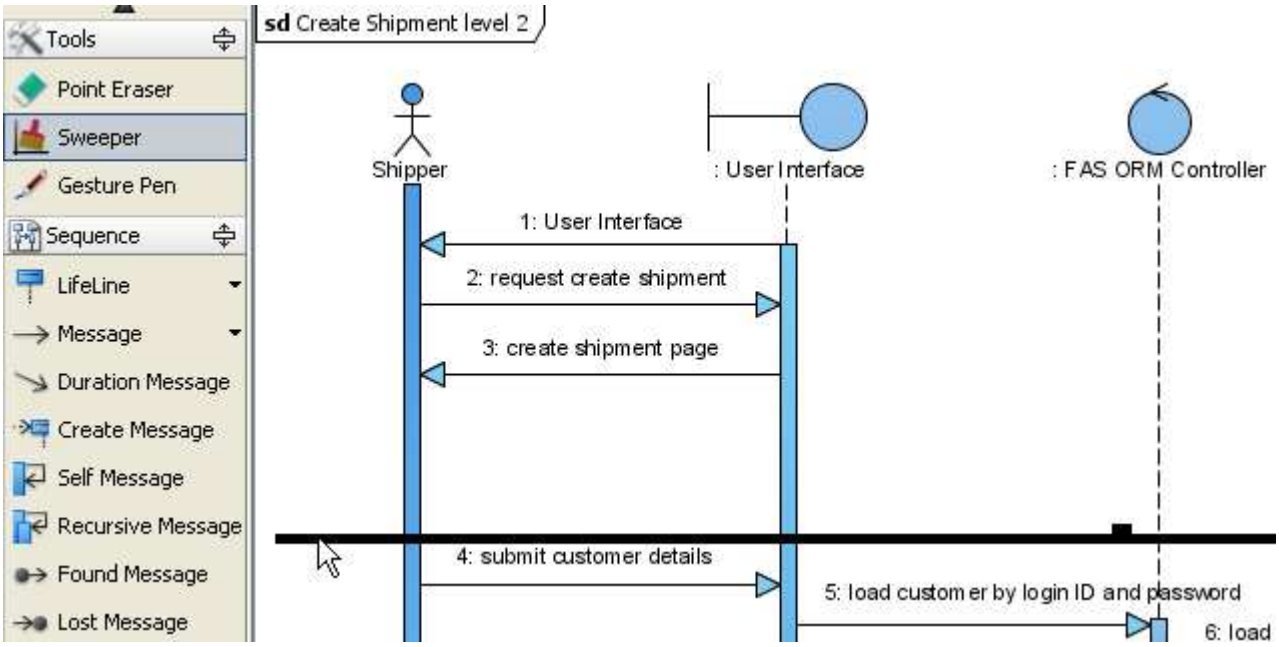



*Figure 4.65 - Vertical space is created.*

# Customizing Data Types

You can choose a programming language that your UML project is based on. By default, there are six types of languages. They are:

- Java
- XML Schema
- C++
- Visual Basic
- C#
- UML

Also, you can assign data type to attributes, operations (as return type) and parameters. Furthermore, new languages and data types can be added.

## Configuring Project Programming Language

1. Right-click on the project root node under **Diagram Navigator** / **Model** pane / **Class Repository** and then select **Configure Programming Language...** from the popup menu.

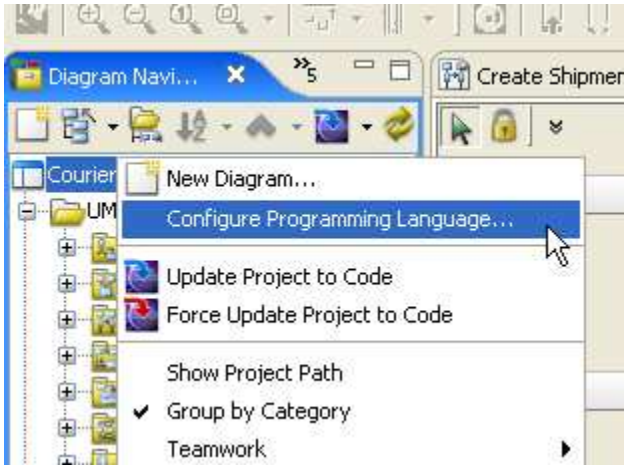



*Figure 4.66 - Select Configure Programming Language button*

2. Select the language to switch to.

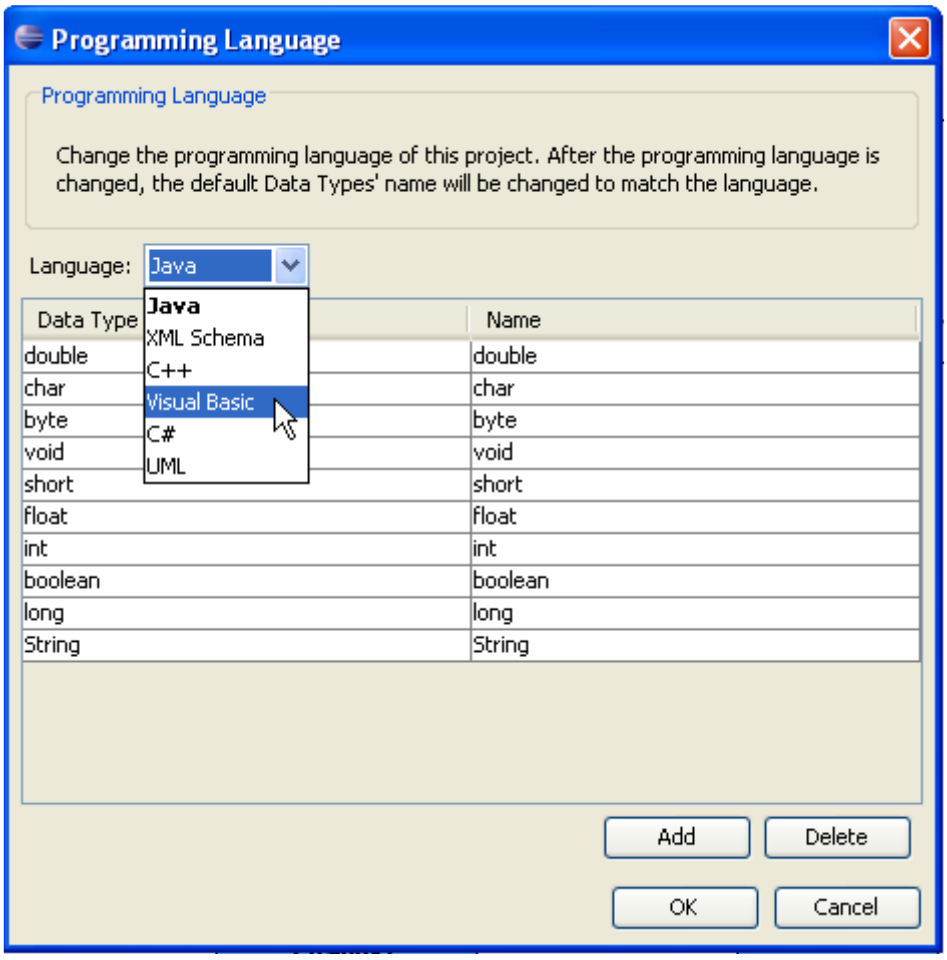



*Figure 4.67 - Select language to switch to*

3. The language is changed. The data type will be changed to match the language.

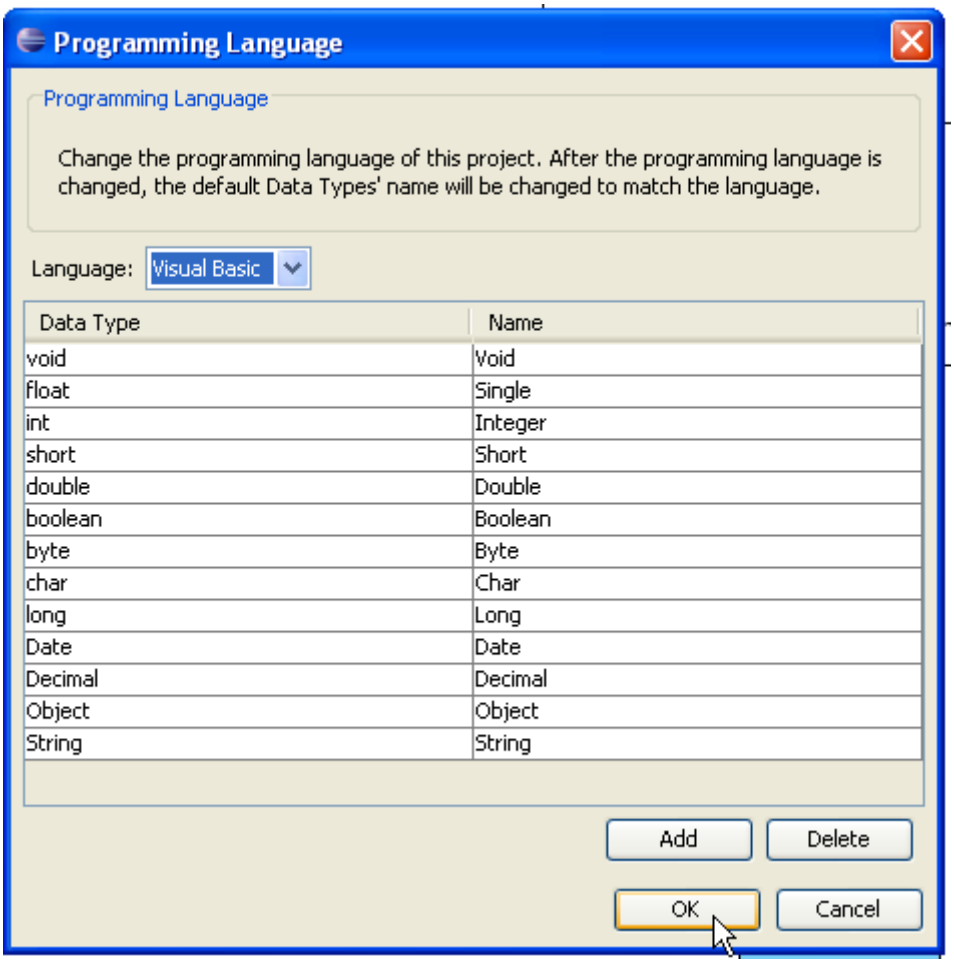



*Figure 4.68 - Language changed*

## Adding Languages and Data Types

1. Select **Modeling** > **Application Options...** from the main menu.

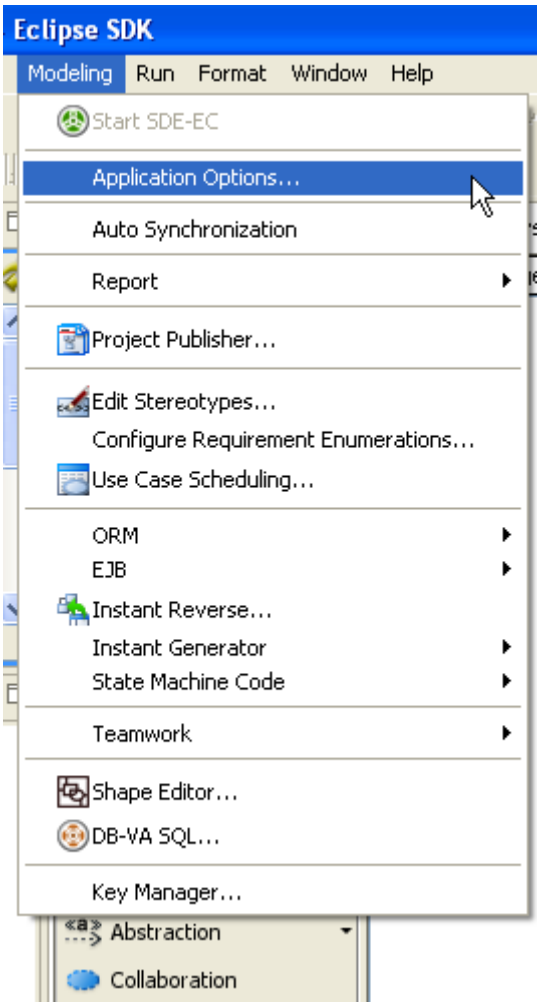



*Figure 4.69 - Select Option button from main menu*

2. Open the **Data Type** page.

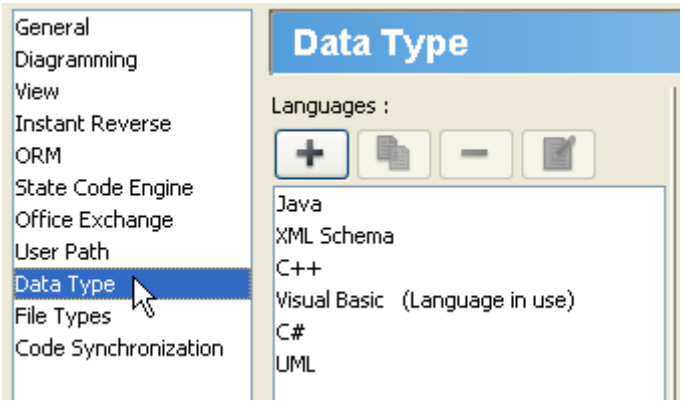



*Figure 4.70 - Open the Data Type page*

3. Press on the plus sign and enter its name to add a language.

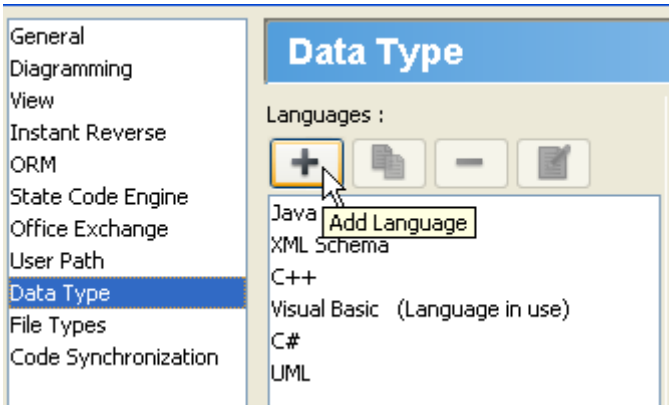



*Figure 4.71 - Add a language*

4. Press **Add...** and enter its name to add a data-type to the chosen language.

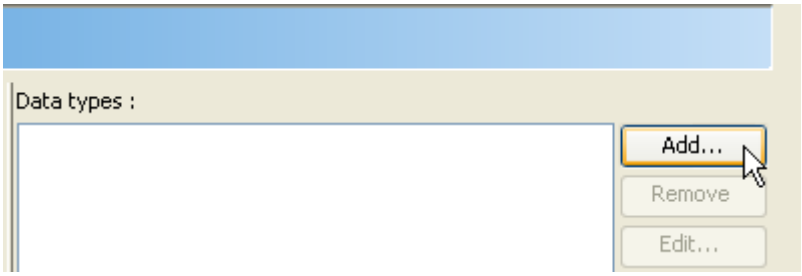



*Figure 4.72 - Add a data type*

5. A new language with data-type is added.

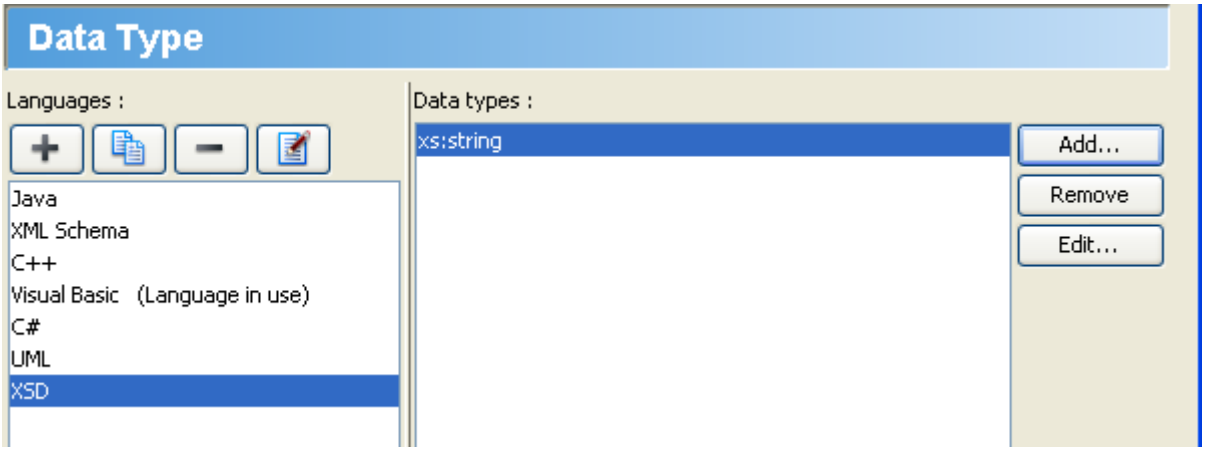



*Figure 4.73 - A new language with data-type is added*

# 5 Automatic Diagrams Layout

# Chapter 5 - Automatic Diagrams Layout

SDE for Eclipse provides a layout facility for arranging diagram elements in diagrams. It re-layouts the diagram elements so that they do not overlap, and the relationship links are arranged so that they will not cross over one another. Different layout styles and configurable options are provided, which allows for very flexible and sophisticated layouts to be adopted for diagrams.

In this chapter:

- Using diagram layout facility
- Setting the diagram layout options

## Auto Layout

Auto Layout can arrange the shapes by selecting the most suitable layout automatically. It is best for arranging the shapes when user has no special preference in choosing a specific layout.

To apply **Auto Layout** to the diagram, right-click on the diagram and select **Layout > Auto Layout** from the popup menu.

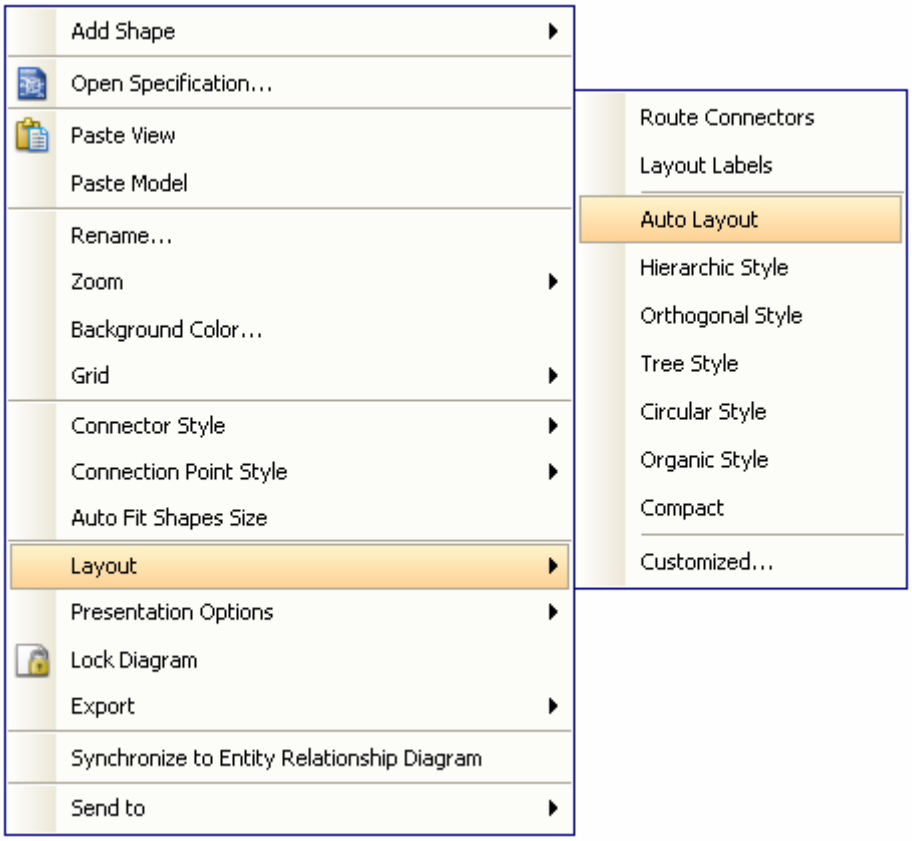



*Figure 5.1 - Select Auto Layout*

### Class Diagram

#### Hierarchy base (Factory class diagram)

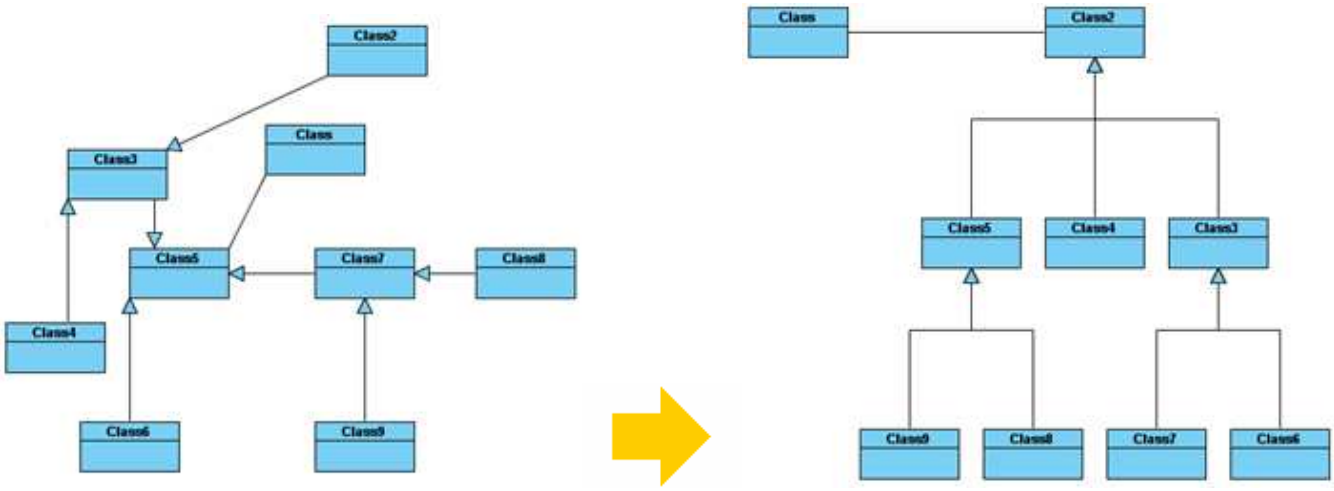


*Figure 5.2 - Hierarchy base (Factory class diagram)*

## Navigation base (Mediator class diagram)

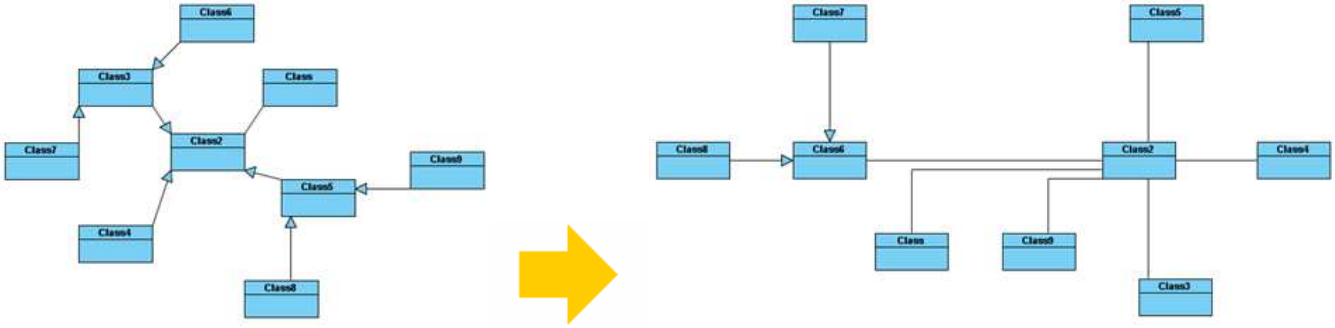


*Figure 5.3 - Navigation base (Mediator class diagram)*

## Activity Diagram

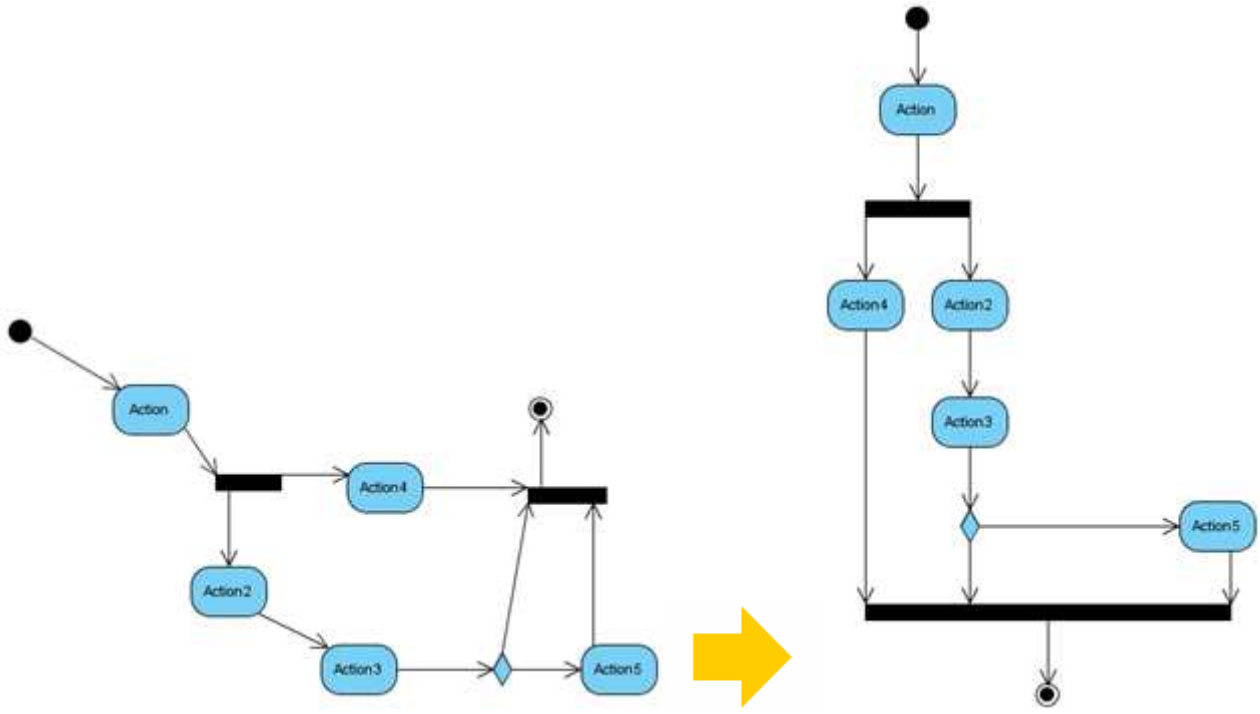



*Figure 5.4 - Auto layout of activity diagram*

## State Machine Diagram

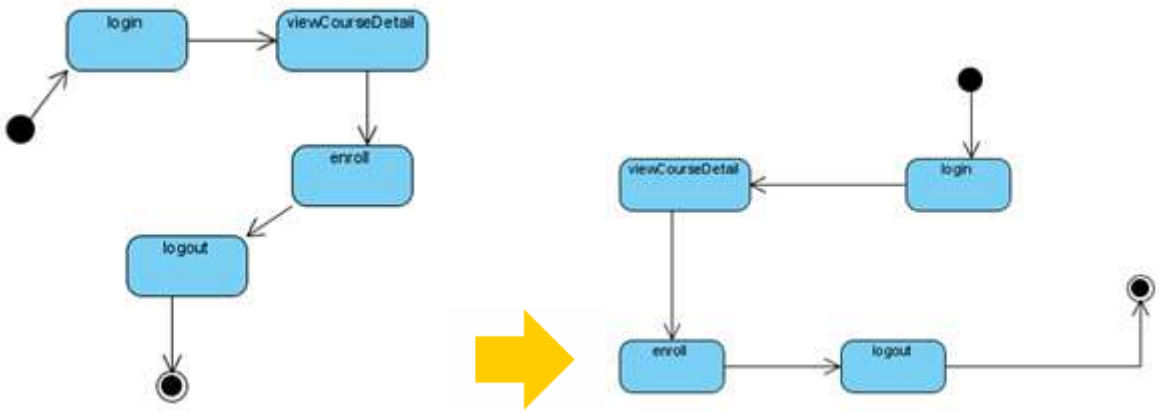



*Figure 5.5 - Auto layout of state machine diagram*

## Communication Diagram

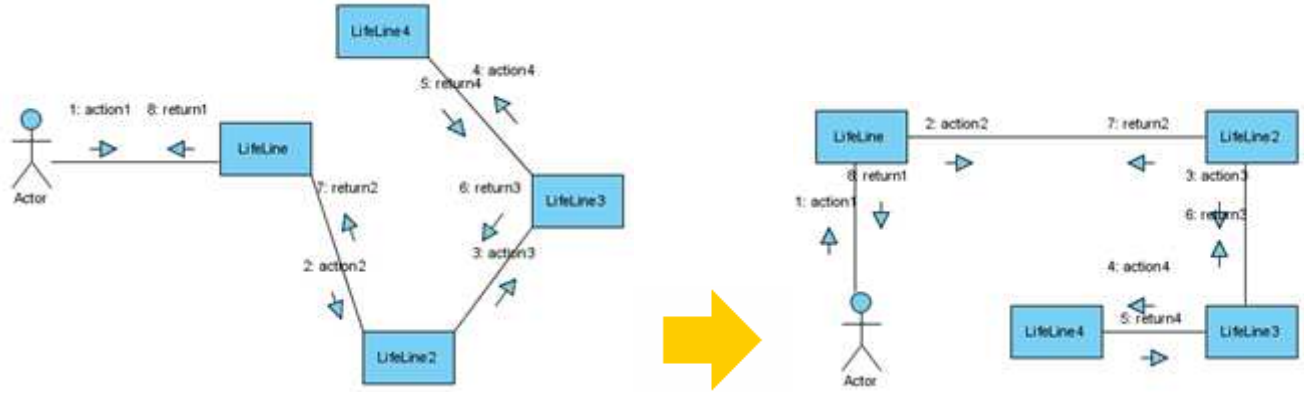



*Figure 5.6 - Auto layout of communication diagram*

## Other Diagrams

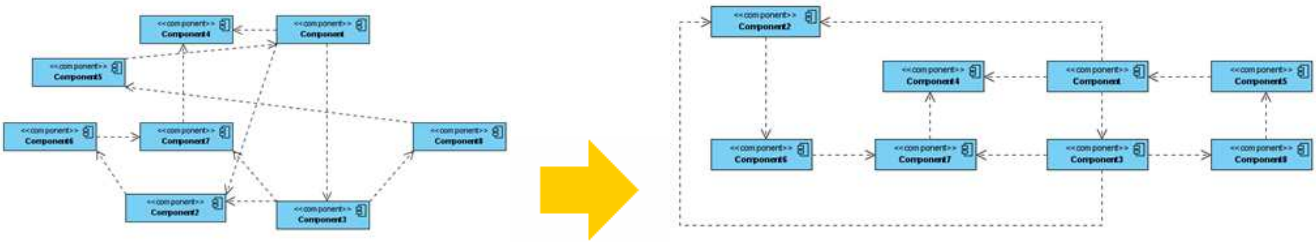


*Figure 5.7 - Auto layout of other diagrams*

# Performing Layout

- To layout all the diagram elements in the diagram, right-click on the diagram and select **Layout** from the popup menu.
- To layout the selected diagram elements, right-click on the selection and select **Layout** from the popup menu (make sure there are more than one diagram elements selected).

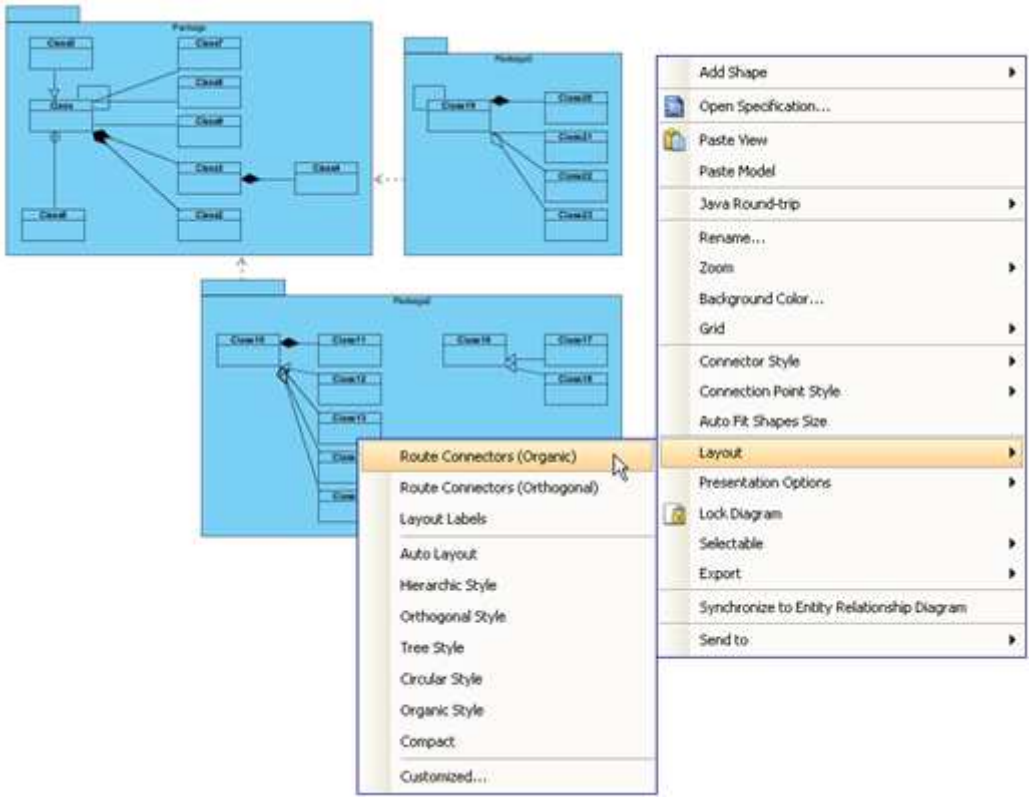



*Figure 5.8 - Performing layout*

# Orthogonal Layout

Orthogonal Layout arranges shapes based on the topology-shape-metrics approach. It is best for arranging shapes and connectors in Class Diagrams. It is the default layout in SDE for Eclipse. Every time you drag the models from the **Model Tree** to a diagram, the orthogonal layout will be applied to arrange the newly created shapes in the Class Diagram.

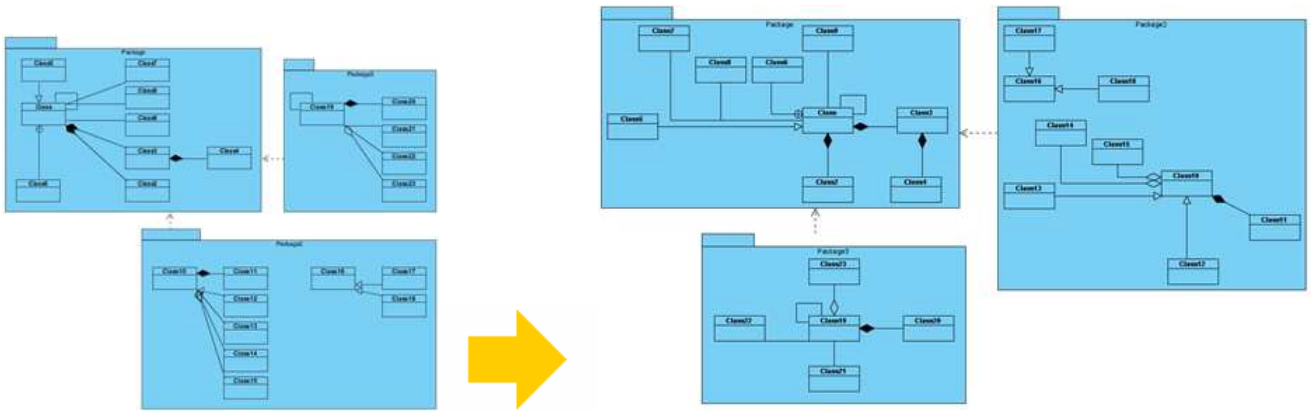


*Figure 5.9 - Orthogonal Layout*

**Layout Grid Size**: the virtual grid size for layout. Each shape will be placed in a way so that its center point lays on a virtual grid point.

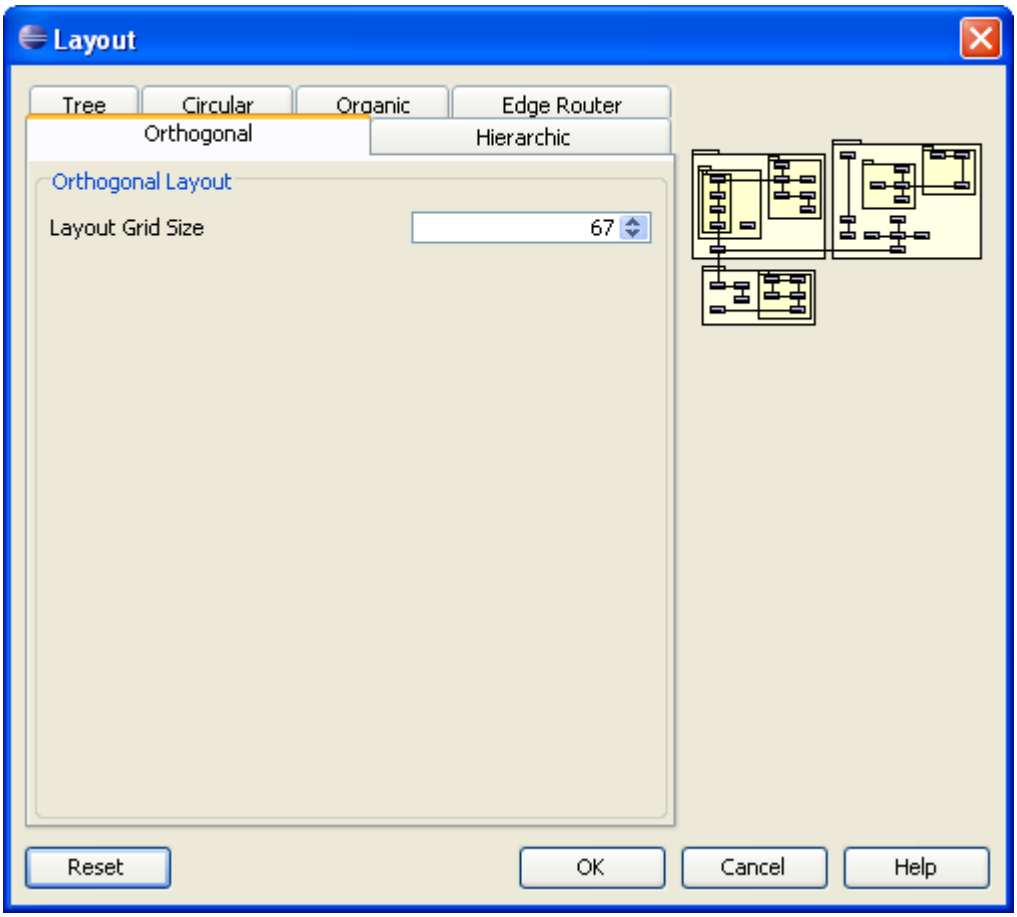



*Figure 5.10 - Orthogonal Layout setting*

# Hierarchic Layout

Hierarchic Layout arranges shapes in a flow. It is best for arranging shapes that have hierarchical relationships such as generalization relationships and realization relationships.

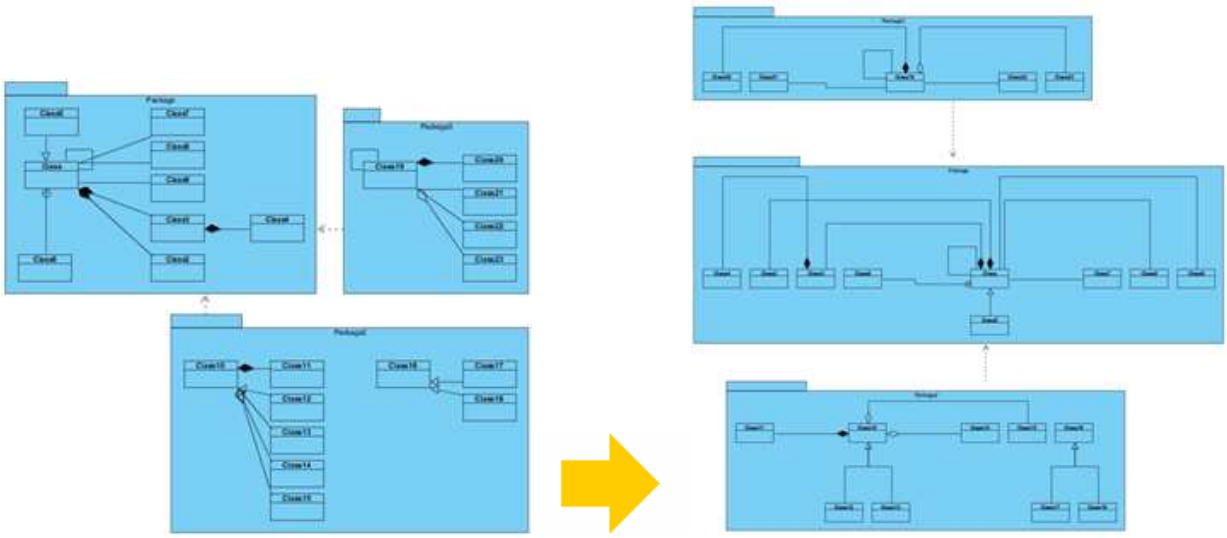


*Figure 5.11 - Hierarchic Layout*

**Min. Layer Distance**: the minimal horizontal distance between the shapes
**Min. Shape Distance**: the minimal vertical distance between the shapes
**Min. Connector Distance**: the minimal vertical distance of the connector segments
**Orientation**: the layout direction for arranging nodes and connectors -top to bottom, left to right, bottom to top, and right to left
**Shape Placement**: affects the horizontal spacing between shapes, and the number of bends of the connectors -pendulum, linear segments, polyline, tree, simplex
**Connector Style**: the style of the connectors -polyline style or orthogonal style

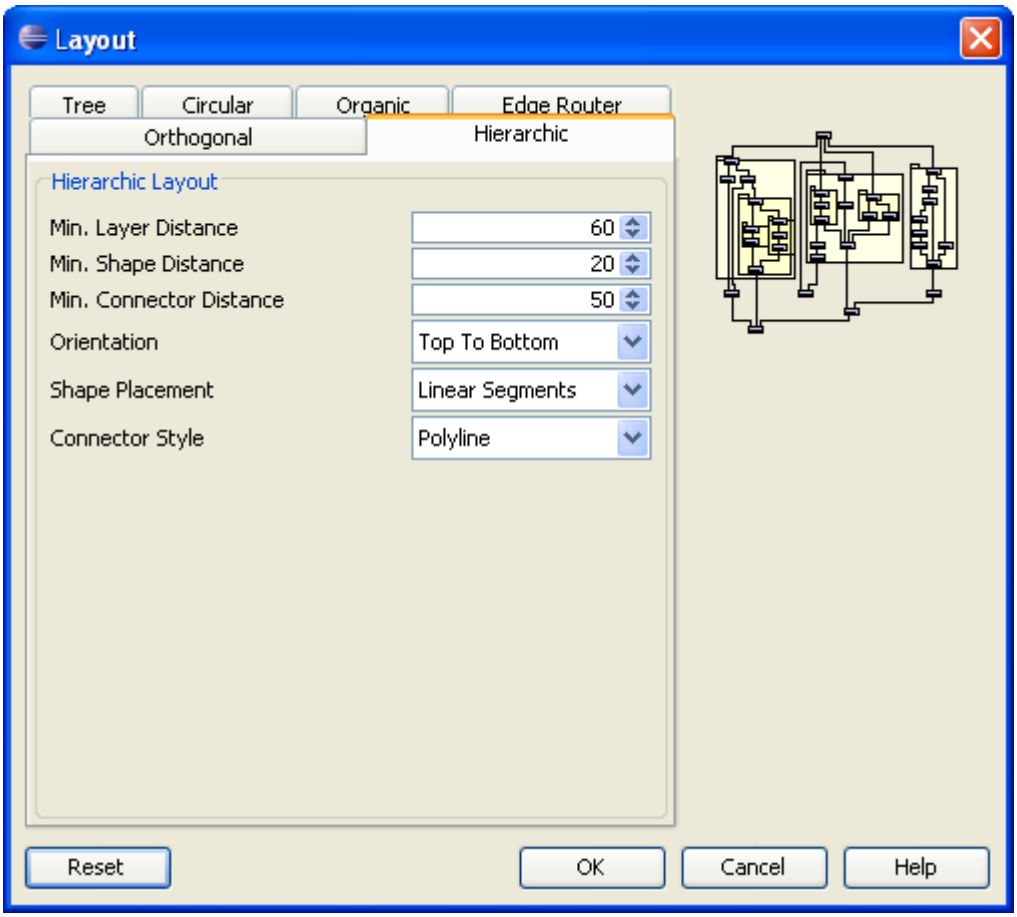



*Figure 5.12 - Hierarchic Layout setting*

# Directed Tree Layout

Directed Tree Layout is one of the tree layouts in SDE for Eclipse. It can arrange shapes in a tree structure. It is best for arranging shapes except those which have hierarchical relationships such as generalization relationships and realization relationships.

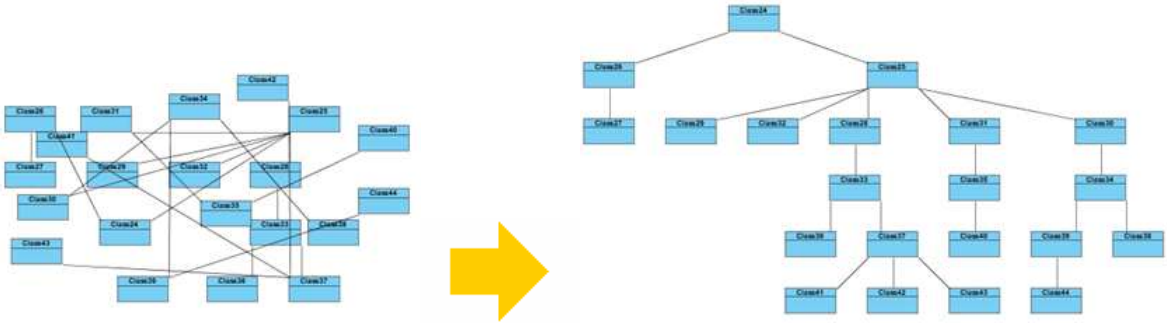


*Figure 5.13 - Directed Tree Layout*

**Min. Layer Distance**: the minimal horizontal distance between the shapes
**Min. Shape Distance**: the minimal vertical distance between the shapes
**Orientation**: the layout direction for arranging nodes and connectors - top to bottom, left to right, bottom to top, and right to left
**Connector End Point Style**: how the connector end points will be placed - shape centered, border centered, border distributed
**Orthogonal Connector**: whether the connectors will be arranged in orthogonal style

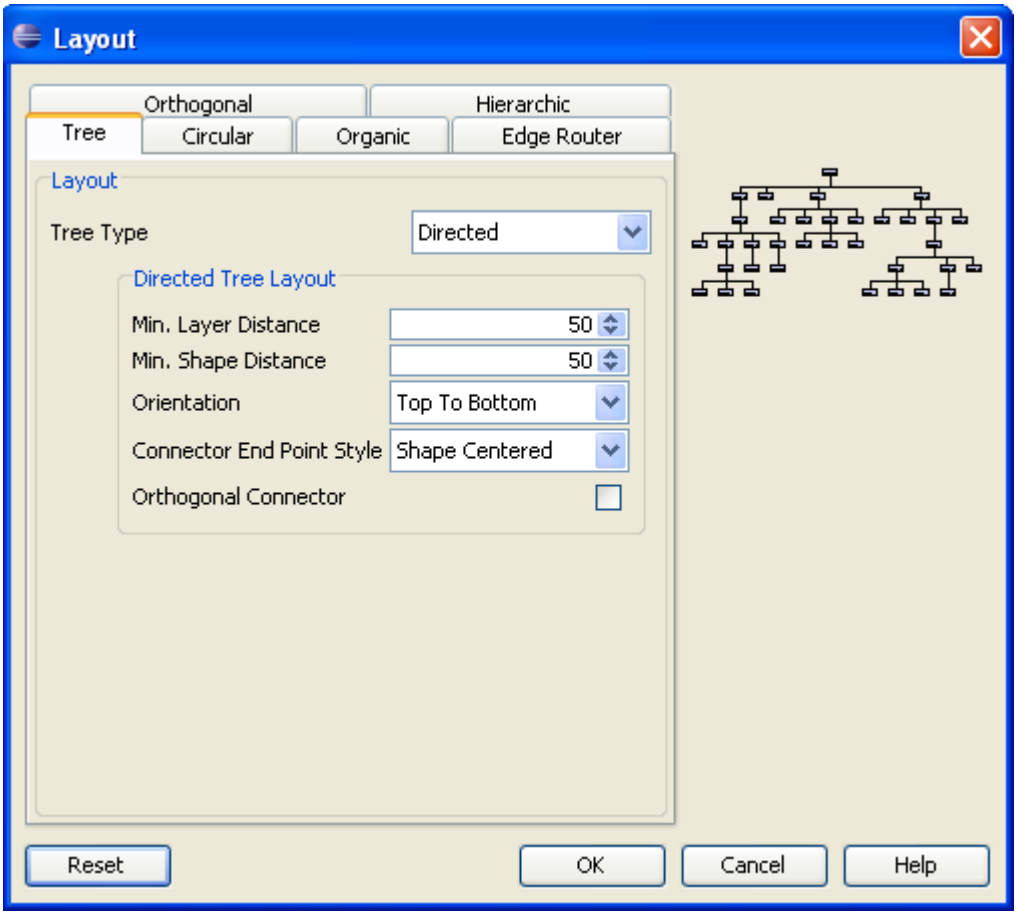



*Figure 5.14 - Directed Tree Layout Setting*

# Balloon Tree Layout

Balloon Tree Layout is one of the tree layouts in SDE for Eclipse. It can arrange shapes in a tree structure in a radial fashion. It is best for arranging large trees.

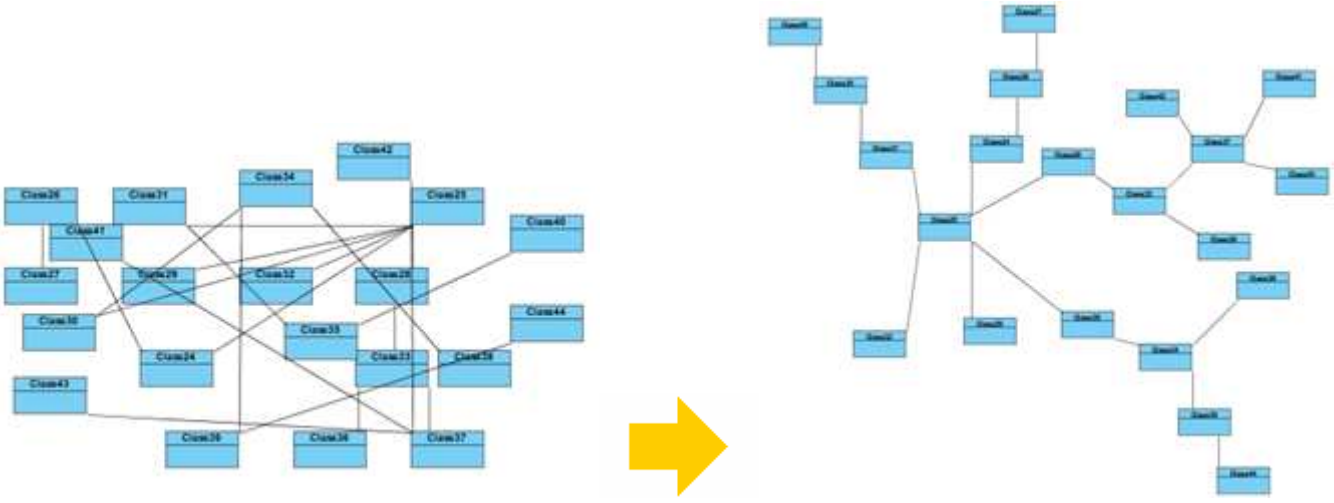


*Figure 5.15 - Balloon Tree Layout*

**Min. Connector Length**: the minimal distance between the connectors and shapes
**Preferred Child Wedge**: the angle at which the child node will be placed around its parent node
**Preferred Root Wedge**: the angle at which a node will be placed around the root node
**Root Node Policy**: determines which node is chosen as the tree root node for layout - directed root, center root, and weighted center root

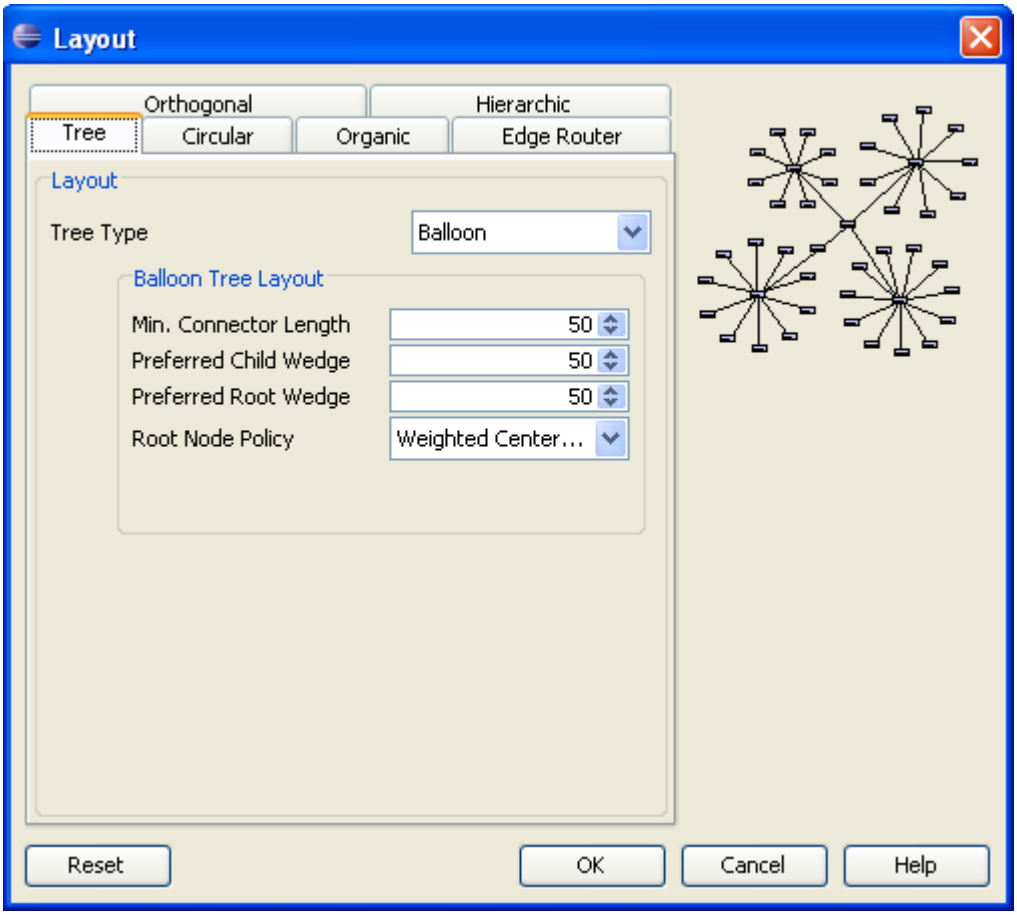



*Figure 5.16 - Balloon Tree Layout Setting*

# Compact Tree Layout

Compact Tree Layout is one of the tree layouts in SDE for Eclipse. It can arrange shapes in a tree structure. You can set the aspect ratio (relation of tree width to tree height) of the resultant tree.

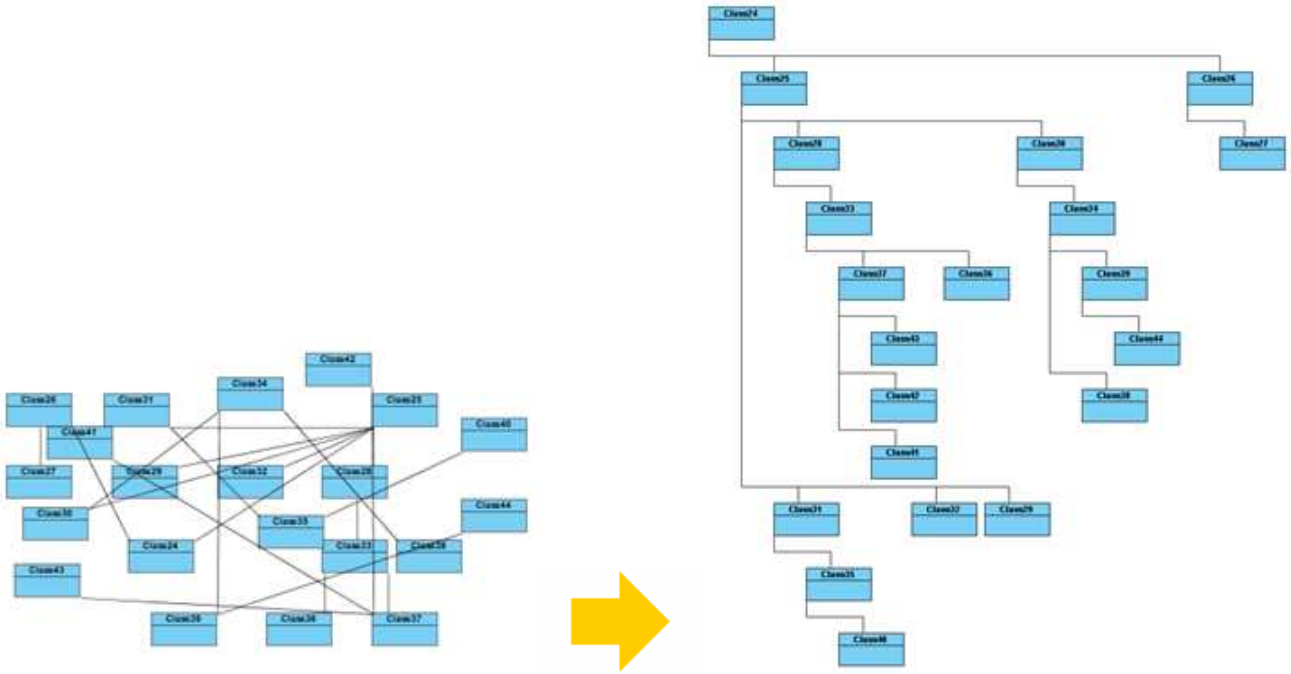


*Figure 5.17 - Compact Tree Layout*

**Horizontal Spacing**: the horizontal spacing between the shapes
**Vertical Spacing**: the vertical spacing between the shapes
**Min. Connector Length**: the vertical distance of the connector segments
**Aspect Ratio**: the relation of the tree width to the tree height

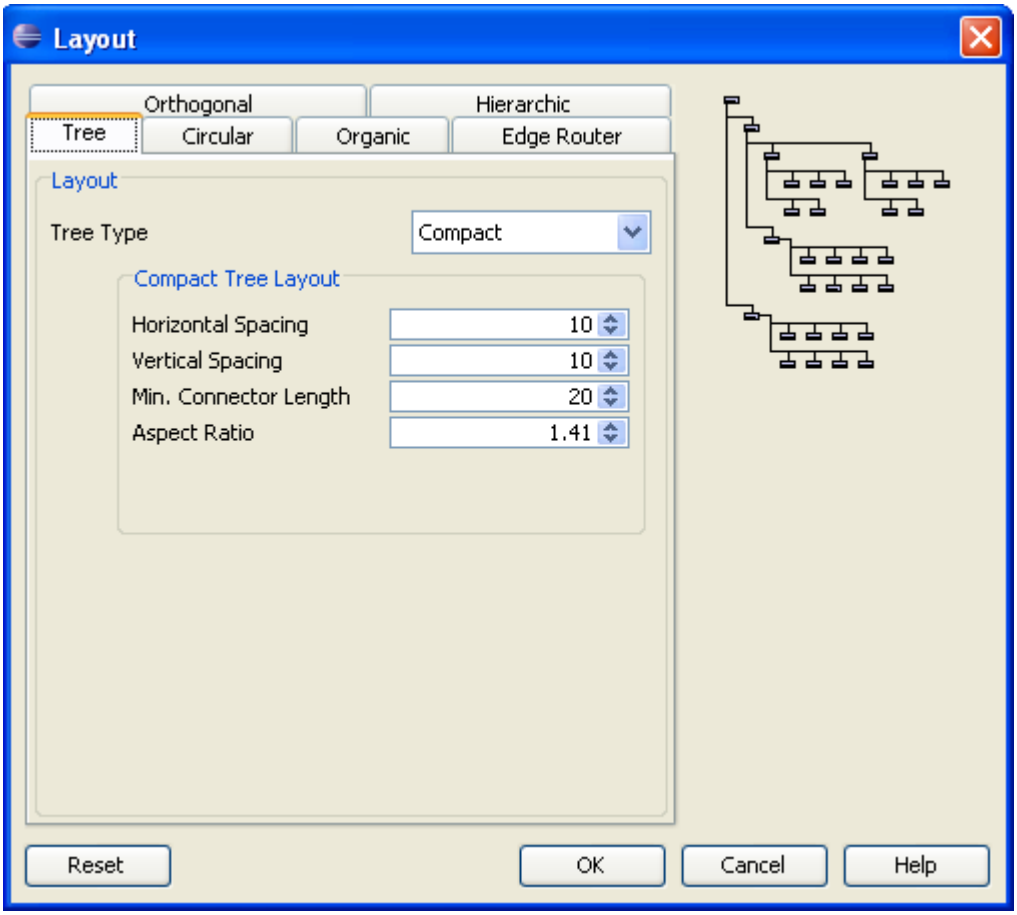



*Figure 5.18 - Compact Tree Layout Setting*

# Horizontal-Vertical Tree Layout

Horizontal-Vertical Tree Layout is one of the tree layouts in SDE for Eclipse. It can arrange shapes in a tree structure horizontally and vertically.

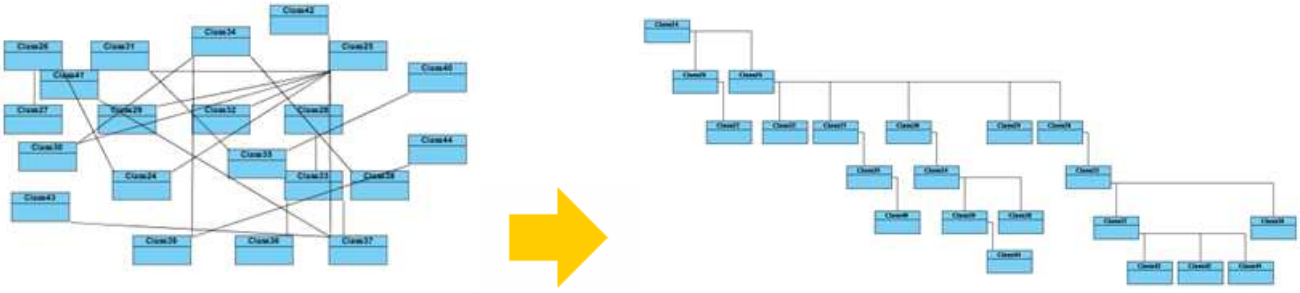


*Figure 5.19 - Horizontal-Vertical Tree Layout*

**Horizontal Spacing**: the horizontal spacing between the shapes
**Vertical Spacing**: the vertical spacing between the shapes

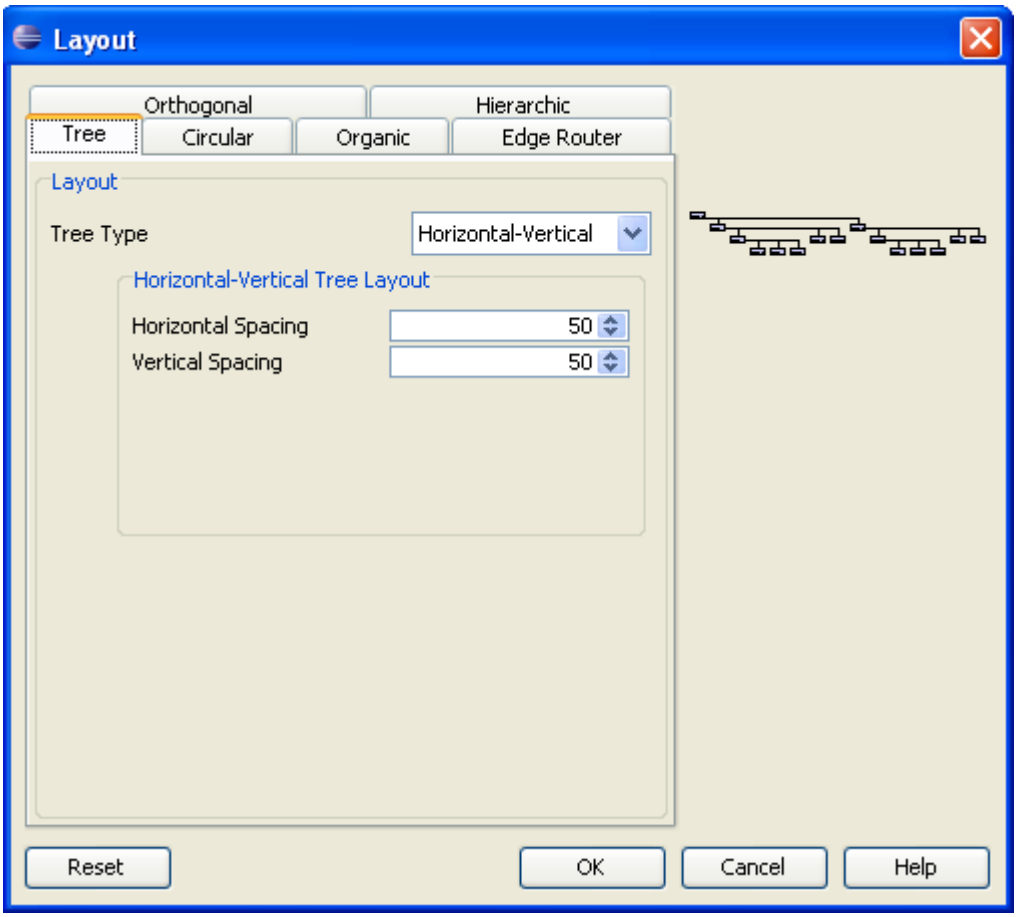



*Figure 5.20 - Horizontal-Vertical Tree Layout Setting*

# BBC Compact Circular Layout

BBC Compact Circular Layout is one of the circular layouts in SDE for Eclipse. It can arrange shapes in a radial tree structure. The detected group is laid out on the separate circles. It is best for arranging shapes that belongs to more than one group with a ring structure.

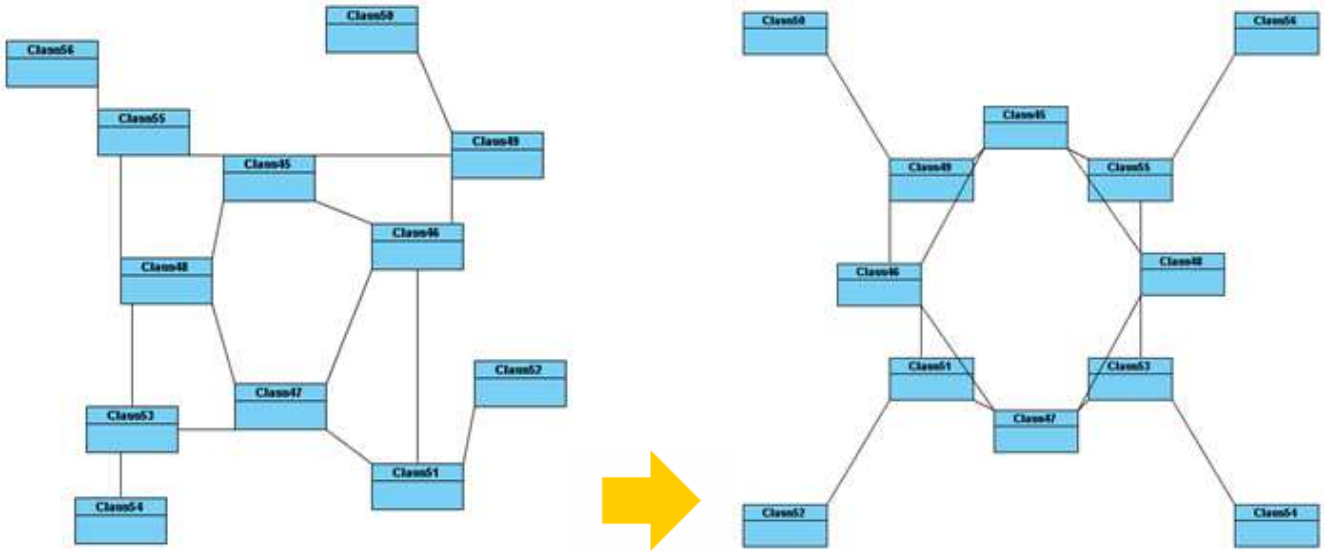


*Figure 5.21 - BBC Compact Circular Layout*

**Maximal Deviation Angle:** the maximal angle of deviation
**Preferred Child Wedge:** the angle at which the child node will be placed around its parent node
**Minimal Edge Length:** the minimal distance between the shapes
**Compactness Factor:** the parameter that affects the length of connector. The smaller the compactness factor, the length of connectors will be shorter and the layout will be more compact.
**Allow Overlaps:** whether the shape can be overlapped

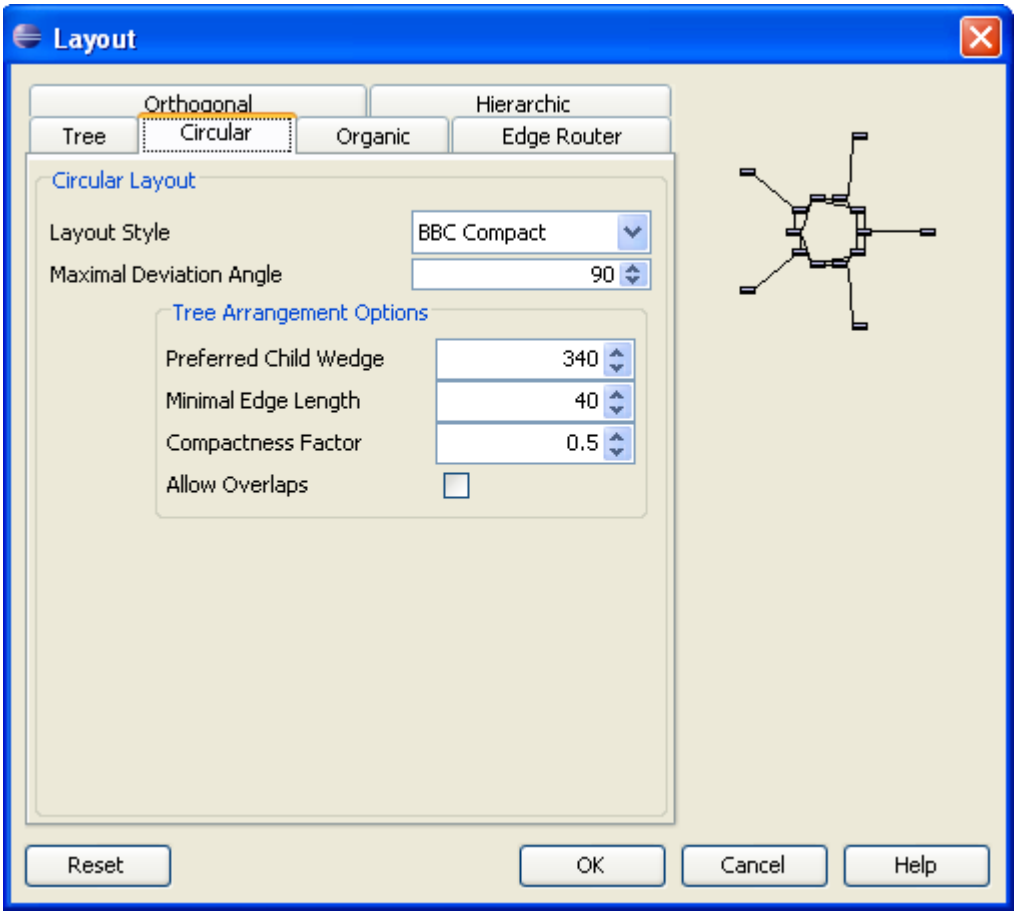



*Figure 5.22 - BBC Compact Circular Layout Setting*

# BBC Isolated Circular Layout

BBC Isolated Circular Layout is one of the circular layouts in SDE for Eclipse. It can arrange shapes into many isolated ring structures. It is best for arranging shapes that belong to one group with ring structure.

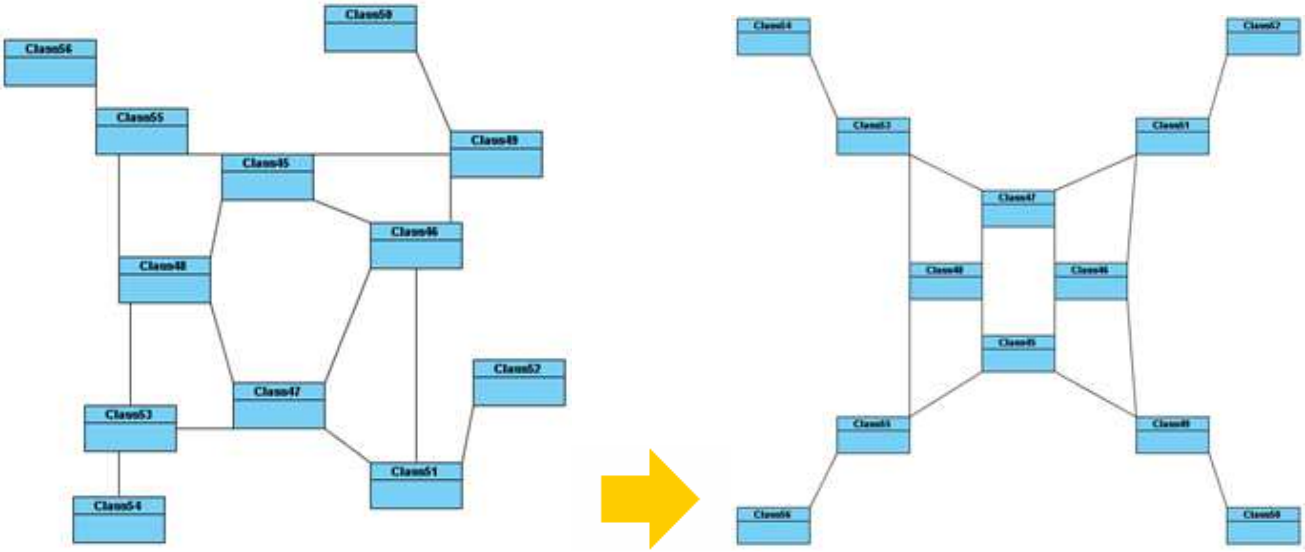


*Figure 5.23 - BBC Isolated Circular Layout*

The attributes of this layout is the same as BBC Compact Circular Layout.

# Single Cycle Circular Layout

Single Cycle Layout is one of the circular layouts in SDE for Eclipse. It can arrange shapes in circular structure in single circle.

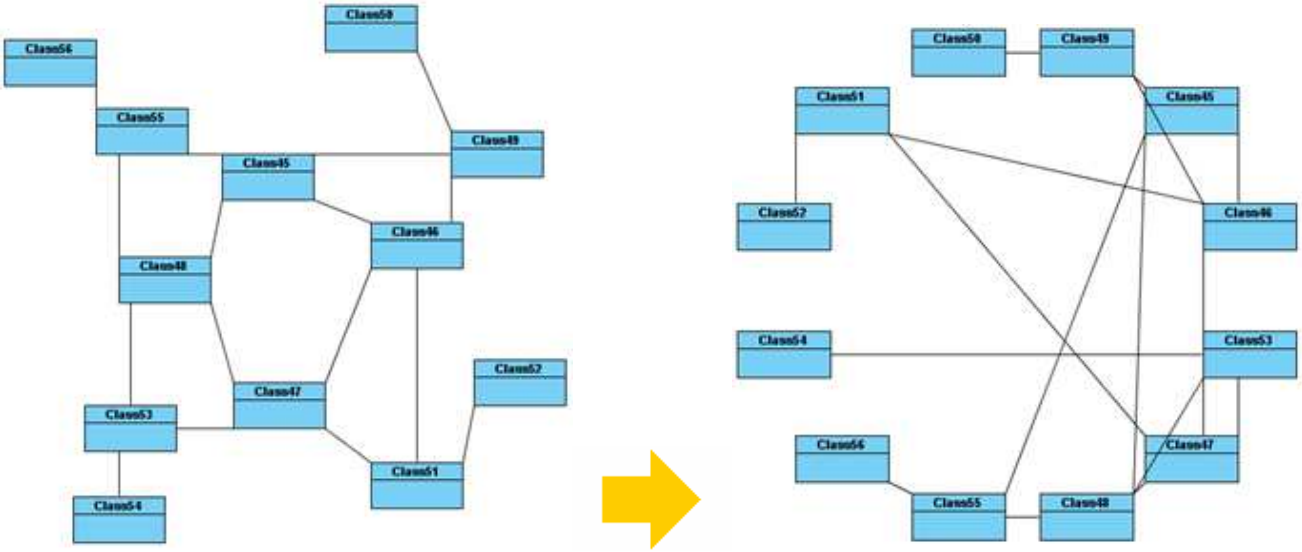


*Figure 5.24 - Single Cycle Circular Layout*

**Choose radius automatically:** determine the radius of circular structure automatically or manually
**Minimal Node Distance:** the minimal distance between the nodes
**Fixed radius:** the radius of circular structure

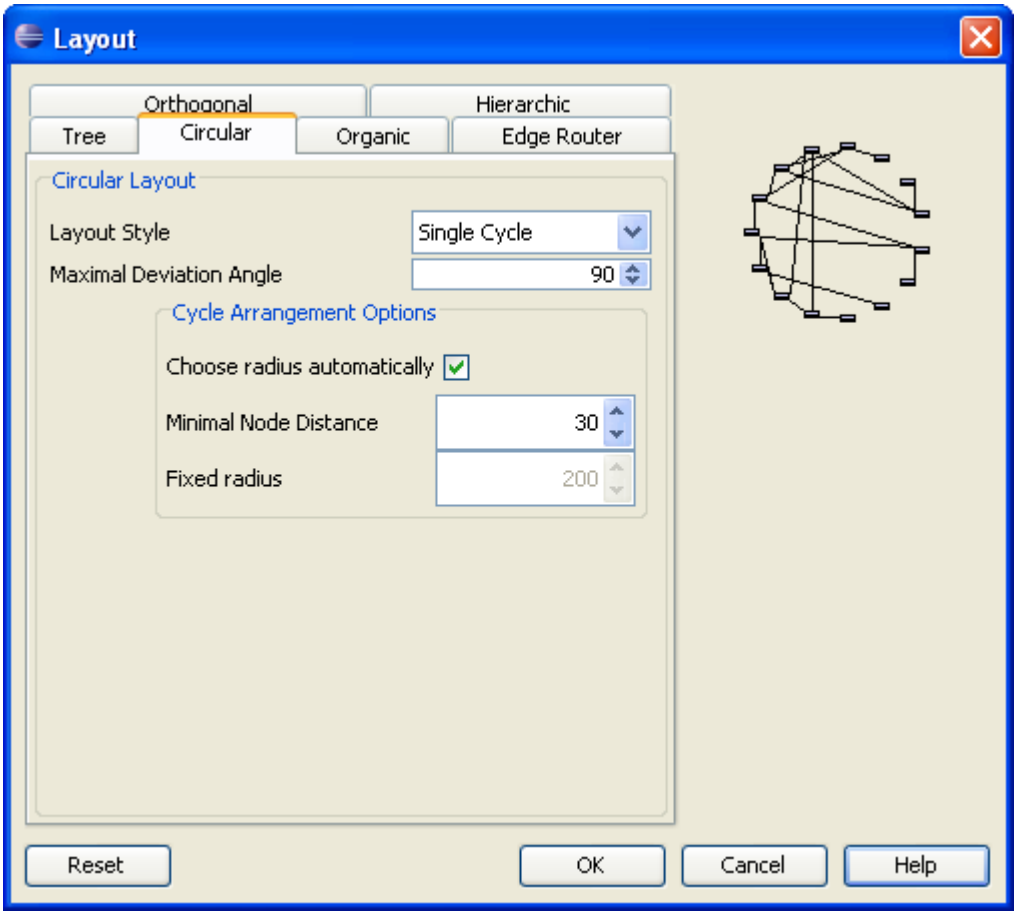



*Figure 5.25 - Single Cycle Circular Layout Setting*

# Organic Layout

Organic Layout is one of the organic layouts in SDE for Eclipse. It can arrange shapes in a star or ring structure. It is best for arranging the shapes that have highly connectivity relationship.

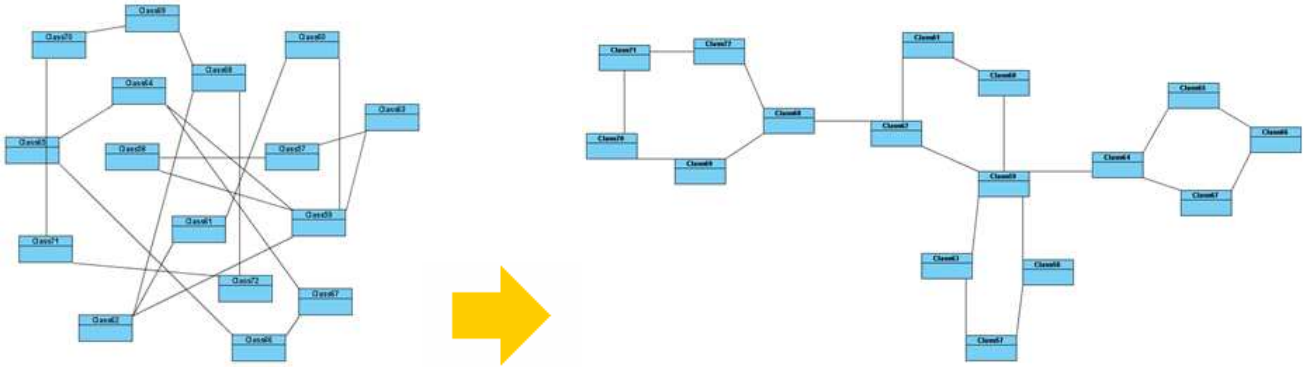


*Figure 5.26 - Organic Layout*

**Activate Deterministic Mode:** whether the layouter is in deterministic mode
**Activate Tree Beautifier:** whether or not to activate the subtree beautifier
**Attraction:** the degree of the attraction between shapes
**Final Temperature:** the factor that affects the distance between shapes
**Gravity Factor:** the factor that affects the distance between shapes and the center
**Initial Placement:** the initial value of placement
**Initial Temperature:** the initial value of temperature
**Iteration Factor:** the degree of iteration
**Maximum Duration:** the maximum degree of duration
**Obey Node Size:** the size of obey shapes
**Preferred Edge Length:** the preferred length between the nodes
**Repulsion:** the factor that affects the distance between shapes which belong to the same ring or star structure

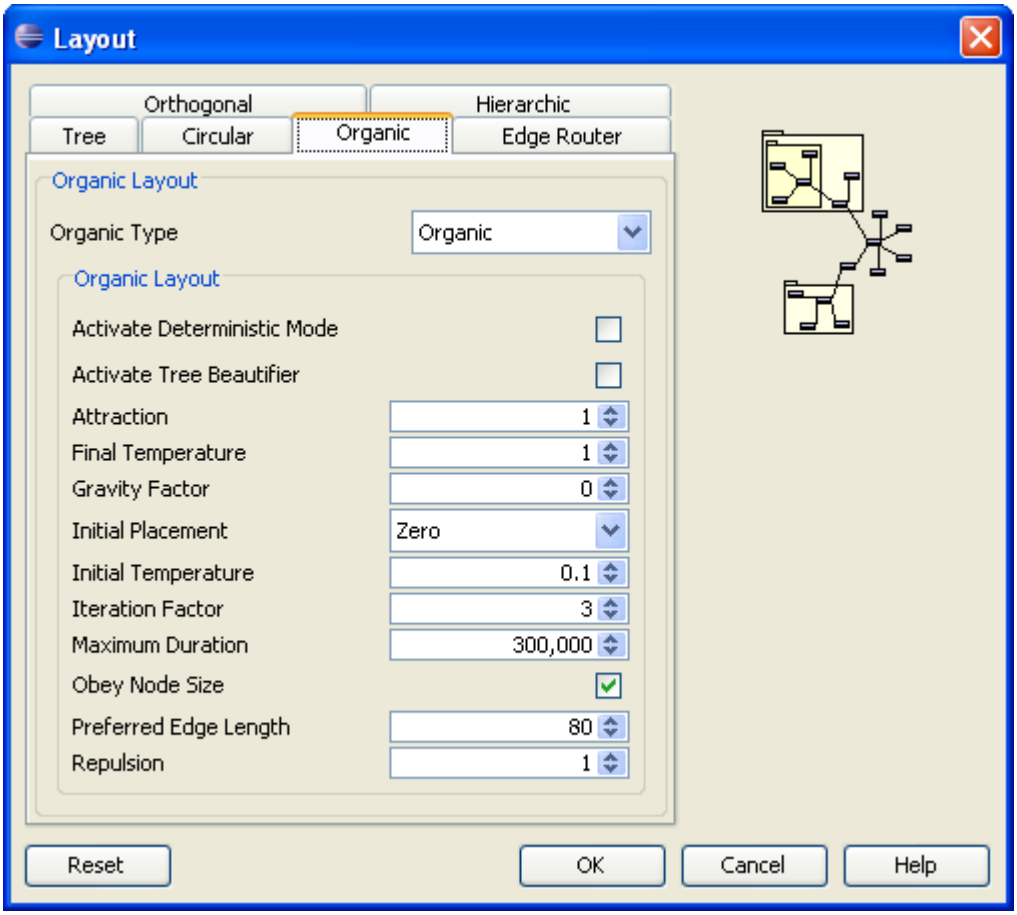



*Figure 5.27 - Organic Layout Setting*

# Smart Organic Layout

Smart Organic Layout is one of the organic layouts in SDE for Eclipse. It is a variant of the Organic Layout. It can set the ratio of the quality : producing time of layout and controls the compactness of layout.

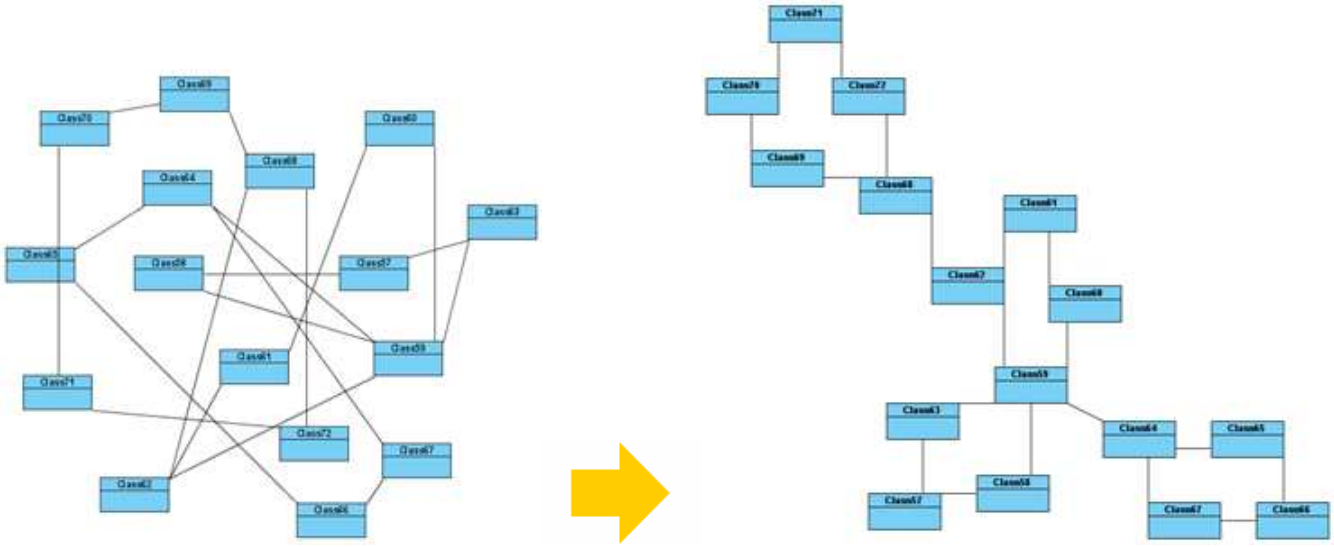


*Figure 5.28 - Smart Organic Layout*

**Compactness:** the factor that sets less/more compact layout.
**Deterministic:** whether the layouter is in deterministic mode
**Minimal Node Distance:** the minimal distance between nodes
**Node Overlaps Allowed:** whether the node can be overlapped
**Node Size Aware:** whether the node size can be aware
**Preferred Minimal Node Distance:** the preferred minimal distance between the nodes
**Quality Time Ratio:** the ratio of the quality of layout to the producing time of layout

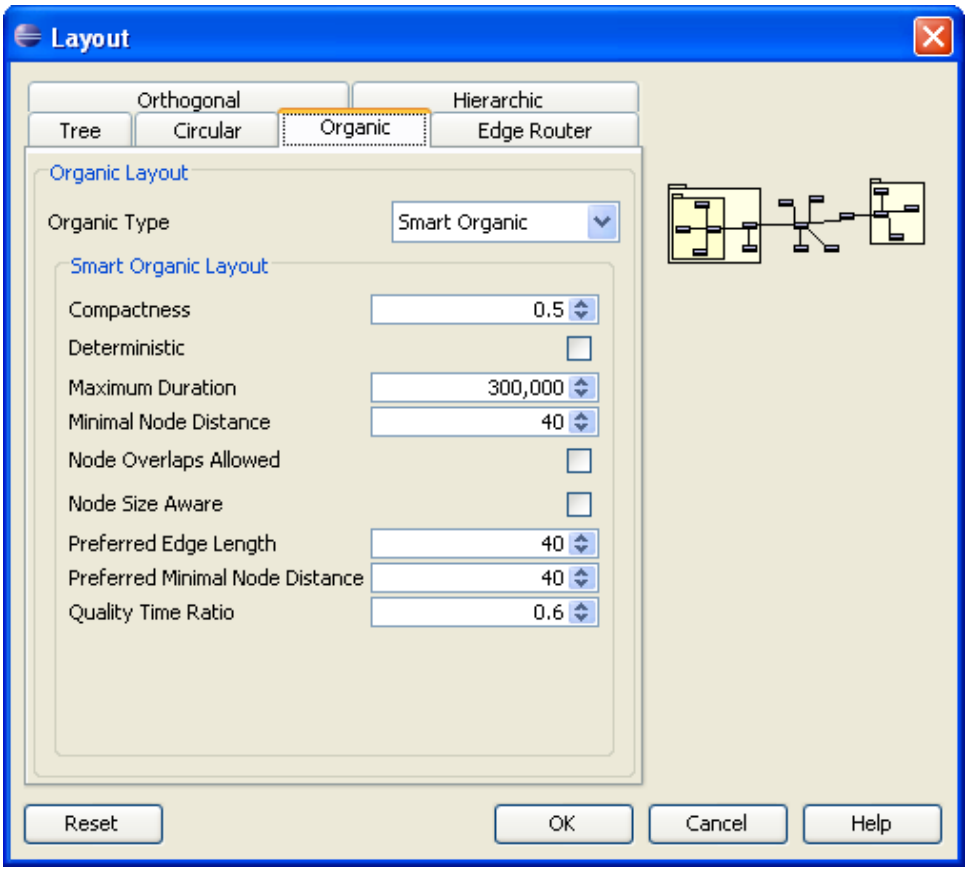



*Figure 5.29 - Smart Organic Layout Setting*

# Organic Edge Route Layout

Organic Edge Route Layout is one of the edge route layouts in SDE for Eclipse. It can arrange the connectors without affecting the location of shapes. It can ensure that the shapes will not overlap and keep a specific minimal distance.

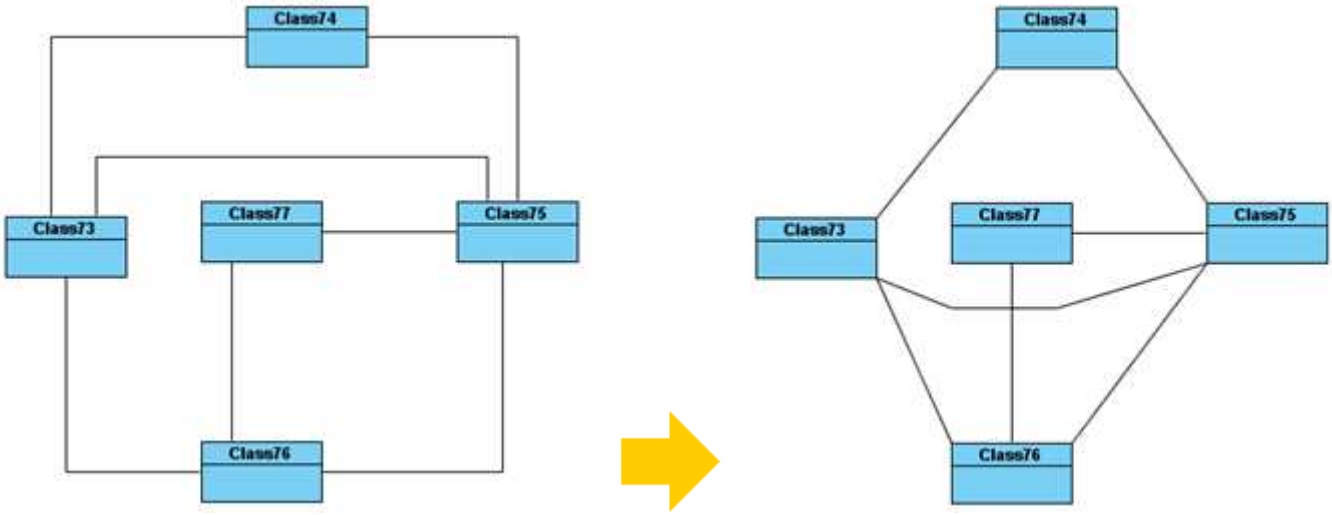



*Figure 5.30 - Organic Edge Route Layout*

**Minimal Distance:** the minimal distance of the connectors
**Route All:** whether all the connectors will be routed
**Use Existing Bends:** whether using existing bends

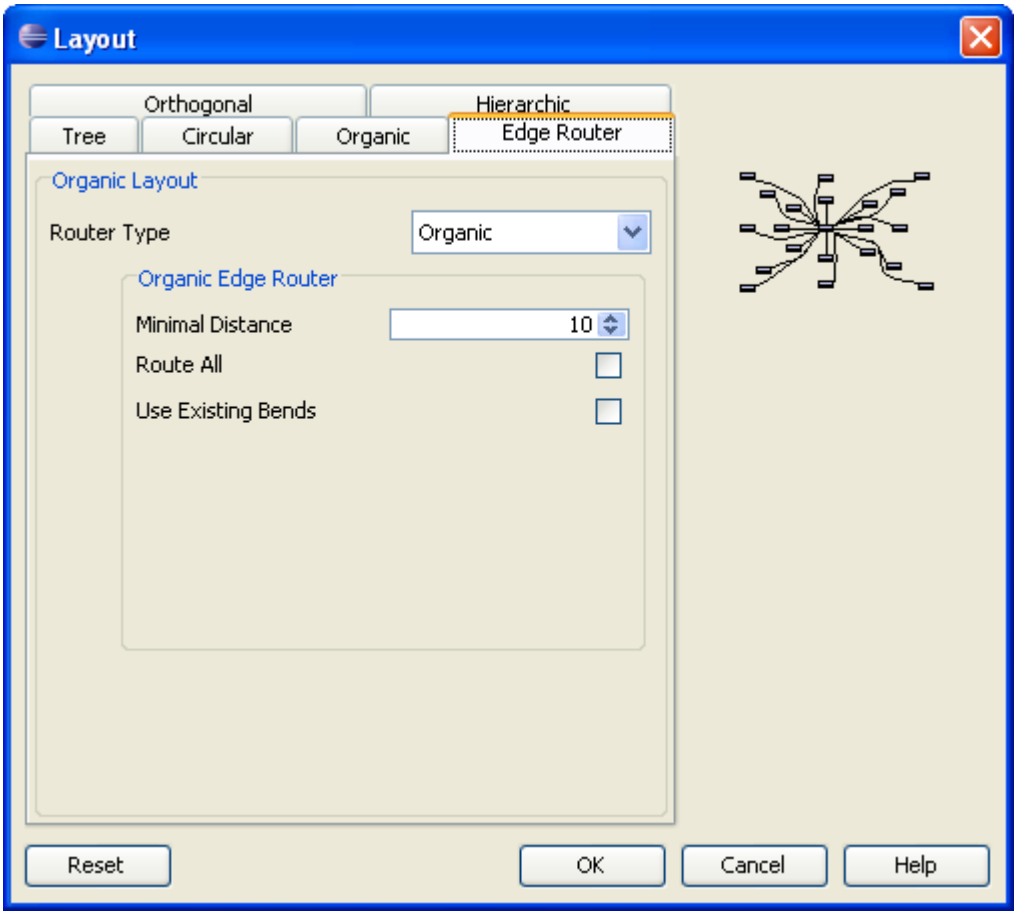



*Figure 5.31 - Organic Edge Route Layout setting*

# Orthogonal Edge Route Layout

Route Connectors can arrange the connectors using vertical and horizontal line segments only. It is best for arranging the connectors that have complicated route.

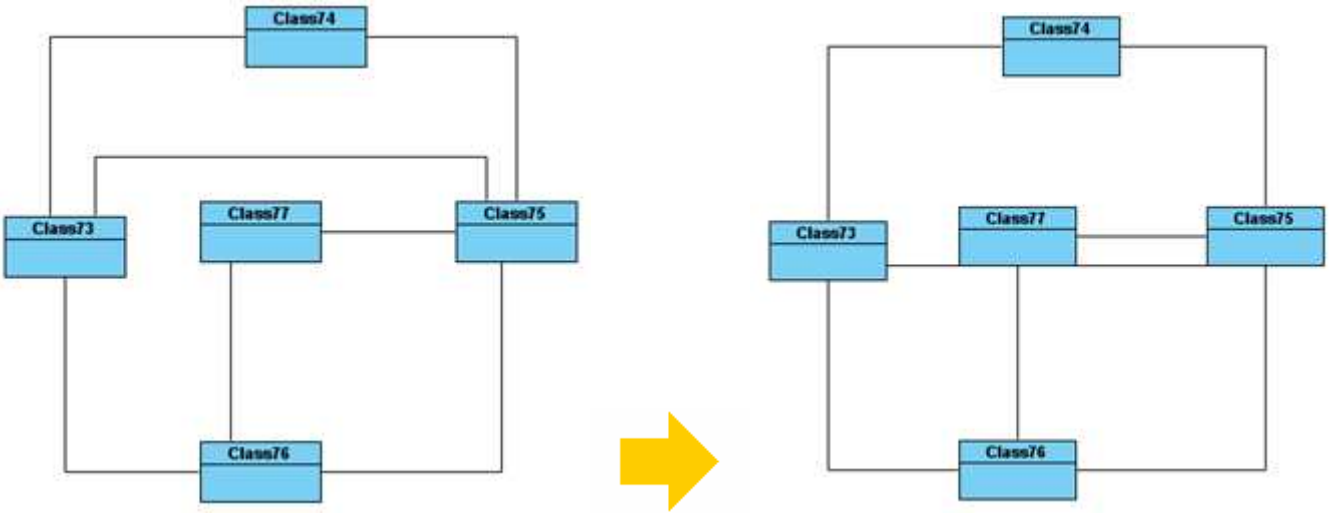



*Figure 5.32 - Orthogonal Edge Route Layout*

**Center to space ratio:** the ratio of center to the distance between center and nodes
**Coupled distances:** the distance between coupled nodes
**Crossing cost:** the cost of crossing connector
**Custom border capacity:** the capacity of the border
**Local crossing minimization:** whether the local crossing of connectors will be minimized
**Minimum distance:** the minimum distance of connectors
**Minimum distance to node:** the minimum distance between the shapes
**Rerouting:** whether the connector that has many crossings will be rerouted
**Routing style:** the style of routing

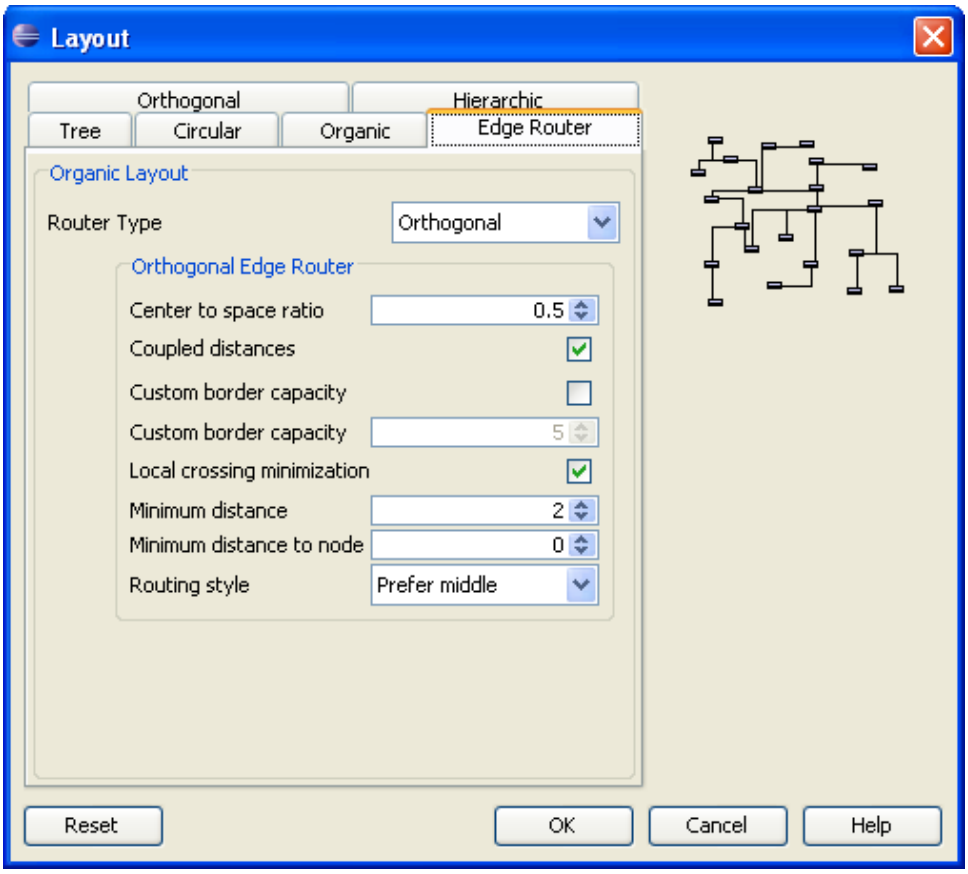



*Figure 5.33 - Orthogonal Edge Route Layout setting*

# 6 Generating Documentation

# Chapter 6 - Generating Documentation

SDE for Eclipse provides several report generation facilities for documenting your the project. Report Writer streamlines your work by keeping the project and document in sync. HTML/PDF report generation facility outputs your project as web pages and PDF documents, portable to different platforms and environments. Word report generation outputs reports in MS Word format. Project Publisher exports the project into interactive web pages that can be read in any web browsers with no additional plug-in required. Report Writer can extract data from models. Features of sorting elements allow you to prepare a systematic report.

In this chapter:



A report is generated by converting project or diagrams in SDE for Eclipse to other types of document, such as HTML and PDF.
With report, users without SDE for Eclipse can still read the project and diagrams. For example, if the user has installed a browser, he can read the SDE for Eclipse project if the project is converted to HTML report.

Although both HTML report generation and Project Publisher can generate web pages, they are different. For HTML report, it is a document-like presentation. All the content is shown in one page. On the other hand, for project publisher, it acts like a viewer, allowing reader to browse the project content. There are 3 views - Diagram, Model, Class. Each one is a perspective of the project.

# PDF Report Generation

## The Generate PDF Dialog Box

The **Generate PDF** dialog box provides a set of options for changing the report style. To display the dialog box, perform one of the following actions:

- Select **Modeling > Report > PDF...** from main menu.

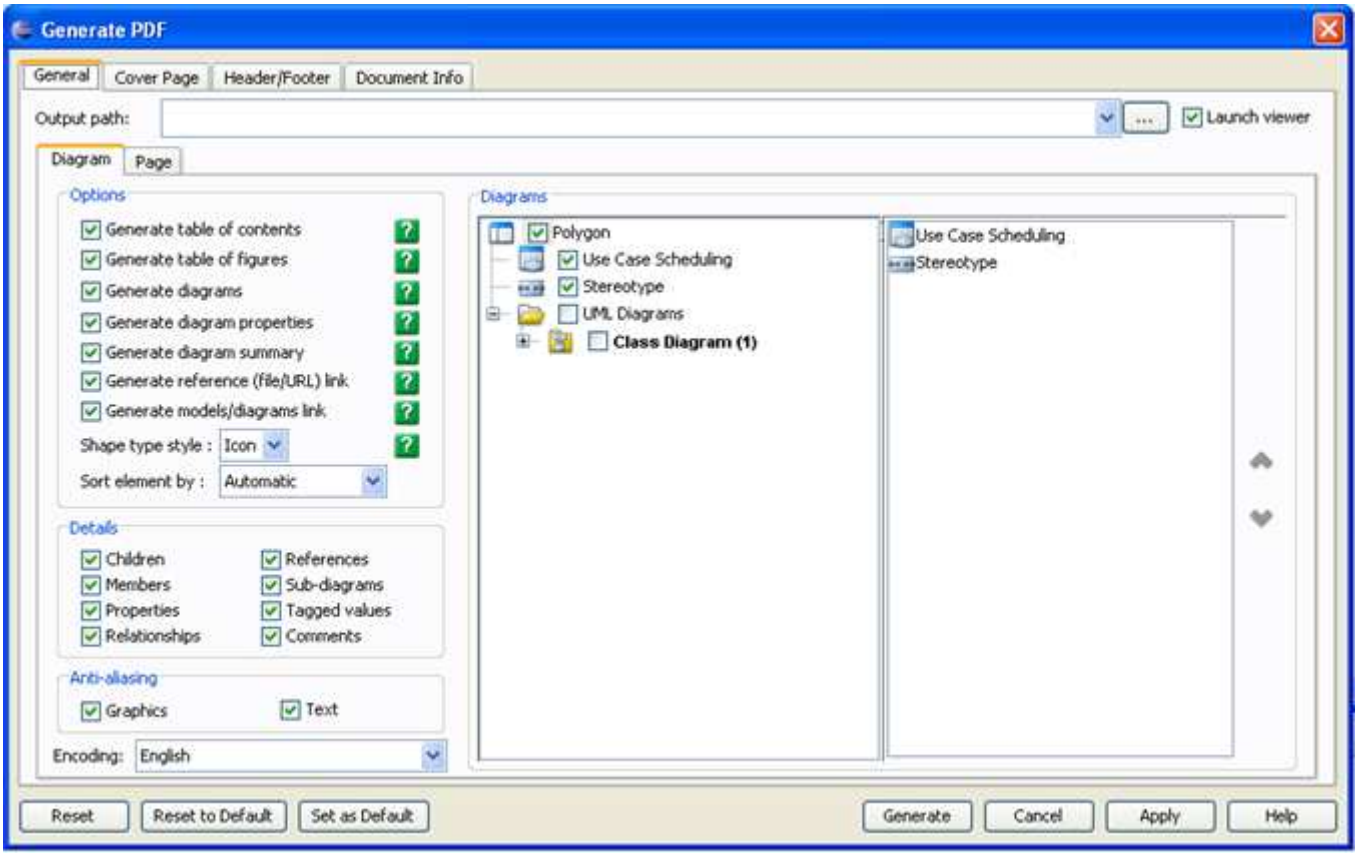



*Figure 6.1 - Generate PDF Dialog*

| Field | Description |
|---|---|
| Output path | To select the destination file for the generated report. You can type the path in the text field or you can browse the location by clicking on the ...button. |
| Launch viewer | If this option is selected, the default browser of the system will be opened automatically to show the generated document. |
| Generate table of contents | If this option is selected, table of content for this document will be generated to the report |
| Generate table of figures | If this option is selected, table of figures for this document will be generated to the report |
| Generate diagrams | If this option is selected, the image of the selected diagrams will be generated to the report. |
| Generate diagram properties | If this option is selected, the properties of the selected diagrams will be generated to the report. |
| Generate diagram summary | If the option is selected, the summary of the selected diagrams will be generated to the report. |
| Generate reference (file/URL) link | Select to generate links for referenced files/URLs defined in models. |

| | |
|---|---|
| Generate models/diagrams link | Select to generate links for navigating to related models and diagrams. |
| Shape type style | Icon - using Icon to represent the type of shape and diagram elements<br>Text - using text to represent the type of shape and diagram elements |
| Sort element by | Automatic - sorting elements by listing them in the most logical order, which is to follow most users' understanding of that kind of diagram<br>Follow tree - sorting elements by following the sort order of the diagram tree in the tool<br>id or name - sorting elements by their ID or names<br>You can refer to the section 'Sorting Elements in Report'. |
| Details | |
| Children | Select to generate children of model |
| Members | Select to generate members of model |
| Properties | Select to generate properties of model |
| Relationships | Select to generate relationships of model |
| References | Select to generate references of model |
| Sub-diagrams | Select to generate sub-diagrams of model |
| Tagged values | Select to generate tagged values of model |
| Comments | Select to generate comments of model |
| Anti-aliasing | |
| Graphics | To enable/disable the graphic anti-aliasing of the diagram images. |
| Text | To enable/disable the text anti-aliasing of the diagram images. |

*Table 6.1*

## Generating a PDF Report

To generate a PDF Report:

1. Open the **Generate PDF** dialog box.
2. Enter the destination location of the generated document in the **Output path** field.
3. Select the report options, such as **Generate diagrams**, **Generate reference (file/URL) link**, etc...if necessary.
4. Select the details field such as **Children, Members**.
5. Define the page settings for the report.
6. Define advanced report information such as **Header/Footer** and **Document Info** if necessary.
7. Select the diagrams to generate in the report.
8. Click **Generate** to start generating the report.

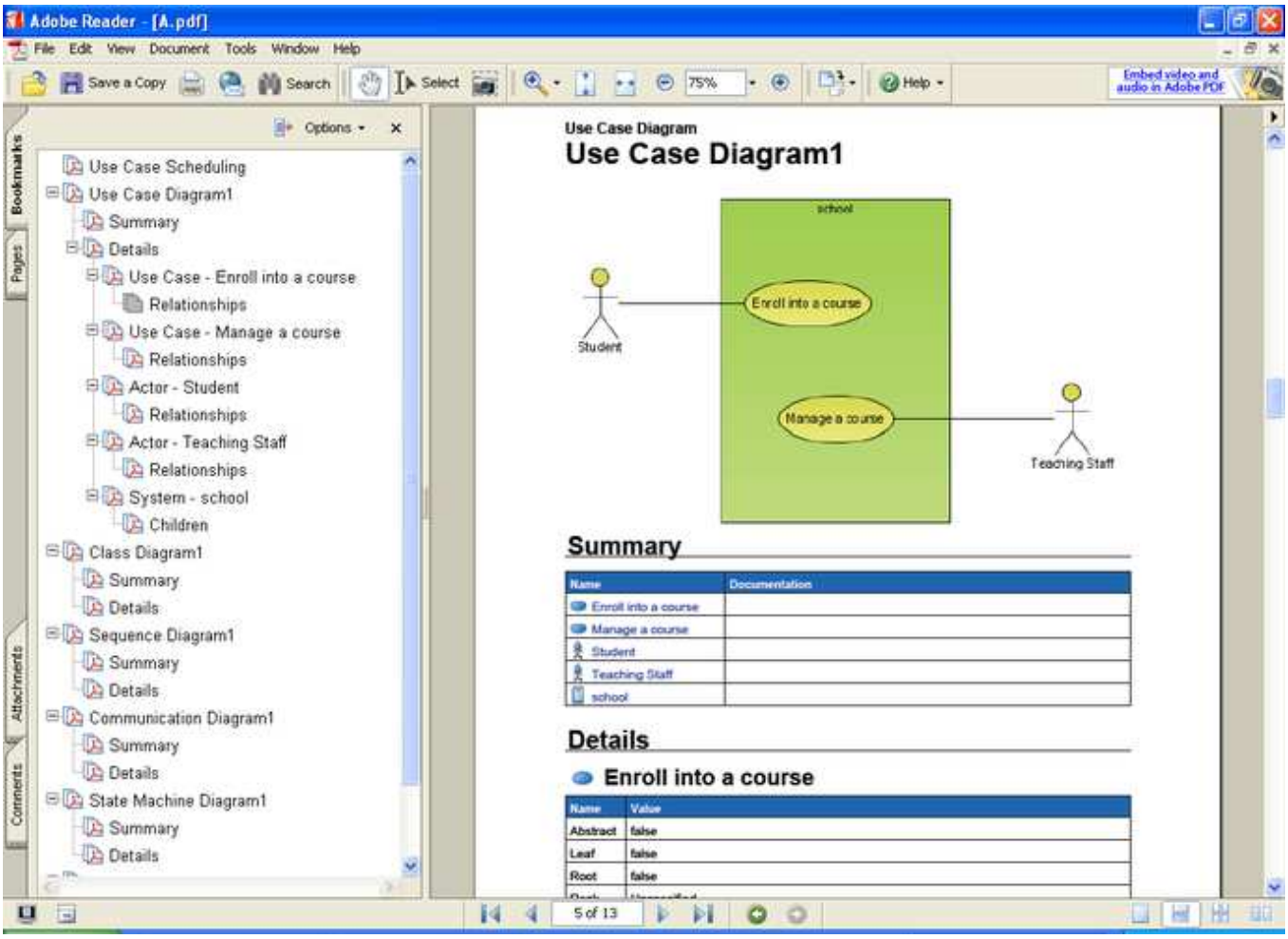



*Figure 6.2 - PDF Report*

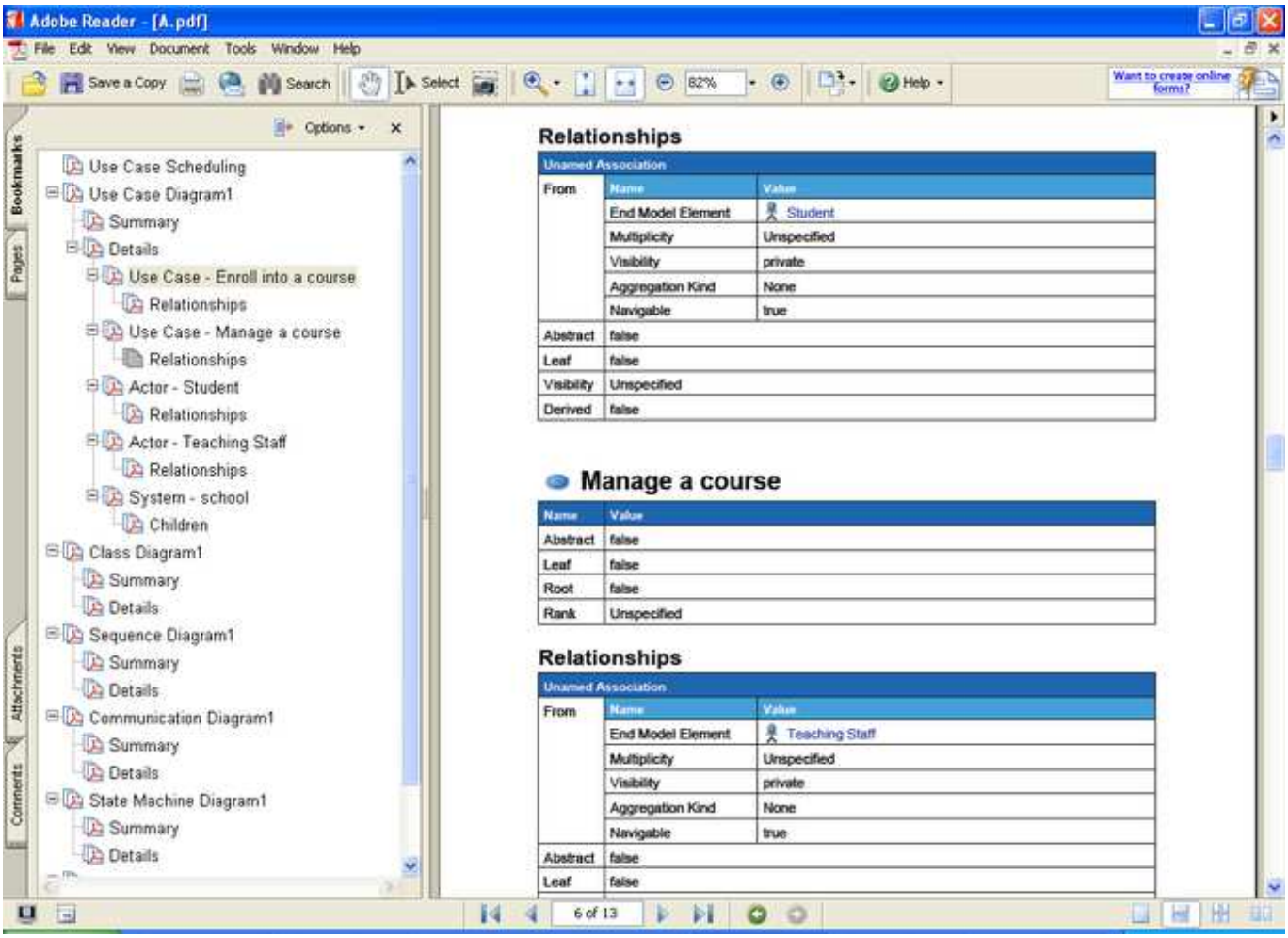



*Figure 6.3 - The Generated PDF Report*

## Configuring Image Quality

There are two image quality options for the PDF Report: **Anti-aliasing for Graphic and Text**.

As the dimension of the paper limits the size of the image in the PDF report, SDE for Eclipse provides an extra image quality option in the PDF report to control how the output image will be displayed in the report.

To change the diagram quality option, select the Anti-aliasing option.


*Figure 6.4 - Define image quality*

## Configuring the page information

This option allows the user to define the page settings, such as the paper size and orientation of the report. To configure the page settings:

1. Open the **Generate PDF** Report dialog box.
2. Select the **Page tab**.

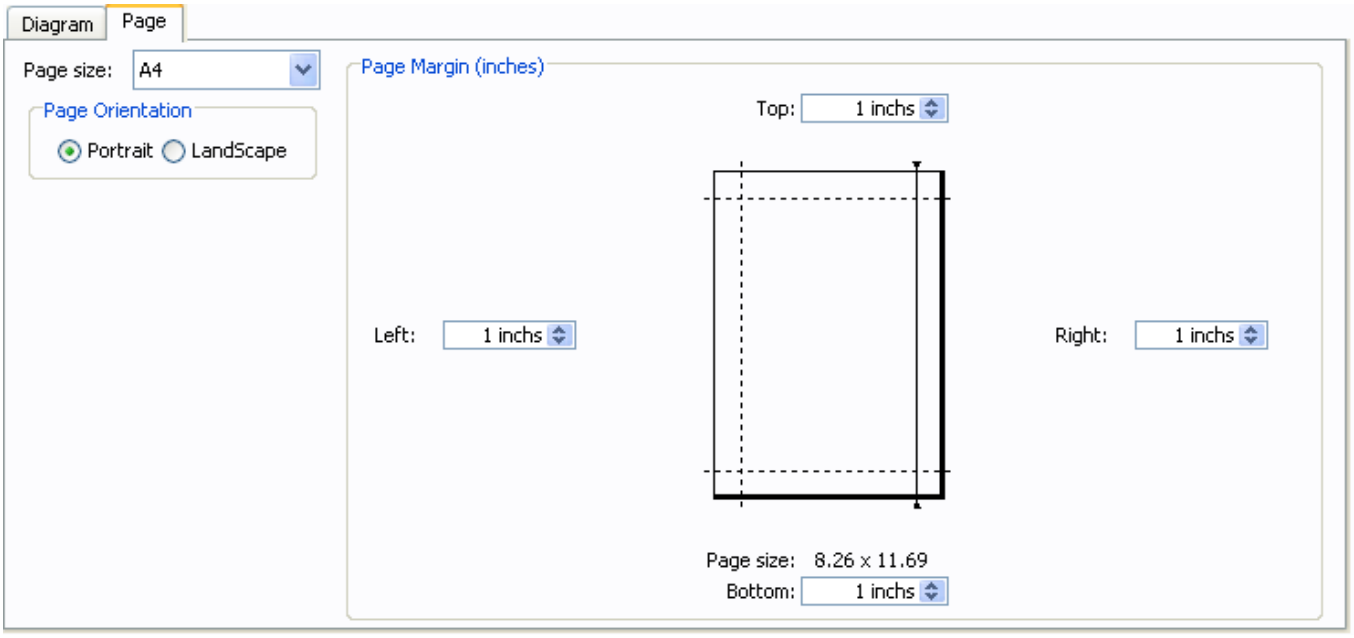



*Figure 6.5 - Page setup*

| Field | Description |
|---|---|
| Page size | To select the paper size of the generated report. |
| Page Orientation | This option is used to select the orientation of the report (portrait/landscape). |
| Page Margin | To specify the page margins of the report. |

*Table 6.2*

**Selecting the Page size**

SDE for Eclipse supports a wide range of page sizes for PDF report generation. Different paper sizes can be selected in the **Page size** drop-down menu.

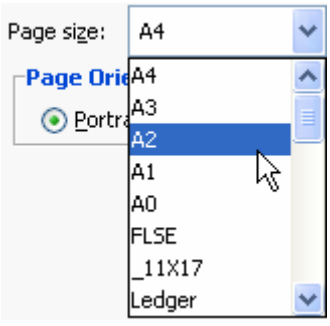



*Figure 6.6 - Select the Page Size*

### Selecting the Page Orientation

To select the page orientation for the output report, select the desired orientation option in the **Page Orientation** section.

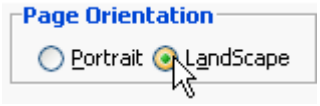



*Figure 6.7 - Select the Page Orientation*

### Adjusting the Page Margins

To adjust the page margins enter the value in the text box at the margin side you want to adjust, or drag the margin in the preview page.

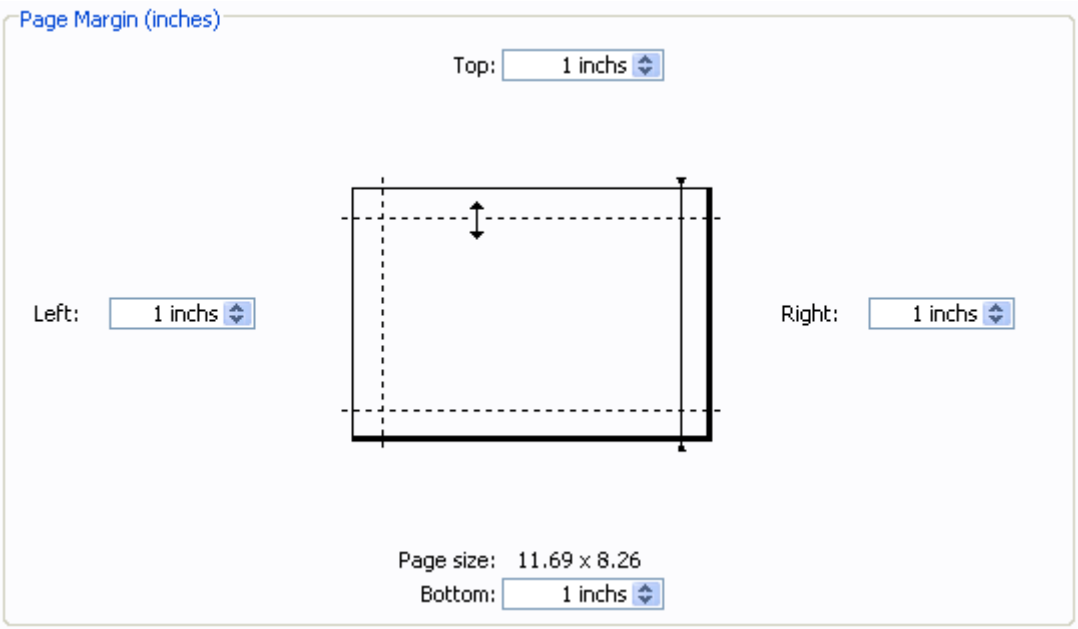



*Figure 6.8 - Adjust the page margin*

## Defining a Header/Footer

To define the Header/Footer of the document:

1. Open the **Generate PDF** Report dialog box.
2. Select the **Header/Footer** tab.
3. Insert text or picture in header or footer section to include header/footer in the report.

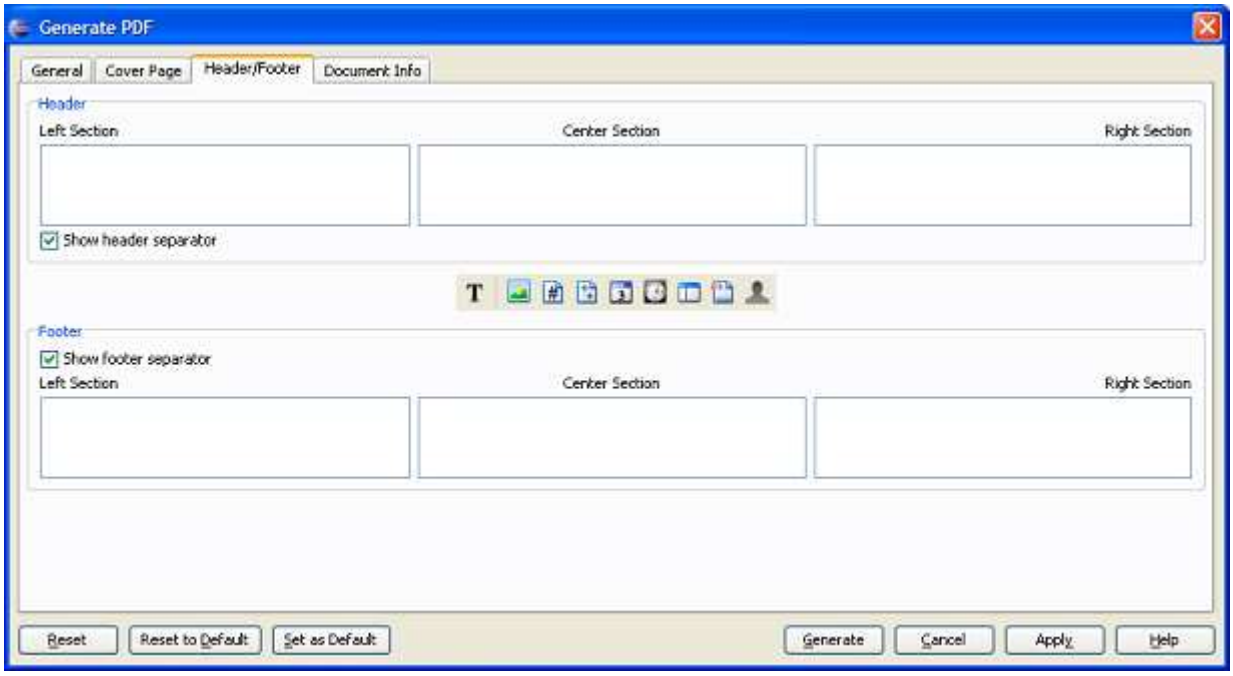



*Figure 6.9 - Define a Header/Footer*

Three sections, Left Section, Center Section and Right Section, are predefined for users to insert text, or even pictures, page numbers, time, etc to the report Header and Footer. A separator can be added to the report in order to separate the region between Header, Content and Footer.

## Defining the Header/Footer Style

SDE for Eclipse supports several types of header/footer style for the PDF report. They are described in the table below:

| Header/Footer Style | Description |
|---|---|
| T | To format text style, such as font style, size and color. |
| | To insert an image to the header or footer |
| | Insert page number |
| | Insert page count |
| | Insert date |
| | Insert time |
| | Insert project name |
| | Insert report file name |
| | Insert user name |

*Table 6.3*

## Defining Document Info

To define the document info:

1. Open the **Generate PDF** dialog box.
2. Select the **Document Info** page.

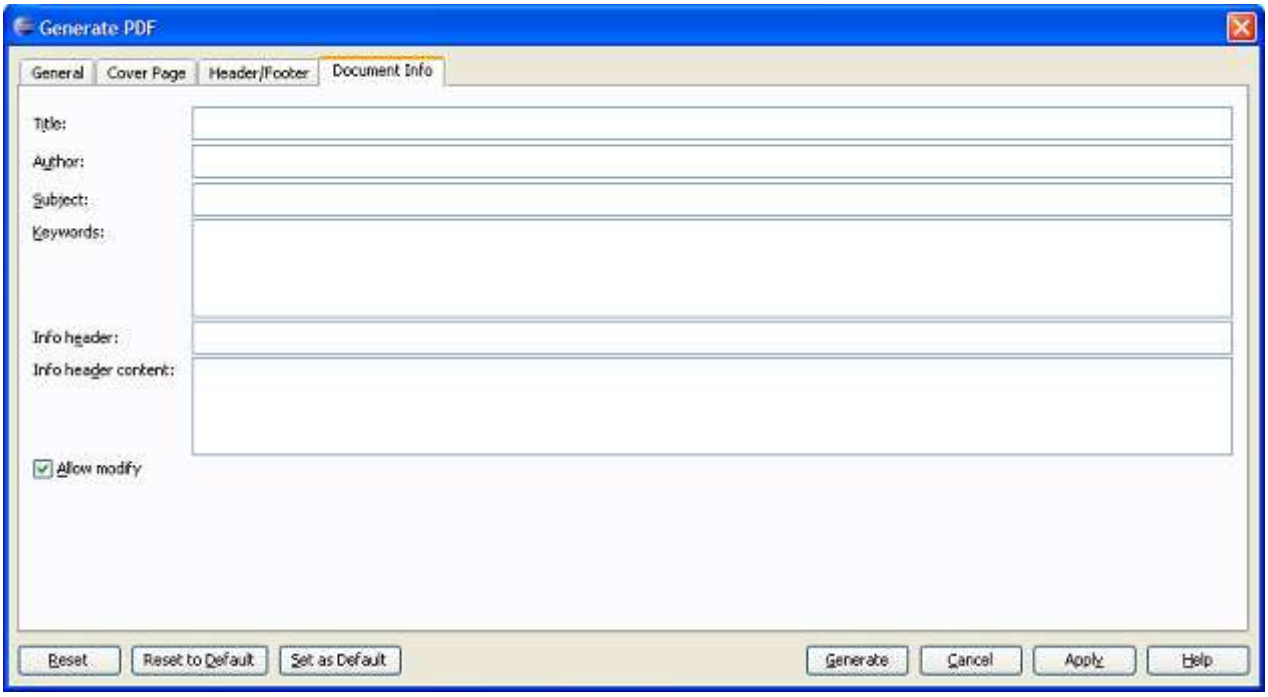



*Figure 6.10 - Define Document Info*

| Field | Description |
|---|---|
| Title | The title of the report. |
| Author | The author of the report. |
| Subject | The subject of the report. |
| Keywords | The keywords of the report. |
| Info header | The info header of the report. |
| Info header content | The info header content of the report. |
| Allow modify | Select to allow modification on the report. |

*Table 6.4*

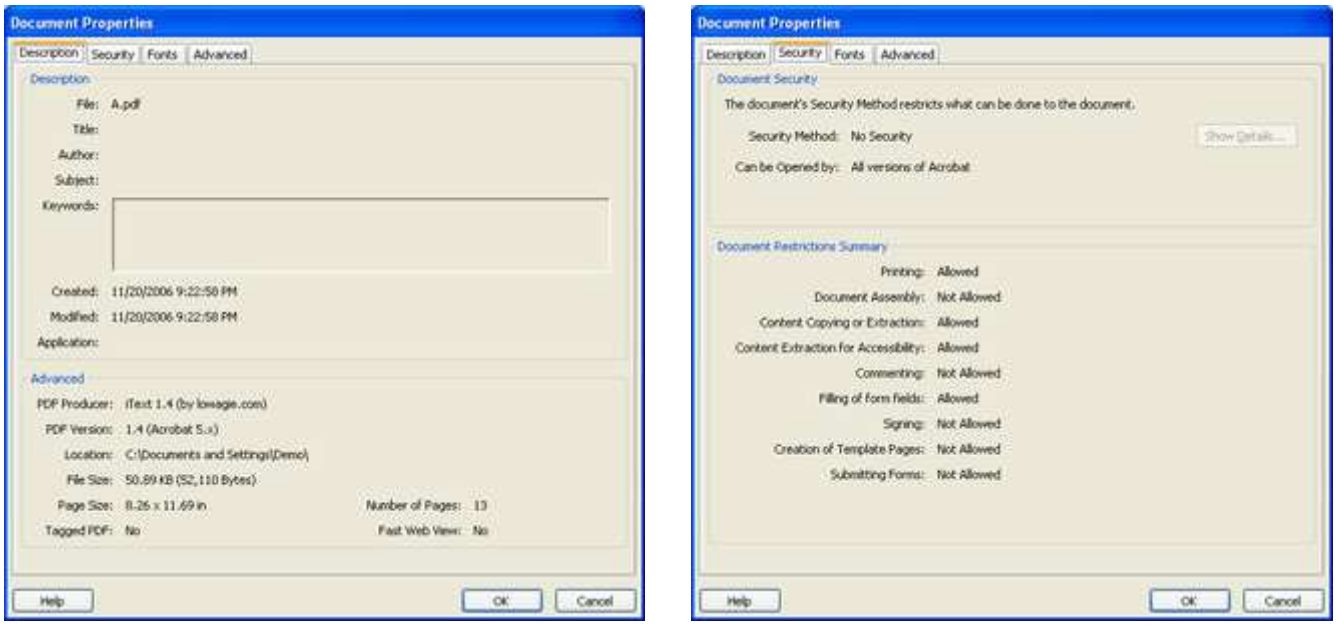



*Figure 6.11 - The generated PDF Document Info*

## Defining a Cover Page

To define the Cover Page

1. Open the **Generate PDF** Report dialog box.
2. Select the **Cover Page** tab.
3. Check the **Generate Cover Page** checkbox to include Cover Page in the report.
4. Enter information such as **Logo image path** for the background, **Report Title**, **Organization name** and **Author Name**.

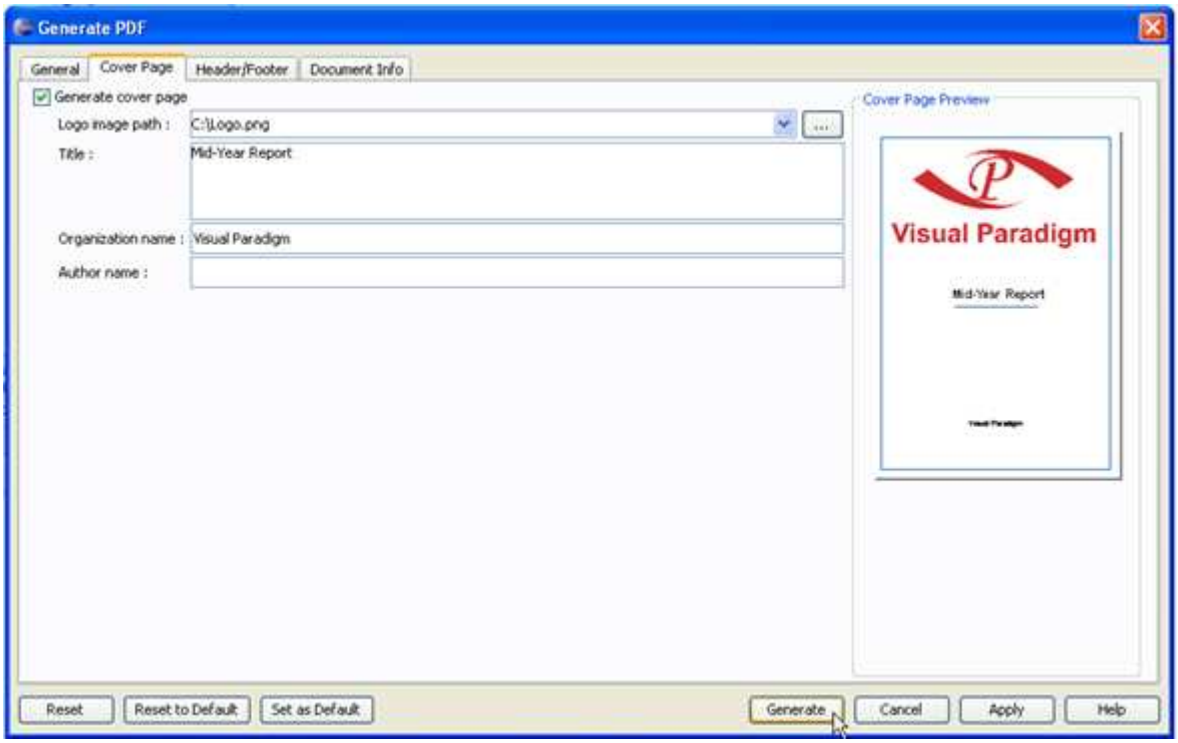



*Figure 6.12 - Define the cover page*

# Word Report Generation

## The Generate Word Dialog Box

The **Generate Word** dialog box provides a set of options for changing the report style. To display the dialog box, perform one of the following actions:

- Select **Modeling > Report > Word...** from main menu.

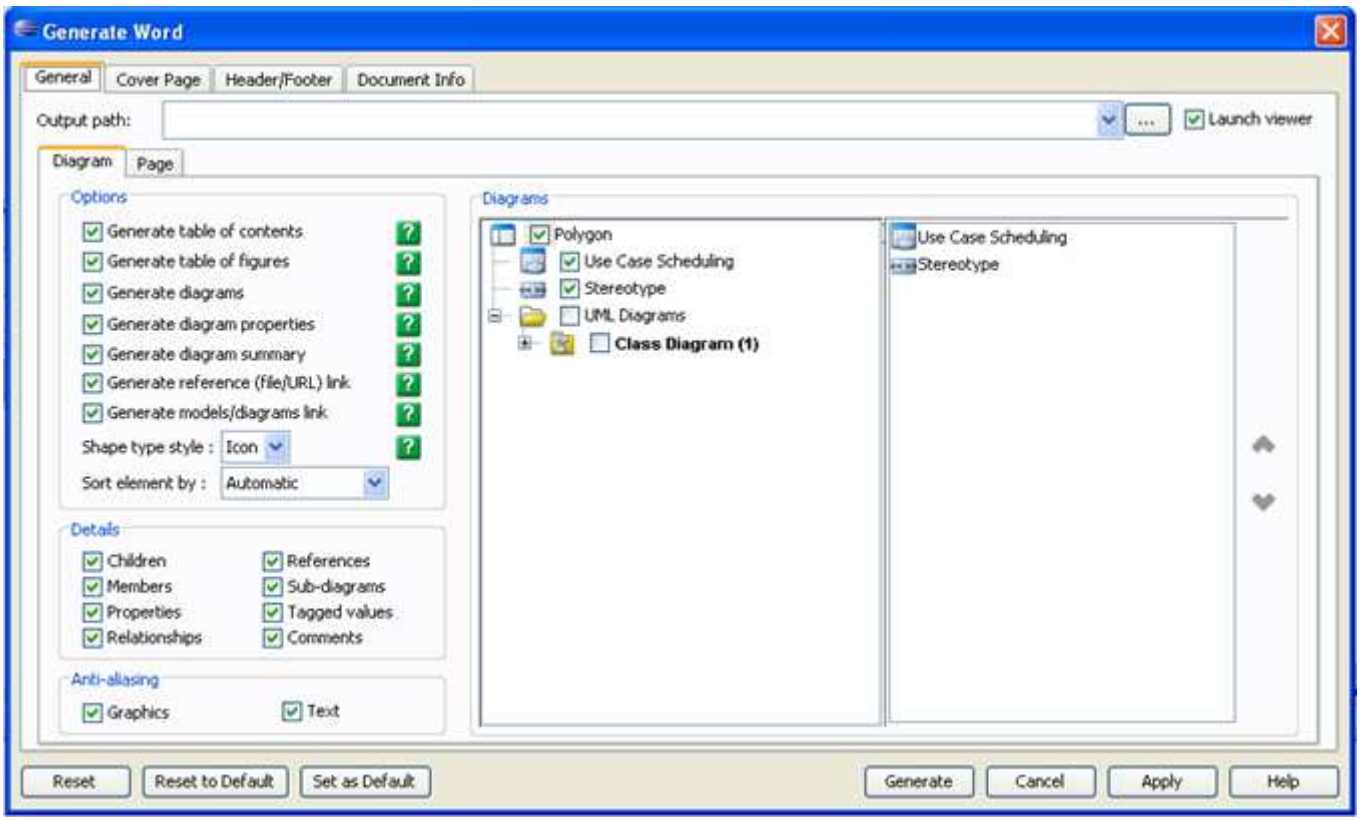



*Figure 6.13 - Generate Word Dialog*

| Field | Description |
|---|---|
| Output path | To select the destination path for the generated report. You can type the path in the text field or you can browse the location by clicking on the ...button. |
| Launch viewer | If this option is selected, the default application of the system will be opened automatically to show the generated document. |
| Generate table of contents | If this option is selected, table of content for this document will be generated to the report |
| Generate table of figures | If this option is selected, table of figures for this document will be generated to the report |
| Generate diagrams | If this option is selected, the image of the selected diagrams will be generated to the report. |
| Generate diagram properties | If this option is selected, the properties of the selected diagrams will be generated to the report. |
| Generate diagram summary | If the option is selected, the summary of the selected diagrams will be generated to the report. |
| Generate reference (file/URL) link | Select to generate links for referenced files/URLs defined in models. |
| Generate models/diagrams link | Select to generate links for navigating to related models and diagrams. |

| | |
|---|---|
| Shape type style | Icon - using Icon to represent the type of shape and diagram elements<br>Text - using text to represent the type of shape and diagram elements |
| Sort element by | Automatic - sorting elements by listing them in the most logical order, which is to follow most readers' understanding to that kind of diagram<br>Follow tree - sorting elements by following the sort order of the diagram tree in the tool<br>id or name - sorting elements by their id or names<br>You can refer to the section 'Sorting Elements in Report'. |
| Details | |
| Children | Select to generate children of model. |
| Members | Select to generate members of model. |
| Properties | Select to generate properties of model. |
| Relationships | Select to generate relationships of model. |
| References | Select to generate references of model. |
| Sub-diagrams | Select to generate sub-diagrams of model. |
| Tagged values | Select to generate tagged values of model. |
| Comments | Select to generate comments of model. |
| Anti-aliasing | |
| Graphics | To enable/disable the graphic anti-aliasing of the diagram images. |
| Text | To enable/disable the text anti-aliasing of the diagram images. |

*Table 6.5*

## Generating a Word Report

To generate a Word Report:

1. Open the **Generate Word** dialog box.
2. Enter the destination location of the generated document in the **Output path field.**
3. Select the report options, such as **Generate diagrams**, **Generate reference (file/URL) link**, etc...if necessary.
4. Select the details field such as **Children, Members**.
5. Define the page settings for the report.
6. Define advanced report information such as **Header/Footer** and **Document Info** if necessary.
7. Select the diagrams to generate in the report.
8. Click **Generate** to start generating the report.

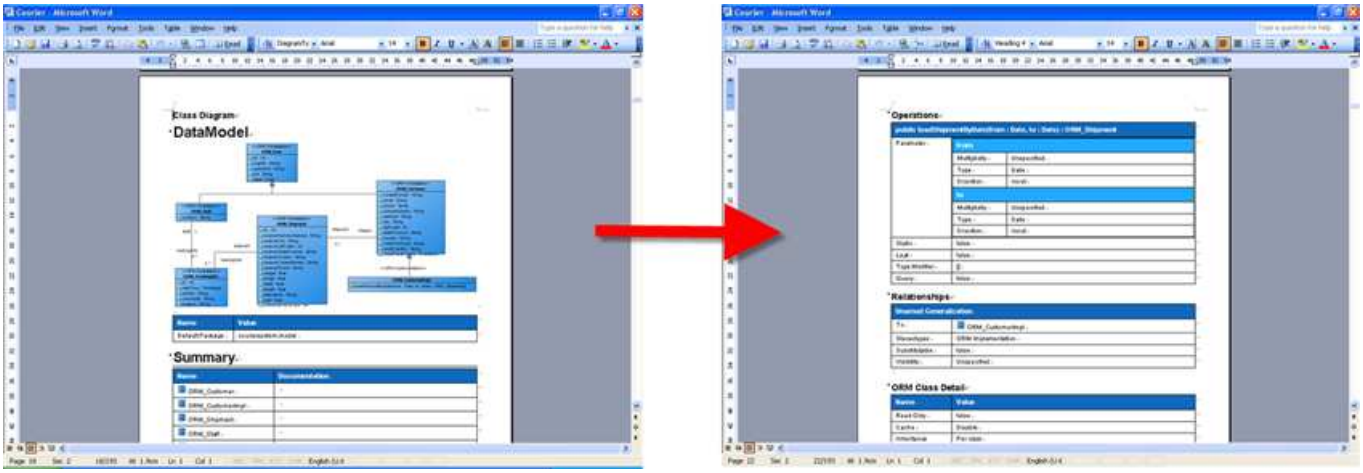



*Figure 6.14 - The Generated Word Report*

## Configuring Image Quality

There are two image quality options for the Word Report: **Anti-aliasing for Graphic and Text**.

Since the dimension of the paper limits the size of the image in the Word report, SDE for Eclipse provides an extra image quality option in the Word report to control how the output image will be displayed in the report.

To change the diagram quality option, select the Anti-aliasing option.


*Figure 6.15 - Define image quality*

# Configuring the page information

This option allows the user to define the page settings, such as the paper size and orientation of the report. To configure the page settings:

1. Open the **Generate Word** Report dialog box.
2. Select the **Page tab**.

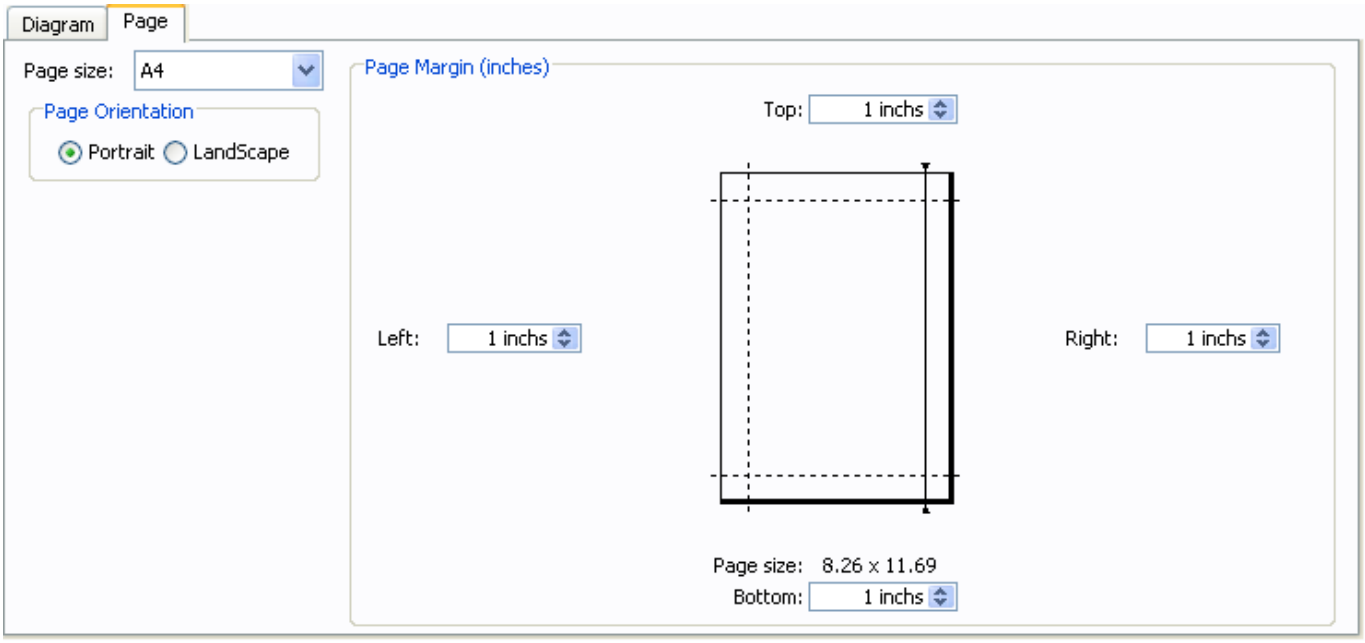



*Figure 6.16 - Page setup*

| Field | Description |
|---|---|
| Page size | To select the paper size of the generated report. |
| Page Orientation | This option is used to select the orientation of the report (portrait/landscape). |
| Page Margin | To specify the page margins of the report. |

*Table 6.6*

**Selecting the Page size**

SDE for Eclipse supports a wide range of page sizes for Word report generation. Different paper sizes can be selected in the **Page size** drop-down menu.

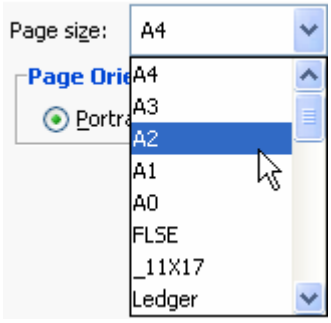



*Figure 6.17 - Select the Page Size*

### Selecting the Page Orientation

To select the page orientation for the output report, select the desired orientation option in the **Page Orientation** section.

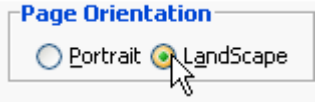



*Figure 6.18 - Select the Page Orientation*

### Adjusting the Page Margins

To adjust the page margins enter the value in the text box at the margin side you want to adjust, or drag the margin in the preview page.

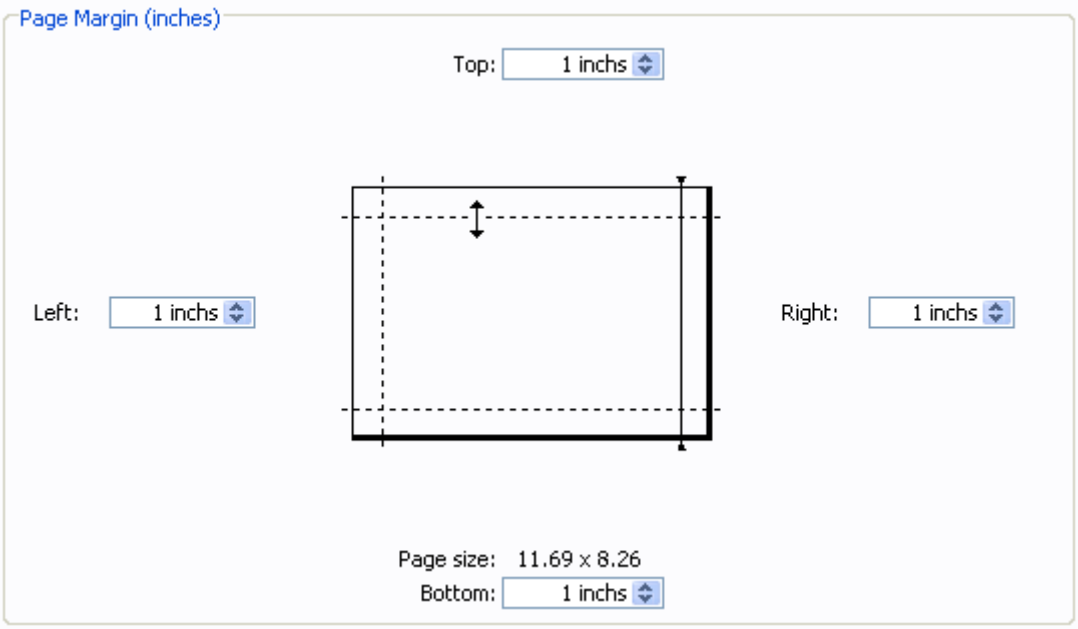



*Figure 6.19 - Adjust the page margin*

## Defining a Header/Footer

To define the Header/Footer of the document:

1. Open the **Generate Word** Report dialog box.
2. Select the **Header/Footer** tab.
3. Insert text or picture in header or footer section to include a header/footer in the report.

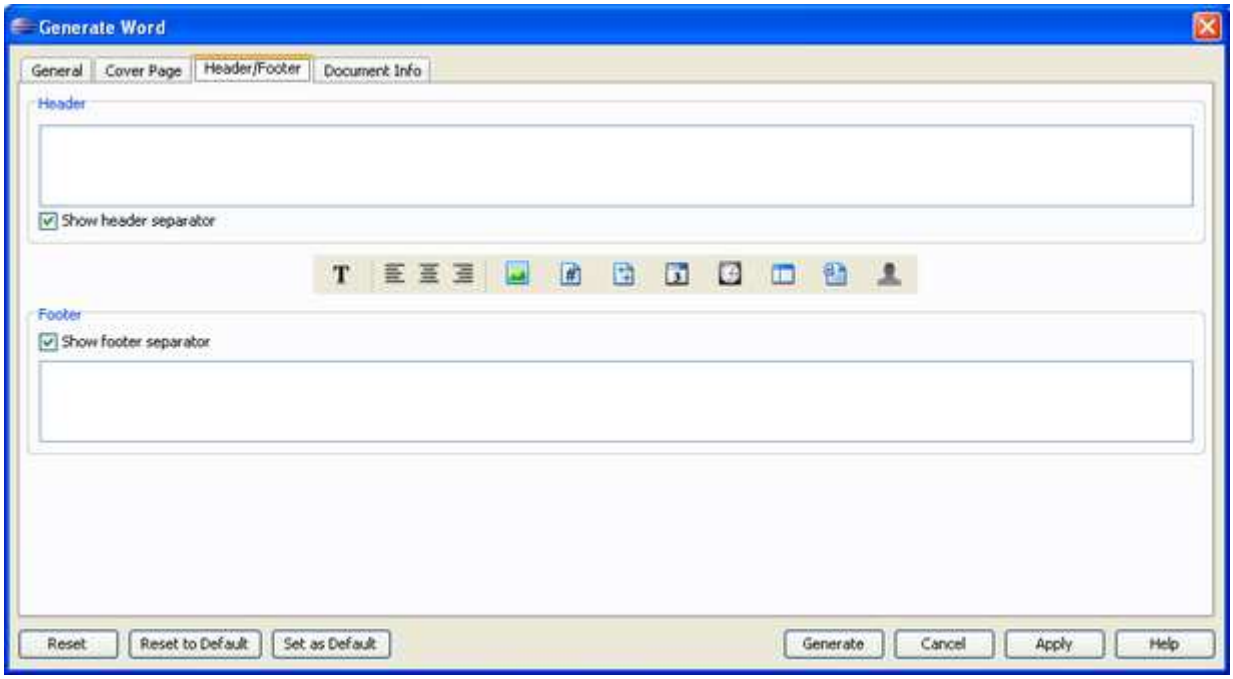



*Figure 6.20 - Define a Header/Footer*

Here, a separator can be added to the report to separate the region between Header, Content and Footer.

## Defining the Header/Footer Style

SDE for Eclipse supports several types of header/footer style for the Word report. They are described in the table below:

| Header/Footer Style | Description |
|---|---|
| | To format text style, such as font style, size and color. |
| | To align content to left. |
| | To align content to center. |
| | To align content to right. |
| | To insert an image to the header or footer |
| | Insert page number |
| | Insert page count |
| | Insert date |
| | Insert time |
| | Insert project name |

| | |
|---|---|
|  | Insert report file name |
|  | Insert user name |

*Table 6.7*

## Defining Document Info

To define the document info:

1. Open the **Generate Word** dialog box.
2. Select the **Document Info** page.

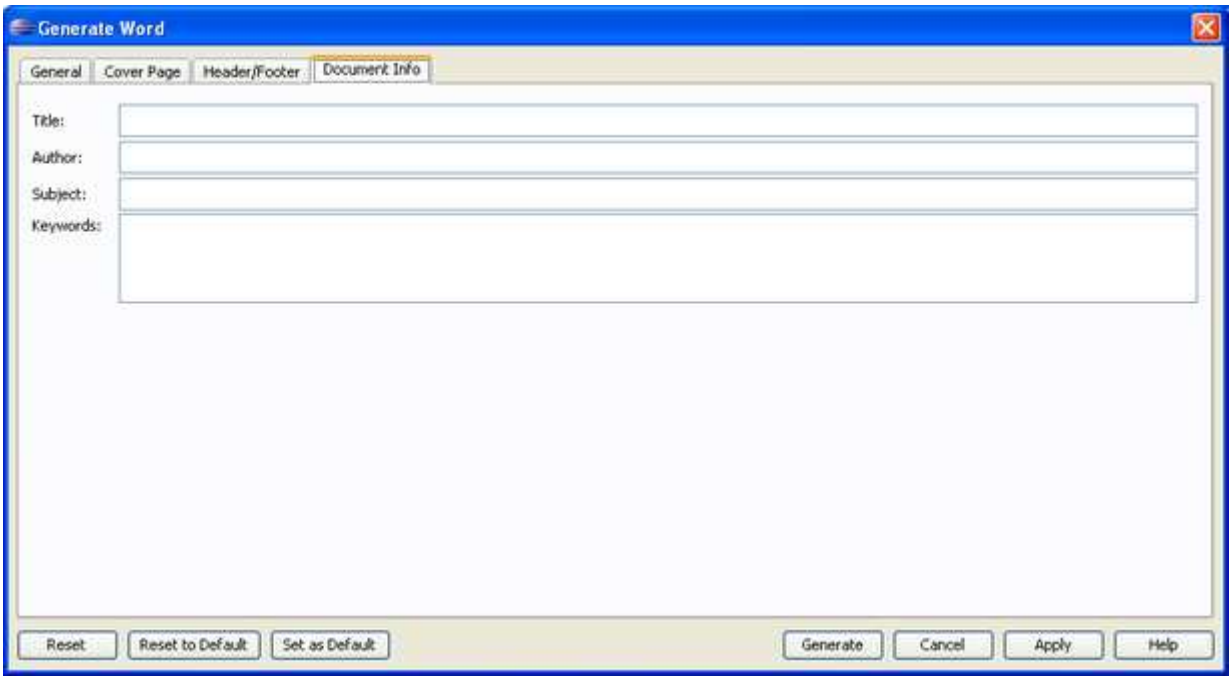



*Figure 6.21 - Define Document Info*

| Field | Description |
|---|---|
| Title | The title of the report. |
| Author | The author of the report. |
| Subject | The subject of the report. |
| Keywords | The keywords of the report. |

*Table 6.8*

## Defining a Cover Page

To define the Cover Page

1. Open the **Generate Word** Report dialog box.
2. Select the **Cover Page** tab.
3. Check the **Generate Cover Page** checkbox to include Cover Page in the report.
4. Enter information such as **Logo image path**, **Title**, **Organization name** and **Author Name**.

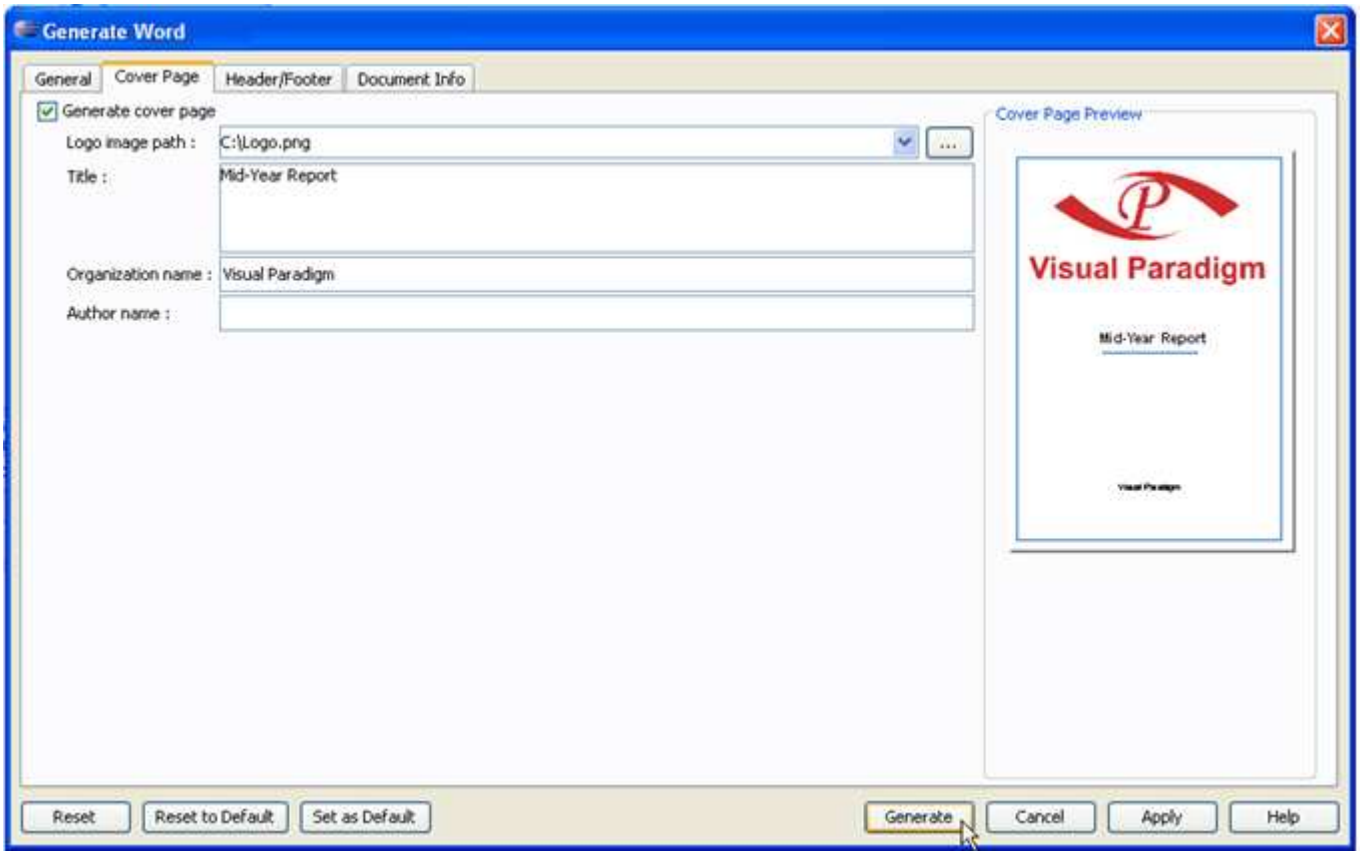



*Figure 6.22 - Define the cover page*

# HTML Report Generation

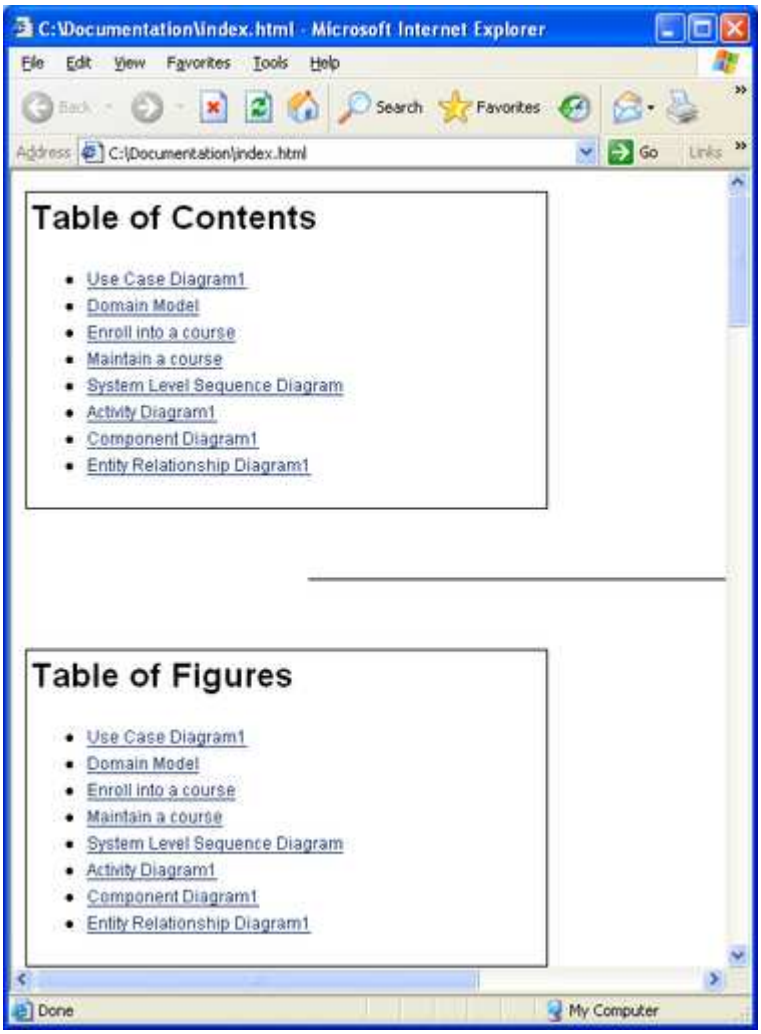



*Figure 6.23 - HTML Report*

## The Generate HTML Dialog Box

The **Generate HTML** dialog box provides a set of options for changing the report style. To display the dialog box, perform one of the following actions:

- Select **Modeling > Report > HTML...** from main menu.

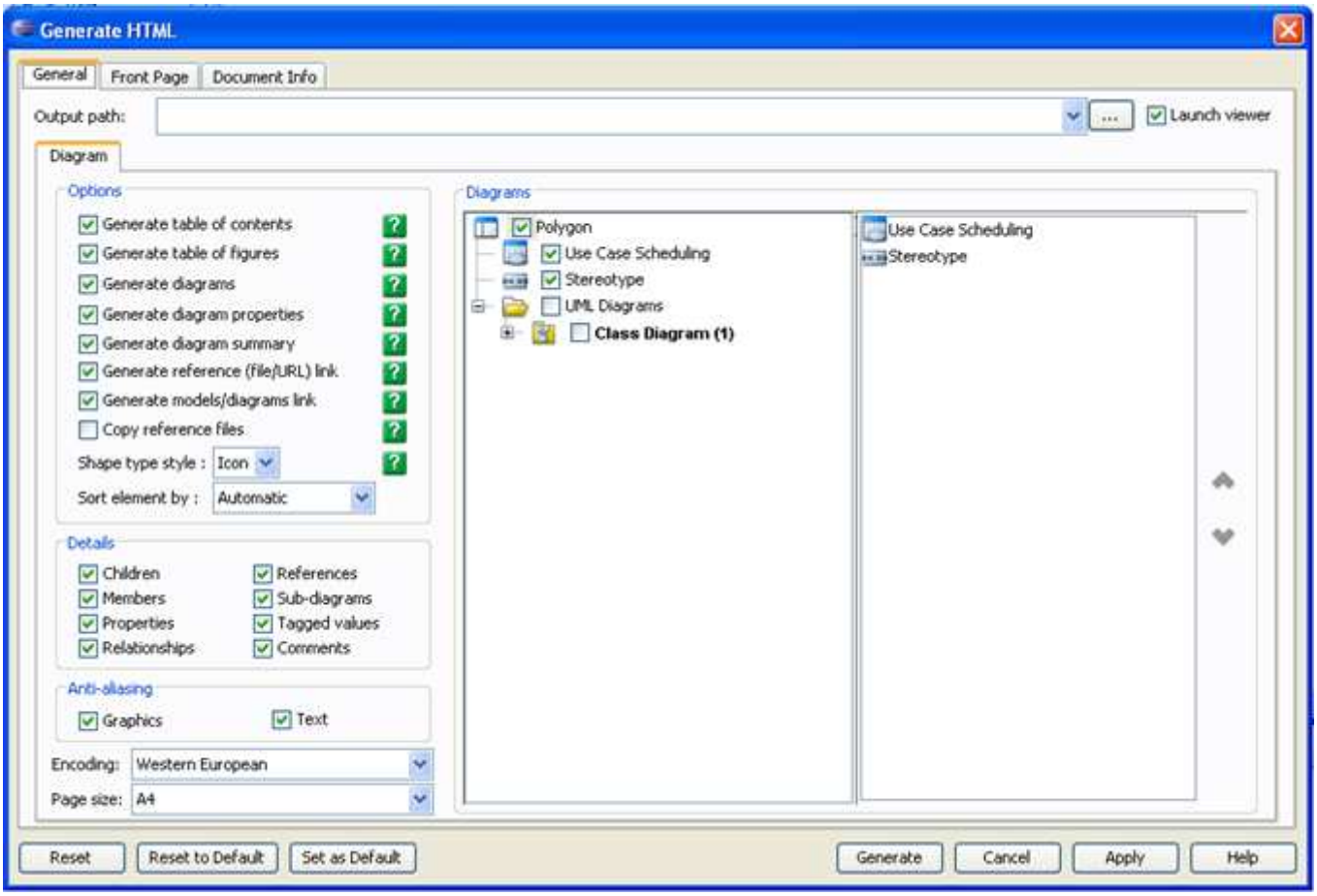



*Figure 6.24 - Generate HTML dialog*

| Field | Description |
|---|---|
| Output path | To select the destination file for the generated report. You can type in the path in the text field or you can browse the location by clicking on the **...** button. |
| Launch viewer | If this option is selected, the default browser of the system will be open automatically to show the generated report. |
| Generate table of contents | If this option is selected, table of contents for this document will be generated to the report. |
| Generate table of figures | If this option is selected, table of figures for this document will be generated to the report. |
| Generate diagrams | If this option is selected, the image of the selected diagrams will be generated to the report. |
| Generate diagram properties | If this option is selected, the properties of the selected diagrams will be generated to the report. |
| Generate diagram summary | If the option is selected, the summary of the selected diagrams will be generated to the report. |
| Generate reference (file/URL) link | Select to generate links for referenced files/URLs defined in models. |
| Generate models/diagrams link | Select to generate links for navigating to related models and diagrams. |
| Copy reference files | Select to copy referenced files defined in models to the report output directory. |
| Shape type style | Icon - using Icon to represent the type of shape and diagram elements |

| | |
|---|---|
| | Text - using text to represent the type of shape and diagram elements |
| Sort element by | Automatic - sorting elements by listing them in the most logical order, following most readers' understanding of that kind of diagram<br>Follow tree - sorting elements by following the sort order of the diagram tree in the tool<br>id or name - sorting elements by their id or names<br>You can refer to the section 'Sorting Elements in Report' near the bottom of this chapter. |
| Details | |
| Children | Select to generate children of model. |
| Members | Select to generate members of model. |
| Properties | Select to generate properties of model. |
| Relationships | Select to generate relationships of model. |
| References | Select to generate references of model. |
| Sub-diagrams | Select to generate sub-diagrams of model. |
| Tagged values | Select to generate tagged values of model. |
| Comments | Select to generate comments of model. |
| Anti-aliasing | |
| Graphics | To enable/disable the graphic anti-aliasing of the diagram images. |
| Text | To enable/disable the text anti-aliasing of the diagram images. |
| Print Diagrams | To select which diagram will be generated in the report. |

*Table 6.9*

## Generating an HTML Report

To generate an HTML Report:

1. Open the **Generate HTML** dialog box.
2. Specify the destination location of the report in the **Output path** field.
3. Configure the report properties, such as **Generate diagrams**, **Generate reference (file/URL) link**, etc...if necessary.
4. Select the template of the report that will be generated.
5. Select the diagram's image quality if **Generate diagrams** is selected.
6. Define advanced report information such as **Front Page** and **Document Info** if necessary.
7. Select the diagram to generate in the report.
8. Click **Generate** to start generating the report.

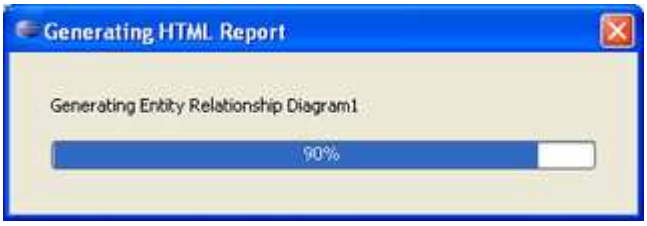



*Figure 6.25 - Generating HTML report*

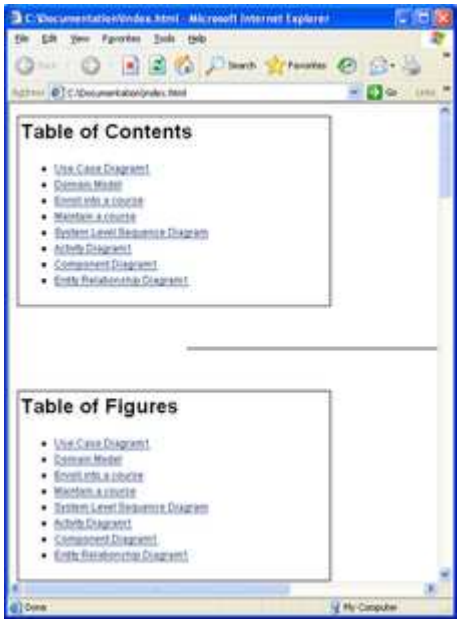



*Figure 6.26 - The generated HTML report*

## Configuring Image Quality

There are two image quality options for the HTML Report: graphics and text anti-aliasing. To enable/disable the anti-aliasing options, check/uncheck the anti-aliasing options checkbox. The below two images show the difference in graphics with anti-aliasing enabled (left) and graphics with anti-aliasing disabled (right).


*Figure 6.27 - Images with anti-aliasing*


*Figure 6.28 - Images without anti-aliasing*

## Configuring the Document Info

To define the document info:

1. Open the **Generate HTML** dialog.
2. Select the **Document Info** tab.

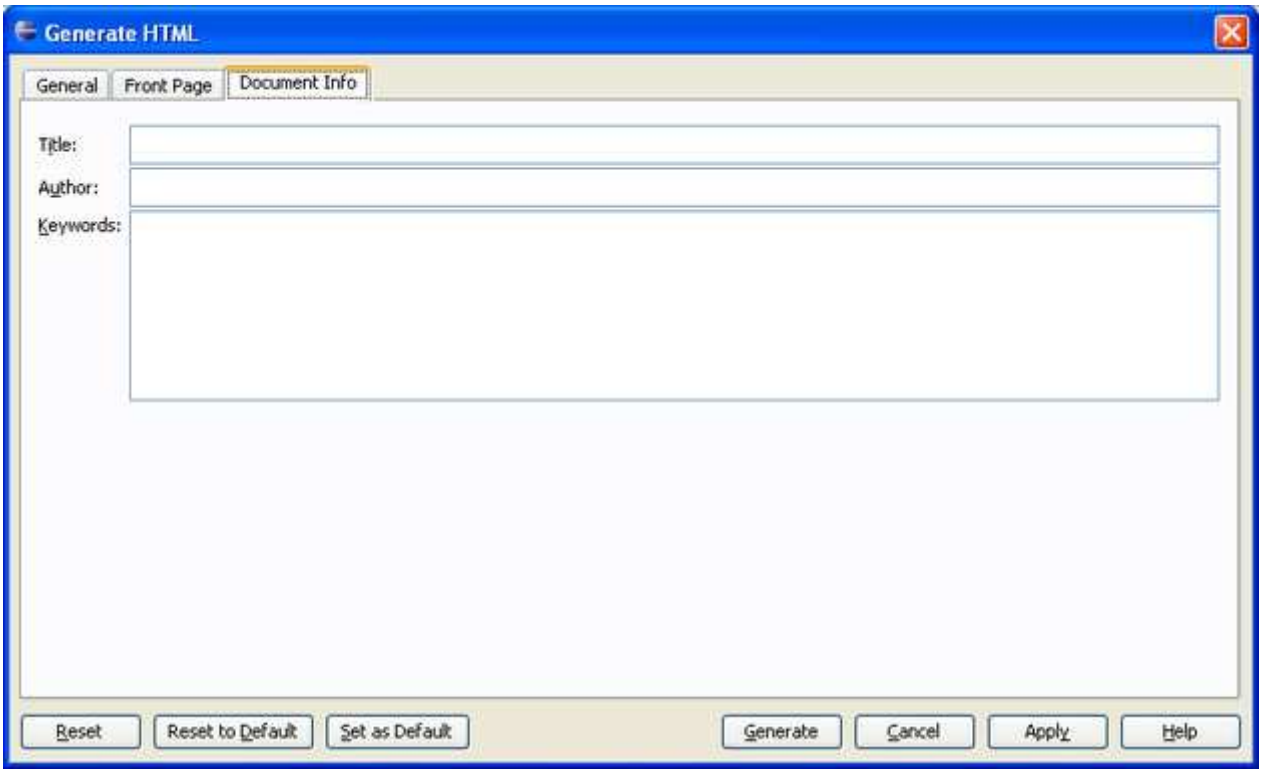



*Figure 6.29 - Define the Document Info*

| Field | Description |
|---|---|
| Title | Specify the title of the HTML report. |
| Author | Specify the author of the HTML report. |
| Keywords | Specify the keywords meta-tag of the HTML report. |

*Table 6.10*

## Defining a Front Page

To define the Front Page

1. Open the **Generate HTML** Report dialog box.
2. Select the **Front Page** tab.
3. Check the **Generate front page** checkbox to include a Cover Page in the report.
4. Enter information such as a **Logo image path** for the background, **Title**, **Organization name, Author Name etc**.

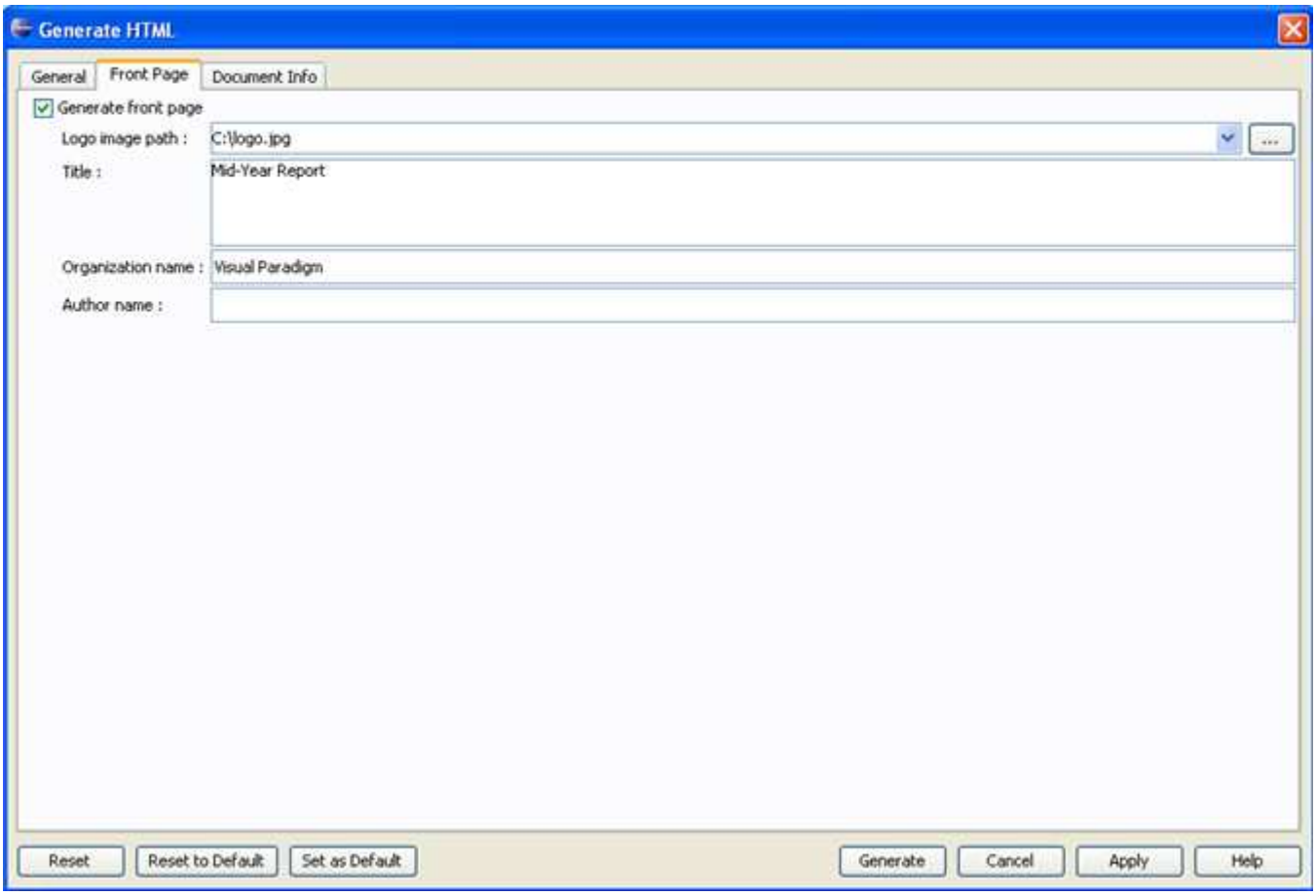



*Figure 6.30 - Define the front page*

# Project Publisher

The Project Publisher is a tool that exports the project, including detailed information in diagrams and models, into interactive and well-organized web pages. The generated web pages can be read in any web browser with no additional plug-in required, so collaborative partners may see the published product even if they do not have Visual Paradigm products installed.

## Launching Project Publisher

To launch Project Publisher, perform one of the following actions:

- Select **Modeling > Project Publisher...** from main menu.

The **Project Publisher** dialog box appears.

## Using Project Publisher

To publish the project, you need to enter the **Output directory** where the published files will be saved to. You may select the **Launch viewer** option so the default web browser on your computer will open the index page of the published project when the process is completed.

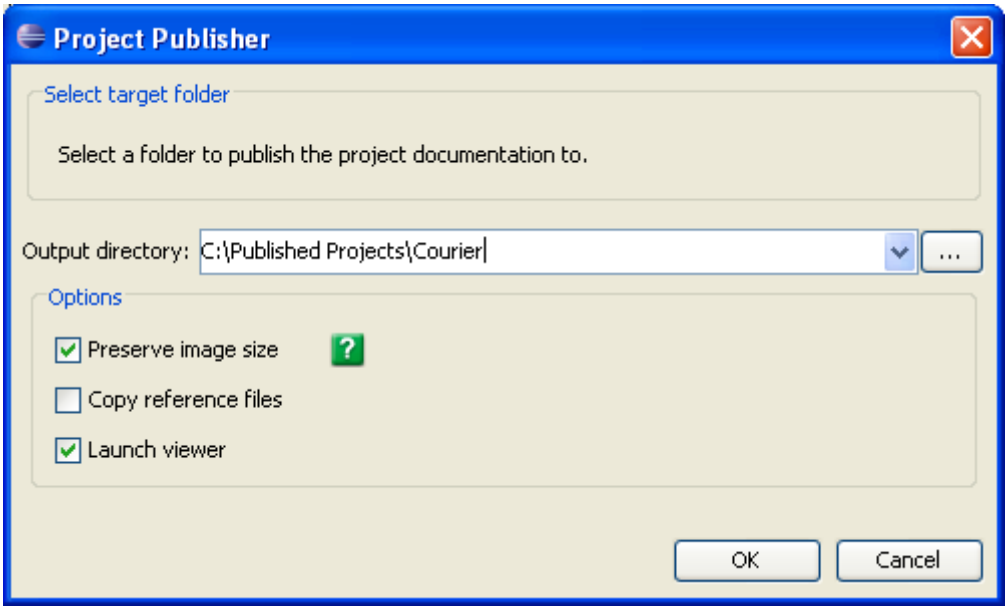



*Figure 6.31 - Project Publisher*

Click **OK** to start publishing. The progress dialog box will appear while generating the content and a '**Project publishing complete**' message will show once it is done.

## Using the Published Project

Go to the output directory of the published project and open the file '**index.html**' with a web browser. The web page is organized in frames, namely the **Navigator Pane**, **Menu Pane** and **Content Pane**.

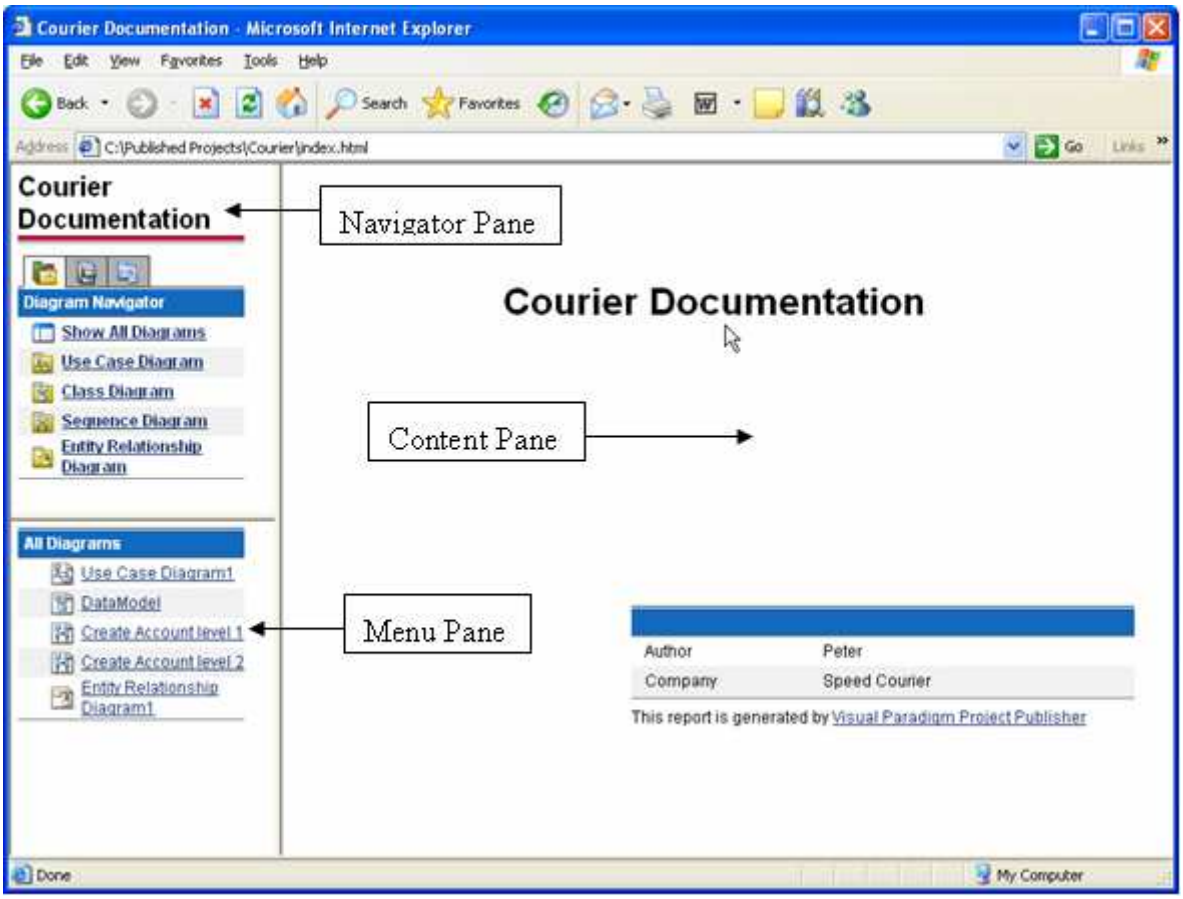



*Figure 6.32 - Published project*

## Navigator Pane

It comprises of the **Diagram Navigator**, **Model Navigator** and **Class Navigator**.

- **Diagram Navigator** shows the categories of diagrams in the project. You can click on a category to view its diagrams in the Menu Pane, or click **Show All Diagrams** to view all diagrams.

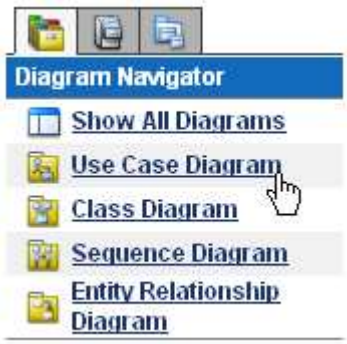



*Figure 6.33 - Diagram Navigator*

- **Model Navigator** shows the Package models in the project. You can click on a Package to view its child models in the Menu Pane, or click **Show All Models** to view all model elements.

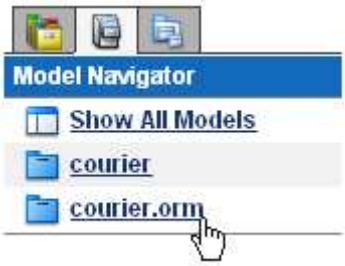



*Figure 6.34 - Model Navigator*

- **Class Navigator** shows the Package models in the project. You can click on a Package to view its child packages/classes in the Menu Pane, or click **Show All Models** to view all packages/classes.

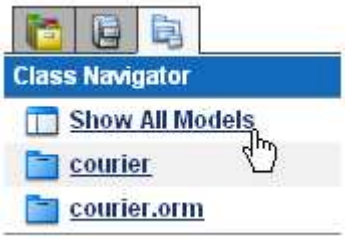



*Figure 6.35 - Class Navigator*

## Menu Pane

It shows the sub-menus of the Navigator pane. The contents shown in this pane varies with the link you clicked in the Navigator Pane. For more details about the possible contents please refer to the Navigator Pane section.
To view the details of an item (diagram, model or package/class), click on its link in the Menu Pane and its details will be shown in the Content Pane.

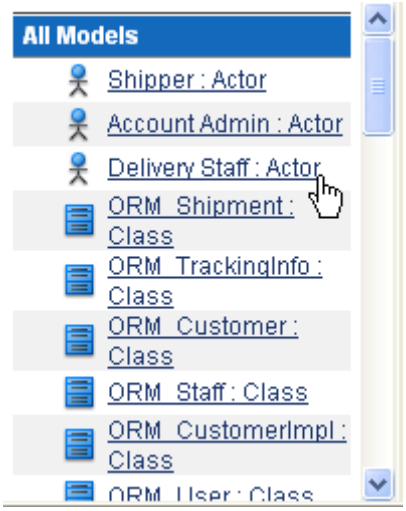



*Figure 6.36 - Menu Navigator*

## Content Pane

It shows the details of the item (diagram, model or package/class) you clicked in the Menu Pane or Content Pane.

## Diagram Content

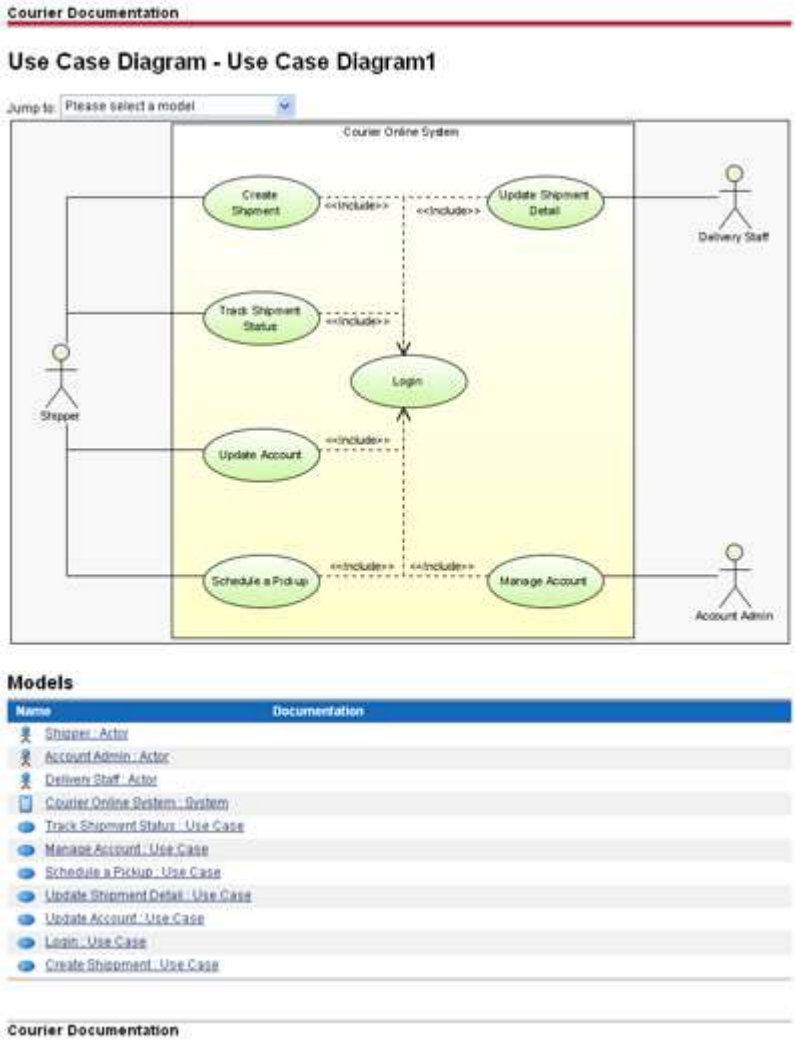



*Figure 6.37 - The Diagram Content*

The diagram type, name, description, together with a full size image of the diagram are shown in the Content Pane. The image is mapped to different clickable regions for each shape, so you can click on a shape in the image to view its details.

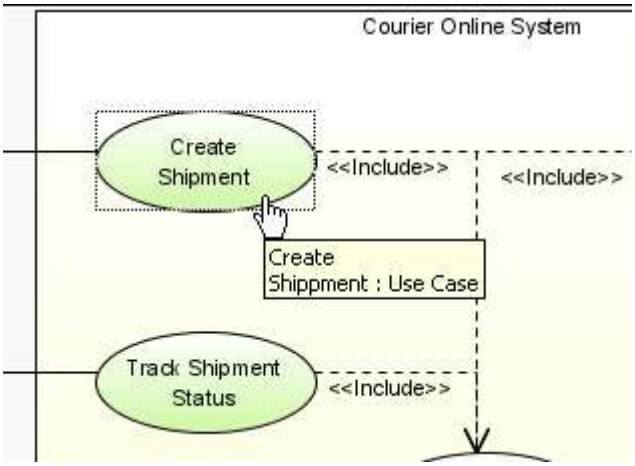



*Figure 6.38 - Shape link to the descriptions*

**Using Jump to**

The **Jump to** combo box in the diagram content page lists all shapes in the diagram, you can select a shape to jump to. The content page will scroll to the selected shape and the shape will be highlighted by a red border.

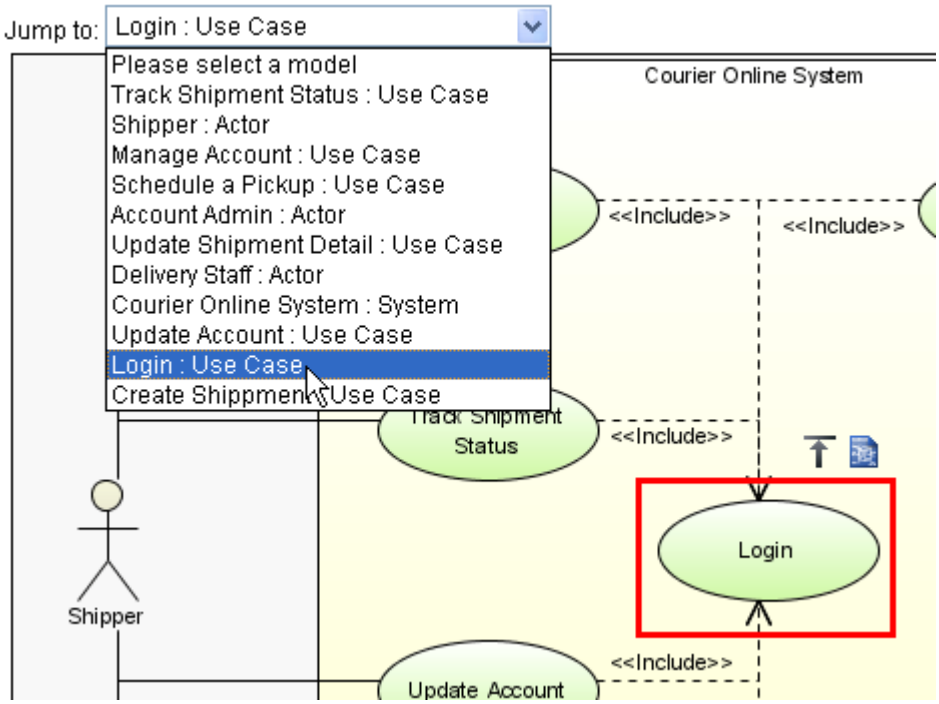



*Figure 6.39 - Jump to an element*

Besides, there will be two shortcut buttons above the selected shape.

- The **Back to top** button brings you to the top of the page.

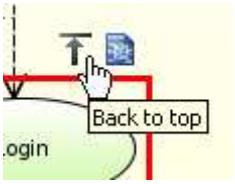



*Figure 6.40 - Back to top button*

- The **Open specification** button brings you to the details page of the shape.

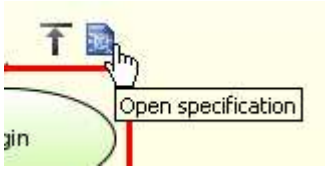



*Figure 6.41 - Open Specification button*

**Models**

The **Models** section of the diagram content page shows the name, type and documentation of the models of all shapes in the diagram. You can click on the link of a model to view its details.


*Figure 6.42 - Model list*

## Model Content


*Figure 6.43 - The Model Content*

The type, name and general model properties of a model are shown in the content page.

**Parent Hierarchy**

The parent hierarchy is shown as a list of models on top of the page. You can click on a parent in the hierarchy to view its details.

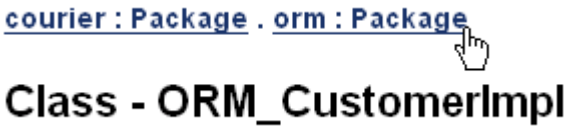



*Figure 6.44 - Parent Hierarchy*

**Relationships**

The summary of the relationships of the model is shown in the **Relationships Summary** section. Click on a relationship and it will take you to the **Relationships Detail** section.

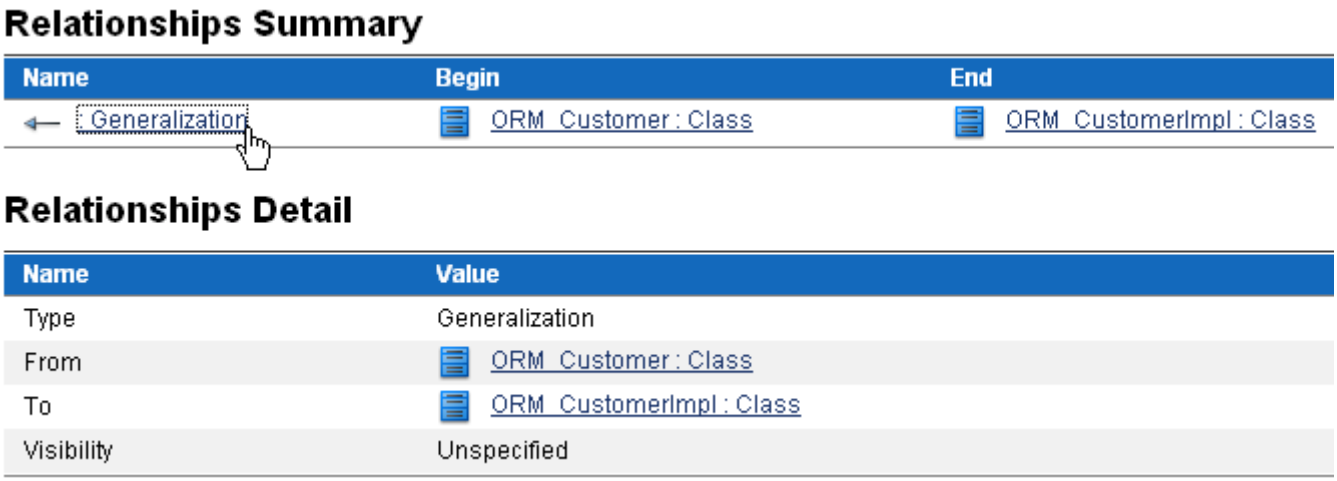



*Figure 6.45 - Relationship summary*

**Other Model Details**

Certain types of model have their own properties, for example, attributes and operations of class, or columns of ERD table. They are also included in the content page as custom sections. For instance, the **Operations Overview** and the **Operations Detail** sections show the overview and details of the operations of a class respectively.

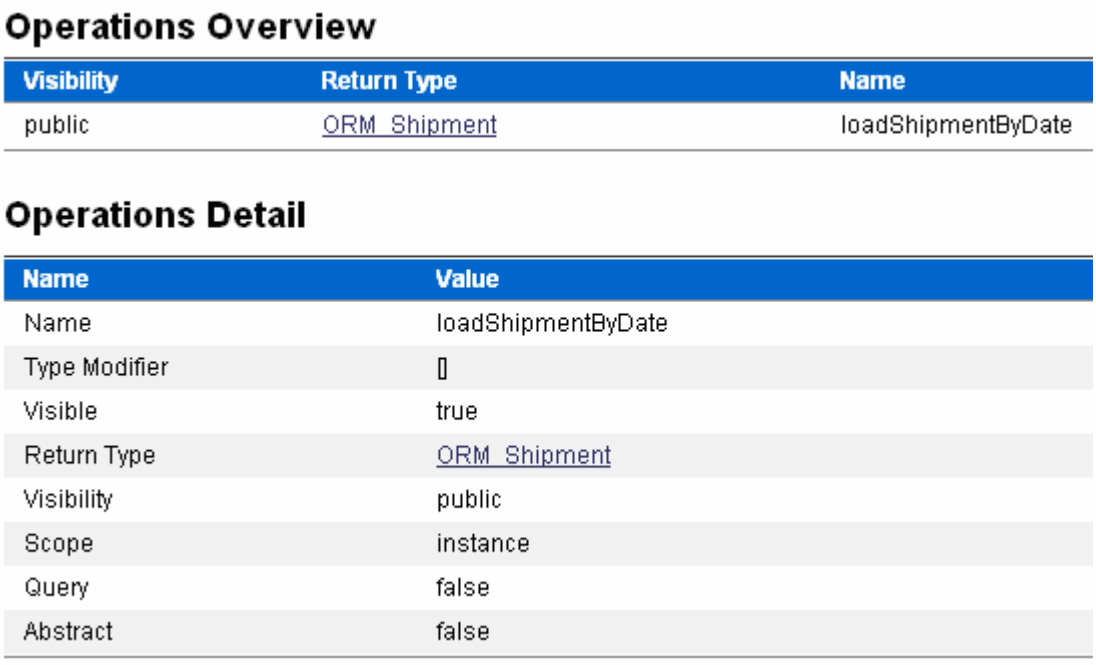



*Figure 6.46 - Other Class details*

# Report Writer

The Report Writer is a sophisticated tool for report creation. Users can output the existing project as reports by documenting their project within SDE for Eclipse. SDE for Eclipse offers seamless integration of UML modeling tool with word processors to provide a unified documenting environment. By dragging the models from SDE for Eclipse to Report Writer, data is extracted from models and content is created in Report Writer.

Retaining the conformance between documentation and design is a tedious task. Report Writer maintains the consistency between them. If you create a new model, the content will be appended to the existing one. If you remove a model, the generated element will be removed. If you re-edit the models, the content will be refreshed.

Users can also apply their own style for the generated element, to the Report Writer more flexible.

## Launching Report Writer

To launch Report Writer, perform one of the following actions:

- Select **Modeling > Report > Writer...** from main menu.

### Installing Report Engine

If it is the first time you have started the Report Writer, the **Report Engine Installation** dialog box will be displayed asking for the installation of Report Engine.

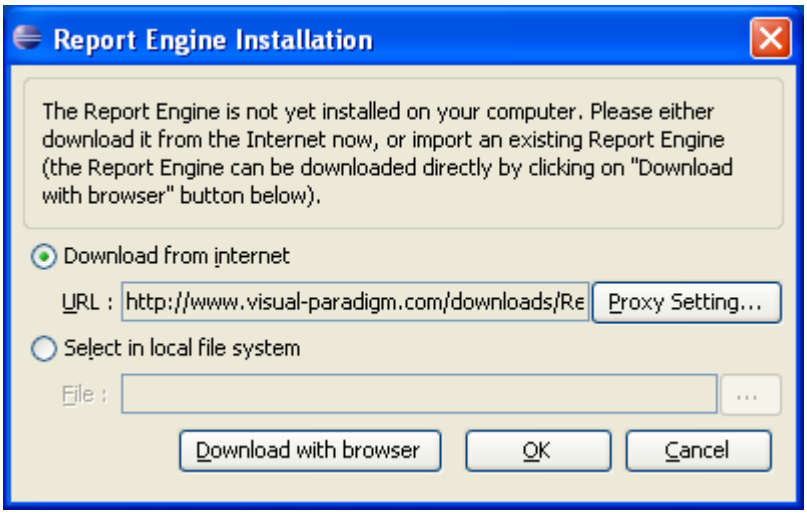



*Figure 6.47 - Report Engine Installation Dialog*

To install Report Engine, perform one of the following actions:

- Choose from the **Report Engine Installation** dialog box the option **Download from Internet** and click **OK**. This downloads the Report Engine from the Internet and automatically proceeds with Report Engine installation once the download has been completed.
- Choose from the **Report Engine Installation** dialog box the option '**Select in local file system**', locate the report engine and then click **OK** to start the Report Engine installation. The Report Engine can be obtained by clicking '**Download with browser**'. You can enter the path directly into the text field or click **...** to locate the file from the file chooser.

## Entering Report Information

Upon launching Report Writer for the first time, the **Template** dialog box will be displayed and ask for the information of the new report. Enter the report information and select a desired report theme for the report, preview of the selected theme is shown on the preview pane. Click **OK** to start Report Writer when everything is ready.

