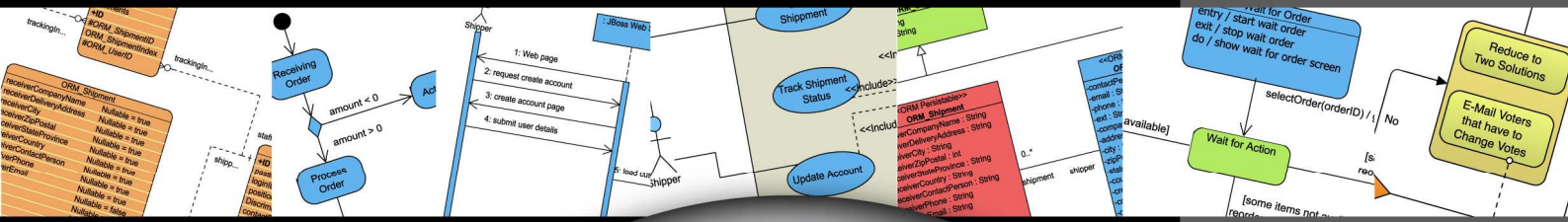


Visual Paradigm SDE for .NET User's Guide [Part 1]

Streamlined design and development environment



Smart Development Environment 4.0 for Visual Studio .NET User's Guide

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Table of Contents

Part 1 - Working with Smart Development Environment for Visual Studio .NET

Chapter 1 - Getting Started with SDE for Visual Studio

Launching SDE-VS	1 -2
Windows	1 -2
Managing License Key and Edition	1 -3
Importing a Single Seat License Key.....	1 -3
Switching from Evaluation Key to Permanent Key.....	1 -4
Importing Upgrade Keys.....	1 -5
Floating License Key	1 -6
Switching Edition	1 -8
Auto Switch Edition.....	1 -9
VP Suite Product Selector.....	1 -9
Basic Environment	1 -11
Panels	1 -11
Diagram Navigator Panel.....	1 -11
Model Panel	1 -12
Class Repository Panel	1 -13
Logical View Panel.....	1 -13
ORM Panel	1 -13
Stencil Panel	1 -14
Property Panel.....	1 -14
Diagram Overview Panel.....	1 -15
Documentation Panel.....	1 -15
Message Panel.....	1 -16
Open Specification Dialog Box.....	1 -16
Navigating between Model Elements	1 -16

Chapter 2 - Working with Diagrams

Creating Diagram	2 -2
Creating Diagram Elements	2 -4
Creating Shapes	2 -4
Creating Connectors	2 -5
Creating Self-Connection.....	2 -6
Resource-Centric Interface.....	2 -6
Connection Resource	2 -6
Manipulation Resource	2 -7
Branching Resource	2 -7
Enabling/Disabling the Resource-Centric Interface.....	2 -9
Enabling/Disabling Group Resource-Centric Interface	2 -9
Show Extra Resources	2 -9
Show Generic Resource-Only.....	2 -10
Basic Editing	2 -10
Multiple Selection.....	2 -10
Moving Shape.....	2 -10
Moving Shape in One Direction	2 -11
Delete	2 -11
Delete.....	2 -11
Delete View Only	2 -13
Copy and Paste.....	2 -13
Copy.....	2 -13
Paste.....	2 -15
Undo/Redo	2 -15
Undo	2 -16
Redo.....	2 -16
Grouping.....	2 -16
Grouping Shapes.....	2 -16
Ungrouping Shapes.....	2 -16
Resizing Shapes in Group.....	2 -16
Reversing Connector Direction	2 -18
Grid	2 -19

Showing/Hiding Grids	2 -19
Snap to Grid	2 -20
Grid Size	2 -22
Grid Color	2 -23
Zooming	2 -24
Zooming In	2 -24
Zooming Out	2 -24
Zooming to 100%	2 -25
Zooming to a Specific Ratio	2 -25
Zooming to Fit Diagram to Window	2 -25
Zooming to Region	2 -26
Quick Previewer	2 -27
Fast Scroll	2 -28
Fast Scroll using Middle Mouse Button	2 -28
Generic Connector	2 -28
Text Box	2 -32
Diagram Info Shape	2 -32
Rich Text Documentation	2 -34
Inserting Image to Documentation	2 -35
Using Template	2 -37
Compartment Visibility Control	2 -38
Printing Diagrams	2 -38
Print Preview	2 -38
Printing a Diagram with Preview	2 -40
Printing a Diagram with Quick Print	2 -49
Aligning Shape	2 -50
Distributing Shapes	2 -51
Making Shapes Same Width and Height	2 -52
Reference Shape for Alignment	2 -53
Using the Align Shapes Dialog Box	2 -53
Visual Alignment Guide	2 -53
Selectable	2 -56
Locking a Diagram	2 -57

Chapter 3 - Style and Formatting

Connector Styles	3 -2
Setting Connector Style	3 -2
Rectilinear Connector Style	3 -3
Oblique Connector Style	3 -4
Curve Connector Style	3 -5
Round Oblique Connector Style	3 -5
Round Rectilinear Connector Style	3 -5
Setting a Default Connector Style	3 -6
Follow Diagram Connector Style	3 -6
Connection Point Style	3 -6
Setting Connection Point Style	3 -6
Pinning the Connection End Point	3 -7
Fill Color	3 -8
Format Fill Color Dialog Box	3 -8
Line Format	3 -11
Format Line Dialog Box	3 -11
Font	3 -12
Select Font Dialog Box	3 -12
Format Copier	3 -12
Stereotyped Element Appearance	3 -13
Configuring Stereotype Appearance	3 -13
Applying Stereotypes to Shape	3 -17
Changing Stereotype Appearance	3 -18

Chapter 4 - Visual Modeling

Showing Model in Different Diagram	4 -2
Form Diagram from Model	4 -3
Customize Form Diagram Properties	4 -3

Hierarchical Diagram.....	4 -6
Navigation Diagram.....	4 -6
Sub-Diagrams.....	4 -7
Creating a Sub-Diagram	4 -7
Selecting Existing Diagrams as Sub-Diagrams.....	4 -8
Viewing the List of Sub-Diagrams	4 -9
Opening Sub-Diagrams.....	4 -9
Removing Sub-Diagrams.....	4 -9
References	4 -10
Adding Referenced Files.....	4 -10
Adding Referenced URL	4 -11
Editing References	4 -11
Reordering References.....	4 -12
Opening References	4 -12
Removing References	4 -13
User Path.....	4 -13
Logical View	4 -14
Creating a Logical View	4 -14
Creating Diagram(s) under View.....	4 -14
Moving Diagram(s) between Views	4 -14
Exporting and Importing View	4 -15
Finding a Model Element	4 -15
Jumping to Shape/Model.....	4 -16
Jumping to Shape in Active Diagram	4 -17
Jumping to Element in Project.....	4 -18
Mouse Gesture.....	4 -19
Using Mouse Gesture in Windows	4 -20
General Features	4 -20
Gesture Start Point and Direction	4 -21
Initial State and Final State	4 -21
Connecting Shapes using Mouse Gesture	4 -22
Creating Class Members using Mouse Gesture	4 -22
Sweeper	4 -23
Customizing Data Types	4 -24
Configuring Project Programming Language	4 -25
Adding Languages and Data Types	4 -26

Chapter 5 - Automatic Diagrams Layout

Auto Layout.....	5 -2
Class Diagram.....	5 -2
Activity Diagram	5 -3
State Machine Diagram.....	5 -3
Communication Diagram.....	5 -3
Other Diagrams.....	5 -4
Performing Layout	5 -4
Orthogonal Layout	5 -4
Hierarchic Layout.....	5 -5
Directed Tree Layout.....	5 -6
Balloon Tree Layout.....	5 -7
Compact Tree Layout	5 -8
Horizontal-Vertical Tree Layout	5 -8
BBC Compact Circular Layout	5 -9
BBC Isolated Circular Layout	5 -10
Single Cycle Circular Layout	5 -10
Organic Layout.....	5 -11
Smart Organic Layout	5 -12
Organic Edge Route Layout	5 -13
Orthogonal Edge Route Layout.....	5 -13

Chapter 6 - Generating Documentation

PDF Report Generation	6-2
The Generate PDF Dialog Box	6 -2
Generating a PDF Report	6 -4
Configuring Image Quality	6 -5
Configuring the page information	6 -5
Defining a Cover Page	6 -8
Word Report Generation	6 -9
The Generate Word Dialog Box	6 -9
Generating a Word Report	6 -10
Configuring Image Quality	6 -10
Configuring the page information	6 -11
Defining a Cover Page	6 -13
HTML Report Generation	6 -14
The Generate HTML Dialog Box	6 -15
Generating an HTML Report	6 -16
Configuring Image Quality	6 -16
Configuring the Document Info	6 -17
Defining a Front Page	6 -17
Project Publisher	6 -18
Launching Project Publisher	6 -18
Using Project Publisher	6 -18
Using the Published Project	6 -18
Report Writer	6 -22
Launching Report Writer	6 -23
Panels	6 -23
Toolbar	6 -26
Constructing a Report	6 -27
Applying Style to Report	6 -28
Updating Table of Contents	6 -30
Exporting a report	6 -30
Importing a Report	6 -30
Updating a Report	6 -31
Printing a report	6 -31
Sorting Elements in Report	6 -31

Chapter 7 - Export and Import

Exporting Diagram as Images	7 -2
Exporting the Active Diagram as an Image	7 -2
Exporting Diagrams as Images	7 -2
Exporting Diagrams to PDF format	7 -4
Exporting and Importing VP Project File	7 -8
Exporting VP Project File	7 -8
Importing VP Project File	7 -9
Exporting and Importing XML	7 -10
Exporting XML	7 -11
Modifying XML	7 -12
Importing XML	7 -13
Exporting and Importing XMI	7 -14
Exporting XMI	7 -15
Importing XMI	7 -16
Exporting and Importing EMF-based UML2	7 -17
Exporting to UML2	7 -17
Importing to Eclipse UML2 Model	7 -18
Modifying UML2 XMI	7 -19
Importing UML2 XMI	7 -20
Importing Rational Rose Project File	7 -21
ERwin Modeler Project File Importer	7 -23
Importing an ERwin Data Modeler Project	7 -23
Oracle workflow engine BPEL generator	7 -25
Generating BPEL for Oracle workflow engine	7 -25
JBoss Workflow Engine BPEL Generator	7 -26
Generating BPEL for JBoss workflow engine	7 -26

Chapter 8 - User Interface Designer

Creating User Interface Diagram.....	8 -2
Creating Component.....	8 -3
Change Component Properties	8 -6
Annotating Component	8 -9
Linking Components	8 -10
Switching Orientation by Resource-centric Interface.....	8 -11
Auto Detect Orientation	8 -12

Chapter 9 - Instant Reverse

What is Instant Reverse?	9 -2
Supported Sources	9 -2
Java Instant Reverse	9 -3
On-Demand Java Instant Reverse	9 -3
Dynamic Link Library Instant Reverse	9 -5
XML Instant Reverse	9 -8
XML Schema Instant Reverse.....	9 -11
C++ Instant Reverse.....	9 -14
CORBA IDL Source Instant Reverse.....	9 -16
PHP Instant Reverse.....	9 -19
Hibernate Instant Reverse.....	9 -22
JDBC Instant Reverse	9 -24
Ada 9x Instant Reverse.....	9 -27
Objective-C Instant Reverse.....	9 -30

Chapter 10 - Instant Generator

What is Instant Generator?	10 -2
Supported Sources	10 -2
Using Instant Generator.....	10 -3
General Settings	10 -4
Language Specified Options	10 -5
Preview or Generate.....	10 -6
Generating Java	10 -7
Generating C#	10 -11
Generating VB.NET.....	10 -15
Generating PHP.....	10 -18
Generating ODL.....	10 -22
Generating ActionScript.....	10 -24
Generating IDL	10 -28
Generating C++	10 -31
Generating Delphi	10 -34
Generating Perl.....	10 -37
Generating XSD	10 -41
Generating Python.....	10 -44
Generating Objective-C.....	10 -47
Generating Ada95.....	10 -50
Generating Ruby	10 -53

Chapter 11 - .NET Round-Trip Engineering

Generate Code.....	11 -2
Generate by Selecting Project.....	11 -3
Generate by Selecting Package.....	11 -4
Generate by Selecting Class.....	11 -5
Reverse Code.....	11 -7
Reverse by Selecting Project	11 -8
Reverse by Selecting Package	11 -9
Reverse by Selecting Class	11 -9
Forming Diagram from Reversed Model.....	11 -10
Select Code from Model.....	11 -11
Select Model from Code.....	11 -12
Round-trip Code Engineering.....	11 -13

Advanced Options	11 -16
Chapter 12 - State Machine Diagram Code Generation	
Drawing State Machine Diagram	12 -2
Generate State Machine Code	12 -4
Programming with Generated State Machine Code.....	12 -6
Reverse State Machine Code	12 -9
Chapter 13 – Team Collaboration with VP Teamwork Server	
Starting up the Server	13 -2
Starting the Teamwork Client Dialog Box	13 -3
Checking out Project	13 -4
Committing Project	13 -6
Updating Project.....	13 -7
Reverting Project.....	13 -8
Checking for Update.....	13 -9
Resolving Conflict.....	13 -10
Viewing Revision History	13 -11
Checking Out Old Revision.....	13 -12
Comparing Between Revisions	13 -13
Branch and Tag Project	13 -14
Creating a Branch	13 -15
Managing a Branch	13 -15
Creating a Tag.....	13 -16
Managing a Tag	13 -17
Usage of Merge	13 -17
Suggested Branch Usage	13 -19
Chapter 14 – Team Collaboration with CVS Repository	
Starting the Teamwork Client Dialog Box	14 -2
Importing Project to the Repository	14 -5
Managing Teamwork Project	14 -6
Checking Out Project	14 -7
Committing Project	14 -9
Updating Project.....	14 -10
Reverting Project.....	14 -11
Resolving Conflict.....	14 -12
Viewing Revision History	14 -13
Checking Out Old Revision.....	14 -15
Comparing Between Revisions	14 -15
Branch and Tag Project	14 -17
Creating a Branch	14 -17
Managing a Branch	14 -18
Creating a Tag.....	14 -19
Managing a Tag	14 -20
Usage of Merge	14 -21
Suggested Branch Usage	14 -22
Chapter 15 - Team Collaboration with Subversion Repository	
Starting the Teamwork Client Dialog Box	15 -2
Importing Project to the Repository	15 -5
Managing Teamwork Project	15 -6
Checking Out Project	15 -8
Committing Project	15 -9
Updating Project.....	15 -11
Reverting Project.....	15 -12
Resolving Conflict.....	15 -12
Viewing Revision History	15 -13
Checking Out Old Revision.....	15 -15
Comparing Between Revisions	15 -15
Branch and Tag Project	15 -17
Creating a Branch	15 -17
Managing a Branch	15 -19

Creating a Tag.....	15 -20
Managing a Tag	15 -21
Usage of Merge	15 -22
Suggested Branch Usage	15 -24

Appendix A - Configuring Application Options

Configuring Application Options using the Application Options Dialog Box	A -2
General.....	A -2
Diagramming	A -3
View.....	A -6
Instant Reverse.....	A -6
ORM	A -7

Appendix B - Configuring Stereotypes and Tagged Value

Introduction	B -Error! Bookmark not defined.
Adding Stereotype to a Model Element	B -Error! Bookmark not defined.
Configuring Stereotypes.....	B -Error! Bookmark not defined.
Creating a New Stereotype	B -Error! Bookmark not defined.
Editing a Stereotype.....	B -Error! Bookmark not defined.
Using the Stereotype Specification Dialog Box.....	B -Error! Bookmark not defined.
Adding Tagged Value to a Stereotype	B -Error! Bookmark not defined.
Adding Tagged Value to a Model Element.....	B -Error! Bookmark not defined.
Stereotype Formats.....	B -Error! Bookmark not defined.
Configuring Stereotype Formats	B -Error! Bookmark not defined.
Changing Stereotype Formats.....	B -Error! Bookmark not defined.