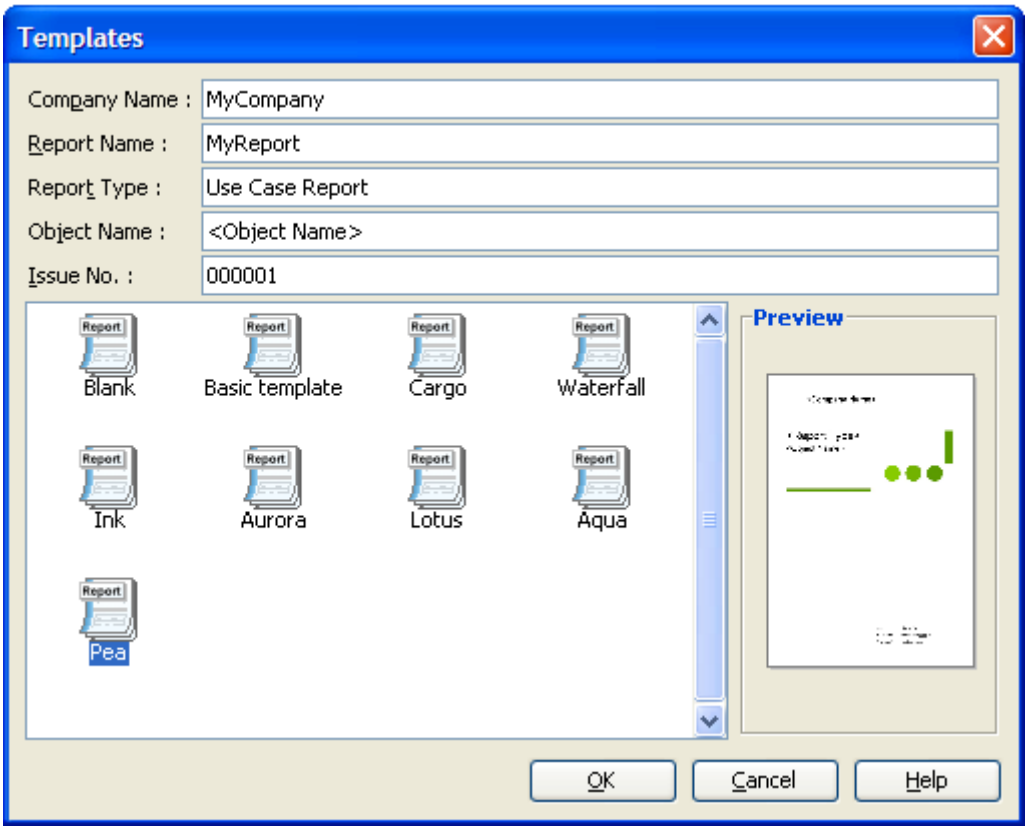



*Figure 6.48 - Templates Dialog*

## Panes

When Report Writer is launched you are taken to the Report Writer environment where you can create and edit your reports. Three distinct panes are presented on the screen: the **Project Explorer**, **Template Pane** and the **Writer Pane**.

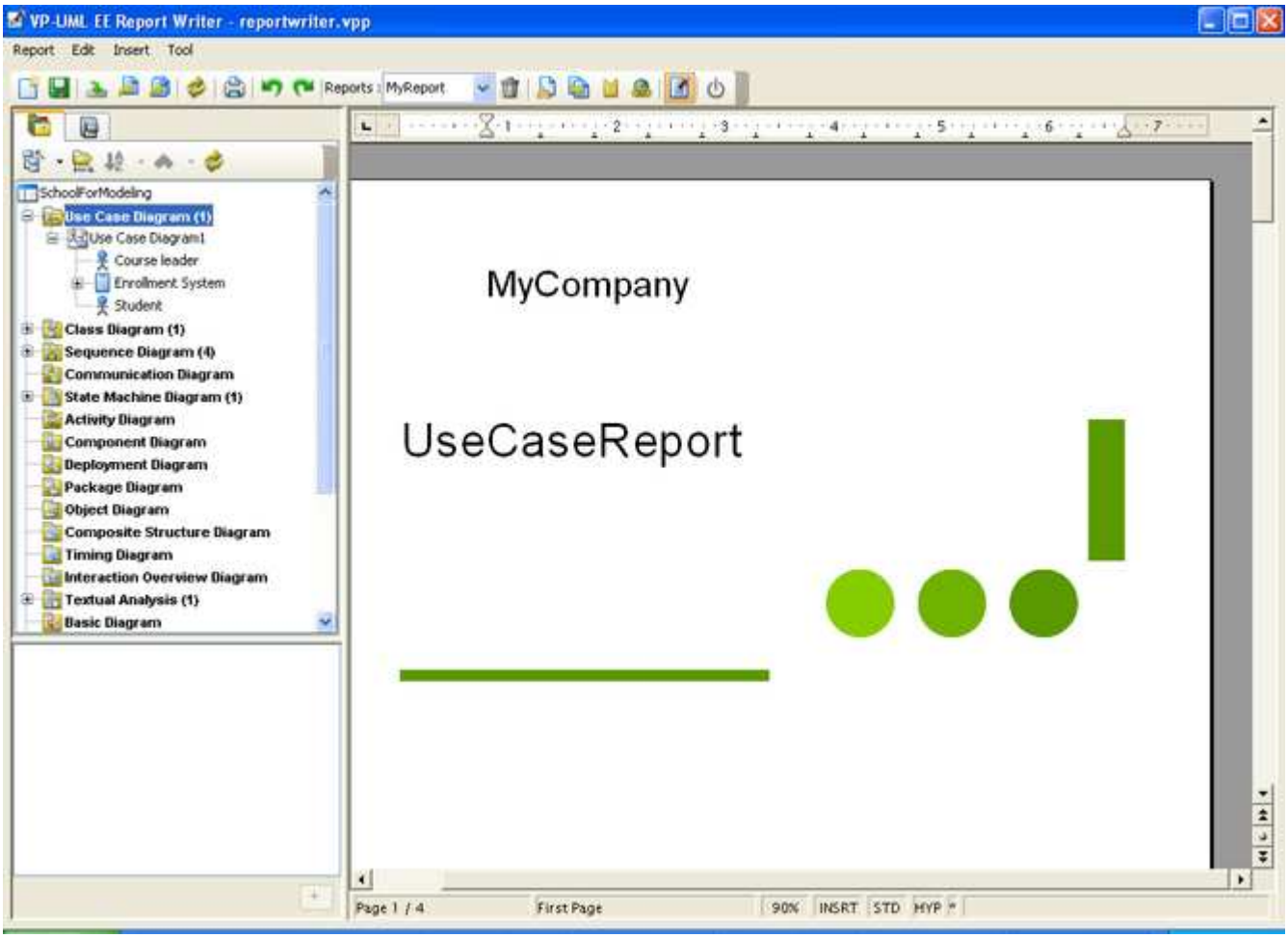



*Figure 6.49 - Report Writer*

## Diagram Navigator

The **Diagram Navigator** displays all diagrams within the project in a form of a project tree and organizes them by their diagram type. Through the use of a folding tree structure you can browse the names of these diagrams by either expanding or collapsing the folders and perform sorting by diagram type and name.

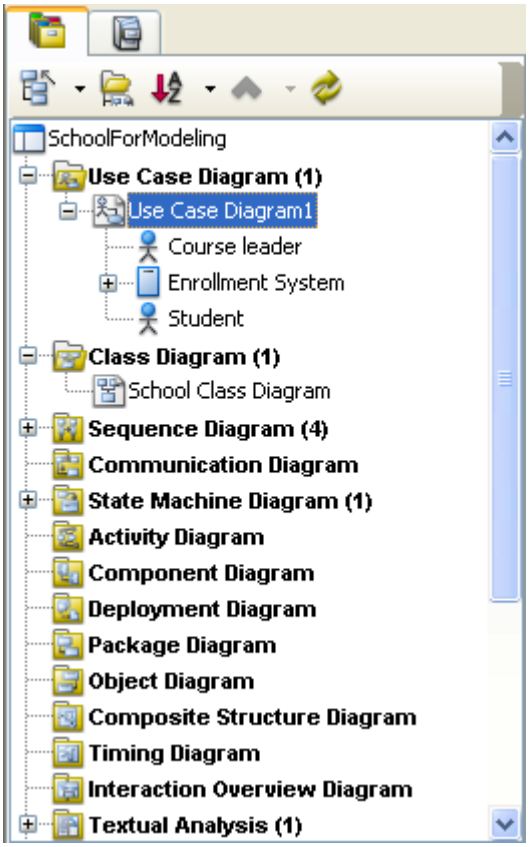



*Figure 6.50 - Diagram Navigator*

| Button | Icon | Description |
|---|---|---|
| Collapse | | To collapse all the nodes within the project tree. |
| Expand | | To expand all the nodes within the project tree. |
| Show Diagram View | | To show only diagrams but not models in the tree. |
| Sort by Name | | To sort diagrams within the project tree by alphabetical order of their names |
| Sort by Type | | To sort diagrams within the project tree by their diagram type. |
| Move Selected Model Up | | To move selected models upwards. |
| Move Selected Model Down | | To move selected models downwards. |
| Refresh | | To refresh the project tree within the Diagram Pane. |

*Table 6.11*

## Model Tree

The Model Pane displays models within the project in a form of a project tree. Notice that not all the model elements are displayed, and only the elements that are available for generating report content are shown.

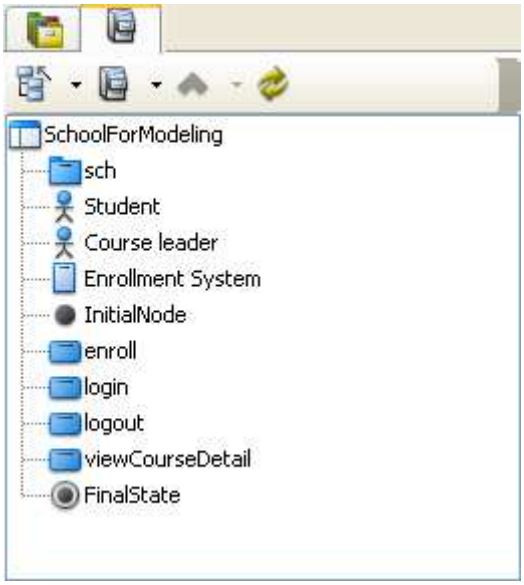



*Figure 6.51 - Model Tree*

| Button | Icon | Description |
|---|---|---|
| Collapse | | To collapse all the nodes within the project tree. |
| Expand | | To expand all the nodes within the project tree. |
| No Sorting | | To display the models within the project without sorting. Ordering of models will be based on their order of creation. |
| Sort by Name | | To sort models within the project tree by alphabetical order of their names |
| Sort by Type | | To sort models within the project tree by their model type. |
| Move Selected Model Up | | To move the selected models upwards. |
| Move Selected Model Down | | To move the selected models downwards. |
| Refresh | | To refresh the project tree within the Model Pane. |

*Table 6.12*

## Template Pane

The **Template Pane** displays all the templates available for the model or diagram selected in **Property Pane**.

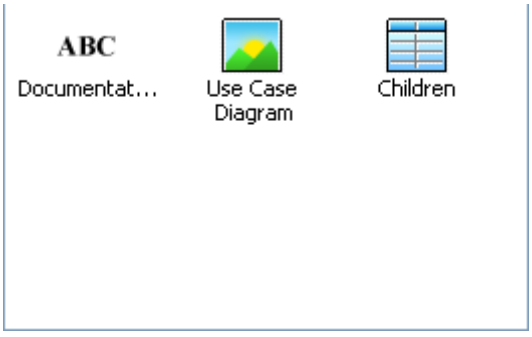



*Figure 6.52 - Template Pane*

Each template represents the corresponding report content of a particular model or diagram. By dragging a template into the **Writer Pane**, the report content will be printed on the report. There are three types of template: **Text**, **Image** and **Table**. Each of them has its own appearance in the report content.

| Type | Icon | Description |
|---|---|---|
| Text | ABC | The generated element block is mainly composed of text. It is mainly used in the documentation template of elements. |
| Image | | The generated element block is mainly composed of images. It is used in the diagram template for UML Diagrams. |
| Table | | The generated element block is mainly composed of tables. Most of the content-related templates use this type of template. |

*Table 6.13*

## Writer Pane

**Writer Pane** embeds a word processor to provide a report editing environment.

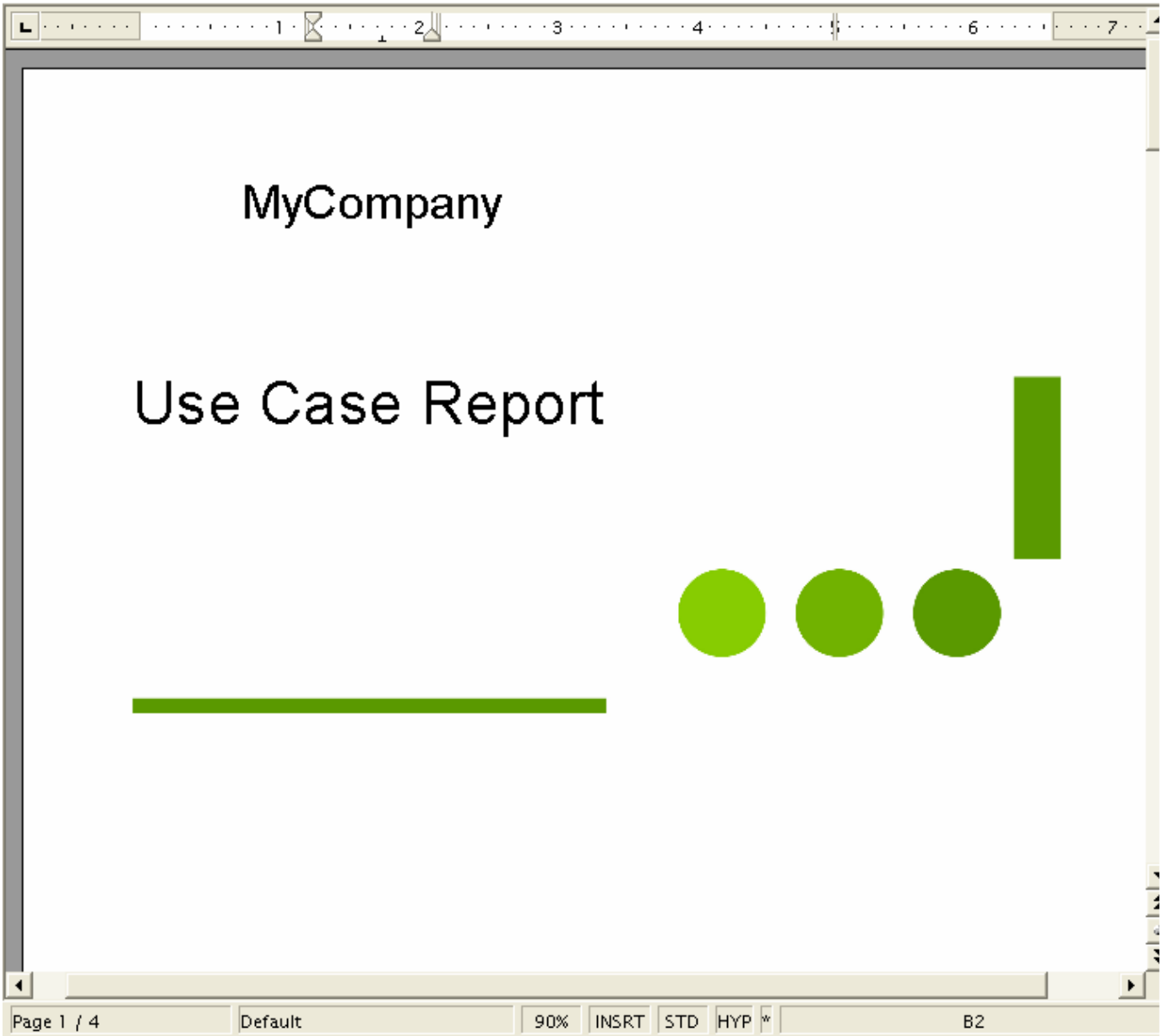



*Figure 6.53 - Writer Pane*

## Toolbar

Toolbar is the horizontal bars placed below the menu bar. They store all the frequently used commands that appear as a row of buttons.

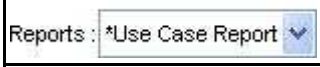
| Icon | Button | Function |
|---|---|---|
|  | New Report... | To create a new report. |
|  | Save Report | To save modified reports. |
|  | Import Report... | To import an external document (either an .sxw or a .doc file) as a report. |
|  | Export Report... | To export the current report as an .sxw or .doc file. |
|  | Export All Reports... | To export all the reports within the current project. |
|  | Update from Model | To update the content within the current report from the SDE for Eclipse models. |
|  | Print Report... | To print the current report by supplying the printer name. |
|  | Undo | To undo the last action you performed. |
|  | Redo | To redo the last action you performed. |
|   | Select Report | To select a report from the current project for editing. |
|  | Remove Report... | To remove the existing report(s). |
|  | Click to Show Stylist | To display the stylist dialog box for modifying the style. |
|  | Copy Style to Current Report | To copy the style settings defined in another report. |
|  | Click to Show Bookmarks | To display bookmarks that outlines the boundary for each generated element. |
|  | Insert Hyperlink | To insert a hyperlink. |
|  | Click to Generate Model Documentation | To include documentation of model when generating content. |
|  | Close Report Dialog | To close Report Writer and go back to SDE for Eclipse. |

*Table 6.14*

# Constructing a Report

## Creating a Generated Element

The term "Generated element" here means a block of report content generated by Report Writer and consists of details of a particular diagram or model element.

To create a generated element block:

1. Click to select the desired model element from either the **Diagram Navigator** or **Mode Tree** for content generation.
2. The supported templates for the selected model element are shown on the **Template Pane**. Each template represents a way in presenting the selected model element on the report. For example, "Children" template of a System represents a list of children placed inside a particular System.

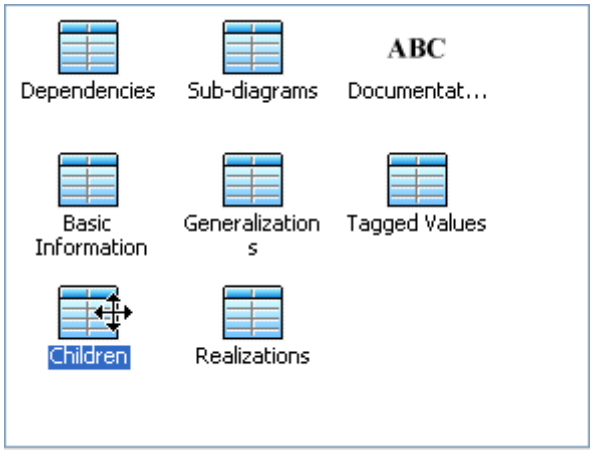



*Figure 6.54 - Template Pane*

3. Drag the desired template from the **Template Pane** and drop it onto the report.


*Figure 6.55 - Drag the template from template pane and drop it onto report*

4. When the cursor drags over the **Writer Pane**, a tiny straight line will appear in the report indicating the position of the expected position of the generated element. Once you've dropped the template onto the report, corresponding content will be generated element to the dropped position.

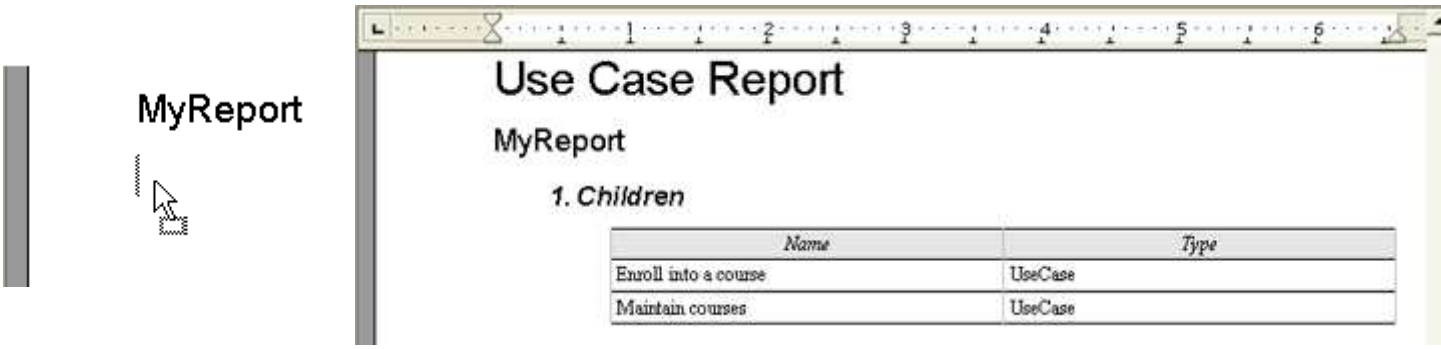



*Figure 6.56 - Drag the template to report*

The update process will replace ALL the contents within each generated element without notification. Therefore please insert the content carefully and ensure that it is not located inside the scope of any generated elements.

To create a new report, select from main menu Report > New Report...or click on the New Report...button on the toolbar.

## Showing the Bookmarks

Creating a new generated element within the boundary of an existing one is dangerous because the content may be messed up during a report update process. To avoid this, you can display bookmarks to indicate the start and end position of each generated element, and to prevent dropping a new one within the scope of the existing generated element.

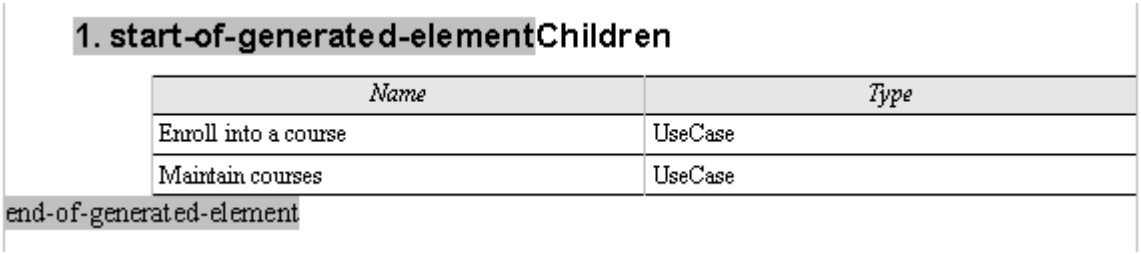



*Figure 6.57 - Showing bookmarks*

To show/hide bookmarks:

- Check/Uncheck **Tool > Show Indicator** from main menu to show/hide bookmarks.
- Select/Deselect **Click to Show Bookmarks**/**Click to Hide Bookmark** on the toolbar to show/hide bookmarks.

# Applying Style to Report

A style in Report Writer is a collection of formatting attributes that describe the nature of paragraphs. The generated element highly adopts the predefined styles in Report Writer therefore users can customize the related styles to bring consistency to the whole document. There are two ways for applying style to report.

## Style configuration

The **Stylist** dialog box allows you to configure the pre-defined styles. To display the **Stylist** dialog box:

- Select **Tool > Show Stylist** from main menu.
- Click the **Click to Show Stylist** button on the toolbar.

In both cases, the **Stylist** dialog box display.

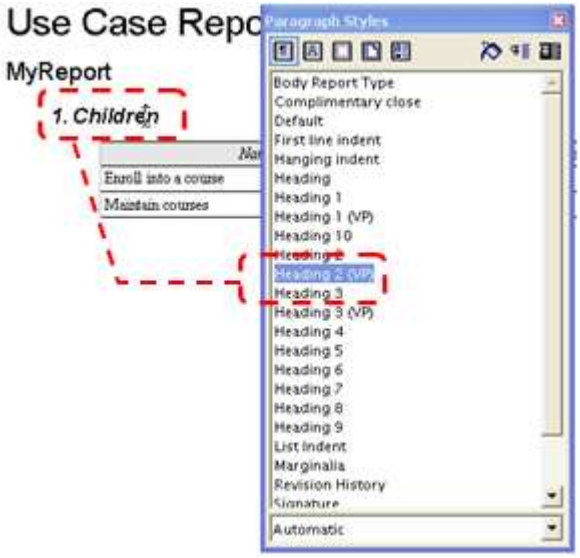



*Figure 6.58 - Stylist*

To edit the style, right-click on the highlighted style and choose **Modify...**from the popup menu. This displays the dialog box for the selected style. You can now adjust it with your own preference. When everything is ready, please click **OK** to commit the settings and exit the dialog.

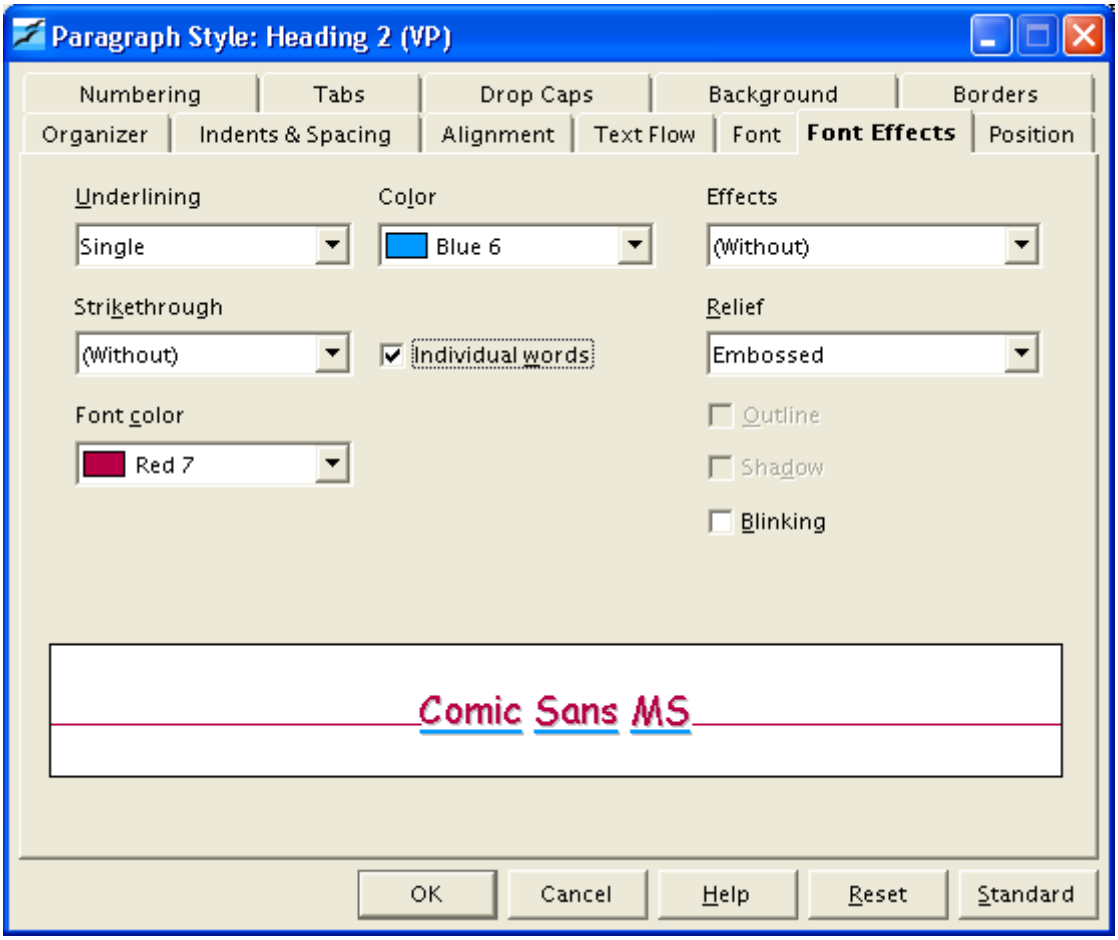



*Figure 6.59 - Edit Paragraph Style*

The changes will take effect immediately and you will notice the style is applied to those generated elements using the same style.

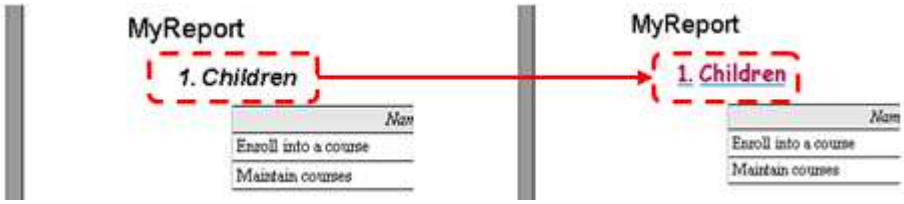



*Figure 6.60 - Style Change*

## Loading Style from Other Report

The **Copy Style** dialog box allows you to copy the style from existing report. To display the **Copy Style** dialog box:

- Select **Tool > Copy Style** from main menu.
- Click the **Copy Style to Current Report** button on the toolbar.

In both cases, the **Stylist** dialog box display.

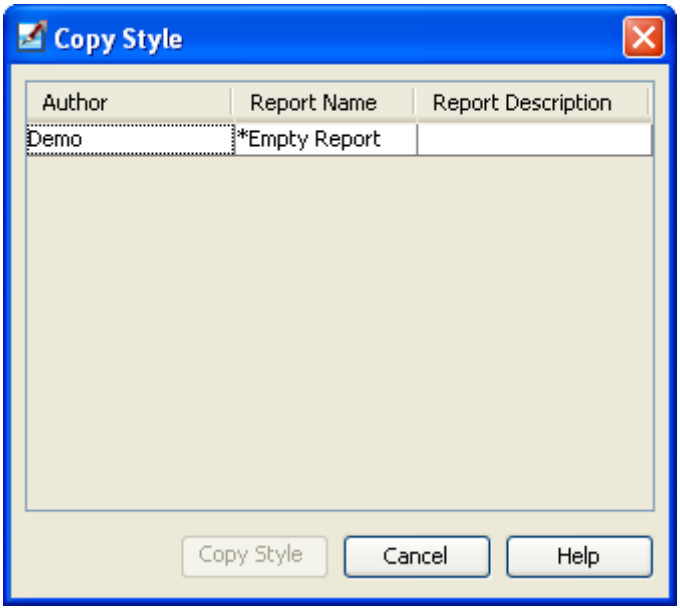



*Figure 6.61 - Copy Style Dialog*

Select a desired report for getting the style configuration and click **Copy Style**. The style configuration in the current report is replaced by the style configuration of the selected report. All the predefined styles will be overwritten.

# Updating Table of Contents

There is a predefined Table of Contents in each of the report template. Here is the pre-built Table of Contents structure:

| Level | Paragraph Style |
|---|---|
| 0 | Heading 1 (VP) |
| 1 | Heading 2 (VP) |
| 2 | Heading 3 (VP) |
| 3 - 9 | None |

*Table 6.15*

To update the Table of Contents, right-click on the caption **Table of Contents** and select **Update Index/Table** from popup menu.

# Exporting a report

You can export report as file and edit it outside SDE for Eclipse. Supported format includes Microsoft Word 97/2000/XP document (with extension .doc) and OpenOffice.org 1.0 Text Document (with extension .sxw).

### Exporting current report

1. Click on the **Export Report...**button on the toolbar or select **Report > Export Report...**from main menu. This display the **Save** dialog box.
2. In the **Save** dialog box, enter the file name and select **OpenOffice.org 1.0 Text Document (.sxw)** format or **Microsoft Word 97/2000/XP (.doc)** format for exporting.
3. When everything is ready, click **Save** to export the report.

### Exporting all report(s)

1. Click the **Export All Reports...**button on the toolbar or select **Report > Export All Reports...**from main menu. This display the **Save** dialog box.
2. In the **Save** dialog box, enter the directory for storing the reports in the **File name** field and select either **OpenOffice.org 1.0 Documents** or **Microsoft Word Documents** for the **Document Type**.
3. When everything is ready, click **Save** to export the report(s).

## Importing a Report

You can import a document back into Report Writer for data updating. To import a report:

1. Click the **Import Report...**button on the toolbar or select **Report > Import Report...**from main menu. This displays the **Open** dialog box.
2. In the **Open** dialog box, select either **OpenOffice.org 1.0 Text Document (.sxw)** format or **Microsoft Word 97/2000XP (.doc)** format for importing. Select a file and click **Open** to import the selected document into Report Writer.
3. If the document has previously been exported from Report Writer, a dialog will appear and ask for overwriting the existing one or not.

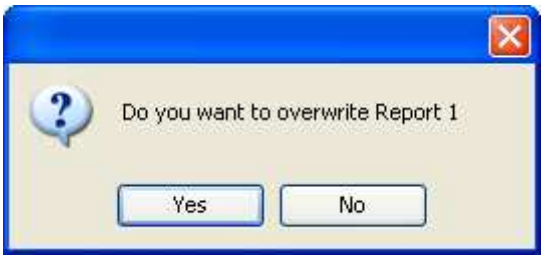



*Figure 6.62 - Confirm overwrite existing report*

If you click **Yes**, the existing report will be replaced by the imported one. If you click **No**, the imported report will be stored into Report

## Updating a Report

In reality, software design keeps evolving from time to time. Originally, users needed to modify the related documents manually to ensure that it is fully conformed to the latest design. Report Writer binds closely with the SDE for Eclipse project, and hence generated elements can then be updated without affecting the user-defined content.

To update a report, choose the desired report for updating from the drop-down menu and click the **Update from Model** button from the toolbar or select **Report > Update from Model** from main menu.

Update process will start automatically. Data will be extracted from project and replace with the content within the existing generated element.

Please do not click on the Writer Pane while the update process is undergoing, as it may affect the accuracy of the content. It can also damage the generated element, so that updating cannot be performed anymore unless the damaged block is removed manually.

The update process will replace ALL the contents within each generated element without notification. Therefore please insert your content wisely and ensure that it is not located inside the scope of any generated element.

## Printing a report

There are two ways for printing the reports. The first one is to print the currently opened report and another one is to print all the reports within the project. The following steps demonstrate how you can print reports in Report Writer.

1. Click the **Print Report...** button on the toolbar or select **Report > Print Report...** from main menu. This displays the **Print** dialog box asking for the printer name.
2. Select the printer for printing the document from the drop down menu.
3. To print the currently opened report, click **Print Current...** To print all reports, click **Print All...**

Do not click on the Writer Pane while the printing process is undergoing, it may affect the print job.

# Sorting Elements in Report

Sorting out the elements in the report helps to prepare a report which is well-organized.

There are three ways of sorting in a report:

- Automatic
- Follow tree
- Sort by id or name

We will use a PDF report as an example.

To set the sorting option:

1. Select **Modeling > Report > PDF...** from the main menu.

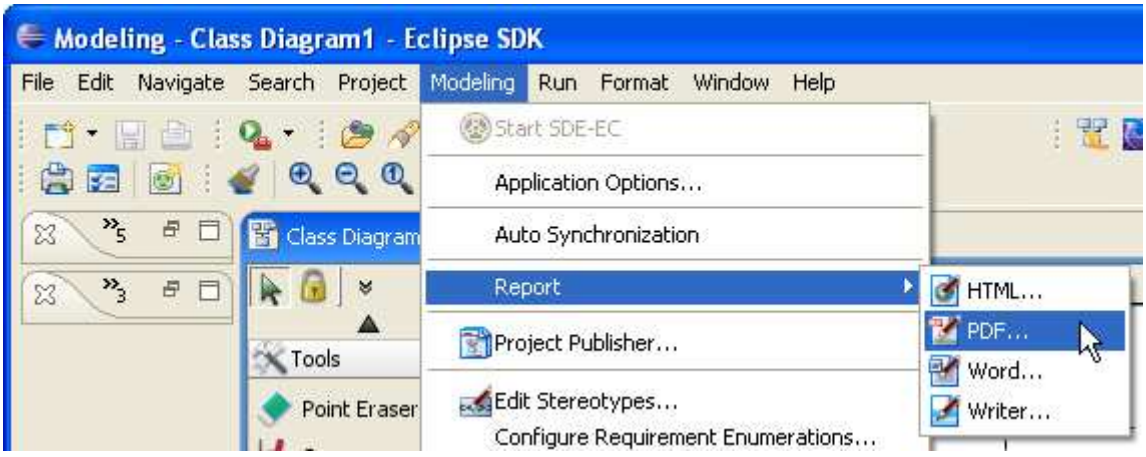



*Figure 6.63 - Select Generate PDF Report...*

2. This shows the **Generate PDF** dialog box.

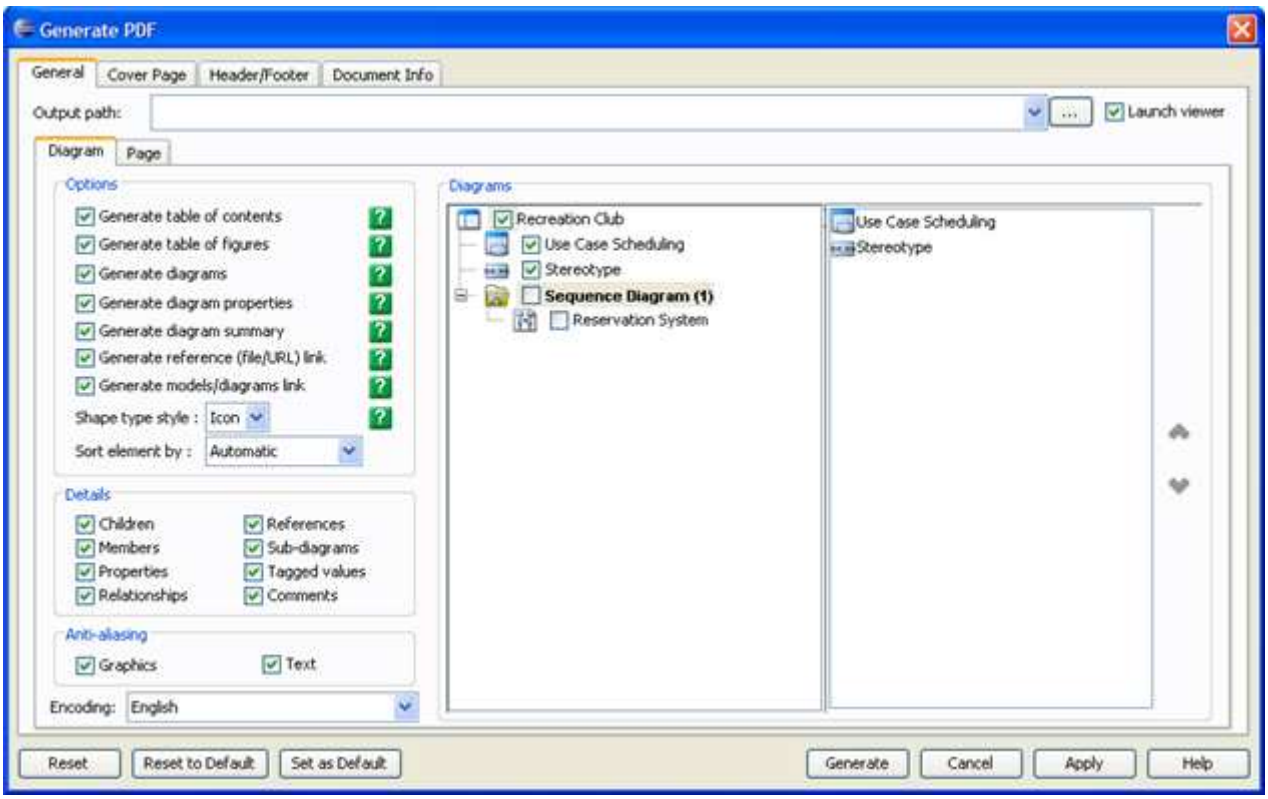



*Figure 6.64 - Generate PDF dialog box*

3. Select how elements will be sorted from the **Sort element by** drop-down menu.

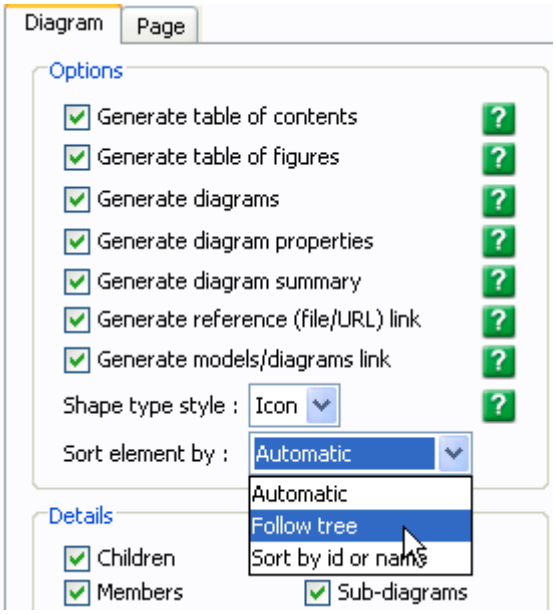


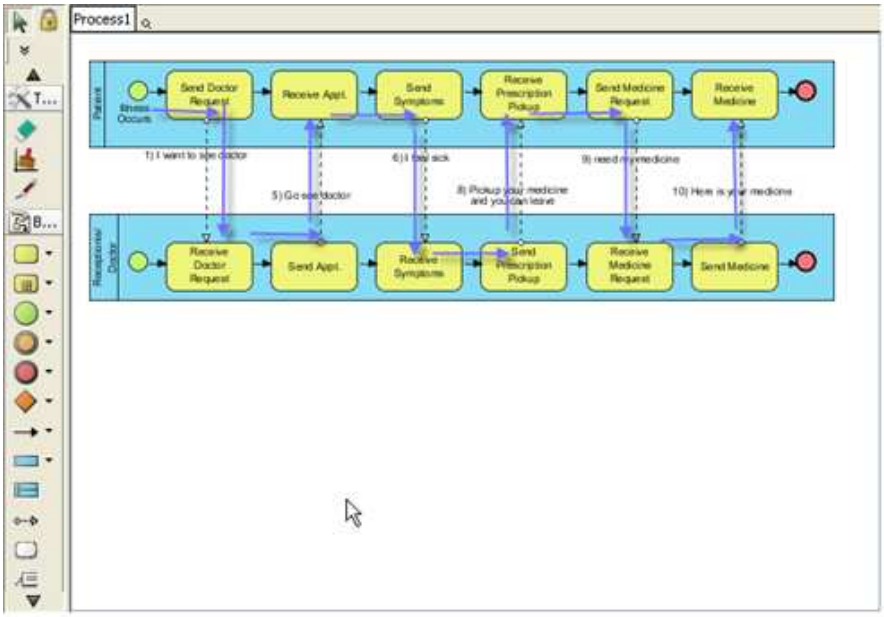

*Figure 6.65 - Select way of sorting*

4. Press the **Generate** button.

Different ways of sorting

- Automatic

The report generated is sorted by listing elements in the most logical order, following most users' understanding of that kind of diagram.



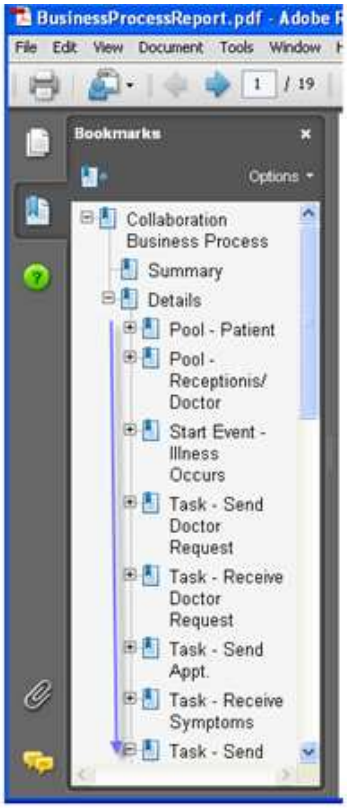




*Figure 6.66 - Sorting by Automatic*

.

- Follow tree

The report generated is sorted by following the sort order of the **Diagram Navigator** in the tool.

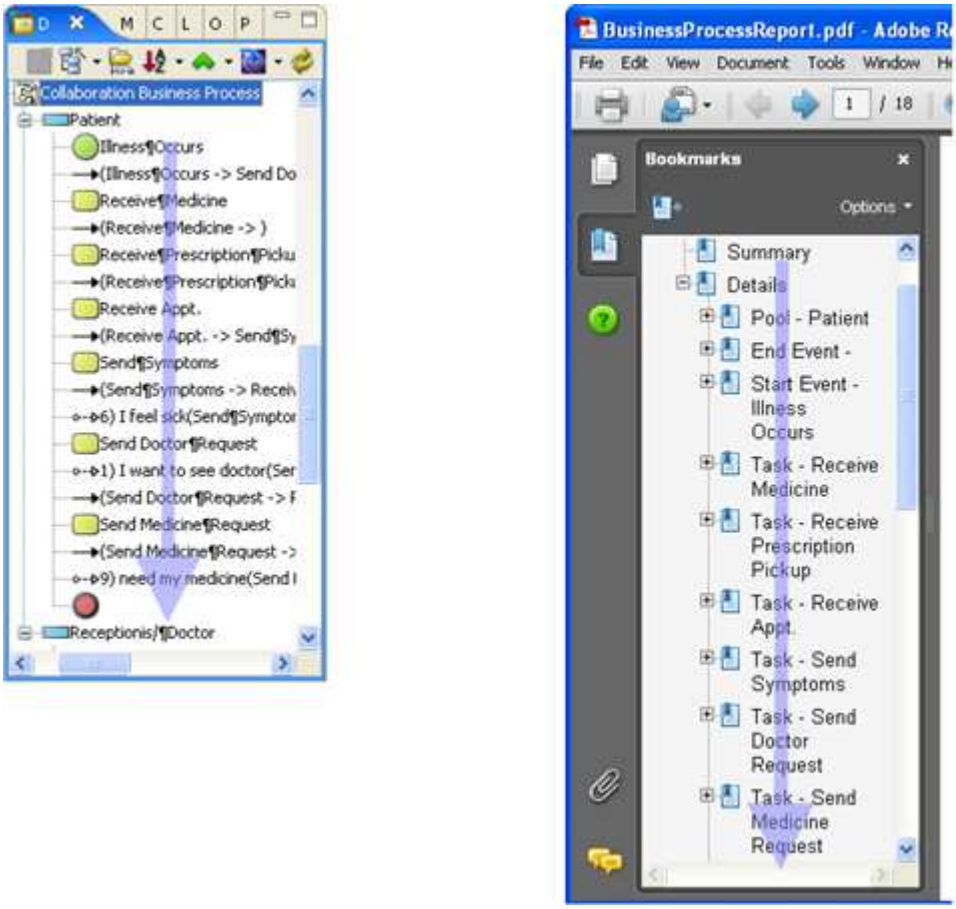



*Figure 6.67 - Sort by Follow tree*

- Sort by id or name

The report generated is sorted by name or ID of the element.

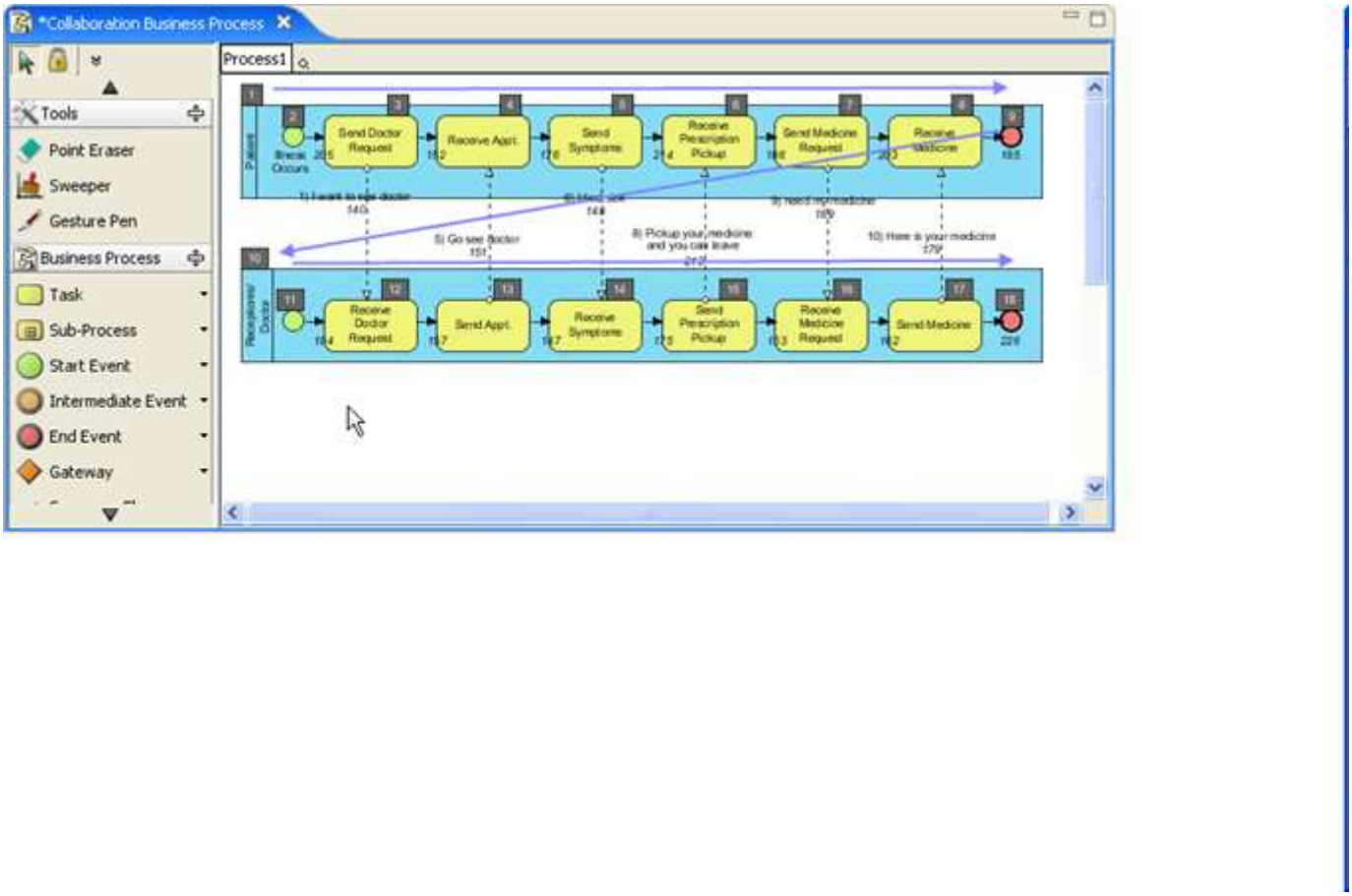



*Figure 6.68 - Sort by id or name*

# 7 Export and Import

# Chapter 7 - Export and Import

SDE for Eclipse facilitates excellent interoperability by allowing exchange of UML diagrams and models via XMI. Apart from this, you also can import models created previously from IBM Rational Rose.

This chapter guides you through the process of importing and exporting a SDE for Eclipse project, an XML file or an XMI file. You can also learn how to export a SDE for Eclipse project as an image and how to import a IBM Rational Rose Project.

In this chapter:

- Image Exporter
- SDE for Eclipse Project Importer and Exporter
- XML Importer and Exporter
- XMI Importer and Exporter
- Rose Importer
- ERwin modeler project file Importer
- Oracle workflow engine BPEL generator
- JBoss workflow engine BPEL generator

## Exporting Diagram as Images

The images exported can be inserted to external documents for easier distribution. Here are the types of image SDE for Eclipse support exporting:

- JPG
- PNG with background
- PNG without background
- SVG
- EMF
- PDF (diagram per page)
- PDF (diagram per file)

### Exporting the Active Diagram as an Image

This feature exports the active diagram as an image file. To export the active diagram as an image file, perform one of the following actions:

- Select **File > SDE-EC Export > Active Diagram as Image...** from main menu.

File chooser dialog box will appear where you can specify the output of the image file.

## Exporting Diagrams as Images

This feature exports one or more diagrams as images. To export the active diagram as image file, perform one of the following actions:

- Select **File > SDE-EC Export > Diagrams as Image...** from main menu.

The **Diagram Exporter** dialog box will be displayed. You can specify which diagrams to export, and preview the exported image. After you have configured the export settings click **Export** to export the diagrams.

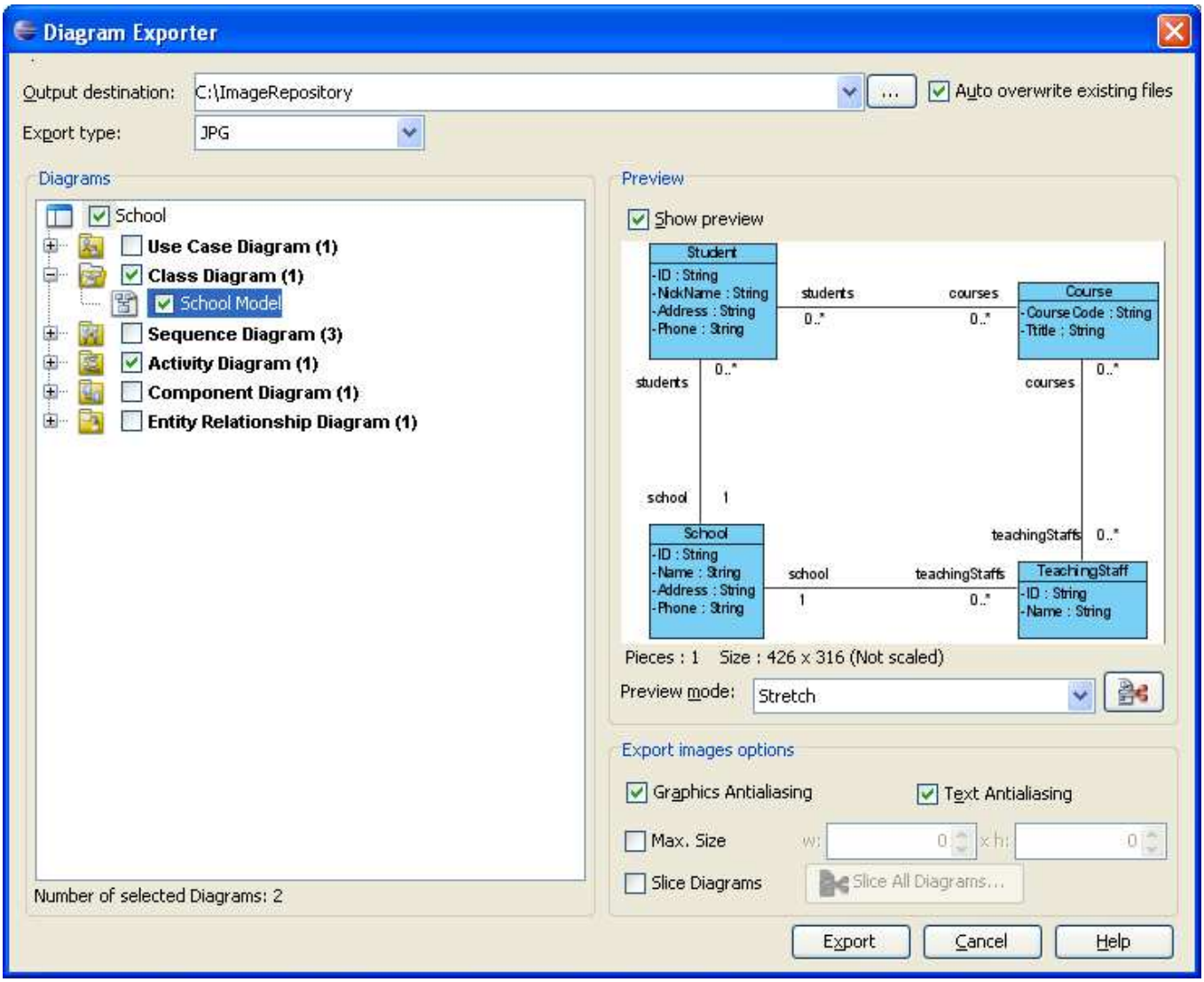



*Figure 7.1 - Diagram exporter*

| Field | Description |
|---|---|
| Output destination | The **Output destination** is the directory where all the exported images are saved to. You can enter the path in the text field directly, or you can click on the ... button to browse for the directory. |
| Export type | To select the image format of the exported image click on the pull-down box beside the **Export type** field and select the format you want to use. |
| Diagrams | The **Diagrams** pane shows the diagrams in the current project. Check the checkbox beside the diagram you want to export. The number of selected diagrams is displayed at the bottom of the Diagram pane. The Preview pane also allows you to **preview** the exported image of the selected diagram. |

| | |
|---|---|
| Preview | The **Preview** pane shows the preview of the exported image of the selected diagram in the Diagrams pane. You can check/uncheck the **Show preview** checkbox to enable/disable the preview.<br>You can select the size of the preview image by selecting from the pull-down box beside the **Preview mode** field. Selecting **Stretch** will show the image in scaled size that fits to the preview area, while selecting **Real size** will show the image in its actual size. |
| Anti-aliasing | Anti-aliasing is a method which handles the staircase pixels of slanted lines and curves to make them look smoother. You can apply anti-aliasing to the exported images. To apply anti-aliasing to graphics, check the Graphics Anti-aliasing checkbox in the Anti-aliasing pane. Likewise, you can check the Text checkbox in the Anti-aliasing pane to apply anti-aliasing to text. |
| Auto overwrite existing files | You can check the '**Auto overwrite existing files**' checkbox to allow overwriting of files in the export process. |
| Max. Size | Maximum size of exported images. If the diagram size is larger than the max. size, it will be resized. |

*Table 7.1*

## Slice diagrams

User can slice a large diagram into pieces(number of files), as well as restrict the size of the exported diagram.

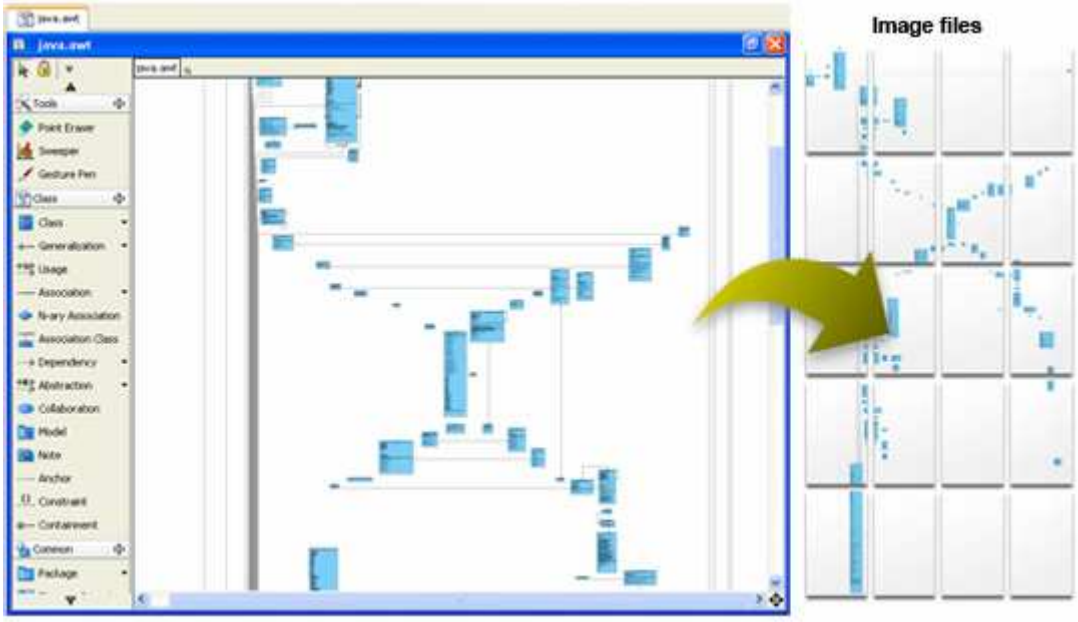



*Figure 7.2 - Slice diagrams*

There are three slicing strategies. They are **Fixed Slice**, **Free Slicing** and **Fixed Ratio**.

| Slicing strategies | Description |
|---|---|
| Fixed Slice | **Fixed Slice** is a simple strategy which slices exported diagram into pieces of the same size. The user specifies the number of columns and rows to slice and then the exported diagram will be sliced into specific pieces. |
| Free Slicing | Users can customize how to slice the exported diagram by specifying the position of vertical slices and horizontal slices. It is particularly useful to prevent a shape from being sliced into pieces. |
| Fixed Ratio | **Fixed Ratio** gains the benefits of Fixed Slice and Free Slicing. The width and height of pieces are the same but for the last row and column. Users can also customize the width and height of sliced pieces. Like Free Slicing, Fixed Ratio is size oriented. User modifies the size of pieces and Diagram Slicer calculates the number of row and column to slice. |

*Table 7.2*

## Exporting Diagrams to PDF format

You can export SDE for Eclipse diagram to native PDF format. Since the exported PDF is of a small size, it can save a lot of space. Also, because the diagram in PDF is a vector, it is scalable.
There are two different options when you export:

- PDF(diagram per page)

  All the diagrams selected will be exported in the same PDF file. Each diagram will occupy one page.

- PDF(diagram per file)

  Each diagram selected will be exported in one new PDF file.

To export diagram to PDF format:
1. Select **File** > **SDE-EC Export** > **Diagrams as Image...** in the main menu.

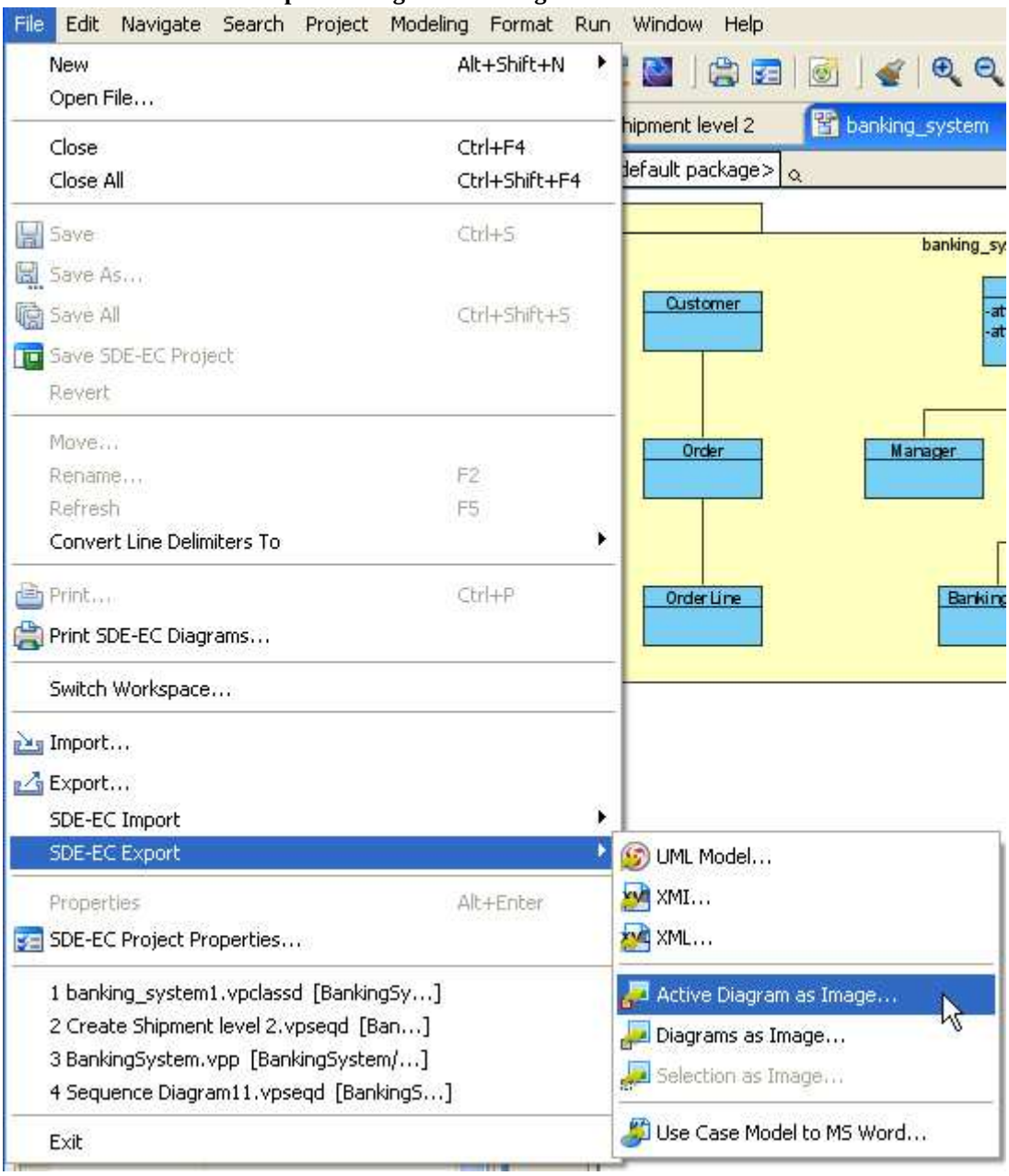



*Figure 7.3 - Select Diagrams as Image...*

2. **Diagram Exporter** dialog box is displayed. Select the PDF format you want.

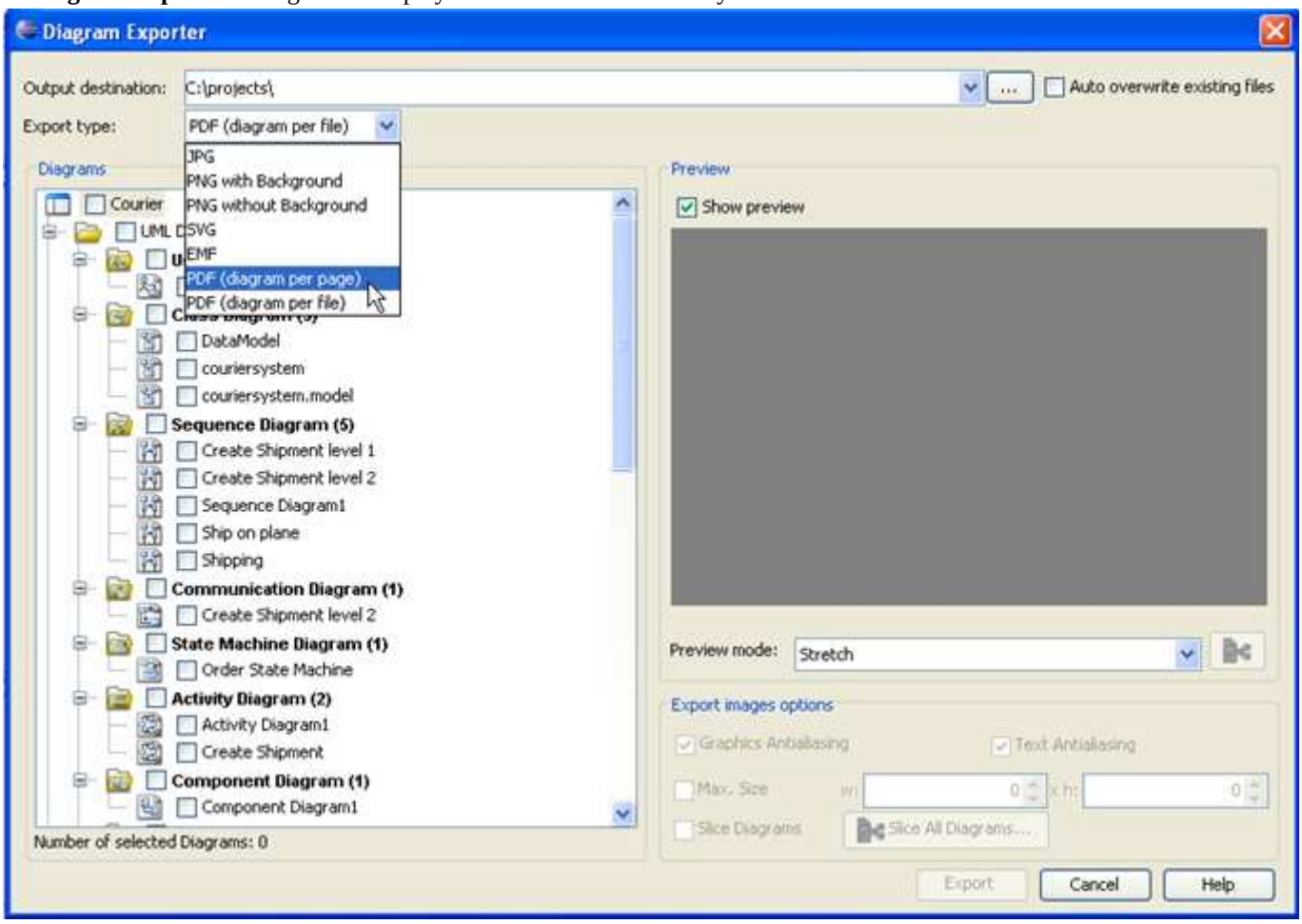



*Figure 7.4 - Select PDF format*

3. Select **...** to select the output destination or type it in the text box. If you select PDF(diagram per page) as the export type, you should type in a file name with .pdf as extension.

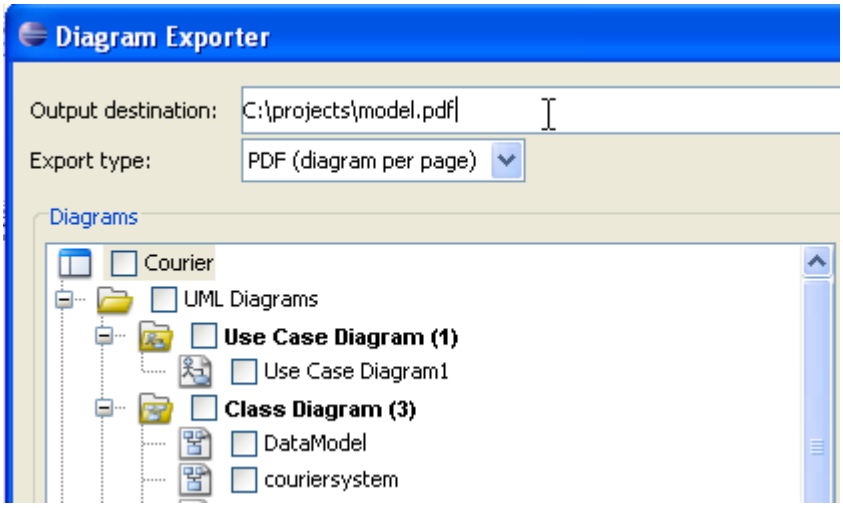



*Figure 7.5 - Type in Output destination*

4. Select the diagram(s) you want to export and click **Export** to generate.

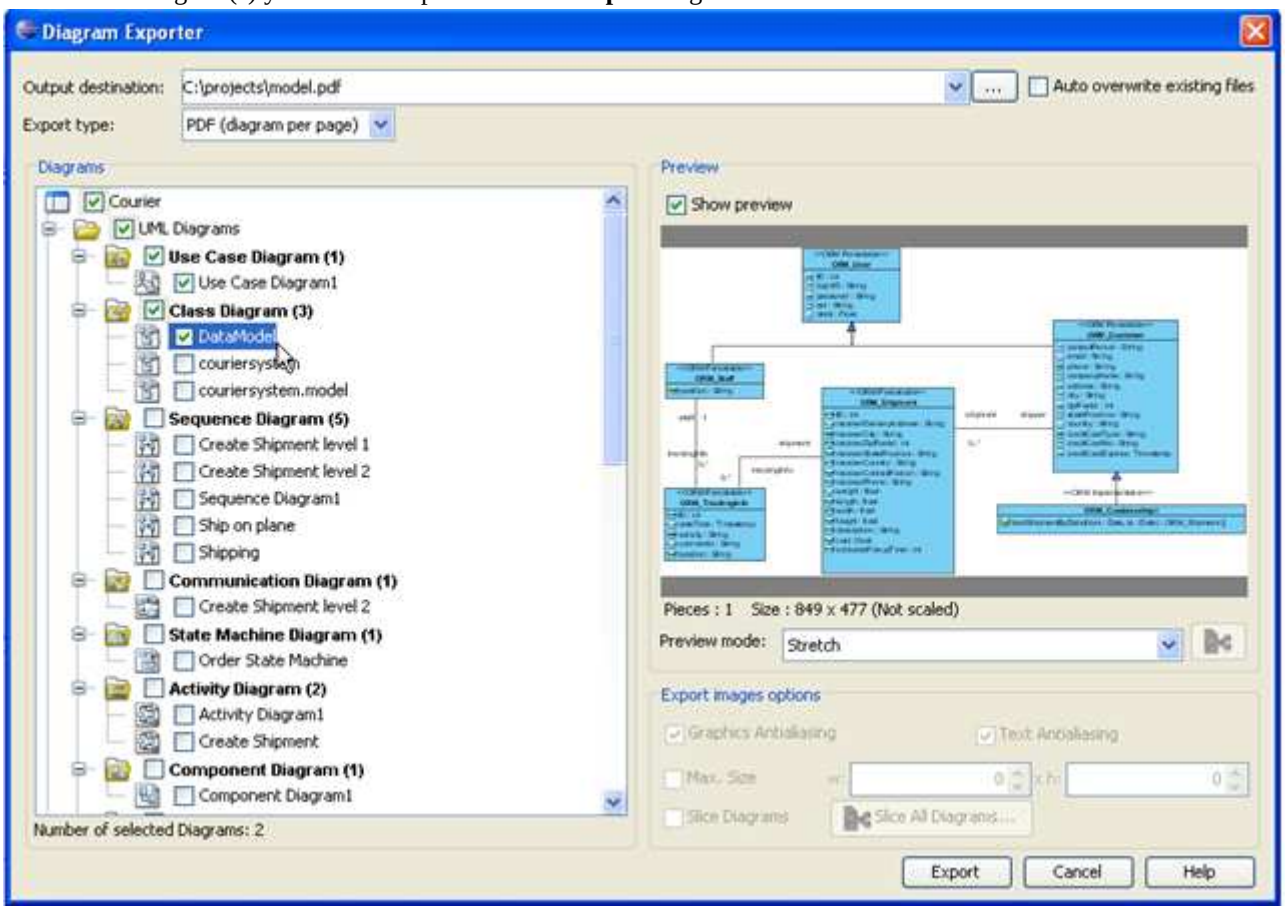



*Figure 7.6 - Select diagrams to export*

5. Then, a dialog box is displayed telling you the diagram is exported. You may choose from the options **Open File**, **Open Folder**, **Copy Path** or **Finish**. Choose Open File to see the exported file.

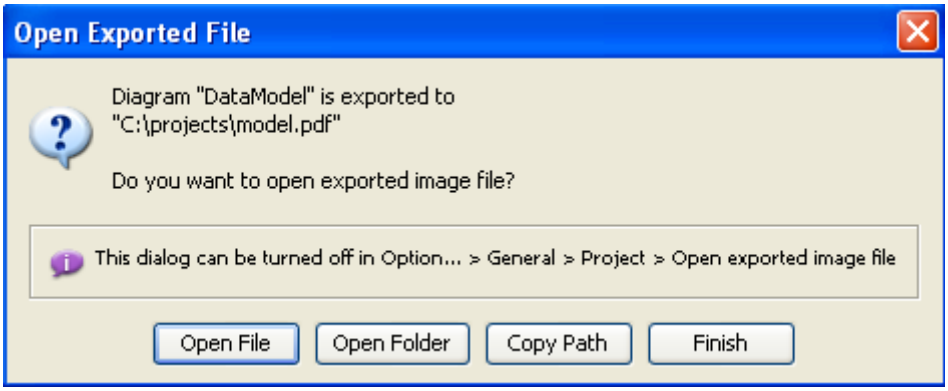



*Figure 7.7 - Export finished*

6. Only one file is created. In the exported file, you will find all the diagrams you have selected.

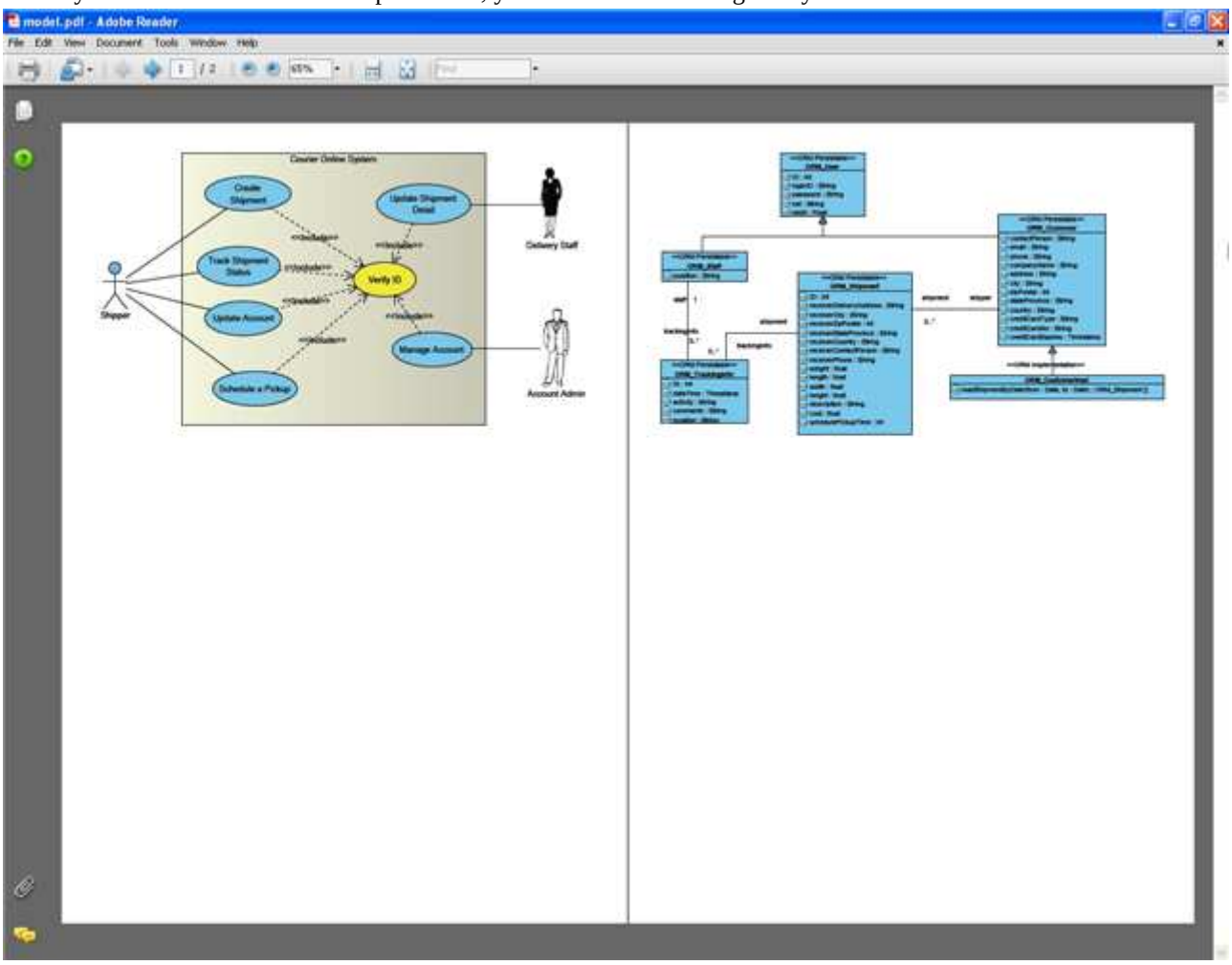



*Figure 7.8 - Exported file*

If you select PDF(diagram per file), you should type in a directory where the files should be saved in. After selecting the diagrams to export, click **Export**.

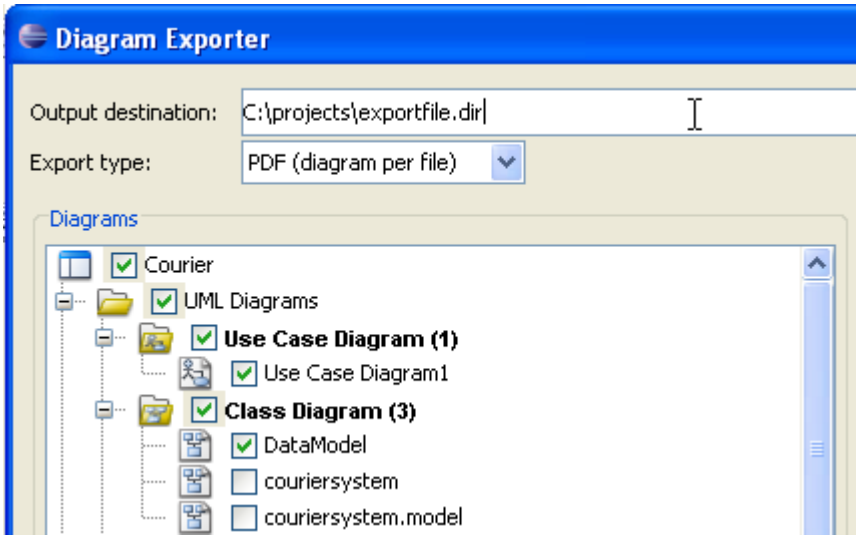



*Figure 7.09 - Type in a directory*

After exporting, you may select **Open Folder** to open the directory holding the exported file.

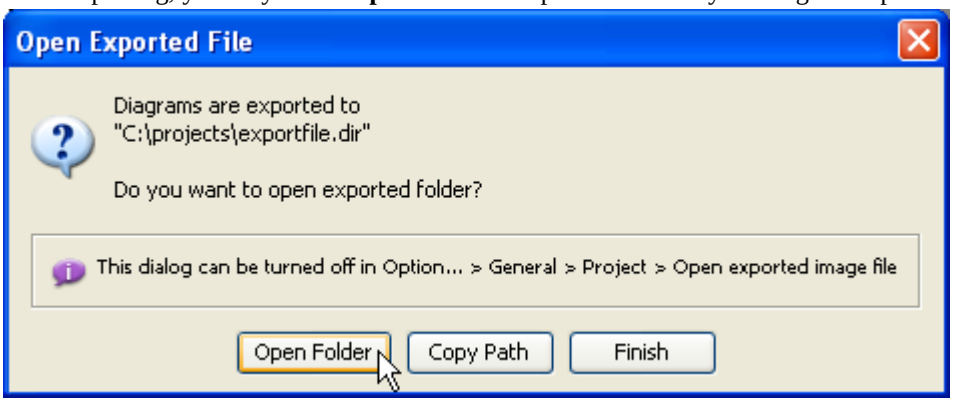



*Figure 7.10 - Select Open Folder*

The more diagram you selected, the more file you generated.

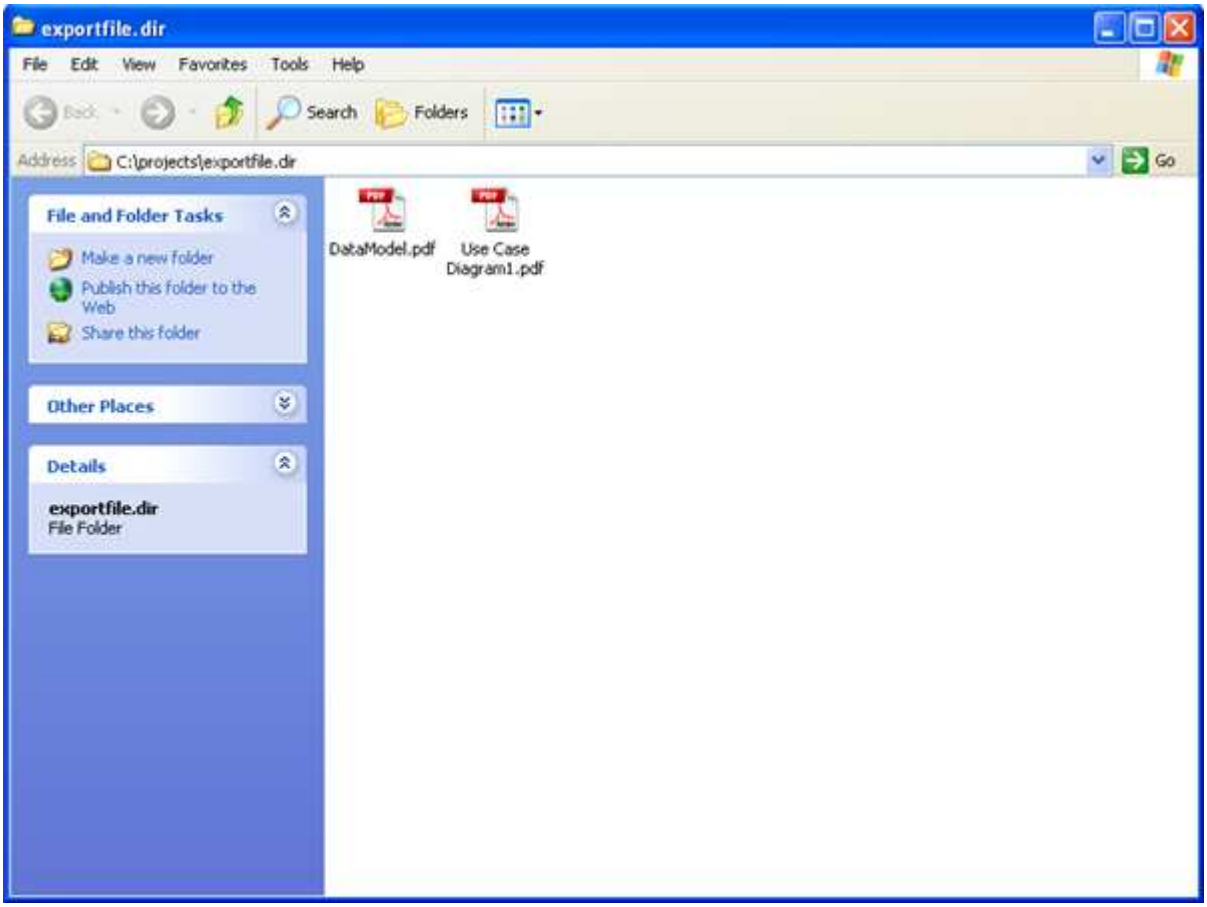



*Figure 7.11 - Exported files in the designated directory*

Each file exported will only contain one diagram.

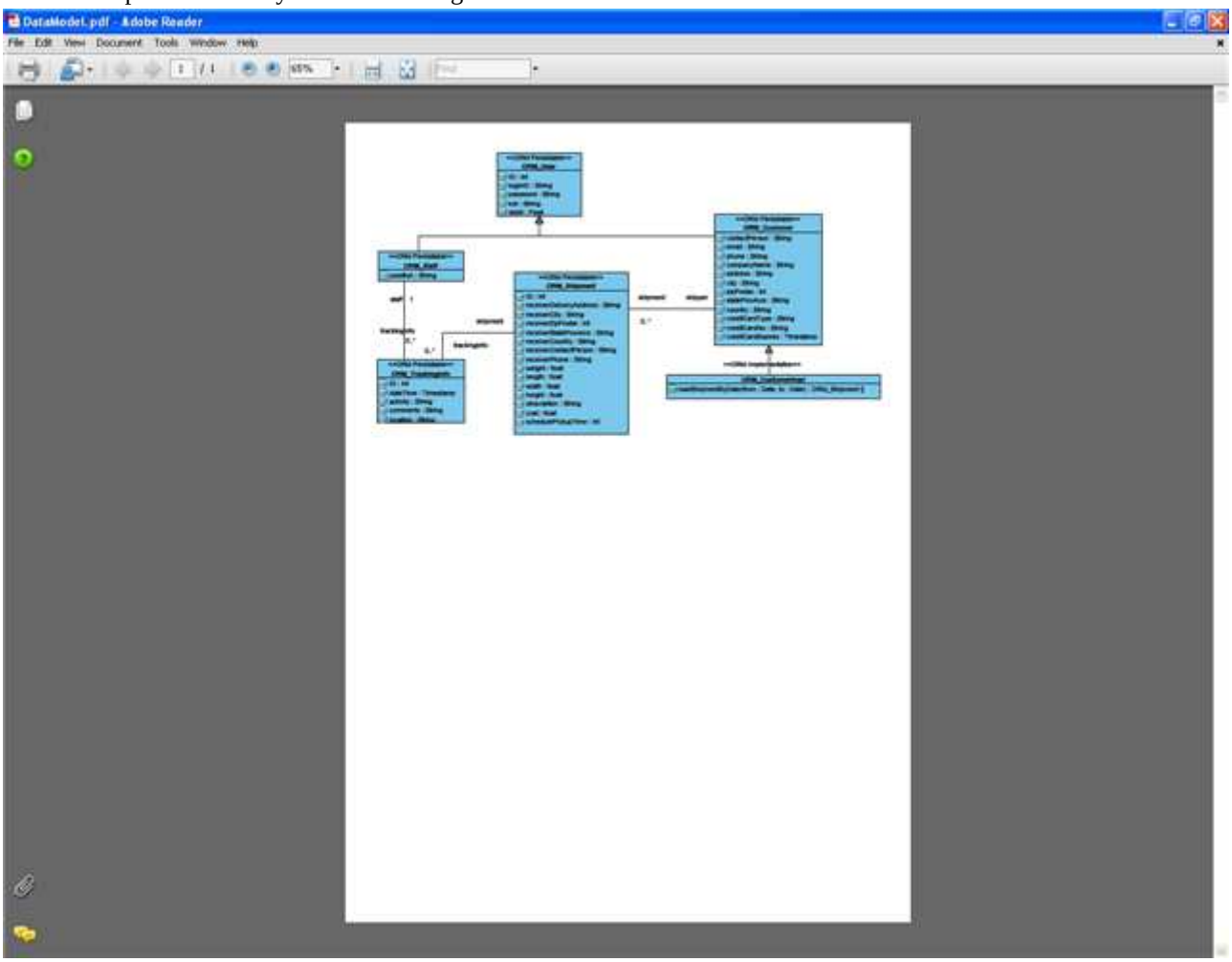



*Figure 7.12 - Exported file*

# Exporting and Importing SDE for Eclipse Project File

## Exporting SDE for Eclipse Project File

Many hands make simple work. Exporting a SDE for Eclipse project file lets you split up a single large project into smaller sections, e.g. a few diagrams and focus on modifying and improving one section without affecting other components. The exported files will then be the same as a normal SDE for Eclipse project. This means different sections can be worked on at the same time, and when all the sections are complete Importing the modified files back to the master project will merge the changes into the project.

To export SDE for Eclipse Project File:
1. Select **File** > **SDE-EC Export** > **UML Model...** in main menu.

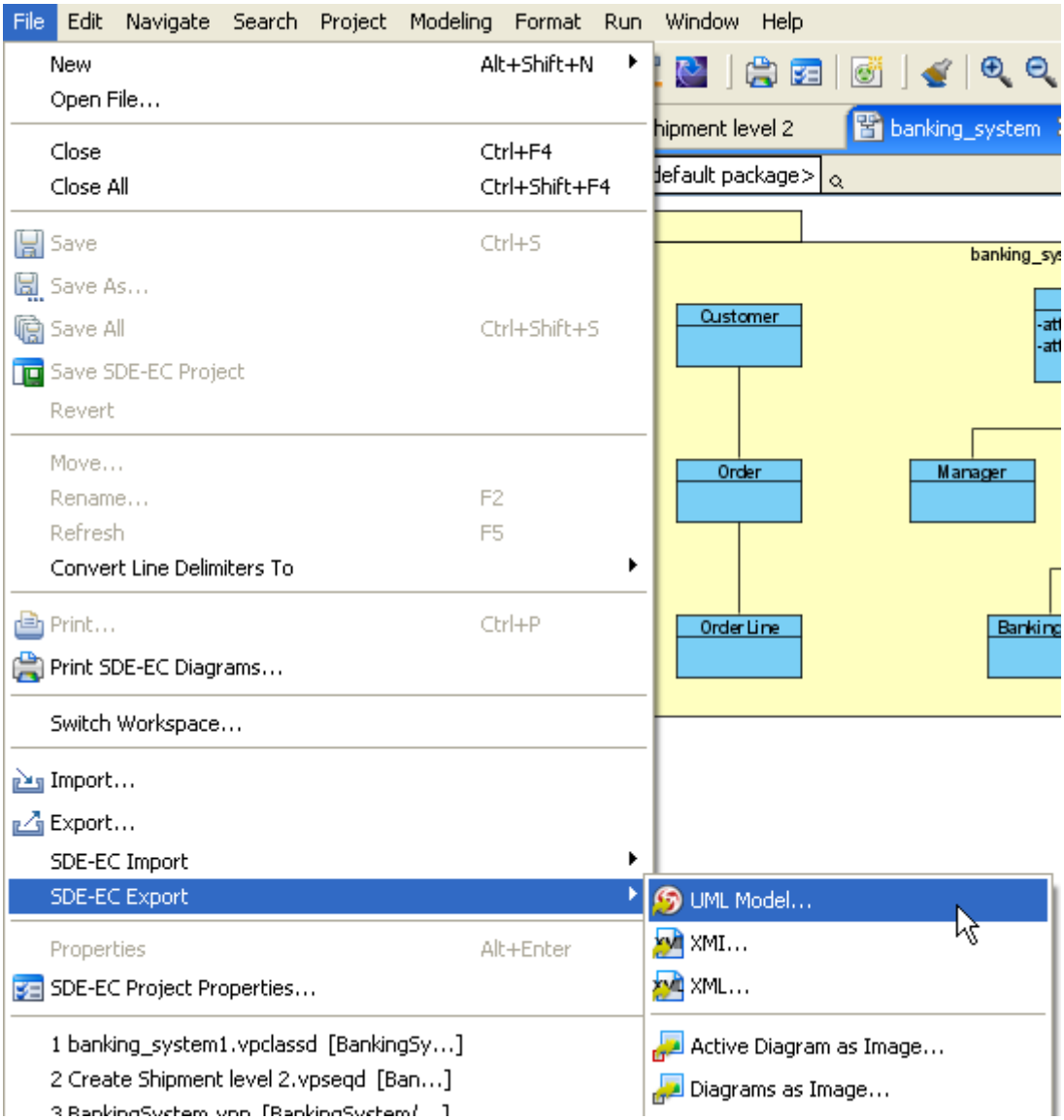



*Figure 7.13 - Export UML model*

2. **Export Project** dialog box is displayed. Type in the Output destination.

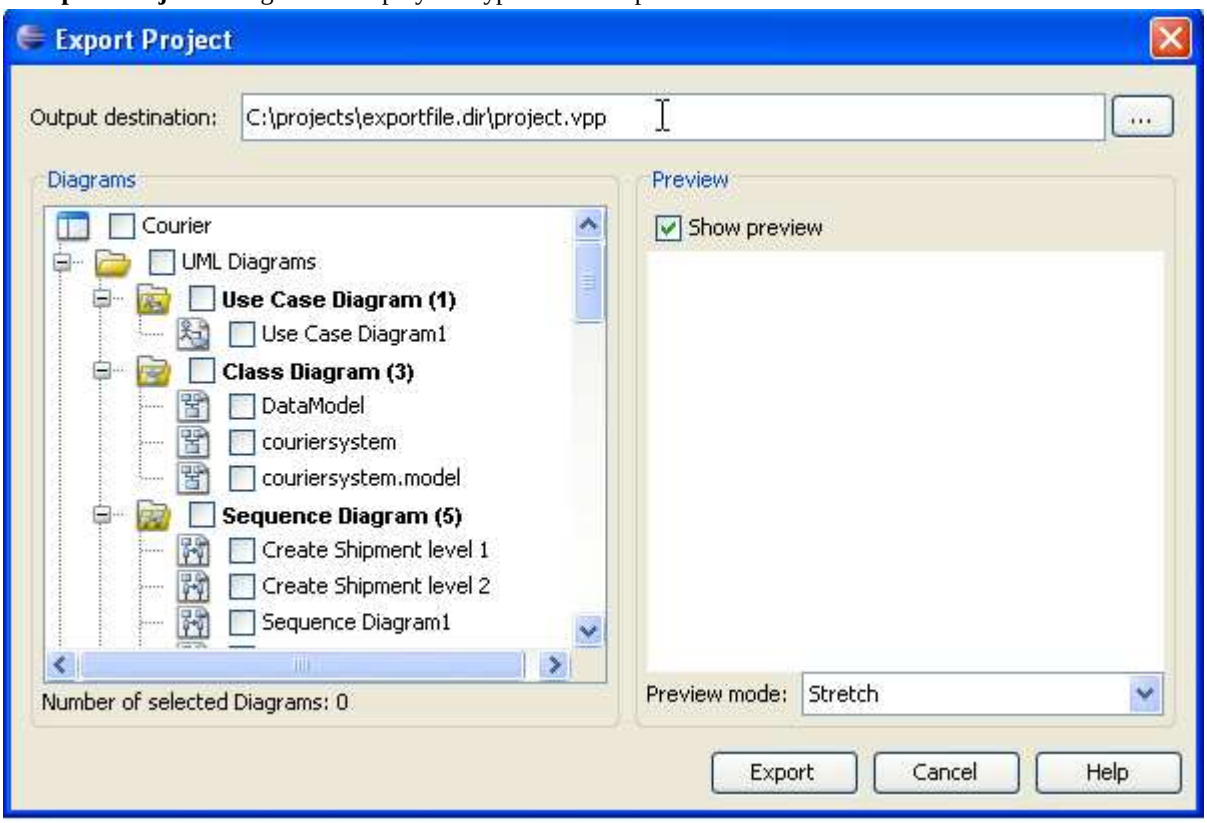



*Figure 7.14 - Export Project dialog box*

3. Select the diagram you want to export.

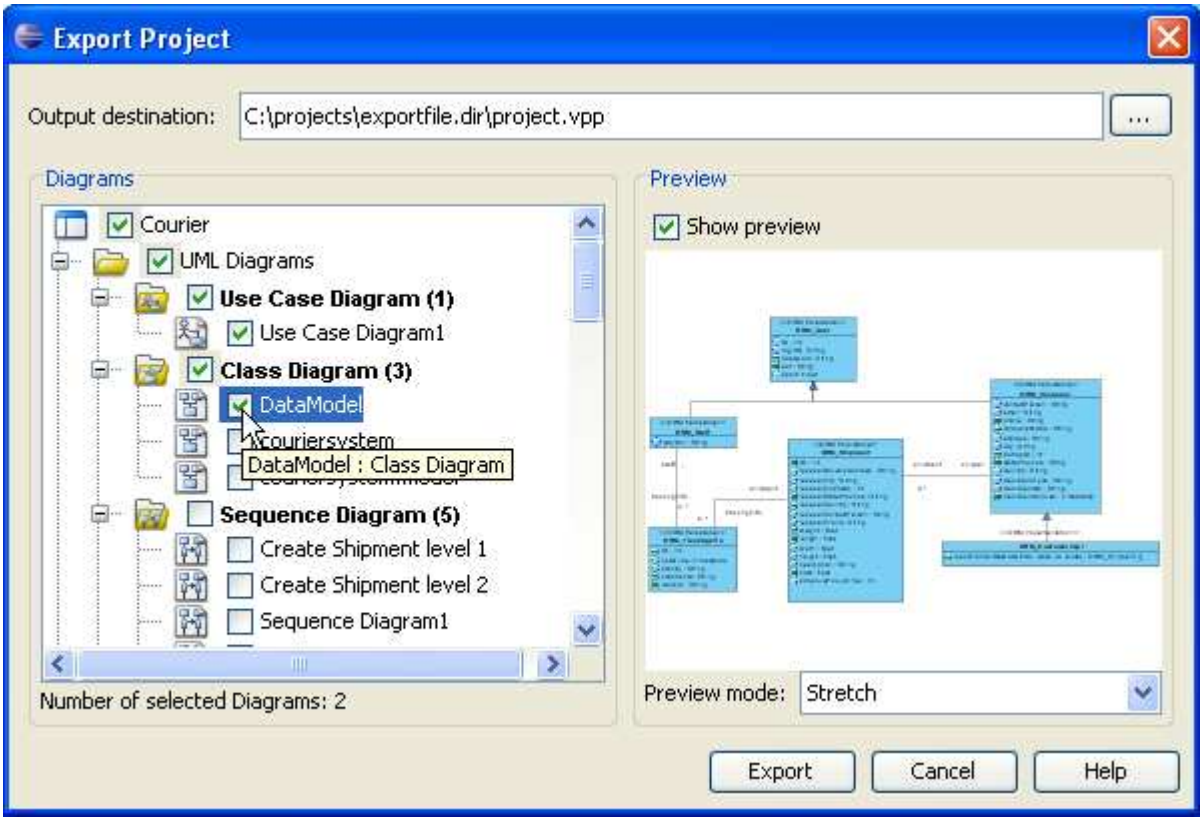



*Figure 7.15 - Select diagram to export*

4. Open the project exported. The project only contains the diagram you selected in the **Diagram Navigator**.

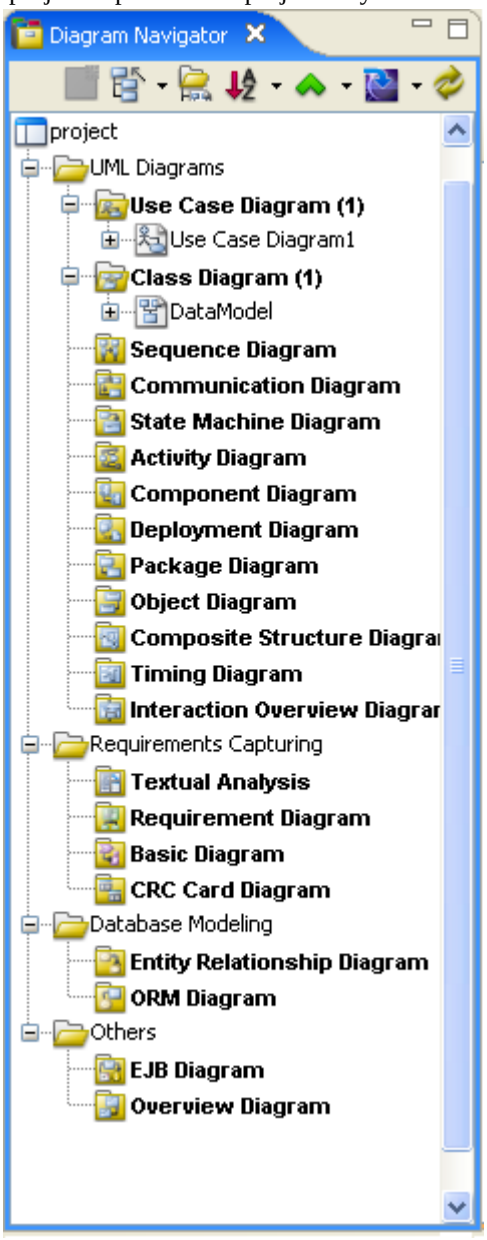



*Figure 7.16 - Diagram Navigator of exported project*

## Importing SDE for Eclipse Project File

After you have edited the exported file, you can import it back to the master project. The modifications will then be merged to the master project.

1. Open the master project. Select **File** > **SDE-EC Import** > **UML Model...** in the main menu.

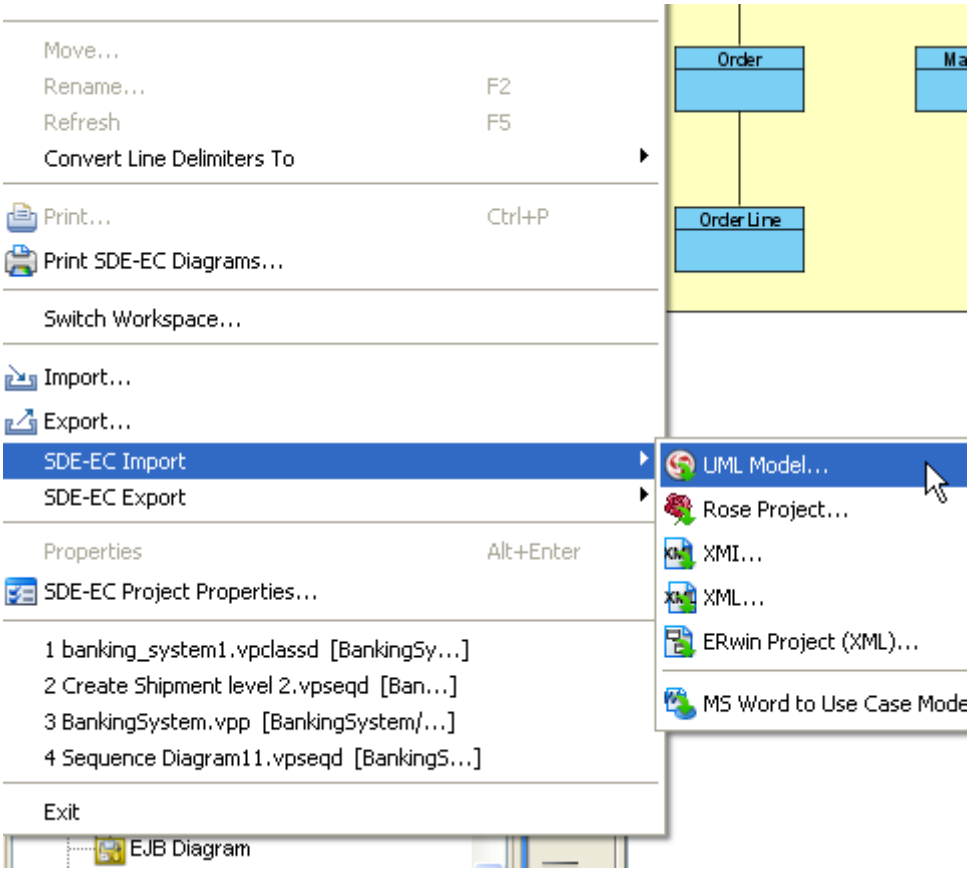



*Figure 7.17 - Import UML Model*

2. Select the project to be imported.

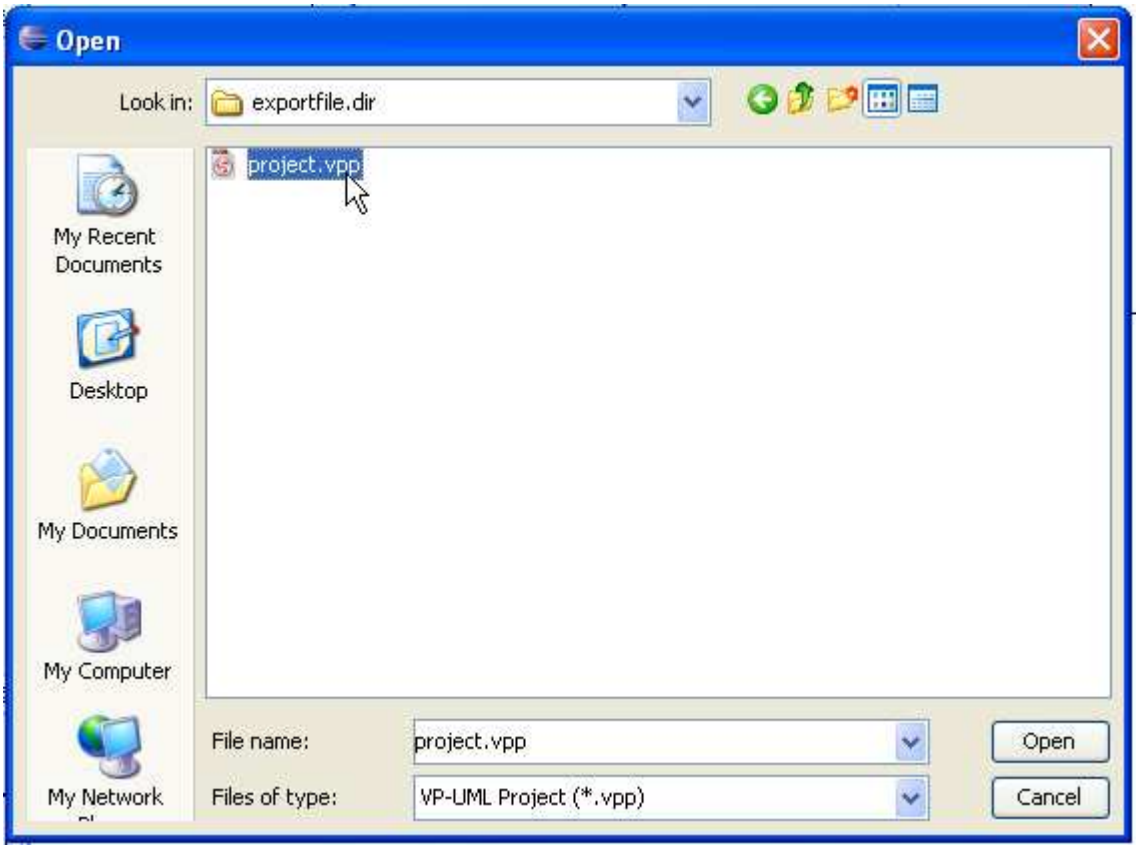



*Figure 7.18 - Select a project to import*

Diagram in the master project before import.

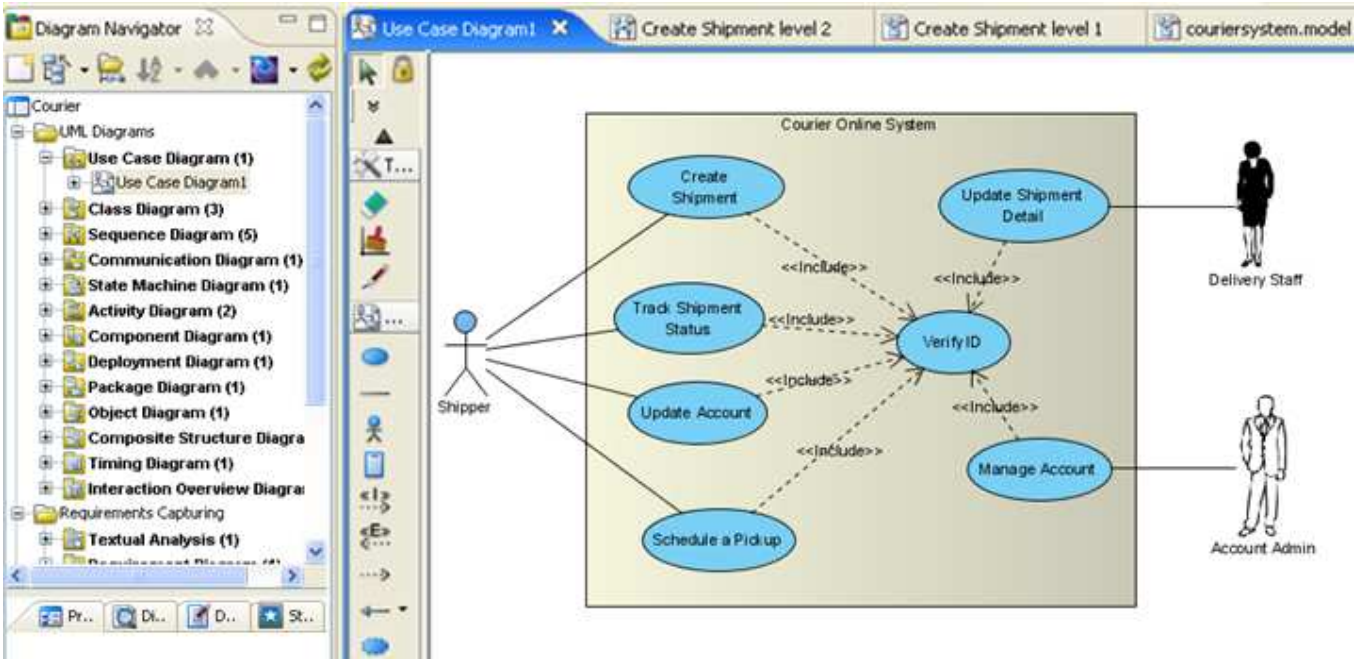



*Figure 7.19 - Diagram before import*

Diagram in the master project after import. The color of the use case 'Verify ID' has been changed.

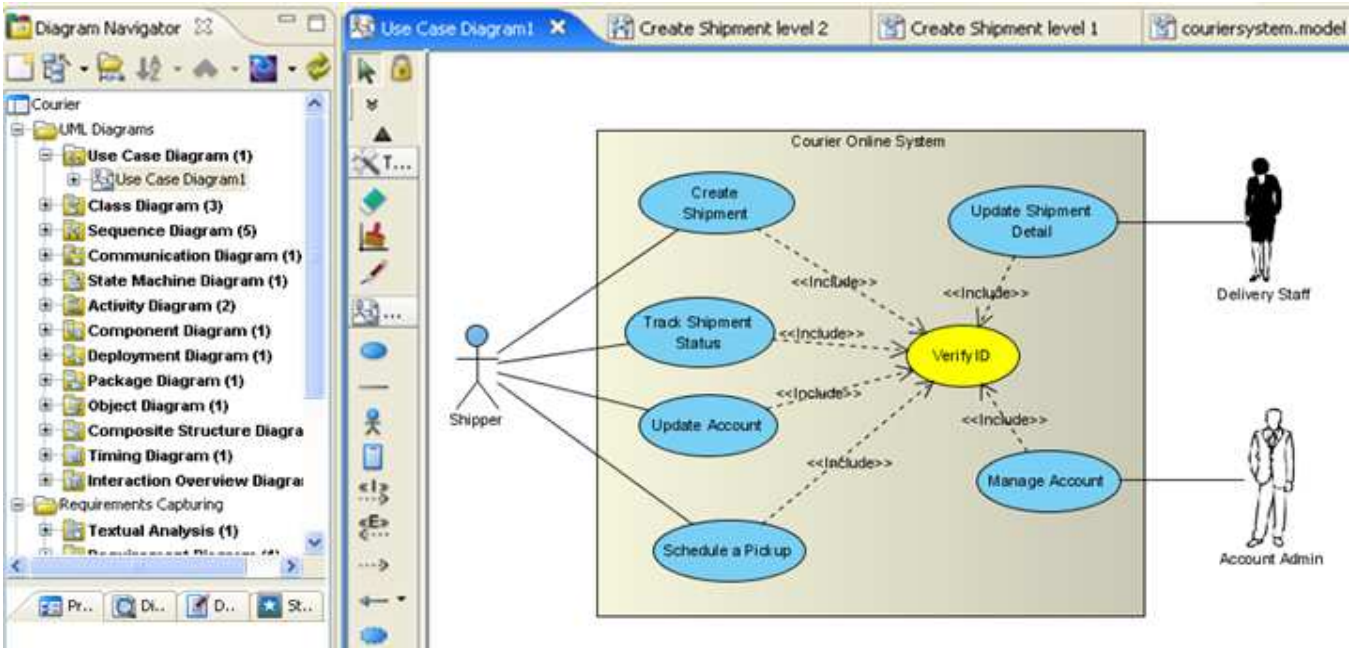



*Figure 7.20 - Diagram after import*

# Exporting and Importing XML

XML is a widely used standard for exchanging data. You can export the whole SDE for Eclipse Project or just part of it to XML. After exporting, you can run your own application to read and update it. You can also import the XML file back to SDE for Eclipse Project to reflect your changes.

## Exporting XML

To export a project to XML:
1.Select **File** > **SDE-EC Export** > **XML...** in the main menu.

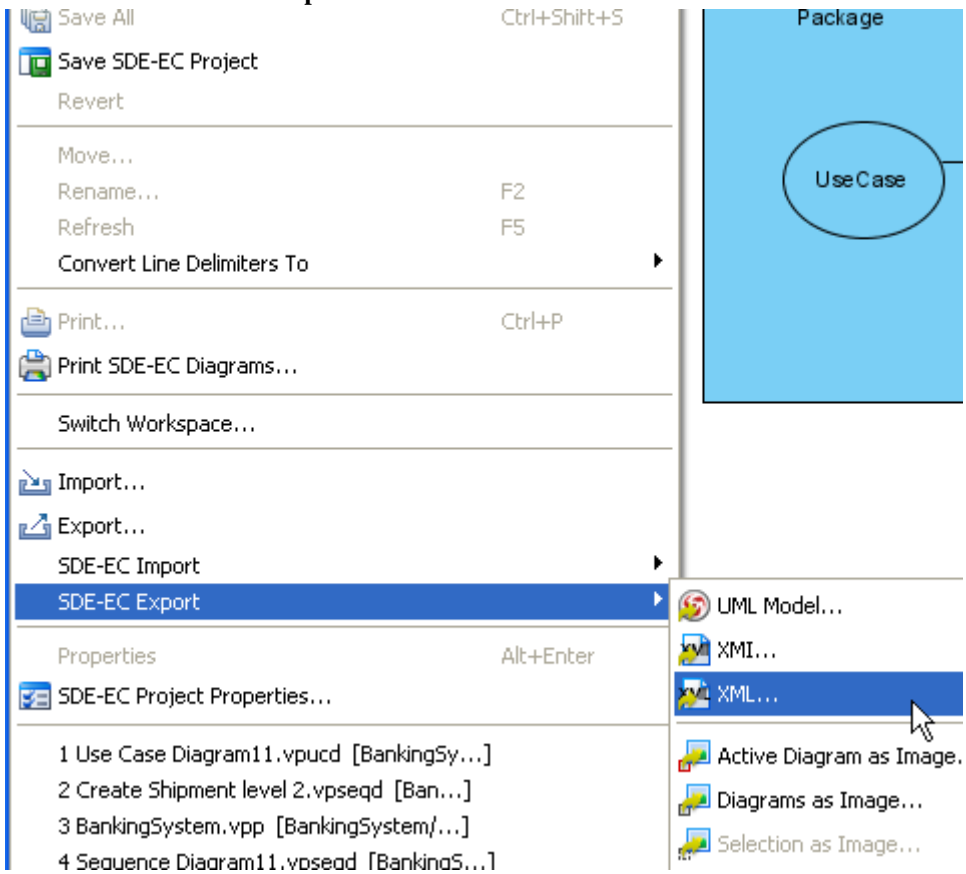



*Figure 7.21 - Export XML*

2. The Export to XML dialog box is displayed.

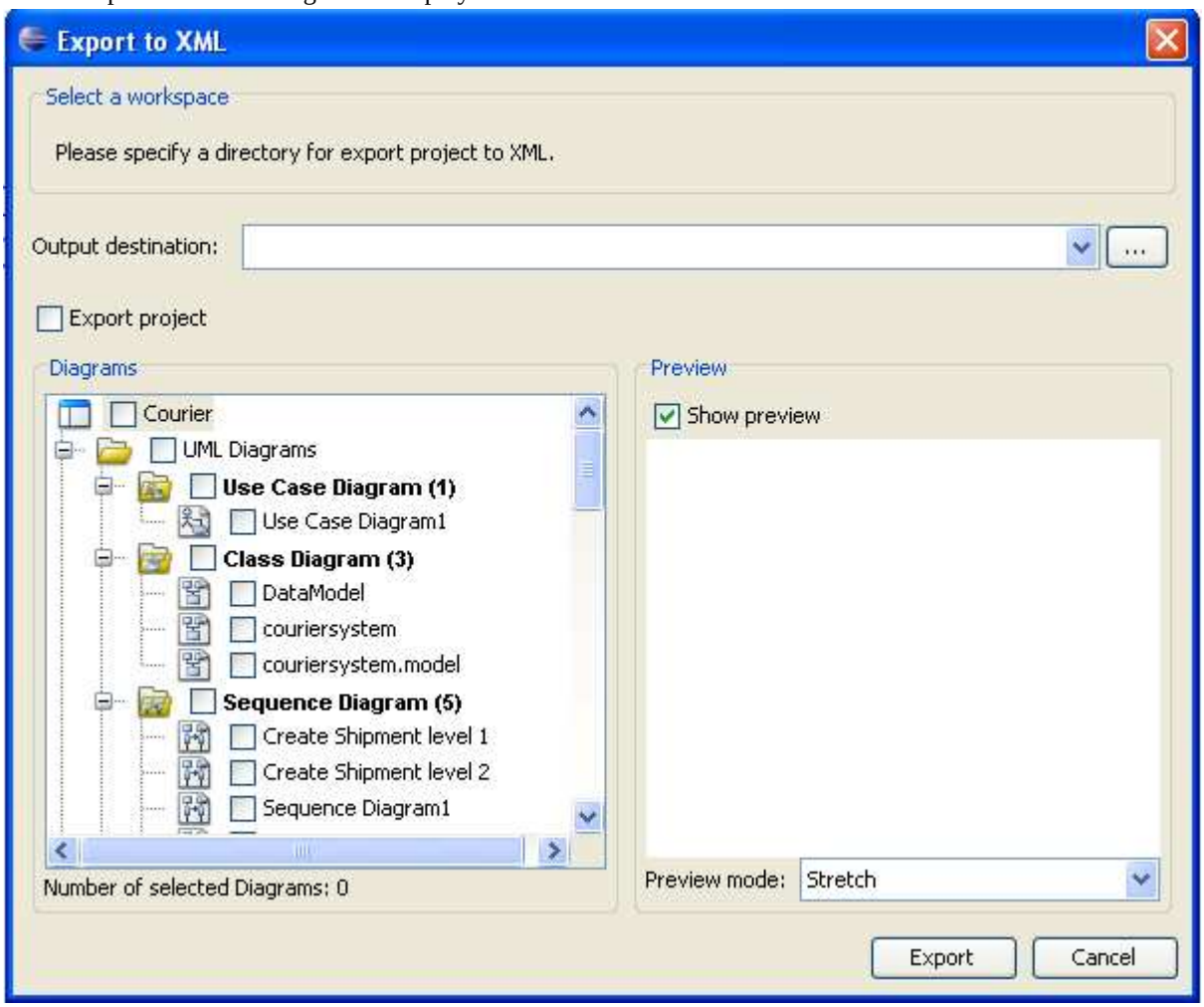



*Figure 7.22 - XML dialog box displayed*

3. Type in or select the output destination. The destination should be a directory because not only a XML file will be generated, but also some of the project file, such as image, will be generated.

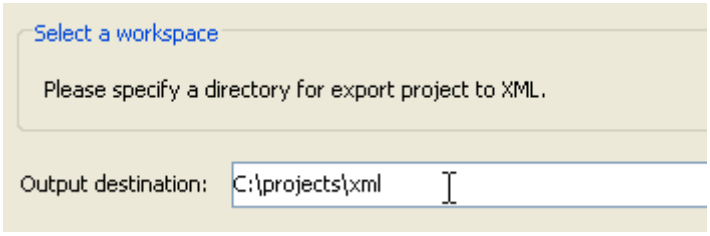



*Figure 7.23 - Text box for Output destination*

4.Select the diagram needed to export and click **Export** to generate. If you want to export the whole project, you can check the check box **Export project**.

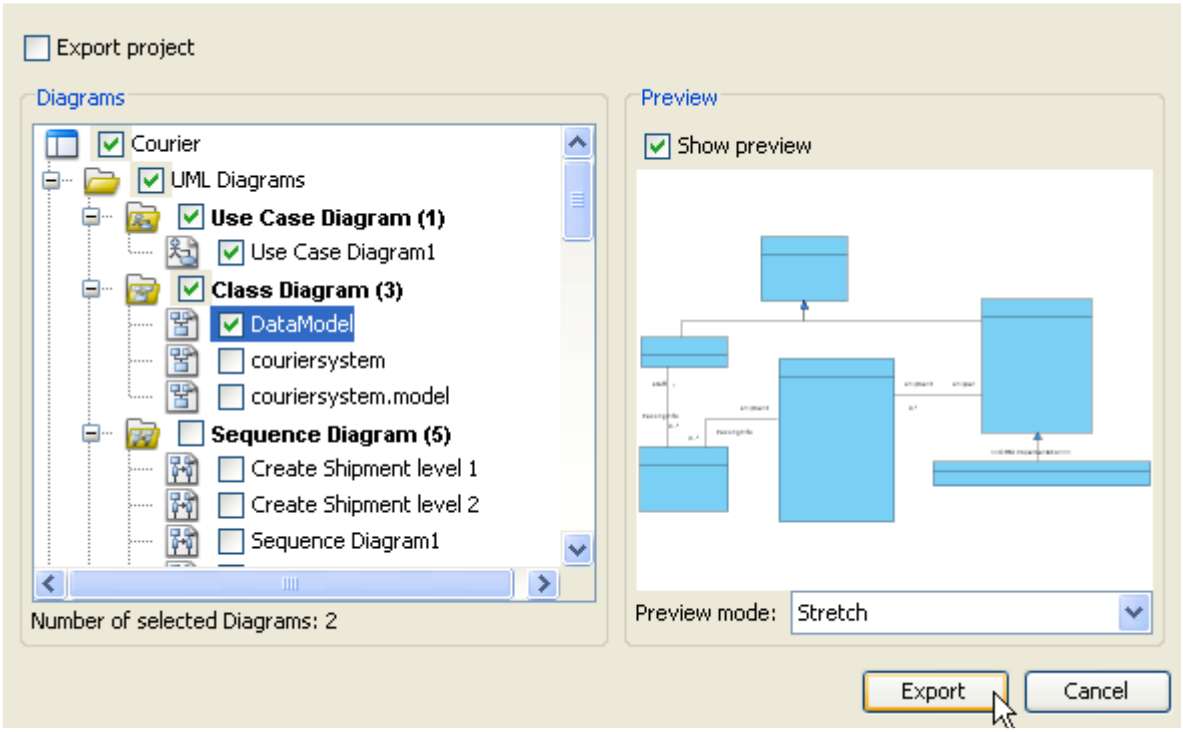



*Figure 7.24 - Select Export*

5. The XML file is generated.

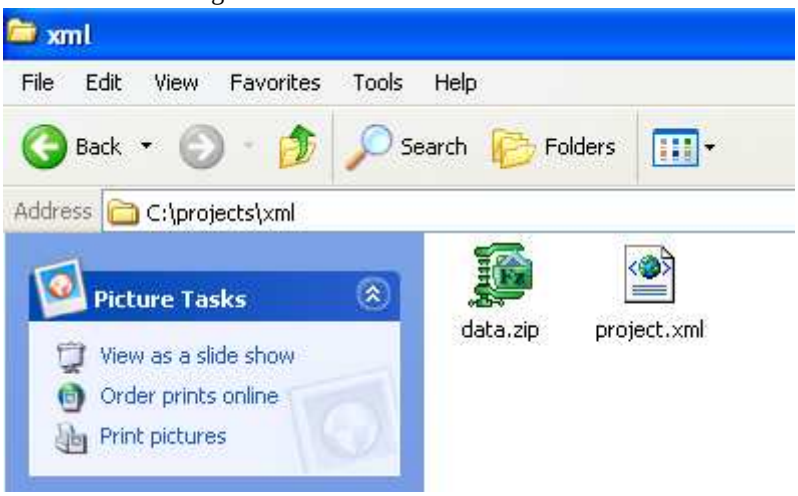



*Figure 7.25 - XML file is generated*

## Modifying XML

When you modify the XML of a project, the project will change accordingly. You can edit the XML file based on XML schema bundled. The XML schema in **{installation folder}\bundled\project.xsd**.


*Figure 7.26 - XML schema*

To edit XML:
1. Open the XML file in an editing program.

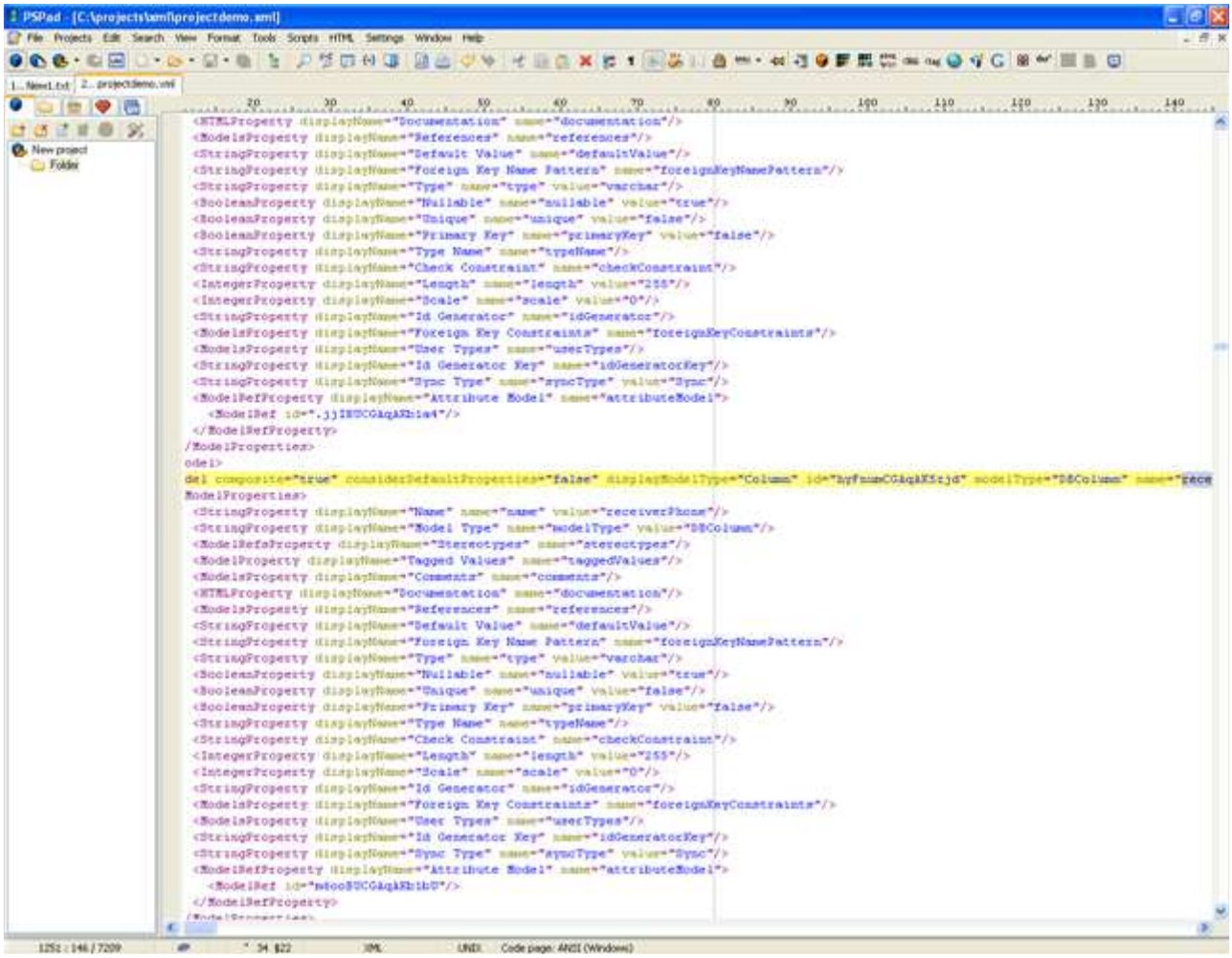


*Figure 7.27 - Open XML file*

2. Directly edit the file.


*Figure 7.28 - Edit the file*

## Importing XML

You can import the modified XML to update your project.
To import XML:
1. Select **File** > **SDE-EC Import** > **XML...** from the main menu.

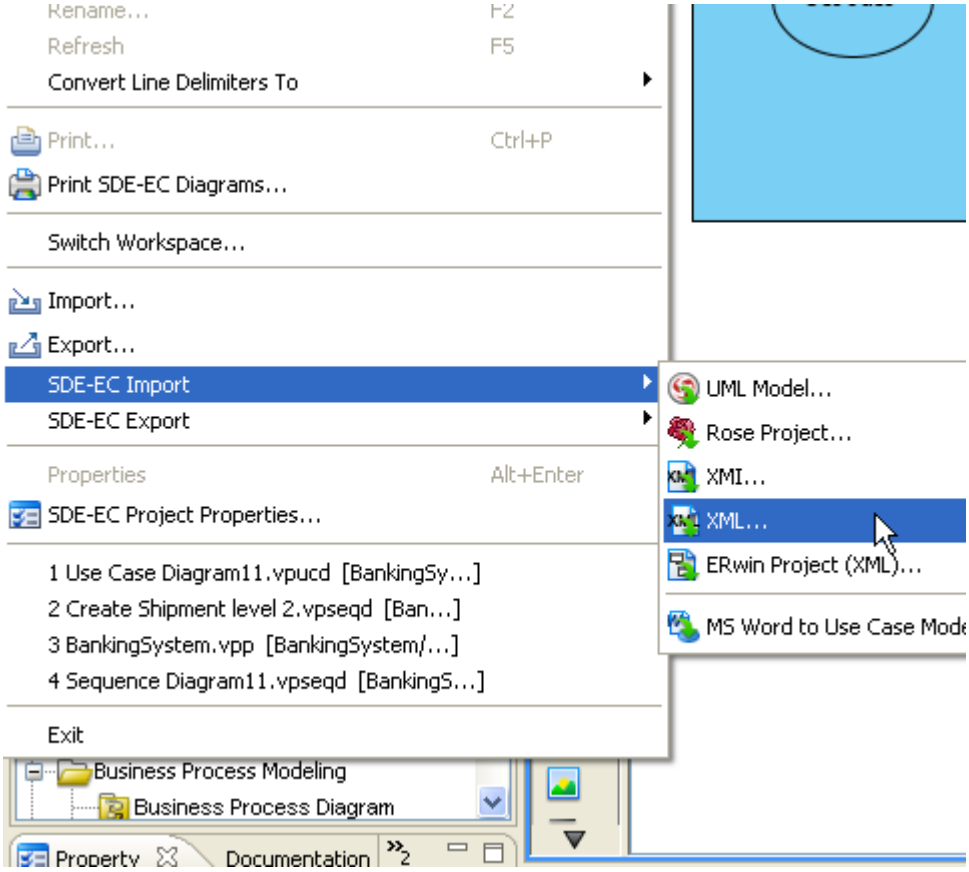



*Figure 7.29 - Import XML file*

2.Specify the import file path by selecting **...** or typing the path in the text box. The import path should be path of a file. This is because the importer will search for the data.zip automatically.

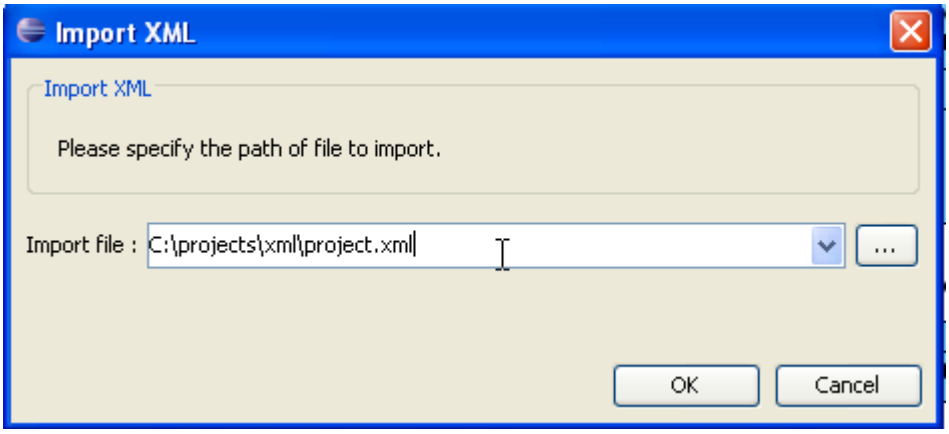



*Figure 7.30 - Specify the file path*

3. The import of XML has completed.

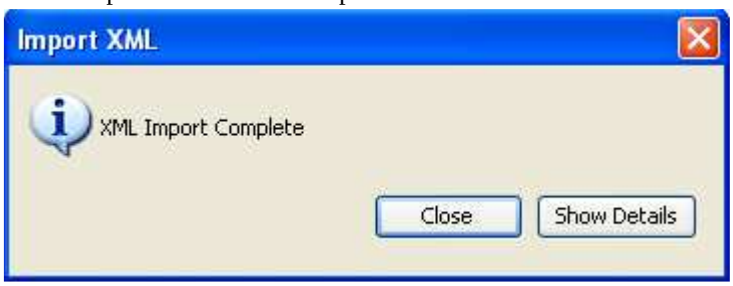



*Figure 7.31 - Import completed*

# Exporting and Importing XMI

XMI (Metadata Interchange) is the standard way for exchanging data between CASE tool. SDE for Eclipse can cover most of the XMI versions and standards.
Here are the versions and standards we support:
Exporting:

- XMI 1.0
- XMI 1.2
- XMI 2.1
- XMI 2.1 (for UML2)

Importing:

- XMI 1.0
- XMI 1.2
- XMI 2.1
- XMI 2.1 (for UML2)

# Exporting XMI

If the SDE for Eclipse project is exported to XMI, users without SDE for Eclipse can use other CASE tools to open the XMI to get the content of the project.
To export XMI:
1. Select **File** > **SDE-EC Export** > **XMI...** in main menu.

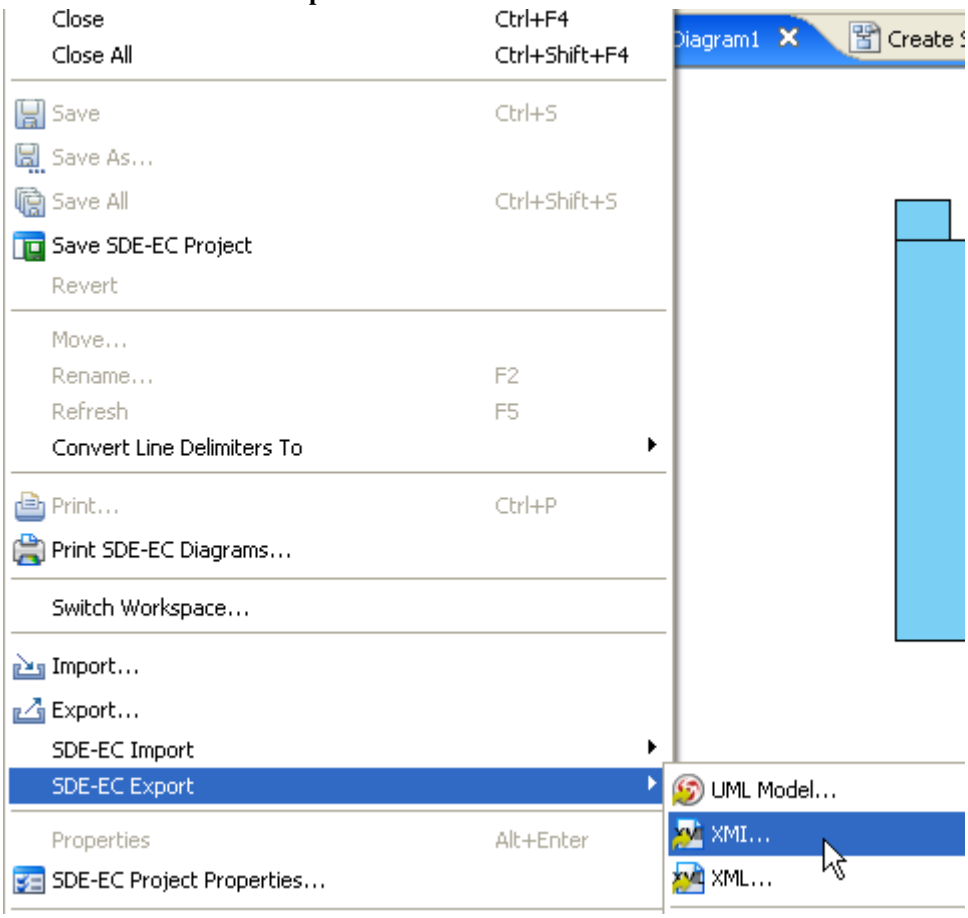



*Figure 7.32 - Export XMI*

2. **Export XMI** dialog box is displayed. You can choose the XMI Version of the export XMI.

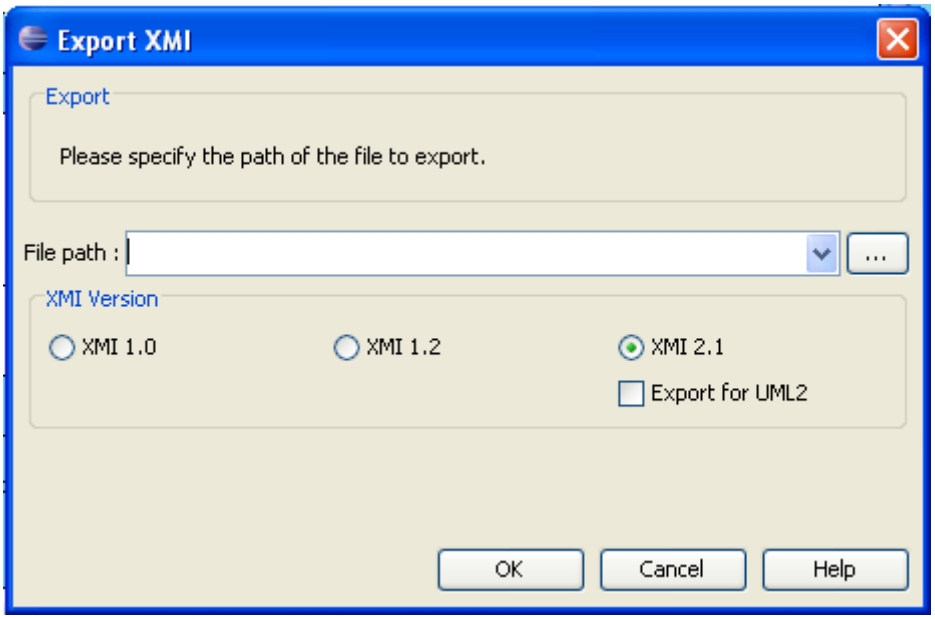



*Figure 7.33 - Export XMI dialog box*

3. Specify the output file path by typing in the text box or select **...** .If the file path does not have the extension *.xmi*, the exporter will append the extension to the path. Then, click **OK** to confirm.

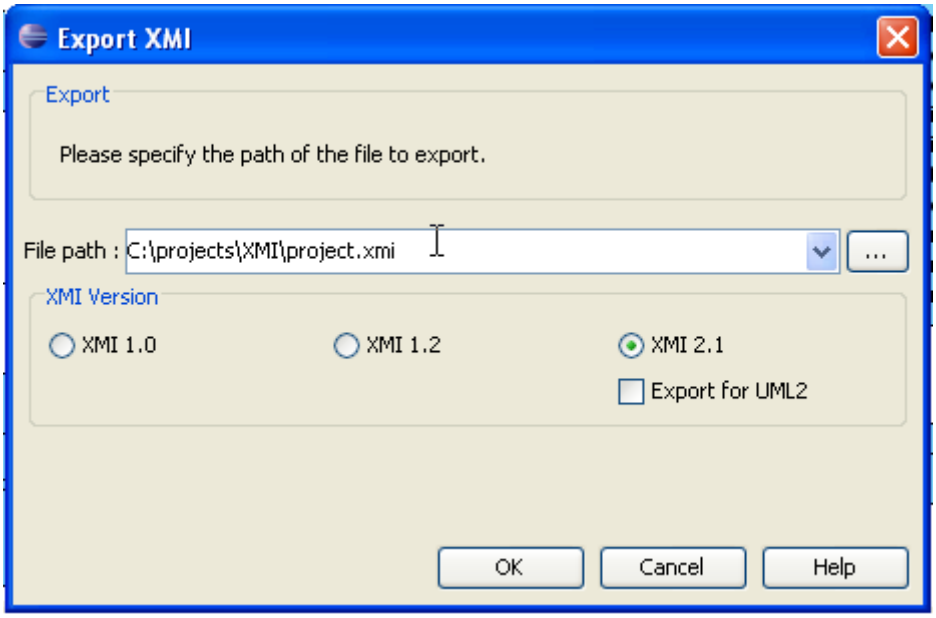



*Figure 7.34 - Specify the export file path*

4. The XMI is generated.

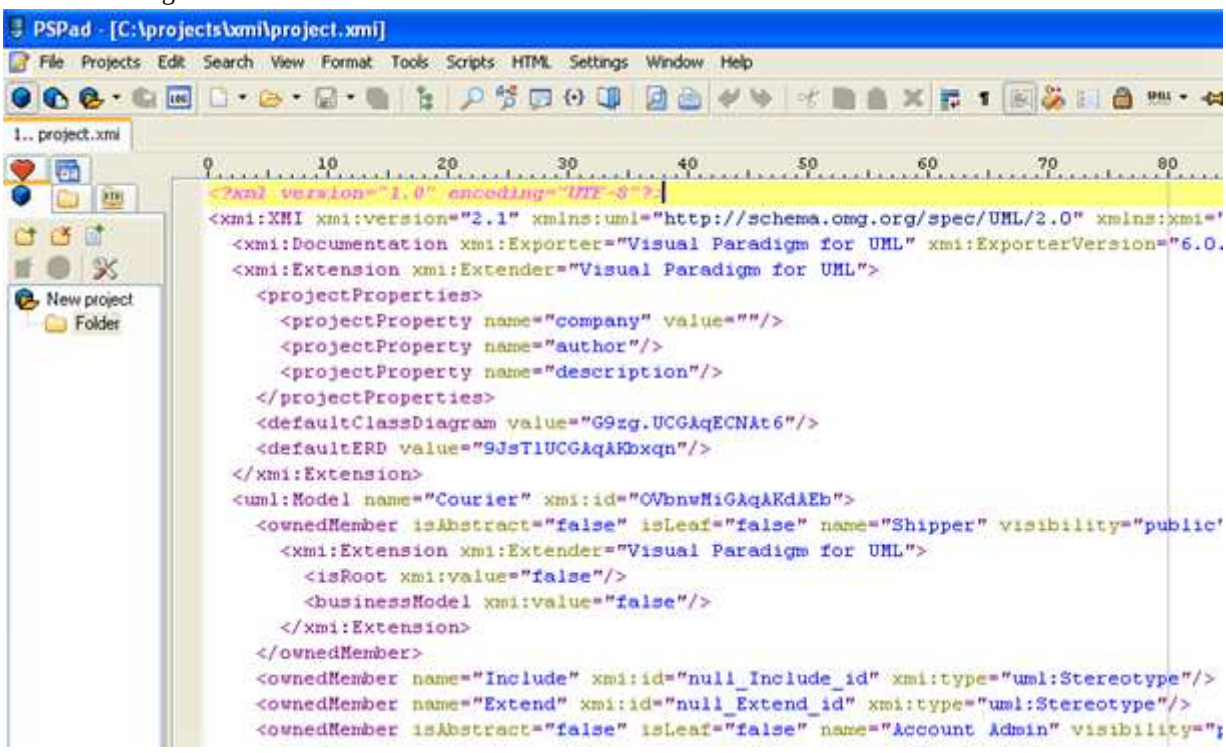



*Figure 7.35 - XMI file created*

## Importing XMI

You can import the XMI file which is modified by other users or other CASE tools, in order to update your project.
To import XMI:
1. Select **File** > **SDE-EC Import** > **XMI...** in the main menu.

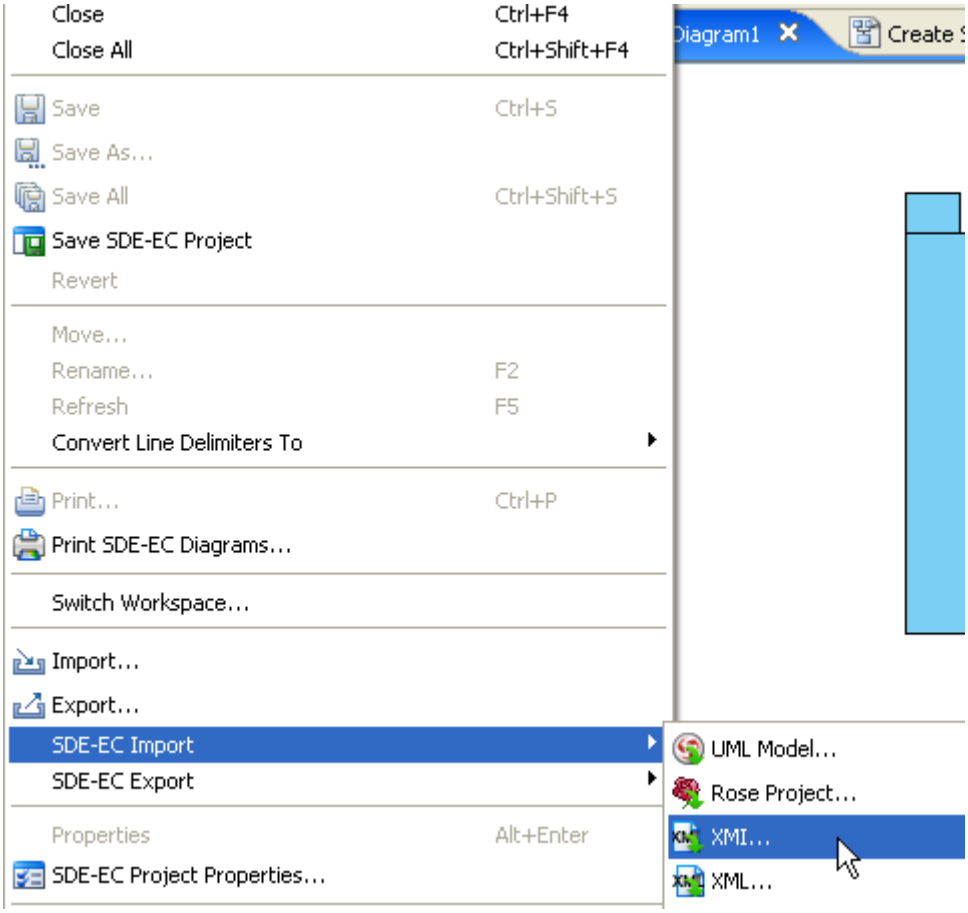



*Figure 7.36 - Import XMI*

2. **Import XMI** dialog box is displayed. Specify the import file's path by typing in the text box or select **...** and click **OK** to confirm.

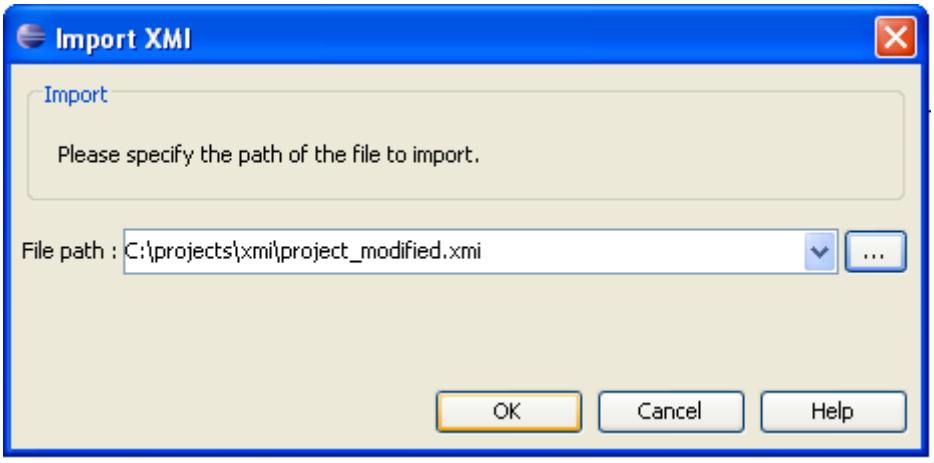



*Figure 7.37 - Specify import file's path*

# Exporting and Importing EMF-based UML2

## Exporting to UML2

EMF stands for Eclipse Modeling Framework. In SDE for Eclipse, we can support importing and exporting Eclipse XMI Standard. You can directly import and export the exported file to Eclipse UML2.
To export EMF-based UML2:
1. Select **File > SDE-EC Export > XMI...** in main menu. **Export XMI** dialog box is displayed.

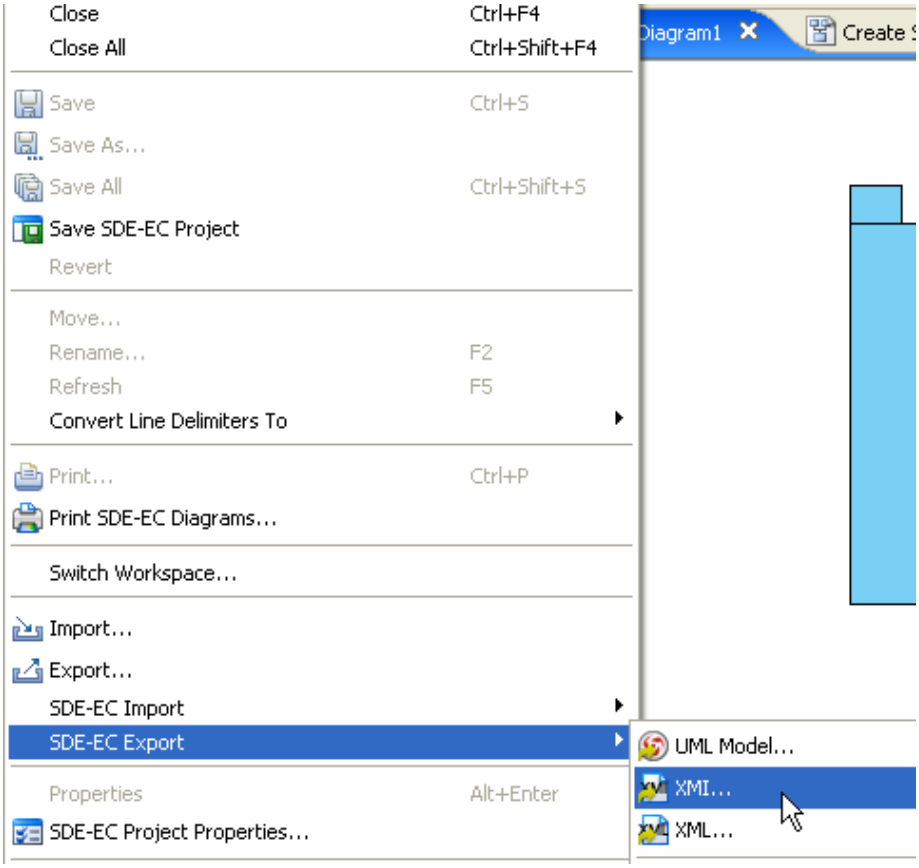



*Figure 7.38 - Export EMF-based UML2*

2. Check the **Export for UML2** check box. You can see the extension of export file path is *.xmi.uml* .Then specify the file path and click OK to confirm.

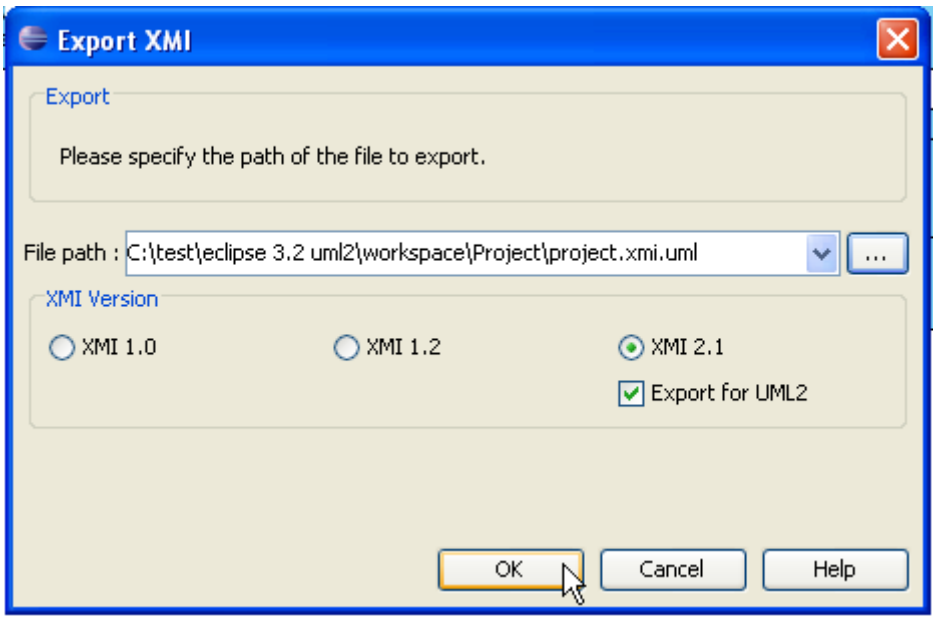



*Figure 7.39 - Check Export for UML2 and specify file path*

## Importing to Eclipse UML2 Model

You can modify the exported file using Eclipse UML2.
To import the file:
1. Copy the exported XMI file to the eclipse project's directory or directly export the file there in the previous steps.

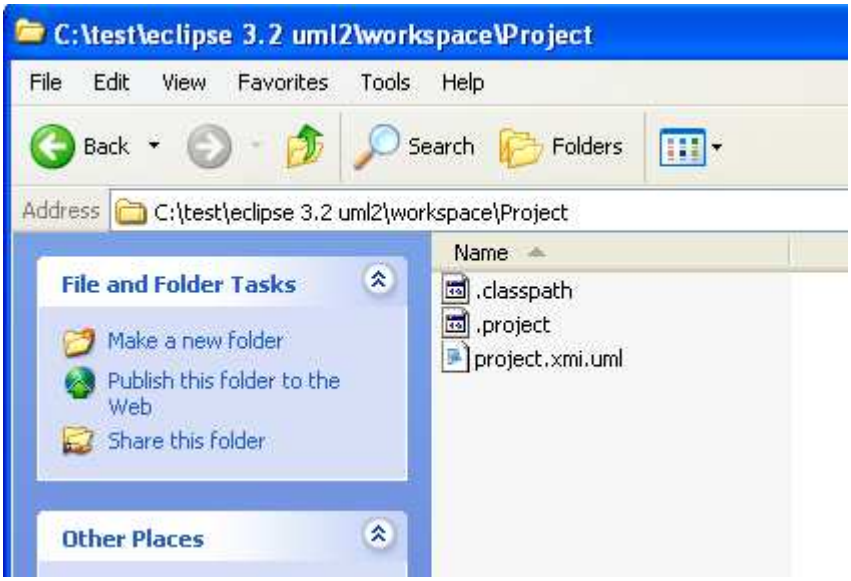



*Figure 7.40 - Get the XMI file in project's directory in Eclipse*

2. Select **File** > **Refresh** in main menu of Eclipse.

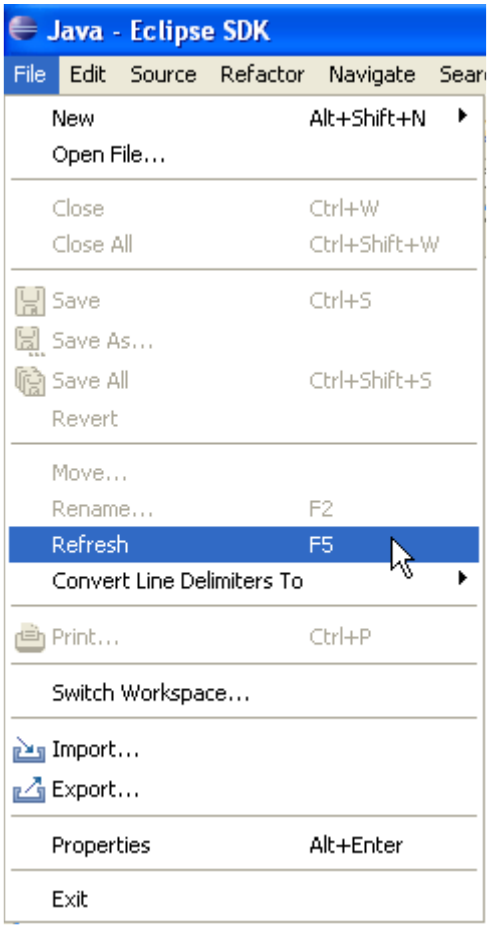



*Figure 7.41 - Refresh eclipse*

3. The **Package Explorer** is refreshed and the XMI file is imported.

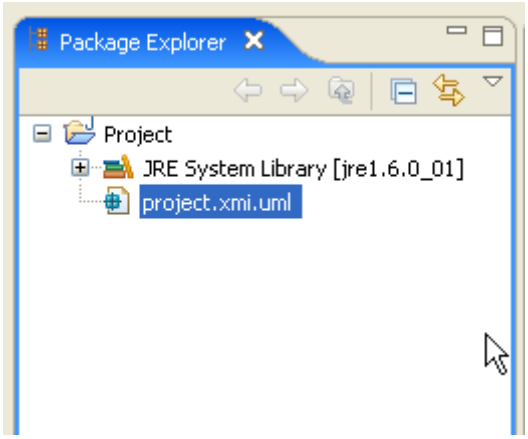



*Figure 7.42 - XMI file imported*

## Modifying UML2 XMI

After exporting, you may edit the XMI file in Eclipse.
Here, changing the name of a class is used as an example.
1. Expand the project tree and select the class which you want to change it's name.

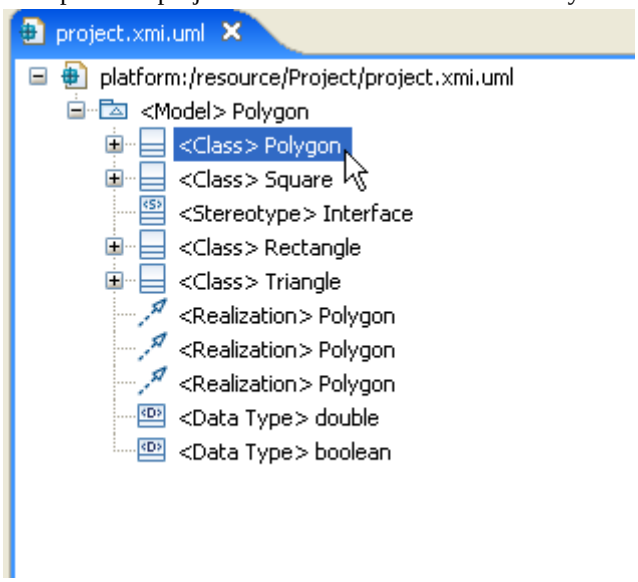



*Figure 7.43 - Select the class to modify*

2. Select **Show Properties View** in the popup menu.

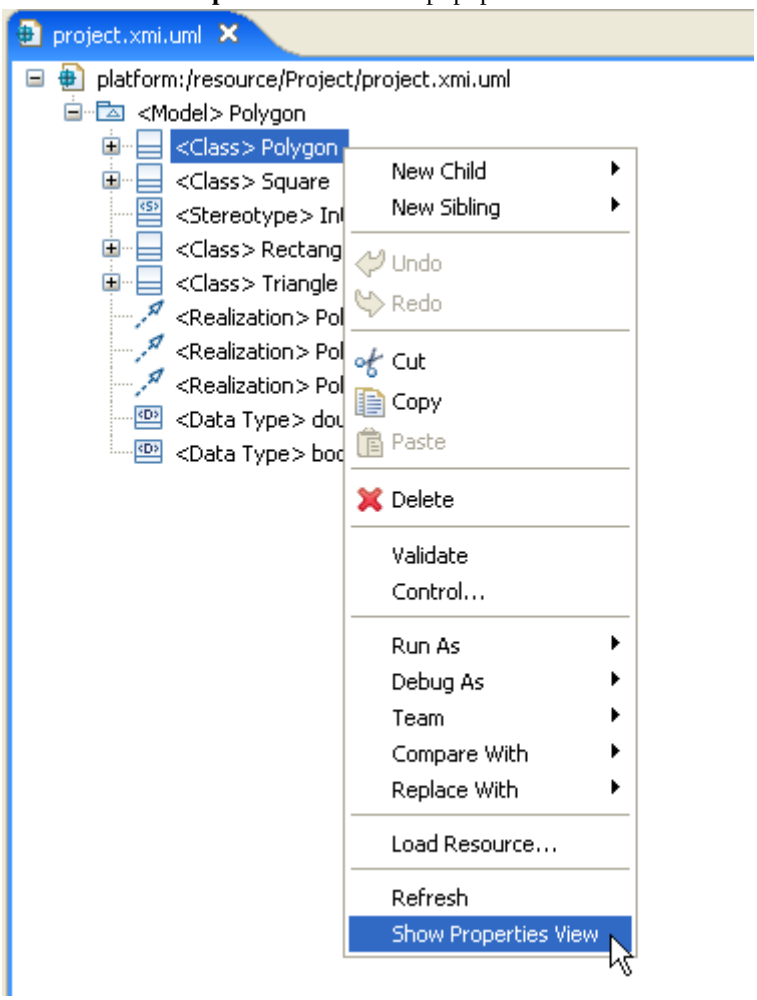



*Figure 7.44 - Select Show Properties View*

3. Select the property you want to edit. Here, select **Name** and click on the **Value** column.

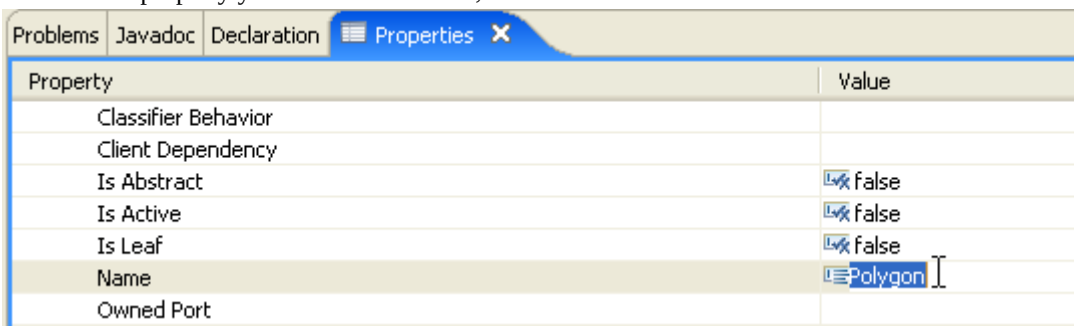



*Figure 7.46 - Select the property to edit*

4. Change the Name and save the project.

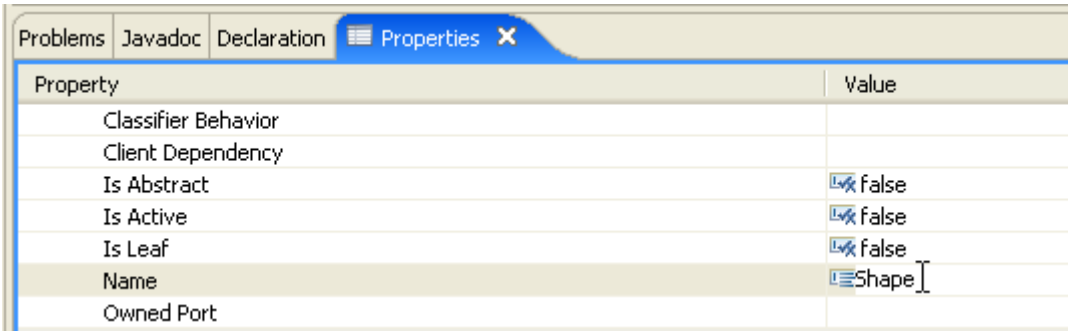



*Figure 7.45 - Change the property*

# Importing UML2 XMI

After modifying in Eclipse UML2, you can import back the file to update your project. The process of importing is the same as importing XMI file.
To import XMI:
1. Select **File** > **SDE-EC Import** > **XMI...** in the main menu.

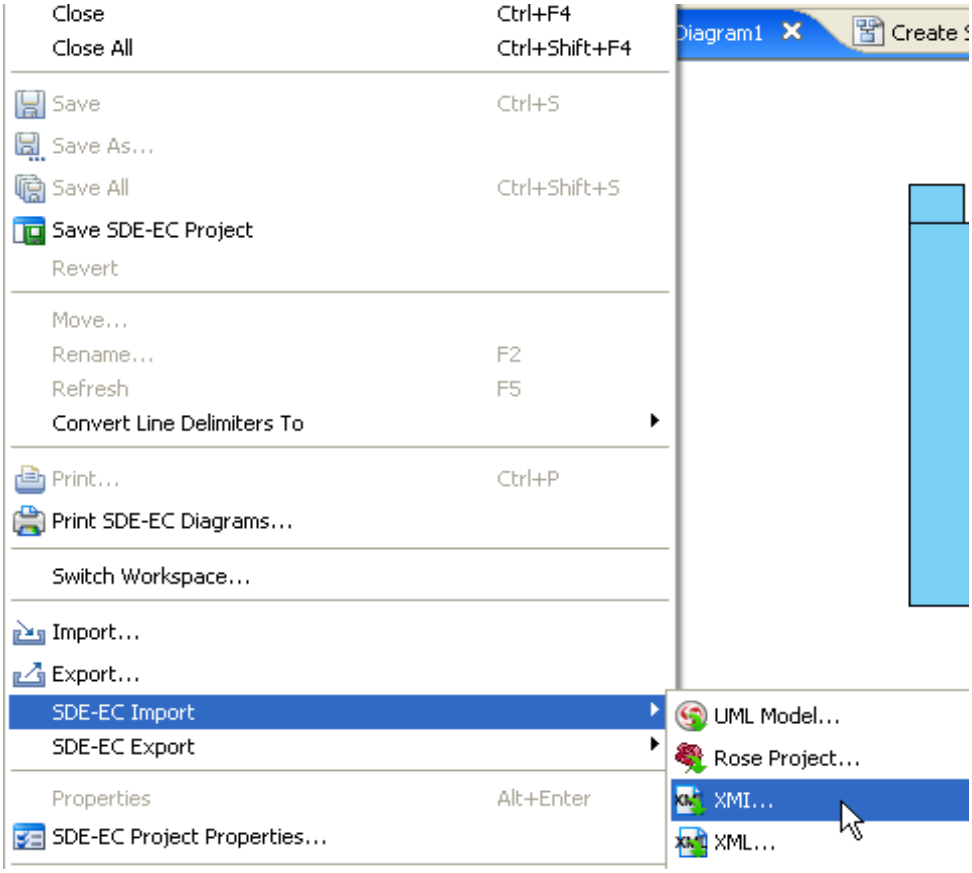



*Figure 7.46 - Import XMI*

2. **Import XMI** dialog box is displayed. Specify the import file's path by typing in the text box or select **...** and click **OK** to confirm.

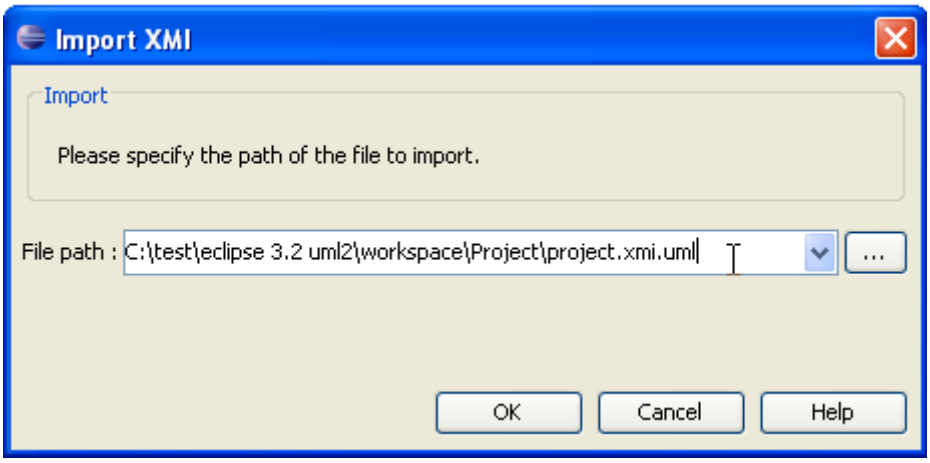



*Figure 7.47 - Specify import file's path*

3. The project is updated. The diagram before importing.

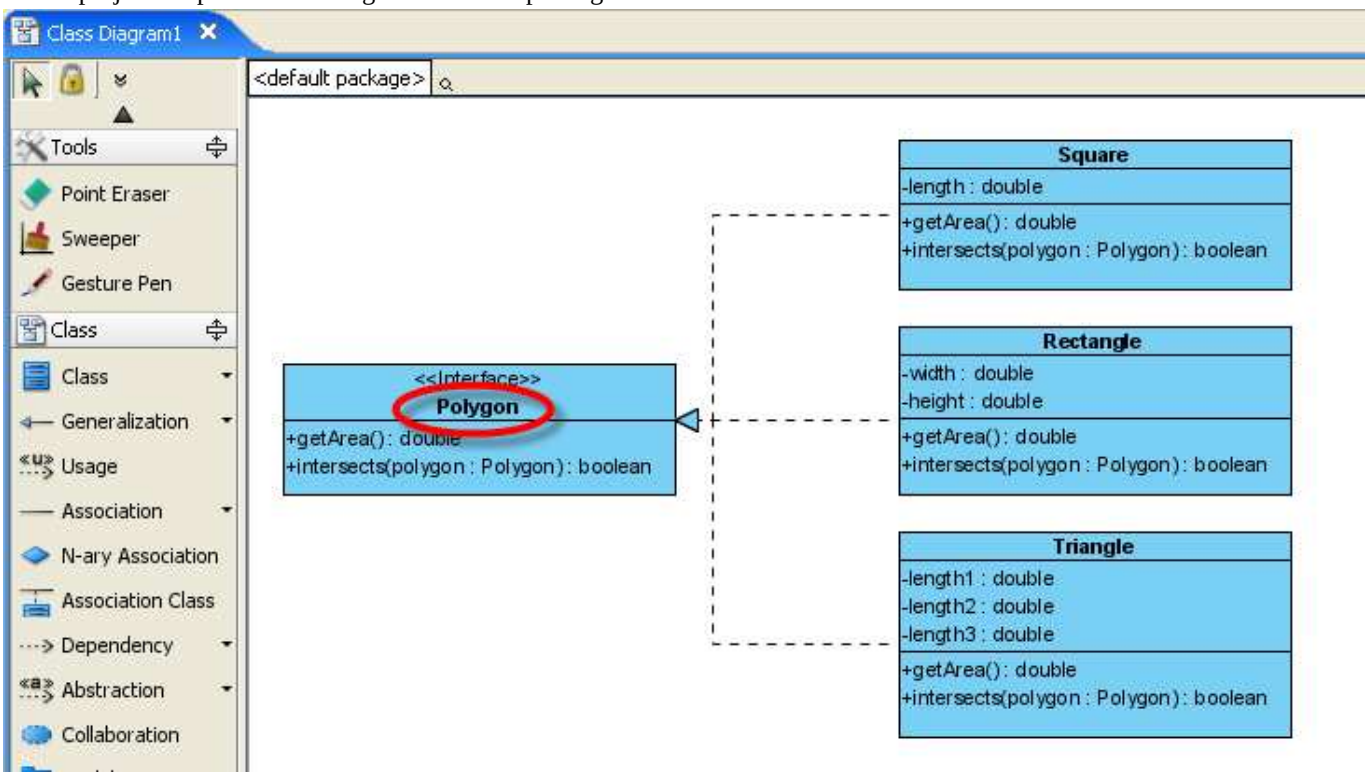



*Figure 7.48 - The diagram before importing*

The diagram after importing. The name of class *Polygon* has been changed into *Shape*.

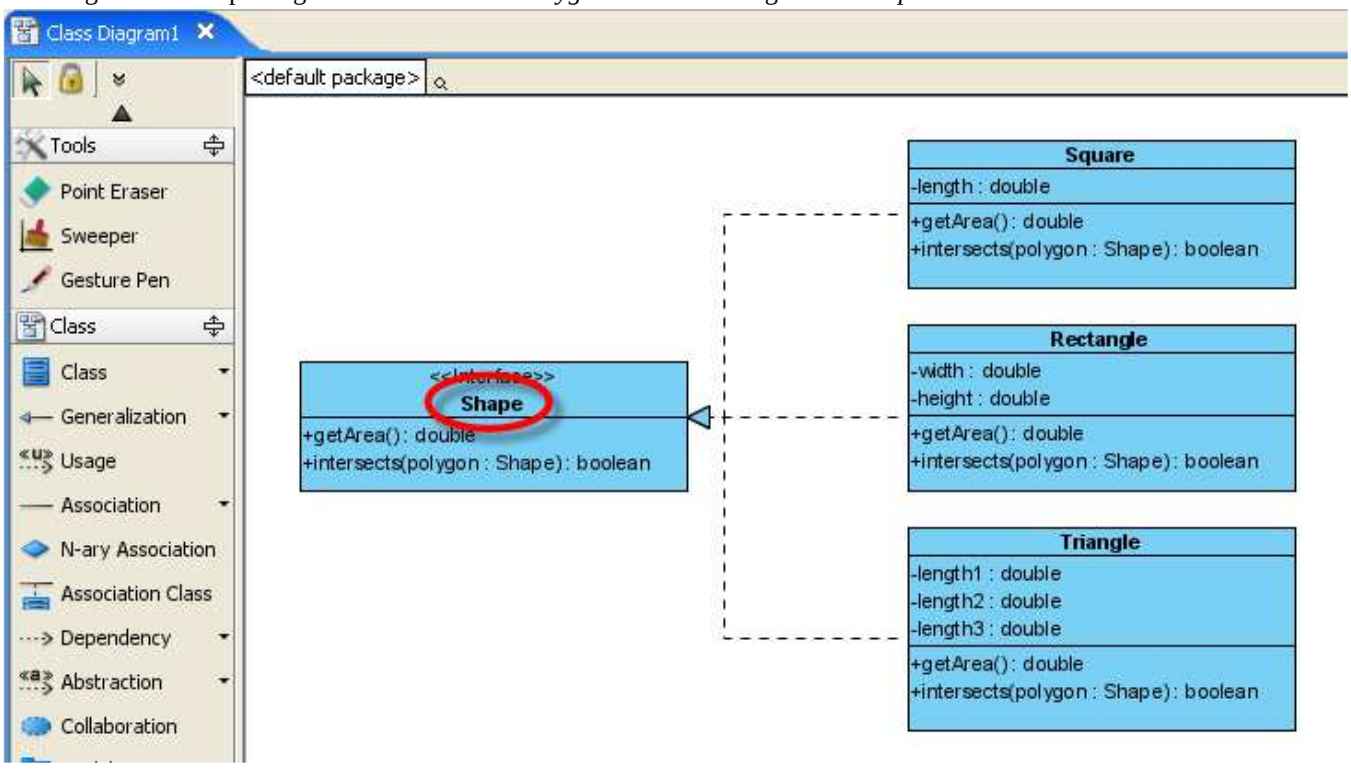



*Figure 7.49 - The diagram after importing*

# Importing Rational Rose Project File

Rational Rose® is one of the most widely used UML CASE tool in 90's.
SDE for Eclipse supports the importing of Rational Rose file. As a result, you can import your Rational Rose project into SDE for Eclipse and retain all the information in the project, including color and position.


*Figure 7.50 - Import from Rational Rose®*

To import a Rose project into SDE for Eclipse:
1. Select **File > SDE-EC Import > Rose Project...** from main menu. This displays the **Import Rose Option** dialog box.

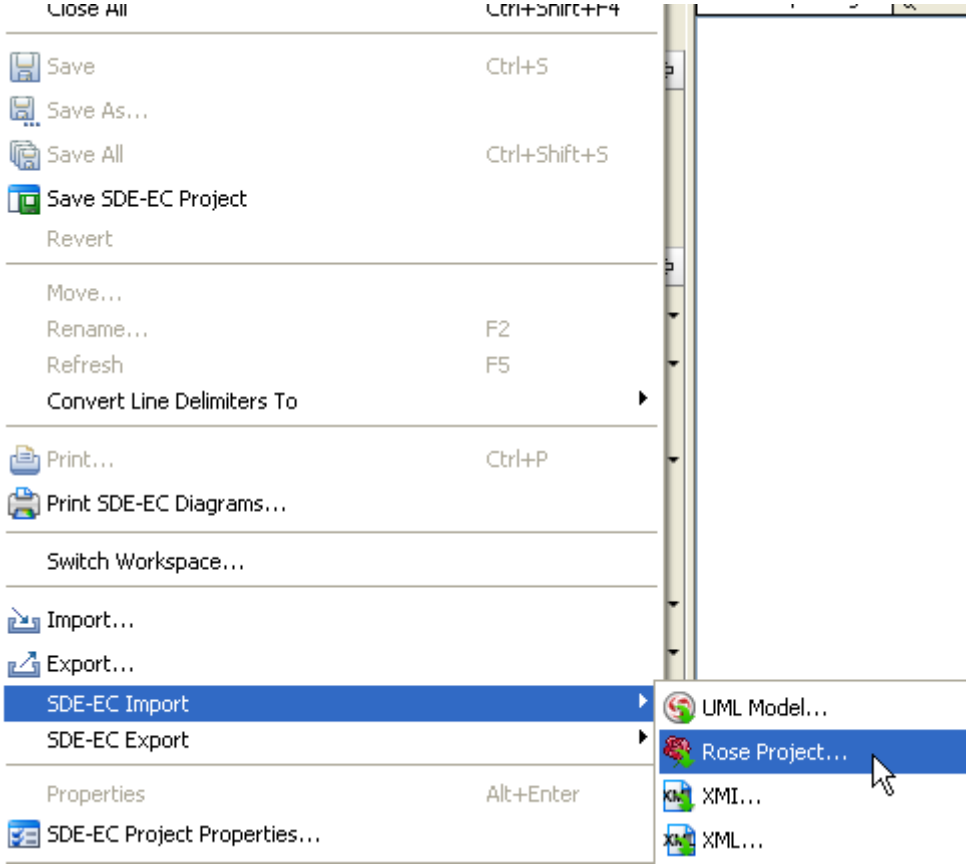



*Figure 7.51 - Import a Rose Project*

2.Type in the path of Rational Rose file in the **File path**. You may also select **...** to select the file.

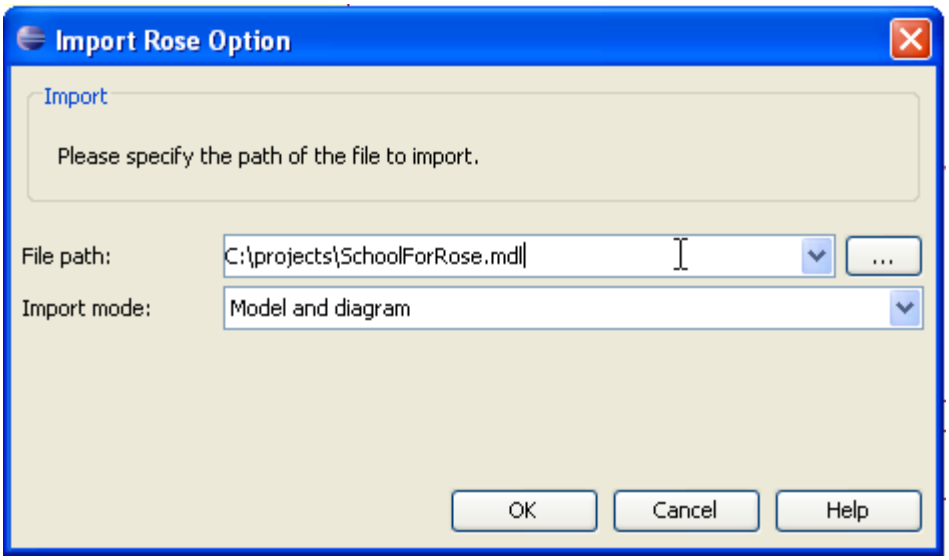



*Figure 7.52 - Specify the file path*

3. Select the mode of importing from the drop down menu of **Import mode**. You can choose to import **Model only** or both **Model and diagram**. Then, click **OK** to start importing the MDL file.

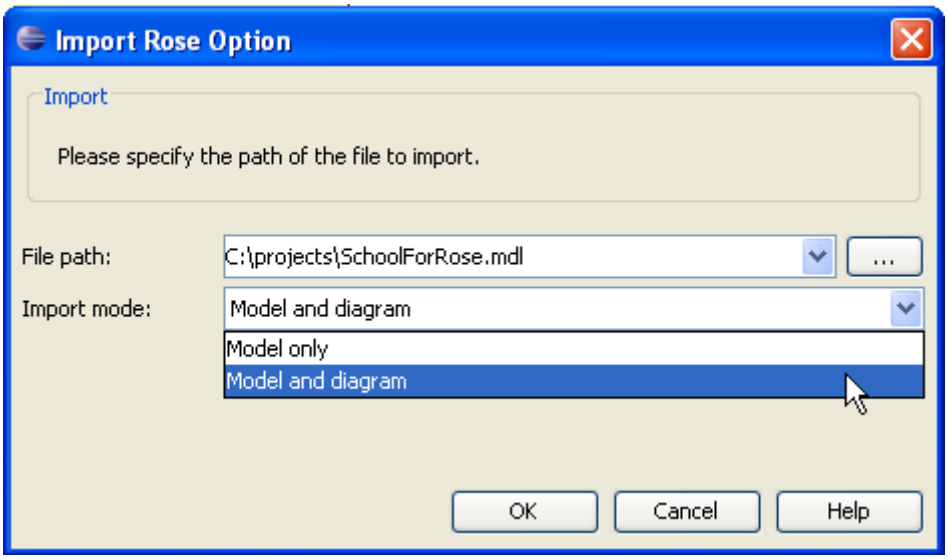



*Figure 7.53 - Select the import mode*

4. The progress dialog box appears. You can check the check box **Close Dialog when finished progress** to close the dialog box when finished importing. You can select button to open the message pane.

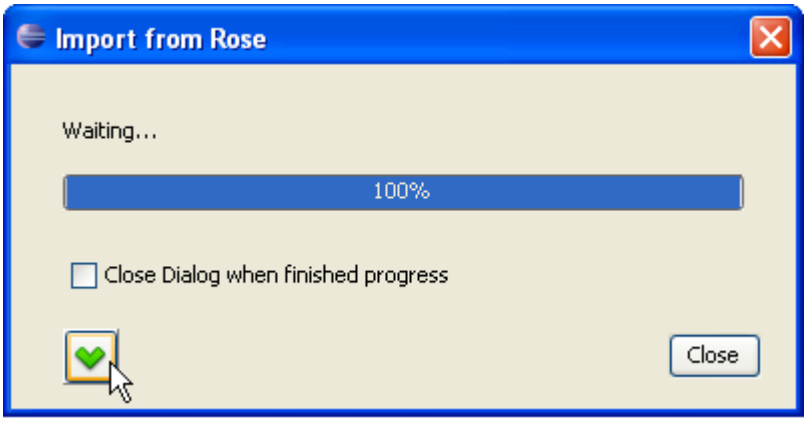



*Figure 7.54 - Progress dialog box*

5. The message pane shows the messages to indicate the progress of the importing process. When the process has finished click on the **Close** button in the progress dialog box to close.

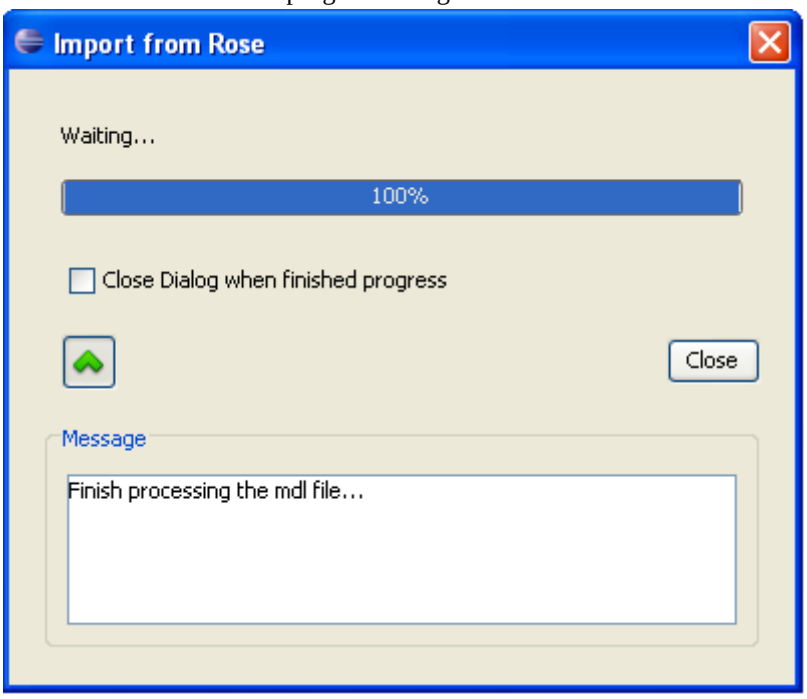



*Figure 7.55 - Message pane opened*

6. The models/diagrams are imported. Expand the project tree from **Diagram Navigator** and choose to browse for a diagram. You can Double-click on a diagram in the project tree to open the imported diagrams.

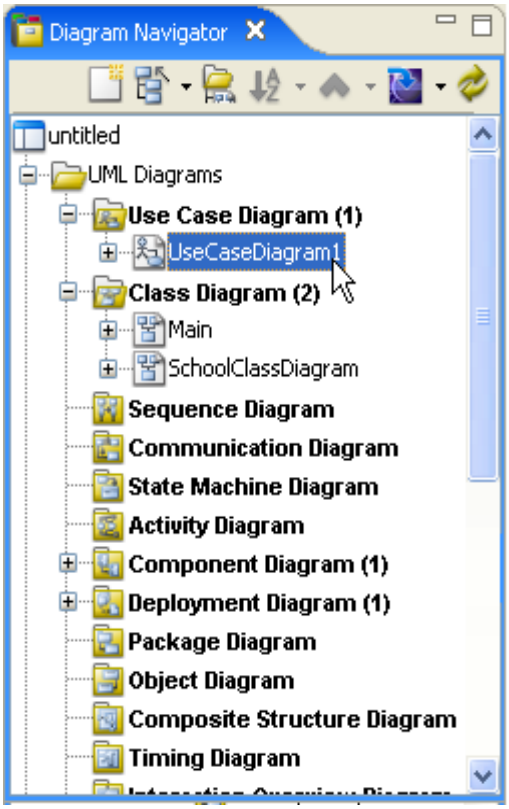



*Figure 7.56 - Diagrams imported*

If you have selected **Model only** in the **Import Mode** in step 3, only models are imported. You can see the imported models in the **Model** pane.

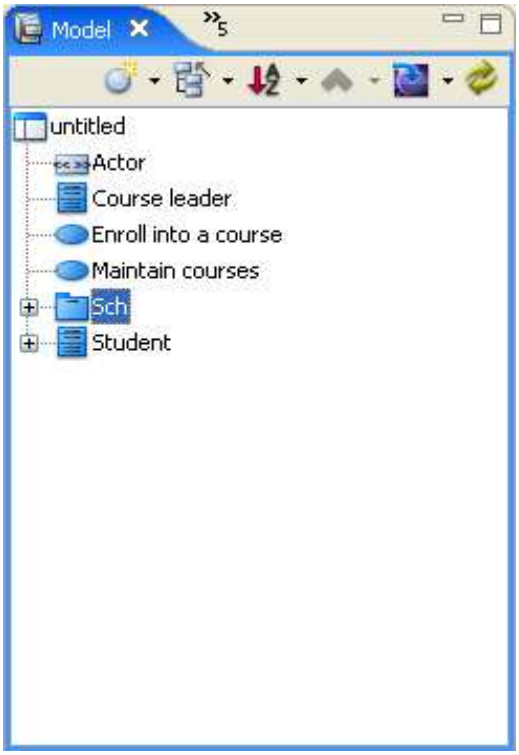



*Figure 7.57 - Models Imported*

# ERwin Modeler Project File Importer

## Importing an ERwin Data Modeler Project

To import an ERwin Project into SDE for Eclipse:
1. Design and save the model in ERwin Data Modeler as a XML file.

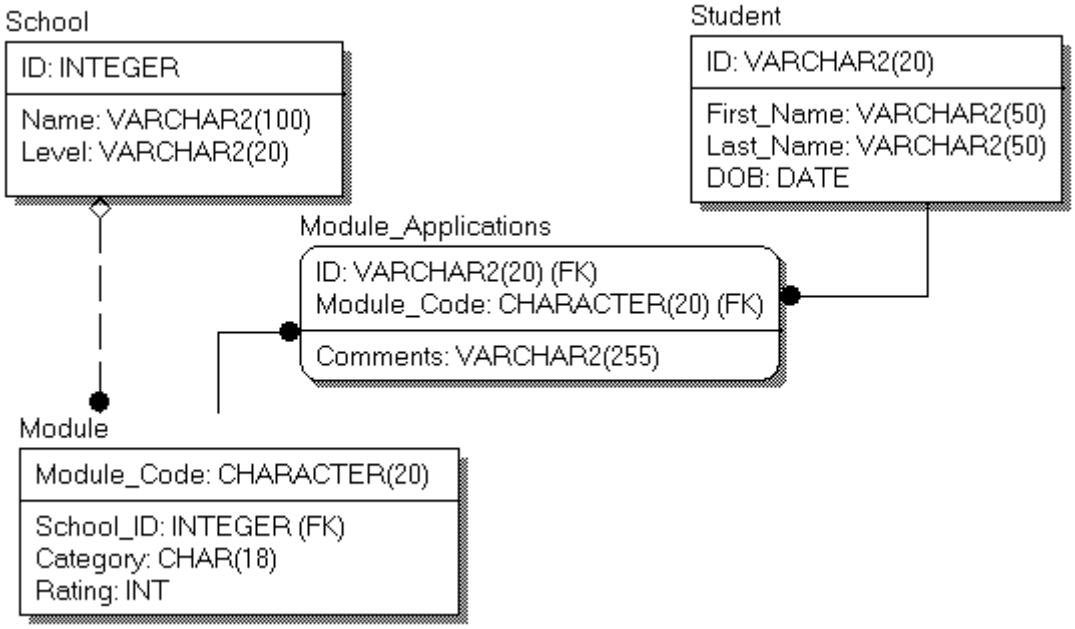



*Figure 7.58 - Modeling in ERwin*

2. Launch SDE for Eclipse. Select **File > SDE-EC Import > ERwin Project (XML)...** from main menu. This display the **AllFusion ERwin Data Modeler Project Importer** dialog box.

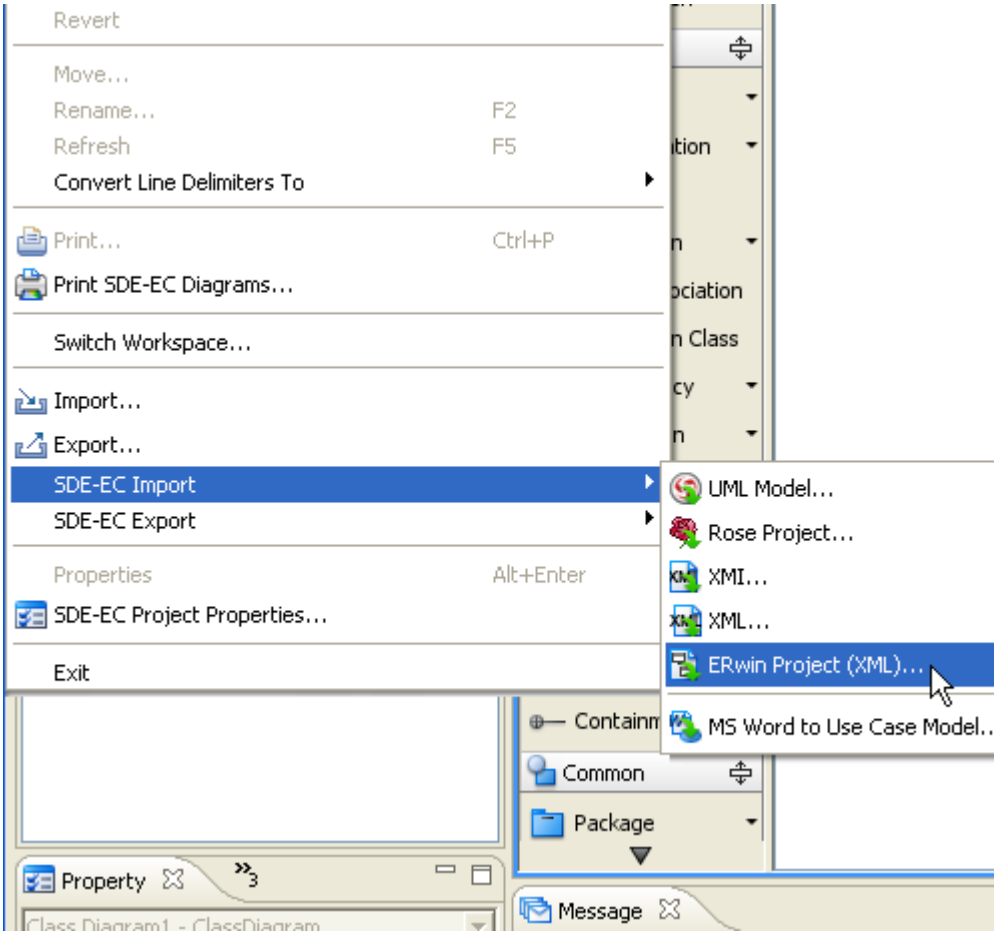



*Figure 7.59 - Menu for Import ERwin Project*

3. In the dialog, locate the ERwin Project file and click **OK** to start import. You can enter the path directly on the text field or click **...** to locate the file from file chooser.

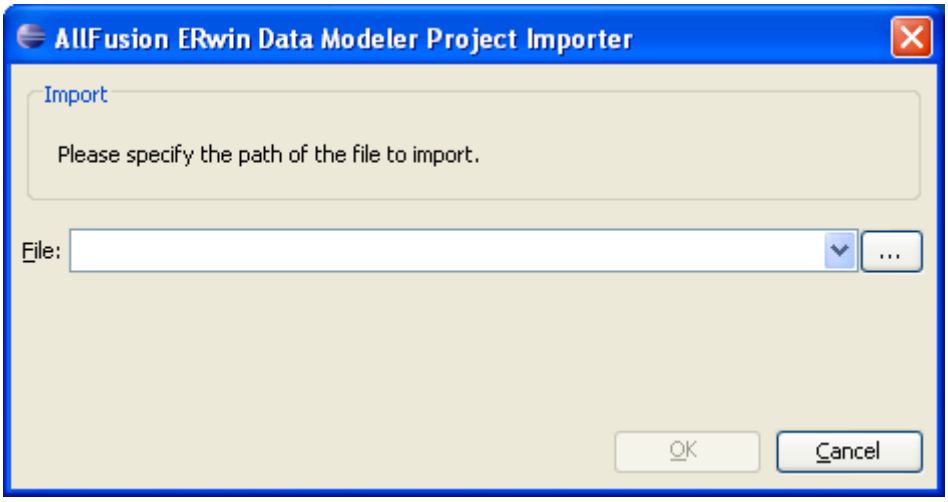



*Figure 7.60 - Import ERwin Project dialog box*

4. Then, the **Open Imported Entity Relationship Diagram(s)** dialog box is displayed if there are any entity relationship diagram. You can check the **Selected** column to select the diagram(s) you want to open.

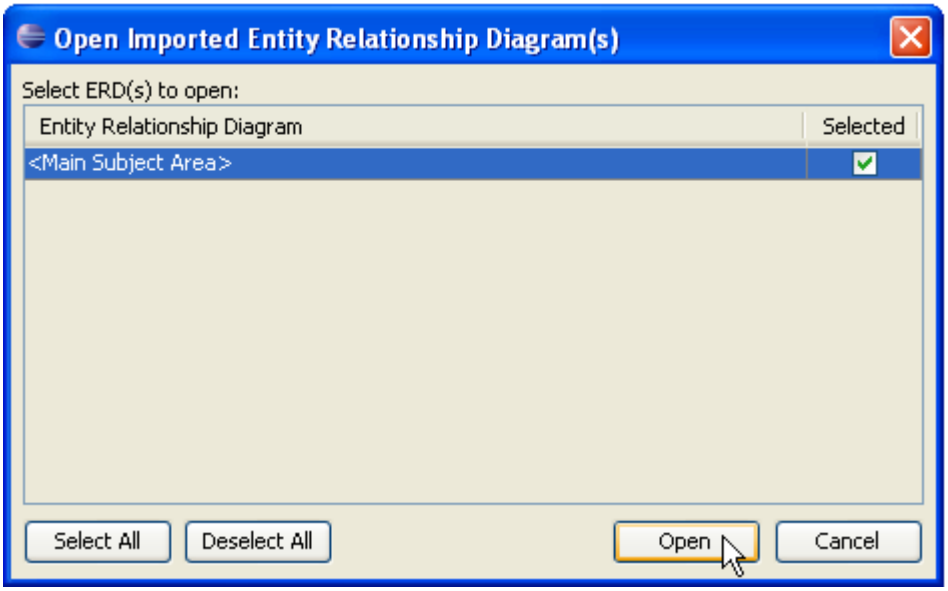



*Figure 7.61 - Open Imported Entity Relationship Diagrams dialog box*

5. Diagrams and Models were imported to the current project.

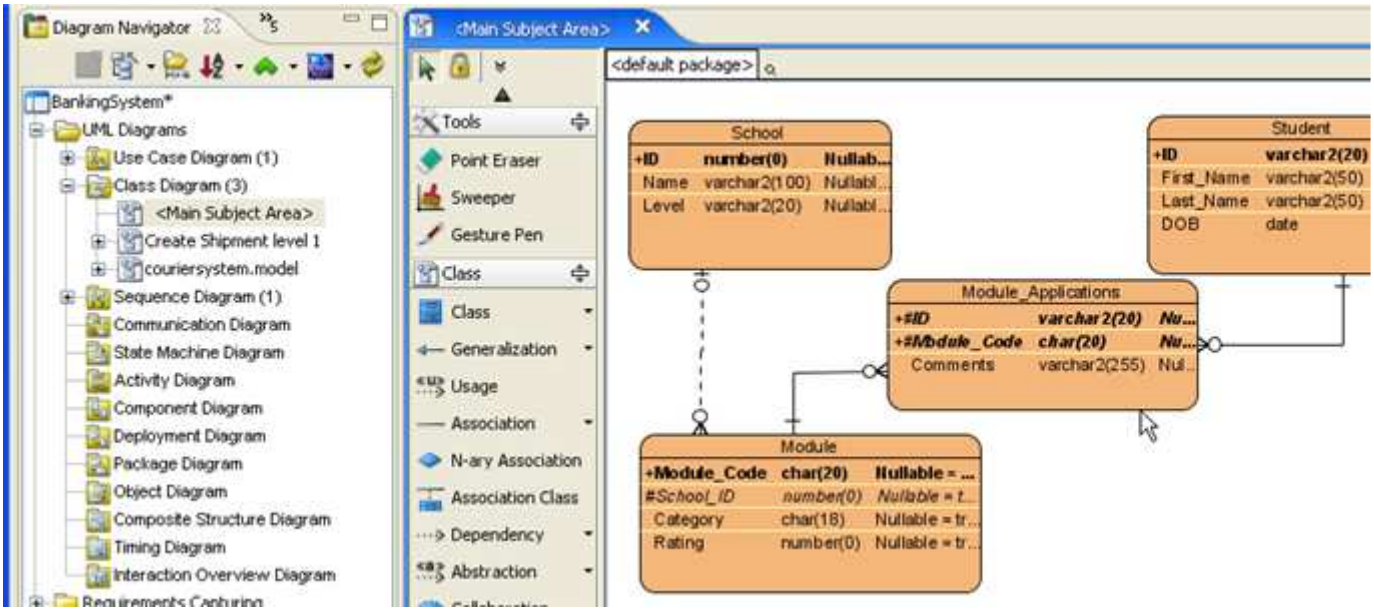



*Figure 7.62 - The imported ERwin project*

# Oracle workflow engine BPEL generator

## Generating BPEL for Oracle workflow engine

To generate BPEL for Oracle workflow engine:
1. Design a Business Process Diagram in SDE for Eclipse.

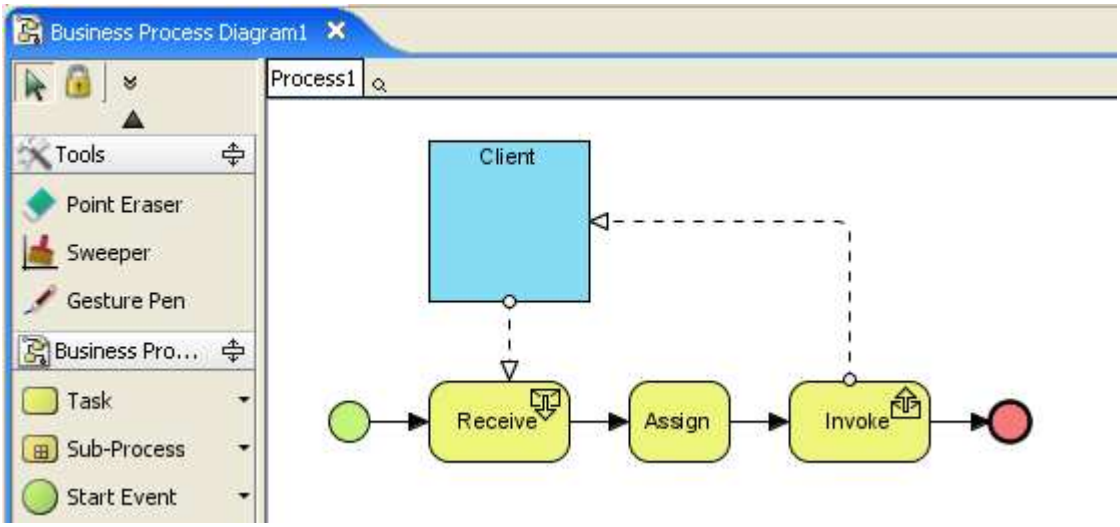



*Figure 7.63 - Business Process Diagram*

2. Right click on diagram. Select **Generate > BPEL....** This display the **Export BPEL** dialog box.

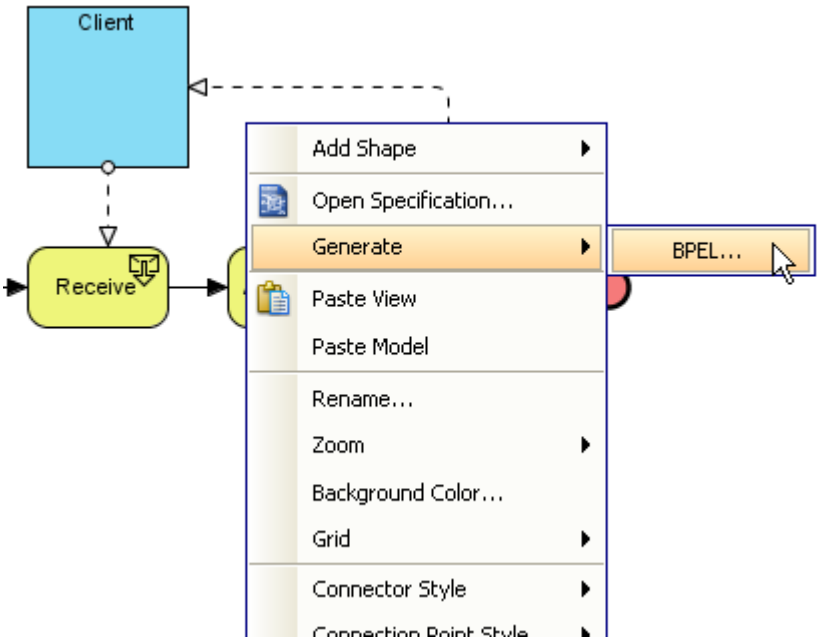



*Figure 7.64 - Menu for generate BPEL*

3. In the dialog, specify the path of the output BPEL files in **Output directory**. Select **Oracle BPEL Process Manager (10.1.2)** in **Target server**. You can **Auto overwrite existing files** by checking the check box. Click **OK** to start export.

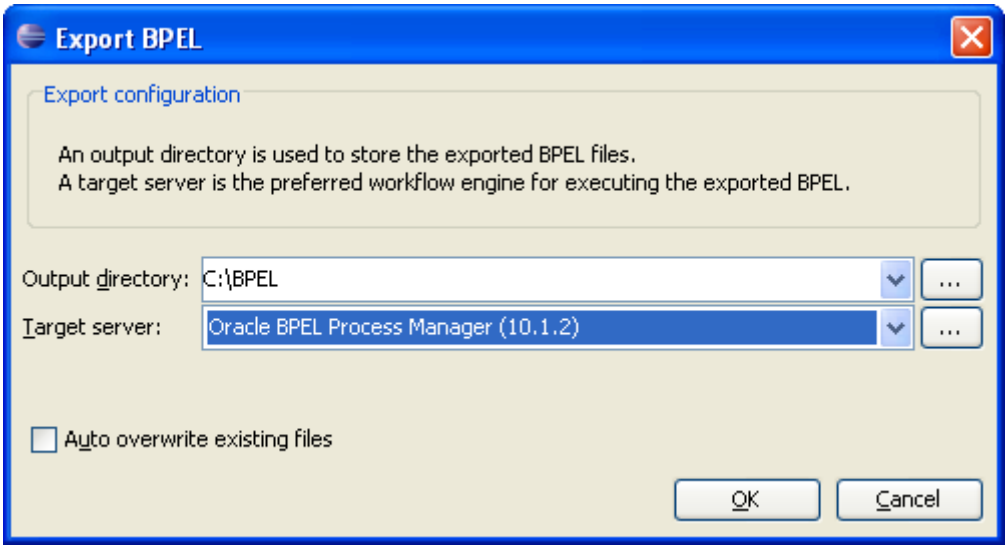



*Figure 7.65 - Export BPEL Dialog box*

4.List of exported files will be shown.

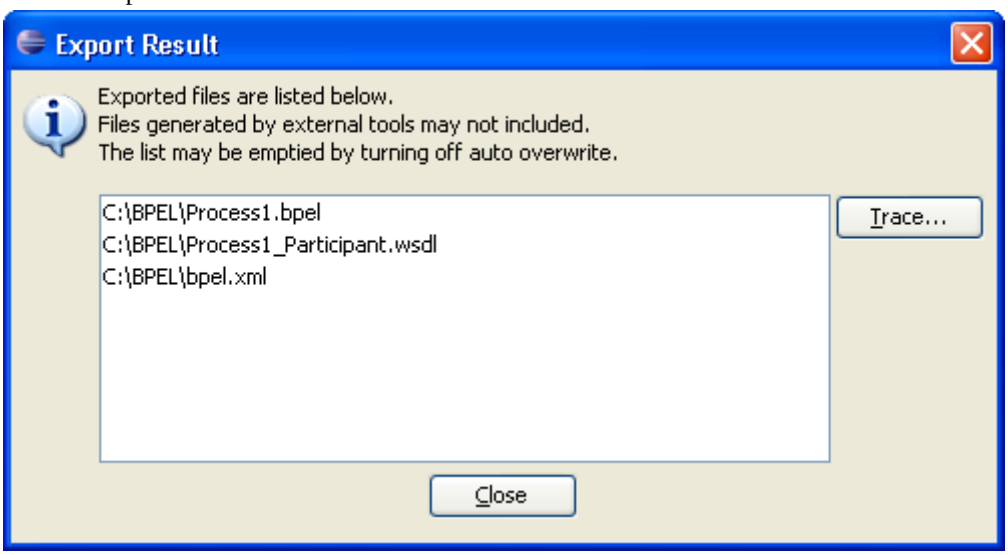



*Figure 7.66 - Exported files*

# JBoss Workflow Engine BPEL Generator

## Generating BPEL for JBoss workflow engine

To generate BPEL for JBoss workflow engine:
1. Design a Business Process Diagram in SDE for Eclipse.

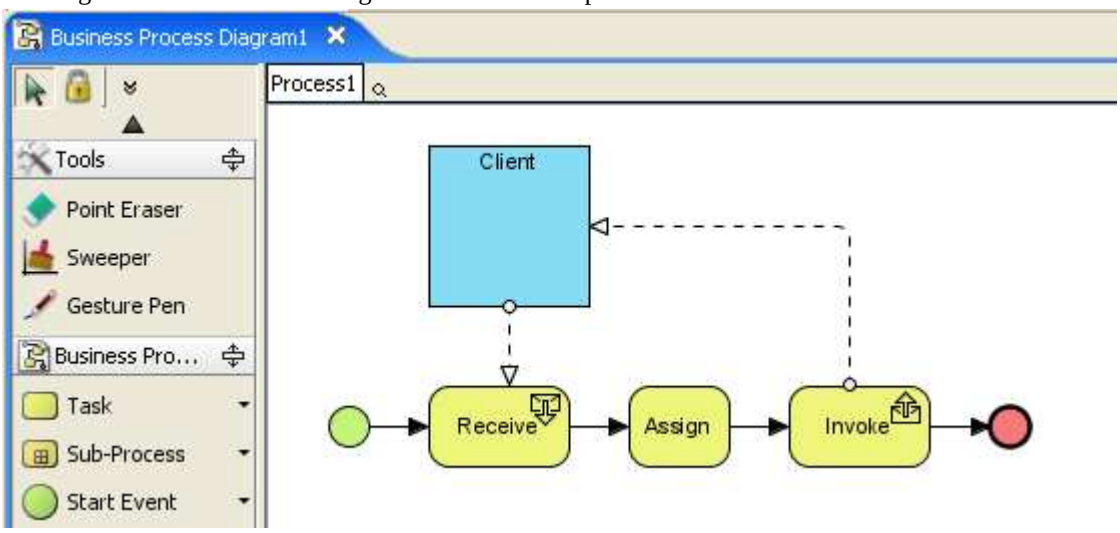



*Figure 7.67 - Business Process Diagram*

2. Right click on diagram. Select **Generate > BPEL...**. This displays the **Export BPEL** dialog box.

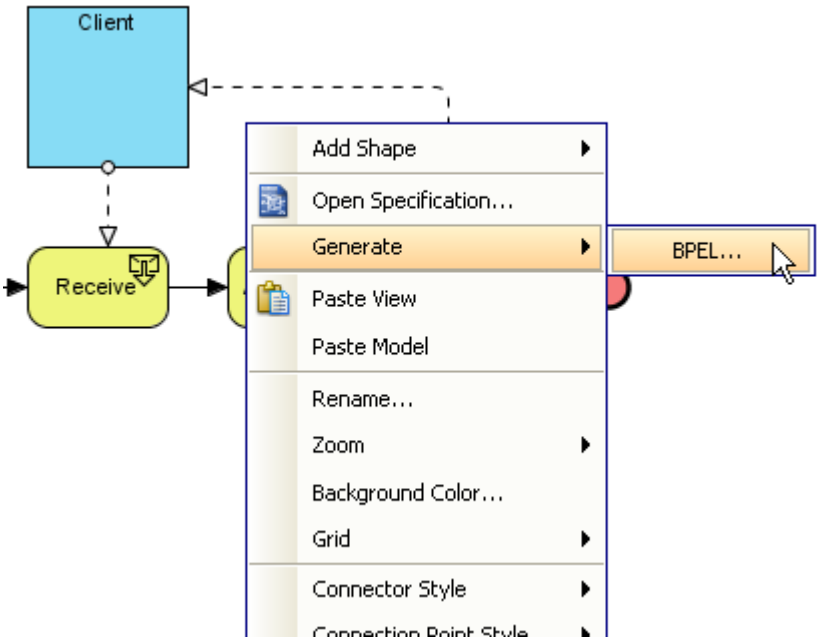



*Figure 7.68 - Menu for generate BPEL*

3. In the dialog, specify the path of the output BPEL files in **Output directory**. Select **JBoss jBPM BPEL (1.1 beta1)** in **Target server**. Click **OK** to start export.

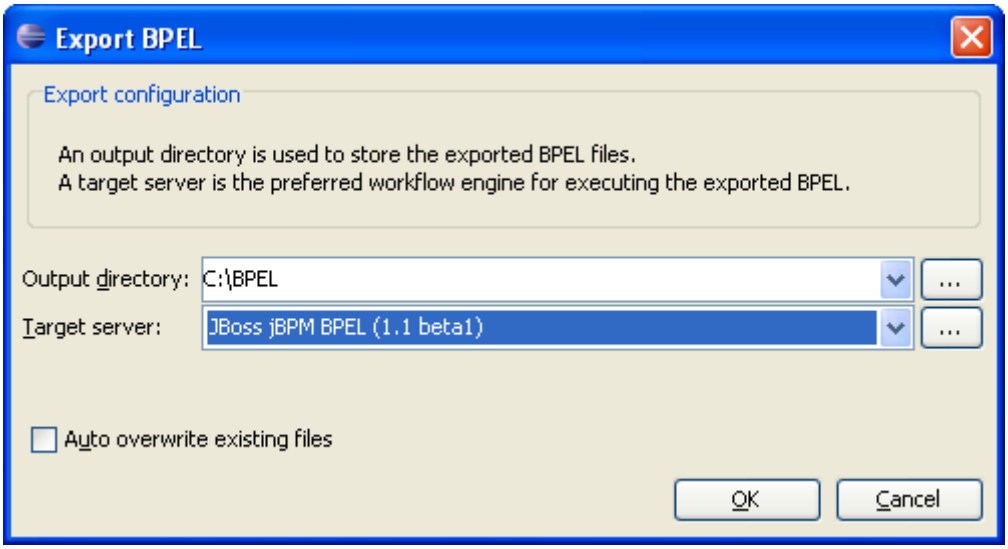



*Figure 7.69 - Export BPEL dialog box*

4.List of exported files will be shown.

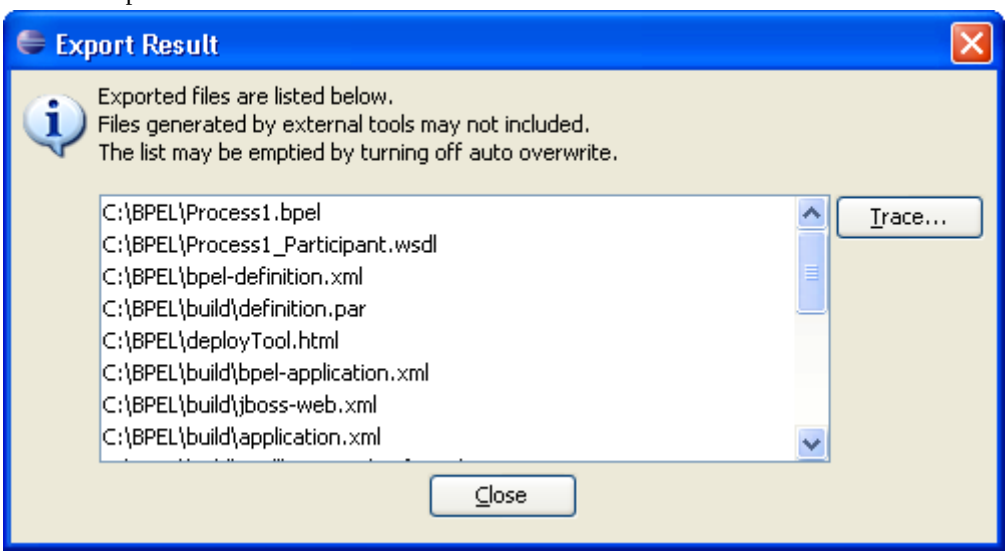



*Figure 7.70 - Exported files*

# 8 User Interface Designer

# Chapter 8 - User Interface Designer

Apart from facilitating visual modeling, SDE for Eclipse also facilitate screen mock up in early requirement capturing stage. With SDE for Eclipse cutting edge visual modeling technology, you can save a lot of time from writing tedious code to make a user interface for confirming requirements.
In this chapter, you will learn:

- Creating User Interface Diagram
- Change Component Properties
- Annotating Component
- Linking Components
- Switching Orientation by Resource-centric Interface
- Auto Detect Orientation

## Creating User Interface Diagram

Similar to other diagrams, user interface diagram can be created using different ways:

- Using toolbar
- Using New Diagram dialog box
- Using popup menu of Diagram Navigator

Here, creation of it using toolbar is used as an example.
To create a new user interface diagram, select **New SDE-EC Diagram** from toolbar. And select User Interface from the dialog box


*Figure 8.1 - Select New SDE-EC Diagram*

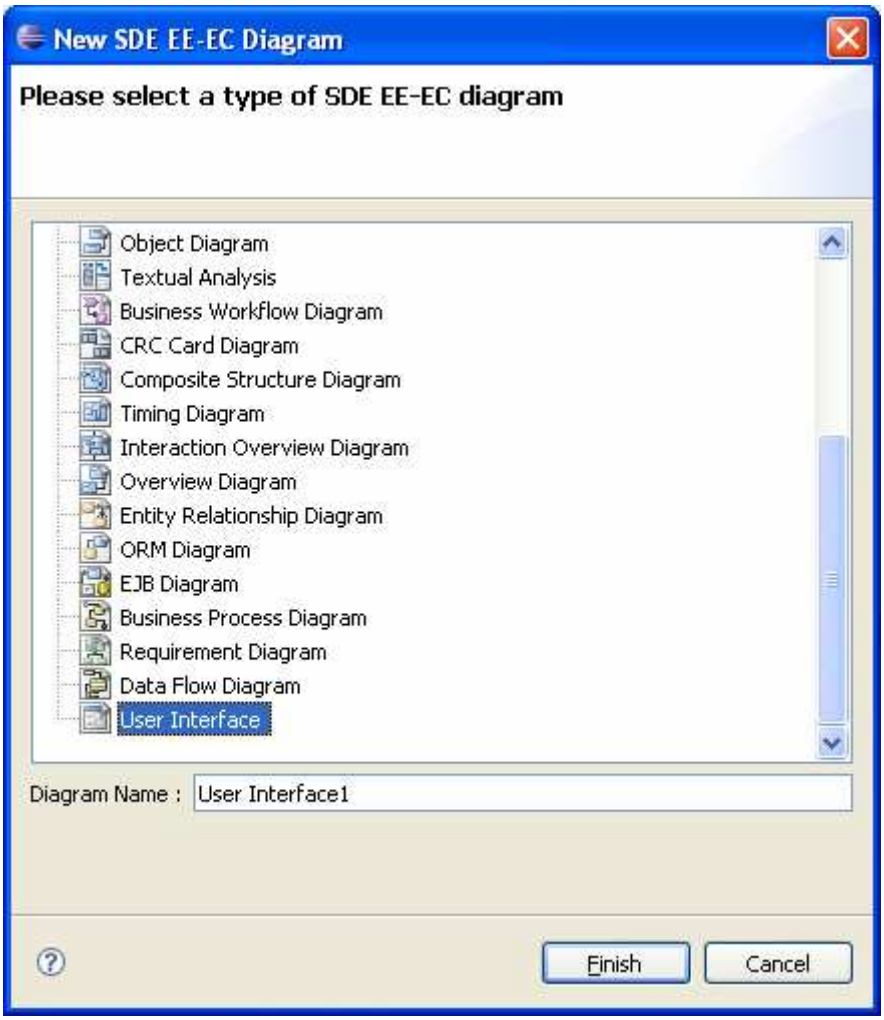



*Figure 8.2 - Select User Interface*

The diagram is created.

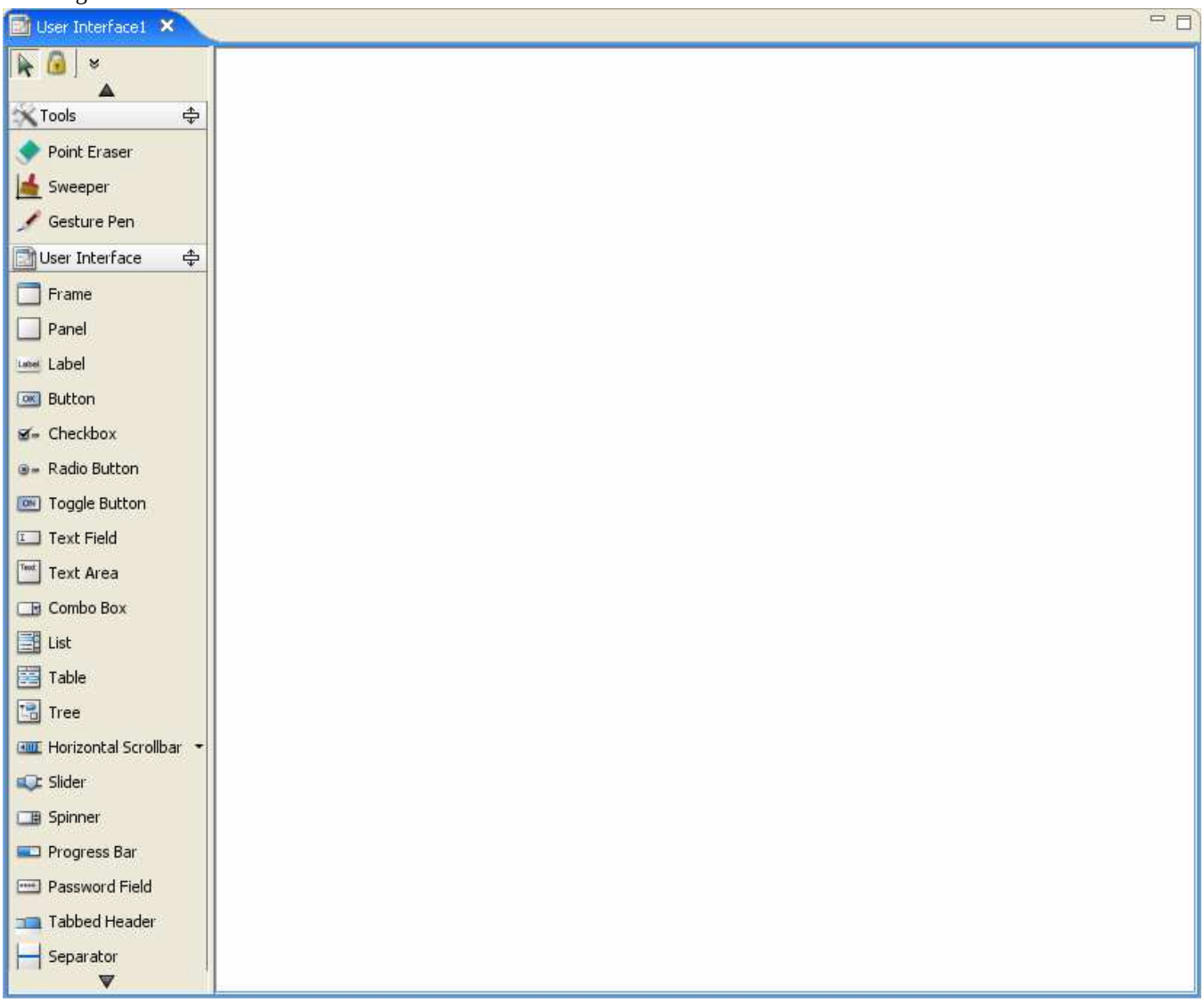



*Figure 8.2 - New User Interface Diagram*

# Creating Component

You can create component by drag and drop, select and click and with size.
To create by drag and drop:
1. Drag the component you want to add from the toolbar.

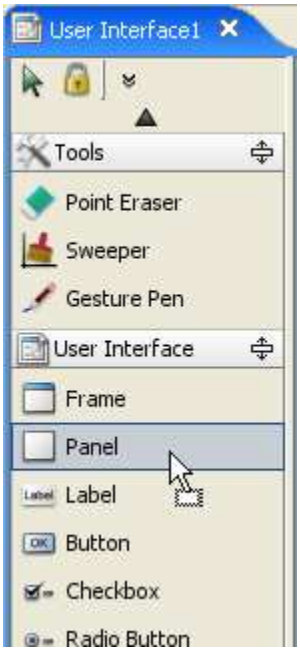



Figure 8.3 - Drag the component

2. Then drop the component on the diagram pane.

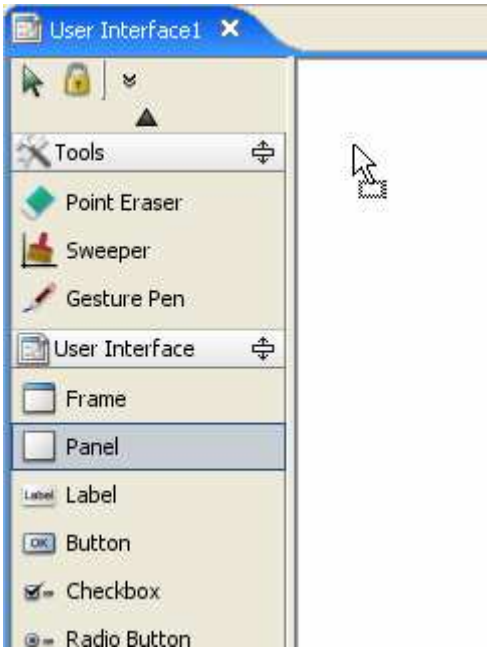



*Figure 8.4 - Drop on diagram pane*

To create by select and click:
1. Select the component you want to add in the toolbar.

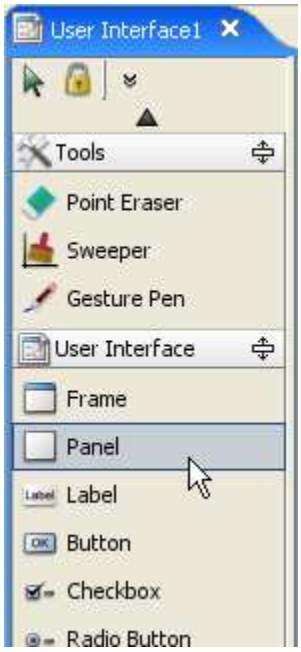



*Figure 8.5 - Select component*

2. Click on the diagram pane. The component is created.

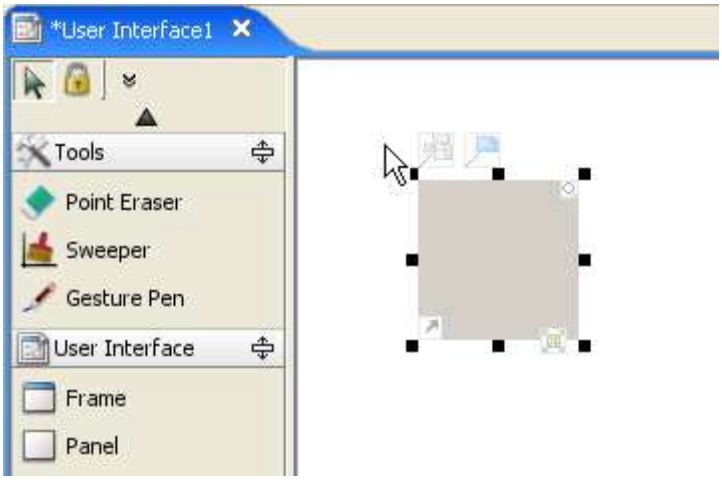



*Figure 8.6 - Component created*

To create by defining an initial size:
1. Select the component you want to add in the toolbar.

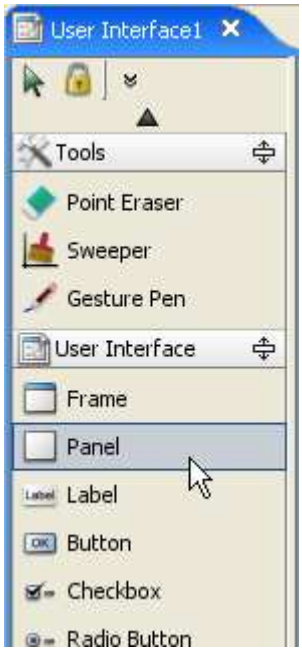



*Figure 8.7 - Select component*

2. Drag a specific boundary before releasing the mouse to define the component's initial size.

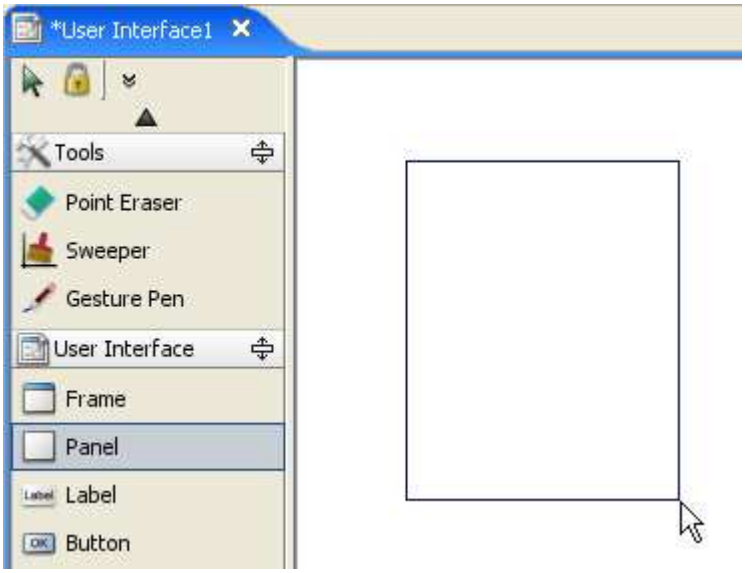



*Figure 8.8 - Define an initial size*

3. The component with specific size is created.

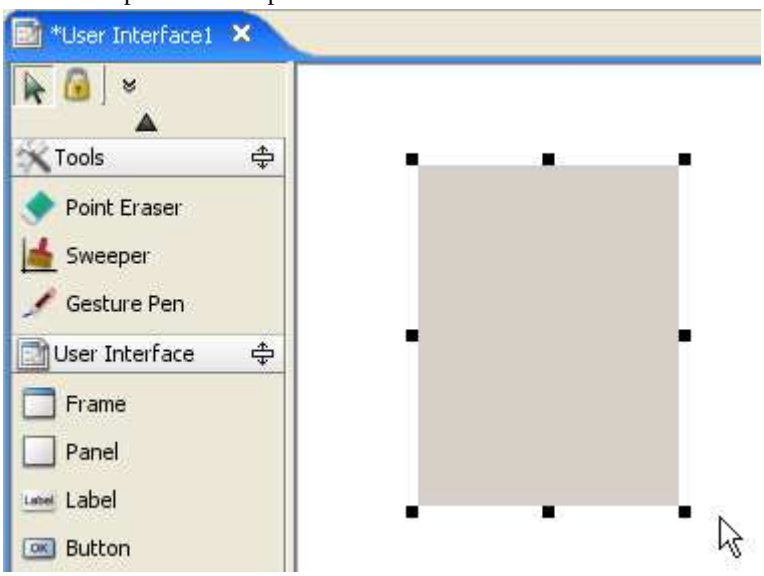



*Figure 8.9 - Component created*

# Change Component Properties

You can set the properties of user interface by opening the specification of the component. Then, you can go into the **UI** tab to update all user interface properties.
Here, the configuration of the user interface properties of list and label are used as examples.
To set the properties of a label:
1. Right click on the label and select **Open Specification...** from the popup menu.

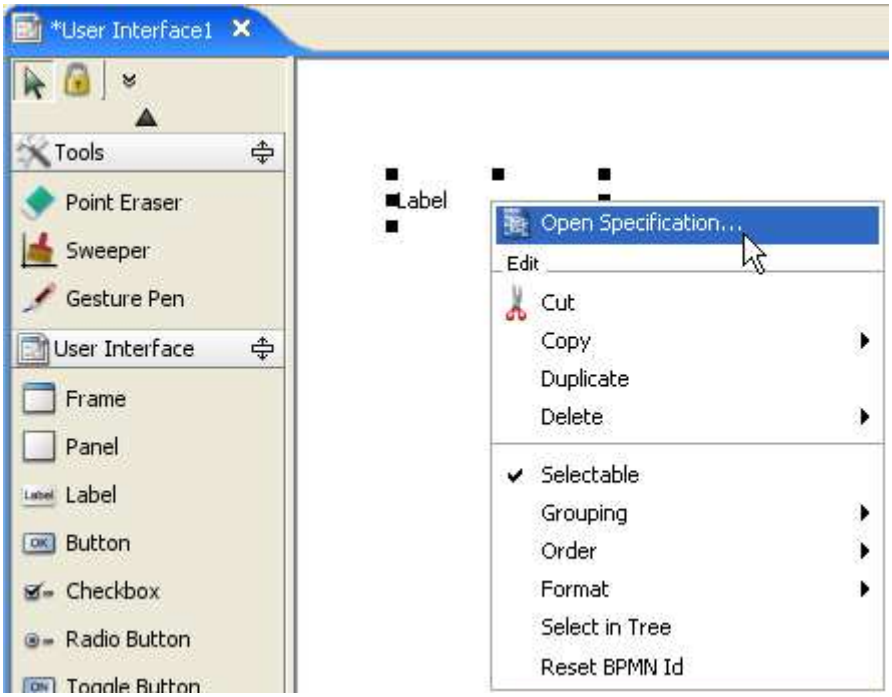



*Figure 8.10 - Select Open Specification*

2. Then, select **UI** tab.

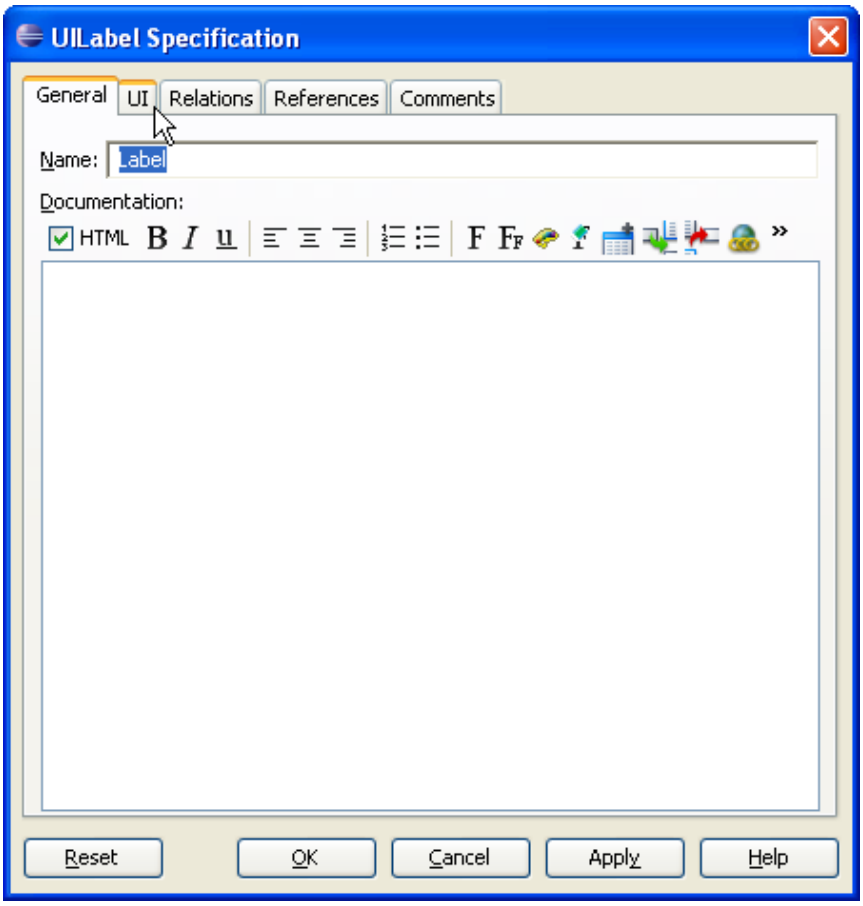



*Figure 8.11 - Select UI tab*

3. User interface properties can be configured.

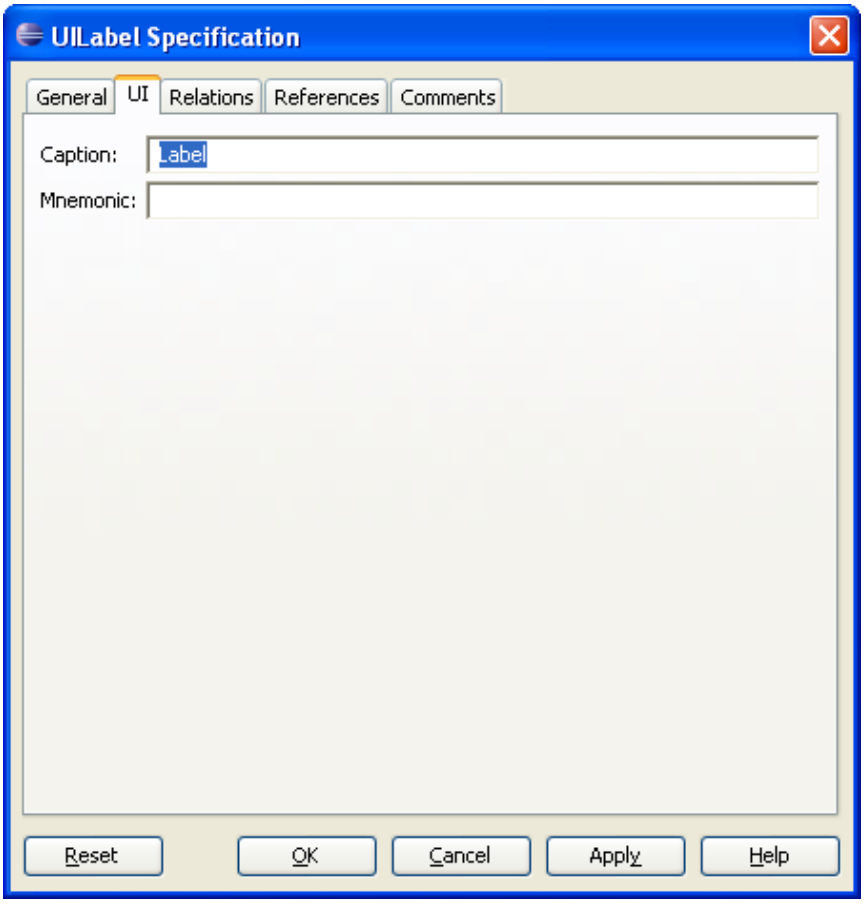



*Figure 8.12 - UI properties of label*

4. You can edit the **Caption** and **Mnemonic**.

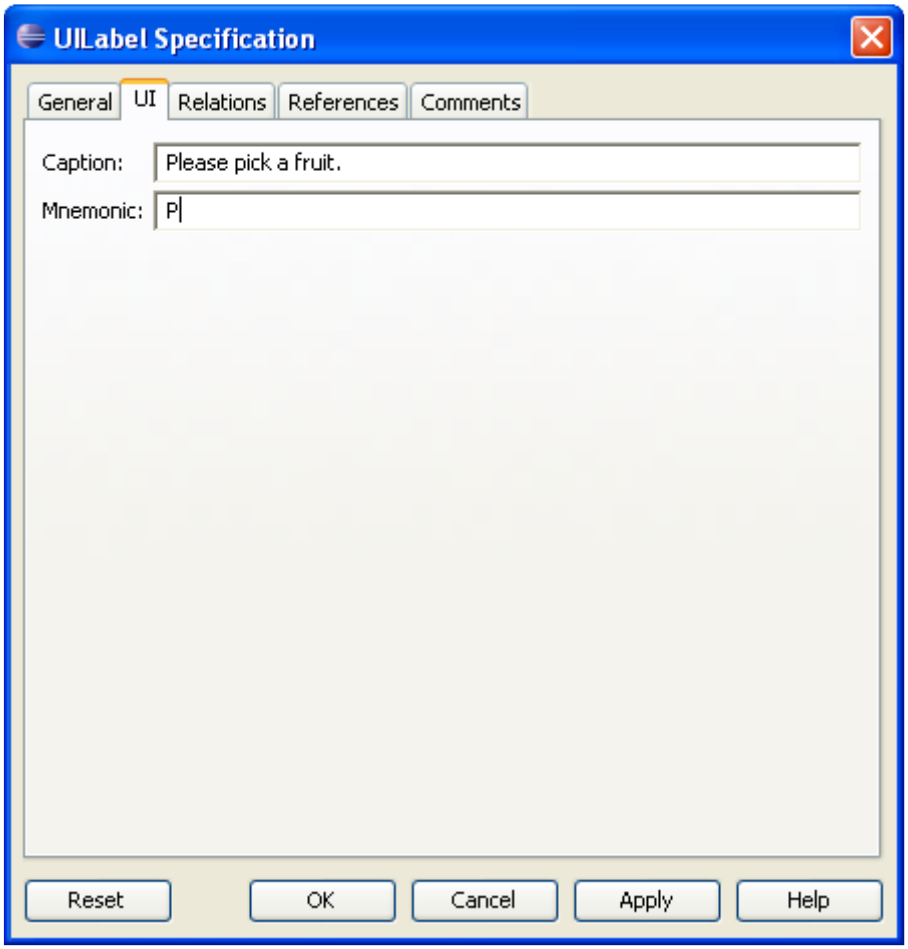



*Figure 8.13 - Edit user interface properties*

5. The label has been edited.

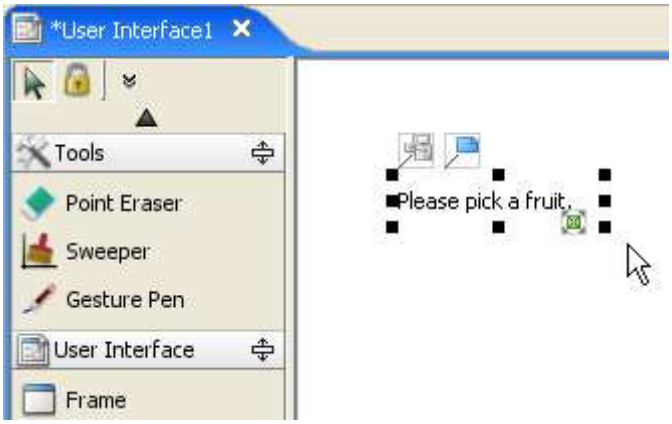



*Figure 8.14 - Label edited*

To set the user interface of a list:
1. Right click on a list and select **Open Specification...** from the popup menu.

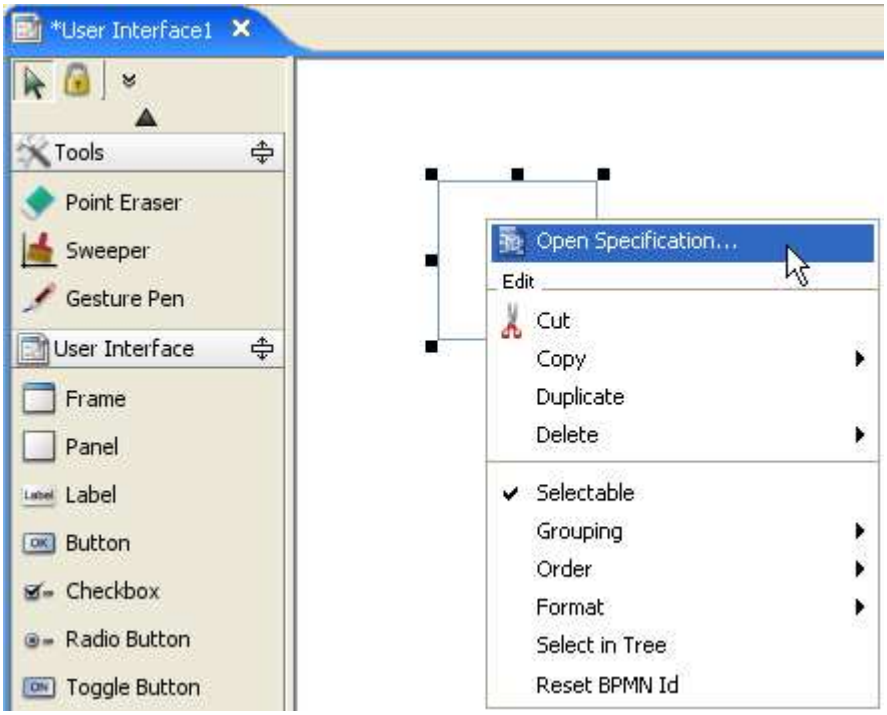



*Figure 8.15 - Open Specification*

2. Select **UI** tab.

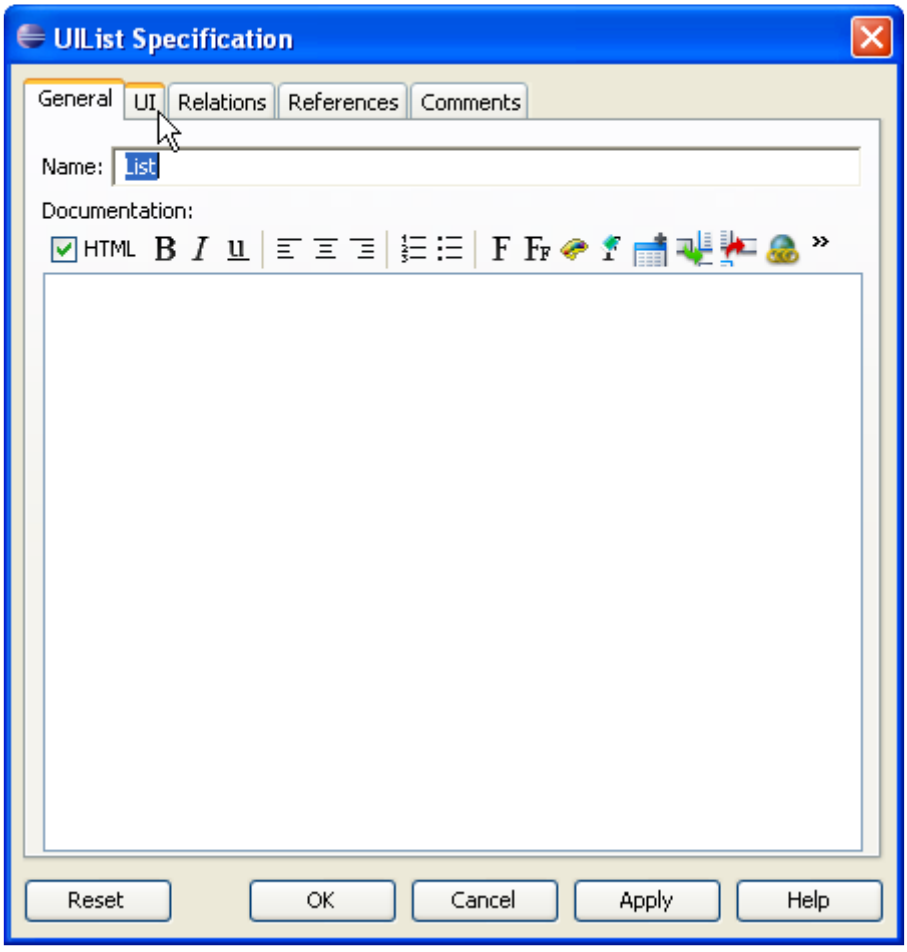



*Figure 8.16 - Select UI tab*

3. The UI properties you can edit is shown.

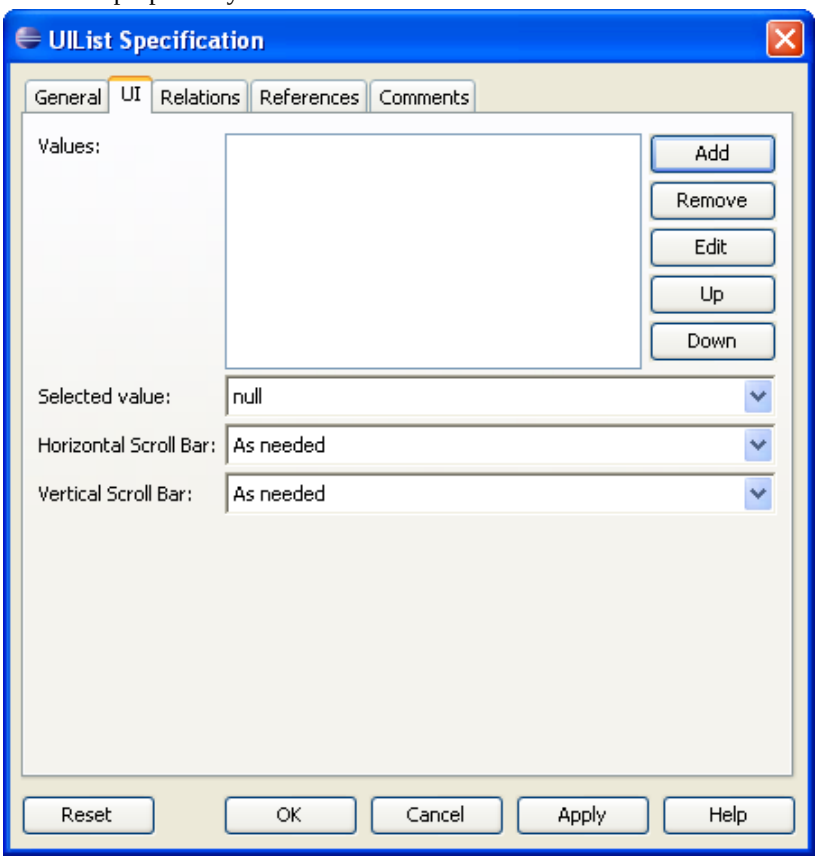



*Figure 8.17 - UI properties of List*

4. You can edit the **Values** and **Selected value** of the user interface. You can also decide the properties of **Horizontal Scroll Bar** and **Vertical Scroll Bar**.

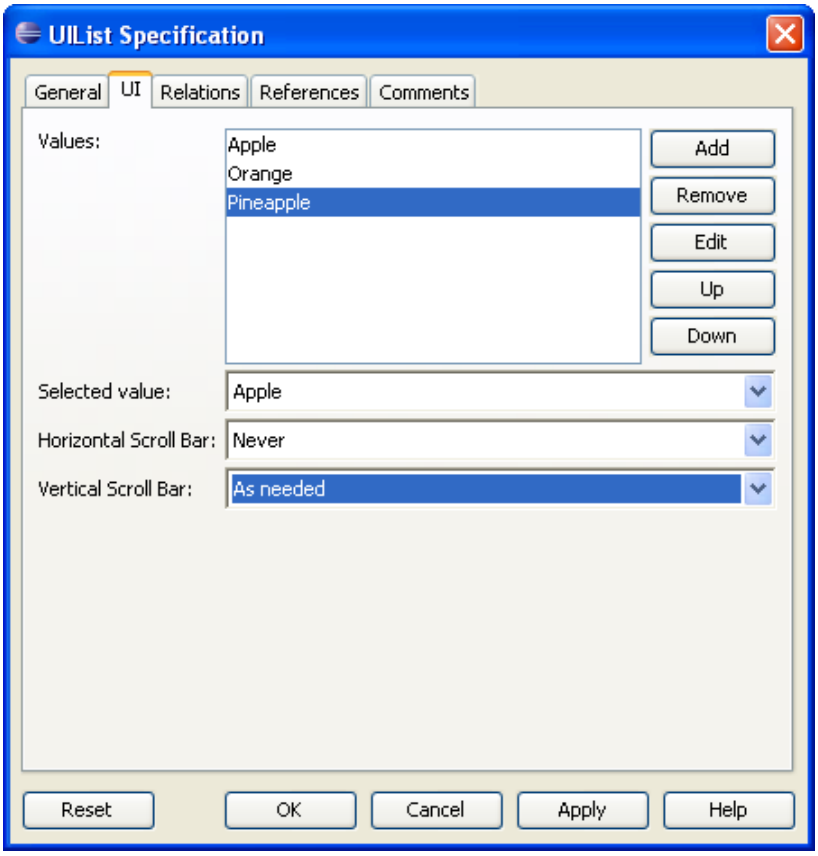



*Figure 8.18 - Edit UI properties*

5. List has been edited.

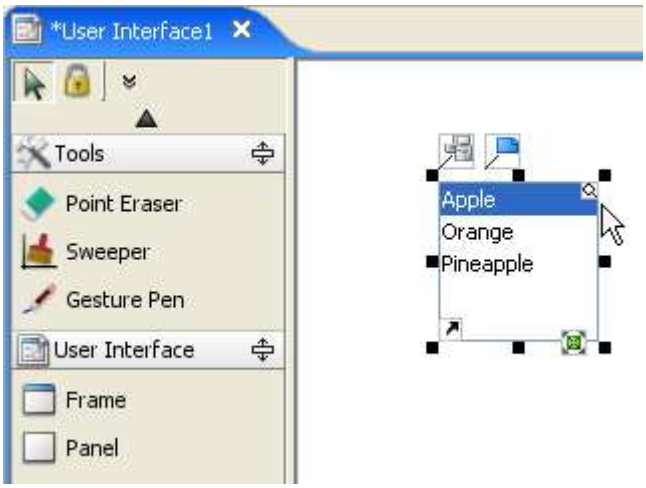



*Figure 8.19 - List edited*

# Annotating Component

You may want to add annotation to specific UI Component as instruction. In SDE for Eclipse, you can use the Note resource to achieve it.
Here, adding annotation to a button is used as an example.
When your mouse moves pass a button, you can see the Note resource.

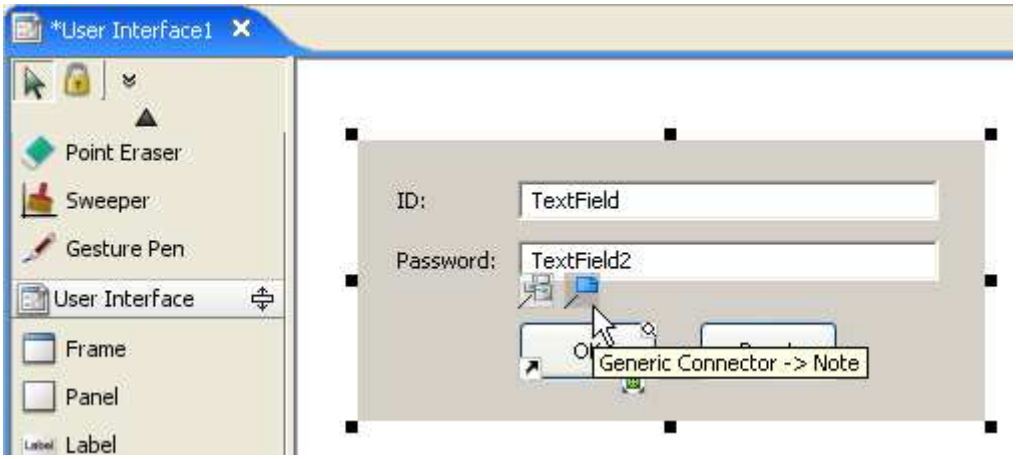



*Figure 8.20 - Note resource*

Drag the Note resource to a place on diagram pane where you want the note to be created on.

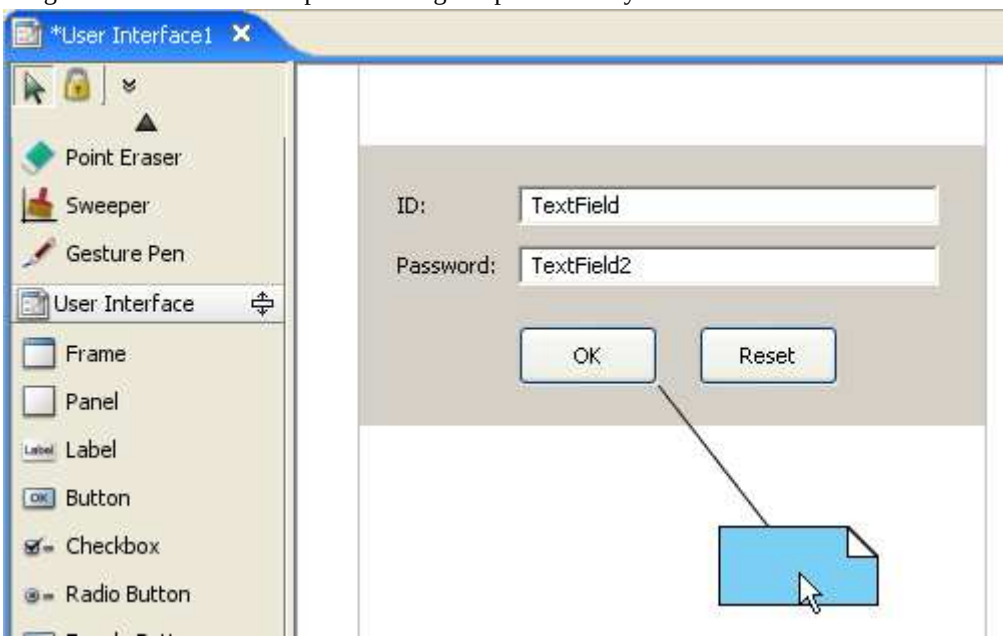



*Figure 8.21 - Drag the Note resource*

When you release the mouse, you can type in annotation in the note.

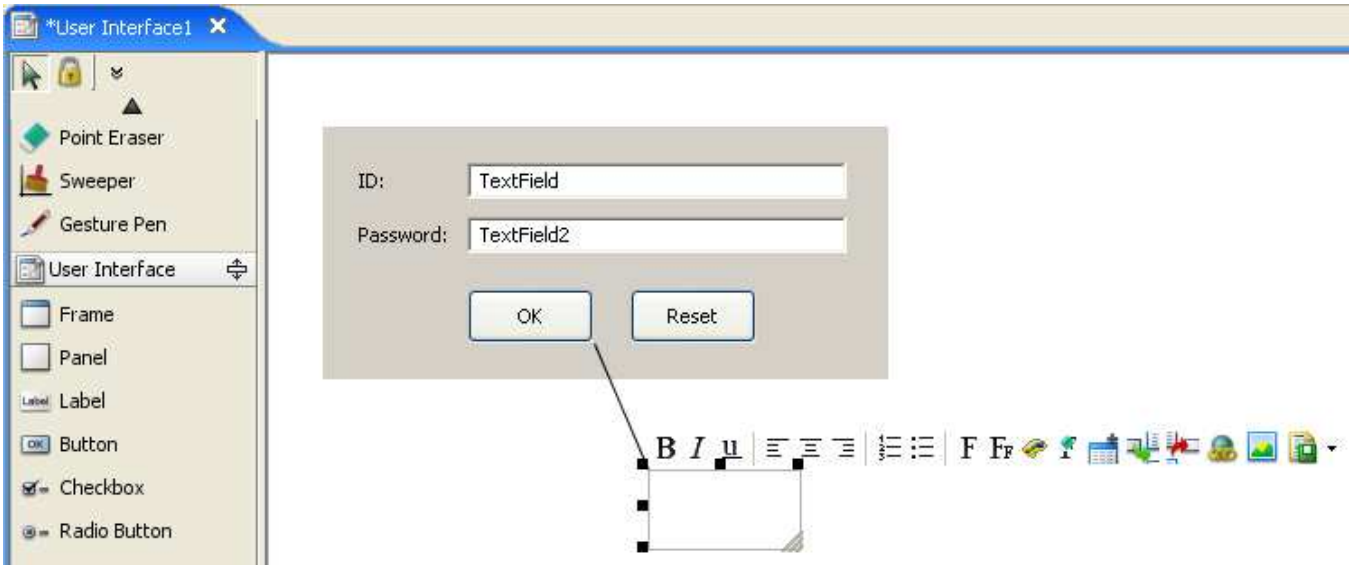



*Figure 8.22 - Type in annotation*

Annotation has been added.

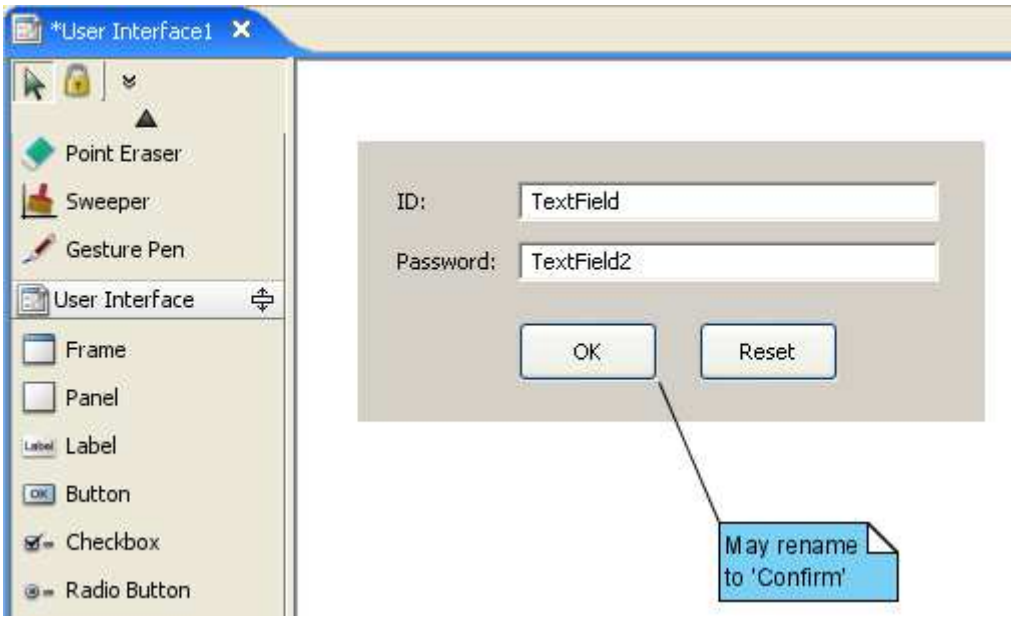



*Figure 8.23 - Annotation added*

# Linking Components

Similar to other diagrams, user interface diagram allows you to create connector to connect two components. This can be achieved by using Resource Centric.
Here, connecting a button and a panel is used as an example.
1. Mouse over a button, you will see the Centric Resource for Generic Connector.

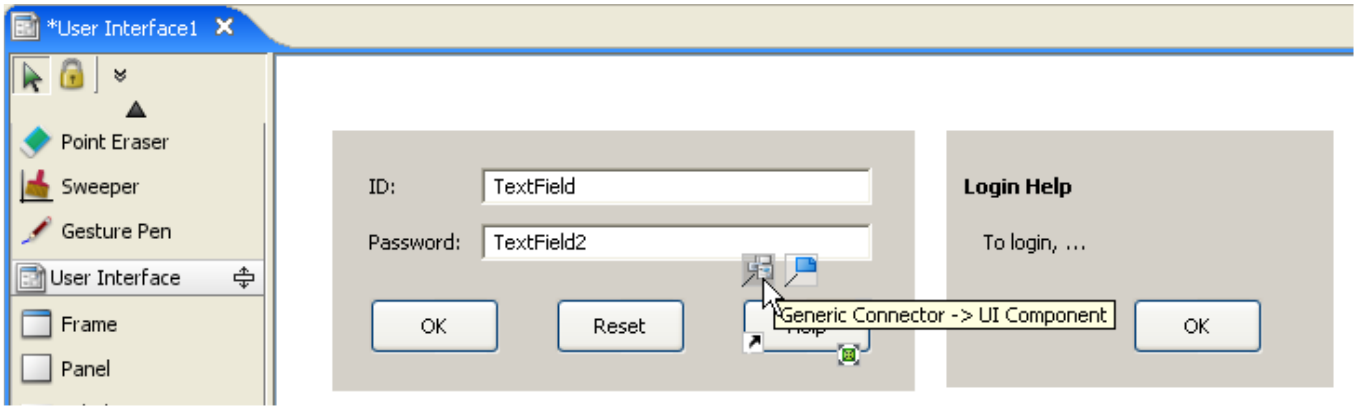



*Figure 8.24 - Select Centric Resource for Generic Connector*

2. Drag the resource to the component you want to connect to.

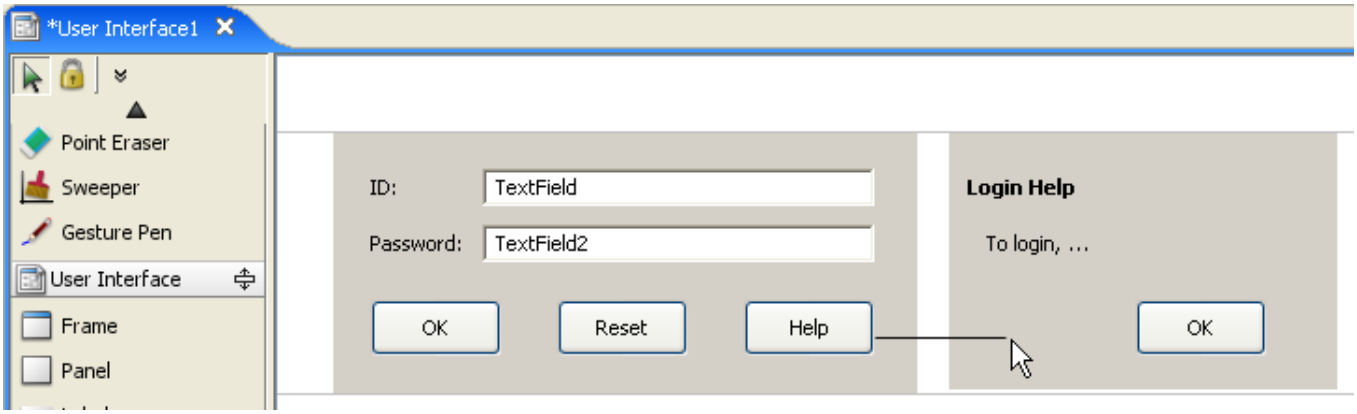



*Figure 8.25 - Drag the resource*

3. Release the mouse and connector is created. You may also edit the name of connector.

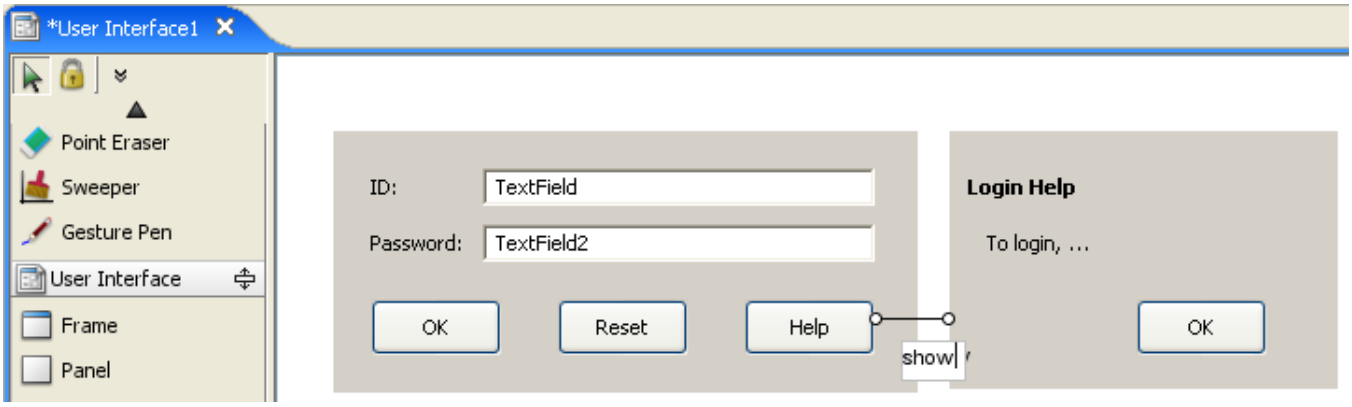



*Figure 8.26 - Edit the name of connector*

# Switching Orientation by Resource-centric Interface

Sometimes, you may want to switch the orientation of certain component. In SDE for Eclipse, you can use the Switch Orientation Resource to do so.
When your mouse move over some components like scollbar, you can see the Switch Orientation Resource.

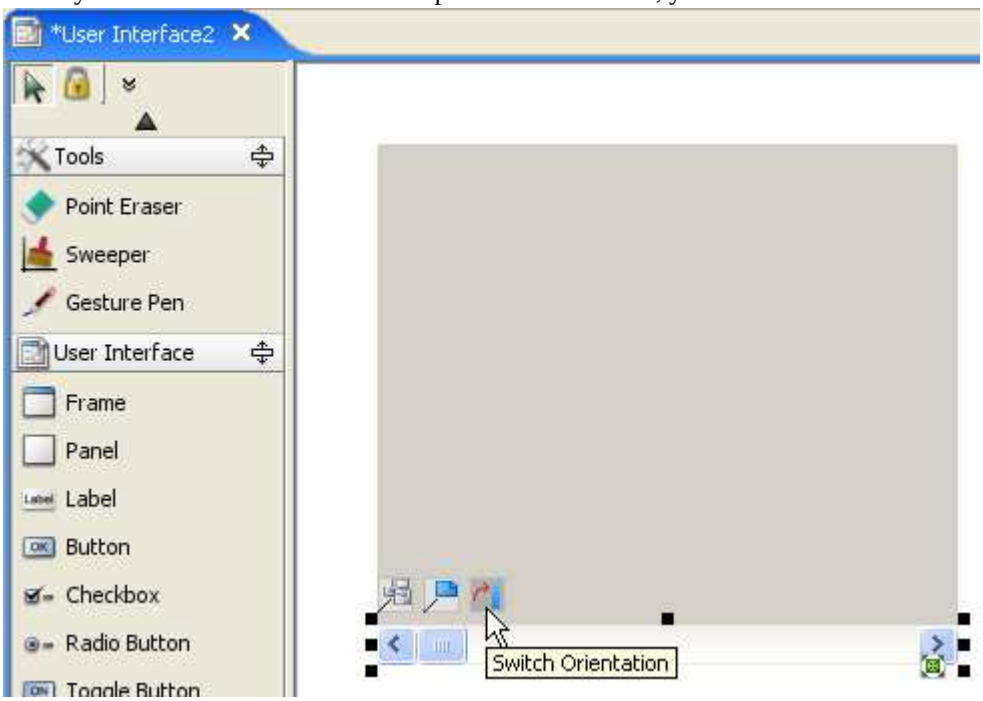



*Figure 8.27 - Switch Orientation Resource*

By selecting the resource, the orientation of component has been switched.

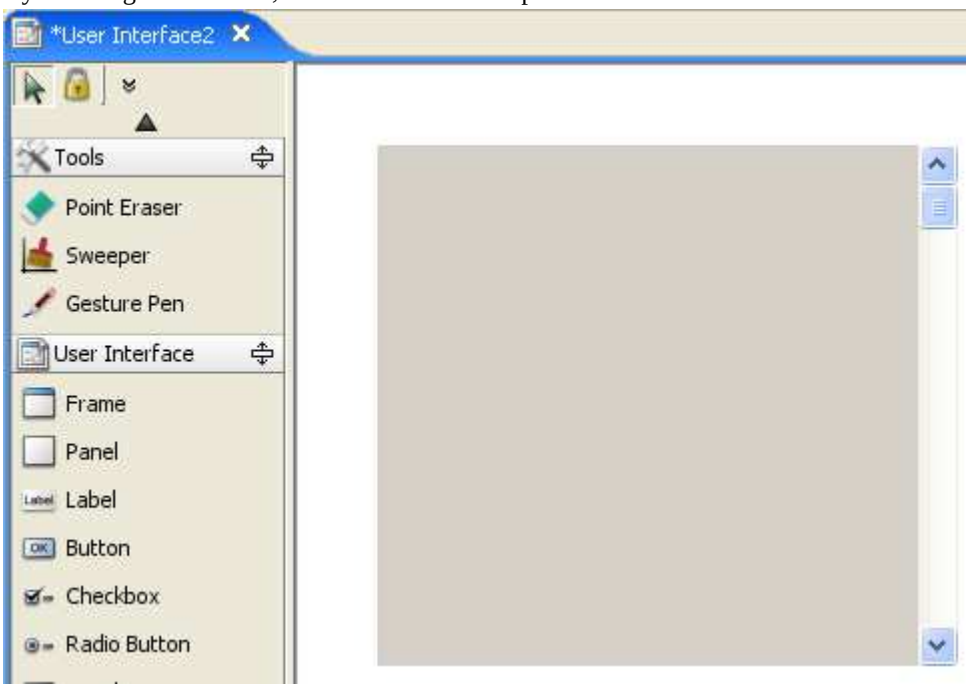



*Figure 8.28 - Orientation switched*

# Auto Detect Orientation

SDE for Eclipse can detect the orientation of a component when you create it with specific size.
For example, you may drag vertically to create a slider

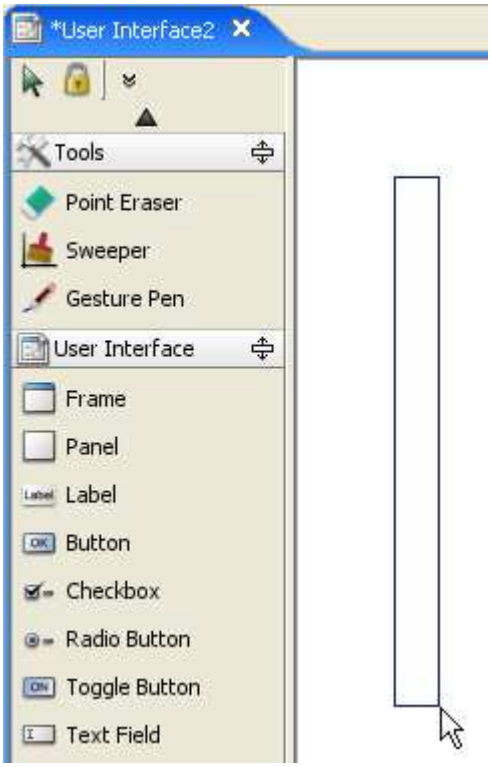



*Figure 8.29 - Drag vertically*

The slider created is in vertical orientation.

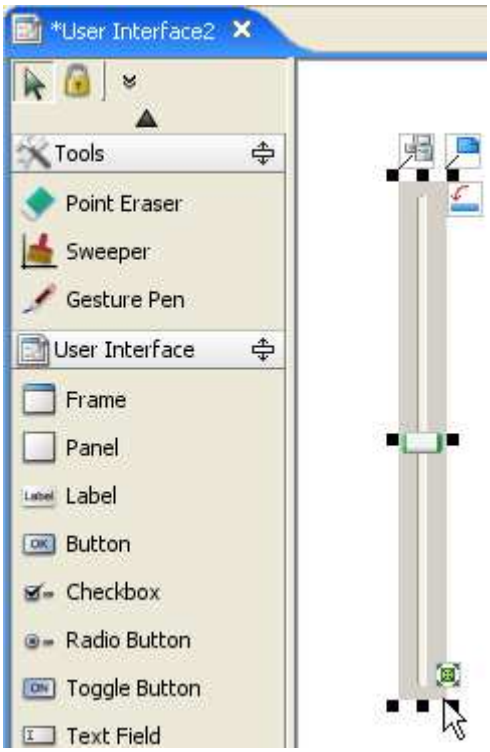



*Figure 8.30 - Component with vertical orientaton*

# 9 Instant Reverse

# Chapter 9 - Instant Reverse

SDE for Eclipse provides a handy way to reverse engineer various sources (including binary files) into UML class models. This feature is called Instant Reverse. The use of Instant Reverse is discussed in this chapter.

In this chapter:

- What is Instant Reverse?
- Supported Sources
- Using Instant Reverse
- Java Instant Reverse

## What is Instant Reverse?

The Instant Reverse facility of SDE for Eclipse allows you to reversely engineer different types of source or binary files into UML class models, such as java source, java classes, C++ Source, JDBC, .NET binaries, etc...(More types will be supported soon). This chapter provides a brief description on the supported formats and the steps required to reverse engineer source codes into UML class models in SDE for Eclipse.

## Supported Sources

| Supported Instant Type | Extension | Remarks |
|---|---|---|
| Java Source | Dir/.java | |
| Java Class | Dir/.class/.jar/.zip | |
| Dynamic Link Library | .dll | Must be created by Microsoft® Visual Studio .NET<br>Only one .dll file needs to be supplied. All other required .dll files will be looked up automatically. |
| Windows Executable | .exe | Must be created by Microsoft® Visual Studio .NET |
| XML | .xml | |
| XML Schema | .xsd | |
| C++ Source | .h/.cpp | |
| CORBA IDL Source | .idl | |
| PHP 5.0 Source | Dir/.php/.inc | |
| Hibernate | .hbm.xml | |
| JDBC | | Reverse the database schema of the specific database according to the given JDBC Connection URL. |
| Ada 9x Source | .ada/.adb/.ads | |

*Table 9.1*

# Java Instant Reverse

Instant Reverse supports the reverse engineering of Java up to version 1.5. Besides this, there are more advanced options for Java Instant Reverse compared to other languages.

Select menu **Modeling > Instant Reverse...** . The Instant Reverse dialog box will appear; select 'Java' from the language combo box.

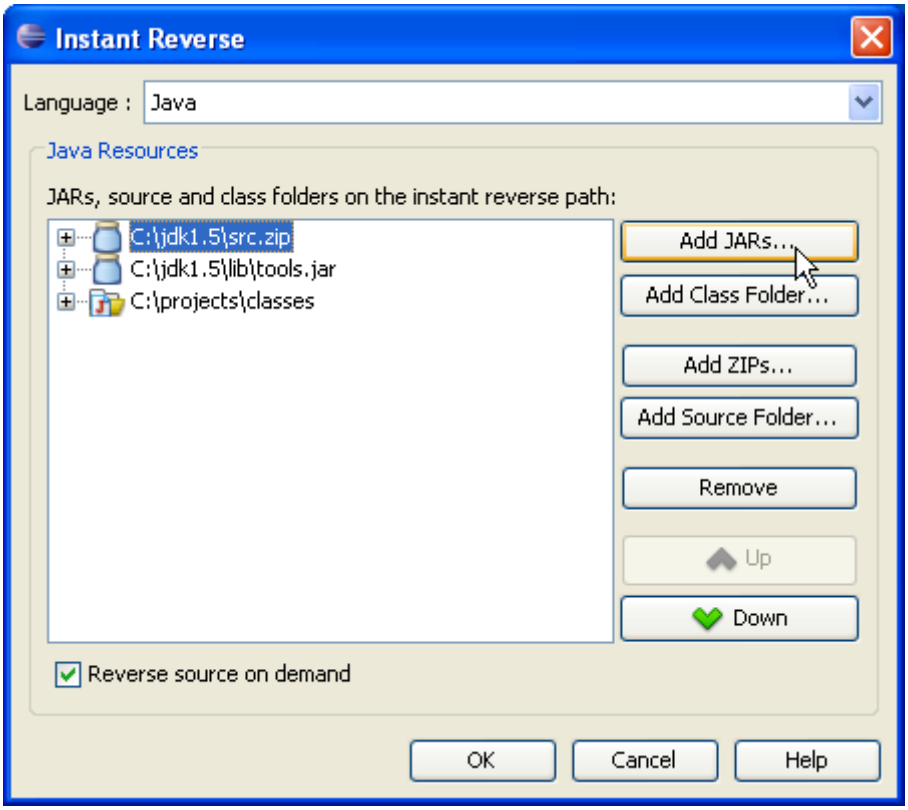



*Figure 9.1 - Java Instant Reverse Dialog*

The buttons on the right are used for adding, removing and reordering of Java source/class paths.

| Button | Description |
|---|---|
| Add JARs... | Select JAR files to add to the instant reverse paths. |
| Add Class Folder... | Select class folders to add to the instant reverse paths. |
| Add ZIPs... | Select ZIP files to add to the instant reverse paths. |
| Add Source Folder... | Select source folders to add to the instant reverse paths. |
| Remove | Remove selected instant reverse paths. |
| Up | Move selected instant reverse paths upwards. |
| Down | Move selected instant reverse paths downwards. |

*Table 9.2*

Select the **Reverse source on demand** option if you want the paths to be reversed to UML models only when you request it (see the **On-Demand Java Instant Reverse** section later in this chapter for details). If this option is not selected, the instant reverse paths will be reversed to UML models once you click OK.

# On-Demand Java Instant Reverse

After performed instant reverse of Java with the **Reverse source on demand** option selected, the **Class Repository** will have the reversed paths added under the **Java Resources** node.

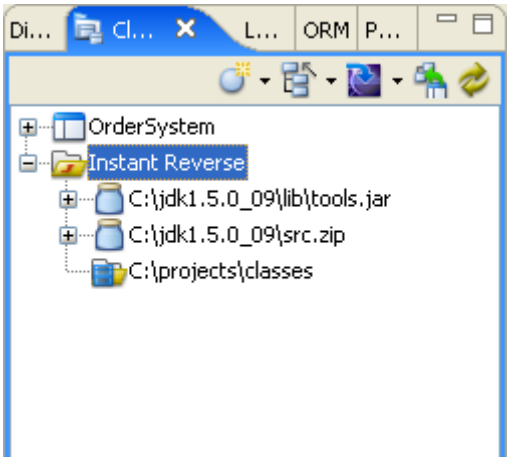



*Figure 9.2 - Class Repository*

There are three kinds of on-demand Java instant reverse you can use, they are 'reverse to Class Repository', 'reverse to diagram' and 'reverse by drag-and-drop'.

## Reverse to Class Repository

In the Class Repository's Java Resources node, select the desired resources to be reversed, right-click on the selection and select **Reverse "<RESOURCE_NAME>" to > Class Repository** from the popup menu.

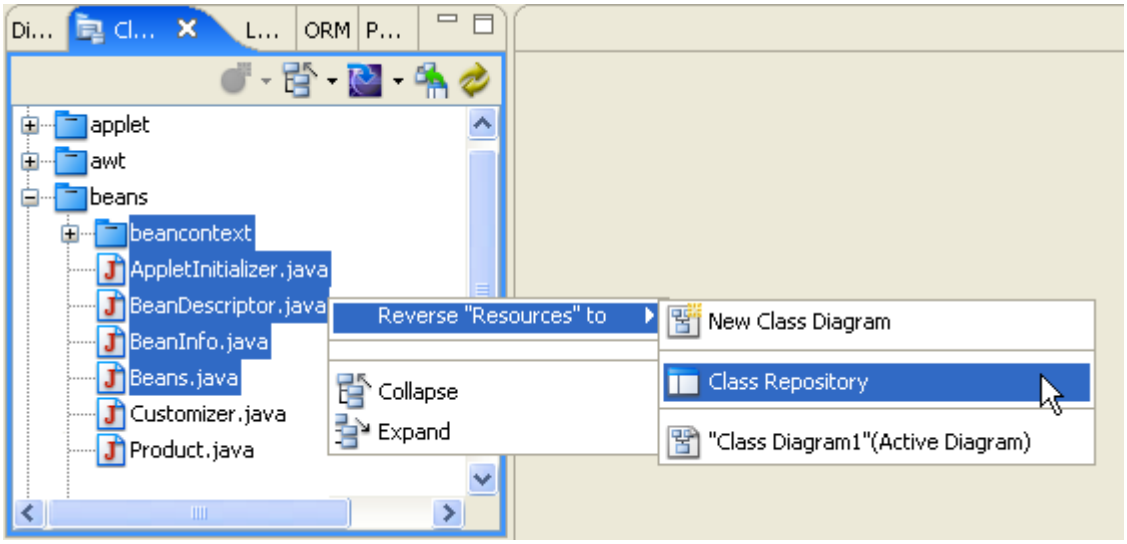



*Figure 9.3 - Revert resources to Class Repository*

The resources will be reversed to UML models and added to the project, but no diagrams or shapes will be generated.

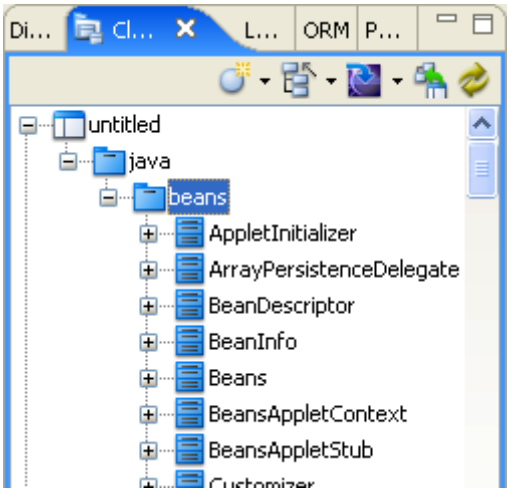



*Figure 9.4 - Resource reversed in Class Repository*

## Reverse to Diagram

In the Class Repository's Java Resources node, select the desired resources to reverse, right-click on the selection and select **Reverse "<RESOURCE_NAME>" to** from the popup menu to expand it.

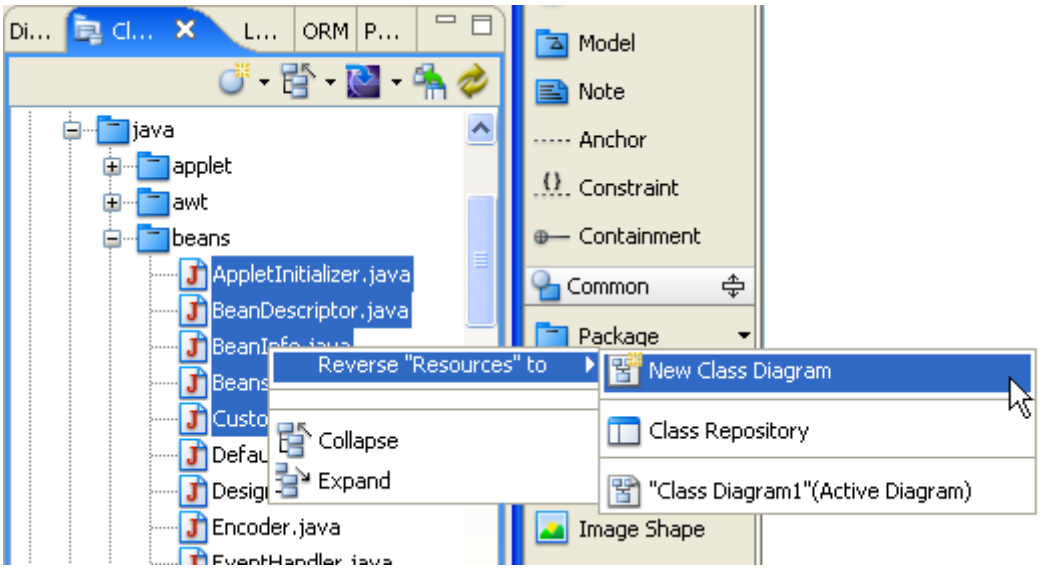



*Figure 9.5 - Revert resources to form a new diagram*

If you select the **New Class Diagram** menu, a new class diagram will be generated from the reversed UML models.

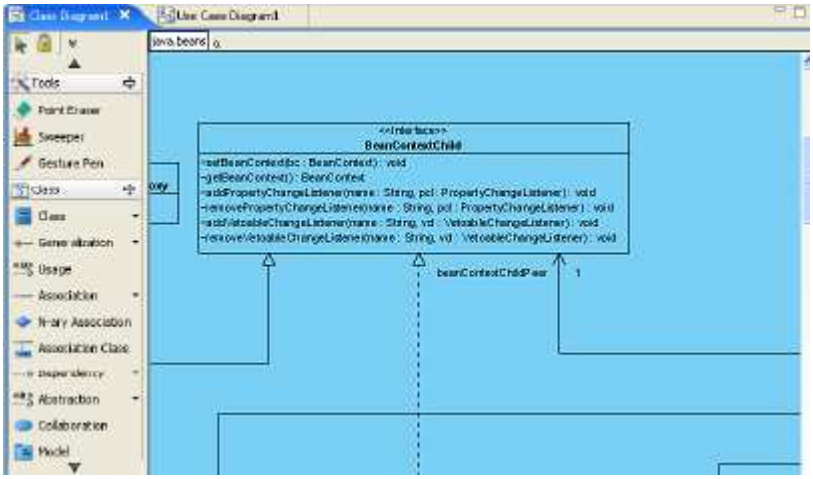



*Figure 9.6 - The reversed Class Diagram*

If there is an active class diagram and you selected the "**<DIAGRAM_NAME>" (Active Diagram)** menu, the shapes of the reversed UML models will be generated and appended to the empty space of this diagram.

## Reverse by Drag-and-Drop

In the Class Repository's Java Resources node, select the desired resources to be reversed, drag the selection over the target class diagram and then release the mouse button to drop it.

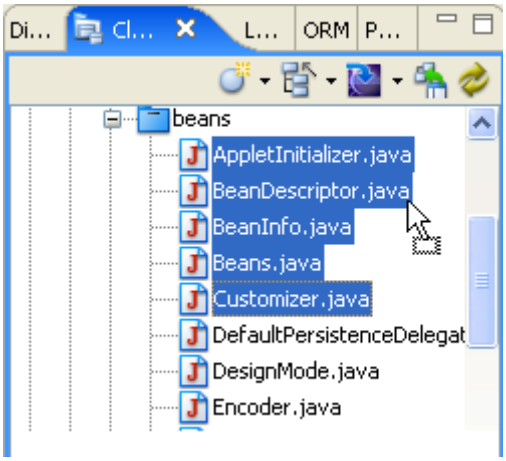



*Figure 9.7 - Reverse by Drag and Drop*

The shapes of the reversed UML models will be generated and placed to the location of this diagram where you dropped the resources.

# Dynamic Link Library Instant Reverse

Instant Reverse supports the reverse engineering of dynamic link library into UML class model.

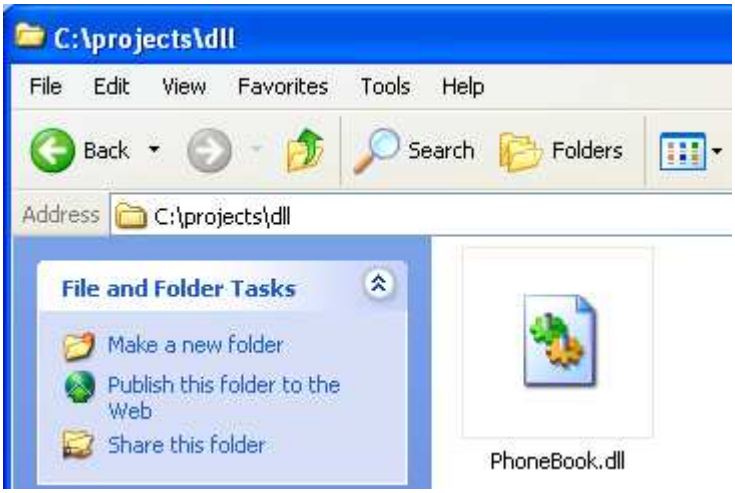



*Figure 9.8 - Dynamic Link Library file*

To perform instant reverse of dll:

1. Select menu **Modeling** > **Instant Reverse ...** the **Instant Reverse** dialog box appears with Instant Reverse options for configuration. Select the language '.NET dll or exe files' from the combo box.

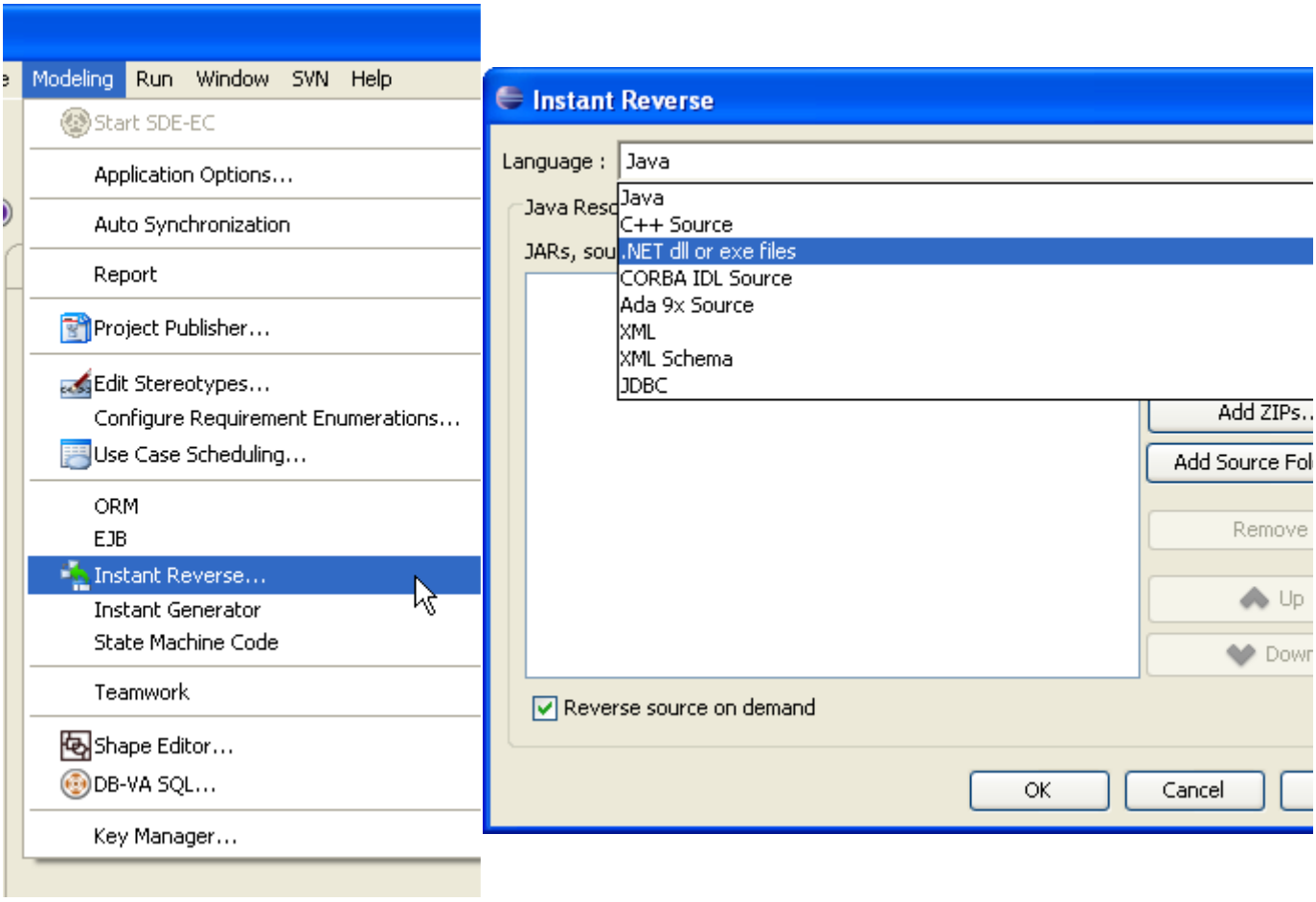



*Figure 9.9 - Open Instant Reverse dialog box and select language*

2. Type in the path of the Dynamic Link Library file. You may also select **...** to select the file path. Then select **OK** to start.

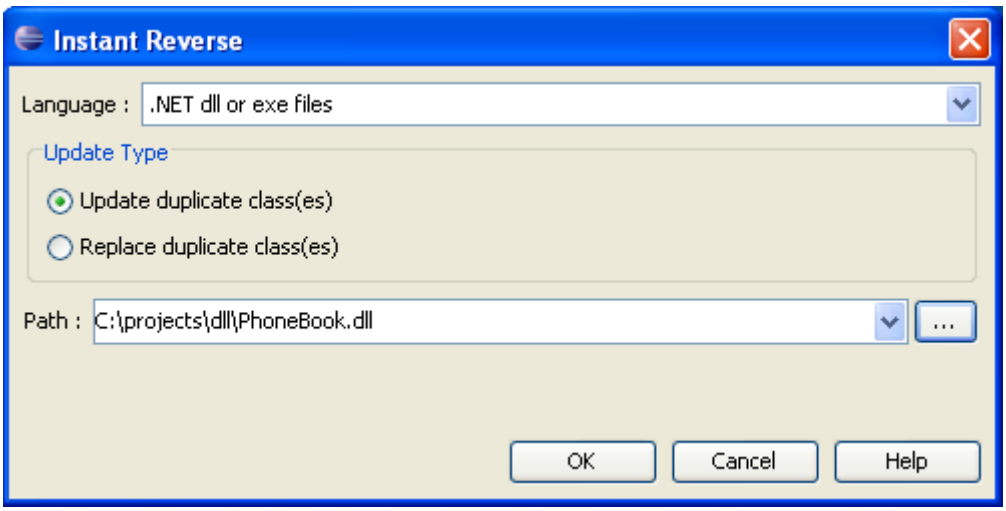



*Figure 9.10 - Specify the file path*

3. A **Message** dialog box will appear telling you the reversal is successful.


*Figure 9.11 - Message dialog box*

4. An **Instant Reverse form Diagram** dialog box then appears. You can check the reversed classes and packages to form a new diagram. If you check the check box **<default package>**, you can form a diagram using the default package. You may also change the form diagram and presentation options. After selections have been made, click **OK**.

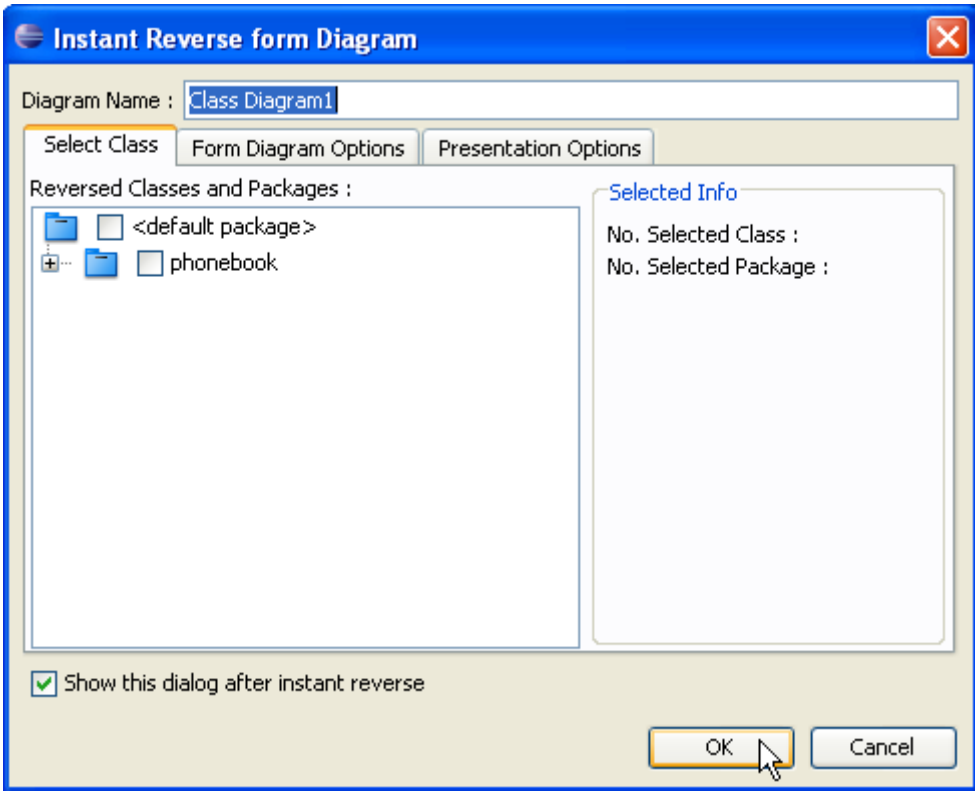



*Figure 9.12 - Instant Reverse form Diagram dialog box*

5. You can see the result of reversal in the **Model** pane.

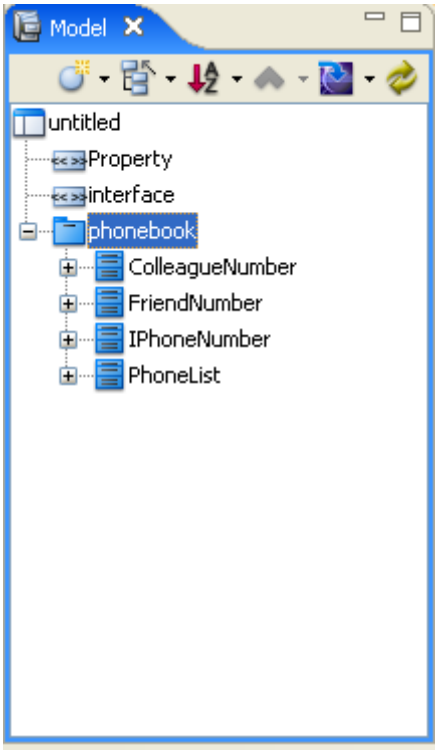



*Figure 9.13 - Model pane*

6. You may also select one or more models and select **Form Diagram** > **Customize.../Hierarchical/Navigation** to form a new diagram.

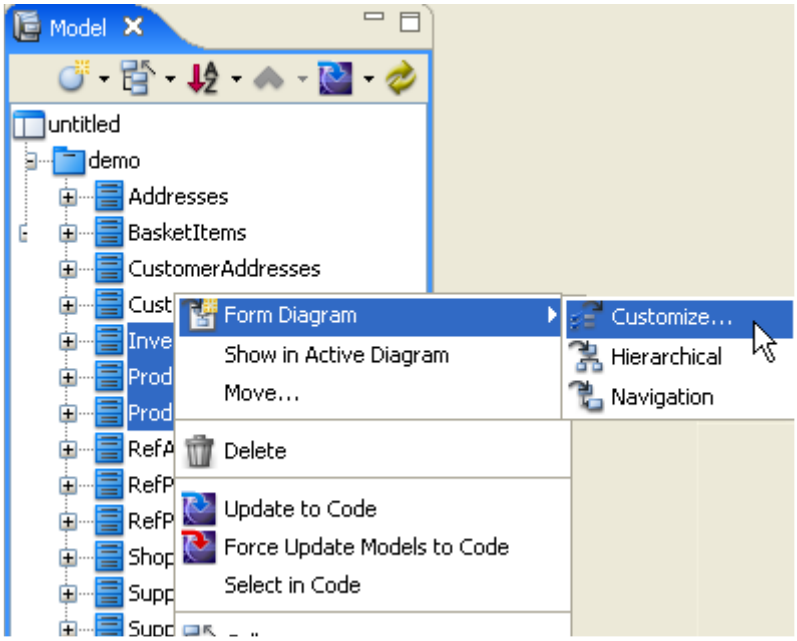



*Figure 9.14 - Select model to form diagram*

7. The Form Diagram dialog box is shown. You can edit the details of the new diagram there.

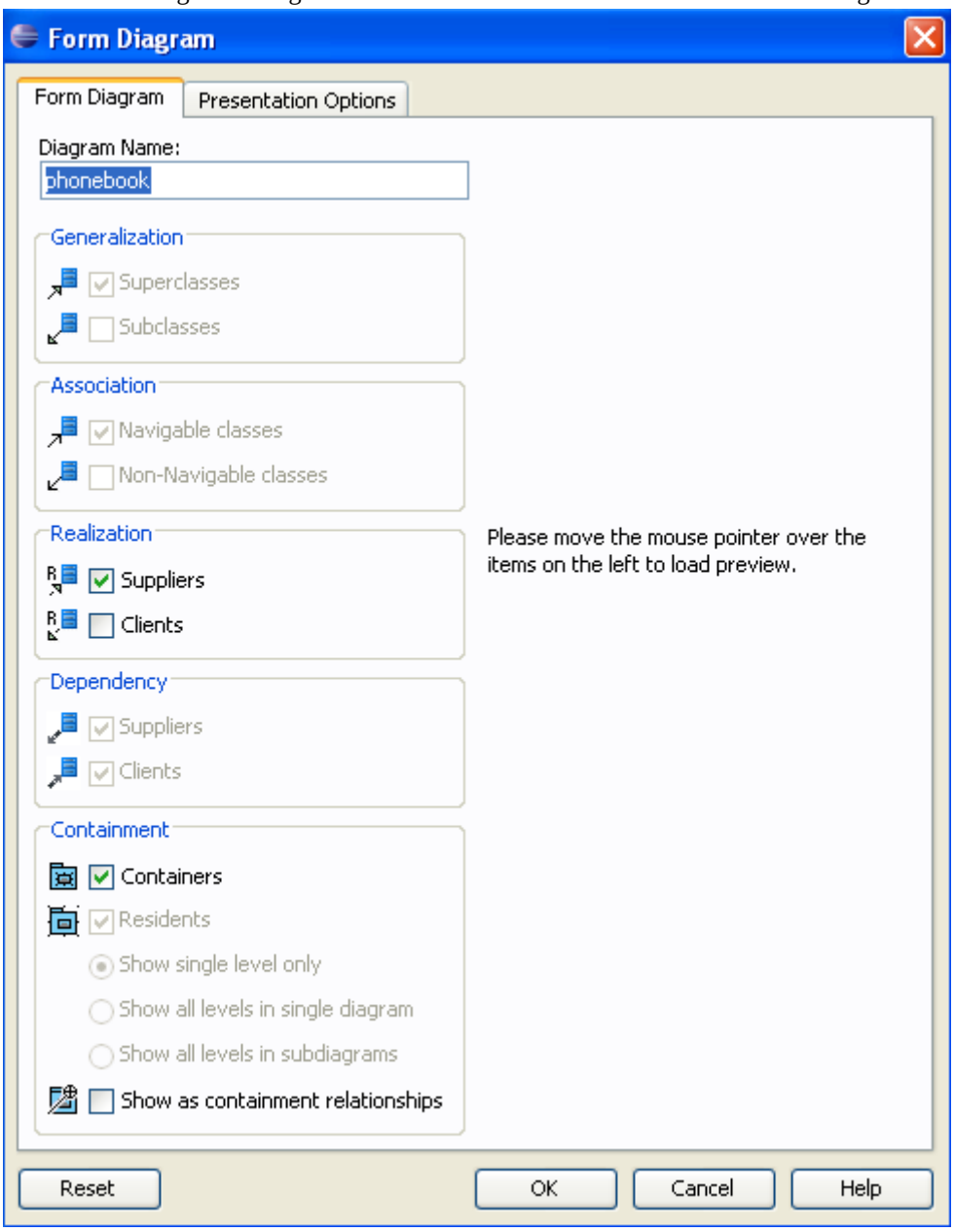



*Figure 9.15 - Form Diagram dialog box*

8.A new diagram is formed by the selected models.

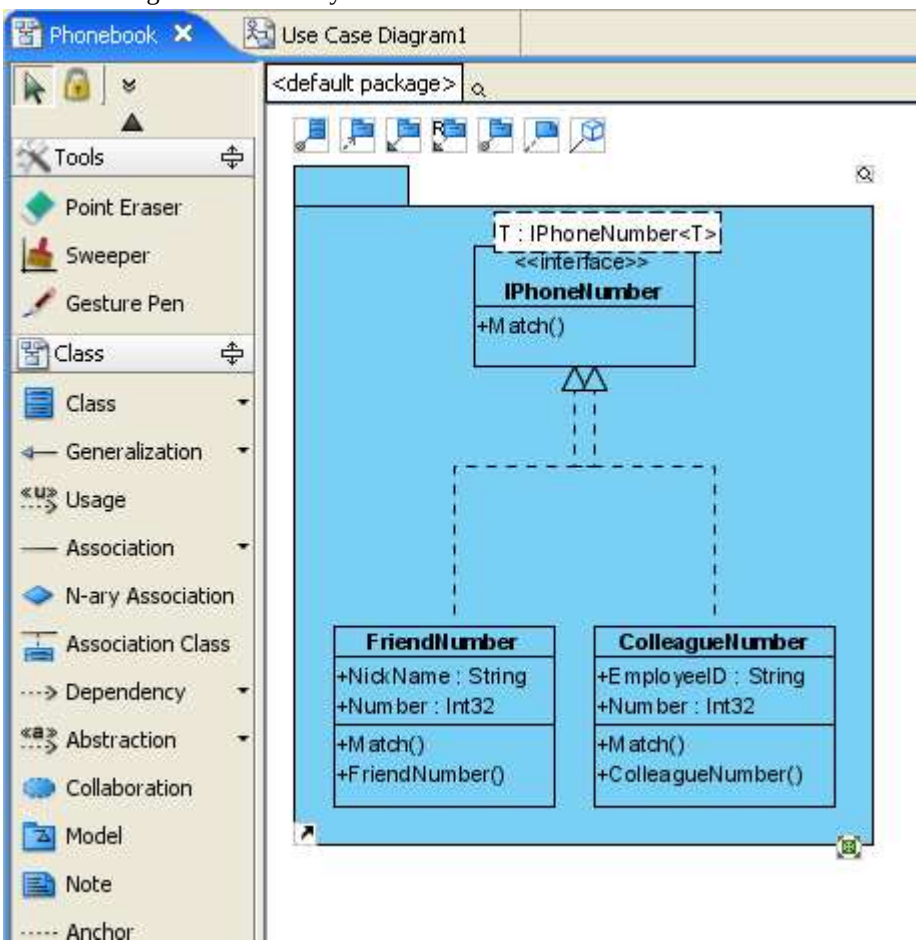



*Figure 9.16 - New diagram formed*

# XML Instant Reverse

Instant Reverse supports the reverse engineering of XML into UML class model. Every XML Node in the XML will be reversed as a class model. The attributes in node will be reversed as Class' attributes and all Class models will be reversed into a root package.

```
<!-- The root xml node will be also reversed as a class model -->
<defaultpackage>
  <Class1 attribute1="" attribute2="" attribute3=""/>
  <Class2 name="">
    <!-- This WON'T be inner class of "Class2", all class models will be generated ir
    <Class3/>
  </Class2>
  <!-- Another "Class1", its attributes will be merged into same UML model -->
  <Class1 name="" id=""/>
</defaultpackage>
```

*Figure 9.17 - XML file*

To perform instant reverse of XML:

1. Select menu **Modeling > Instant Reverse...**, the **Instant Reverse** dialog box appears with the Instant Reverse options for configuration.

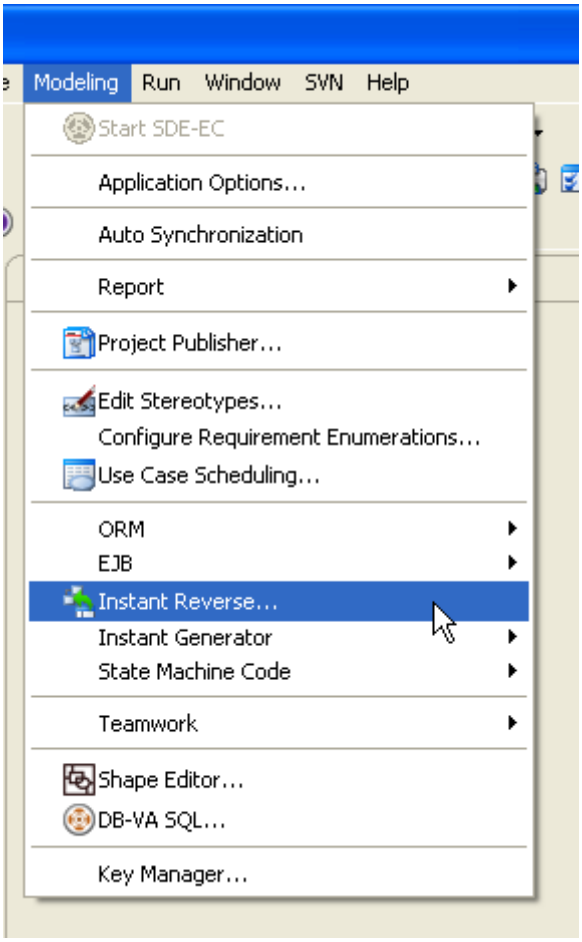



*Figure 9.18 - Open Instant Reverse dialog box*

2. Select the language from the combo box and type in the path of the XML file. You may also select **...** to select the file path. Then select **OK** to start.

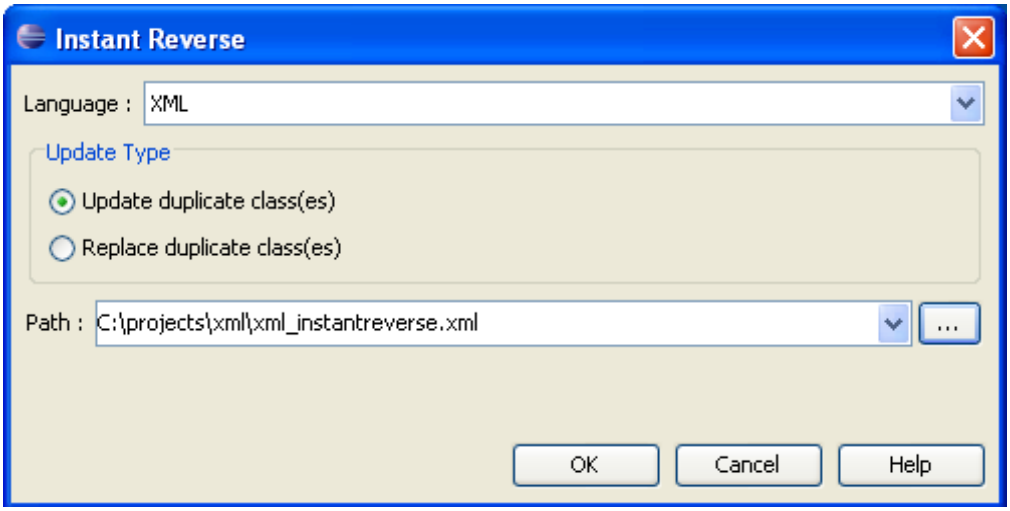



*Figure 9.19 - Specify the file path*

3. A **Message** dialog box appears telling you the reversal is successful.


*Figure 9.20 - Message dialog box*

4. An **Instant Reverse form Diagram** dialog box then appears. You can check the reversed classes and packages to form a new diagram. If you check the check box **<default package>**, you can form a diagram using the default package. You may also change the form diagram and presentation options. Select **OK**.

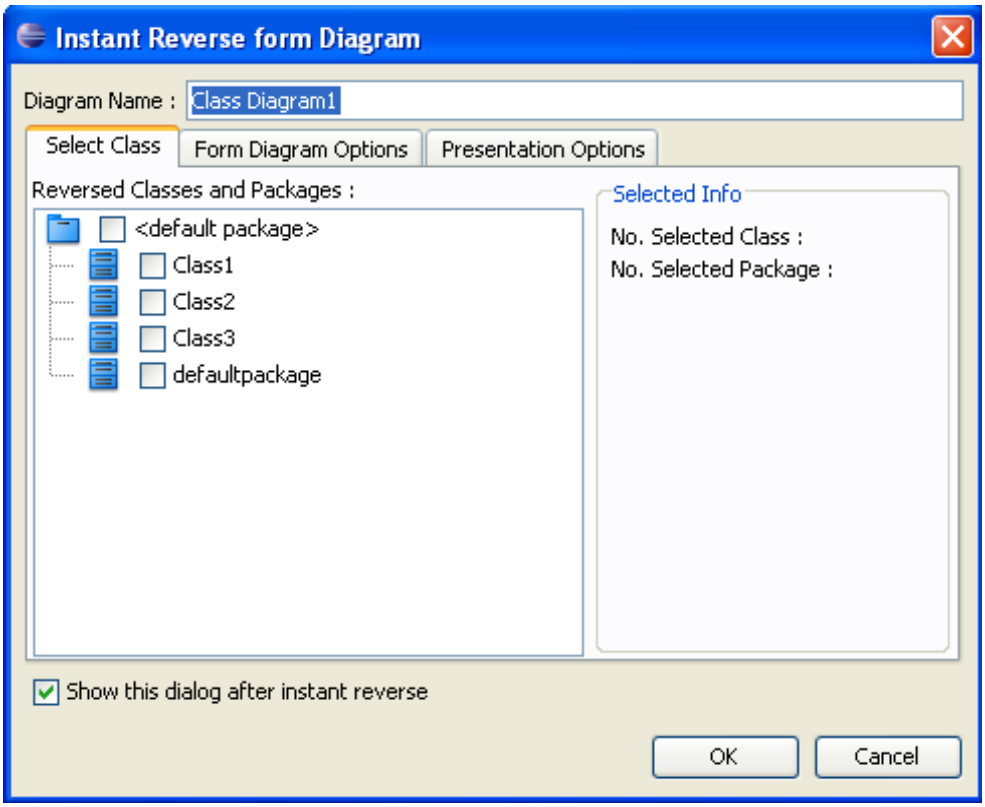



*Figure 9.21 - Instant Reverse form Diagram dialog box*

5. You can see the result of reversal in the **Model** pane.

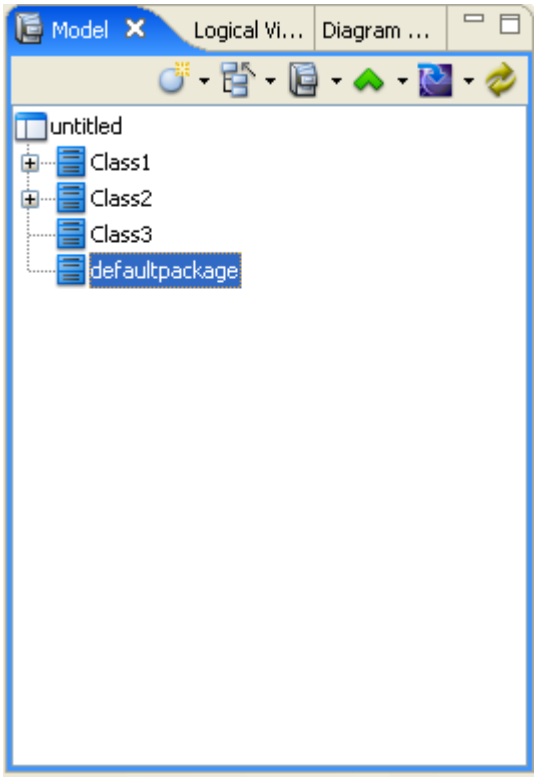



*Figure 9.22 - Model pane*

6. You may also select one or more models and select **Form Diagram** > **Customize.../Hierarchical/Navigation** to form a new diagram.

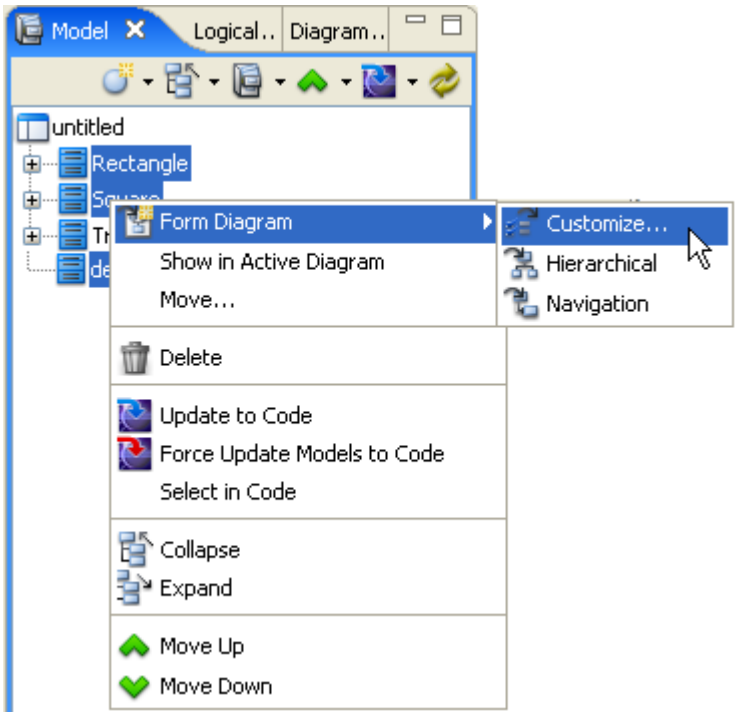



*Figure 9.23 - Select model to form diagram*

7. The Form Diagram dialog box is shown. You can edit the details of the new diagram there.

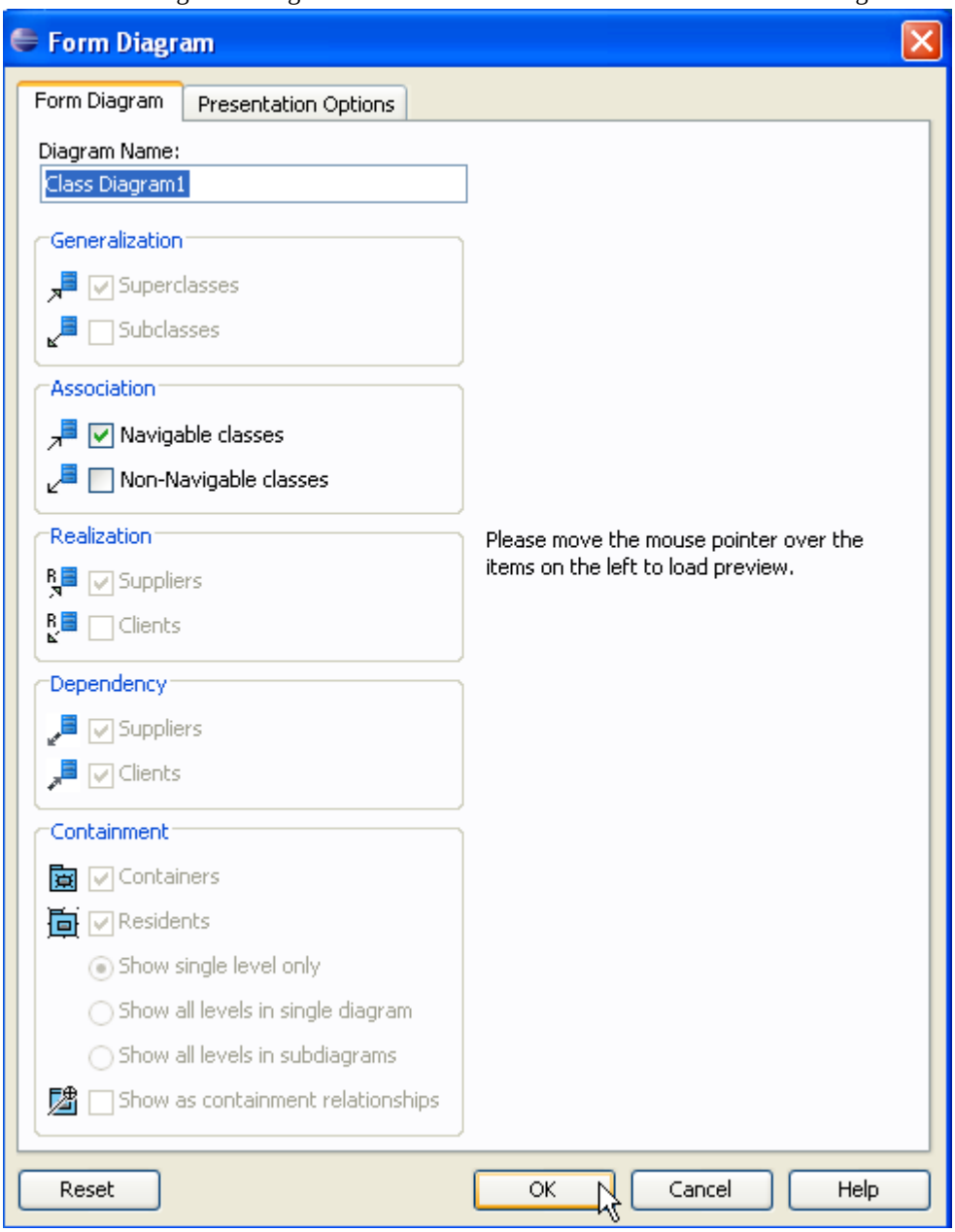



*Figure 9.24 - Form Diagram dialog box*

8. A new diagram is formed by the selected models.

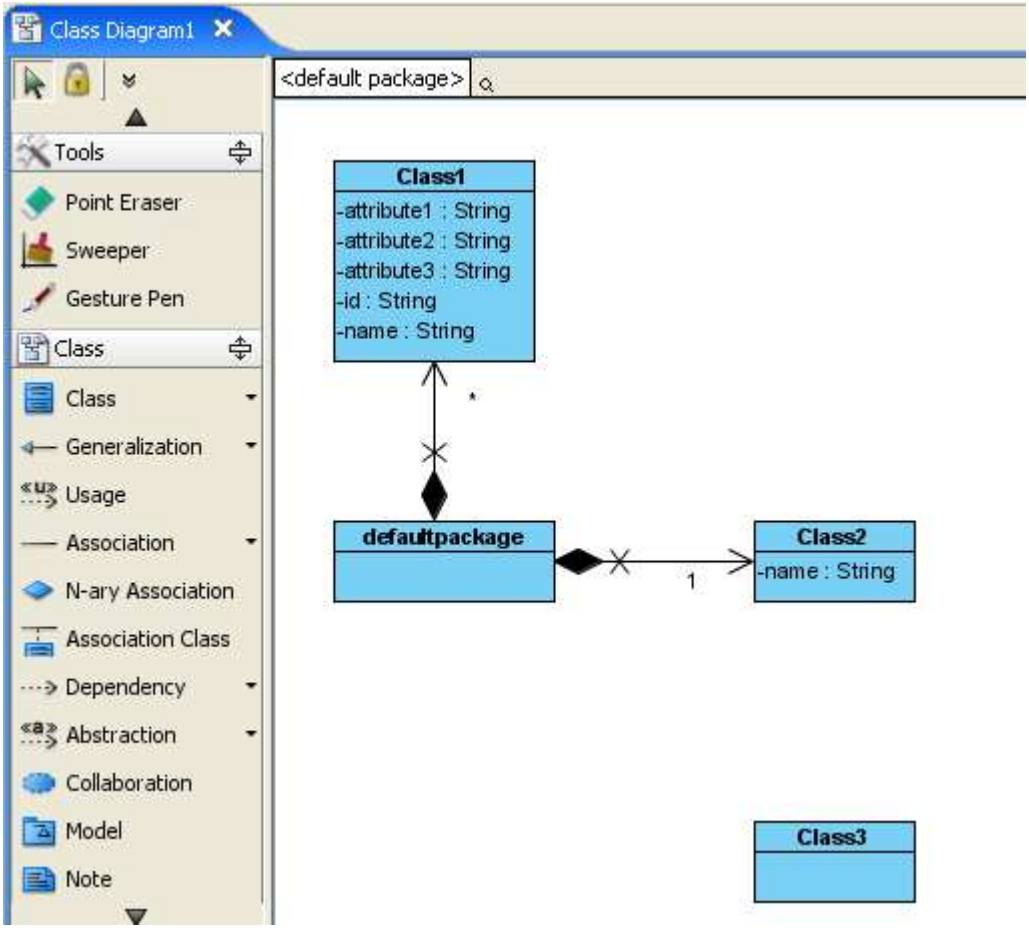



*Figure 9.25 - New diagram formed*

# XML Schema Instant Reverse

SDE for Eclipse can reverse XML Schema into UML class model.

```
<?xml version="1.0" encoding="ISO-8859-1" ?>
<xs:schema
  targetNamespace="Polygon"
  xmlns="Polygon"
  xmlns:xs="http://www.w3.org/2001/XMLSchema">
  <xs:complexType name="Polygon">
  </xs:complexType>
  <xs:complexType name="Rectangle">
    <xs:all>
      <xs:element name="width" type="xs:double" minOccurs="0" maxOccurs="1"/>
      <xs:element name="height" type="xs:double" minOccurs="0" maxOccurs="1"/>
    </xs:all>
  </xs:complexType>
  <xs:complexType name="Square">
    <xs:all>
      <xs:element name="length" type="xs:double" minOccurs="0" maxOccurs="1"/>
    </xs:all>
  </xs:complexType>
  <xs:complexType name="Triangle">
    <xs:all>
      <xs:element name="length1" type="xs:double" minOccurs="0" maxOccurs="1"/>
      <xs:element name="length2" type="xs:double" minOccurs="0" maxOccurs="1"/>
      <xs:element name="length3" type="xs:double" minOccurs="0" maxOccurs="1"/>
    </xs:all>
  </xs:complexType>
</xs:schema>
```

*Figure 9.26 - XML schema file*

1. Select **Modeling > Instant Reverse...** from the main menu. The **Instant Reverse** dialog box appears with Instant Reverse options for configuration.

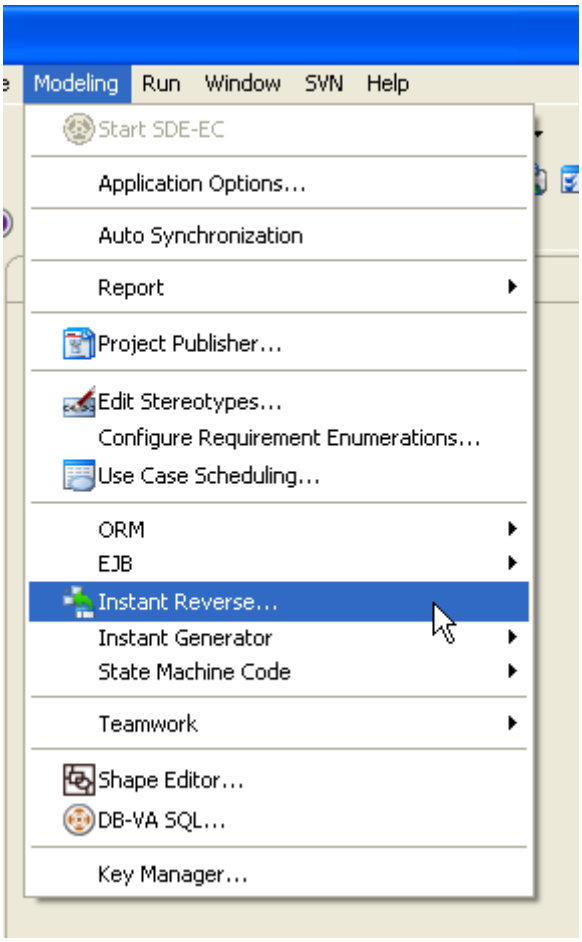



*Figure 9.27 - Open Instant Reverse dialog box*

2. Select the language from the combo box and type in the path of the XML Schema file. You may also select **...** to select the file path. Then select **OK** to start.

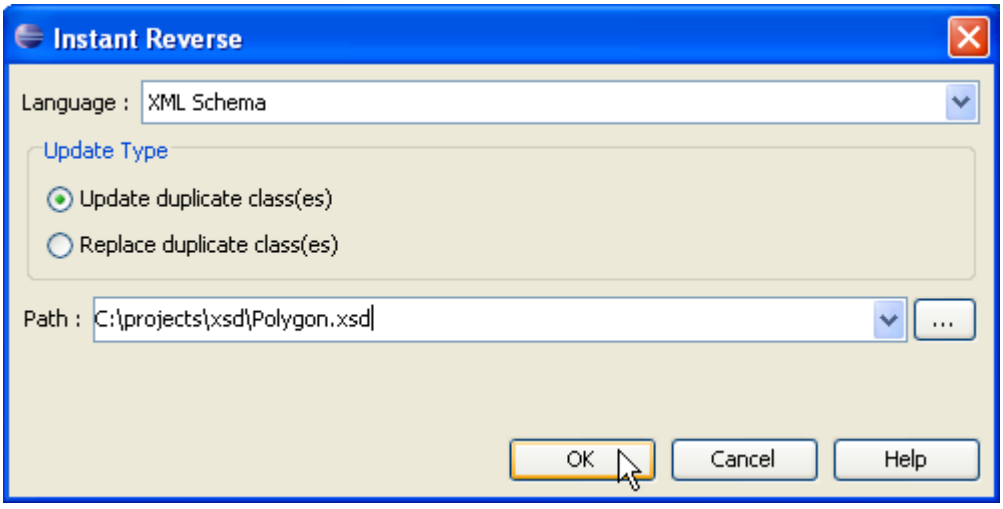



*Figure 9.28 - Specify the file path*

3. A **Message** dialog box appears telling you the reversal is successful.


*Figure 9.29 - Message dialog box*

4. An **Instant Reverse form Diagram** dialog box then appears. You can check the reversed classes and packages to form a new diagram. If you check the check box **<default package>**, you can form a diagram using the default package. You may also change the form diagram and presentation options. Then select **OK**.

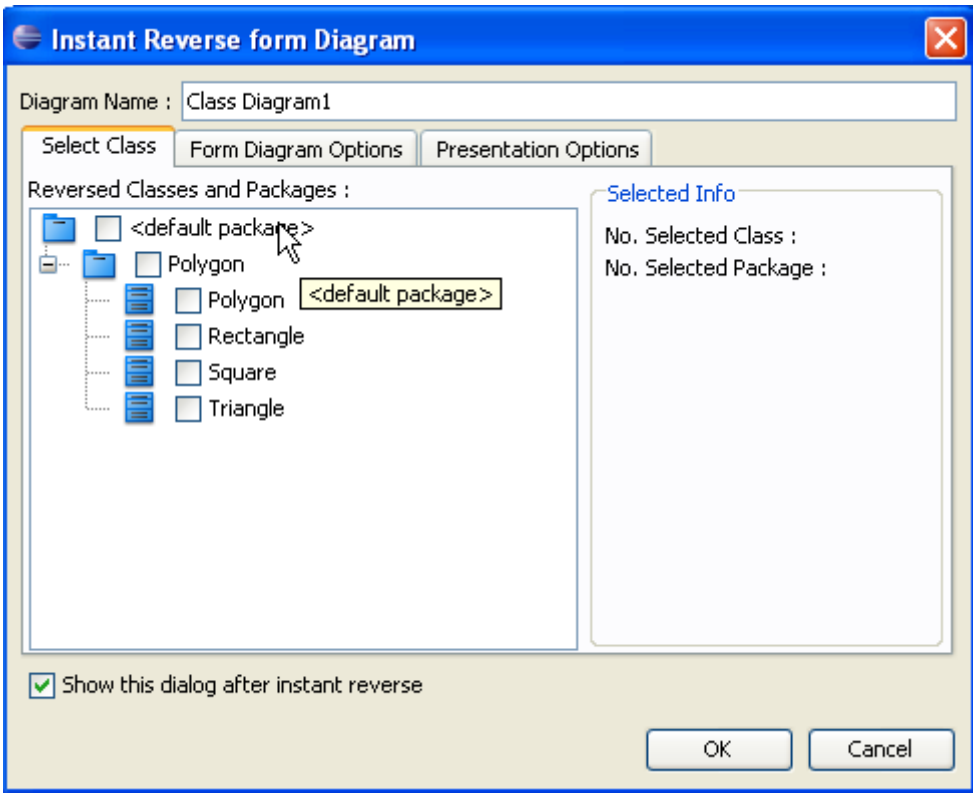



*Figure 9.30 - Select class or package to form diagram*

5. You can see the reverse result in the Model pane, and expand the tree to see the what the models contain.

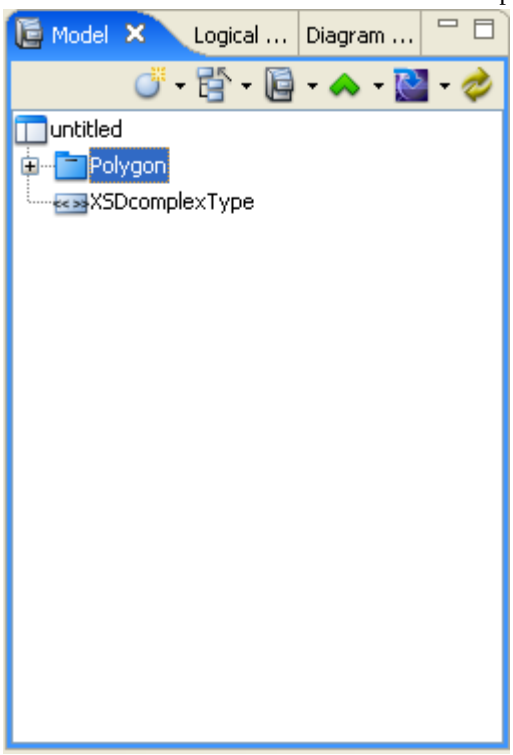



*Figure 9.31 - Model pane showing result*

6. You may also select one or more models and select **Form Diagram** > **Customize.../Hierarchical/Navigation** to form a new diagram.

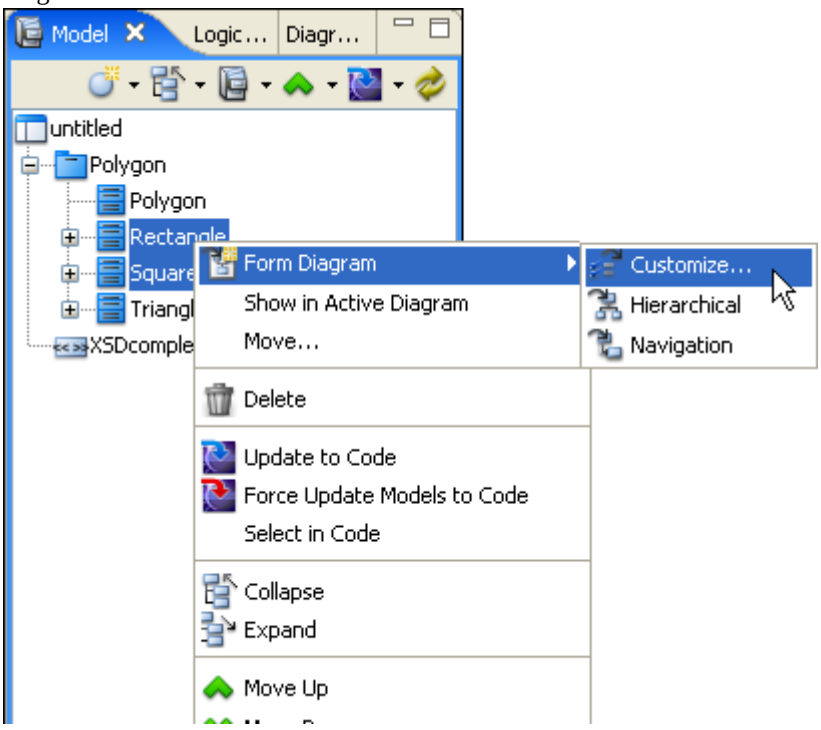



*Figure 9.32 - Select model to form diagram*

7. The Form Diagram dialog box is shown. You can edit the details of the new diagram there.

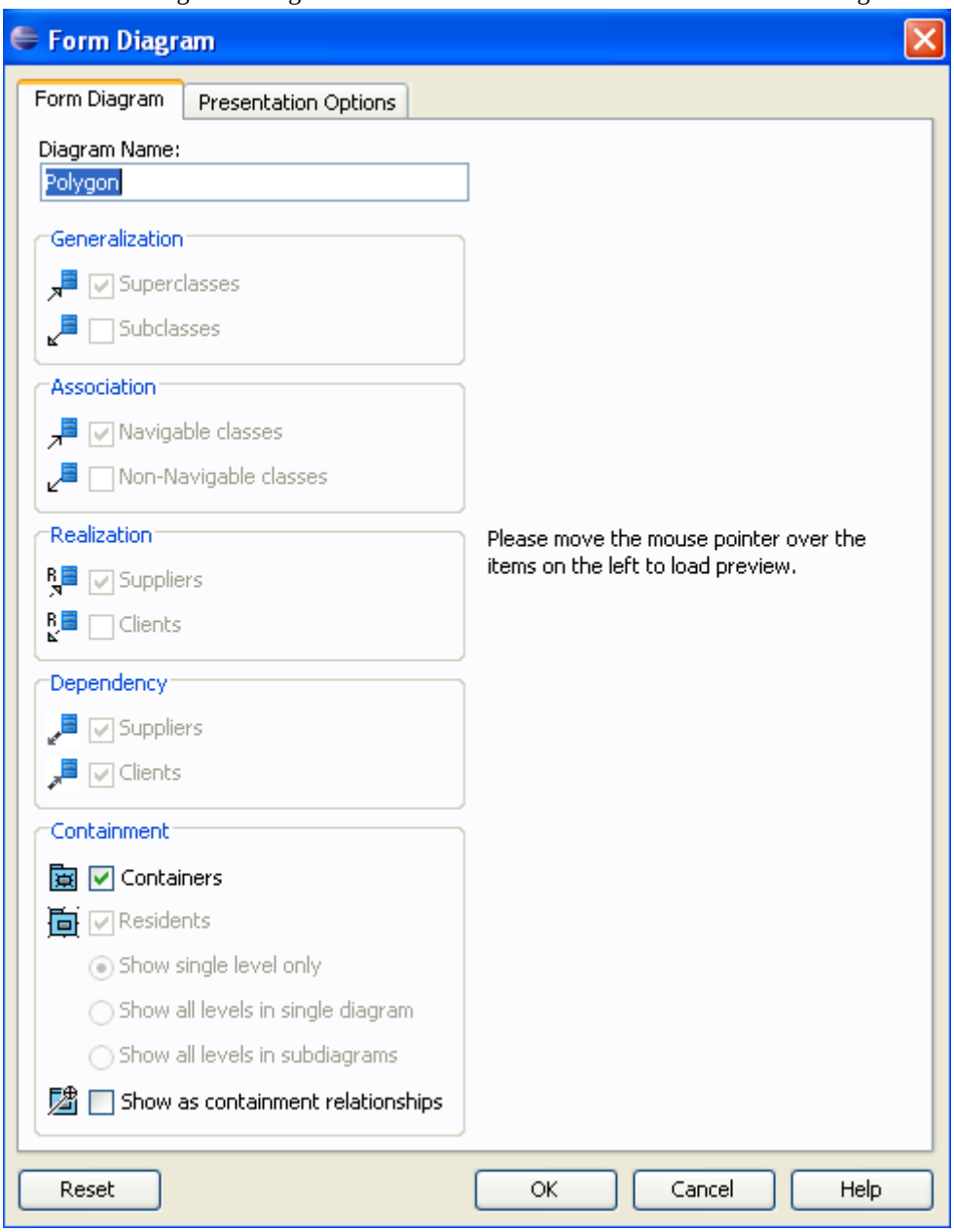



*Figure 9.33 - Form Diagram dialog box*

8. A new diagram is formed with the selected models.

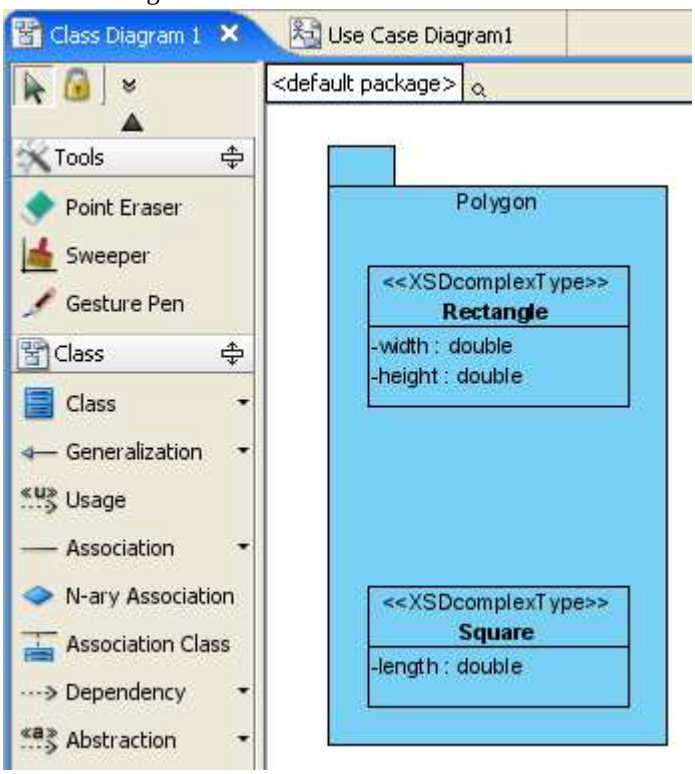



*Figure 9.34 - Diagram formed*

# C++ Instant Reverse

SDE for Eclipse can reverse C++ into UML class model.

```
#include <string>
#include <vector>
#include <exception>
using namespace std;

#ifndef __Polygon_h__
#define __Polygon_h__

__interface Polygon;

__interface Polygon
{

  public: double_ getArea() = 0;

  public: bool intersects(Polygon aPolygon) = 0;
};

#endif
```

*Figure 9.35 - C++ file*

To perform instant reverse of C++:

1. Select menu **Modeling > Instant Reverse...**, the **Instant Reverse** dialog box appears with Instant Reverse options for configuration.

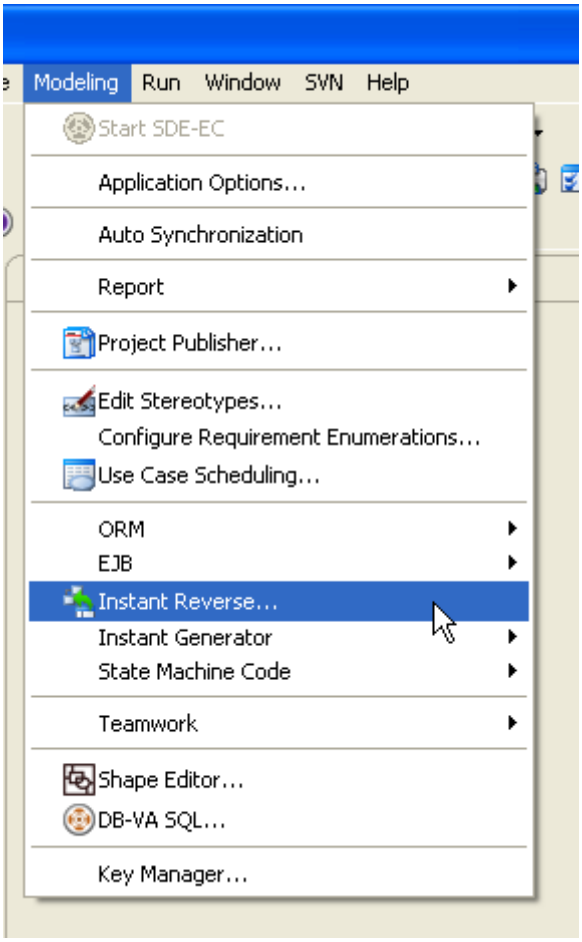



*Figure 9.36 - Open Instant Reverse dialog box*

2. Select the language from the combo box and type in the path of the C++ file. You may also select **...** to select the file path. You can select a folder or a C++ file, with the extension of .h or .cpp. Then select **OK** to start.

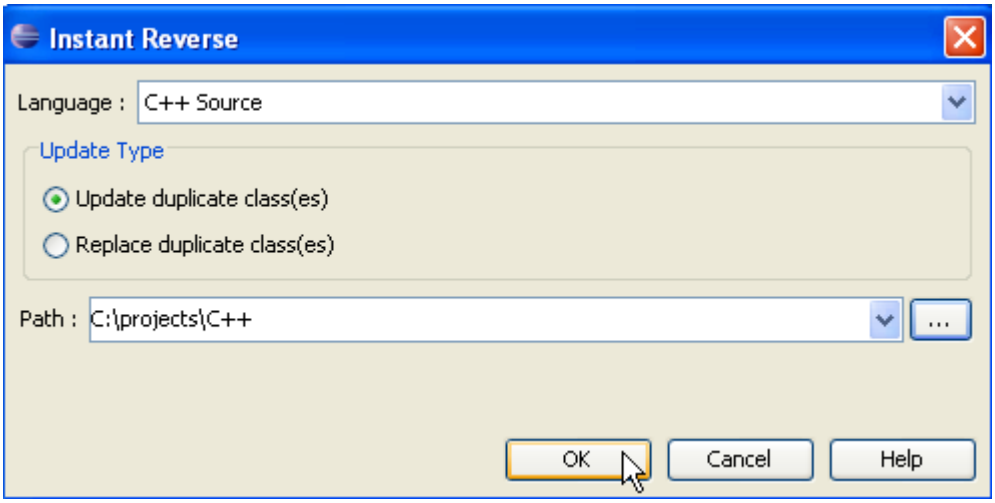



*Figure 9.37 - Specify the file path*

3. A **Message** dialog box appears telling you the reversal is successful.


*Figure 9.38 - Message dialog box*

4. An **Instant Reverse form Diagram** dialog box then appears. You can check the reversed classes and packages to form a new diagram. If you check the check box **<default package>**, you can form a diagram using the default package. You may also change the form diagram and presentation options. Then, select **OK**.

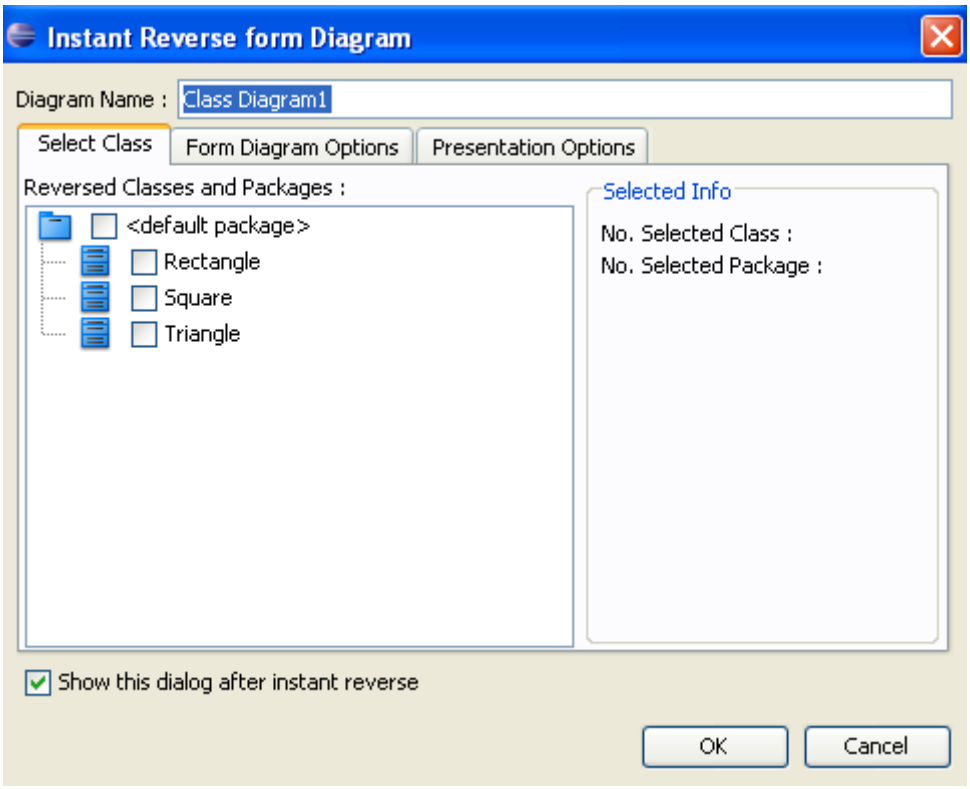



*Figure 9.39 - Instant Reverse form Diagram dialog box*

5. You can see the result of reversal in the **Model** pane.

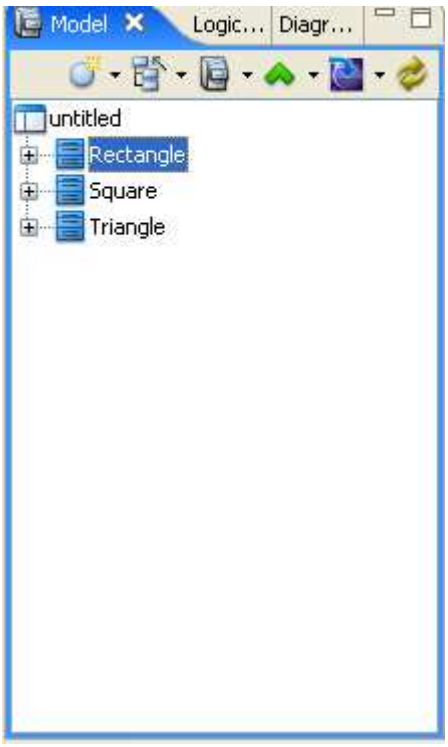



*Figure 9.40 - Model pane*

6. You may also select one or more models and select **Form Diagram** > **Customize.../Hierarchical/Navigation** to form a new diagram.

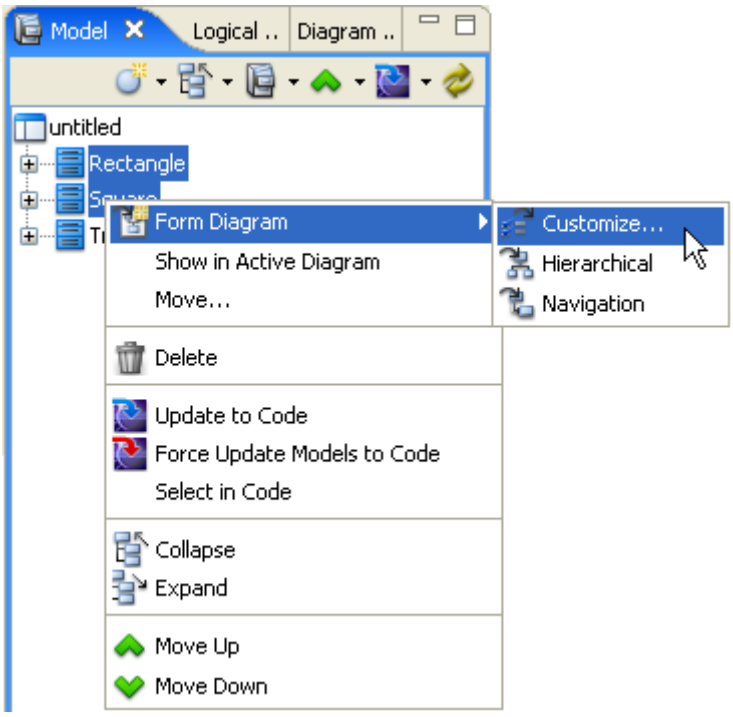



*Figure 9.41 - Select model to form diagram*

7. The **Form Diagram** dialog box is shown. You can edit the details of the new diagram there.

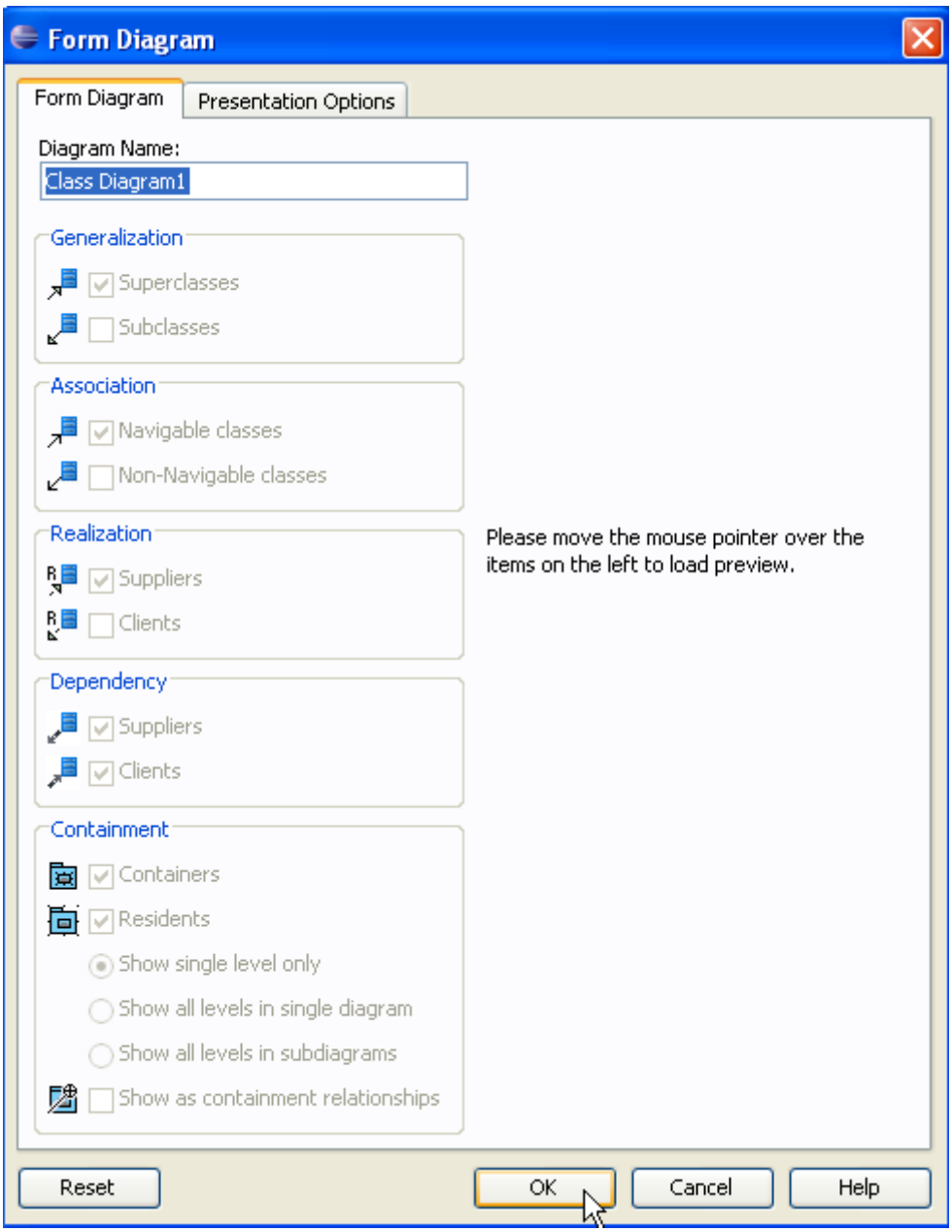



*Figure 9.42 - Form Diagram dialog box*

8. A new diagram is formed with the selected models.

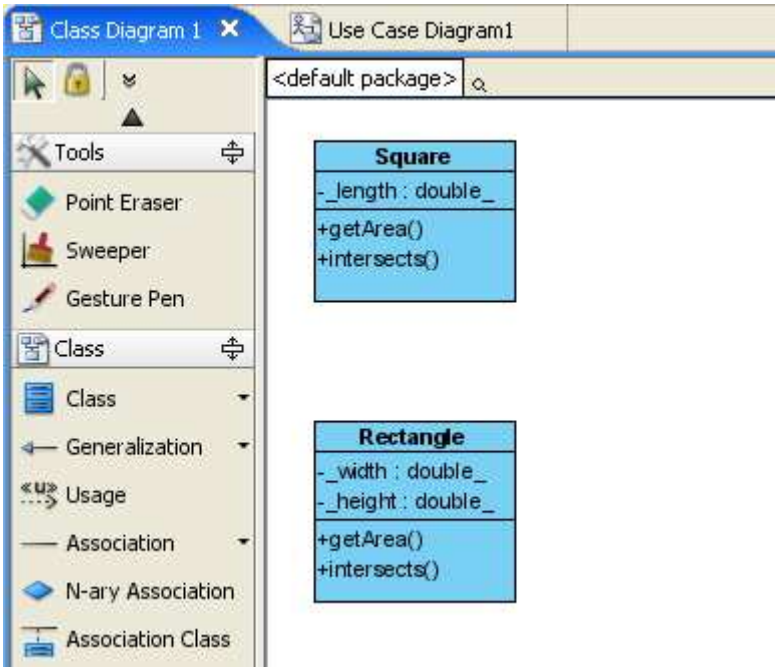



*Figure 9.43 - New diagram formed*

# CORBA IDL Source Instant Reverse

SDE for Eclipse also supports reversing CORBA IDL Source into UML classes or models.

```
interface Polygon {

    double_ getArea();

    boolean_ intersects(inout Polygon aPolygon);
};
```

*Figure 9.44 - CORBA IDL file*

To perform instant reverse of CORBA IDL:

1. Select menu **Modeling** > **Instant Reverse...**, the **Instant Reverse** dialog box appears with Instant Reverse options for configuration.

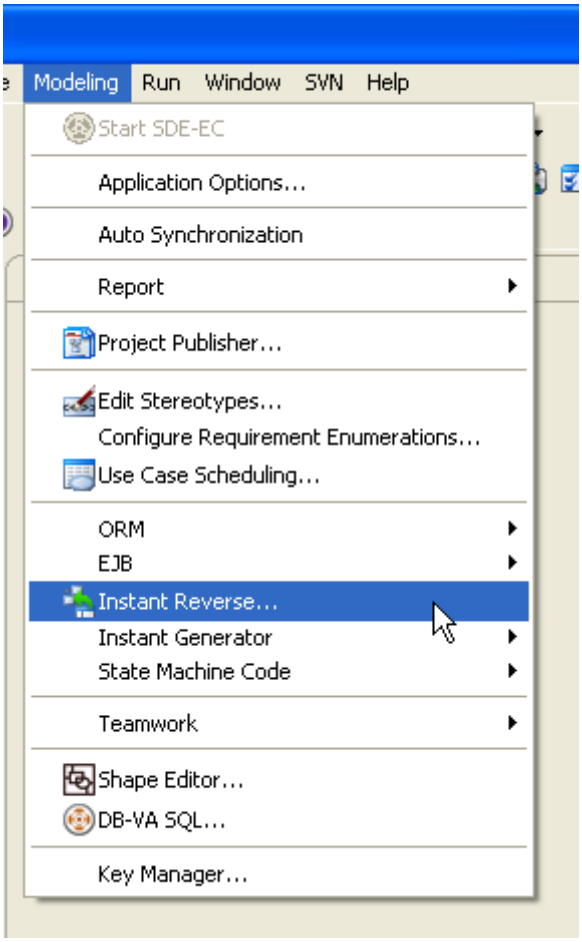



*Figure 9.45 - Open Instant Reverse dialog box*

2. Select the language from the combo box and type in the path of the CORBA file. You may also select **...** to select the file path. You can select a folder or a CORBA file. Then select **OK** to start.

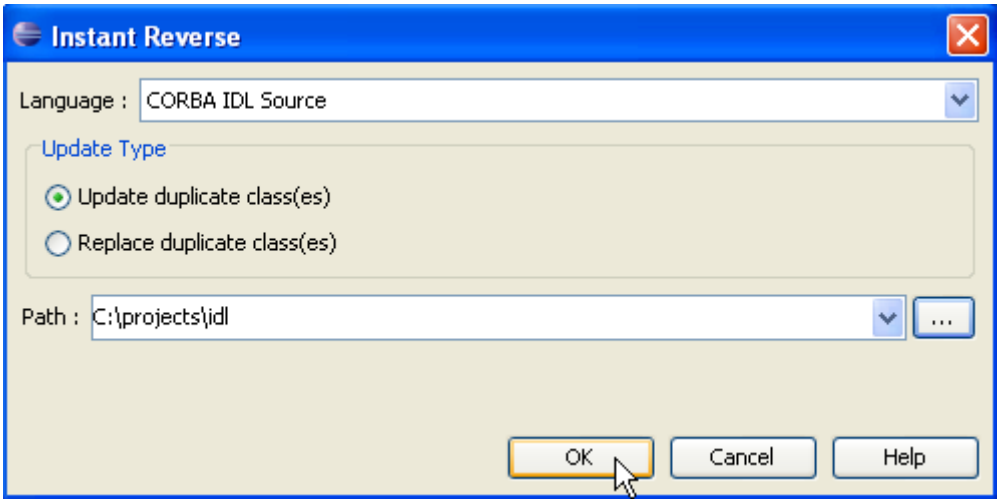



*Figure 9.46 - Specify the file path*

3. A **Message** dialog box appears telling you the reversal is successful.


*Figure 9.47 - Message dialog box*

4. An **Instant Reverse form Diagram** dialog box then appears. You can check the reversed classes and packages to form a new diagram. If you check the check box **<default package>**, the diagram will follow the default package. You may also change the form diagram and presentation options. Then, select **OK**.

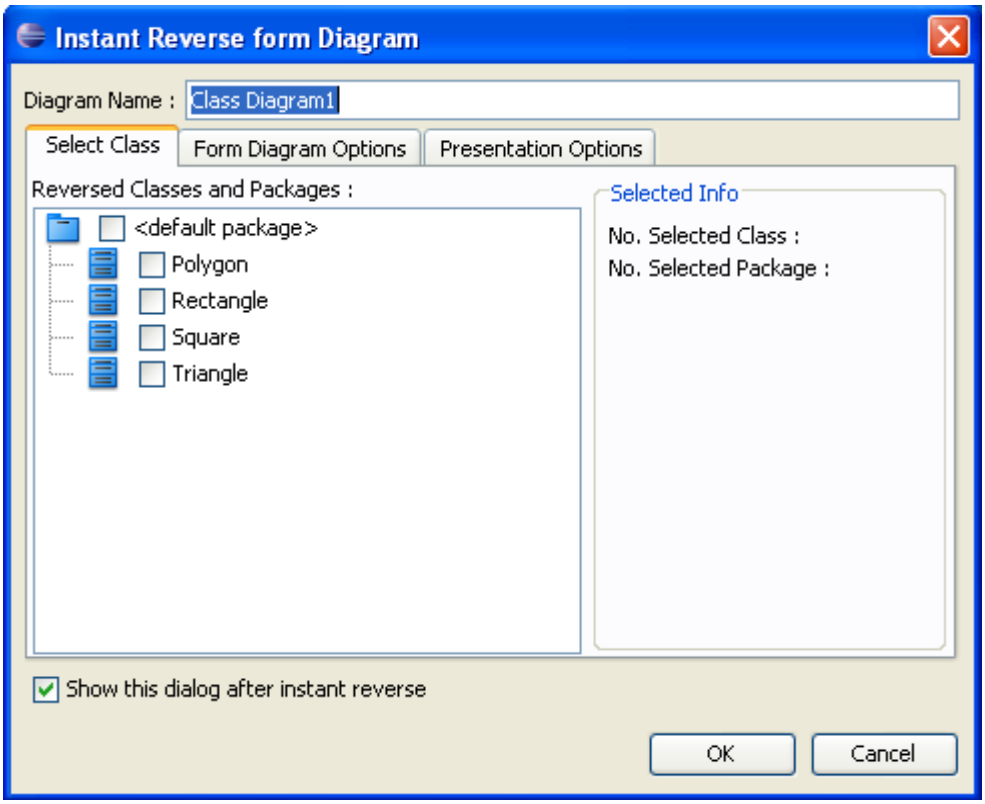



*Figure 9.48 - Instant Reverse form Diagram dialog box*

5. You can see the result of reversal in the **Model** pane.

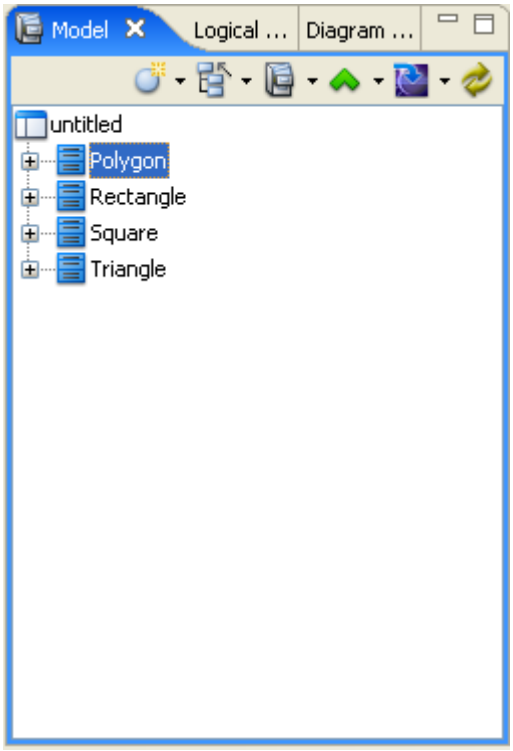



*Figure 9.49 - Model pane*

6. You may also select one or more models and select **Form Diagram** > **Customize.../Hierarchical/Navigation** from the popup menu to form a new diagram.

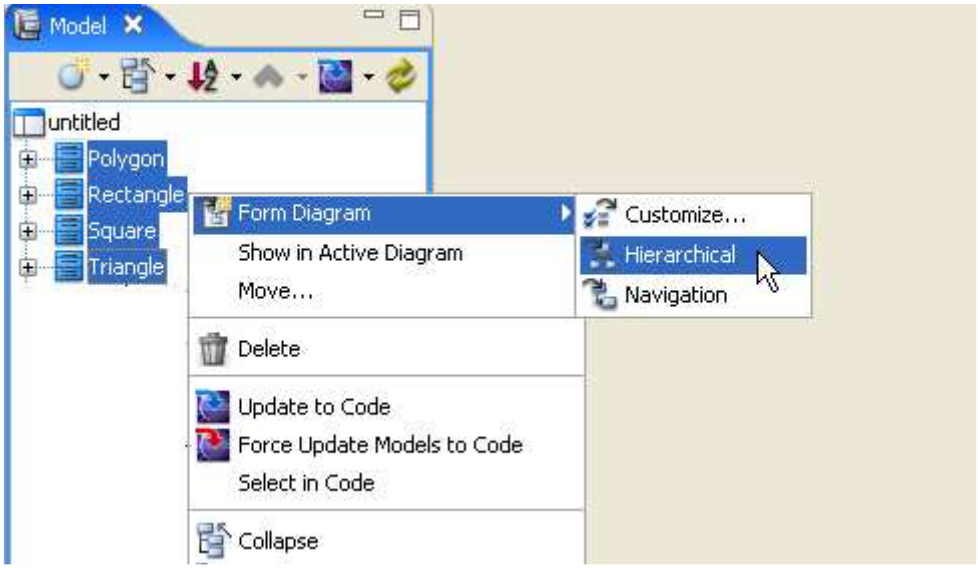



*Figure 9.50 - Select model to form diagram*

7. The **Form Diagram** dialog box is shown. You can edit the details of the new diagram there.

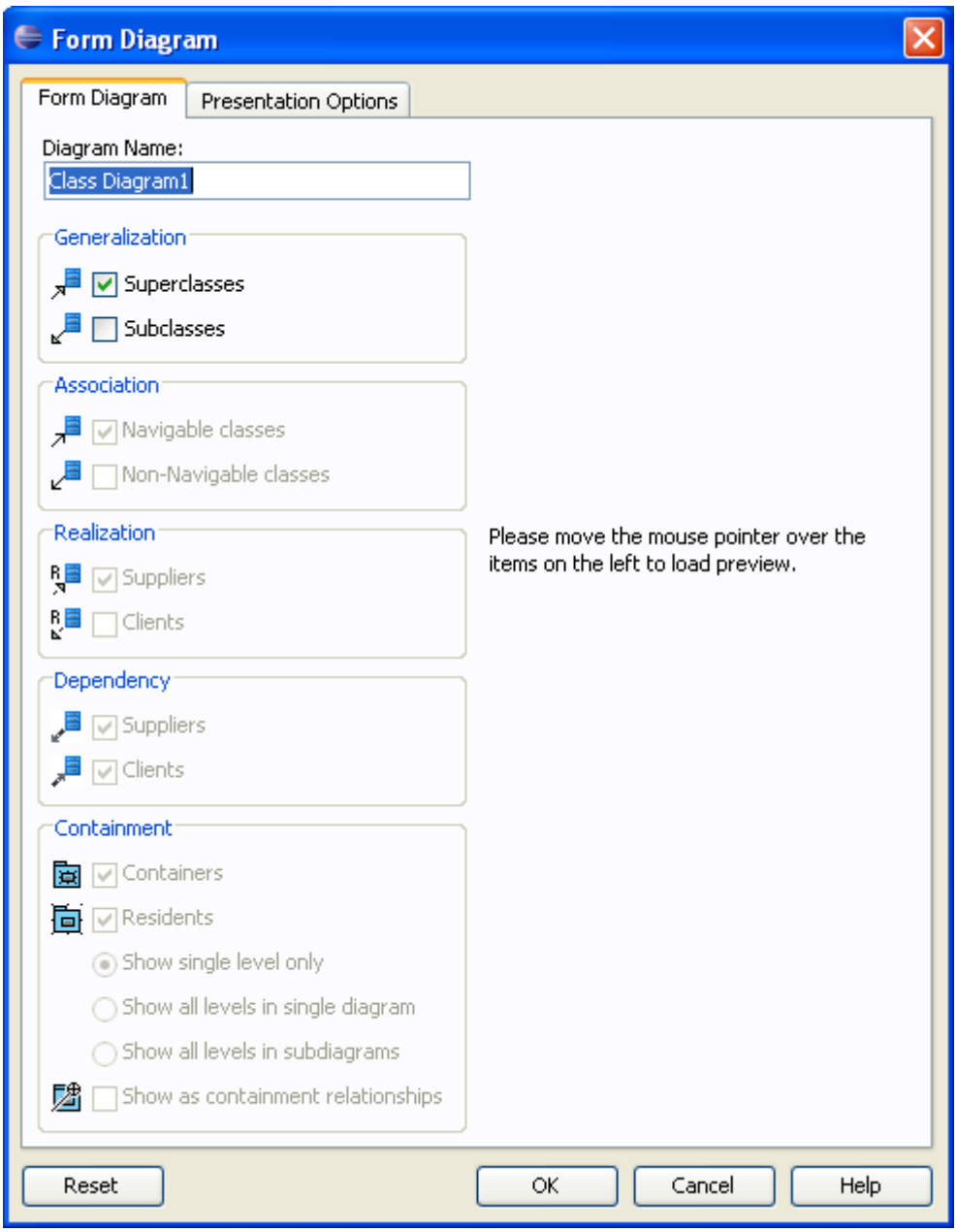



*Figure 9.51 - Form Diagram dialog box*

8. A new diagram is formed with the selected models.

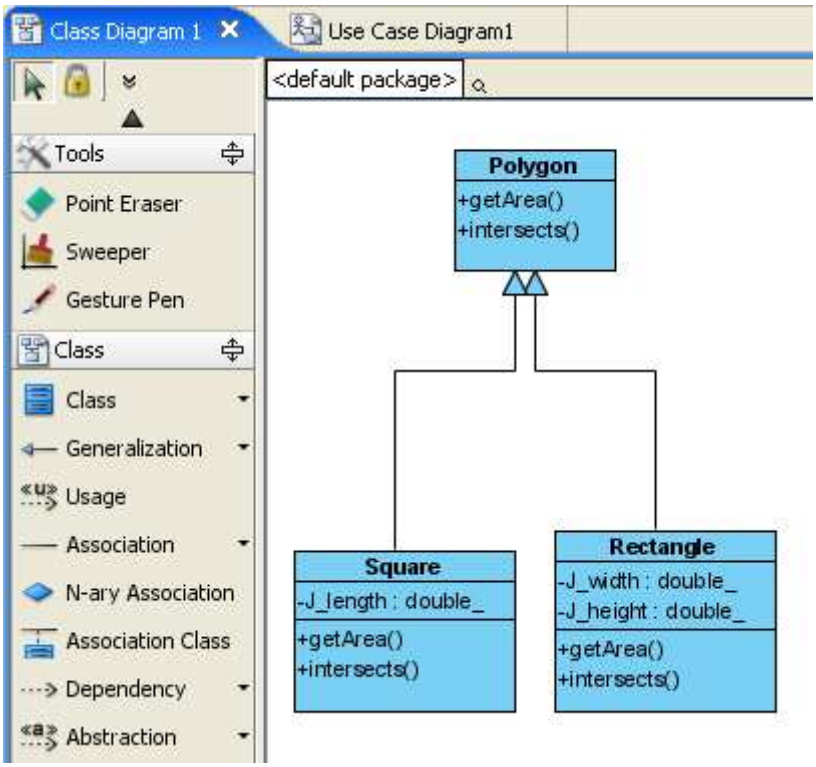



*Figure 9.52 - New diagram formed*

# PHP Instant Reverse

SDE for Eclipse can reverse PHP into UML class model.

```
#include <string>
#include <vector>
#include <exception>
using namespace std;

#ifndef __Polygon_h__
#define __Polygon_h__

__interface Polygon;

__interface Polygon
{

  public: double_ getArea() = 0;

  public: bool intersects(Polygon aPolygon) = 0;
};

#endif
```

*Figure 9.53 - PHP file*

To perform instant reverse of PHP:

1. Select menu **Modeling** > **Instant Reverse...**, the **Instant Reverse** dialog box appears with Instant Reverse options for configuration.

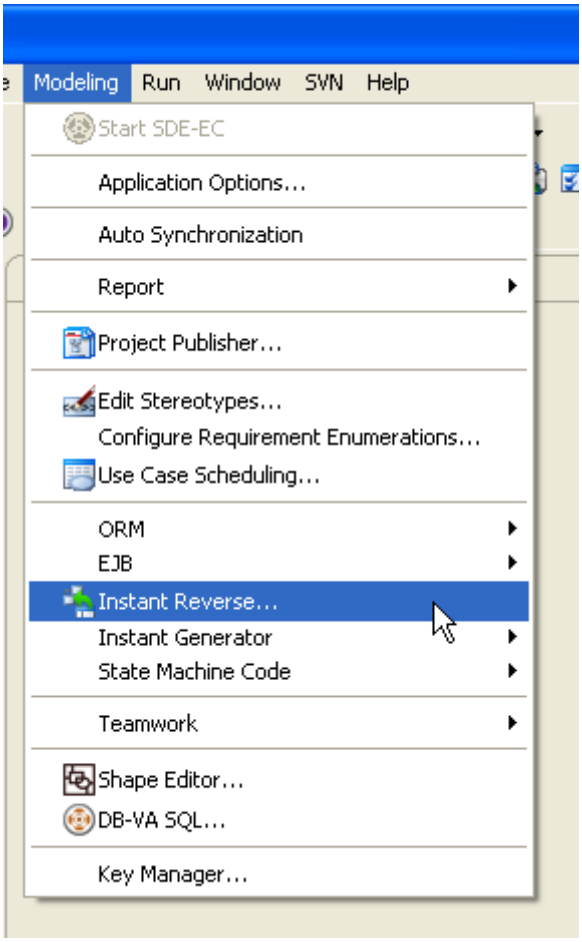



*Figure 9.54 - Open Instant Reverse dialog box*

2. Select the language from the combo box and type in the path of the PHP file. You may also select **...** to select the file path. You can select a folder or a PHP file. Then select **OK** to start.

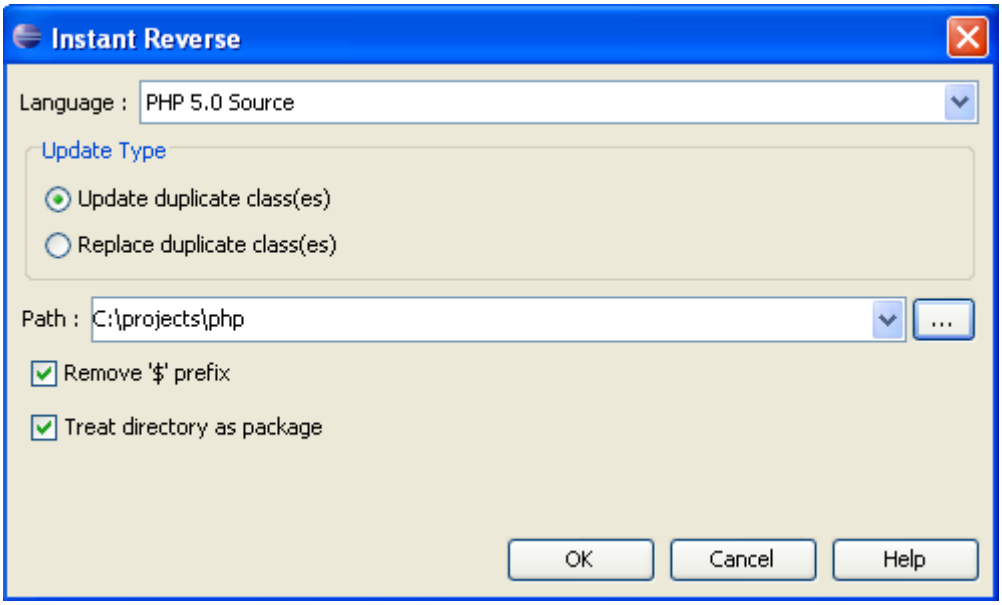



*Figure 9.55 - Specify the file path*

3. A **Message** dialog box appears telling you the reversal is successful.


*Figure 9.56 - Message dialog box*

4. An **Instant Reverse form Diagram** dialog box then appears. You can check the reversed classes and packages to form a new diagram. If you check the check box **<default package>**, the diagram will follow the default package. You may also change the form diagram and presentation options. Then, select **OK**.

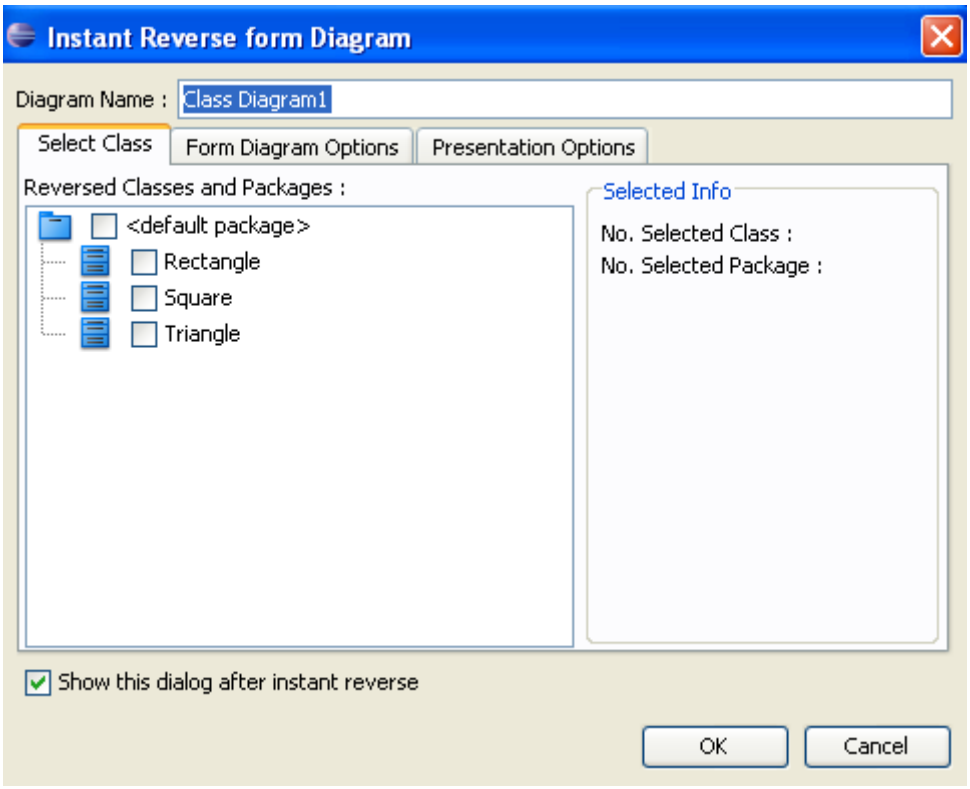



*Figure 9.57 - Instant Reverse form Diagram dialog box*

5. You can see the result of reversal in the **Model** pane.

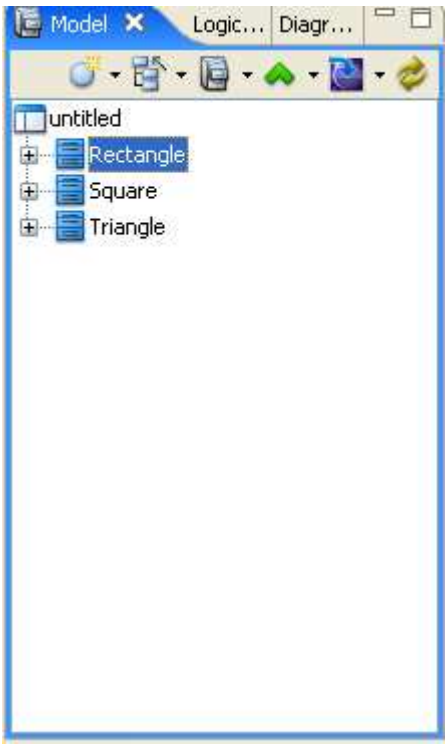



*Figure 9.58 - Model pane*

6. You may also select one or more models and select **Form Diagram** > **Customize.../Hierarchical/Navigation** to form a new diagram.

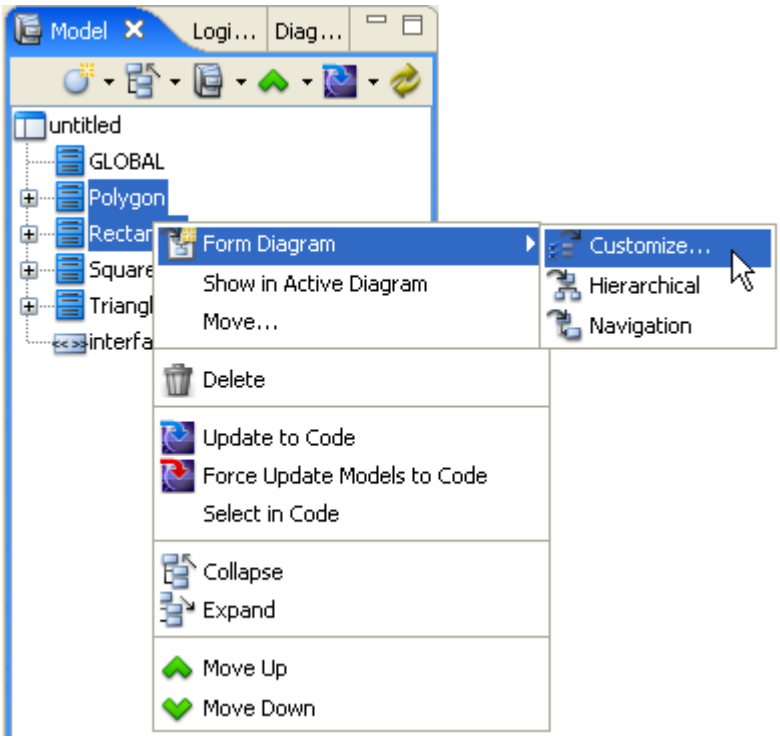



*Figure 9.59 - Select model to form diagram*

7. The **Form Diagram** dialog box is shown. You can edit the details of the new diagram there.

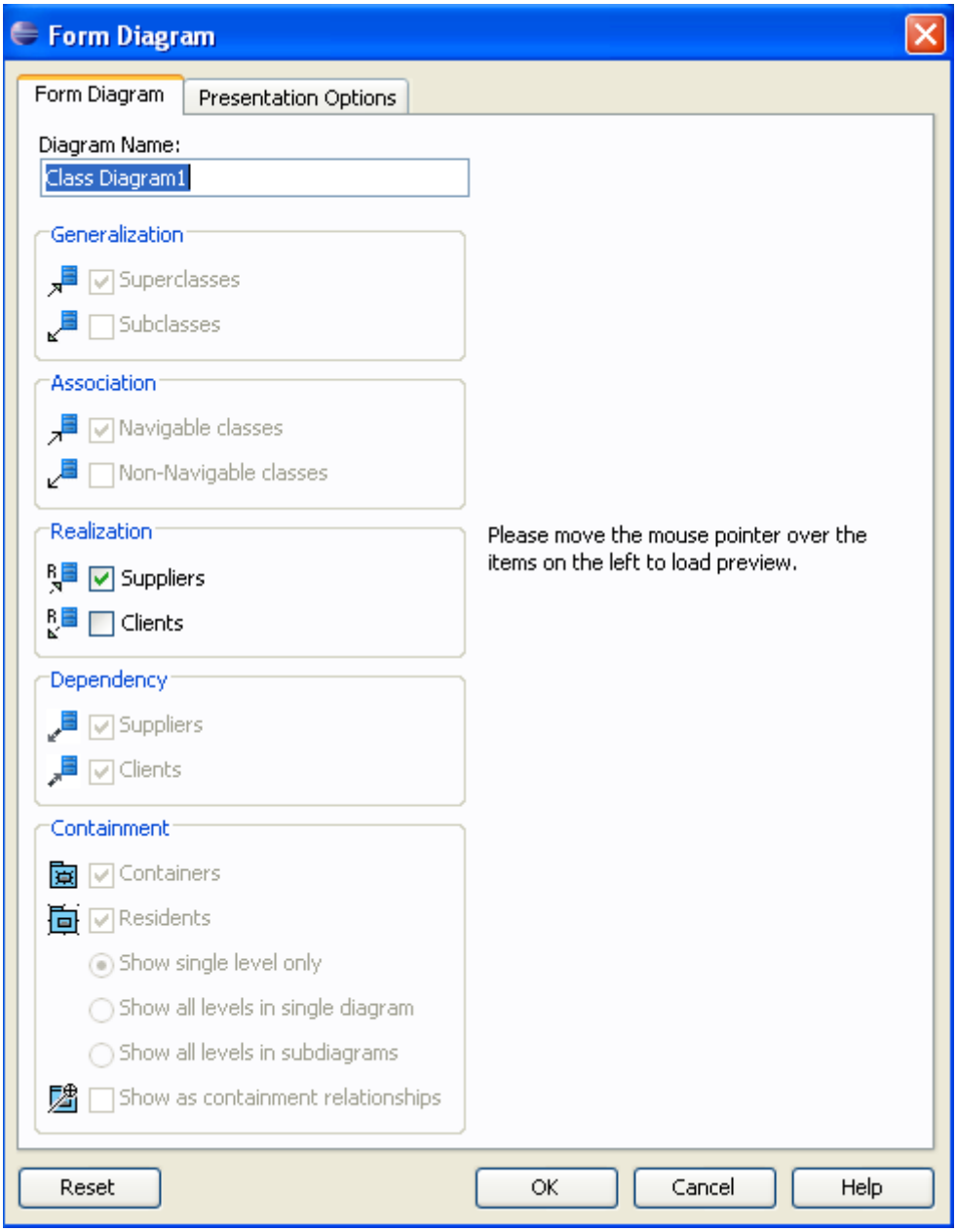



*Figure 9.60 - Form Diagram dialog box*

8. A new diagram is formed with the selected models.

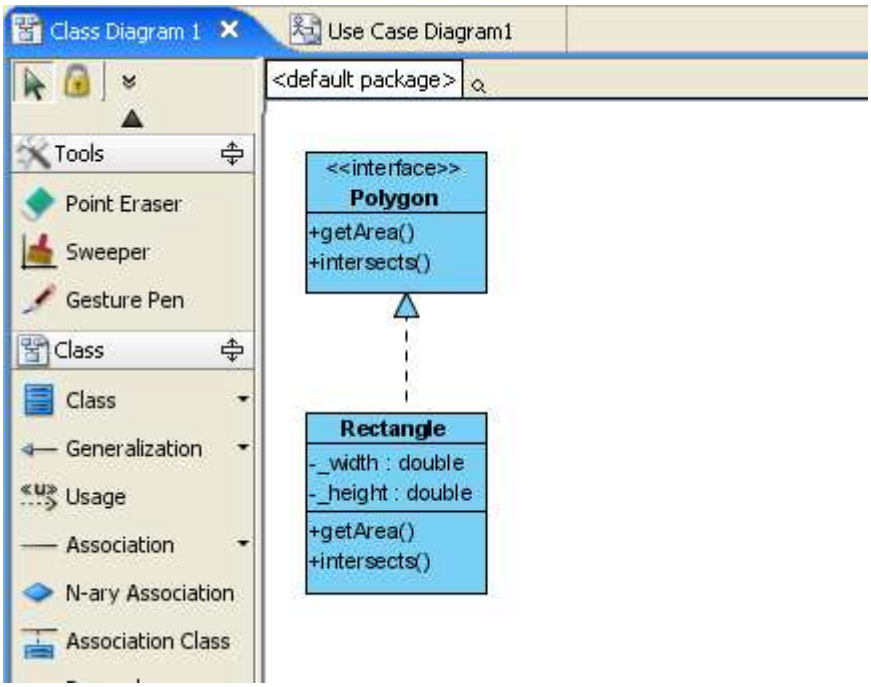



*Figure 9.61 - New diagram formed*

# Hibernate Instant Reverse

In SDE for Eclipse, you can generate UML classes and models by converting Hibernate code.

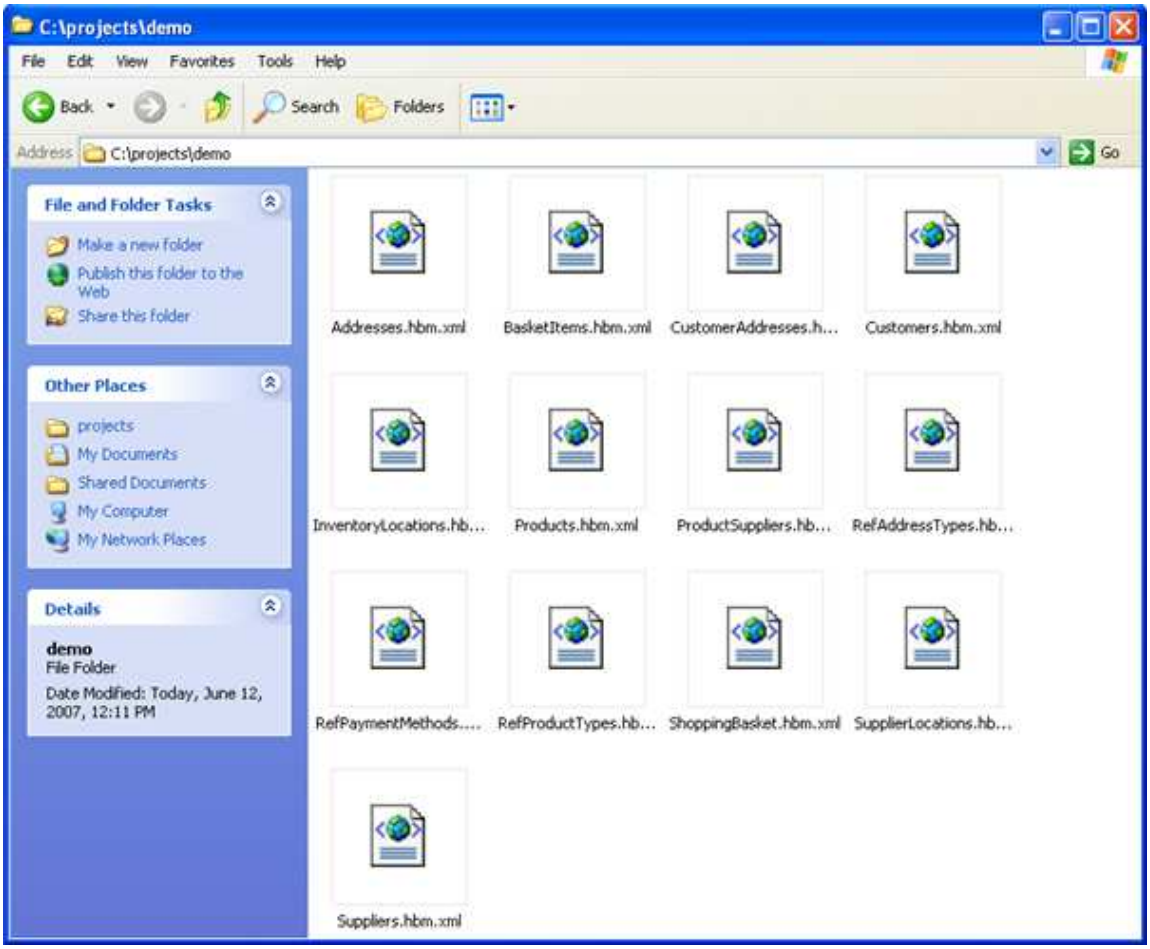



*Figure 9.62 - Hibernate file*

To perform instant reverse of Hibernate:

1. Select menu **Modeling** > **Instant Reverse...**, the **Instant Reverse** dialog box appears with Instant Reverse options for configuration.

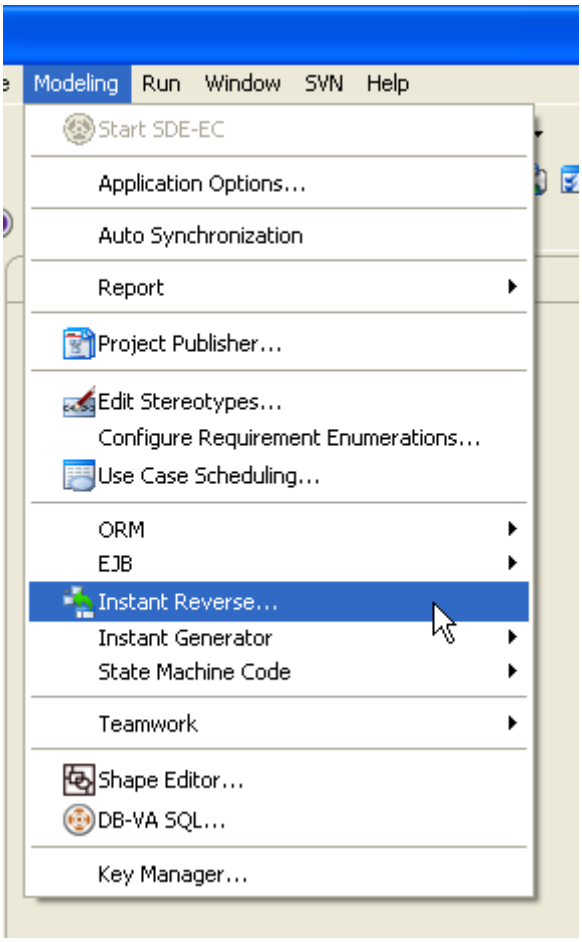



*Figure 9.63 - Open Instant Reverse dialog box*

2. Select the language from the combo box and type in the path of the Hibernate file. You may also select **...** to select the file path. You can select a folder or a Hibernate file. Then select **OK** to start.

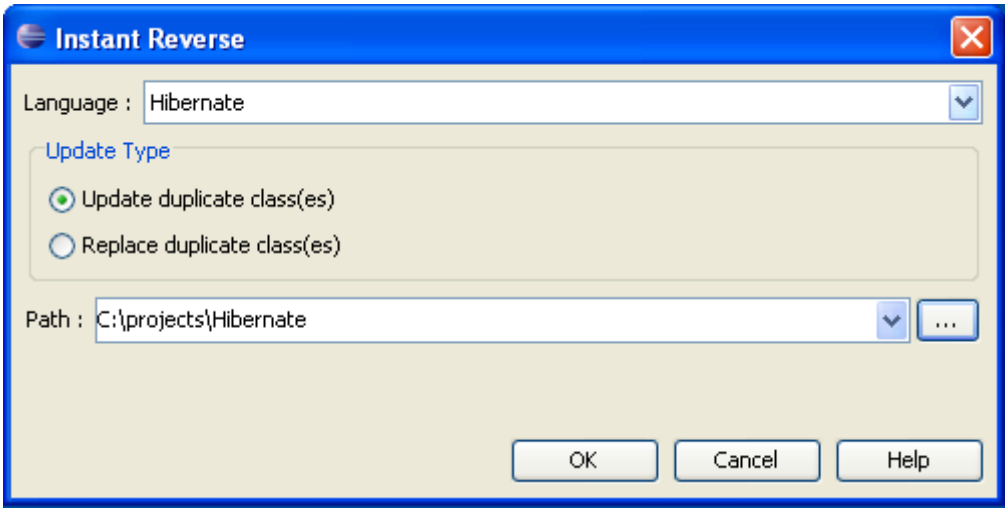



*Figure 9.64 - Specify the file path*

3. A **Message** dialog box appears telling you the reversal is successful.


*Figure 9.65 - Message dialog box*

4. An **Instant Reverse form Diagram** dialog box then appears. You can check the reversed classes and packages to form a new diagram. If you check the check box **<default package>**, the diagram will follow the default package. You may also change the form diagram and presentation options. Then, select **OK**.

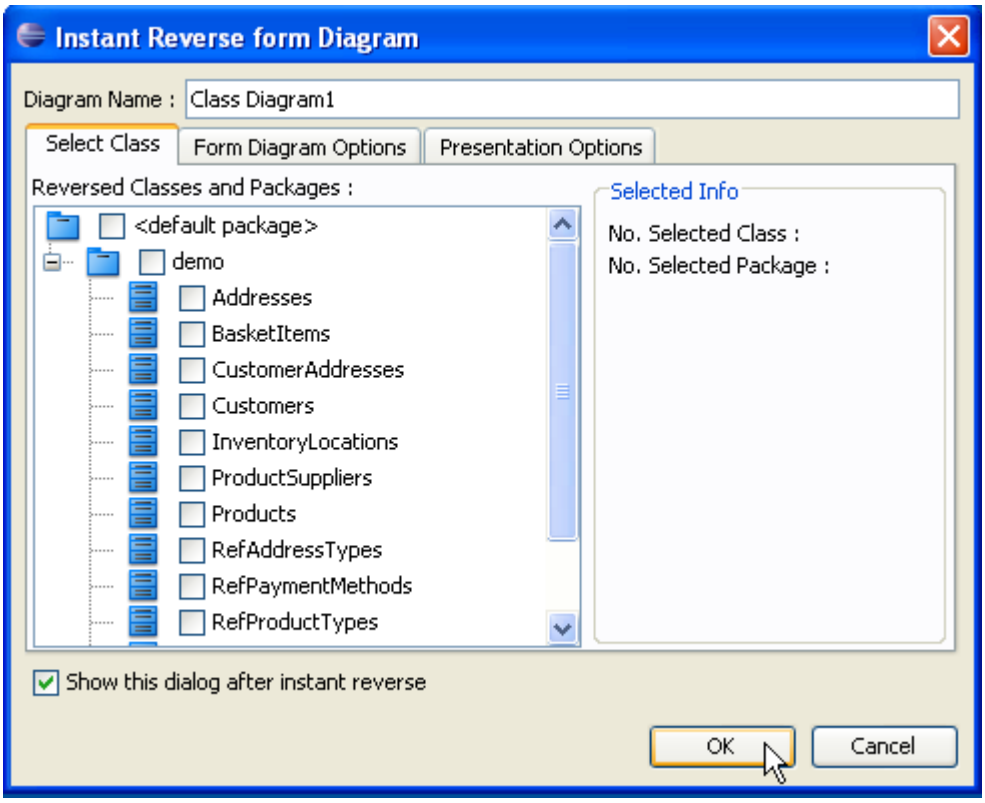



*Figure 9.66 - Instant Reverse form Diagram dialog box*

5. You can see the result of reversing in the **Model** pane.

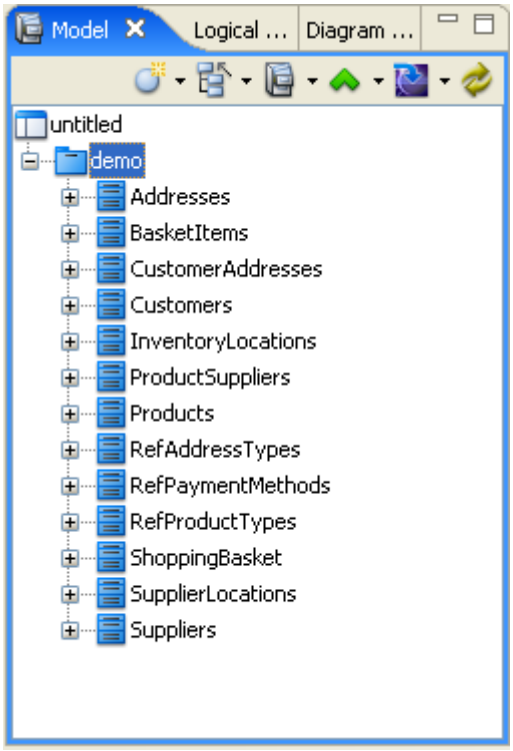



*Figure 9.67 - Model pane*

6. You may also select one or more models and select **Form Diagram** > **Customize.../Hierarchical/Navigation** from the popup menu to form a new diagram.

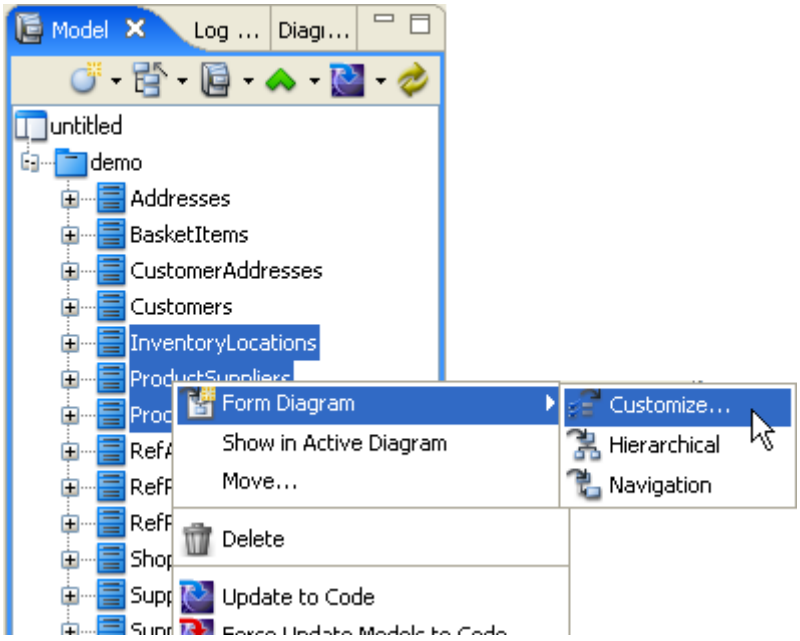



*Figure 9.68 - Select model to form diagram*

7. The **Form Diagram** dialog box is shown. You can edit the details of the new diagram there.

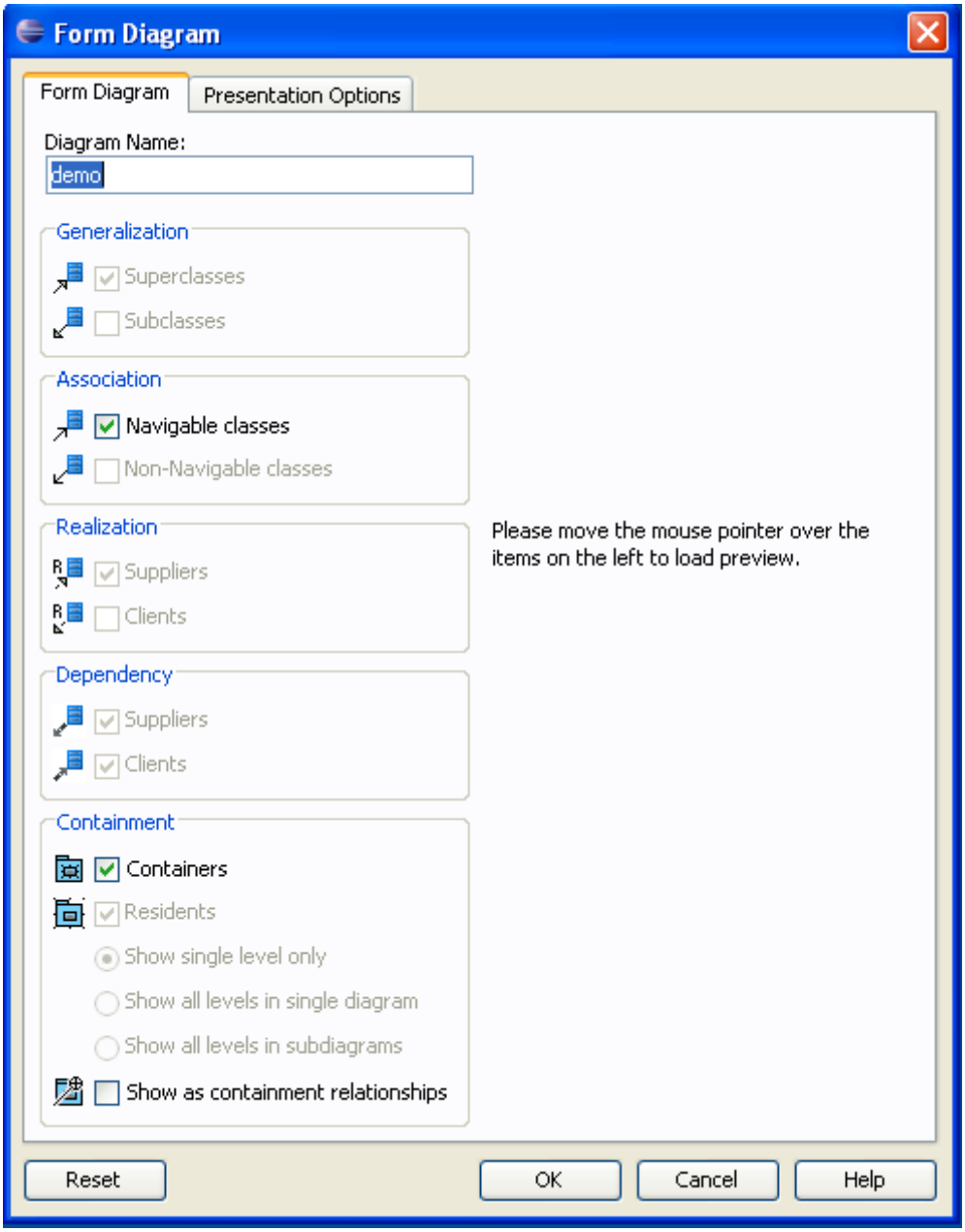



*Figure 9.69 - Form Diagram dialog box*

8. A new diagram is formed by the selected models.

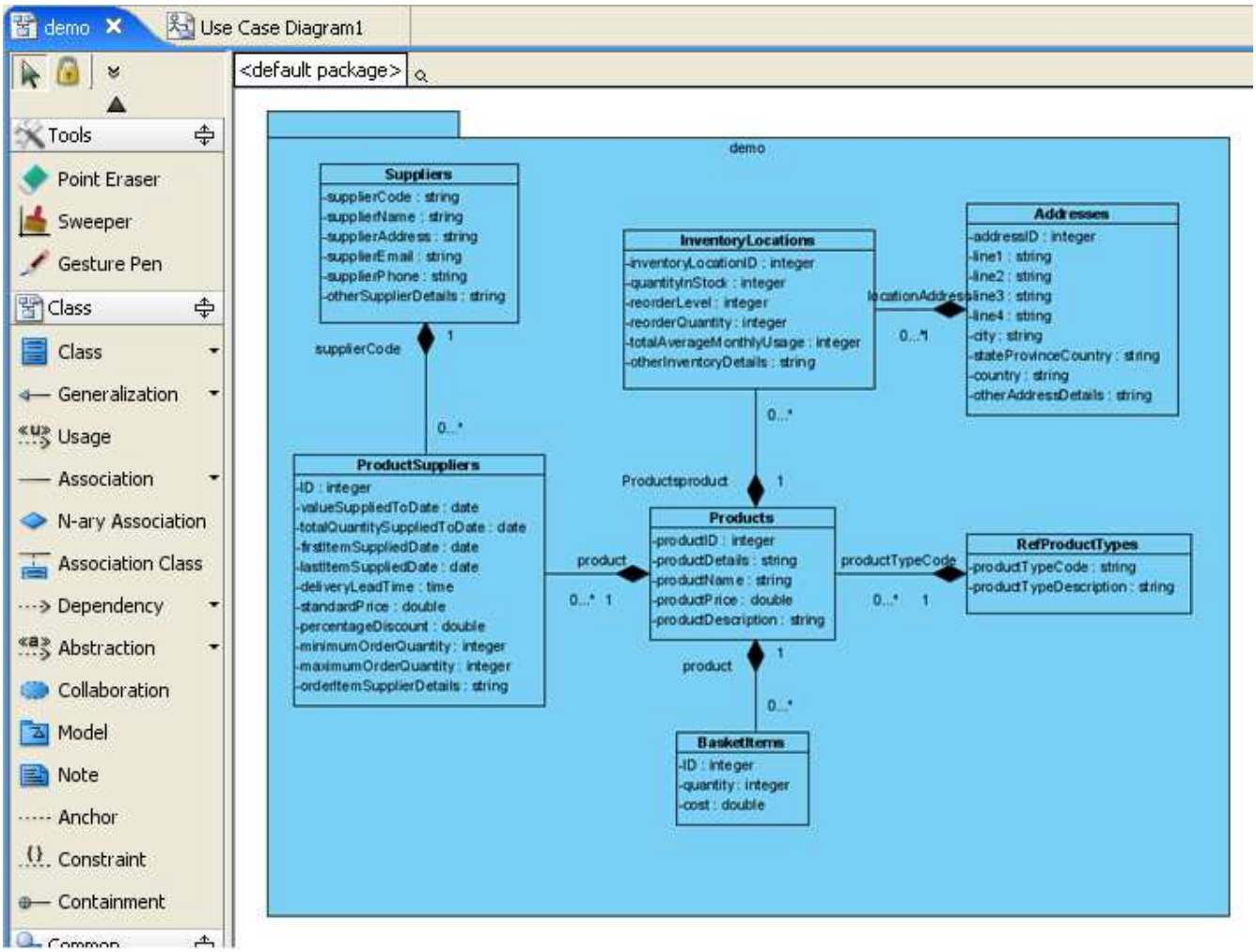



*Figure 9.70 - New diagram formed*

# JDBC Instant Reverse

You can reverse databases into UML classes and models via JDBC.