Appendix C - Supported Mouse Gestures

Appendix D –Keyboard Shortcuts

Appendix E - Glossary

Part 1 - Working with Smart Development Environment for Visual

Part 1 - Working with Smart Development Environment for Visual Studio .NET

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-VS 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:

- Getting Started with SDE for Visual Studio
- Working with Diagrams
- Style and Formatting
- Visual Modeling
- Automatic Diagrams Layout
- Generating Documentation
- Export and Import
- User Interface Designer
- Instant Reverse
- Instant Generator
- Java Round-Trip Engineering
- State Machine Diagram Code Generation
- Team Collaboration with VP Teamwork Server
- Team Collaboration with CVS Repository
- Team Collaboration with Subversion Repository

1

Getting Started with SDE for Visual Studio

Chapter 1 - Getting Started with SDE for Visual Studio

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 tool-bars. 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 SDE for Visual Studio. You will learn following techniques in this chapter:

- How to Launch SDE for Visual Studio?
- 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-VS

Windows

To launch SDE-VS in Windows:

Select **start > All Programs > Visual Paradigm > SDE for Visual Studio**

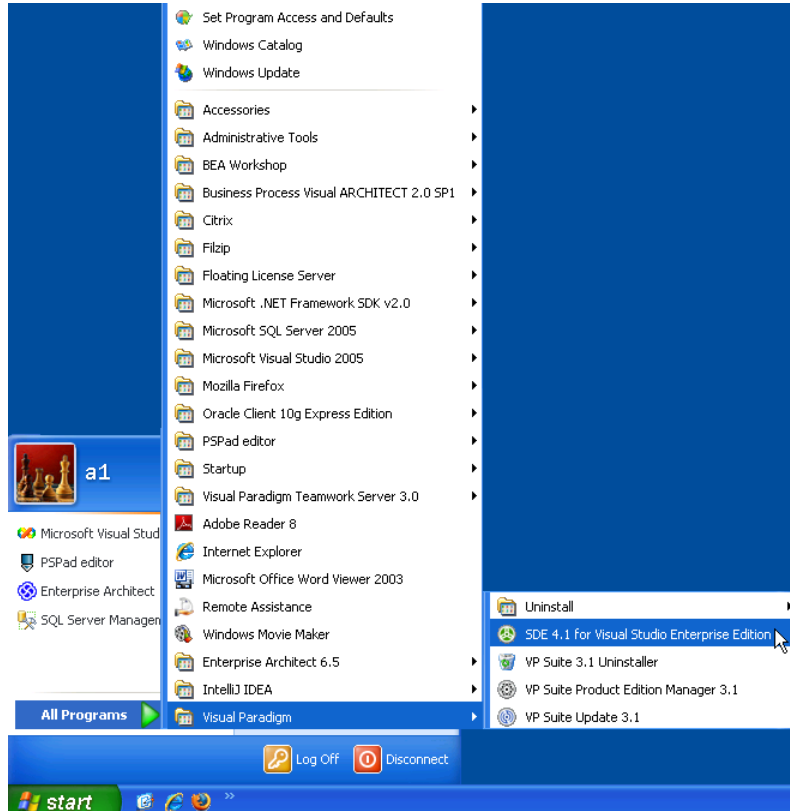


Figure 1.1 - Launch SDE-VS in Windows

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-VS with Professional Edition of SDE-VS key.

SDE-VS 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...**

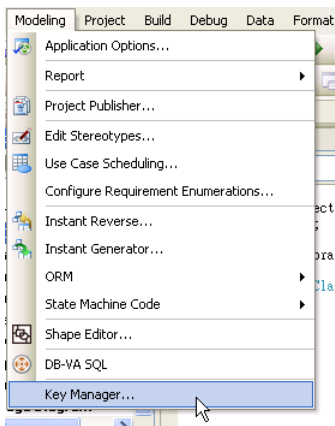


Figure 1.7 - Select Key Manager

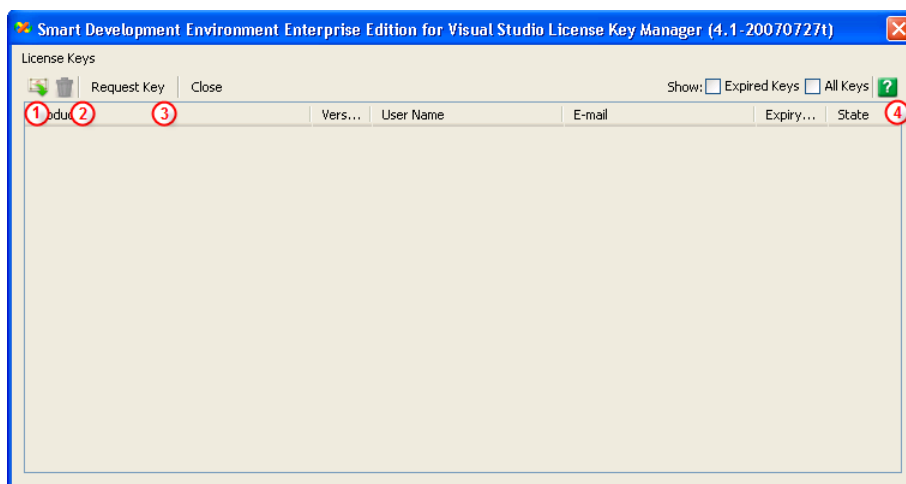


Figure 1.8 - License Key Manager

	Name	Function
A	Import license key	To import a license key.
B	Delete the license key	To delete the license key imported.




	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.
	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**.

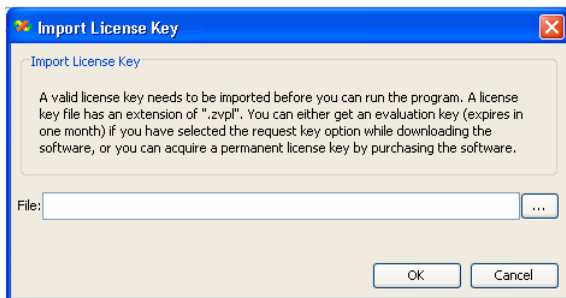


Figure 1.9 - Import License Key dialog

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

Product	Vers...	User Name	E-mail	Expiry...	State
Smart Development Environment Enterprise Edi...	4.1 Demo		demo@visual-paradigm.com	Dec 25, 2...	Valid

Figure 1.10 - The imported key displayed in Key Manager

Then, click **Close** from the **License Key Manager** to start using SDE-VS.

Switching from Evaluation Key to Permanent Key

You can try SDE-VS 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....**

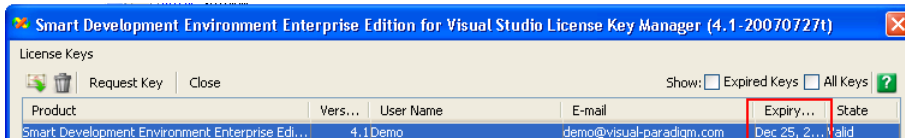


Figure 1.11 - License Key Manager with evaluation key with expiry date

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.

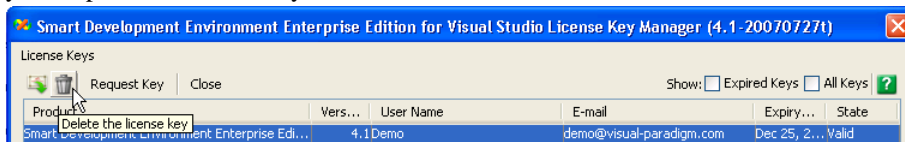


Figure 1.12 - Delete by clicking Delete the license key button

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.

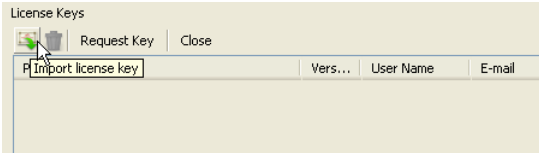


Figure 1.14 - Import by clicking Import license key button

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

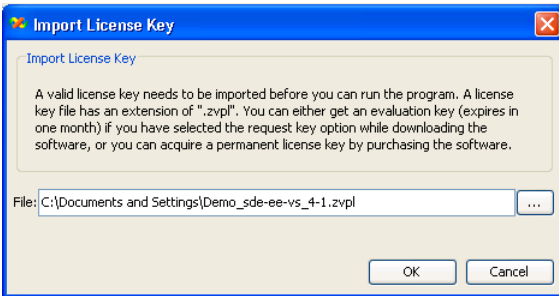


Figure 1.15 - Select or type a path for permanent key

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

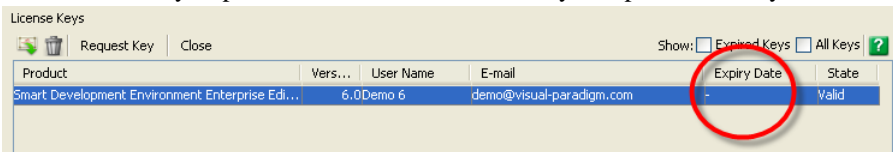


Figure 1.16 - Permanent Key with no expiry date

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 4.1 is used as an example to replace the key of version 4.0.

To import upgrade keys:

1. Open the License Key Manager from the main menu **Modeling > Key Manager...**

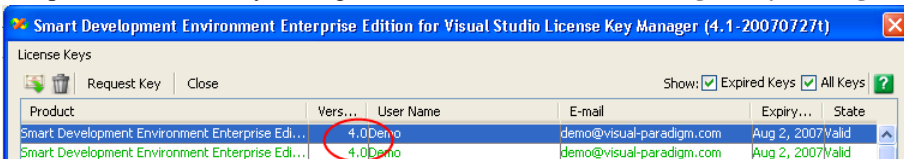


Figure 1.17 - License Key Manager with license key of version 5.1

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.

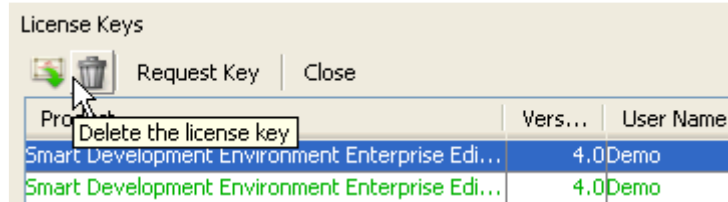


Figure 1.18 - Import by clicking Import license key button

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

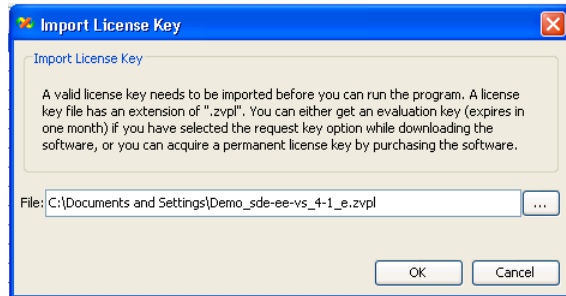


Figure 1.19 - Select or type a path for upgrade key

4. The upgrade key has replaced your old one.

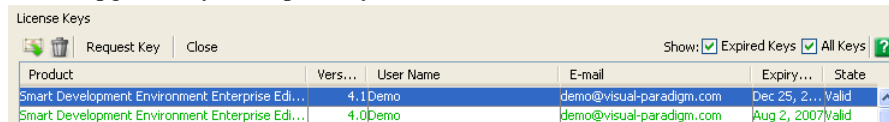


Figure 1.20 - License Key Manager with license key of version 6.0

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-VS 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-VS 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-VS at different times.

Before you use SDE-VS 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...**

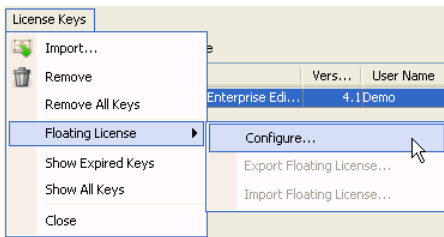


Figure 1.21 - Select configuration of floating license

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...**

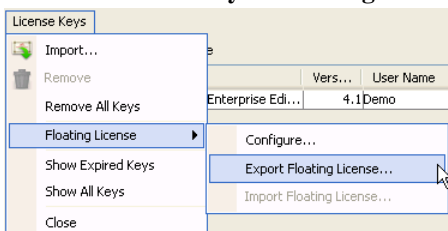


Figure 1.23 - Export the Floating License

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.

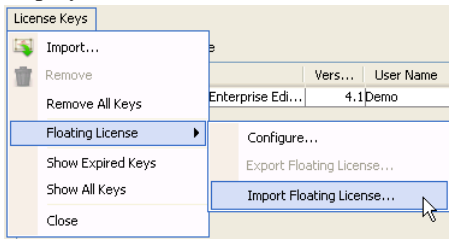


Figure 1.25 - Import Floating License

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

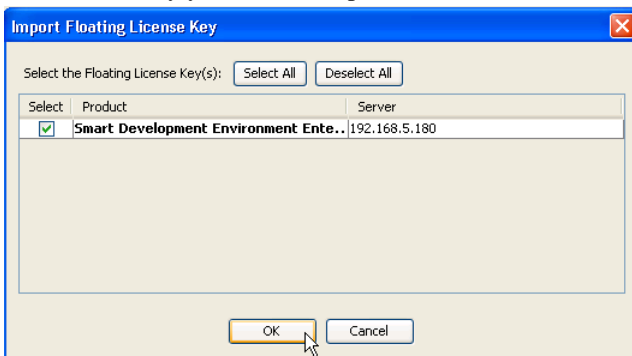


Figure 1.26 - Select license key to import

3. The key is imported successfully.

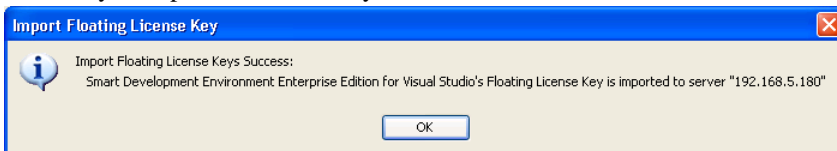


Figure 1.27 - License key imported successfully

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

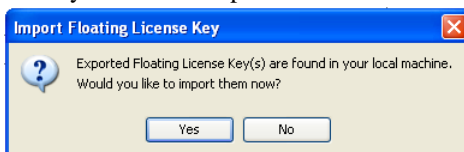


Figure 1.28 - Asking whether to import the license key

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-VS, 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** .

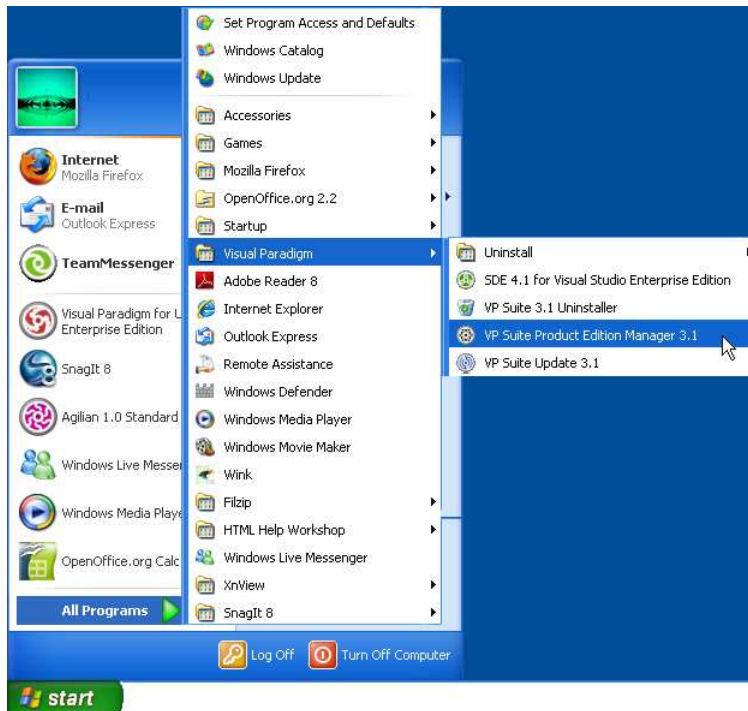


Figure 1.29- Select Product Edition Manager

2. Select the desired edition in the edition manager.

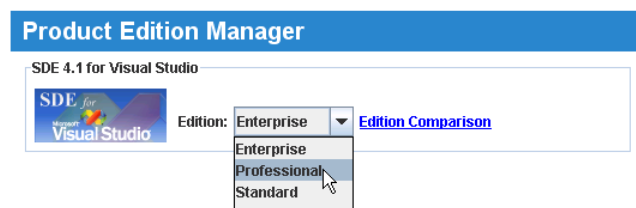


Figure 1.30 - Select desired edition

Auto Switch Edition

When you start SDE-VS 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-VS will ask you if you want to switch to Standard Edition.

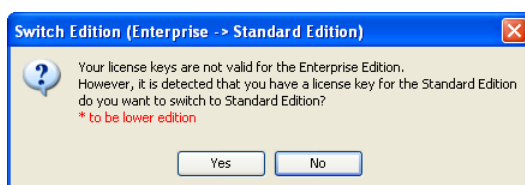


Figure 1.31 - Switch Edition dialog

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 SDE-VS is installed.