To perform instant reverse of JDBC:

1. Select menu **Modeling** > **Instant Reverse...**, the **Instant Reverse** dialog box appears with Instant Reverse options for configuration.

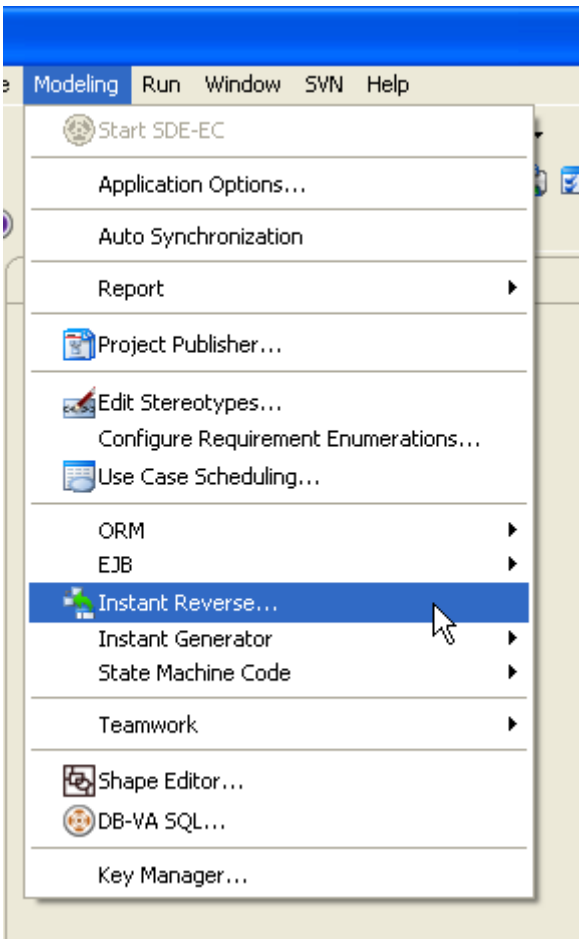



*Figure 9.71 - Open Instant Reverse dialog box*

2. Select the language from the combo box and configure the JDBC Setting. You can select or type in the path of the driver in the **JDBC Driver**. Then select the **JDBC Driver Name** from the dropdown menu.

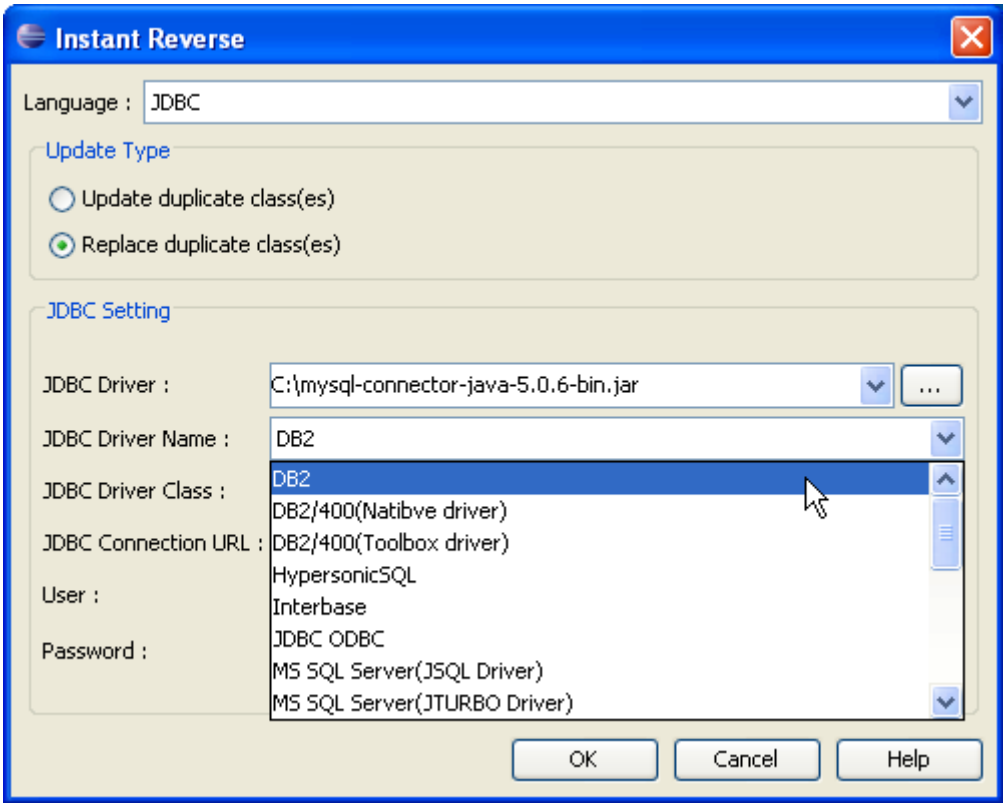



*Figure 9.72 - Select the Driver Name*

3. The **JDBC Driver Class** is automatically generated. You may also configure the driver class yourself.

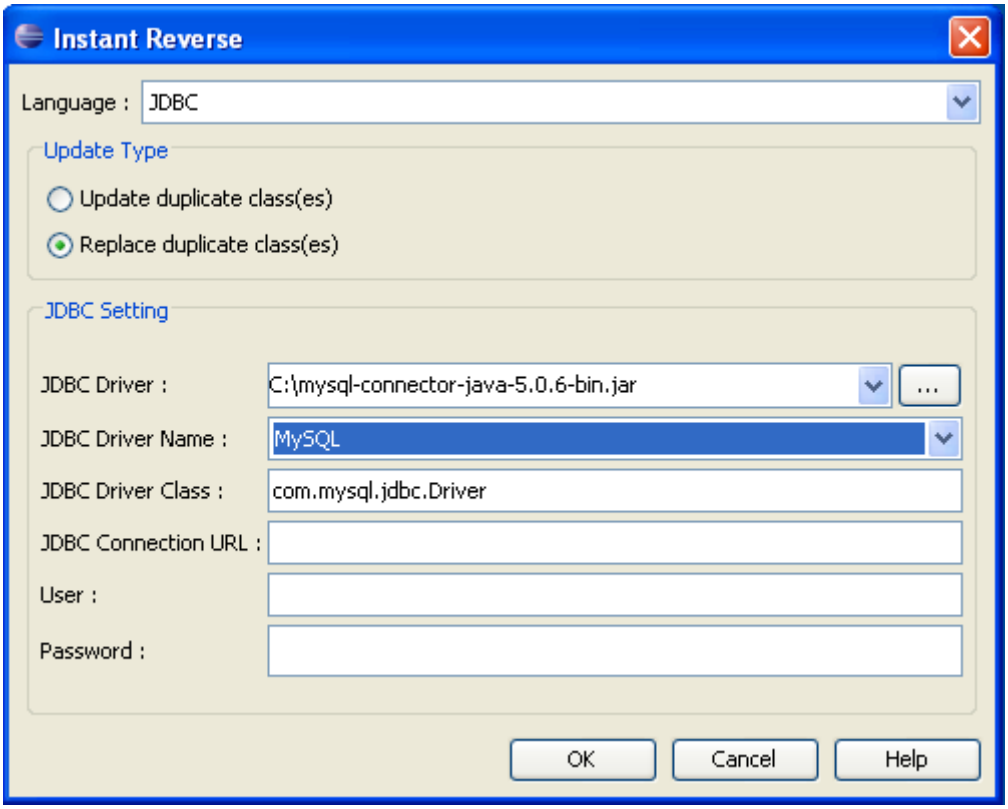



*Figure 9.73 - Driver class is generated automatically*

4. Configure the **JDBC Connection URL**, **User** and **Password**. Then select **OK**.

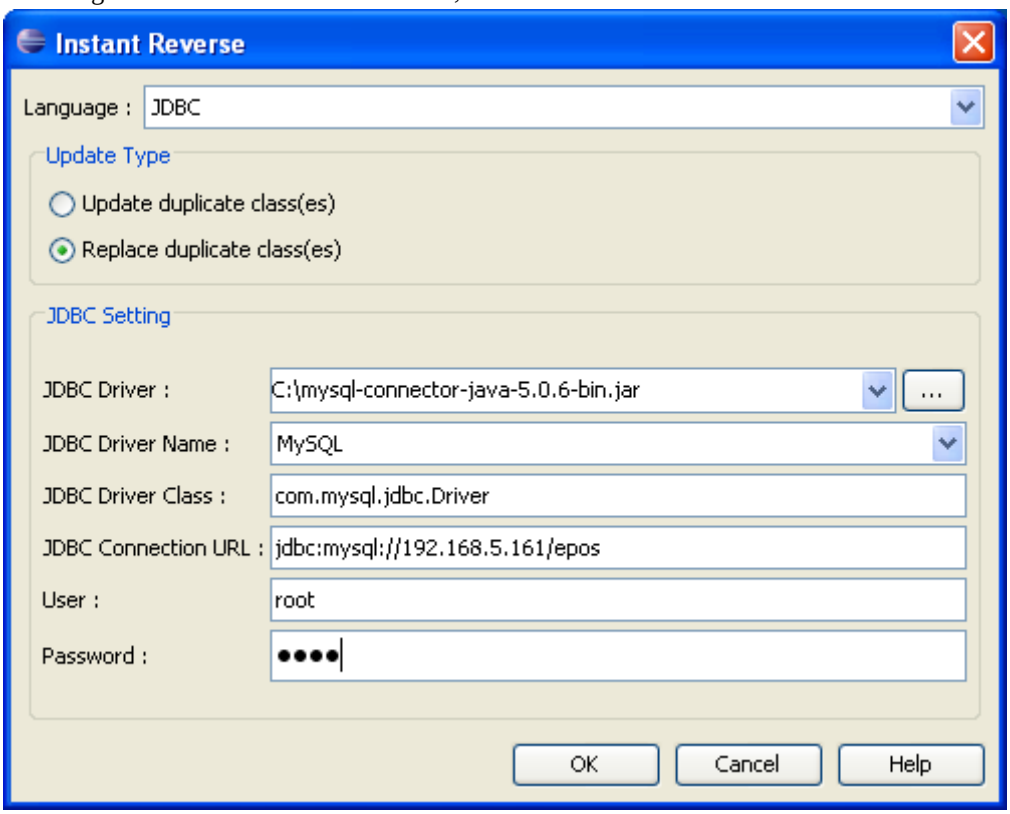



*Figure 9.74 - Configure connection URL, user and password*

5. A **Message** dialog box appears telling you the reversal is successful.


*Figure 9.75 - Message dialog box*

6. An **Instant Reverse form Diagram** dialog box then appears. You can check the reversed classes and packages to form a new diagram. If you check the check box **<default package>**, the diagram will follow the default package. You may also change the form diagram and presentation options. Then, select **OK**.

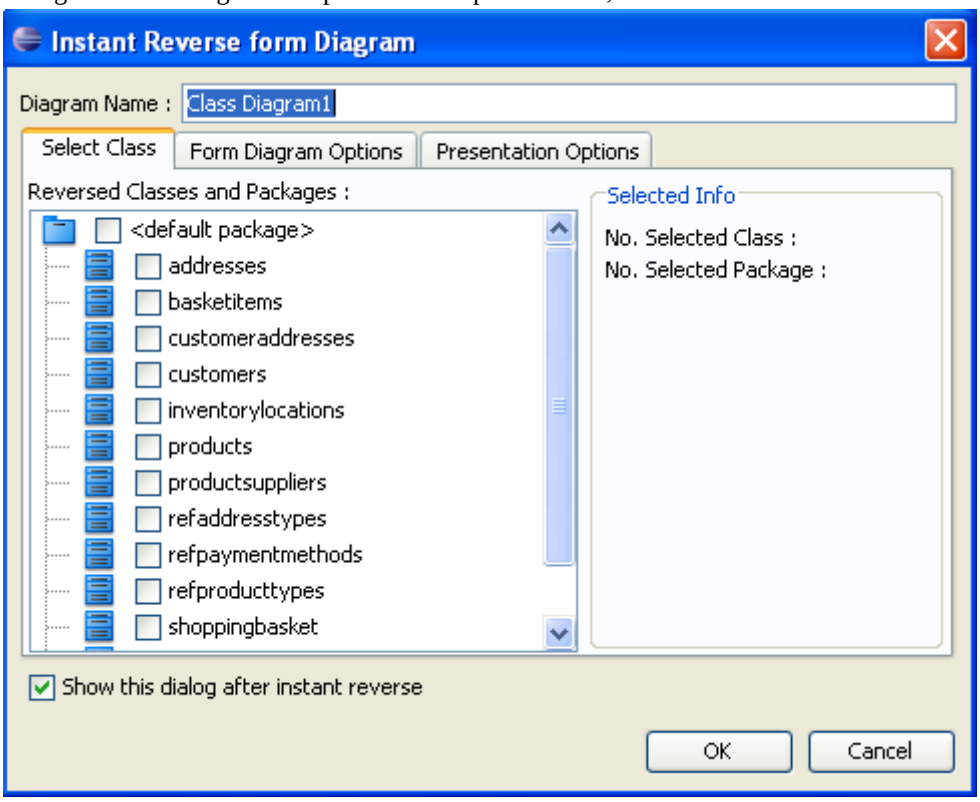



*Figure 9.76 - Instant Reverse form Diagram dialog box*

7. You can see the result of reversing in the **Model** pane.

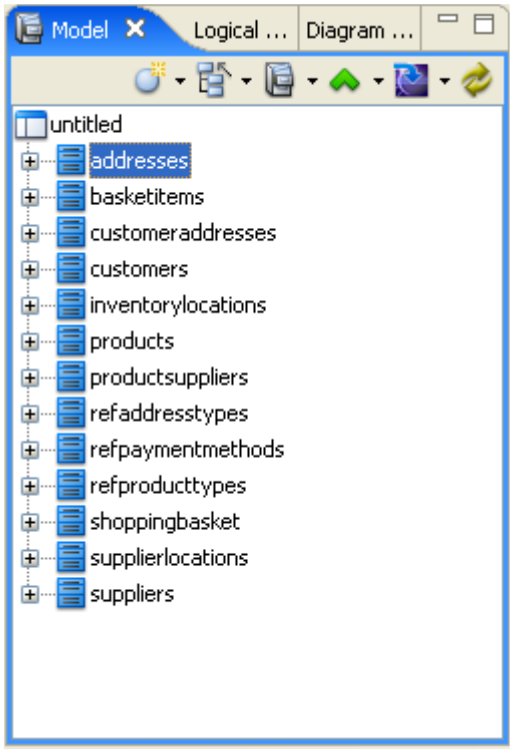



*Figure 9.77 - Model pane*

8. You may also select one or more models and select **Form Diagram** > **Customize.../Hierarchical/Navigation** from the popup menu to form a new diagram.

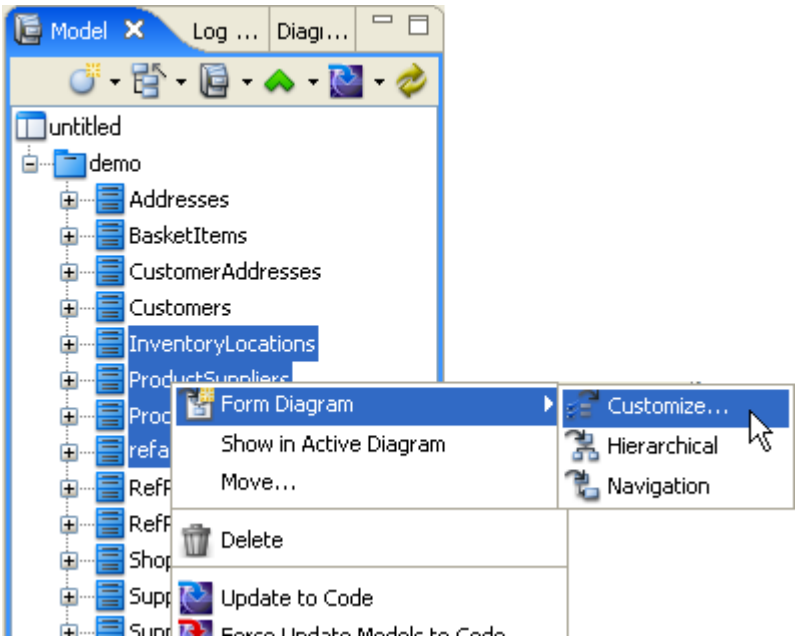



*Figure 9.78 - Select model to form diagram*

9. The **Form Diagram** dialog box is shown. You can edit the details of the new diagram there.

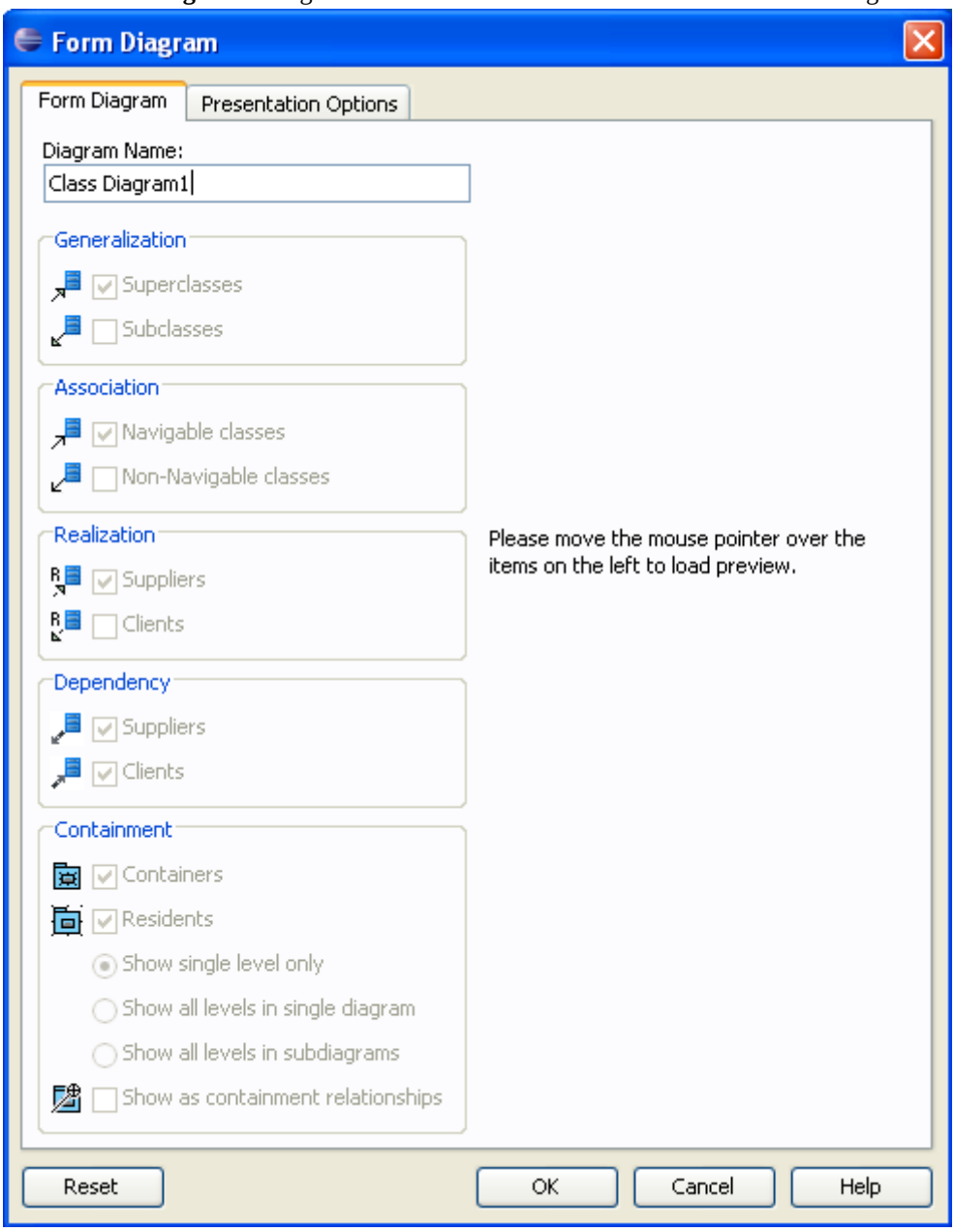



*Figure 9.79 - Form Diagram dialog box*

10. A new diagram is formed by the selected models.

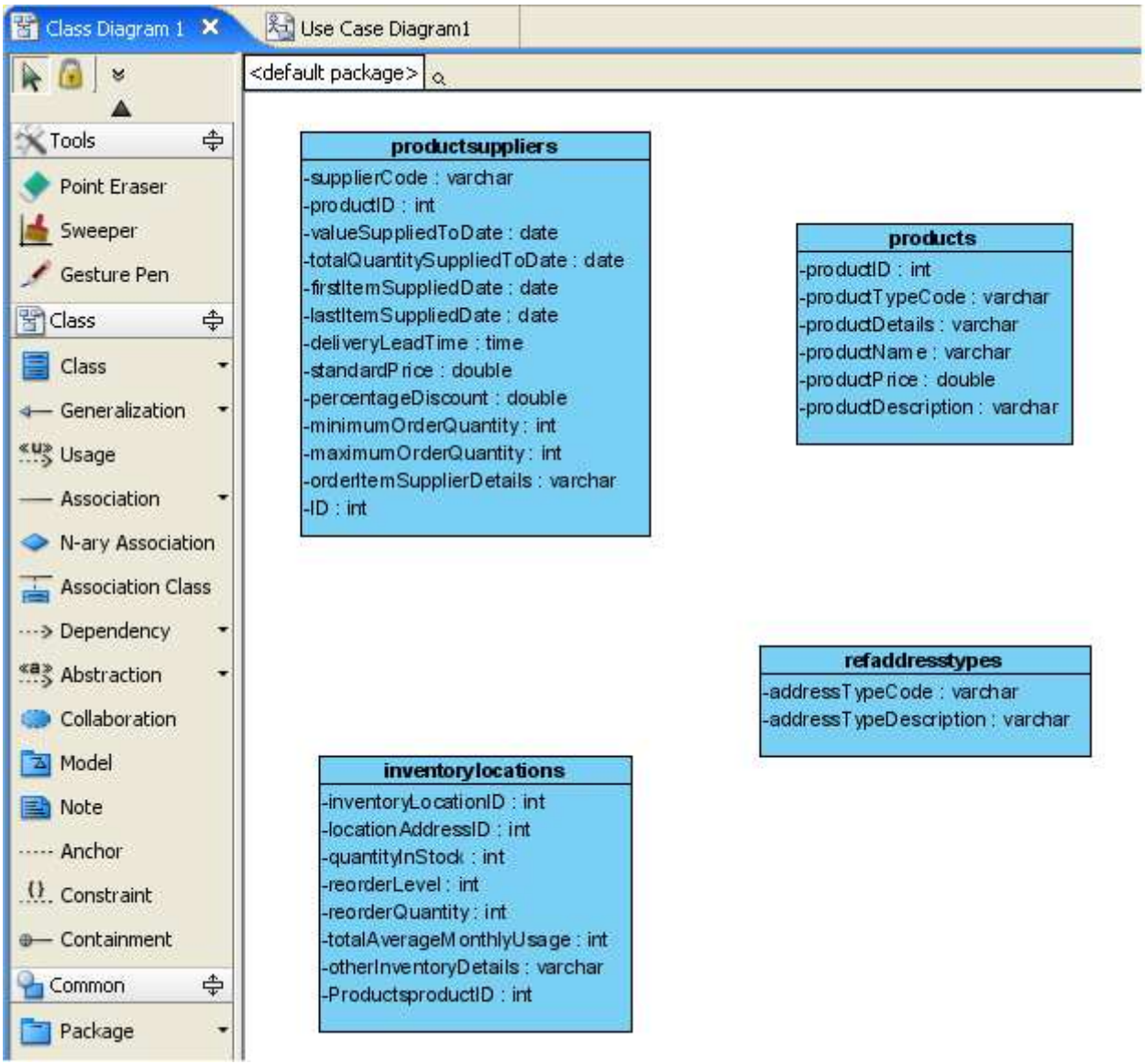



*Figure 9.80 - New diagram formed*

# Ada 9x Instant Reverse

SDE for Eclipse also supports reversing Ada 9x code into UML classes or models.

```
-- The implementation body of class Polygon
package body Polygon is
    function getArea(aThis : PolygonObject) return double is
    begin
        null;
    end getArea;
    function intersects(aThis : PolygonObject ; apolygon : Polygon) return boolean is
    begin
        null;
    end intersects;
end Polygon;
```

*Figure 9.81 - Ada 9X file*

To perform instant reverse of Ada 9x:

1. Select menu **Modeling** > **Instant Reverse...**, the **Instant Reverse** dialog box appears with Instant Reverse options for configuration.

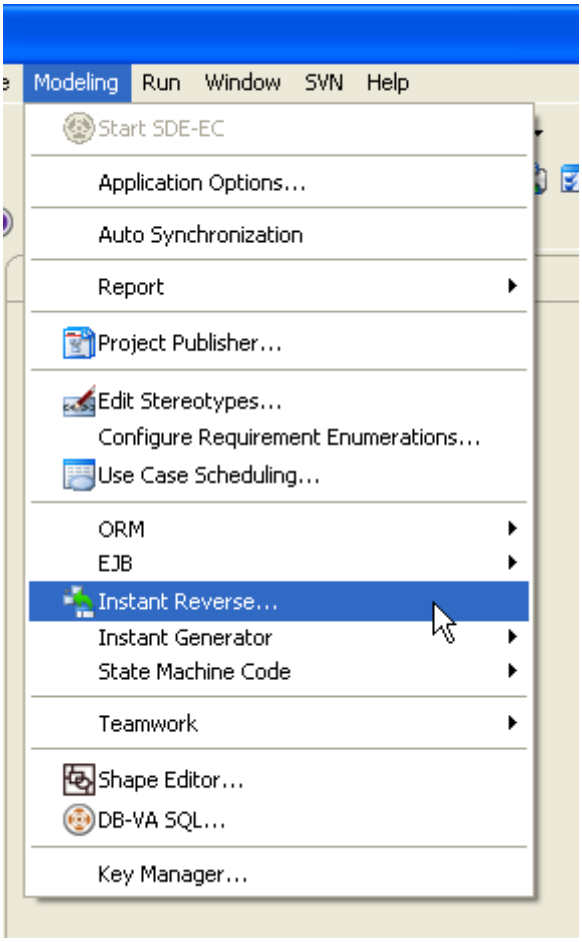



*Figure 9.82 - Open Instant Reverse dialog box*

2. Select the language from the combo box and type in the path of the Ada 9x file. You may also select **...** to select the file path. You can select a folder or an Ada 9x file. Then select **OK** to start.

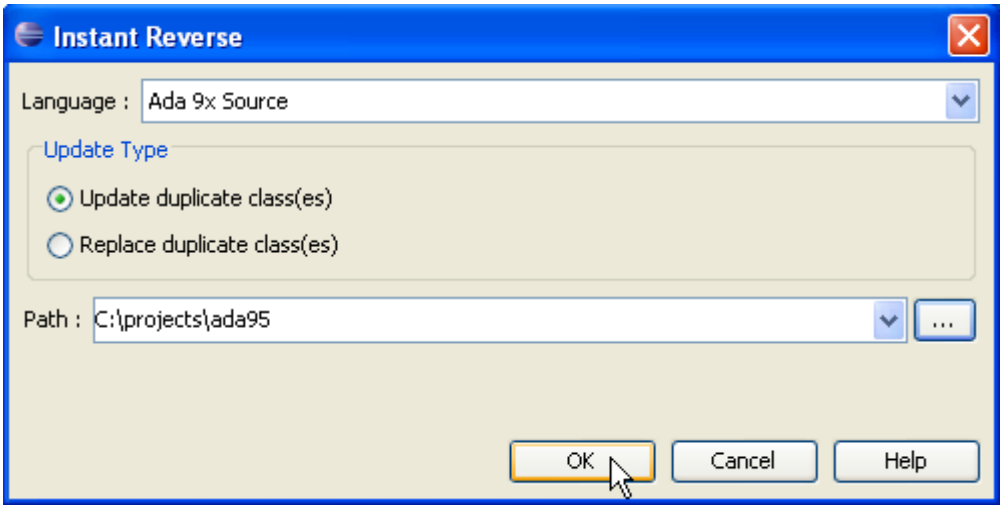



*Figure 9.83 - Specify the file path*

3. A **Message** dialog box appears telling you the reversal is successful.


*Figure 9.84 - Message dialog box*

4. An **Instant Reverse form Diagram** dialog box then appears. You can check the reversed classes and packages to form a new diagram. If you check the check box **<default package>**, the diagram will follow the default package. You may also change the form diagram and presentation options. Then, select **OK**.

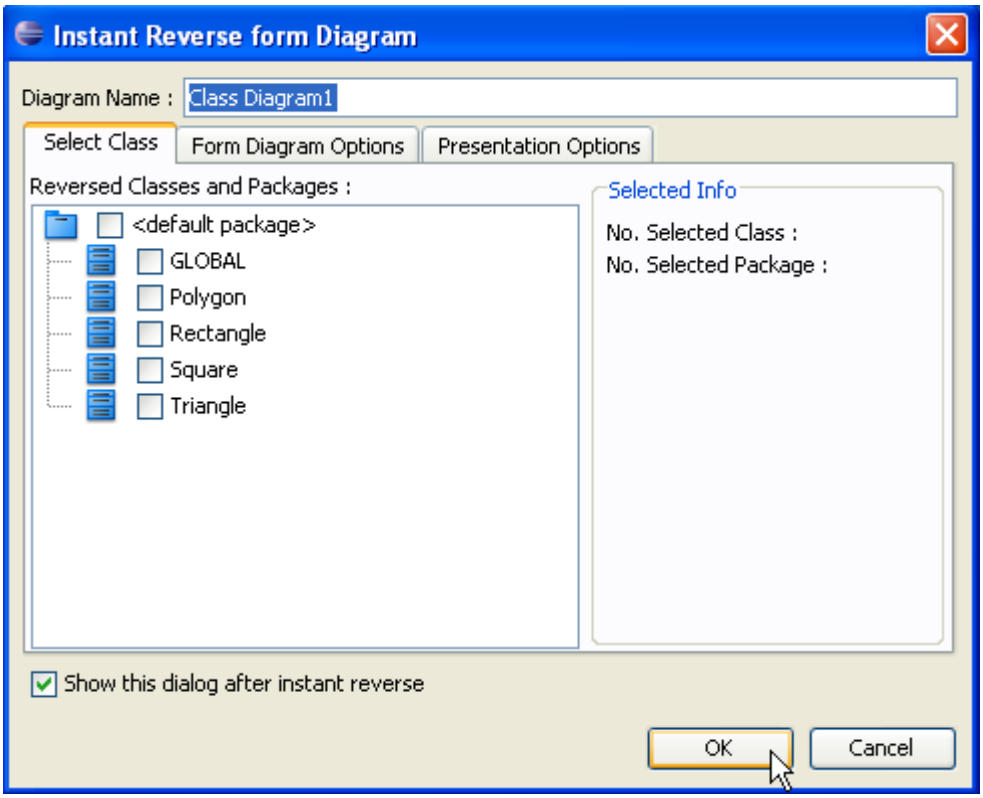



*Figure 9.85 - Instant Reverse form Diagram dialog box*

5. You can see the result of reversing in the **Model** pane.

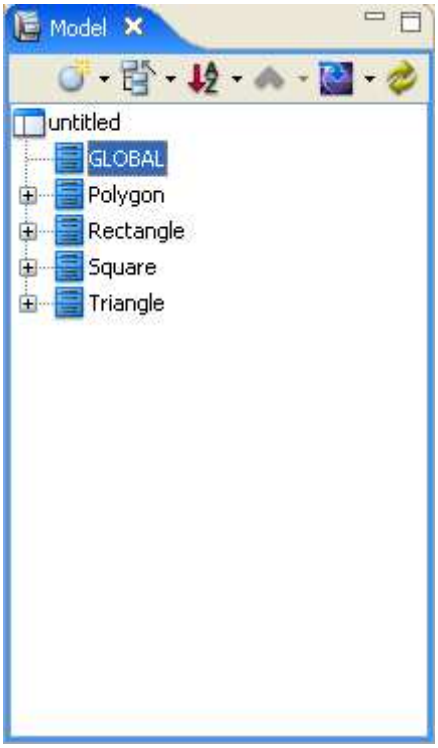



*Figure 9.86 - Model pane*

6. You may also select one or more models and select **Form Diagram** > **Customize.../Hierarchical/Navigation** from the popup menu to form a new diagram.

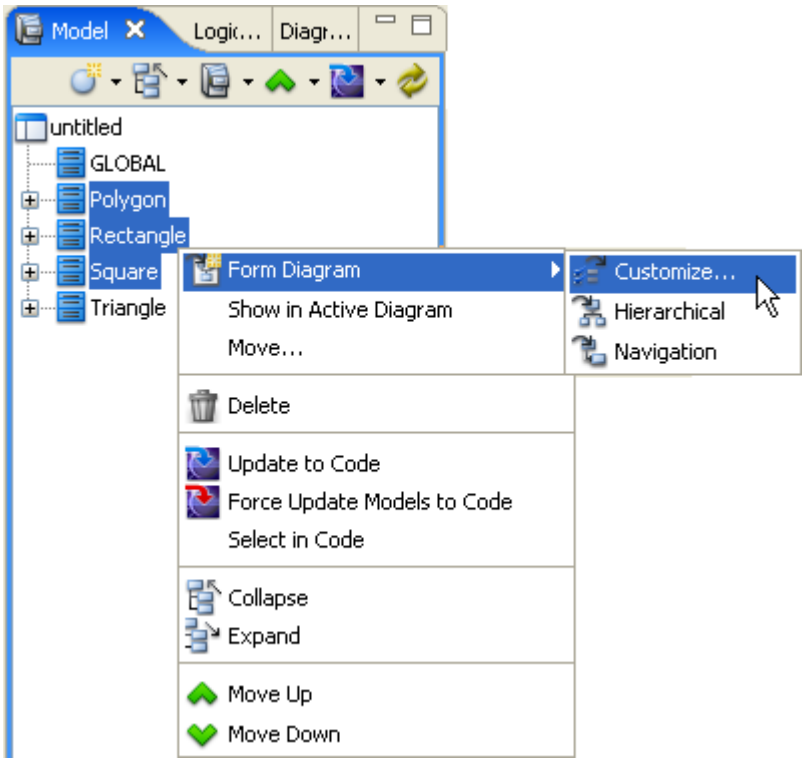



*Figure 9.87 - Select model to form diagram*

7. The **Form Diagram** dialog box is shown. You can edit the details of the new diagram there.

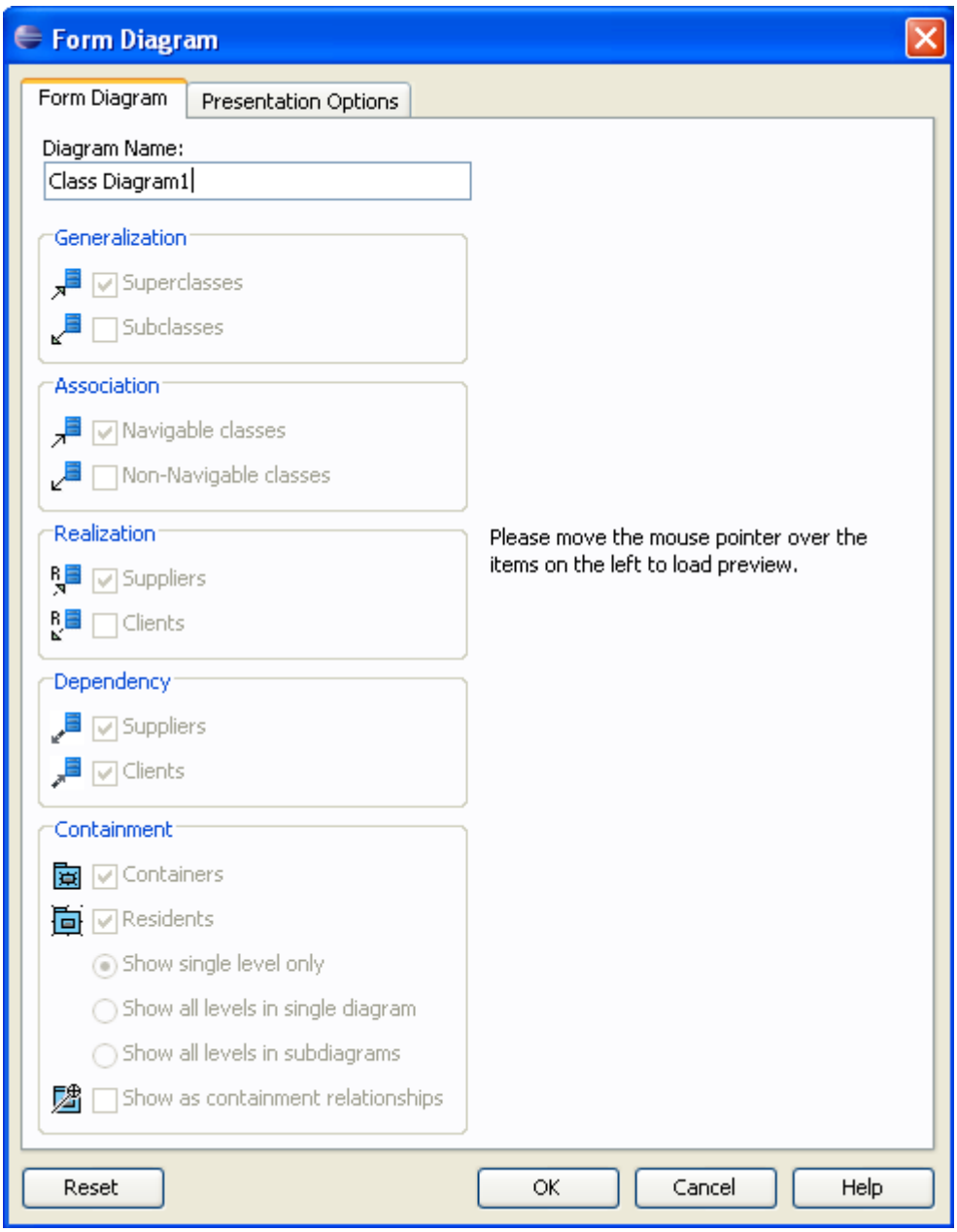



*Figure 9.88 - Form Diagram dialog box*

8. A new diagram is formed by the selected models.

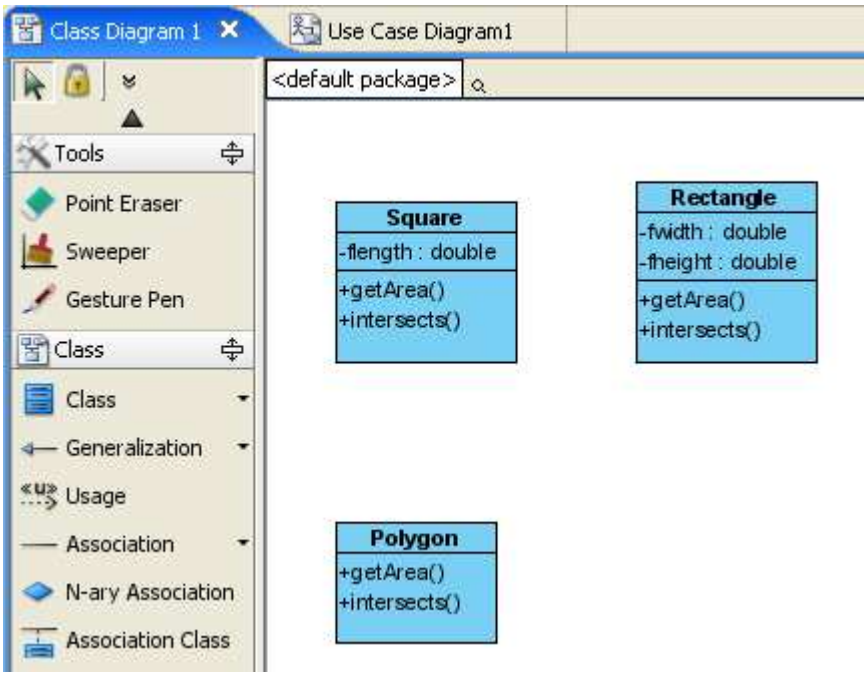



*Figure 9.89 - New diagram formed*

# Objective-C Instant Reverse

SDE for Eclipse also supports reversing Objective-C code into UML classes or models.

```
#import <objc/Object.h>
#import "stdio.h"
#import "Polygon.h"

@interface Rectangle :Object <Polygon> {
  @private id _width;
  @private id _height;
}

-(id) getArea;

-(BOOL) intersects :(id) aPolygon;
@end
```

*Figure 9.90 - Objective-C file*

To perform instant reverse of Ada 9x:

1. Select menu **Modeling** > **Instant Reverse...**, the **Instant Reverse** dialog box appears with Instant Reverse options for configuration.

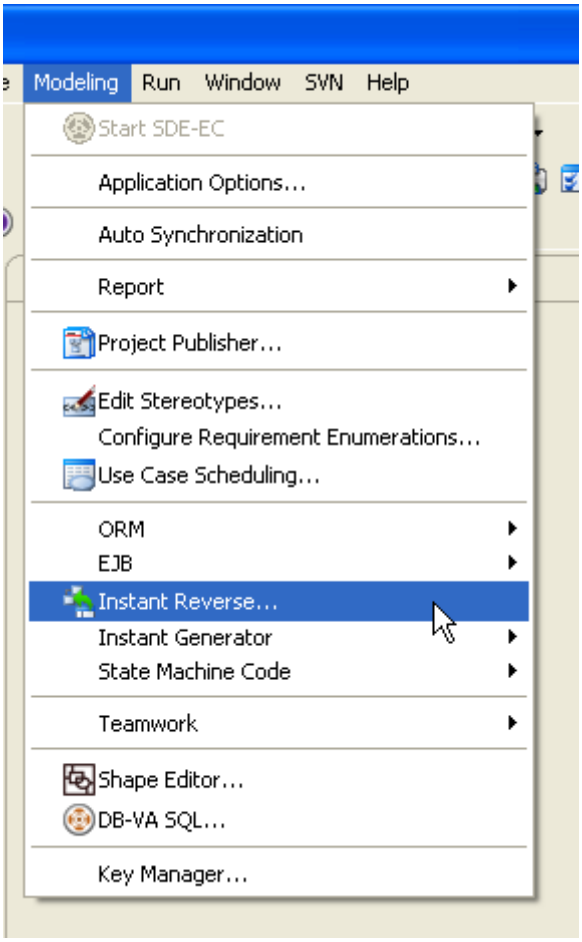



*Figure 9.91 - Open Instant Reverse dialog box*

2. Select the language from the combo box and type in the path of the Objective-C file. You may also select **...** to select the file path. You can select a folder or an Ada 9x file. Then select **OK** to start.

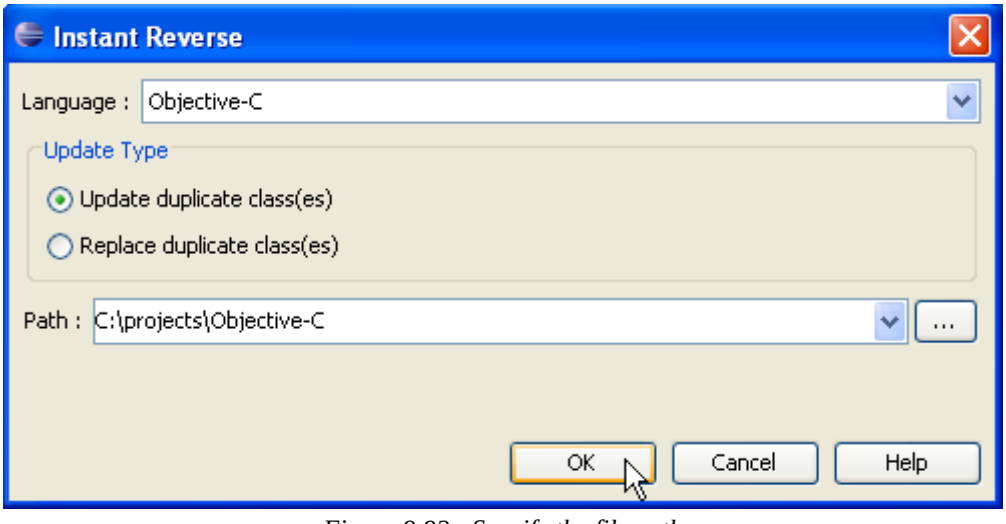



*Figure 9.92 - Specify the file path*

3. A **Message** dialog box appears telling you the reversal is successful.


*Figure 9.93 - Message dialog box*

4. An **Instant Reverse form Diagram** dialog box then appears. You can check the reversed classes and packages to form a new diagram. If you check the check box **<default package>**, the diagram will follow the default package. You may also change the form diagram and presentation options. Then, select **OK**.

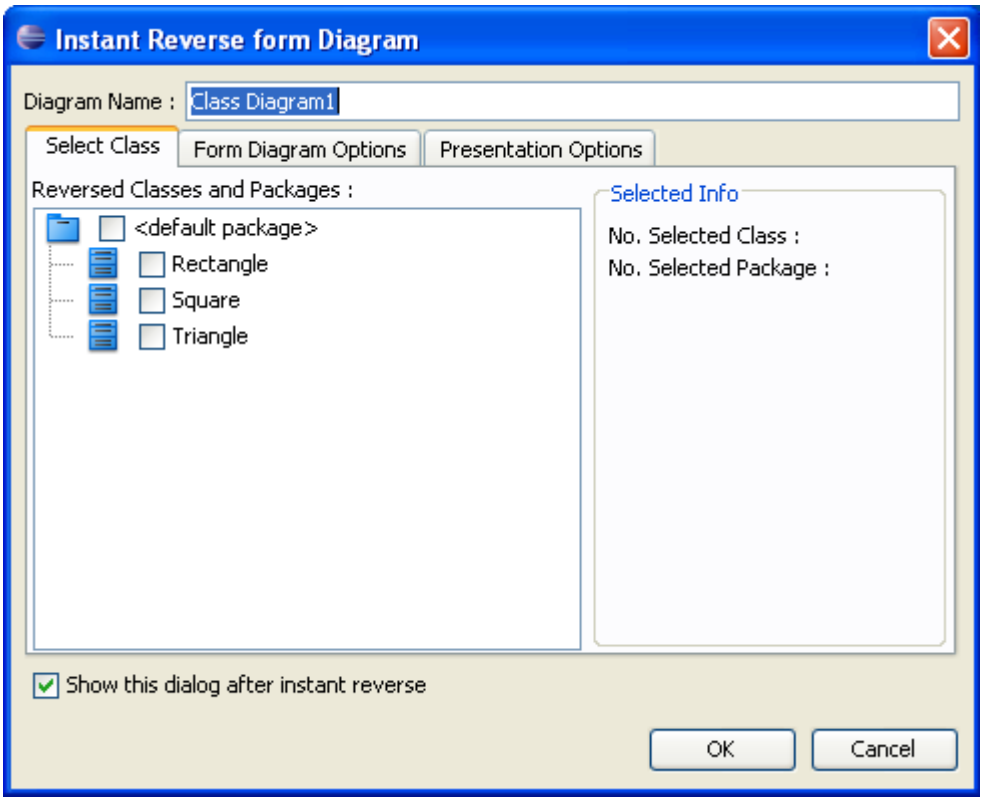



*Figure 9.94 - Instant Reverse form Diagram dialog box*

5. You can see the result of reversing in the **Model** pane.

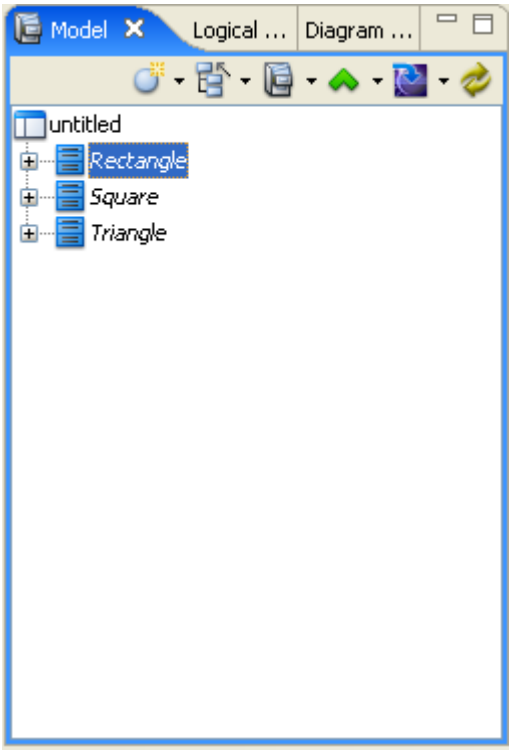



*Figure 9.95 - Model pane*

6. You may also select one or more models and select **Form Diagram** > **Customize.../Hierarchical/Navigation** from the popup menu to form a new diagram.

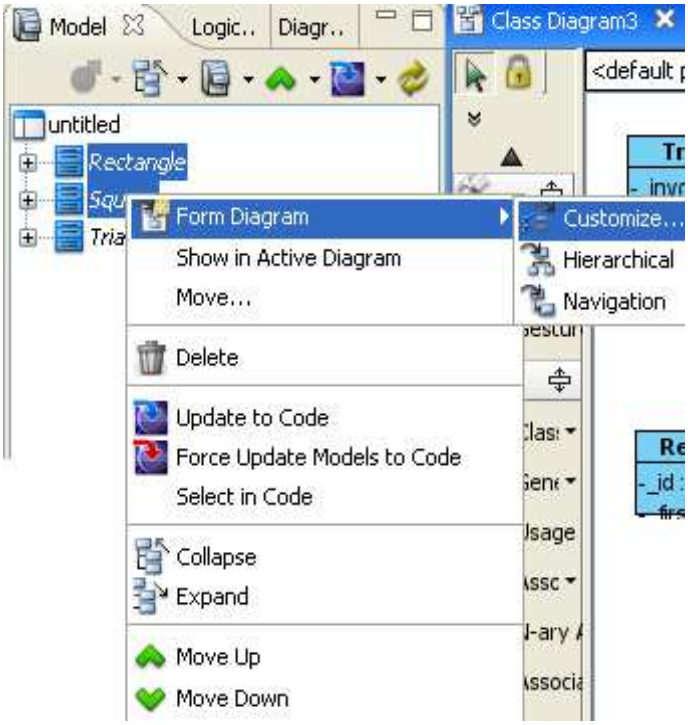



*Figure 9.96 - Select model to form diagram*

7. The **Form Diagram** dialog box is shown. You can edit the details of the new diagram there.

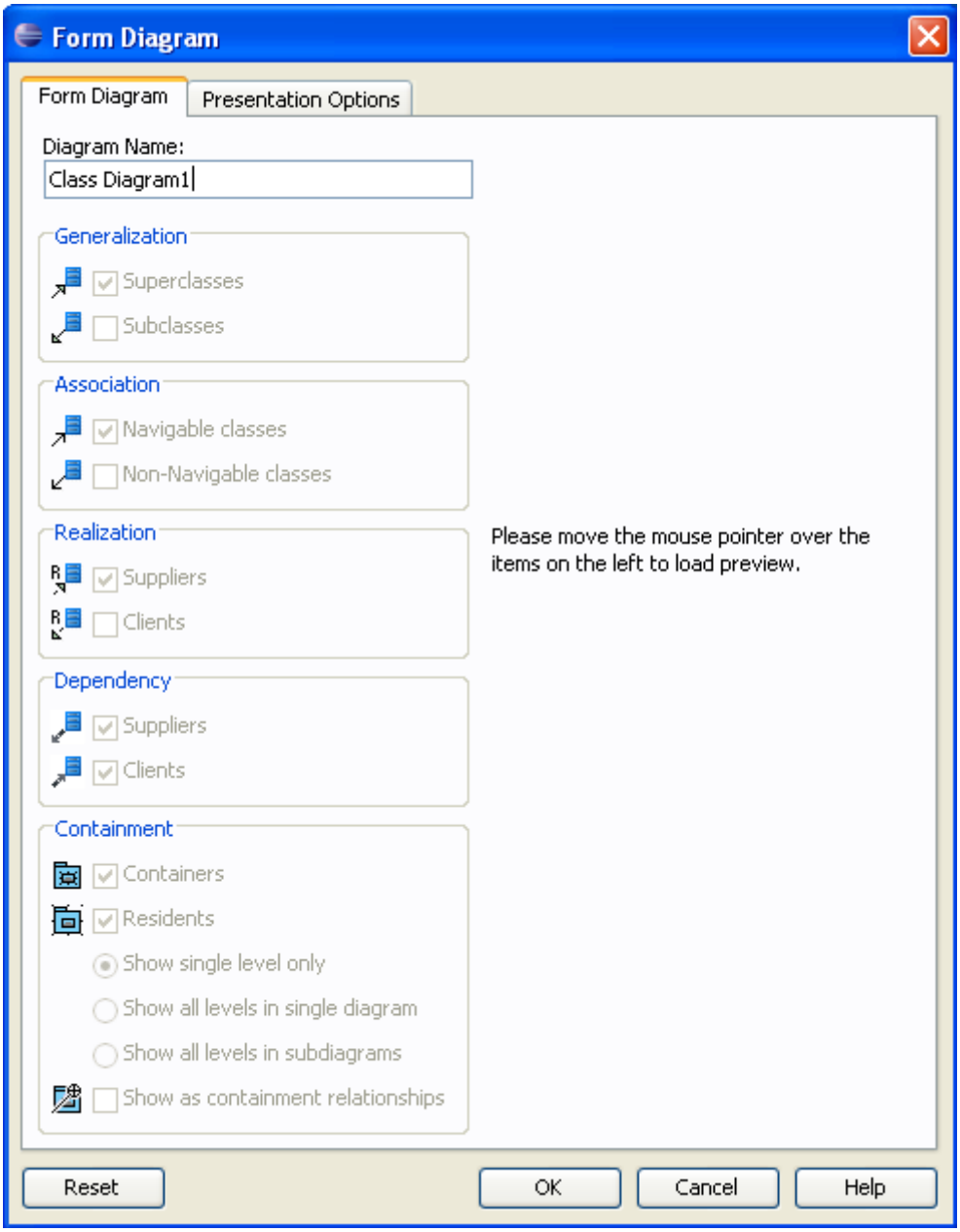



*Figure 9.97 - Form Diagram dialog box*

8. A new diagram is formed by the selected models.

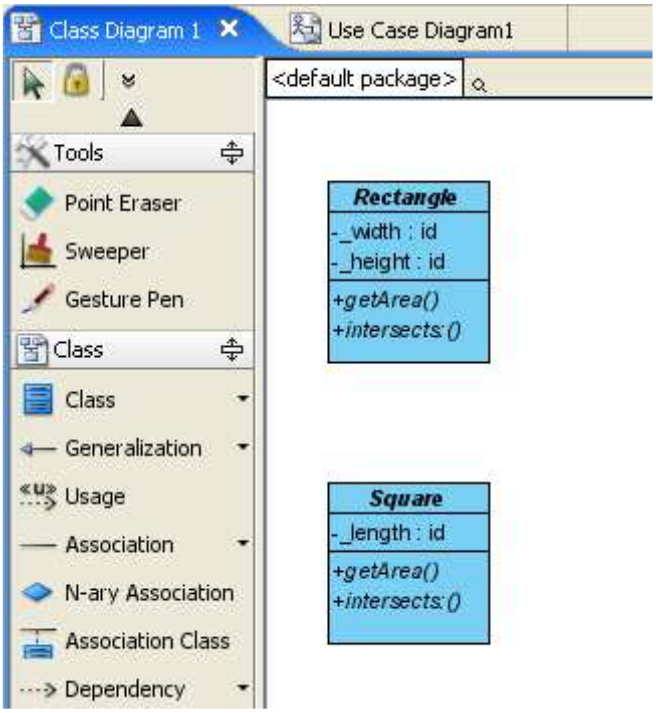



*Figure 9.98 - New diagram formed*

# 10 Instant Generator

# Chapter 10 - Instant Generator

In SDE for Eclipse, you can generate codes by using Instant Generator.

In this chapter:

- What is Instant Generator?
- Supported Sources
- Using Instant Generator
- Generating different languages

## What is Instant Generator?

The Instant Generator facility of SDE for Eclipse allows you to generate codes. SDE for Eclipse supports many types of language including Java, C#, VB.NET etc.This chapter provides a brief description on the supported formats and will show you how to generate codes.

## Supported Sources

Instant Generator currently supports fifteen types of sources. They are:

- Java
- C#
- VB.NET
- PHP
- ODL
- ActionScript
- IDL
- C++
- Delphi
- Perl
- XSD
- Python
- Objective-C
- Ada95
- Ruby

We will use a SDE for Eclipse project as an example to illustrate the advanced options of different languages.

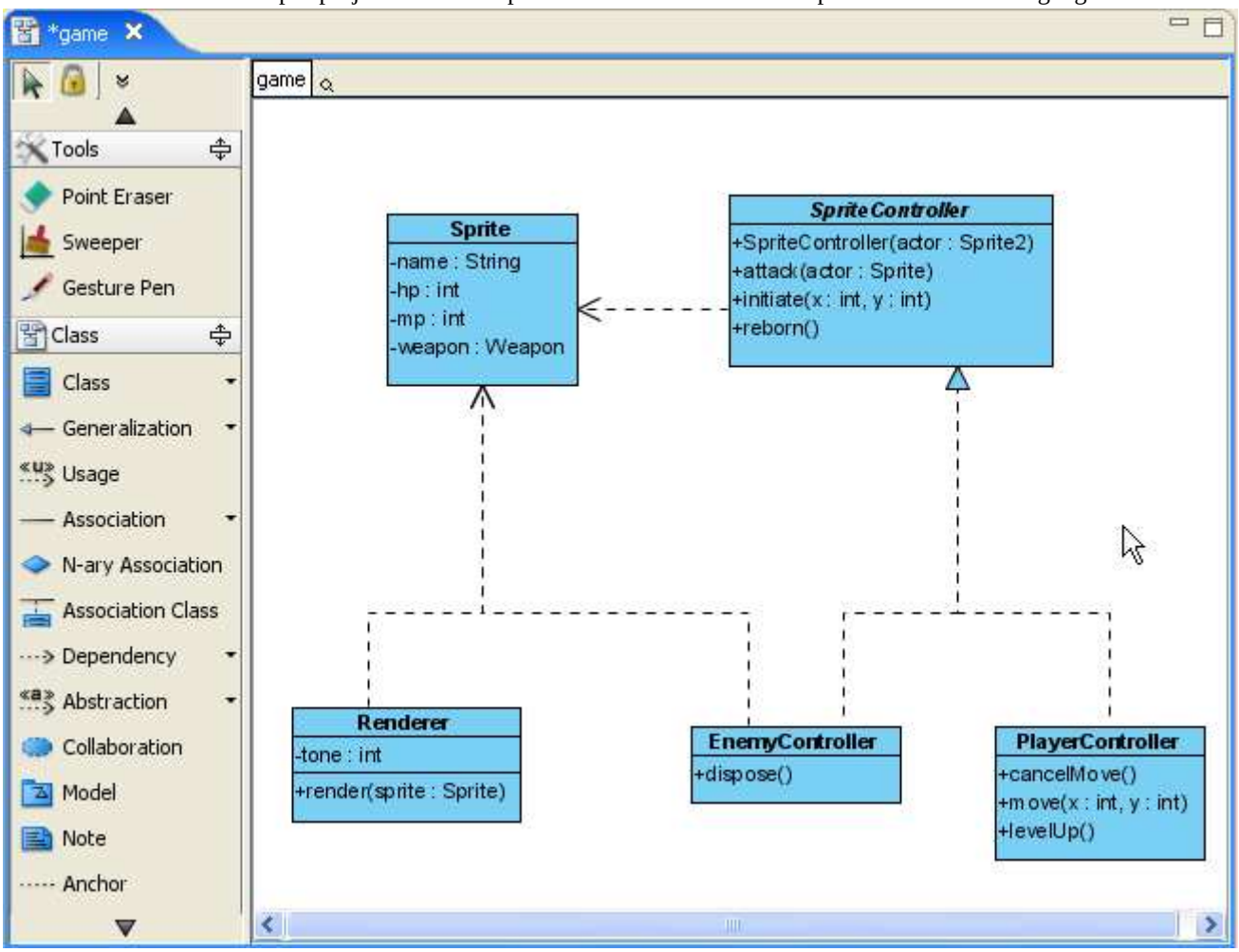



*Figure 10.1 - Sample* SDE for Eclipse *project to illustrate the advanced options*

# Using Instant Generator

Open the **Instant Generator** dialog from the main menu: click **Modeling** > **Instant Generator** > **Instant Generator...** .

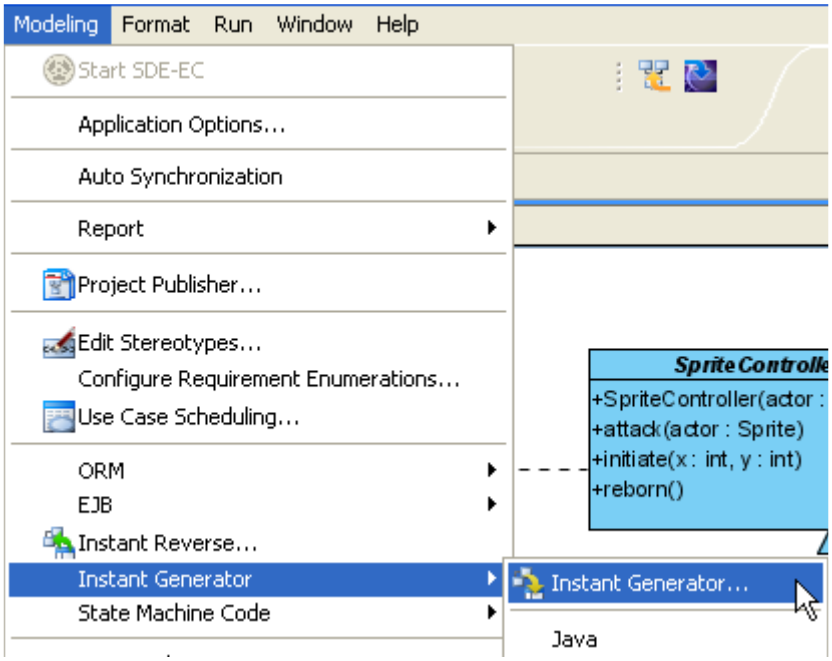



*Figure 10.2 Open Instant Generator dialog*

The **Instant Generator** dialog box will be displayed.

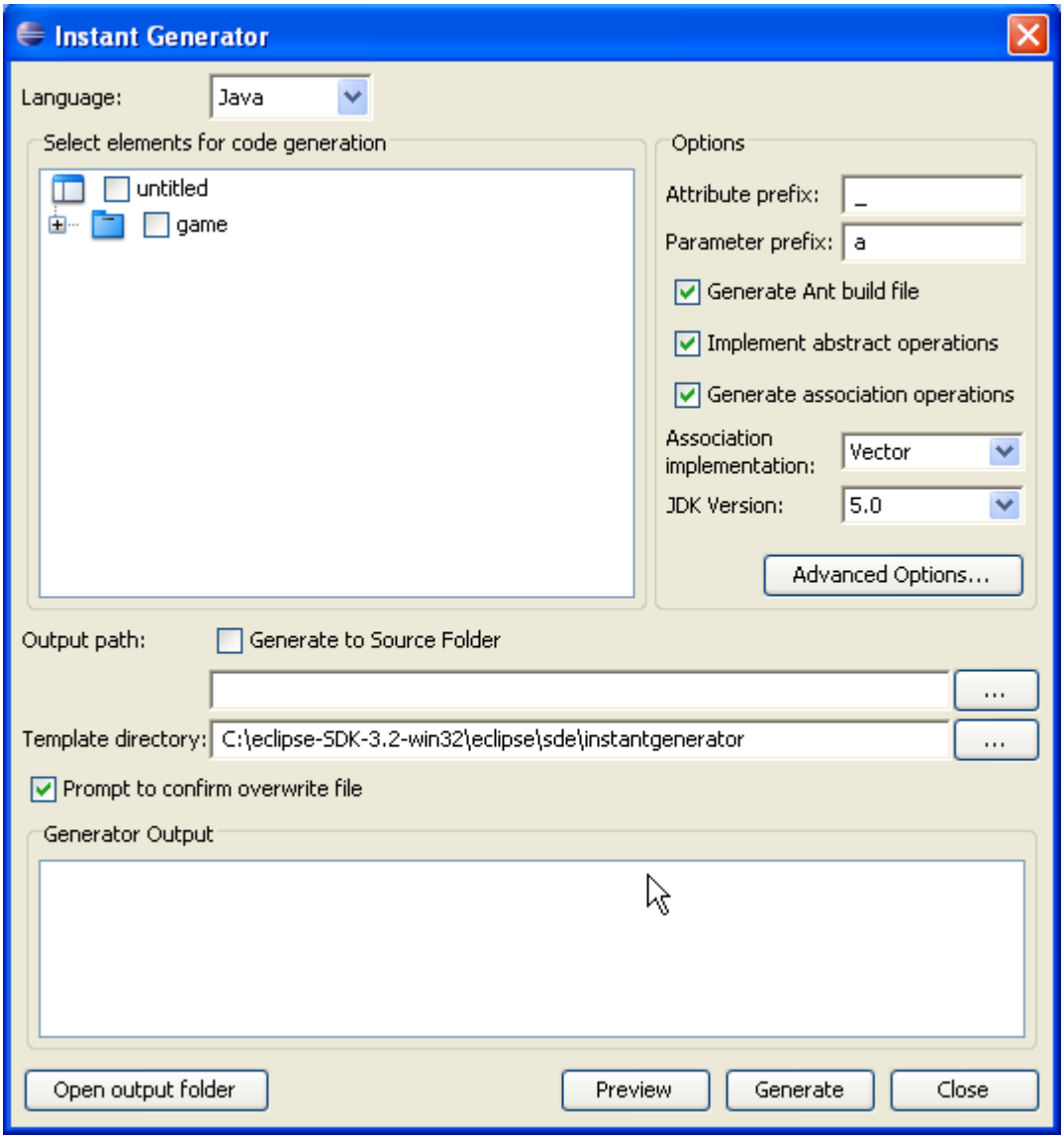



*Figure 10.3 Instant Generator dialog*

## General Settings

As the configuration is simplified, only three values are required to be input even if it is the first time running Instant Generator.

1. Select **Language** to specify which language of source will generated for. In this example, **C++** is selected.

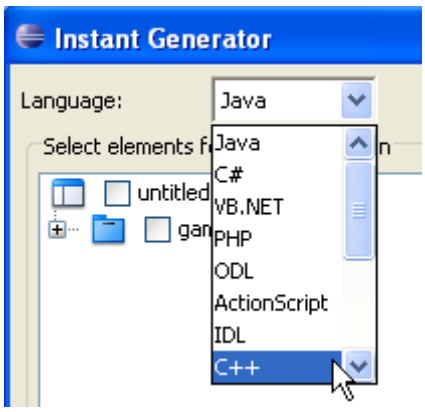



*Figure 10.4 - Select Language*

2. Choose classes or packages which will be included in the generation.

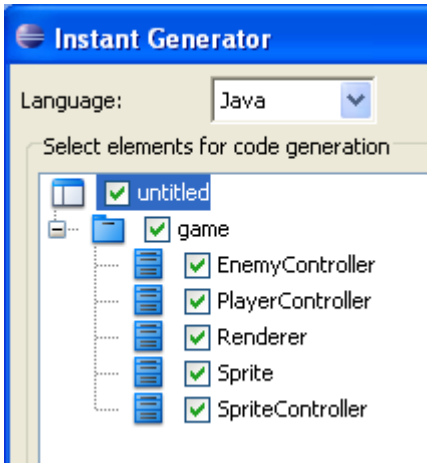



*Figure 10.5 - Choose classes or packages included*

3. Select an output path for placing generated source.

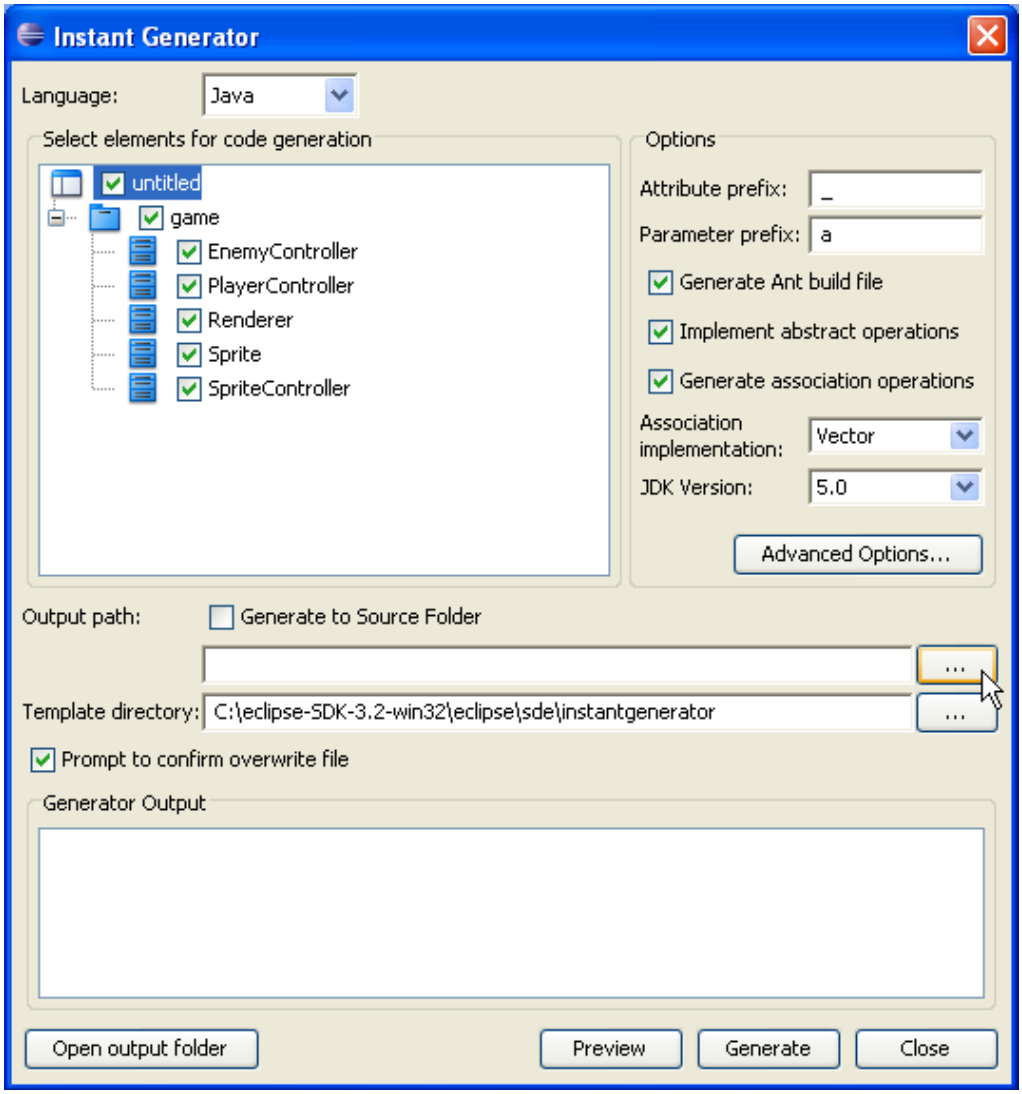



*Figure 10.6 - Select output path*

## Language Specified Options

There are two options which allow you to control the properties in each language. One is **Basic options** and the other is **Advanced options.**
You can directly edit the common change options in **Basic options** in the **Instant Generator** dialog.

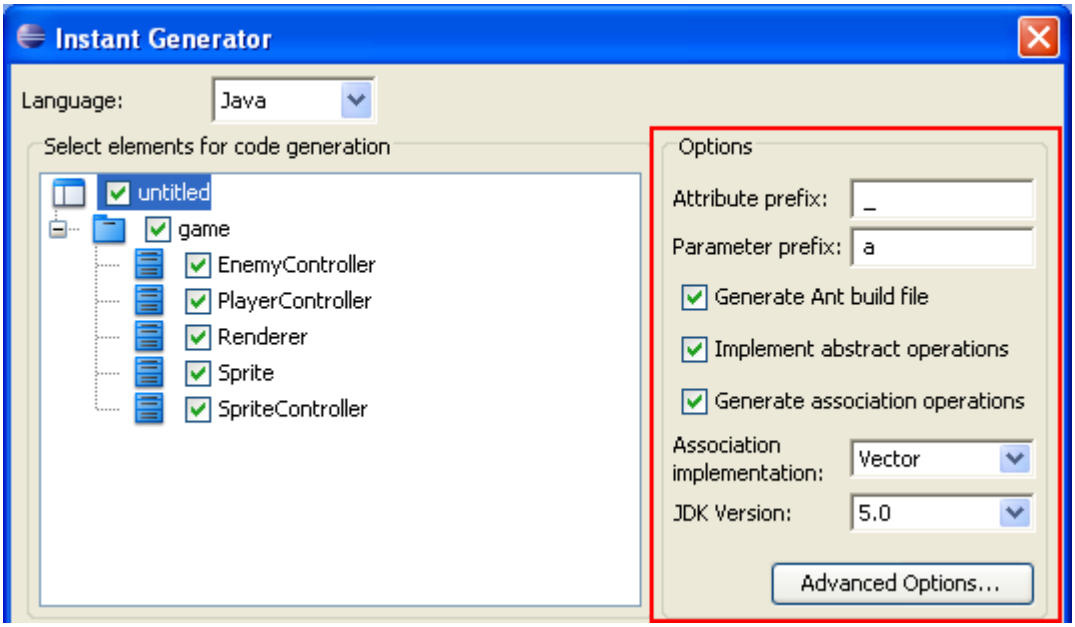



*Figure 10.7 - Basic Options*

**Advanced options** contains all options of the language, including those in **Basic options**. To edit **Advanced options**, click **Advanced Options** in the **Instant Generator** dialog.

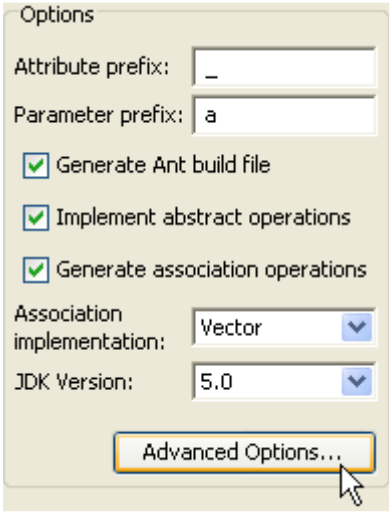



*Figure 10.8 - Select Advanced Options*

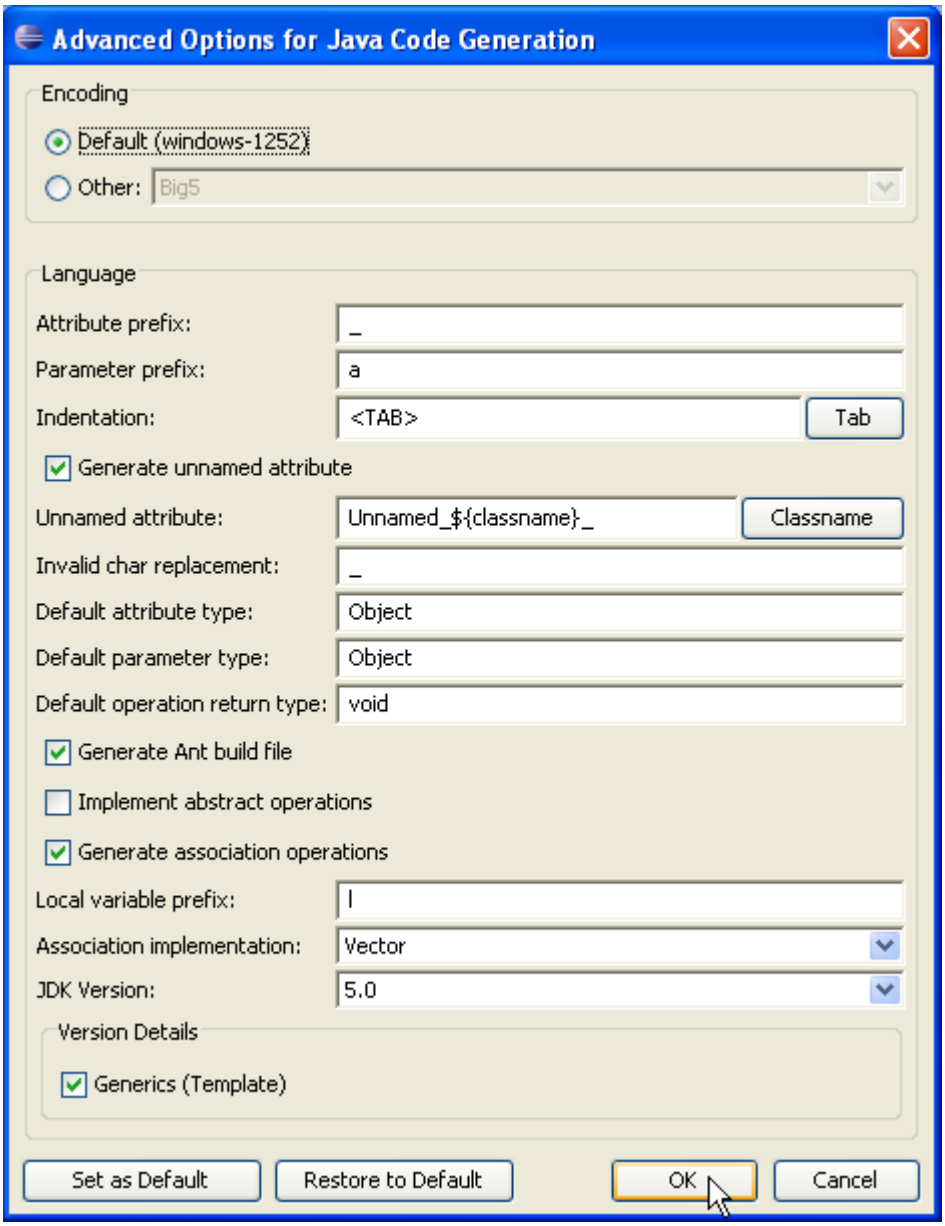



*Figure 10.9 - Advanced Options*

## Preview or Generate

As different values of options will produce different generation results, the Instant Generator provides a preview of the generation result before the actual generation.

To Preview the generation result:

Press **Preview** in Instant Generator dialog.

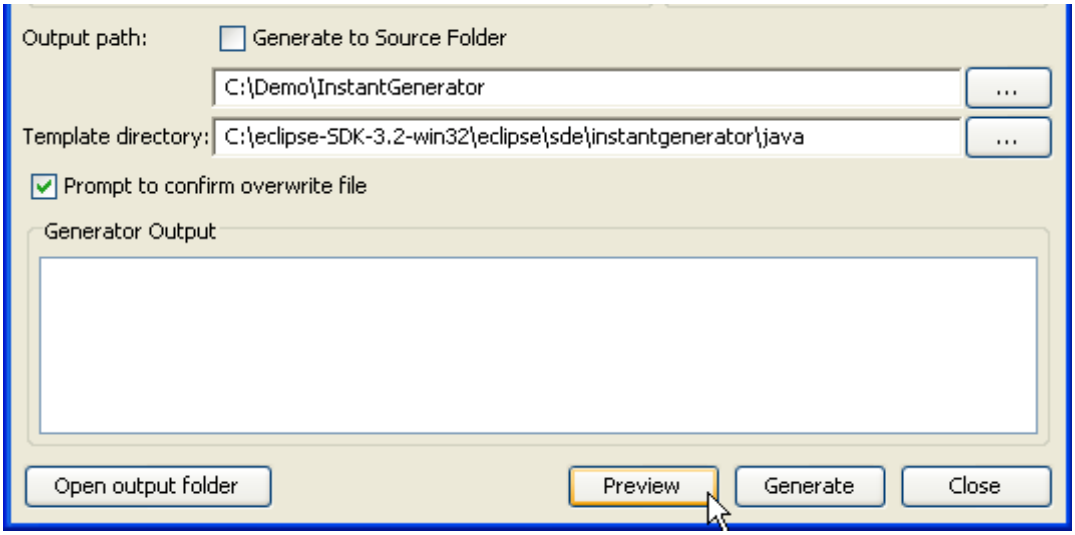



*Figure 10.10 - Select Preview*

Previewing result:

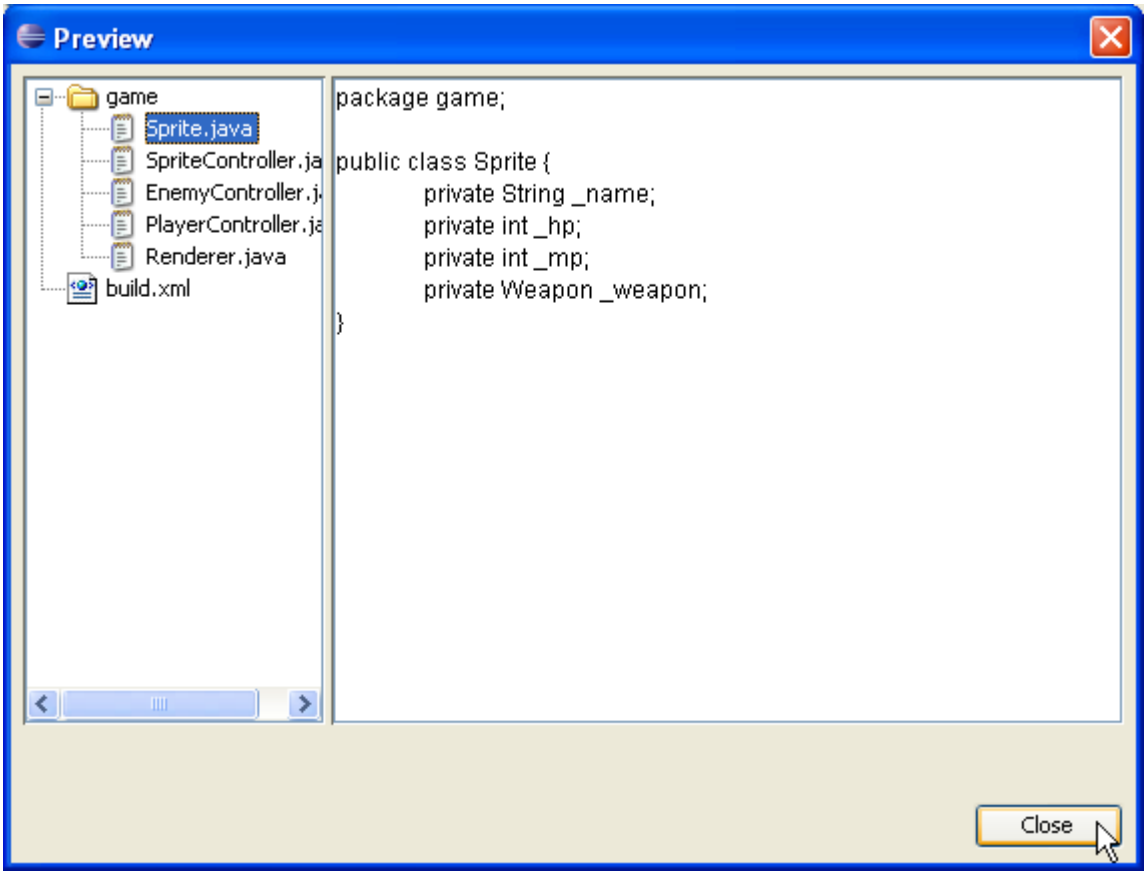



*Figure 10.11 - Previewing result*

To generate codes using the Instant Generator dialog:
Press **Generate** in the Instant Generator dialog to perform actual generation.

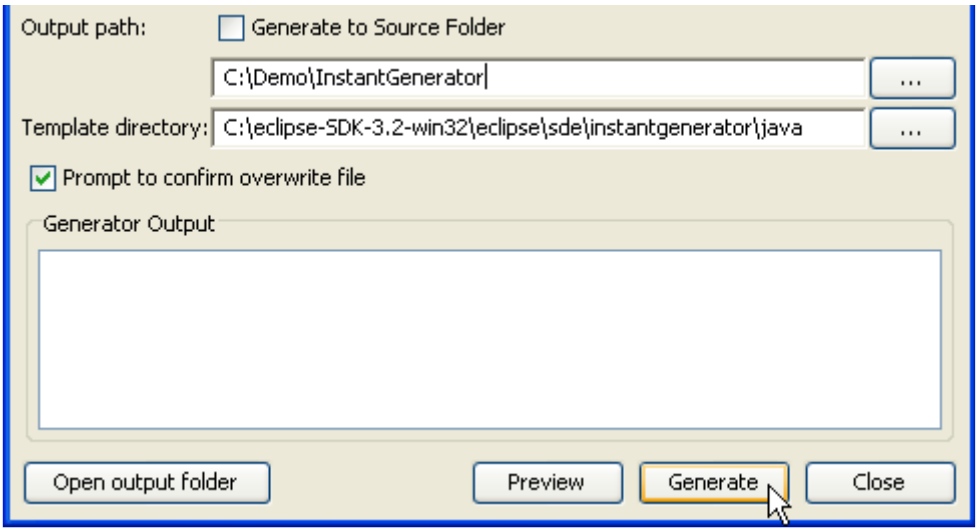



*Figure 10.12 - Select Generate*

While the generation, the progress is displayed in *Generator Output*.
Output folder can be opened by pressing **Open output folder** in Instant Generator dialog.

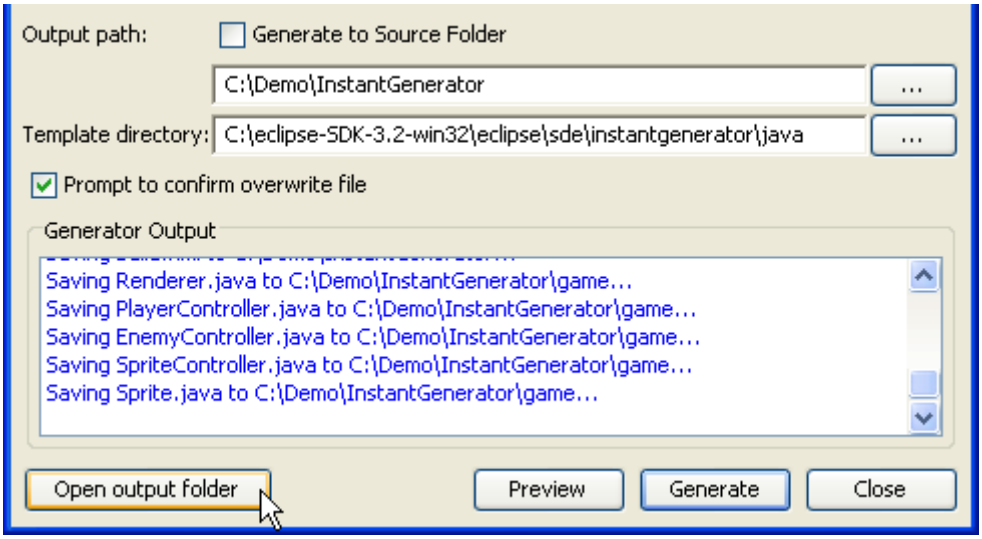



*Figure 10.13 - Open output folder*

# Generating Java

Using SDE for Eclipse, Java can be generated easily.

To generate Java:

1. Open the **Instant Generator** dialog for Java by clicking **Modeling** > **Instant Generator** > **Java...** in the main menu.

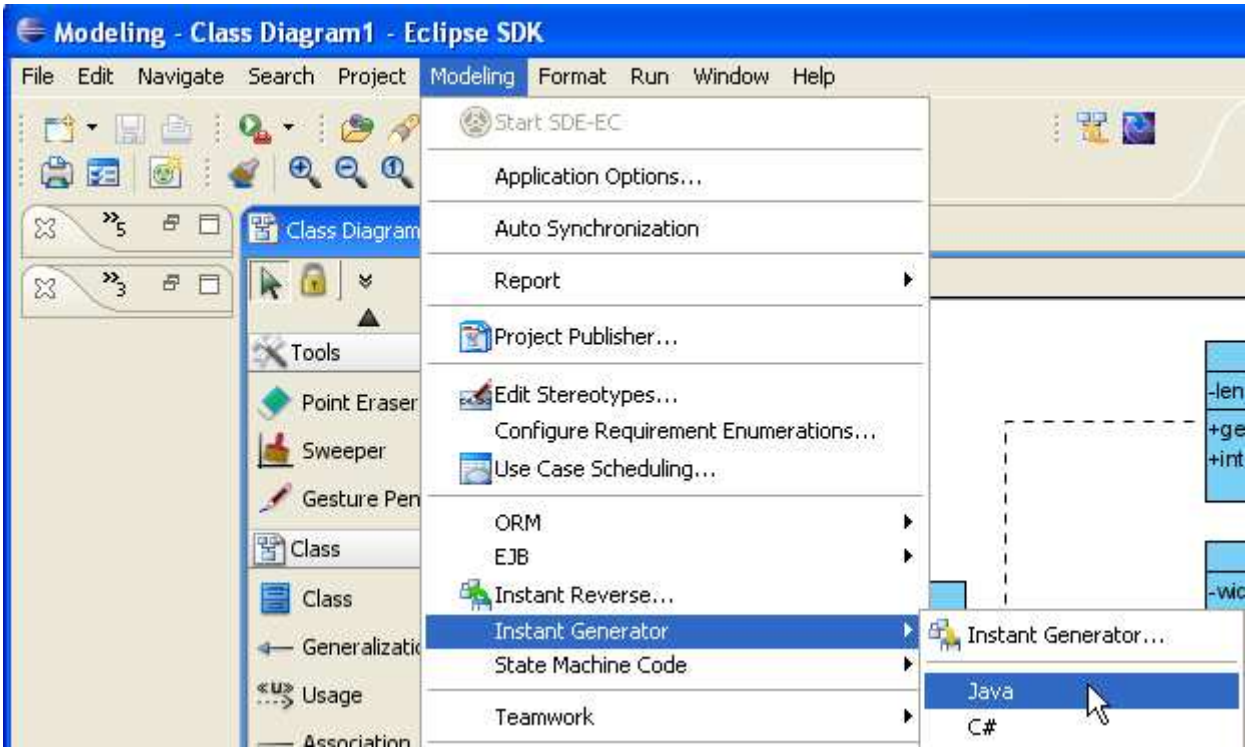



*Figure 10.14 - Open Instant Generator dialog for Java*

2. The **Instant Generator** dialog box for Java is displayed.

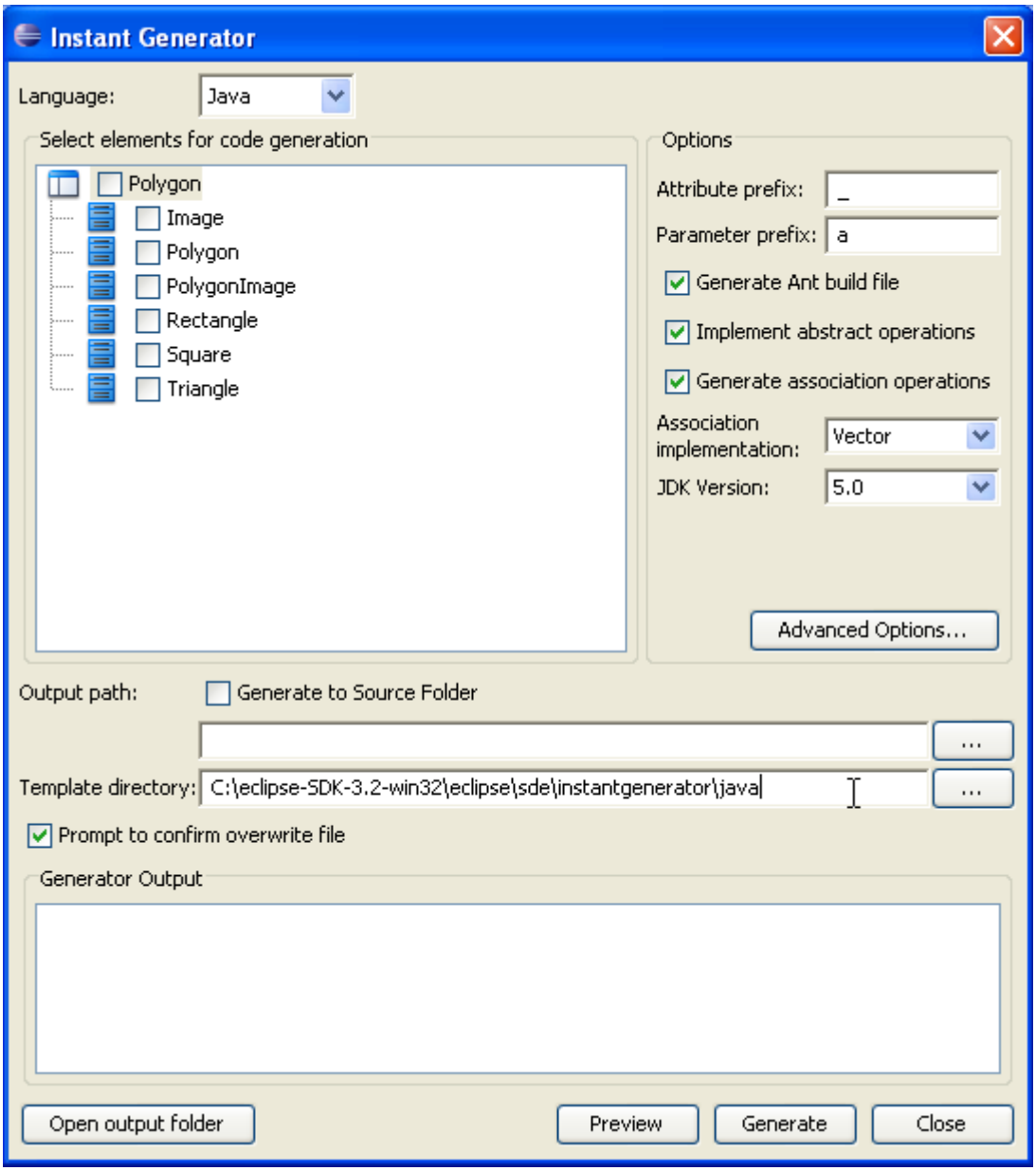



*Figure 10.15 - Instant Generator dialog box*

3. Choose the classes or packages you want to generate in Java.

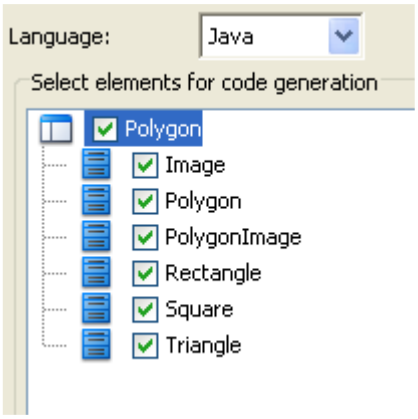



*Figure 10.16 - Choose the classes and packages*

4. Edit the Options.

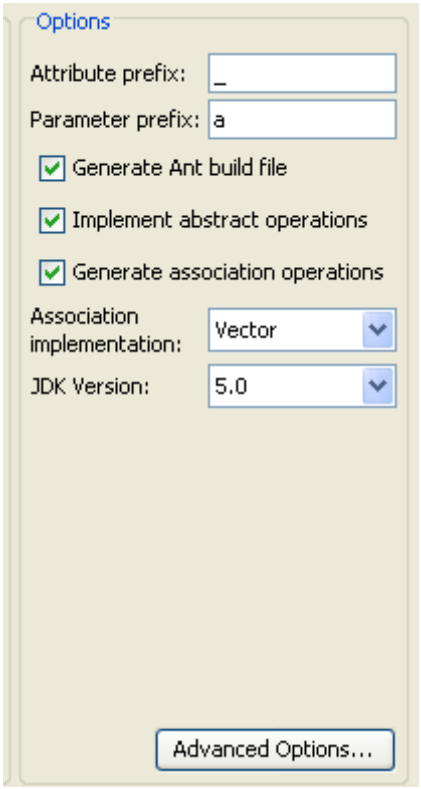



*Figure 10.17 - Edit the options*

| Name | Description |
|---|---|
| Attribute prefix | Configure the prefix of attribute. |
| Parameter prefix | Configure the prefix of parameter. |
| Generate Ant build file | Check this option to generate Ant build file. |
| Implements abstract operations | Check this option to implement abstract operations in generated classes. |
| Generate association operations | If you check this box, when a role is selected to provide setter/getter, the corresponding operation(s) will be generated for the role's attribute. |
| Association implementation | Select from drop-down menu any of the options to configure the multiplicity of a class:<br>Vector - The collection is expandable size.<br>Array - The collection has fixed size. |
| JDK Version | Select this option to generate code for target JDK. The version SDE for Eclipse supports are 5.0 and 1.4. |
| Advanced Options... | Edit the advance options. |

*Table 10.1*

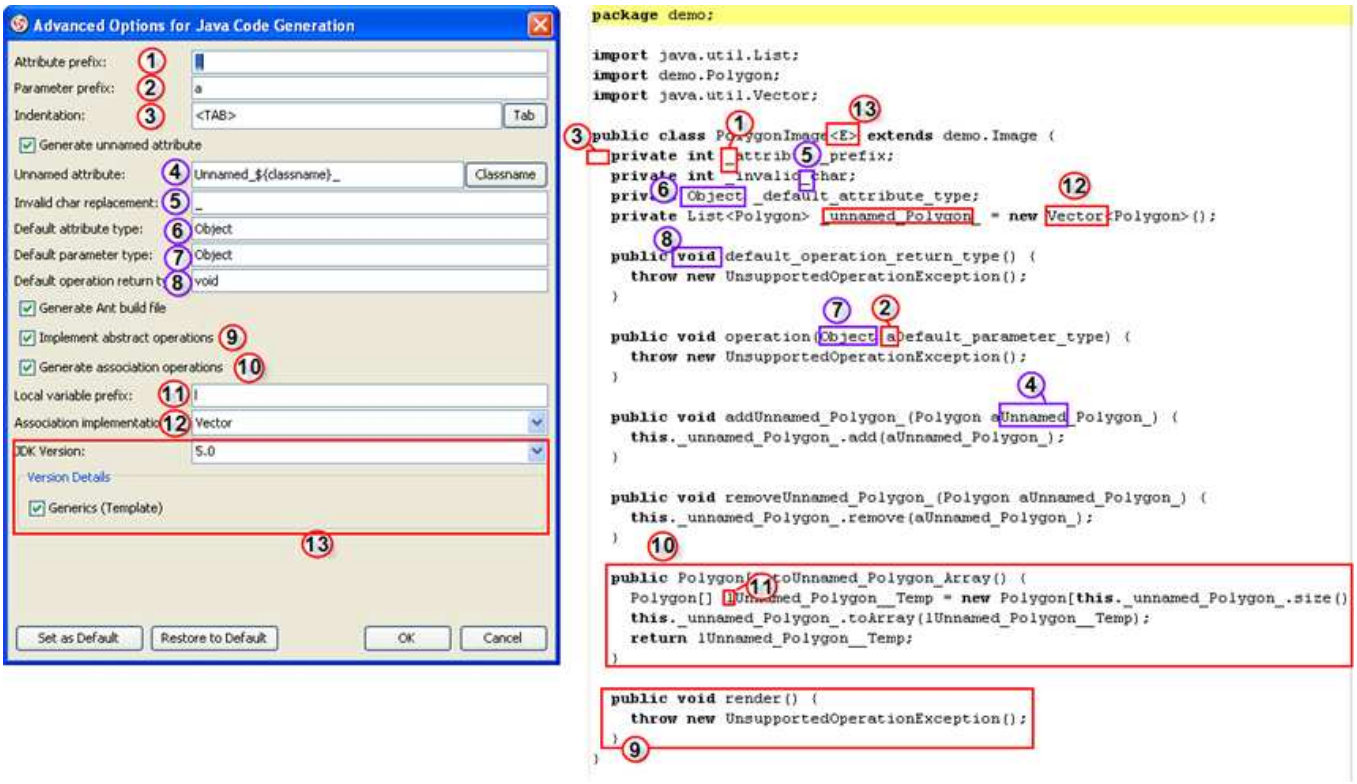



*Figure 10.18 - Example illustrating the functions of different options in Advanced Options*

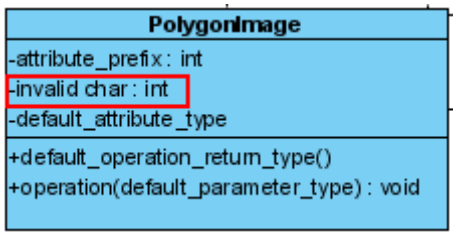



*Figure 10.19 - Diagram of invalid char*

4. Specify the **Output path** and select **Generate** to generate Java.

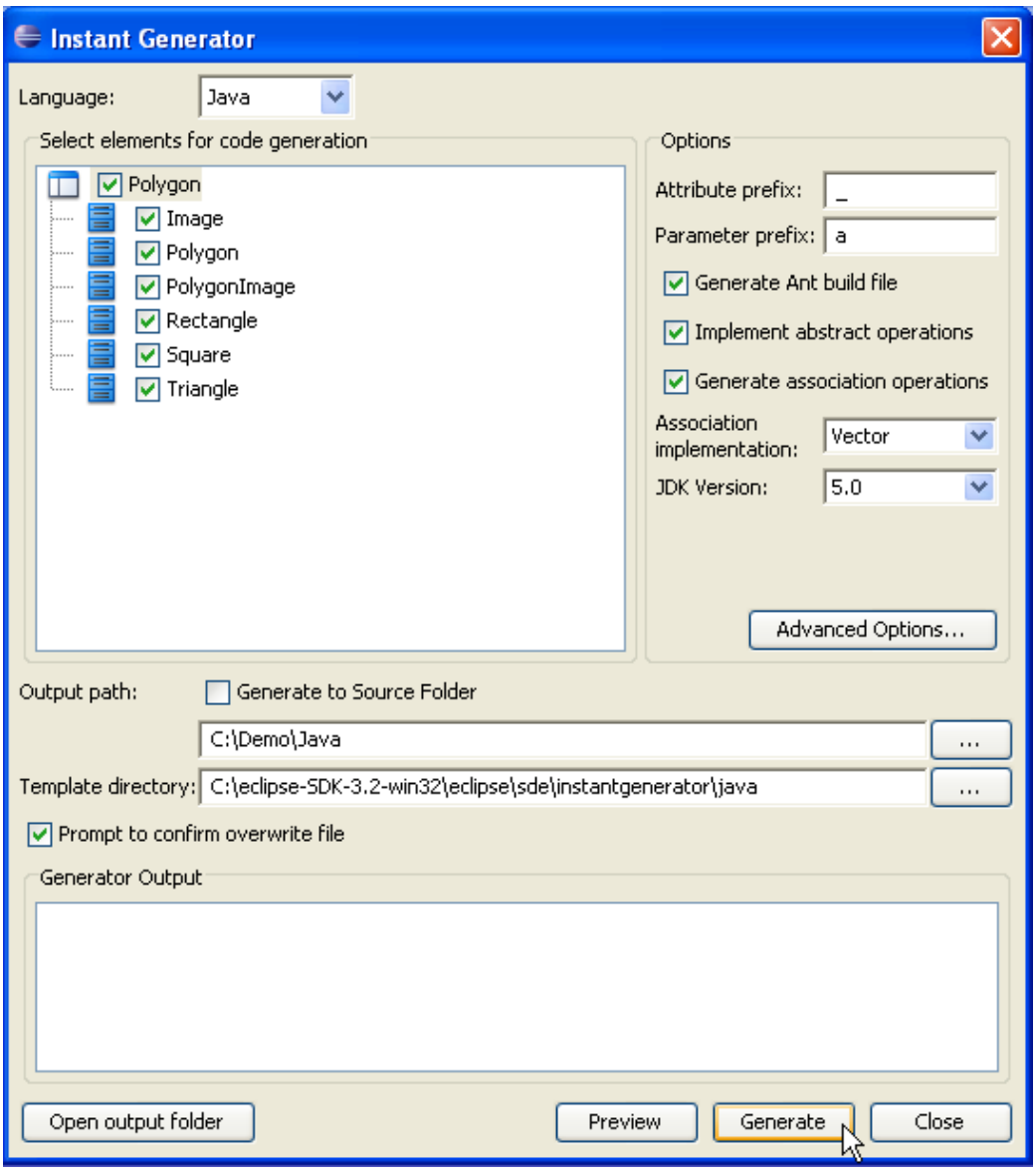



*Figure 10.20 - Select Generate*

5.The progress of generation is shown in the **Generator Output** column. After generation, you can select **Open output folder** to open the output folder generated.

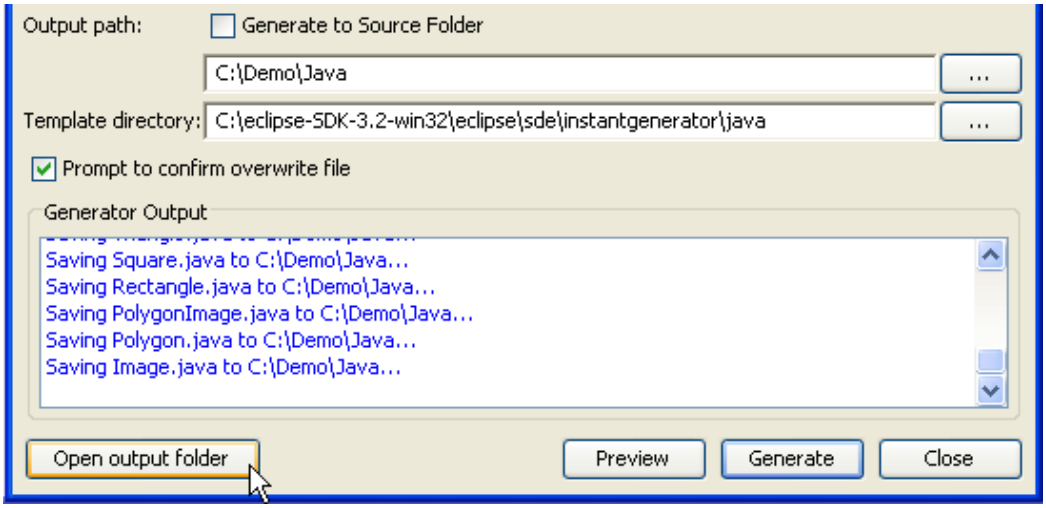



*Figure 10.21 - Open output folder*

6. Java files are generated.

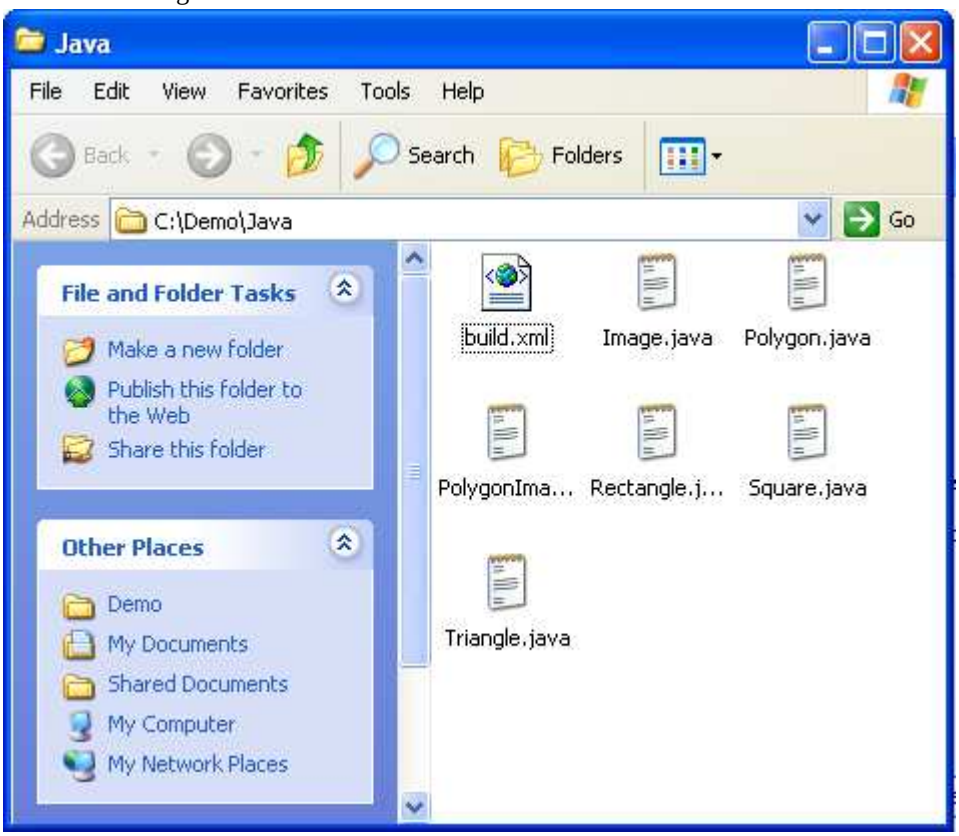



*Figure 10.22 - Java files generated*

# Generating C#

SDE for Eclipse can generate C# file.
To generate C#:

1. Open **Instant Generator** dialog for C# by clicking **Modeling** > **Instant Generator** > **C#...** in the main menu.

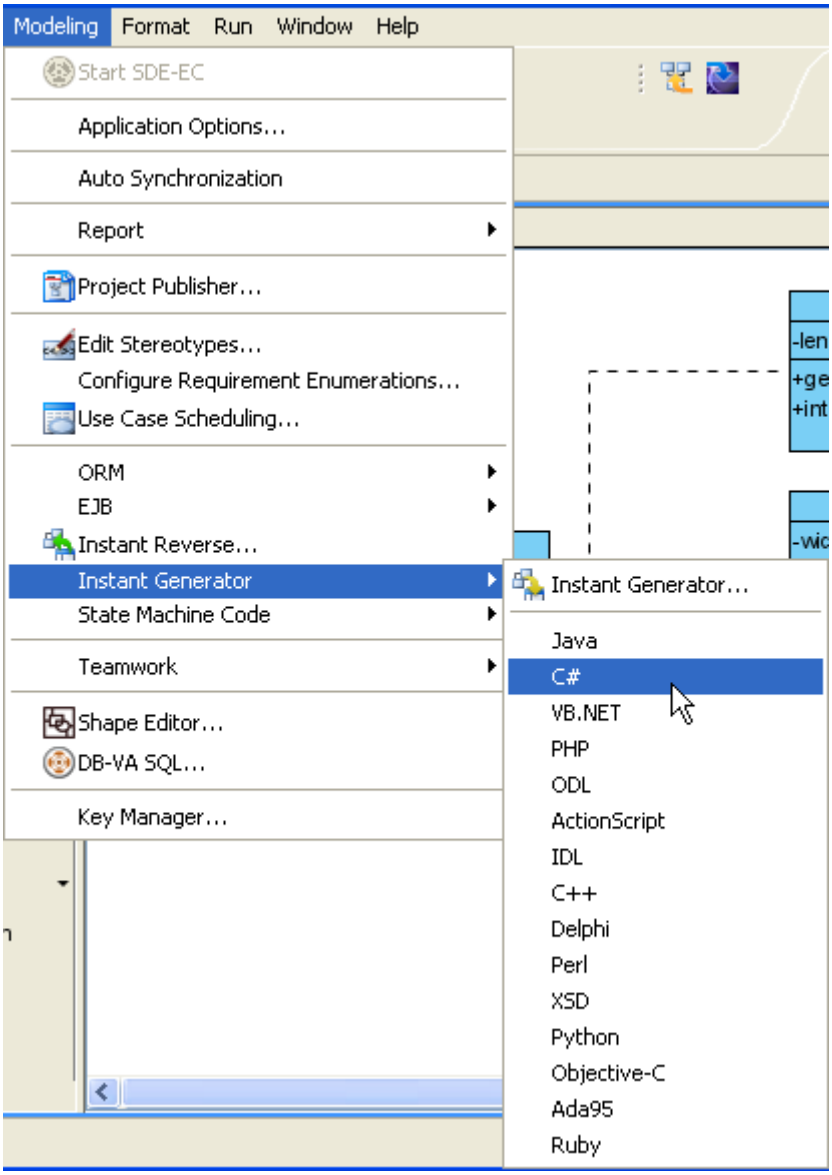



*Figure 10.23 - Open Instant Generator dialog for C#*

2. The **Instant Generator** dialog box for C# is displayed.

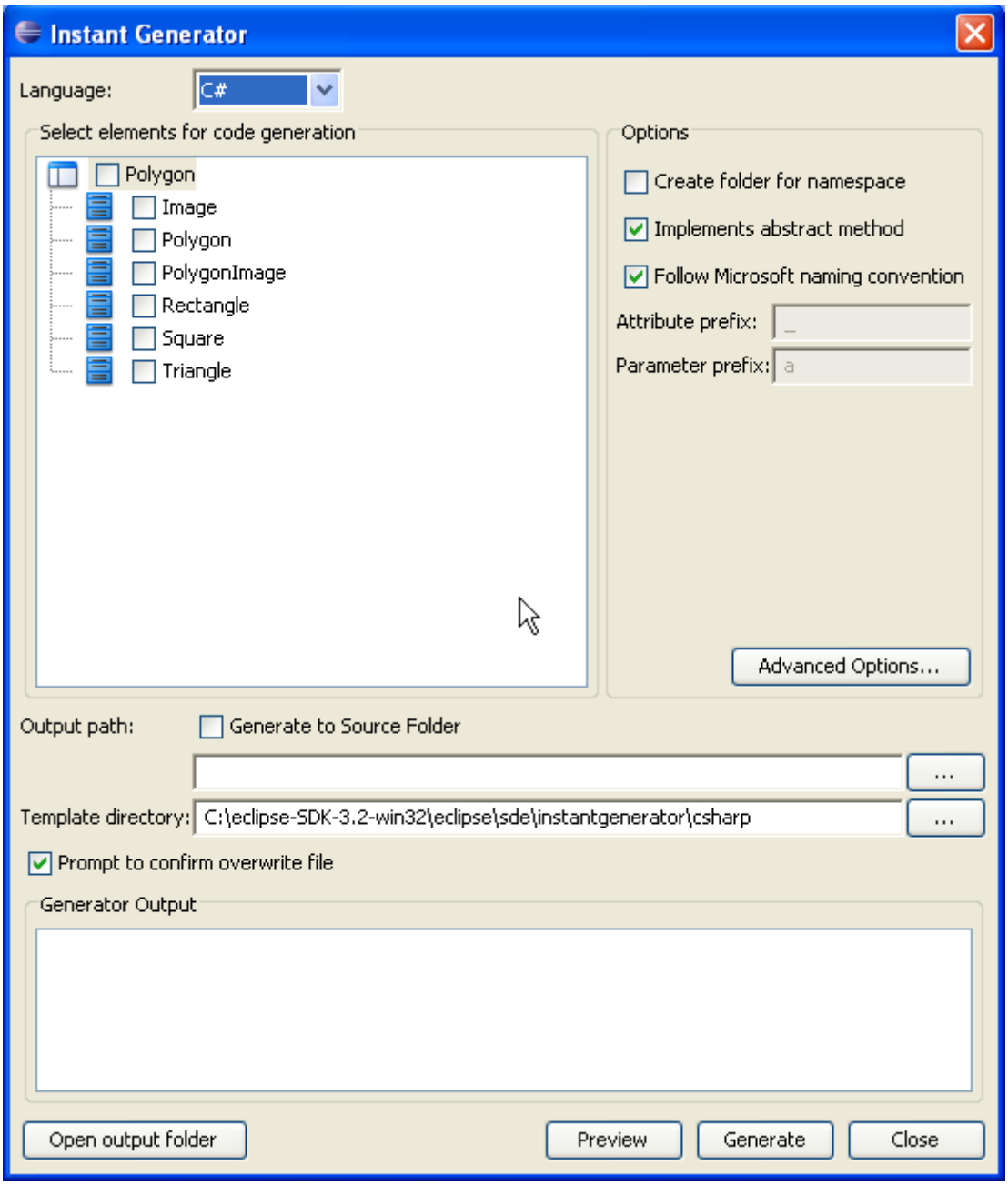



*Figure 10.24 - Instant Generator dialog box*

3. Choose the classes or packages you want to generate C#.

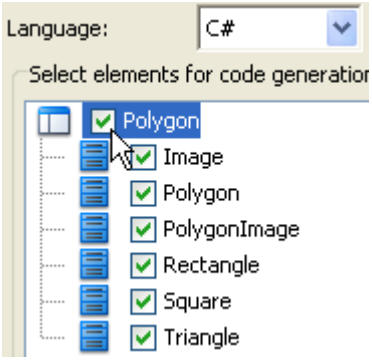



*Figure 10.25 - Choose the classes and packages*

4. Edit the Options.

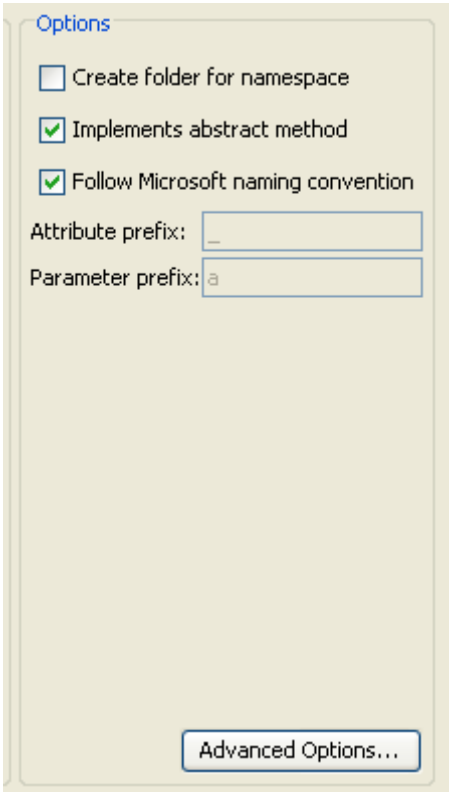



*Figure 10.26 - Edit the options*

| Name | Description |
|---|---|
| Create folder for namespace | Create a new folder for namespace to avoid name conflict. |
| Implements abstract method | Check this option to implement abstract methods in generated classes. |
| Follow Microsoft naming convention | Name the file generated using the Microsoft naming convention. If you uncheck this option, you can enter the prefix for attribute and parameter of prefix. |
| Attribute prefix | Configure the prefix of attribute. |
| Parameter prefix | Configure the prefix of parameter. |
| Advanced Options... | Edit the advance options. |

*Table 10.2*

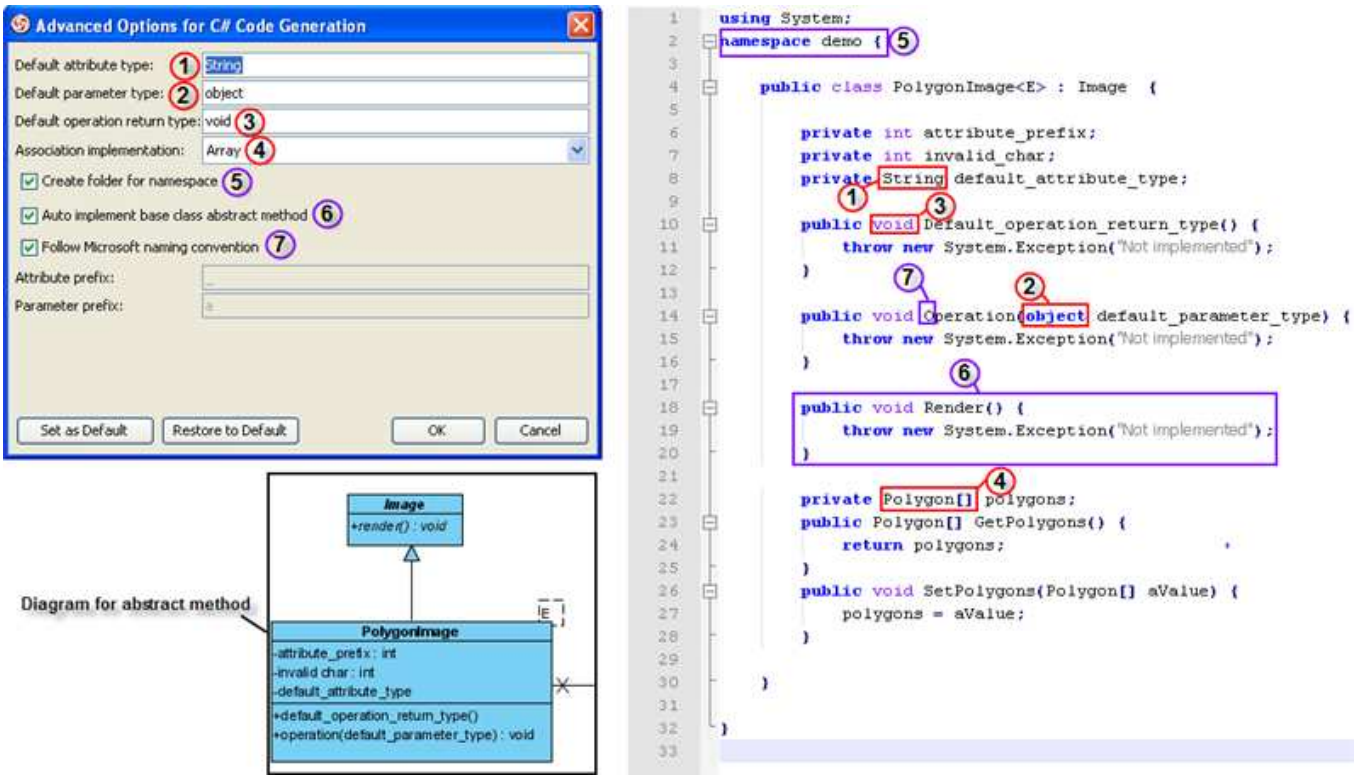



*Figure 10.27 - Example illustrating the functions of different options in Advanced Options*

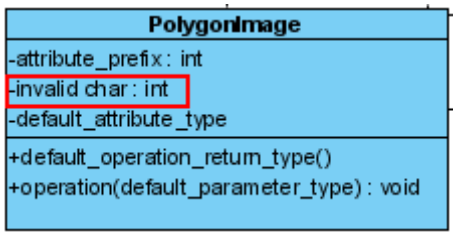



*Figure 10.28 - Diagram of invalid char*

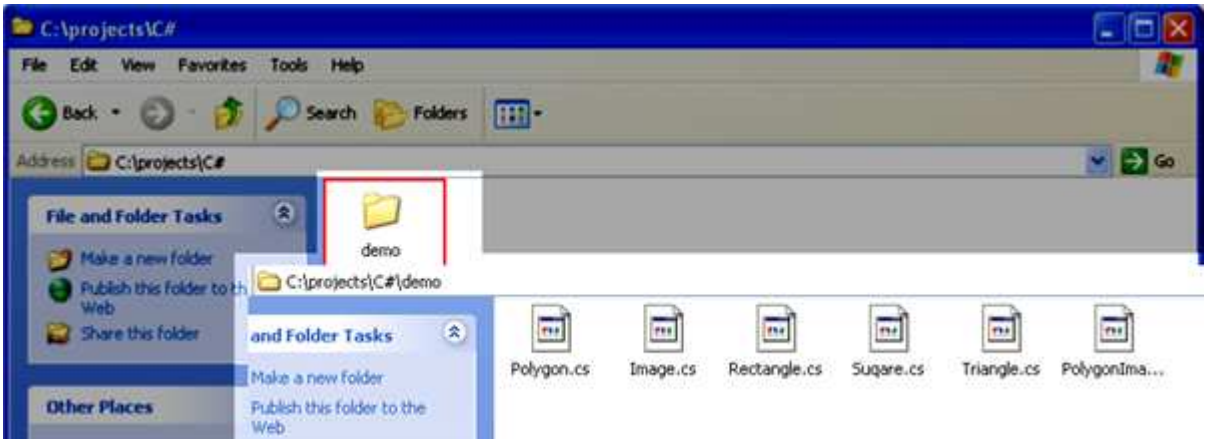



*Figure 10.29 - File generated with folder created for namespace*

5. Specify the **Output path** and select **Generate** to generate C#.

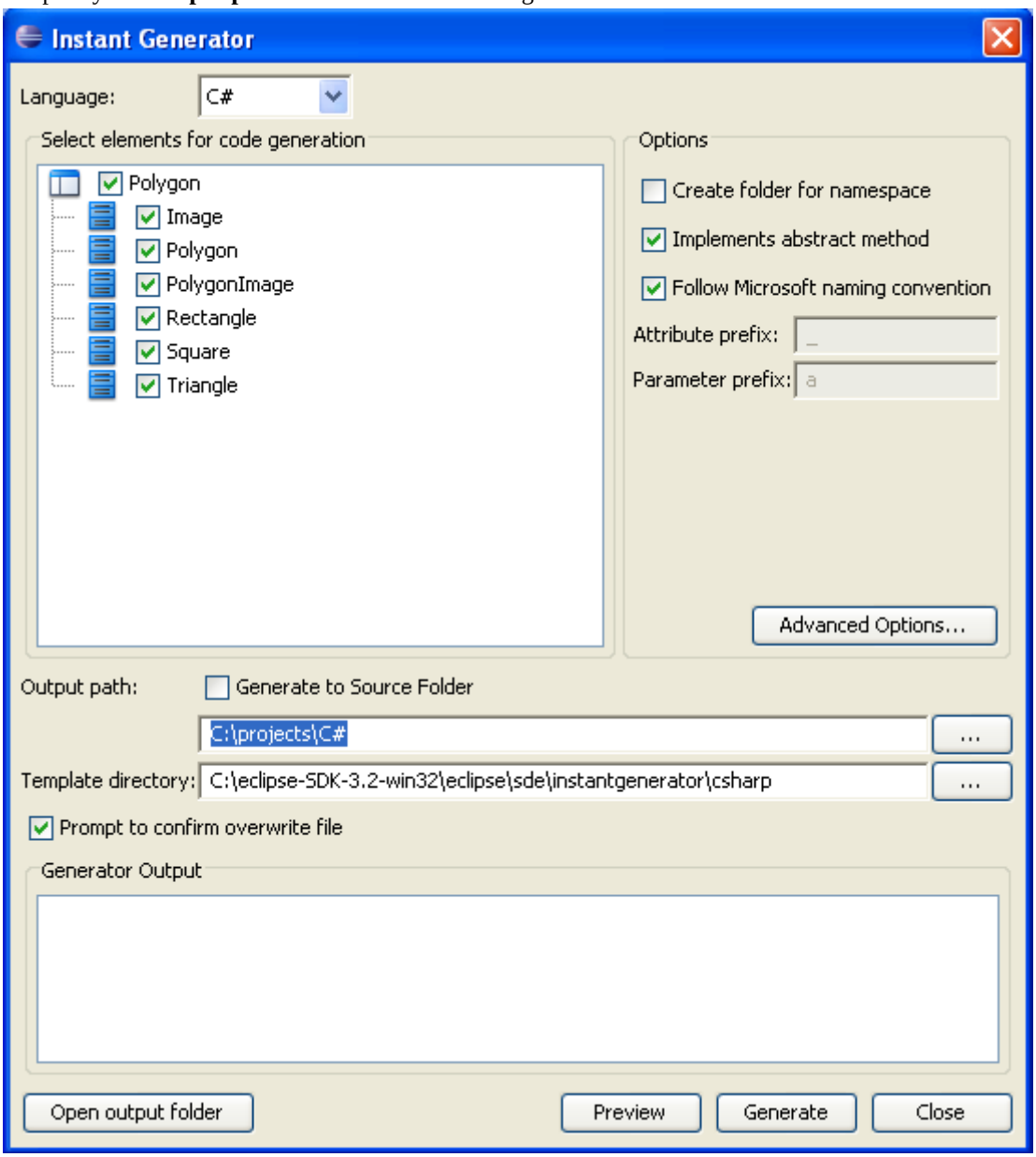



*Figure 10.30 - Select Generate*

6. The progress of generation is shown in the **Generator Output** column. After generation, you can select **Open output folder** to open the output folder generated.

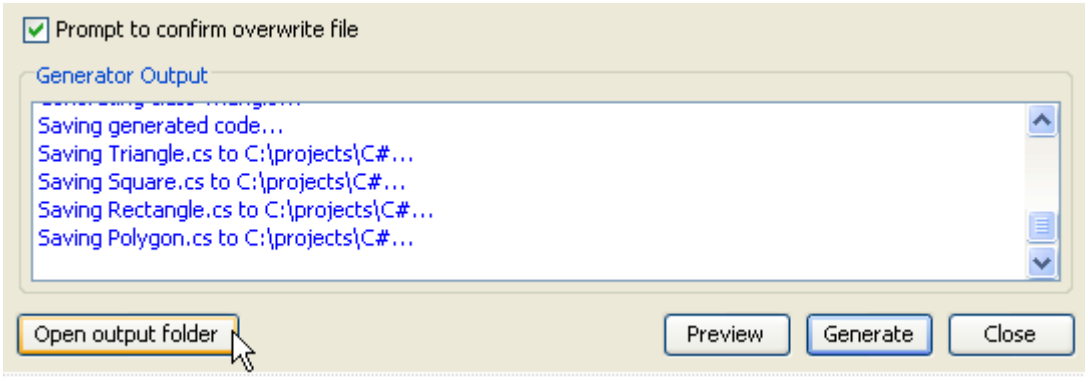



*Figure 10.31 - Open output folder*

7.C# files generated.

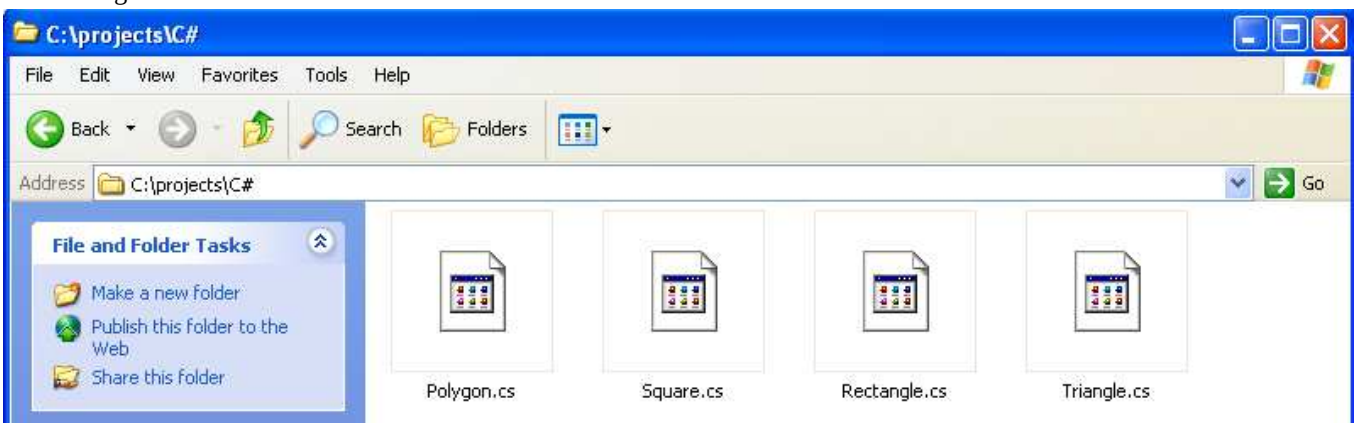



*Figure 10.32 - C# files generated*

# Generating VB.NET

SDE for Eclipse can generate VB.NET file.
To generate VB.NET file:

1. Open the **Instant Generator** dialog for VB.NET by clicking **Modeling** > **Instant Generator** > **VB.NET...** in the main menu.

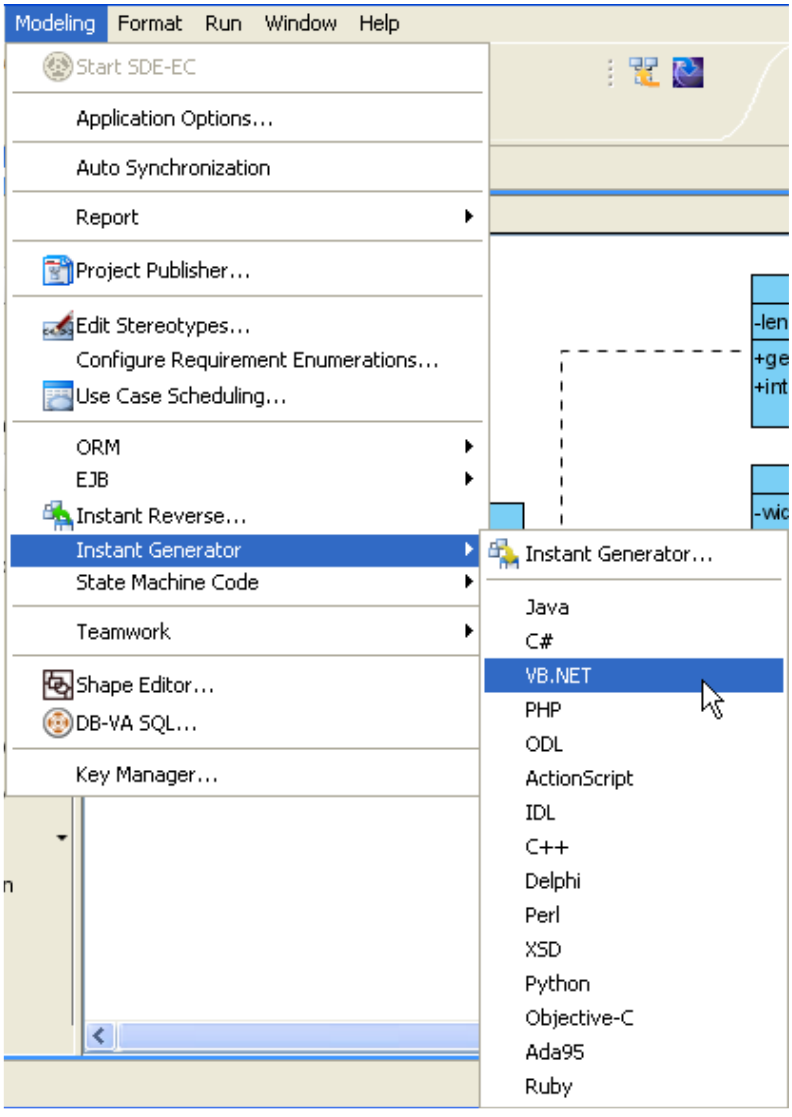



*Figure 10.33 - Open Instant Generator dialog for VB.NET*

2. The **Instant Generator** dialog box for VB.NET is displayed.

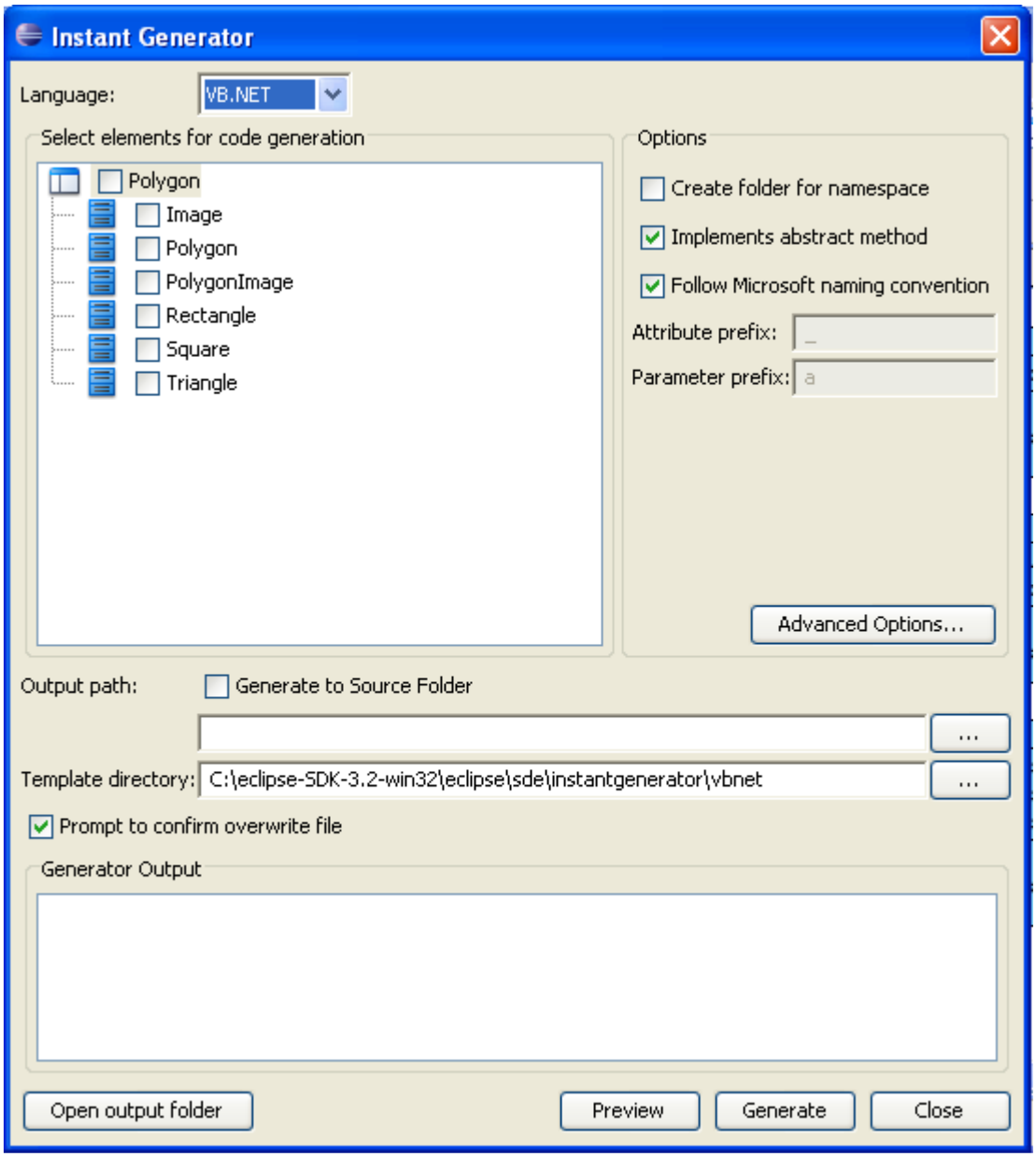



*Figure 10.34 Instant Generator dialog box*

3. Choose the classes or packages you want to generate .

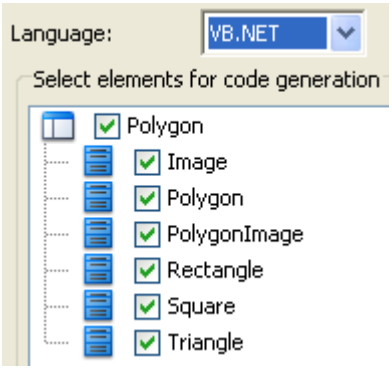



*Figure 10.35 - Choose the classes and packages*

4. Edit the Options.

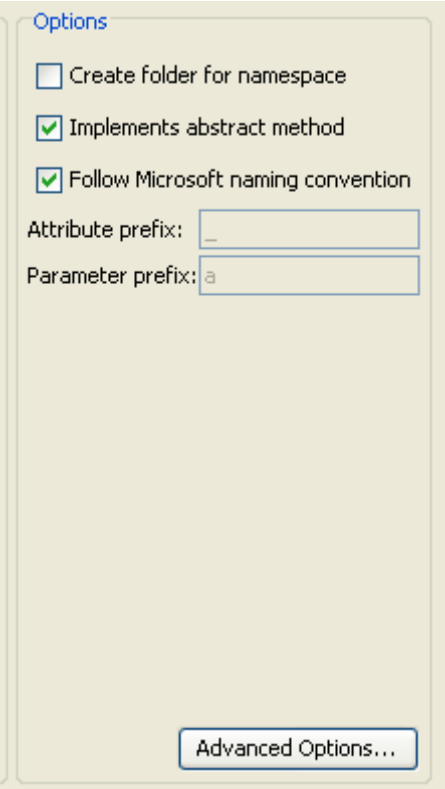



*Figure 10.36 - Edit the options*

| Name | Description |
|---|---|
| Create folder for namespace | Create a new folder for namespace to avoid name conflict. |
| Implements abstract method | Check this option to implement abstract methods in generated classes. |
| Follow Microsoft naming convention | Name the file generated using the Microsoft naming convention. If you uncheck this option, you can enter the prefix for attribute and parameter of prefix. |
| Attribute prefix | Configure the prefix of attribute. |
| Parameter prefix | Configure the prefix of parameter. |
| Advanced Options... | Edit the advance options. |

*Table 10.3*

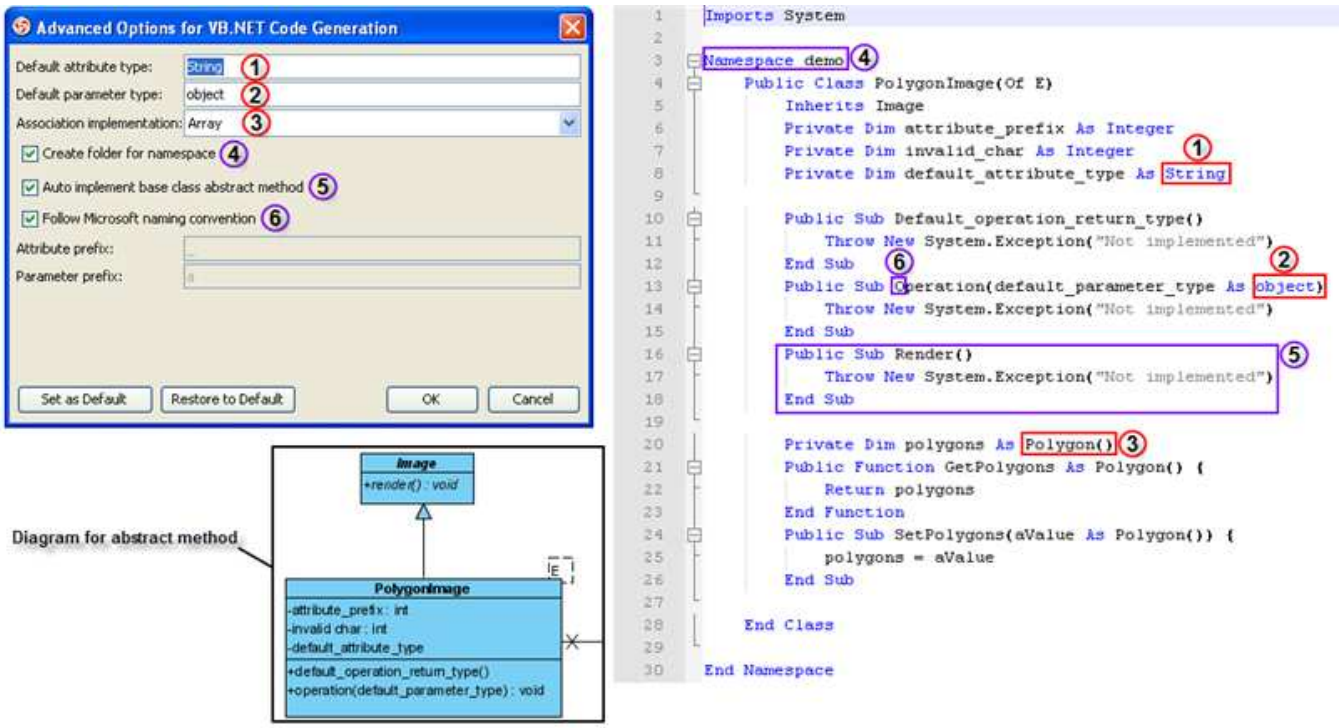



*Figure 10.37 - Example illustrating the functions of different options in Advanced Options*


*Figure 10.38 - File generated with folder created for namespace*

5. Specify the **Output path** and select **Generate** to generate VB.NET.

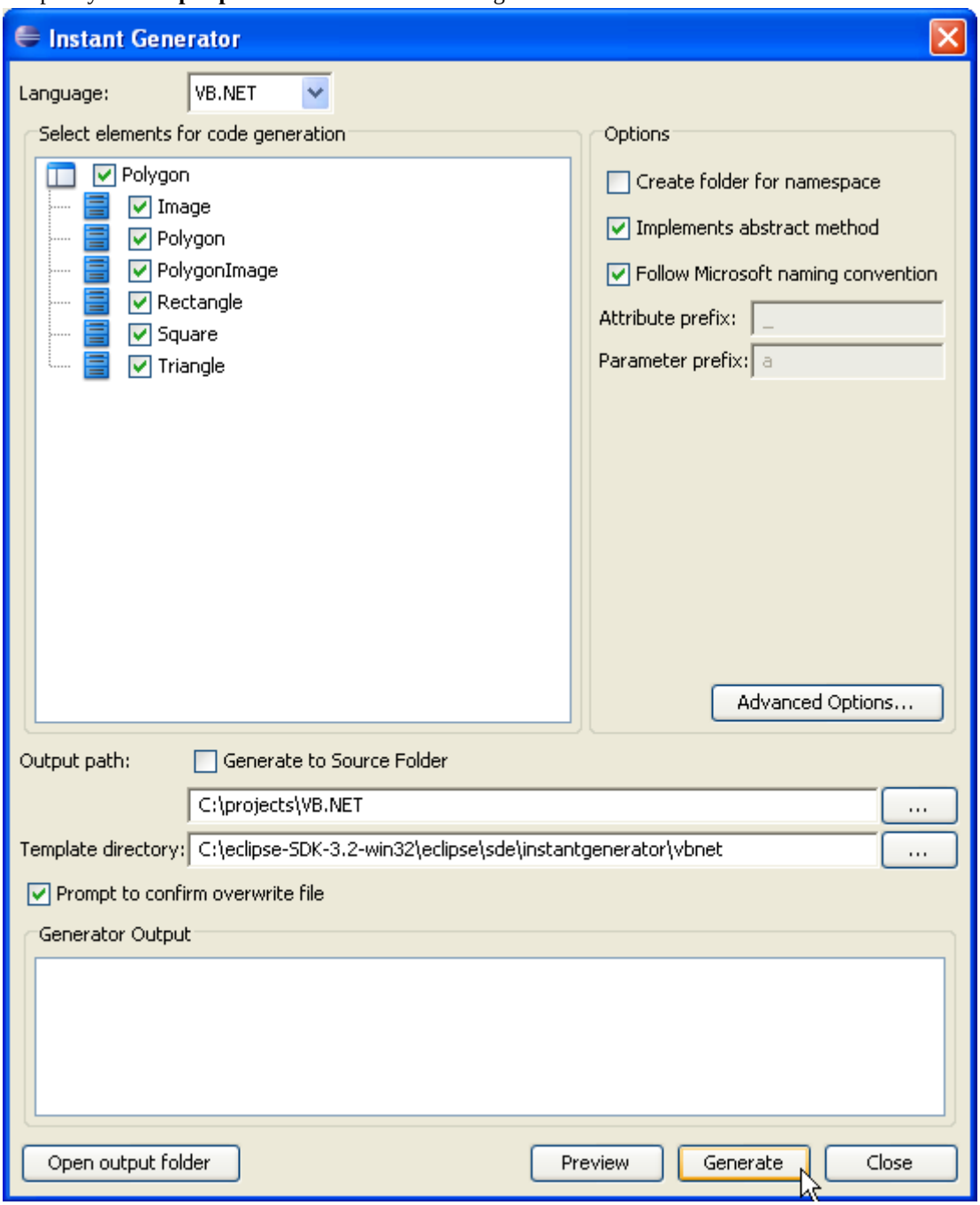



*Figure 10.39 - Select Generate*

6. The progress of generation is shown in the **Generator Output** column. After generation, you can select **Open output folder** to open the output folder generated.

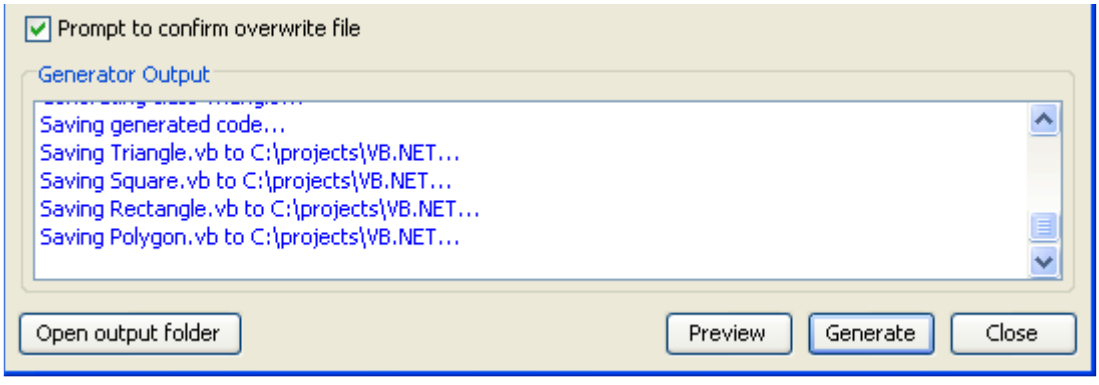



*Figure 10.40 - Open output folder*

7.VB.NET files generated.

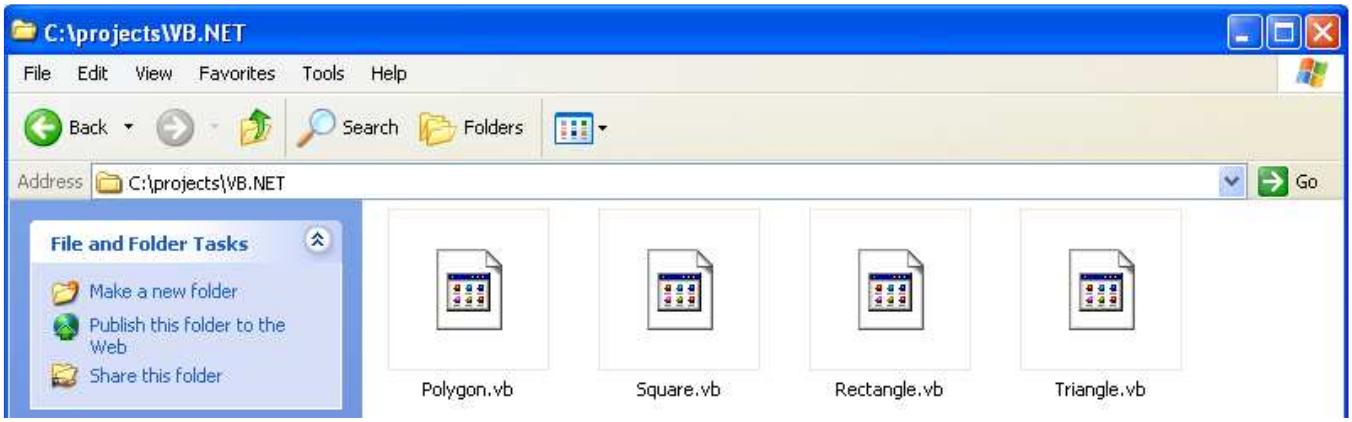



*Figure 10.41 - VB.NET files generated*

# Generating PHP

SDE for Eclipse can generate PHP file.
To generate PHP file:

1. Open the **Instant Generator** dialog for PHP by clicking **Modeling** > **Instant Generator** > **PHP...** in the main menu.

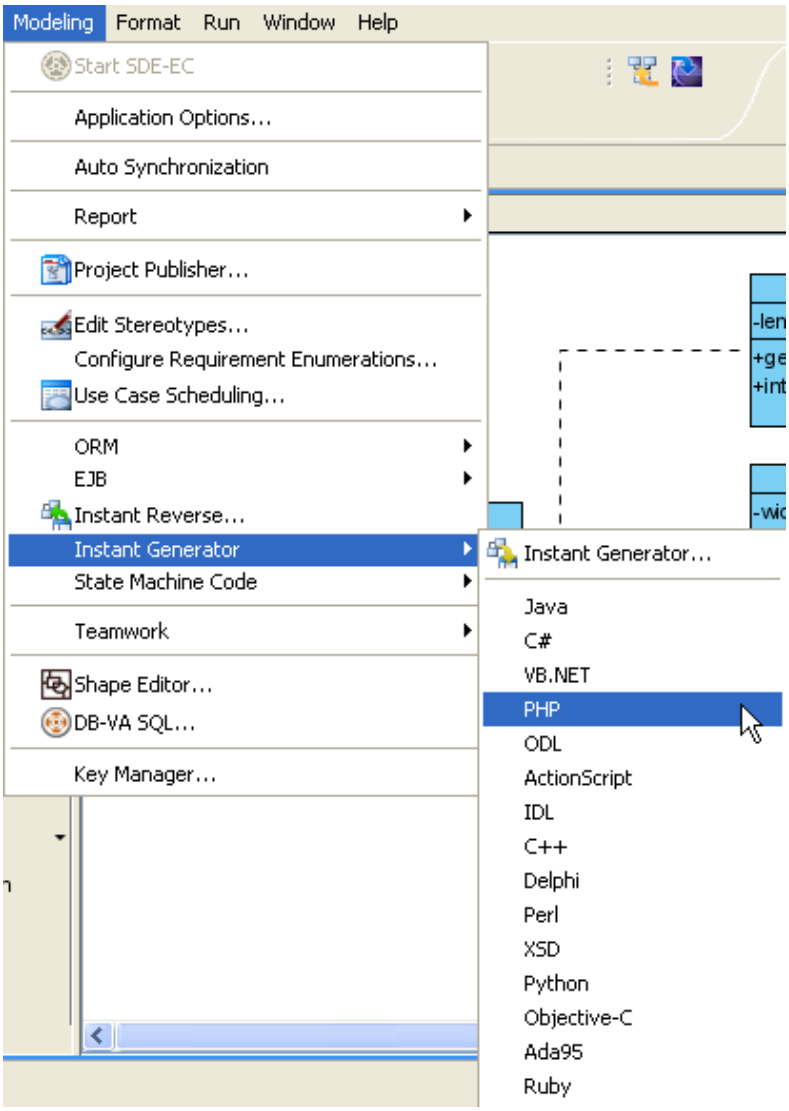



*Figure 10.42 - Open Instant Generator dialog for PHP*

2. The **Instant Generator** dialog box for PHP is displayed.

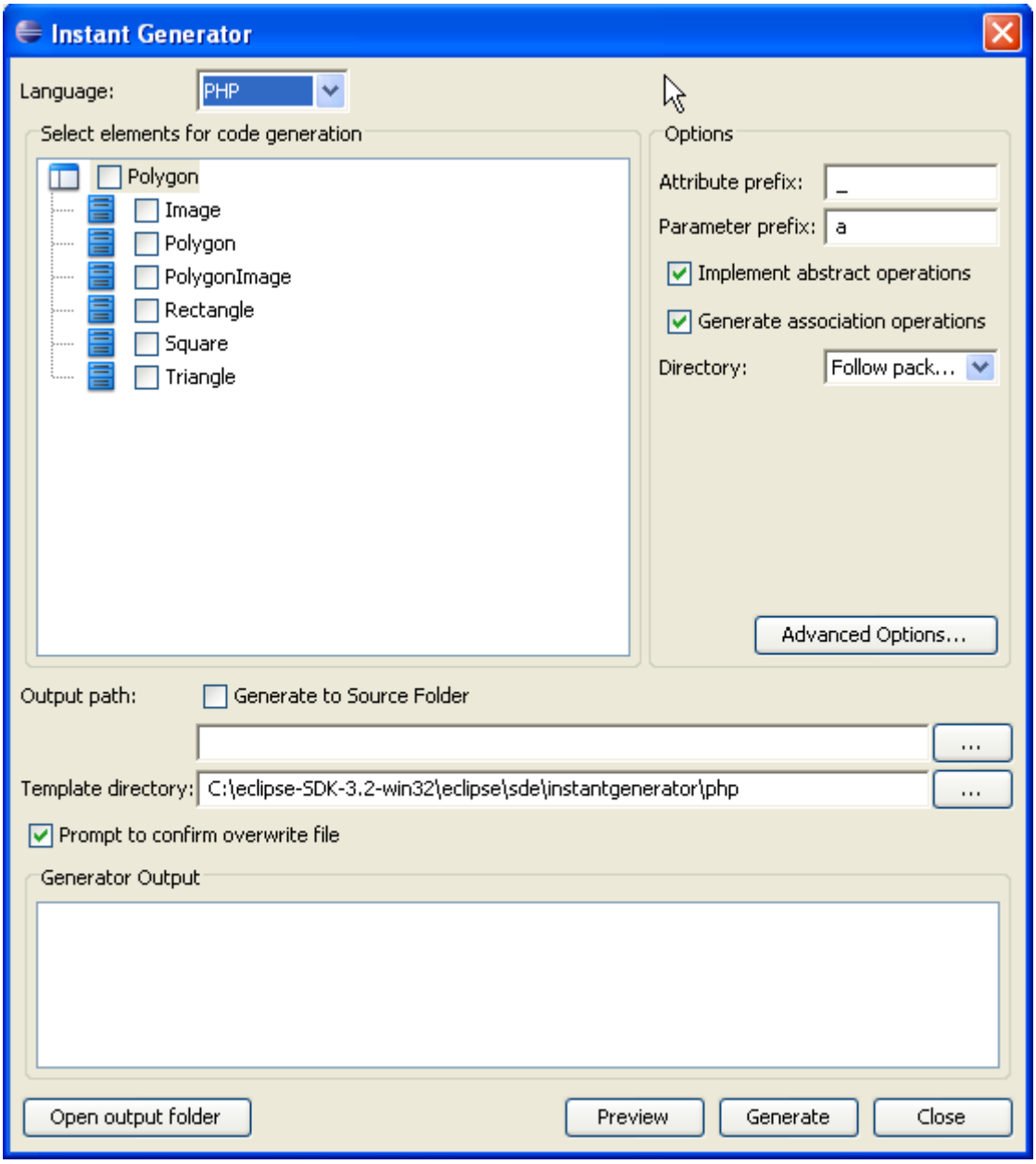



*Figure 10.43 - Instant Generator dialog box*

3. Choose the classes or packages you want to generate .

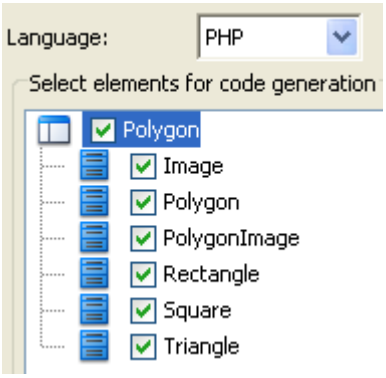



*Figure 10.44 - Choose the classes and packages*

4. Edit the Options.

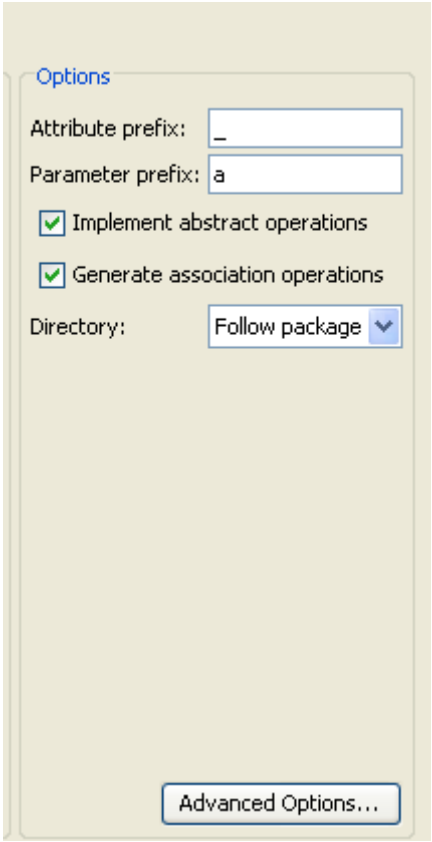



*Figure 10.45 - Edit the options*

| Name | Description |
|---|---|
| Attribute prefix | Configure the prefix of attribute. |
| Parameter prefix | Configure the prefix of parameter. |
| Implements abstract operations | Check this option to implement abstract operations in generated classes. |
| Generate association operations | If you check this box, when a role is selected to provide setter/getter, the corresponding operation(s) will be generated for the role's attribute. |
| Directory | Select from drop-down menu any of the options to configure the output directory:<br>Flat level: Save files to the output path defined below.<br>Follow package: Create a new directory with the package names in the output path and save files there. |
| Advanced Options... | Edit the advance options. |

*Table 10.4*

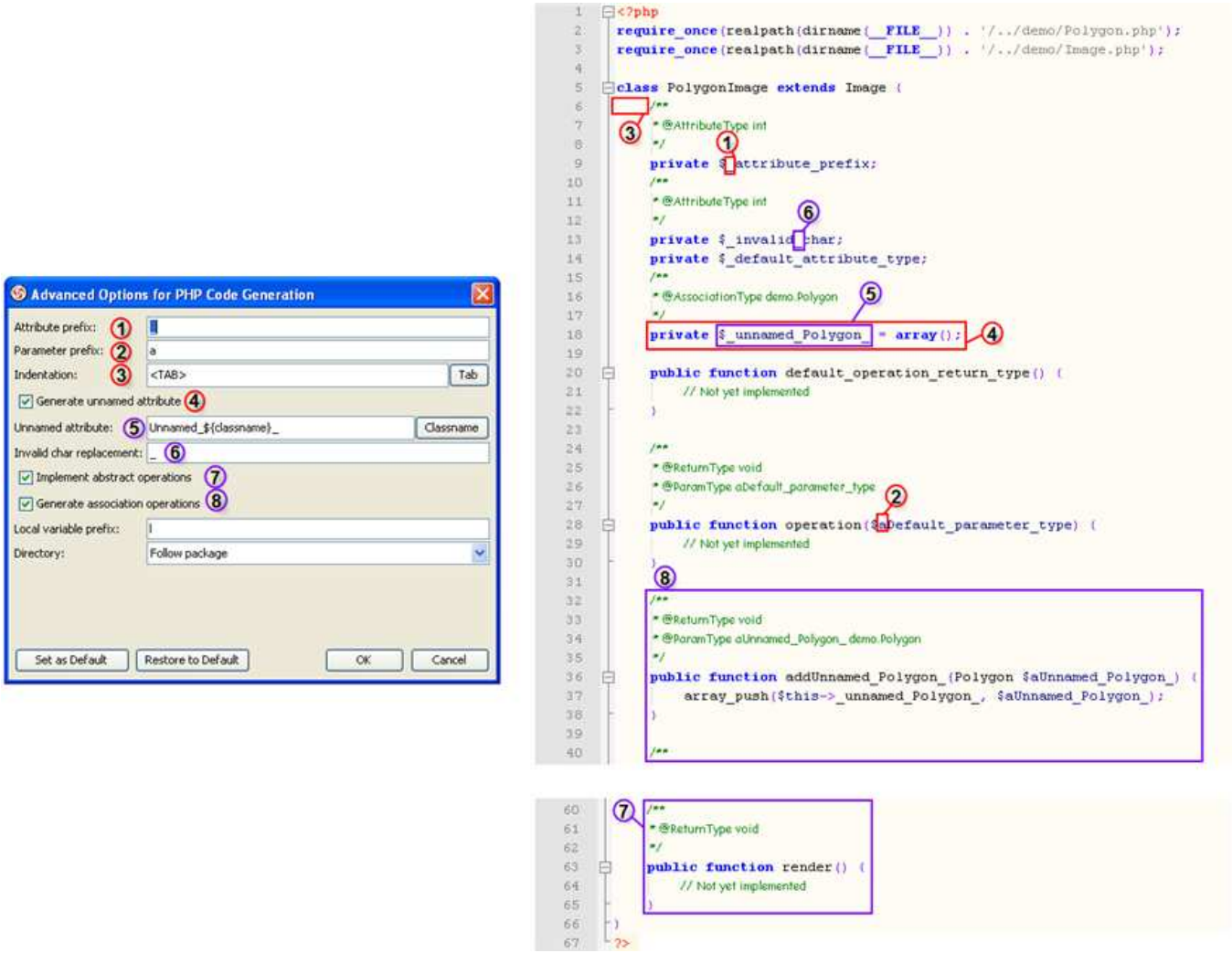



*Figure 10.46 - Example illustrating the functions of different options in Advanced Options*

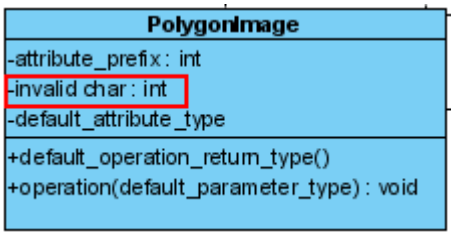



*Figure 10.47 - Diagram of invalid char*

5. Specify the **Output path** and select **Generate** to generate PHP.

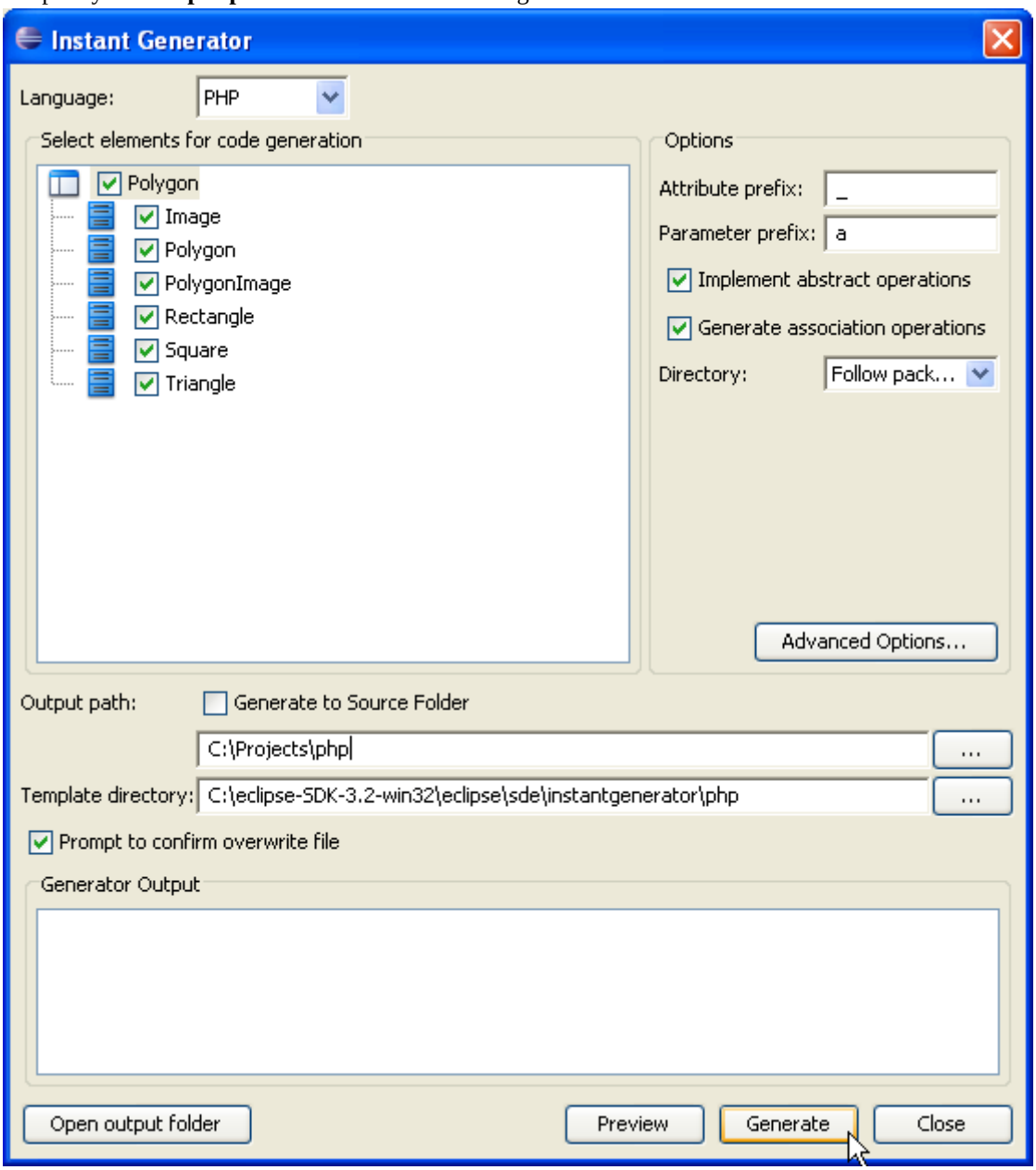



*Figure 10.48 - Select Generate*

6. The progress of generation is shown in the **Generator Output** column. After generation, you can select **Open output folder** to open the output folder generated.

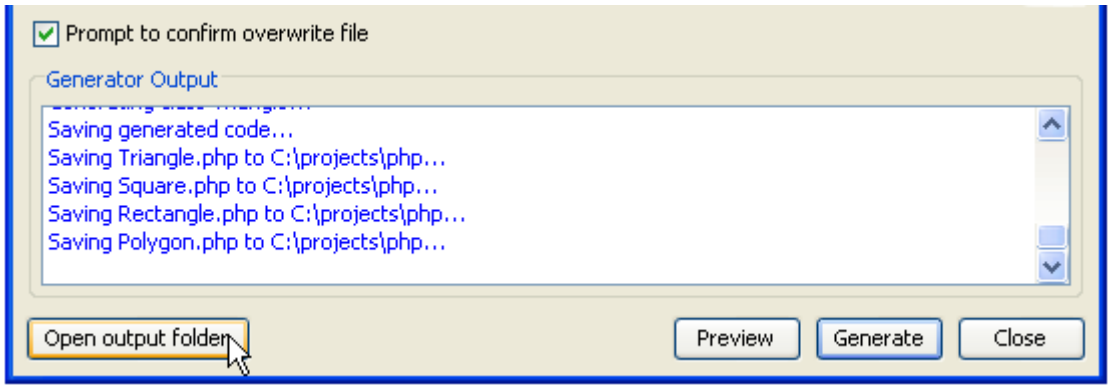



*Figure 10.49 - Open output folder*

7.PHP files generated.

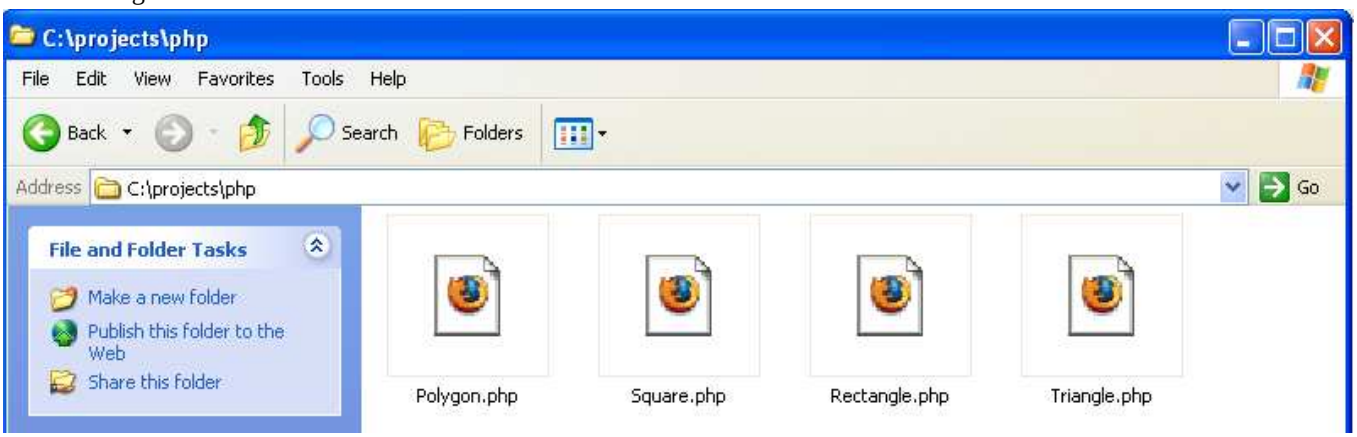



*Figure 10.50 - PHP files generated*

# Generating ODL

SDE for Eclipse can generate ODL file.
To generate ODL file:

1. Open the **Instant Generator** dialog for ODL by clicking **Modeling** > **Instant Generator** > **ODL...** in the main menu.

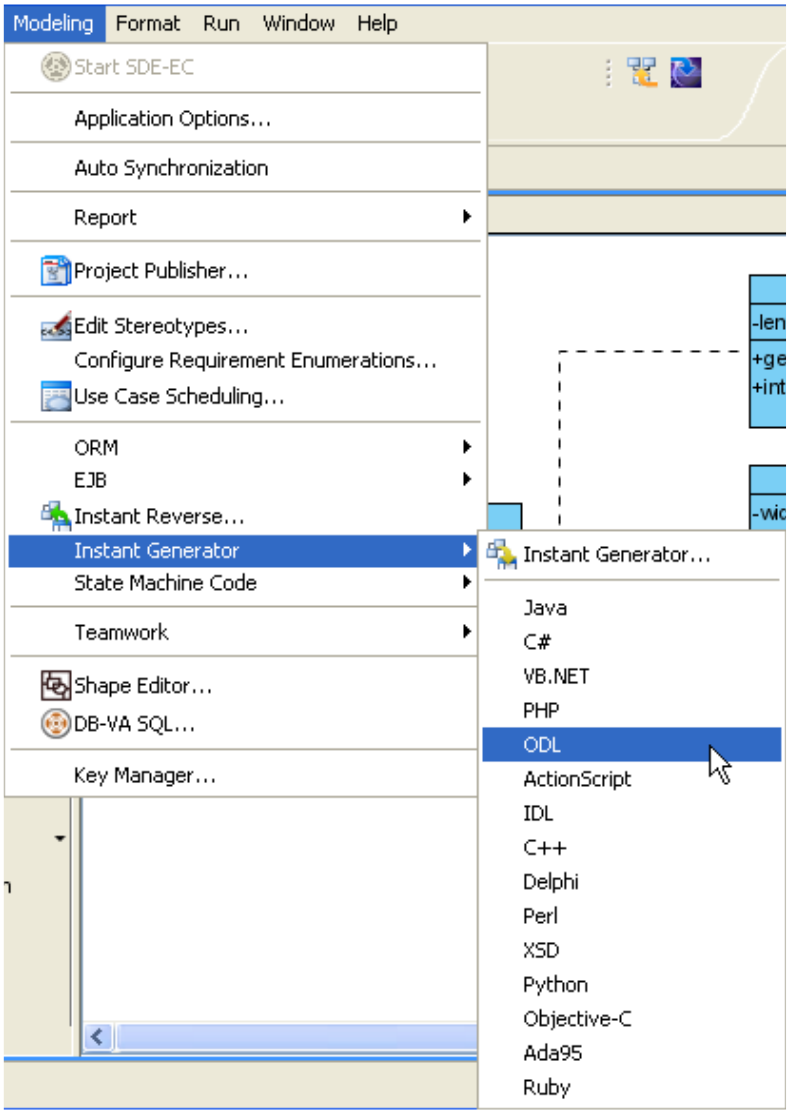



*Figure 10.51 - Open Instant Generator dialog for ODL*

2. **Instant Generator** dialog box for ODL is displayed.

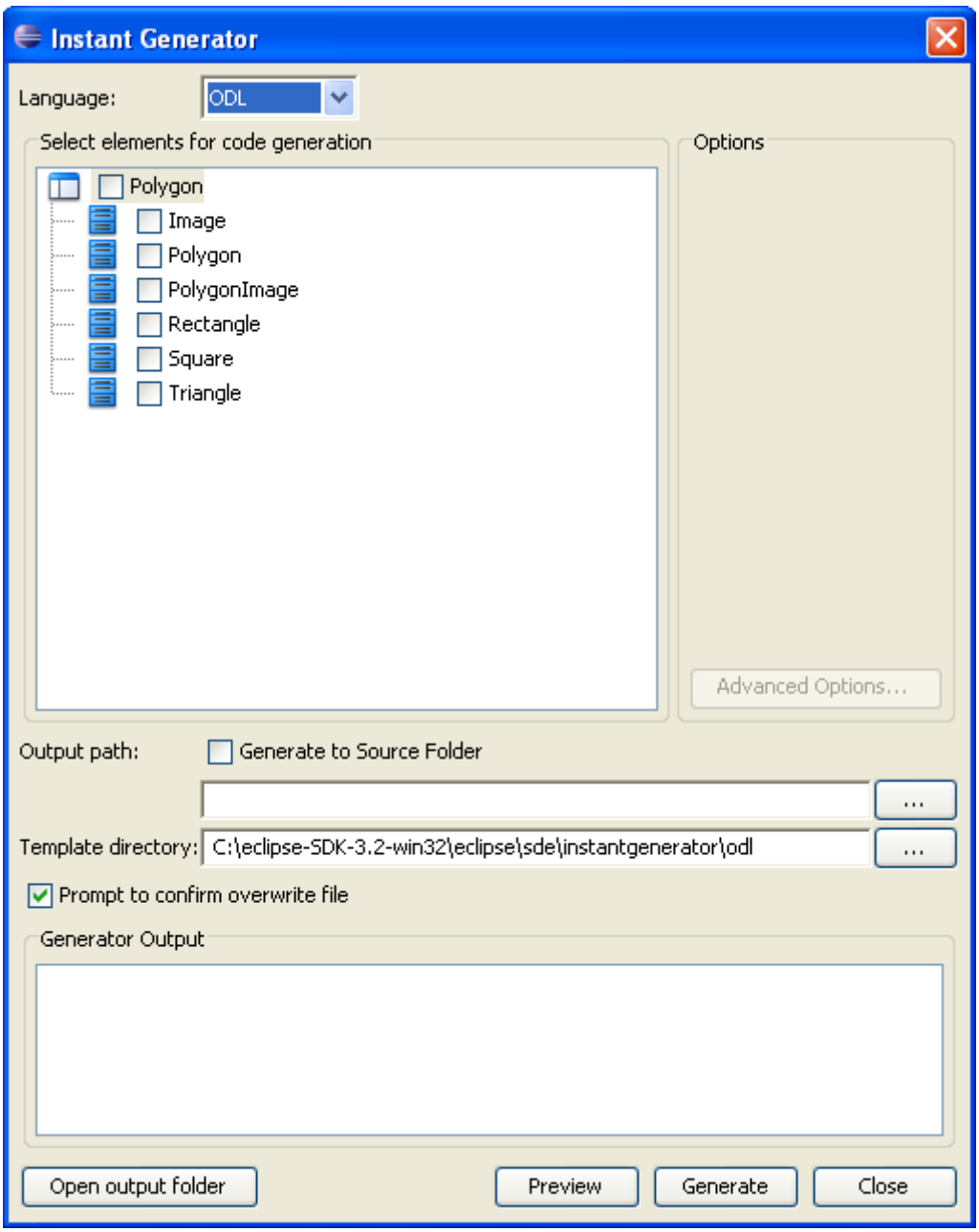



*Figure 10.52 - Instant Generator dialog box*

3. Choose the classes or packages you want to generate .

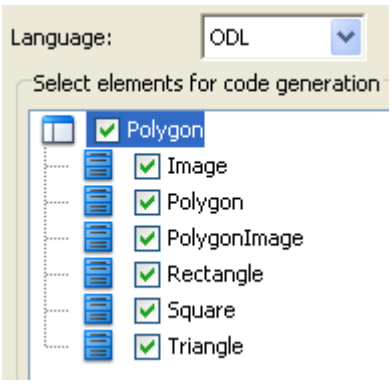



*Figure 10.53 - Choose the classes and packages*

4. Specify the **Output path** and select **Generate** to generate ODL.

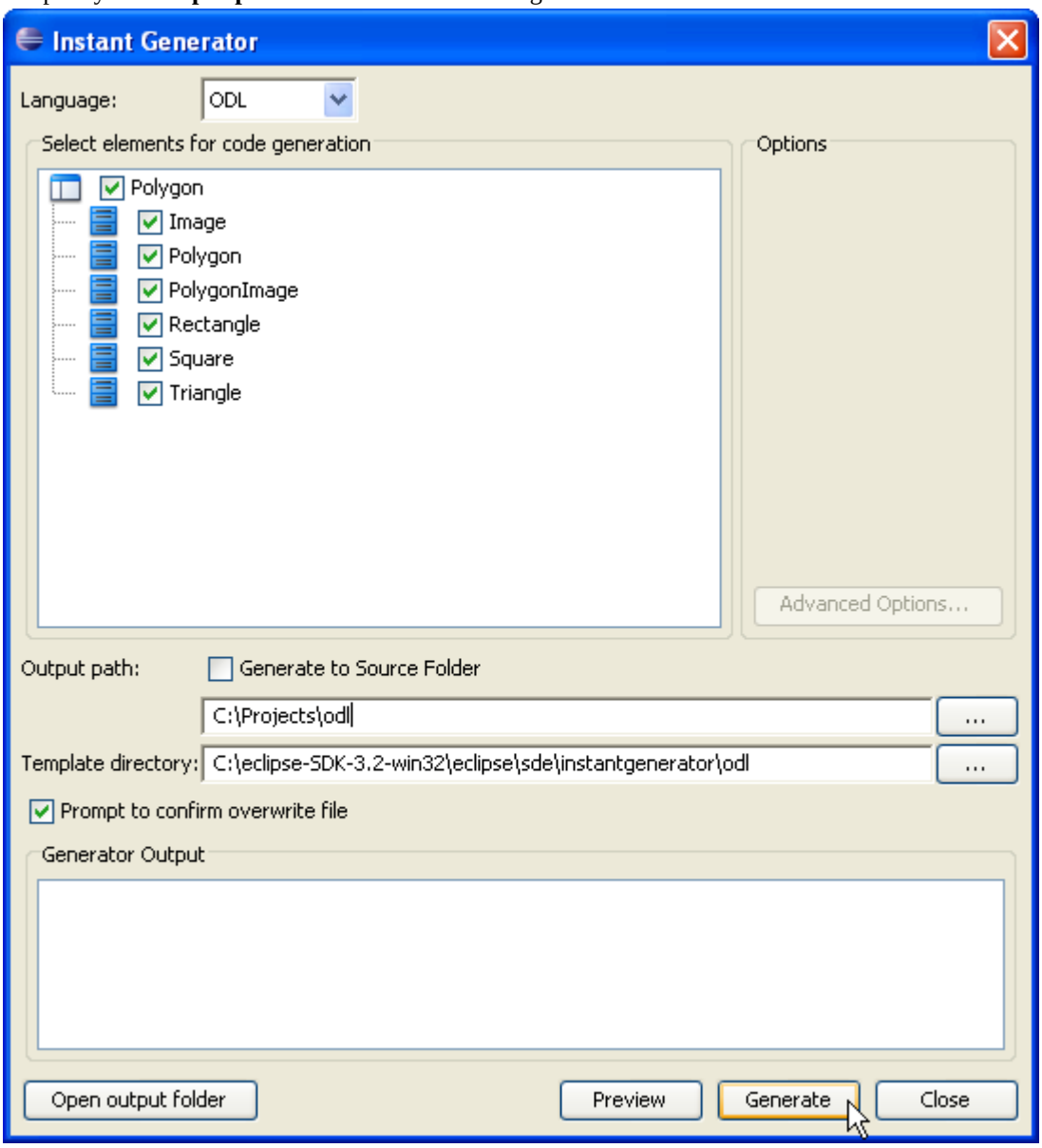



*Figure 10.54 - Select Generate*

5. The progress of generation is shown in the **Generator Output** column. After generation, you can select **Open output folder** to open the output folder generated.

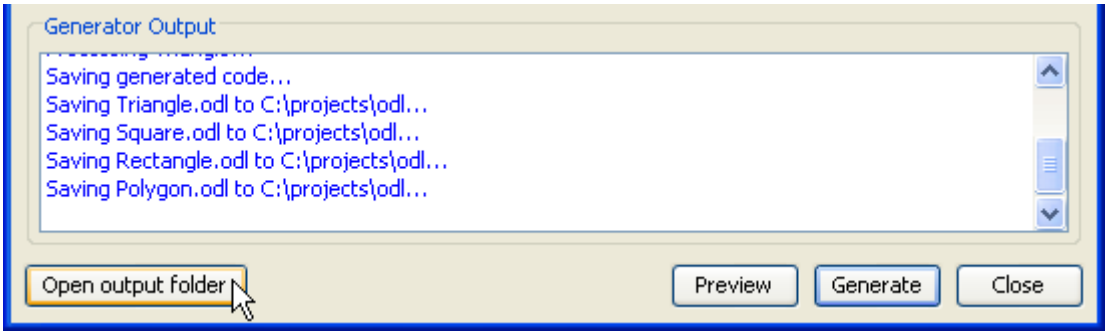



*Figure 10.55 - Open output folder*

6.ODL files generated.

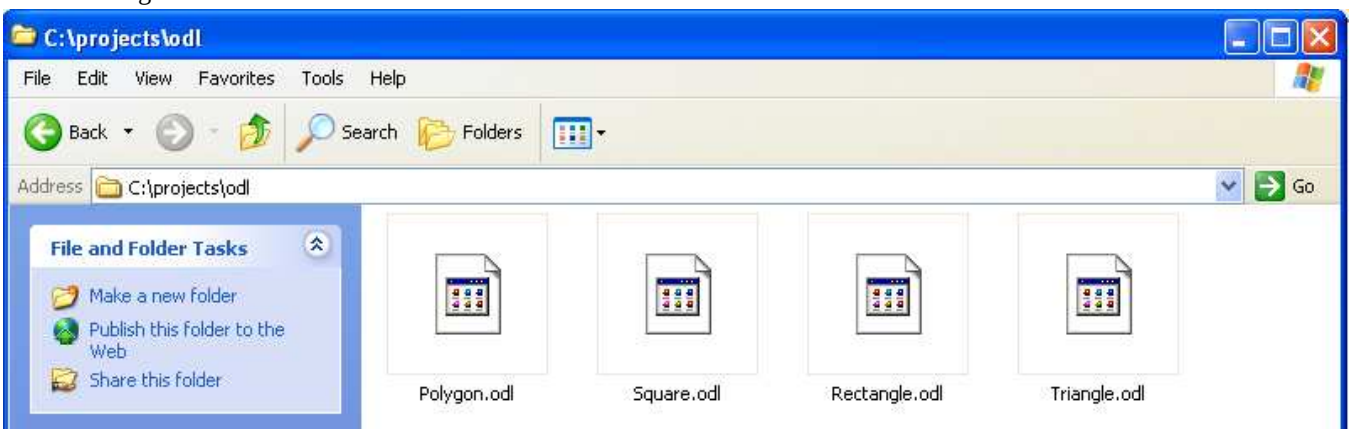



*Figure 10.56 - ODL files generated*

# Generating ActionScript

SDE for Eclipse can generate ActionScript file.
To generate ActionScript file:

1. Open the **Instant Generator** dialog for ActionScript by clicking **Modeling** > **Instant Generator** > **ActionScript...** in the main menu.

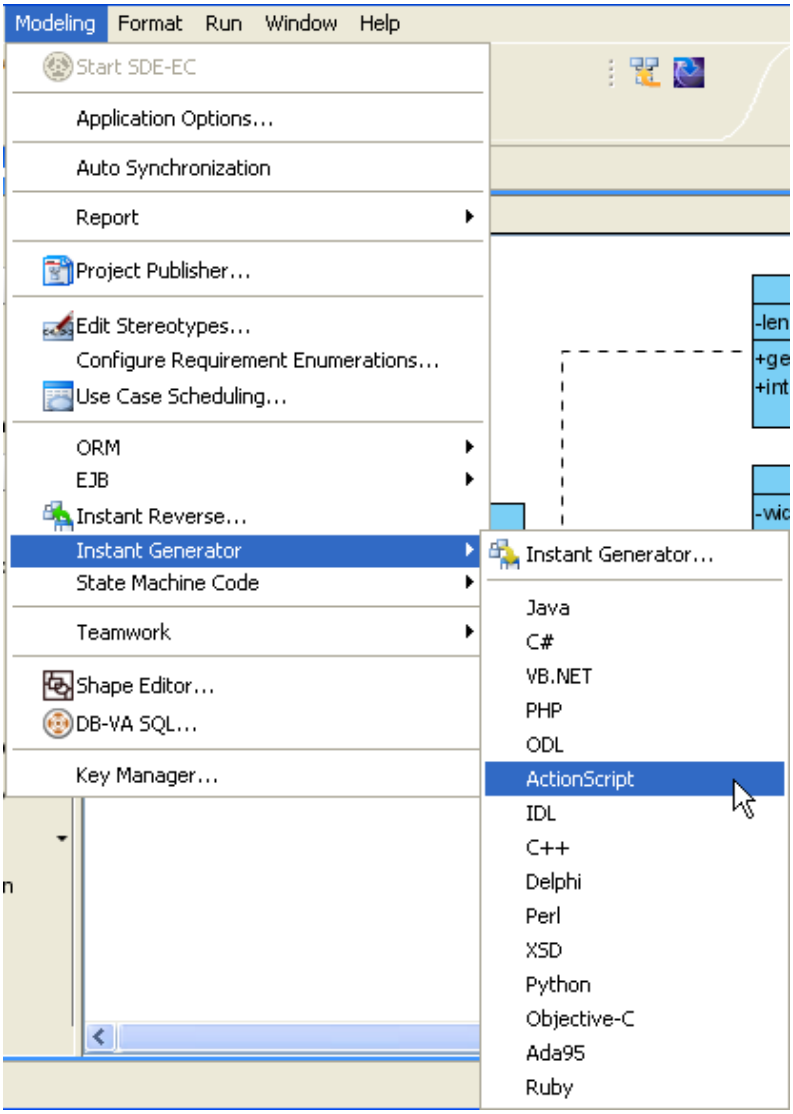



*Figure 10.57 - Open Instant Generator dialog for ActionScript*

2. The **Instant Generator** dialog box for ActionScript is displayed.

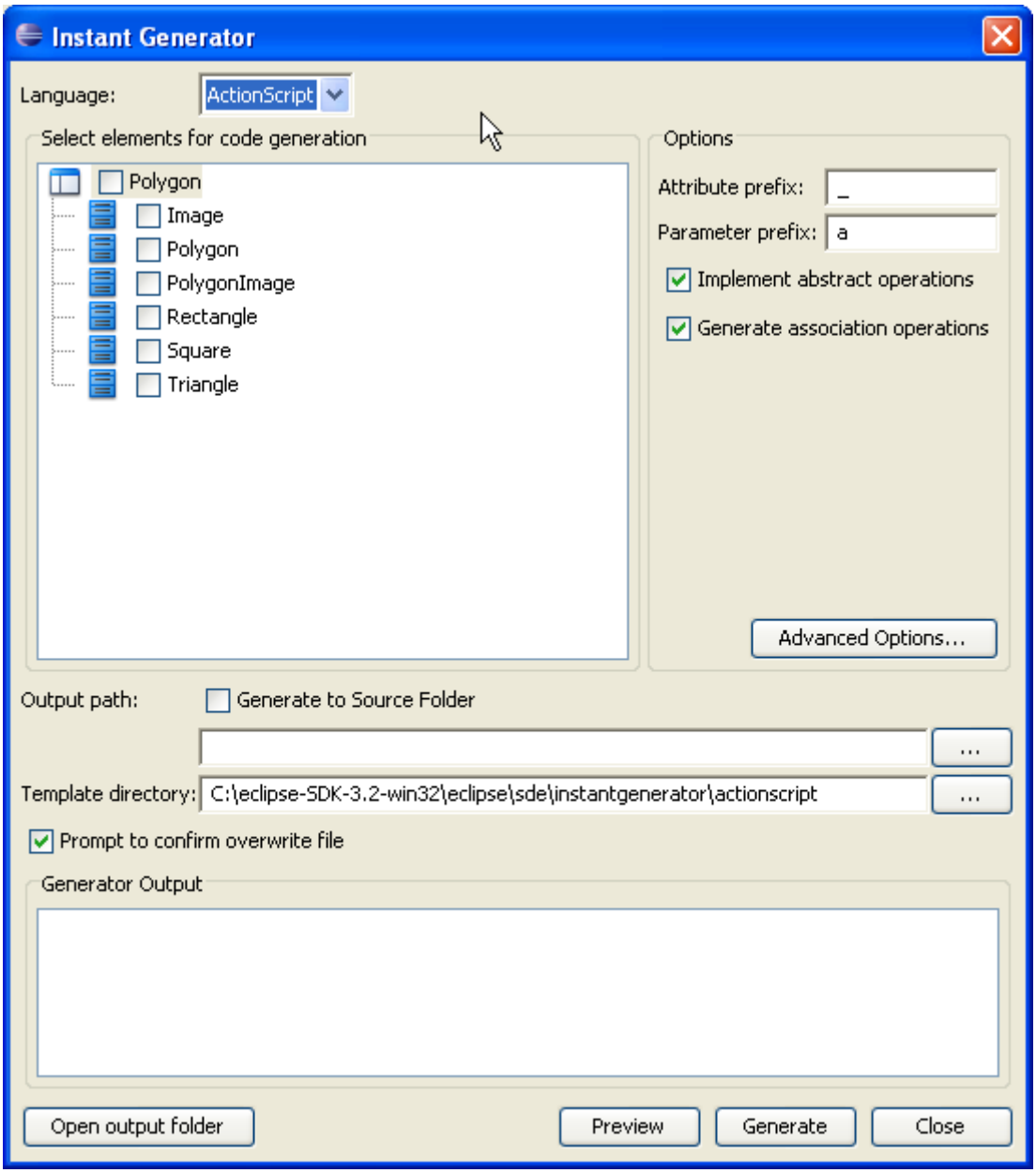



*Figure 10.58 - Instant Generator dialog box*

3. Choose the classes or packages you want to generate .

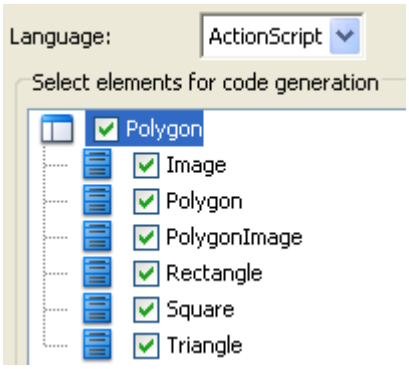



*Figure 10.59 - Choose the classes and packages*

4. Edit the Options.


*Figure 10.60 - Edit the options*

| Name | Description |
|---|---|
| Attribute prefix | Configure the prefix of attribute. |
| Parameter prefix | Configure the prefix of parameter. |
| Implements abstract operations | Check this option to implement abstract operations in generated classes. |
| Generate association operations | If you check this box, when a role is selected to provide setter/getter, the corresponding operation(s) will be generated for the role's attribute. |
| Advanced Options... | Edit the advance options. |

*Table 10.5*

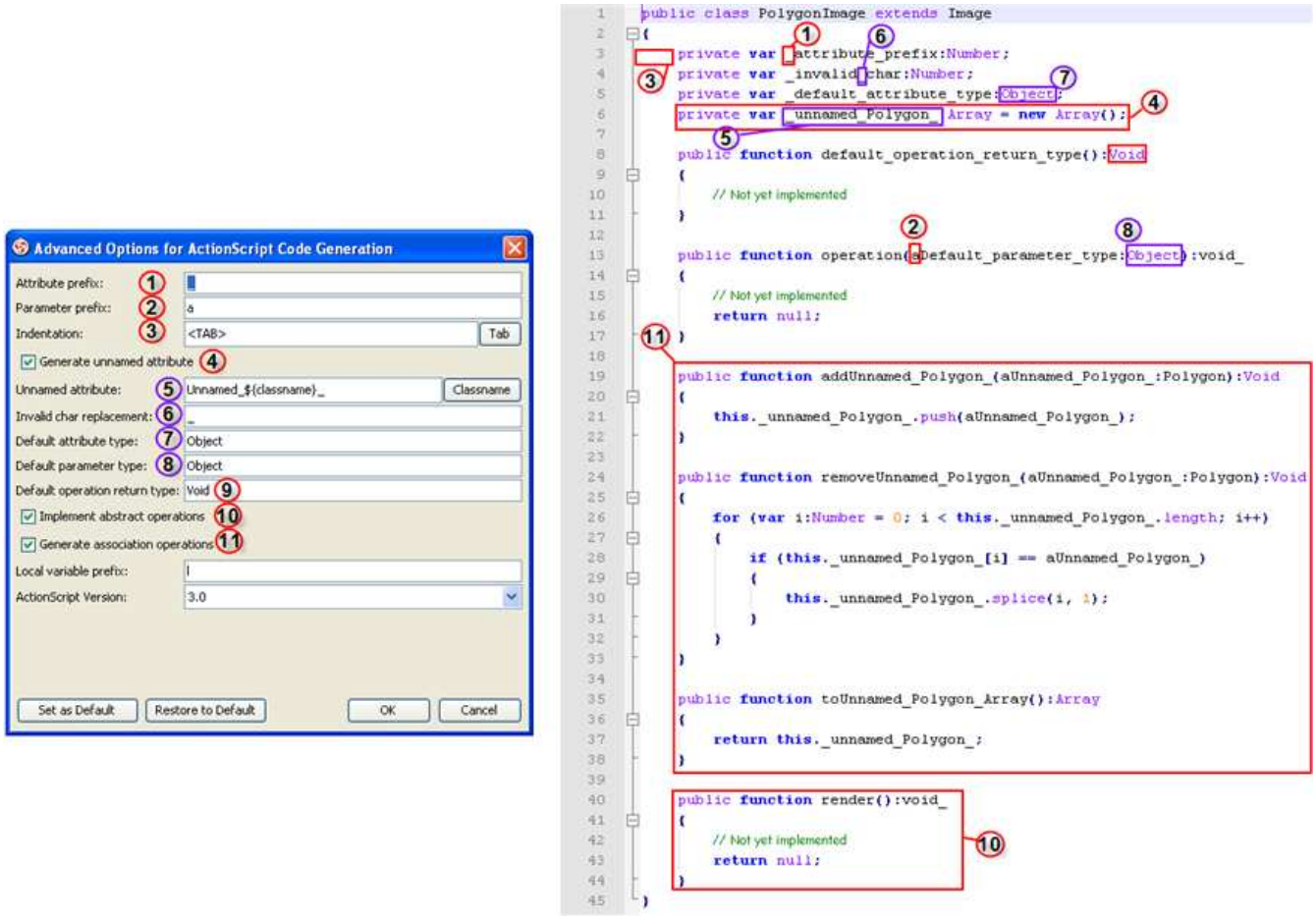



*Figure 10.61 - Example illustrating the functions of different options in Advanced Options*

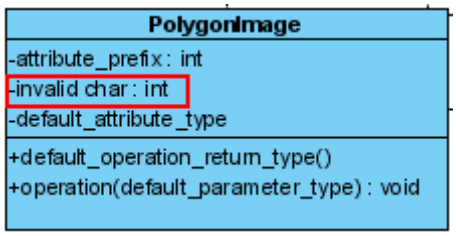



*Figure 10.62 - Diagram of invalid char*

5. Specify the **Output path** and select **Generate** to generate ActionScript.

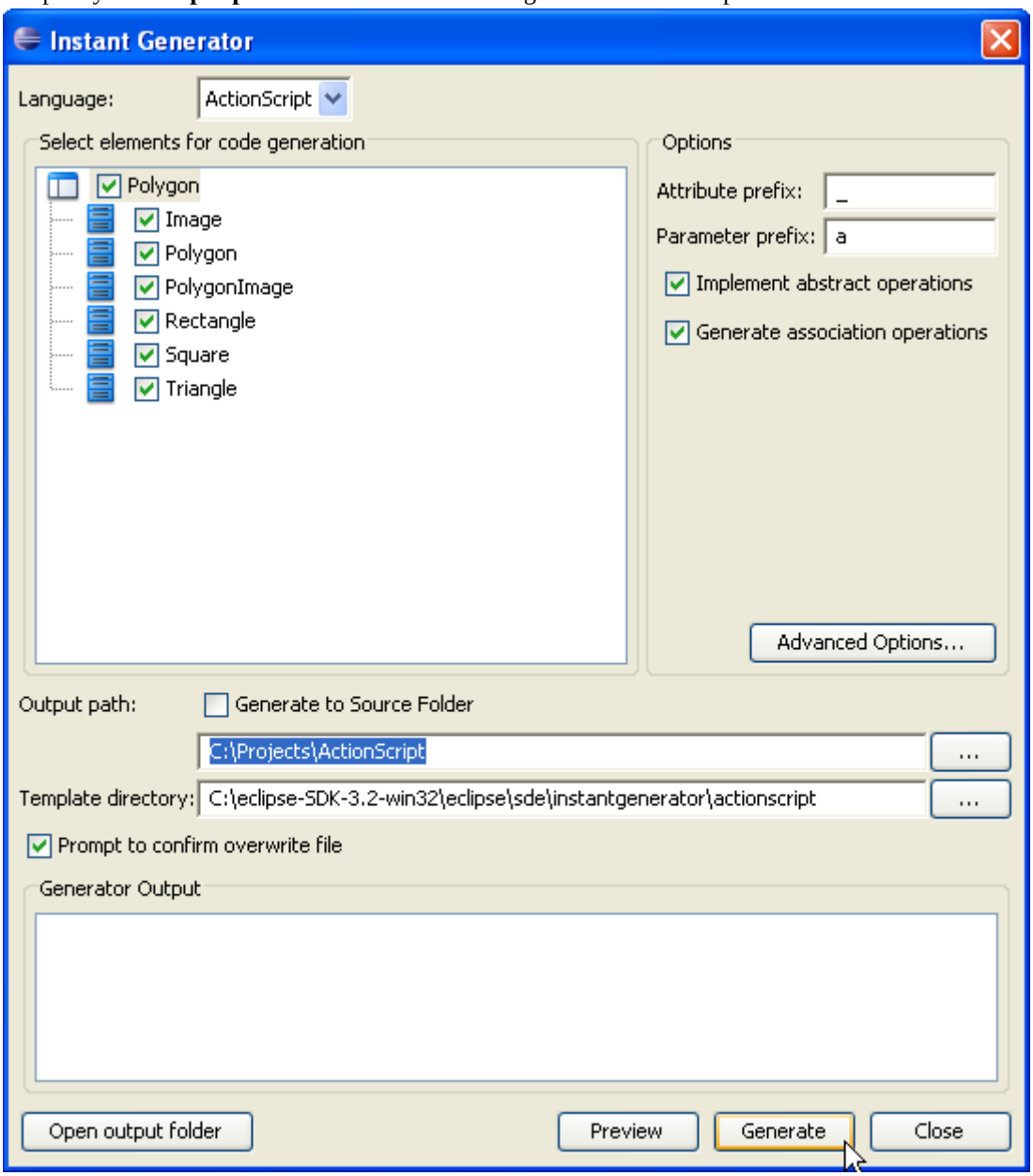



*Figure 10.63 - Select Generate*

6. The progress of generation is shown in the **Generator Output** column. After generation, you can select **Open output folder** to open the output folder generated.

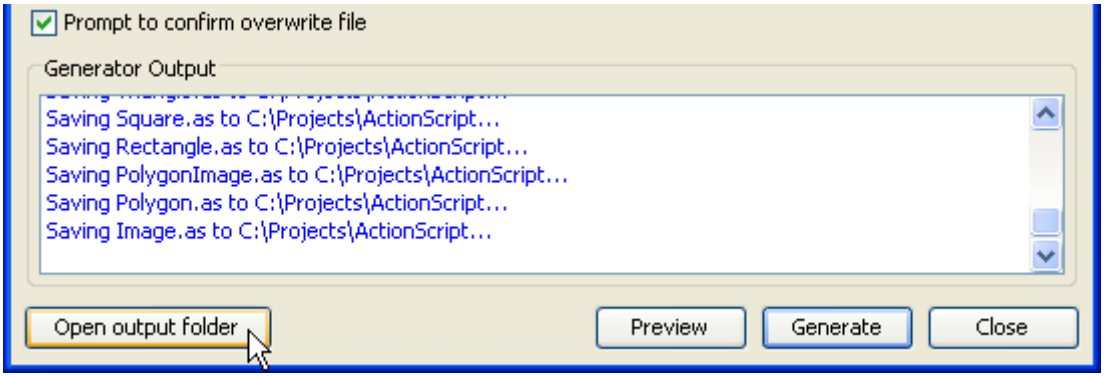



*Figure 10.64 - Open output folder*

7.ActionScript files generated.

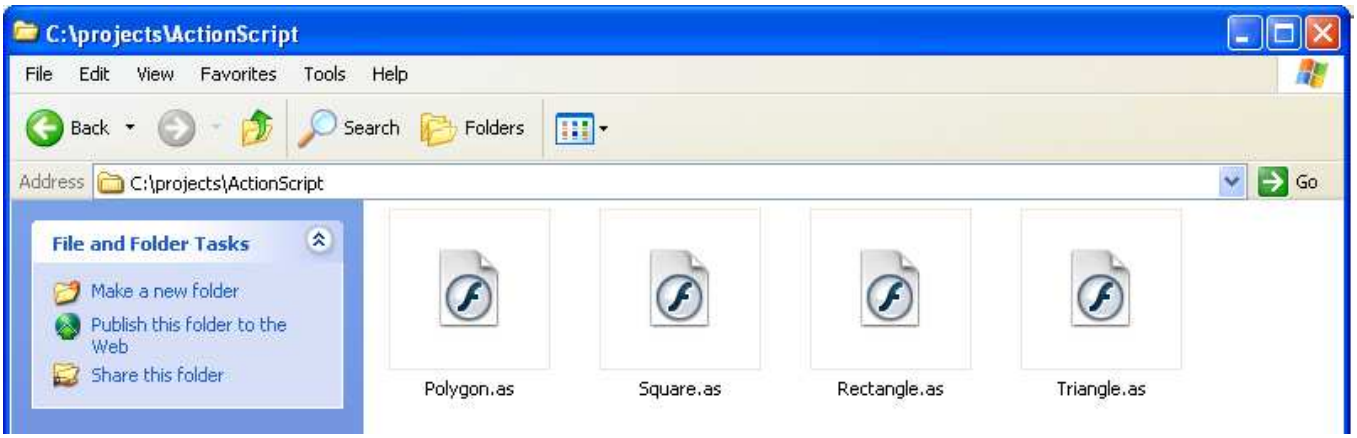



*Figure 10.56 - ActionScript files generated*

# Generating IDL

SDE for Eclipse can generate IDL file.
To generate IDL file:

1. Open the **Instant Generator** dialog for IDL by clicking **Modeling** > **Instant Generator** > **IDL...** in the main menu.