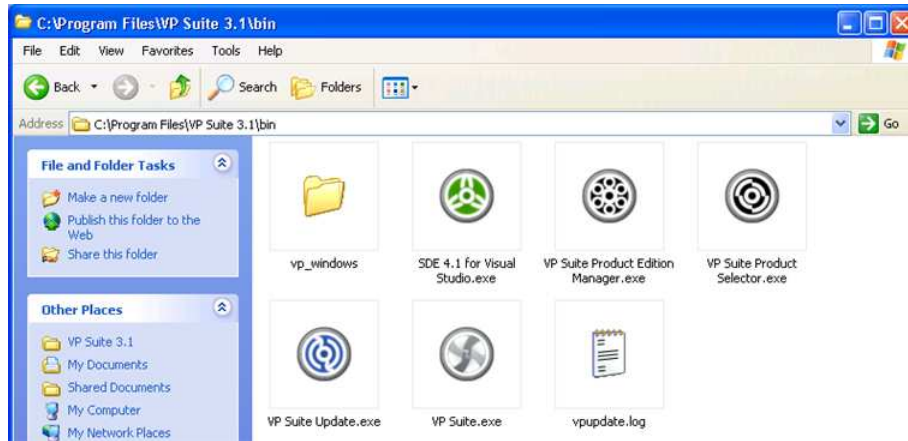


Figure 1.32 - Bin folder

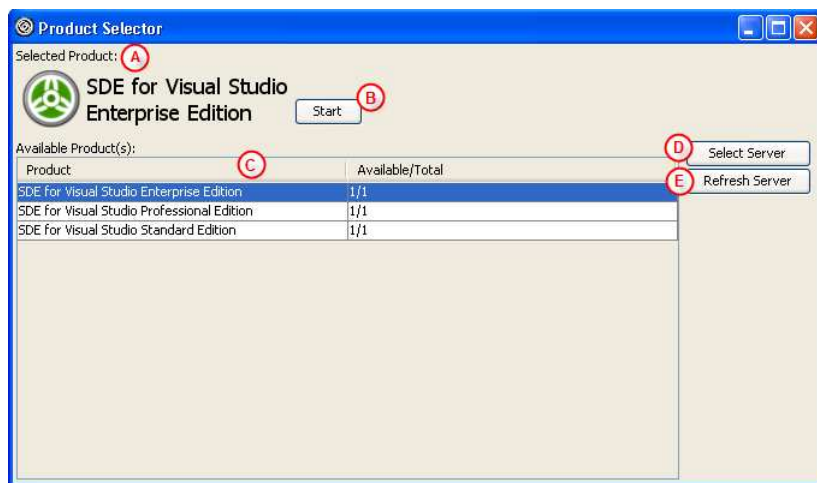


Figure 1.33 - Product Selector

	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-VS 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-VS main screen.

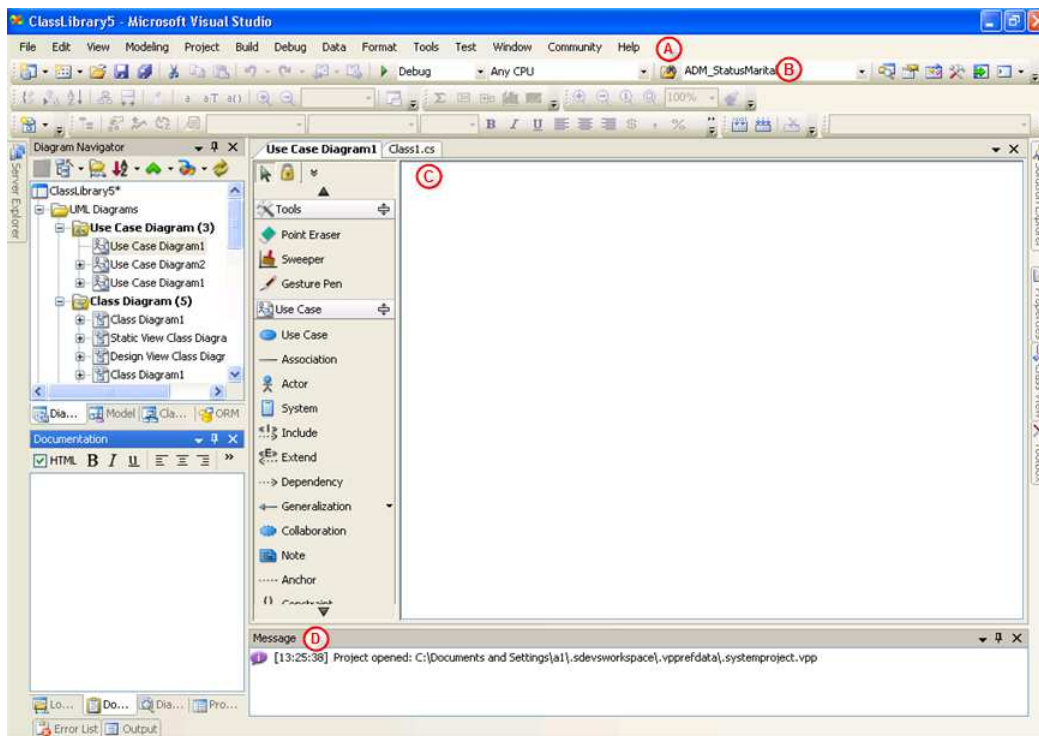


Figure 1.34 - Basic environment

	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-VS provides various panes for performing different tasks and for displaying the modeling project in different views.

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 **View > SDE-VS Windows... > Diagram Navigator**.

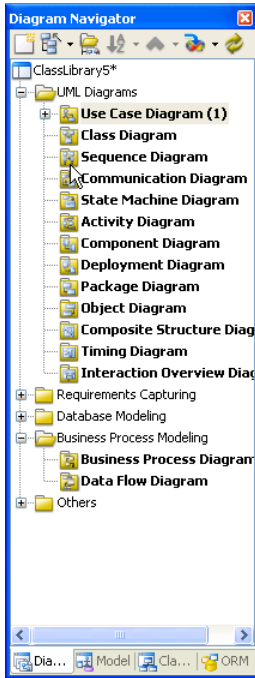


Figure 1.41 - Diagram Navigator Pane

Model Pane

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

- Select **View > SDE-VS Windows... > 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 **View > SDE-VS Windows... > Class Repository**

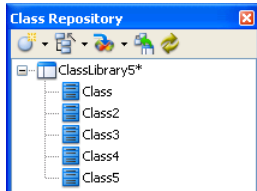


Figure 1.43 - Class Repository Pane

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 **View > SDE-VS Windows... > Logical View**

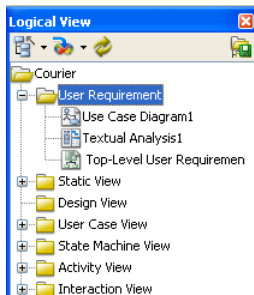


Figure 1.44 - Logical View Pane

ORM Pane

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

- Select **View > SDE-VS Windows... > ORM**

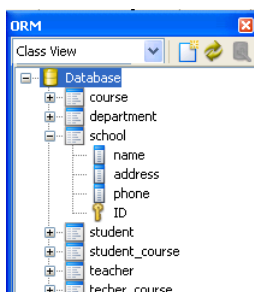


Figure 1.45 - ORM Pane

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 **View > SDE-VS Windows... > 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 **View > SDE-VS Windows... > Property**

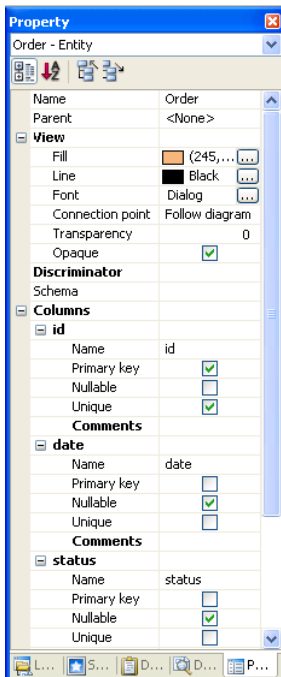


Figure 1.47 - Property Pane

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 **View > SDE-VS Windows... > Diagram Overview**

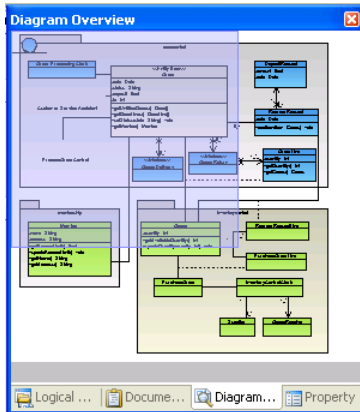


Figure 1.48 - Diagram Overview Pane

Documentation Pane

Documentation Pane can display documentation of the selected element. SDE-VS also provides rich text documentation. You can edit your documentation directly here.

To open this pane:

- Select **View > SDE-VS Windows... > Documentation**

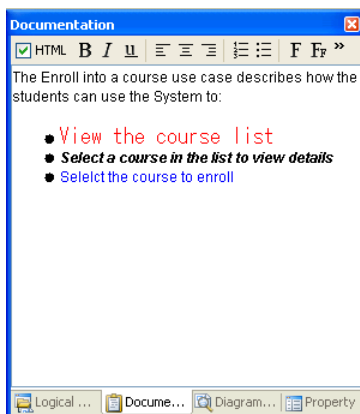


Figure 1.49 - Documentation Pane

Message Pane

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

- Select View > SDE-VS Windows... > Message

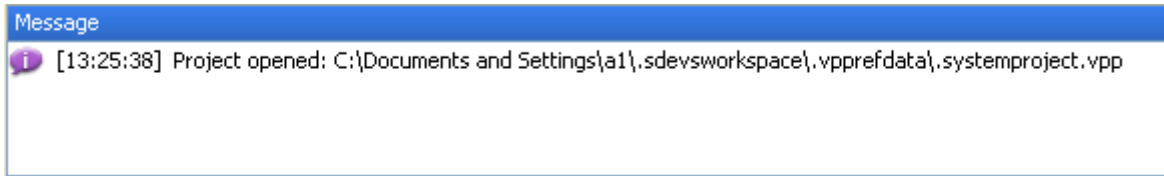


Figure 1.50 - Message Pane showing XMI Results

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.

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.

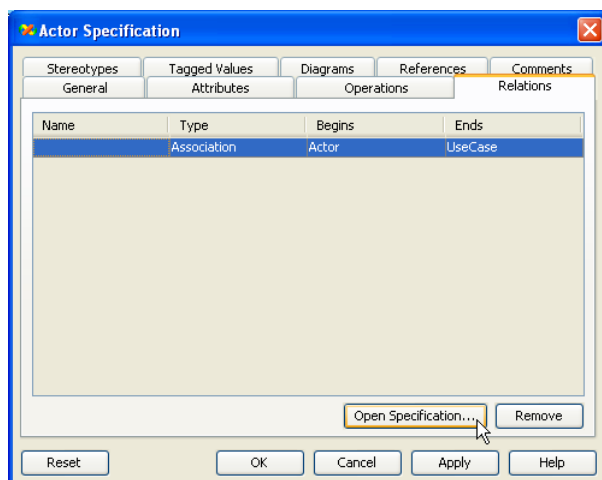


Figure 1.59 - Open Association Specification

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.

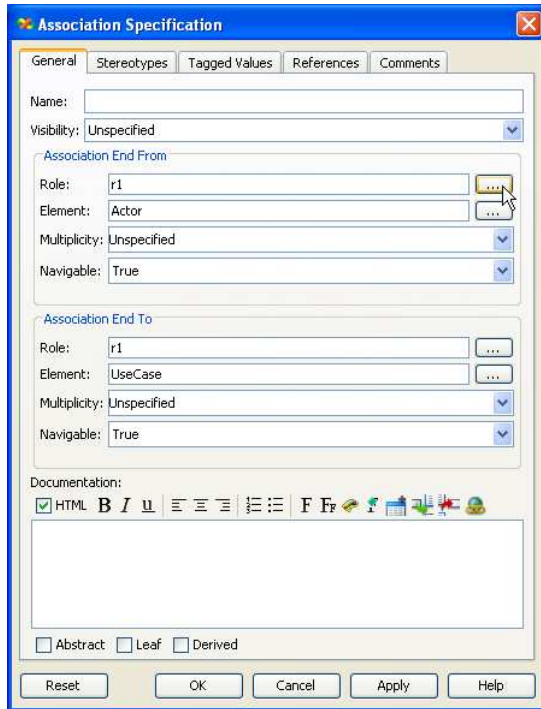


Figure 1.60 - Association Specification

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-VS 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-VS 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-VS, 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

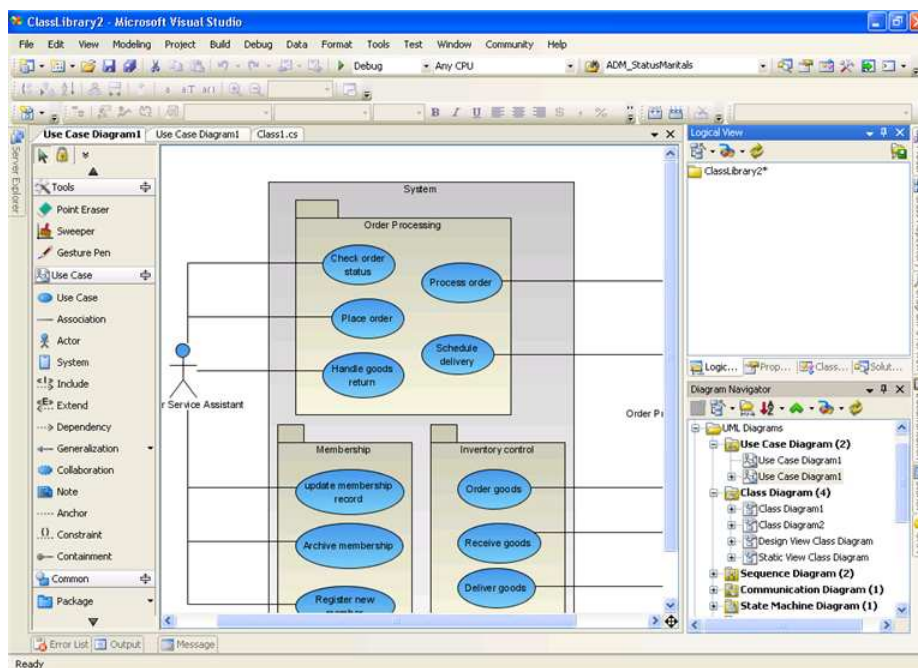


Figure 2.1 - Diagram pane

Creating Diagram

You can create diagrams in different ways:

- Using toolbar
- Using New Diagram dialog box
- Using popup menu of Diagram Navigator

To use toolbar to create:

Click on the icon on the toolbar.

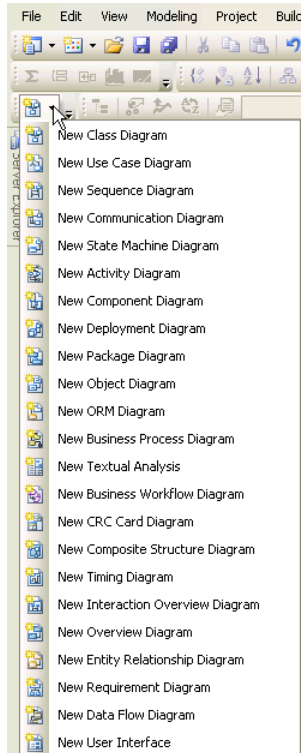


Figure 2.2 - New Class Diagram icon on the toolbar

To use New Diagram dialog box to create:

1. Select **File > New > File....** The New File dialog box is displayed.

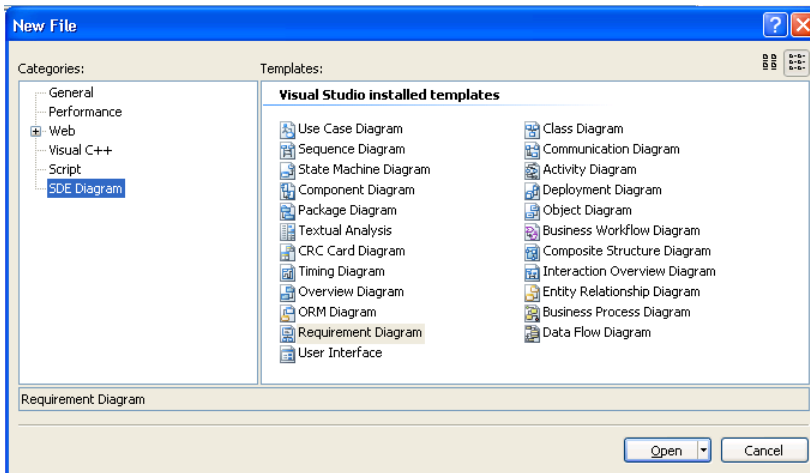


Figure 2.3 - New Diagram dialog box

2. Then, select the category and select a diagram type in the category. You should also specify a diagram name. You may also specify the type of documentation.

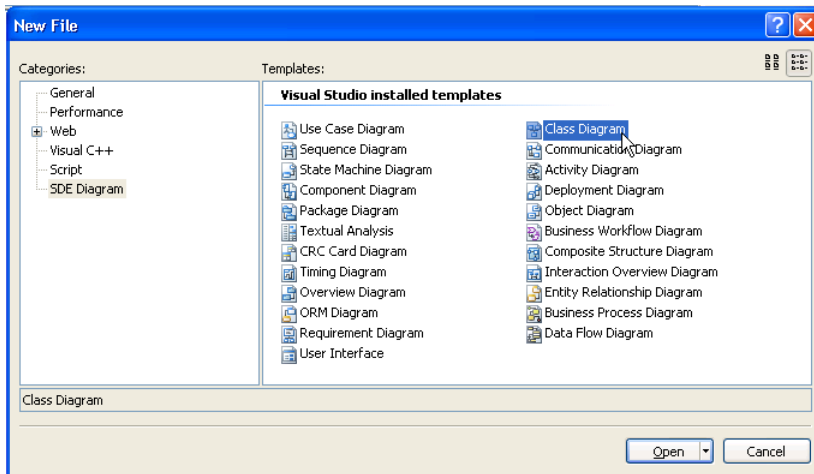


Figure 2.4 - Select Class Diagram

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.

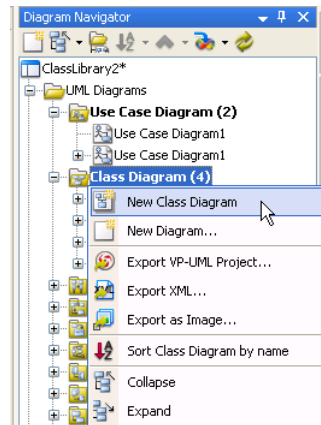


Figure 2.5 - Select New Class Diagram from popup menu of Diagram Navigator

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.

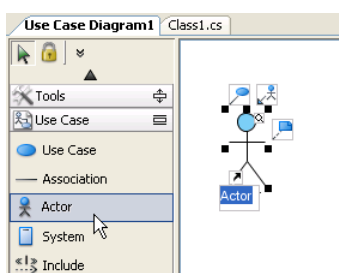


Figure 2.6 - Click to Create Shapes

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

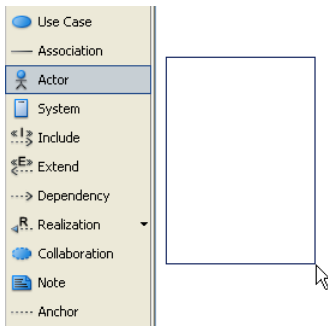


Figure 2.7 - Create Shapes with specific size

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

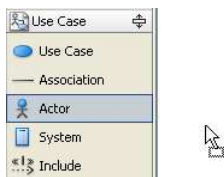


Figure 2.8 - Drag and drop to Create Shapes

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

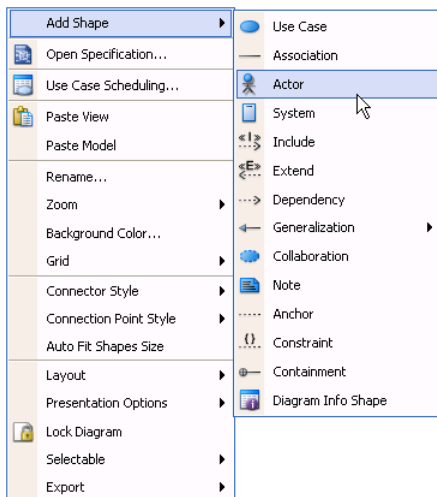


Figure 2.9 - Create Shapes using diagram popup menu

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-VS 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.

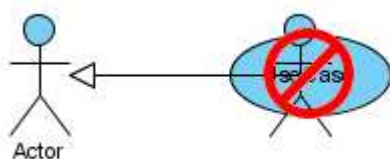


Figure 2.10 - Try to create an invalid connection

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

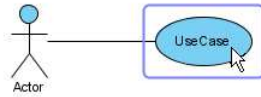


Figure 2.11 - Try to create a valid connection

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.

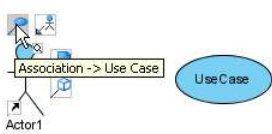


Figure 2.12 - Click on resource

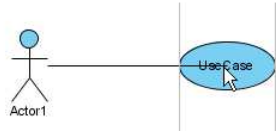


Figure 2.13 - Drag over the shape

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 2.14 - Create Self-Connection

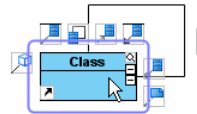


Figure 2.15 - Self-Connection

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.

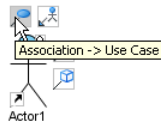


Figure 2.16 - Association -> Use Case resource

2. Drag resource to empty space on diagram pane.

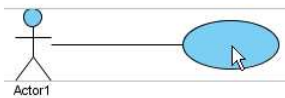


Figure 2.17 - Drag resource

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



Figure 2.18 - 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.

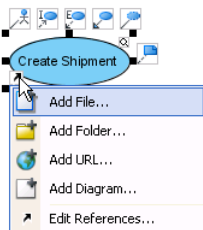


Figure 2.19 - Reference of Manipulation Resource

Branching Resource

Branching Resource helps you to create decision structure in diagram.

To use branching resource:

1. Move mouse over a Branching Resource.



Figure 2.20 - Branching Resource

2. Drag resource to empty space on diagram.

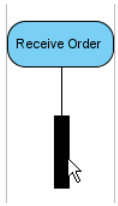


Figure 2.21 - Drag resource

3. Release mouse, a branch is created.

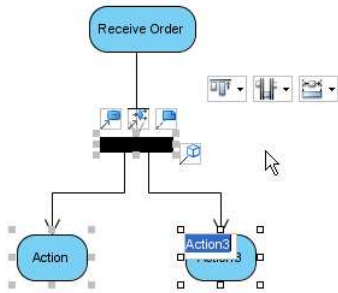


Figure 2.22 - Create branch

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

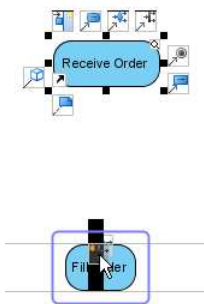


Figure 2.23 - Drag resource over existed shape

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

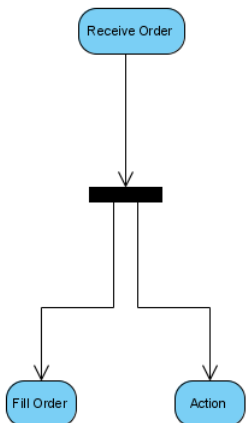


Figure 2.24 - Create branch

Enabling/Disabling the Resource-Centric Interface

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

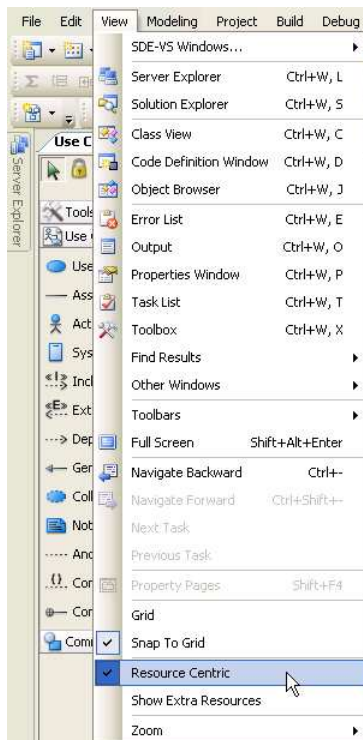


Figure 2.25 - Enable/Disable Resource Centric Interface

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 **Modeling > Application Options...** to open the Options dialog box, select **Diagramming > Resource Centric** tab. This option will be applied to all diagrams.



Figure 2.26 - 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 resources by clicking on the **View > 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 2.27 - Resource-Centric of Action



Figure 2.28 - 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 2.29 - 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.

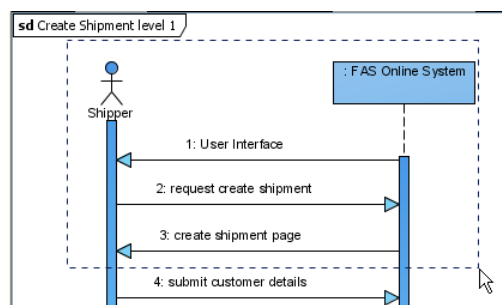


Figure 2.30 - Multiple selection using mouse

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.

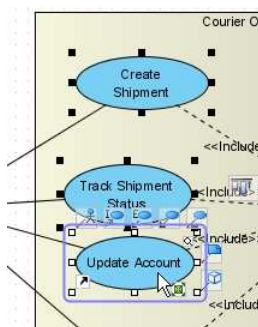


Figure 2.31 - Multiple selection using mouse and keyboard

Moving Shape

SDE-VS 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 2.32 - Shape before moving to the right



Figure 2.33 - 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.

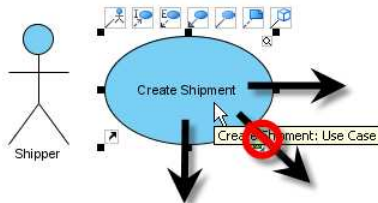


Figure 2.34 - Restrict moving direction

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-VS 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.

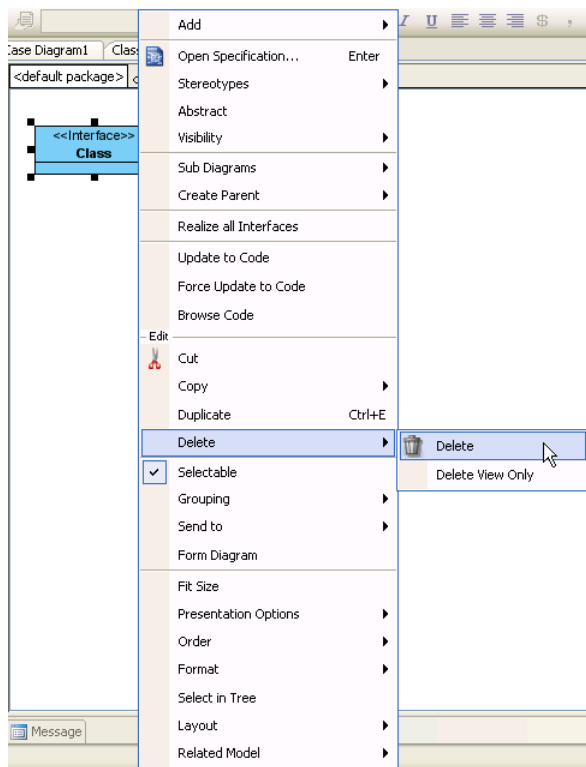


Figure 2.35 - Select Delete

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**.

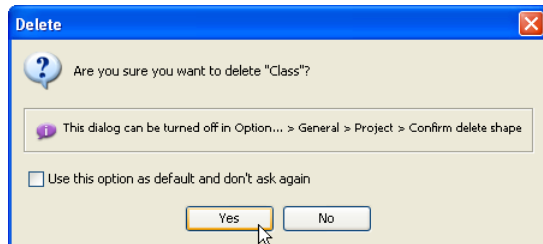


Figure 2.36 - Delete dialog box for confirming deleting

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.

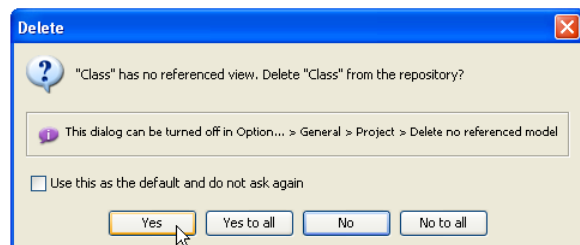


Figure 2.37 - Confirm deleting from the repository

Delete View Only

To delete view(diagram element of model) only:

1. Select **Delete > Delete View Only** in the popup menu of that element.

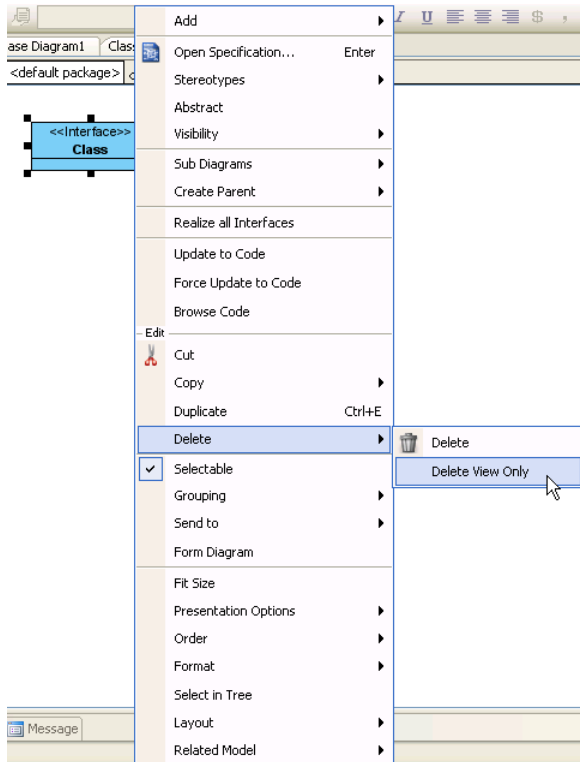


Figure 2.38 - Select Delete View Only

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**.

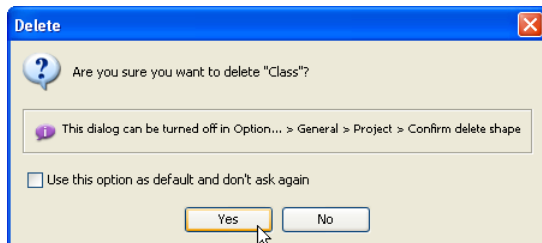


Figure 2.39 - Delete dialog box to confirm deleting

Copy and Paste

Copy

SDE-VS support various copy and paste options. By default your copy will only within SDE-VS 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-VS provides.

Copying within SDE-VS

Copying diagram elements within SDE-VS allows you to copy selected diagram elements to the application clipboard. You can paste the diagram elements to other SDE-VS 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-VS 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-VS** from popup menu.
- Press **Ctrl-C**.


Copy within 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:

- 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:

- 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-VS 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-VS
- 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-VS.

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.

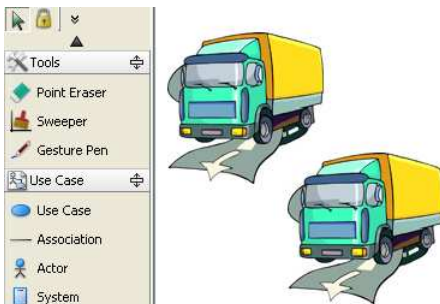



Figure 2.40 - Paste as Image Shape

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-VS 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-VS, 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-VS 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.