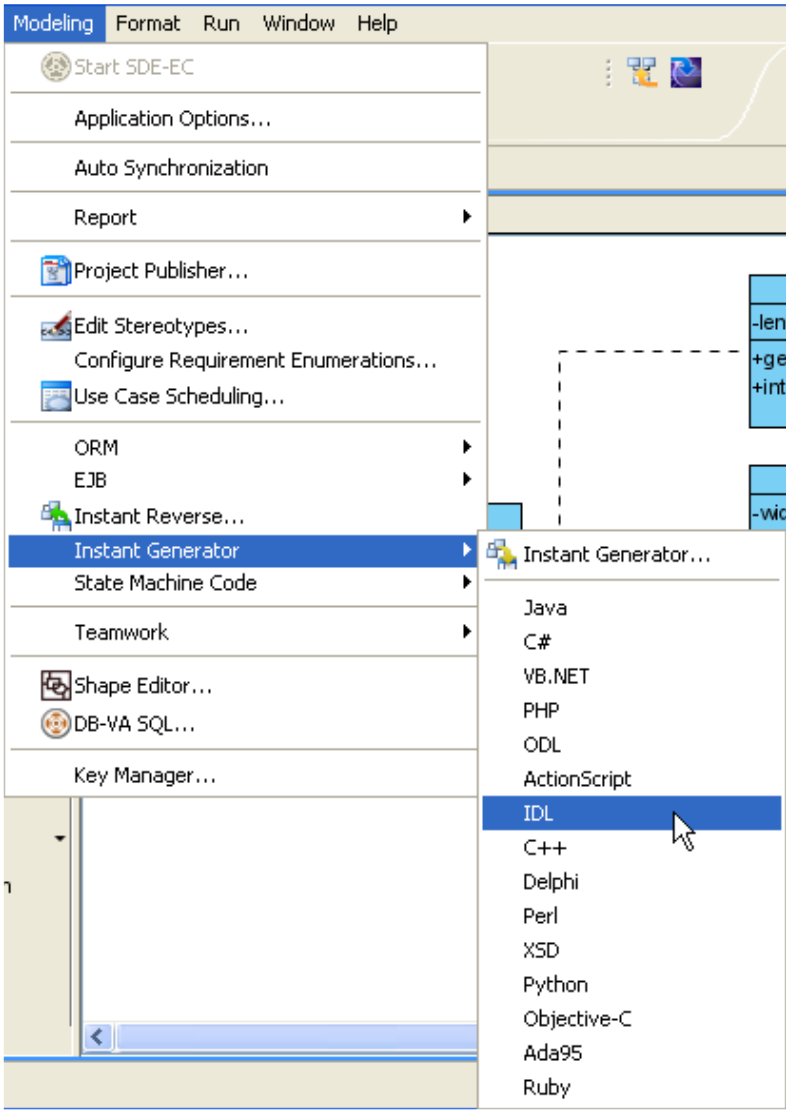



*Figure 10.66 - Open Instant Generator dialog for IDL*

2. The **Instant Generator** dialog box for IDL is displayed.

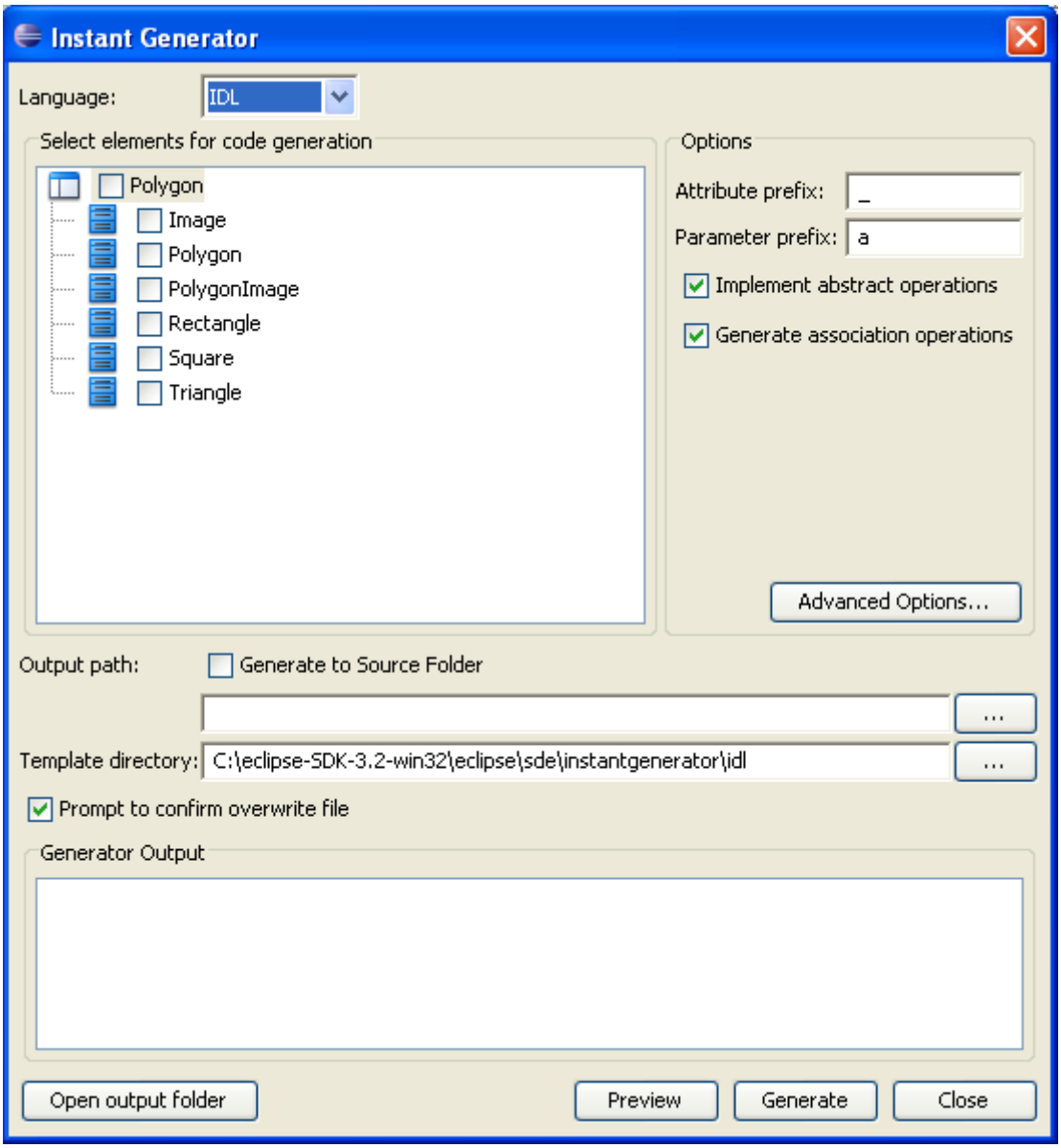



*Figure 10.67 - Instant Generator dialog box*

3. Choose the classes or packages you want to generate .

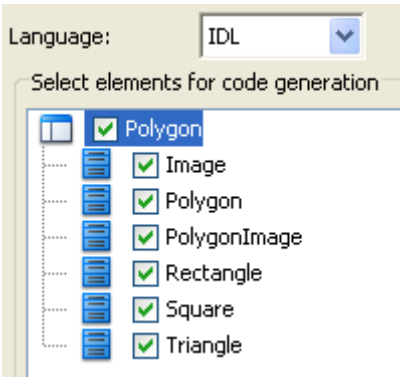



*Figure 10.68 - Choose the classes and packages*

4. Edit the Options.


*Figure 10.69 - Edit the options*

| Name | Description |
|---|---|
| Attribute prefix | Configure the prefix of attribute. |
| Parameter prefix | Configure the prefix of parameter. |
| Implements abstract operations | Check this option to implement abstract operations in generated classes. |
| Generate association operations | If you check this box, when a role is selected to provide setter/getter, the corresponding operation(s) will be generated for the role's attribute. |
| Advanced Options... | Edit the advance options. |

*Table 10.6*

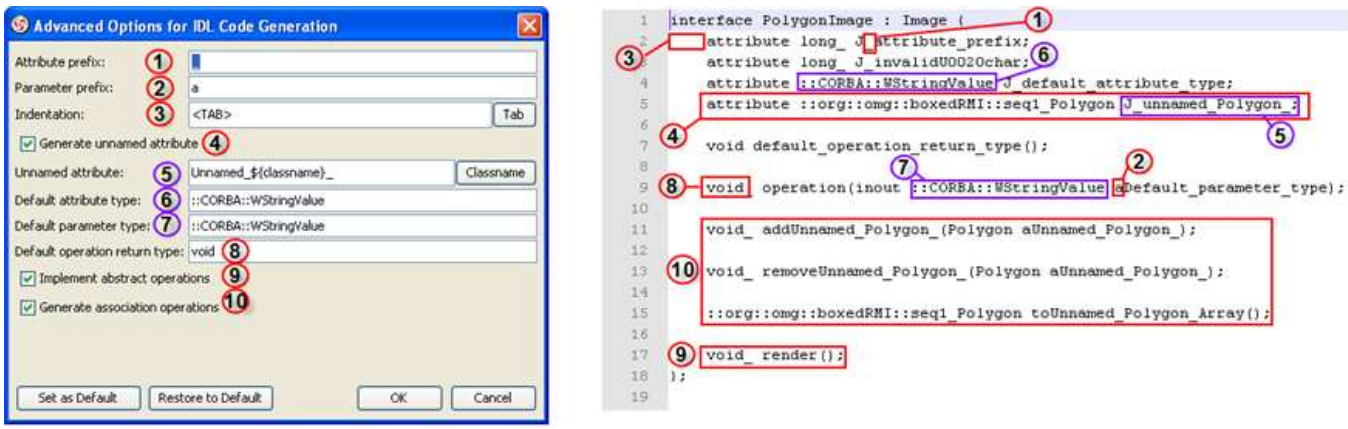



*Figure 10.70 - Example illustrating the functions of different options in Advanced Options*

5. Specify the **Output path** and select **Generate** to generate ActionScript.

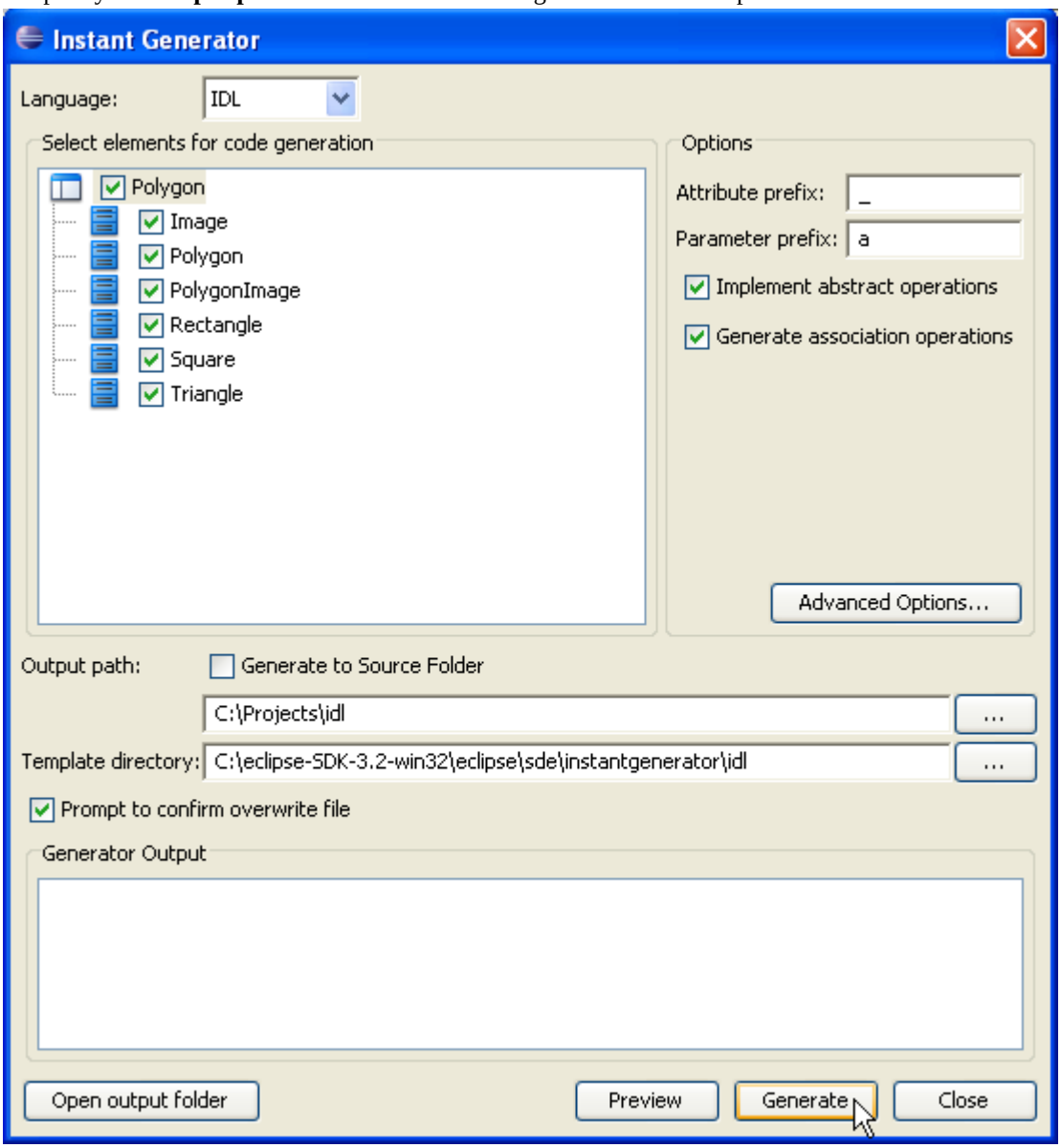



*Figure 10.71 - Select Generate*

6. The progress of generation is shown in the **Generator Output** column. After generation, you can select **Open output folder** to open the output folder generated.

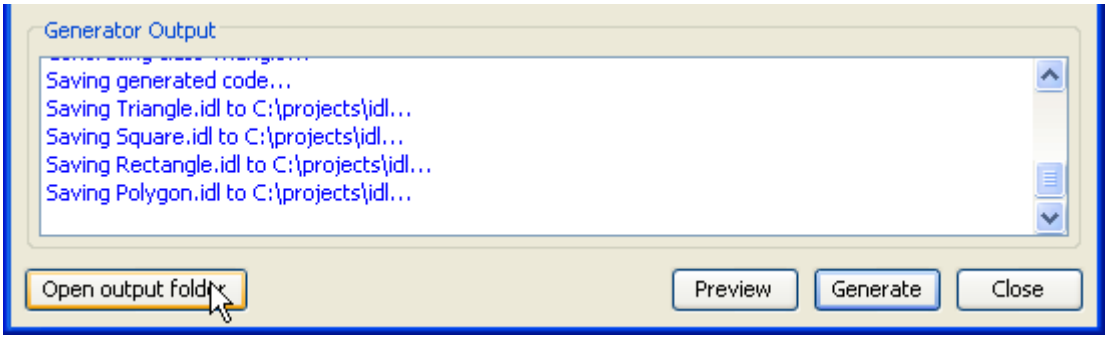



*Figure 10.72 - Open output folder*

7.IDL files generated.

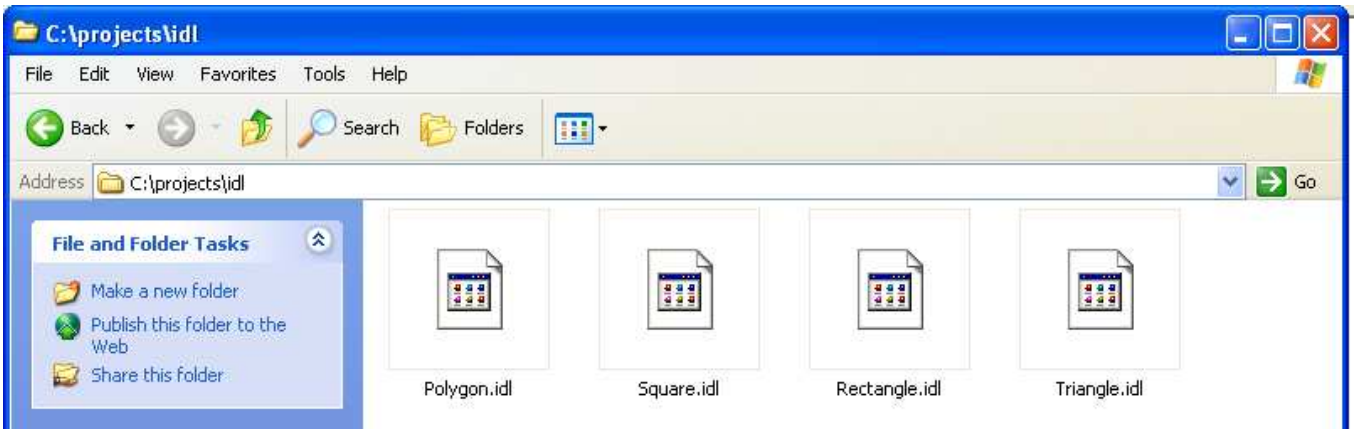



*Figure 10.73 - IDL files generated*

# Generating C++

SDE for Eclipse can generate C++ file.
To generate C++ file:

1. Open the **Instant Generator** dialog for IDL by clicking **Modeling** > **Instant Generator** > **C++...** in the main menu.

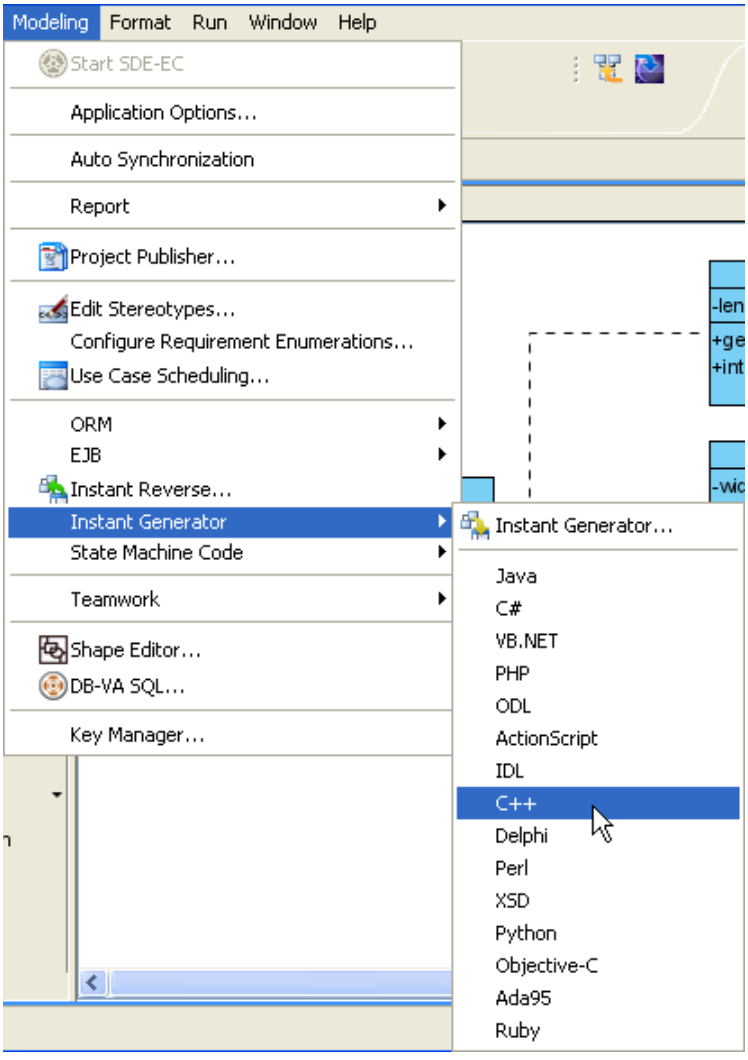



*Figure 10.74 - Open Instant Generator dialog for C++*

2.The **Instant Generator** dialog box for C++ is displayed.

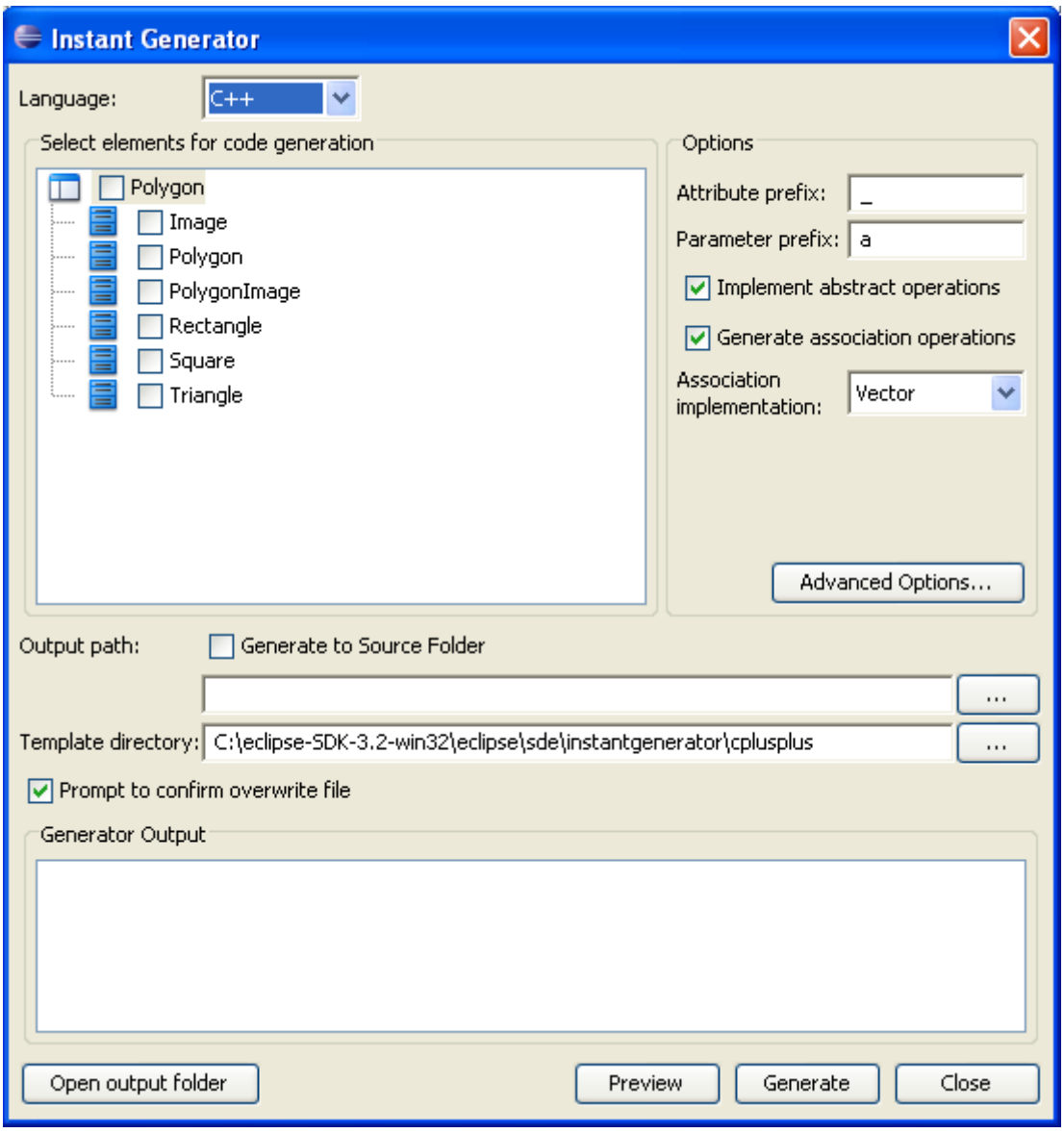



*Figure 10.75 - Instant Generator dialog box*

3. Choose the classes or packages you want to generate .

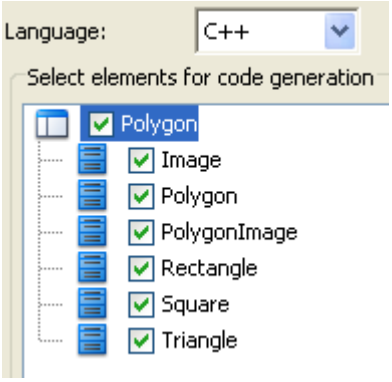



*Figure 10.76 - Choose the classes and packages*

4. Edit the Options.

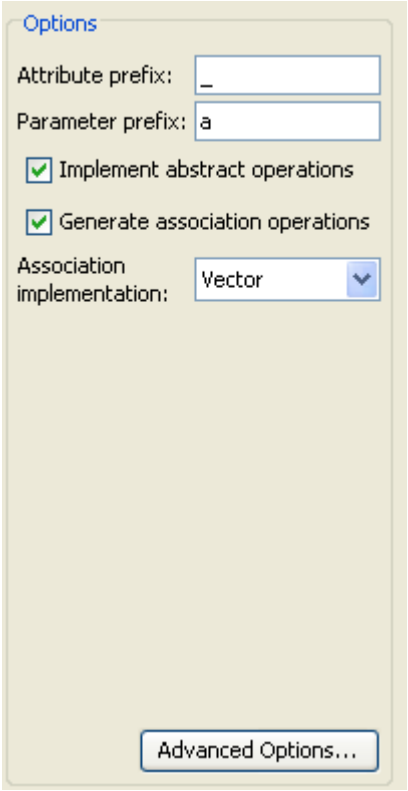



*Figure 10.77 - Edit the options*

| Name | Description |
|---|---|
| Attribute prefix | Configure the prefix of attribute. |
| Parameter prefix | Configure the prefix of parameter. |
| Implements abstract operations | Check this option to implement abstract operations in generated classes. |
| Generate association operations | If you check this box, when a role is selected to provide setter/getter, the corresponding operation(s) will be generated for the role's attribute. |
| Association implementation | Select from drop-down menu any of the options to configure the multiplicity of a class:<br>Vector - The collection is expandable size.<br>Array - The collection has fixed size. |
| Advanced Options... | Edit the advance options. |

*Table 10.7*

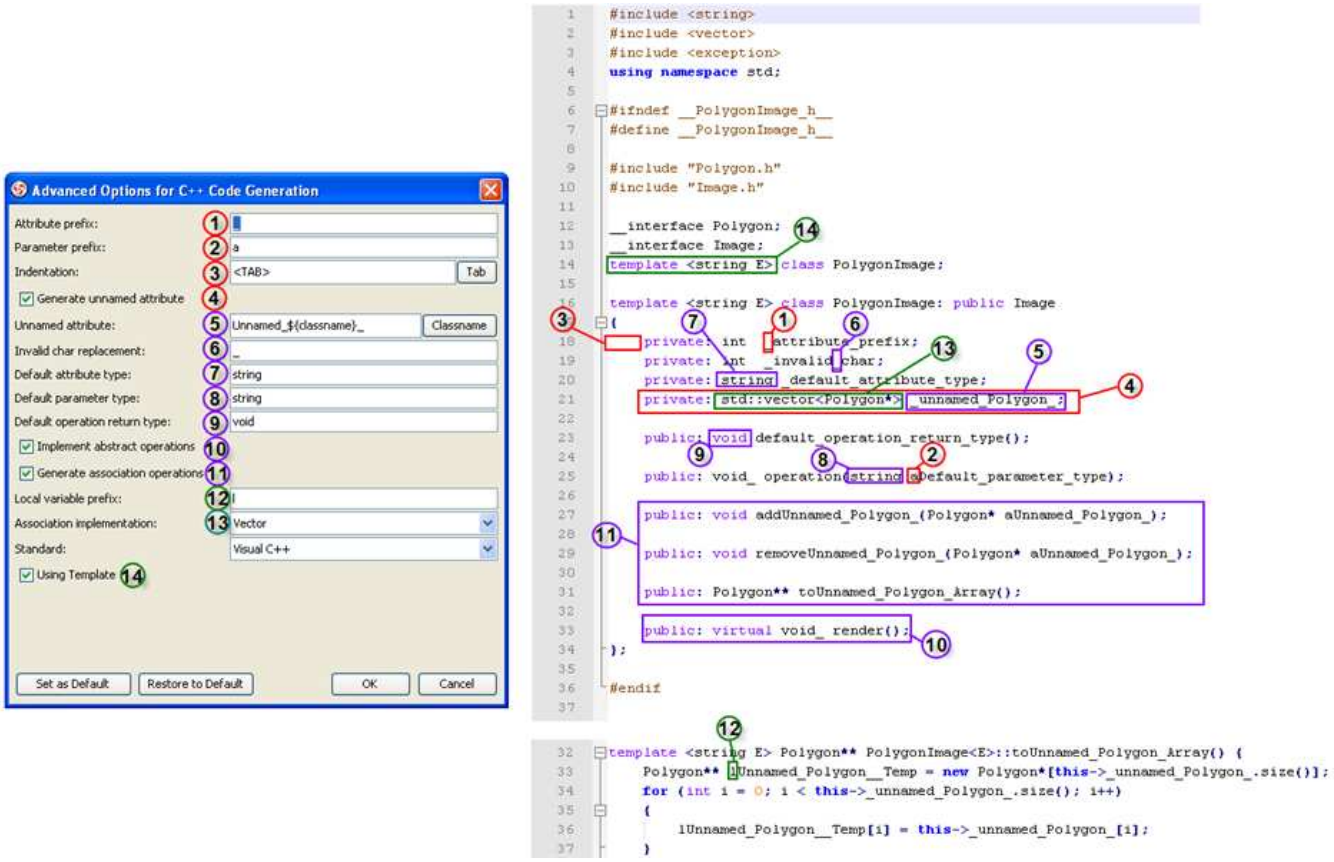



*Figure 10.78 - Example illustrating the functions of different options in Advanced Options*

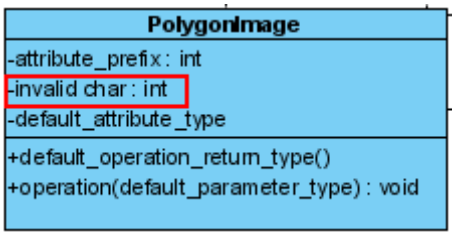



*Figure 10.79 - Diagram of invalid char*

5. Specify the **Output path** and select **Generate** to generate C++.

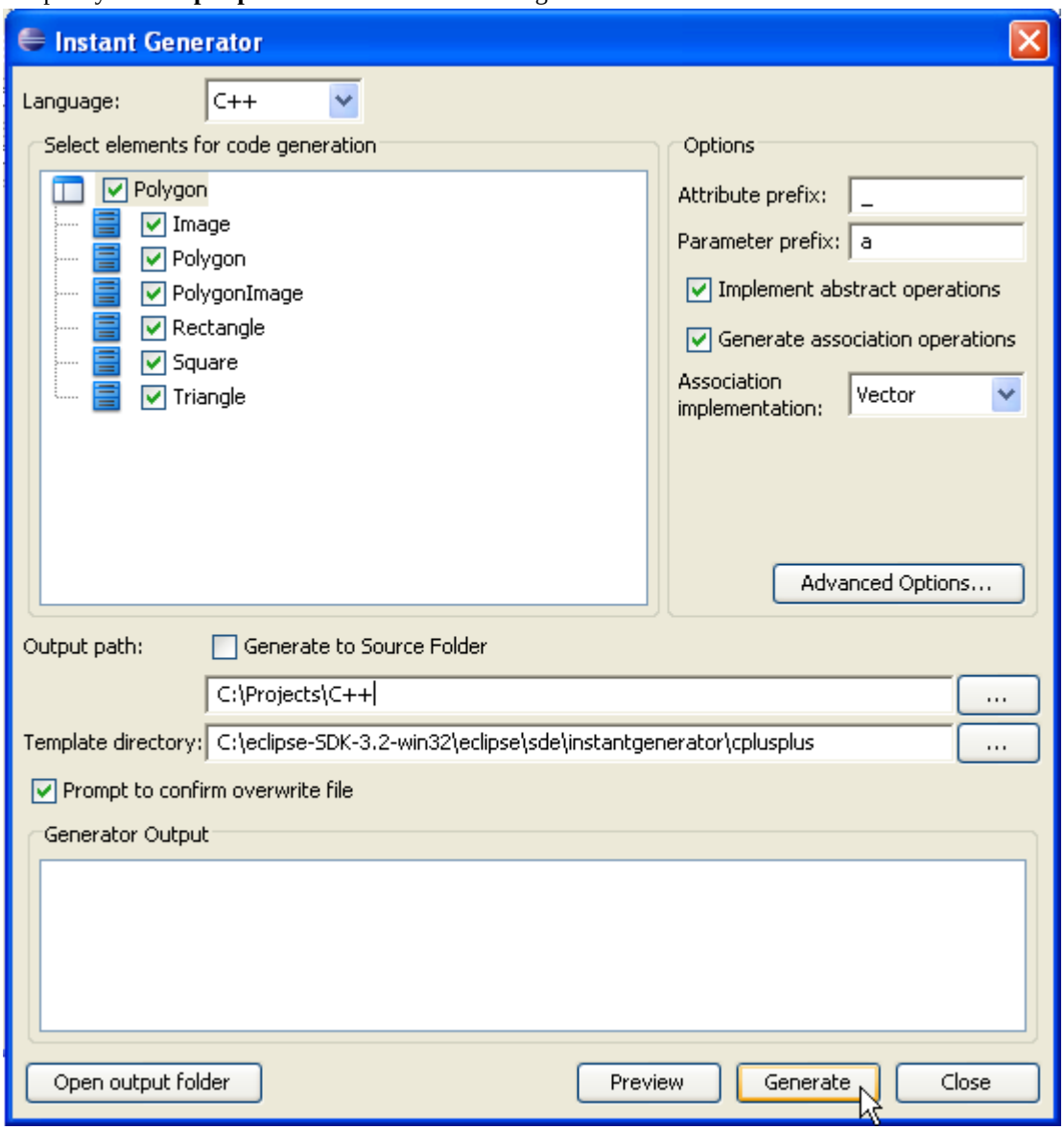



*Figure 10.80 - Select Generate*

6. The progress of generation is shown in the **Generator Output** column. After generation, you can select **Open output folder** to open the output folder generated.

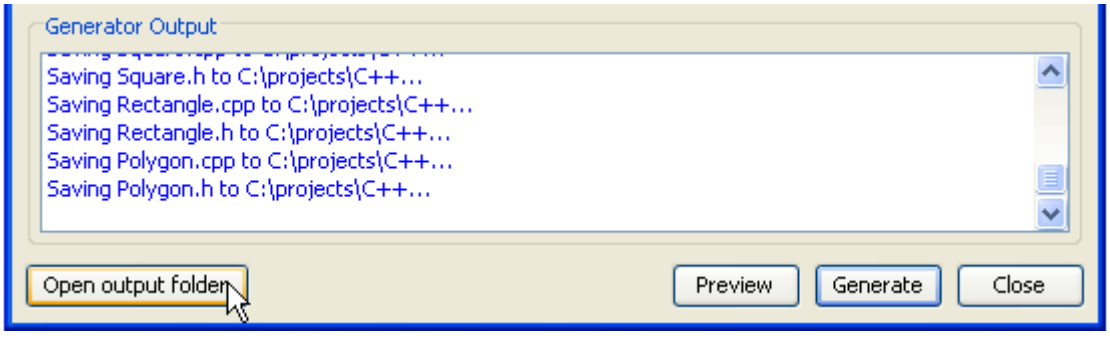



*Figure 10.81 - Open output folder*

7.C++ files generated.

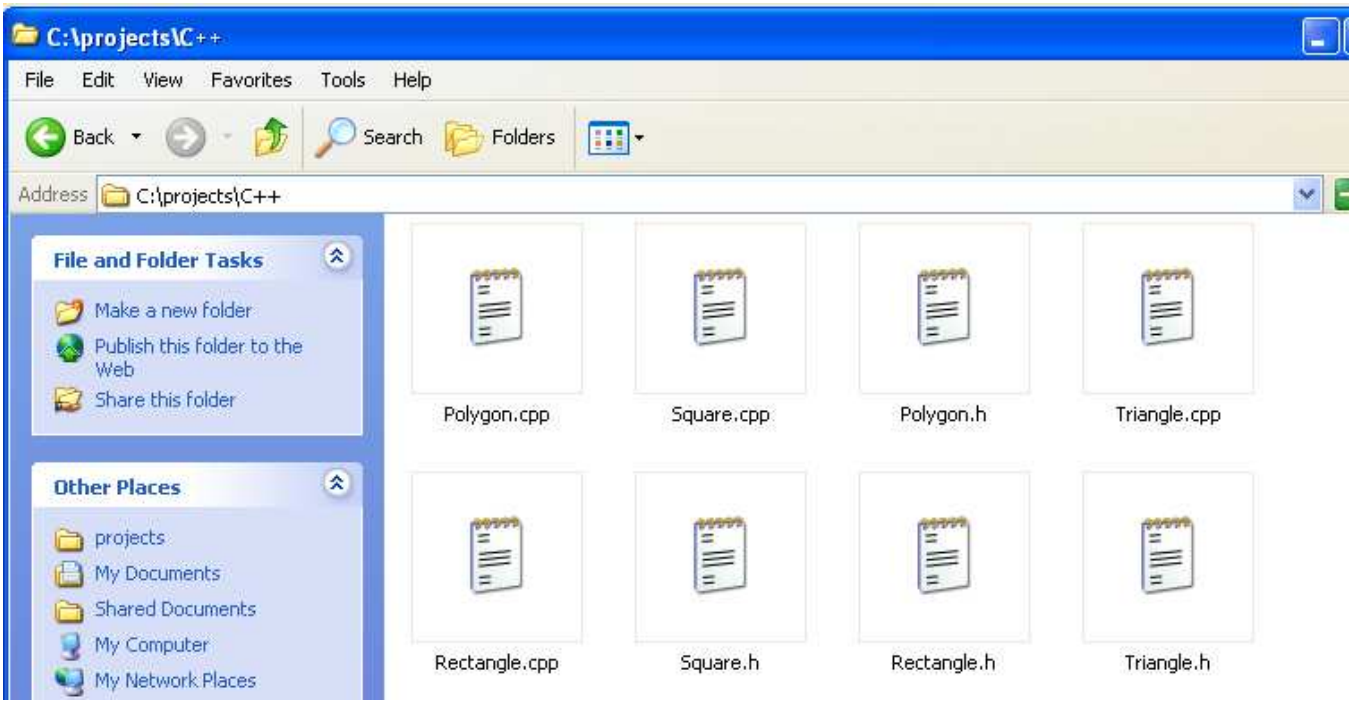



*Figure 10.82 - C++ files generated*

# Generating Delphi

SDE for Eclipse can generate Delphi file.
To generate Delphi file:

1. Open the **Instant Generator** dialog for Delphi by clicking **Modeling** > **Instant Generator** > **Delphi...** in the main menu.

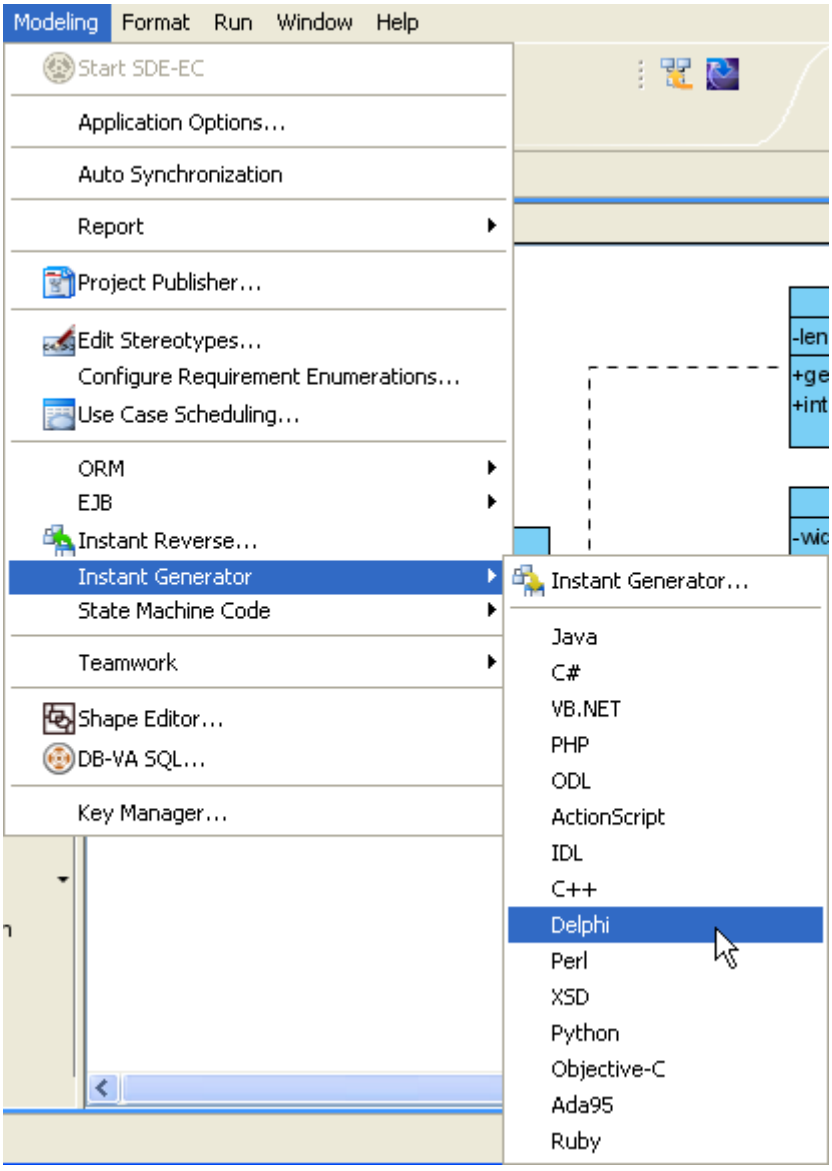



*Figure 10.38 - Open Instant Generator dialog for Delphi*

2. The **Instant Generator** dialog box for Delphi is displayed.

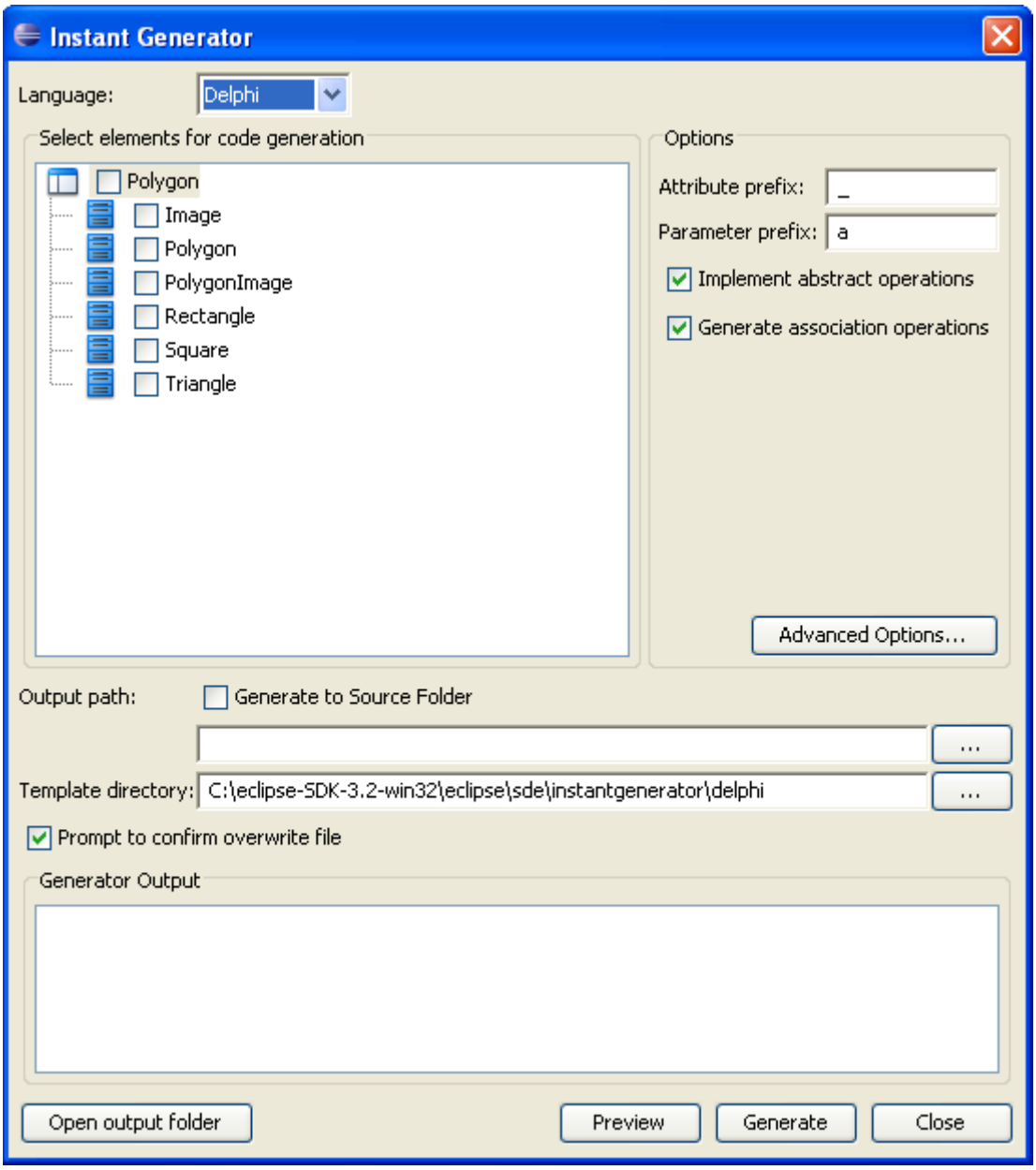



*Figure 10.84 - Instant Generator dialog box*

3. Choose the classes or packages you want to generate .

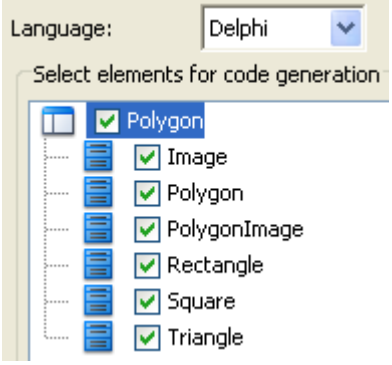



*Figure 10.85 - Choose the classes and packages*

4. Edit the Options.


*Figure 10.86 - Edit the options*

| Name | Description |
|---|---|
| Attribute prefix | Configure the prefix of attribute. |
| Parameter prefix | Configure the prefix of parameter. |
| Implements abstract operations | Check this option to implement abstract operations in generated classes. |
| Generate association operations | If you check this box, when a role is selected to provide setter/getter, the corresponding operation(s) will be generated for the role's attribute. |
| Advanced Options... | Edit the advance options. |

*Table 10.8*

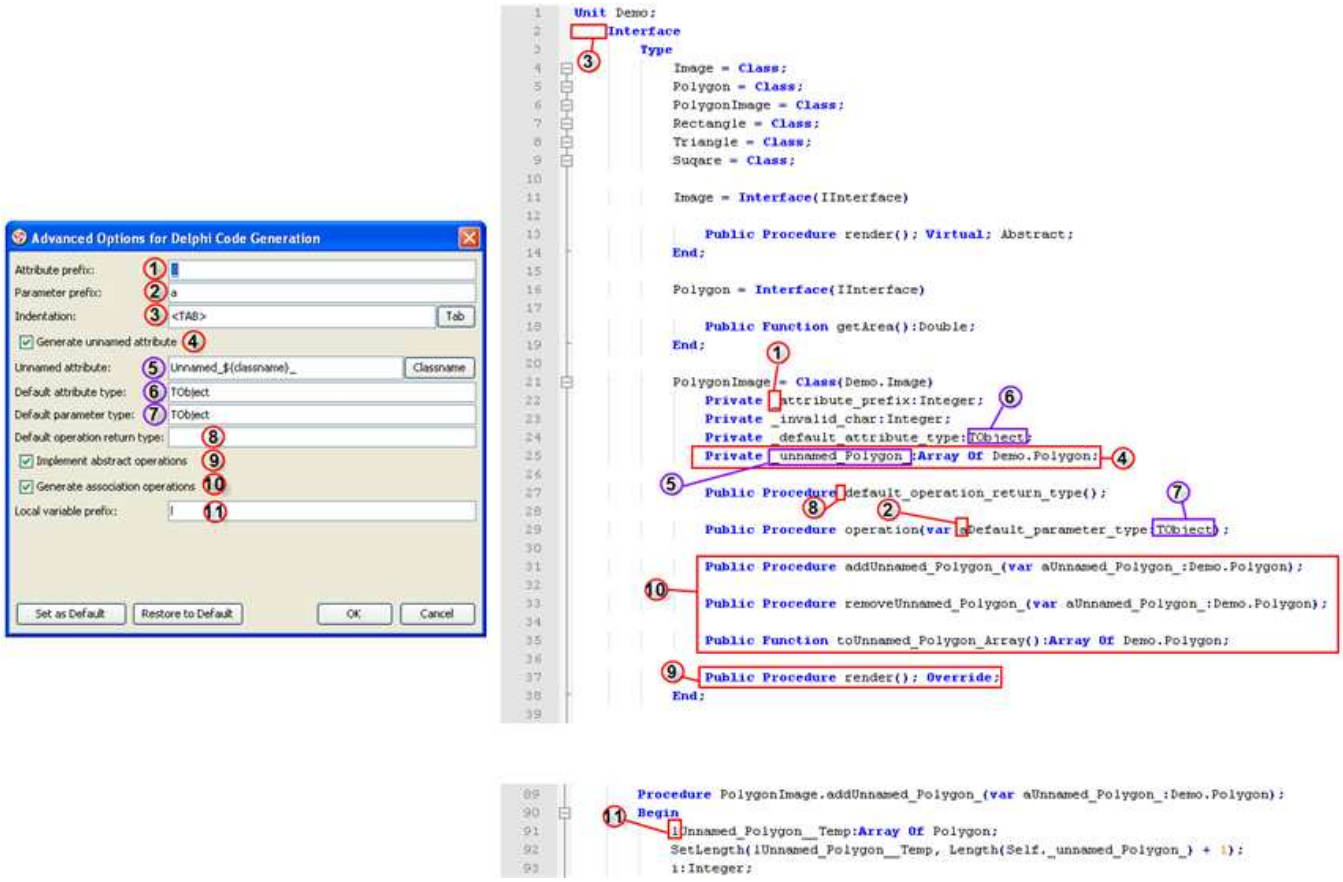



*Figure 10.87 - Example illustrating the functions of different options in Advanced Options*

5. Specify the **Output path** and select **Generate** to generate Delphi.

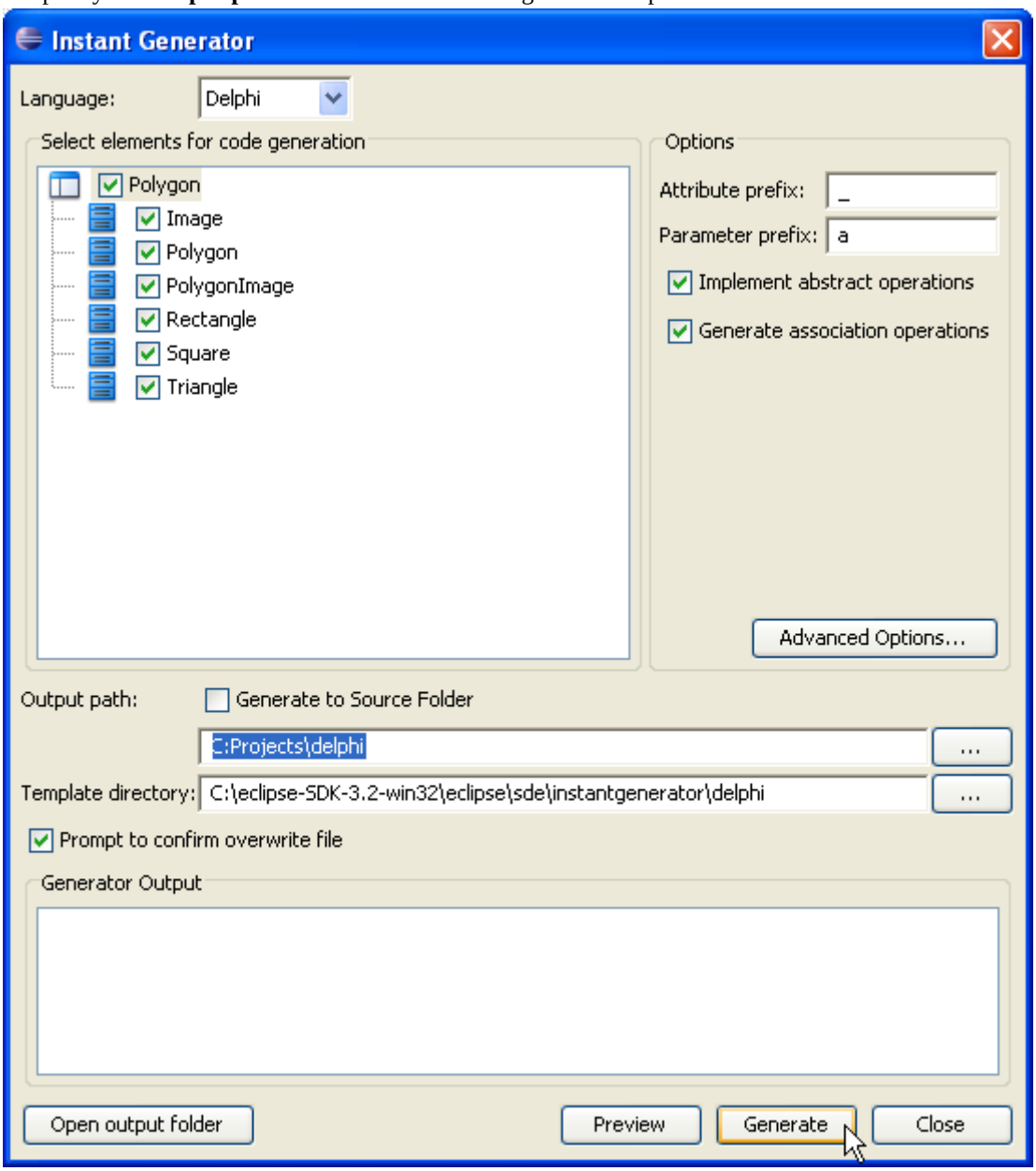



*Figure 10.88 - Select Generate*

6. The progress of generation is shown in the **Generator Output** column. After generation, you can select **Open output folder** to open the output folder generated.

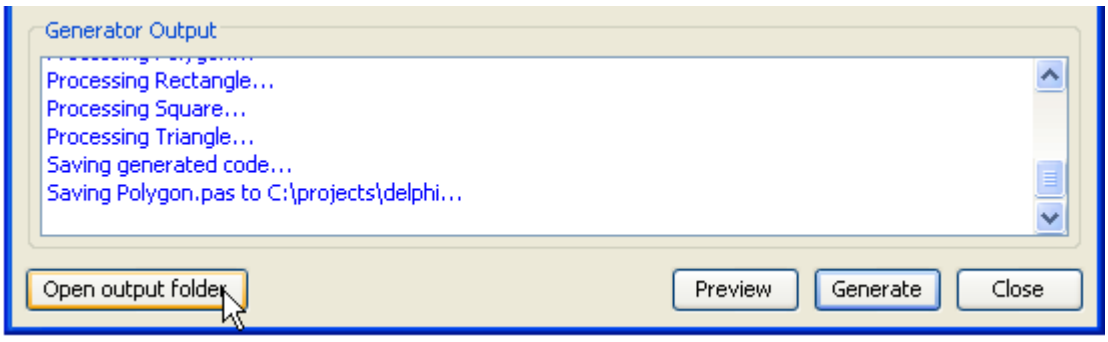



*Figure 10.89 - Open output folder*

7.Delphi files generated.

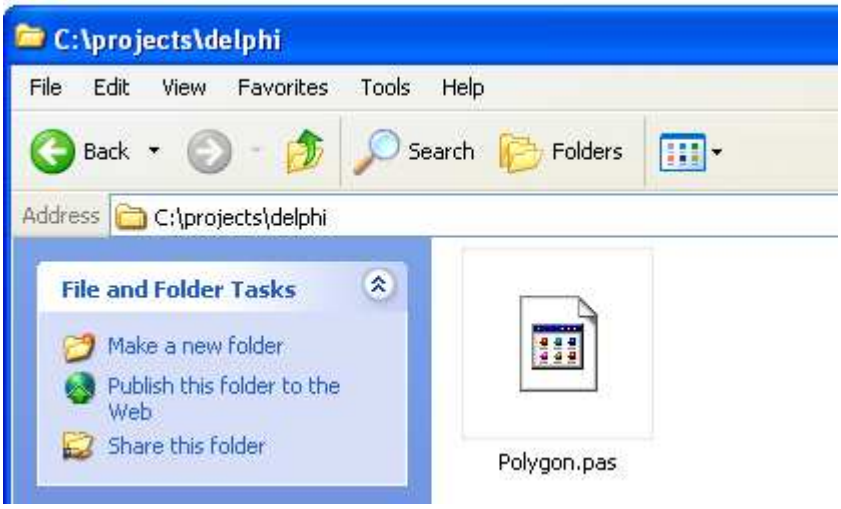



*Figure 10.90 - Delphi files generated*

# Generating Perl

SDE for Eclipse can generate Perl file.
To generate Perl file:

1. Open the **Instant Generator** dialog for Delphi by clicking **Modeling** > **Instant Generator** > **Perl...** in the main menu.

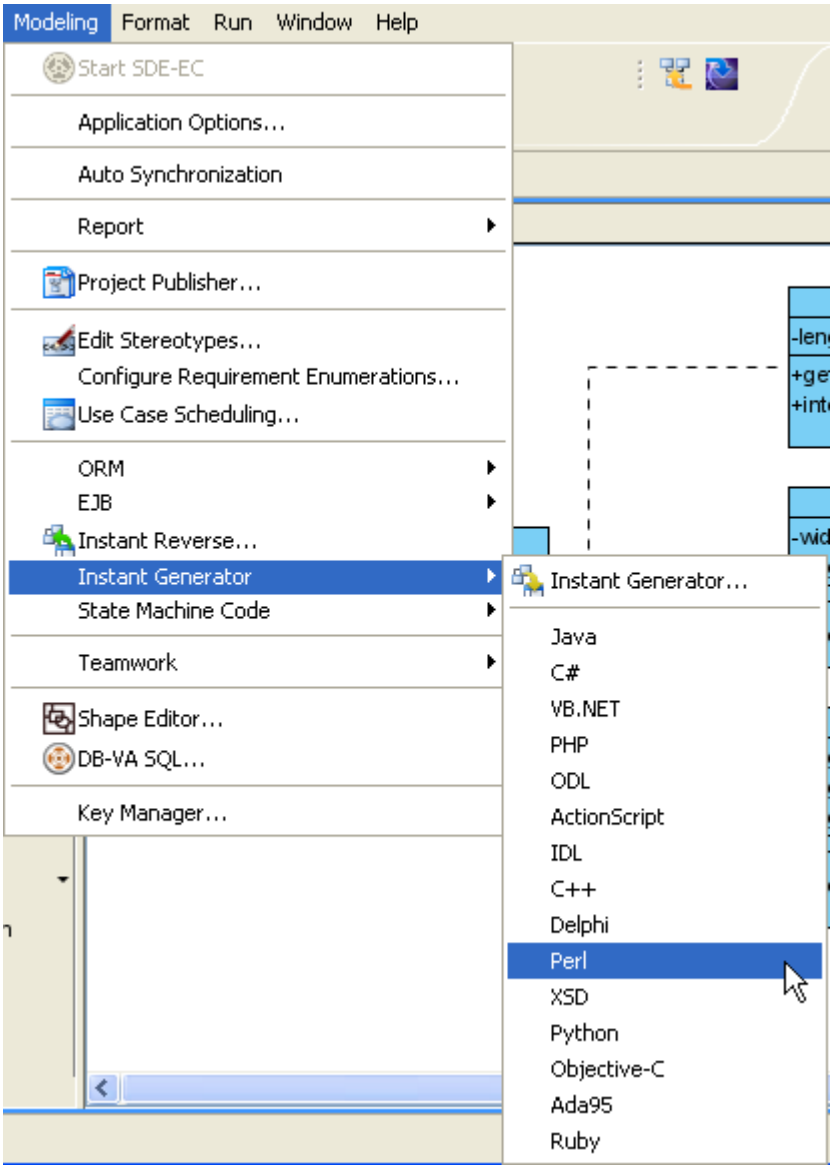



*Figure 10.91 - Open Instant Generator dialog for Perl*

2.The **Instant Generator** dialog box for Perl is displayed.

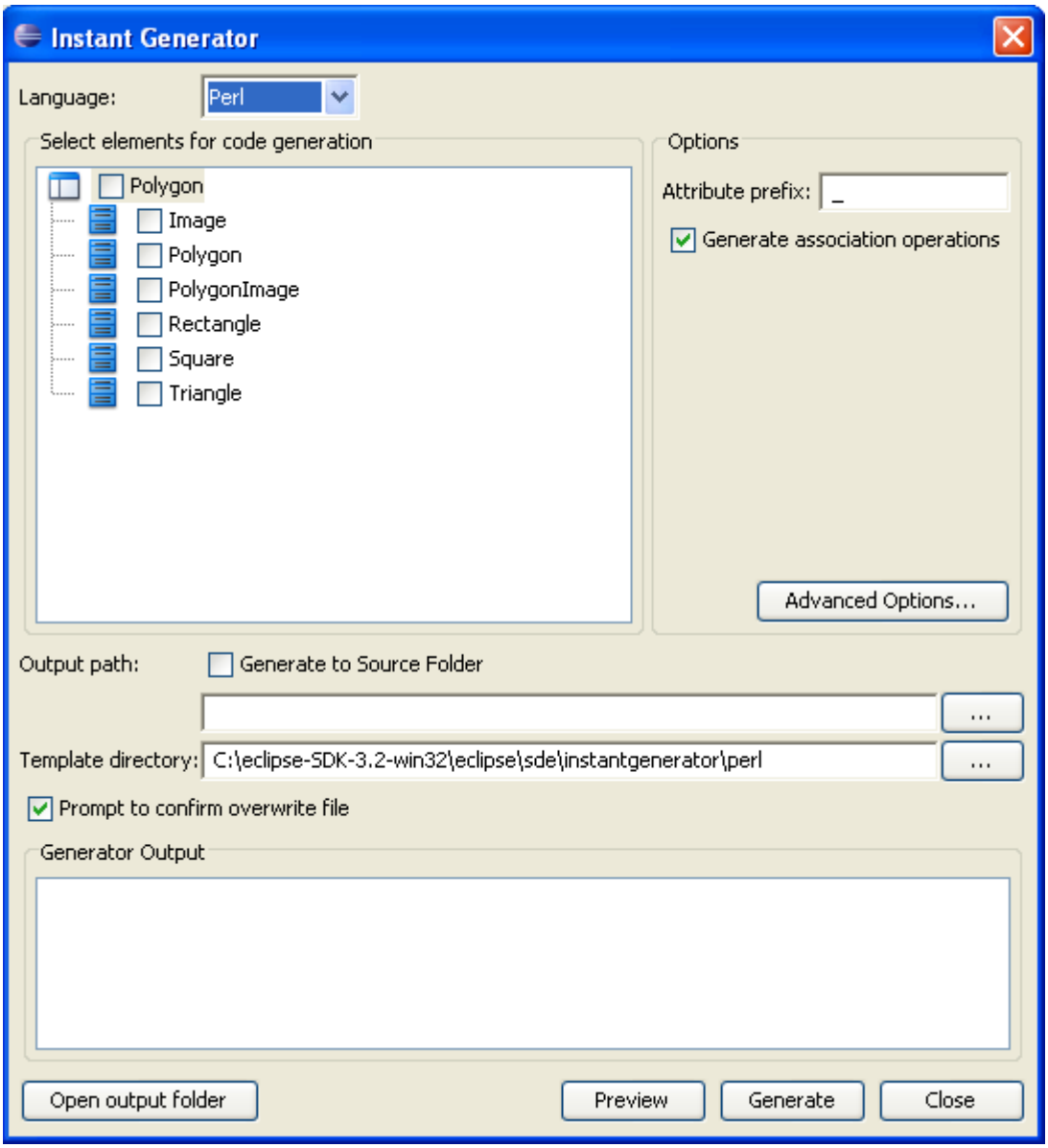



*Figure 9.92 - Instant Generator dialog box*

3. Choose the classes or packages you want to generate .

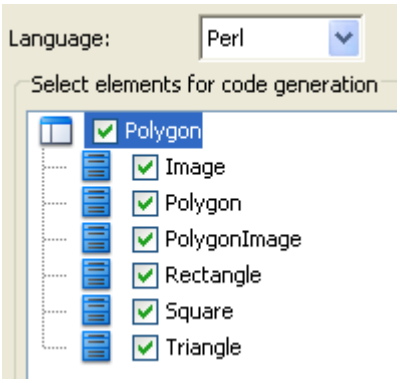



*Figure 10.93 - Choose the classes and packages*

4. Edit the Options.


*Figure 10.94 - Edit the options*

| Name | Description |
|---|---|
| Attribute prefix | Configure the prefix of attribute. |
| Parameter prefix | Configure the prefix of parameter. |
| Implements abstract operations | Check this option to implement abstract operations in generated classes. |
| Generate association operations | If you check this box, when a role is selected to provide setter/getter, the corresponding operation(s) will be generated for the role's attribute. |
| Advanced Options... | Edit the advance options. |

*Table 10.9*

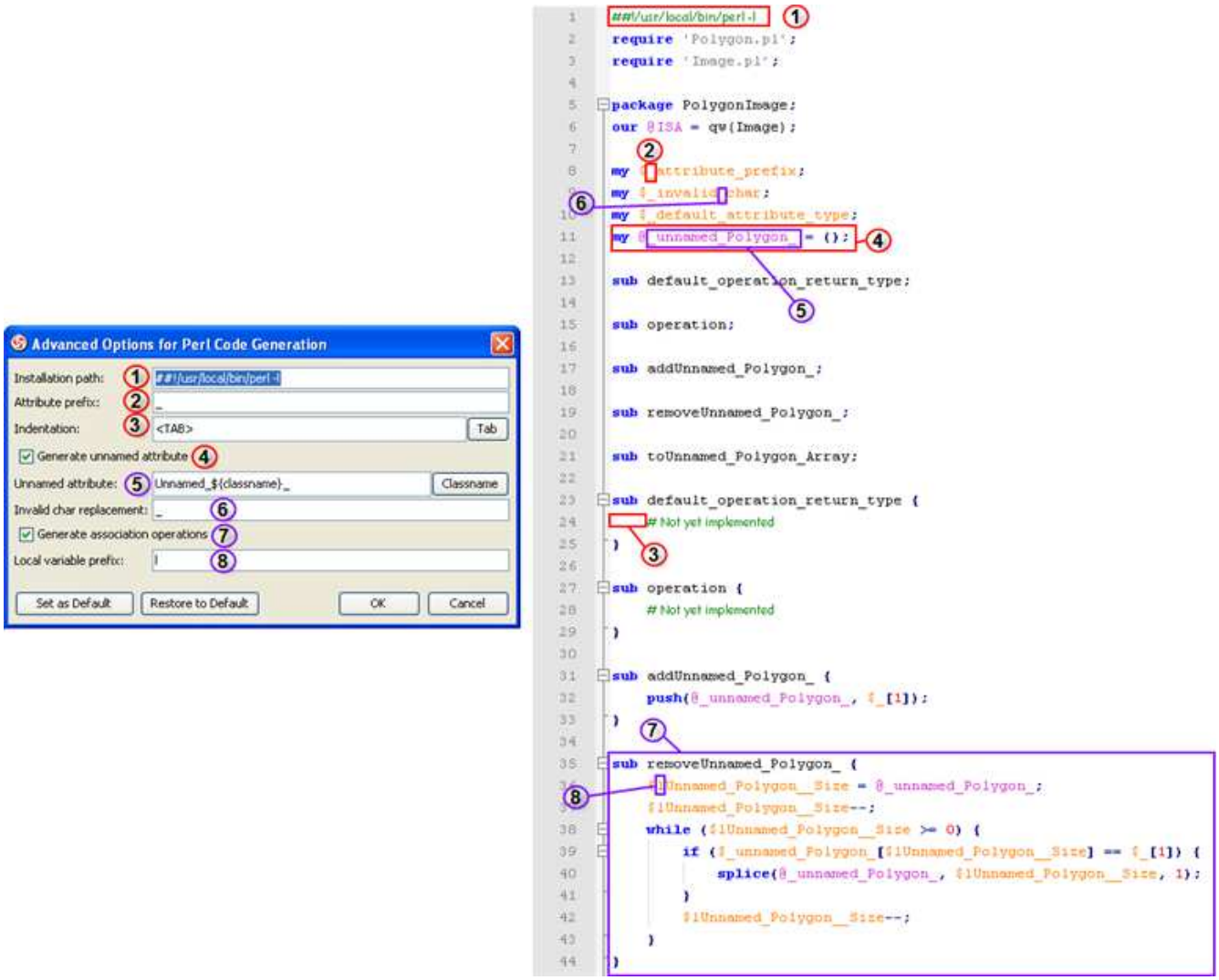



*Figure 10.95 - Example illustrating the functions of different options in Advanced Options*

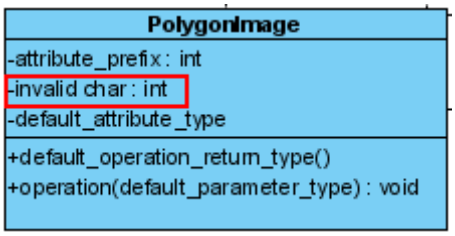



*Figure 10.96 - Diagram of invalid char*

5. Specify the **Output path** and select **Generate** to generate Perl.

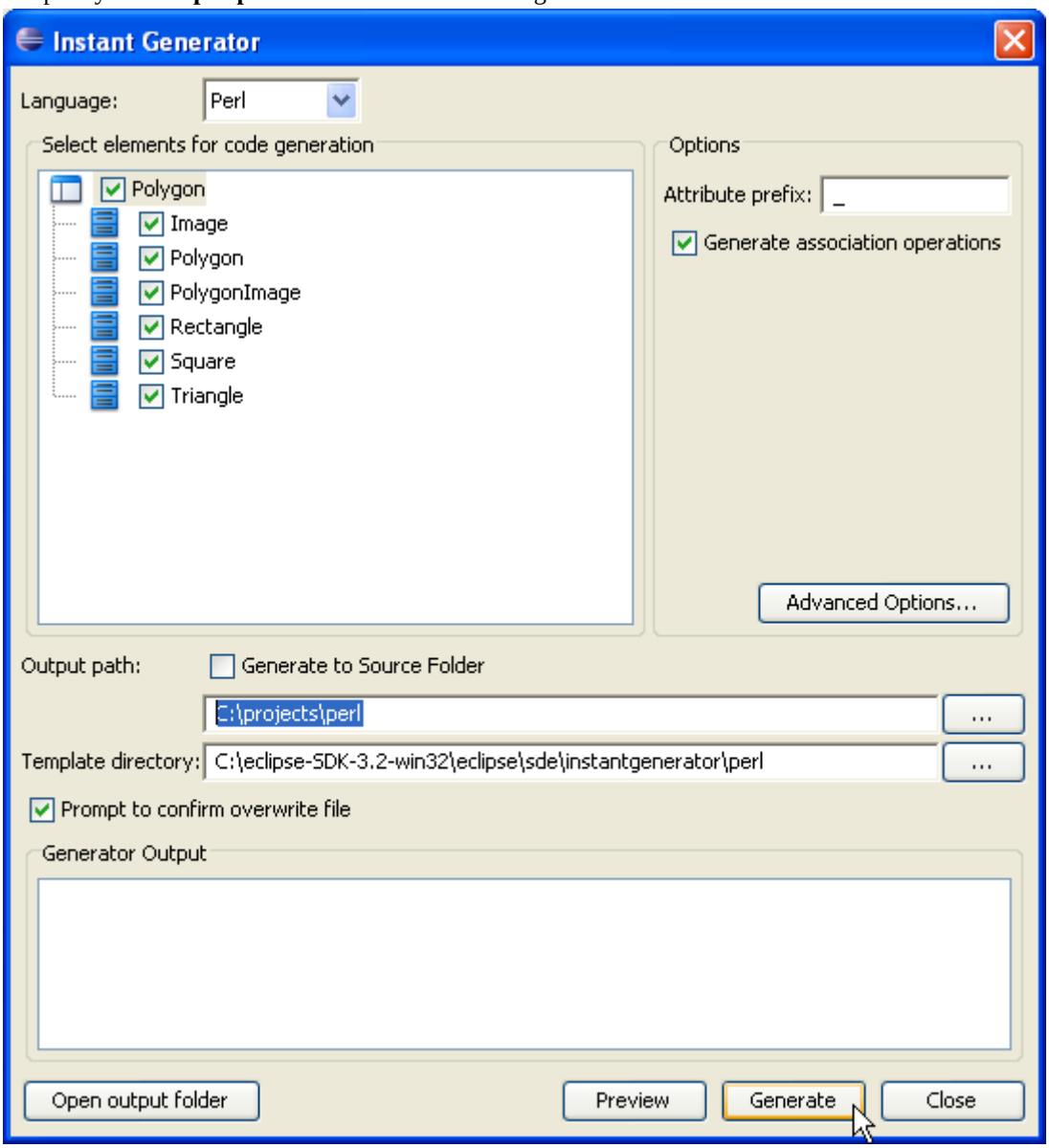



*Figure 10.97 - Select Generate*

6. The progress of generation is shown in the **Generator Output** column. After generation, you can select **Open output folder** to open the output folder generated.

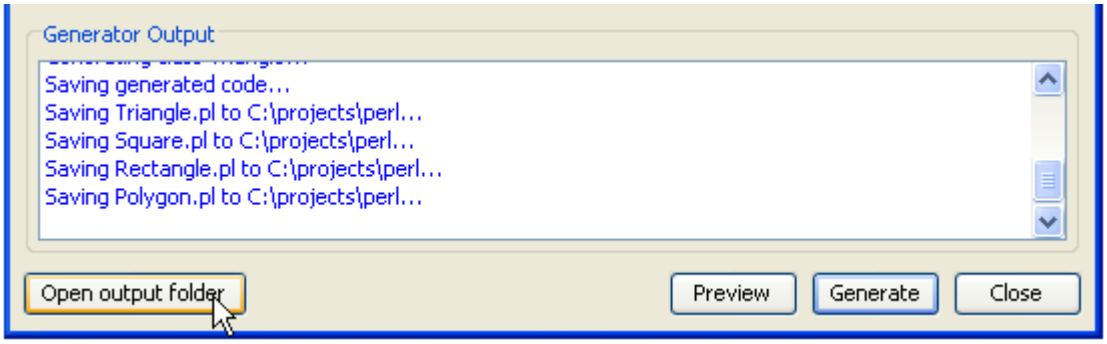



*Figure 10.98 - Open output folder*

7.Perl files generated.

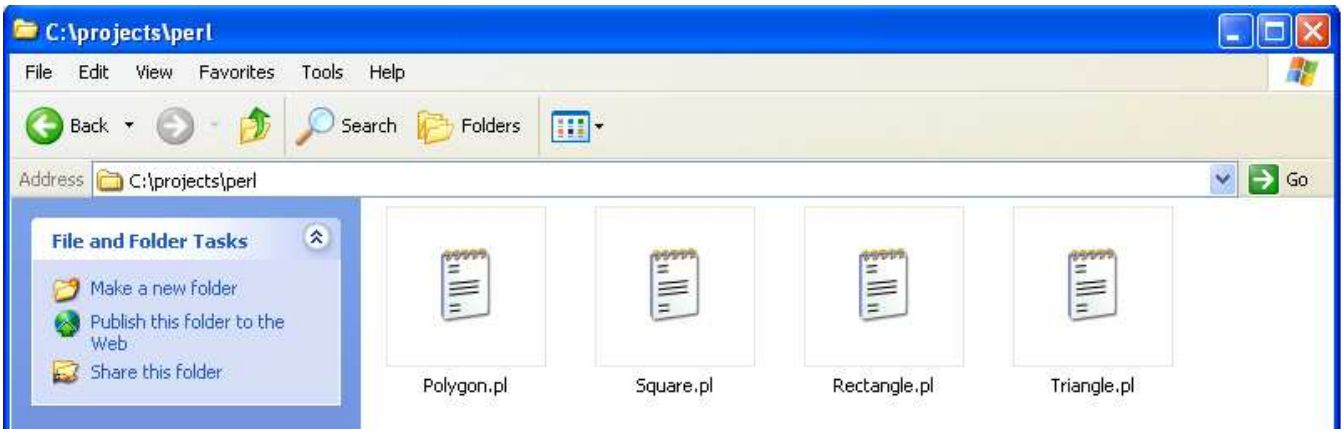



*Figure 10.99 - Perl files generated*

# Generating XSD

SDE for Eclipse can generate XSD file.
To generate XSD file:

1. Open the **Instant Generator** dialog for XSD by clicking **Modeling** > **Instant Generator** > **XSD...** in the main menu.

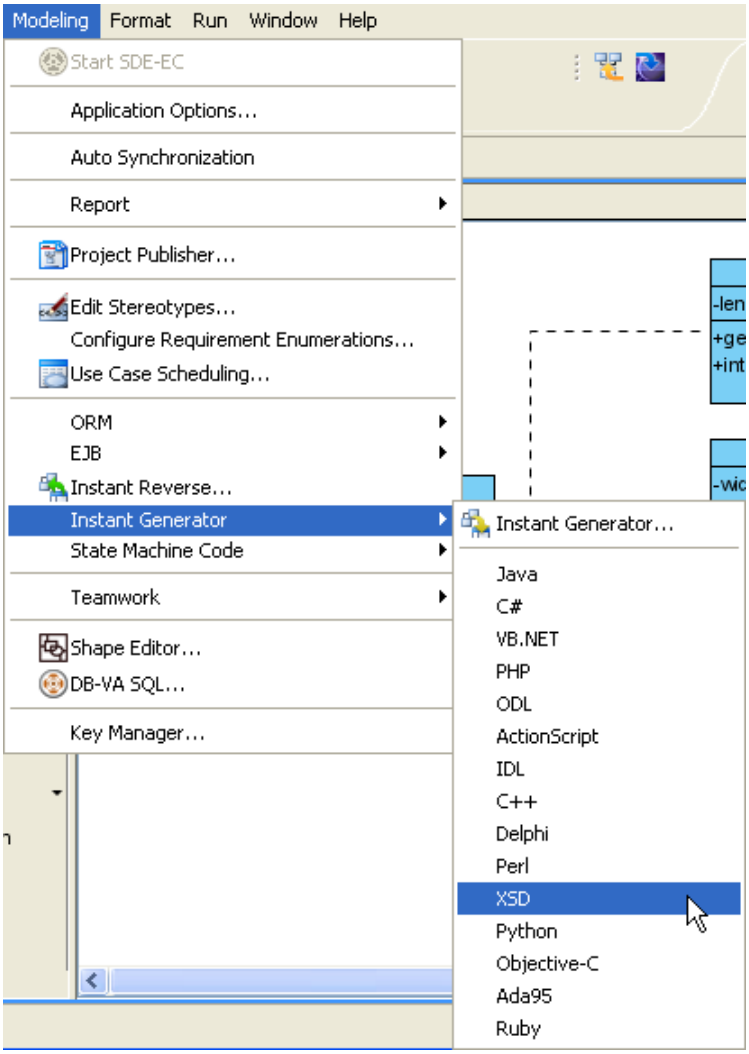



*Figure 10.100 - Open Instant Generator dialog for XSD*

2 The. **Instant Generator** dialog box for XSD is displayed.

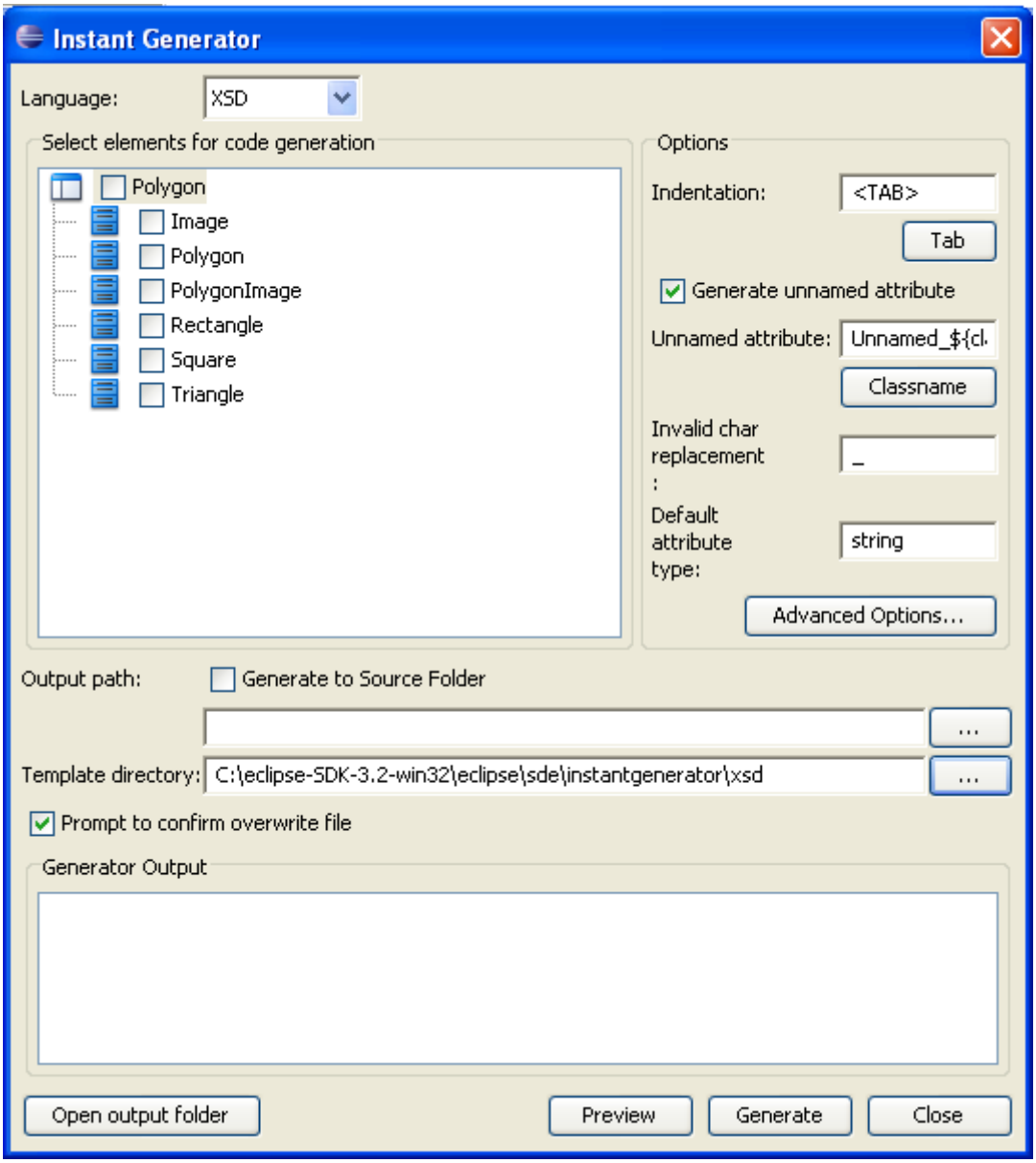



*Figure 10.101 - Instant Generator dialog box*

3. Choose the classes or packages you want to generate .

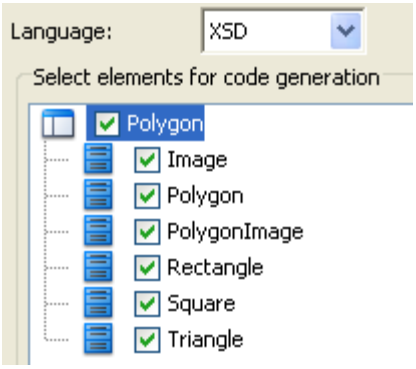



*Figure 10.102 - Choose the classes and packages*

4. Edit the Options.

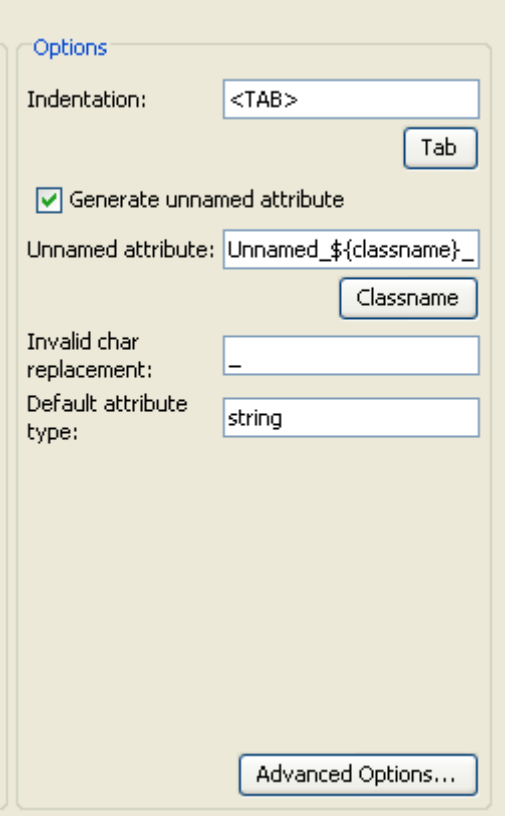



*Figure 10.103 - Edit the options*

| Name | Description |
|---|---|
| Indentation | To configure the spacing characters you want to use for each indent level.<br>A tab button is provided to add tab to define different levels. |
| Generate unnamed attribute | To allow generating unnamed attribute. |
| Unnamed attribute | Predefine a name for unnamed attribute. |
| Invalid char replacement | If there is character which is invalid, the character will be replaced by the character type in the text box. |
| Default attribute type | Configure the default type of attribute. |
| Advanced Options... | Edit the advance options. |

*Table 10.10*


*Figure 10.104 - Example illustrating the functions of different options in Advanced Options*

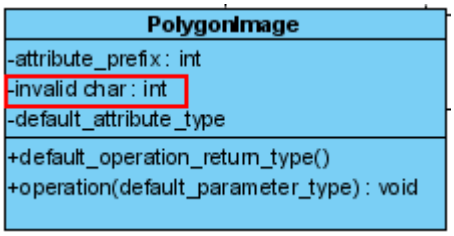



*Figure 10.105 - Diagram of invalid char*

5. Specify the **Output path**. Then, select **Generate** to generate XSD.

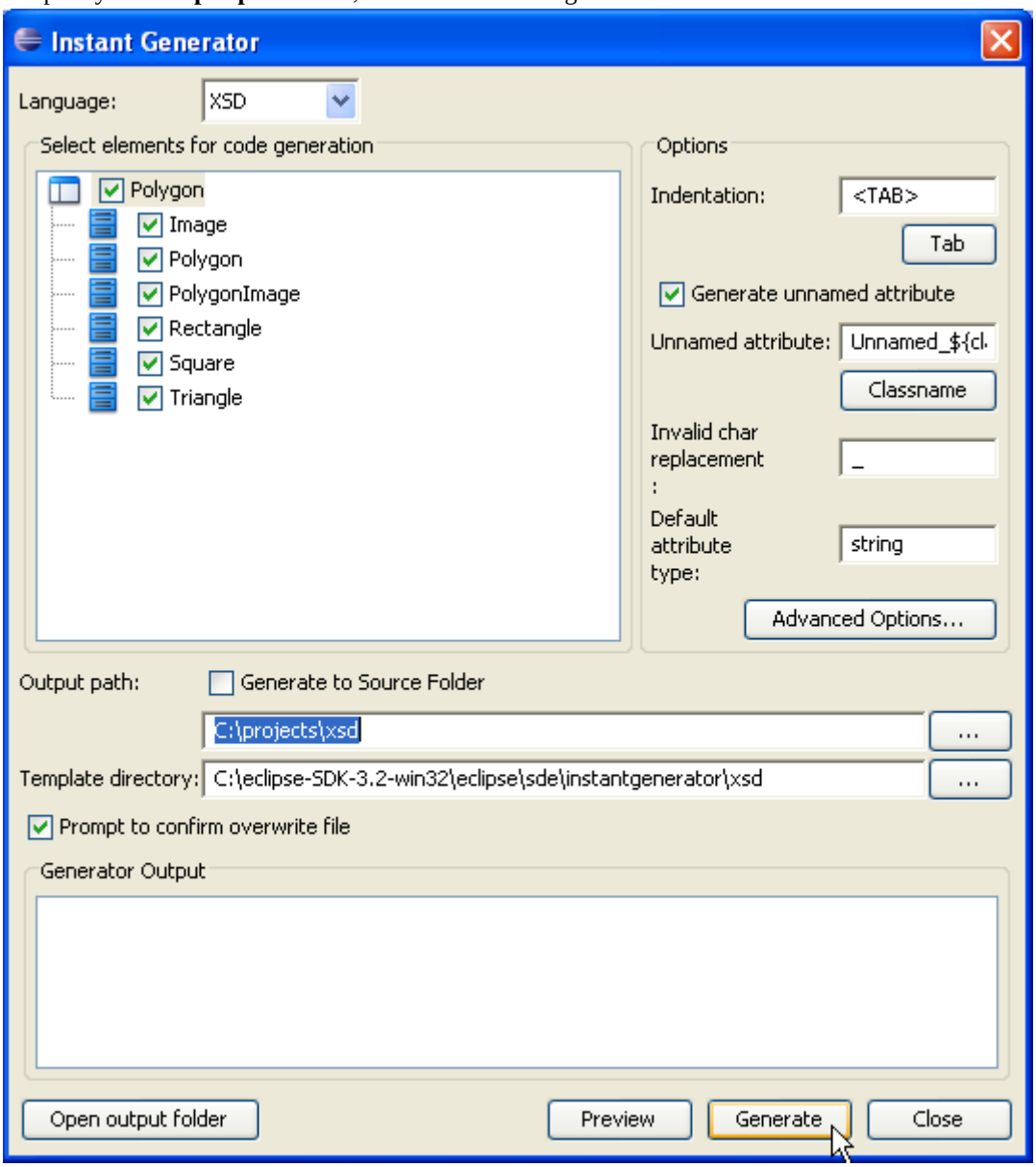



*Figure 10.106 - Select Generate*

6. The progress of generation is shown in the **Generator Output** column. After generation, you can select **Open output folder** to open the output folder generated.

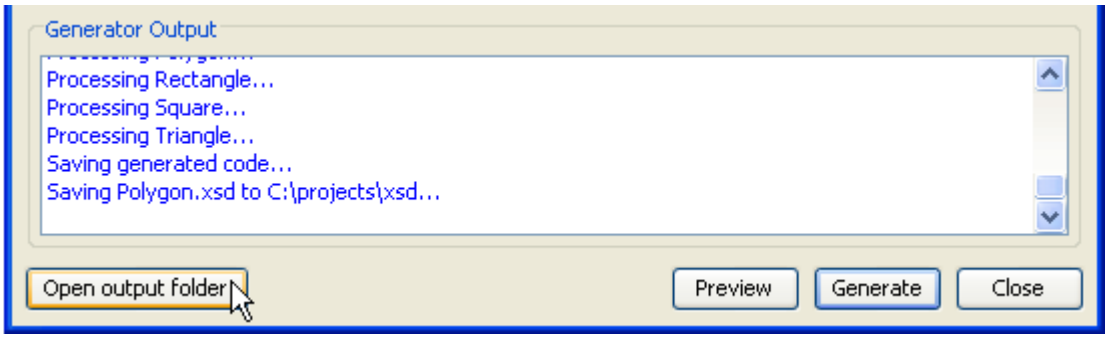



*Figure 10.107 - Open output folder*

7.XSD files generated.

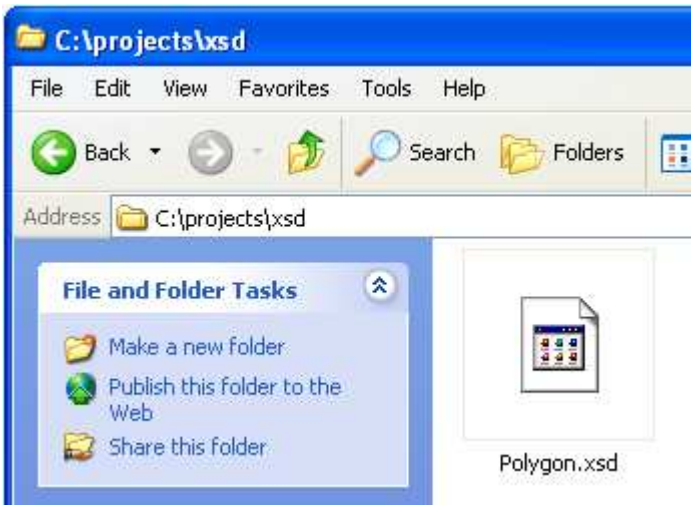



*Figure 10.108 - XSD files generated*

# Generating Python

SDE for Eclipse can generate Python file.
To generate Python file:

1. Open **Instant Generator** dialog for Python by clicking **Modeling** > **Instant Generator** > **Python...** in the main menu.

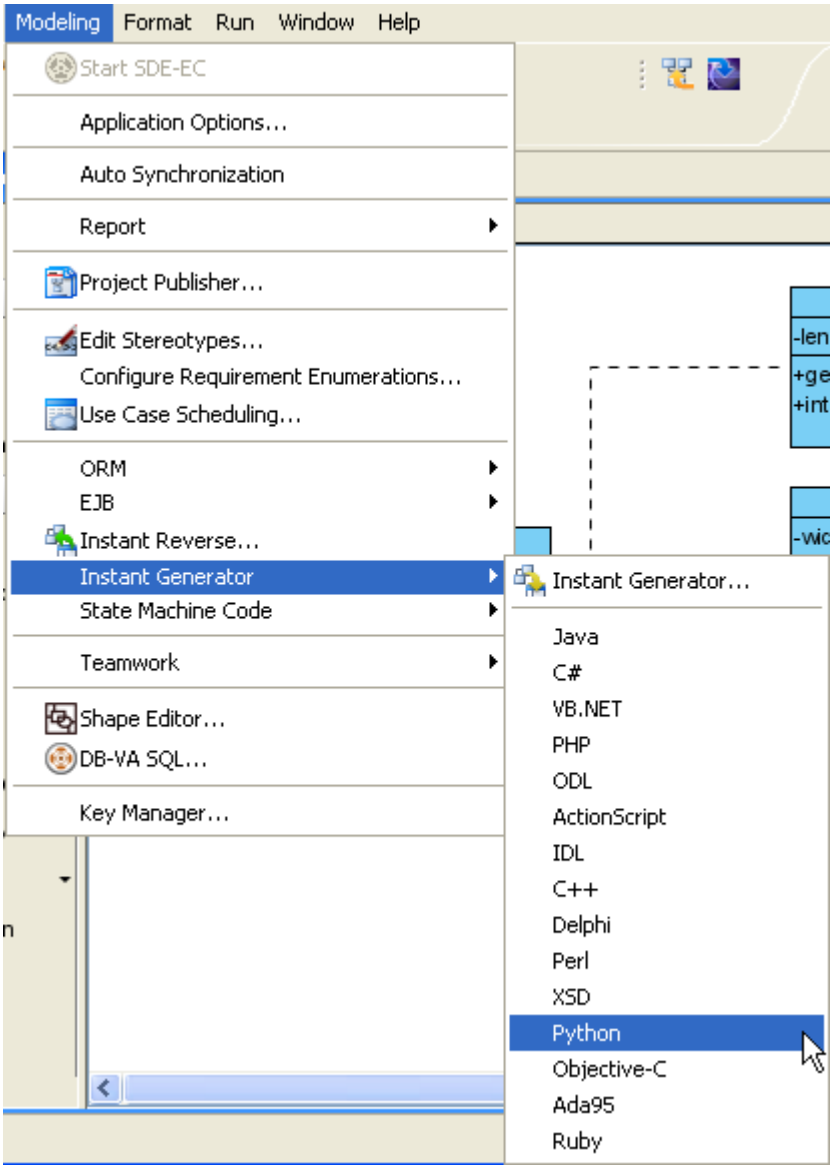



*Figure 10.109 - Open Instant Generator dialog for Python*

2. **Instant Generator** dialog box for Python is displayed.

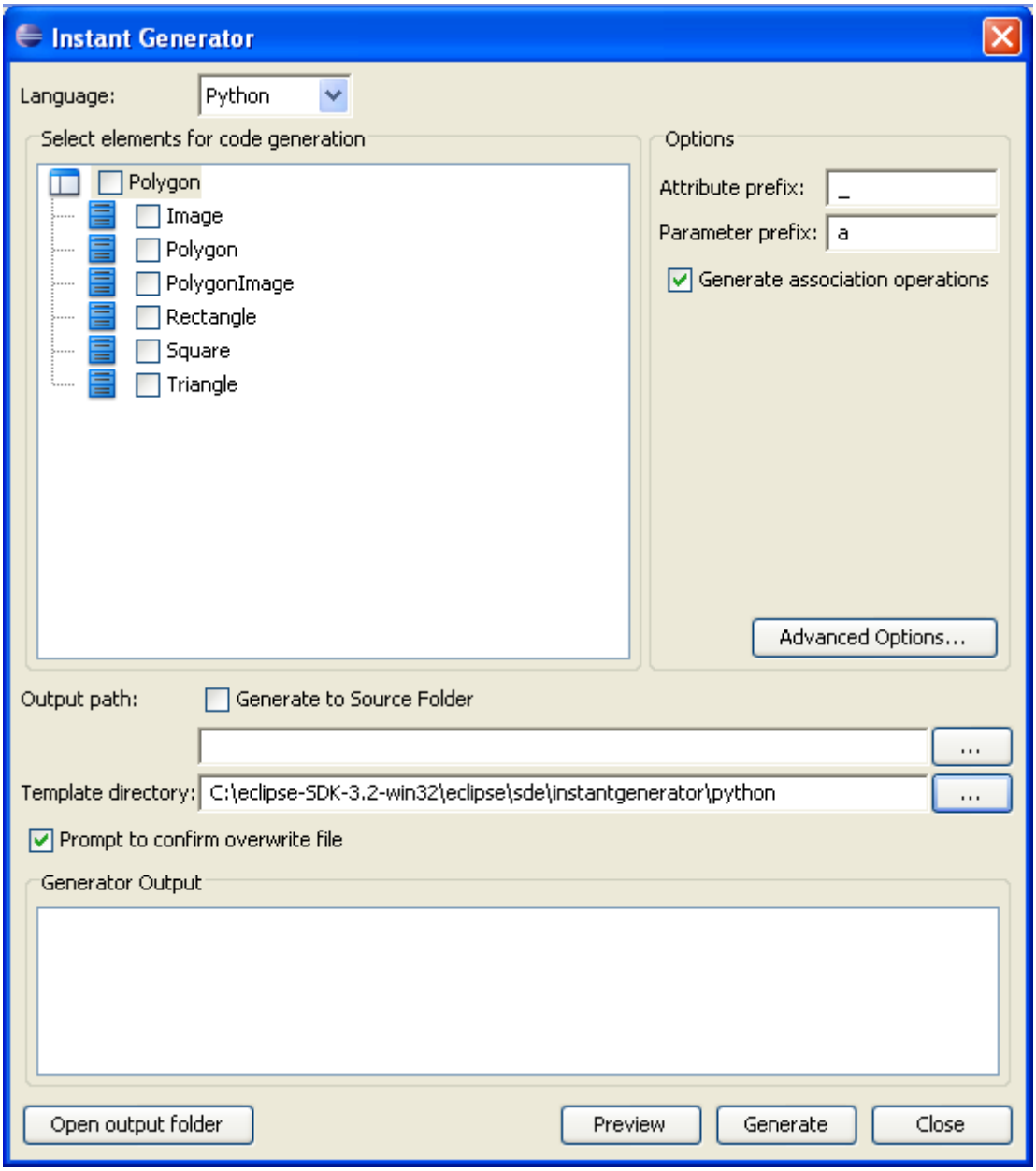



*Figure 10.110 - Instant Generator dialog box*

3. Choose the classes or packages you want to generate .

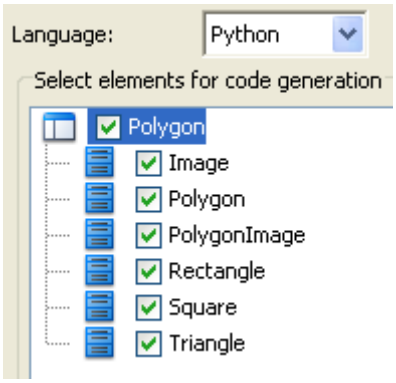



*Figure 10.111 - Choose the classes and packages*

4. Edit the Options.


*Figure 10.112 - Edit the options*

| Name | Description |
|---|---|
| Attribute prefix | To configure the prefix of attribute. |
| Parameter prefix | To configure the prefix of parameter. |
| Generate association operations | If you check this box, when a role is selected to provide setter/getter, the corresponding operation(s) will be generated for the role's attribute. |
| Advanced Options... | Edit the advance options. |

*Table 10.11*

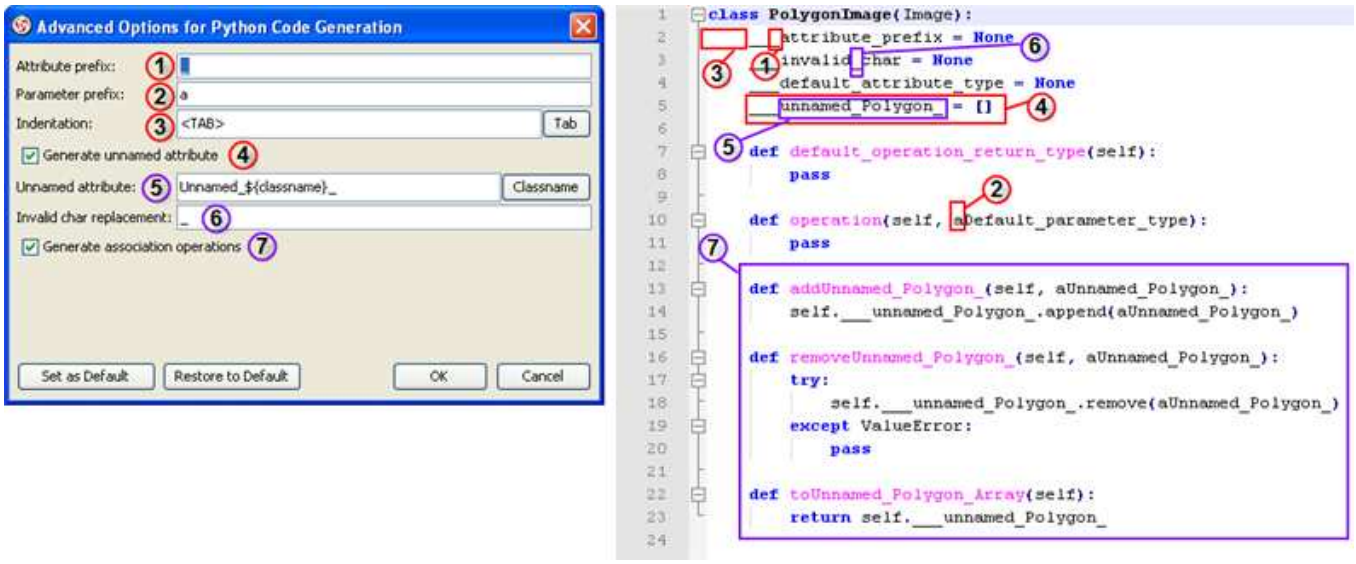



*Figure 10.113 - Example illustrating the functions of different options in Advanced Options*

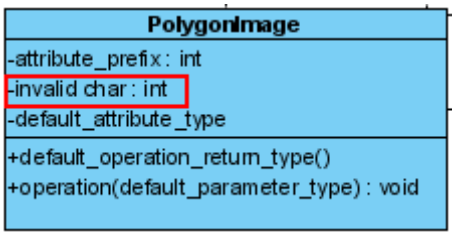



*Figure 10.114 - Diagram of invalid char*

5. Specify the **Output path** and select **Generate** to generate Python.

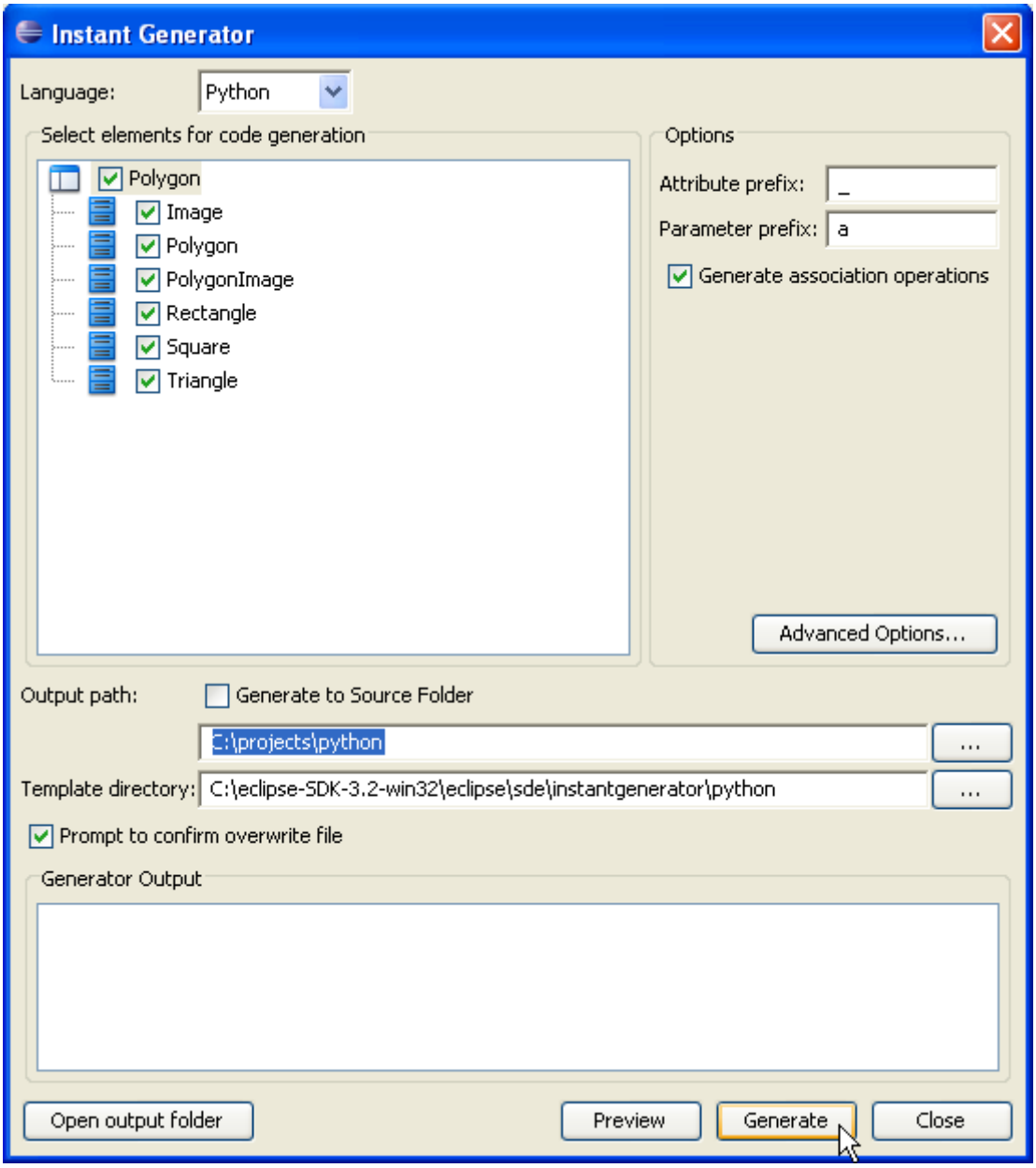



*Figure 10.115 - Select Generate*

6. The progress of generation is shown in the **Generator Output** column. After generation is complete, you can select **Open output folder** to open the files in the generated folder.

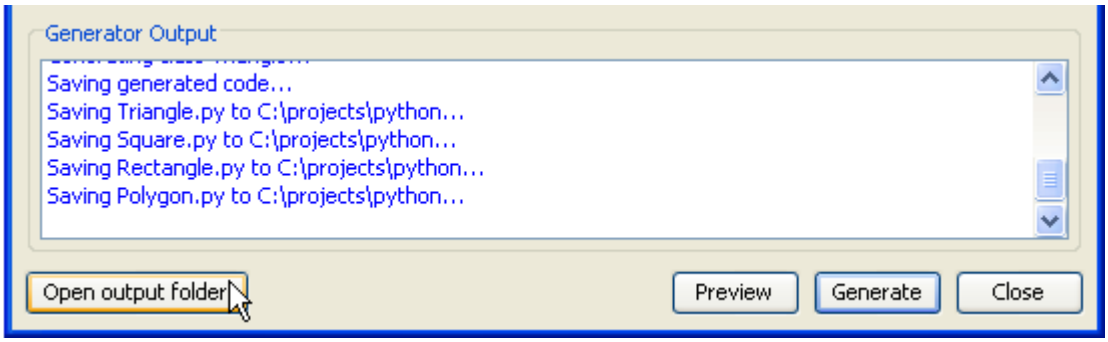



*Figure 10.116 - Open output folder*

7. Python files generated.

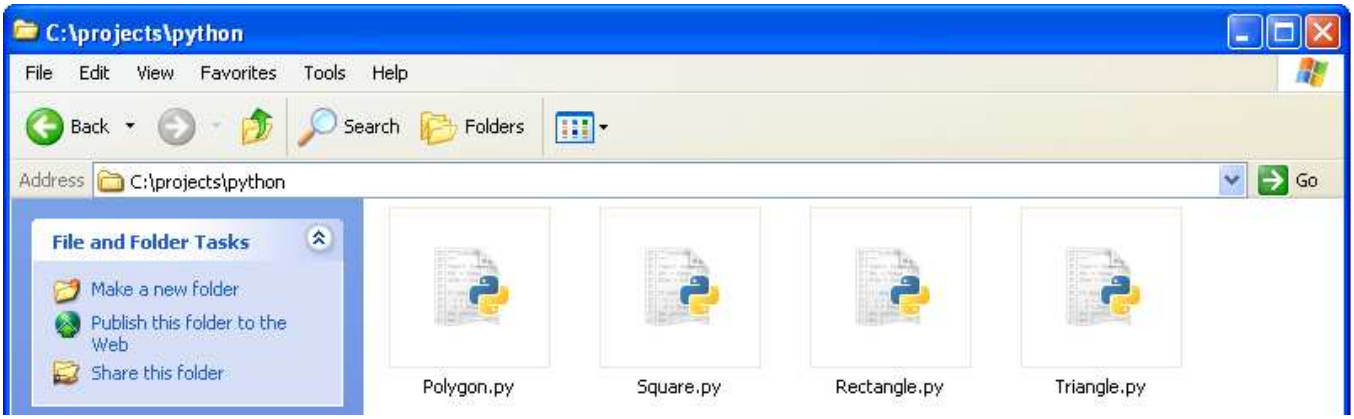



*Figure 10.117 - Python files generated*

# Generating Objective-C

SDE for Eclipse can also generate Objective-C files.
To generate an Objective-C file:

1. Open the **Instant Generator** dialog for Objective-C by clicking **Modeling** > **Instant Generator** > **Objective-C...** in the main menu.

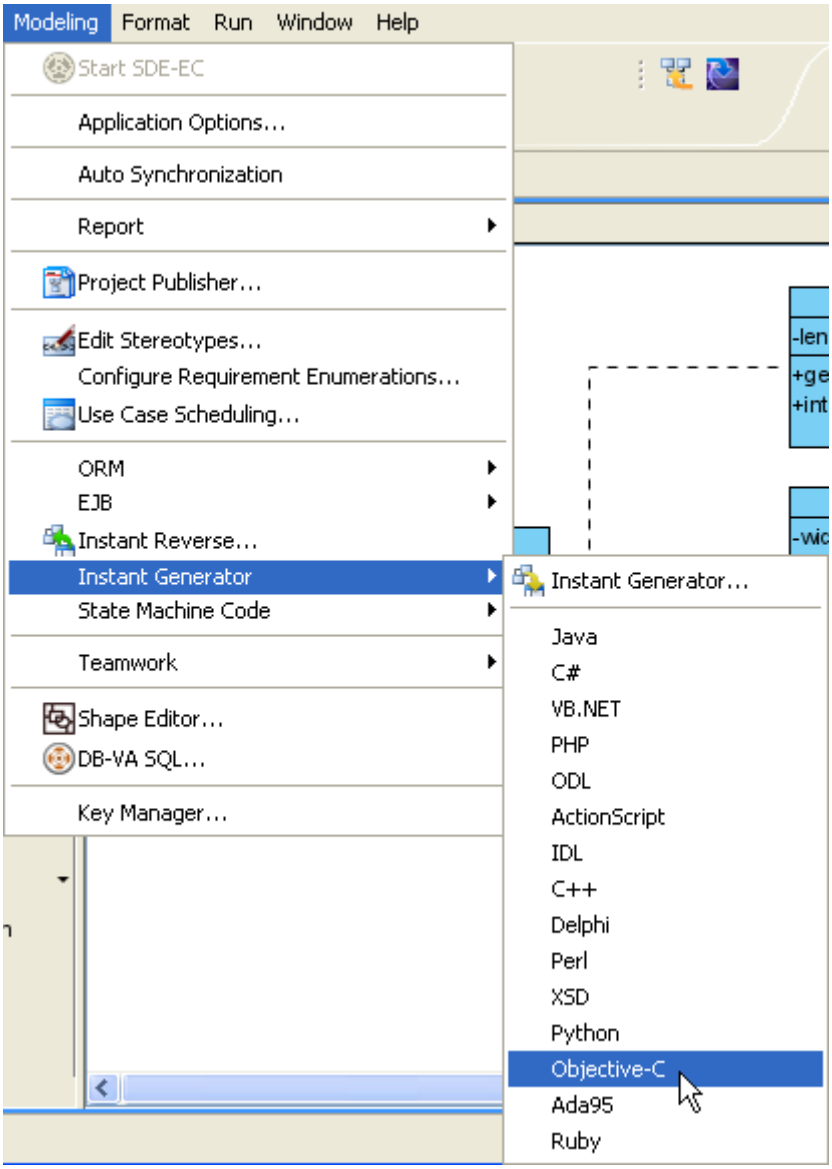



*Figure 10.118 - Open Instant Generator dialog for Objective-C*

2. **Instant Generator** dialog box for Objective-C is displayed.

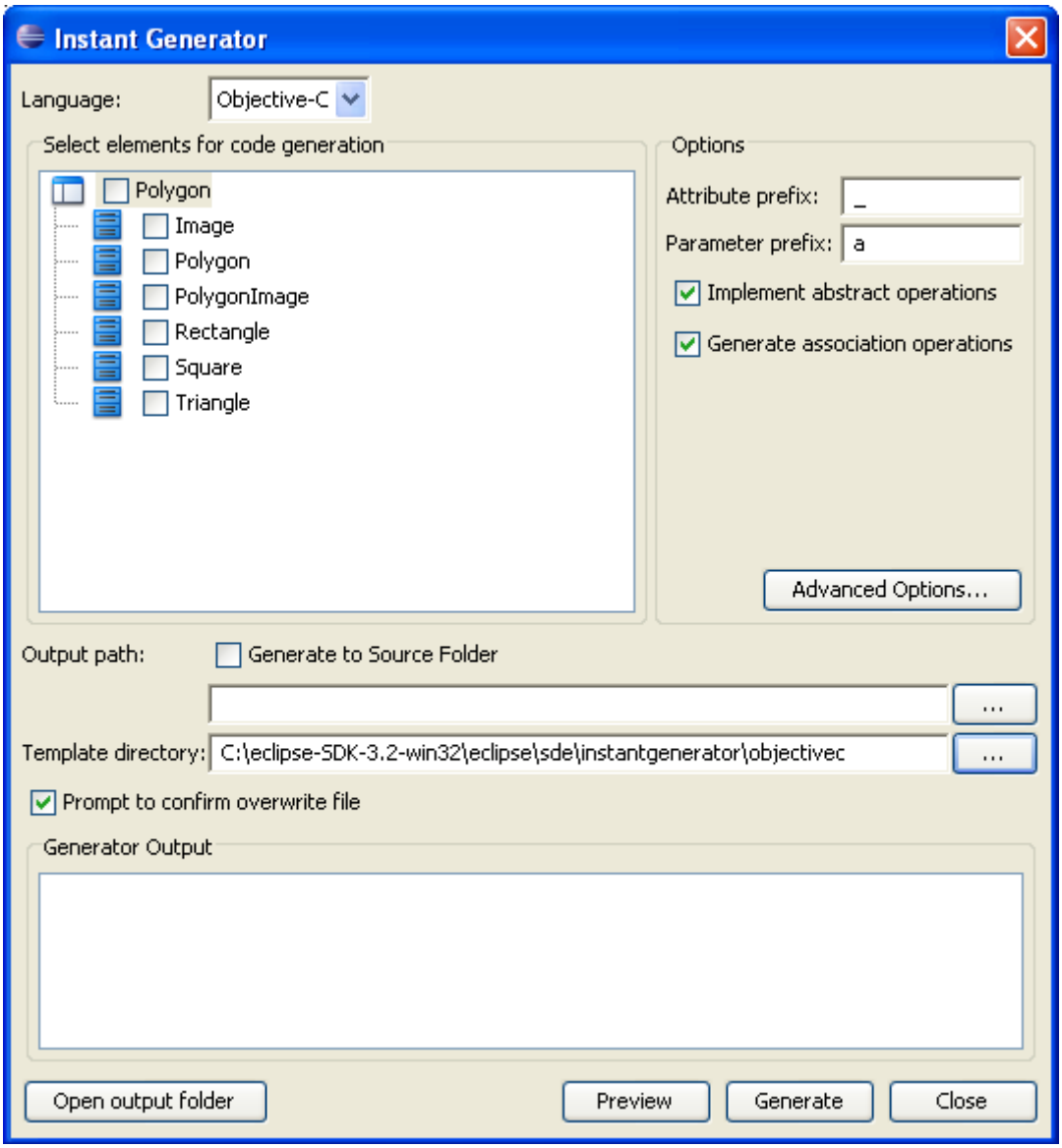



*Figure 10.119 - Instant Generator dialog box*

3. Choose the classes or packages you want to generate .

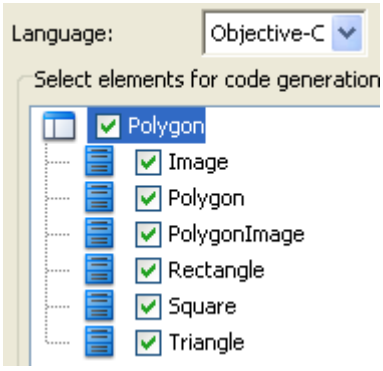



*Figure 10.120 - Choose the classes and packages*

4. Edit the Options.


*Figure 10.121 - Edit the options*

| Name | Description |
|---|---|
| Attribute prefix | To configure the prefix of attribute. |
| Parameter prefix | To configure the prefix of parameter. |
| Implements abstract operations | Check this option to implement abstract operations in generated classes. |
| Generate association operations | If you check this box, when a role is selected to provide setter/getter, the corresponding operation(s) will be generated for the role's attribute. |
| Advanced Options... | Edit the advance options. |

*Table 10.12*

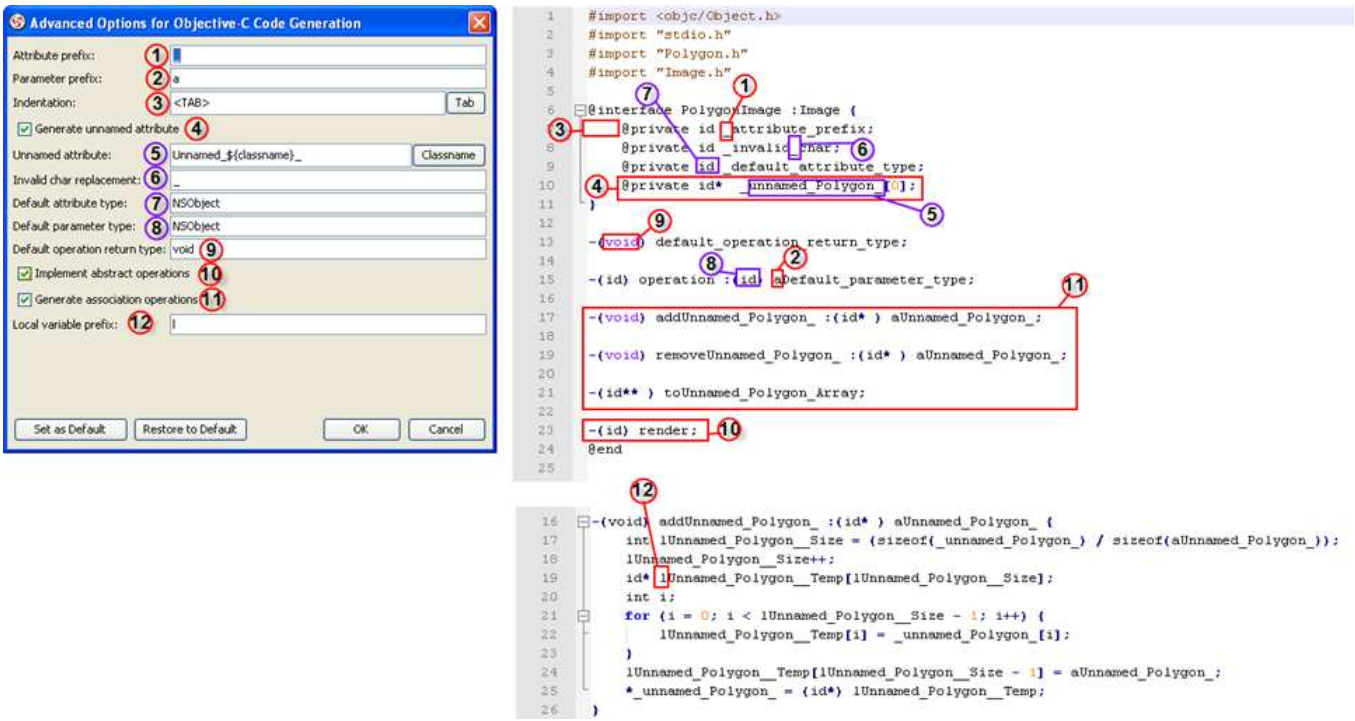



*Figure 10.122- Example illustrating the functions of different options in Advanced Options*

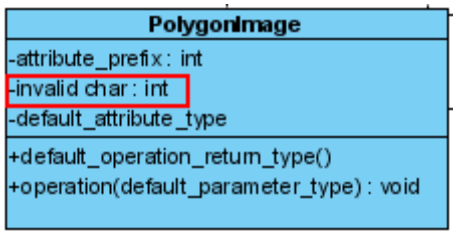



*Figure 10.123- Diagram of invalid char*

5. Specify the **Output path**. Then, select **Generate** to generate Objective-C.

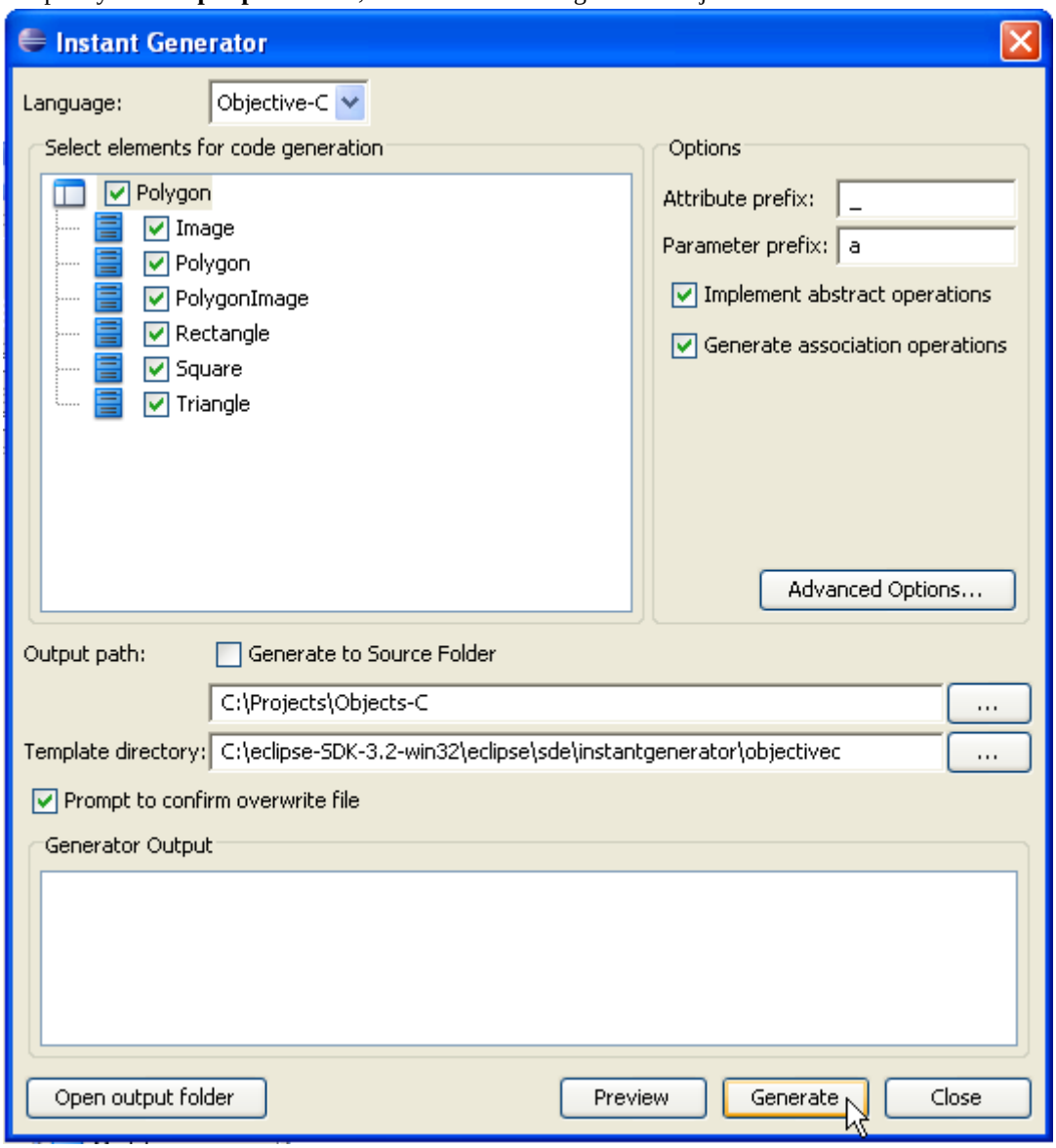



*Figure 10.124 - Select Generate*

6. The progress of generation is shown in the **Generator Output** column. After generation, you can select **Open output folder** to open the newly generated folder.

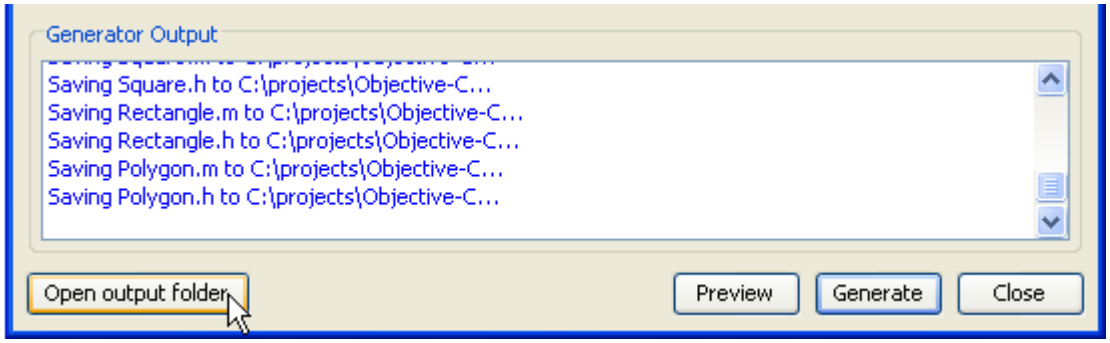



*Figure 10.125 - Open output folder*

7. Objective-C files generated.

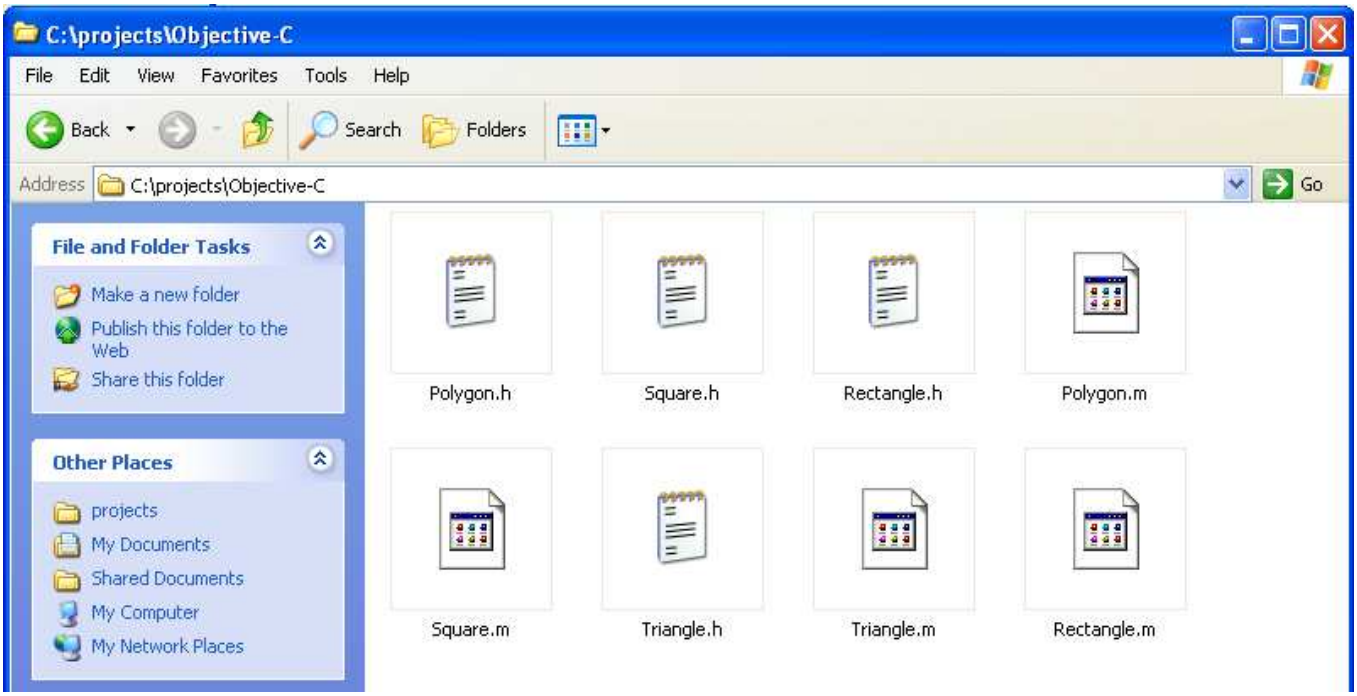



*Figure 10.126 - Objective-C files generated*

# Generating Ada95

SDE for Eclipse can also generate Ada95 file.
To generate an Ada95 file:

1. Open the **Instant Generator** dialog for Ada95 by clicking **Modeling** > **Instant Generator** > **Ada95...** in the main menu.

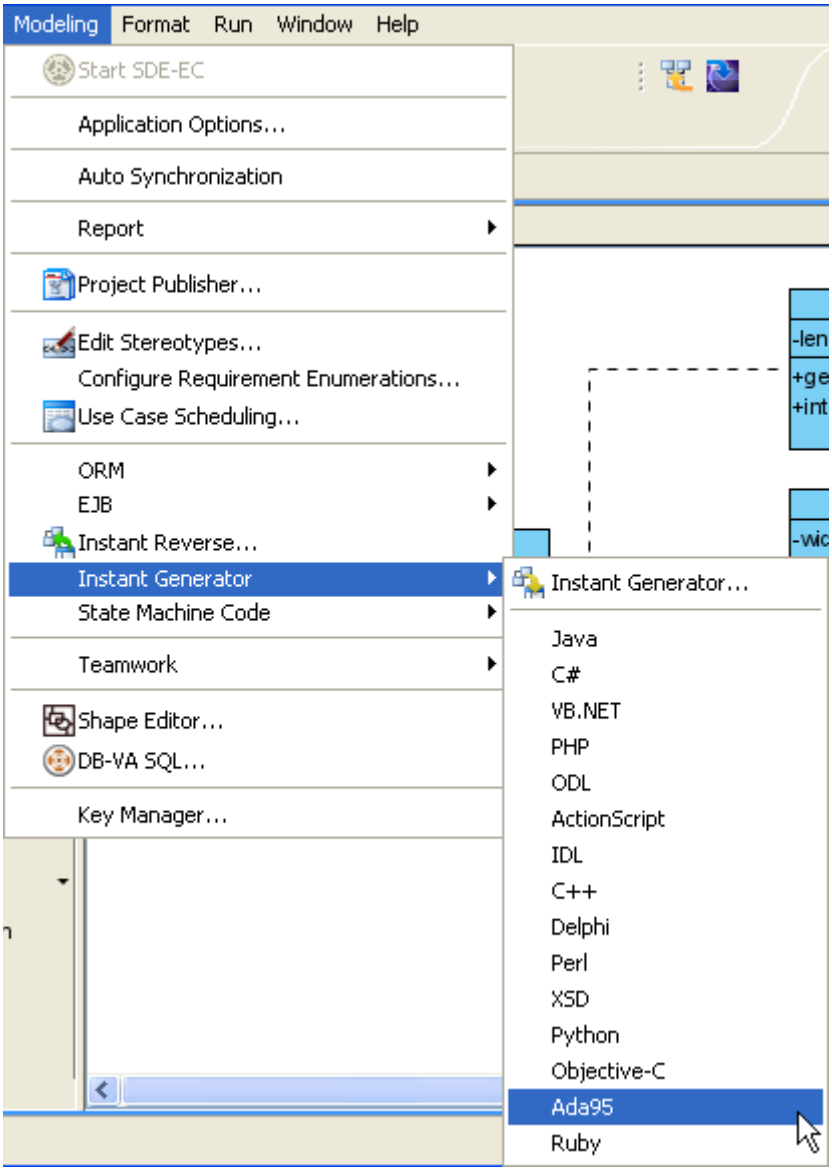



*Figure 10.127 - Open Instant Generator dialog for Ada95*

2. The **Instant Generator** dialog box for Ada9x is displayed.

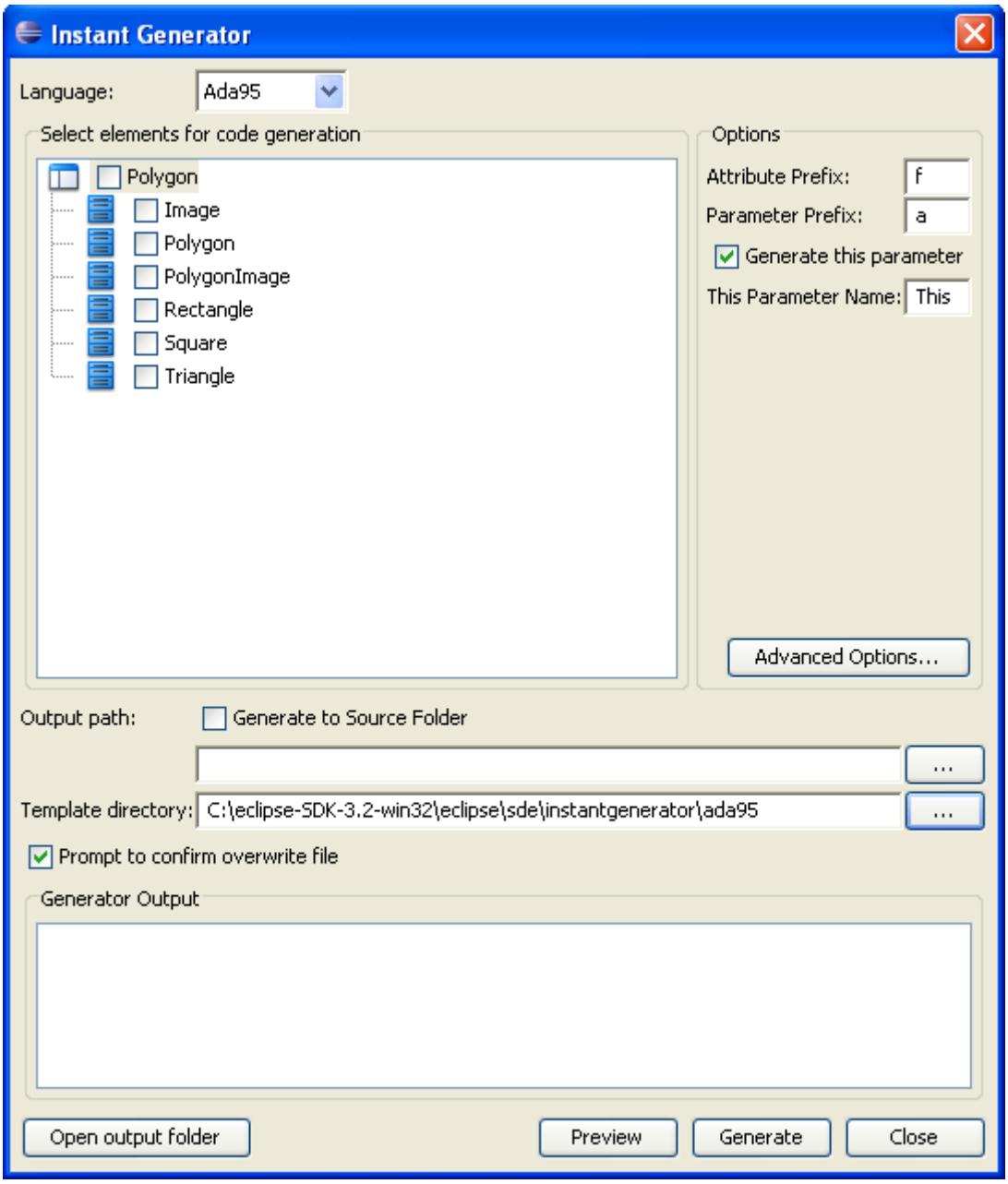



*Figure 10.128 - Instant Generator dialog box*

3. Choose the classes or packages you want to generate.

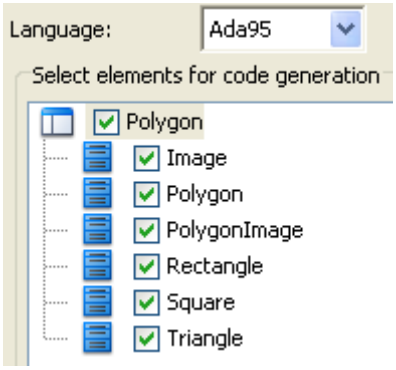



*Figure 10.129 - Choose the classes and packages*

4. Edit the Options.

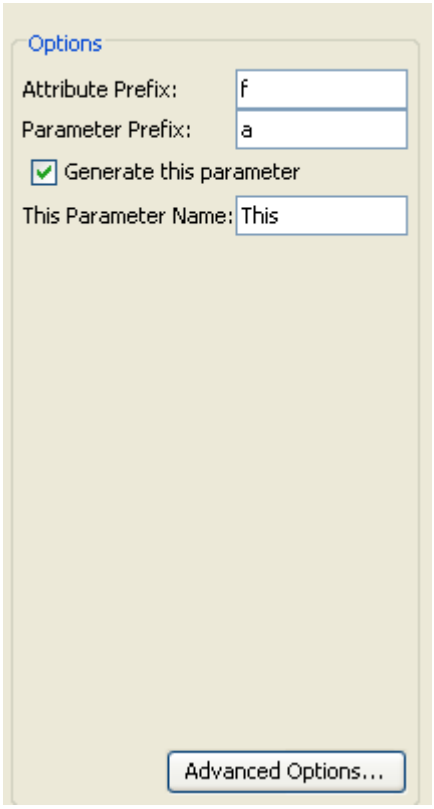



*Figure 10.130- Edit the options*

| Name | Description |
|---|---|
| Attribute prefix | To configure the prefix of attribute. |
| Parameter prefix | To configure the prefix of parameter. |
| Generate this parameter | Check to generate this parameter. |
| This Parameter Name | Configure the name of this parameter. |
| Advanced Options... | Edit the advance options. |

*Table 10.13*

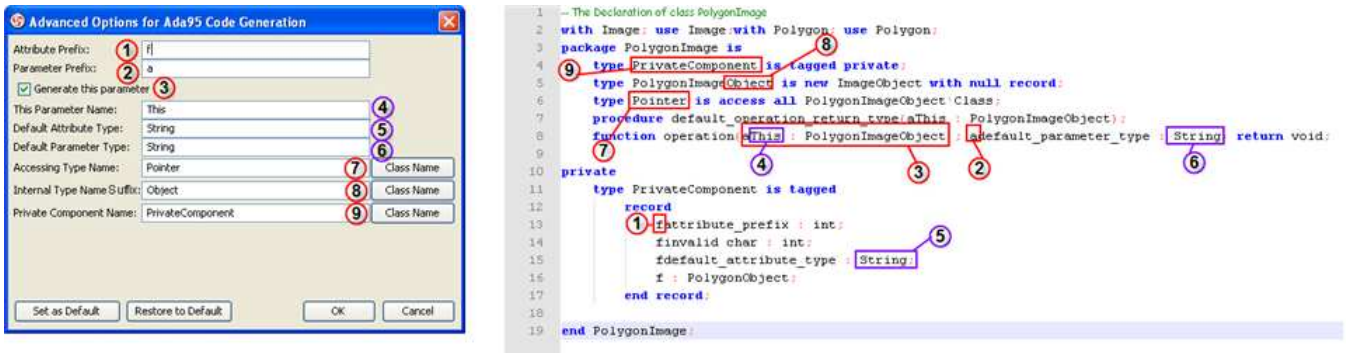



*Figure 10.131 - Example illustrating the functions of different options in Advanced Options*

5. Specify the **Output path** and click **Generate** to generate Ada95.

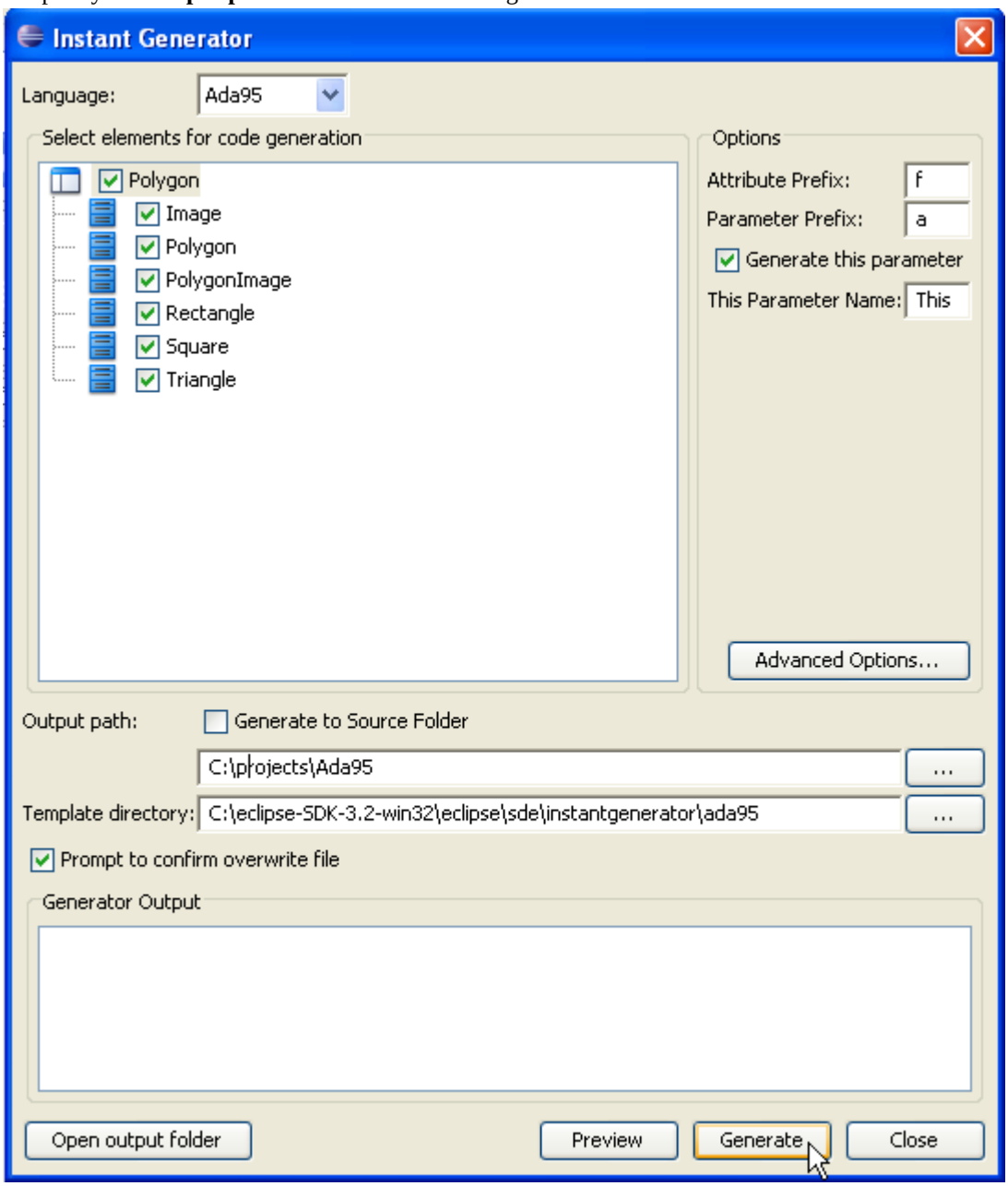



*Figure 10.132 - Select Generate*

6. The progress of generation is shown in the **Generator Output** column. After generation, you can select **Open output folder** to open the output folder generated.

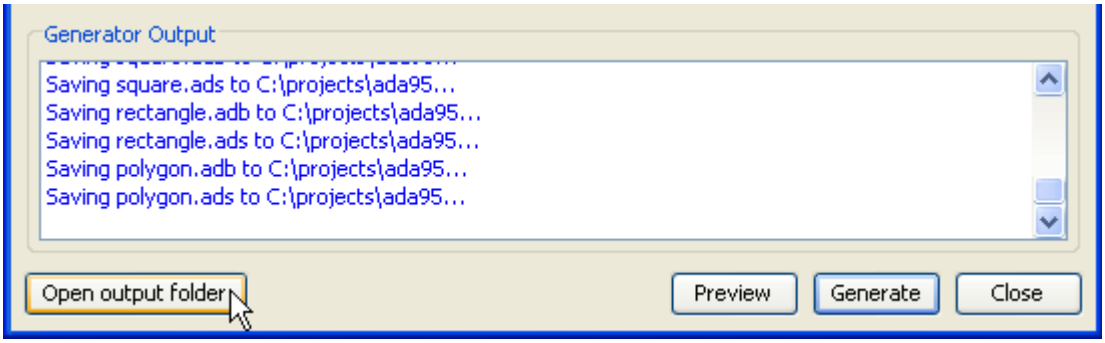



*Figure 10.133 - Open output folder*

7. Ada95 files generated.

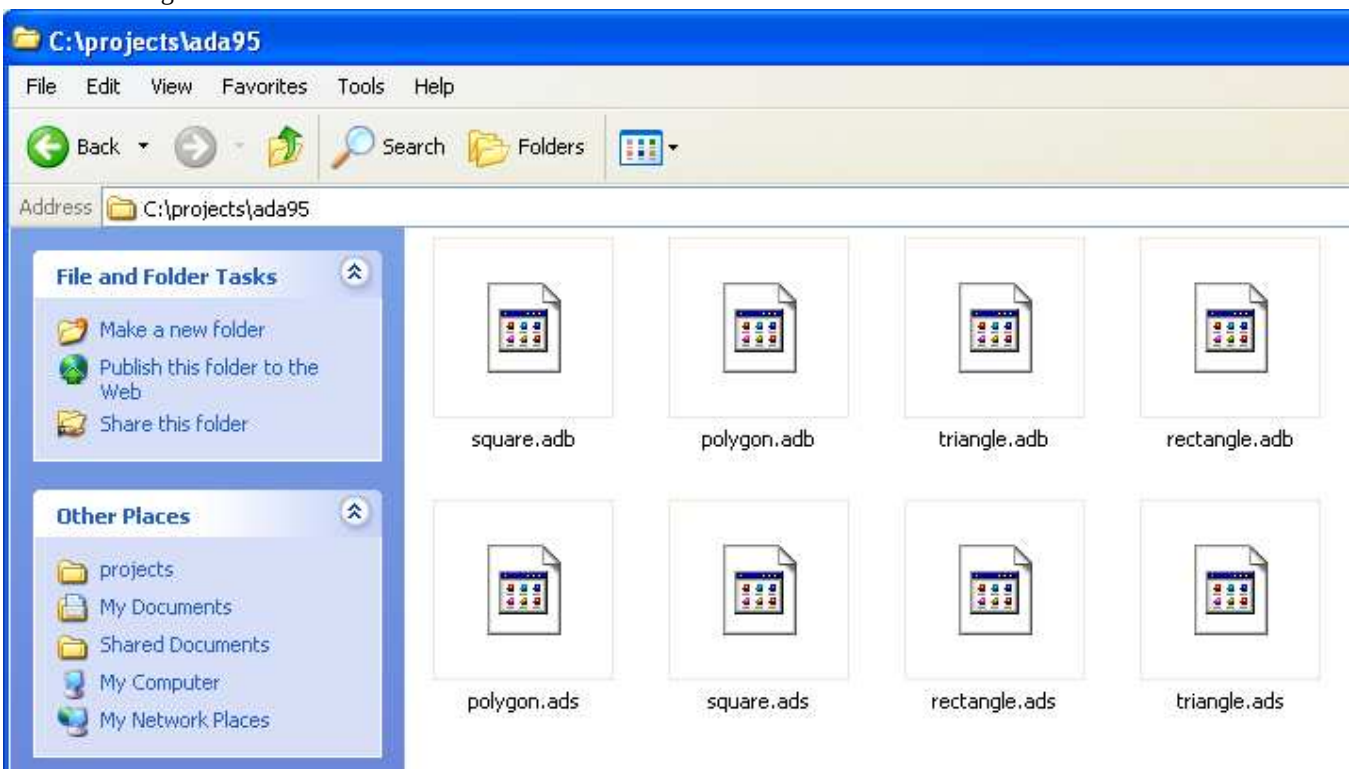



*Figure 10.134 - Ada95 files generated*

# Generating Ruby

SDE for Eclipse can generate Ruby files.
To generate a Ruby file:

1. Open **Instant Generator** dialog for Ruby by clicking **Modeling** > **Instant Generator** > **Ruby...** in the main menu.

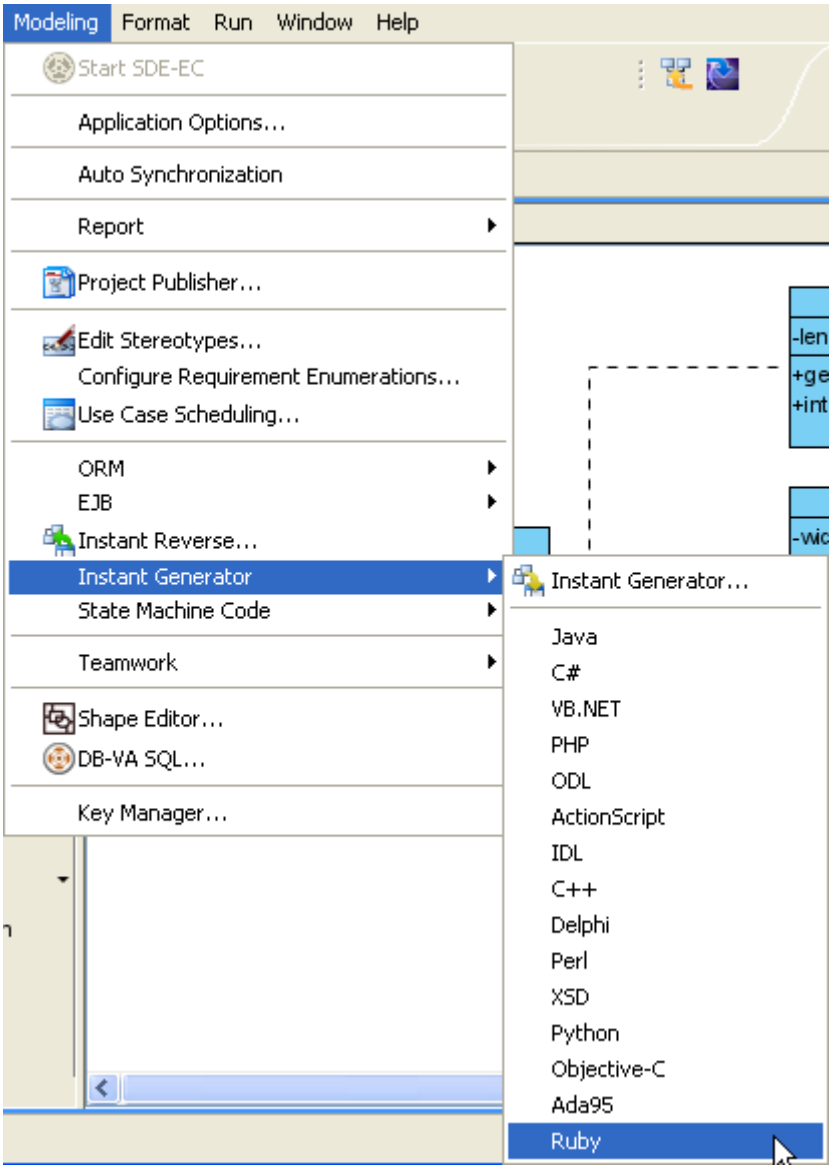



*Figure 10.135 - Open Instant Generator dialog for Ada9x*

2. **Instant Generator** dialog box for Ada95 is displayed.

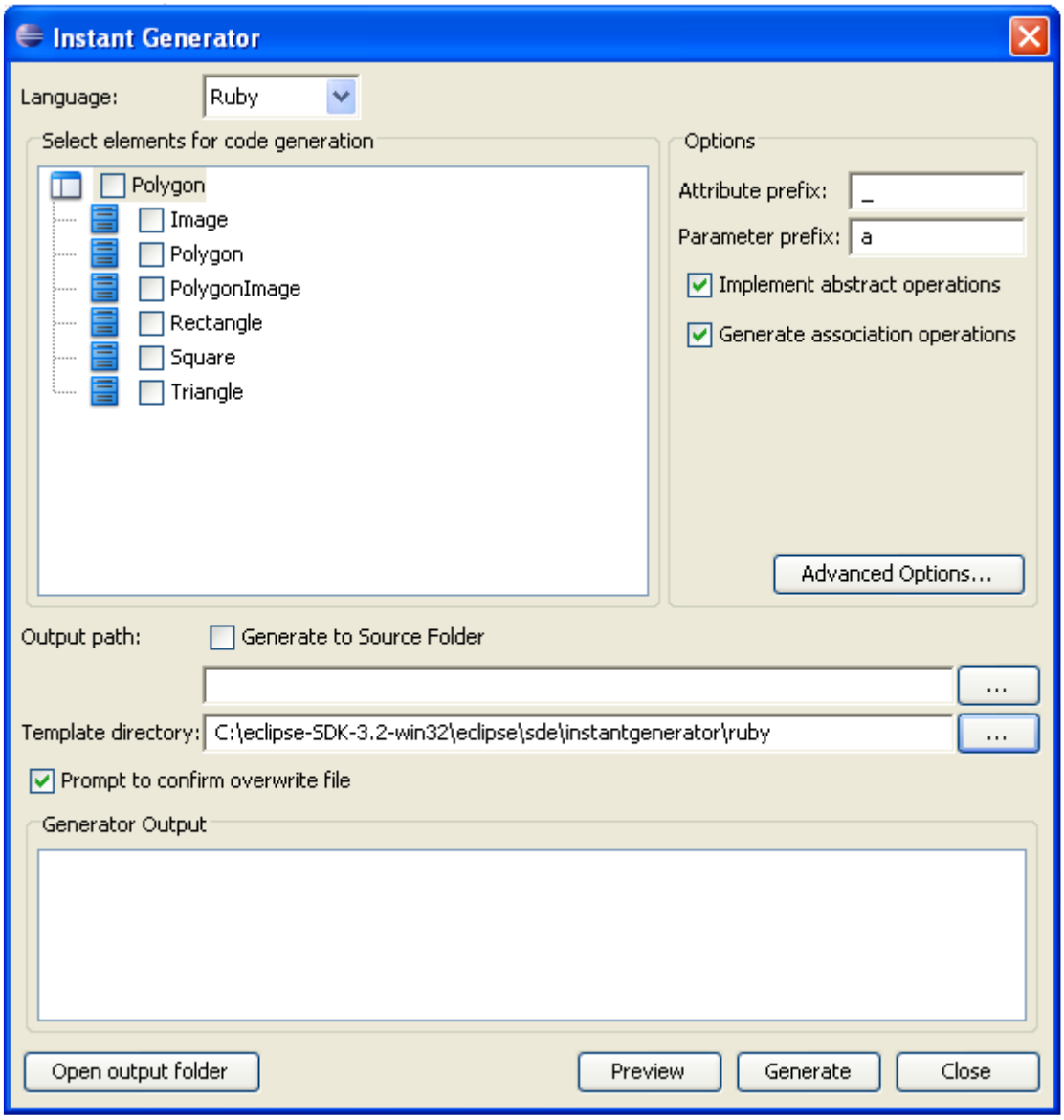



*Figure 10.136 - Instant Generator dialog box*

3. Choose the classes or packages you want to generate .

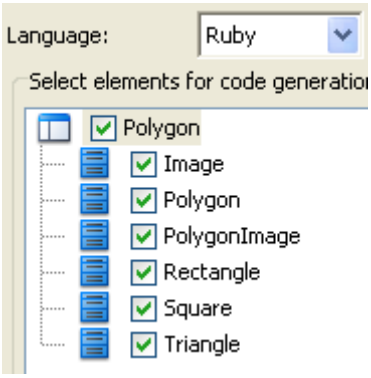



*Figure 10.137 - Choose the classes and packages*

4. Edit the Options.


*Figure 10.138 - Edit the options*

| Name | Description |
|---|---|
| Attribute prefix | Configure the prefix of attribute. |
| Parameter prefix | Configure the prefix of parameter. |
| Implements abstract operations | Check this option to implement abstract operations in generated classes. |
| Generate association operations | If you check this box, when a role is selected to provide setter/getter, the corresponding operation(s) will be generated for the role's attribute. |
| Advanced Options... | Edit the advance options. |

*Table 10.14*

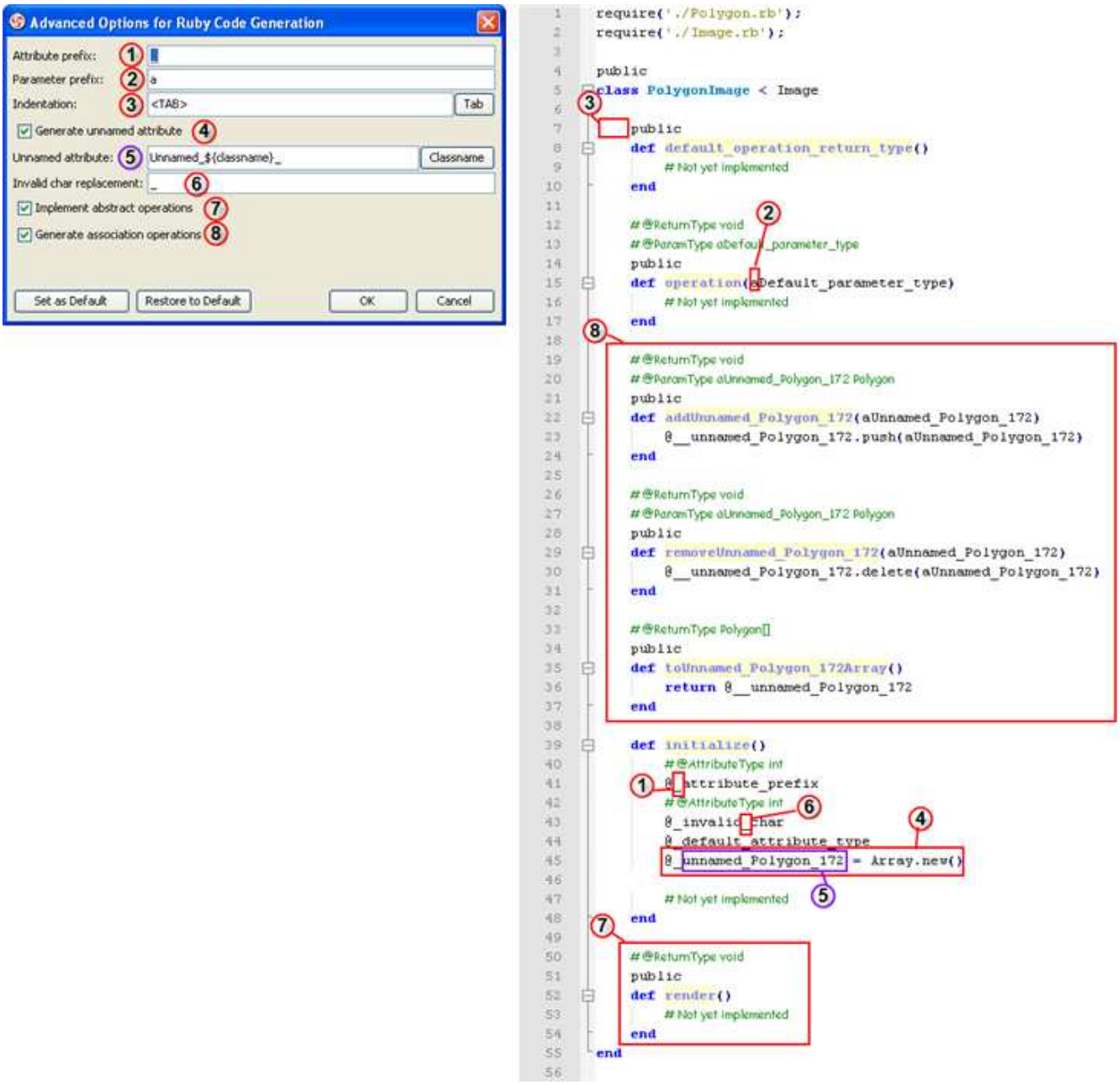



*Figure 10.139 - Example illustrating the functions of different options in Advanced Options*

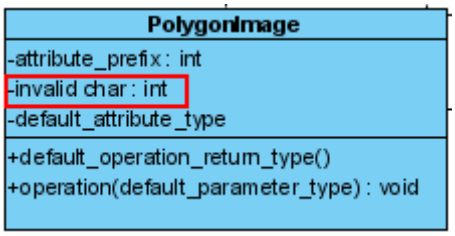



*Figure 10.140 - Diagram of invalid char*

5. Specify the **Output path**. Then, select **Generate** to generate Ada95.

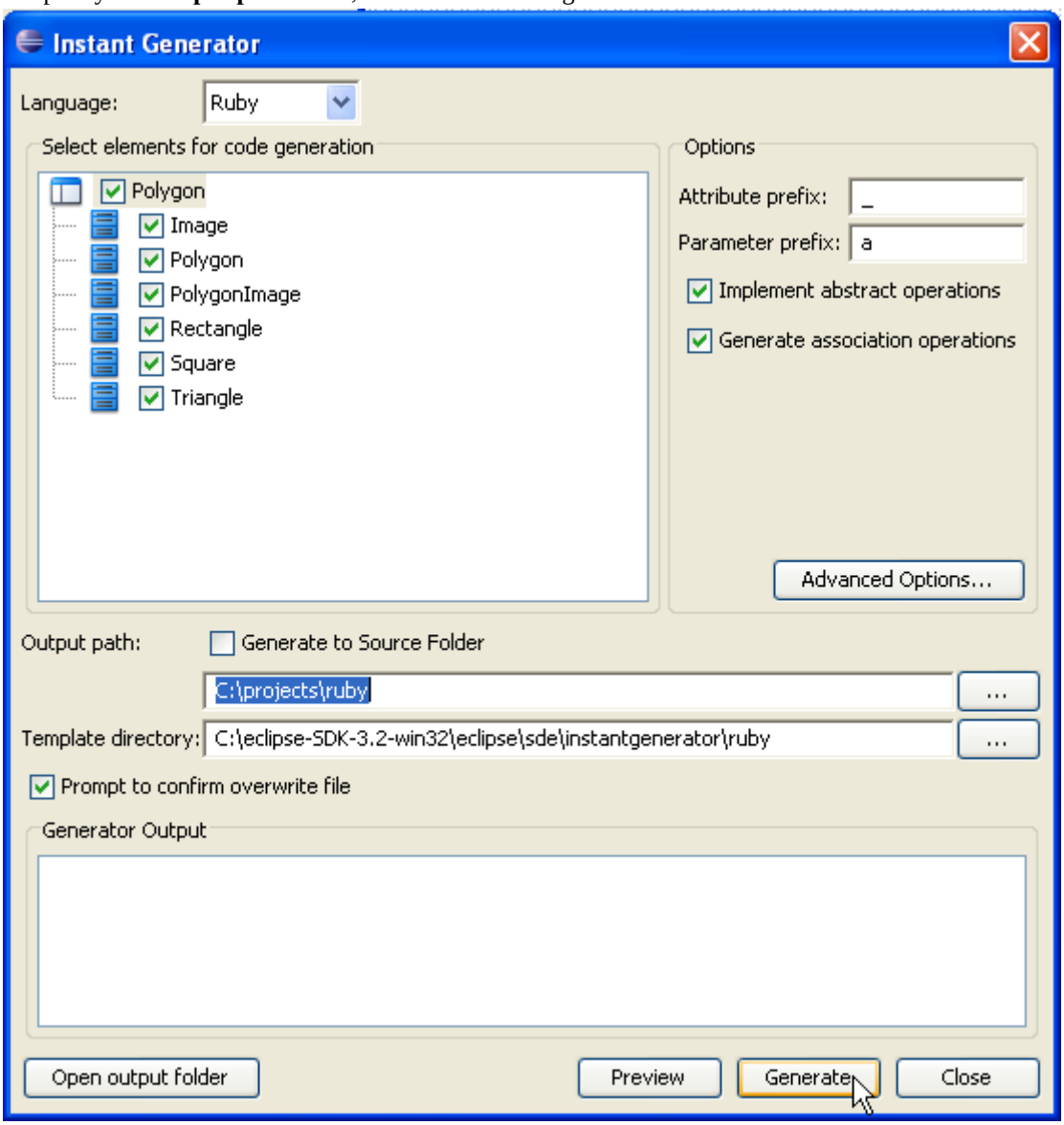



*Figure 10.141 - Select Generate*

6. The progress of generation is shown in the **Generator Output** column. After generation, you can select **Open output folder** to open the output folder generated.

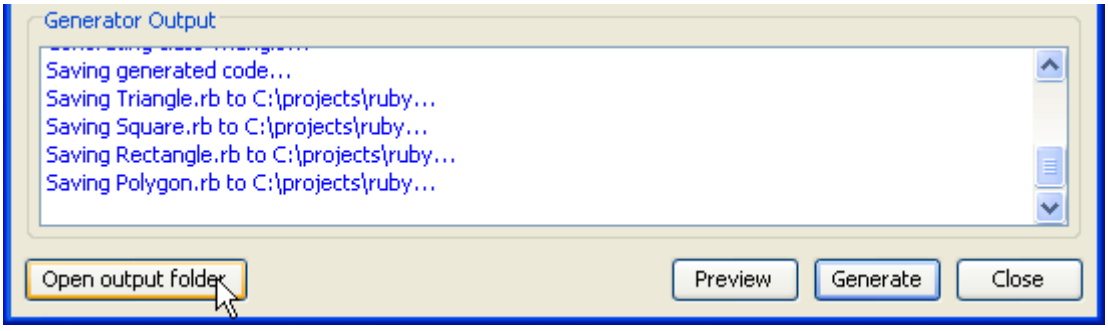



*Figure 10.142 - Open output folder*

7. Ruby files generated.

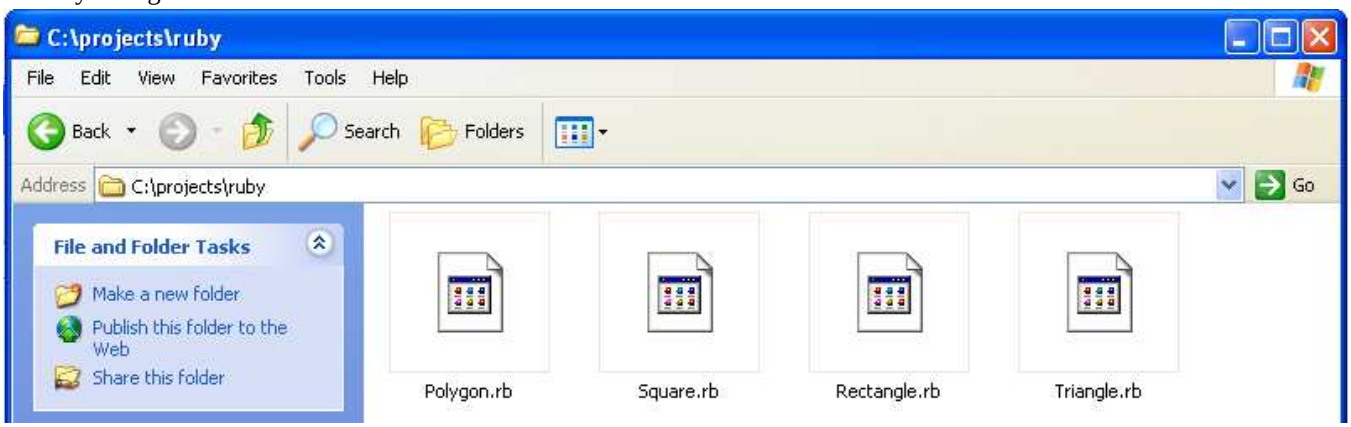



*Figure 10.143 - Ruby files generated*

# 11

# Java Round Trip Engineering

# Chapter 11 - Java Round-Trip Engineering

SDE for Eclipse facilitate the generation and reverse of Java by the Java Round-Trip Engineering.
In this chapter:

- Generating Code
- Reversing Code
- Select in Code/UML
- Round-trip Code Engineering
- Advanced code generation

## Generate Code

You can generate Java using Java round-trip Engineering in SDE for Eclipse.

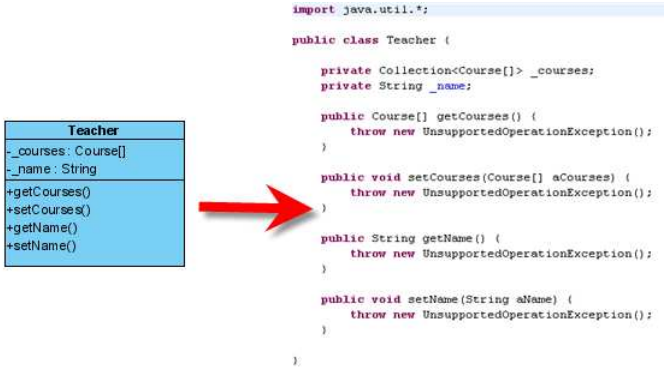



*Figure 11.1 - Generate code*

Here, a class diagram is used as an example to illustrate the steps of generating code.

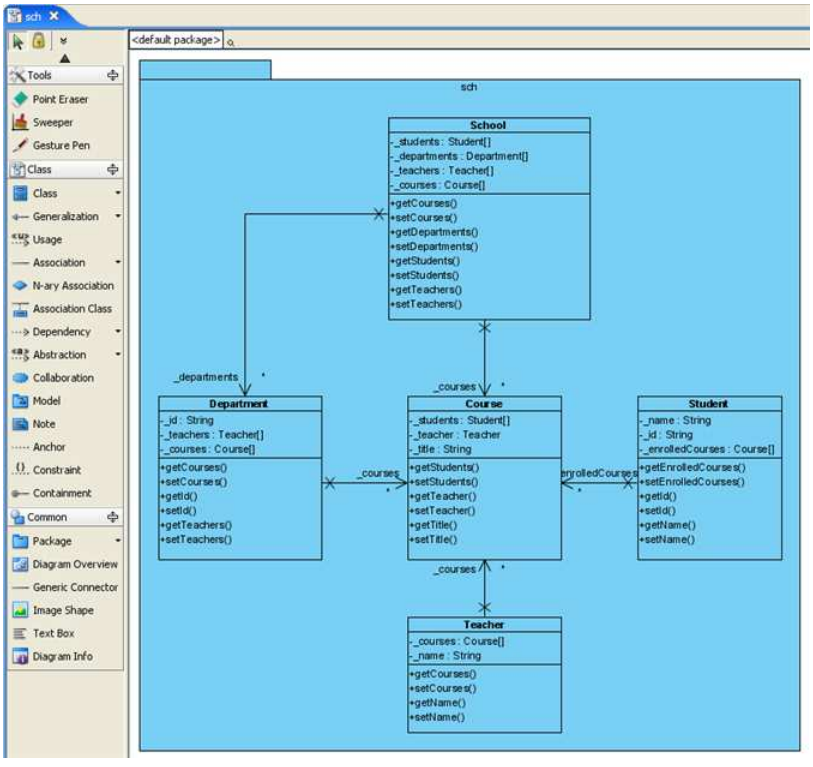



*Figure 11.2 - Class diagram used as an example*

You may generate Java source code from three kinds of sources: project, package and class.

## Generate by Selecting Project

There are several ways of generating code from project. The first one is by clicking **Update Code** in the toolbar.


*Figure 11.3 - Clicking Update Code*

Alternatively, you may select **Update Code** in Diagram Navigator, Model Tree or Class Repository.

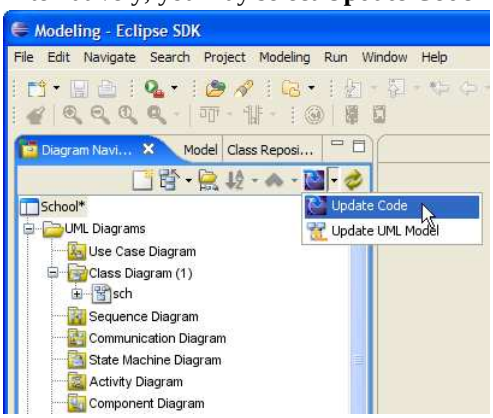



*Figure 11.4 - Selecting Update Code*

You may also right-click on the project node in Diagram Navigator, Model Tree or Class Repository, and then select **Update Project to Code** from the popup menu.

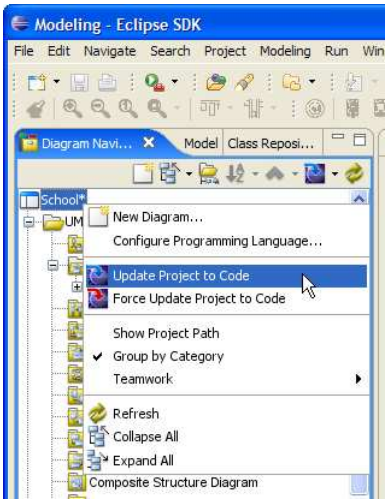



*Figure 11.5 - Selecting Update Project to Code*

This will result in generating code from all the classes models under the project.

## Generate by Selecting Package

Besides generating all the class models, you may select to generate a package of classes. There are several ways to achieve this. The first one is by right-clicking on a package in Diagram Navigator, Model Tree or Class Repository, and then by selecting **Update to Code** from the popup menu.

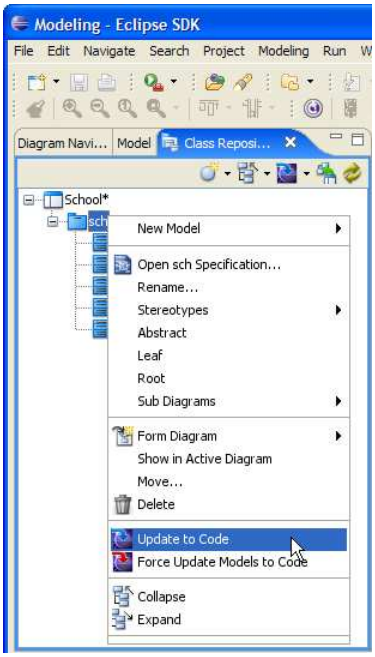



*Figure 11.6 - Selecting Update to Code*

You may also right-click on a package on diagram, and select **Update to Code** from the popup menu.

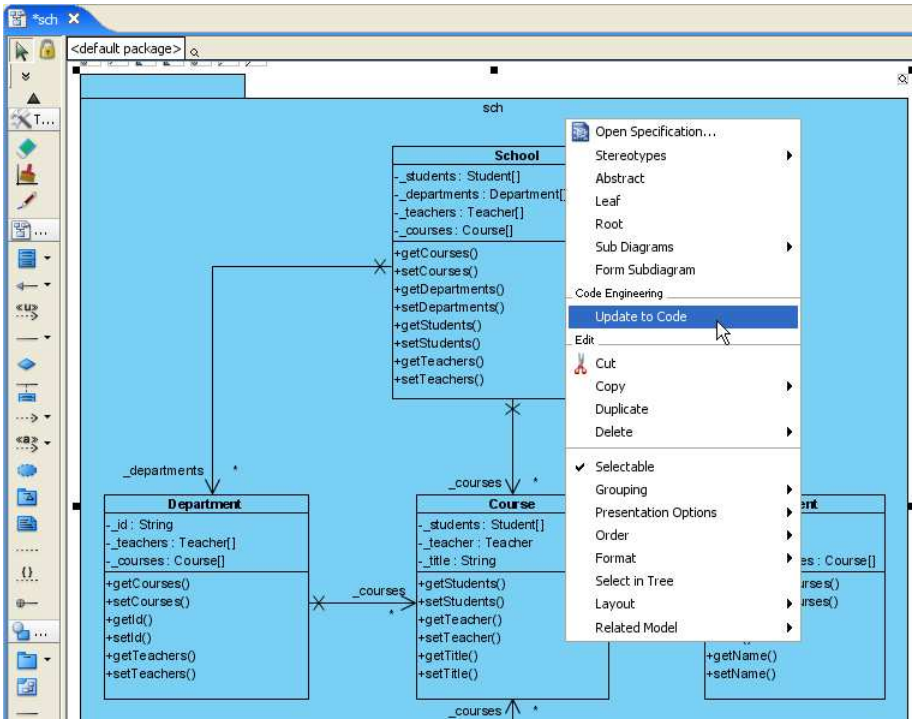



*Figure 11.7 - Selecting Update to Code from the popup menu of a package on diagram*

Both approaches will result in generating code from the selected package and the class models under it.

## Generate by Selecting Class

You may also select to generate code from specific classes. The first way to achieve this is by right-clicking on a class in Diagram Navigator, Model Tree or Class Repository, and selecting **Update to Code** from the popup menu.

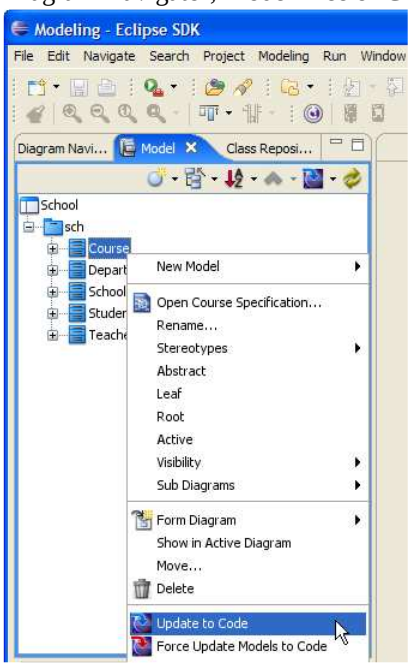



*Figure 11.8 - Selecting Update to Code*

Alternatively, right-click on a class on diagram, and select **Update to Code** from the popup menu.

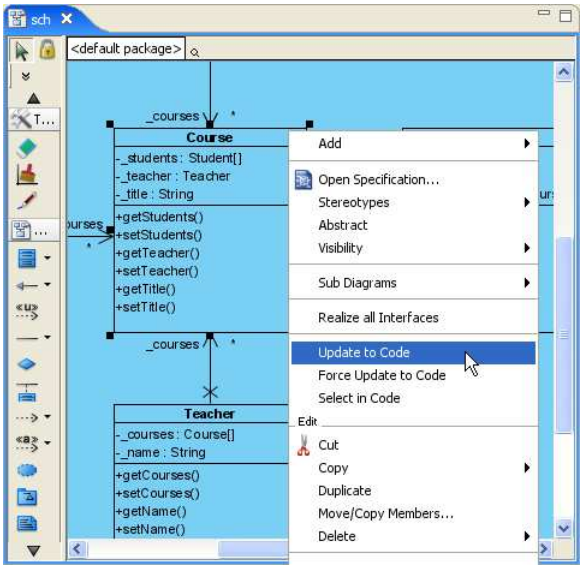



*Figure 11.9 - Selecting Update to Code*

This will generate code from the selected class model.

# Reverse Code

You can reverse class model using Java round-trip Engineering in SDE for Eclipse.

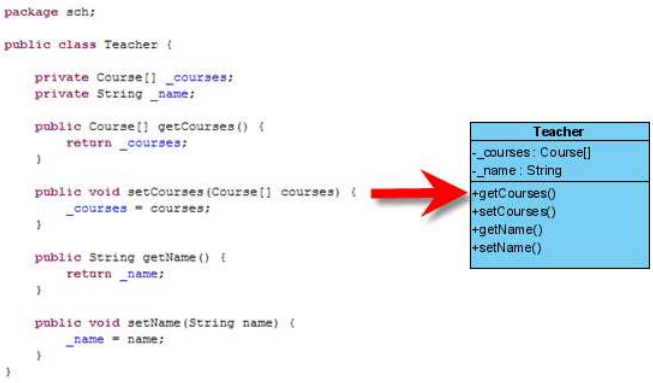



*Figure 11.10 - Reverse code*

Here, a class called Professor which created in the IDE is used as an example.

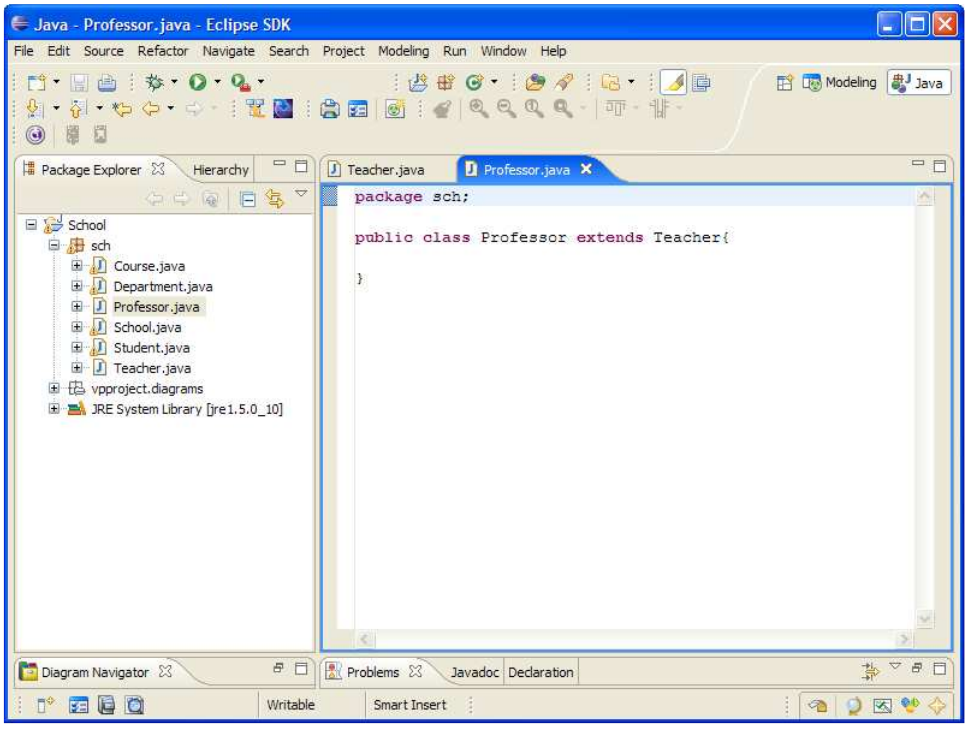



*Figure 11.11 - Java source of Professor.java*

You may reverse Java source code from three kinds of sources: project, package and class.

## Reverse by Selecting Project

There are several ways of reversing code from project. The first one is by clicking **Update UML Model** in the toolbar.


*Figure 11.12 - Selecting Update UML Model*

Alternatively, you may select **Update UML Model** in Diagram Navigator, Model Tree or Class Repository.

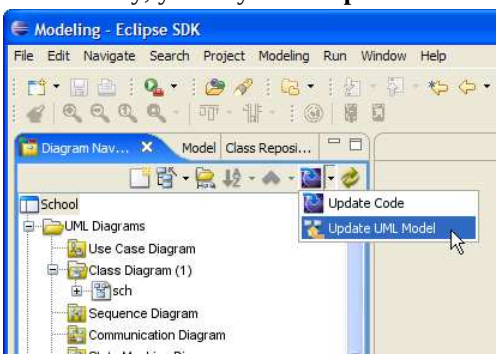



*Figure 11.13 - Selecting Update UML Model*

You may also right-click on the project node under the Package Explorer, and then select **Update UML Model** from the popup menu.

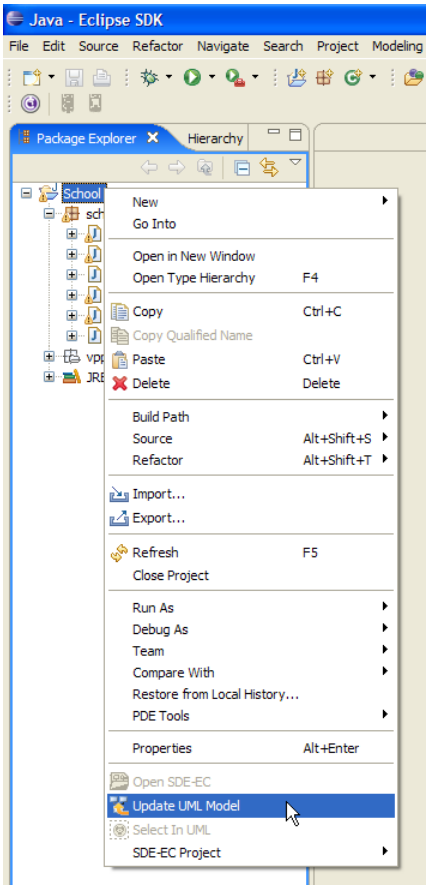



*Figure 11.14 - Selecting Update UML Model*

This will result in reversing all the classes and packages defined under the source project.

## Reverse by Selecting Package

Besides generating all the class models, you may select to generate a package of classes by right-clicking on a package node under the source project, and then by selecting **Update UML Model** from the popup menu.

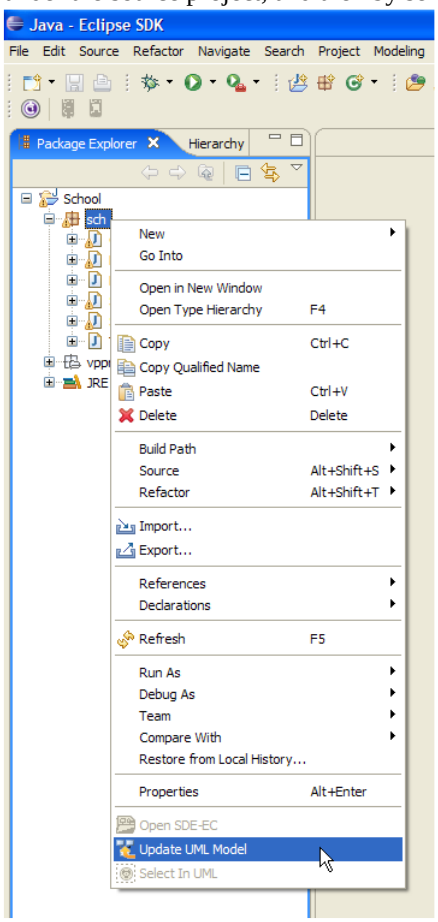



*Figure 11.15 - Selecting Update UML Model*

This will result in reversing the selected package, its contained classes, and its subpackages.

## Reverse by Selecting Class

You may also select to reverse from specific classes. The first way to achieve this is by right-clicking on a class node under the source package, and selecting **Update UML Model** from the popup menu.

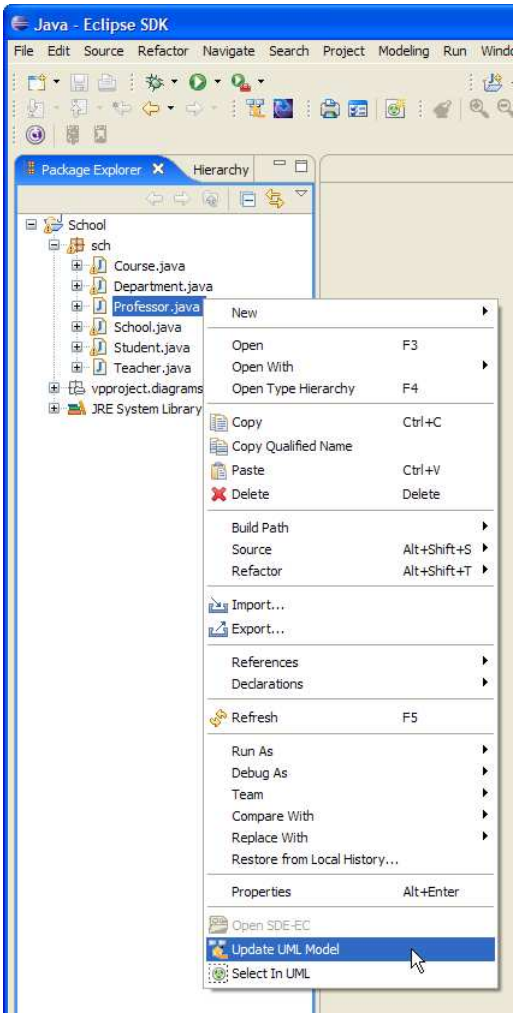



*Figure 11.16 - Selecting Update UML Model*

Alternatively, right-click on the code editor, and select **Update UML Model** from the popup menu.

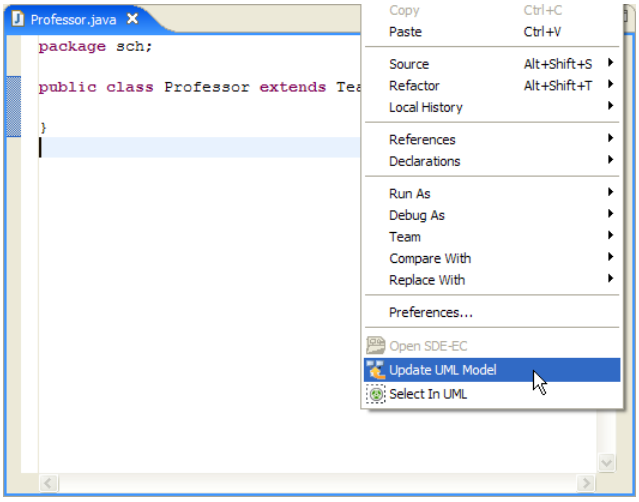



*Figure 11.17 - Selecting Update UML Model*

This will reverse the selected class into UML class model.

## Forming Diagram from Reversed Model

UML class models are formed by reverse engineering. They can be used to form a new class diagram. To form a class diagram from the class models:

1. Select from Model Tree or Class Repository the class models to be included in the new diagram.
2. Right-click on the selection
3. Select **Form Diagram > %OPTION%** from the popup menu

To add class models to an existing diagram, simply drag them from Model Tree or Class Repository and drop them onto the diagram.

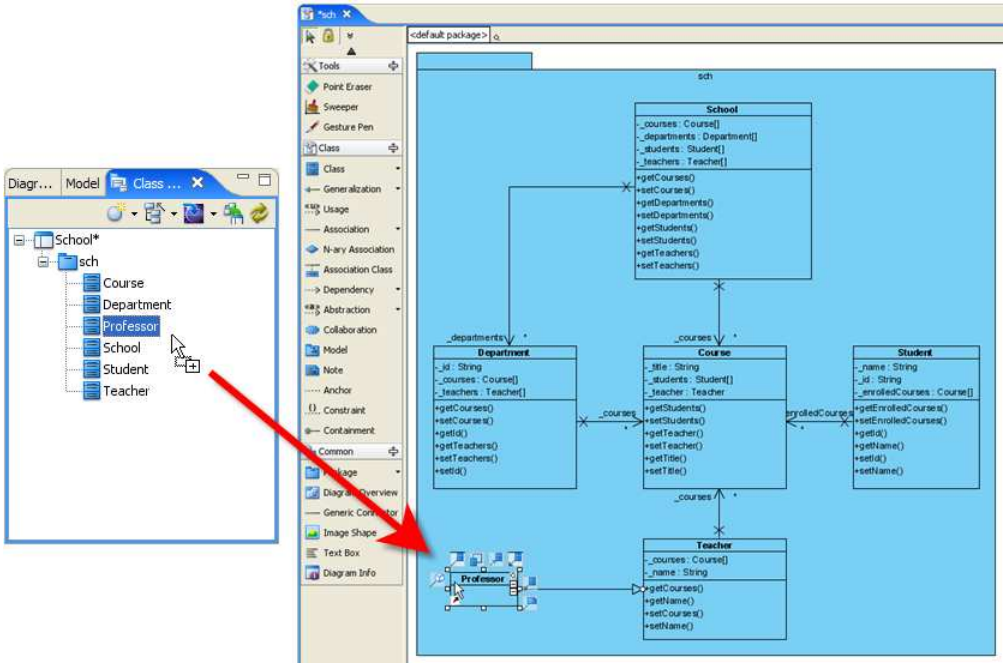



*Figure 11.18 - Drag and drop to add a class model to diagram*

# Select Code from Model

When editing a class or a class member such as attribute or operation, you can open up the corresponding piece of code. By doing so, the code editor will show up and the related portion of code will be highlighted. You can select code from model in different ways:

- Using popup menu of Diagram Navigator, Model Tree or Class Repository
- Using popup menu of class models in diagram

To select code from Model Tree, Class Repository or Diagram Navigator:
Right-click on a class, operation or attribute model under the tree and select Select in Code in the popup menu.

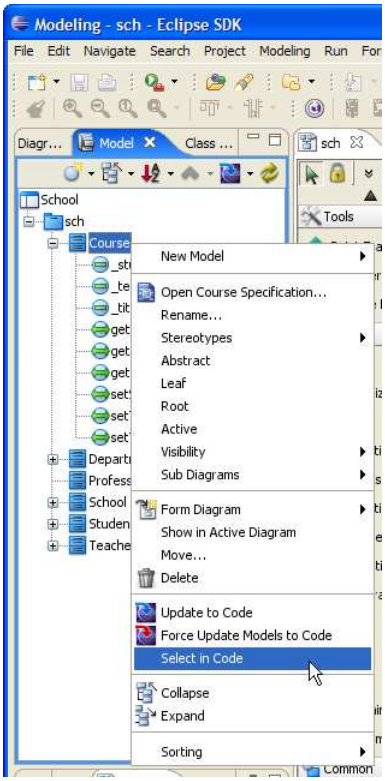



*Figure 11.19 - Selecting code from class model*

To select code from class models in diagram:
Right-click on a class, operation or attribute model in the diagram and select Select in Code in the popup menu.

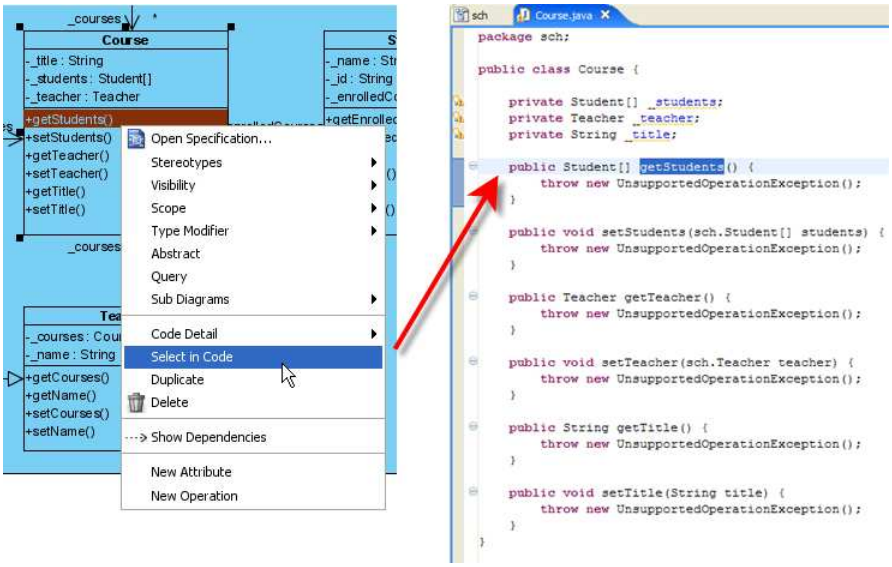



*Figure 11.20 - Selecting code from operation*

Selection cannot be made to project and package.

# Select Model from Code

During implementation, you can select a class model from the code. By doing so, the class model will be selected under the Model Tree and Class Repository. However, selection won't be made to class shape in any diagram. You can select model from code in different ways:

- Using popup menu of Package Explorer
- Using popup menu of code ediitor

To select code from Model Tree, Class Repository or Diagram Navigator:
Right-click on a class, operation or attribute model under the tree and select Select in Code in the popup menu.

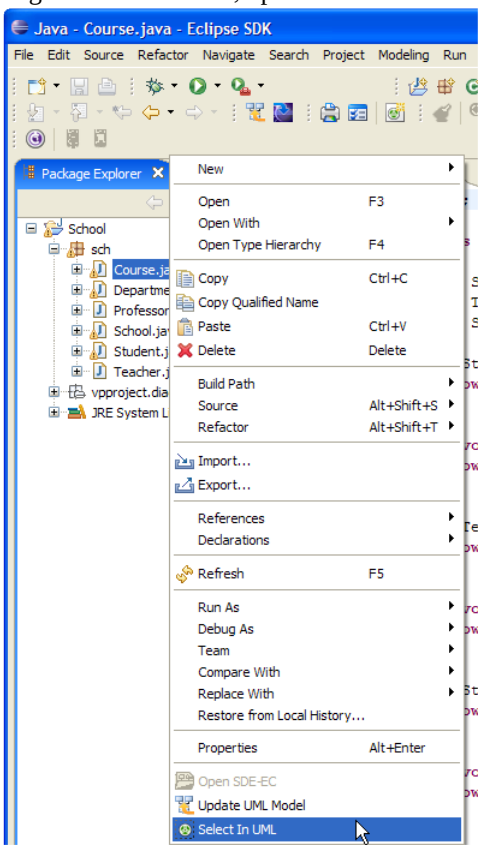



*Figure 11.21 - Selecting class model from code*

To select code from class models in diagram:
Right-click on a class, operation or attribute model in the diagram and select Select in Code in the popup menu.

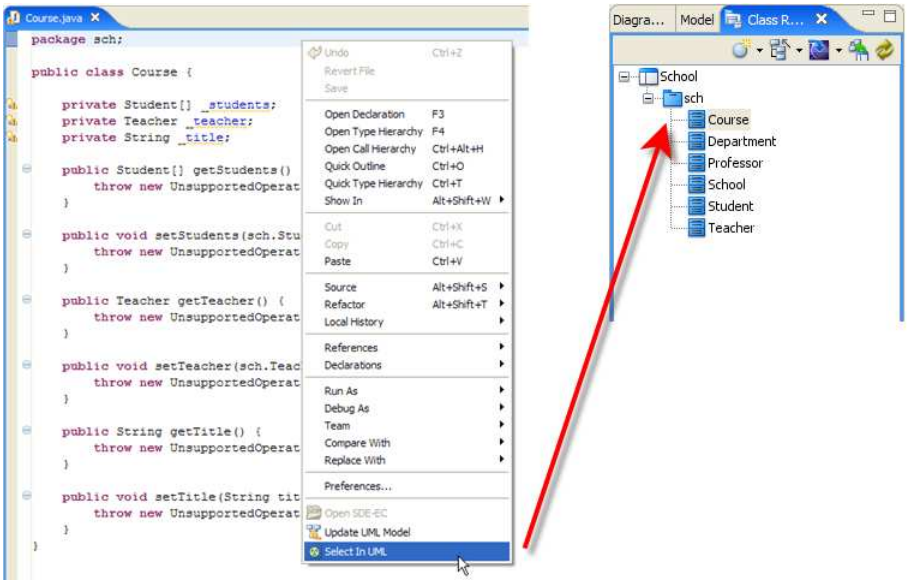



*Figure 11.22 - Selecting class model from code*

Note Selection cannot be made to project, package, attribute and operation.

# Round-trip Code Engineering

Here, the Java round-trip Engineering is shown.

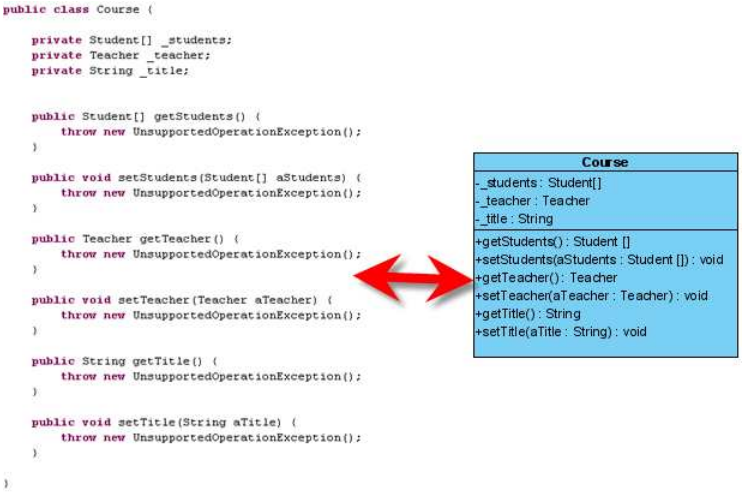
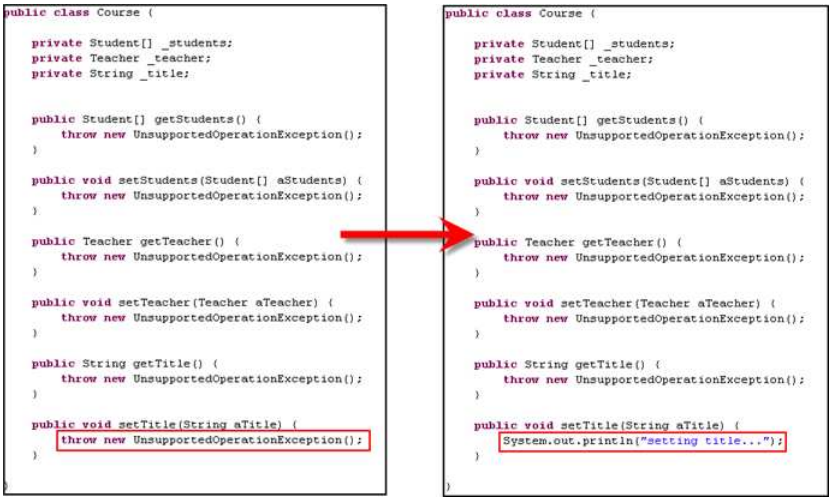



*Figure 11.23 - Java round-trip Engineering*

In order to demonstrate the round-trip code engineering, the source of a generated Java file is amended. First, a statement is amended in the source.



```
public class Course {

    private Student[] _students;
    private Teacher _teacher;
    private String _title;


    public Student[] getStudents() {
        throw new UnsupportedOperationException();
    }

    public void setStudents(Student[] aStudents) {
        throw new UnsupportedOperationException();
    }

    public Teacher getTeacher() {
        throw new UnsupportedOperationException();
    }

    public void setTeacher(Teacher aTeacher) {
        throw new UnsupportedOperationException();
    }

    public String getTitle() {
        throw new UnsupportedOperationException();
    }

    public void setTitle(String aTitle) {
        throw new UnsupportedOperationException();
    }
}
```

```
public class Course {

    private Student[] _students;
    private Teacher _teacher;
    private String _title;


    public Student[] getStudents() {
        throw new UnsupportedOperationException();
    }

    public void setStudents(Student[] aStudents) {
        throw new UnsupportedOperationException();
    }

    public Teacher getTeacher() {
        throw new UnsupportedOperationException();
    }

    public void setTeacher(Teacher aTeacher) {
        throw new UnsupportedOperationException();
    }

    public String getTitle() {
        throw new UnsupportedOperationException();
    }

    public void setTitle(String aTitle) {
        System.out.println("setting title...");
    }
}
```

*Figure 11.24 - Statement amended*

Also, an operation is added.

```
public class Course {

    private Student[] _students;
    private Teacher _teacher;
    private String _title;


    public Student[] getStudents() {
        throw new UnsupportedOperationException();
    }

    public void setStudents(Student[] aStudents) {
        throw new UnsupportedOperationException();
    }

    public Teacher getTeacher() {
        throw new UnsupportedOperationException();
    }

    public void setTeacher(Teacher aTeacher) {
        throw new UnsupportedOperationException();
    }

    public String getTitle() {
        throw new UnsupportedOperationException();
    }

    public void setTitle(String aTitle) {
        System.out.println("setting title...");
    }
}
```

```
public class Course {

    private Student[] _students;
    private Teacher _teacher;
    private String _title;


    public void setCourseCode(String aCourseCode){

    }

    public Student[] getStudents() {
        throw new UnsupportedOperationException();
    }

    public void setStudents(Student[] aStudents) {
        throw new UnsupportedOperationException();
    }

    public Teacher getTeacher() {
        throw new UnsupportedOperationException();
    }

    public void setTeacher(Teacher aTeacher) {
        throw new UnsupportedOperationException();
    }

    public String getTitle() {
        throw new UnsupportedOperationException();
    }

    public void setTitle(String aTitle) {
        System.out.println("setting title...");
    }
}
```

*Figure 11.25 - Class added*

On the other hand, the signature of a class is amended in the diagram.