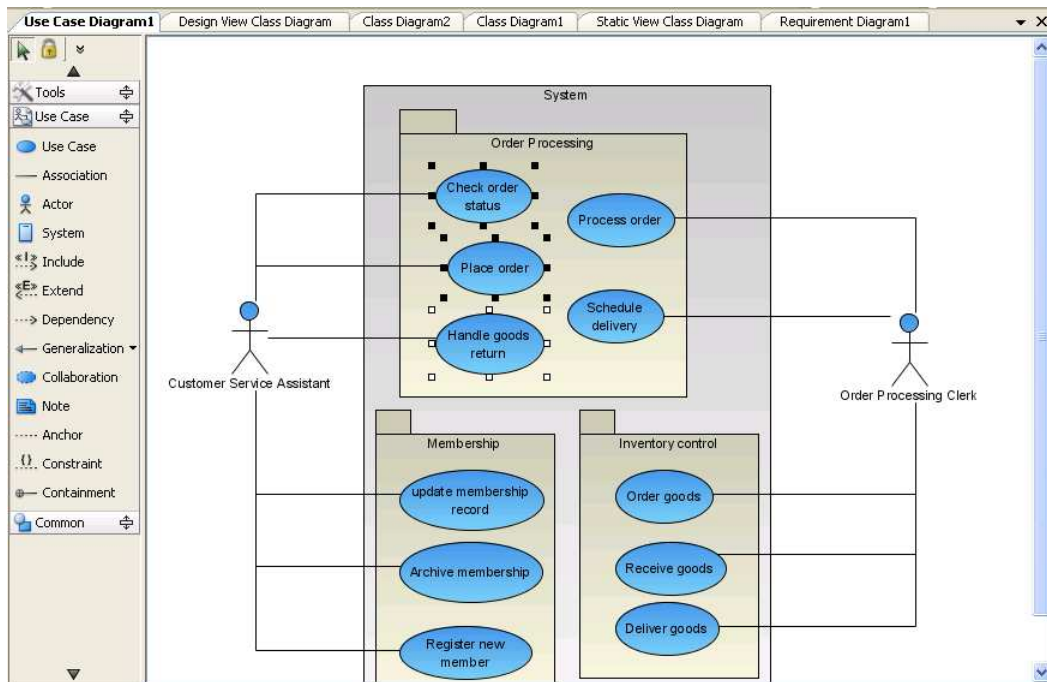


Figure 2.41 - Multiple desired shapes on diagram

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

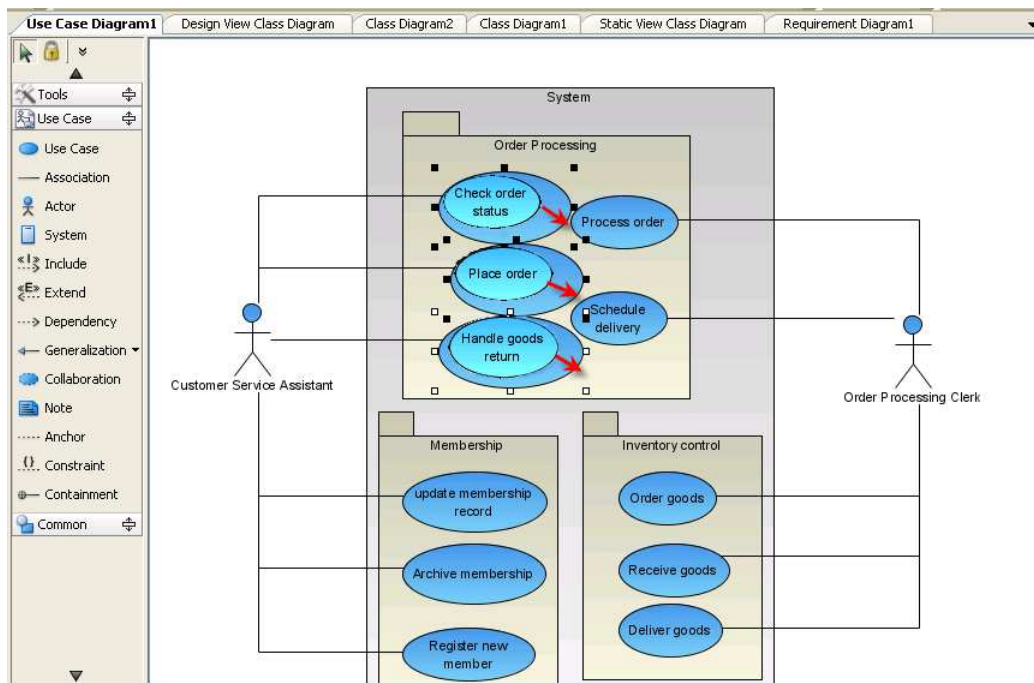


Figure 2.42 - Resize one of the selected shapes. All selected shapes will resize proportionally



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.

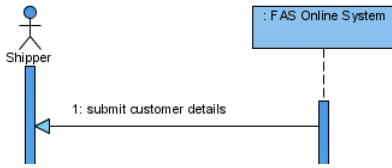


Figure 2.43 - Before reversing Connector Direction

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

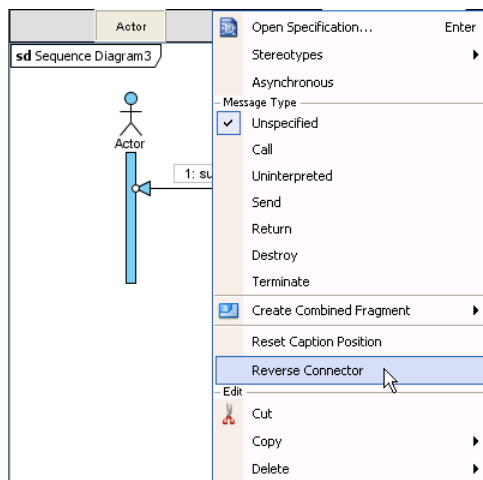


Figure 2.44 - Select Reverse Connector

The direction of connector is now inverted.

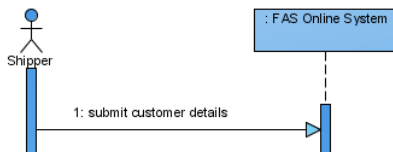


Figure 2.45 - After reversing Connector Direction

Grid

Showing/Hiding Grids

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

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

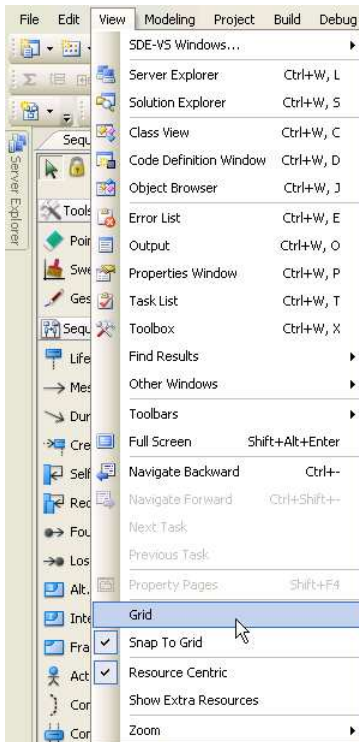


Figure 2.46 - Select Grid

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

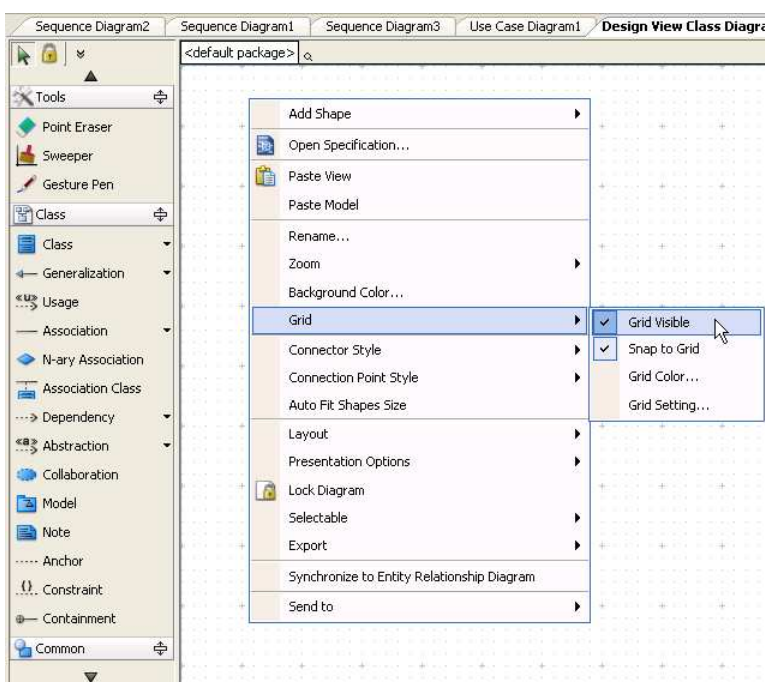


Figure 2.47 - Select Grid Visible

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

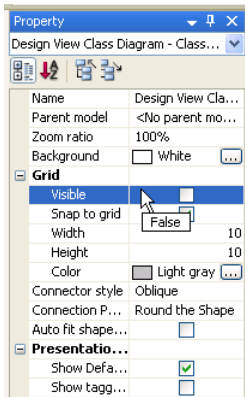


Figure 2.48 - Check Visible

- 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.

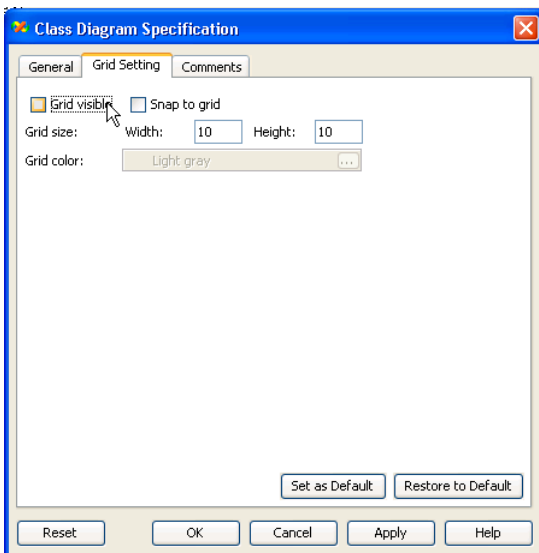


Figure 2.49 - Check Grid visible

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 **View > Snap to Grid** from main menu to turn on/off the snap to grid option.

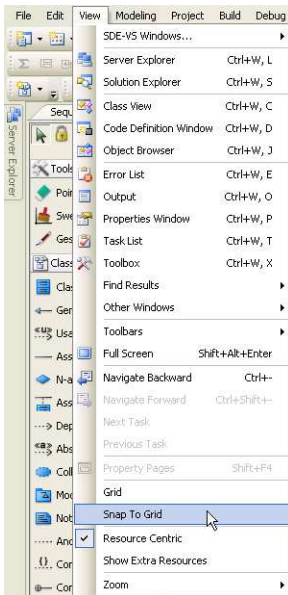


Figure 2.50 - Select Snap to Grid

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

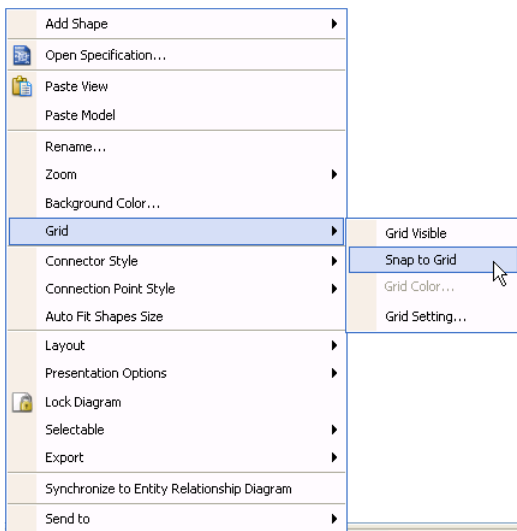


Figure 2.51 - Select Snap to Grid using popup menu

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

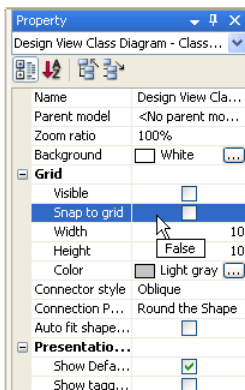


Figure 2.52 - Select Snap to grid

- 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.

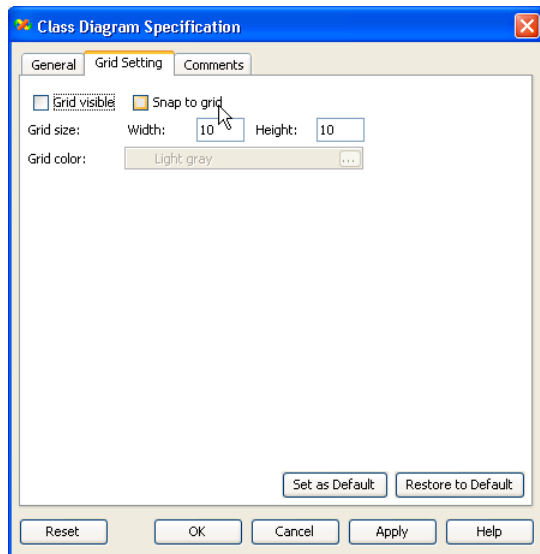


Figure 2.53 - Check Snap to grid in Specification

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.

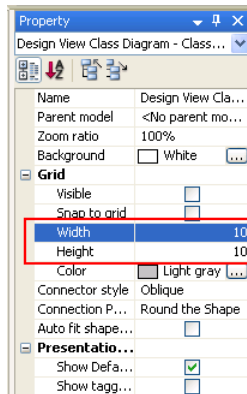


Figure 2.54 - Adjust grid size in property table

- 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.

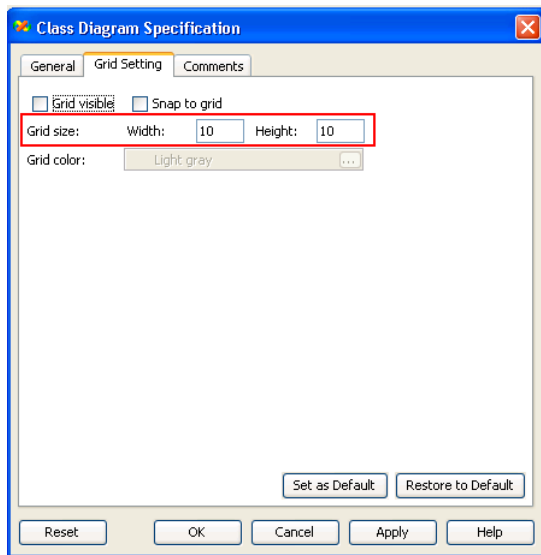


Figure 2.55- Adjust grid size in specification

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.

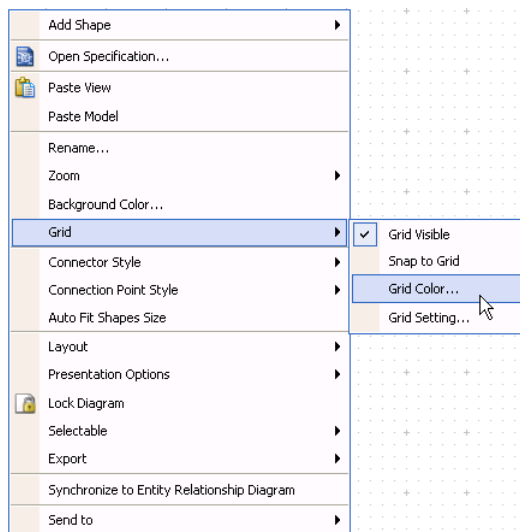


Figure 2.56 - Select Grid Color

- 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

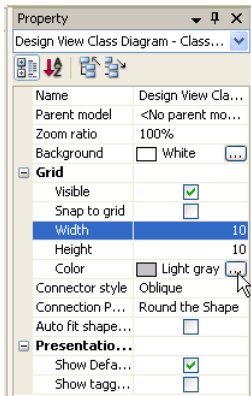


Figure 2.57- Select Color

- 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.

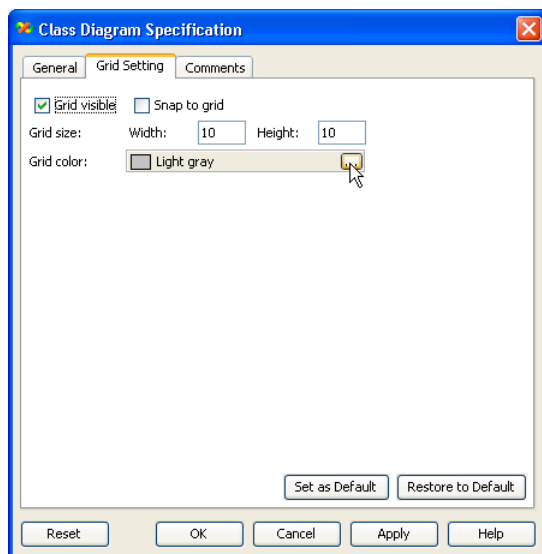


Figure 2.58- Select Grid Color




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 **View > 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 **View > 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 **View > 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 dropdown list. To perform zoom to a specific ratio, perform one of the following actions:

- Click on the **Select Zoom** drop down button on the toolbar, select a zoom ratio from the drop down menu or enter a specific zoom ratio to the text field.

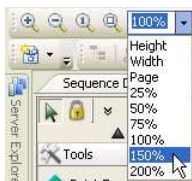


Figure 2.59 - Select zoom ratio



Figure 2.60 - Enter 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.

Click on the **Select Zoom** drop down button on the toolbar (or click on the **Zoom ratio** combo box in the Property pane when a diagram is active), scroll down and 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

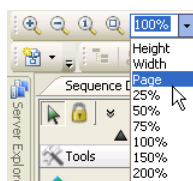


Figure 2.61 - Select zoom ratio to fit with page

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

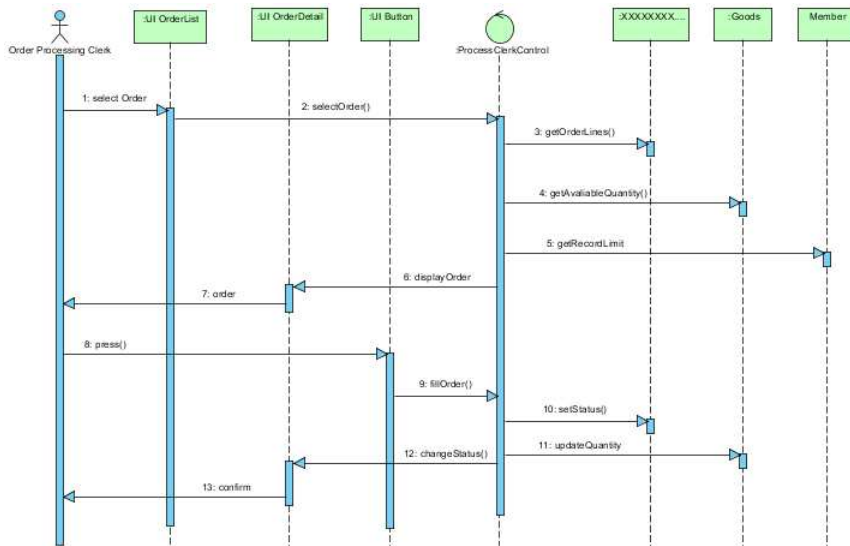


Figure 2.62 - Zoom to show all the Page

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.

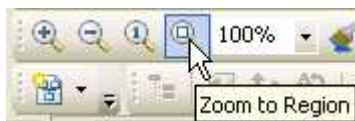


Figure 2.63 - Zoom to region

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.

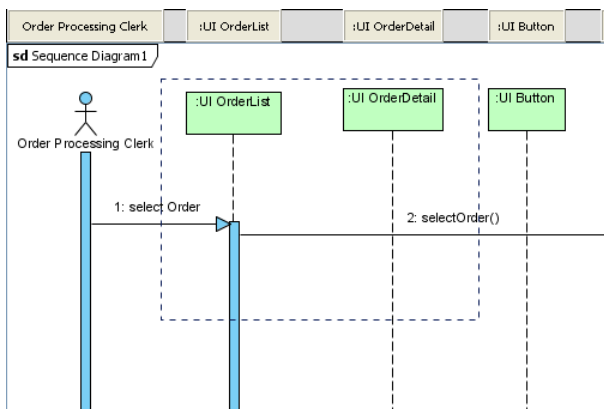


Figure 2.64 - Select the zoom region in the diagram

- 3.

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

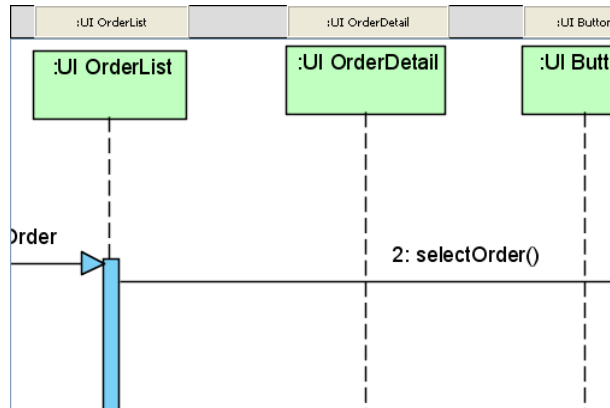


Figure 2.65 - Zoom to the Region

Quick Previewer

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

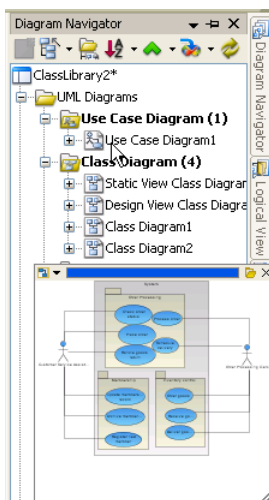





Figure 2.66 - Quick Previewer

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.

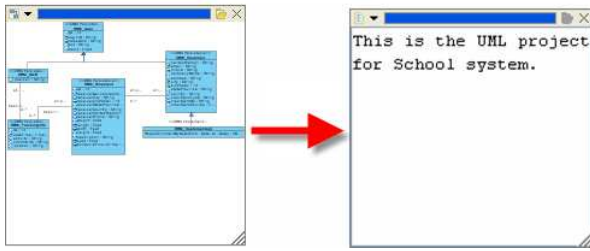


Figure 2.67 - Preview documentation

SDE-VS 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.

Fast Scroll

Fast Scroll Window allows you quickly scan through diagram by providing an instant display to a selected portion of diagram.

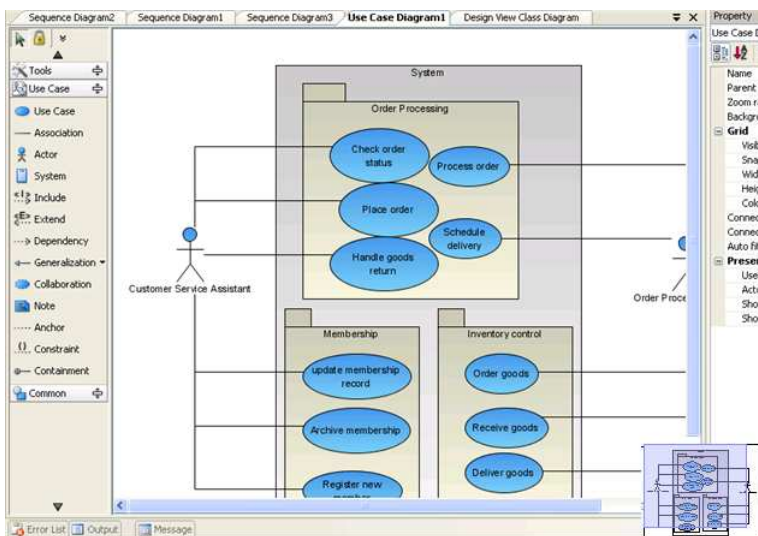



Figure 2.68 - Fast Scroll

To open fast scroll click the  button on the bottom-right corner of the diagram. Click on the fast scroll window to select the portion of diagram to display on diagram pane. The fast scroll window will close after it has lost focus.

Fast Scroll using Middle Mouse Button

Besides using the Fast Scroll window, if you are using a 3-button mouse, you can hold down the middle mouse button and drag to quickly scroll the diagram to the desired direction. Note that the direction you drag will be opposite to the direction that the diagram scrolls. i.e. if you want the diagram to scroll down, you need to drag upwards.

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.

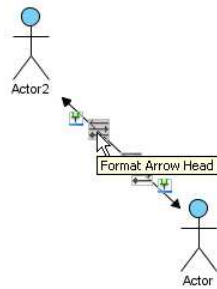


Figure 2.69 - Resources for Format Arrow Head

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

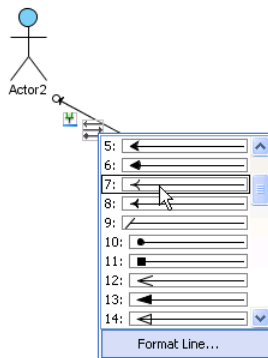


Figure 2.70 - Edit arrow head of generic connector

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).

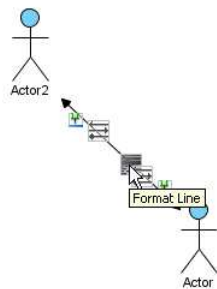


Figure 2.71 - Resources for Format Arrow Head

2. Select a style of line

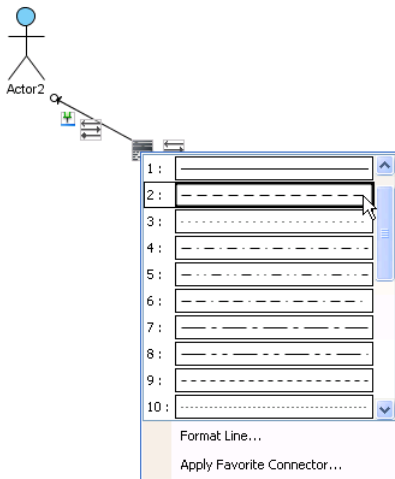


Figure 2.72 - Select line of generic connector

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....**

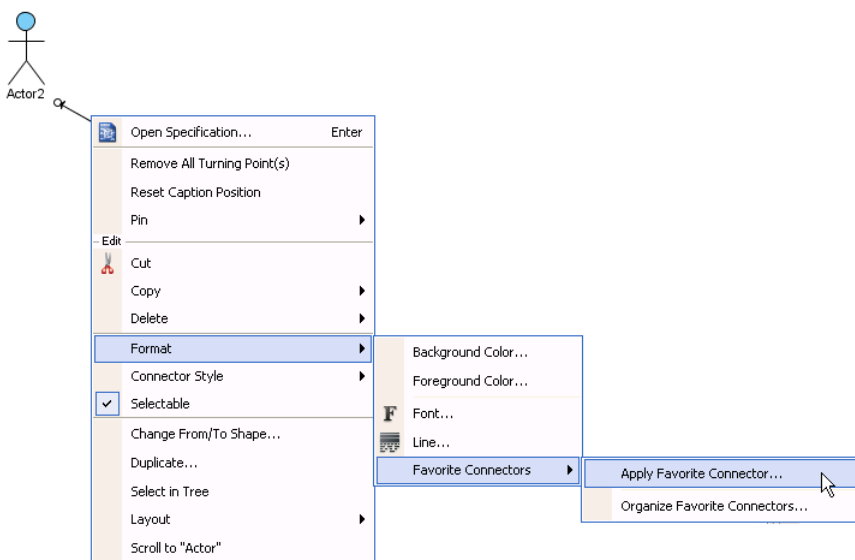


Figure 2.73 - Select Apply Favorite Connectors

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

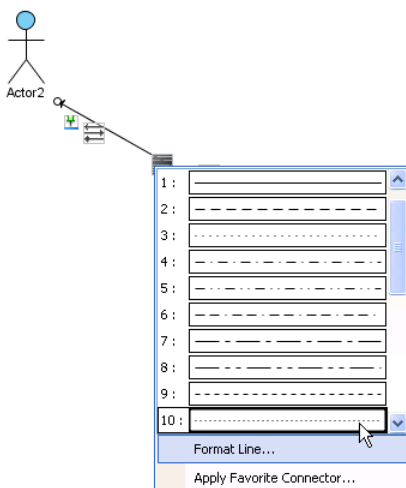


Figure 2.74 - Select Apply Favorite Connectors

Then, select your favorite connector to apply it.

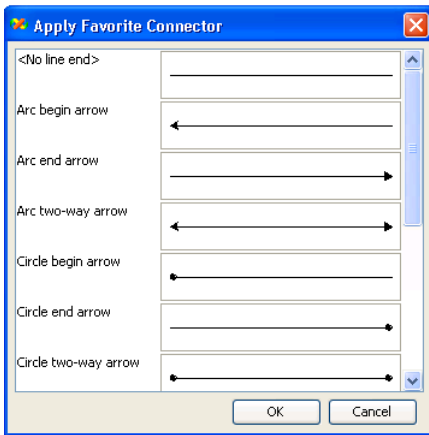


Figure 2.75 - Save your favorite connectors

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**.

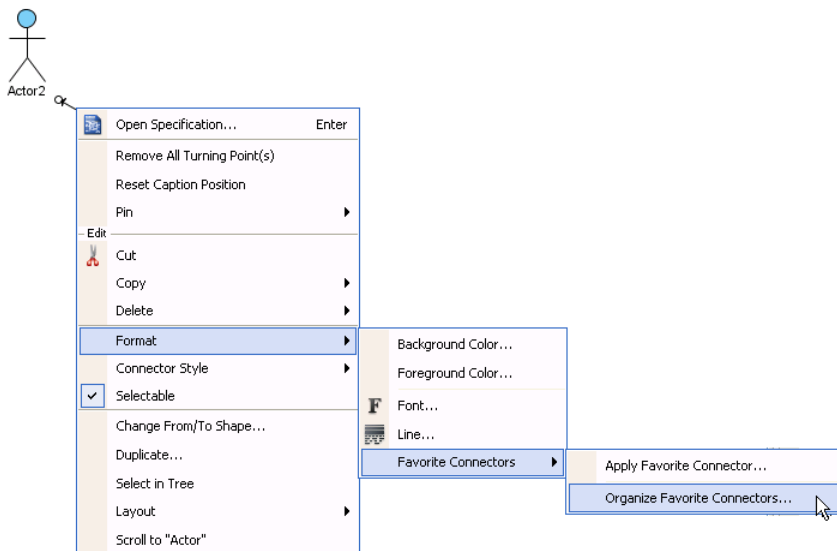


Figure 2.76 - Select Organize Favorite Connectors

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

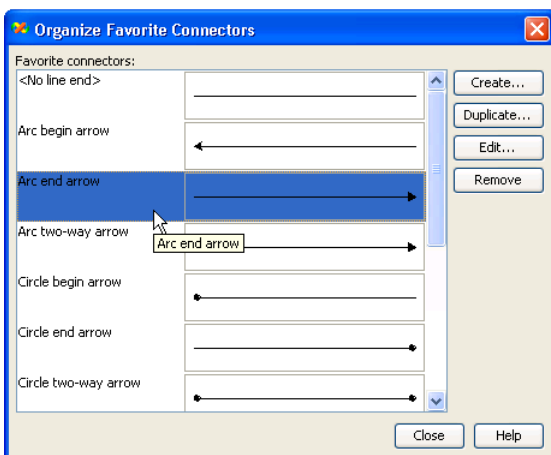


Figure 2.77 - Organize Favorite Connectors

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.

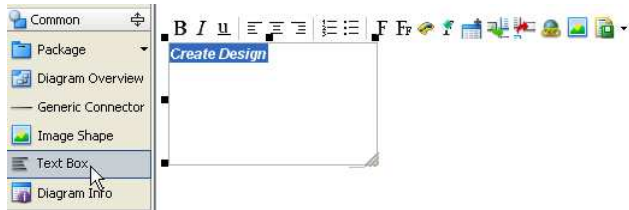


Figure 2.78 - Add a free text

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.

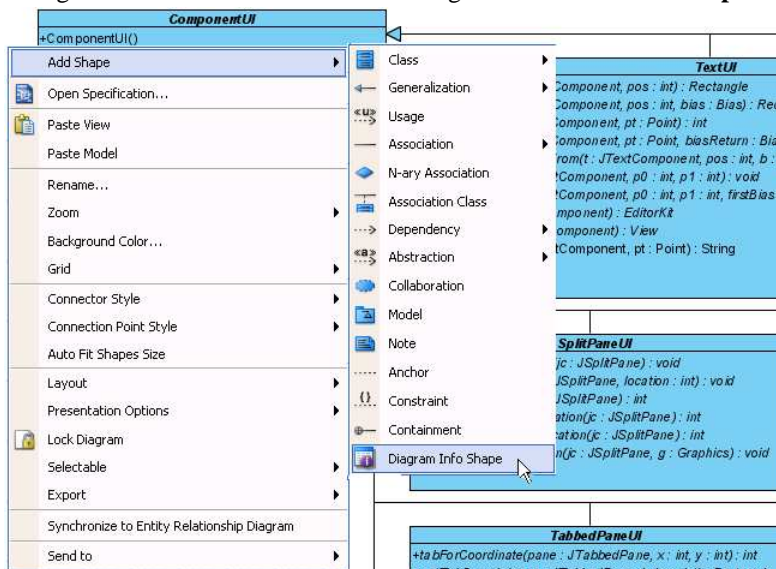


Figure 2.79 - Select Diagram Info Shape from popup menu

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

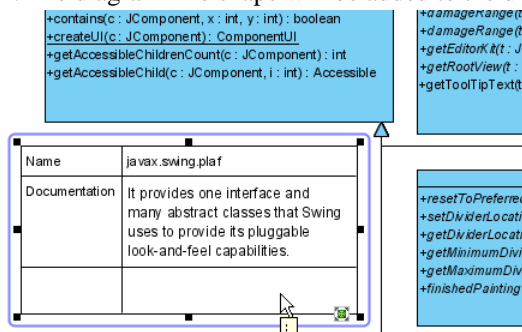


Figure 2.80 - Diagram info shape is added

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.

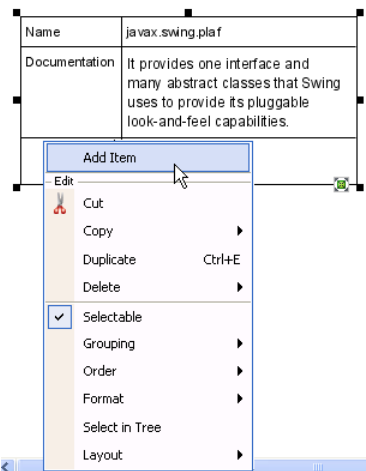


Figure 2.81 - Select Add Item

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

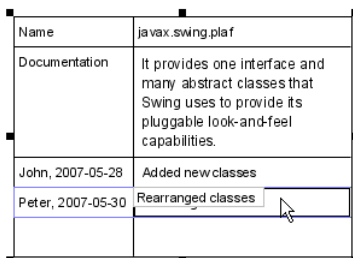


Figure 2.82 - New item added

The diagram info shape is added.