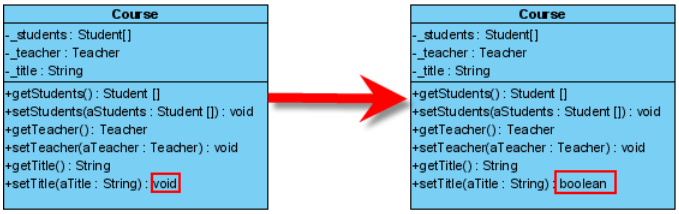



*Figure 11.26 - Signature amended*

After all the changes have been saved, generate to code. The source has been changed. Both the changes in the source and in the diagram are retained.

```
public class Course {

    private Student[] _students;
    private Teacher _teacher;
    private String _title;


    public void setCourseCode(String aCourseCode){

    }

    public Student[] getStudents() {
        throw new UnsupportedOperationException();
    }

    public void setStudents(Student[] aStudents) {
        throw new UnsupportedOperationException();
    }

    public Teacher getTeacher() {
        throw new UnsupportedOperationException();
    }

    public void setTeacher(Teacher aTeacher) {
        throw new UnsupportedOperationException();
    }

    public String getTitle() {
        throw new UnsupportedOperationException();
    }

    public void setTitle(String aTitle) {
        System.out.println("setting title...");
    }
}
```

```
public class Course {

    private Student[] _students;
    private Teacher _teacher;
    private String _title;


    public void setCourseCode(String aCourseCode){

    }

    public Student[] getStudents() {
        throw new UnsupportedOperationException();
    }

    public void setStudents(Student[] aStudents) {
        throw new UnsupportedOperationException();
    }

    public Teacher getTeacher() {
        throw new UnsupportedOperationException();
    }

    public void setTeacher(Teacher aTeacher) {
        throw new UnsupportedOperationException();
    }

    public String getTitle() {
        throw new UnsupportedOperationException();
    }

    public boolean setTitle(String aTitle) {
        System.out.println("setting title...");
    }
}
```

*Figure 11.27 - Source changed*

Now reverse code. The source is reversed into diagram.

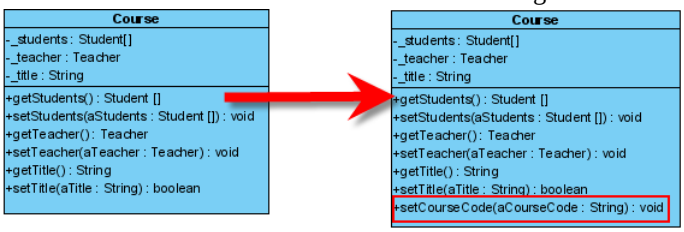



*Figure 11.28 - Class changed*

# Advanced Options

Upon generation of Java code, there are advanced options for you to configure your output with. To open the options dialog:

1. Select **Modeling > Application Options...** from to open the Options dialog box.
2. Open the **Eclipse** category.

You can enable or disable changing to Modeling Perspective when starting SDE-EC by selecting the desired option from the dropdown menu **Change to UML perspective when start SDE-EC**.

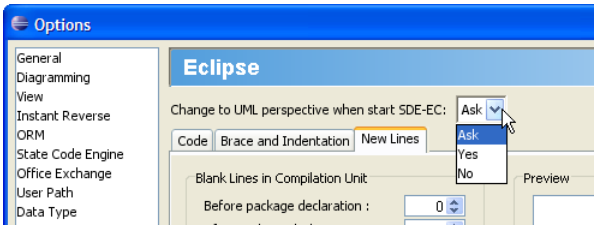



*Figure 11.29 - Change to UML perspective*

There are three tabs.
Code tab

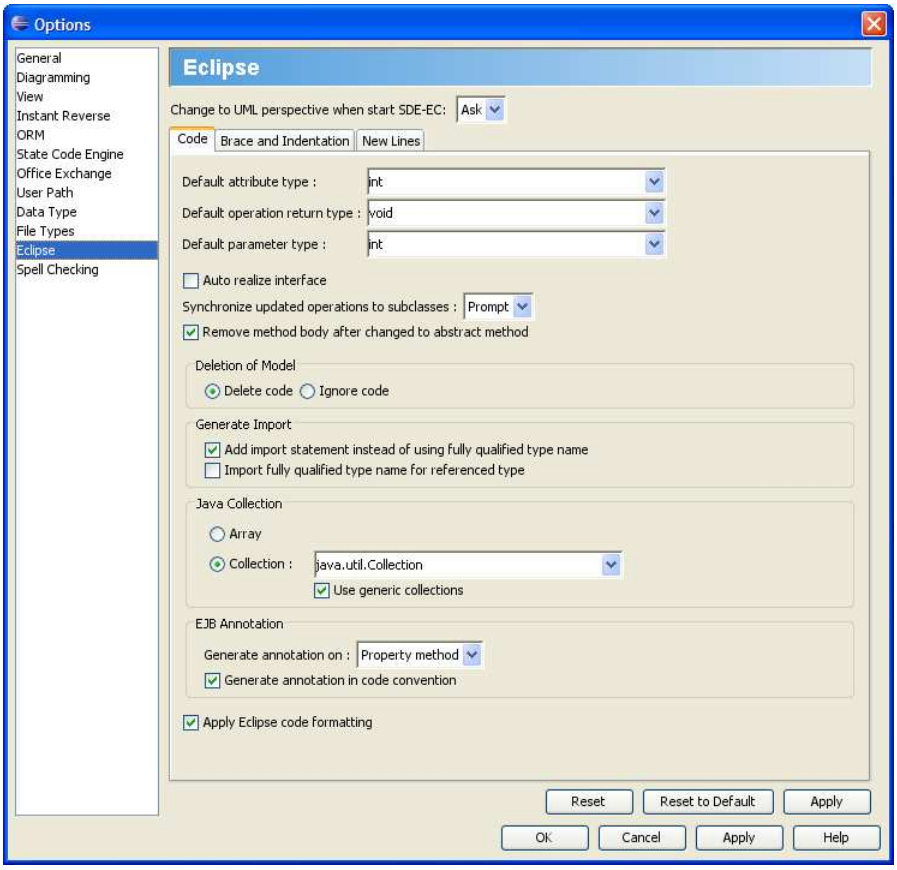



*Figure 11.30 - Code tab*

| Name | Description |
|---|---|
| Default attribute prefix | Configure the default prefix of attribute. |
| Default operation return type | Configure the default return type of operation. |
| Default parameter type | Configure the default prefix of parameter. |
| Remove method body after changes to abstract method | Check the check box to remove method body after change to abstract method. |
| Add import statement instead of using fully qualified type name | Check the check box to add import statement. |
| Import fully qualified type name for referenced type | Check the check box to import fully qualified type name. |
| Auto realize interface | Check the check box to realize interface automatically. |
| Collection type | Select a collection type from the drop down menu. |
| Use generic collections | Check the check box to use generic collections. |
| Generate annotation on | Specify the code generator to generate the annotation in field-based or property-based access type. |
| Generate annotation in code convention | Check the checkbox so that before updating the code, SDE for Eclipse will select suitable placement strategy on either field-based or property-based access type. |
| System default | Select the system default type of text file encoding to type. |
| Other | Select other types of text file encoding to type. |
| Apply Eclipse code formatting | Check the check box to make the generated code follow Eclipse's code formatting. Otherwise, user can defined the code formatting on **Brace and Indentation and New Lines tabs.** |

*Table 11.1*

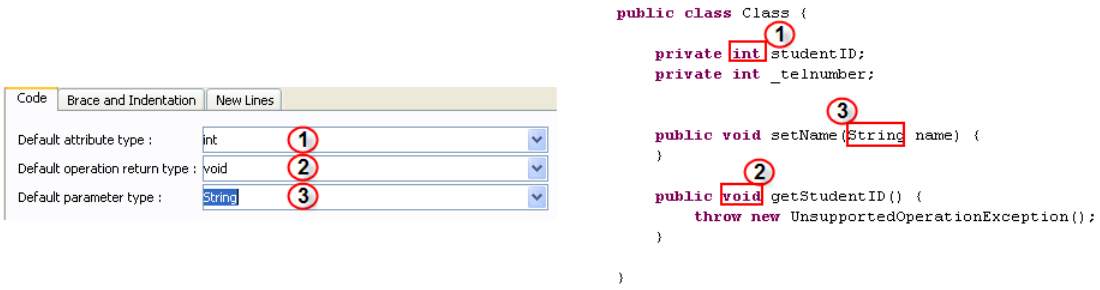



*Figure 11.31 - Example illustrating options in Code tab about default type setting*

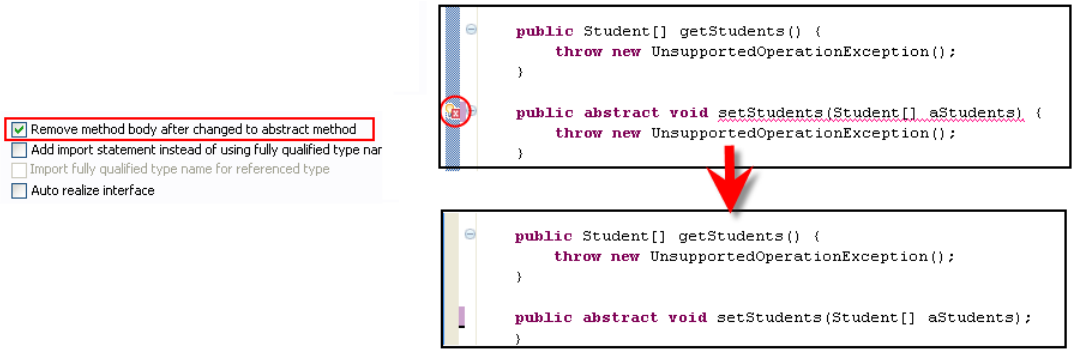



*Figure 11.32 - Example illustrating options in Code tab about Remove method body*

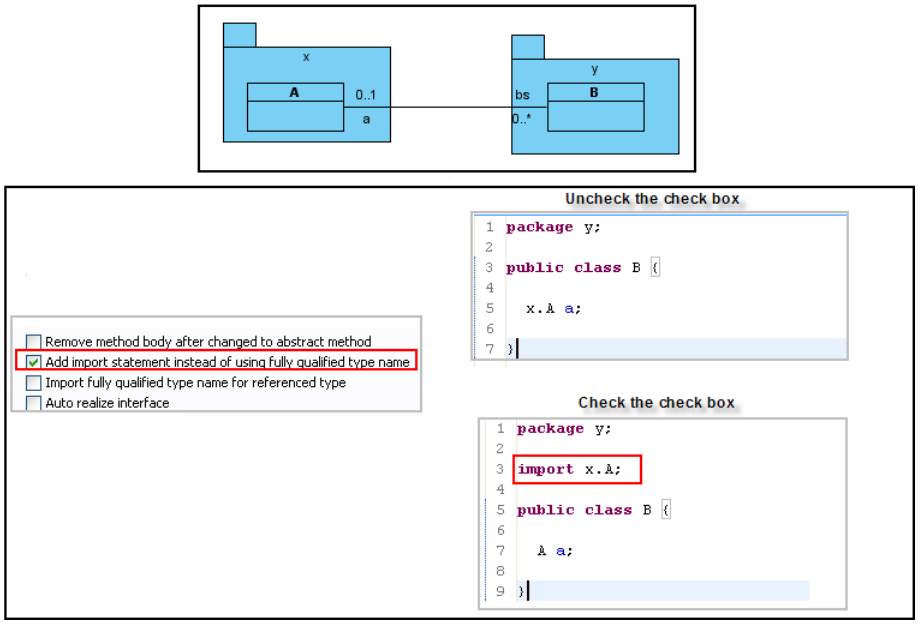



*Figure 11.33 - Example illustrating options in Code tab about Add import statement*

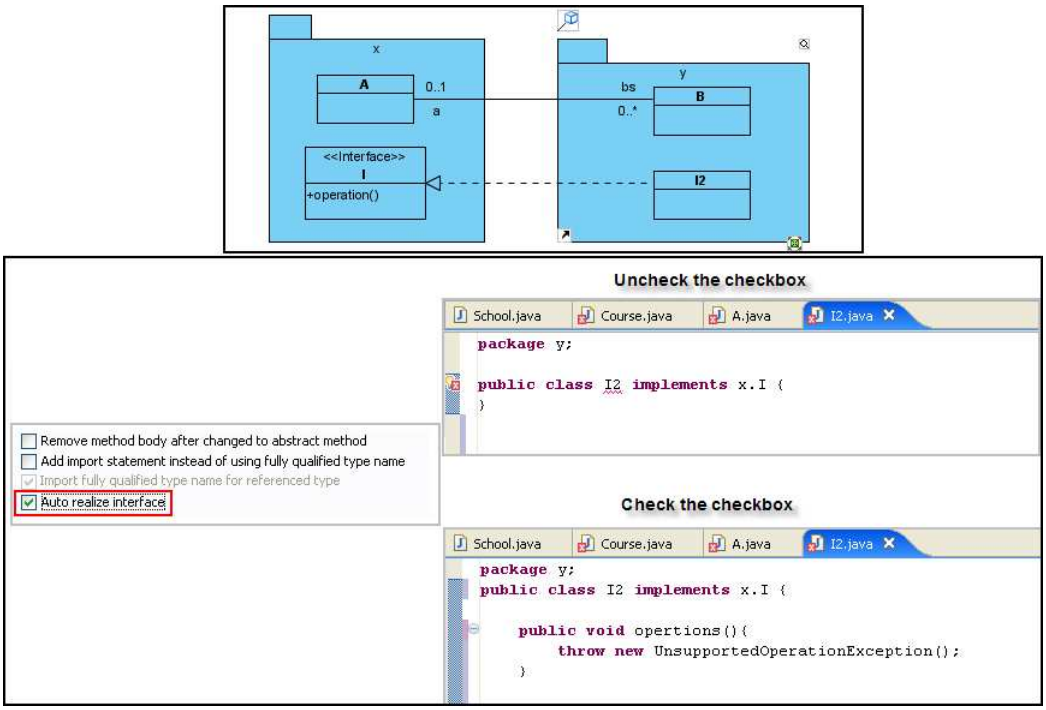



*Figure 11.34 - Example illustrating options in Code tab about Auto realize interface*

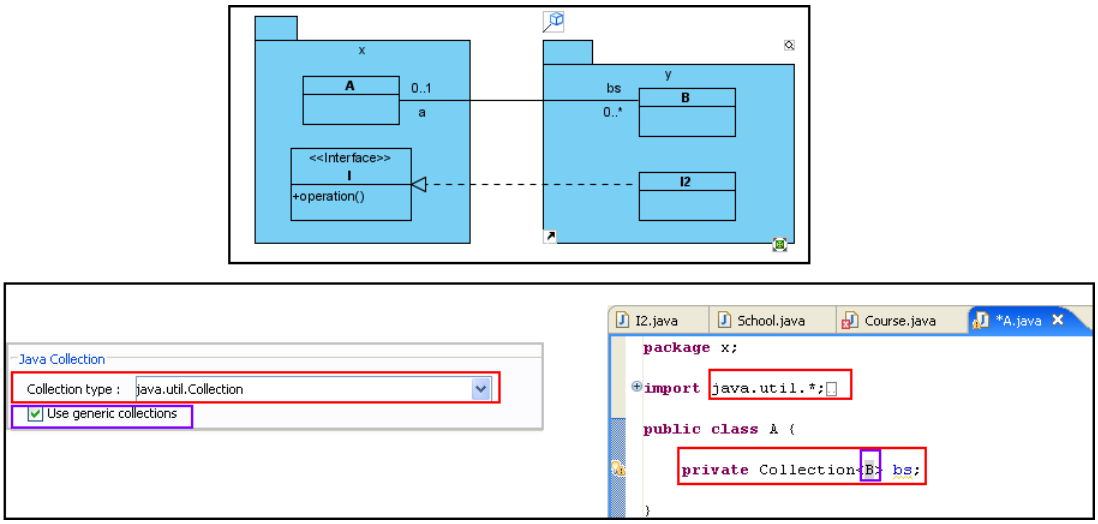



*Figure 11.35 - Example illustrating options in Code tab about Java Collection*

Brace and Indentation tab

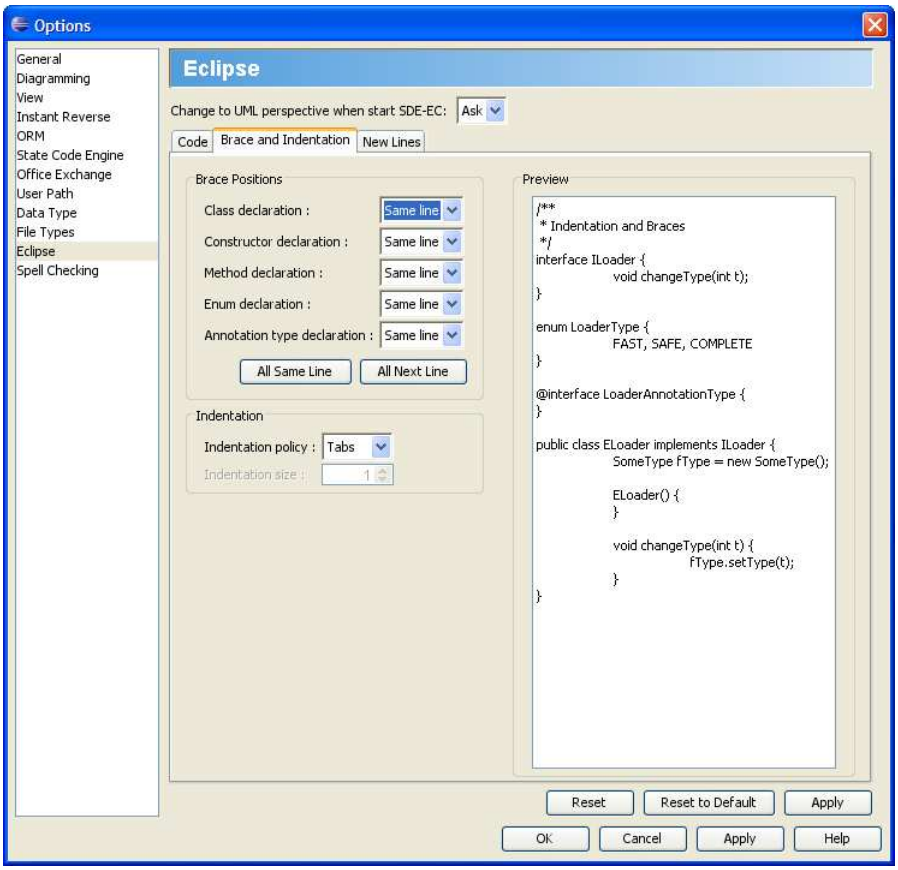



*Figure 11.36 - Brace and Indentation tab*

| Name | Description |
|---|---|
| Class declaration | Select the position of Class declaration from the drop-down menu.<br>You can place it on the same line or the next line. |
| Constructor declaration | Select the position of Constructor declaration drop-down menu.<br>You can place it on the same line or the next line. |
| Method declaration | Select the position of Method declaration drop-down menu.<br>You can place it on the same line or the next line. |
| Enum declaration | Select the position of Enum declaration drop-down menu.<br>You can place it on the same line or the next line. |
| Annotation type declaration | Select the position of Annotation type declaration drop-down menu.<br>You can place it on the same line or the next line. |
| All Same Line | Select to set all the brace positions to be on the same line. |
| All Next Line | Select to set all the brace positions to be on the same line. |
| Indentation policy | Select a way of indentation.<br>You may choose Tabs and space to be the indentation. |
| Indentation size | If you select space as indentation, you can select the size of it. |

*Table 11.2*

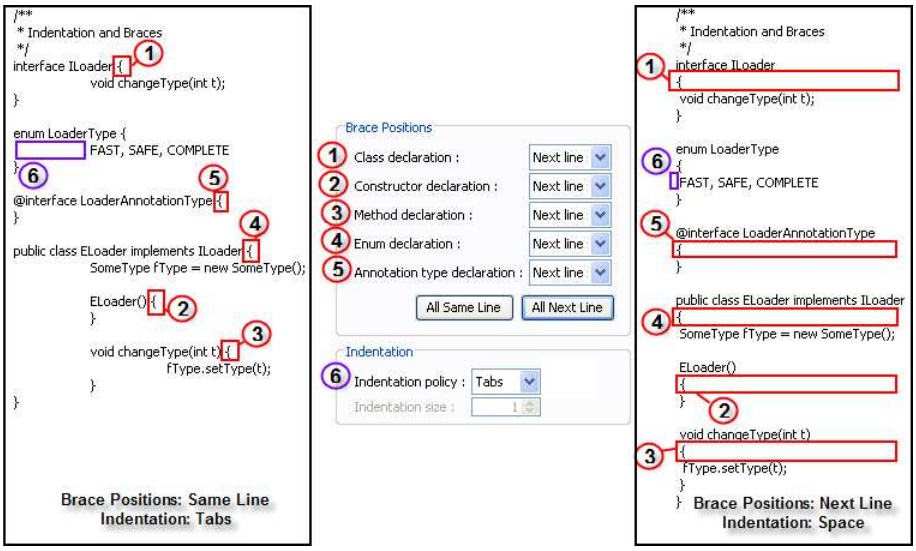



*Figure 11.37 - Example illustrating options in Brace and Indentation tab*

New Lines Tab

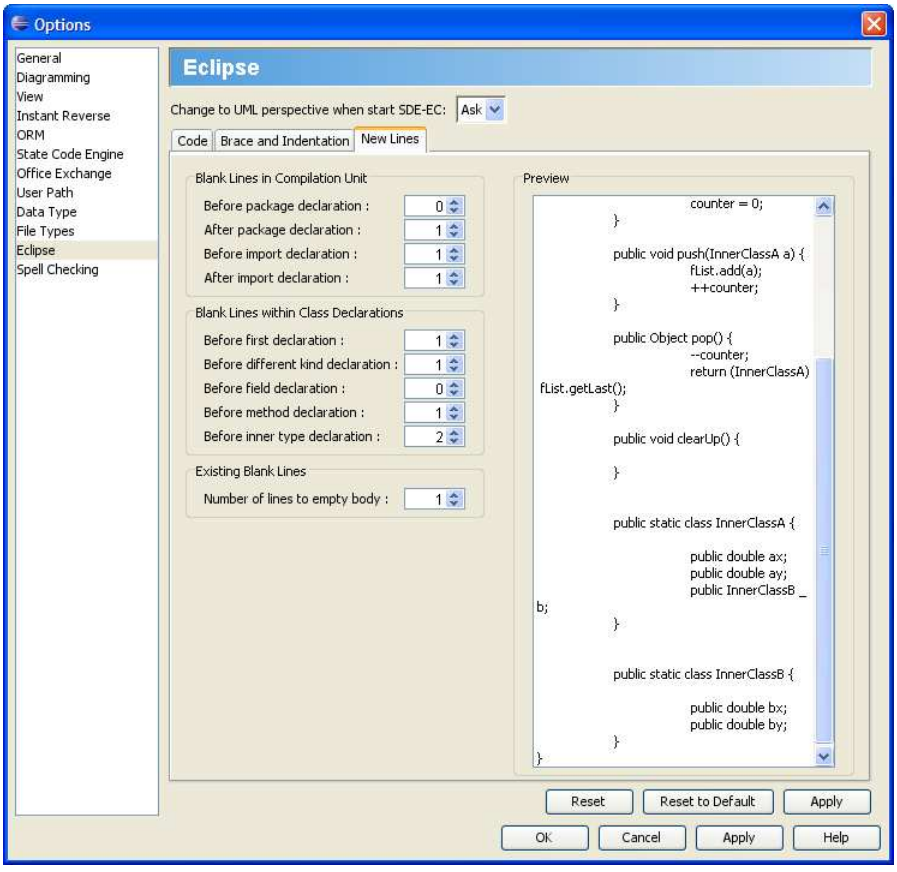



*Figure 11.38 - New Lines Tab*

| Name | Description |
|---|---|
| Before package declaration | Type in the number of blank lines place before package declaration. |
| After package declaration | Type in the number of blank lines place after package declaration. |
| Before import declaration | Type in the number of blank lines place before import declaration. |
| After import declaration | Type in the number of blank lines place after import declaration. |
| Before first declaration | Type in the number of blank lines place before first declaration. |
| Before different kind declaration | Type in the number of blank lines place before different kind declaration. |
| Before field declaration | Type in the number of blank lines place before field declaration. |
| Before method declaration | Type in the number of blank lines place before method declaration. |
| Before inner type declaration | Type in the number of blank lines place before inner type declaration. |
| Number of lines to empty body | Type in the number of blank lines place to the empty body. |

*Table 11.3*

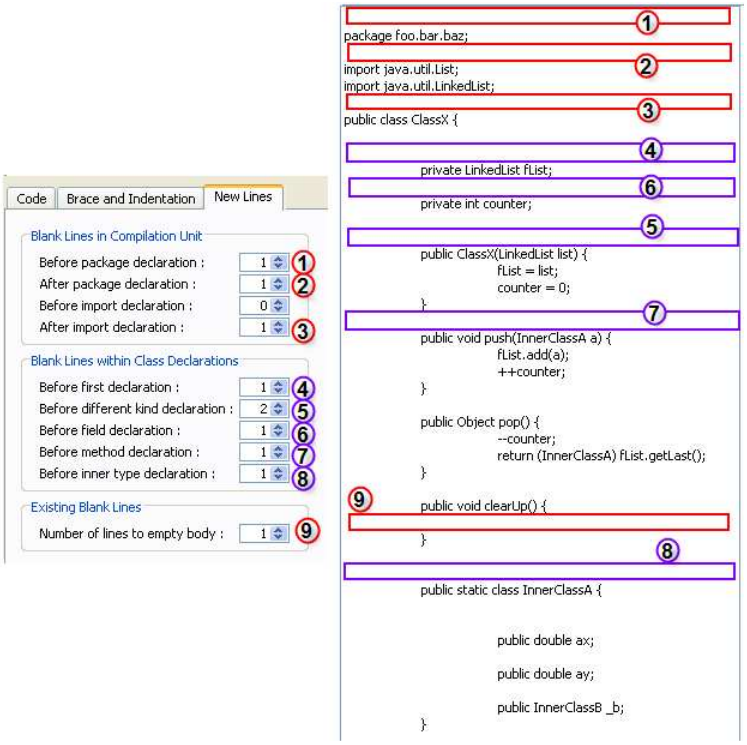



*Figure 11.39 - Example illustrating options in New Lines tab*

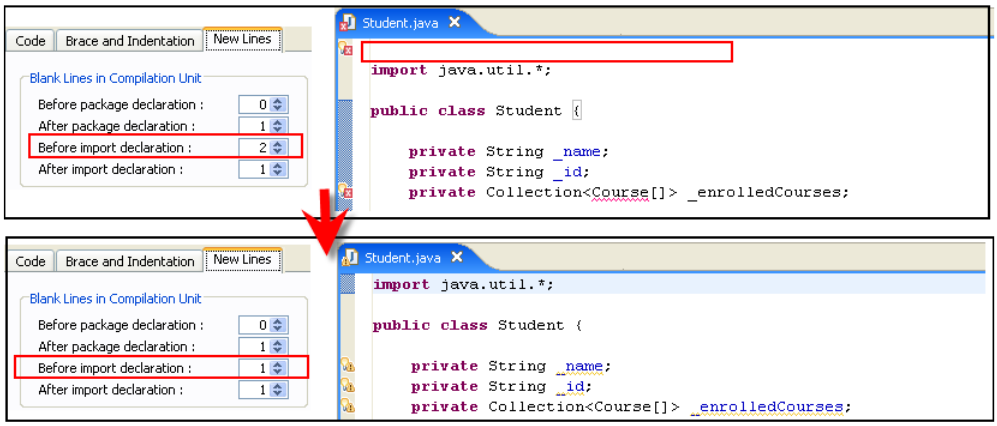



*Figure 11.40 - Example illustrating option in New Lines tab*

# 12 State Machine Diagram Code Generation

# Chapter 12 - State Machine Diagram Code Generation

SDE for Eclipse can assist you in drawing a State Machine Diagram, as well as generate a State Machine Diagram Code.

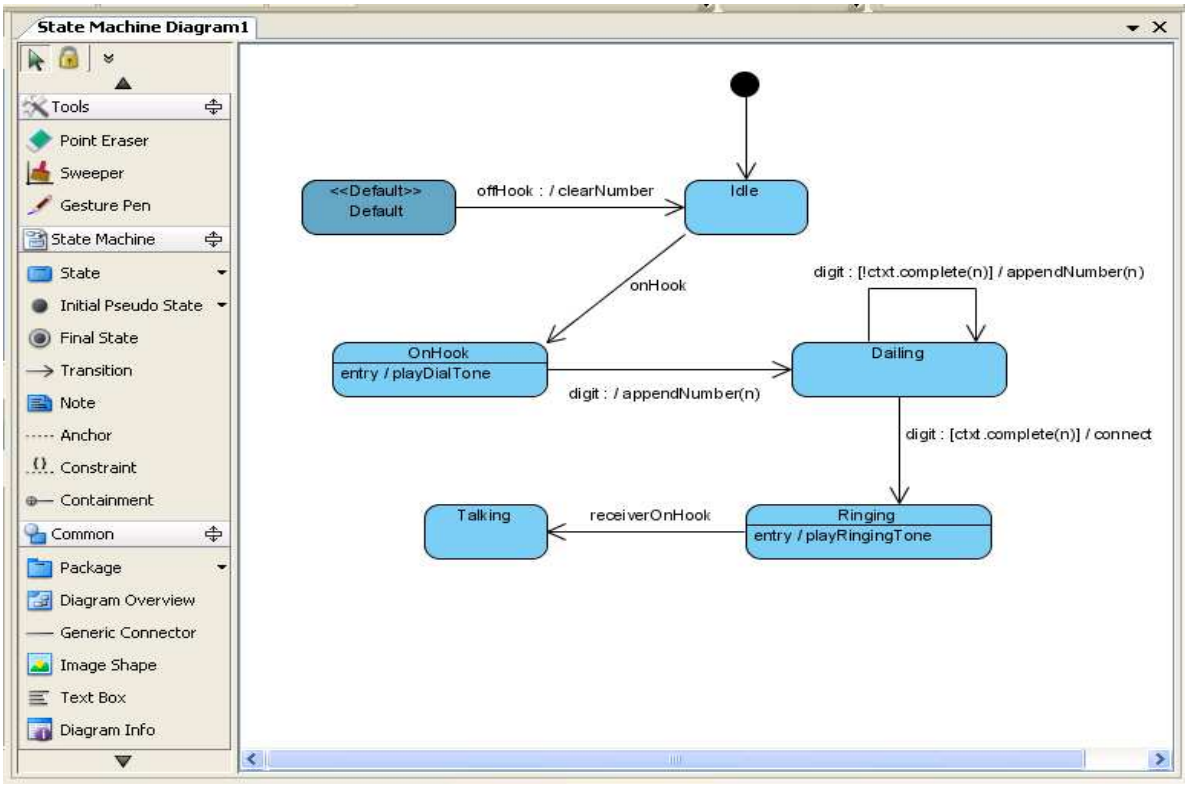



*Figure 12.1 - State Machine Diagram*

# Drawing State Machine Diagram

To generate a state machine diagram, you should first have a Class on the class diagram. Select **Sub Diagrams** > **State Machine Diagram** > **Create State Machine Diagram** from the pop-down menu of the class to create a sub diagram.

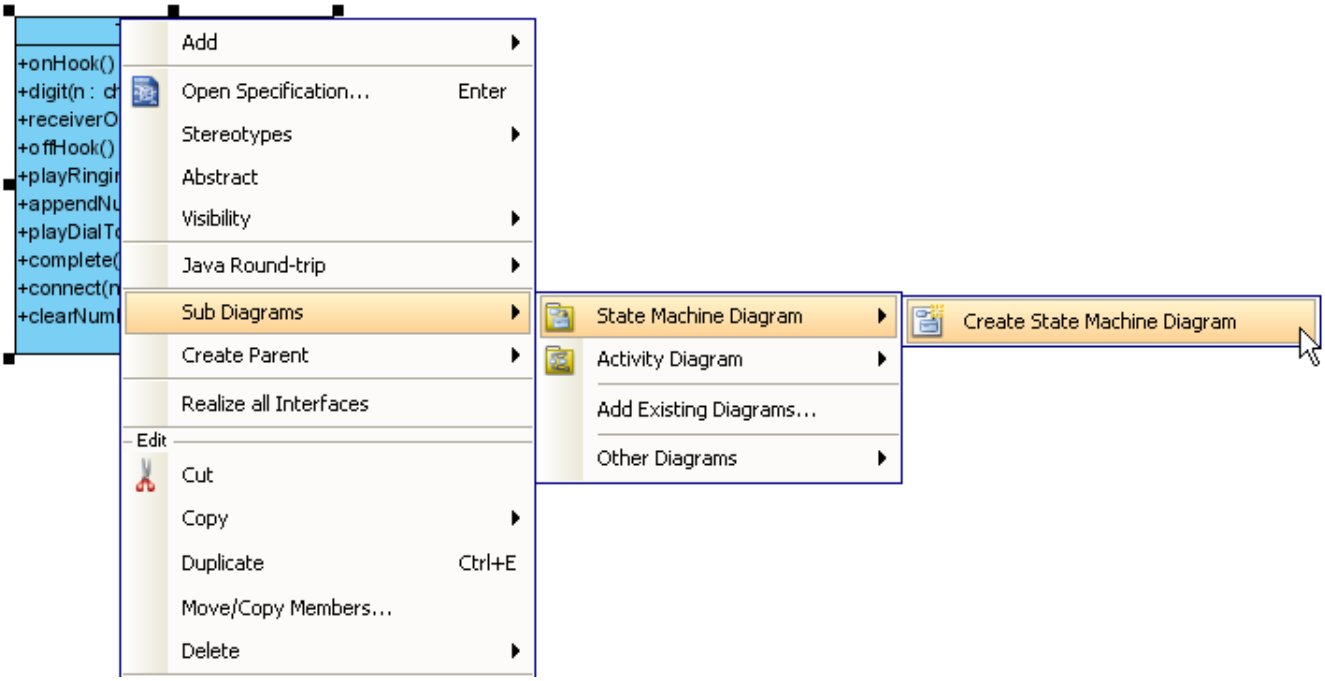



*Figure 12.2 - Select Create State Machine Diagram*

You will see an initial pseudo state on the state machine diagram.

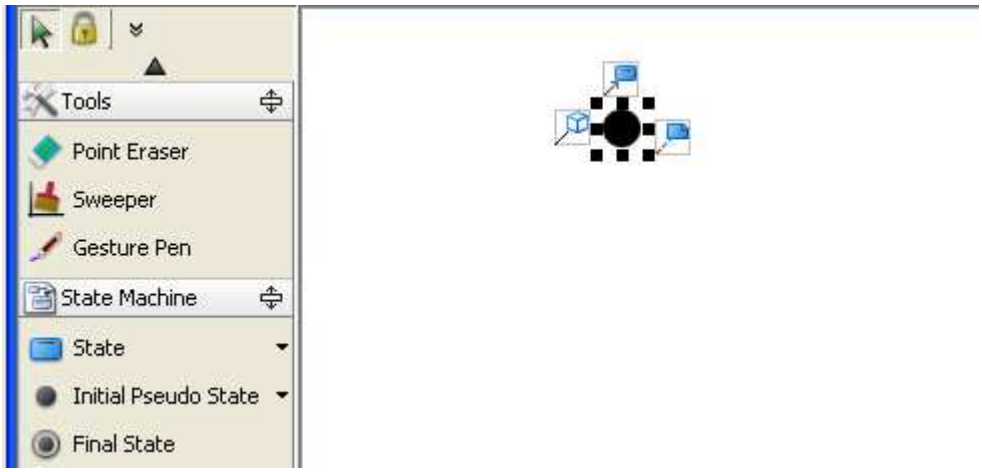



*Figure 12.3 - State machine diagram with an initial pseudo state*

Drag a State from the diagram toolbar and drop the diagram.

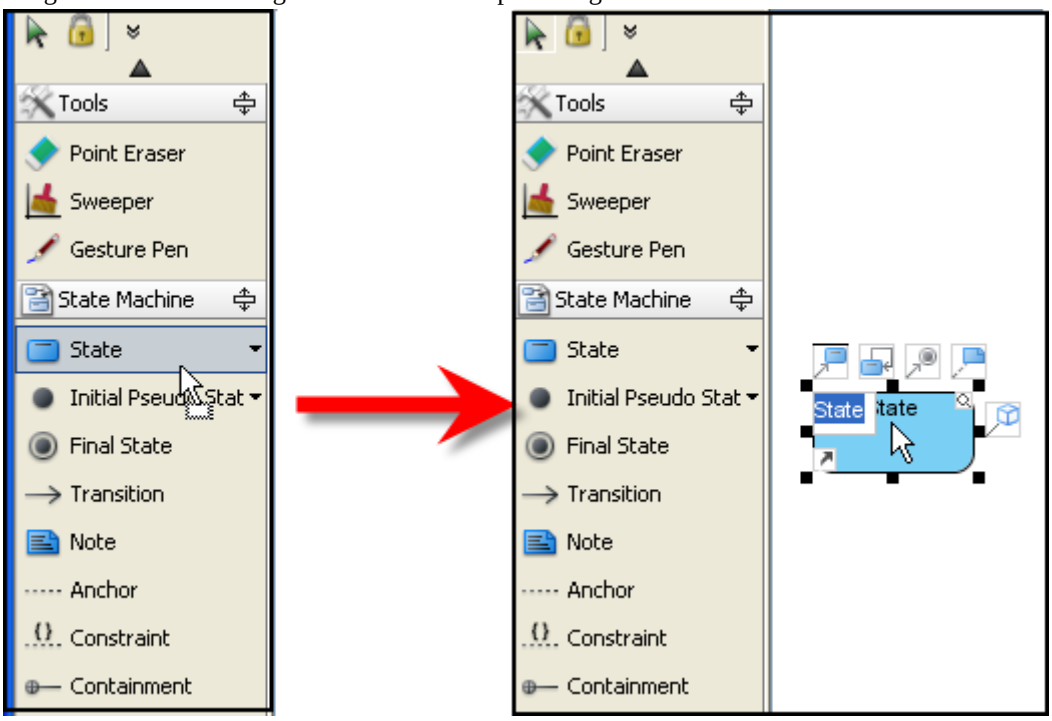



*Figure 12.4 - Drag and drop a State*

Alternatively, you can use the resources of the initial pseudo state.

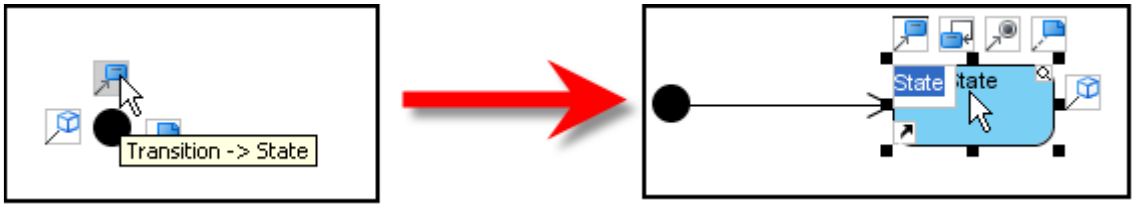



*Figure 12.5 - Using resources*

A diagram can then be created.

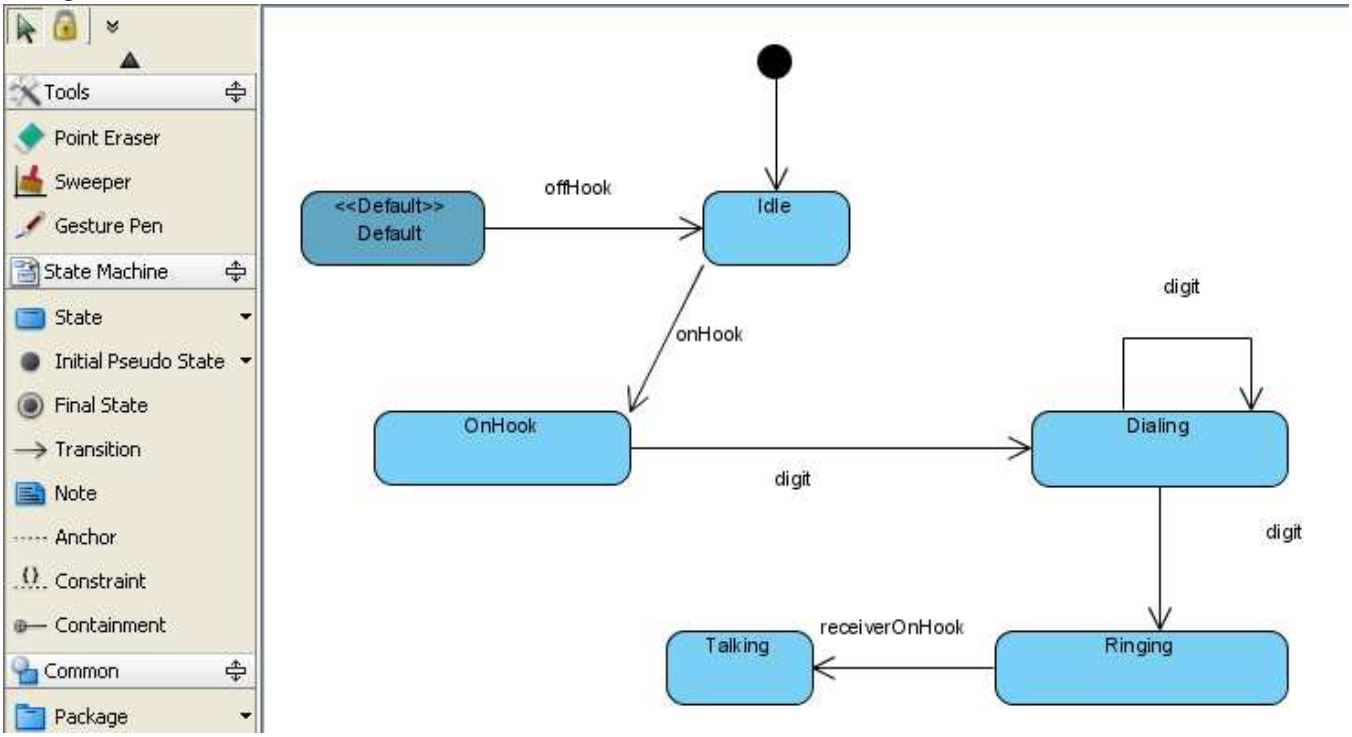



*Figure 12.6 - Diagram created*

# Generate State Machine Code

The process of creating a State Machine Code is simple.
To generate a state machine code:
1. Select **Modeling** > **State Machine Code** > **Generate Code** from the main menu.

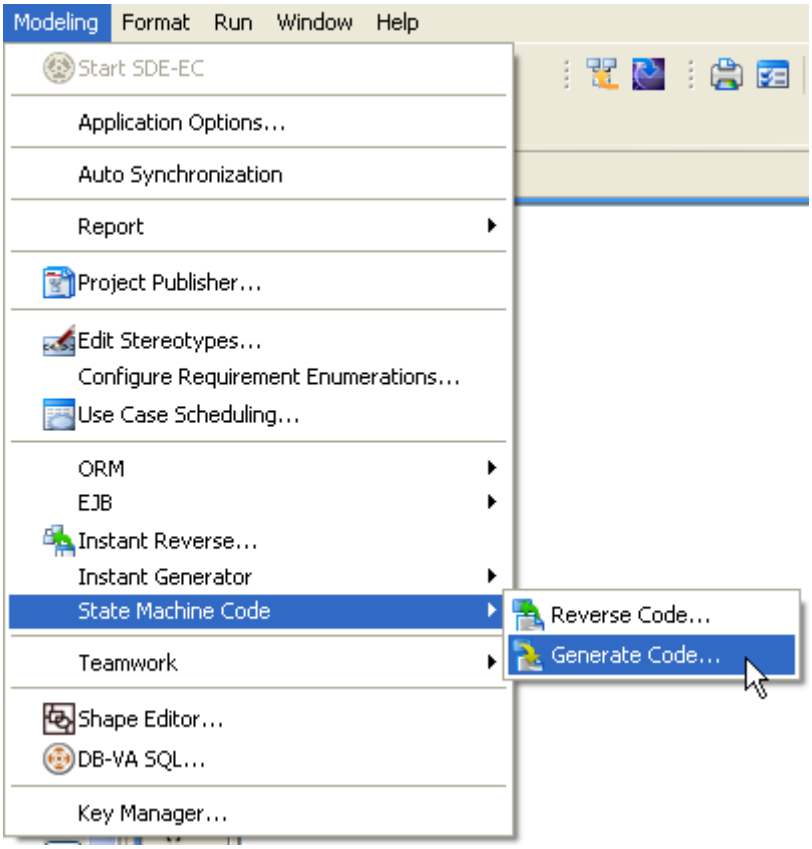



*Figure 12.7 - Select Generate Code...*

2. The **Generate state machine code** dialog is displayed.

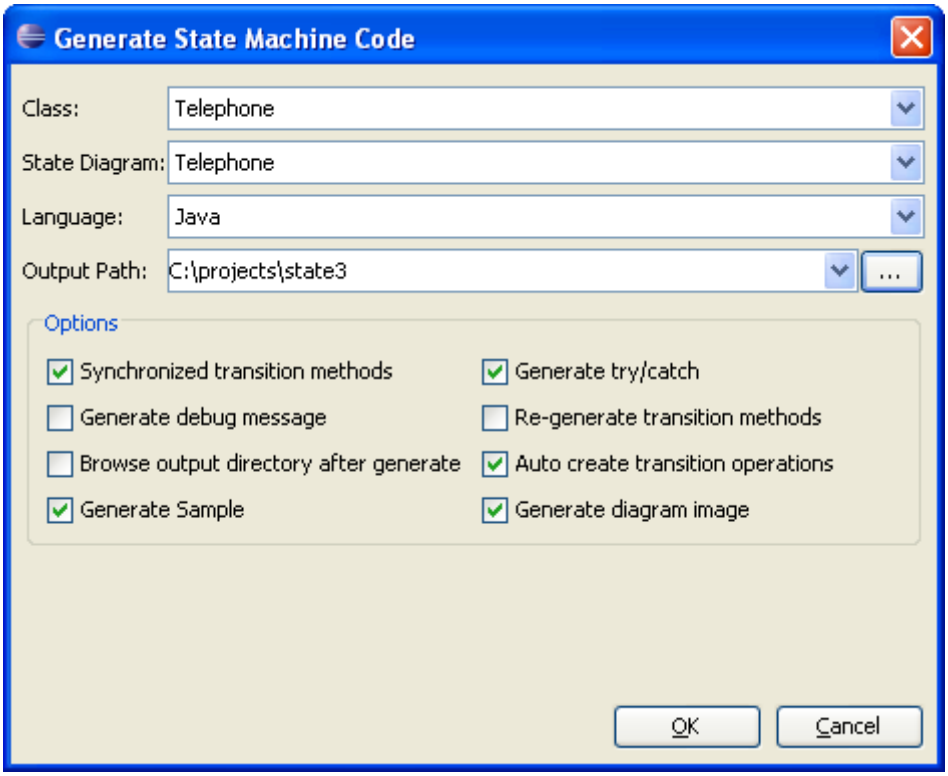



*Figure 12.8 - Generate state machine code dialog*

3. Select a language to generate the code in from the drop-down menu.

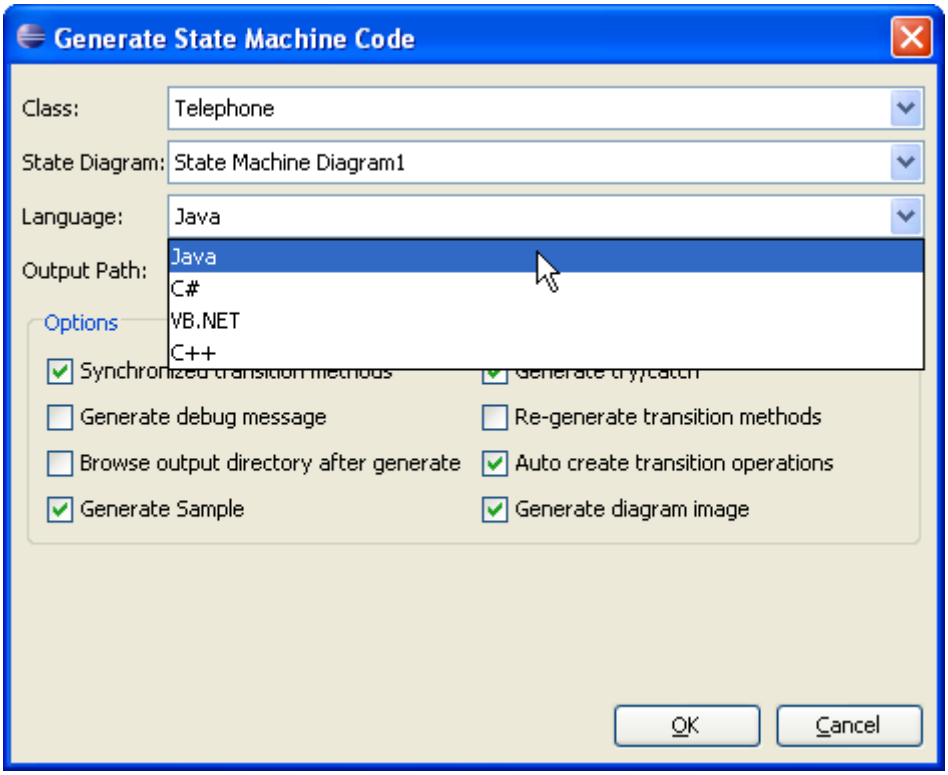



*Figure 12.9 - Select Language*

4. Configure an output path by selecting **...** or type in the path in the text box, and configure the options in the dialog.

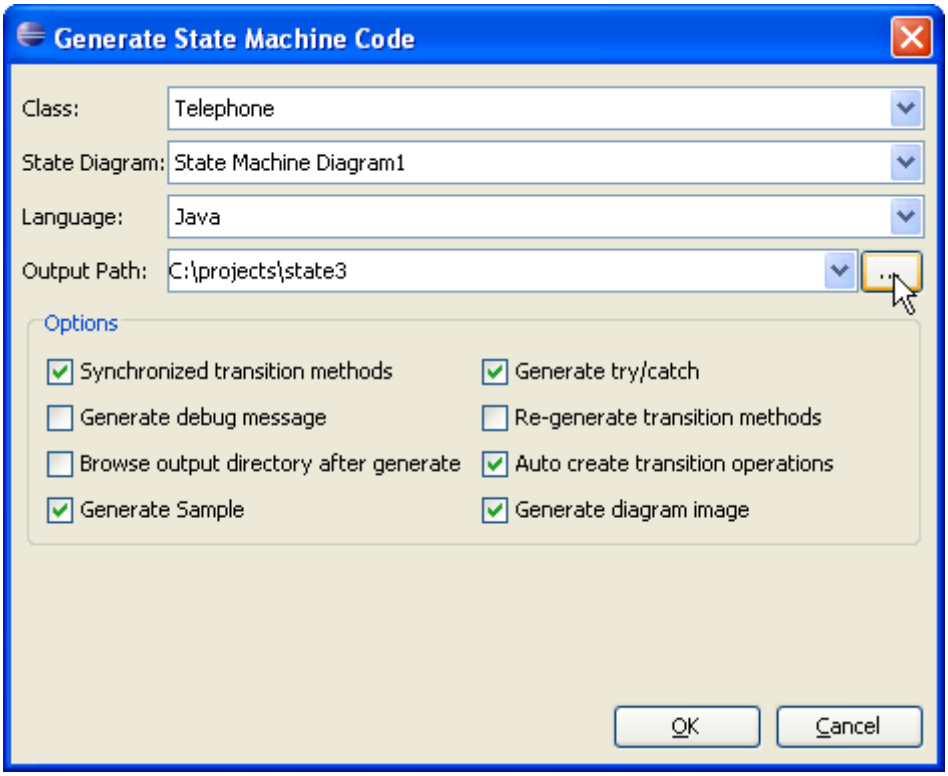



*Figure 12.10 - Configure an output path*

5. The process of generation is shown. You may choose to **Close Dialog when finished progress** by checking the check box.

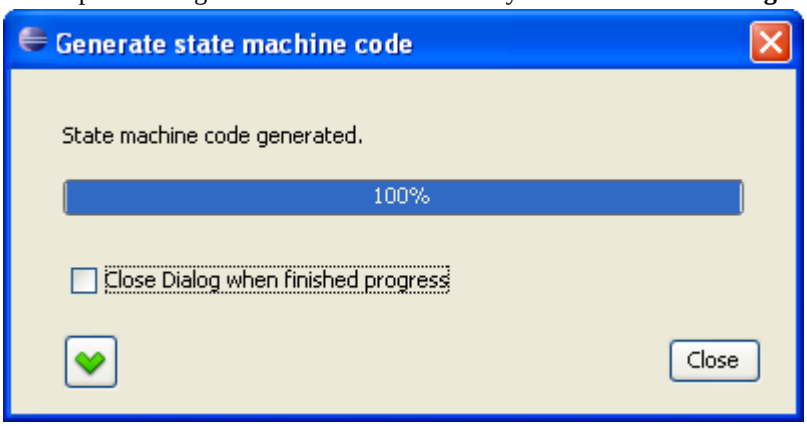



*Figure 12.11 - Process of generation*

6. The code is generated.

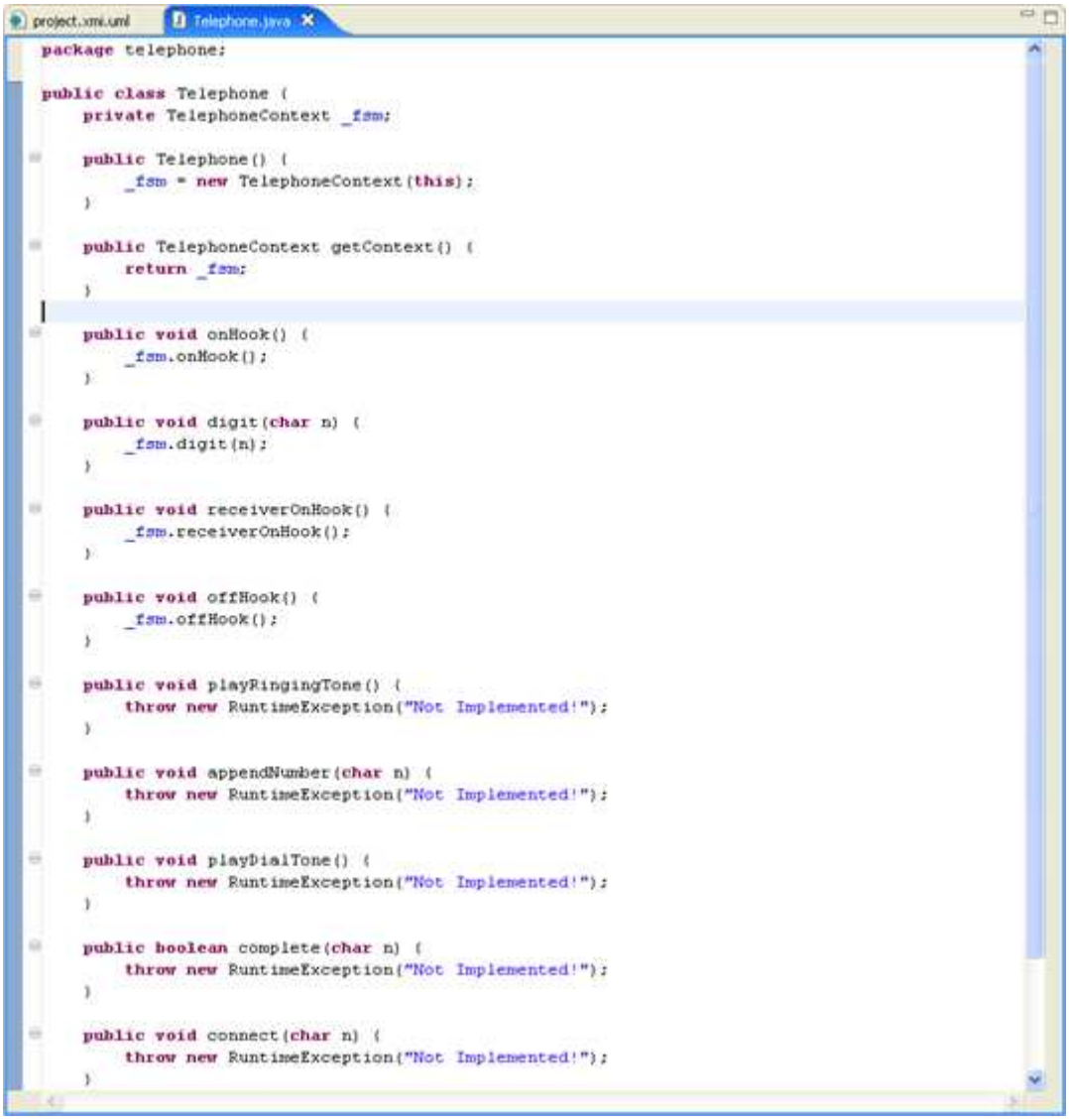



*Figure 12.12 - Code generated*

# Programming with Generated State Machine Code

SDE for Eclipse supports the generation of different types of state machine code. Since the steps for generation of codes in different languages are similar, Java will be used as an example to illustrate the steps.
Before generating the code, you may want to configure the properties of states and transitions.

For state, configure by selecting **Open Specification...**from the pop-up menu.

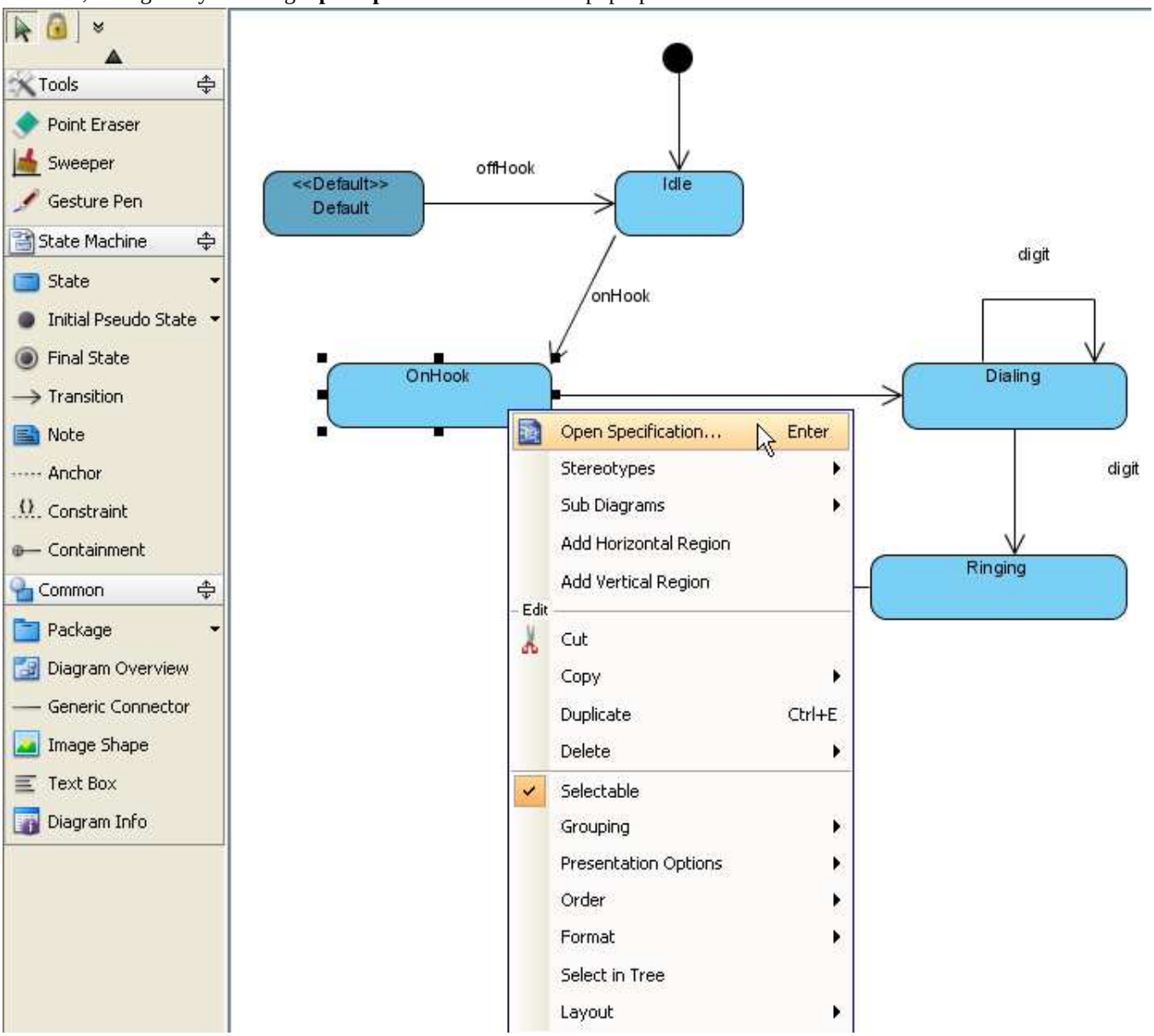



*Figure 12.13 - Select Open Specification...*

The **State Specification** dialog box is now open, and you can configure the state properties here. You may edit the Entry property by clicking **Edit...** .

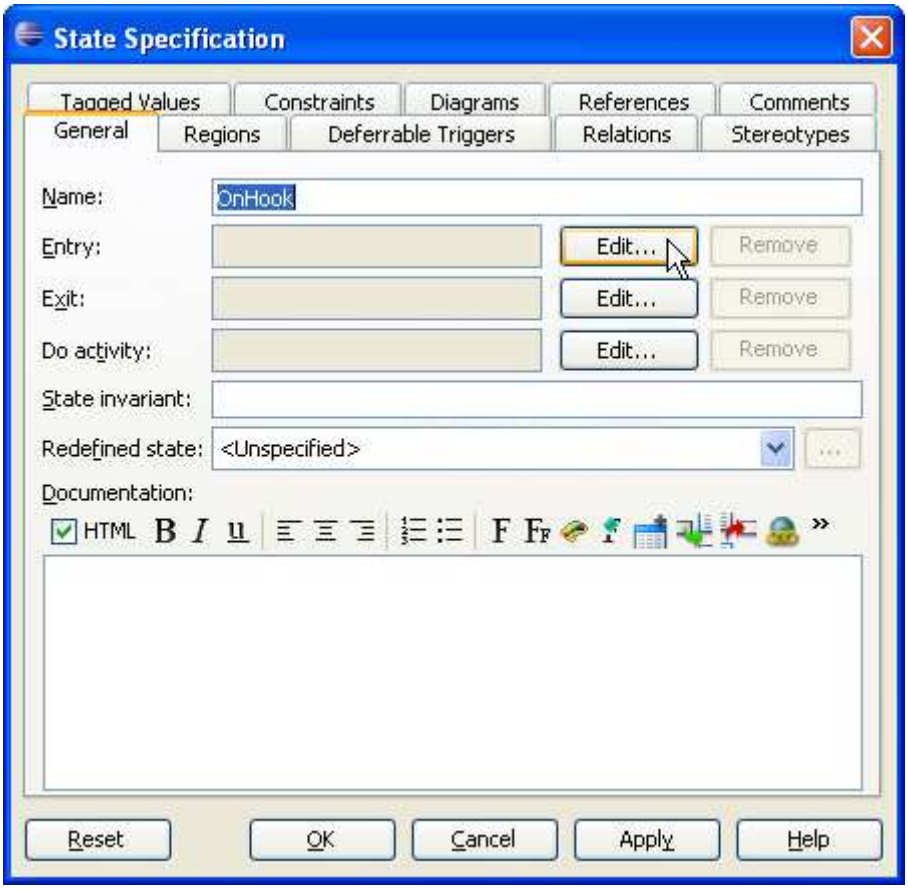



*Figure 12.14 - State Specification dialog box*

This is the **Activity Specification(Entry)** dialog box. After editing to suit your needs, click **OK** to confirm.

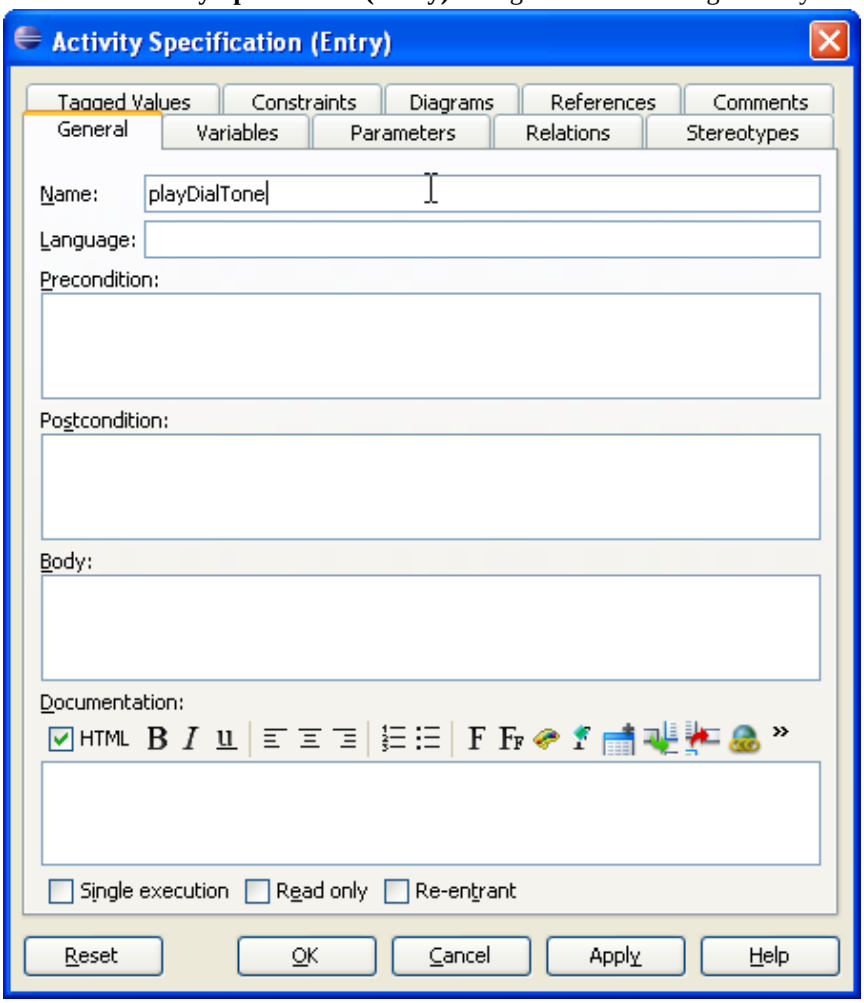



*Figure 12.15 - Activity Specification(Entry) dialog box*

State's property has been edited.

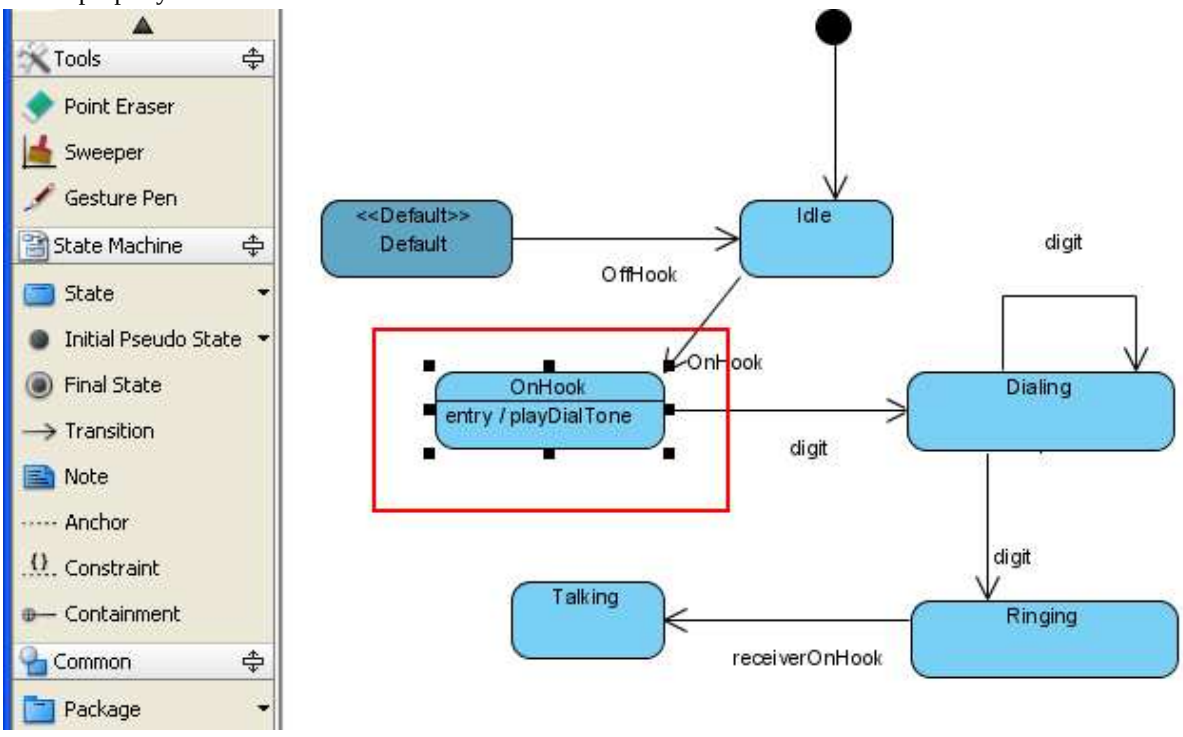



*Figure 12.16 - State's property edited*

Similarly, you can edit the transition by selecting the **Open Specification...** from the pop-up menu.

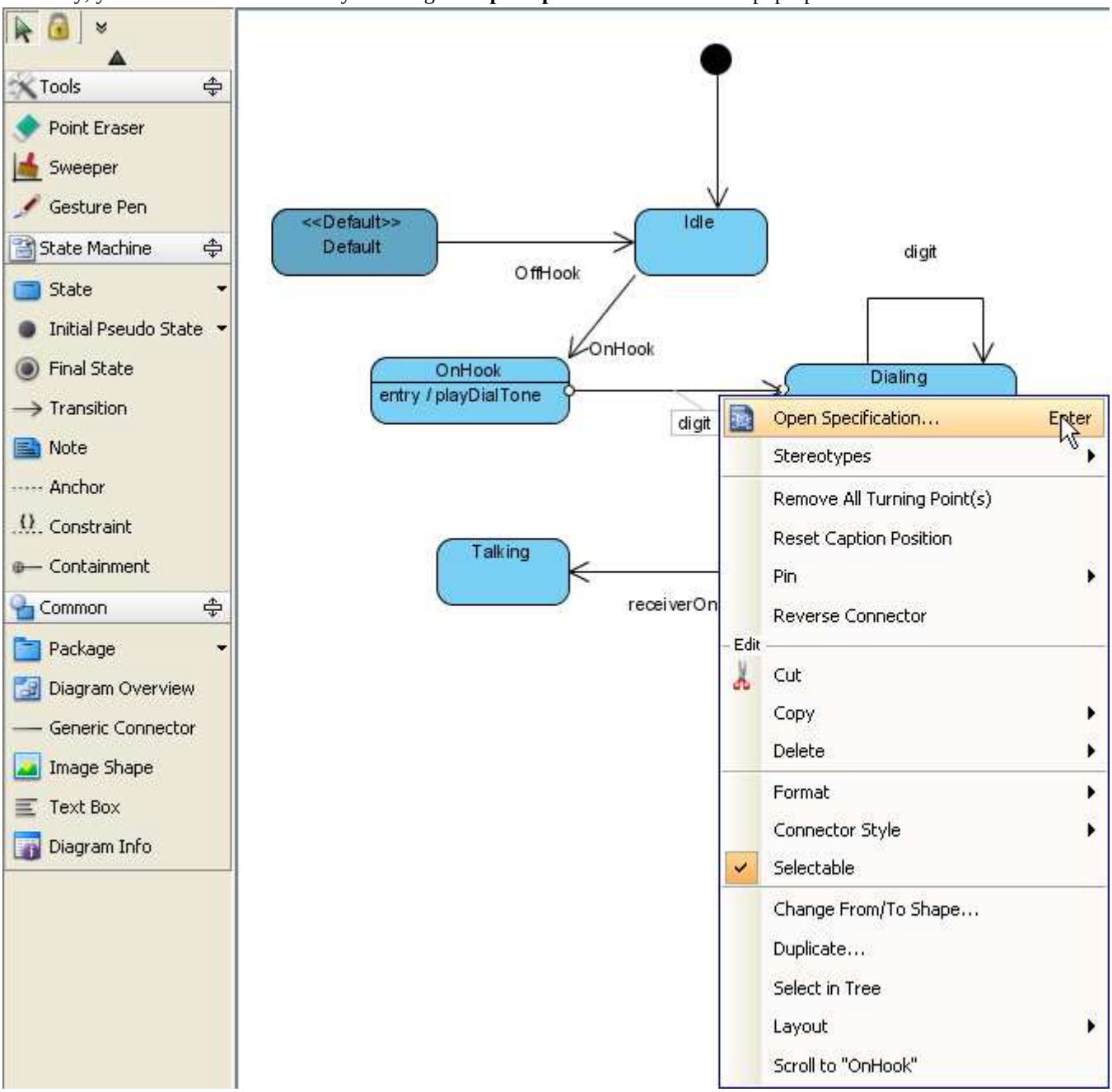



*Figure 12.17 - Open Specification...*

Then, edit the properties of transition in the **Transition Specification dialog box**.

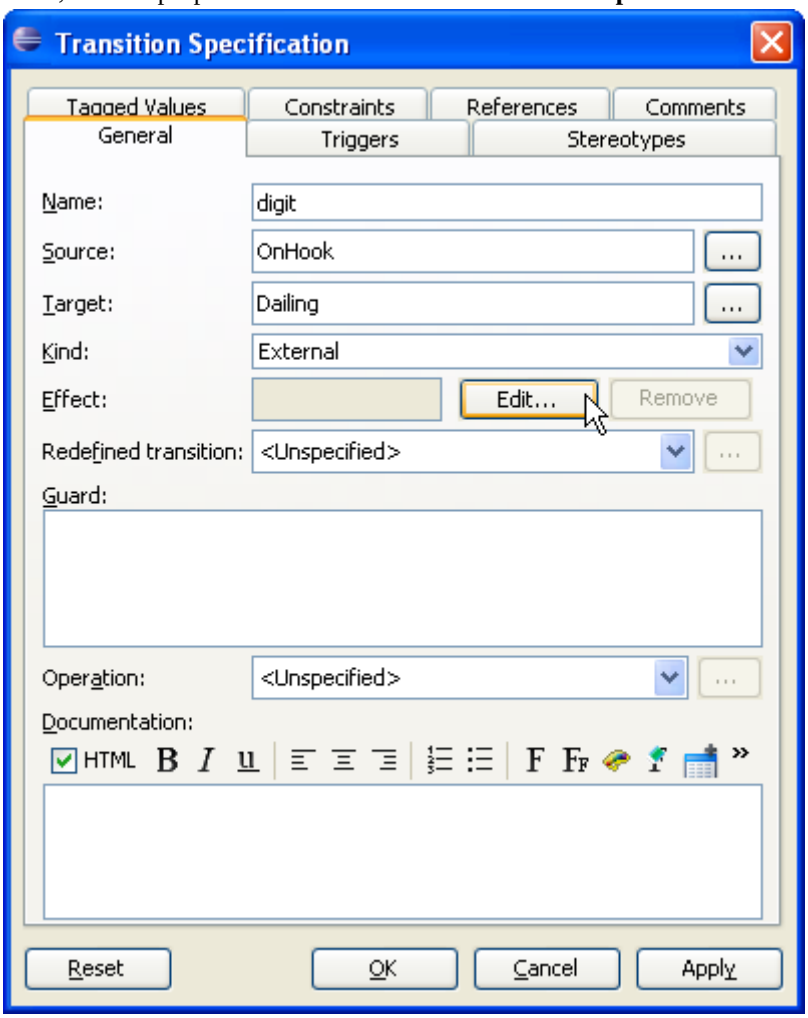



*Figure 12.18 - Transition Specification dialog box*

The states and transitions properties are configured.

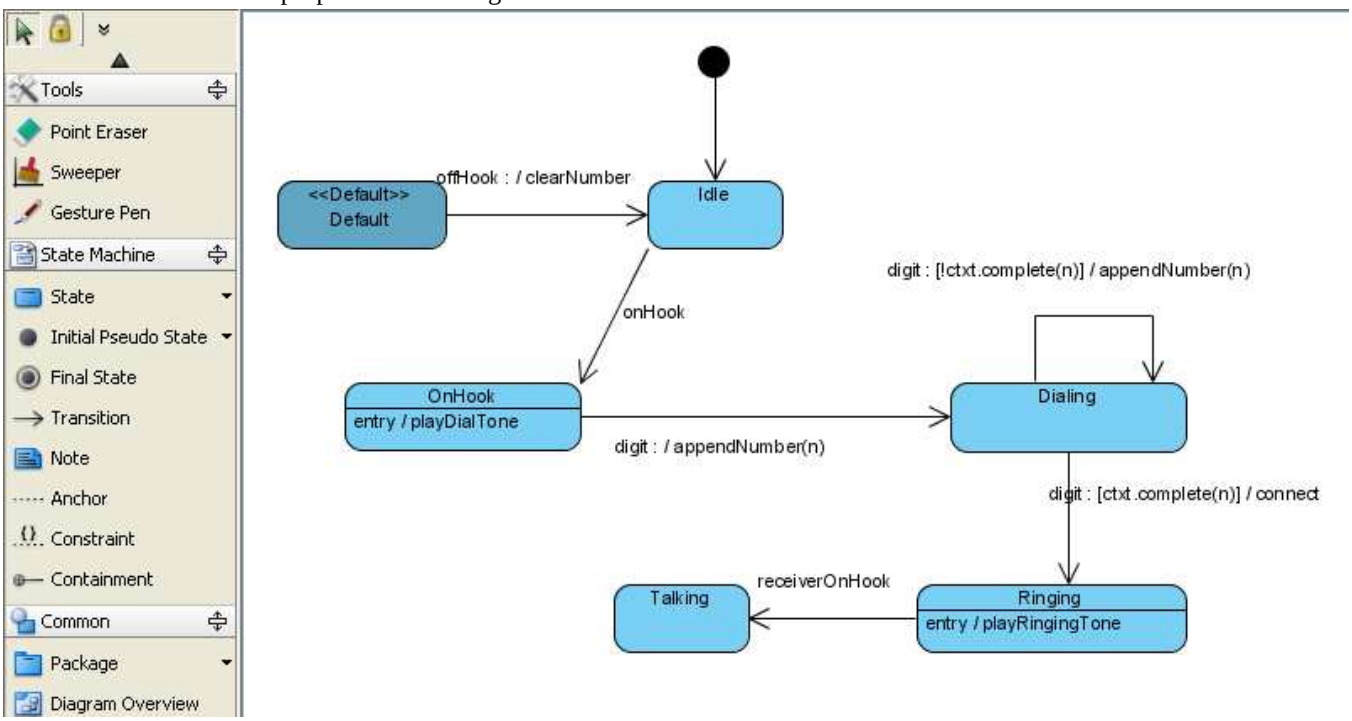



*Figure 12.19 - State Machine Diagram*

## Running sample application

After generating Java files, you can compile and run them. Command Prompt in windows is used as an example to demonstrate the actions.
1. Run the compiler. Change the directory to the directory where the code file is generated. Type in the command for compiling. In this example, the command is ***javac Name*java*** .

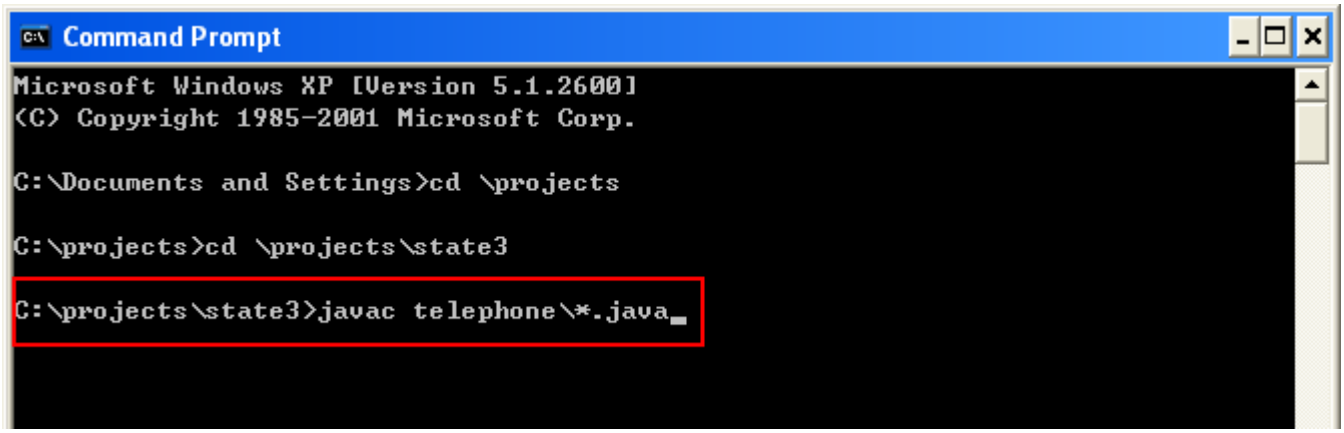



*Figure 12.20 - Compile Java*

2. After compiling, you can enter another command for running Java. For Windows, the command is ***java -cp . telephone.TelephoneSample*** .

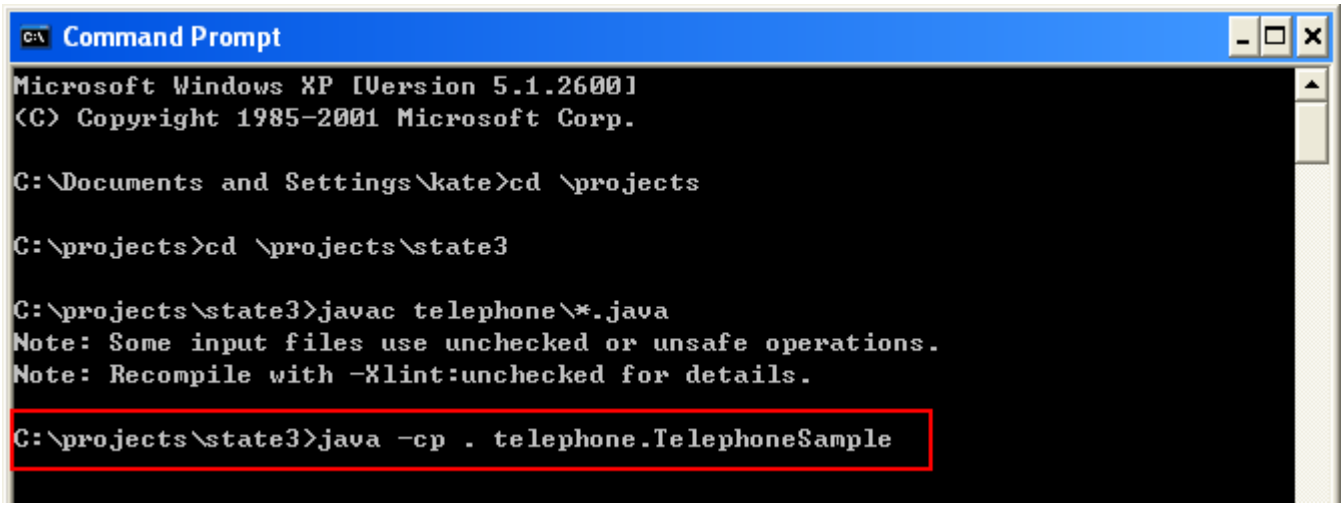



*Figure 12.21 - Run Java*

3. The Java is run.

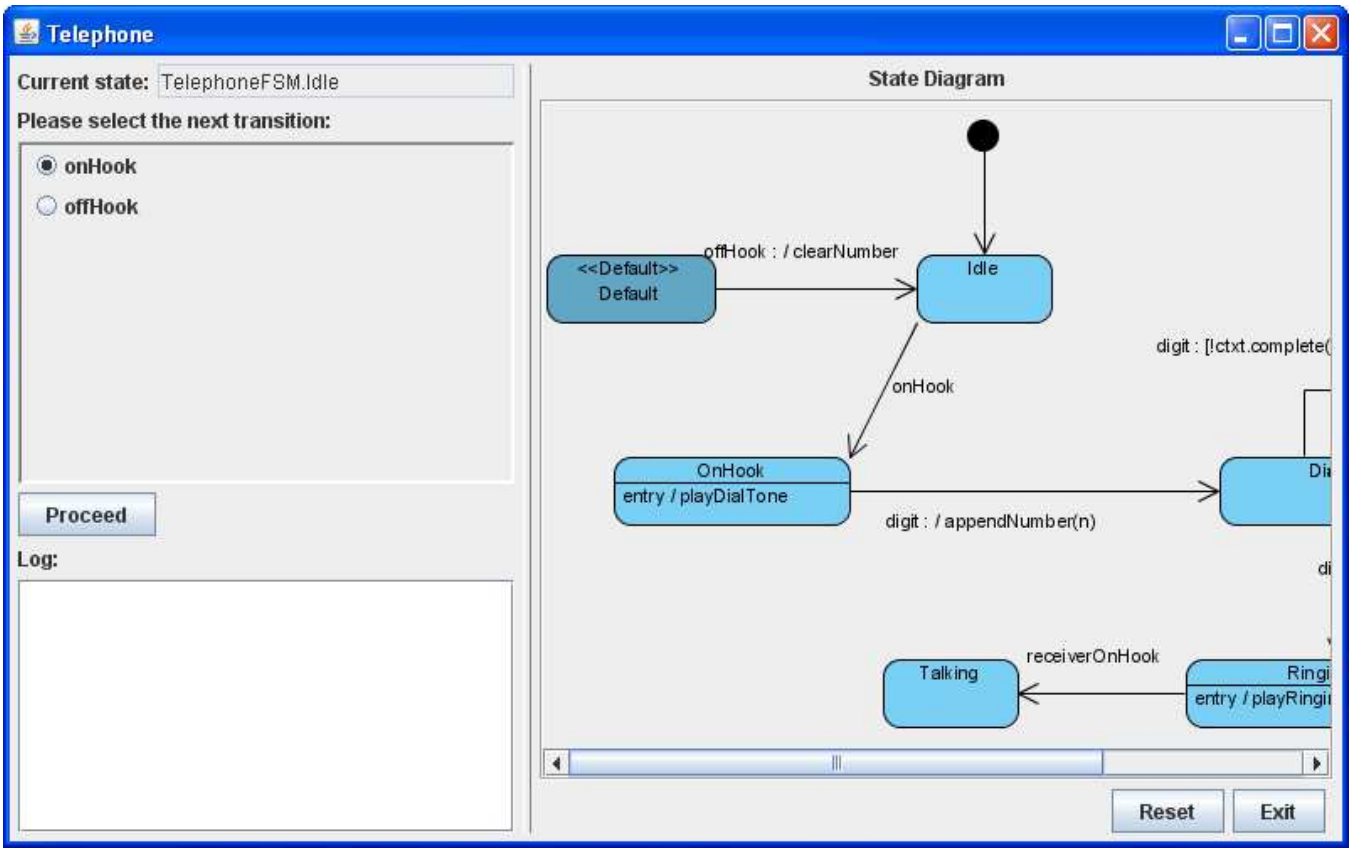



*Figure 12.22 - Sample Java*

## Insert Implementation

If there is no implementation, the Java cannot be run because there is an error.

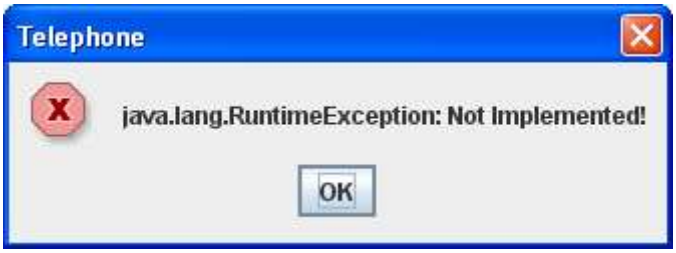



*Figure 12.23 - Error message box*

.

The original state machine diagram code generated did not have any implementation.

```
    public void playRingingTone() {
        throw new RuntimeException("Not Implemented!");
    }

    public void appendNumber(char n) {
        throw new RuntimeException("Not Implemented!");
    }

    public void playDialTone() {
        throw new RuntimeException("Not Implemented!");
    }

    public boolean complete(char n) {
        throw new RuntimeException("Not Implemented!");
    }

    public void connect(char n) {
        throw new RuntimeException("Not Implemented!");
    }

    public void clearNumber() {
        throw new RuntimeException("Not Implemented!");
    }

}
```

*Figure 12.24 - No implementation*

You can add the implementation in the source.

```
    public void playRingingTone() {
        System.out.println("Ringing tone");
    }

    public void playDialTone() {
        System.out.println("Dail tone");
    }

    public void appendNumber(char n) {
        number.append(n);

    }
    public boolean complete(char n) {
        return (number.toString() + n).equals("123");
    }

    public void connect(char n) {
        appendNumber(n);
        System.out.println("Connect to " + number.toString());
    }

    public void clearNumber() {
        number = new StringBuffer();
    }

}
```

*Figure 12.25 - With implementation*

The diagram sample is run with the implementation.

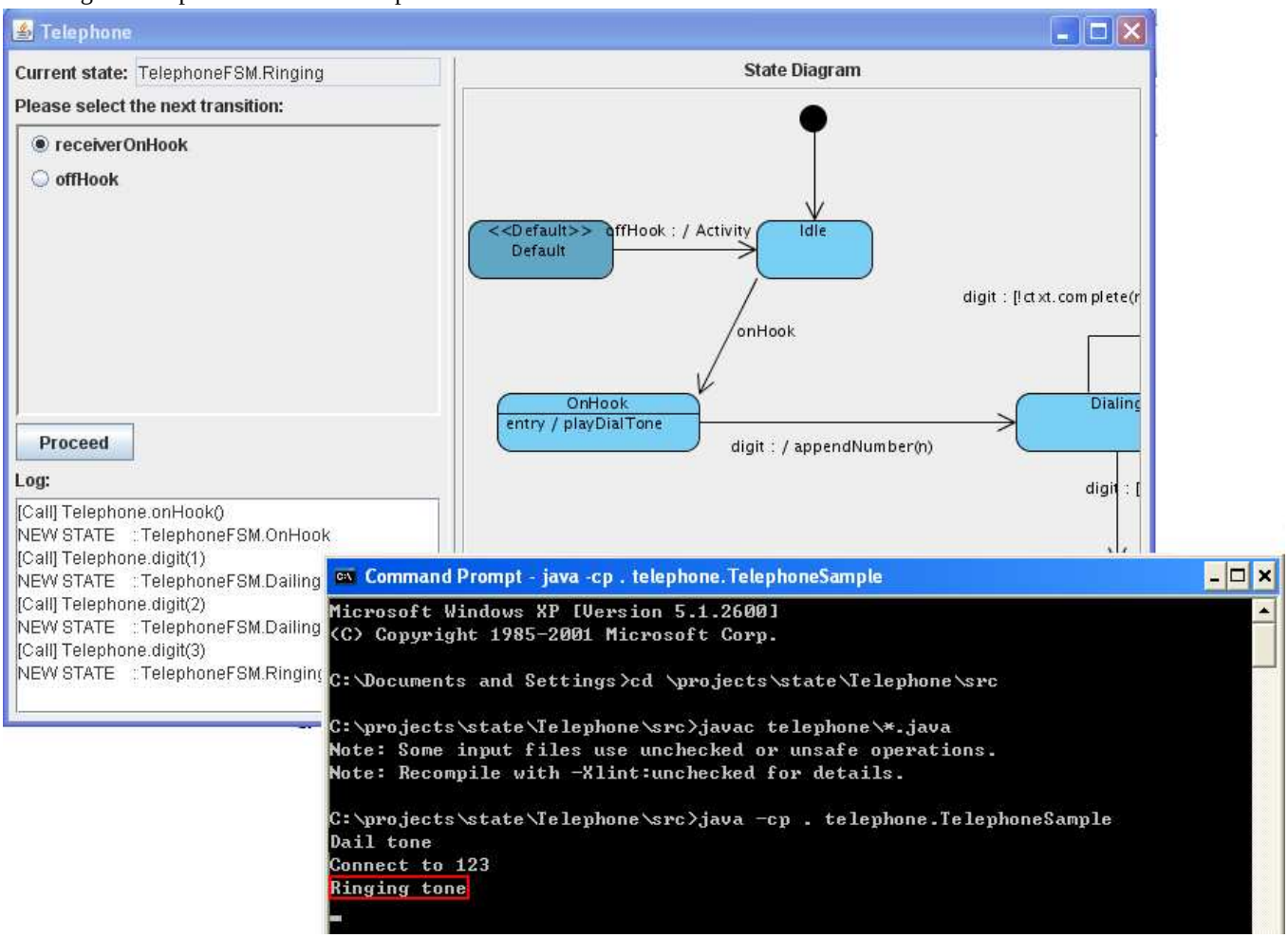



*Figure 12.26 - Java sample*

# Reverse State Machine Code

Apart from generation of state machine code, SDE for Eclipse also supports the reversal of the state machine code file, with extension ***.sm***.

```
%start TelephoneFSM::Idle
%class Telephone
%package telephone

%map TelephoneFSM
%%
Idle
{
    onHook  OnHook  ()
}

OnHook
Entry (playDialTone();)
{
    digit(n:char)   Dailing (appendNumber(n);)
}

Dailing
{
    digit(n:char)[!ctxt.complete(n)]    Dailing (appendNumber(n);)
    digit(n:char)[ctxt.complete(n)] Ringing (connect(n);)
}

Ringing
Entry (playRingingTone();)
{
    receiverOnHook  Talking ()
}

Talking
{
}

Default
{
    offHook Idle    (clearNumber();)
}

%%

```

*Figure 12.26 - A .sm file*

To reverse the .sm file:
1. Select **Modeling** > **State Machine Code** > **Reverse Code...** from the main menu .

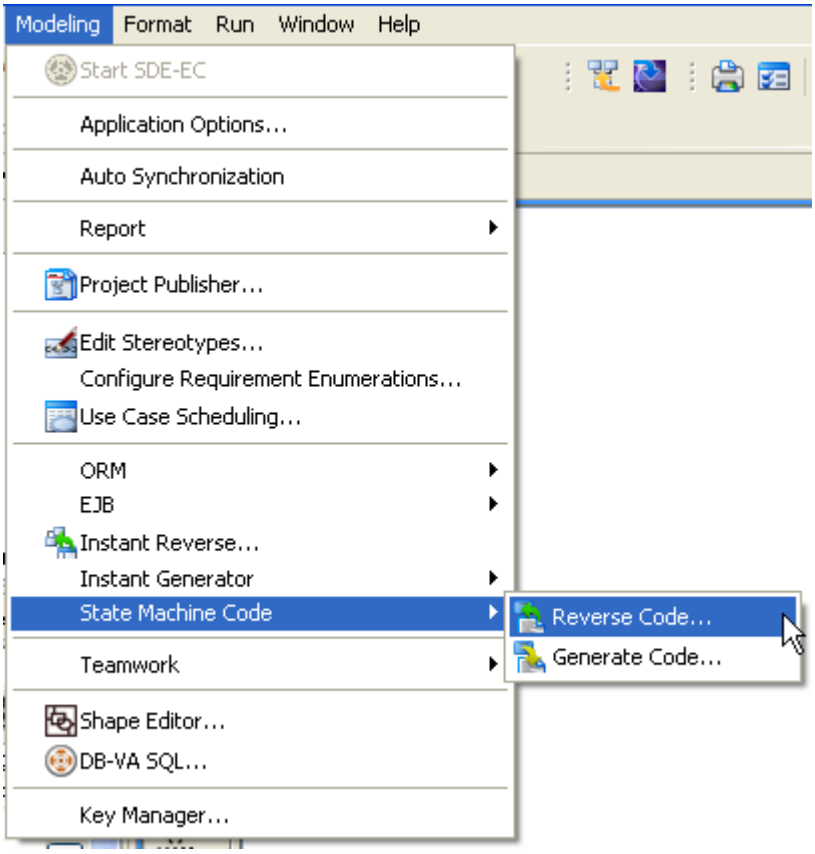



*Figure 12.27 - Select Reverse Code...*

2. The **Reverse State Machine Code** dialog box is displayed. Select the **Class** and **State Diagram**.

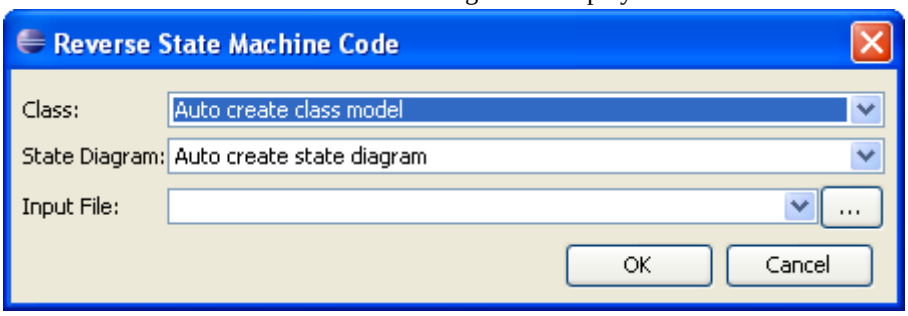



*Figure 12.28 - Reverse State Machine Code dialog box*

3. Configure the input file path by typing in the text box or select **...** .Select **OK** to confirm.

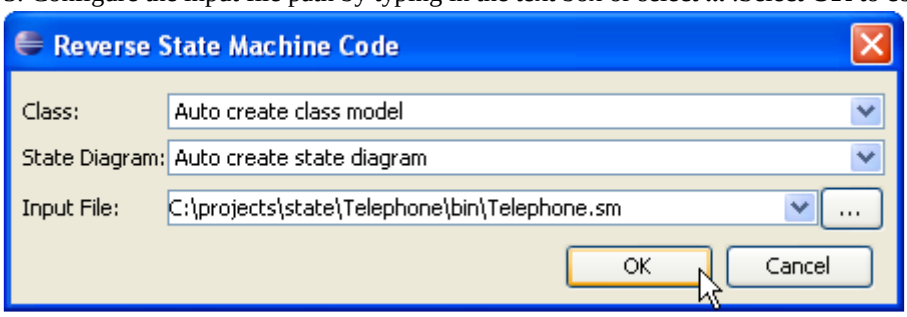



*Figure 12.29 - Configure the input file path*

4. The progress of reversal is shown. You can select to **Close Dialog when finished progress** by checking the check box.

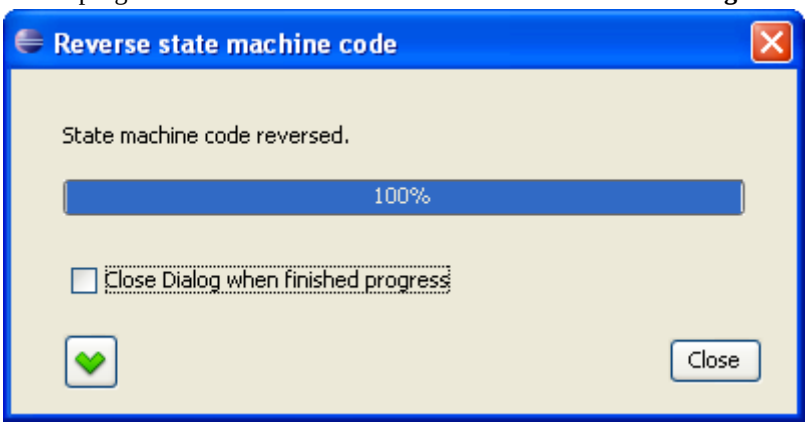



*Figure 12.30- Progress of reversing*

5. The state machine code is now reversed.

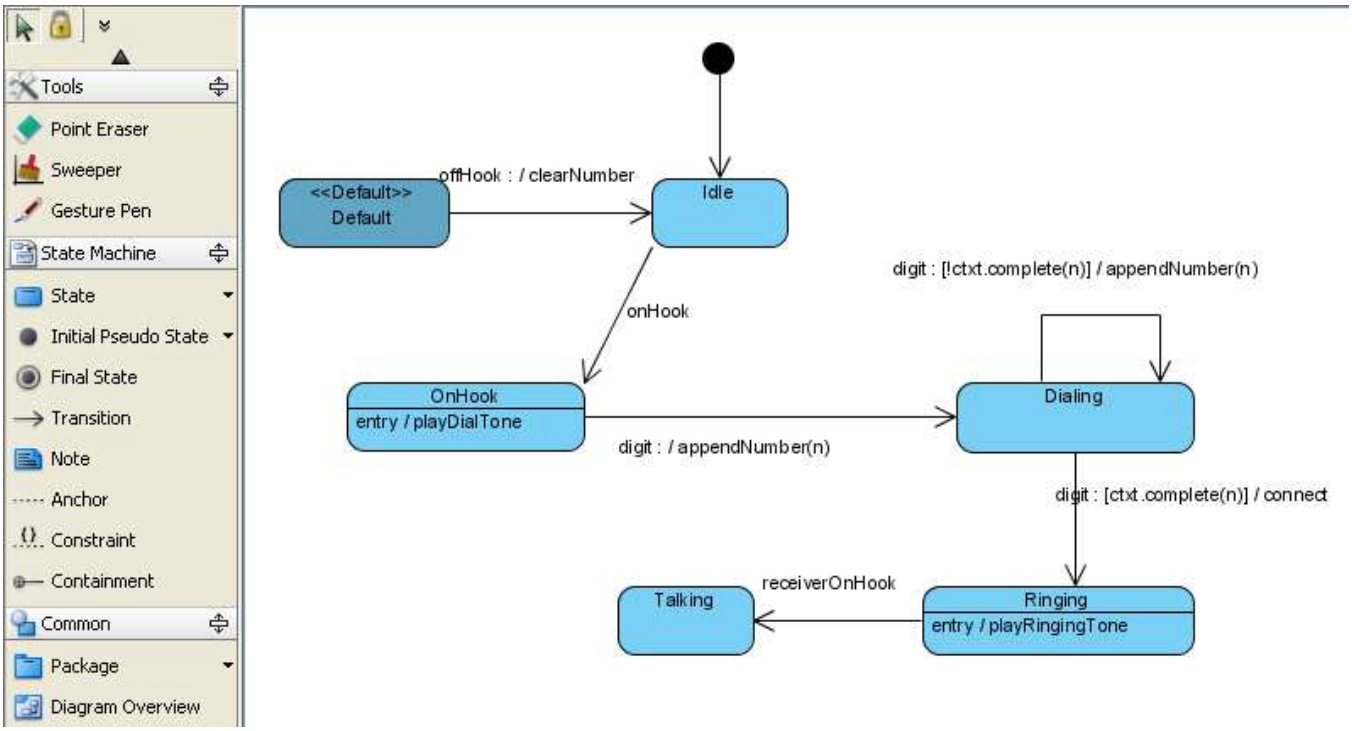



*Figure 12.31 - State machine code is reversed*

# 13 Team Collaboration with VPTS

# Chapter 13 - Team Collaboration with VP Teamwork Server

Visual Paradigm Teamwork Server is easy to use version control and collaboration platform. With SDE for Eclipse VP Teamwork Server integration you can record and keep history of all changes in your design in your VP Teamwork Server. Other people who may need to only view your designs just need to use the free Viewer to have a look at the project. Please be reminded VP Teamwork Server integration is only available in Modeler Edition or above.

In this chapter:

- Operating projects
- Reviewing the old revisions of projects
- Comparing the differences between revisions
- Using branch and tag
- Providing suggested branch usage

## Starting up the Server

Before you can manage projects in VP Teamwork Server, you have to start the server first.
You can select the **StartTeamworkServer.exe** icon in the "bin" folder inside the Teamwork Server installation directory.

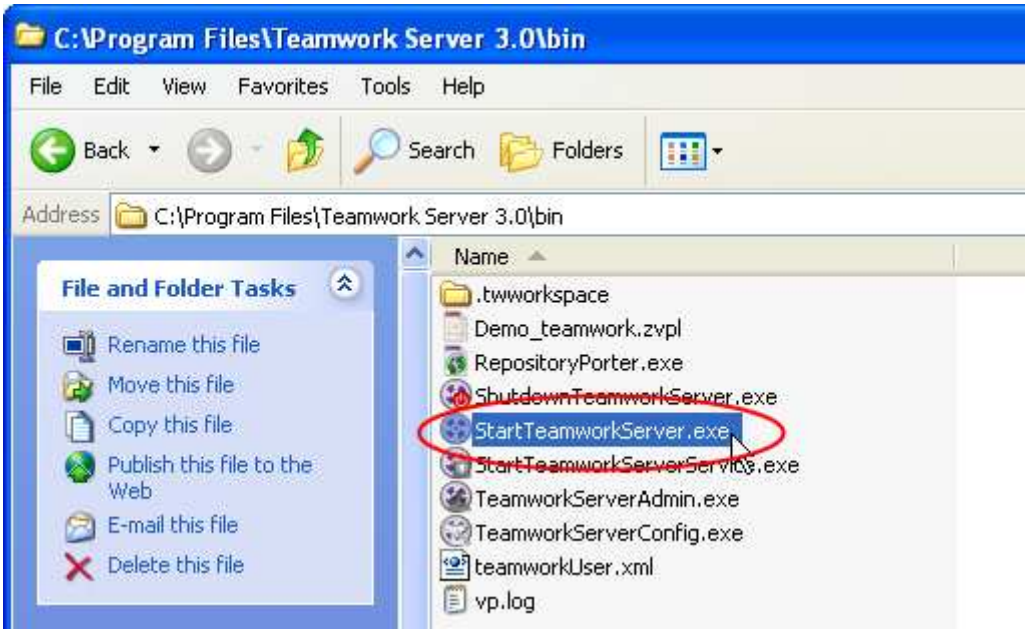



*Figure 13.1 - Select StartTeamworkServer.exe*

# Starting the Teamwork Client Dialog Box

The Teamwork Client dialog box is the access point for all Teamwork functions, such as operating projects, reviewing and comparing projects and using branches and tags. There are three ways you can start Teamwork Client.
To start using main menu, you can select **Modeling** > **Teamwork** > **Open Teamwork Client...** .

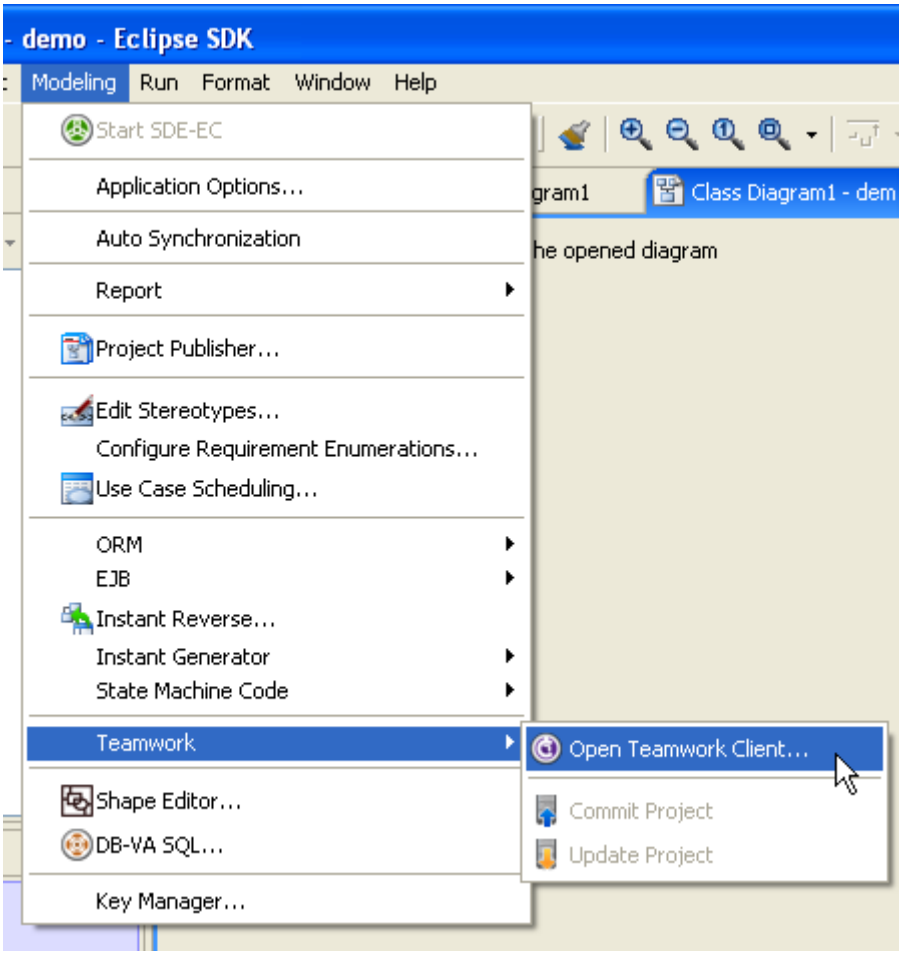



*Figure 13.2 - Open Teamwork Client using main menu*

If not, you may use the tool bar to open Teamwork Client dialog box.


*Figure 13.3 - Open Teamwork Client using toolbar*

You can also right click on the project node of different panes and select **Teamwork** > **Open Teamwork Client...** .

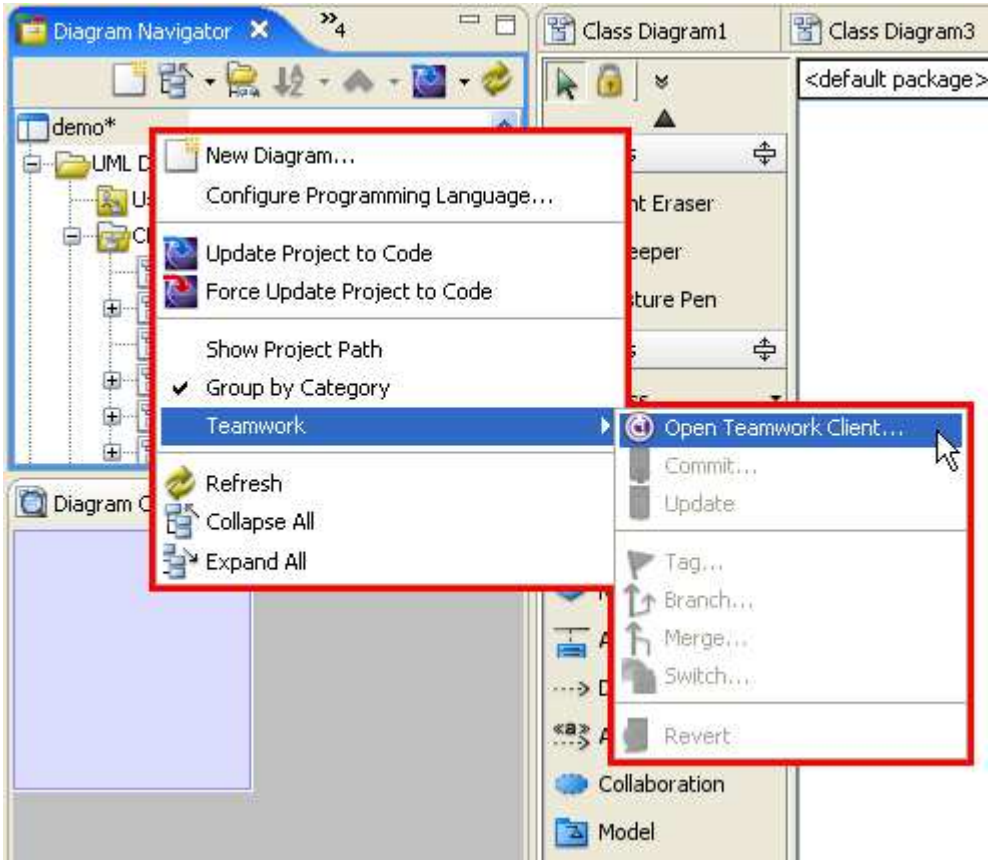



*Figure 13.4 - Open Teamwork Client with project node*

By using any one of these methods, the **Login to the Teamwork Server** dialog box is displayed.

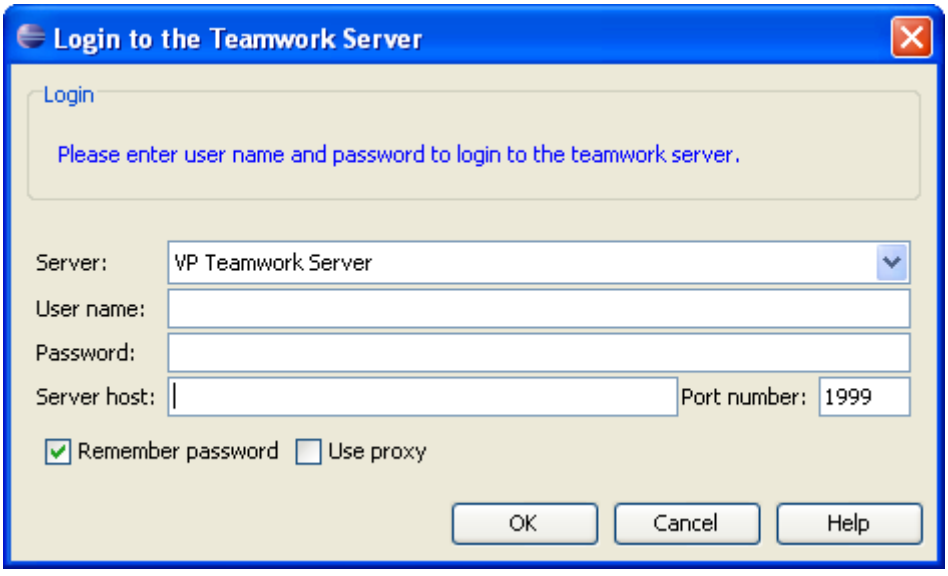



*Figure 13.5 - Login to the Teamwork Server dialog box*

Then, configure the details of server connection. Then click **OK** to confirm.

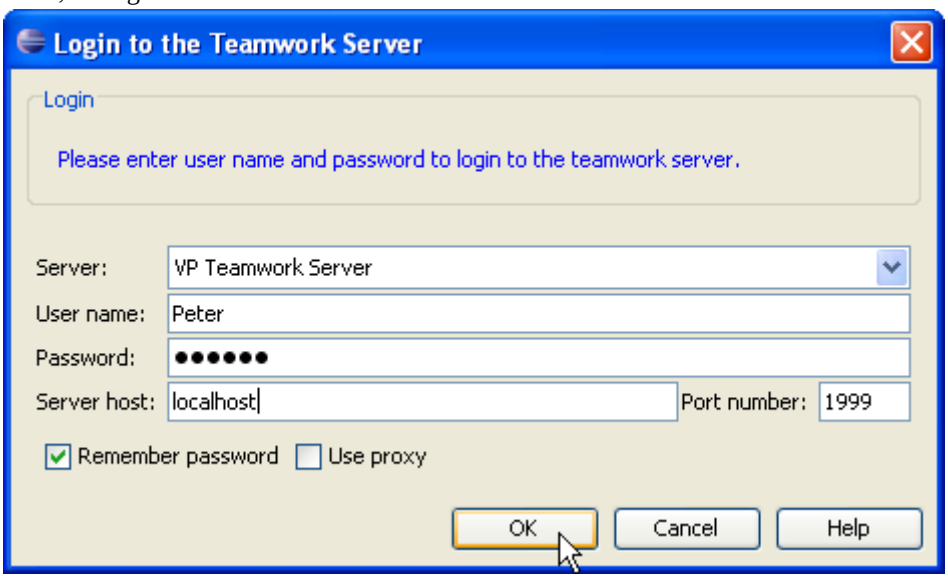



*Figure 13.6 - Configure details of server conncetion*

Teamwork Client dialog box is opened.

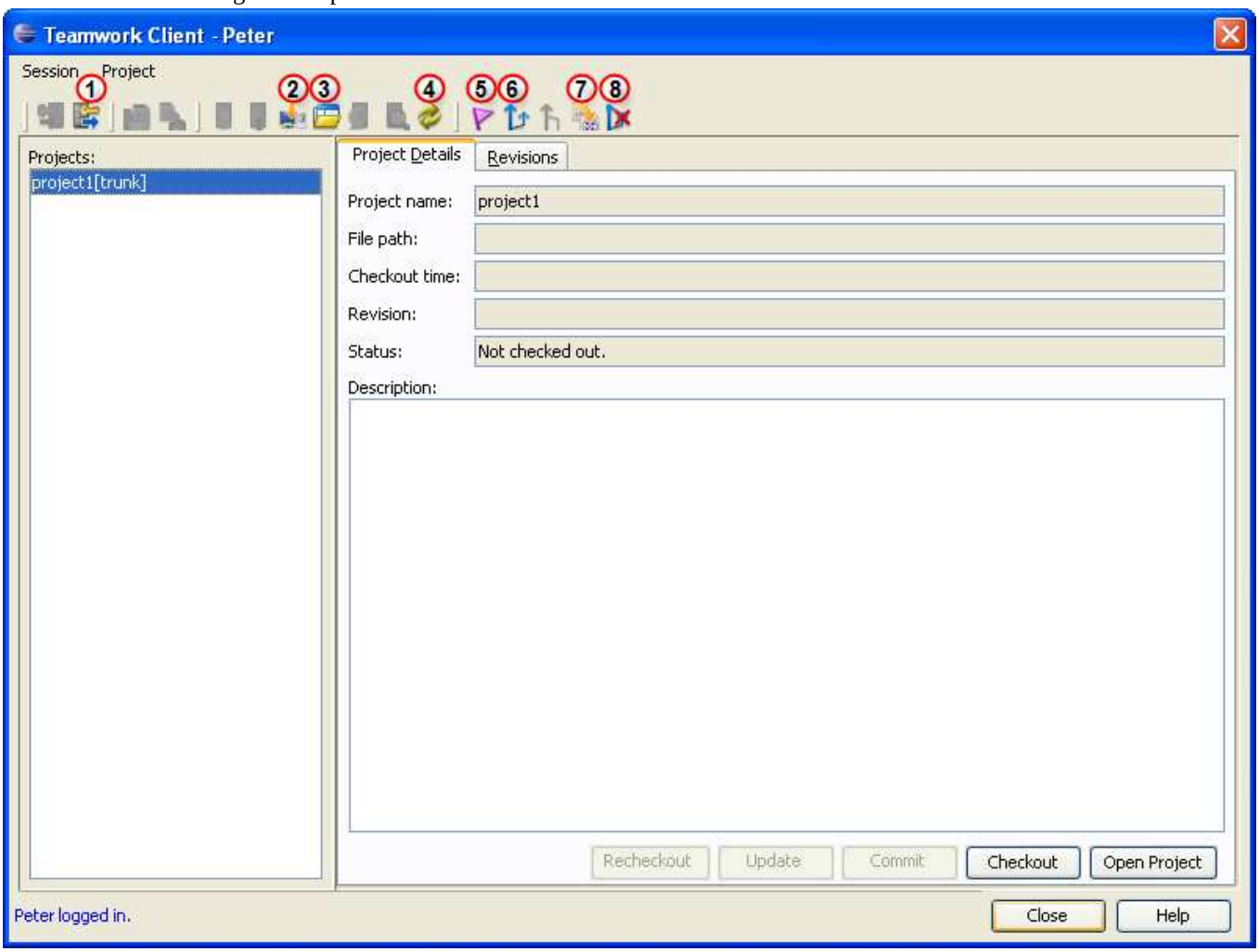



*Figure 13.7 - Teamwork Client dialog box*

| | Name | Function |
|---|---|---|
| 1 | Logout | Logout from the server. |
| 2 | Checkout | Checkout projects from the server. |
| 3 | Open | Open the selected project. |
| 4 | Refresh projects | Refresh the projects to get the latest status of them. |
| 5 | Tag... | Create a tag for the selected project. |
| 6 | Branch... | Create a branch for the selected project. |
| 7 | Switch... | Switch your location in the project. |
| 8 | Delete branch... | Delete a branch. |

# Checking out Project

If you have already imported a project to server or selected a project to manage, you can checkout the project from the repository.
When you have just selected a project in the **Projects** list, the status is '**Not checked out**'.

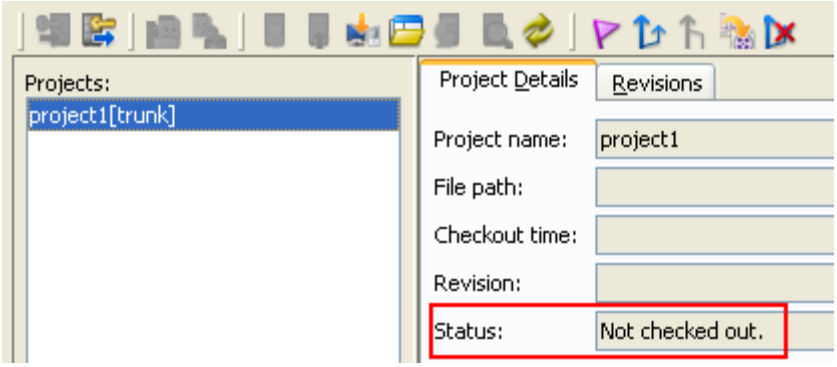



*Figure 13.8 - Project not checked out*

When you click **Open Project**, you can checkout the project and open it immediately.

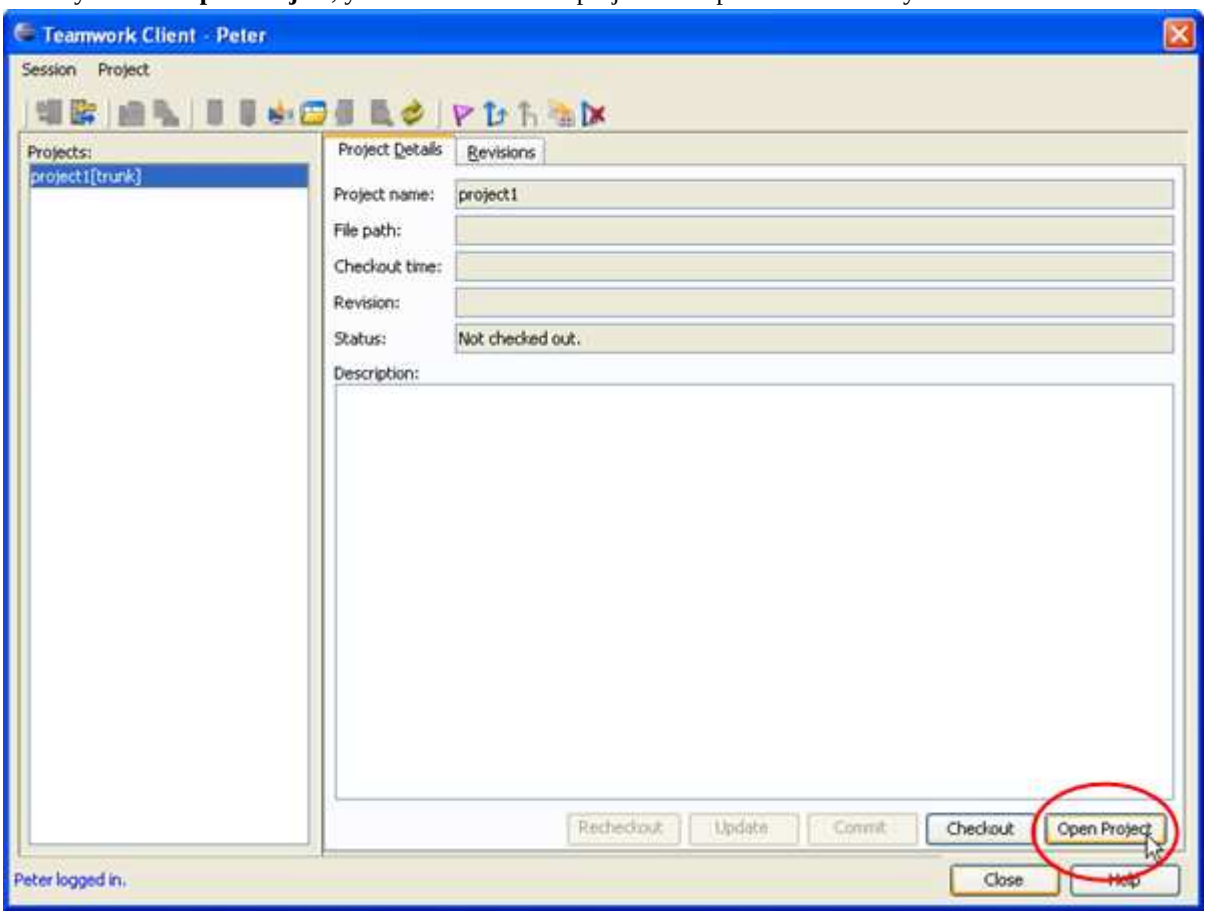



*Figure 13.9 - Select Open Project*

Alternatively, you can choose to checkout the project without opening it. Checkout Project is quite different from Open Project. After checking out the project, your will stay in the Teamwork Dialog for further actions. For example, creating branch, Merge change from branch. If you select Open Project, you will open the project for viewing and modification.
To checkout the project, click **Checkout** in **Teamwork Client** dialog box.

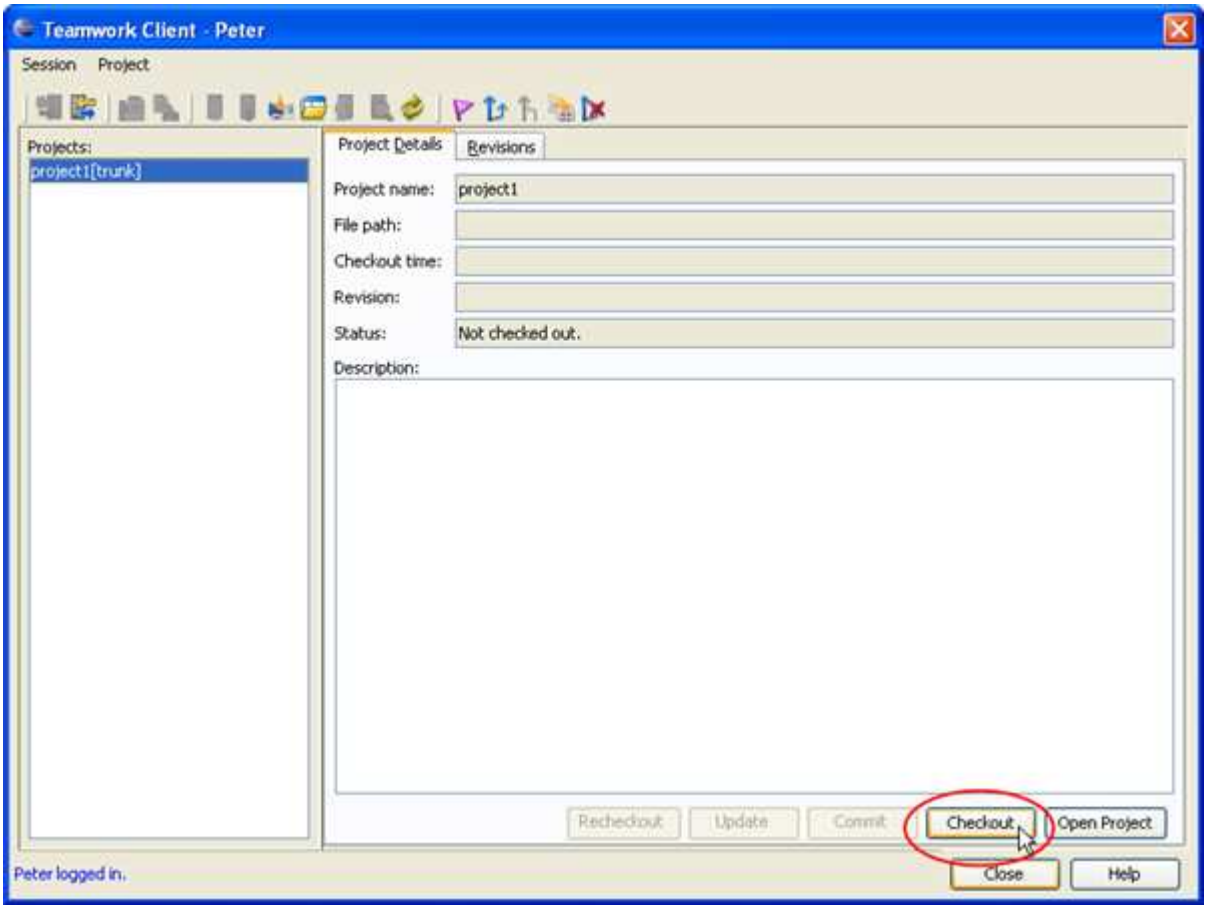



*Figure 13.10 - Checkout the project*

The status of the project is changed and you have checkout the project successfully.

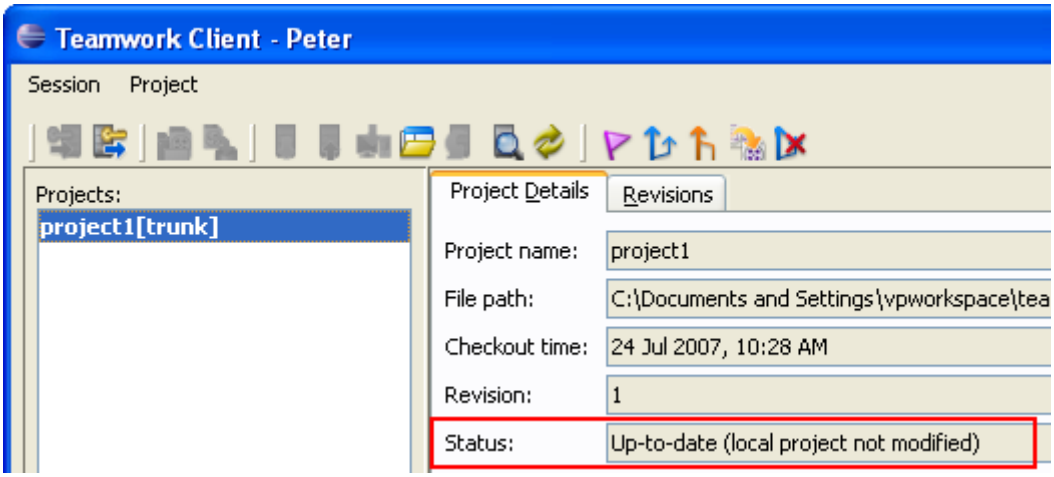



*Figure 13.11 - Project checked out*

# Committing Project

After you have modified the project, you can share your local changes with other team member by committing the project to server.
You may commit project in the toolbar.

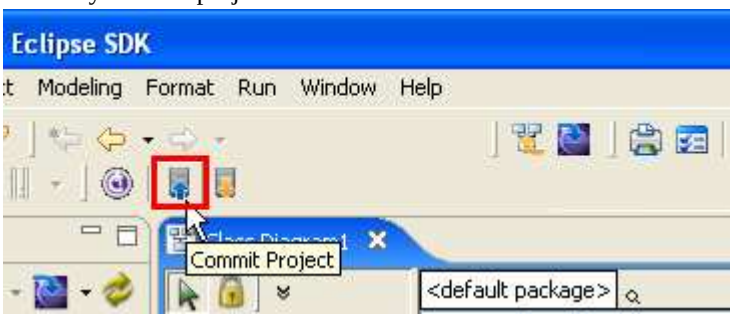



*Figure 13.12 - Commit project*

A **Commit Project** dialog box will show you the progress of commit.


*Figure 13.13 - Commit project dialog box*

A dialog box will be displayed and you may enter a description of the changes. Then, click **OK**.

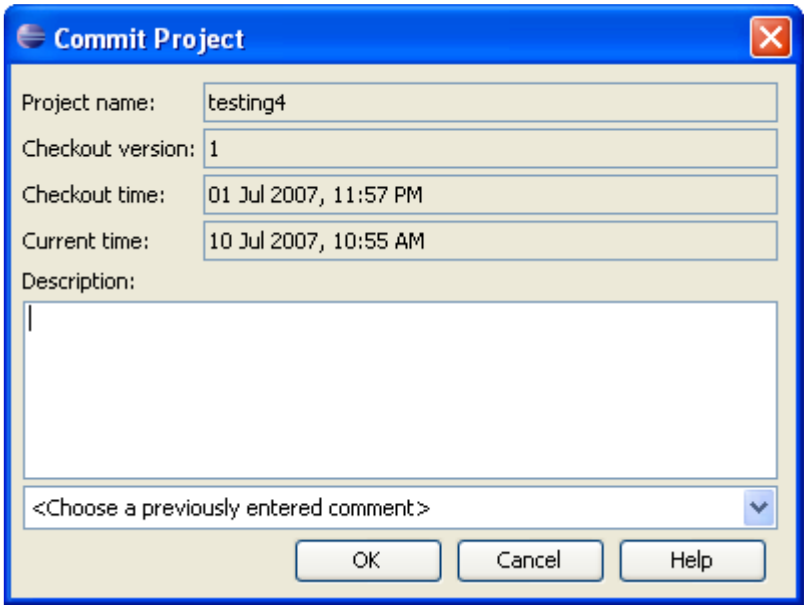



*Figure 13.14 - Enter description of commit change*

A **Commit Model(s)** dialog box shows the models you have modified. You can click **OK** to commit.

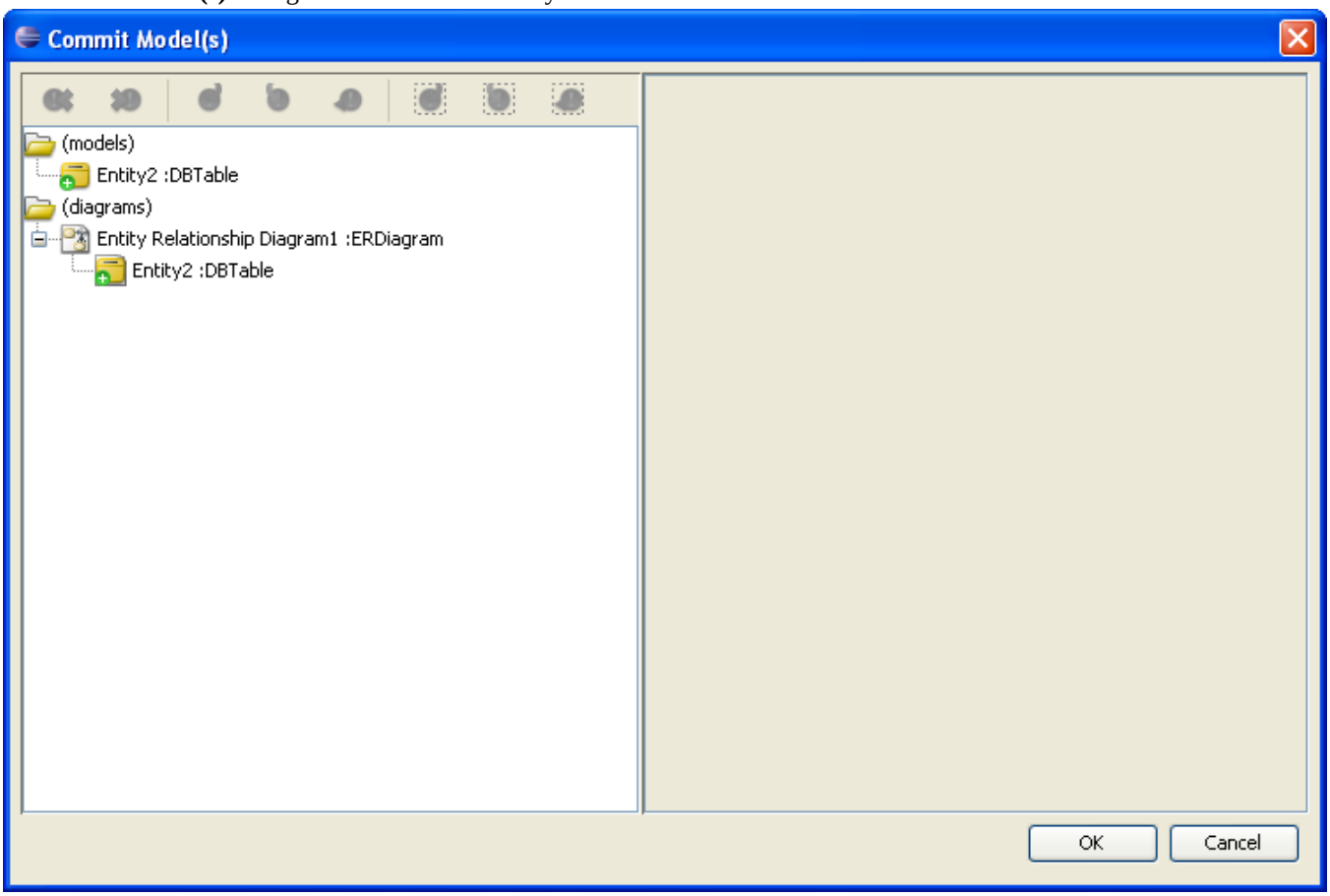



*Figure 13.15 - Commit Model(s) dialog box*

Sometimes, you may encounter conflict when committing models.

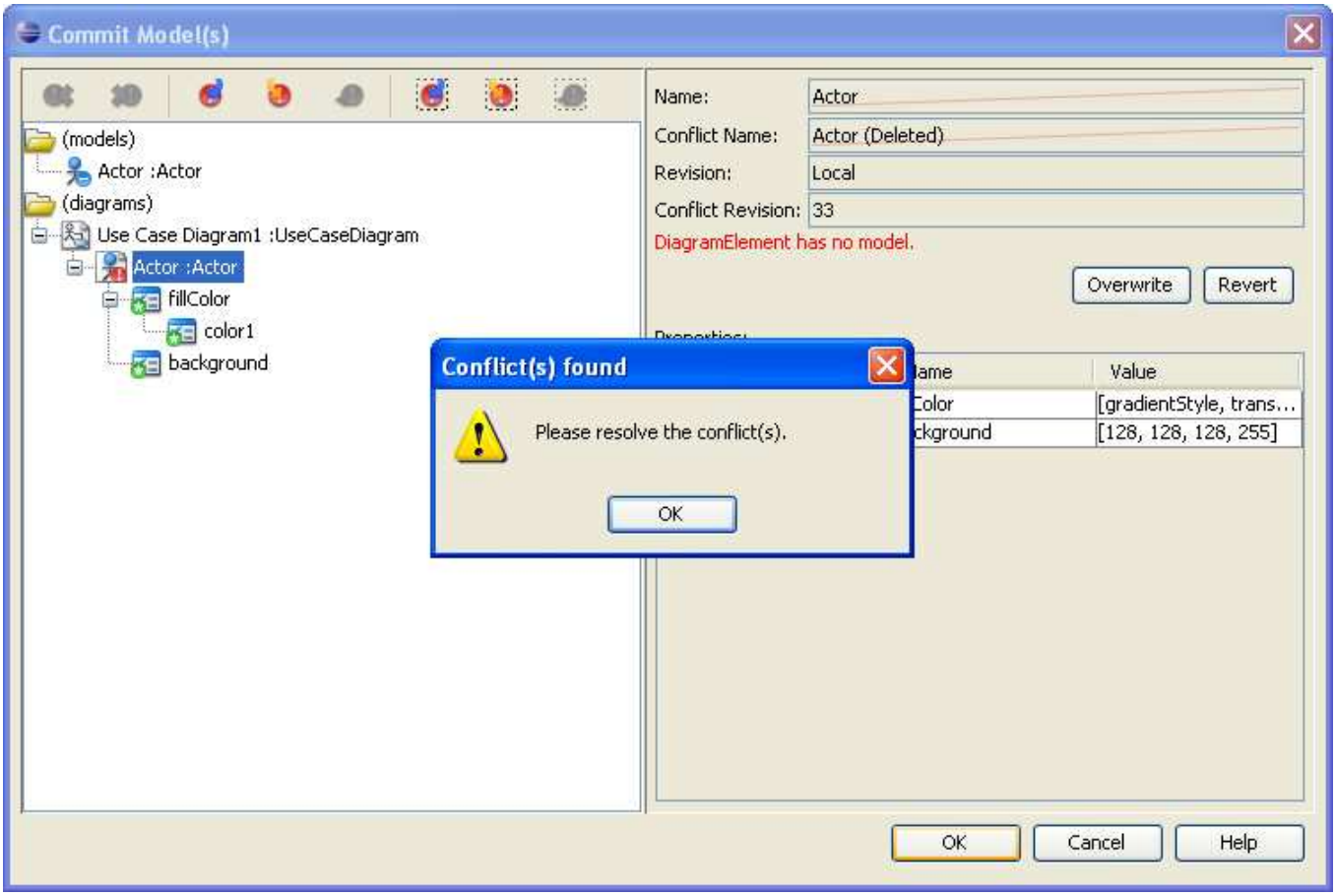



*Figure 13.16 - Commit with conflict*

You can choose to revert or overwrite to solve. For more details, please refer to the section 'Resolving Conflict'.

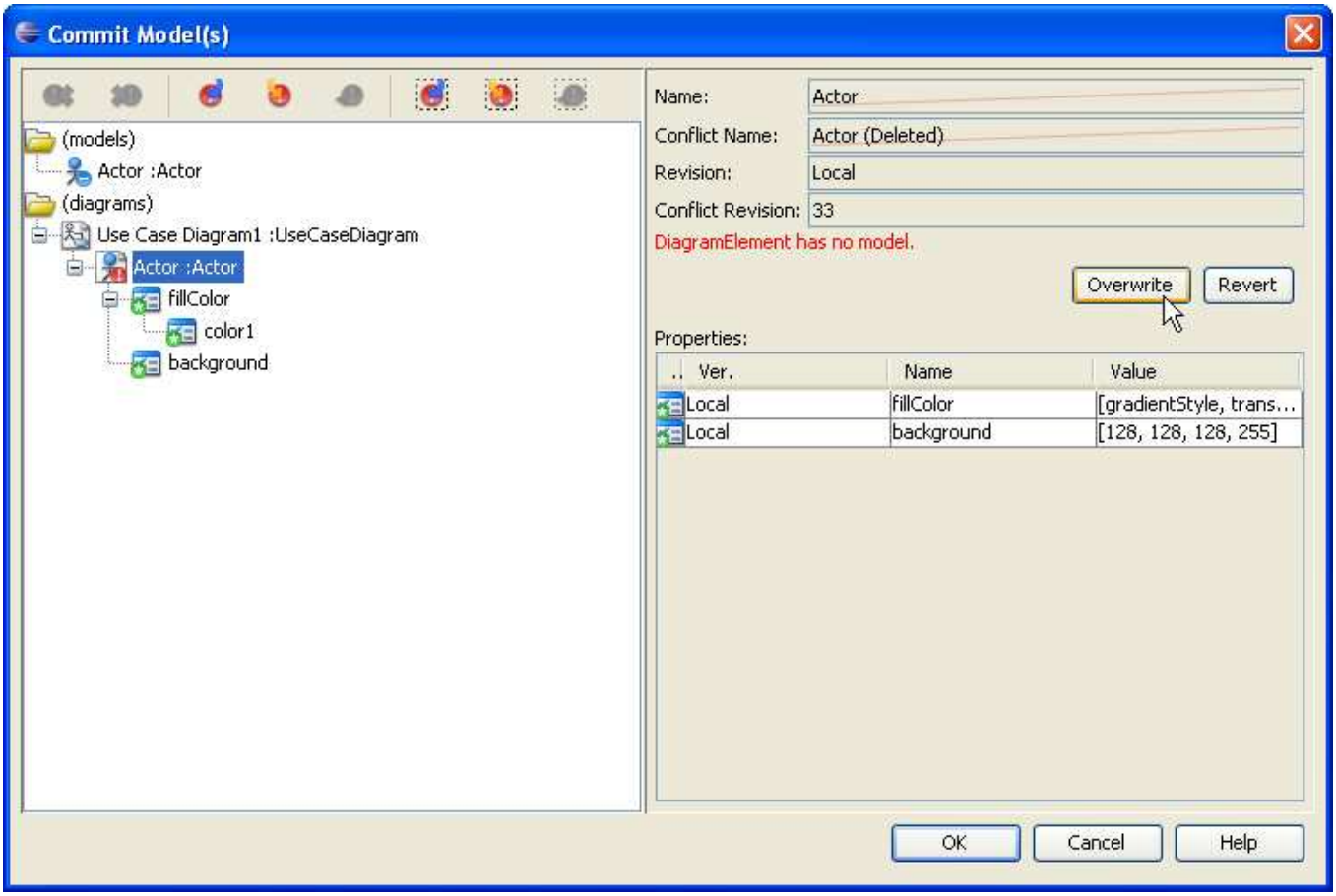



*Figure 13.17 - Select overwrite or revert*

# Updating Project

Apart from committing the project you have changed to the server, you can also get other teammates' changes in the server to local by updating project.
To update project, you can click the icon for update in toolbar.

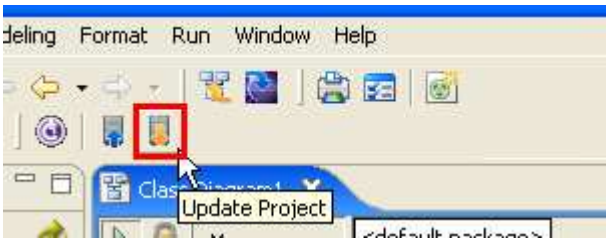



*Figure 13.18 - Update project*

**Update Model(s)** dialog box is displayed. The models changed by others are shown. You can click OK to update the models.

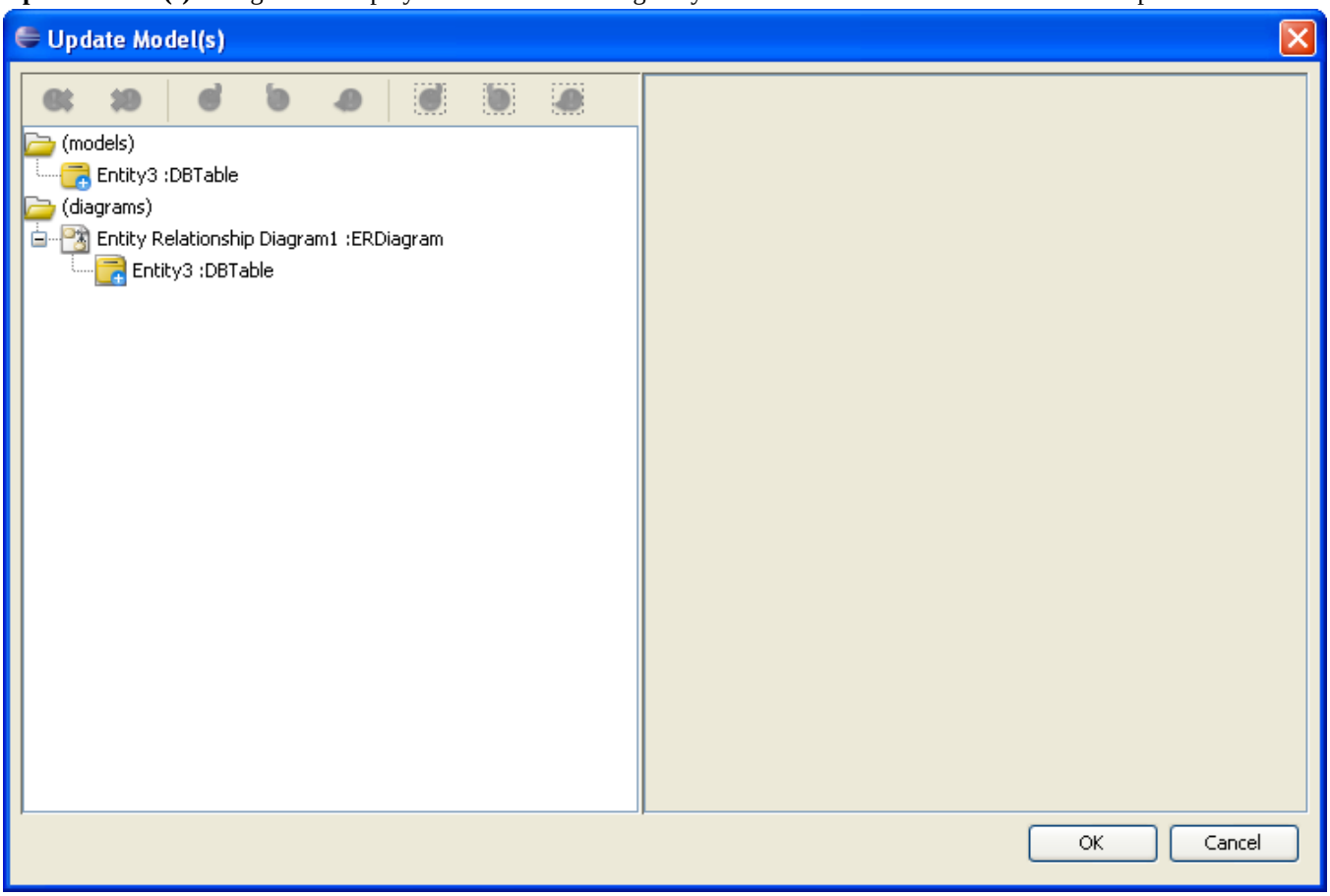



*Figure 13.19 - Update Model(s) dialog box*

# Reverting Project

You may encounter the situation that you have made a lot of changes in the project just to find there are a lot of mistakes. In this case, you may want to rollback all the changes and redo the whole project.
Here, you can revert all local changes by clicking the **Revert** button.

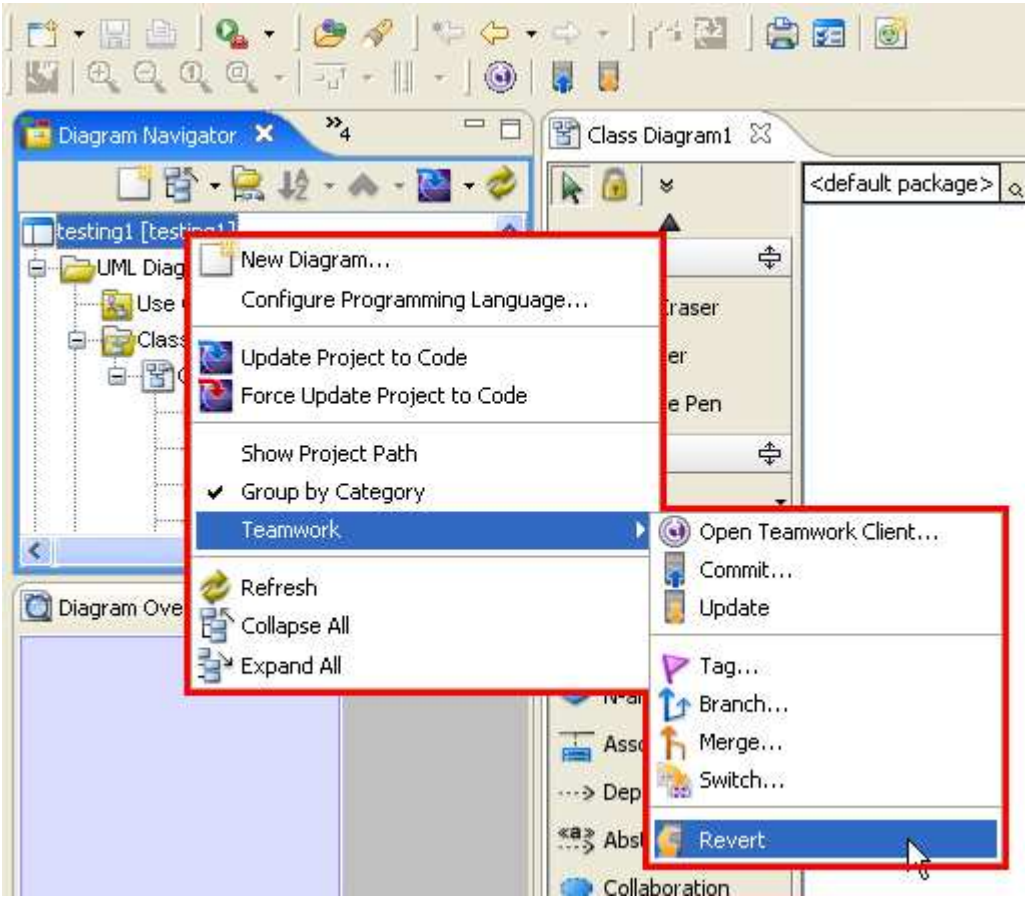



*Figure 13.20 - Revert project*

A dialog box will show and ask if you want to revert. Click **Yes** to confirm and the project is reverted.


*Figure 13.21 - Confirm revert project*

# Checking for Update

If the project you are managing is not up-to-date, the status in Teamwork Client dialog box will change.

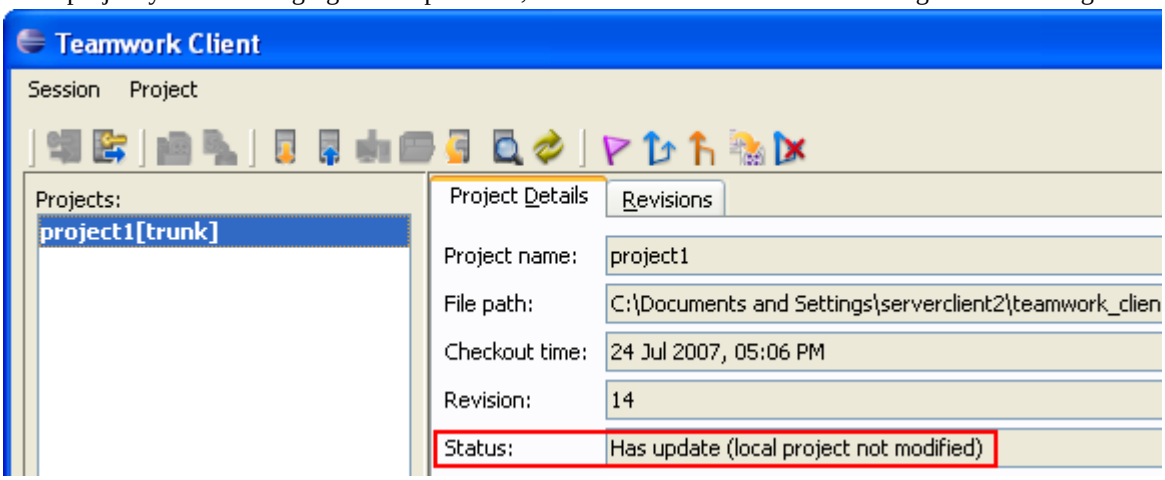



*Figure 13.22 - Status changed*

Alternatively, you can check if the local project has a newer version in teamwork server repository by clicking the **Check for Update** button.

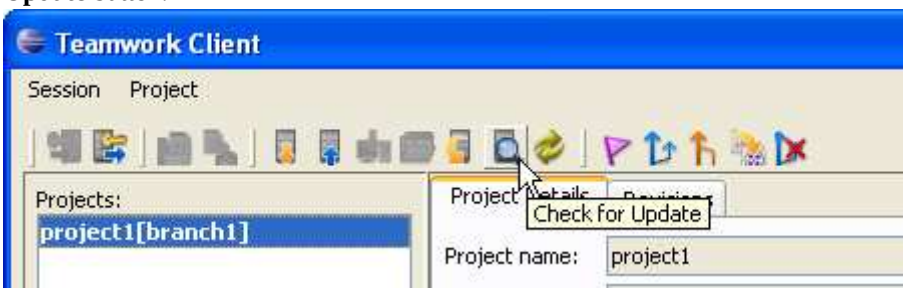



*Figure 13.23 - Select Check for Update*

A message will tell you what the latest revision is. You can then select **Update** to get the modification from the server. For more details, please refer to the section 'Updating project'.

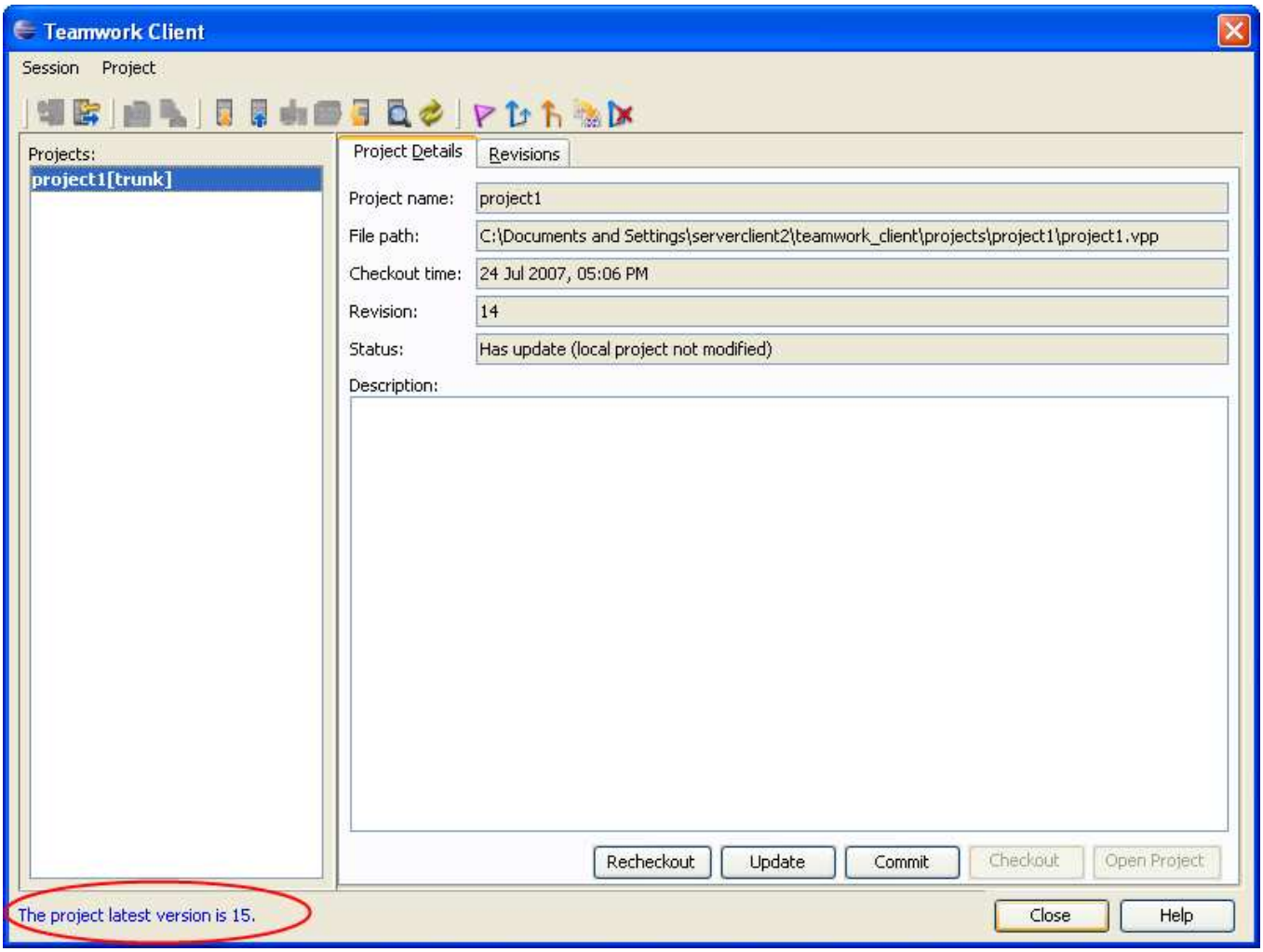



*Figure 13.24 - Message showing the latest version*

# Resolving Conflict

Sometimes, you may modify the same model as your teammate with different changes. In this way, the server may not know which revision should be preserved and it shows conflict.
Conflicts can happen when you commit the project.

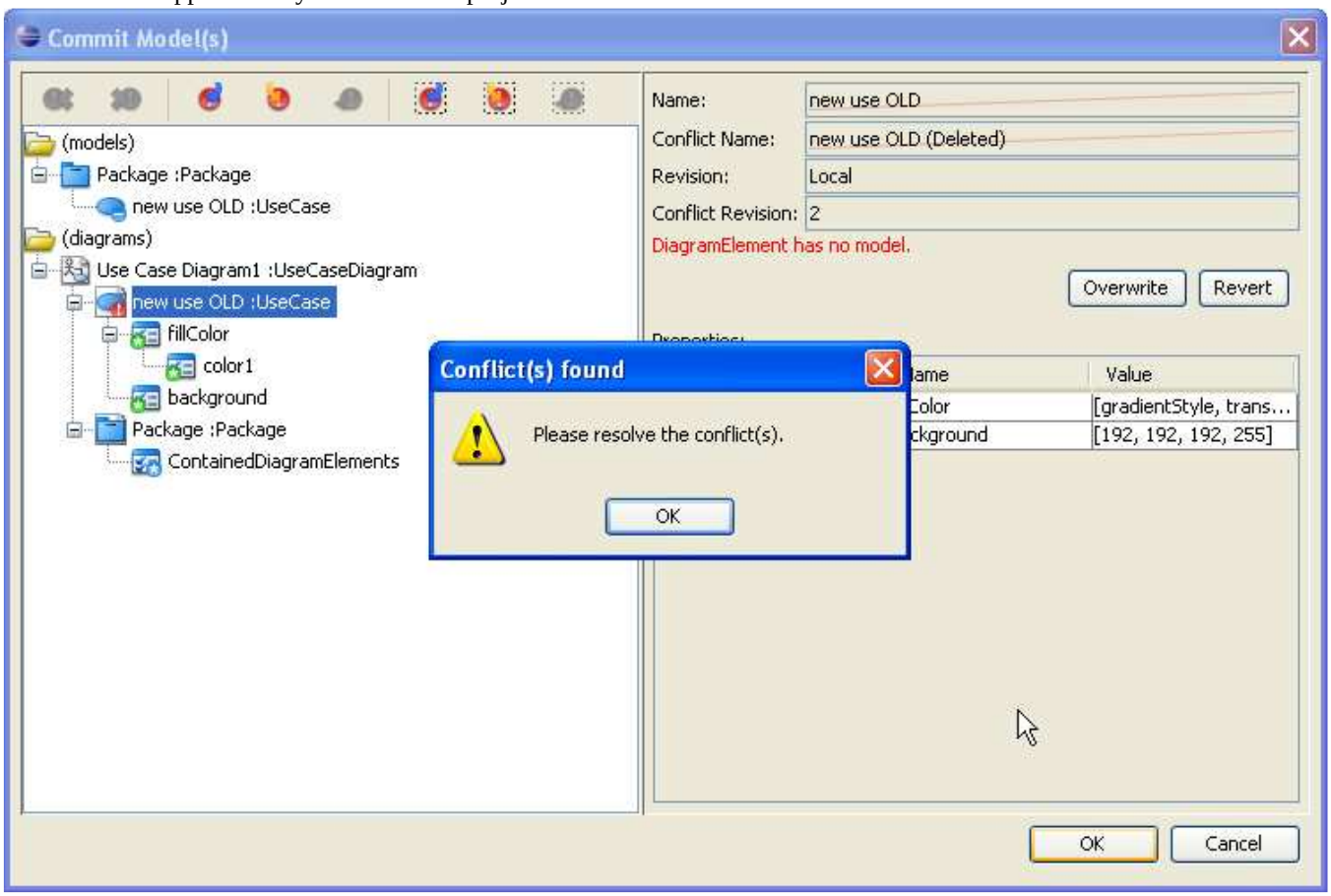



*Figure 13.25 - Conflict found in merging*

Conflict may also happen when you update your project.

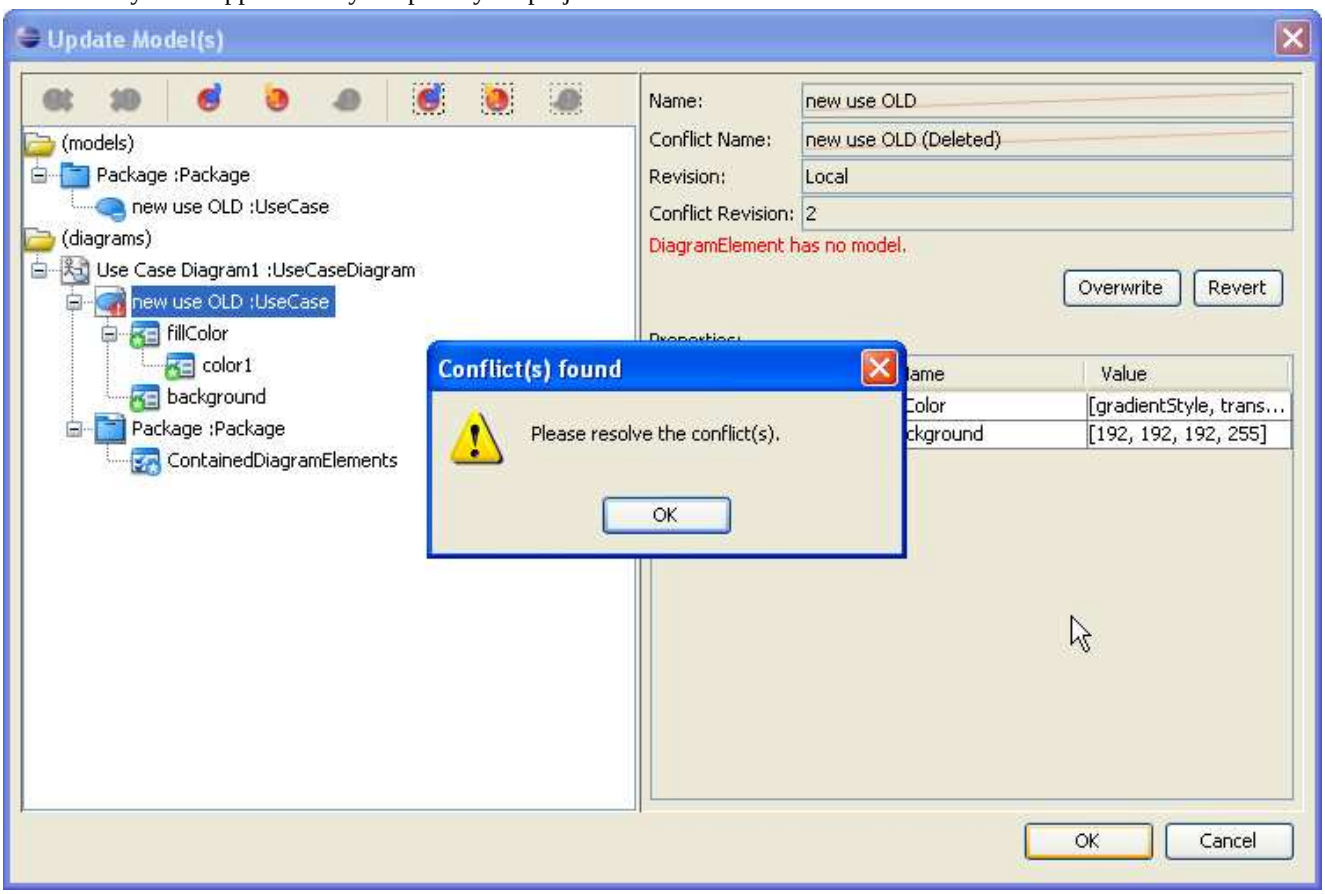



*Figure 13.26 - Conflict found in updating*

When you face conflict, you can solve it by selecting the conflict model and clicking **Overwrite** or **Revert**.
**Overwrite** is to keep local changes while **Revert** is to accept changes from server.

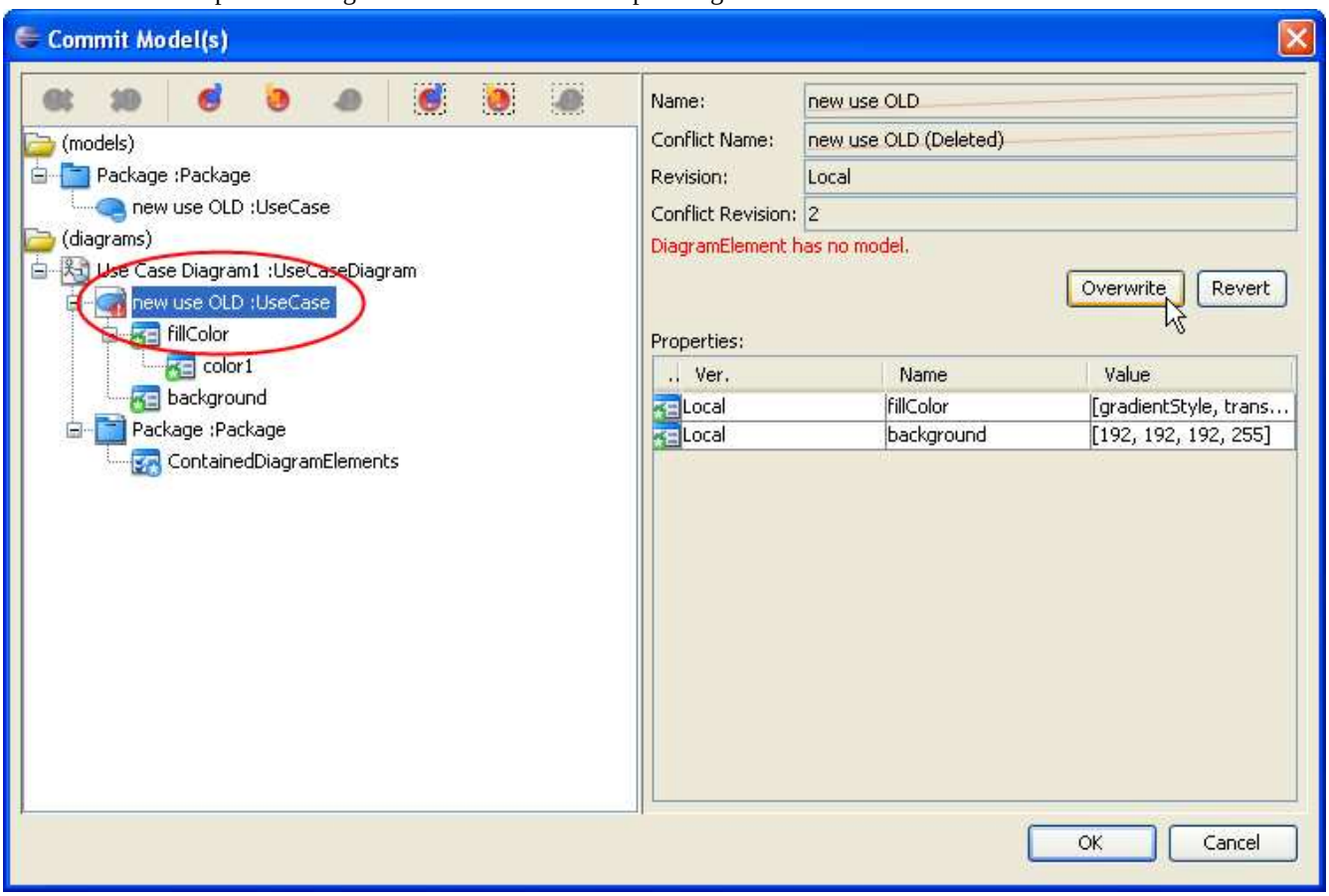



*Figure 13.27 - Solving conflict*

# Viewing Revision History

From time to time, there may be a lot of changes made by you and your teammates. In SDE for Eclipse, you can view back the previous revisions of the project.
To view the history of committed changes, open the **Teamwork Client** dialog box and select **Revisions** tag.

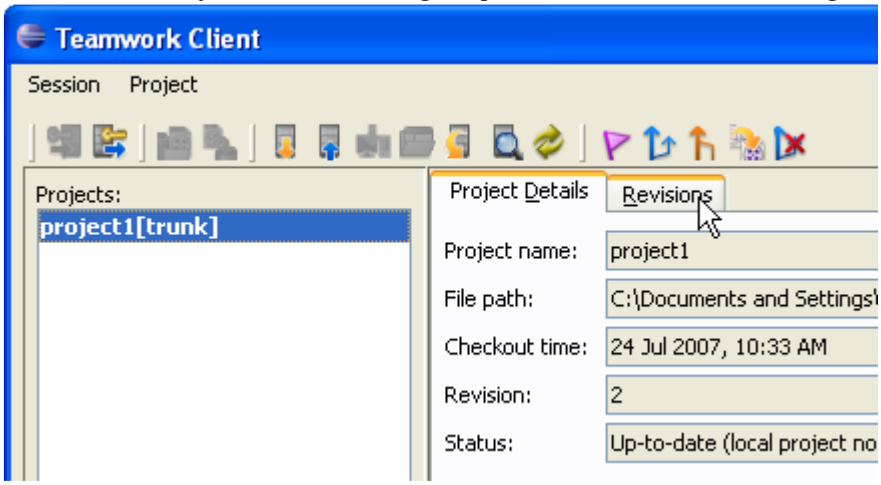



*Figure 13.28 - Select Revisions*

You can see the different revisions of the project.

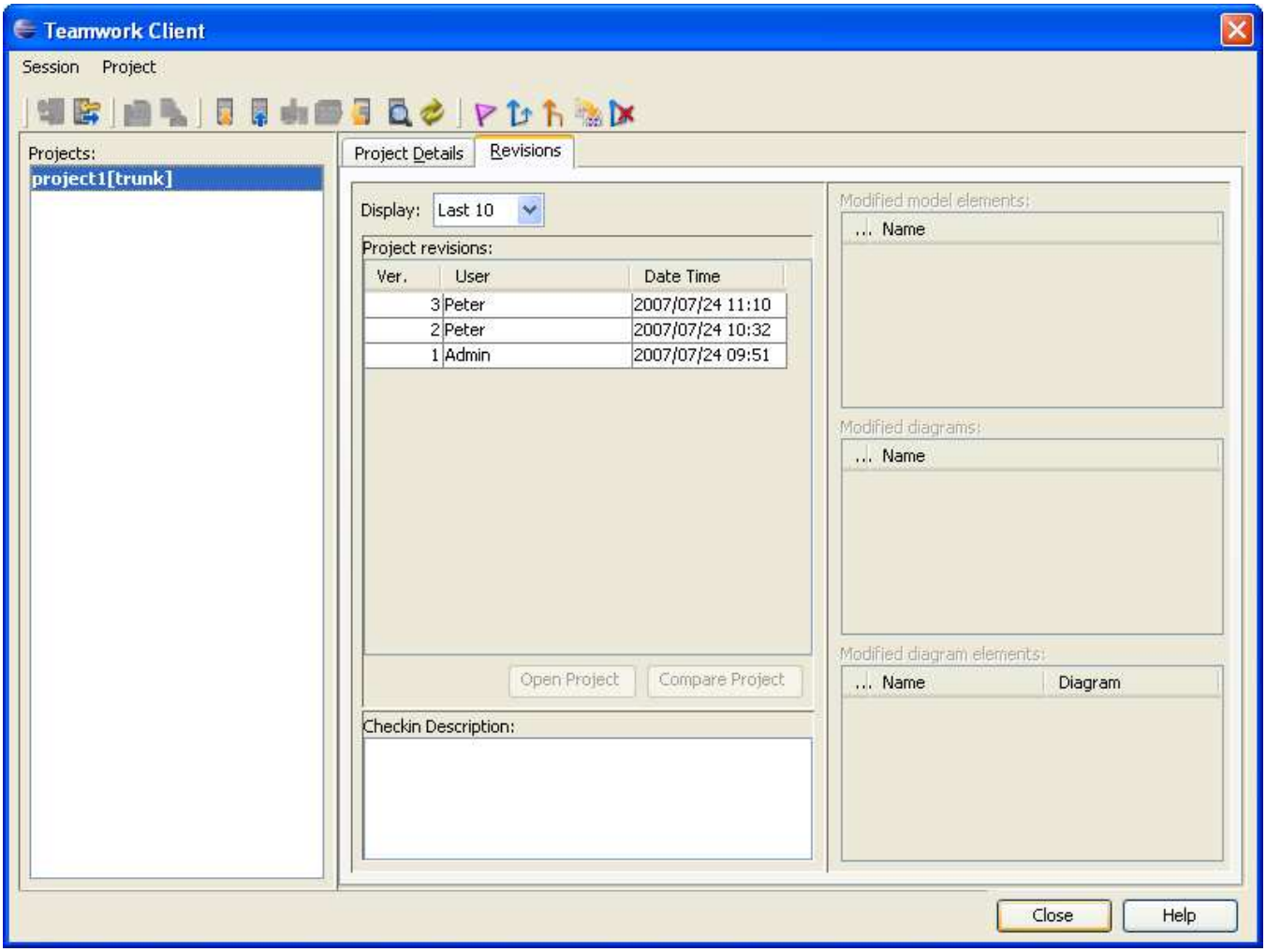



*Figure 13.29 - Different revisions of the project*

You can see the model, diagram and diagram elements modified in that version. You can also see the checkin description in that version.

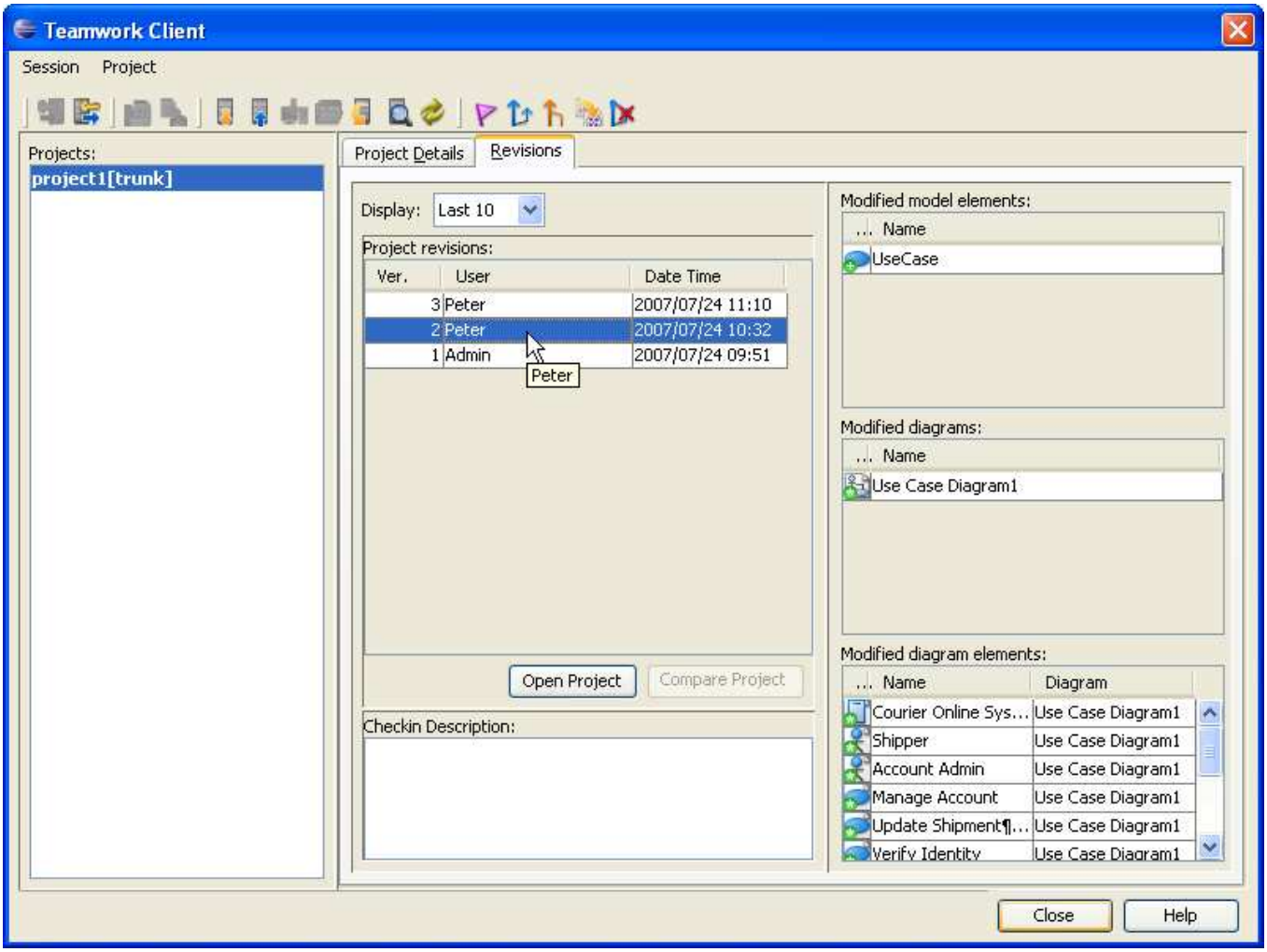



*Figure 13.30 - Changes of different revisions*

# Checking Out Old Revision

You can checkout the old revision of project and make changes in it. Afterwards, you can commit your changes to the server. To check out a revision of a project, you can select a revision and click **Open Project**.

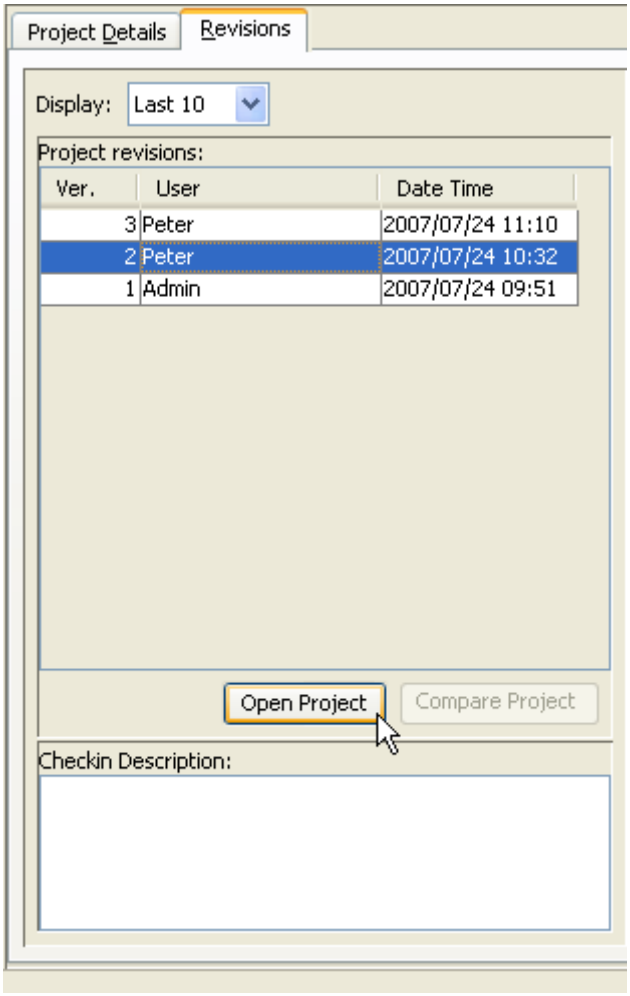



*Figure 13.31 - Check out old revision*

# Comparing Between Revisions

You may want to see the differences between different revisions here in SDE for Eclipse.
To achieve, first you may select a revision.

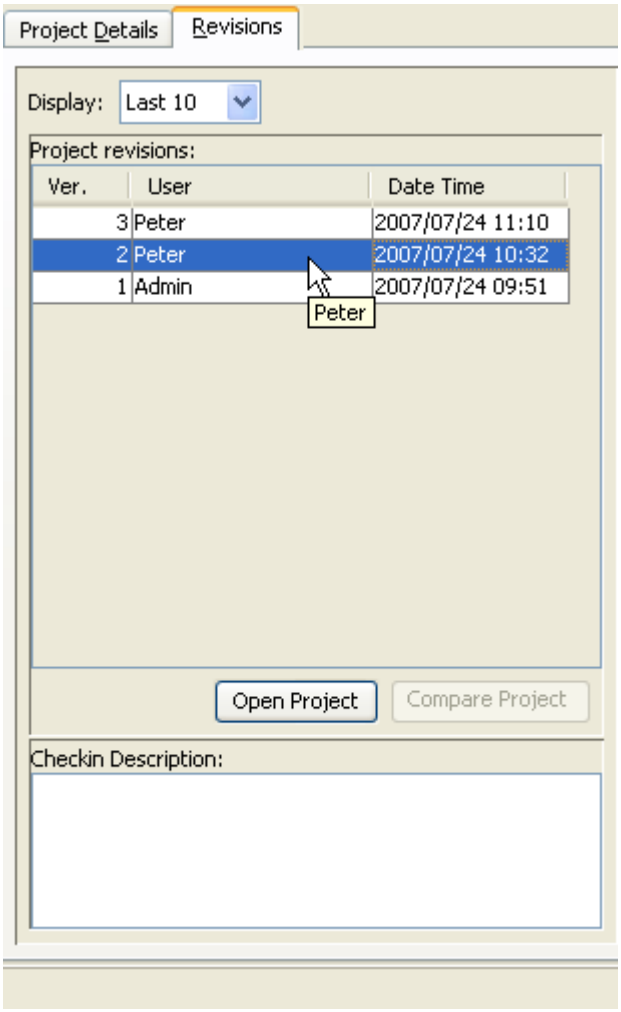



*Figure 13.32 - Select one revision*

Then, you may press *Ctrl* and click on the revision you want to compare with.

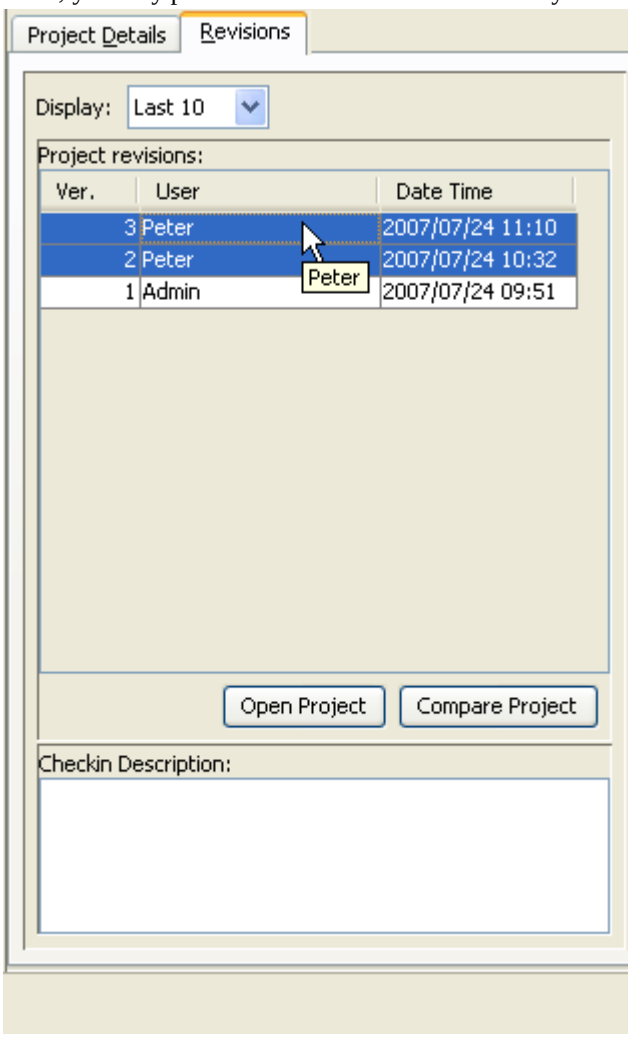



*Figure 13.33- Select another revision*

Afterwards, click **Compare Project** to compare**.**

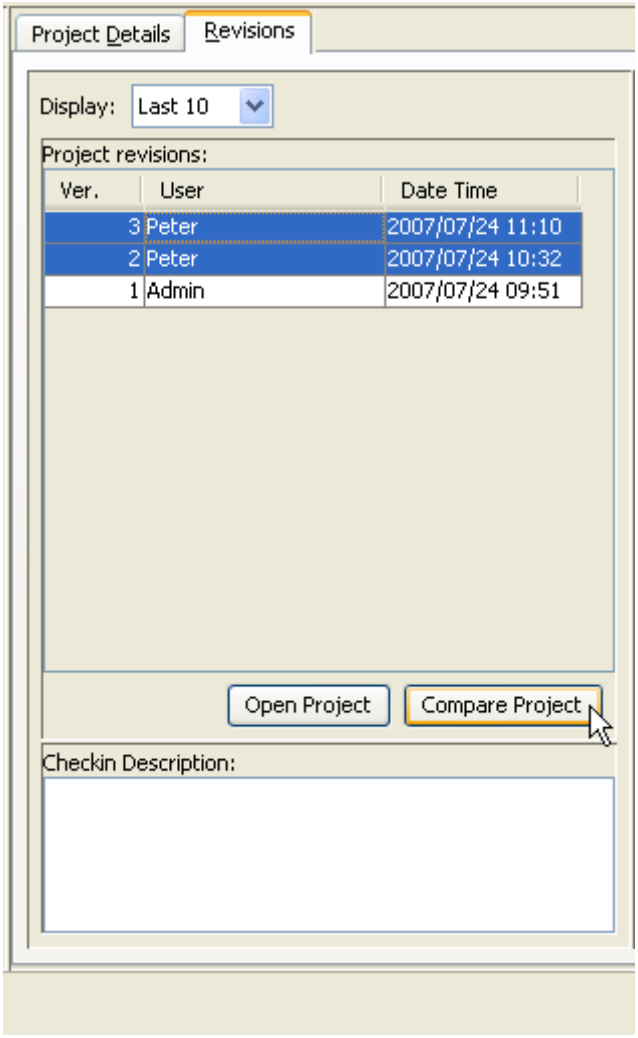



*Figure 13.34 - Select Compare Project*

A **Compare Projects from revision** dialog box appears and shows you the differences between your selected revisions.

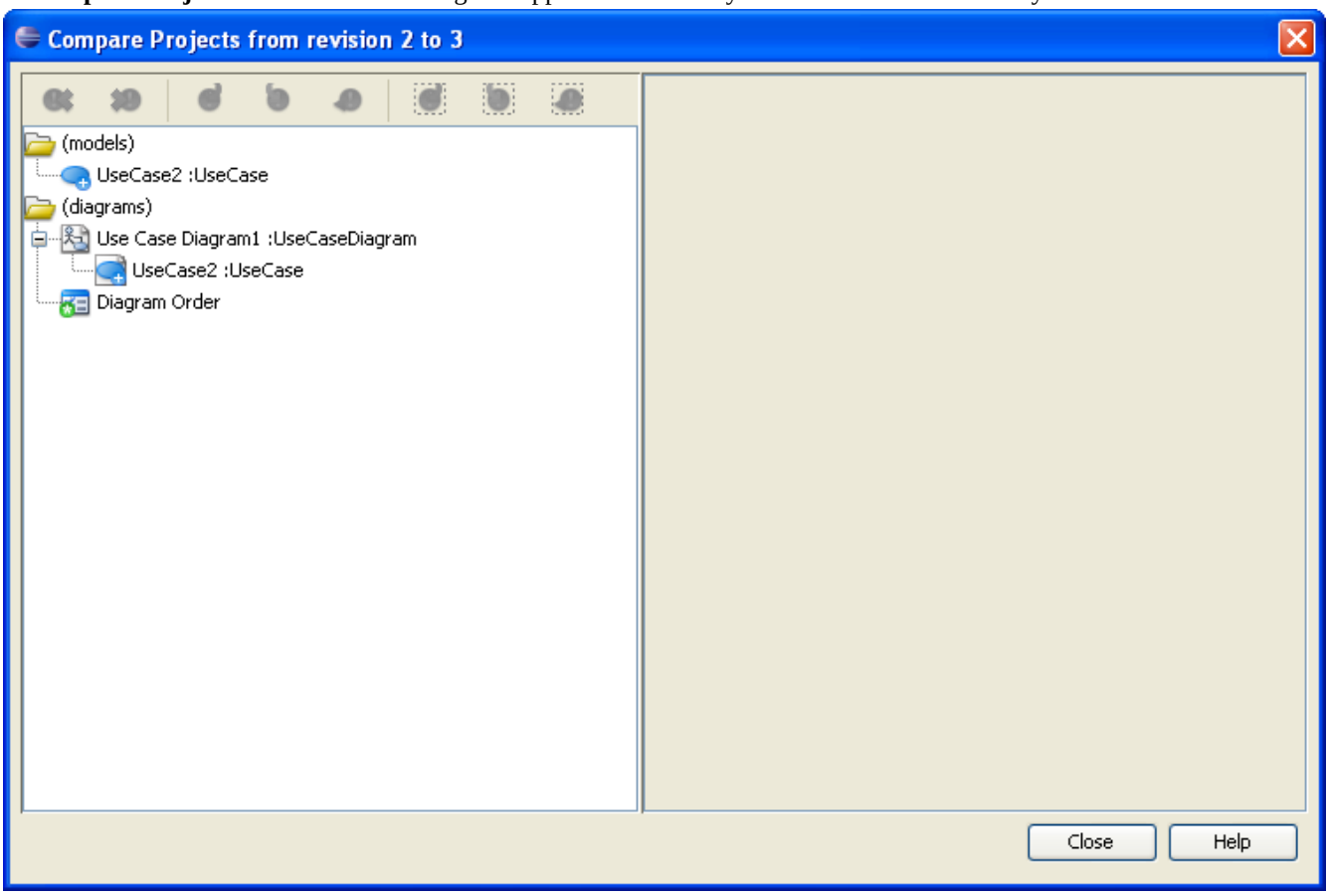



*Figure 13.35 - Compare Project dialog box*

# Branch and Tag Project

Branch is a technique to separate the development of project from trunk. You can modify the project in branch while keep the most stable version design in trunk.
In this way, you can perform some research or time-taking task in branch and merge the changes to trunk only when the branch is proven to be stable.
Tag provides a convenient technique to manage and label a stable version. You can go back to check the stable version by switching to Tag.

## Creating a Branch

You can create a branch by clicking the icon for branch in toolbar.

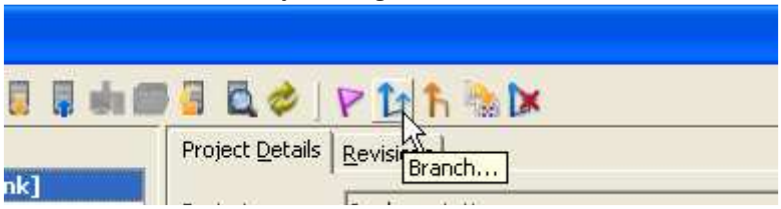



*Figure 13.36 - Select branch*

**Create Branch** dialog box is displayed and you can enter the name of branch you want to create.

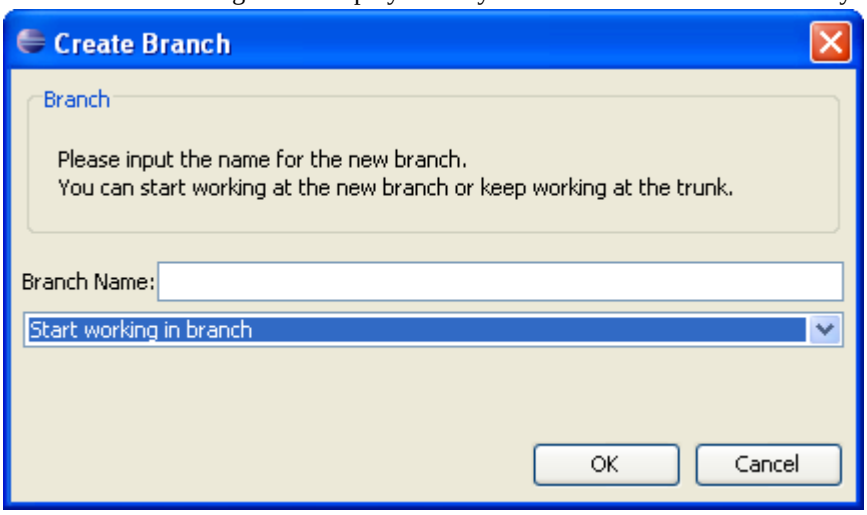



*Figure 13.37 - Create Branch dialog box*

Then, select a status of branch from the drop-down menu.

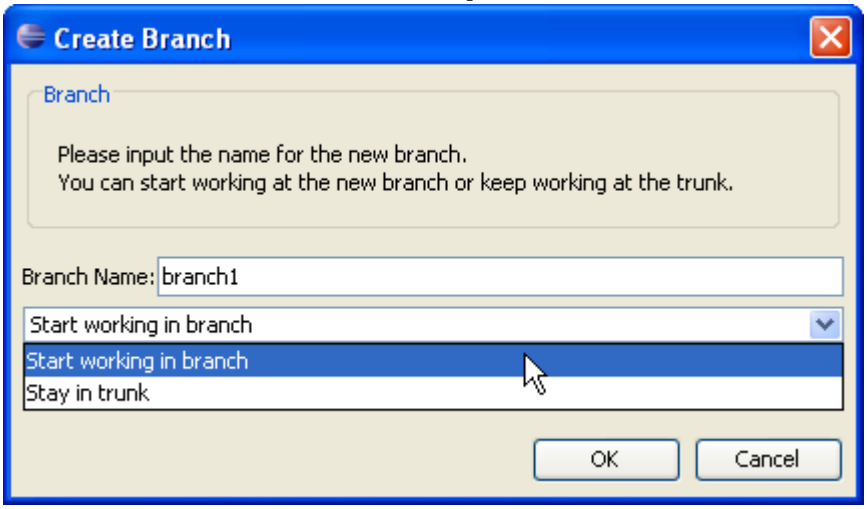



*Figure 13.38 - Select from drop-down menu*

Then, click OK to confirm creating branch.

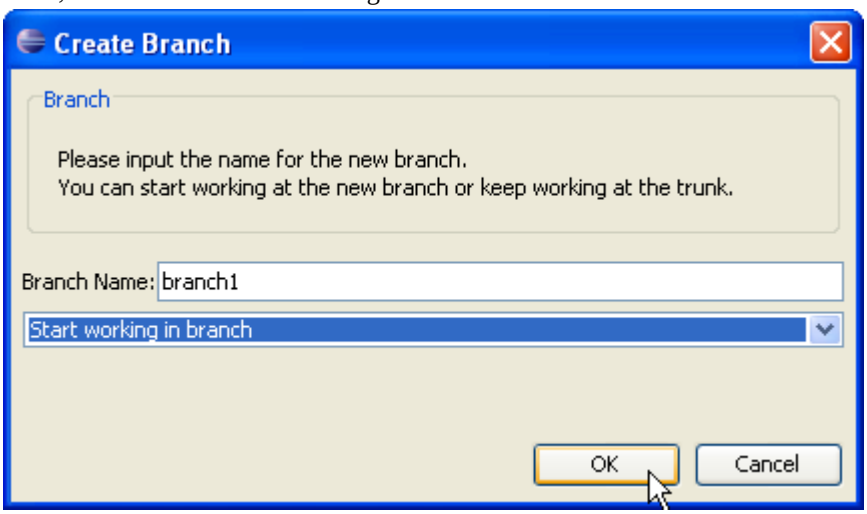



*Figure 13.39 - Confirm creating branch*

## Managing a Branch

In VP Teamwork Server, you can manage a branch by switching to that branch.
To switch, you can select the **Switch...** icon in the toolbar.

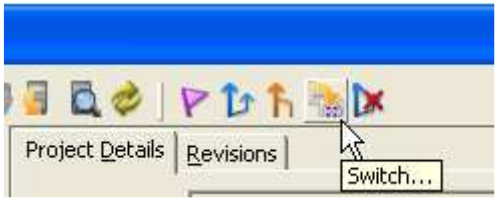



*Figure 13.40 - Select Switch...*

**Swtich to** dialog box is opened. You can select a branch to switch.


*Figure 13.41 - Select a branch to switch*

Afterwards, click **OK** to switch.


*Figure 13.42 - Confirm switch*

## Creating a Tag

You can label the stable version of project by creating a tag there.
To create a tag, select **Tag...** in the toolbar.

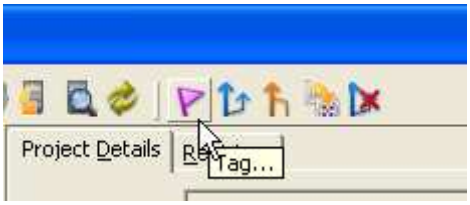



*Figure 13.43 - Select Tag...*

Then, you can enter tag name in the Create Tag dialog box.

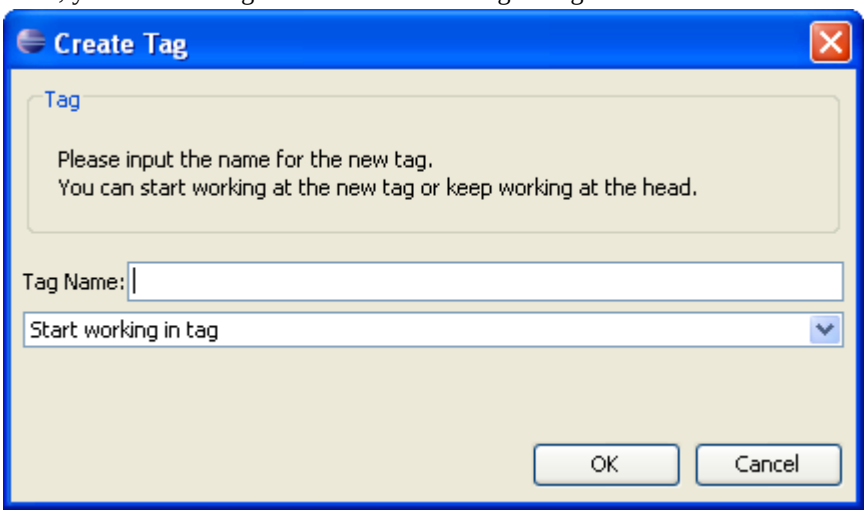



*Figure 13.44 - Create Tag dialog box*

Afterwards, you can select your location after creating tag.

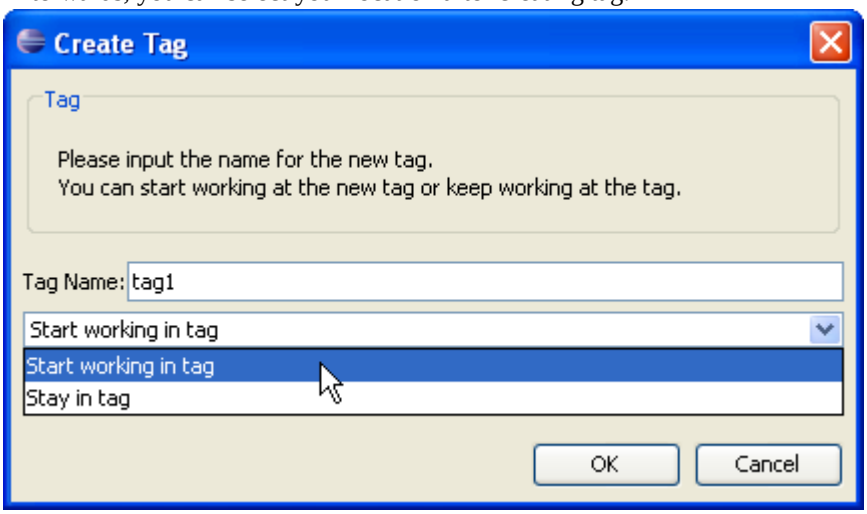



*Figure 13.45 - Select location after creating tag*

Tag is created.


*Figure 13.46 - Tag created*

## Managing a Tag

Similar to managing a branch, you can manage a branch by switching to that branch.
To switch, you can select the **Switch...** icon in the toolbar.

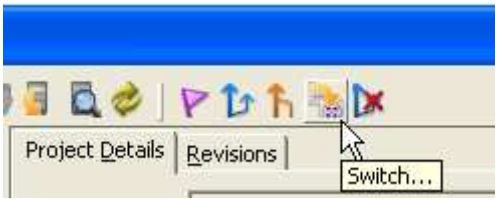



*Figure 13.47 - Select Switch...*

**Swtich to** dialog box is opened. You can select a branch to switch.

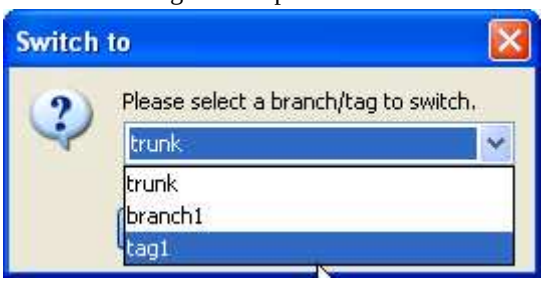



*Figure 13.48 - Select a branch to switch*

Afterwards, click **OK** to switch.


*Figure 13.49 - Confirm switch*

# Usage of Merge

When you have modified your project in branch, you can merge the changes you made to trunk.
To merge, you can select the icon for merging in the toolbar.

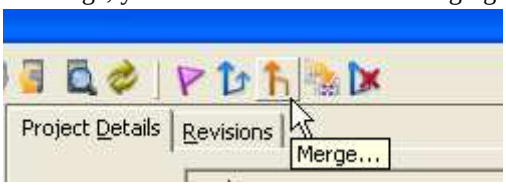



*Figure 13.50 - Icon for merging*

**Merge** dialog box is displayed. You can select the URL you want to merge from by typing in the text box or select **...** . You can also select the revision which take part in the merging.