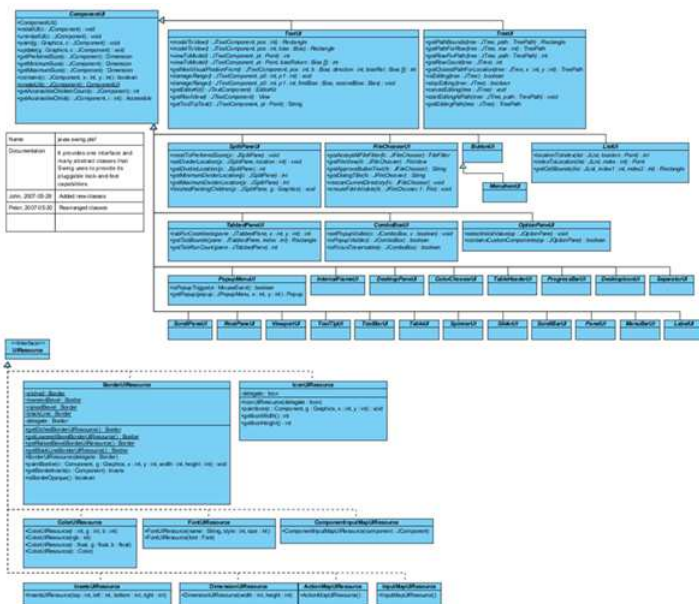


Figure 2.83 - Diagram info shape added

Rich Text Documentation

In SDE-VS, 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

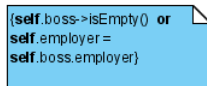


Figure 2.84 - Note with rich text documentation

- Textboxes



Figure 2.85 - Text box with rich text documentation

To add rich text documentation:

1. Right click the diagram element and select **Open Specification** from popup menu.

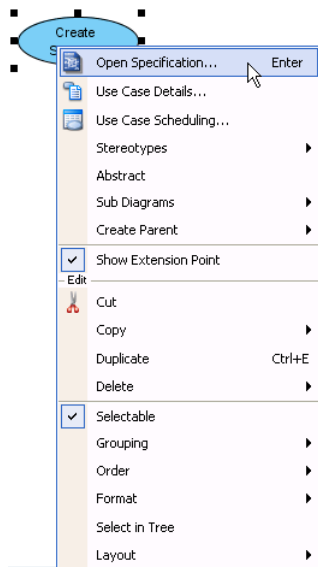


Figure 2.86 - Select Open Specification

2. Specify the documentation.

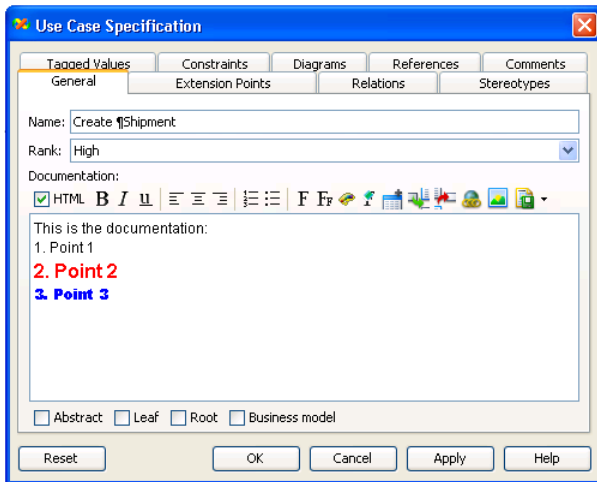


Figure 2.87 - Specify the documentation

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

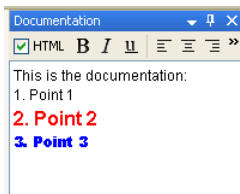


Figure 2.88 - Documentation pane

You can also see the result in the report generated.

Use Case Diagram1



Summary

Name	Documentation
Create Shipment	This is the documentation: 1. Point 1 2. Point 2 3. Point 3

Figure 2.89 - Documentation generated

Inserting Image to Documentation

You can further visualize your concept by incorporating images into documentation.

1. Select an element in the diagram.

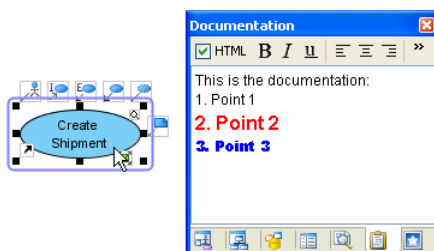


Figure 2.90 - Select a diagram element

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).

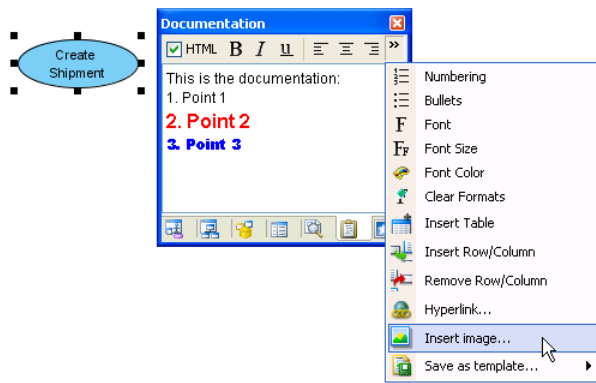


Figure 2.91 - Select Insert Image...

3. Select one or more images to insert.

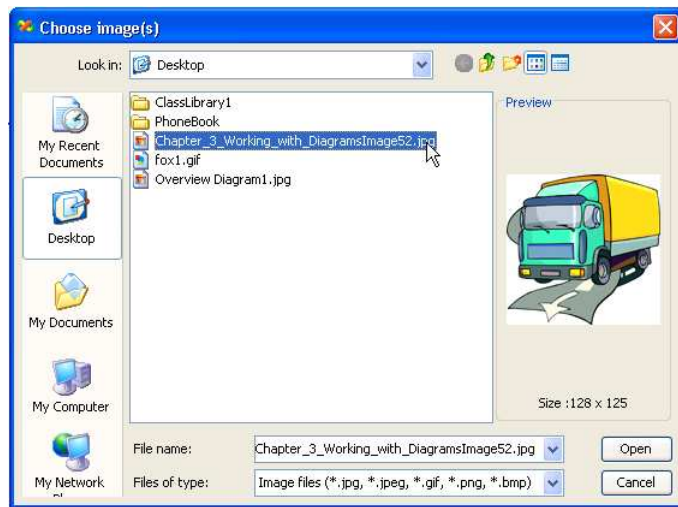


Figure 2.92 - Choose one or more images

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

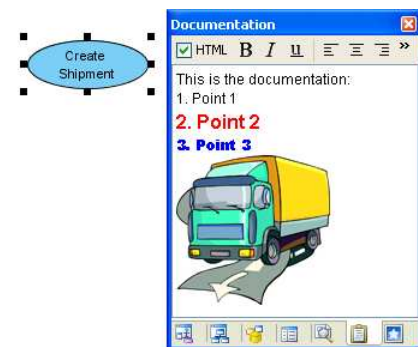


Figure 2.93 - Image added

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.

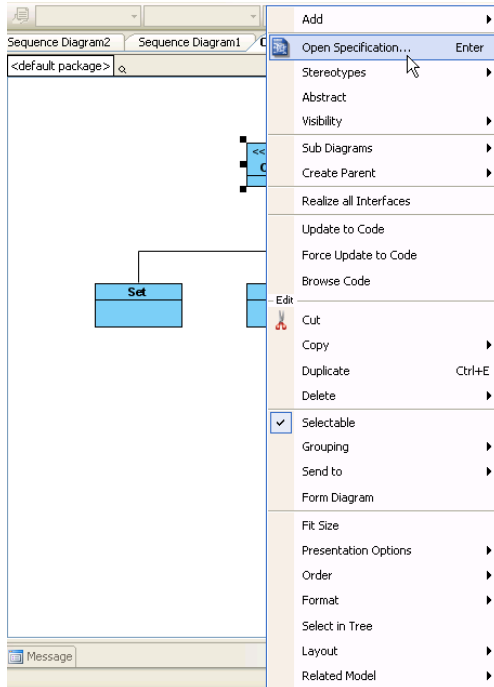


Figure 2.94 - Select Open Specification

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



Figure 2.95 - Save the template

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

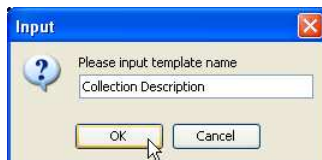


Figure 2.96 - Specify the template name

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.

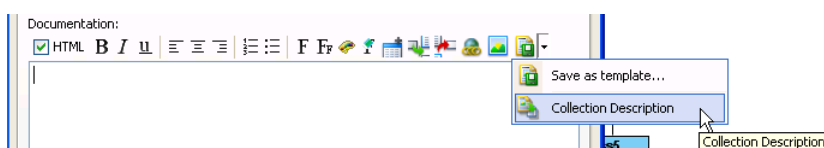


Figure 2.97 - Select a saved template

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

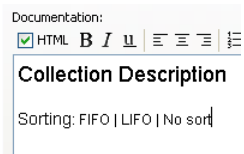


Figure 2.98 - A template is loaded

Compartment Visibility Control

SDE-VS 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 2.99 - 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...** from main menu

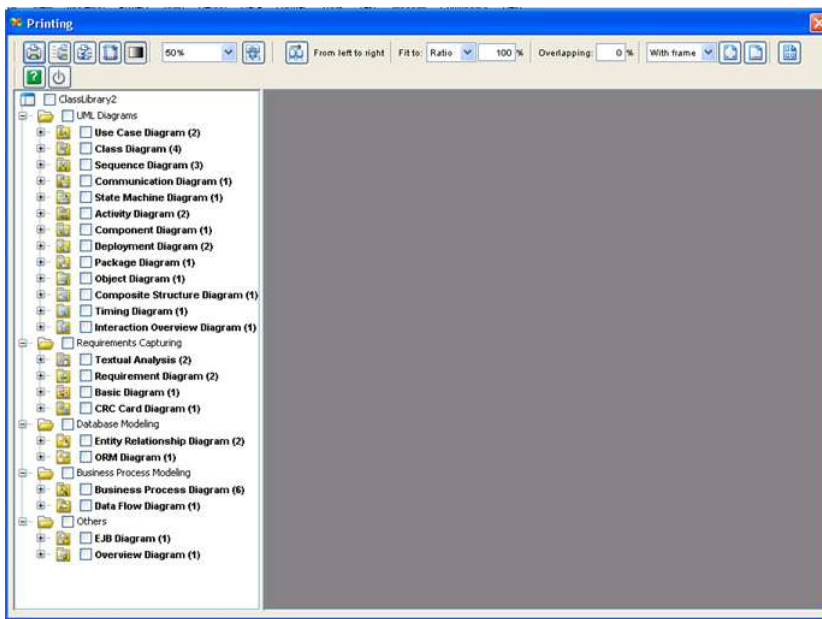


Figure 2.100 - Print preview dialog

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.
	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-VS 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.

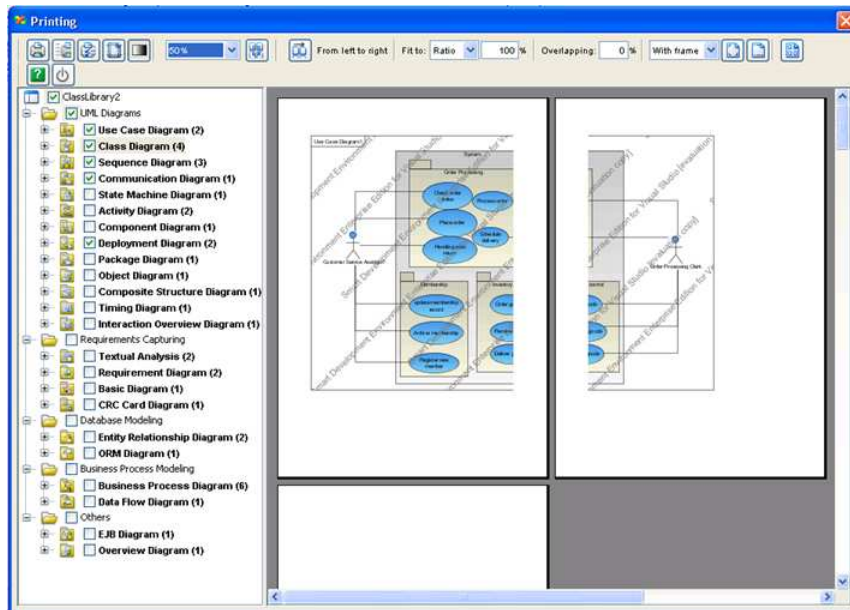


Figure 2.101 - Diagram Preview

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

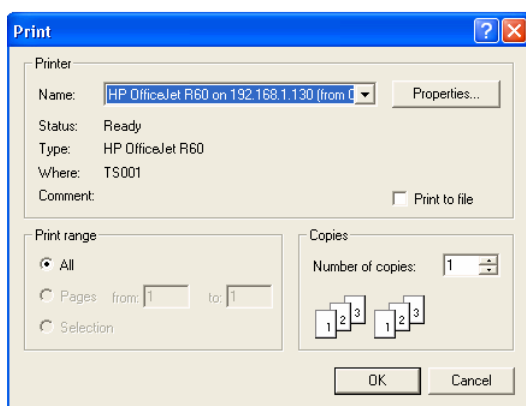


Figure 2.102 - Print the Diagram

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.

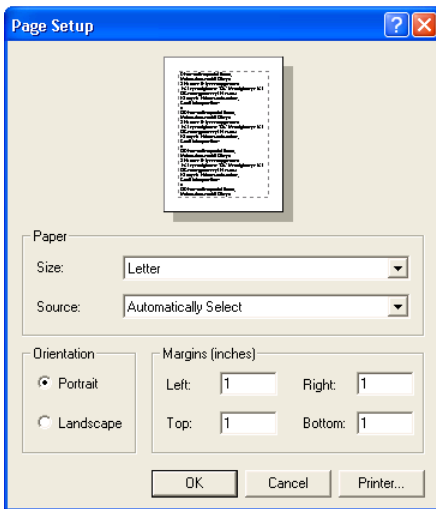



Figure 2.103 - Page setup

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.

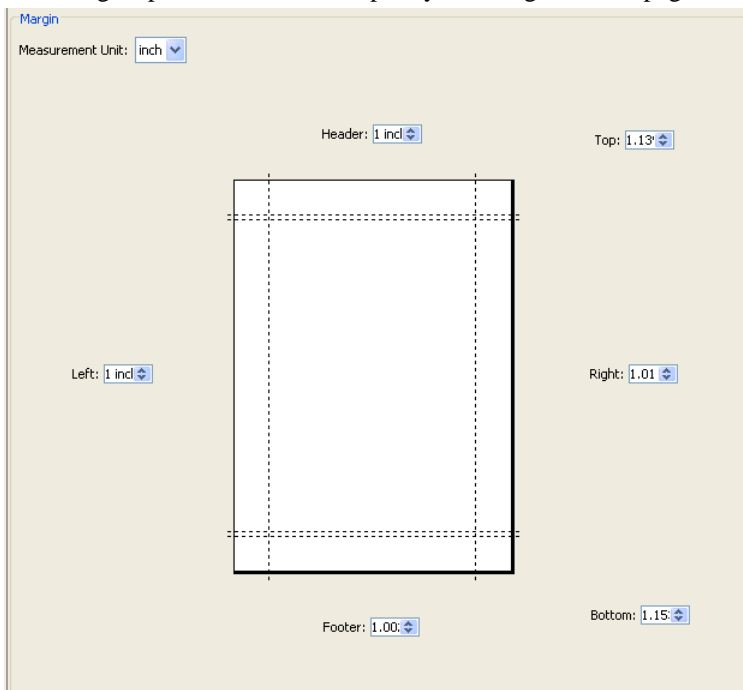




Figure 2.104 - Adjusting Margins

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.

- 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.