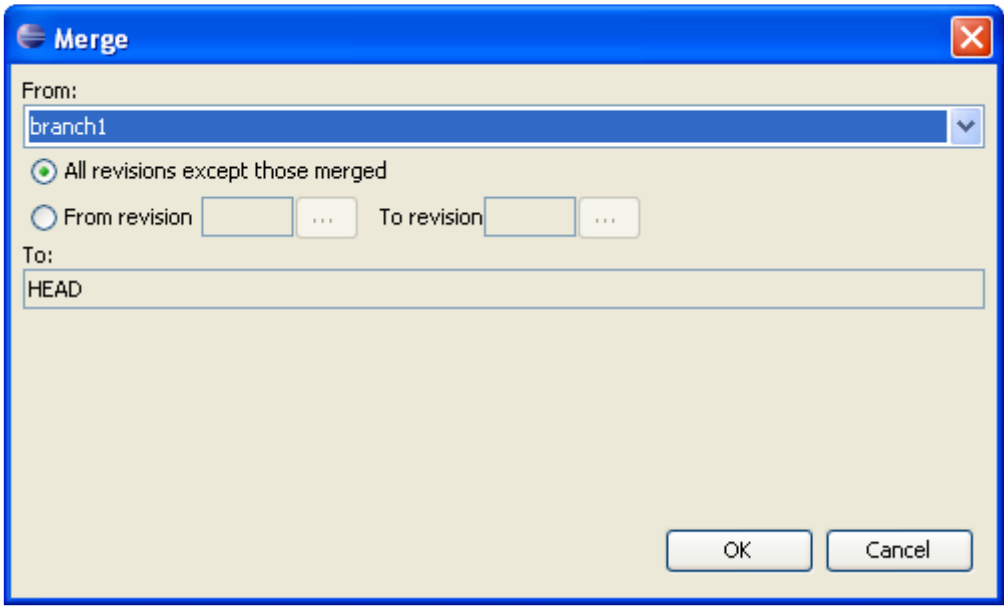



*Figure 13.51 - Merge dialog box*

The progress of merging is shown.

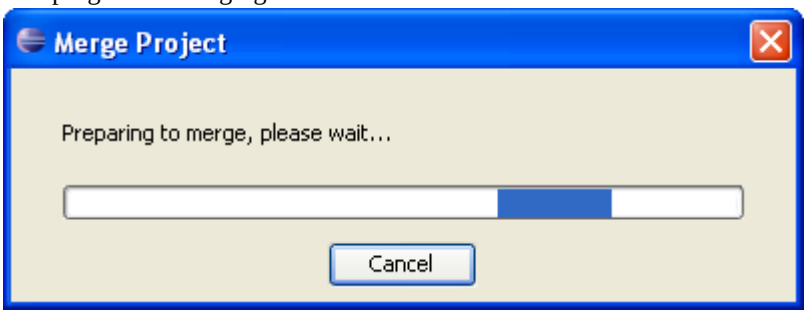



*Figure 13.52 - Progress of merging*

Then, a dialog box tells you what models and diagrams are going to be merged. You can click OK to confirm merging.

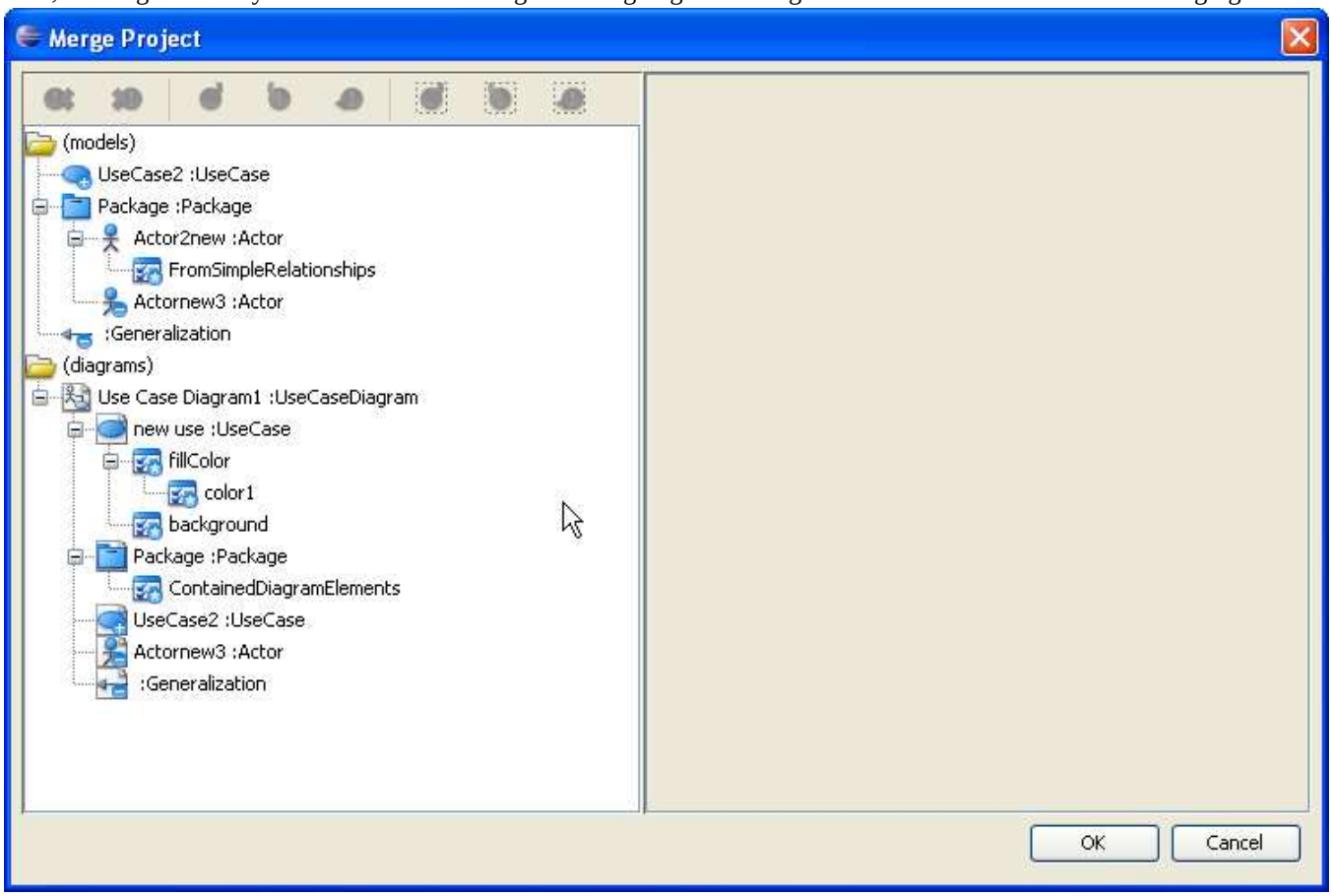



*Figure 13.53 - Models and diagrams which are going to merge*

# Suggested Branch Usage

This section will show you the suggested usage of the Branch with VP Teamwork Server integration.
Here, you will learn how to create a single branch called "supportWebService". However, you can choose to have multiple branch running at the same time.

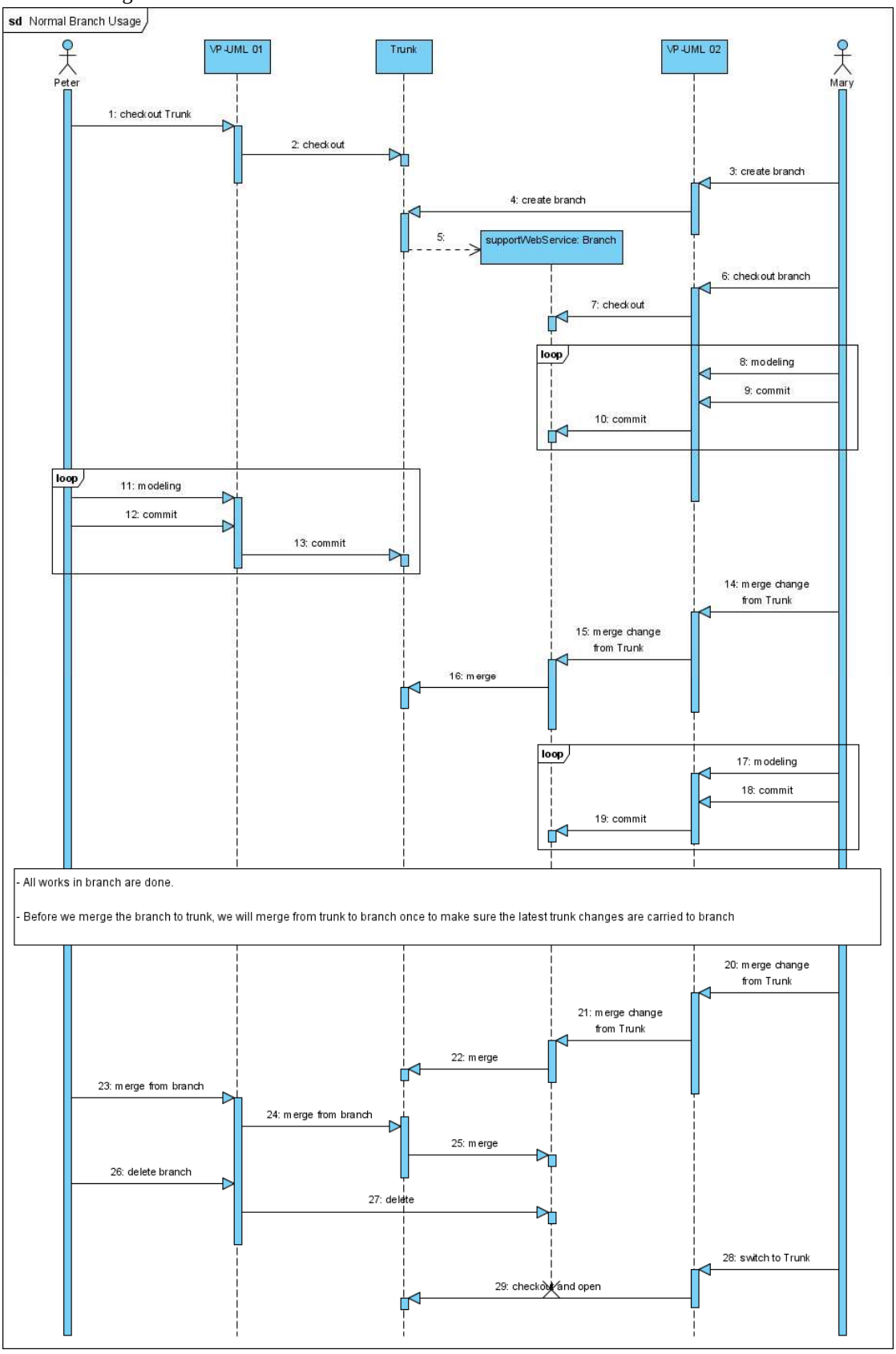



*Figure 13.54 - Suggested branch usage*

# 14 Team Collaboration with CVS

# Chapter 14 – Team Collaboration with CVS Repository

CVS is widely adopted version control and collaboration platform. With SDE for Eclipse CVS repository integration you can record and keep history of all changes in your design in your CVS repository. Moreover, your designs are stored along with source codes in the same repository. This allows both design and source code to be backed up together, and also saves administration cost by needing only a single repository in your team. Other people who may need to only view your designs just need to use the free Viewer to have a look at the project. Please be reminded CVS repository is only available in Standard Edition or above.

In this chapter:

- Importing and managing projects
- Operating projects
- Reviewing the old revisions of projects
- Comparing the differences between revisions
- Using branch and tag
- Providing suggested branch usage

## Starting the Teamwork Client Dialog Box

The Teamwork Client dialog box is the access point for all Teamwork functions, such as importing and managing projects, operating projects, reviewing and comparing projects and using branches and tags. There are three ways you can start Teamwork Client.

To start using the main menu, you can select **Modeling** > **Teamwork** > **Open Teamwork Client...** .

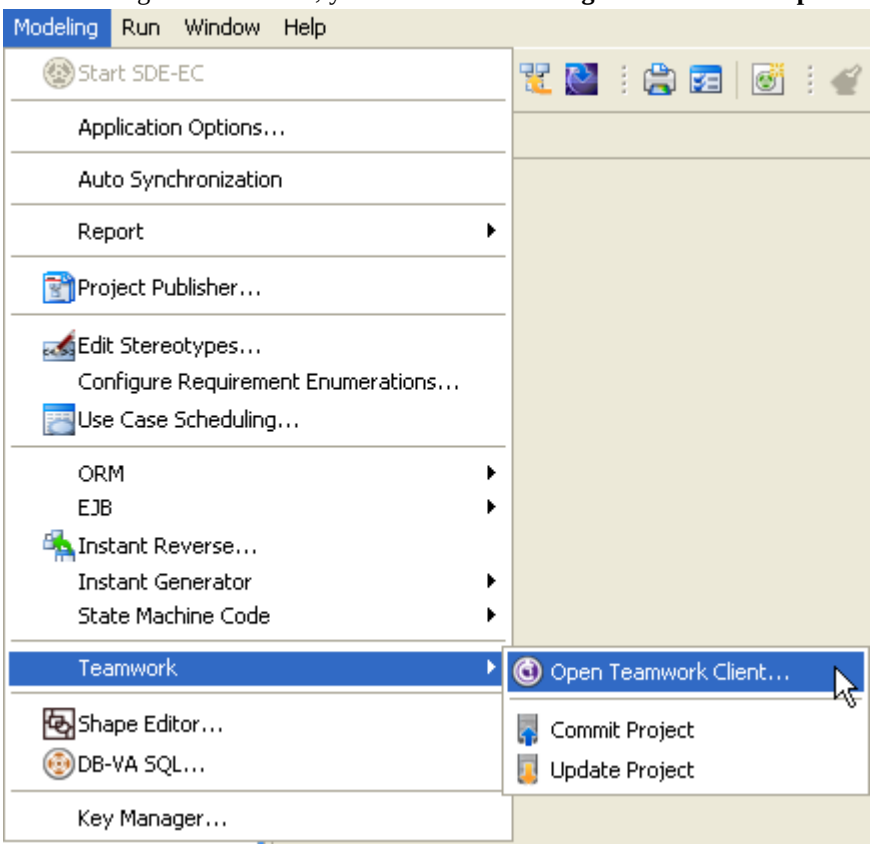



*Figure 14.1 - Open Teamwork Client using main menu*

If not, you may use the tool bar to open the Teamwork Client dialog box.

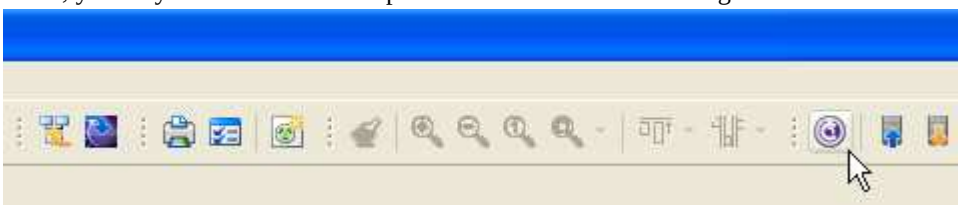


*Figure 14.2 - Open Teamwork Client using toolbar*

You can also right click on the project node of different panes and select **Teamwork** > **Open Teamwork Client...** .

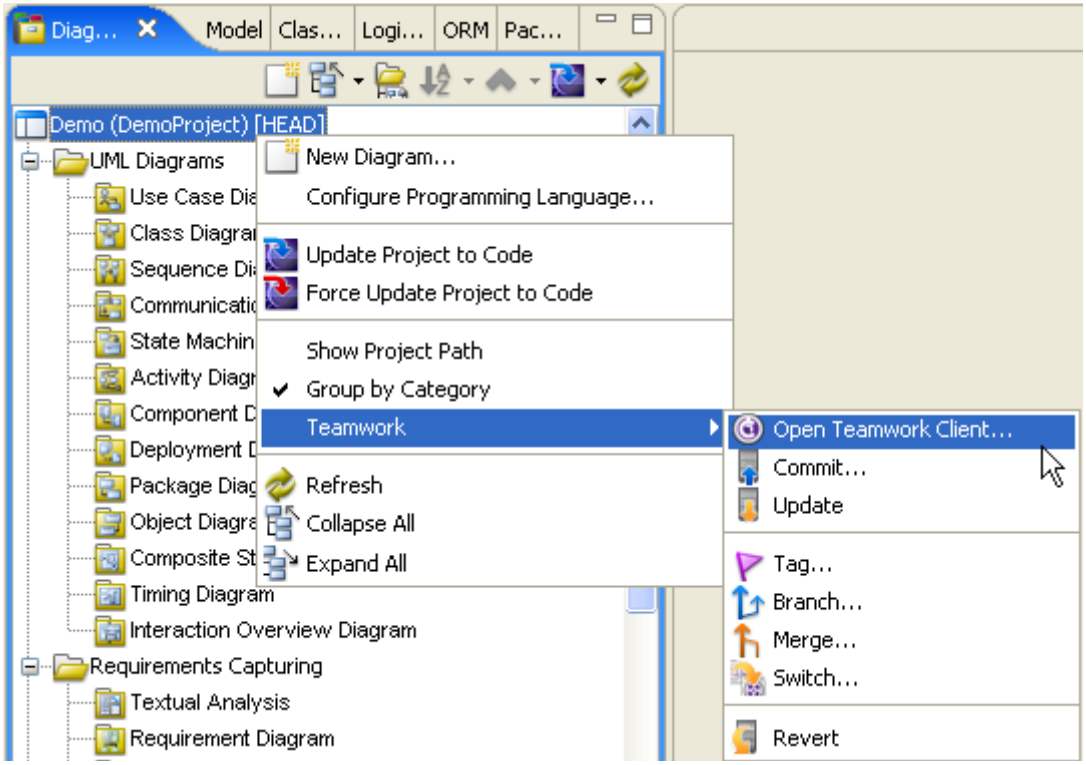



*Figure 14.3 - Open Teamwork Client with project node*

By using any one of these methods, the **Login to the Teamwork Server** dialog box will be displayed.

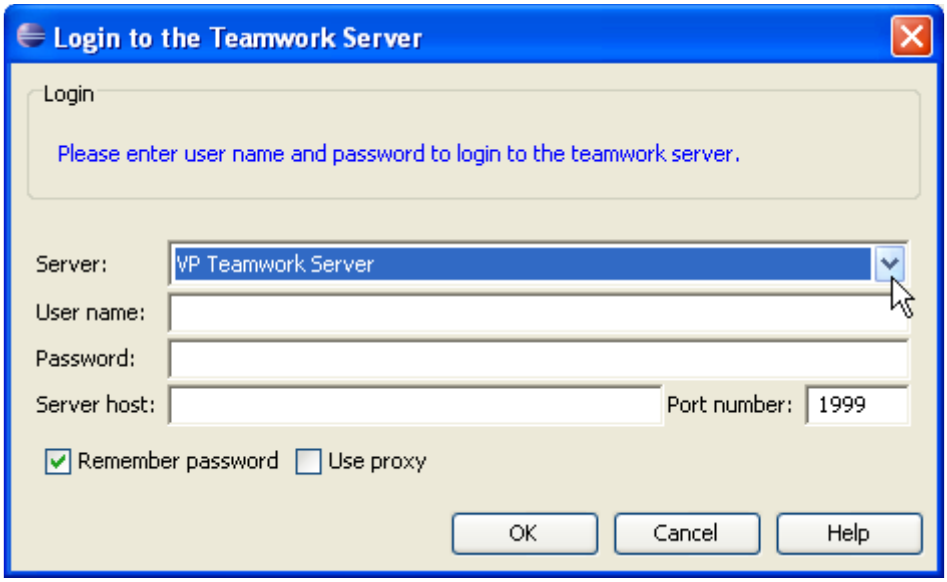



*Figure 14.4 - Login to the Teamwork Server dialog box*

You can select **CVS** as the server.

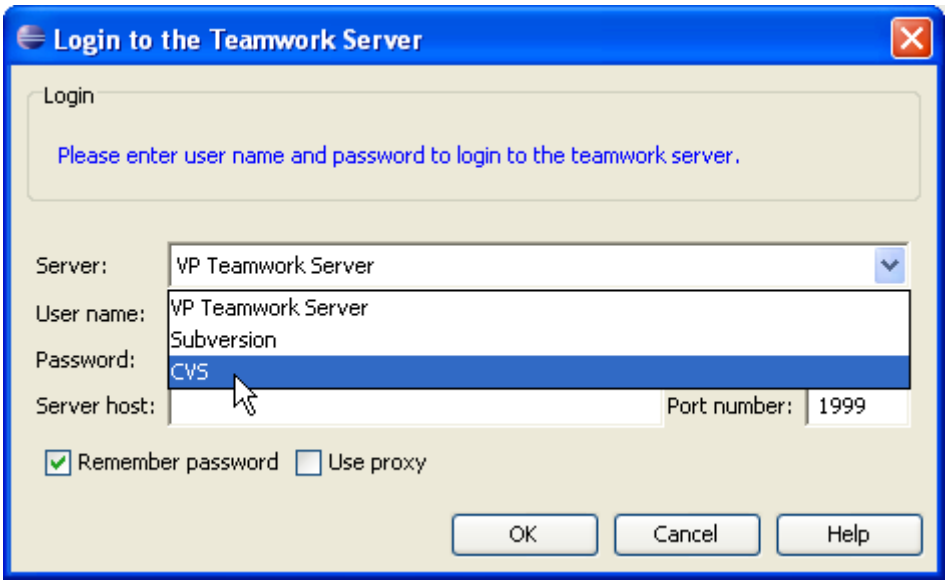



*Figure 14.5 - Login to the Teamwork Server dialog box*

Configure the details of the server connection, then click **OK** to confirm.

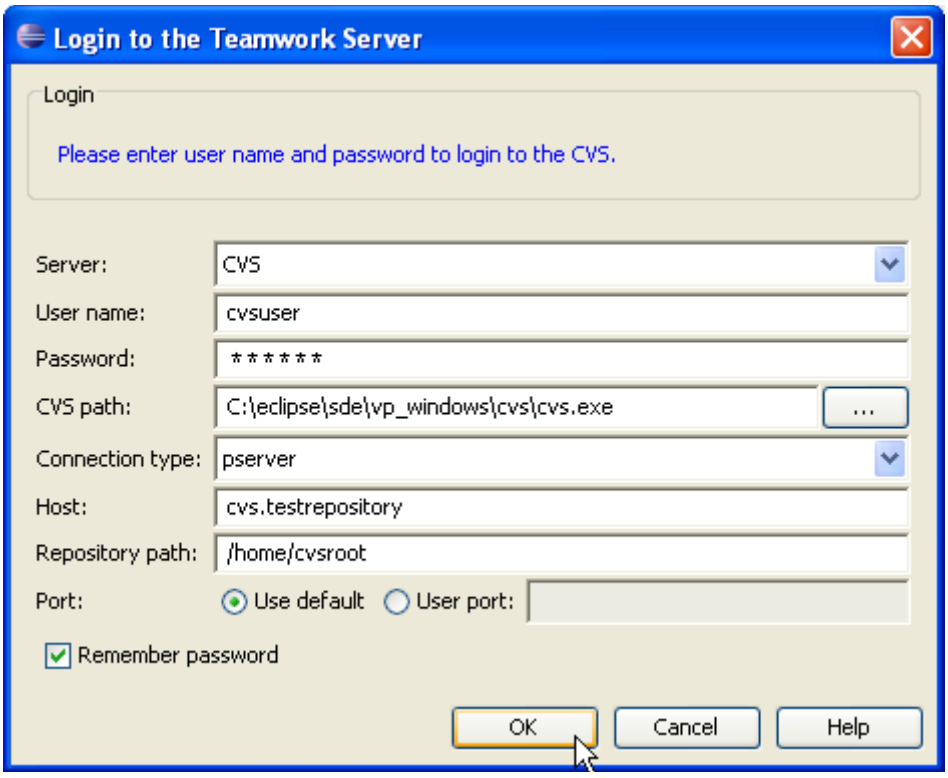



*Figure 14.6 - Configure details of server conncetion*

The Teamwork Client dialog box is opened.

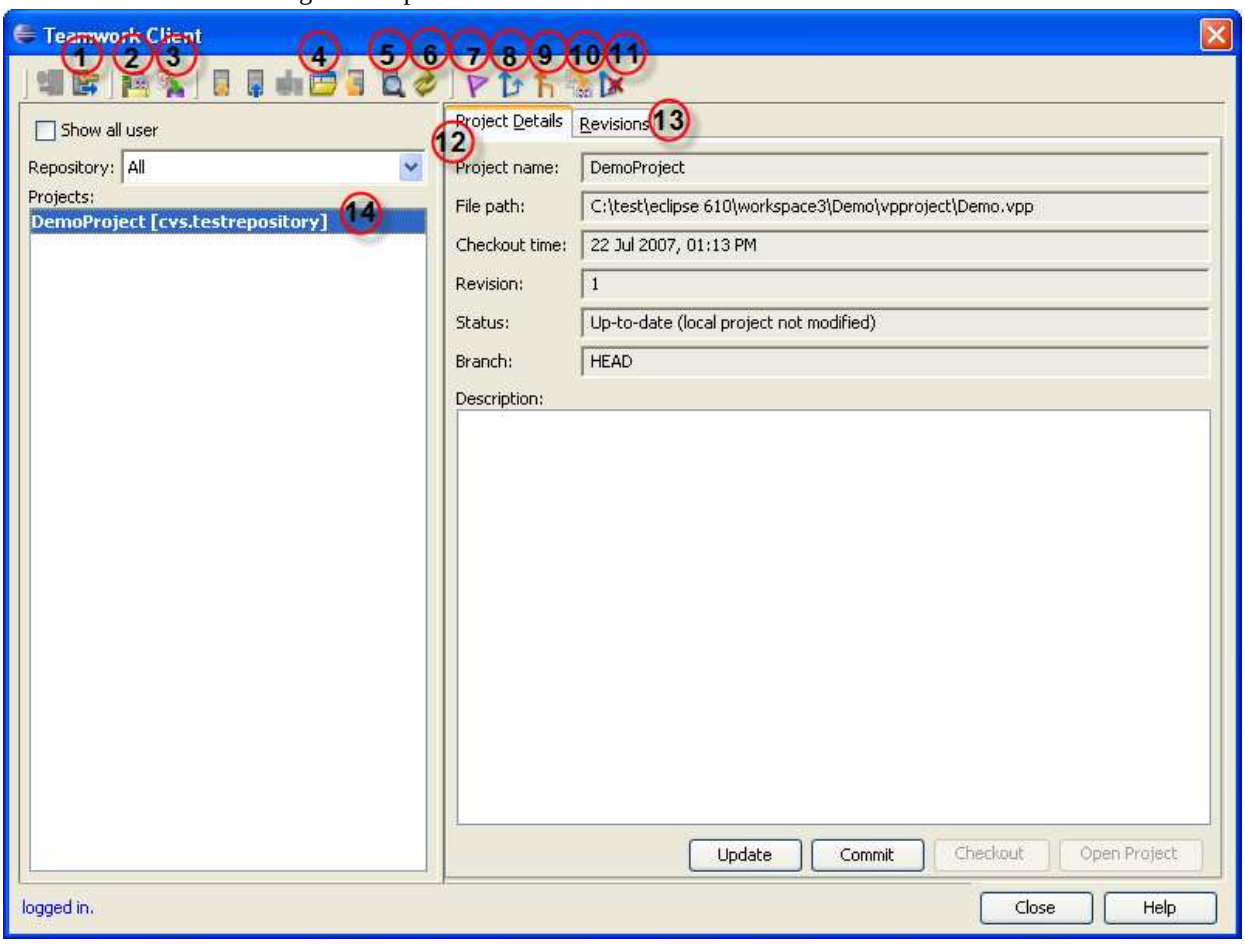



*Figure 14.7 - Teamwork Client dialog box*

| | Name | Function |
|---|---|---|
| 1 | Logout | Logout from the server. |
| 2 | Manage project | Manage projects in the server. |
| 3 | Import project | Import a project into the server. |
| 4 | Open | Open the selected project. |
| 5 | Check for Update | Check for updates in the selected project. |
| 6 | Refresh projects | Refresh the projects to get the latest status. |
| 7 | Tag... | Create a tag for the selected project. |
| 8 | Branch... | Create a branch for the selected project. |
| 9 | Merge... | Merge the modification of branch to head. |
| 10 | Switch... | Switch your location in the project. |
| 11 | Delete branch... | Delete a branch. |
| 12 | Project Details... | Show details of the selected project. |
| 13 | Revision | Modification history of the selected project. |
| 14 | Projects list | Show projects selected to be managed. |

*Table 14.1*

# Importing Project to the Repository

You can import your project to the repository by clicking the **Import Project to Repository** icon in the **Teamwork Client** dialog box.

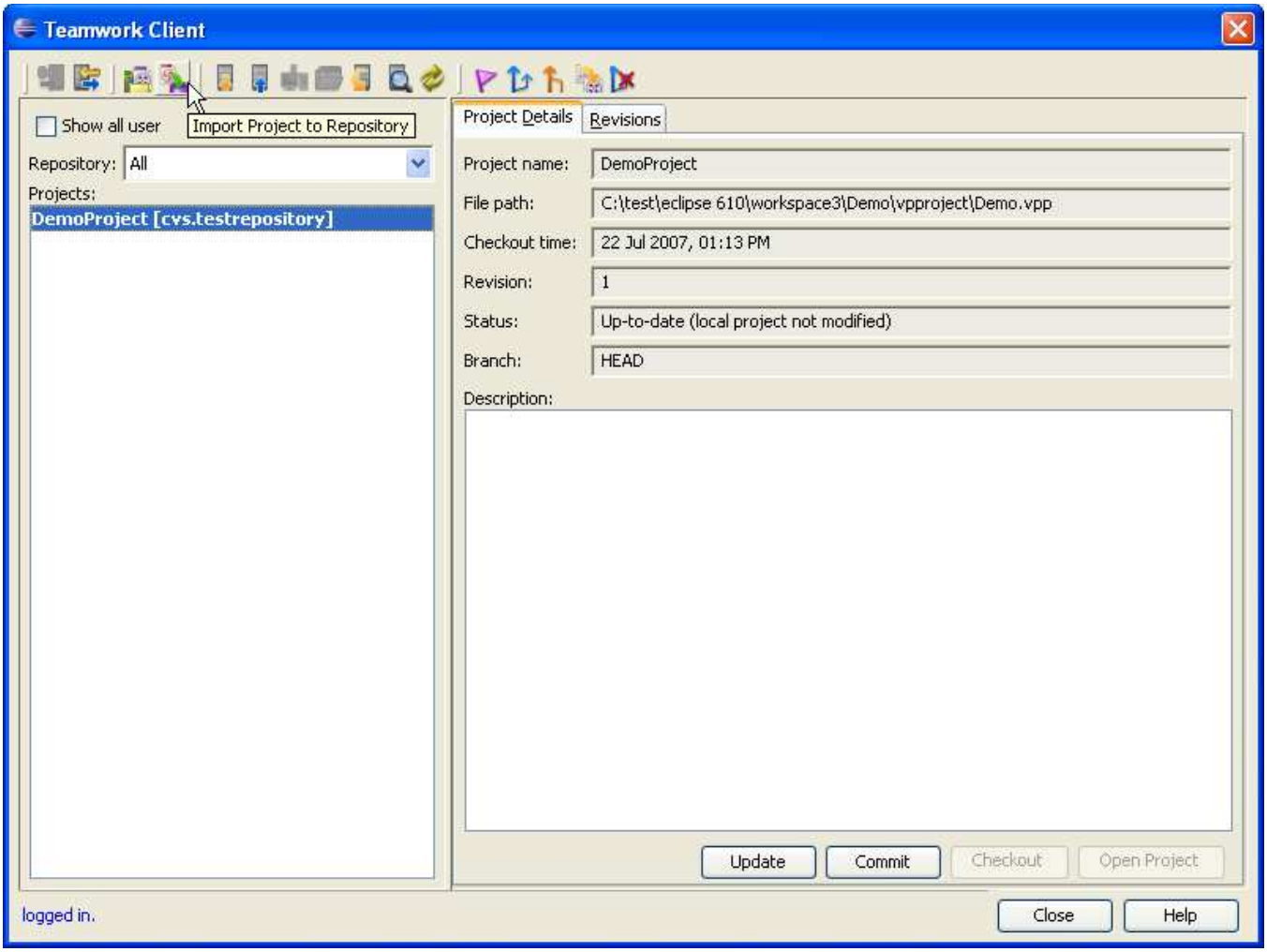



*Figure 14.8 - Select Import Project to Repository*

The **Import Project** dialog box will be displayed. You can edit the project name and the type of project file you want to import.

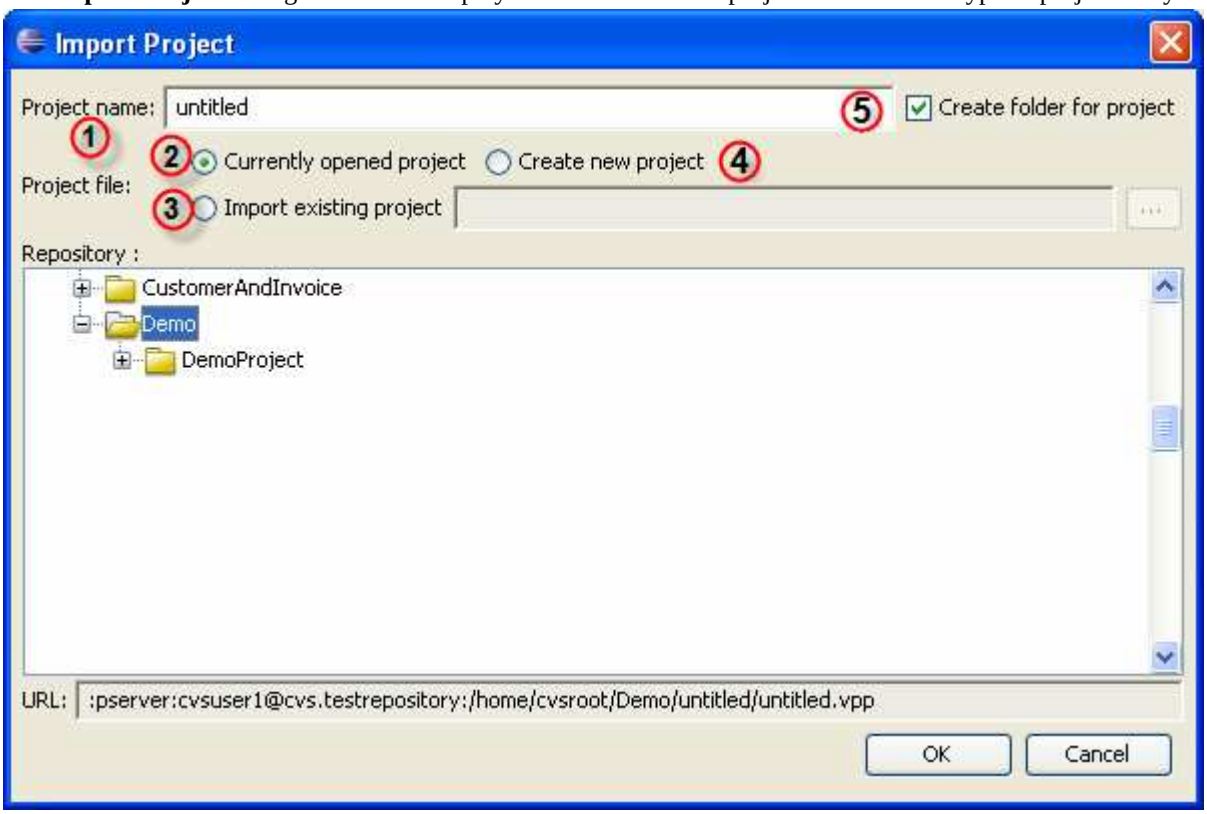



*Figure 14.9 - Import Project dialog box*

| | Name | Function |
|---|---|---|
| 1 | Project name | Edit the name of the imported project. |
| 2 | Currently opened project | Import the project you have opened |
| 3 | Import existing project | Import an existing project from the local file system. |
| 4 | Create new project | Create a new project in the repository. |
| 5 | Create folder for project | Create a folder for an imported project automatically. |

*Table 14.2*

You can then select the repository where your project will be imported to. You may right-click on a folder and select **New Remote Folder** from the popup menu to create another folder inside it.

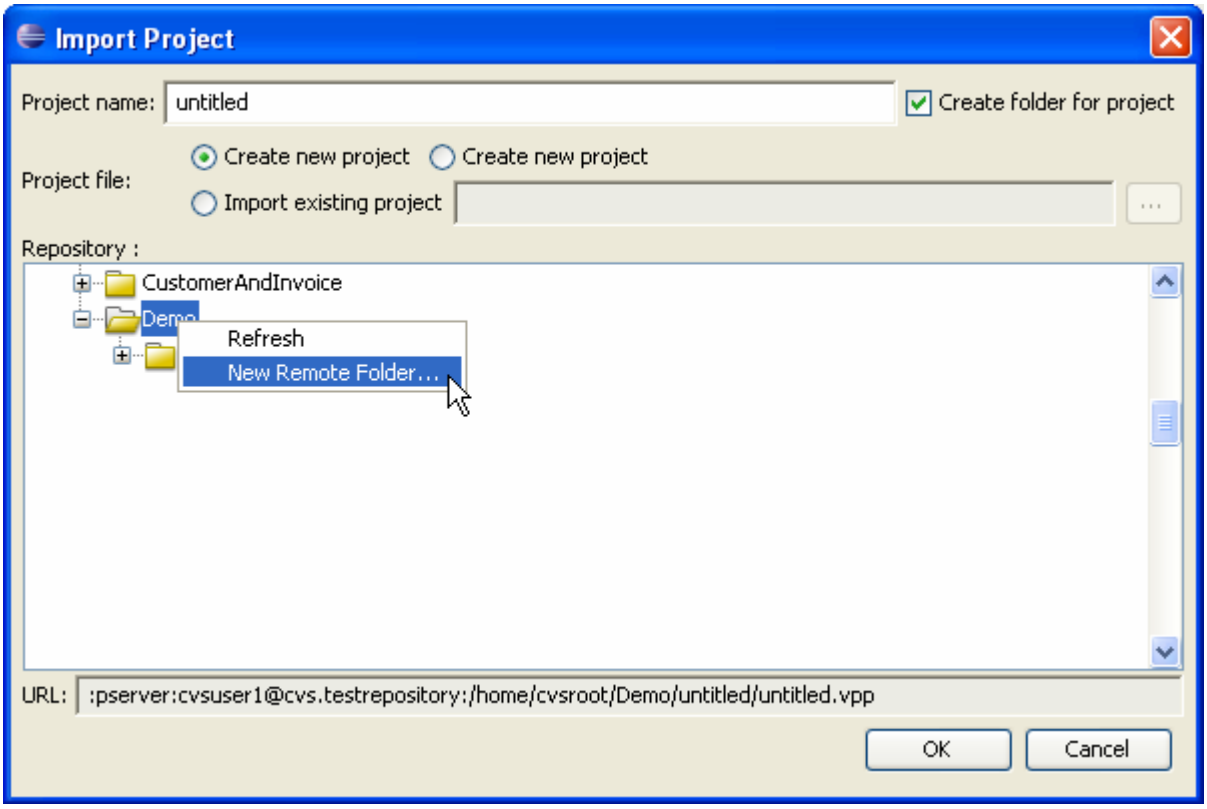



*Figure 14.10 - Open a new remote folder*

# Managing Teamwork Project

Only the first project user, who usually is Project Leader or Business Analyst, needs to import project to repository. Other team members may use the **Manage Project** dialog box to manage these working projects. To open the **Manage Project** dialog box, you can right-click on the Projects List in the Teamwork Client dialog box, and select **Manage Project** in the popup menu.

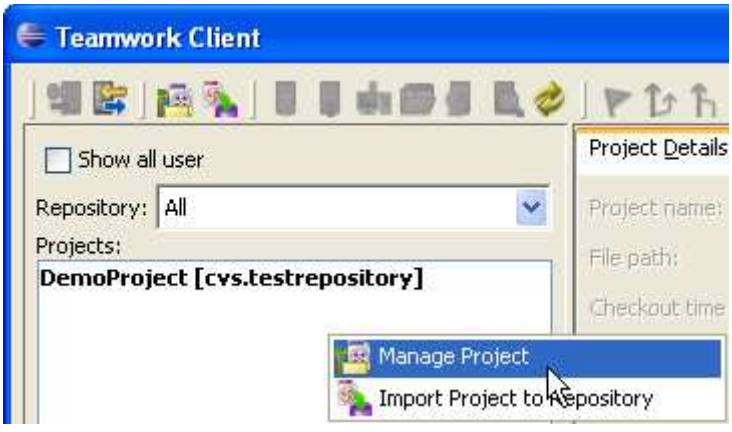



*Figure 14.11 - Select Manage Project*

Select a project in the repositories and click **Add selected** 

to add the project to the **Projects** list. You may manage more than one teamwork project at the same time by selecting different projects and clicking **Add selected**.

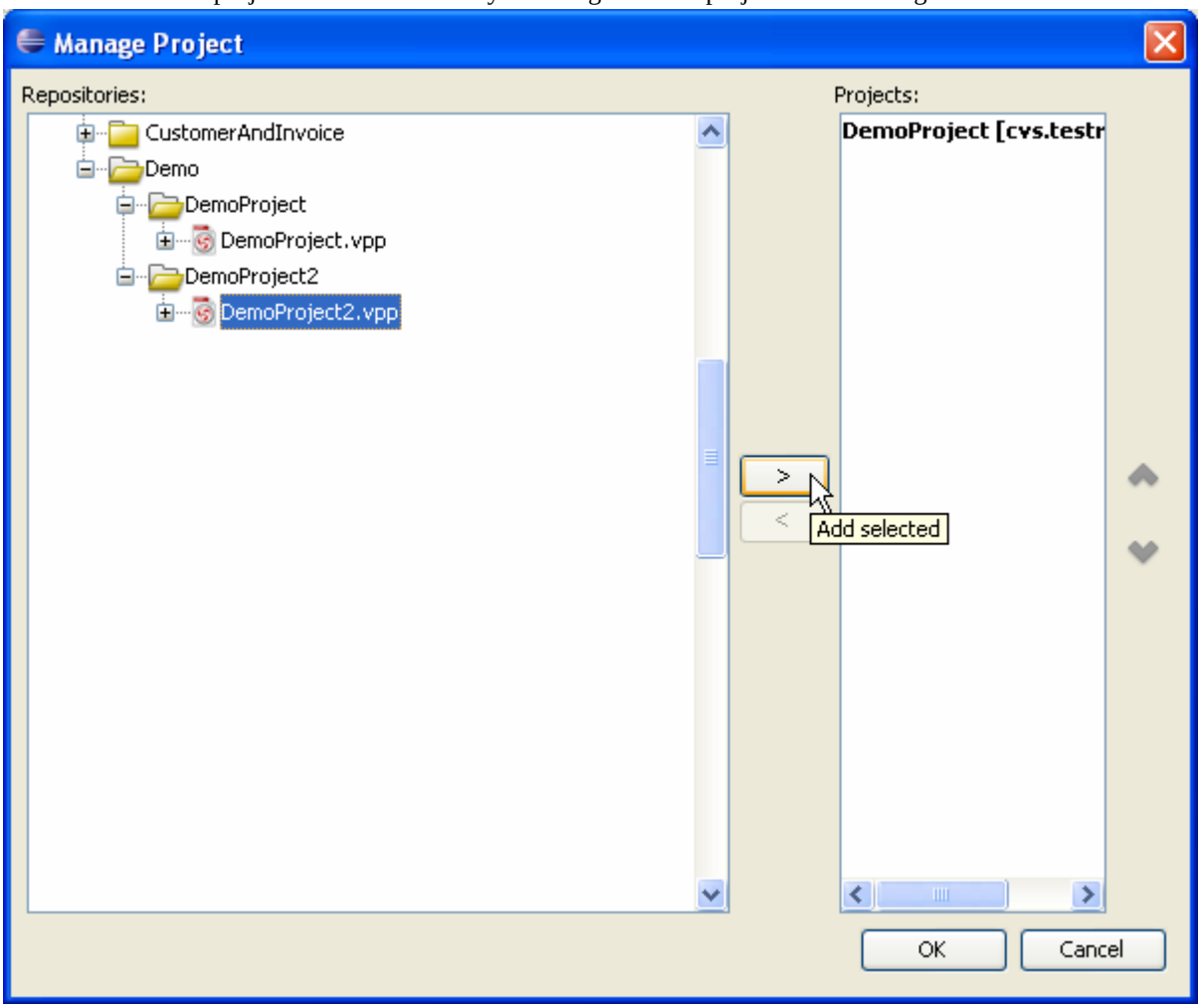



*Figure 14.12 - Manage Project dialog box*

If you want to remove a project which is added to your **Projects** list, select **Remove selected**  to remove the project selected in the list.

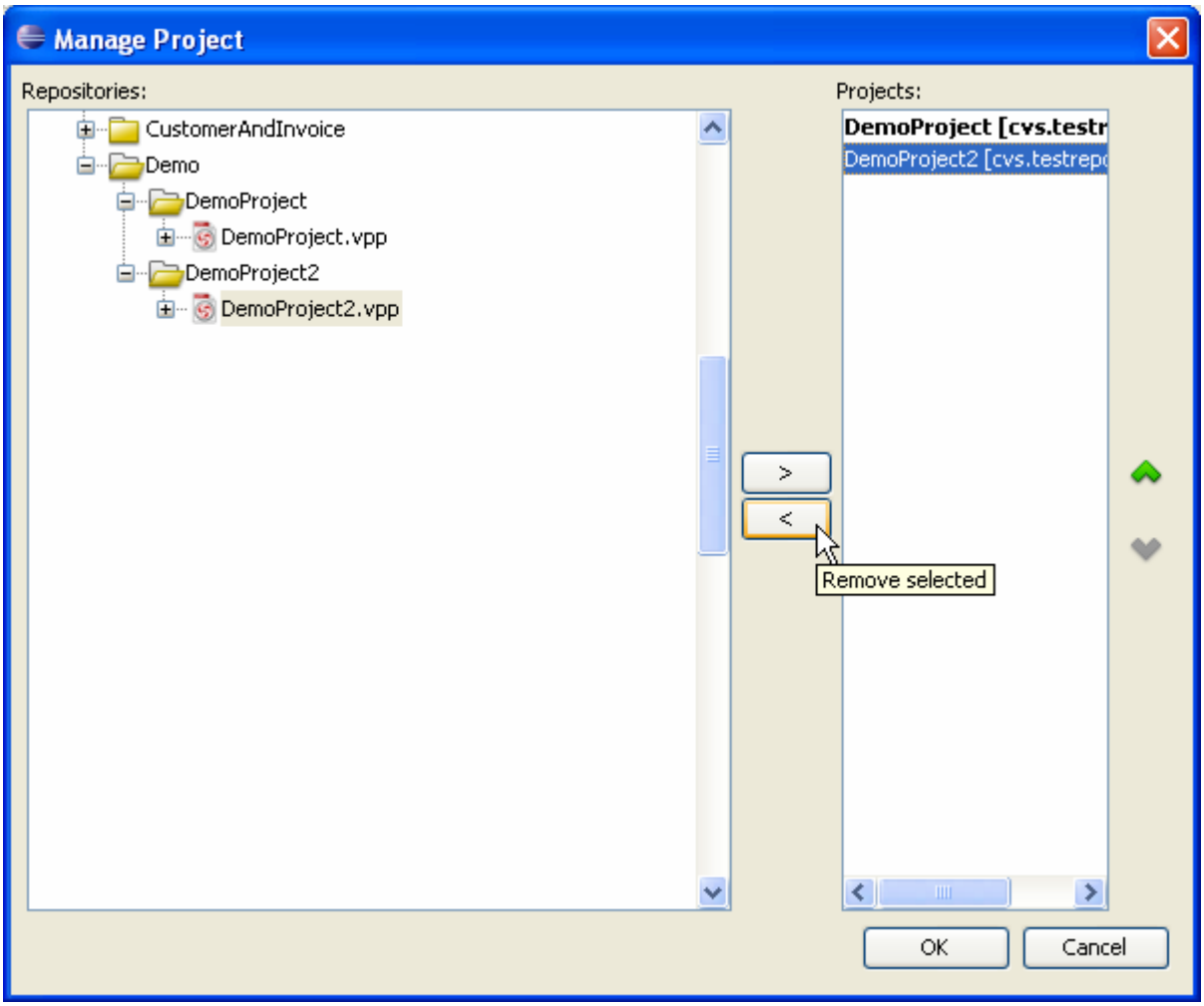



*Figure 14.13 - Remove selected project*

# Checking Out Project

If you have already imported a project to server or selected a project to manage, you can checkout the project from the repository.
When you have just selected a project in the **Projects** list, the status is '**Not checked out**'.

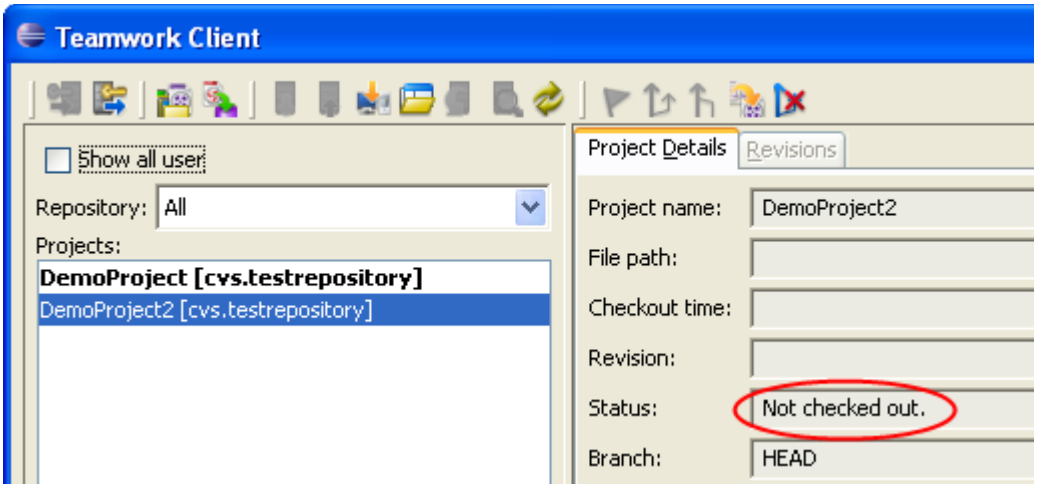



*Figure 14.14 - Project not checked out*

Clicking **Open Project** will checkout the project and open it immediately.

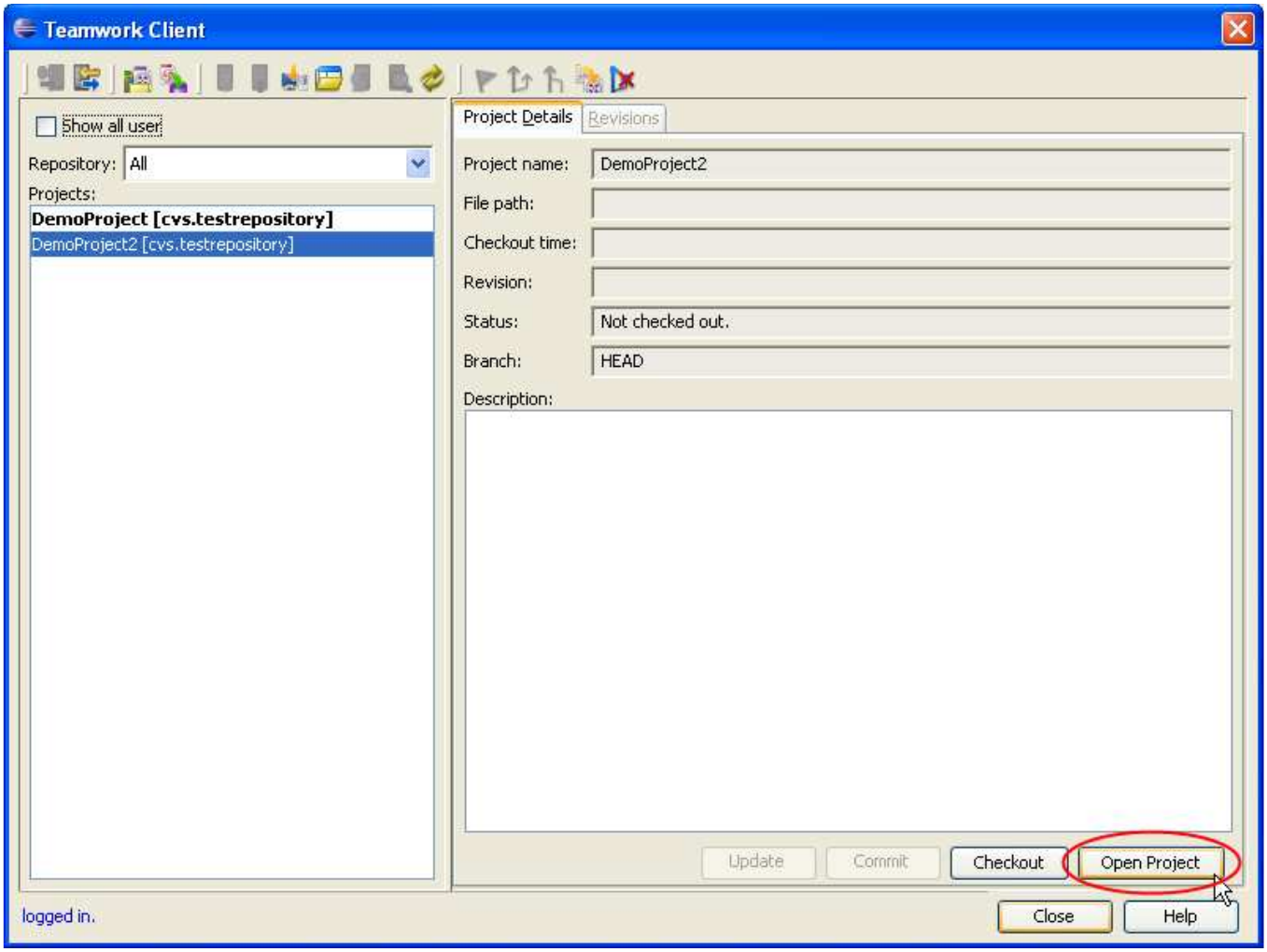



*Figure 14.15 - Open the project*

Alternatively, you can choose to checkout the project without opening it. Checkout Project is quite different from Open Project. After checking out the project, your will stay in the Teamwork Dialog for further actions. For example, creating branch, Merge change from branch. If you select Open Project, you will open the project for viewing and modification.
To checkout the project, click **Checkout** in **Teamwork Client** dialog box.

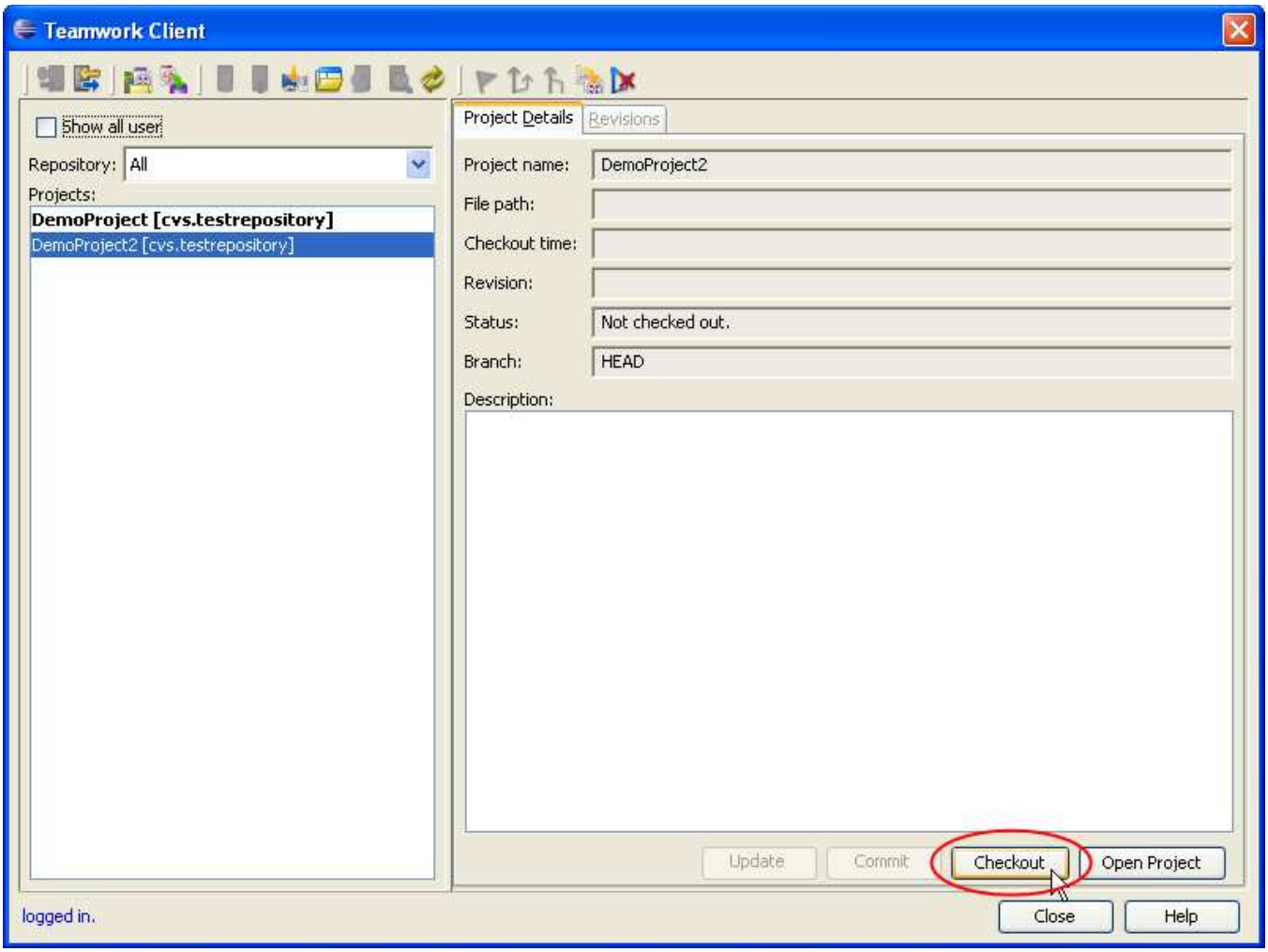



*Figure 14.16 - Checkout the project*

The status of the project is now changed and the project has been checked out successfully.

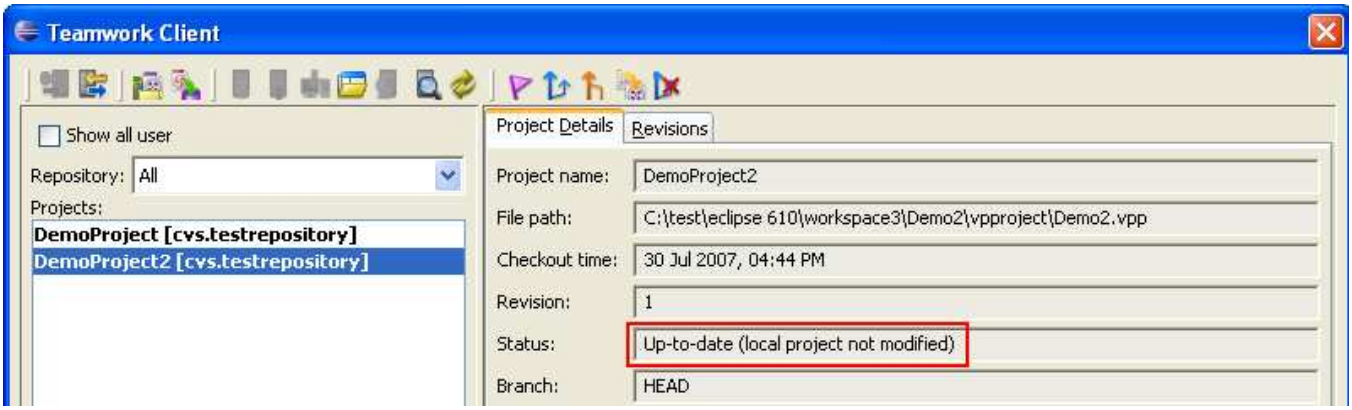



*Figure 14.17 - Project checked out*

# Committing Project

After the project has been modified, you can share your local changes with other team members by committing the project to a server.
You may commit project in the toolbar.

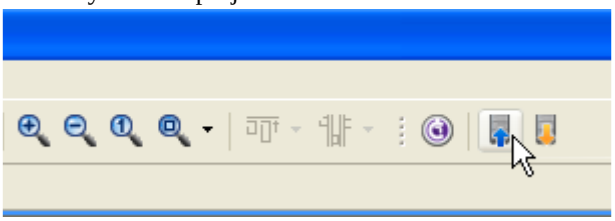


*Figure 14.18 - Commit project*

A **Commit Project** dialog box will show you the committing progress.


*Figure 14.19 - Commit project dialog box*

A dialog box will be displayed and you may enter a description of the changes. Click **OK**.

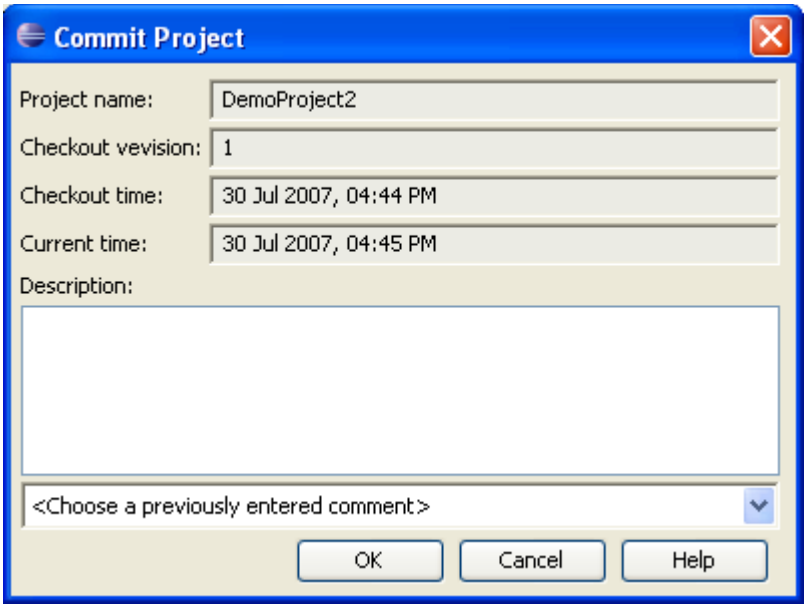



*Figure 14.20 - Enter description of commit change*

A **Commit Model(s)** dialog box shows the models you have modified. Click **OK** to commit.

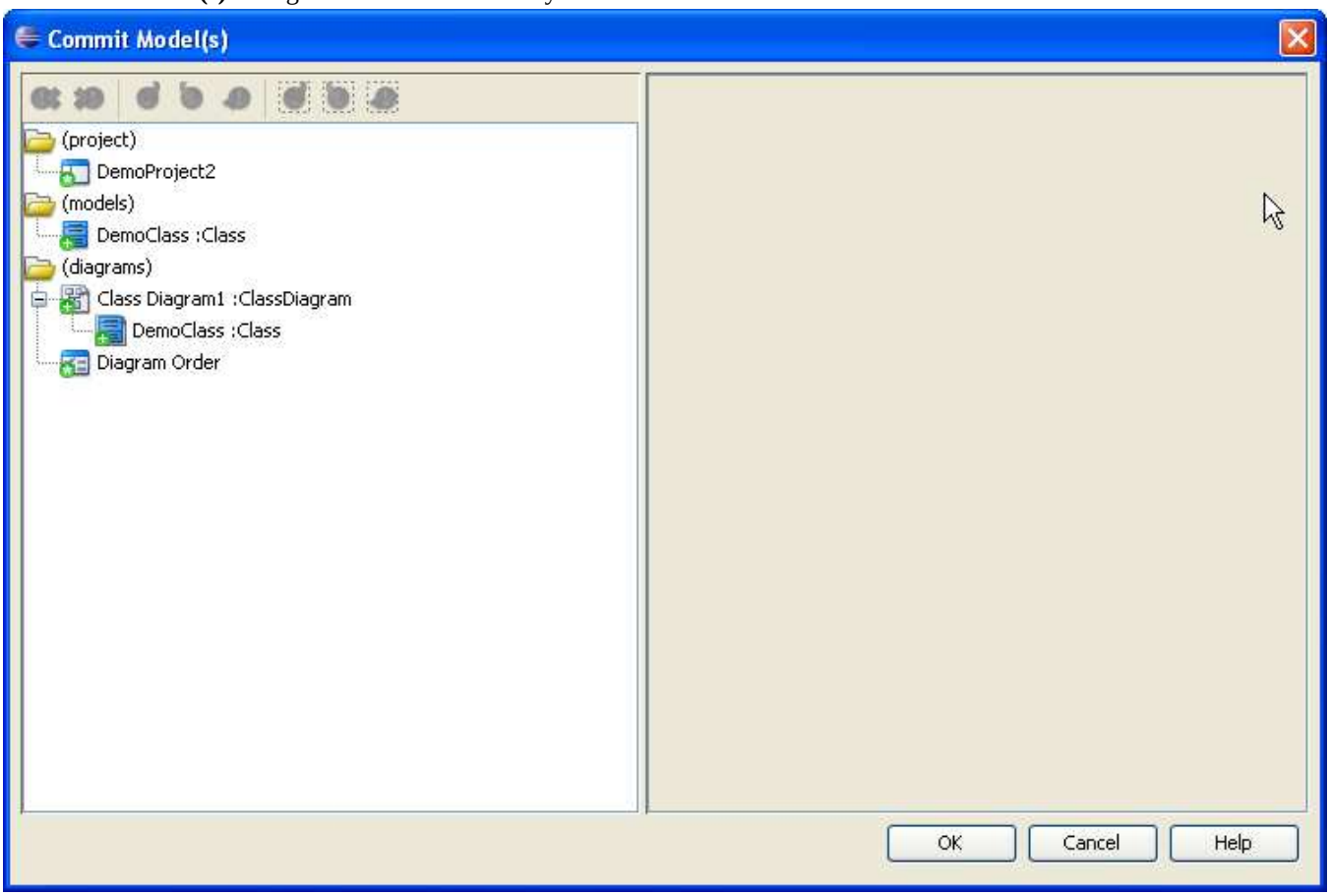



*Figure 14.21 - Commit Model(s) dialog box*

Sometimes, you may encounter conflict when committing models.

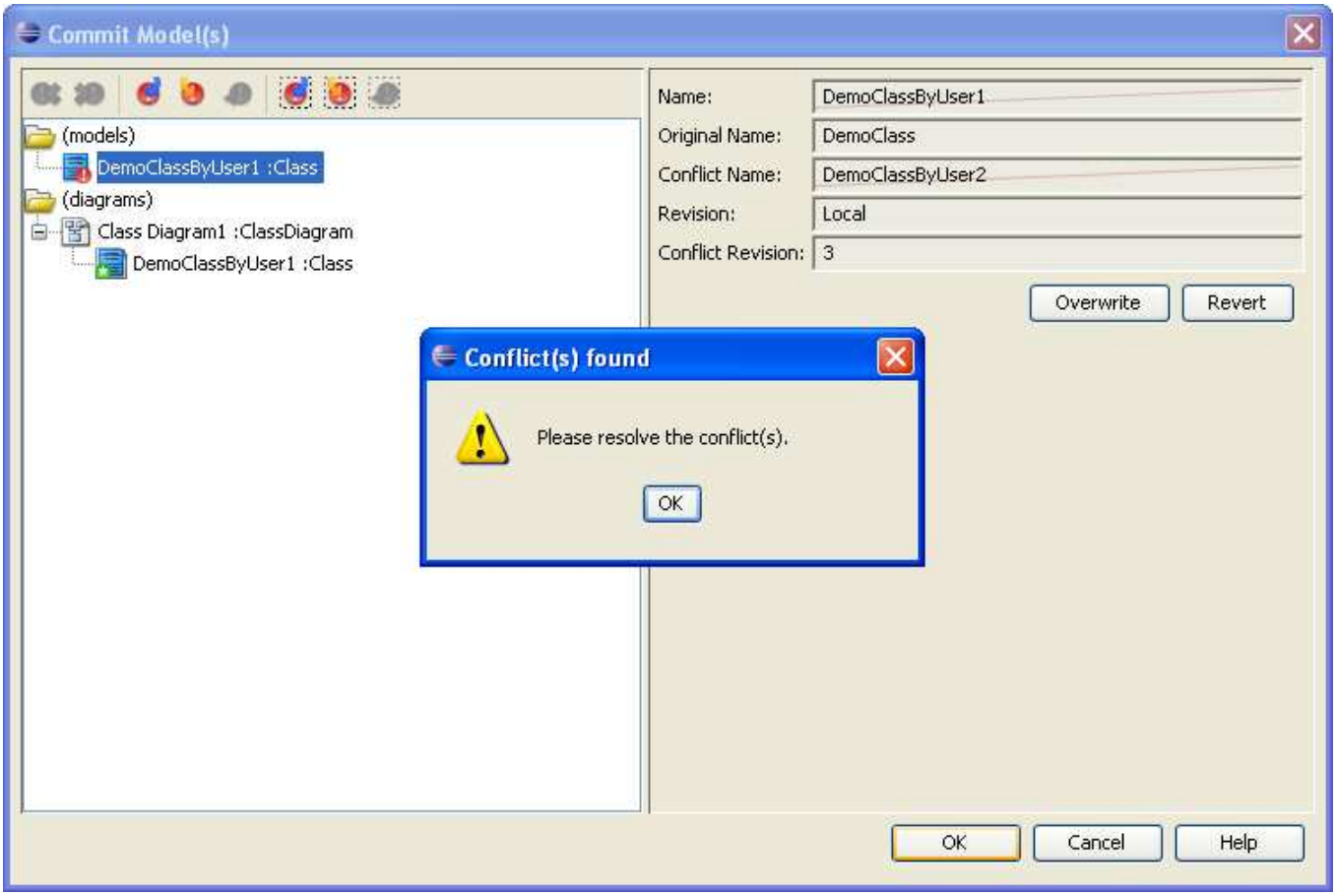



*Figure 14.22 - Commit with conflict*

You can choose to revert or overwrite to solve. For more details, please refer to the section 'Resolving Conflict'.

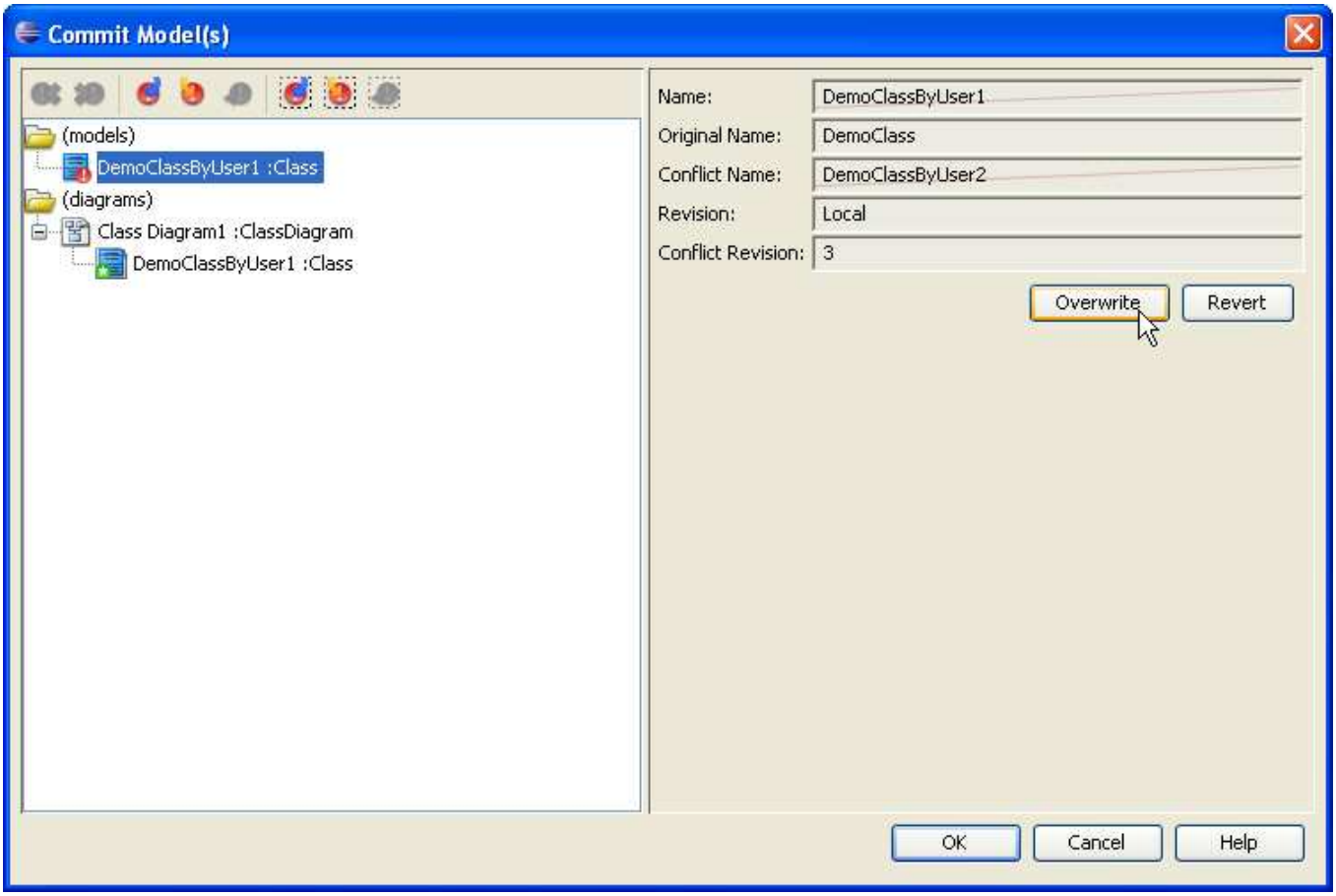



*Figure 14.23 - Select overwrite or revert*

# Updating Project

Apart from committing the modified project to the server, you can also get teammates' changes on the server to your local area by updating teh project. To update a project, click the icon for update in the toolbar.

*Figure 14.24 - Update project*

**Update Model(s)** dialog box is displayed. The models changed by others are shown. Click OK to update.

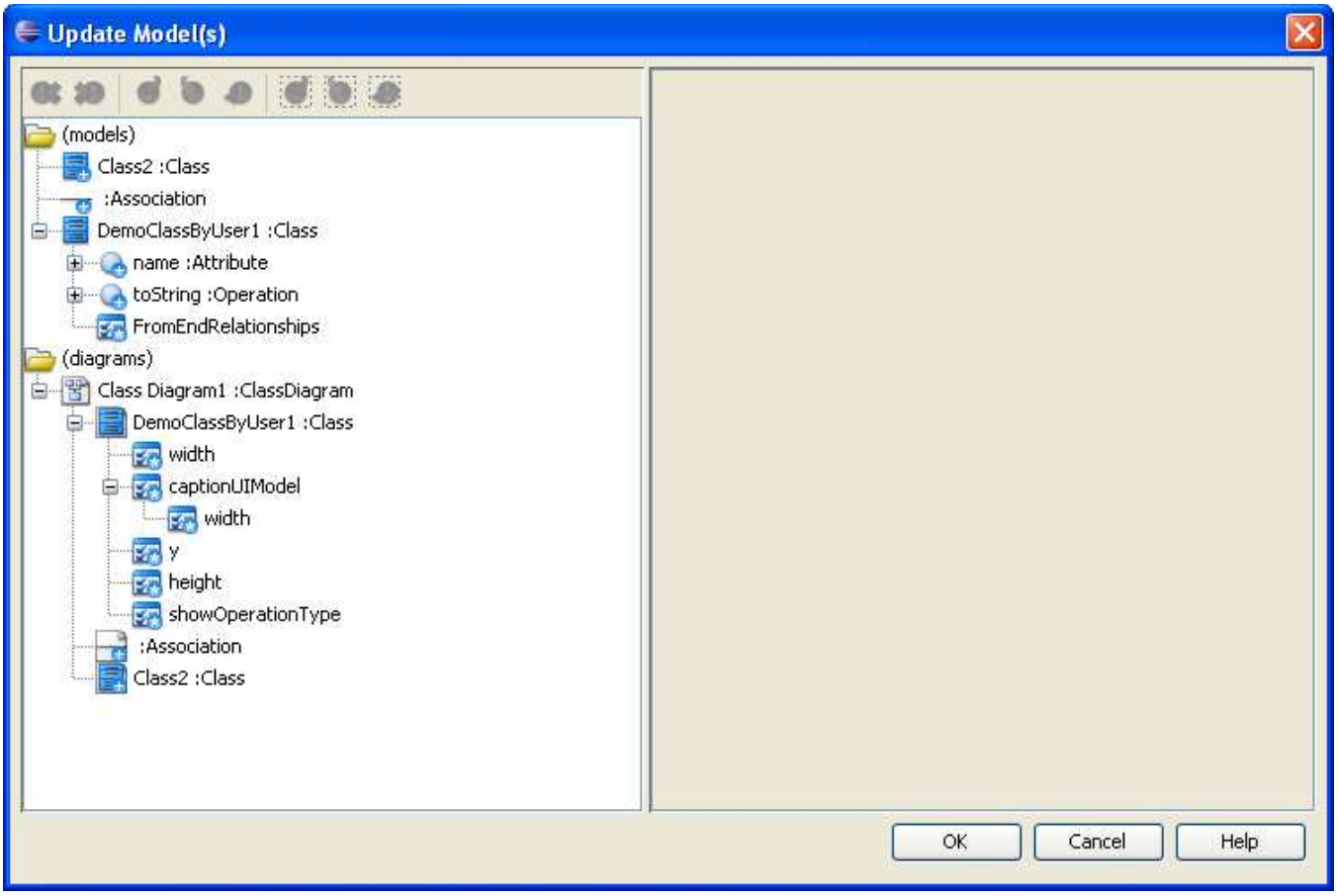



*Figure 14.25 - Update Model(s) dialog box*

# Reverting Project

You may encounter a situation when you have made a lot of changes in the project just to find there are a lot of mistakes. In this case, you may want to rollback all the changes and redo the whole project.
Here, you can revert all local changes by clicking the **Revert** button.

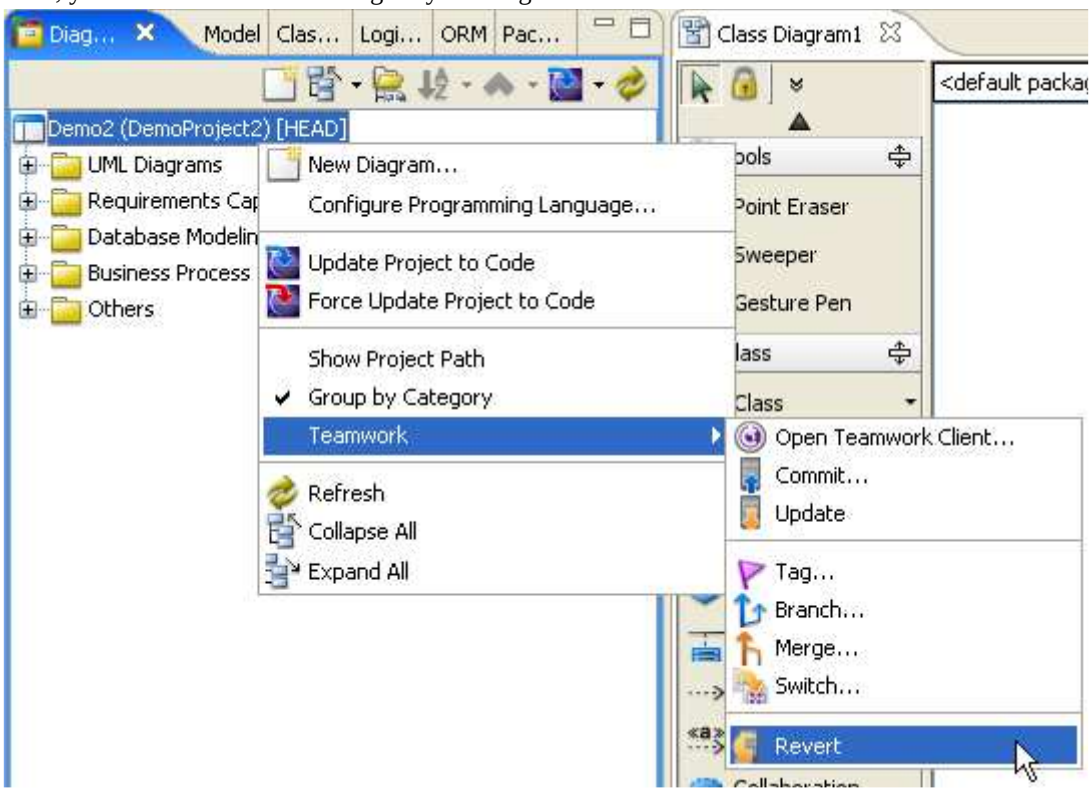



*Figure 14.26 - Revert project*

A dialog box will show and ask if you want to revert. Click **Yes** to confirm and the project will be reverted.

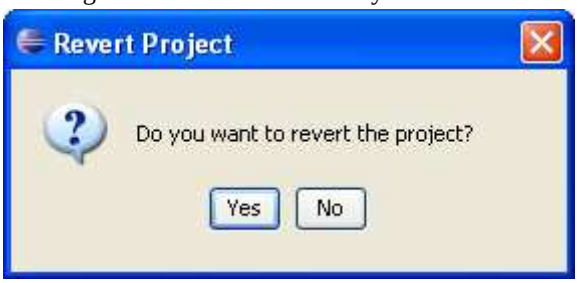



*Figure 14.27 - Confirm revert project*

# Resolving Conflict

Sometimes, you may modify the same model as your teammate with different changes. In this case, the server will not know which revision should be preserved and it will show a conflict.
Conflicts may happen when you commit the project.

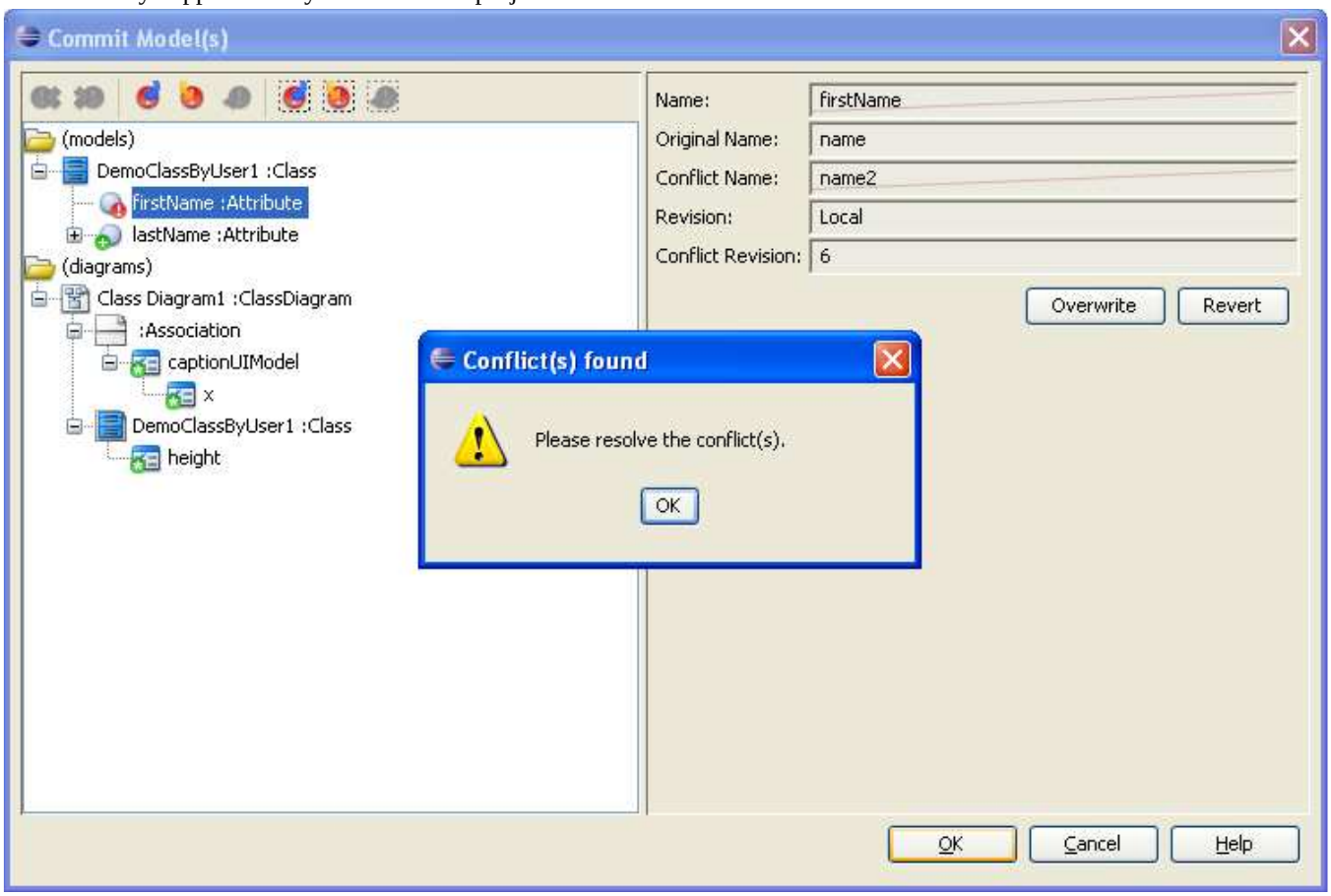



*Figure 14.28 - Conflict found in merging*

Conflict may also happen when you update your project.

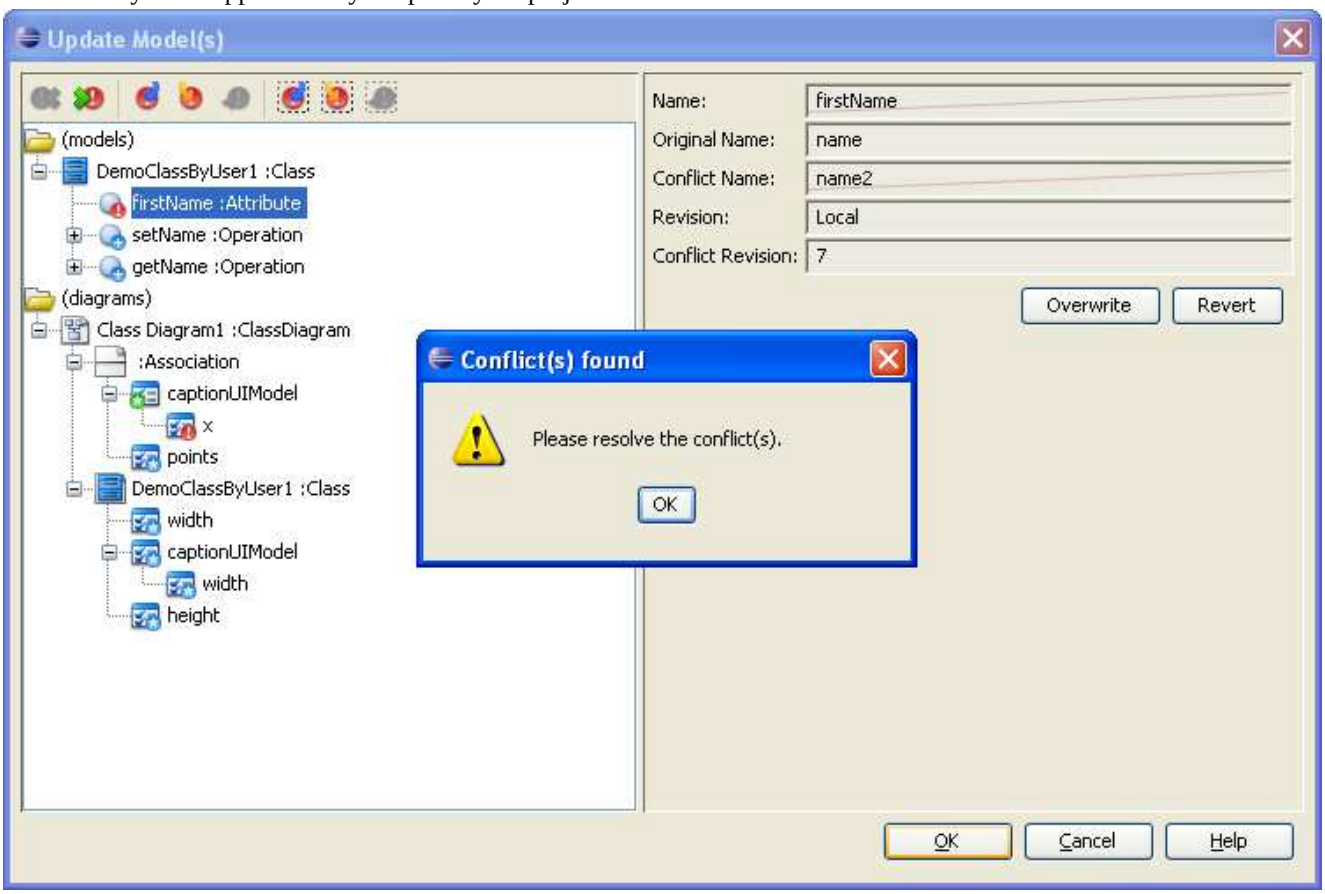



*Figure 14.29 - Conflict found in updating*

If a conflict appears, you can solve it by selecting the conflicting model and clicking **Overwrite** or **Revert**.
**Overwrite** keeps the local changes while **Revert** accepts changes from the server.

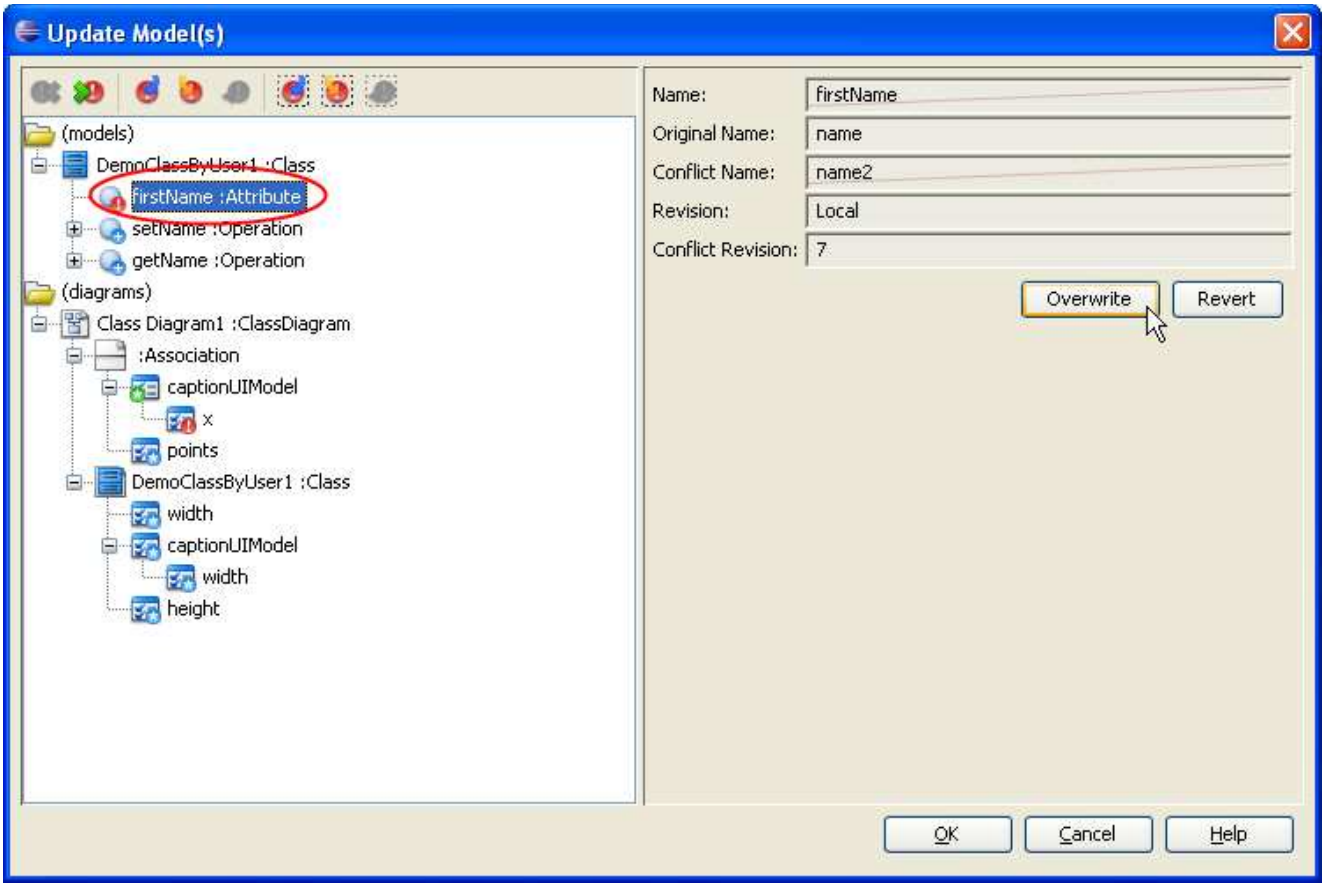



*Figure 14.30 - Solving conflict*

# Viewing Revision History

From time to time, there may be a lot of changes made by you and your teammates. In SDE for Eclipse, you can view previous revisions of the project.
To view the history of committed changes, open the **Teamwork Client** dialog box and select **Revisions** tag.

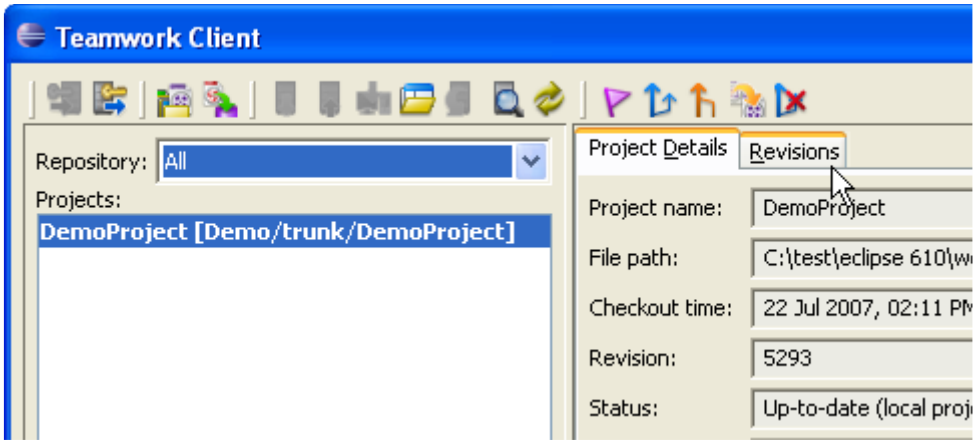



*Figure 14.31 - Select Revisions*

You can see the different revisions of the project.

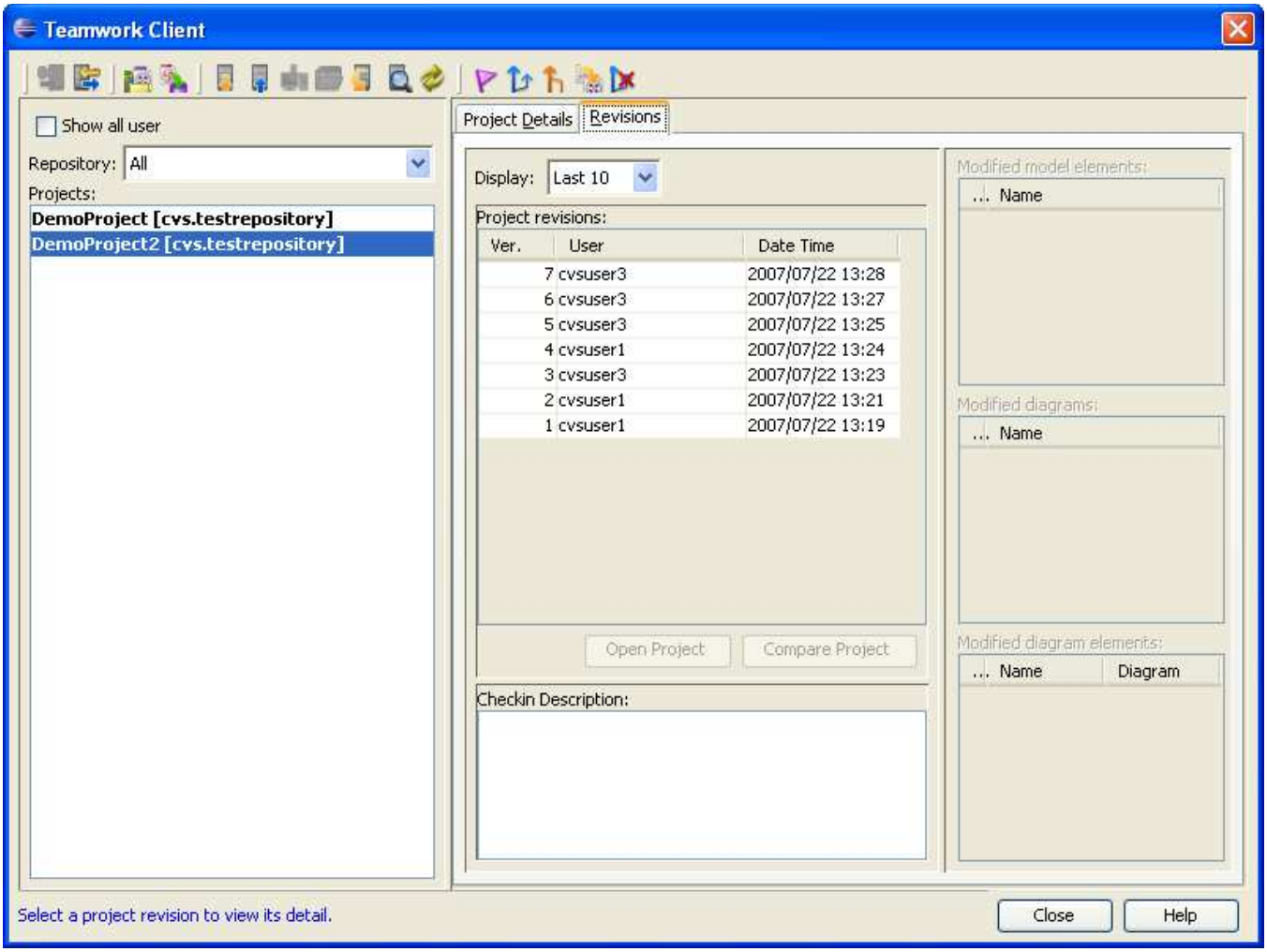



*Figure 14.32 - Different revisions of the project*

You can see the model, diagram and diagram elements modified in that version. You can also see the check in description in that version.

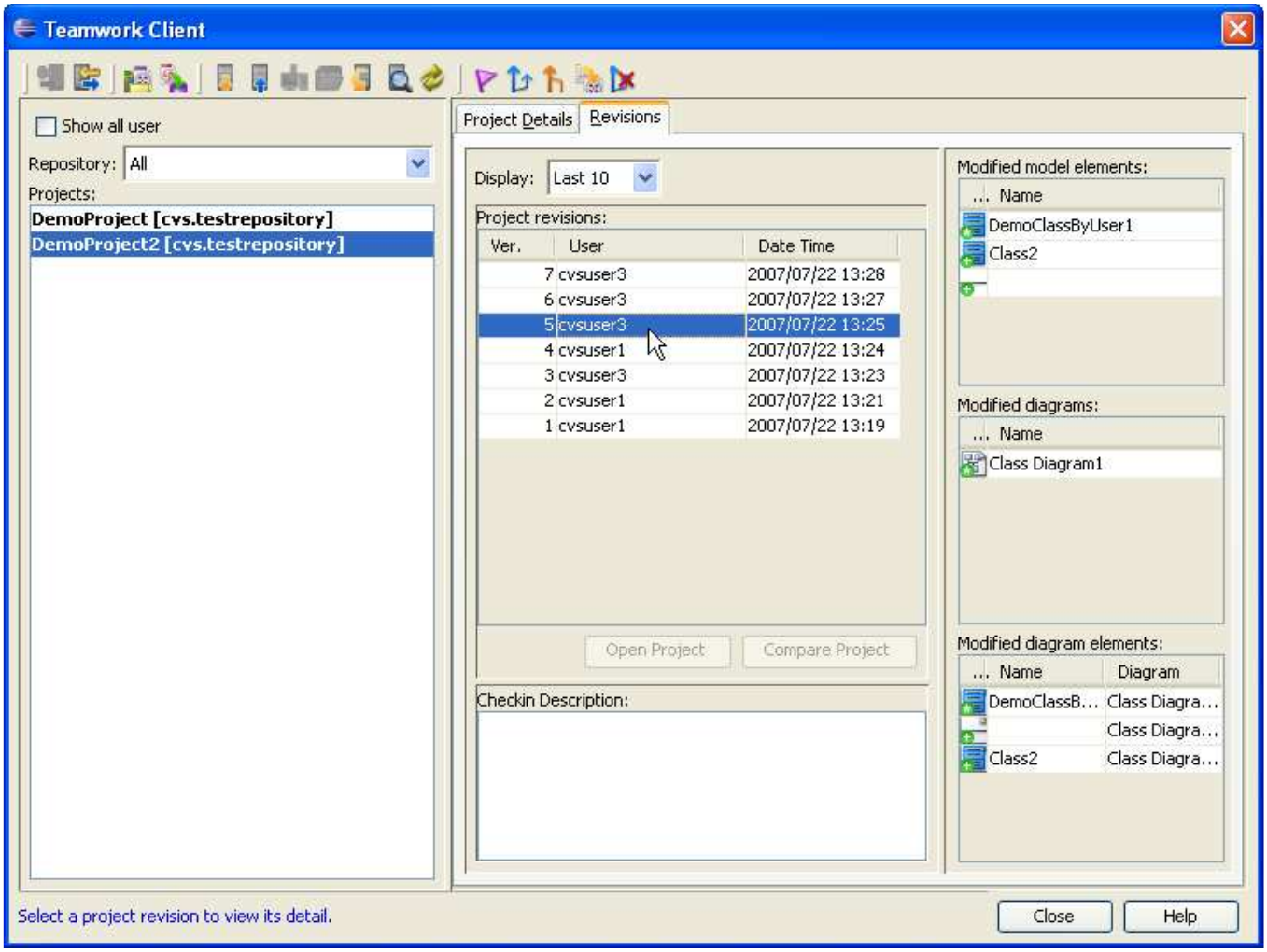



*Figure 14.33 - Changes of different revisions*

# Comparing Between Revisions

To see the differences between different revisions in SDE for Eclipse, select a revision.

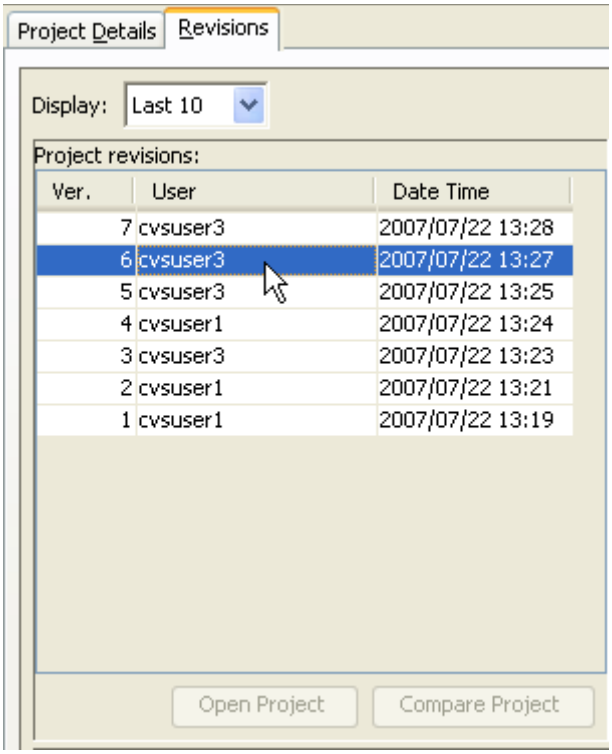



*Figure 14.35 - Select one revision*

Then press *Ctrl* and click on the revision you want to compare with.

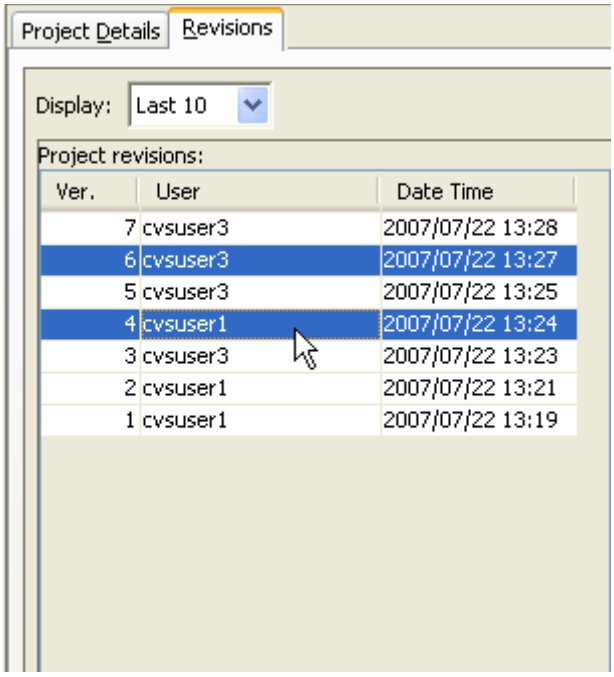



*Figure 14.36 - Select another revision*

Click **Compare Project** to compare**.**

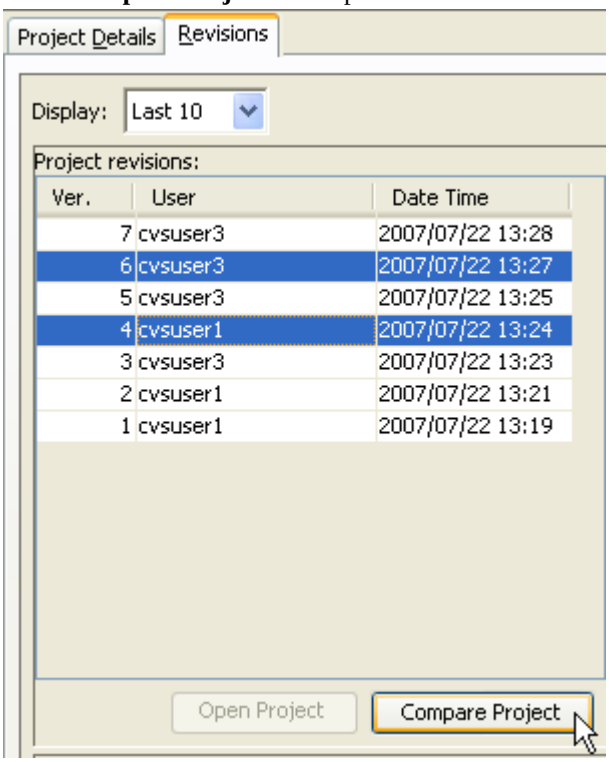



*Figure 14.37 - Select Compare Project*

A **Compare Projects from revision** dialog box will appear and show you the differences between your selected revisions.

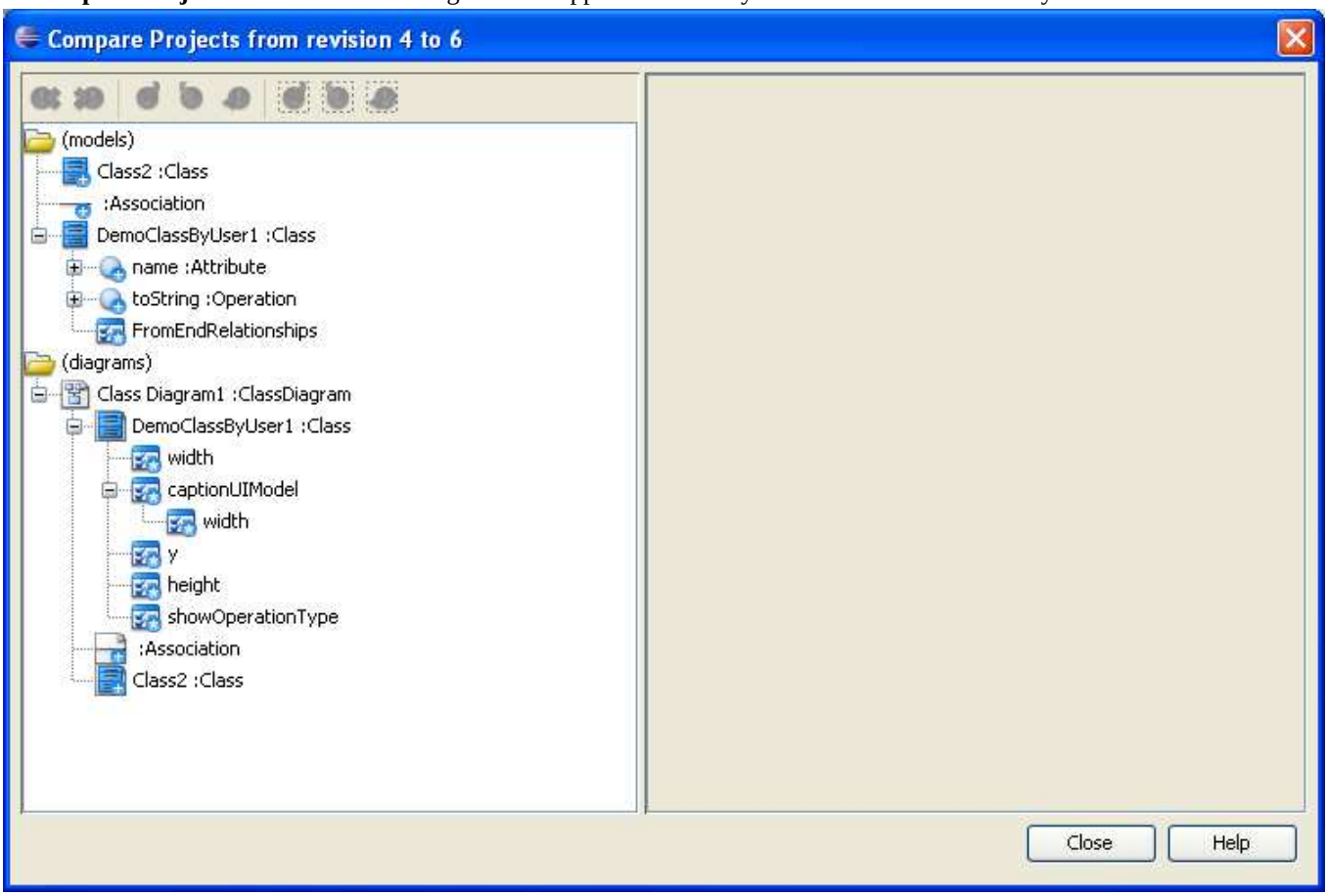



*Figure 14.38 - Compare Project dialog box*

# Branch and Tag Project

Branch is a technique to separate the development of project from head. You can modify the project in branch while keep the most stable version design in head.
In this way, you can perform some research or time-taking task in branch and merge the changes to head only when the branch is proven to be stable.
Tag provides a convenient technique to manage and label a stable version. You can go back to check the stable version by switching to Tag.

## Creating a Branch

Create a branch by clicking the icon for branch in toolbar.


*Figure 14.39 Select branch*

The **Create Branch** dialog box is displayed. Enter the name of branch you want to create.

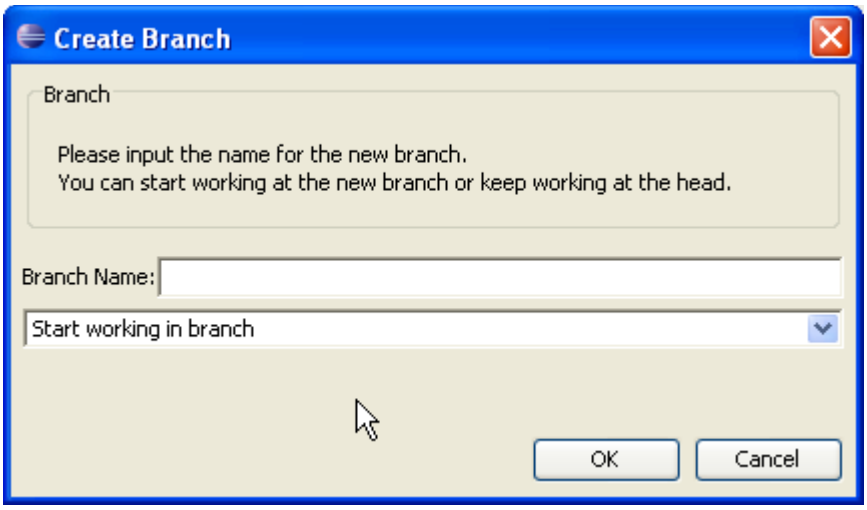



*Figure 14.40 - Create Branch dialog box*

Then, select a status of branch from the drop-down menu.

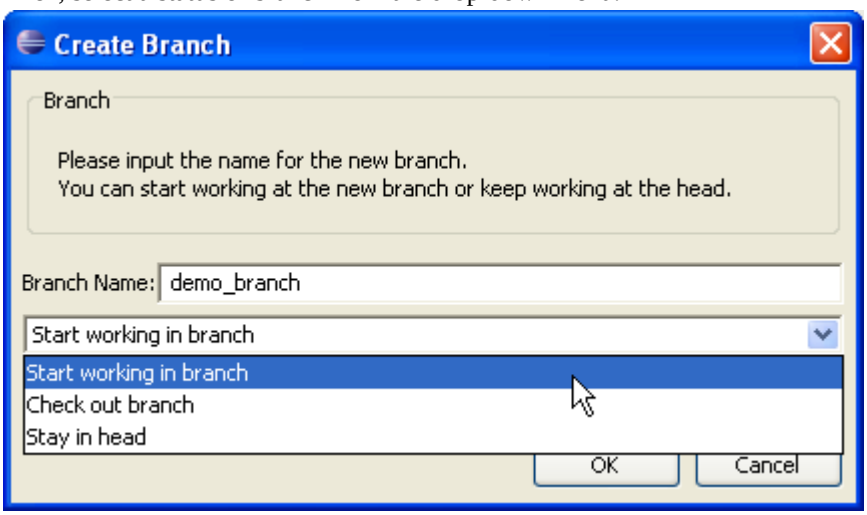



*Figure 14.41 - Select from drop-down menu*

Click OK to confirm creating the branch.

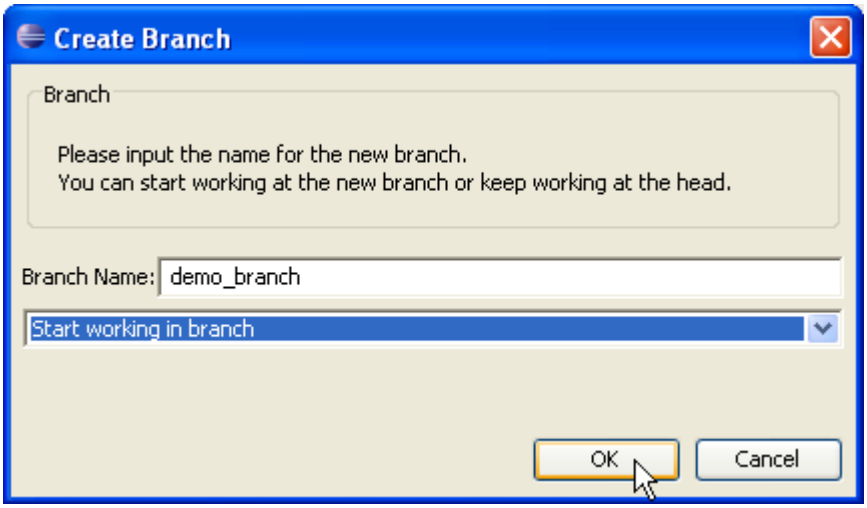



*Figure 14.42 - Confirm creating branch*

## Managing a Branch

Similar to managing a project, you can manage a branch in the **Manage Project** dialog box.
First, select a branch under a project.

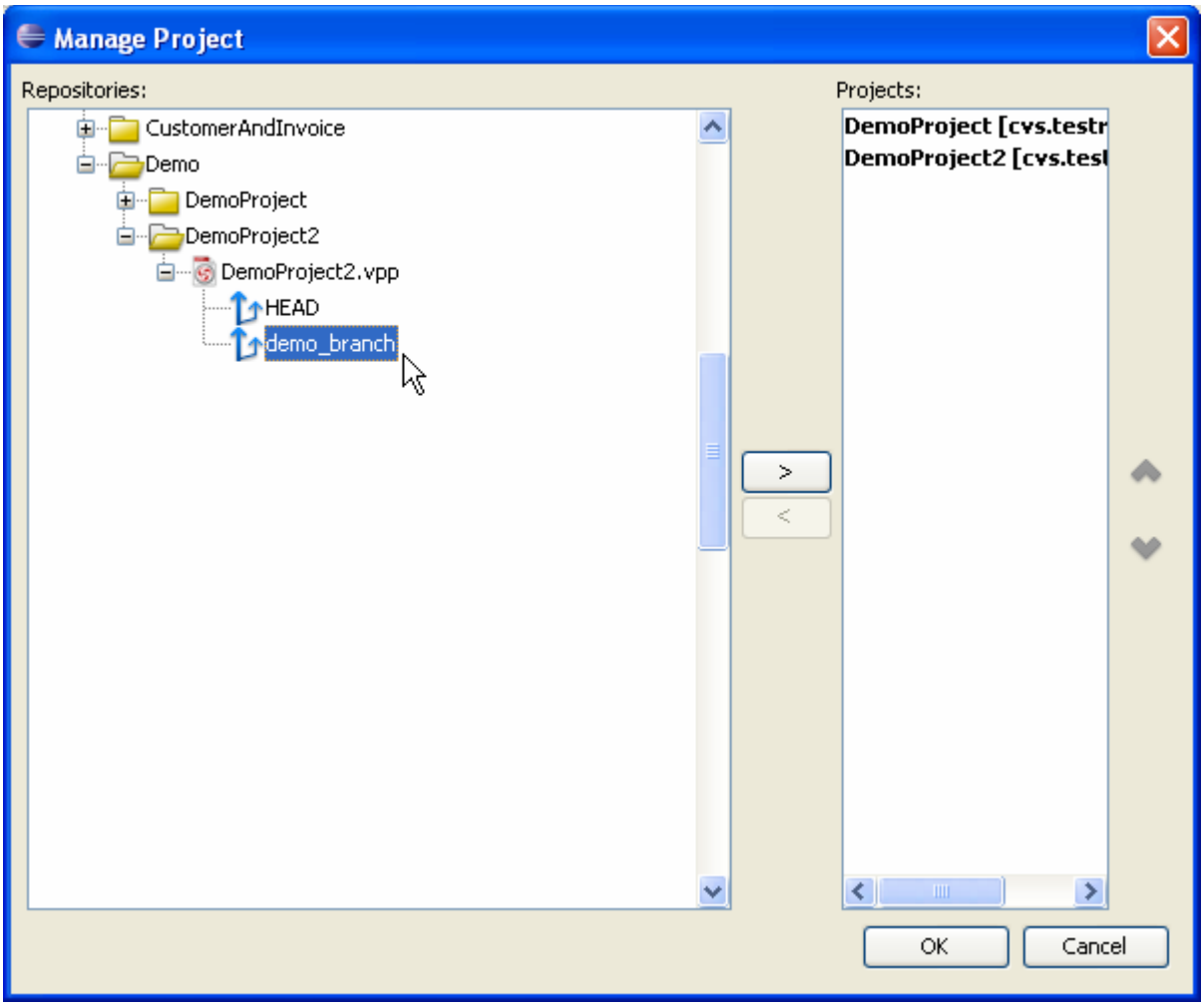



*Figure 14.43 - Manage project dialog box*

Click **Add selected** > to add the branch to your **Projects** list.

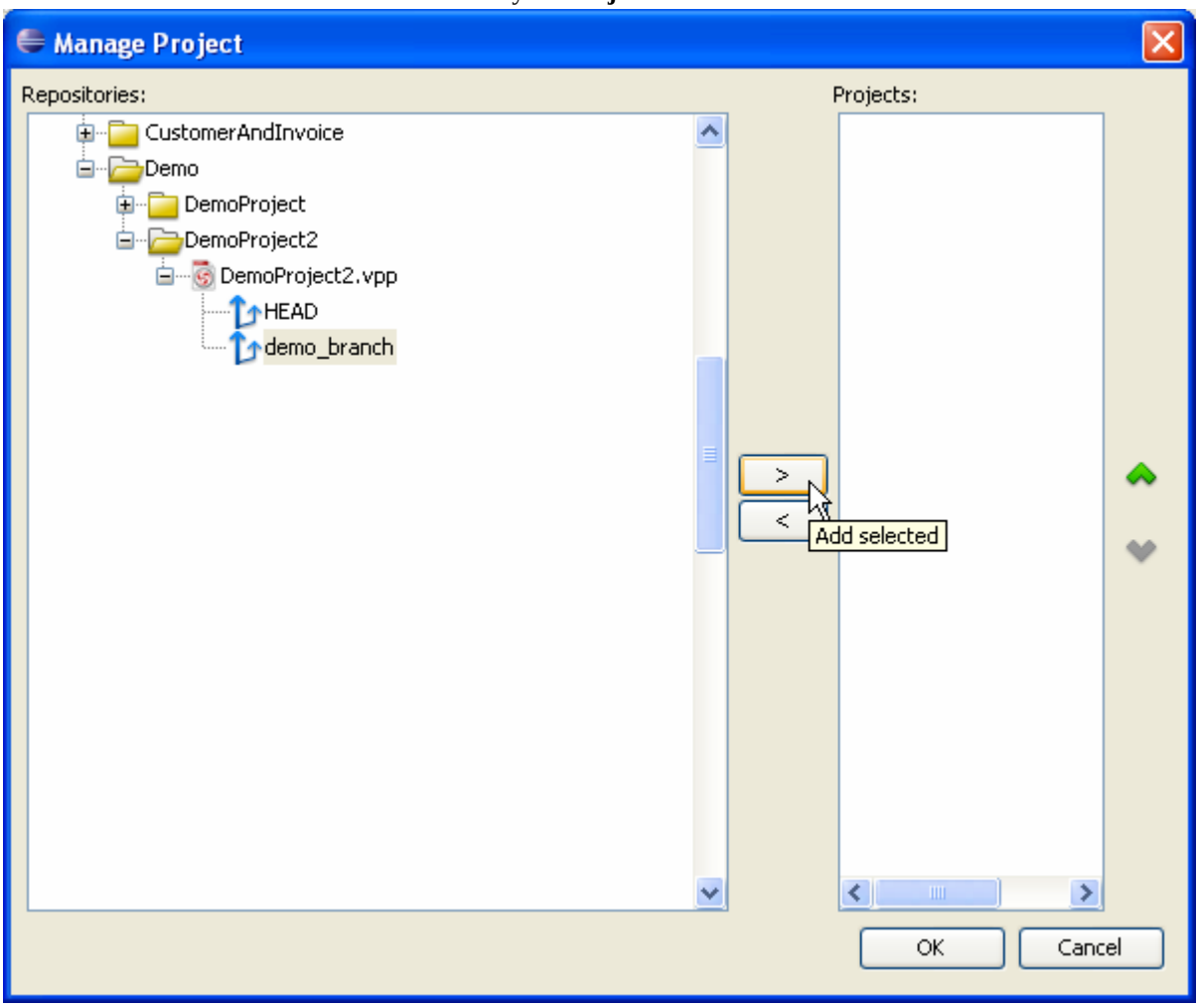



*Figure 14.44 - Add selected branch*

You can also click **Remove selected** < to remove the branch from the **Projects** list.

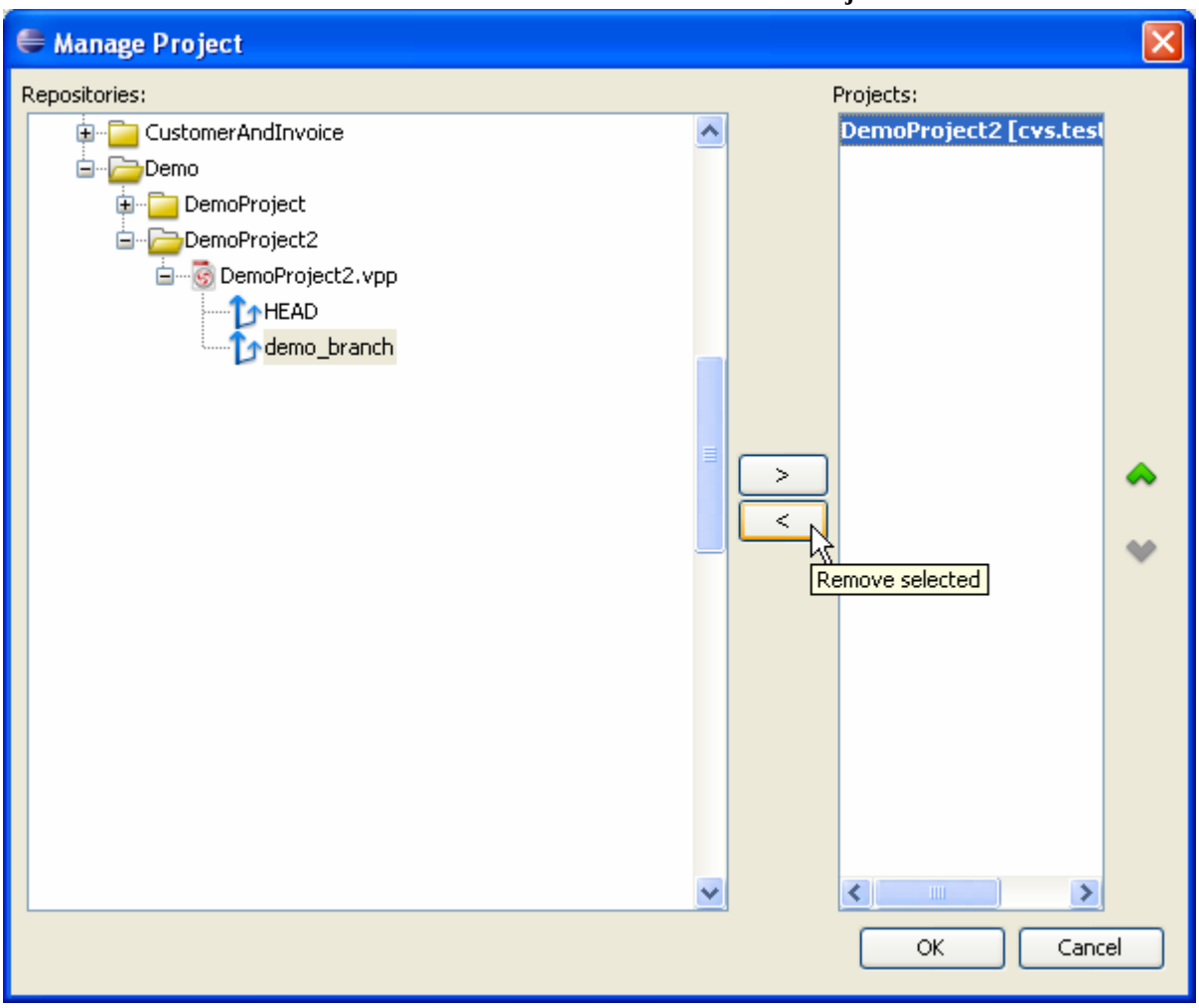



*Figure 14.45 - Remove selected branch*

## Creating a Tag

You can label the stable version of project by creating a tag there.
To create a tag, select **Tag...** in the toolbar.

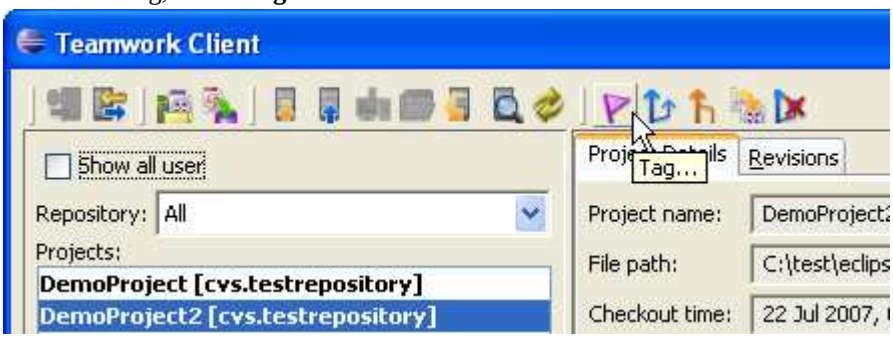



*Figure 14.46 - Select Tag...*

Then, edit the name of tag in **Create Tag** dialog box.

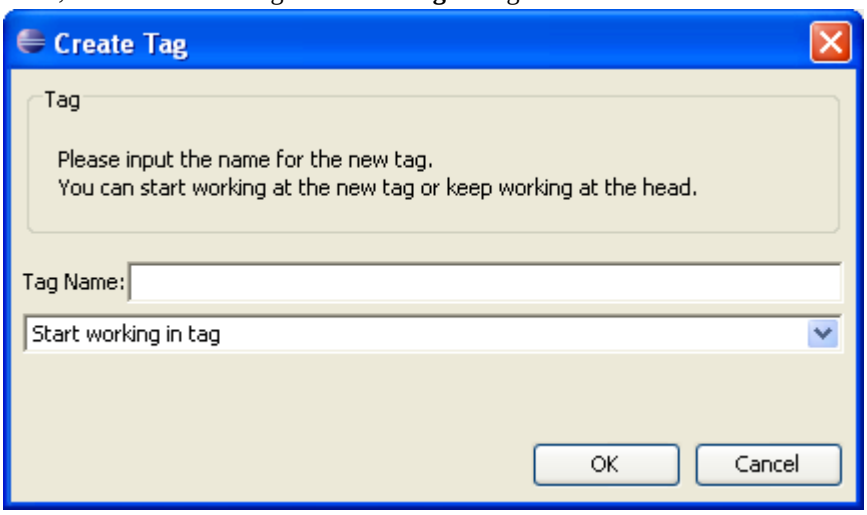



*Figure 14.47 - Create Tag dialog box*

Next, you can select the status after creating tag from the drop-down menu.

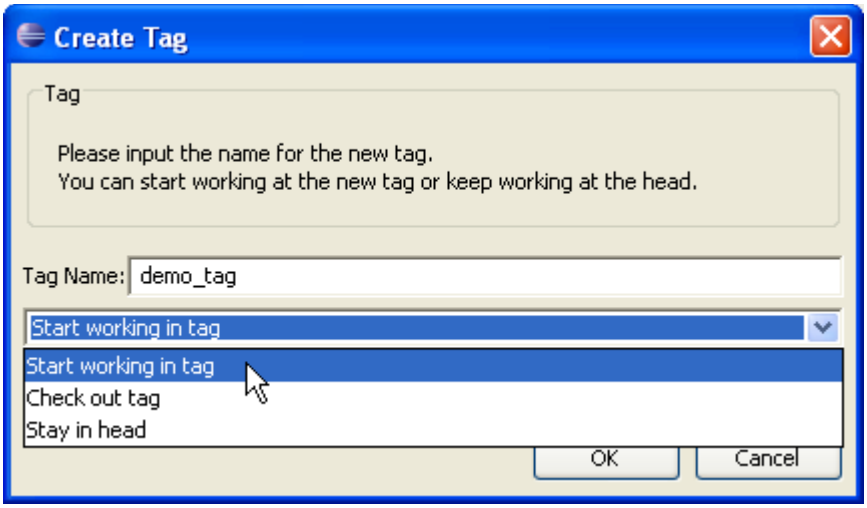



*Figure 14.48 - Select the status after creating tag*

After you have select **OK**, a message will show you that tag has been created.


*Figure 14.49 - Message showing tag created*

## Managing a Tag

Similar to managing a branch, you can select a tag and click **Add Selected** in **Manage Project** dialog box to add the project to **Projects** list.

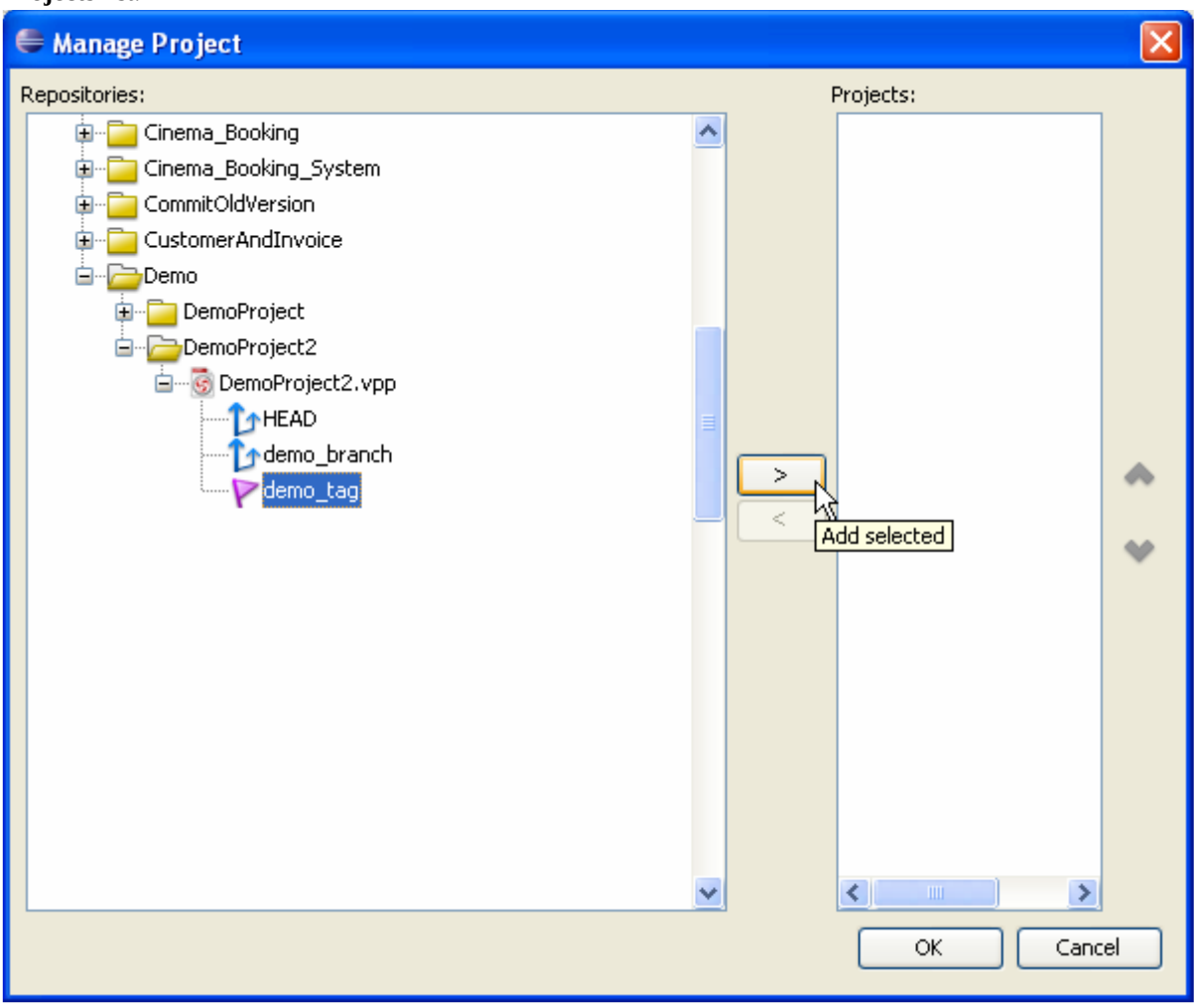



*Figure 14.50 - Add selected project*

You may remove the tag from **Projects** list by click **Remove selected**.

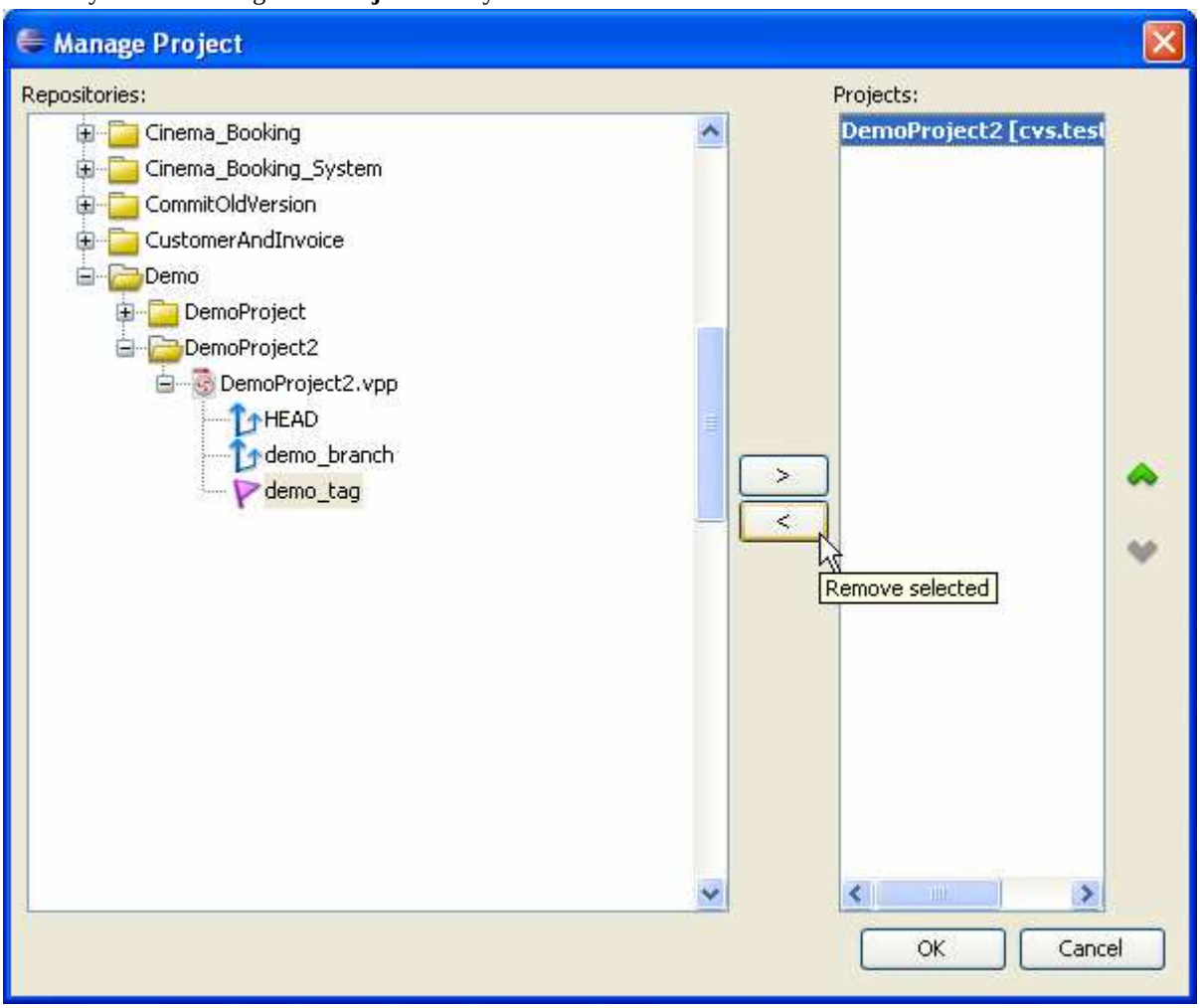



*Figure 14.51 - Select Remove selected*

# Usage of Merge

When the project in your branch has been modified, you can merge the changes made to the head.
To merge, select the icon for merging in the toolbar.

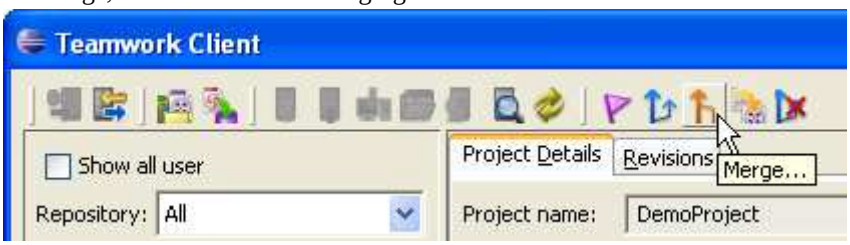



*Figure 14.52 - Icon for merging*

The **Merge** dialog box is displayed. Select a branch to merge to, and select the revision you want to merge.

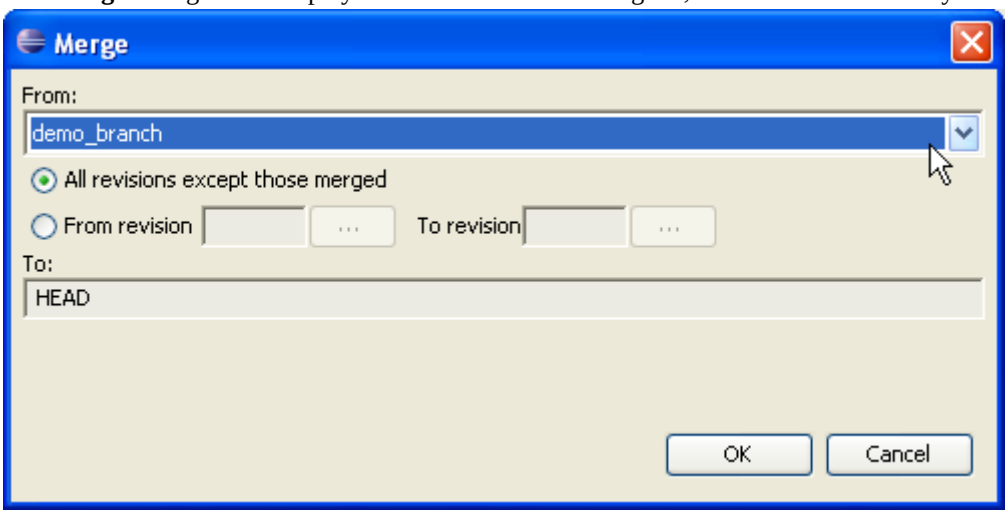



*Figure 14.53 - Merge dialog box*

The progress of merging is shown.

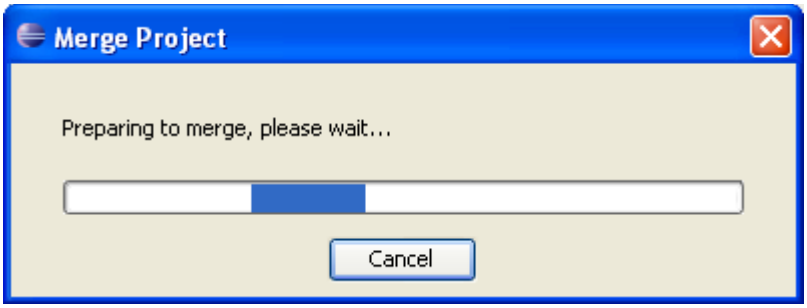



*Figure 14.54 - Progress of merging*

Then, a dialog box tells you what models and diagrams are going to be merged. Click OK to confirm the merge.

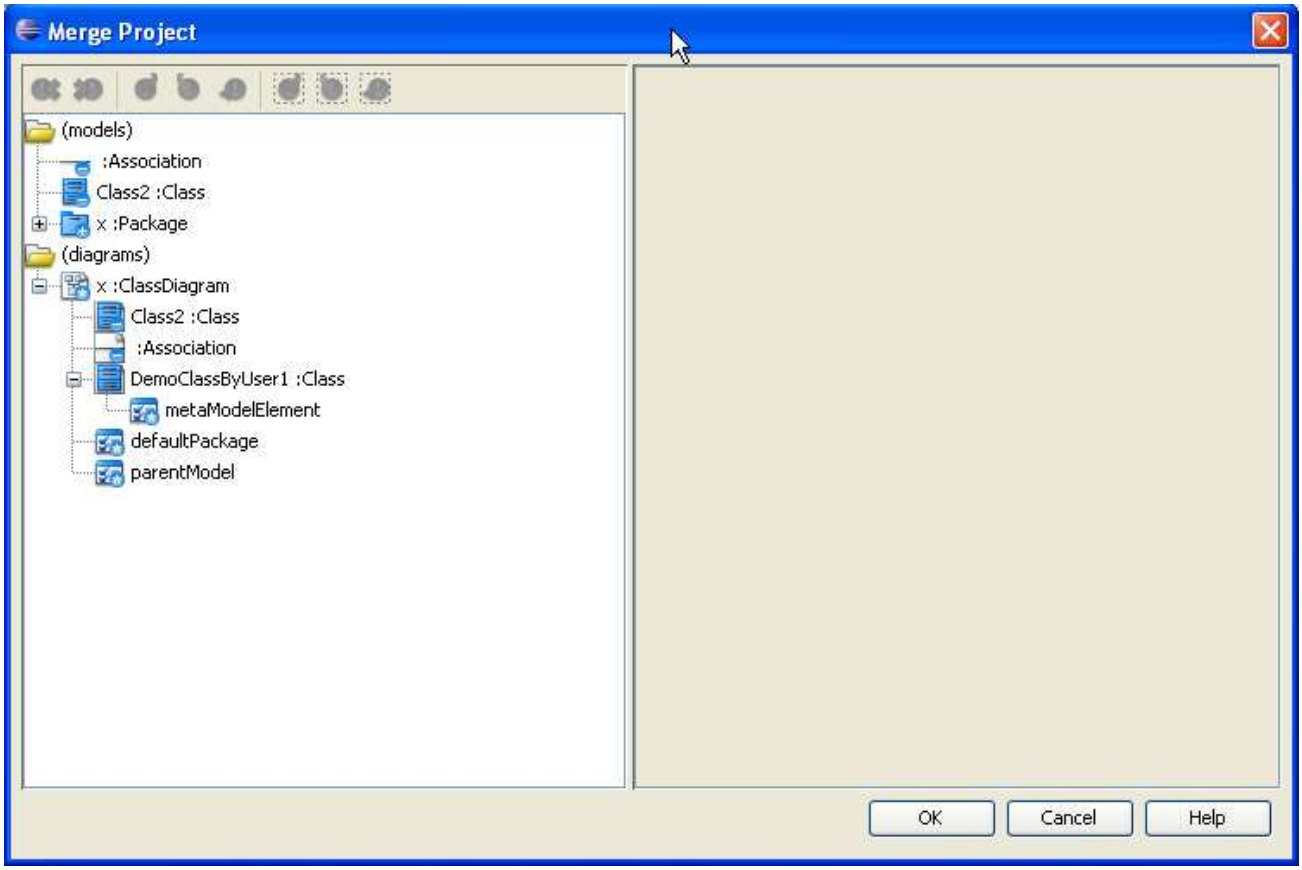



*Figure 14.55 - Models and diagrams which are going to merge*

# Suggested Branch Usage

This section will show you the suggested usage of the Branch with SDE for Eclipse CVS integration.
Here, you will learn how to create a single branch called "supportWebService". However, you can choose to have multiple branch running at the same time.

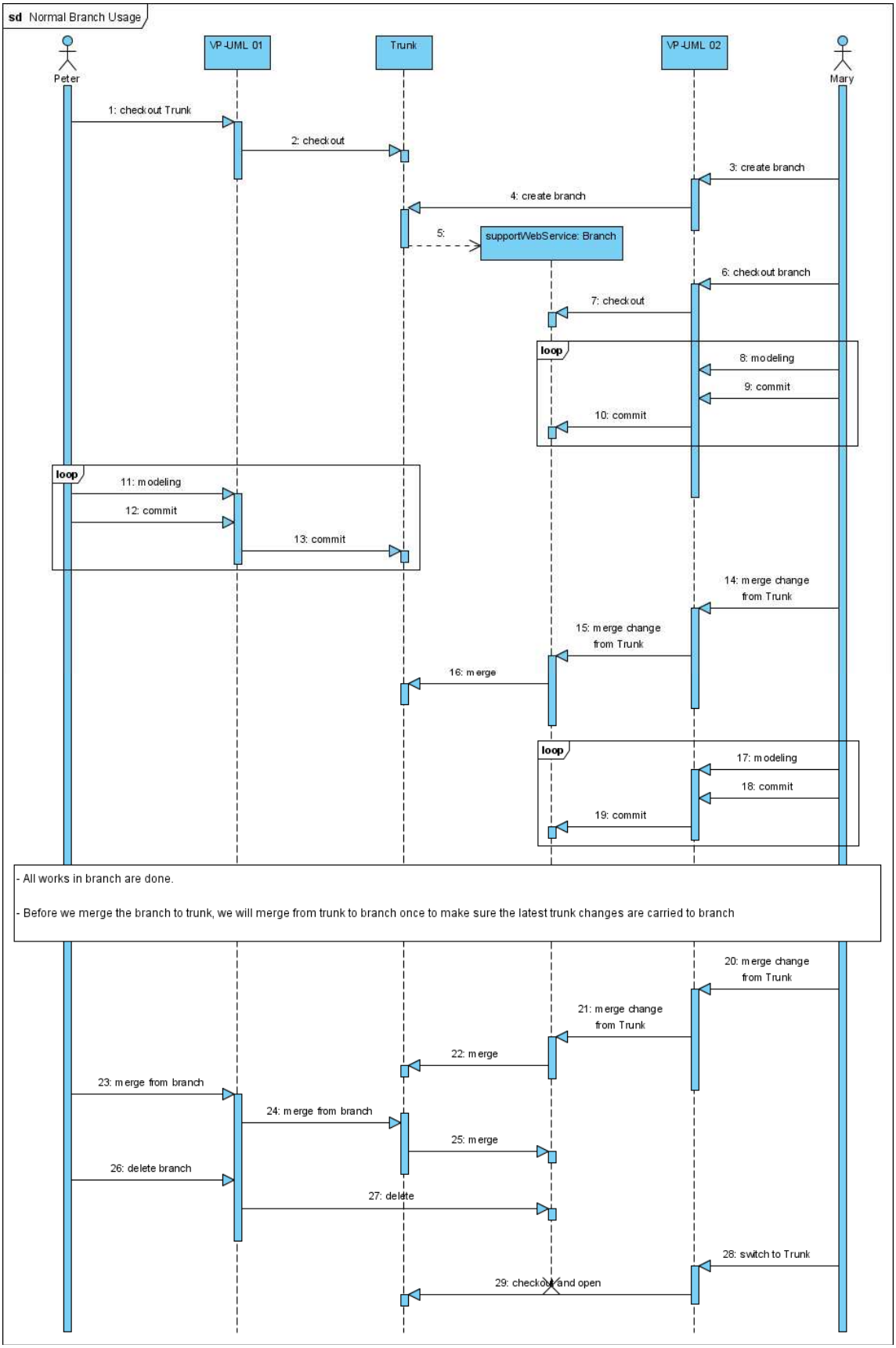



*Figure 14.56 - Suggested branch usage*

# 15 Team Collaboration with Subversion

# Chapter 15 - Team Collaboration with Subversion Repository

More and more development team adopt Subversion as version control and collaboration platform. With SDE for Eclipse Subversion repository integration you can record and keep history of all changes in your design in your Subversion repository. Moreover, your designs are stored along with source codes in the same repository. This allows both design and source code to be backed up together, and also saves administration cost by needing only a single repository in your team. Other people who may need to only view your designs just need to use the free Viewer to have a look at the project. Please be reminded that Subversion server is only available in Standard Edition or above.

In this chapter:

- Importing and managing projects
- Operating projects
- Reviewing the old revisions of projects
- Comparing the differences between revisions
- Using branch and tag

# Starting the Teamwork Client Dialog Box

The Teamwork Client dialog box is the access point for all Teamwork functions, such as importing and managing projects, operating projects, reviewing and comparing projects and using branches and tags. There are three ways you can start Teamwork Client.
To start using main menu, you can select **Modeling** > **Teamwork** > **Open Teamwork Client...** .

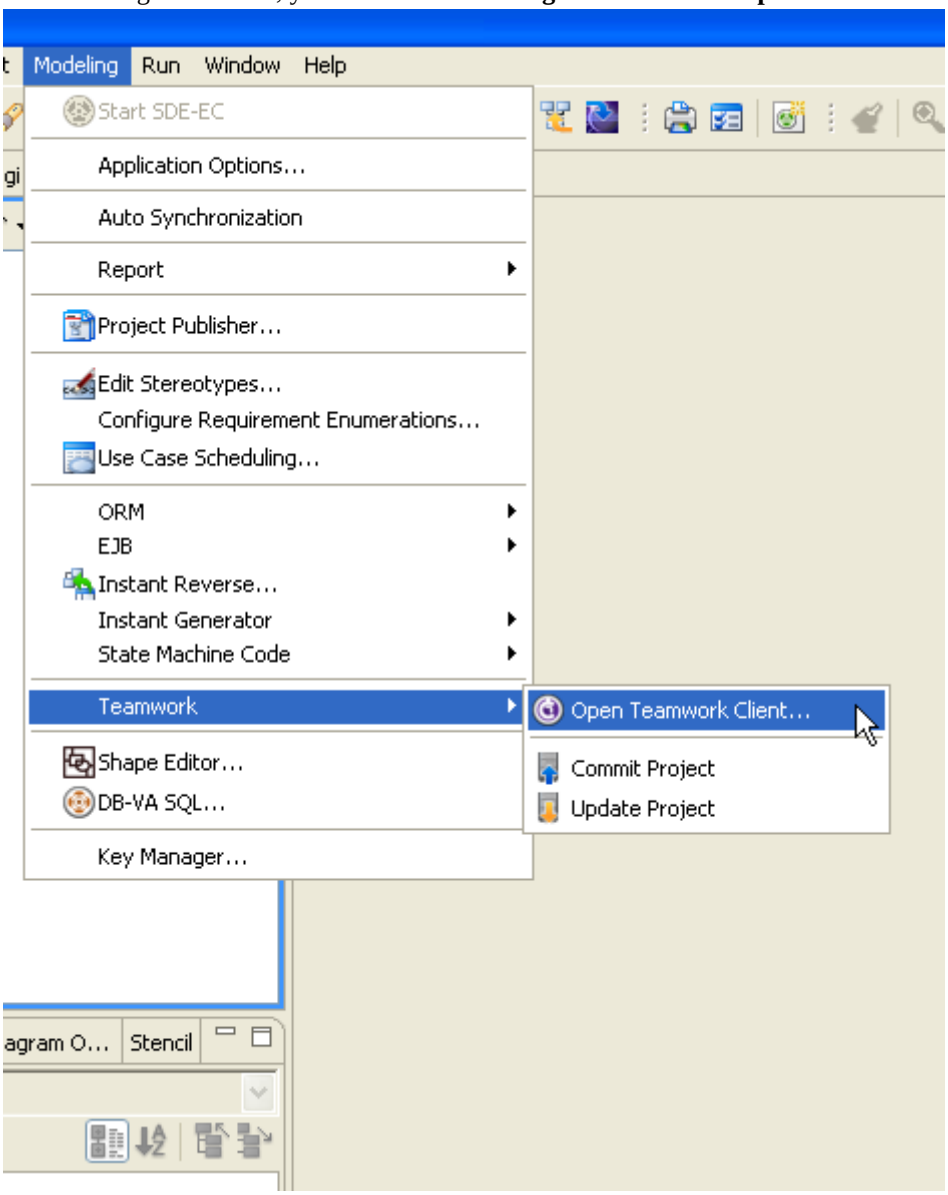



*Figure 15.1 - Open Teamwork Client using main menu*

If not, you may use the tool bar to open Teamwork Client dialog box.

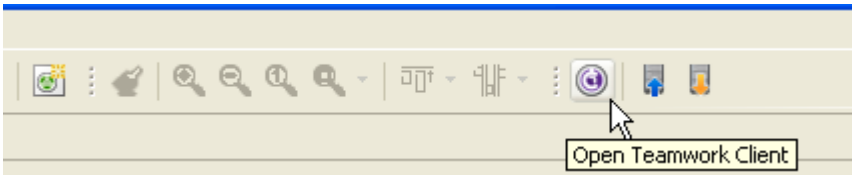



*Figure 15.2 - Open Teamwork Client using toolbar*

You can also right click on the project node of different panes and select **Teamwork** > **Open Teamwork Client...** .

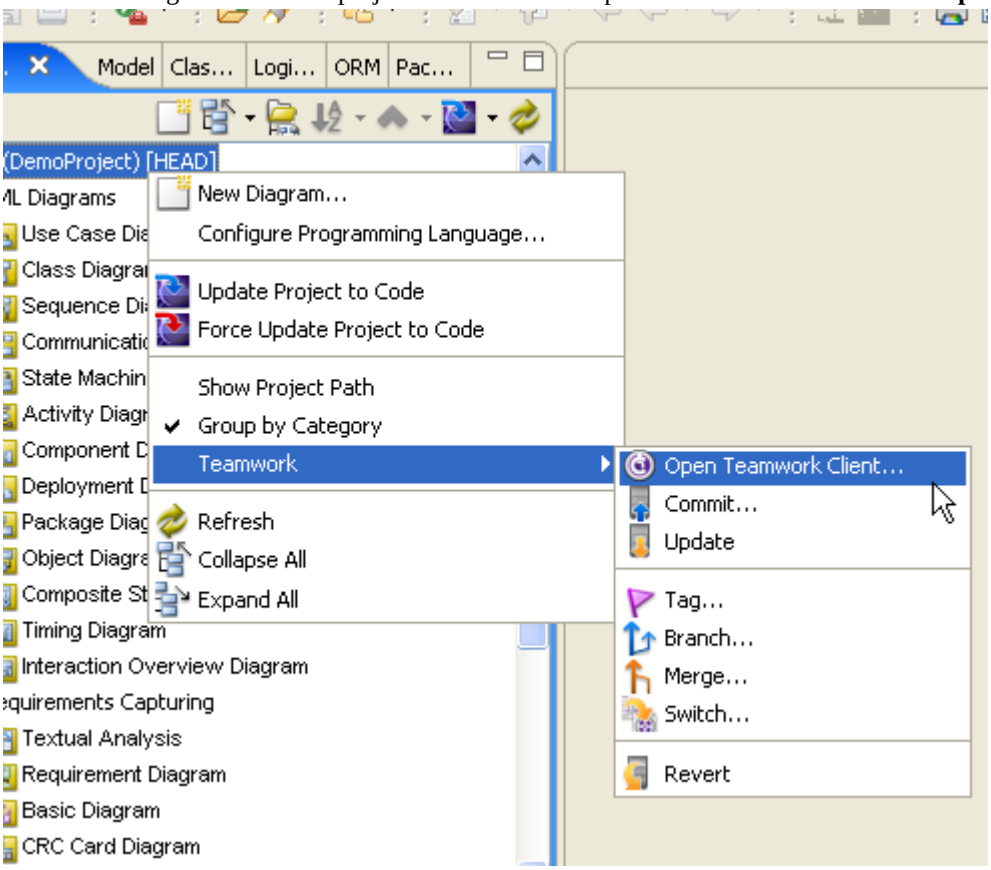



*Figure 15.3 - Open Teamwork Client with project node*

By using any one of these methods, the **Login to the Teamwork Server** dialog box is displayed.

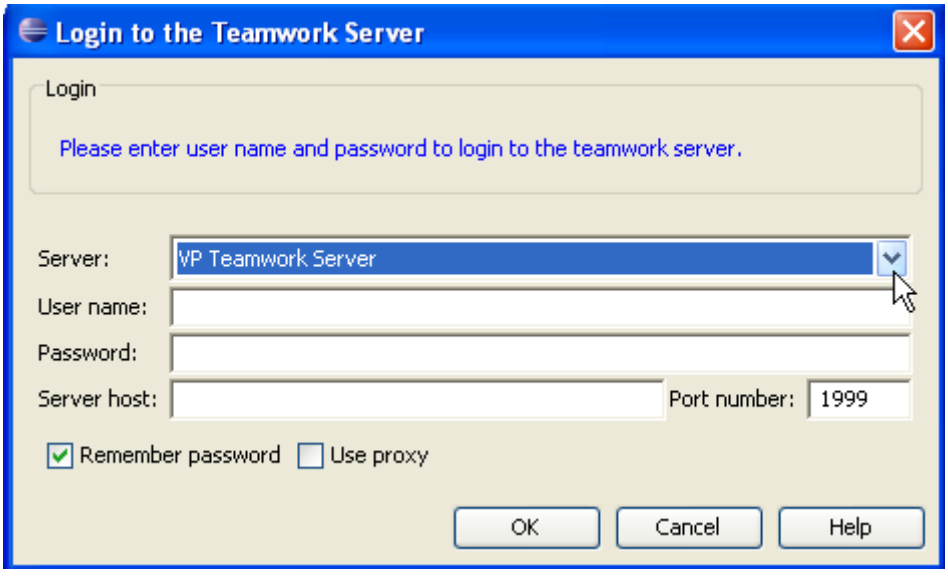



*Figure 15.4 - Login to the Teamwork Server dialog box*

You can select **Subversion** as server.

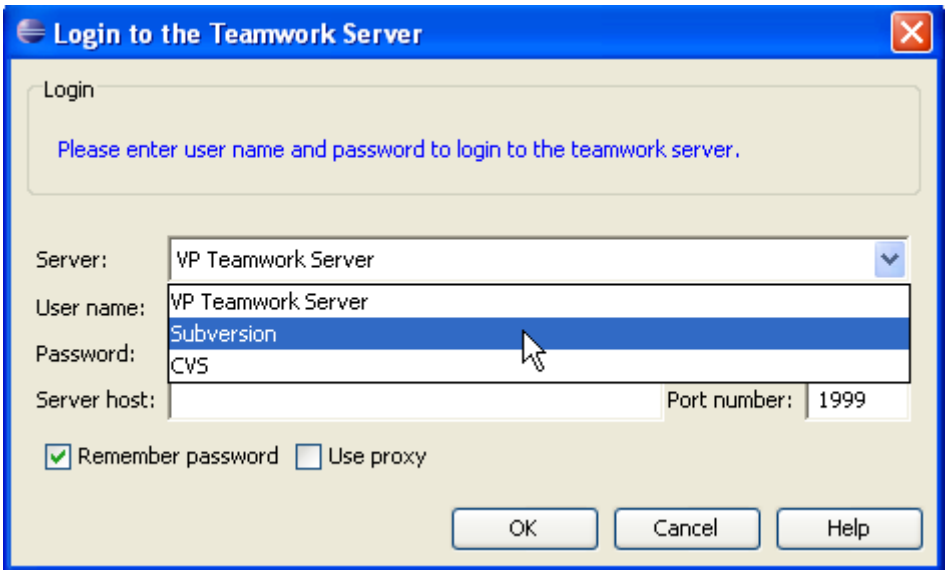



*Figure 15.5 - Select subversion as server*

Then, configure the details of server connection. Then click **OK** to confirm.

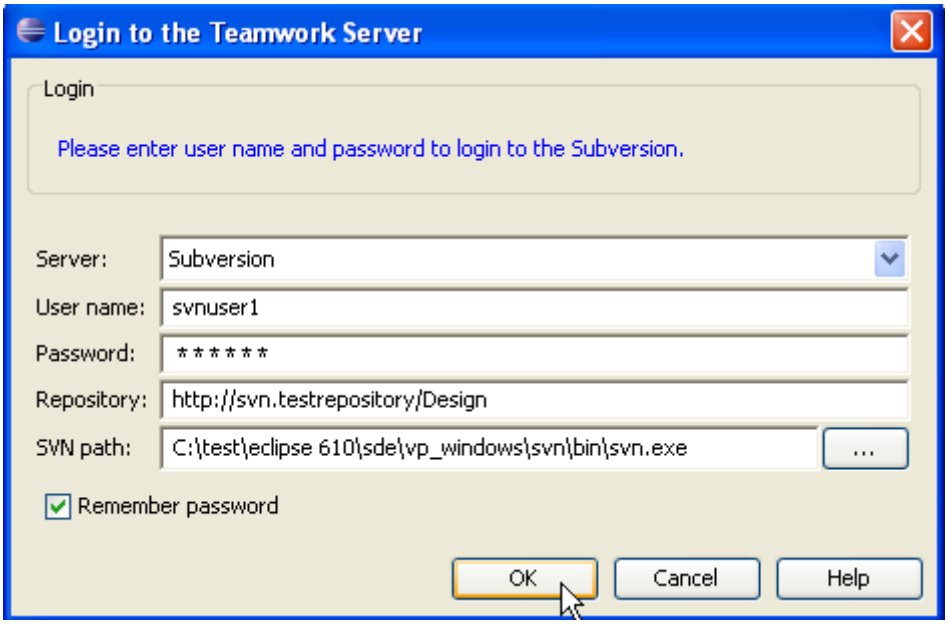



*Figure 15.6 - Configure details of server conncetion*

Teamwork Client dialog box is opened.

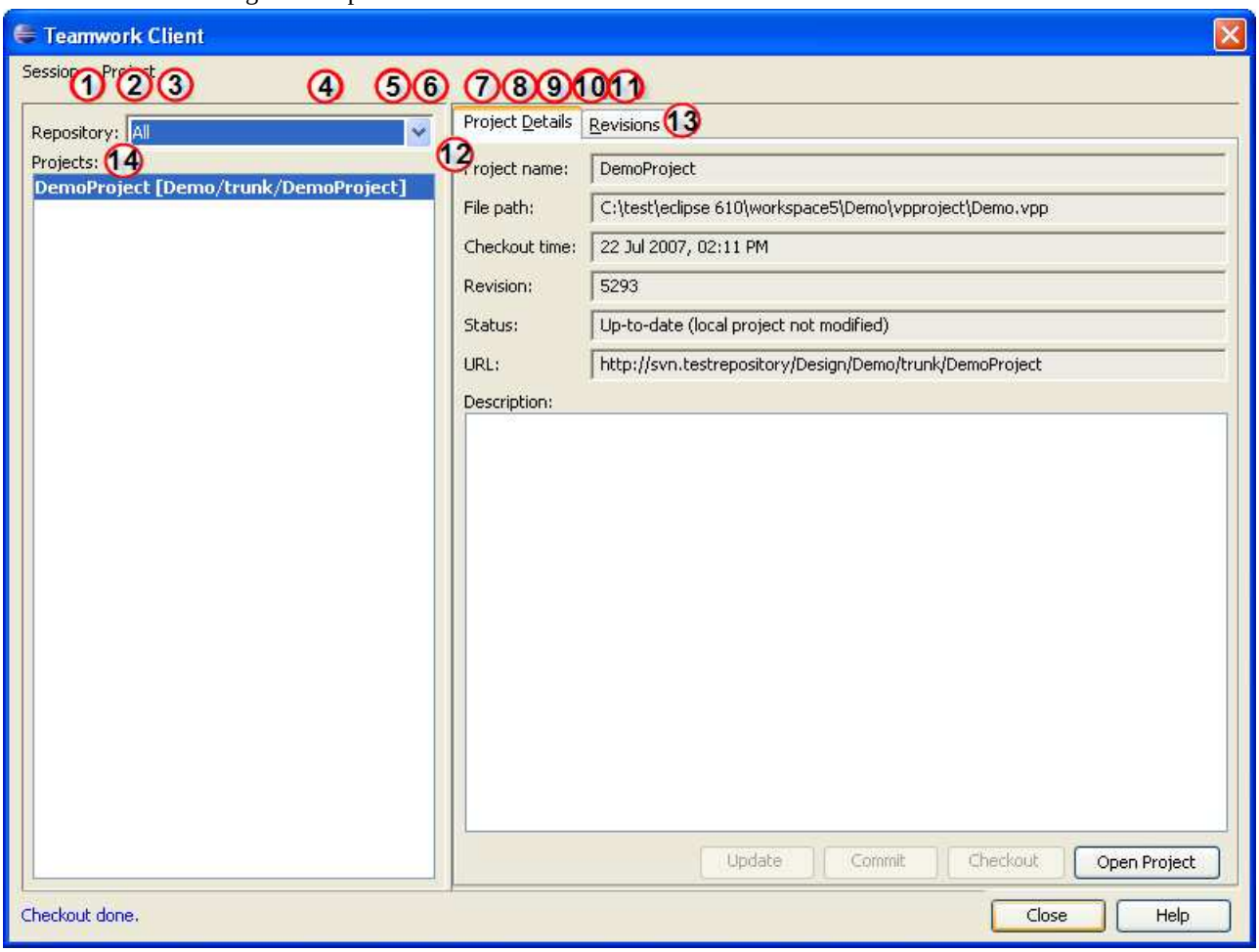



*Figure 15.7 - Teamwork Client dialog box*

| | Name | Function |
|---|---|---|
| 1 | Logout | Logout from the server. |
| 2 | Manage project | Manage projects in the server. |
| 3 | Import project | Import a project into the server. |
| 4 | Open | Open the selected project. |
| 5 | Check for Update | Check if there is any update in the selected project. |
| 6 | Refresh projects | Refresh the projects to get the latest status of them. |
| 7 | Tag... | Create a tag for the selected project. |
| 8 | Branch... | Create a branch for the selected project. |
| 9 | Merge... | Merge the modification of branch and trunk. |
| 10 | Switch... | Switch your location in the project. |
| 11 | Delete branch... | Delete a branch. |
| 12 | Project Details... | The details of the selected project is shown. |
| 13 | Revision | History of modification of the selected project. |
| 14 | Projects list | The projects which have been selected to be managed is shown. |

# Importing Project to the Repository

You can import your project to the repository by clicking the **Import Project to Repository** icon in the **Teamwork Client** dialog box.

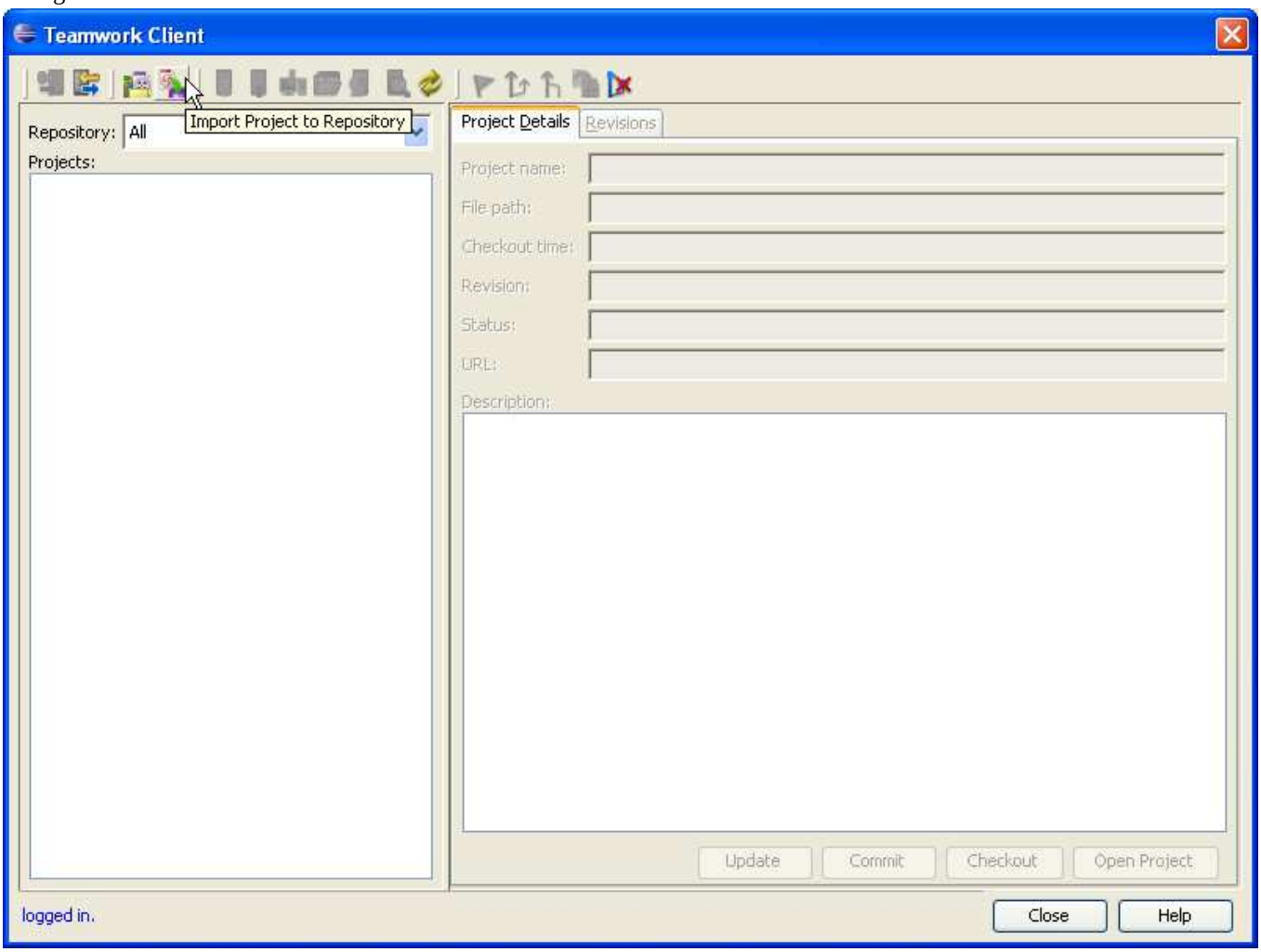



*Figure 15.8 - Select Import Project to Repository*

**Import Project** dialog box will be displayed. You can edit the project name and the type of project file you want to import.

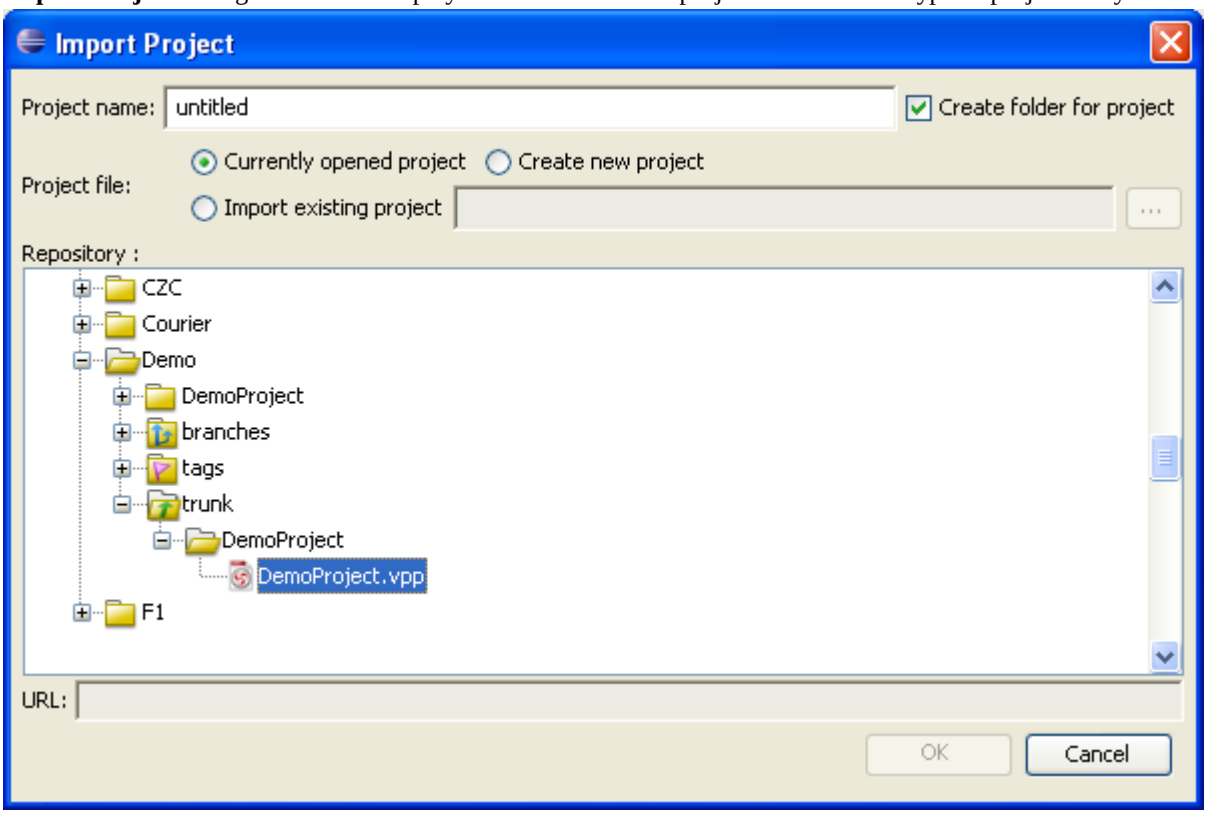



*Figure 15.9 - Import Project dialog box*

| | Name | Function |
|---|---|---|
| 1 | Project name | Edit the name of imported project. |
| 2 | Currently opened project | Import the project you have opened. |
| 3 | Import existing project | Import an existing project from the local file system. |
| 4 | Create new project | Create a new project in the repository. |
| 5 | Create folder for project | When import a project, create a folder for that project automatically. |

*Table 15.1*

Then, you can select the repository where your project will be imported to. You may right-click on a folder and select **New Remote Folder** from the popup menu to create another folder in it.

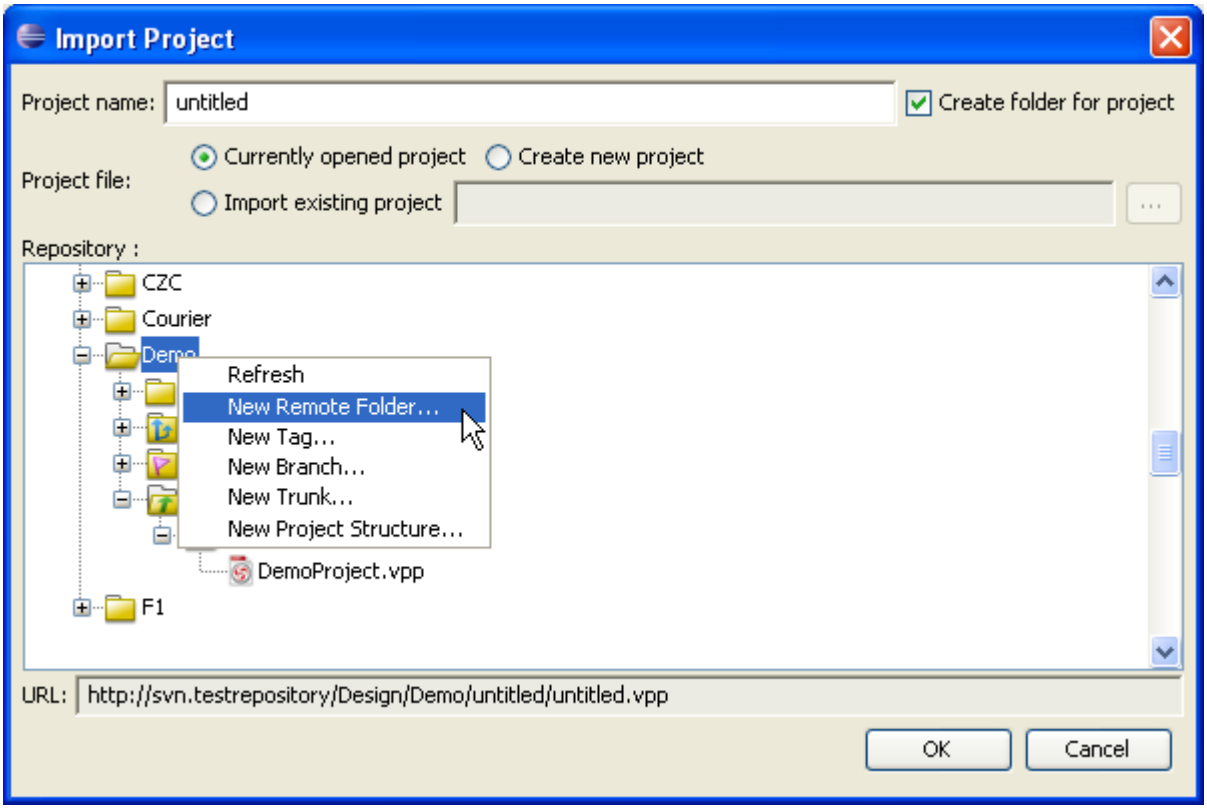



*Figure 15.10 - Open a new remote folder*

# Managing Teamwork Project

Only the first project user, who usually is Project Leader or Business Analyst, needs to import project to repository. Other team members may use the **Manage Project** dialog box to manage these working projects. To open the **Manage Project** dialog box, you can right-click on the Projects List in the Teamwork Client dialog box, and select **Manage Project** in the popup menu.

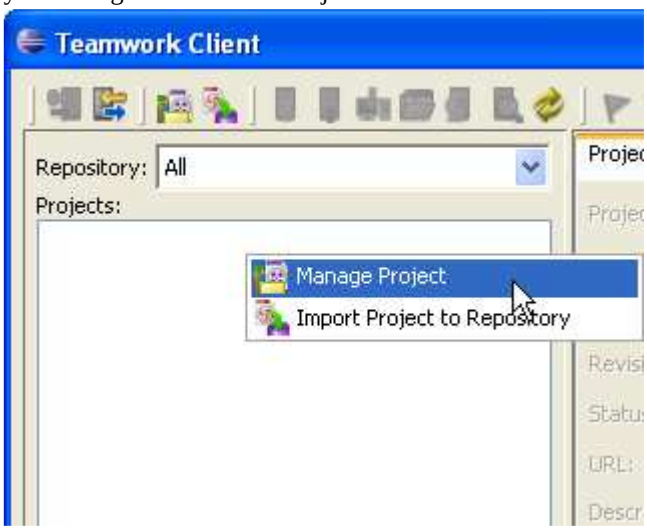



*Figure 15.11 - Select Manage Project*

You can select a project in the repositories and click **Add selected** 

to add the project to the **Projects** list. You may manage more than one teamwork project at the same time by selecting different projects and click **Add selected**.

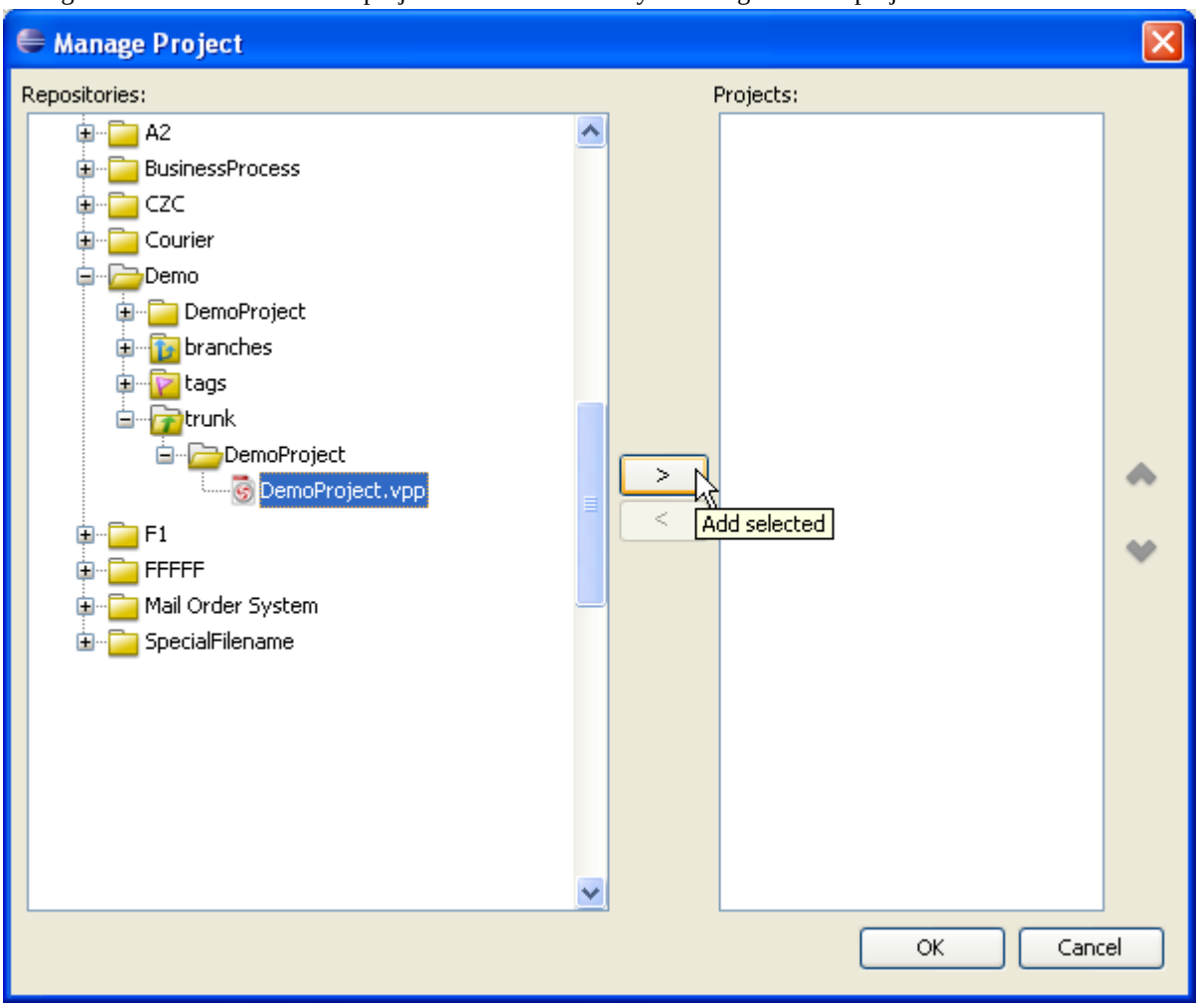



*Figure 15.12 - Manage Project dialog box*

If you want to remove a project which is added to your **Projects** list, you can select **Remove selected** < to remove the project selected in the list.

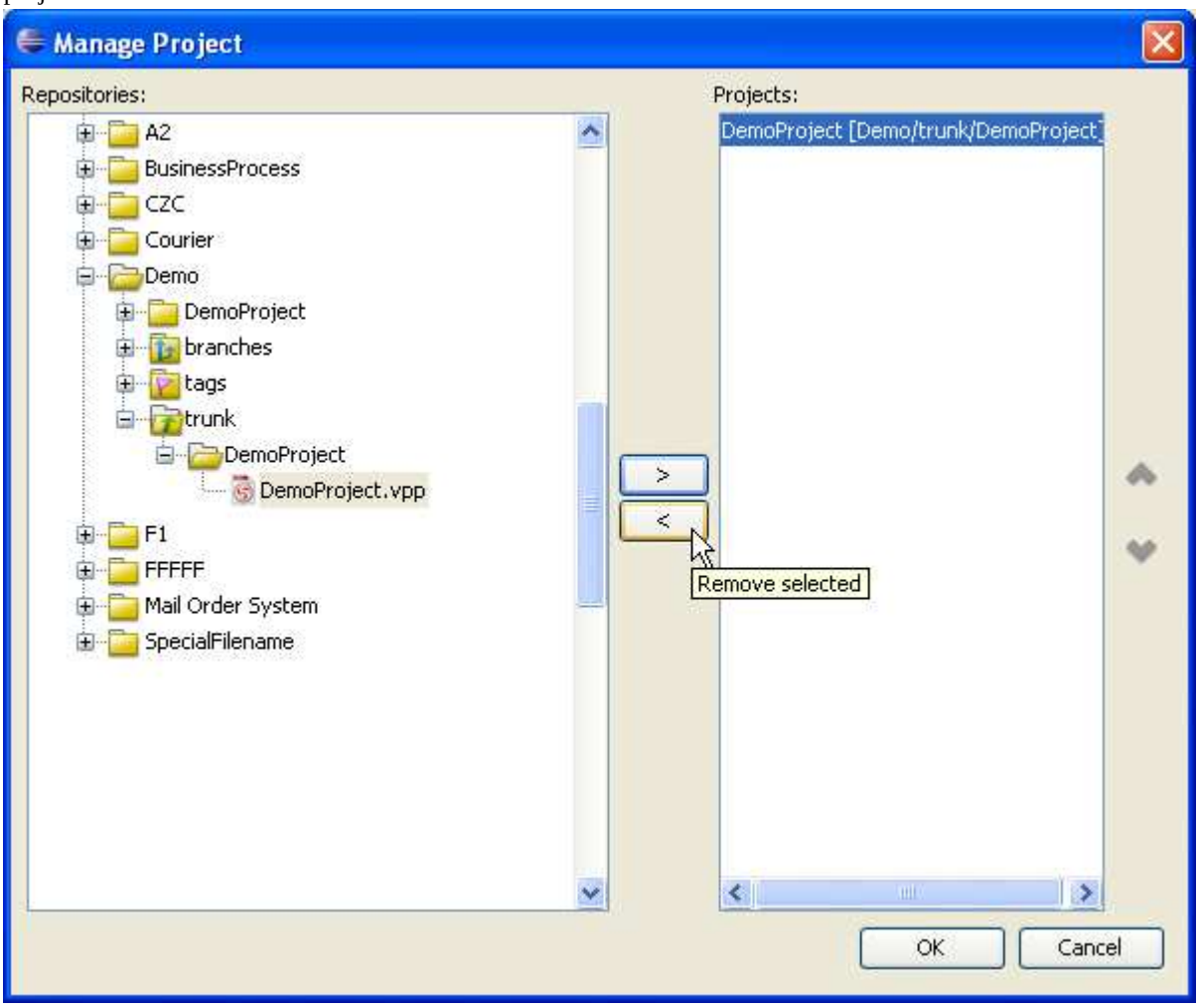



*Figure 15.13 - Remove selected project*

# Checking Out Project

If you have already imported a project to server or selected a project to manage, you can checkout the project from the repository.
When you have just selected a project in the **Projects** list, the status is '**Not checked out**'.

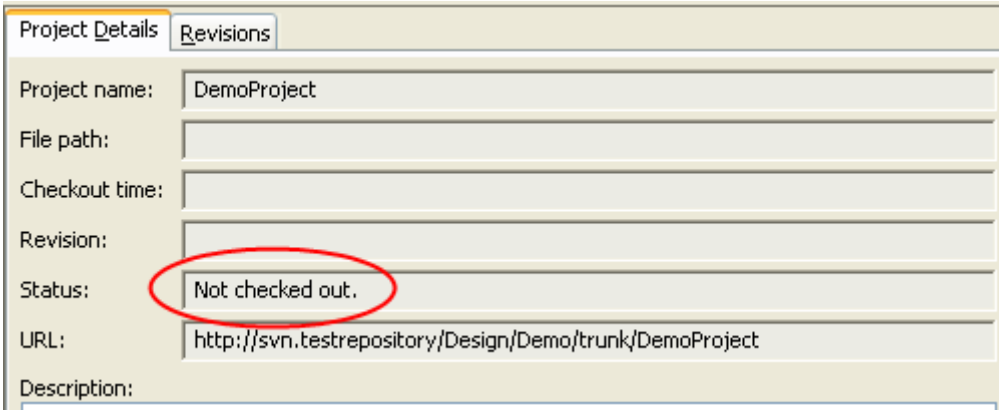



*Figure 15.14 - Project not checked out*

You click **Open Project**, you can checkout the project and open it immediately.

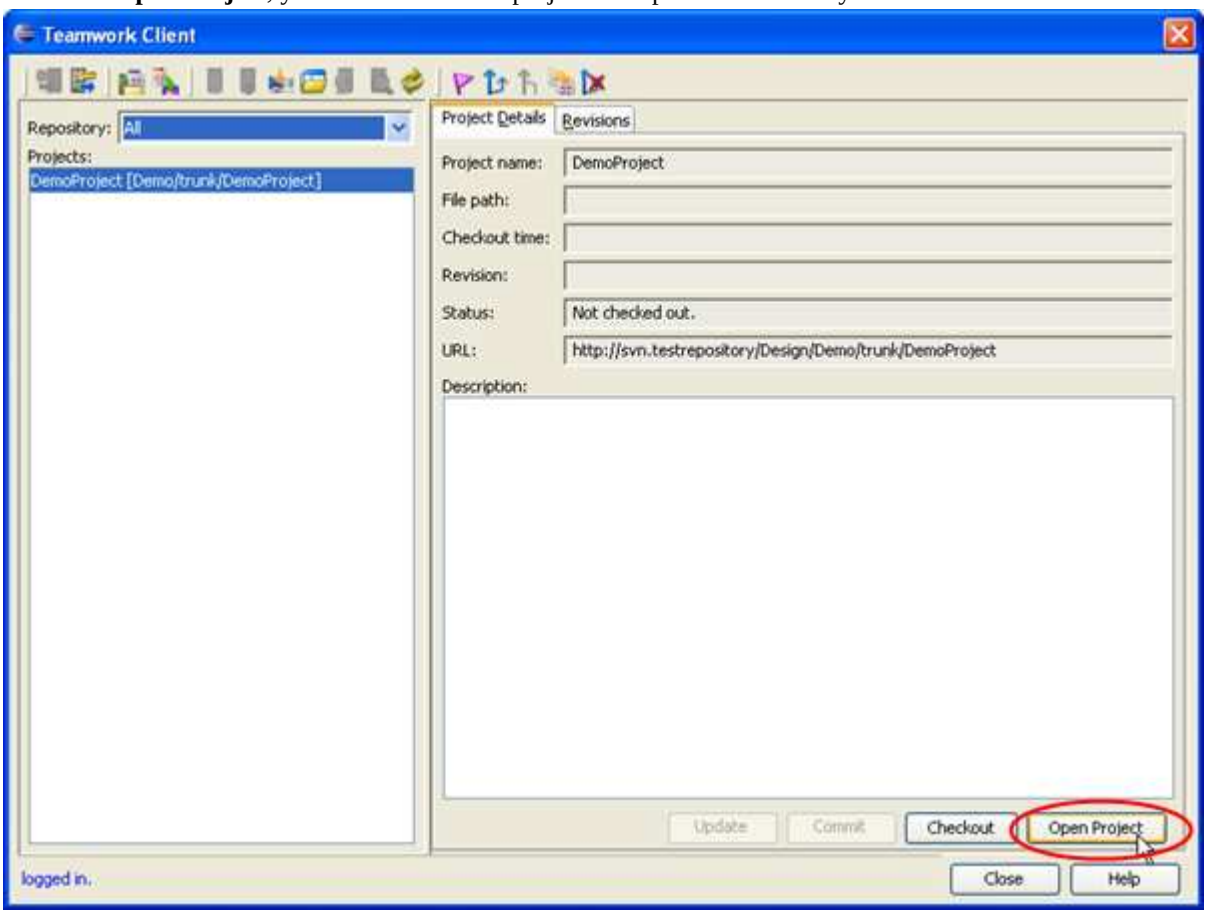



*Figure 15.15 - Open Project*

Alternatively, you can choose to checkout the project without opening it. Checkout Project is quite different from Open Project. After checking out the project, your will stay in the Teamwork Dialog for further actions. For example, creating branch, Merge change from branch. If you select Open Project, you will open the project for viewing and modification.
To checkout the project, click **Checkout** in **Teamwork Client** dialog box.

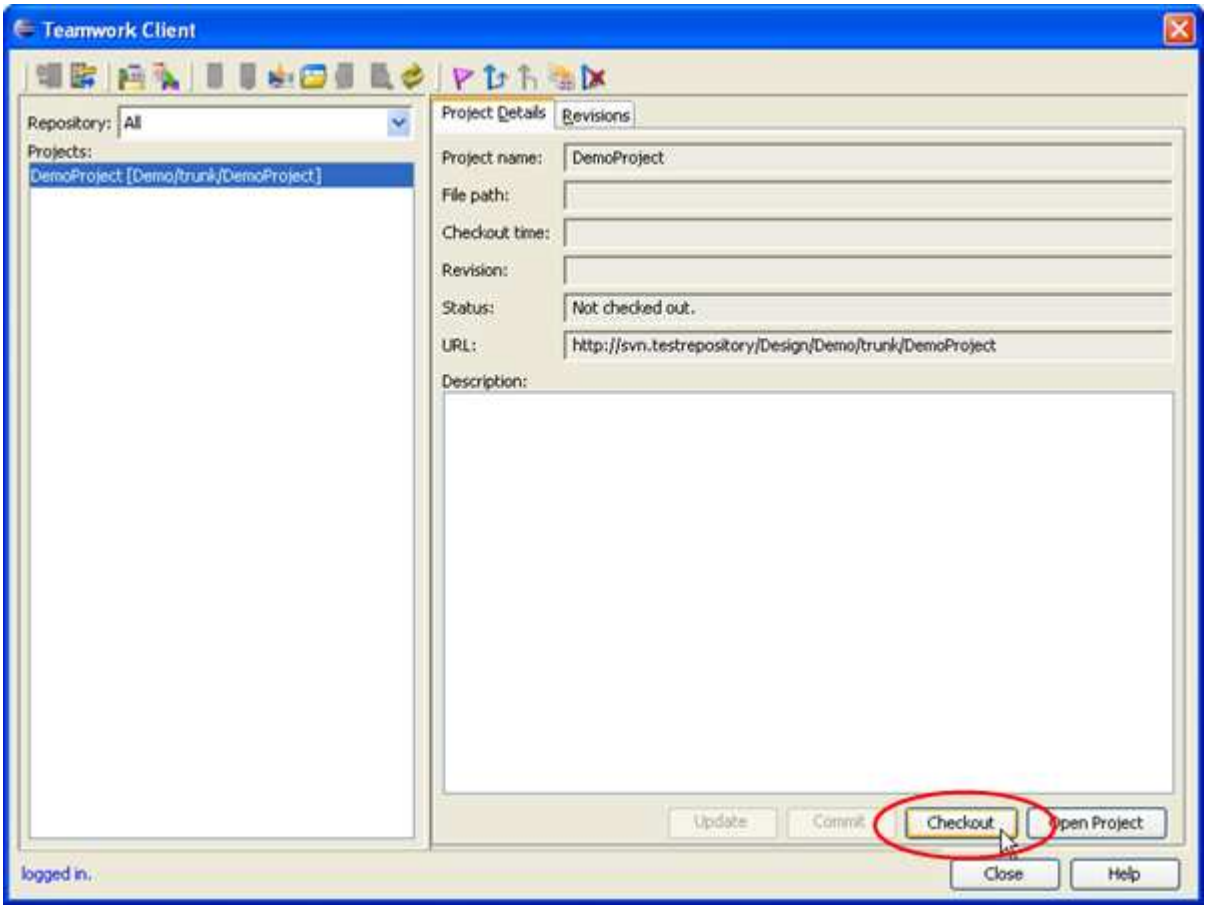



*Figure 15.16 - Checkout the project*

The status of the project is changed and you have checkout the project successfully.

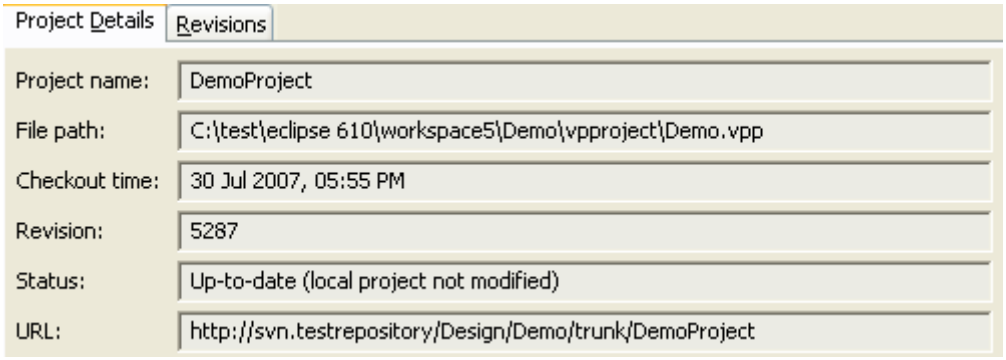



*Figure 15.17 - Project checked out*

# Committing Project

After you have modified the project, you can share your local changes with other team member by committing the project to server.
You may commit project in the toolbar.

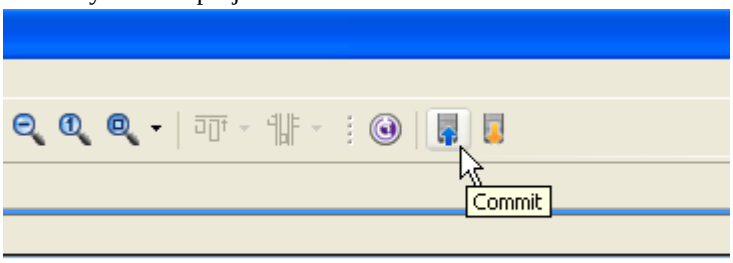



*Figure 15.18 - Commit project*

A **Commit Project** dialog box will show you the progress of commit.

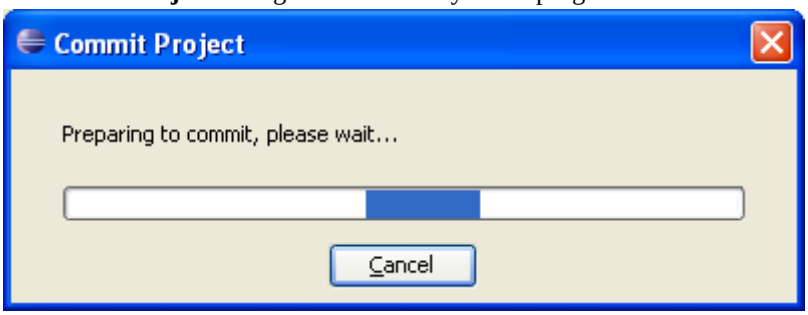



*Figure 15.19 - Commit project dialog box*

A dialog box will be displayed and you may enter a description of the changes. Then, click **OK**.

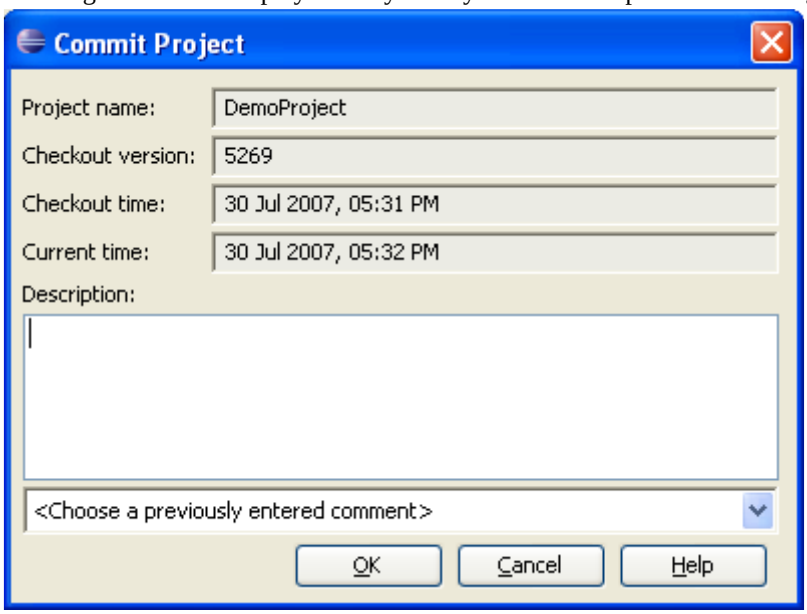



*Figure 15.20 - Enter description of commit change*

A **Commit Model(s)** dialog box shows the models you have modified. You can click **OK** to commit.

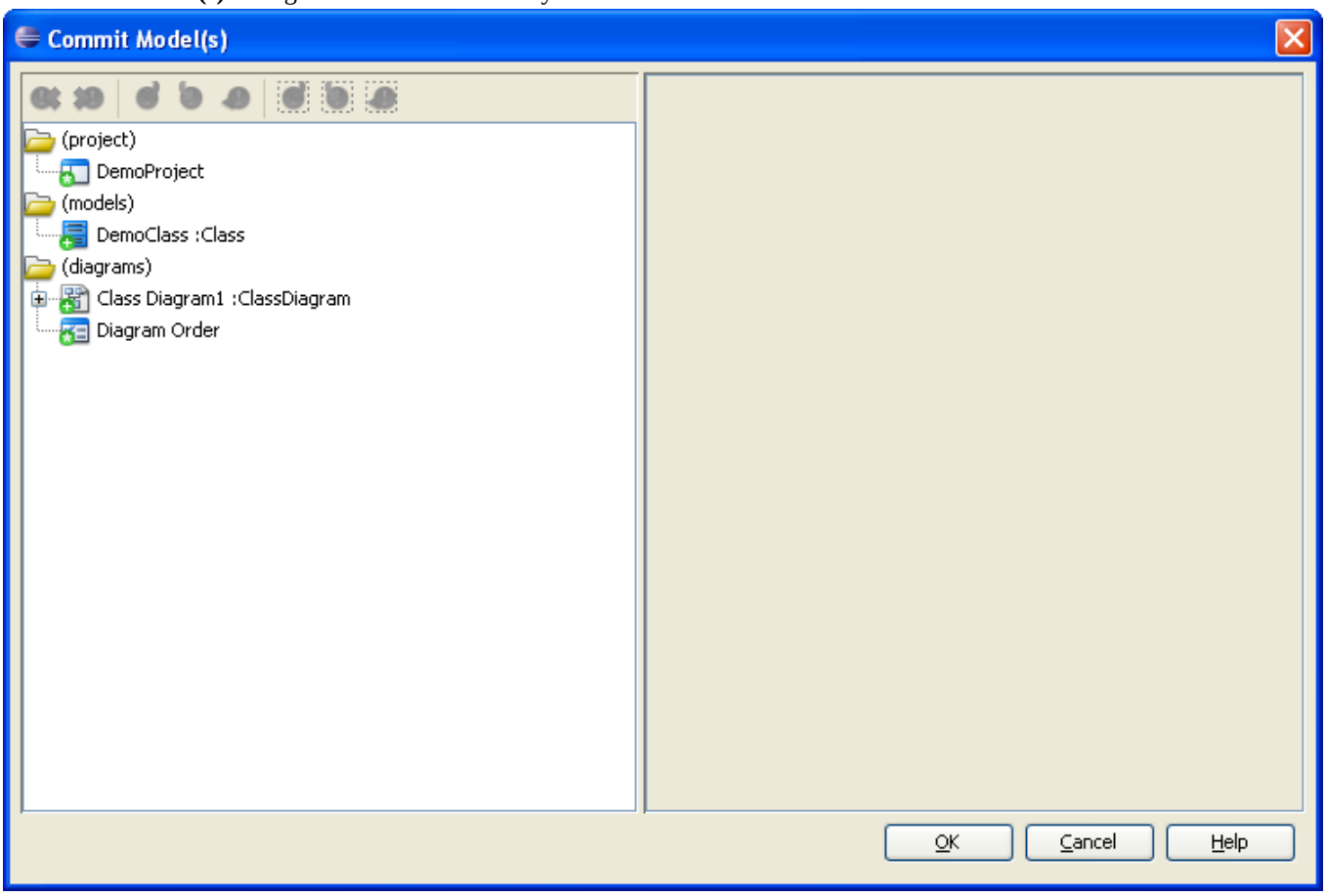



*Figure 15.21 - Commit Model(s) dialog box*

Sometimes, you may encounter conflict when committing models.

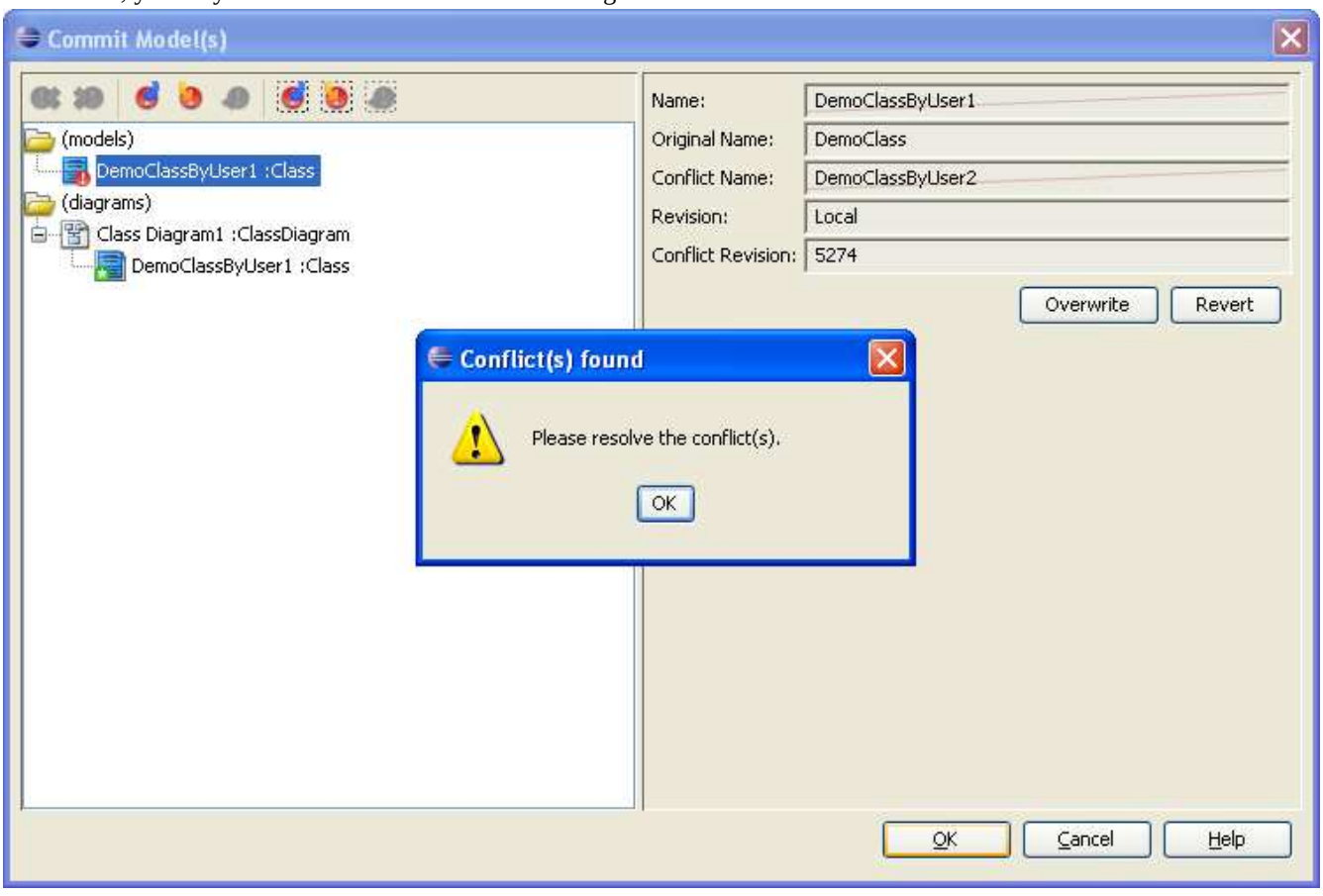



*Figure 15.22 - Commit with conflict*

You can choose to revert or overwrite to solve. For more details, please refer to the section 'Resolving Conflict'.

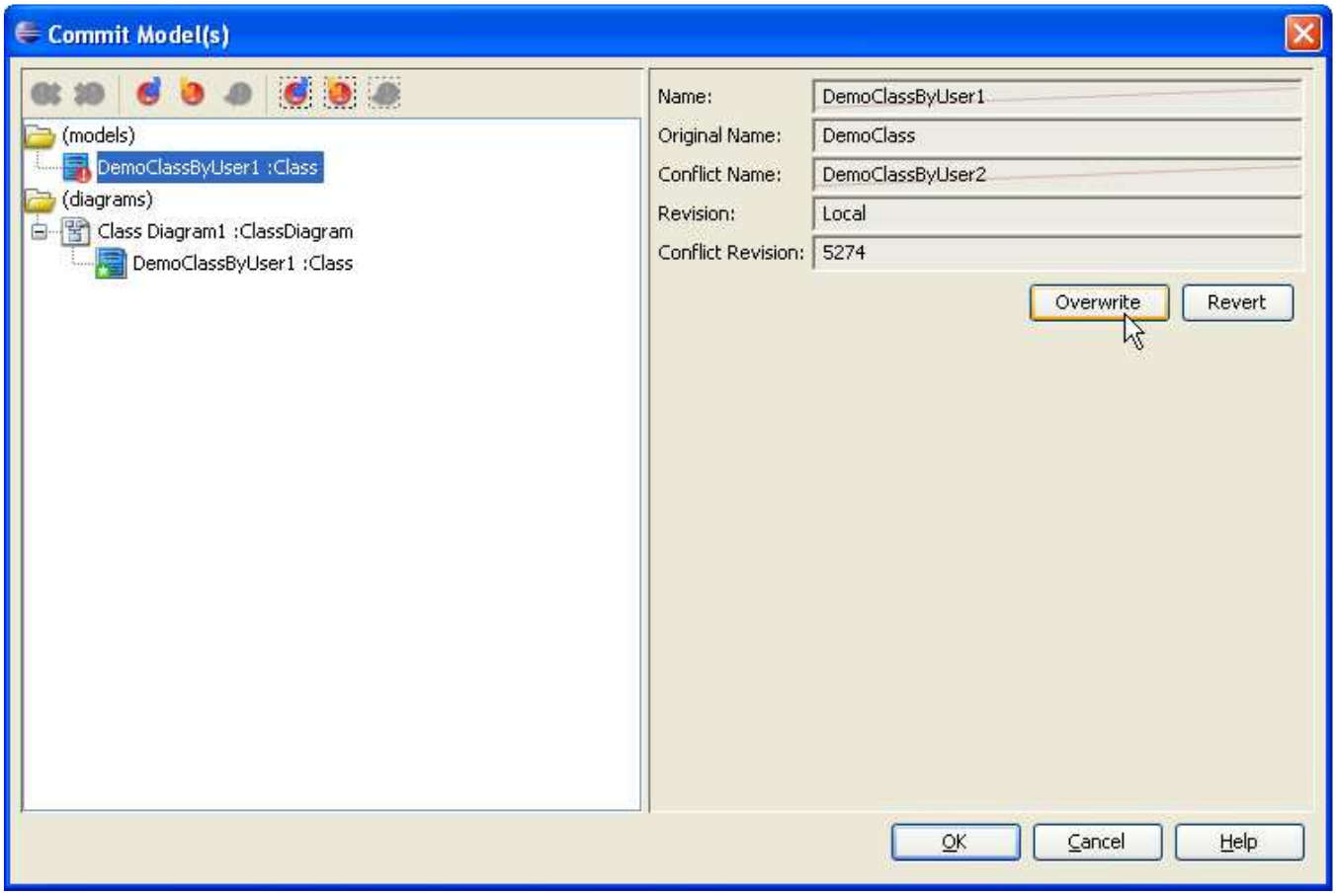



*Figure 15.23 - Select overwrite or revert*

# Updating Project

Apart from committing the project you have changed to the server, you can also get other teammates' changes in the server to local by updating project.
To update project, you can click the icon for update in toolbar.

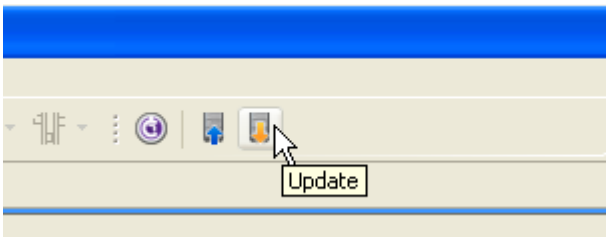



*Figure 15.24 - Update project*

**Update Model(s)** dialog box is displayed. The models changed by others are shown. You can click OK to update the models.

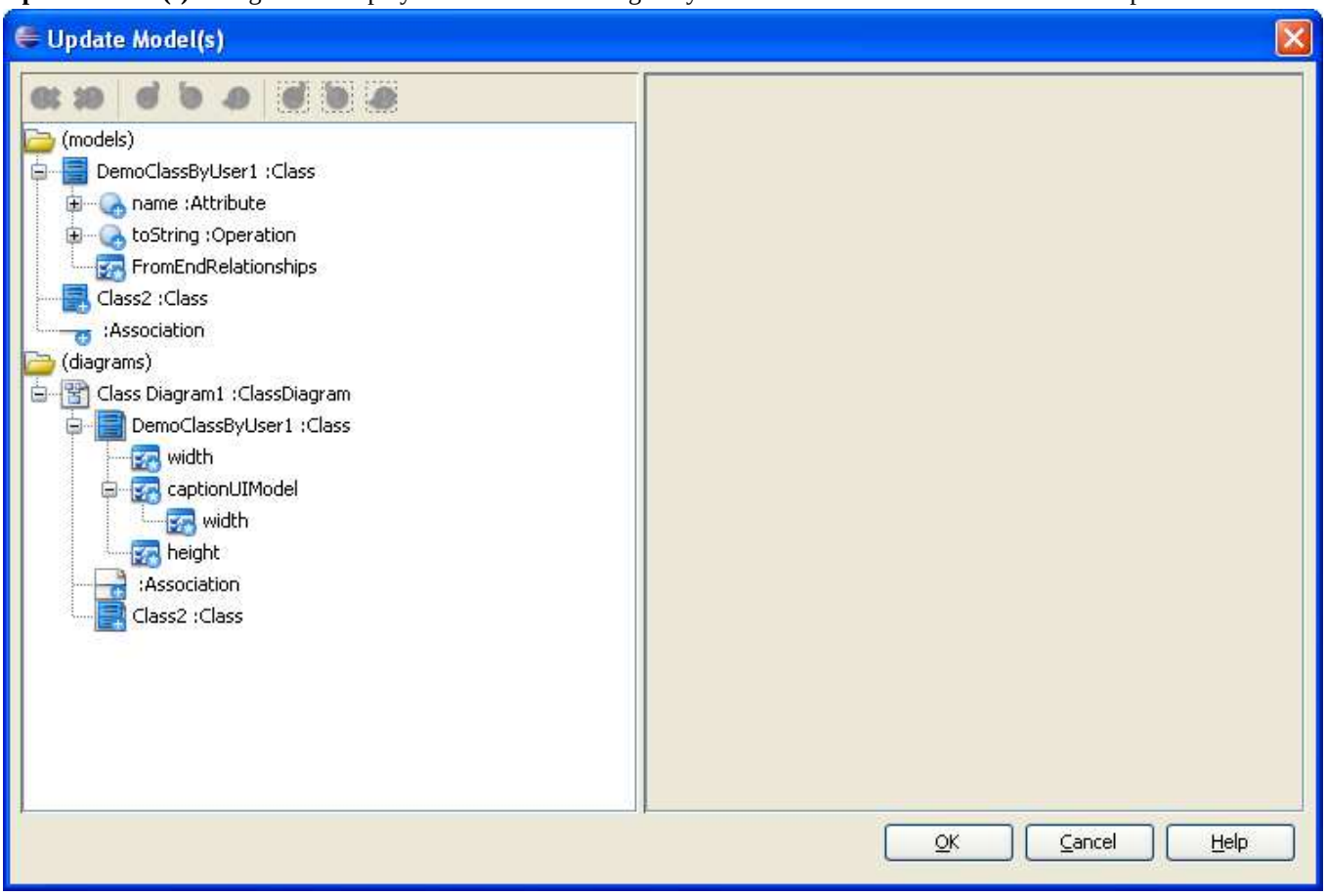



*Figure 15.25 - Update Model(s) dialog box*

# Reverting Project

You may encounter the situation that you have made a lot of changes in the project just to find there are a lot of mistakes. In this case, you may want to rollback all the changes and redo the whole project.
Here, you can revert all local changes by clicking the **Revert** button.

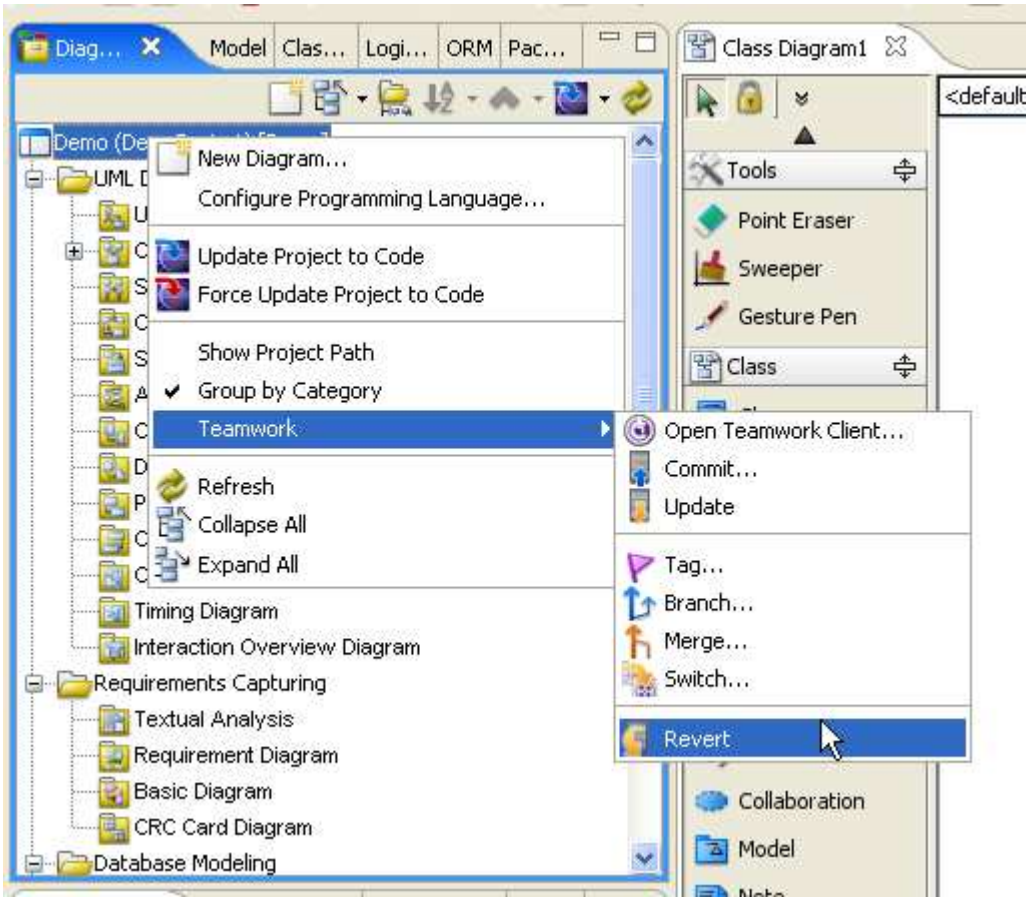



*Figure 15.26 - Revert project*

A dialog box will show and ask if you want to revert. Click **Yes** to confirm and the project is reverted.


*Figure 15.27 - Confirm revert project*

# Resolving Conflict

Sometimes, you may modify the same model as your teammate with different changes. In this way, the server may not know which revision should be preserved and it shows conflict.
Conflicts can happen when you commit the project.

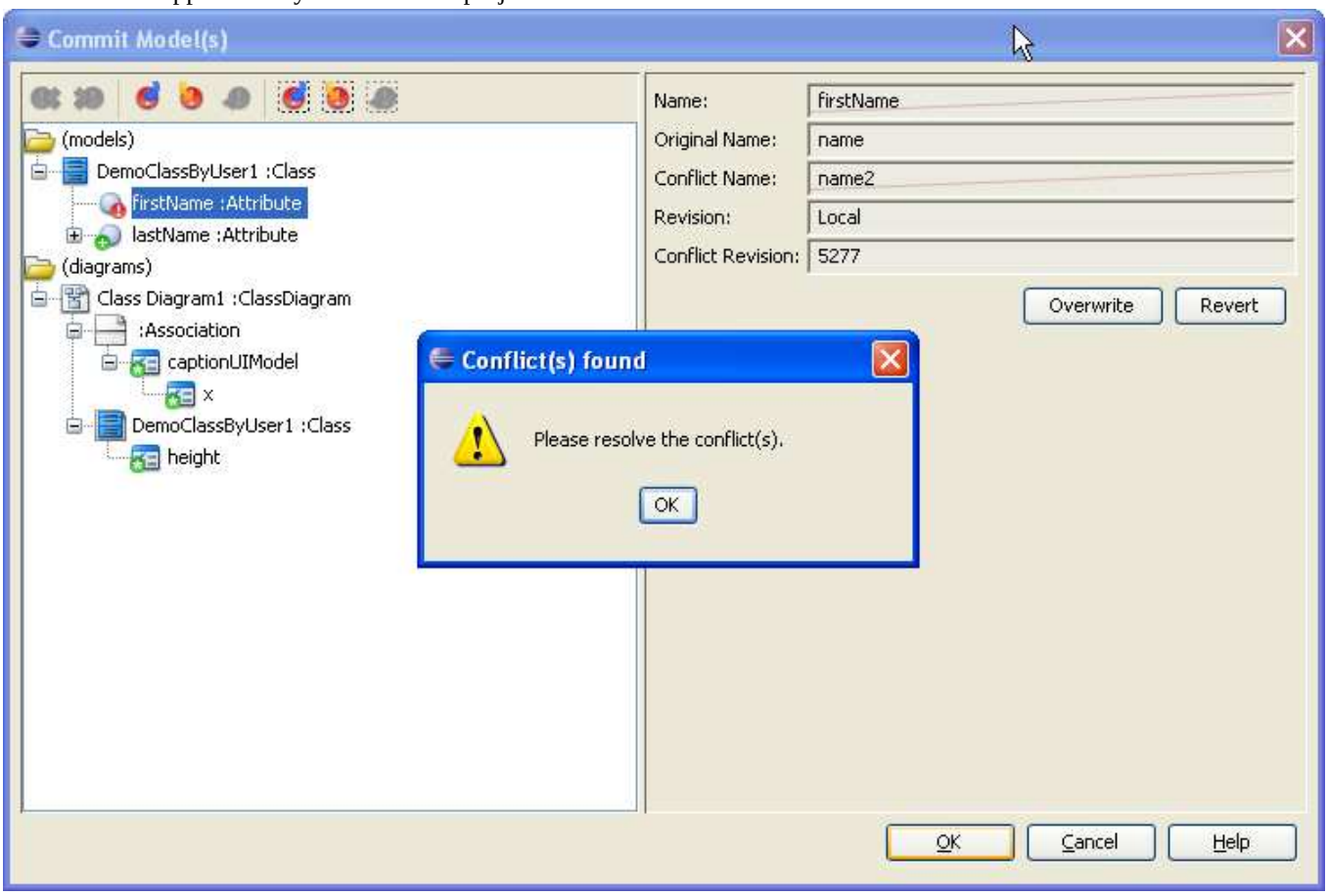



*Figure 15.28 - Conflict found in merging*

Conflict may also happen when you update your project.

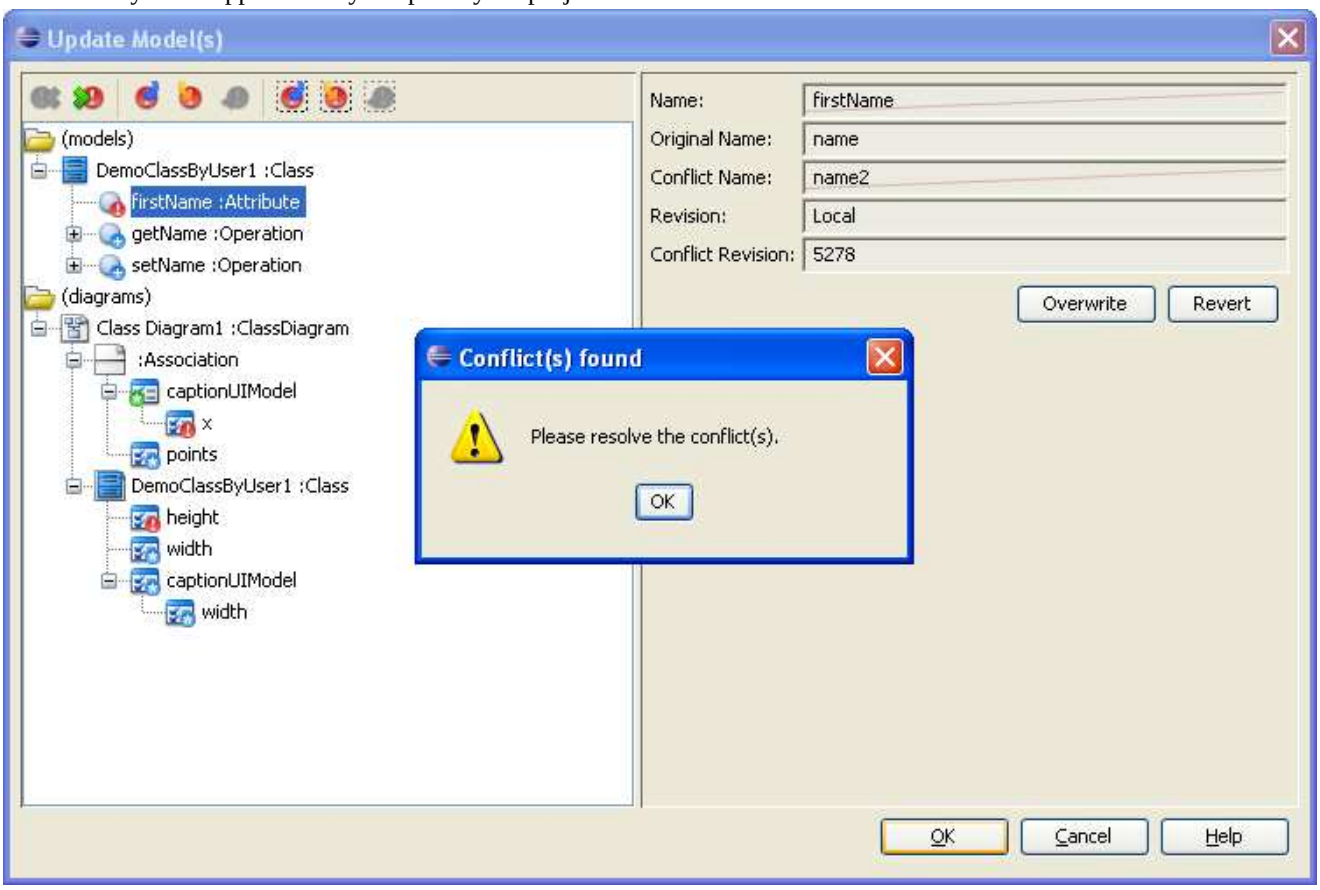



*Figure 15.29 - Conflict found in updating*

When you face conflict, you can solve it by selecting the conflict model and clicking **Overwrite** or **Revert**.
**Overwrite** is to keep local changes while **Revert** is to accept changes from server.

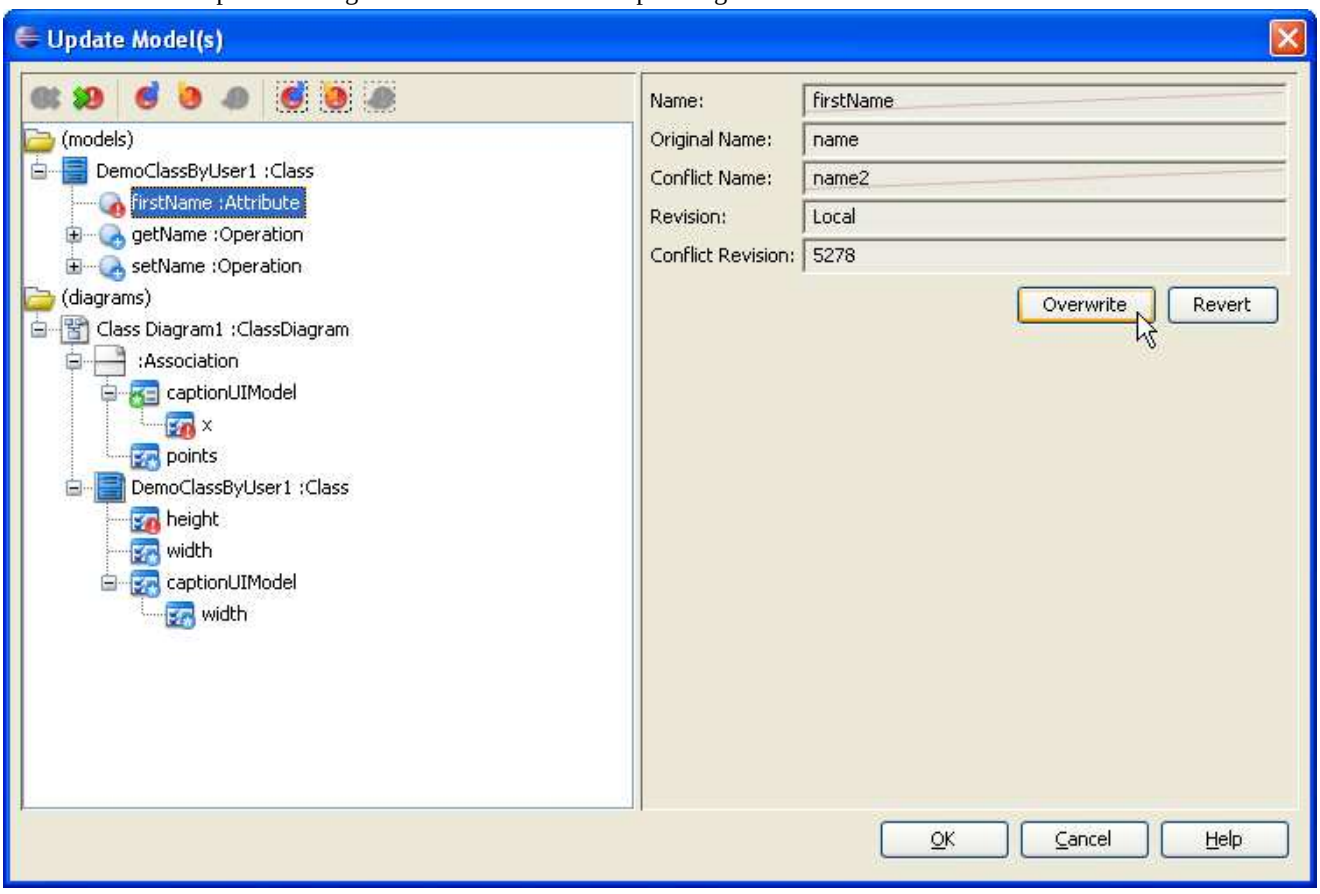



*Figure 15.30 - Solving conflict*

# Viewing Revision History

From time to time, there may be a lot of changes made by you and your teammates. In SDE for Eclipse, you can view back the previous revisions of the project.
To view the history of committed changes, open the **Teamwork Client** dialog box and select **Revisions** tag.

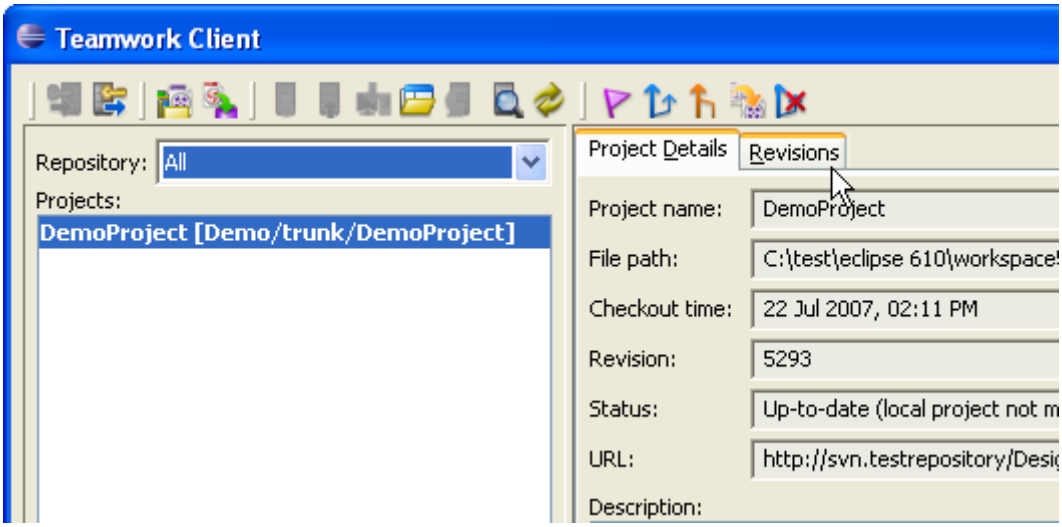



*Figure 15.31 - Select Revisions*

You can see the different revisions of the project.

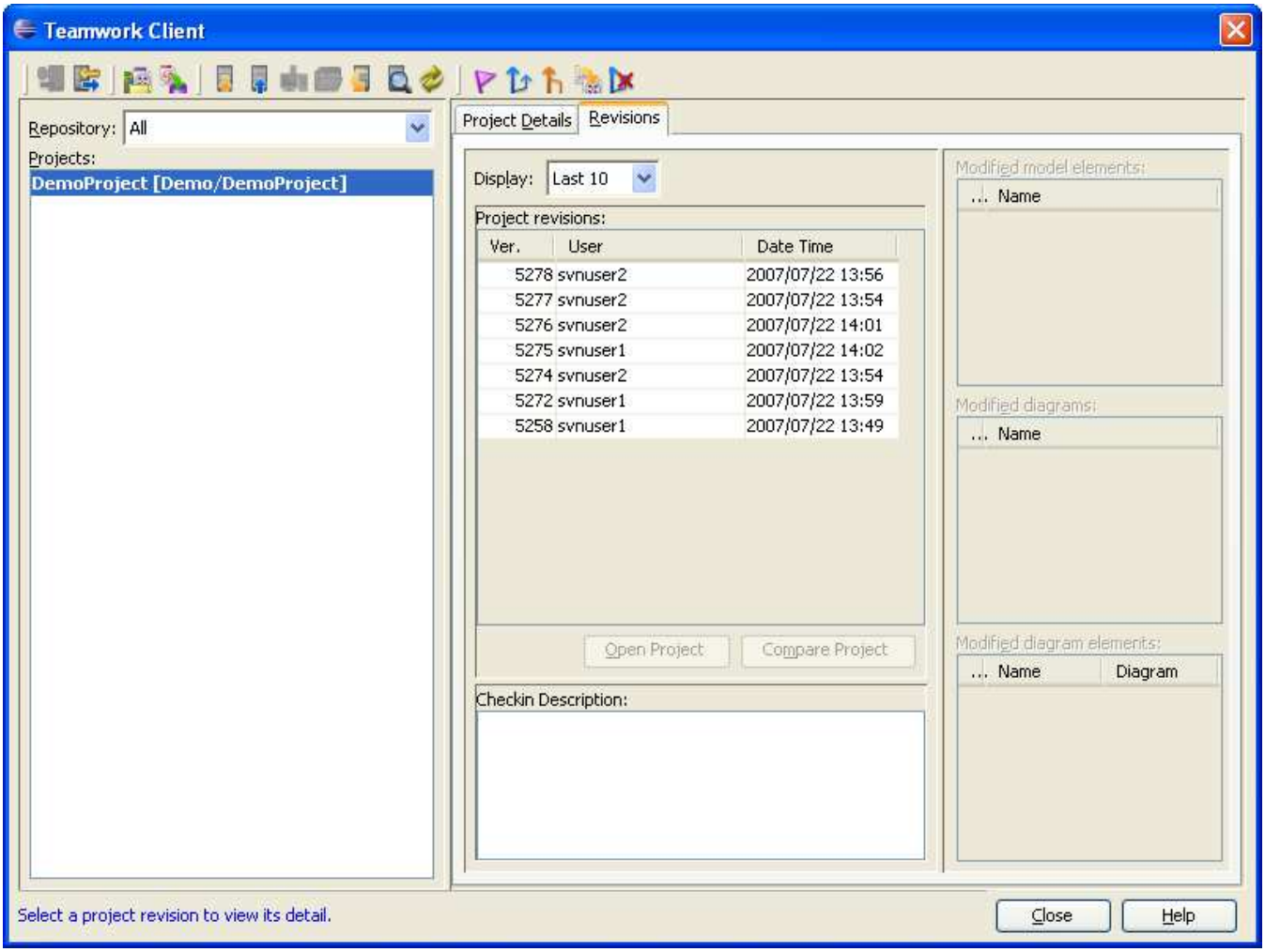



*Figure 15.32 - Different revisions of the project*

You can see the model, diagram and diagram elements modified in that version. You can also see the checkin description in that version.

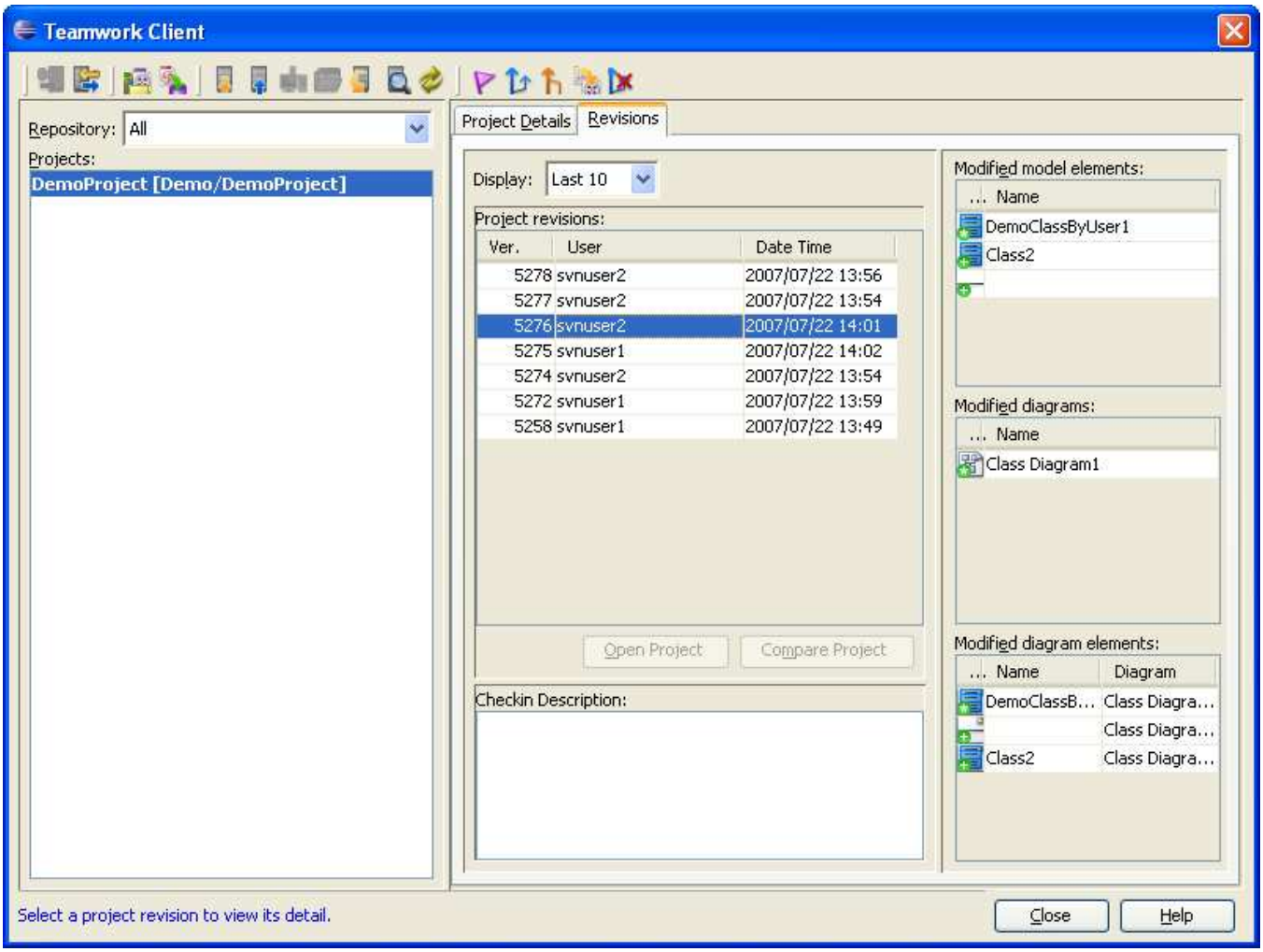



*Figure 15.33 - Changes of different revisions*

# Comparing Between Revisions

You may want to see the differences between different revisions here in SDE for Eclipse.
To achieve, first you may select a revision.

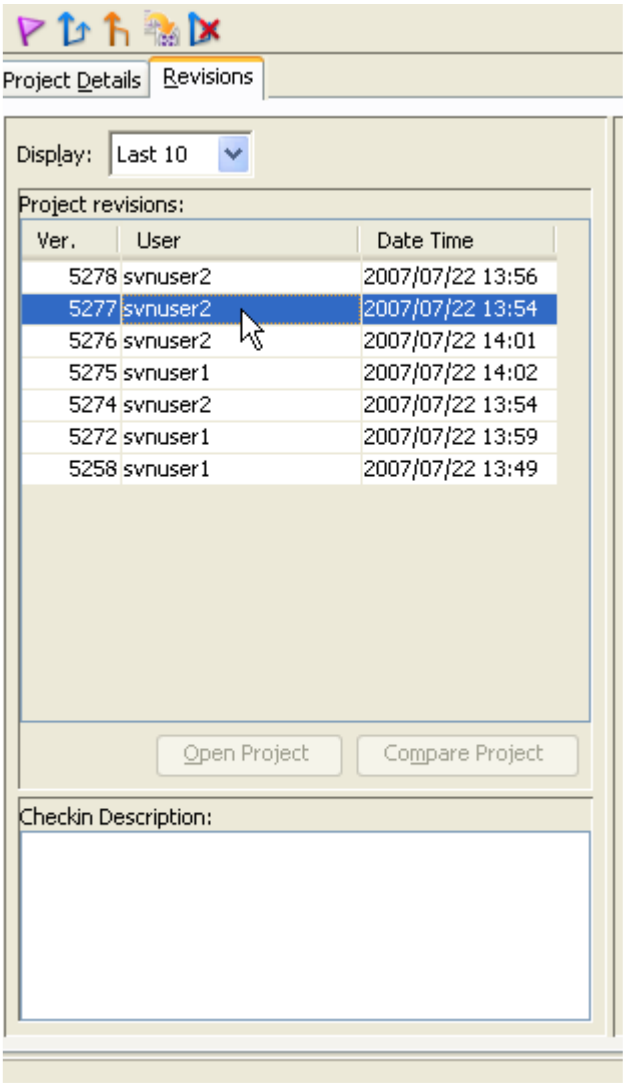



*Figure 15.34 - Select one revision*

Then, you may press *Ctrl* and click on the revision you want to compare with.

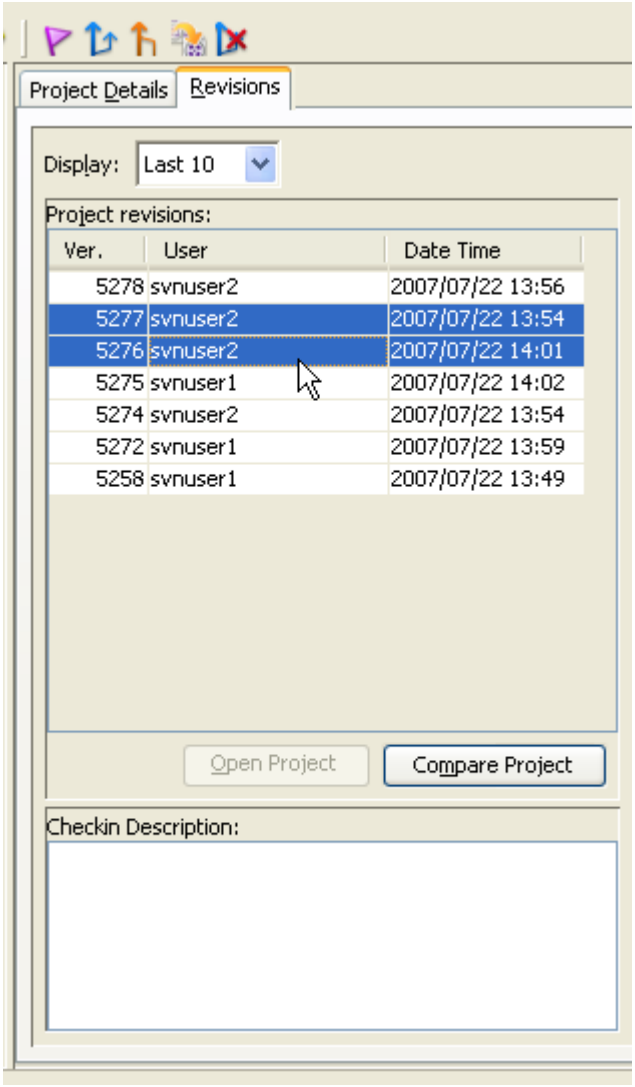



*Figure 15.35 - Select another revision*

Afterwards, click **Compare Project** to compare**.**

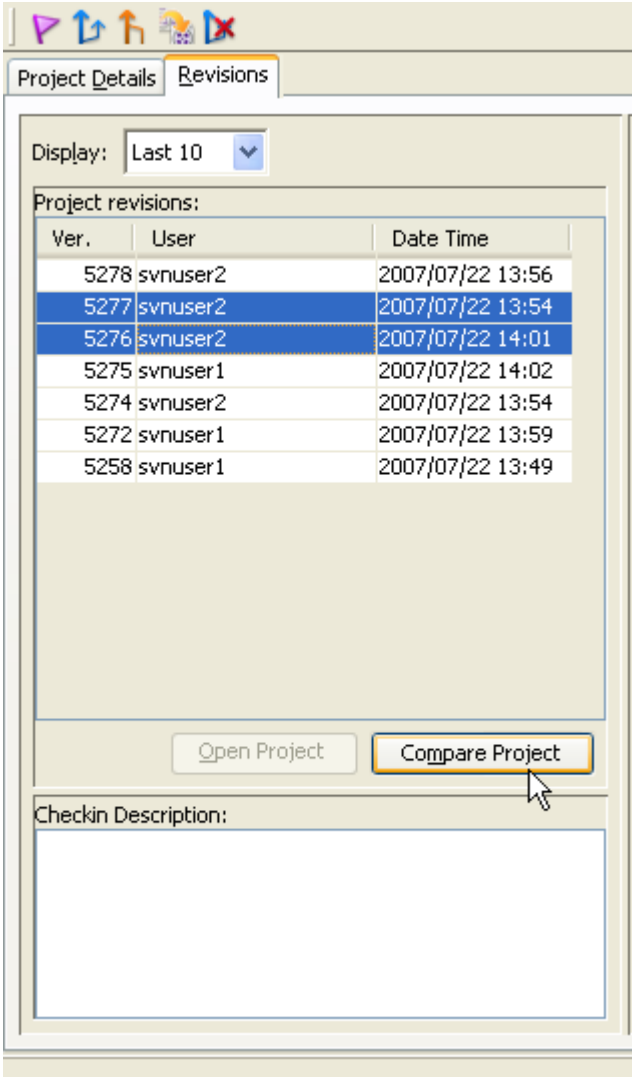



*Figure 15.36 - Select Compare Project*

A **Compare Projects from revision** dialog box appears and shows you the differences between your selected revisions.

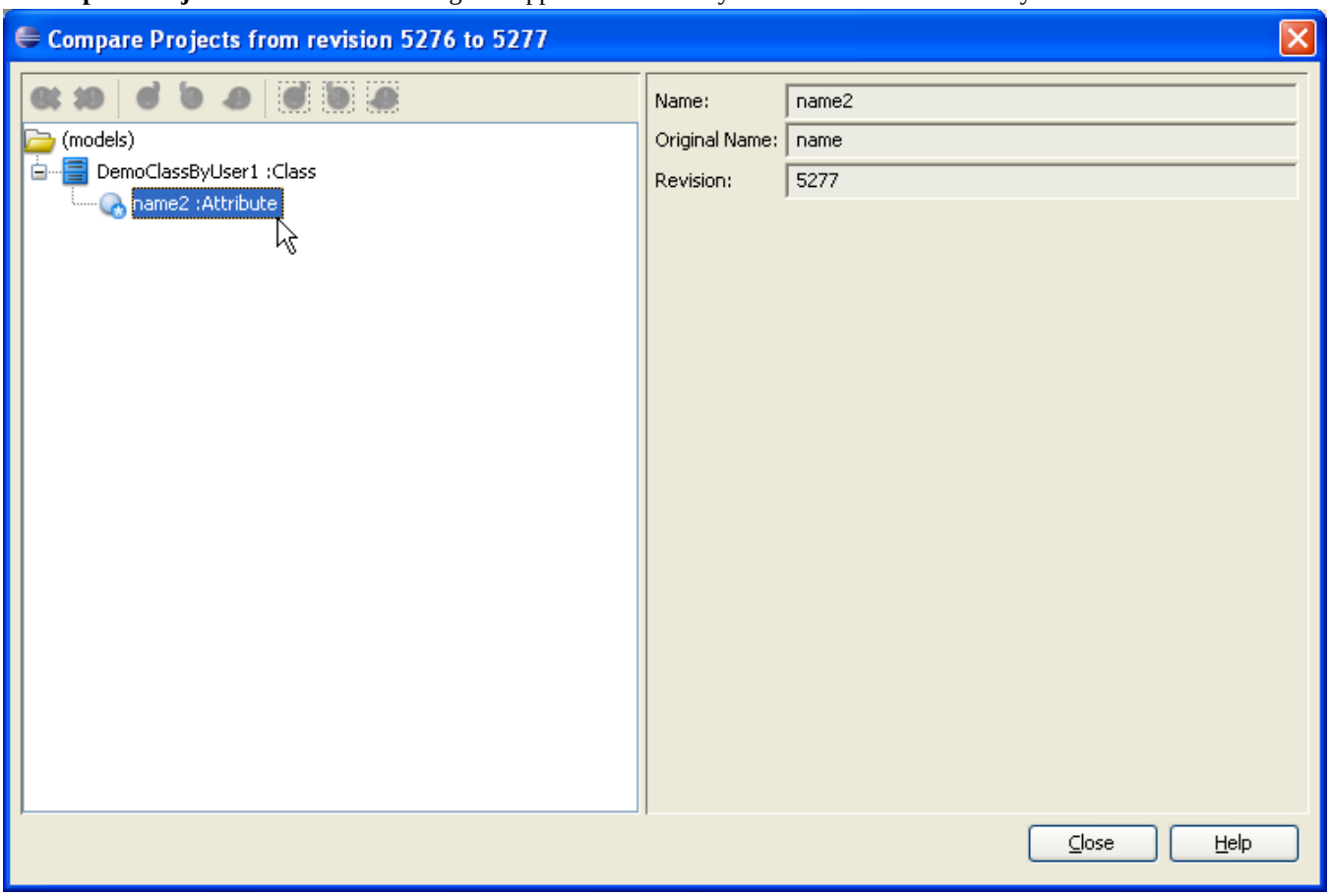



*Figure 15.37 - Compare Project dialog box*

# Branch and Tag Project

Branch is a technique to separate the development of project from trunk. You can modify the project in branch while keep the most stable version design in trunk.
In this way, you can perform some research or time-taking task in branch and merge the changes to trunk only when the branch is proven to be stable.
Tag provides a convenient technique to manage and label a stable version. You can go back to check the stable version by switching to Tag.

## Creating a Branch

You can create a branch by clicking the icon for branch in toolbar.


*Figure 15.38 - Select branch*

**Create Branch** dialog box is displayed and you can enter the name of branch you want to create.

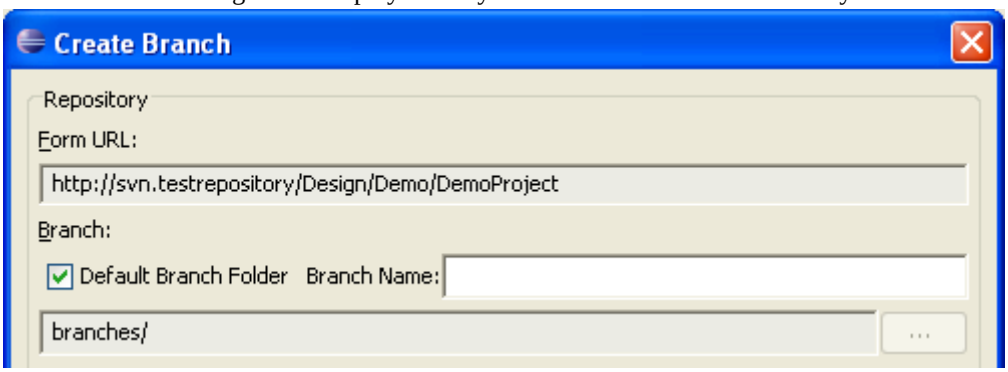



*Figure 15.39 - Create Branch dialog box*

Then, select a status of branch from the drop-down menu.

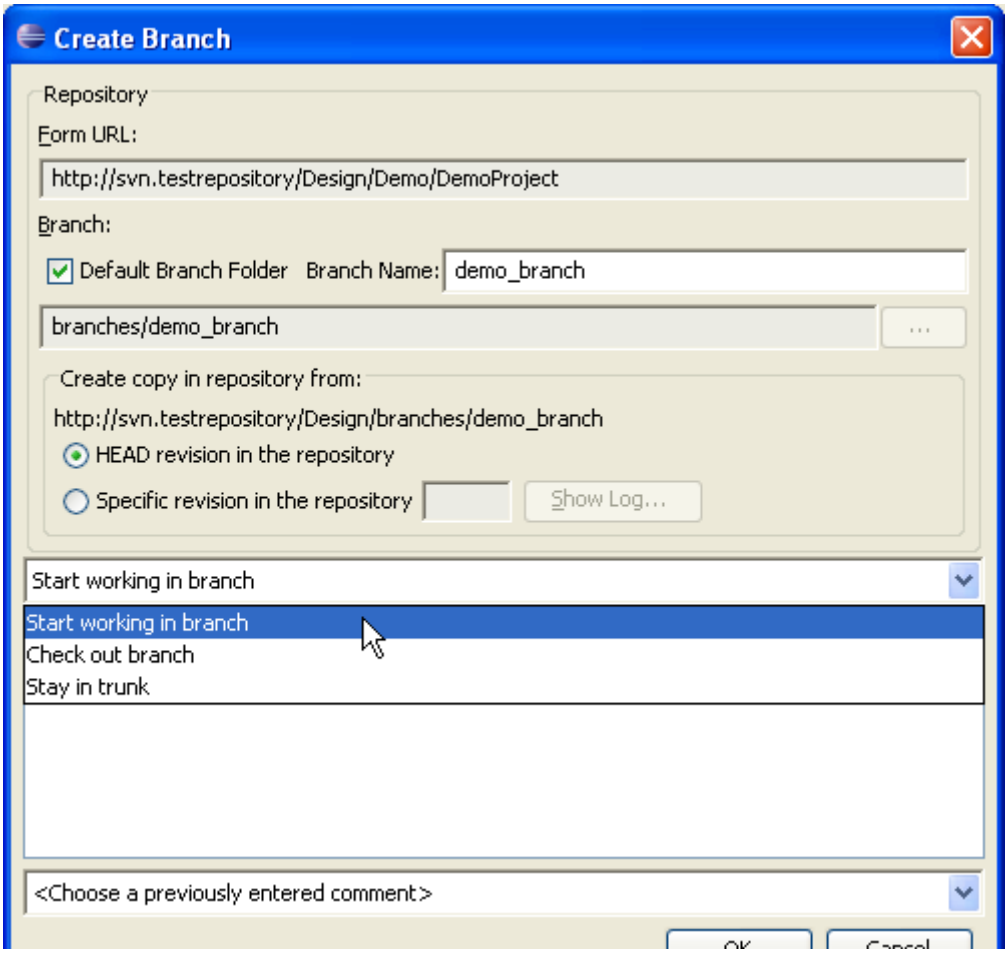



*Figure 15.40 - Select from drop-down menu*

Then, click OK to confirm creating branch.

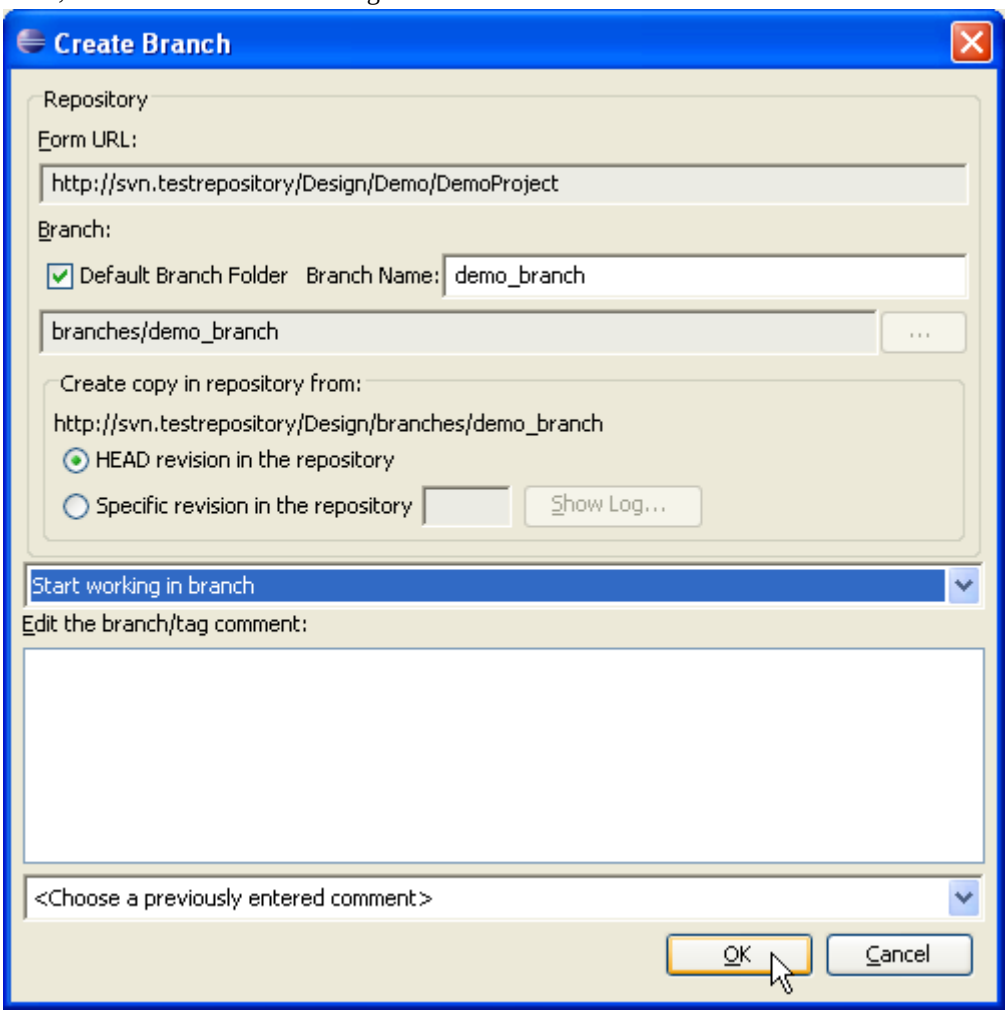



*Figure 15.41 - Confirm creating branch*

## Managing a Branch

Similar to managing a project, you can manage a branch in the **Manage Project** dialog box.
First, you may select a branch under your desired project.

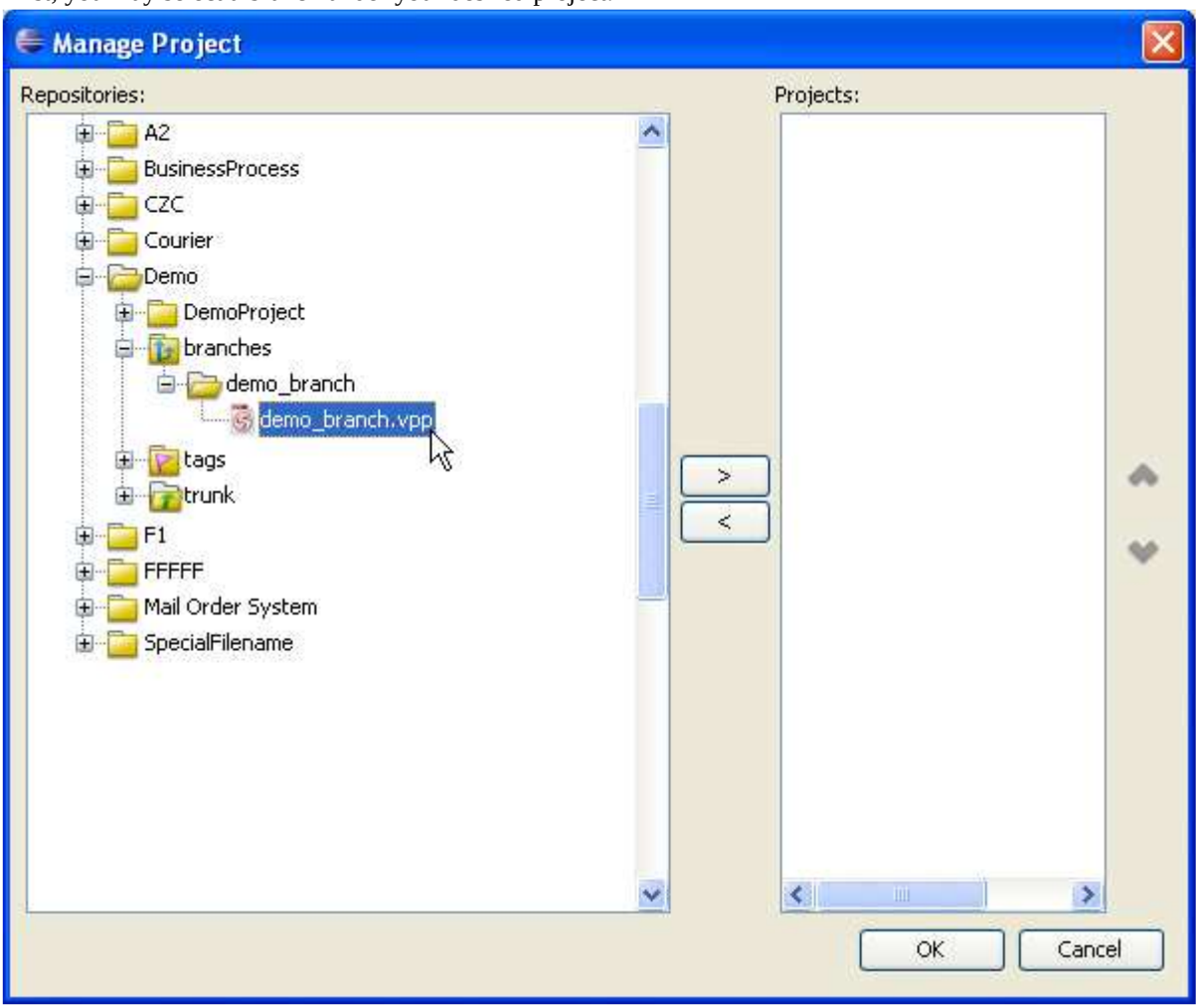



*Figure 15.42 - Manage project dialog box*

You can click **Add selelcted** > to add the branch to your **Projects** list.

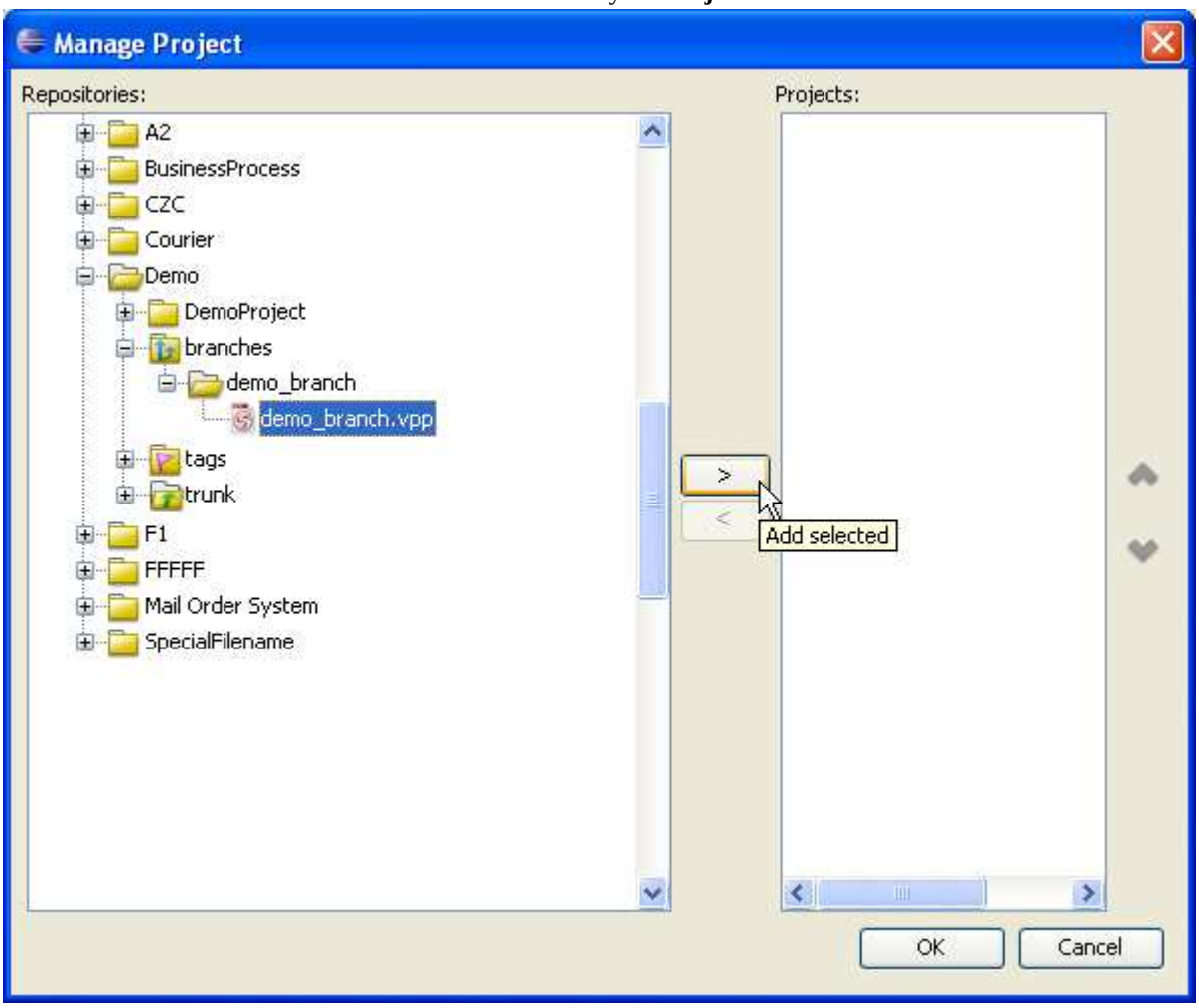



*Figure 15.43 - Add selected branch*

On the other hand, you can click **Remove selected** < to remove the branch from **Projects** list.

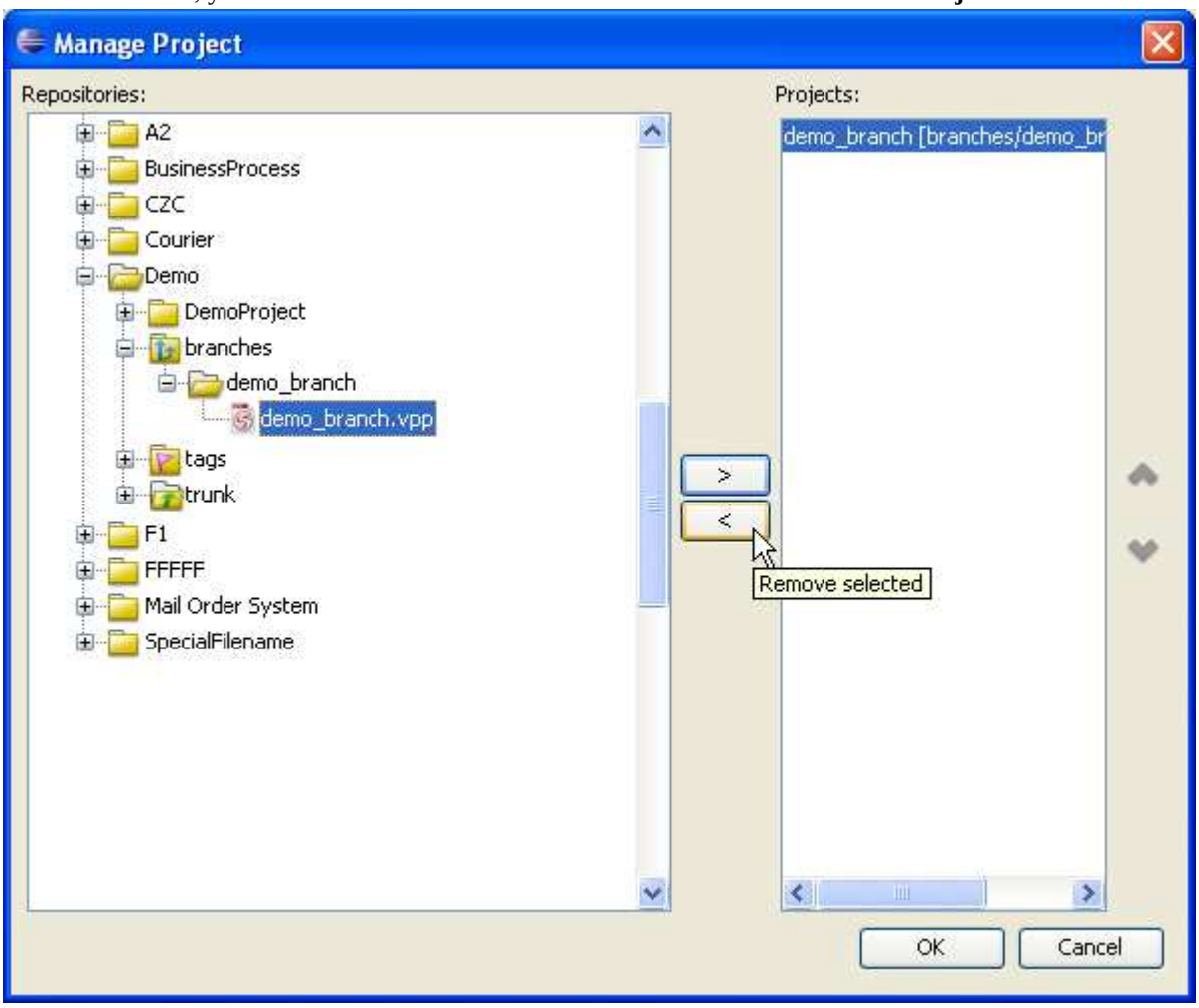



*Figure 15.44 - Remove selected branch*

## Creating a Tag

You can label the stable version of project by creating a tag there.
To create a tag, select **Tag...** in the toolbar.


*Figure 15.45 - Select Tag...*

Then, you can enter tag name in the Create Tag dialog box.

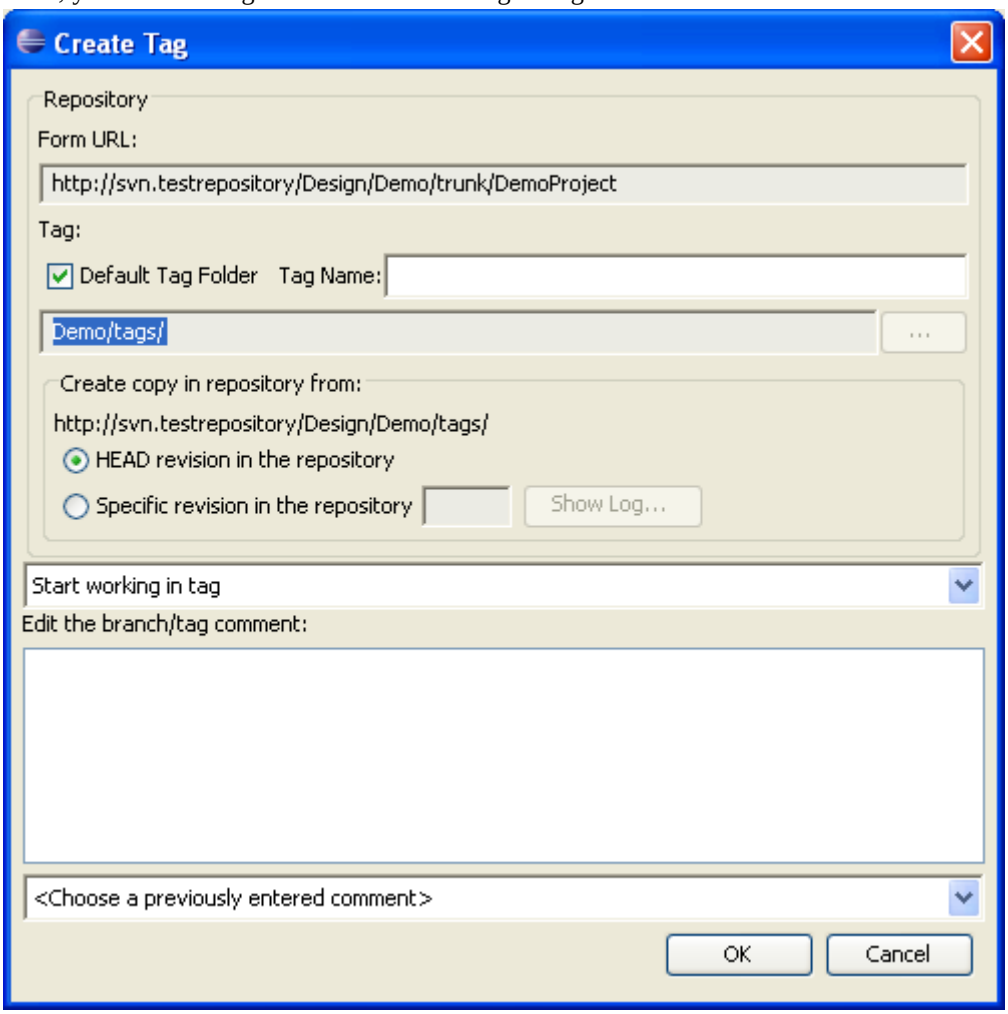



*Figure 15.46 - Create Tag dialog box*

Afterwards, you can select your location after creating tag.

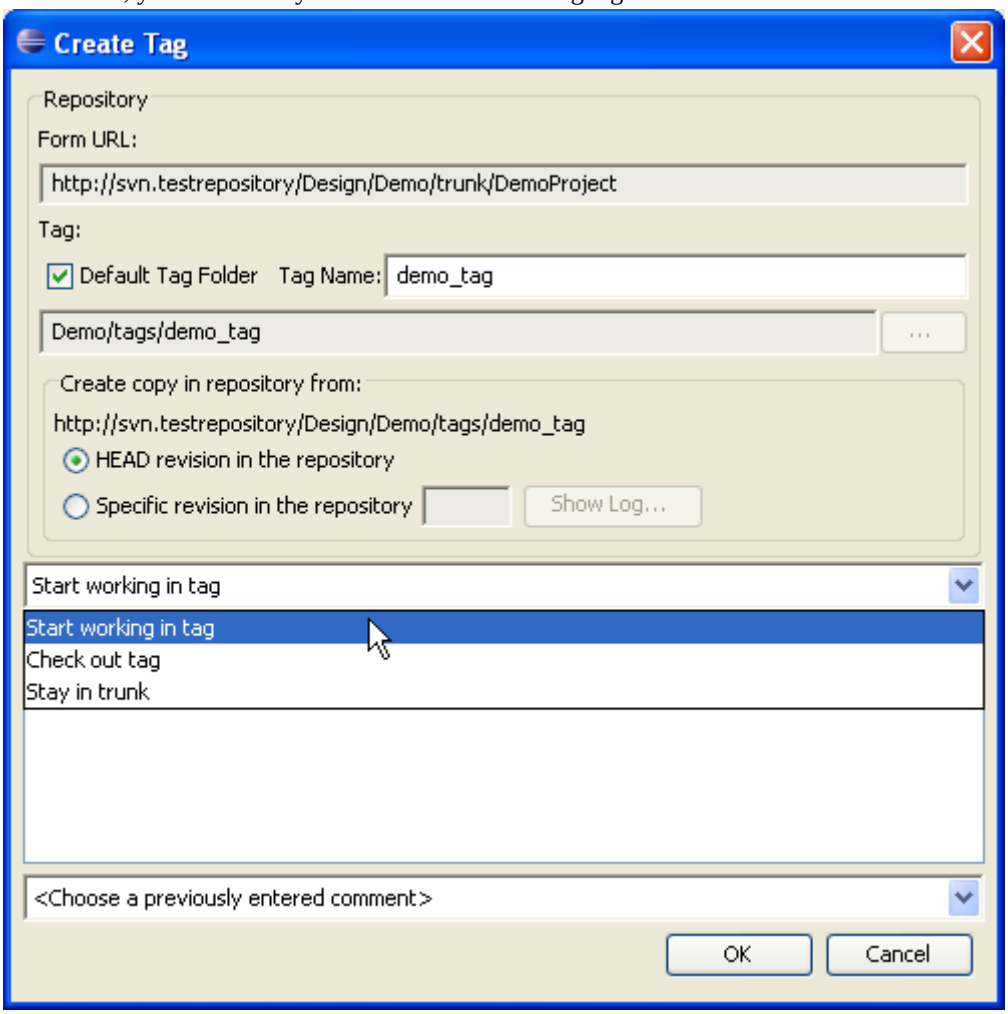



*Figure 15.47 - Select location after creating tag*

## Managing a Tag

Similar to managing a branch, you can select a tag and click **Add Selected** in **Manage Project** dialog box to add the project to **Projects** list.

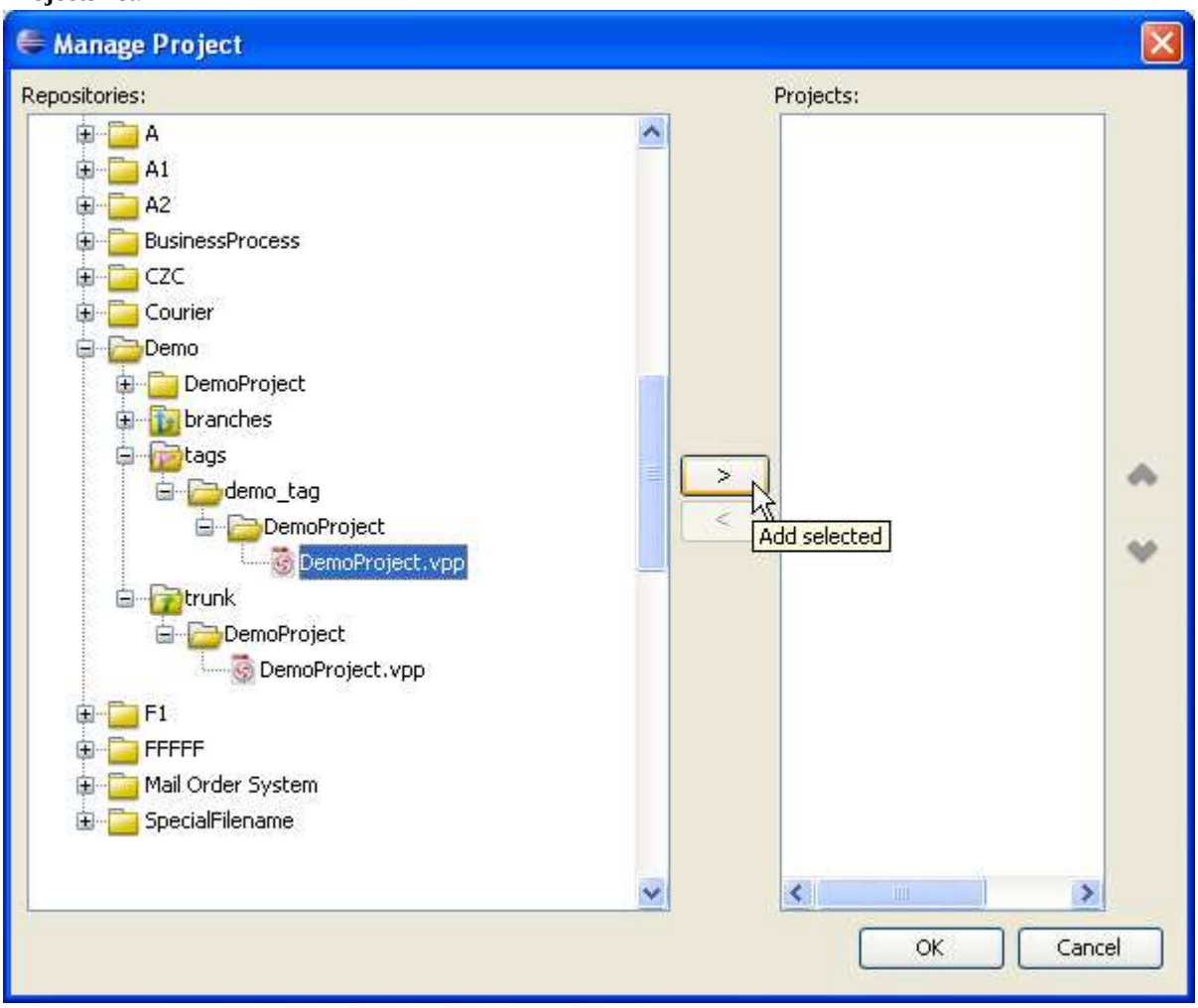



*Figure 15.48 - Add selected project*

You may remove the tag from **Projects** list by click **Remove selected**.

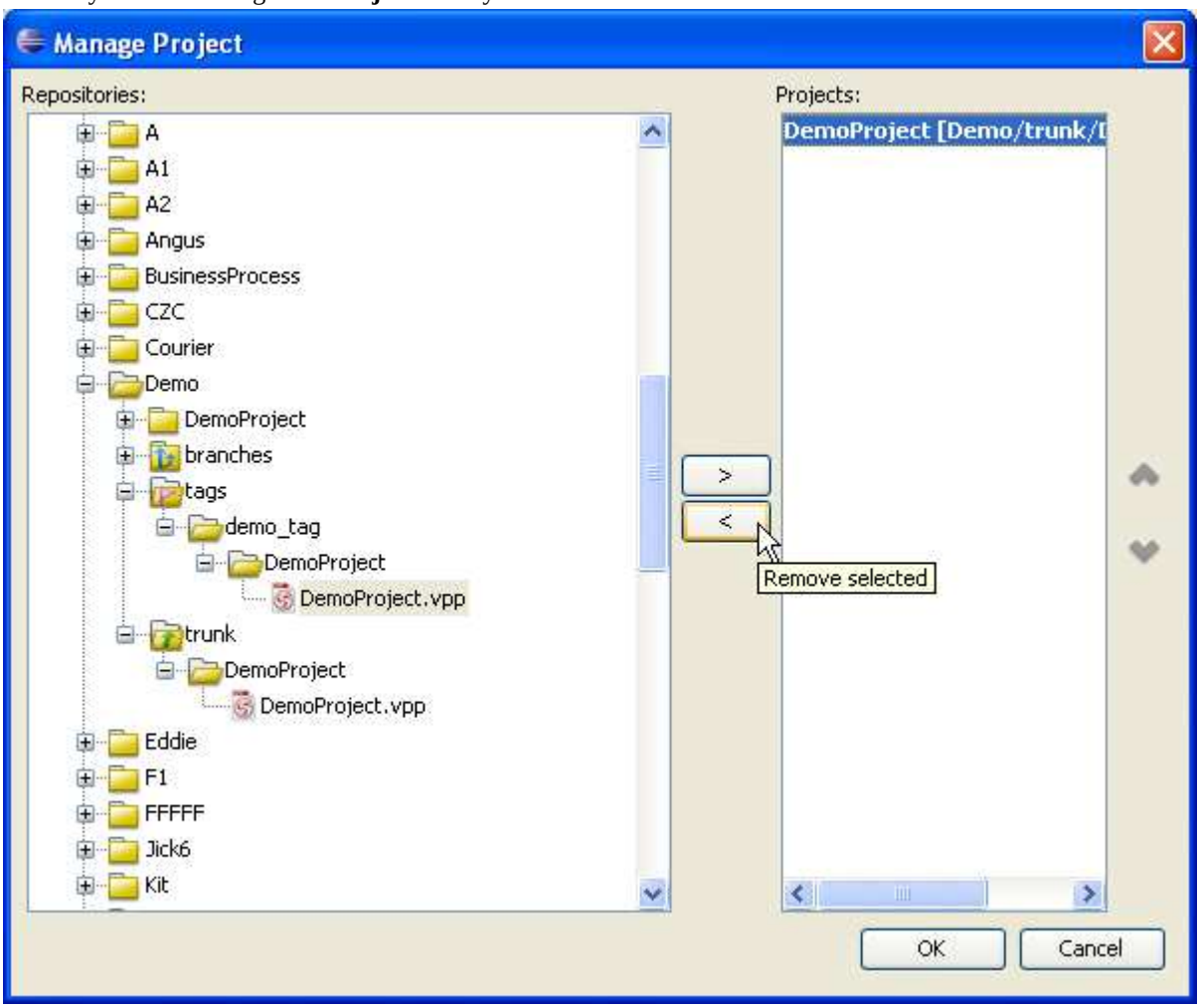



*Figure 15.49 - Select Remove selected*

# Usage of Merge

When you have modified your project in branch, you can merge the changes you made to trunk.
To merge, you can select the icon for merging in the toolbar.

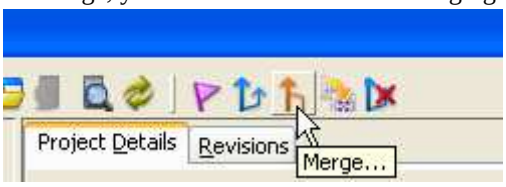



*Figure 15.50 - Icon for merging*

**Merge** dialog box is displayed. You can select the URL you want to merge from by typing in the text box or select **...** . You can also select the revision which take part in the merging.

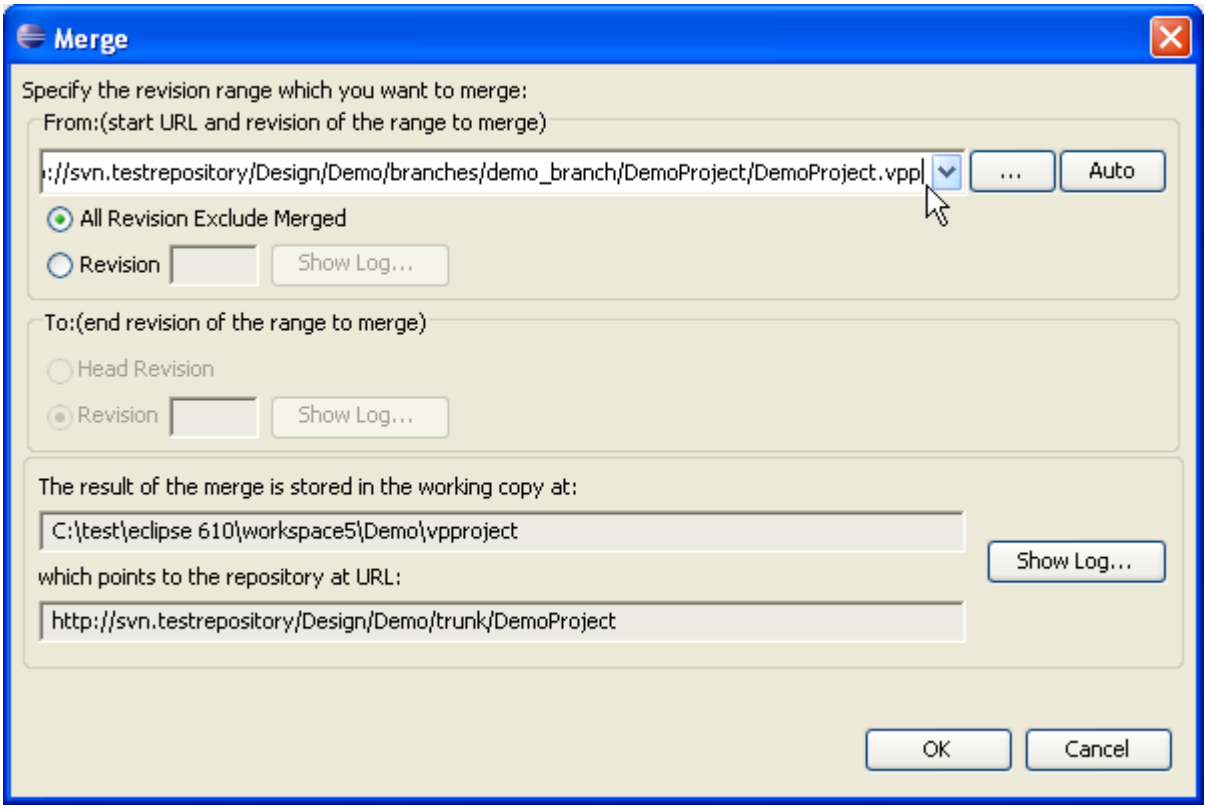



*Figure 15.51 - Merge dialog box*

The progress of merging is shown.

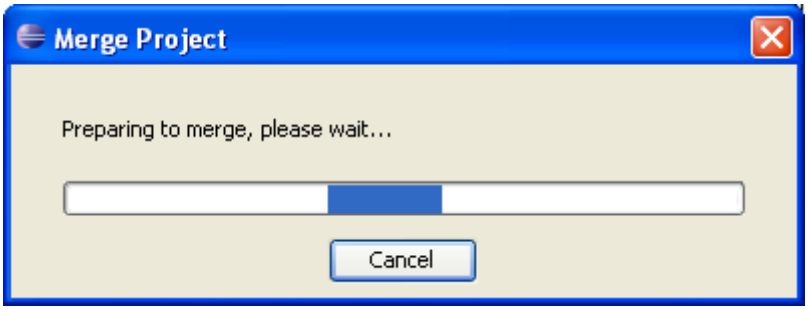



*Figure 15.52 - Progress of merging*

Then, a dialog box tells you what models and diagrams are going to be merged. You can click OK to confirm merging.

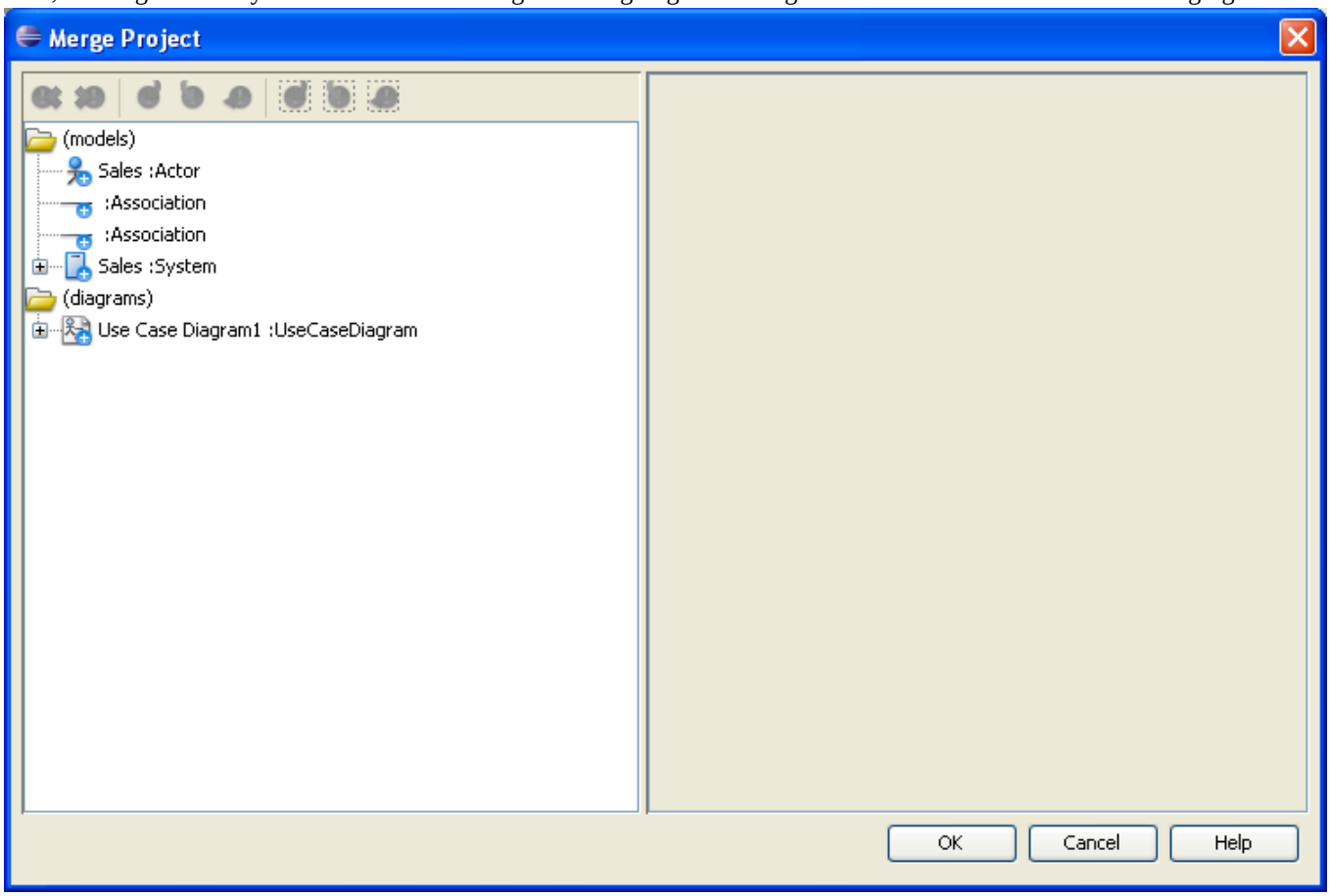



*Figure 15.53 - Models and diagrams which are going to merge*

# Suggested Branch Usage

This section will show you the suggested usage of the Branch with SDE for Eclipse SVN integration.
Here, you will learn how to create a single branch called "supportWebService". However, you can choose to have multiple branch running at the same time.

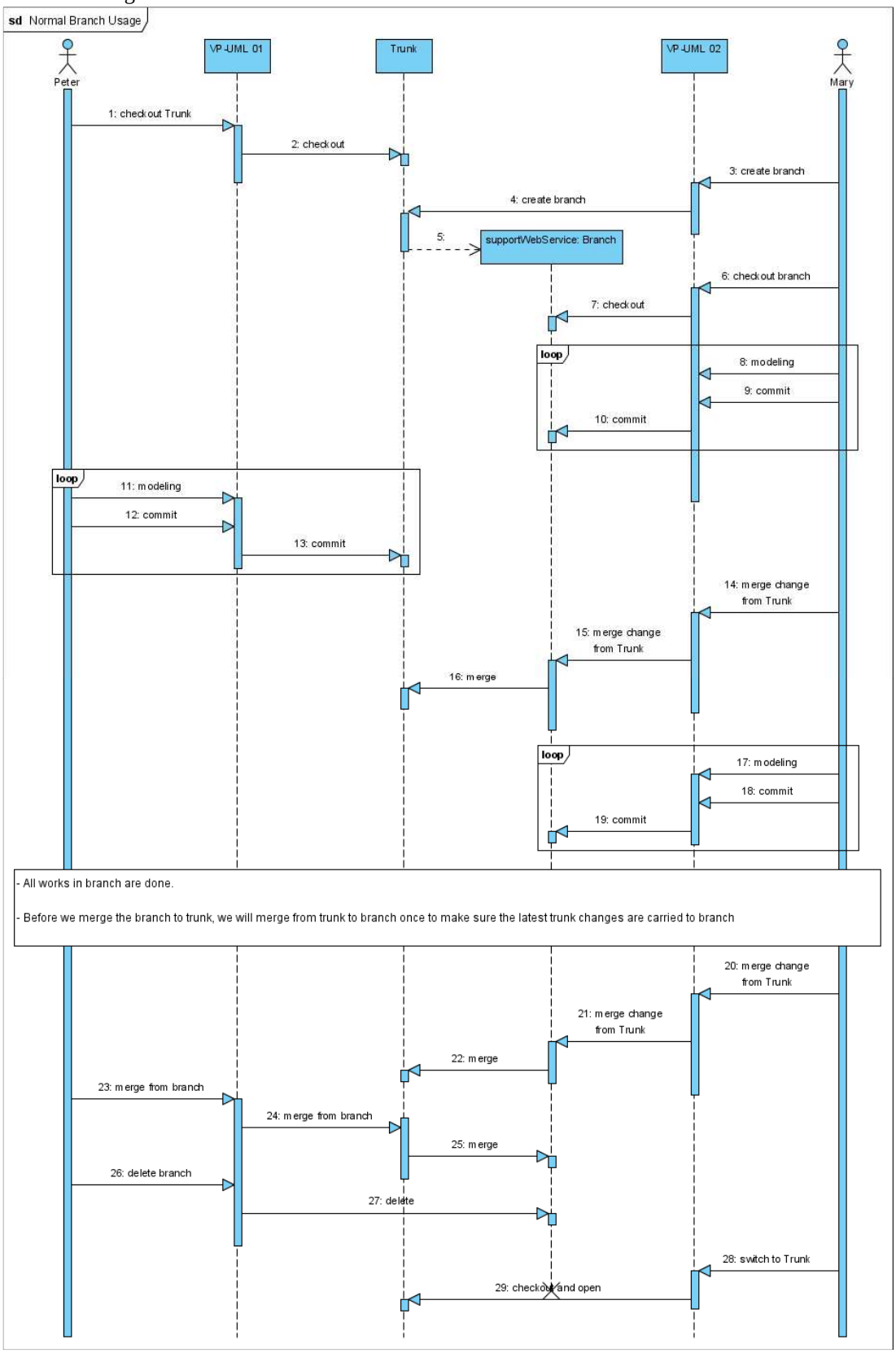



*Figure 15.54 - Suggested branch usage*

# A

# Configuring Application Options

# Appendix A - Configuring Application Options

This chapter will describe the configurable Application Options and how they can be configured.

## Configuring Application Options using the Application Options Dialog Box

The Application Options can be configured in the **Application Options** dialog box. To invoke the application dialog, choose **Tools > Options...**from main menu. The Application Options dialog consists of five pages: **General**, **Diagramming**, **Diagram/Model View, Instant Reverse** and **ORM**. Each page represents a category of options whose descriptions are described below.

### General

The **General** page of the Application Options dialog box contains general application options, such as auto save options, look and feel configuration and proxy server settings.

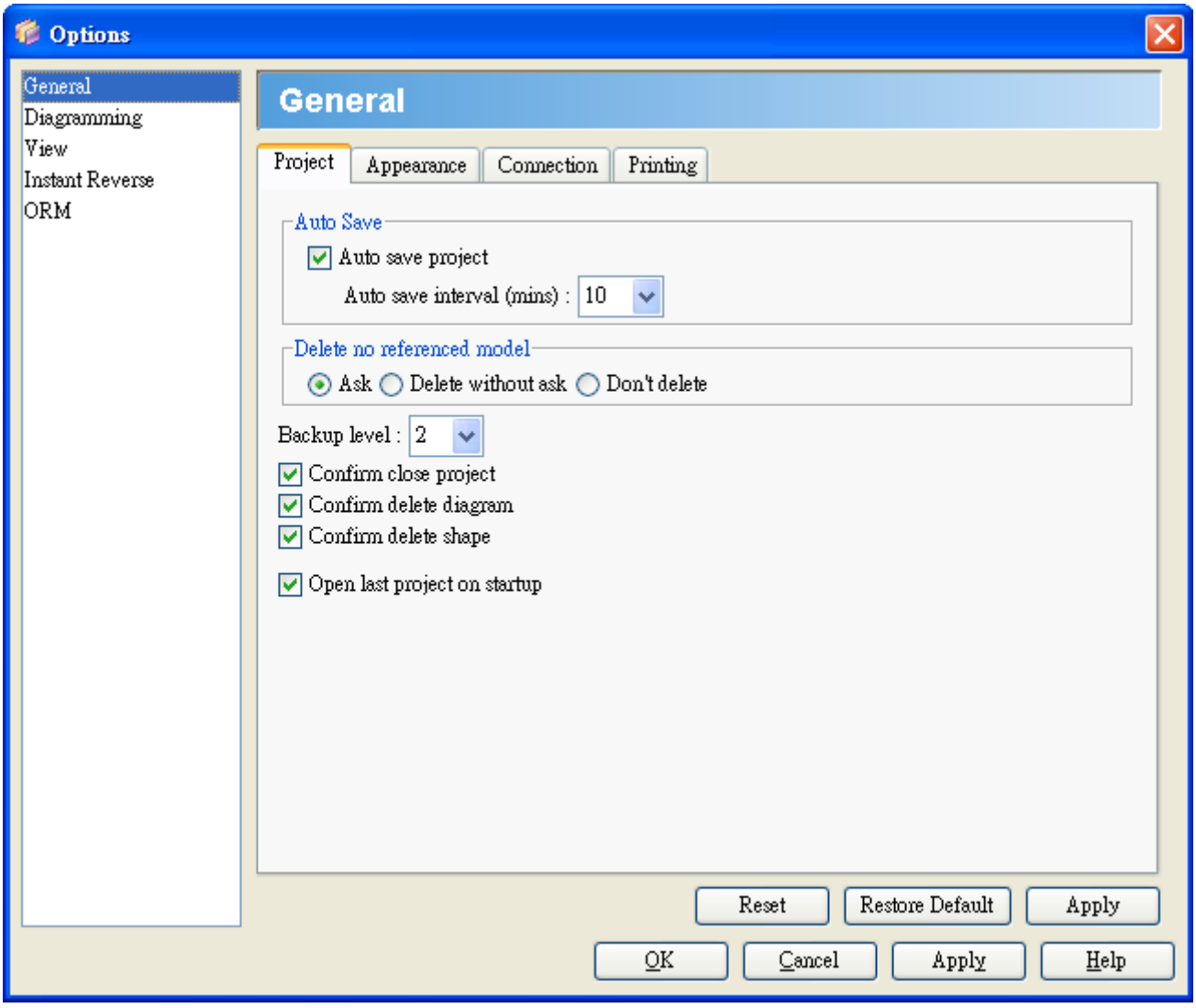



*Figure A.1 - Application Option (General)*

| Option | Description |
|---|---|
| Project | |
| Auto save project | Check/Uncheck 'Auto save' project to enable/disable to auto-saving of project file. |

| | |
|---|---|
| Auto save interval (mins): | Click on the **Auto save interval (mins)** drop down menu and select a time interval for performing an auto-save at regular time interval. |
| Backup level | Set the number of backup copies of the project file to maintain. |
| Confirm close project | Select this option if you want a dialog asking for confirmation every time you try to close a project. |
| Confirm delete diagram | Select this option if you want a dialog asking for confirmation every time you try to delete a diagram. |
| Confirm delete shape | Select this option if you want a dialog asking for confirmation every time you try to delete shapes. |
| Open last project on startup | Select if you want VP-UML to load the last opened project on startup. |
| Appearance | |
| Look and Feel | Click on the **Look and feel** drop down menu and select a look and feel for the program interface. |
| Theme | Click on the Theme drop down menu and select the theme for the selected Look and Feel. The theme setting is only available for "Office 2003 LookAndFeel" . |
| User Language | Click on the **User Language** drop down menu and select a language. This is used for changing the language of the VP-UML program interface. |
| Connection | |
| Email | Enter the **Email** field to specify your email address. |
| Use Proxy | Check/Uncheck **Use Proxy** to enable/disable the need of using a proxy server for connecting to the Internet. |
| Host | Enter the **Host** field to specify the host of the proxy server. |
| Port | Enter the **Port** field to specify the port of the proxy server. |
| Login name | Enter the **Login name** field to specify the user name of the proxy server (if the proxy server required the user to login). |
| Password | Enter the **Password** field to specify the password of the proxy server (if the proxy server required the user to login). |
| Printing | |
| Use gradient color when print diagram | Select to use gradient color in printing diagrams. |

*Table A.1*

## Diagramming

The **Diagramming** page of the Application Options dialog box contains diagram-related options, such as grid settings and anti-aliasing options.

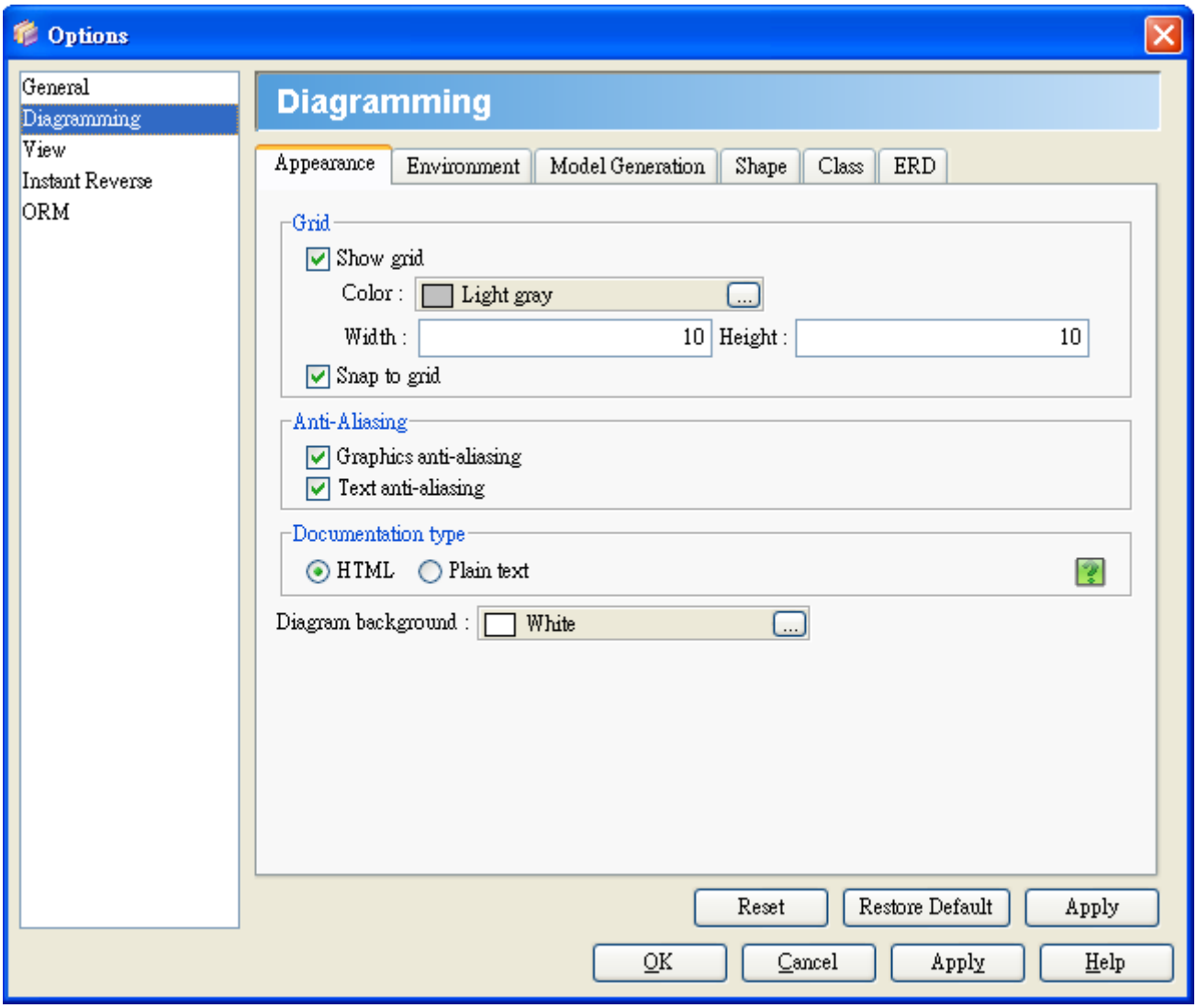



*Figure A.2 - Application Option (Diagramming)*

| Option | Description |
|---|---|
| Appearance | |
| Show grid | Check/Uncheck **Show grid** to show/hide grid lines. |
| Color | Click on the **Color** field or the ...button beside it to adjust the grid color. |
| Width | Enter the **Width** field to specify the width of the grid. |
| Height | Enter the **Height** field to specify the height of the grid. |
| Snap to grid | Check/Uncheck **Snap to grid** to set whether diagram elements should/should not stick to grid lines when moving in the diagram |
| Graphics anti-aliasing | Check/Uncheck **Graphics anti-aliasing** to enable/disable smoothing of edges on graphics. |
| Text Anti-Aliasing | Check/Uncheck **Text anti-aliasing** to enable/disable smoothing of text. |
| Documentation type | Select to use either HTML (rich-text) or plain text format in documentation of models and diagrams. |
| Diagram background | Click on the **Diagram background** field or the **...**button beside it to adjust the default background color of all diagrams. |
| Environment | |

| | |
|---|---|
| Connector Style | Select either **Rectilinear** or **Oblique** or **Curve** for connector style. |
| Connection Point Style | Select either '**Round the shape**' or '**Follow center**' to specify how the connecting points of the connectors should move if the shape is being moved. |
| Textual Analysis Highlight Option | Select either **Case insensitive** or **Case sensitive** to specify the highlight option in Textual Analysis. This determines whether words which are the same as the entered word or/and with same case are highlighted. |
| Clear opposite side content in flow of event | Select **Yes** to enable clearing of the opposite side content in flow of event, i.e. In a row within a flow of events, entering text on either **Actor Input** or **System Response** result sin removing the content of the opposite side). Click **No** to disable clearing of the opposite side content in flow of event. Click **Prompt** to enable prompting for clearing opposite side content every time you enter text on one side for which its opposite side has existing content. |
| Alignment Guide | Select the diagram alignment guide style to either **Show edges** (show guides at edges of the closest shape) or **Show center** (show a guide that lies on the center of the closest shape). |
| Delay of show Quick Preview in Diagram Navigator (second) | Enter the time (secs) needed for the Quick Preview for being displayed after the mouse is hovering on any diagram node in Diagram Navigator. |
| Default Copy Action | Select the default copy action (the action that will be performed when user presses hotkey Ctrl+C in diagram). |
| Show sequence number in collaboration diagram. | Check/Uncheck to enable/disable showing sequence numbers for messages display in the collaboration diagram. |
| Show sequence number in sequence diagram. | Check/Uncheck to enable/disable showing sequence numbers for messages displayed in the sequence diagram. |
| Show shape content when dragging | Check/Uncheck to enable/disable showing the content of shapes and not just the outline. |
| Show diagram alignment guide | Check/Uncheck to enable/disable showing the guide which helps aligning shapes on a diagram. |
| Show Message Operation Signature for Sequence Diagram and Communication Diagram (diagram-based) | Select to show operation signature of messages in Sequence Diagrams and Communication Diagrams. |
| Model Generation | |
| Generate Sequence Diagram from Use Case Description Overwrite Existing Diagram | Select to allow overwrite of sequence diagrams generated from use case description without prompt. |
| Generate Diagram from Scenario Overwrite Existing Diagram | Select to allow overwrite of diagrams generated from scenarios (activity diagrams) without prompt. |
| Overwrite Flow of Events when Synchronize from Sequence Diagram | Select to allow overwrite of flow of events of use case description is synchronized from sequence diagram without prompt. |
| Default generate diagram type from scenario | Select the default type of diagram to be generated from scenario (activity diagram). |
| Shape | |
| Font | Enter the font family of shape text. |
| Size | Enter the font size of shape text. |
| Bold | Check/Uncheck to set the shape text to/not to be bold. |
| Italic | Check/Uncheck to set the shape text to/not to be italic. |
| Color | Click on the **Color** field or the **...**button beside it to adjust the default font color of all shapes. |
| Show extra resources | Check/Uncheck to enable/disable extra resource icons in addition to those originally supported. |
| Auto hide resource delay (second) | Enter the time interval for hiding resources icons after they have lost focus. |
| Shape foreground | Click on the **Color** field or the **...**button beside it to adjust the default color of all shapes. |

| | |
|---|---|
| Shape background | Click on the **Color** field or the **...**button beside it to adjust the default background color of all shapes. |
| Auto fit size (diagram-based) | Select to keep shapes in diagram fit-to-size. |
| Pin from | Select to pin the "from" end of connector by default. |
| Pin to | Select to pin the "to" end of connector by default. |
| Class | |
| Use model assist | Check/Uncheck **'Use model assist'** to enable/disable the Model Assist feature that allows automatic class name completion. |
| Show package structure on model assist | Check/Uncheck to enable/disable displaying the package name of the list of available models when using the Model Assist feature. |
| Show attribute option | Set the default option for displaying attributes of classes to one of the following:<br>Hide all: All attributes are hidden.<br>Show all: All attributes are shown.<br>Show public only: Only public attributes are shown. |
| Show operation option | Set the default option for displaying operations of classes to one of the following:<br>Hide all: All operations are hidden.<br>Show all: All operations are shown.<br>Show public only: Only public operations are shown. |
| Visibility style | The default visibility style for Class. It can either be:<br>Icon - Visibilities are represented by icons).<br>UML - Visibilities are represented by UML visibility symbols, e.g. + for public, - for private.<br>Off - Visibility is not shown. |
| Show attribute initial value | Check/Uncheck to enable/disable the display of initial value of attributes |
| Show attribute multiplicity | Check/Uncheck to enable/disable the display of multiplicity of attributes |
| Show operation signature | Check/Uncheck to enable/disable the display of operation signature of attributes |
| Show class member stereotype | Check/Uncheck to enable/disable the display of stereotype of class members (e.g. attributes and operations) |
| Show owner of class/package | Check/Uncheck to enable/disable the display of the owner of classes and packages (e.g. package) |
| Show template parameter | Check/Uncheck to enable/disable the display of template parameter of classes. |
| Display as Robustness Analysis icon | Check/Uncheck to enable/disable displaying classes as robustness analysis icon. |
| Display as stereotype icon | Check/uncheck to enable/disable displaying classes as stereotype icon (if any). |
| Auto-synchronize role name | Select to enable auto synchronization of role names of associations. |
| Auto-generate role name | Select to enable auto generation of role names when creating associations. |
| ERD | |
| Show column type | Select to show the data type of table columns in ERD and ORM diagram by default. |

*Table A.2*

## View

The **View** page of the Application Options dialog box contains options related to the view of Diagram Navigator, Model Tree and Class Repository.

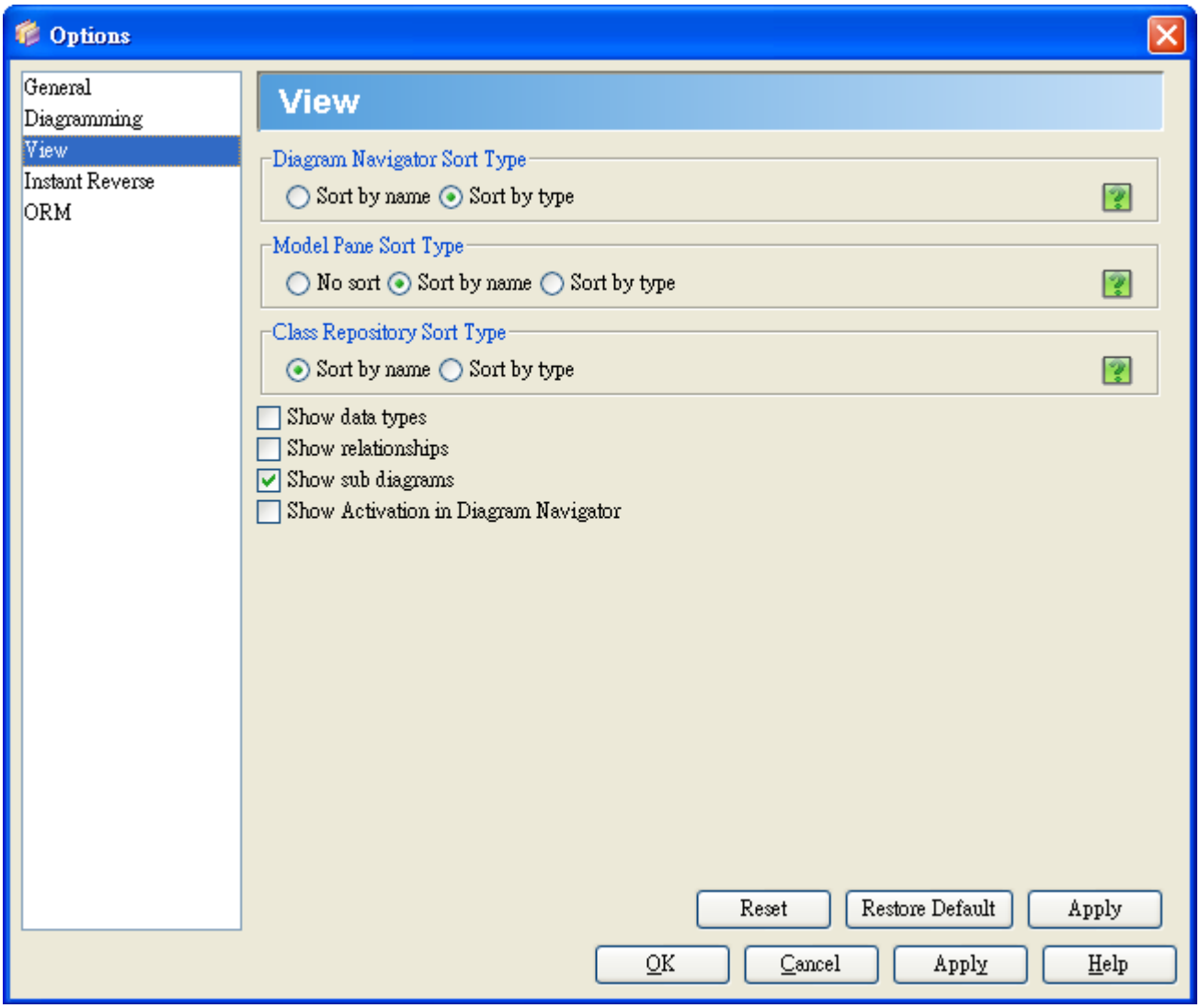



*Figure A.3 - Application Option (View)*

| Option | Description |
|---|---|
| Diagram Navigator Sort Type | Specifies the sort type to use for the **Diagram Navigator**. It can either be **Sort by name** (sort by the element name, which is the default option) or **Sort by type** (sort by the element type). |
| Model Pane Sort Type | Specifies the sort type to use for the **Model Pane**. It can either be **No sort**, **Sort by name** (sort by the element name, which is the default option) or **Sort by type** (sort by the element type). |
| Class Repository sort type | Specifies the sort type to use for the **Class Repository**. It can either be **Sort by name** (sort by the element name, which is the default option) or **Sort by type** (sort by the type). |
| Show data types | Check/Uncheck to enable/disable the display of data types in the **Model Pane**. |
| Show relationships | Check/Uncheck to enable/disable the display of relationships in the **Model Pane**. |
| Show sub diagrams | Select to show sub diagrams of diagram elements in **Diagram Navigator**. |
| Show Activation in Diagram Navigator | Select to show activations (sequence diagram) in **Diagram Navigator**. |

*Table A.3*

## Instant Reverse

The **Instant Reverse** page of the Application Options dialog box contains options related to instant reverse for a specific language.

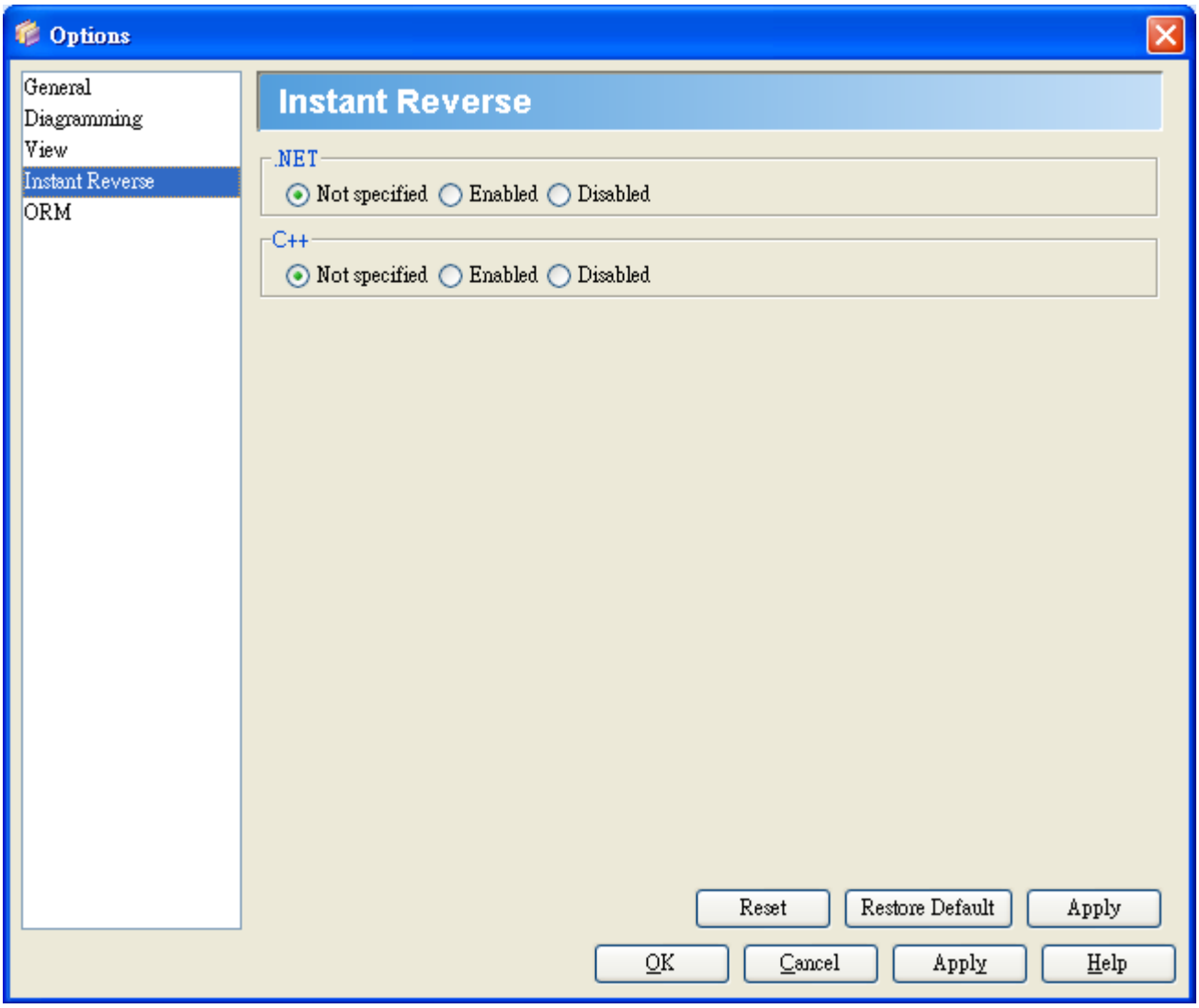



*Figure A.4 - Application Option (Instant Reverse)*

| Option | Description |
|---|---|
| .NET | Select the availability of Instant Reverse on .NET. It can either be **Not Specified**, **Enabled** or **Disabled**. |
| C++ | Select the availability of Instant Reverse on C++. It can either be **Not Specified**, **Enabled** or **Disabled**. |

*Table A.4*

## ORM

The **ORM** page of the Application Options dialog box contains options related to ORM code generation.

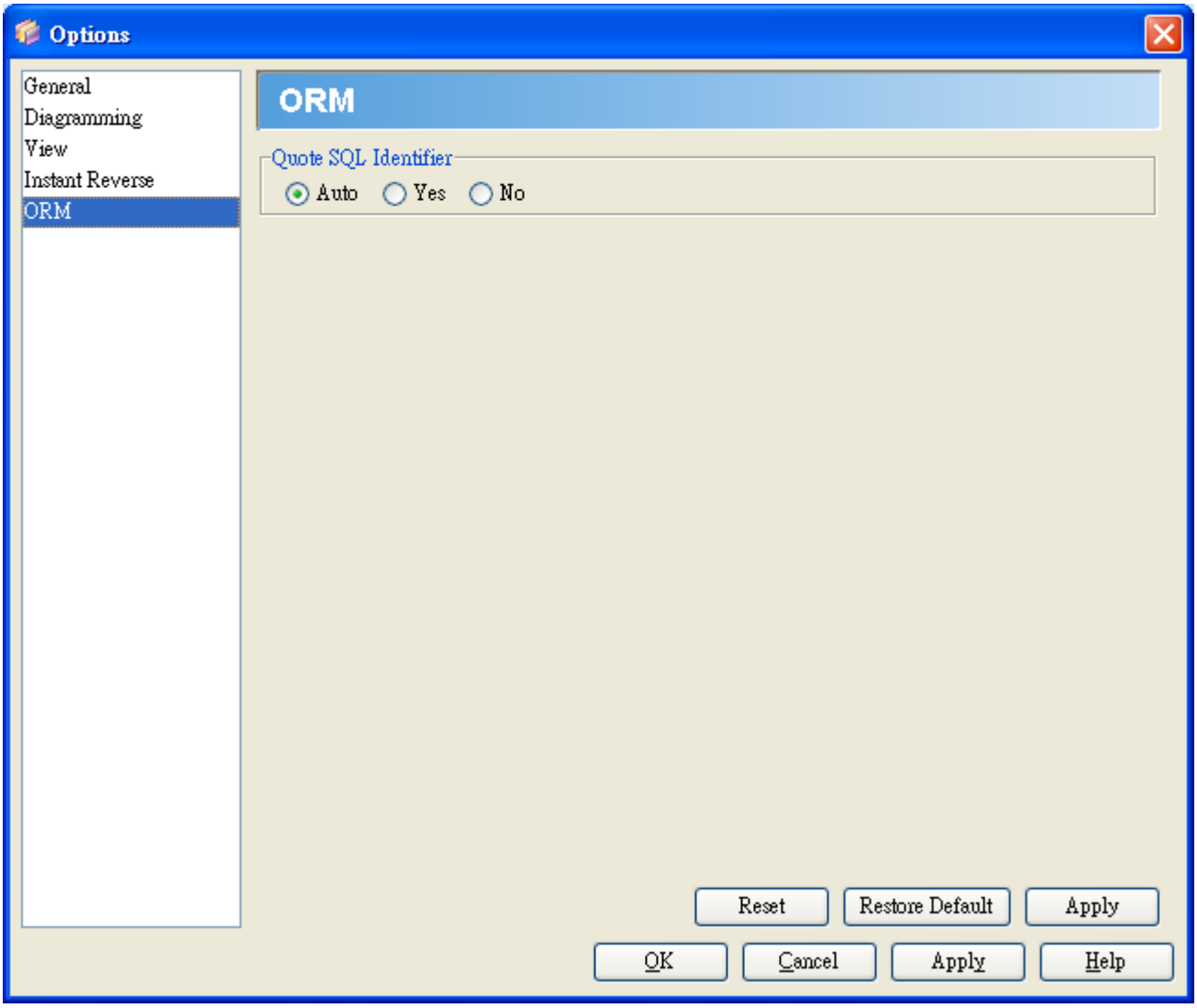



*Figure A.5 - Application Option (ORM)*

| Option | Description |
|---|---|
| Quote SQL Identifier | Allows you to specify the usage of quoted name on reserved word. By using Quote SQL Identifier, the reserved word will be quoted when generating the data definition language and used as an ordinary word. |

*Table A.5*

# B

# Configuring Stereotypes and Tagged Value

# Appendix B - Configuring Stereotypes and Tagged Value

This chapter explains in detail how to apply Stereotypes and Tagged Value to categorize model elements.

## Introduction

Stereotypes allow you to categorize different kinds of model elements. It may specify additional constraints and tag definitions for the models, and also be used to indicate a difference in meaning or usage between two model elements with an identical structure. An icon or formatting (fill, line and font) can be specified to a stereotype to present the elements that apply to that stereotype.

We know that everything in UML contains its own properties. Tagged values let you add properties for specifying keyword-value pairs of model elements. You can define tags that apply to a model element or a stereotype.

## Adding Stereotype to a Model Element

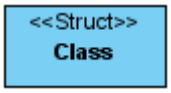



*Figure B.1 - Class with Stereotypes*

To add stereotype for a model element:

1. Select the desired model element from the diagram.
2. Right-click on the selection and choose **Stereotypes > Stereotypes...**from the popup menu.

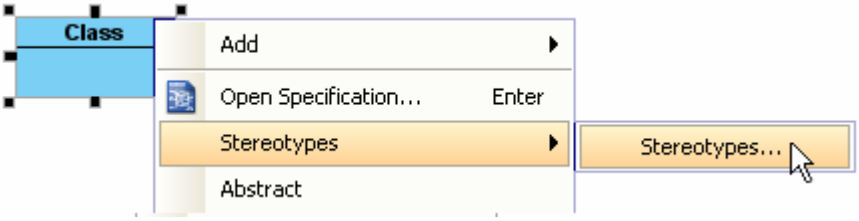



*Figure B.2 - Select Stereotype in popup menu*

3. This displays the **Stereotypes** page of the **Class Specification** dialog box.

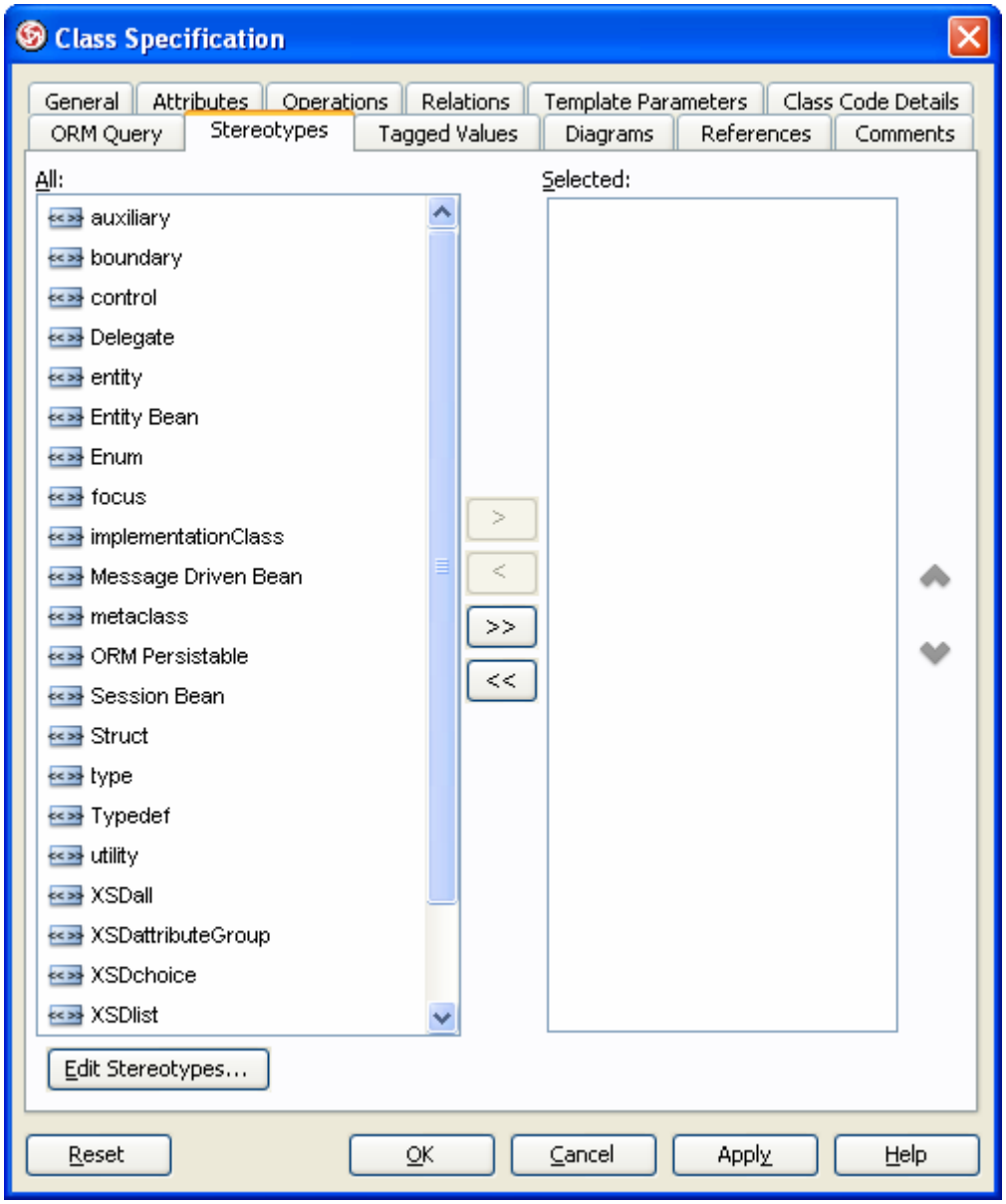



*Figure B.3 - Class specification dialog (stereotypes)*

4. Select a stereotype listed under the **All** list.
5. Press > to assign the stereotype to the model element.

> To assign multiple stereotypes to a model element, press on the Ctrl key and select the desired stereotypes and press >> to assign them to the model element.

6. Press **OK** to apply the setting.

# Configuring Stereotypes

Apart from using existing stereotypes, you can create new stereotypes to suit your need. Similarly, you can edit stereotypes to change their properties and appearance in a diagram. To configure stereotypes, you must first display the **Configure Stereotypes** dialog box. Select from main menu **Tools > Configure Stereotypes...**to display the dialog box.

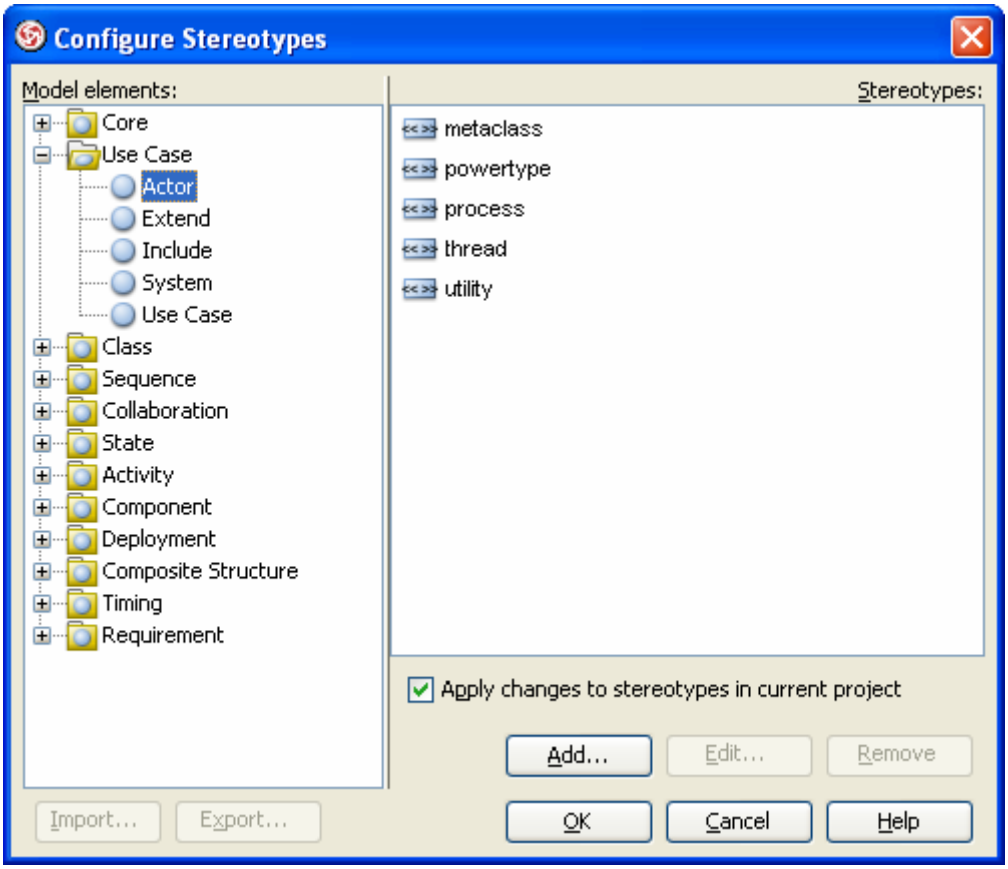



*Figure B.4 - Configure Stereotypes dialog*

| Command | Description |
|---|---|
| Add | Allows you to create a new stereotype for a particular model element by displaying the **Stereotype Specification** dialog box of the new stereotype. Fill in the details of the new stereotype from that dialog box and confirm the changes to create a new stereotype. |
| Edit | Allows you to edit an existing stereotype by displaying the **Stereotype Specification** dialog box of the selected stereotype. Fill in the details of the stereotype from that dialog box and confirm the changes to edit the properties of the stereotype.. |
| Remove | Remove a stereotype available to a particular model element. |
| OK | Close the dialog box by committing all changes made. |
| Cancel | Close the dialog box without saving any changes made. |
| Help | Display the Help content of the Configure Stereotypes dialog box. |

*Table B.1*

## Creating a New Stereotype

To create a new stereotype:

1. Displays the **Configure Stereotypes** dialog box.
2. Select the model element for which the new stereotype is to be available to.

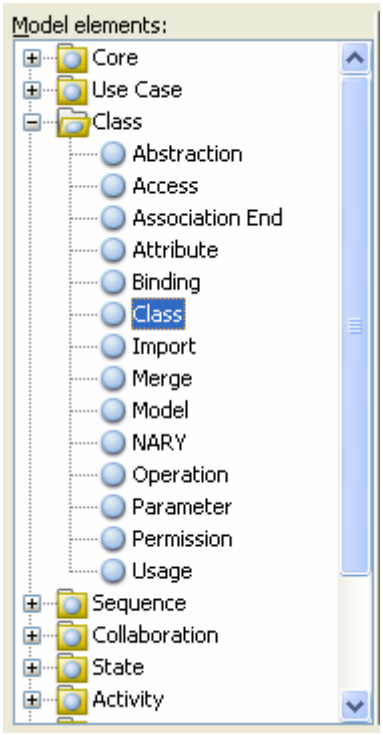



*Figure B.5 - Model Elements*

3. Press on the **Add...**button. This displays the **Stereotype Specification** dialog box for specifying the details of the new stereotype.

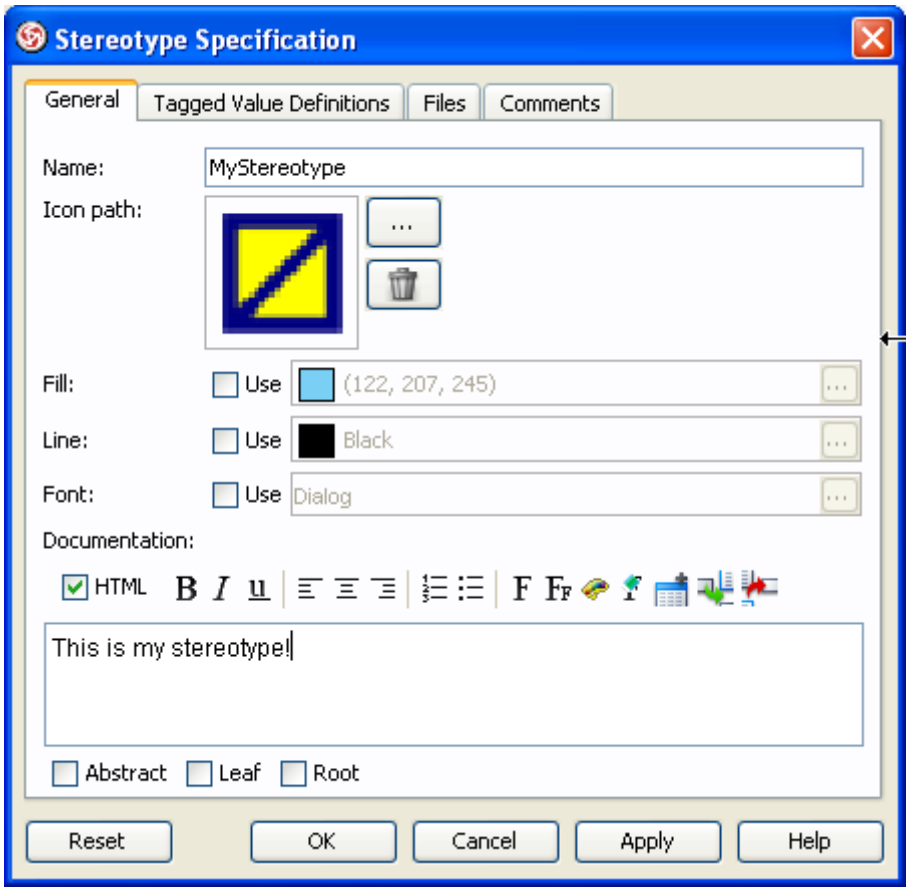



*Figure B.6 - Stereotypes Specification dialog*

4. Specify the details of the stereotype such as its name, documentation and its icon. (For more details on the use of **Stereotype Specification** dialog box, please refer to the following section in this chapter)
5. Click **OK** to confirm the changes.

The new stereotype is now available to the selected model element.


*Figure B.7 - User defined stereotypes*

## Editing a Stereotype


*Figure B.8 - Modify stereotype*

To edit a stereotype:

1. Display the **Configure Stereotypes** dialog box.
2. Select a stereotype from the **Stereotypes** list for editing. The stereotype can be a predefined one or one defined by you.

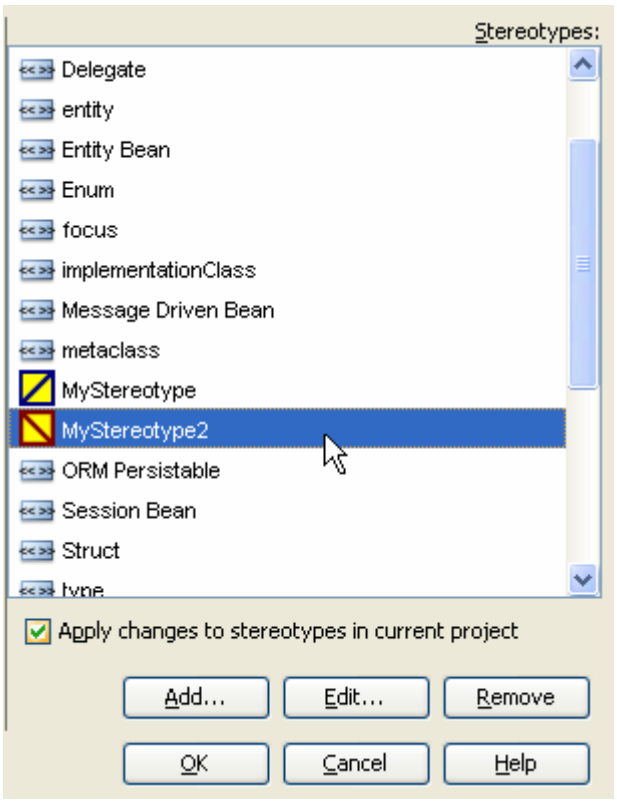



*Figure B.9 - Select stereotype from the Stereotype list*

3. Press on the **Edit...**button. This displays the **Stereotype Specification** dialog box for specifying the details of the new stereotype.

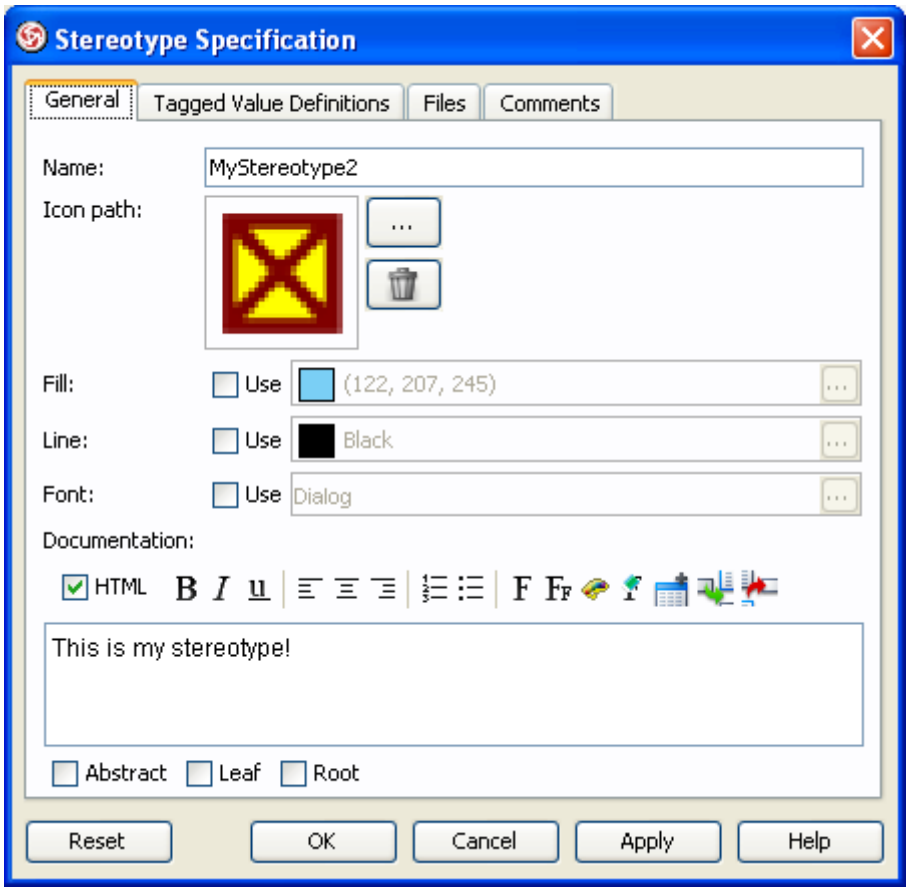



*Figure B.10 - Edit Stereotype*

4. Specify the details of the stereotype such as its name, documentation and its icon. (For more details on the use of **Stereotype Specification** dialog box, please refer to the following section in this chapter)
5. Click **OK** to confirm the changes.

If the stereotype is in use by a model element, the appearance of that stereotype needs to be refreshed by pressing **OK** from the Configure Stereotypes dialog box in order to commit the changes made.

## Using the Stereotype Specification Dialog Box

When creating or editing a stereotype you will come across the **Stereotype Specification** dialog box.

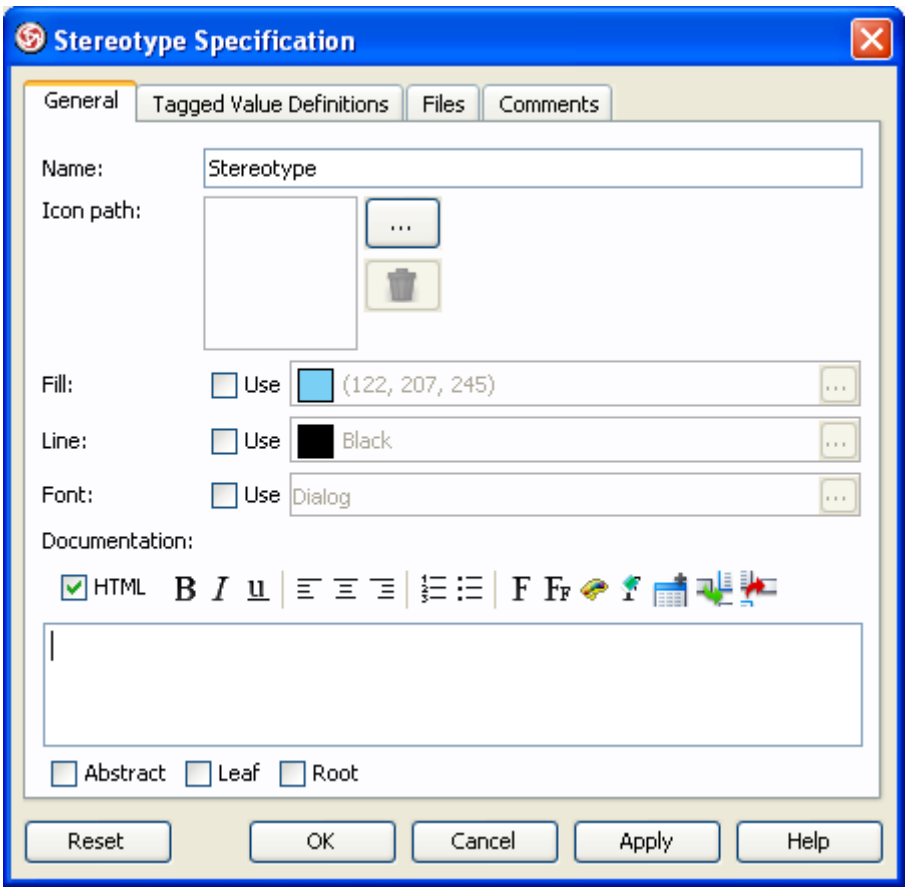



*Figure B.11 - Stereotype specification dialog*

| Field | Description |
|---|---|
| Name | The name of the stereotype. |
| Icon Path | An image assigned to this stereotype. Click **...**to select the path of the image, or click to discard the icon. |
| Fill, Line, Font | To specify the appearance of the stereotyped shapes. Their usages will be described in detail in the **Stereotype Formats** section later in this chapter. |
| Documentation | The description or any information relevant to the stereotype. |
| Abstract | To specify the stereotype as abstract. |
| Leaf | To specify the stereotype as leaf. |
| Root | To specify the stereotype as root. |
| Reset | Reset all changes made. |
| OK | Close the dialog box by committing all changes made. |
| Cancel | Close the dialog box without saving any changes made. |
| Apply | Committing all changes made. |
| Help | Display the Help content of Stereotypes Specification dialog box. |

*Table B.2*

## Adding Tagged Value to a Stereotype

To add Tagged Value definitions to a stereotype:

1. Select **Tools > Configure Stereotypes...**from main menu. This displays the **Configure Stereotypes** dialog box.
2. Select the desired stereotype and click **Edit...**

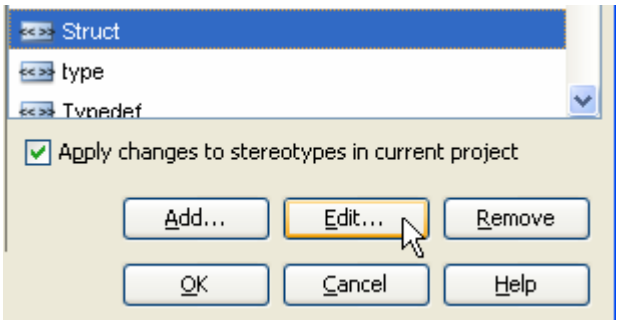



*Figure B.12 - Press Edit button to open Stereotype specification*

3. The **Stereotype Specification** dialog box is displayed. Switch to the **Tagged Value Definitions** tab.

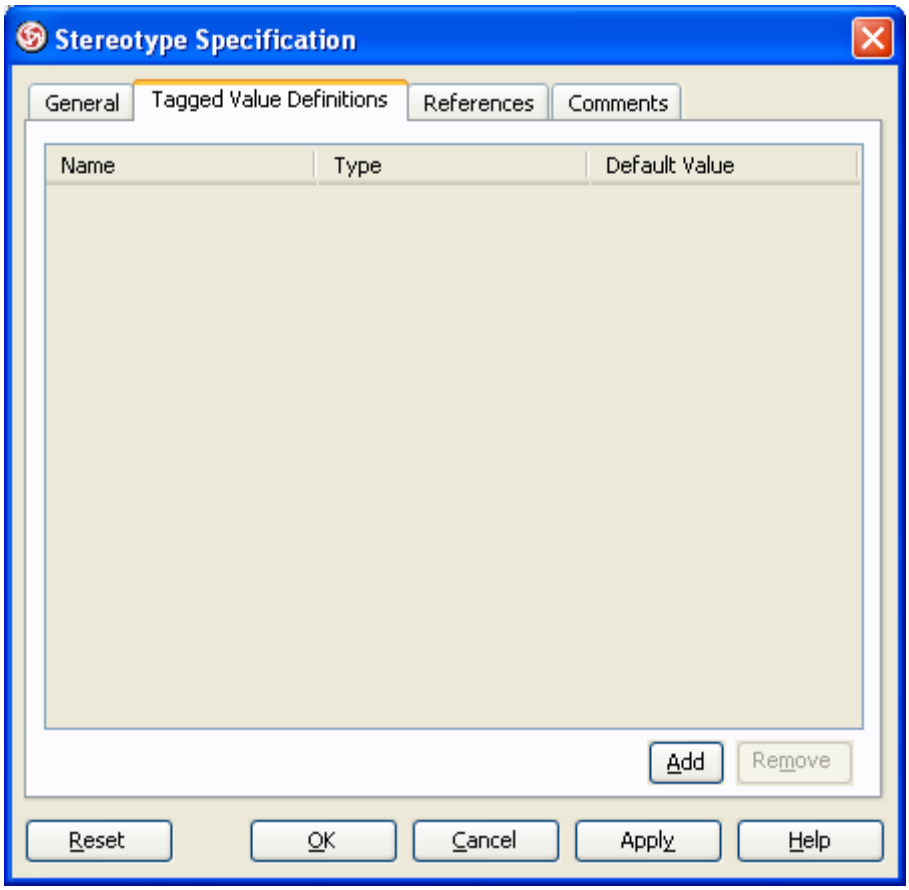



*Figure B.13 - Tagged value definitions*

4. Click **Add**. This displays two kind of tags for selection, Text or Model Element. Click on the desired one.

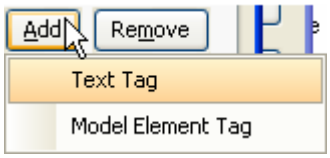



*Figure B.14 - Tag options*

## Adding Text Tag to stereotypes

From the Stereotype Specification dialog box, press **Add** and then select **Text Tag** from the popup menu.

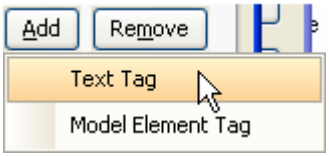



*Figure B.15 - Add Text tag*

This displays a new Tag entry.

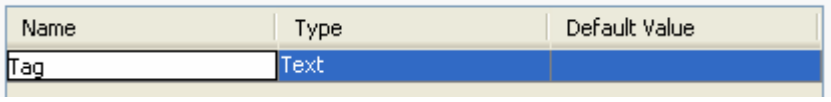



*Figure B.16 - A new text tag entry*

To change the name of the Tag, double click to the **Name** field and enter a new name.


*Figure B.17 - Rename the tag*

You can also change the type of Tag from Text to Model Element. To change the type, click on **Type** field and select a type from the popup menu.

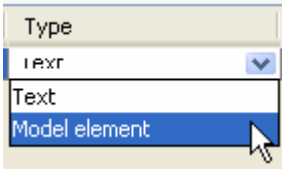



*Figure B.18 - Change the type of tag*

To specify a default value of the Tag, double click to the Default Value field and enter a value.

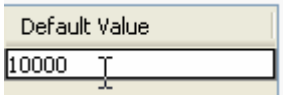



*Figure B.19 - Enter the value*

## Adding Model Element Tag to a stereotype

From the Stereotype Specification dialog box, press **Add** and then select **Model Element Tag** from the popup menu.

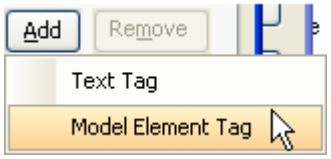



*Figure B.20 - Add Model Element Tag*

This displays a new Tag entry.

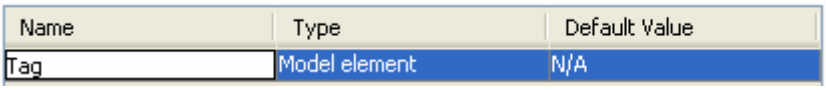



*Figure B.21 - A new model element tag*

To change the name of the Tag, double click to the **Name** field and enter a new name.

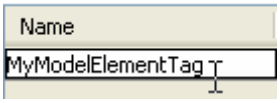



*Figure B.22 - Rename the model element tag*

You can also change the type of Tag from Text to Model Element. To change the type, click on **Type** field and select a type from the popup menu.

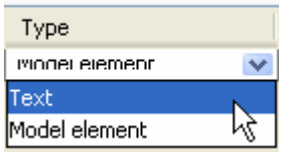



*Figure B.23 - Change the type of tag*

To specify a default value of the Tag, double click to the **Default Value** field and enter a value.

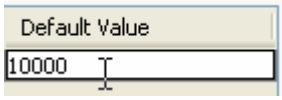



*Figure B.24 - Enter the value of tag*

## Adding Tagged Value to a Model Element

To add Tagged Value definitions to a model element:

1. Right-click on a model element and select **Open Specification...**from the popup menu.

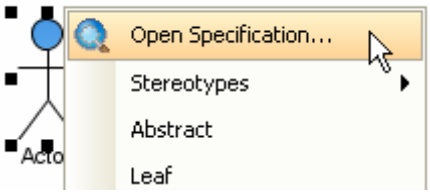



*Figure B.25 - Open specification*

2. The specification dialog box is displayed. Switch to the **Tagged Value Definitions** tab.

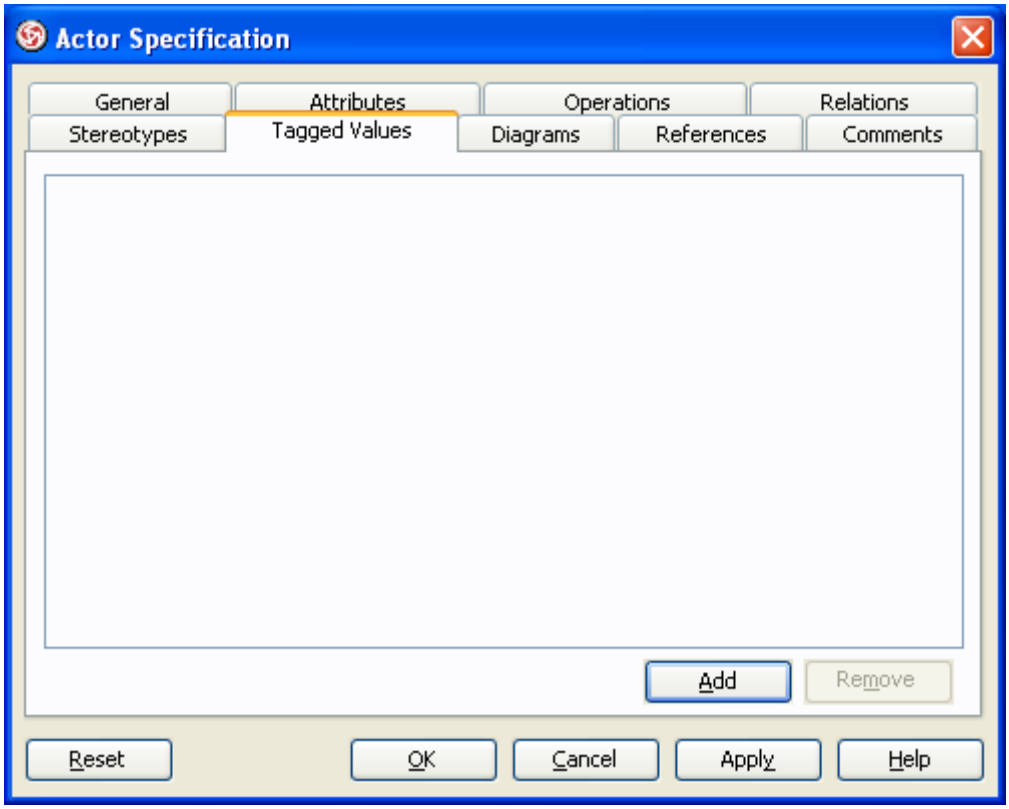



*Figure B.26 - Actor Specification dialog*

3. Click **Add**. This displays two kind of tag for selection. One is **Text** Tag and another is **Model Element** Tag. Click on the desired one.

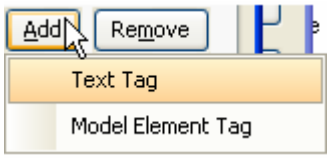



*Figure B.27 - Add Tag options*

## Adding Text Tag to Model Element

From the Stereotype Specification dialog box, press **Add** and then select **Text Tag** from the popup menu.

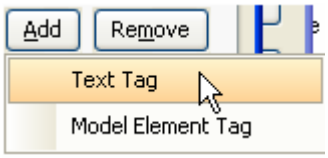



*Figure B.28 - Add text tag*

This displays a new Tag entry.

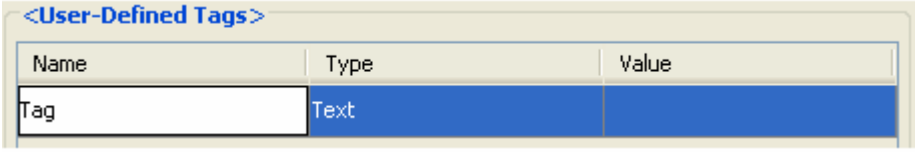



*Figure B.29 - The new text tag*

To change the name of the Tag, double click to the **Name** field and enter a new name.

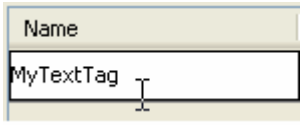



*Figure B.30 - The name of tag*

You can also change the type of Tag from Text to Model Element. To change the type, click on **Type** field and select a type from the popup menu.

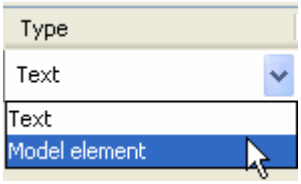



*Figure B.31 - the type of tag*

To specify a default value of the Tag, double click to the **Value** field and enter a value.

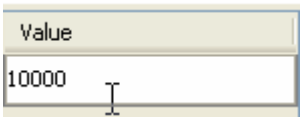



*Figure B.32 - The value of tag*

## Adding Model Element Tag to a Model Element

From the Stereotype Specification dialog box, press **Add** and then select **Model Element Tag** from the popup menu.

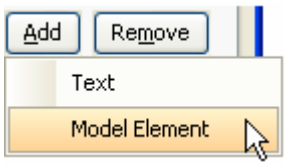



*Figure B.33 - Add Model element Tag*

This displays a new Tag entry.

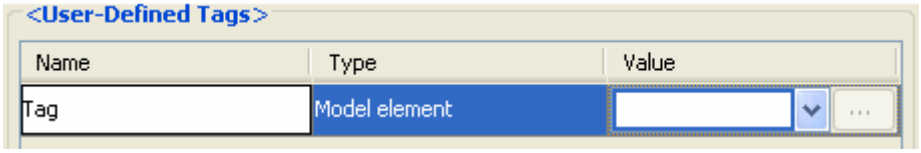



*Figure B.34 - The blank new model element tag*

To change the name of the Tag, double click to the **Name** field and enter a new name.

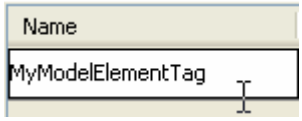



*Figure B.35 - The name of tag*

You can also change the type of Tag from Text to Model Element. To change the type, click on **Type** field and select a type from the popup menu.

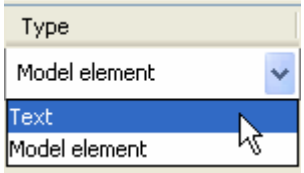



*Figure B.36 - The type of tag*

To specify a default value of the Tag, double click to the **Value** field and enter a value.

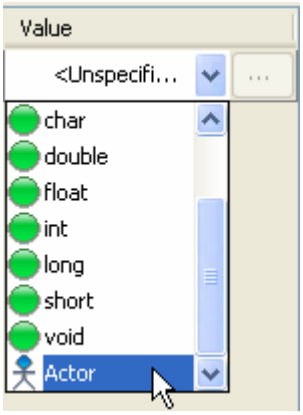



*Figure B.37 - The tag value*

# Stereotype Formats

You can configure the formats of stereotypes including fill, line and font, so that stereotyped elements can be easily distinguished and emphasized in the diagram.

## Configuring Stereotype Formats

1. To configure stereotype formats, select menu **Tools** > **Configure Stereotypes....**
2. In the **Configure Stereotypes** dialog box, select a model type in **Model elements** and the target stereotype in **Stereotypes**. Click the **Edit...** button.

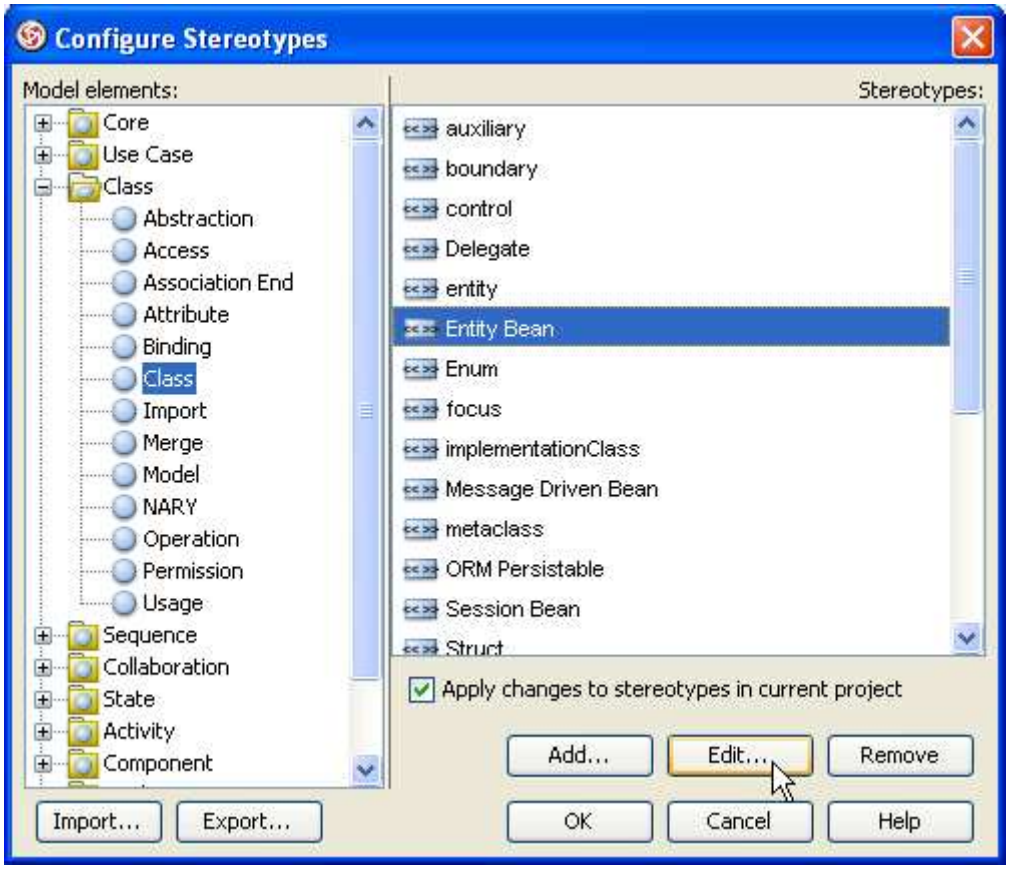



*Figure B.38 - Configure Stereotype dialog*

3. The **Stereotype Specification** is shown.

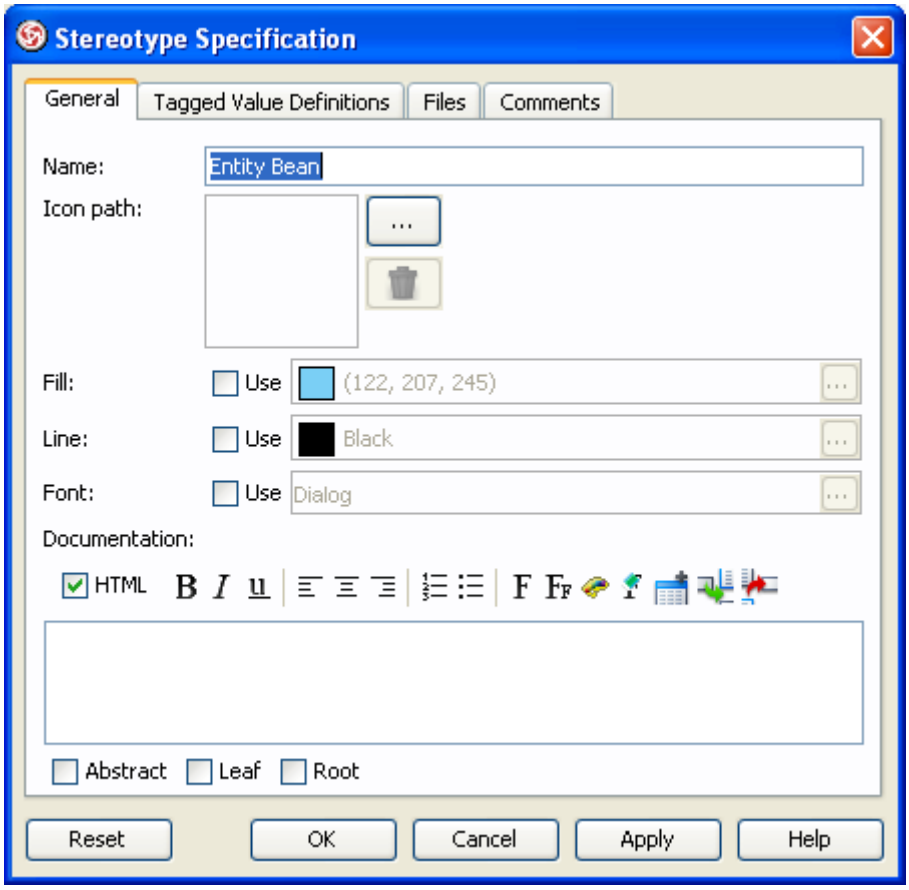



*Figure B.39 - Stereotype Specification dialog*

## Applying Fill Color

1. To apply fill color to stereotype, select the **Use** checkbox and click the **...** button of the **Fill** property.


*Figure B.40 - Edit fill of stereotype*

2. Select a fill color in the **Format Fill** dialog box and click **OK**.

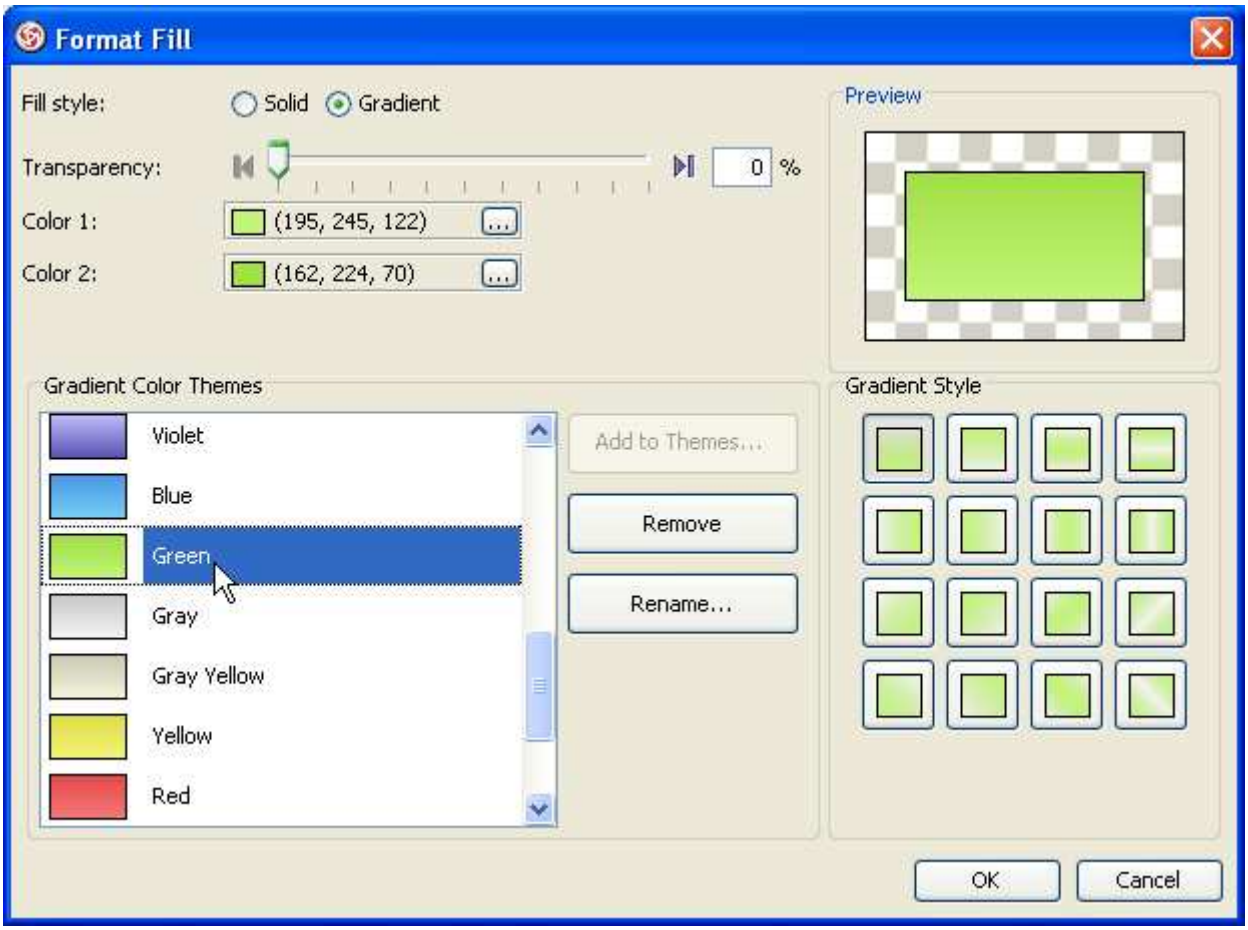



*Figure B.41 - Format Fill dialog*

## Applying Line Style

1. To apply line style to stereotype, select the **Use** checkbox and click the **...** button of the **Line** property.

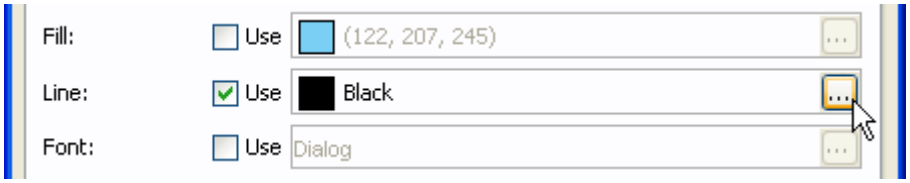



*Figure B.42 - Edit line of stereotype*

2. Configure the line style in the **Format Line** dialog box and click **OK**.

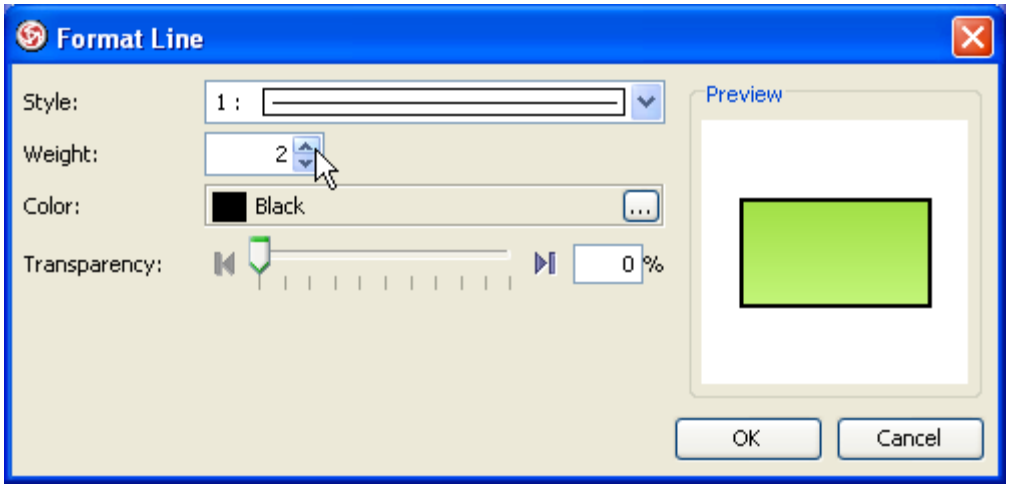



*Figure B.43 - Format Line dialog*

## Applying Font

1. To apply font to stereotype, select the **Use** checkbox and click the **...** button of the **Font** property.


*Figure B.44 - edit Font*

2. Select a font in the **Select Font** dialog box and click **OK**.

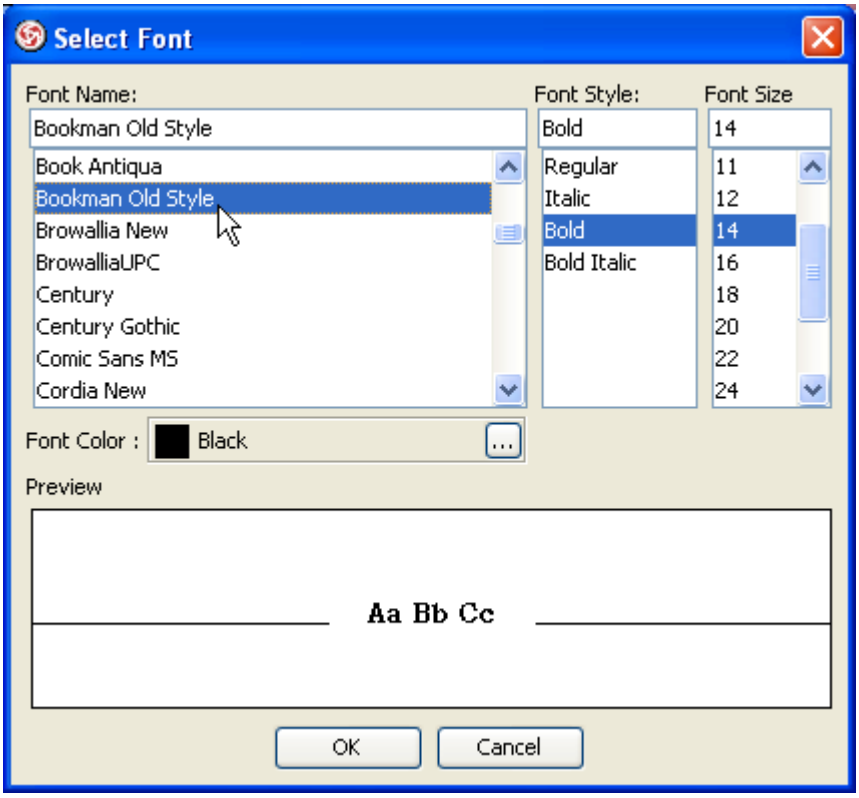



*Figure B.45 - Select Font dialog*

After setting a stereotype to a shape, the formats of the stereotype will be applied to the shape immediately.

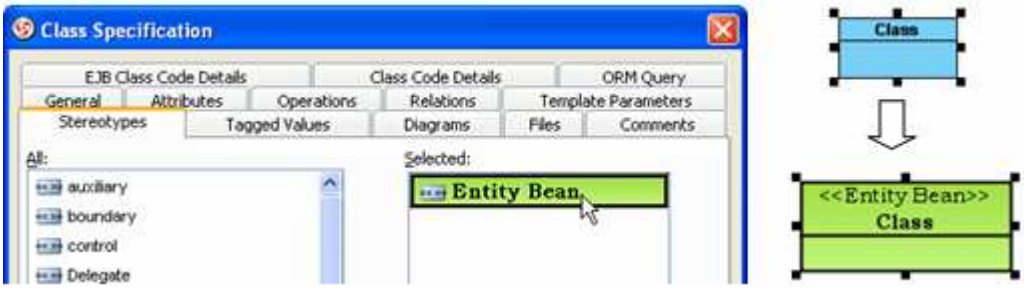



*Figure B.46 - The Modified stereotype*

## Changing Stereotype Formats

1. Just like configuring stereotype formats, open the **'Configure Stereotypes'** dialog box and select a model type in **Model elements** and the target stereotype in **Stereotypes**. Click the **Edit...** button to edit its fill, line and font in the **Stereotype Specification**.

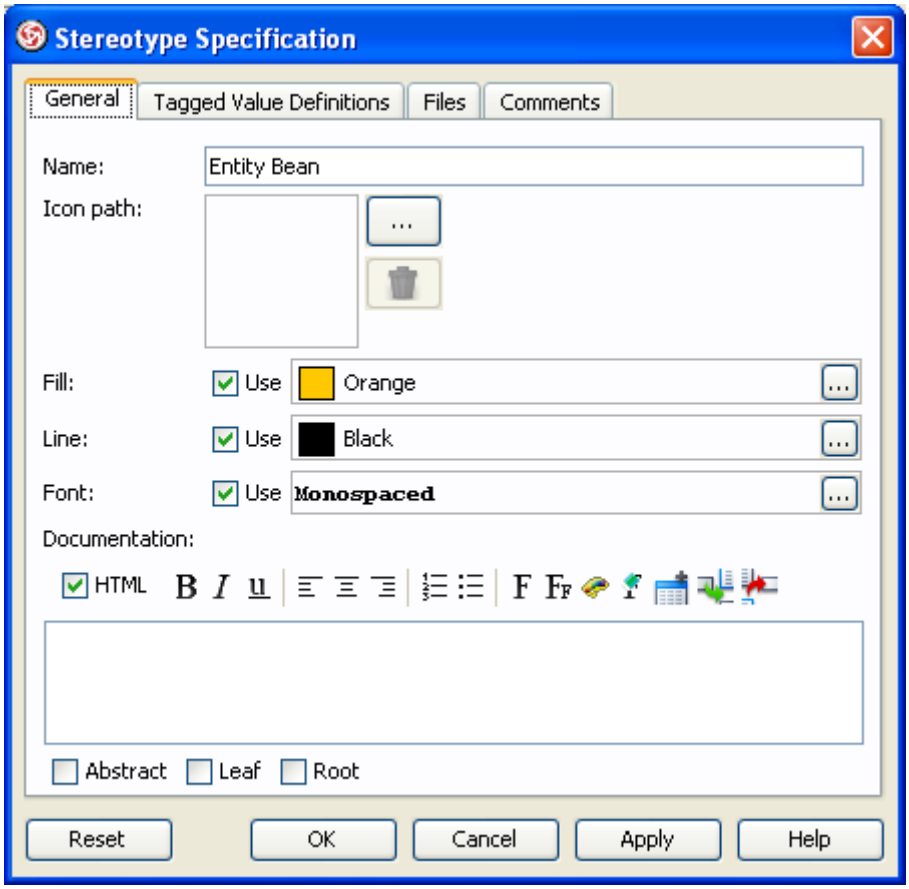



*Figure B.47 - Edit the format of stereotype*

2. After changing stereotype formats, it is important that you ensure the '**Apply changes to stereotypes in current project**' option is selected, otherwise the stereotypes used in the current project will not be updated.

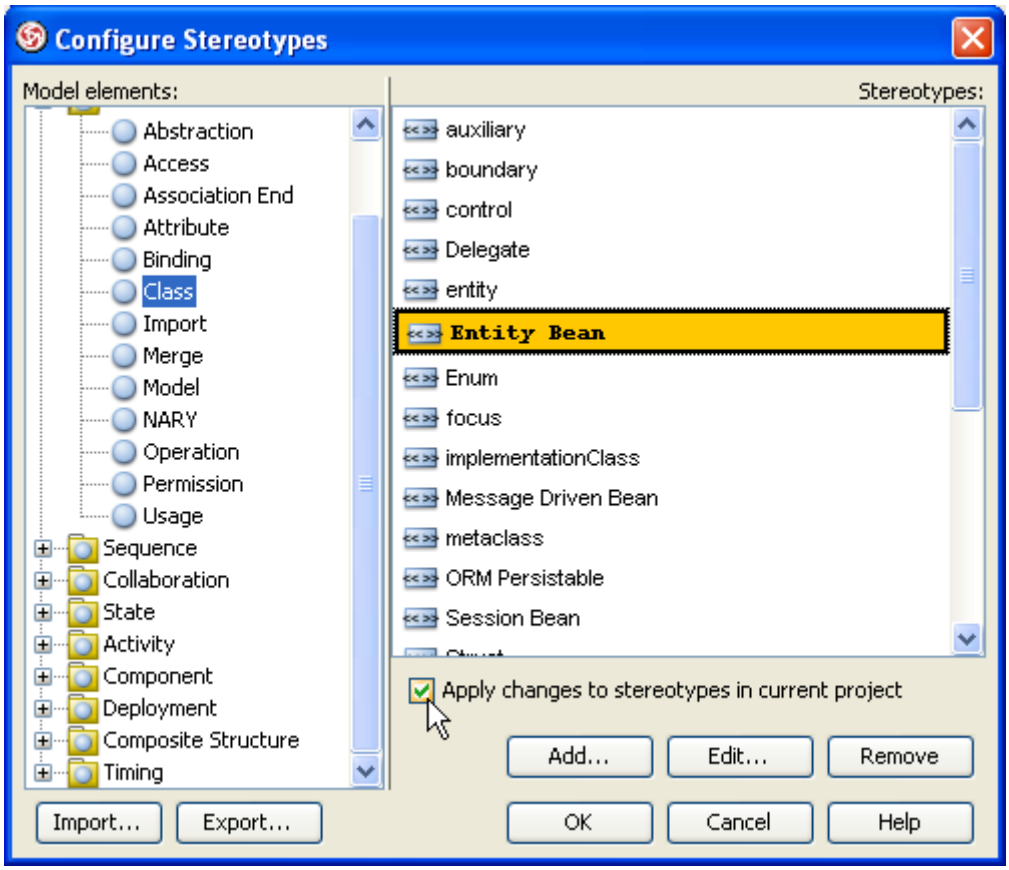



*Figure B.48 - apply the change to current project*

3. The appearances of shapes assigned to the changed stereotype are updated.

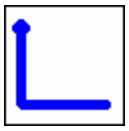

*Figure B.49 - Model style updated*

# C

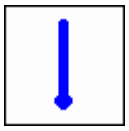
# Supported Mouse Gestures

# Appendix C - Supported Mouse Gestures

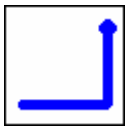
**General Commands**



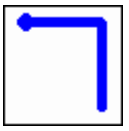
*Layout Diagram*



*Open Diagram Specification*



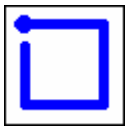
*Close Diagram*



*Show Diagrams Thumbnail View*

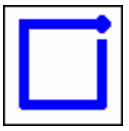
**Activity Diagram (UML 2.0)**

*Action*



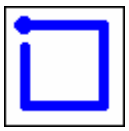
*Activity*

*Decision Node*

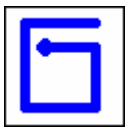


*Initial Node/Final Node (If there is no Initial Node, an Initial Node will be created. Likewise if there is no Final Node, a Final Node will be created)*

**Activity Diagram (UML 1.x)**

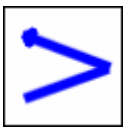


*Action State*



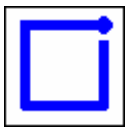
*Sub-Activity*

*Swimlane*



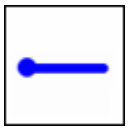
*Horizontal Synchronization Bar*

*Vertical Synchronization Bar*

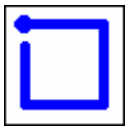


*Initial State/Final State(If there is no Initial State, an Initial State will be created. Likewise if there is no Final State, a Final State will be created)*

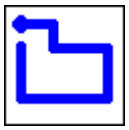
**Class Diagram**



*Synchronize to ERD*

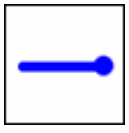


*Class*

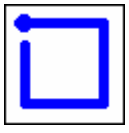


*Package*

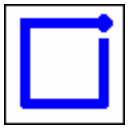
**Communication Diagram**



*Synchronize to Sequence Diagram*



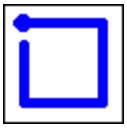
*Lifeline*



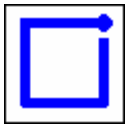
*Actor*

*Package*

**Component Diagram**



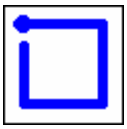
*Component*



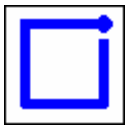
*Instance Specification*

*Package*

**Composite Structure Diagram**

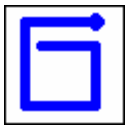


*Class*



*Interface*

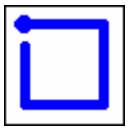
*Collaboration*



*Collaboration Use*

**Deployment Diagram**

*Node*

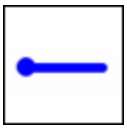


*Component*

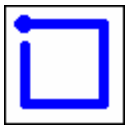
*Node Instance*

*Package*

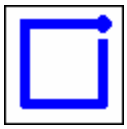
**EJB Diagram**



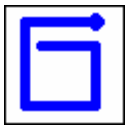
*Synchronize to ERD*



*Entity Bean*



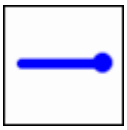
*Message-Driven Bean*



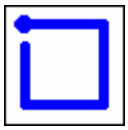
*Session Bean*

*Package*

**Entity Relationship Diagram**

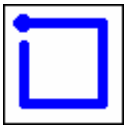


*Synchronize to Class Diagram*



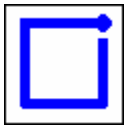
*Entity*

**Interaction Overview Diagram**



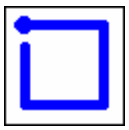
*Interaction*

*Decision Node*

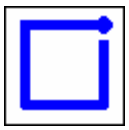


*Initial Node/Final Node(If there is no Initial Node, an Initial Node will be created. Likewise if there is no Final Node, a Final Node will be created)*

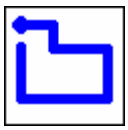
**Object Diagram**



*Instance Specification*

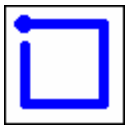


*Class*

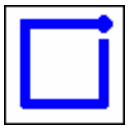


*Package*

**ORM Diagram**



*Class*



*Entity*

*Package*

**Overview Diagram**

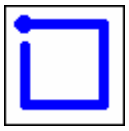
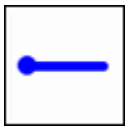


*Diagram Overview*

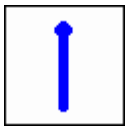
**Package Diagram**

*Package*

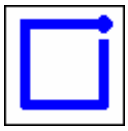
**Sequence Diagram**



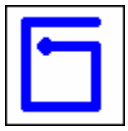
*Synchronize to Communication Diagram*



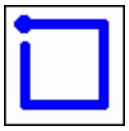
*Lifeline*



*Actor*

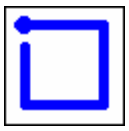


*Alt Combined Fragment*



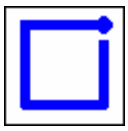
*Loop Combined Fragment*

**State Machine Diagram (UML 2.0)**



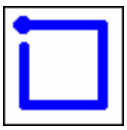
*State*

*Submachine State*



*Initial Node/Final Node(If there is no Initial Node, an Initial Node will be created. Likewise if there is no Final Node, a Final Node will be created)*

**State Machine Diagram (UML 1.x)**



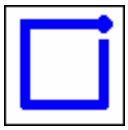
*State*

*Concurrent State*

*Submachine State*

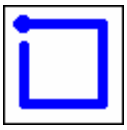
*Horizontal Synchronization Bar*

*Vertical Synchronization Bar*



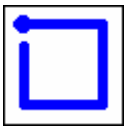
*Initial State/Final State(If there is no Initial State, an Initial State will be created. Likewise if there is no Final State, a Final State will be created)*

**Timing Diagram**

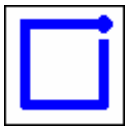


*Frame*

**Use Case Diagram**



*Use Case*



*Actor*

*Package*

# D

# Keyboard Shortcuts

# Appendix D - Keyboard Shortcuts

| Action | Hot Key | Description |
|---|---|---|
| New Project... | Ctrl-N | To create either a new UML 1.x or a new UML 2.0 project. The Create New Project dialog box will appear, which allows you to create a blank project, a project created from existing project templates, or import a project from other CASE tool project files. |
| Open Project... | Ctrl-O | To open an existing project. |
| Save Project | Ctrl-S | To save the current project. If the project is a new one, this operation is equivalent to "Save Project as... |
| New Diagram... | Ctrl-Shift-N | To create a new diagram. |
| Print... | Ctrl-P | To print selected diagrams in the current project. A new dialog box will be presented, allowing you to select the diagrams to be printed, as well as configuring various printing options. |
| Undo | Ctrl-Z | To undo the last action that you performed. |
| Redo | Ctrl-Y | To redo the last action that you performed. |
| Repeat Create... | F3 | To repeat create last shape. |
| Cut | Ctrl-X | To cut the selected diagram elements from the diagram and copy them to the application clipboard. |
| Default Copy | Ctrl-C | To perform the copy action as configured in the VP-UML application options (Options dialog box -> Diagramming category -> Environment page). The default "default copy" action is Copying within VP-UML. |
| Copy to Clipboard as OLE | Ctrl-Shift-C | To copy the selected diagram elements from the diagram to the system clipboard. The diagram elements can then be pasted to OLE containers like Word, Excel and PowerPoint, which can be edited directly. |
| Copy to Clipboard as Image (JPG) | Ctrl-Alt-C | To copy the selected diagram elements as a JPG image to the system clipboard. |
| Copy to Clipboard as Image (EMF) | Ctrl-Alt-Shift-C | To copy the selected diagram elements as an EMF image to the system clipboard. |
| Duplicate | Ctrl-E | To duplicate the selected diagram elements. |
| Paste View | Ctrl-V | To paste the contents of the application clipboard to the drawing pane. |
| Delete | Delete | To delete the selected diagram elements from the diagram. |
| Select All | Ctrl-A | To select all the diagram elements from the current diagram. |
| Deselect | Ctrl-D | To deselect all diagram elements. |
| Find | Ctrl-F | To find elements (model elements and diagram elements) in the current project. |
| Jump to Element in Active Diagram... | Ctrl-J | To jump to an element in the active diagram. |
| Jump to Element... | Ctrl-Shift-J | To jump to an element in the project. If the selected element belongs to a diagram, this diagram will be opened, and the element will be selected and centered in the diagram. If the selected element is a model that does not have a view, it will be selected in the Model pane. |
| Group | Ctrl-G | To organize shapes in group. The group can manipulate related shapes together at the same time (select, deselect, move, align and resize). |
| Ungroup | Ctrl-Shift-G | To ungroup the grouped shapes in a diagram. |
| Align Shapes | F12 | To display the Align Shapes dialog box that allows you to configure the top/bottom, left/right alignments and same width/same height options all at a time. |
| Show Diagram Navigator | Ctrl-Shift-I | To open/activate the Diagram Navigator. |

| | | |
|---|---|---|
| Show Model Pane | Ctrl-Shift-O | To open/activate the Model Pane. |
| Show Class Repository | Ctrl-Shift-L | To open/activate the Class Repository Pane. |
| Show Logical View | Ctrl-Shift-A | To open/activate the Logical View Pane. |
| Show ORM Pane | Ctrl-Shift-R | To open/activate the ORM Pane. |
| Show Stencil Pane | Ctrl-Shift-S | To open/activate the Stencil Pane. |
| Show Property Pane | Ctrl-Shift-P | To open/activate the Property Pane. |
| Show Diagram Overview Pane | Ctrl-Shift-V | To open/activate the Diagram Overview Pane. |
| Show Documentation Pane | Ctrl-Shift-U | To open/activate the Documentation Pane. |
| Show Message Pane | Ctrl-Shift-M | To open/activate the Message Pane. |
| Toggle Show Resources | Ctrl-R | To toggle the visibility of resources. |
| Full Screen | F11 | To toggle the full screen mode (display only the Toolbar and the Diagram Pane, all the other UI components will be hidden). |
| Zoom In | Ctrl-Equals | To magnify the diagram by 10%. |
| Zoom Out | Ctrl-Minus | To diminished the diagram by 10%. |
| Zoom 100% (Actual Size) | Ctrl-0 | To view the diagram in its actual size. |
| Previous Diagram | Alt-Left | To switch to the previous diagram. |
| Next Diagram | Alt-Right | To switch to the next diagram. |
| Switch to Diagram... | Ctrl-Shift-E | To manage windows by selecting windows to close, and/or activate a selected window. |
| Close Active Window | Ctrl-W | To close the active window. |
| Close All Windows | Ctrl-Shift-W | To close all opened the windows. |
| Open Specification... | Enter | To open the specification of active diagram or diagram element |

*Table D-1*

## Classes

| Action | Hot Key | Description |
|---|---|---|
| Add Attribute | Alt-Shift-A | To add a attribute to a currently selected Class |
| Add Operation | Alt-Shift-O | To add an operation to a currently selected Class |

*Table D-2*

## Entities

| Action | Hot Key | Description |
|---|---|---|
| New Column | Alt-Shift-C | To add a new column to an currently selected Entity or ResultSet |

*Table D-3*

# E

# Glossary

# Appendix E - Glossary

| A | |
|---|---|
| Activity diagram | Activity diagrams are an amalgamation of a number of techniques: Jim Odell's event diagrams, SDL state modeling techniques, workflow modeling and petri-nets. They can also be considered as variants of state diagrams. Activity diagrams are organized according to actions and mainly target towards representing the internal behaviors of a method or a use case. They describe the sequencing of activities, with support for both conditional and parallel behaviors. |
| Actor input | In editing the flow of events, an actor input is the input from an actor to the system. |
| Align to grid | Whether diagram elements should align to the grid when being moved. |
| Anti-aliasing | A method which handles the staircase pixels of slanted lines and curves to make them look smoother. |
| Application Options | The global options in VP-UML. |
| Auto save | VP-UML provides an auto save feature that saves a copy of the current project periodically. If the application terminates abnormally, with this feature turned on, when you start VP-UML again the system will check if an auto save file exists. If so, it will ask you whether you want to recover the project. |
| Automatic containment rule detection | A facility to automatically detect the containment rule for a container. For example, an Actor will not be contained in the System Boundary even if they are moved into the container's region. |
| **B** | |
| Backup files | Every time you save a project a backup file will be created. The backup file name is determined by the original project file name, followed by a "~" and the version number. A backup file with a larger version number means that it is more recent than those with smaller version numbers. |
| Button group | The diagram toolbar groups some of the diagram elements that are similar in nature together. For example, Package and Subsystem are grouped into a single button group. Buttons that are grouped are indicated by a small triangle on the lower-right-hand corner. To view the list of items under the group, click on the small triangle or click and hold the button until the selection list appears. |
| **C** | |
| Candidate Class Pane | The candidate class pane, located at the upper-right corner of the textual analysis pane, displays the candidate classes as rectangle shapes. |
| Candidate class view | In performing textual analysis, the Candidate Class View hides the Problem Statement Editor and only displays the Candidate Class Pane and the Data Dictionary Table. It allows you to concentrate on further editing of the identified candidate classes, such as specifying the candidate class type or creating models. |
| Cascade | Arranges the opened windows diagonally, with the active window on top. |
| Class diagram | Class diagrams are the most common diagrams used for modeling object-oriented systems. They are used to describe the types of objects and their relationships by providing a static, structural view of a system. They are important not only for visualizing, specifying, and documenting structural models, but also for constructing executable systems through forward and reverse engineering. |
| Class repository | A project may contain many classes. The Class Repository View lists all the classes within the current project. |
| Collaboration diagram | Collaboration diagrams emphasize the organization of objects that are involved in an interaction. Collaboration is a mechanism composed of both structural and behavioral elements. Two important features - the concept of a path and the sequence number - distinguish collaboration diagrams from sequence diagrams. |
| Component diagram | Component diagrams show the various components (physical modules of code) in a system and their dependencies. A component may often be the same as a package. |
| Copy as image | To copy the selected diagram elements to the system clipboard as an image. This feature is supported in both the Windows and the Linux platform. |
| Copy to system clipboard | To copy the selected diagram elements to the system clipboard as OLE objects so that the copied content can be pasted to OLE containers like Microsoft Word/Excel/PowerPoint, as well as directly edit the OLE object inside the document. This feature is supported in the Windows platform only. |

| | |
|---|---|
| Copy within VP-UML | To copy the selected diagram elements to the application clipboard. You can then paste the diagram elements to other VP-UML diagrams. |
| **D** | |
| Data dictionary table | The data dictionary table, which is located at the lower-right area of the textual analysis pane, provides a table view for the candidate classes. It displays all the information of a candidate class. You can edit its name and type, as well as adding description to the candidate class. |
| Data dictionary view | In performing textual analysis, the Data Dictionary View displays only the Data Dictionary Table. It allows you to concentrate on filling the candidate class information in the data dictionary. |
| Deployment diagram | Deployment diagrams show the physical layout and relationships among software and hardware components in the implemented system. It shows how components and objects are routed and moved around a distributed system. |
| Diagram base layout | In the print preview pane, if the Fit to Pages option is selected, and there are multiple pages in the printout, selecting Diagram Base Layout will cause the distribution of pages to be diagram-oriented. Note that this option affects the preview only, the order of the printout remains unchanged. |
| Diagram element | A diagram element is a shape or a connector that represent the view of its underlying model element. |
| Diagram exporter | The diagram exporter allows you to export selected diagrams as images in JPG, PNG or SVG format. |
| Diagram pane | The diagram pane contains the opened diagrams; it allows you edit multiple diagrams at the same time. |
| Diagram toolbar | The diagram toolbar contains the buttons of the diagram elements available for developing the active diagram. |
| Diagram navigator | A project may consist of many diagrams. The Diagram Navigator lists all the diagrams within the project. Through the use of a folding tree structure, you can browse the names of these diagrams by expanding or collapsing the folders and perform sorting by diagram type. |
| Document info | When generating HTML/PDF reports, the document info (such as title, author, keywords) you specified becomes the meta data of the report. Users can open the HTML source/PDF document summary to view this information. |
| Documentation pane | The Documentation pane allows you to enter a description about a diagram or a diagram element. |
| **E** | |
| Extra Resource-Centric | By default, the resource-centric interface displays the most commonly used resources of a diagram element. The least commonly used resources are hidden by default, and they are called the extra resources. |
| **F** | |
| Flow of event | A section in the use case description for editing the base paths and the alternative paths in a use case. |
| **H** | |
| HTML report generation | To generate report for the VP-UML project in HTML format. |
| **J** | |
| Java-enabled platforms | Any platforms that have Java runtime installed and thus are able to run Java programs. |
| **L** | |
| Layout diagram | A feature to layout the shapes so that they do not overlap, and to layout the connectors so that they do not cross with one another. |
| License key | The license key is a file that you import using the License Key Manager so that you can start using VP-UML. |
| License Key Manager | The License Key Manager allows you to manage the license key files of Visual Paradigm products. |
| Logical View | The Logical View refers to a user's view of the way project is organized. It provides another view of creating, structuring and sharing the UML diagrams and models apart from the traditional Diagram Navigator, Model Tree View and Class Repository. |
| Look and Feel | The appearance of VP-UML user interface. |

| M | |
|---|---|
| Message pane | The message pane logs the messages for the operations that you performed. For example, Java language syntax checking, model validation, report generation, etc. |
| Model element | A model element stores the model data. A diagram element associates with a model element, and a model element may be associated with more than one diagram element (multiple views). |
| Model repository | The repository where the model elements are stored. |
| Model tree view | The Model Tree View lists all the model elements within the current project. Model elements can be dragged to appropriate diagrams to create a new diagram element. |
| Model validation | A process to validate the models against UML syntax. |
| **O** | |
| OLE | An object that supports the OLE protocol for object linking and embedding. |
| Open specification dialog | The open specification dialog of a diagram allows you to configure the diagram settings, such as the diagram name and grid settings; while the open specification dialog of a model element allows you to configure its model data. |
| ORM Pane | Display a list of classes and database tables from the specified classpath (s) and database (s). You can click **Refresh** to update the content under Class View and DataBase View whenever there are changes to source code or database. You can drag classes or entities onto diagrams and generate source code/database from them when necessary. |
| **P** | |
| Paper base layout | If the Fit to Pages option is selected, and there are multiple pages in the printout, selecting Paper Base Layout will cause the distribution of pages to be paper-oriented (the diagram size is ignored in arranging the preview). Note that this option affects the preview only; the order of the printout remains unchanged. |
| Paper place style | To change the order of the printout. Consider a large diagram divided into many pages. Selecting 'From left to right' will arrange the printout order from the pages on the left to the pages on the right, while selecting 'From top to bottom' will arrange the print order from the pages on the top to the pages on the bottom. |
| Pattern watermark | The watermark that repeats the product name diagonally in the printout, exported image or copied content. |
| PDF report generation | To generate report for the VP-UML project in PDF format. |
| Preview pane | The Preview pane, also known as the Diagram Monitor, shows an overall view of the diagram. The Diagram Monitor allows you to navigate the whole diagram pane when the diagram is larger than the display area of the diagram pane. |
| Print preview pane | The print preview pane allows you to configure various print settings, preview the printout and print the diagrams. |
| Problem statement | A description about the problem to investigate. |
| Problem statement editor | The problem statement editor is the text editor located on the left of the text analysis pane, which allows you to view and edit the problem statement. |
| Problem statement view | The Problem Statement View displays the Problem Statement Editor, the Candidate Class Pane and the Data Dictionary Table; allows you to concentrate on editing the problem statement. |
| Project explorer | The project explorer pane contains three views: the Diagram Navigator, the Model Tree View, and the Class Repository View. Each view shows different perspectives of the project. |
| Properties pane | There are four pages associated with the Properties Pane: the Property page, the Preview page, the Documentation page and the Element Viewer page. |
| Property pane | Every diagram and diagram element has its own properties. The Property pane in the Properties Pane allows you to view and edit its various properties. |
| **Q** | |
| Quick Print | Prints diagrams without previewing them; speeds up the print job. |
| **R** | |
| Realistic containment interaction | A specific effect to indicate a diagram element moving in/out of a container. |

| | |
|---|---|
| Reference shape for alignment | When there are multiple shapes selected, the last selected shape will be used as the referenced shape for alignment. That is, the alignment methods will be performed based on the position/size of the referenced shape. The referenced shape will be rendered with its resize handles surrounded by black rectangles. |
| Report Writer | A feature for performing agile report creation. |
| Resource-centric | A user interface based on the Resource-Centric approach is adopted in VP-UML to enable UML diagrams to be constructed intuitively with minimal efforts. With the novel interface, only valid editing resources are grouped around a graphical entity, totally eliminating invalid operations during diagram construction. |
| Rose importer | The Rose importer allows you to import a Rational Rose project file and convert it into diagrams and models in your VP-UML project. |
| Round trip engineering | Round trip engineering is the process to convert from diagram to code, and to convert from code to diagram. |
| **S** | |
| Scrollable toolbar | If you have resized the diagram pane to the extent that some of the buttons on the diagram toolbar are not visible, an "Up" button and a "Down" button will appear. You can click on these buttons to scroll up or down to the desired buttons on the toolbar. |
| Sequence diagram | Sequence diagram captures the behavior of a single use case and displays a number of example objects, as well as the messages that are passed between these objects within the use case from a temporal standpoint. There are two important features, the object lifeline and the focus of control, that distinguish them from collaborative diagrams. |
| Single line watermark | The watermark that prints a single line of the product name in the printout, exported image or copied content. |
| State diagram | State diagrams, sometimes referred to as state chart diagrams, are a common technique to describe the dynamic behavior of a system. They represent state machines from the perspective of states and transitions, describing all the possible states that a particular object can get into and how the object's state changes as a result of events that affect the object. In most Object-Oriented techniques, state diagrams are drawn for a single class to show the lifetime behaviors of a single object. |
| Stencil Pane | Although the original UML notations are rich, they may still not be expressive enough to represent your idea. The stencils in VP-UML provides a large variety of shapes apart from the ordinary UML notations, and you can place the stencils in UML diagrams to express your own ideas. The Stencil Pane is a repository where imported shapes are stored. |
| Stereotype | The stereotype concept provides a way of classifying (marking) elements so that they behave in some respects as if they were instances of new "virtual" metamodel constructs. |
| Sub-diagrams | A facility to associate a diagram with other lower level UML diagrams to facilitate levels of abstraction and increase the traceability among UML diagrams. |
| System response | In editing the flow of events, this is the response from the system to an actor input. |
| **T** | |
| Textual analysis | Textual analysis is a process to analyze the system domain. It helps to identify the candidate classes in a problem statement. |
| Tile | Arrange the opened windows so that all windows are visible at the diagram pane. |
| Tile horizontally | Arrange the opened windows horizontally. The windows are resized to share the available workspace height without overlapping each other. |
| Tile vertically | Arrange the opened windows vertically. The windows are resized to share the available workspace width without overlapping each other. |
| **U** | |
| UML | The Unified Modeling Language (UML) is a language for specifying, visualizing, constructing, and documenting the artifacts of software systems, as well as for business modeling and other non-software systems. The UML represents a collection of the best engineering practices that have proven to be successful in the modeling of large and complex systems. |
| Use case description | A use case description describes the use case, including the preconditions, post-conditions, flow of events, etc. |
| Use case detail | A use case detail holds one or more use case description. |

| | |
|---|---|
| Use case diagram | Use case diagrams, together with activity diagrams, state diagrams, sequence diagrams and collaboration diagrams, are the five diagrams in UML for modeling the dynamic aspects of a system. Invented by Ivar Jacobson, use case diagrams are central to modeling the behaviors of the system, a sub-system or a class, providing a means to visualize, specify and document the behaviors of an element. They describe the behavior of a system from a user's perspective by using actions and reactions. A use case shows the relationships between actors and objects, and between the system and its environment. |
| Use case scheduling | To schedule the use cases by assigning priorities. |
| **V** | |
| Visio integration | VP-UML allows you to create Visio drawing in UML diagrams. Besides, you can also import Visio stencil into VP-UML and use the Visio shape in UML diagrams. |
| Visual Paradigm Suite | Abbreviated as VP-Suite, Visual Paradigm Suite allows you to install all Visual Paradigm leading CASE Tools. |
| **X** | |
| XMI importer | The XMI importer imports the models from an XMI file into a VP-UML project. |

*Table E.1*