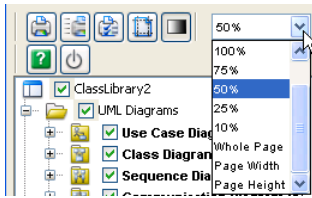


Figure 2.105- Set the Zoom ratio

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

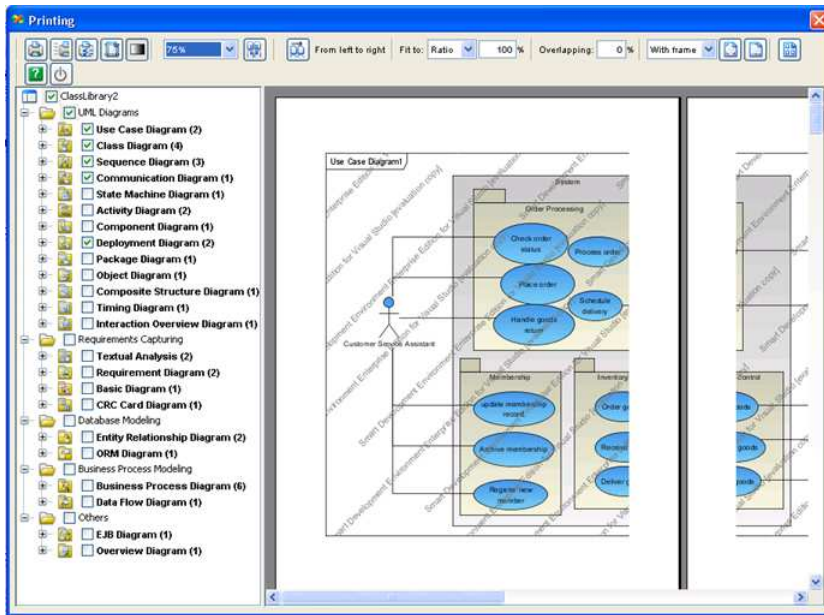




Figure 2.106 - Preview in the preview dialog

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:

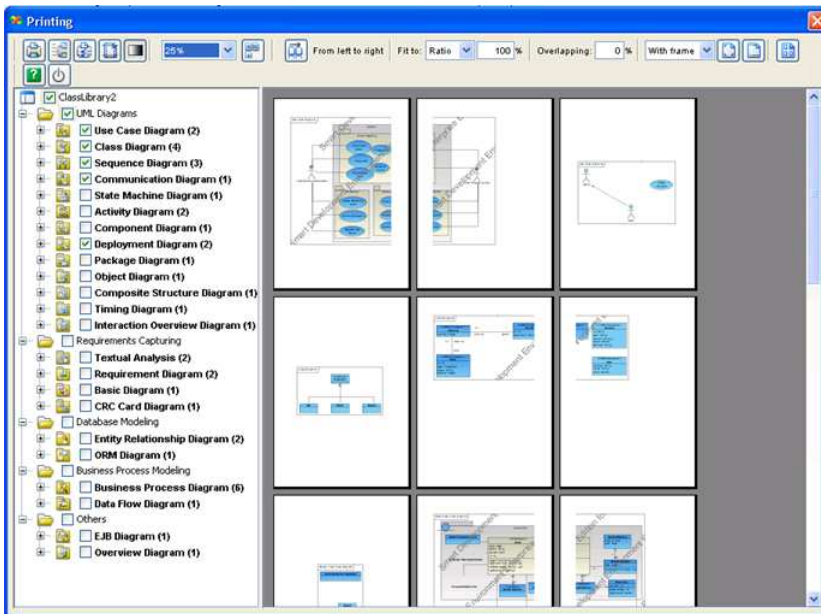


Figure 2.107 - Preview in paper Base Layout

The preview after applying the Diagram Base Layout:

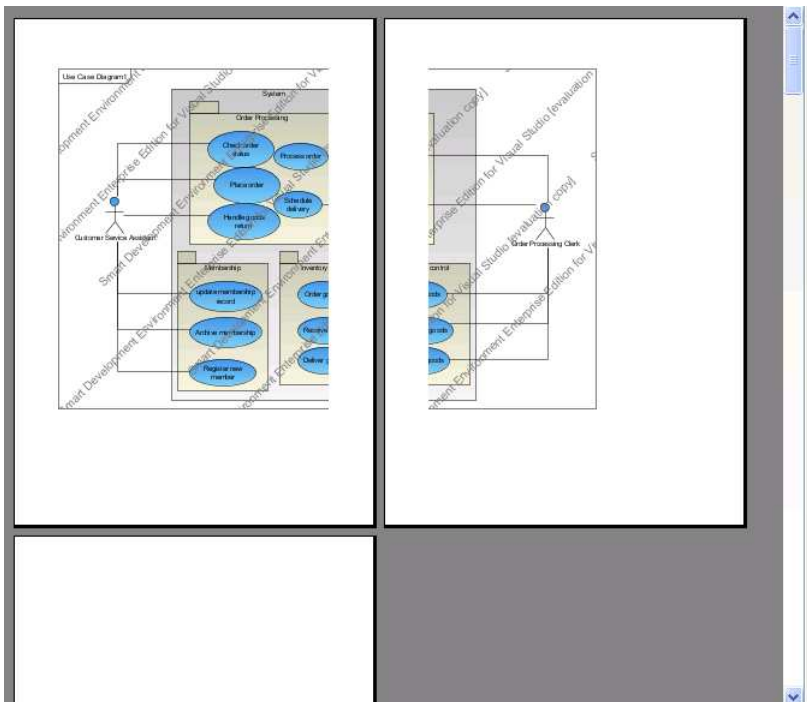


Figure 2.108 - Preview in Diagram Base Layout

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**.

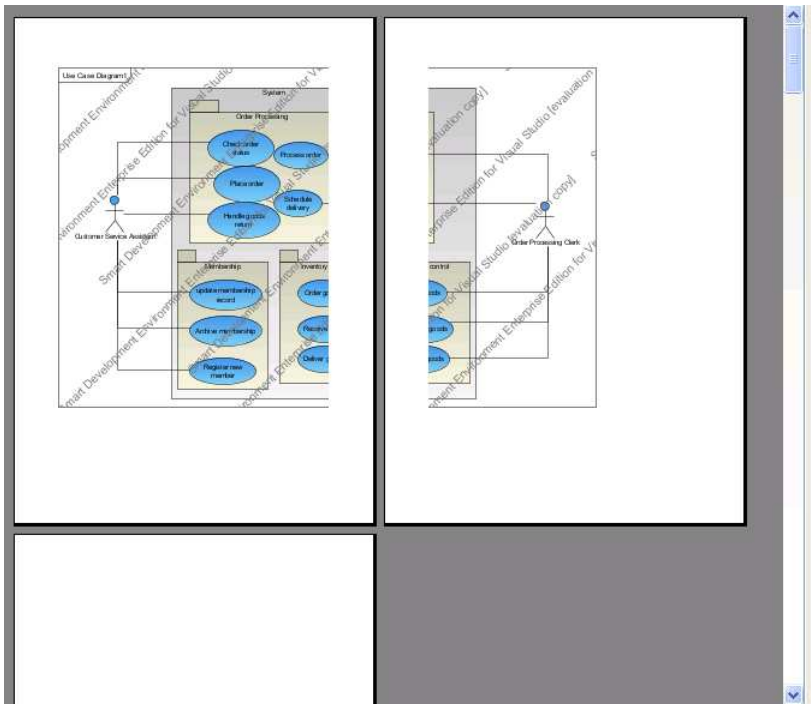


Figure 2.109 - Printout order is left to right

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.

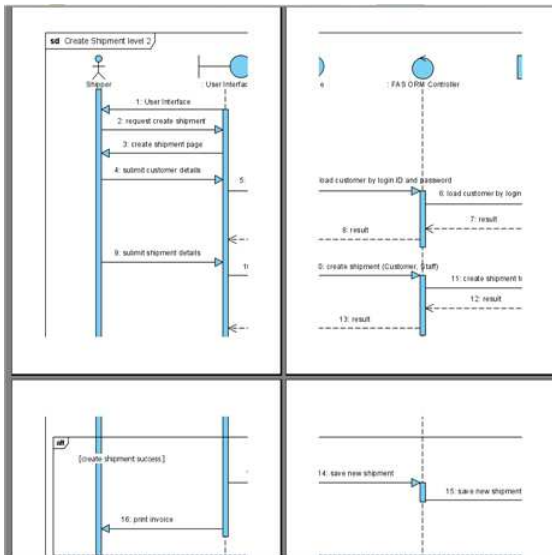



Figure 2.110 - Fit to ratio

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.

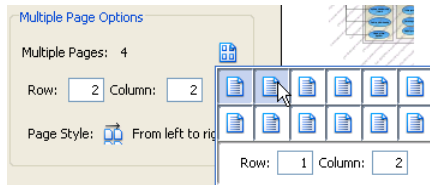


Figure 2.111 - Select multiple pages Page

3. 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.

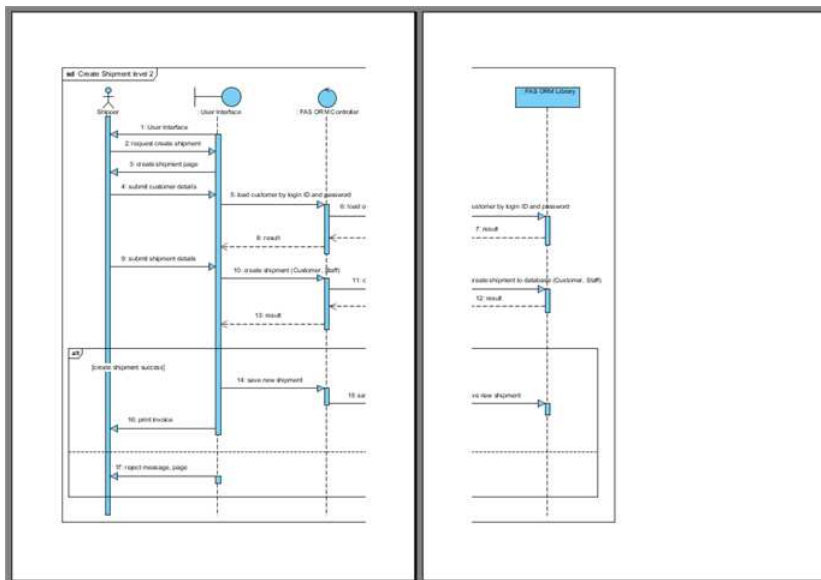


Figure 2.112 - Fit to page

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.

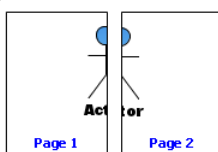


Figure 2.113- Multiple page without overlap

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.

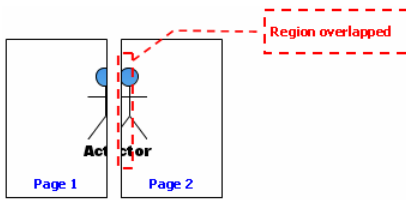


Figure 2.114 - Multiple page with overlap

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 2.115 - Select option from drop-down menu

Output of printing with frame

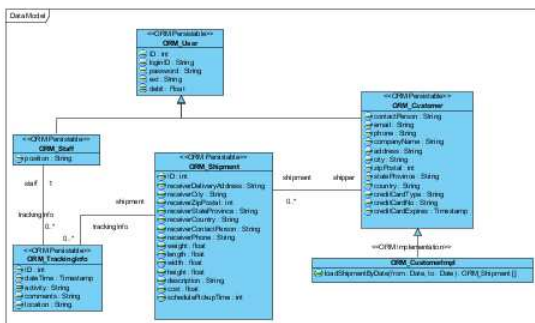


Figure 2.116 - Printing with frame

Output of printing with border

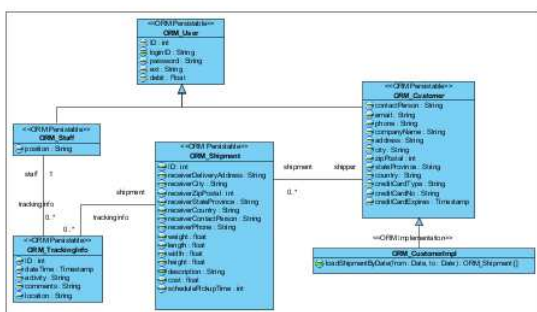


Figure 2.117 - Printing with border

Output of printing with no border

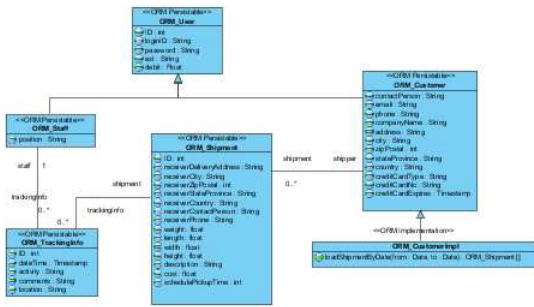


Figure 2.118 - Printing with no border

Showing/Hiding Clip Marks on Page

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

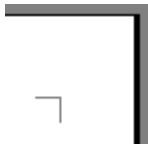


Figure 2.119 - Clip marks

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.

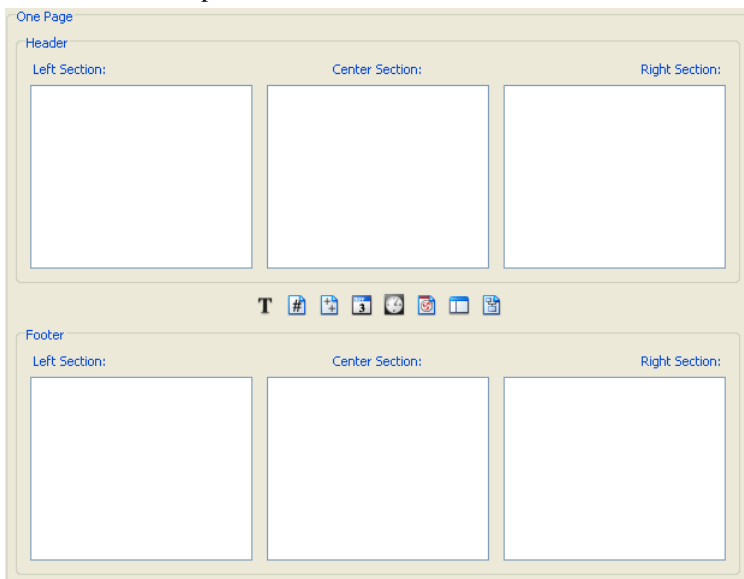


Figure 2.120 - Editing Header/Footer of the Pages

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-VS project
	Insert Project Name	Insert the name of the SDE-VS 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:

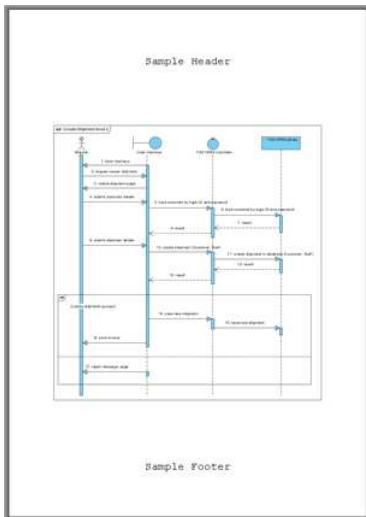



Figure 2.121 - Page with header and footer

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.

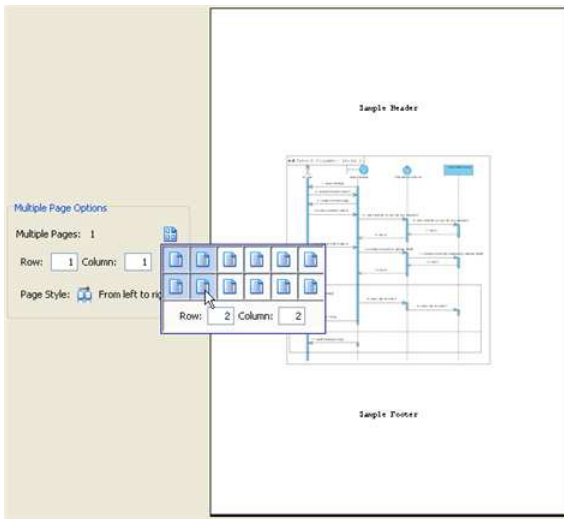


Figure 2.122 - Select multiple page

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.

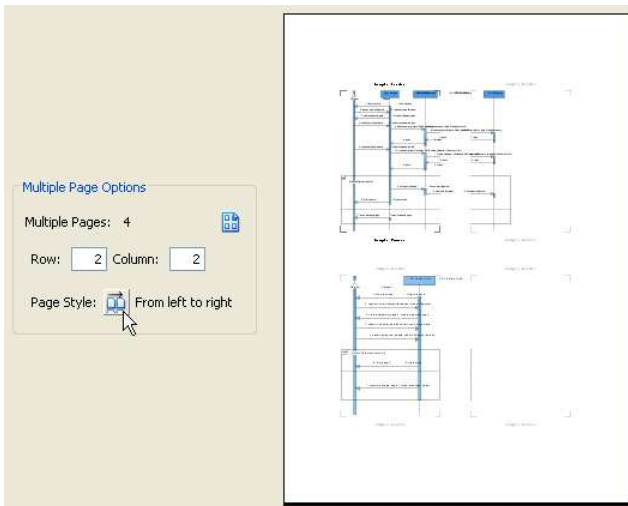



Figure 2.123 - Distributes diagram in multiple page

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...** 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.

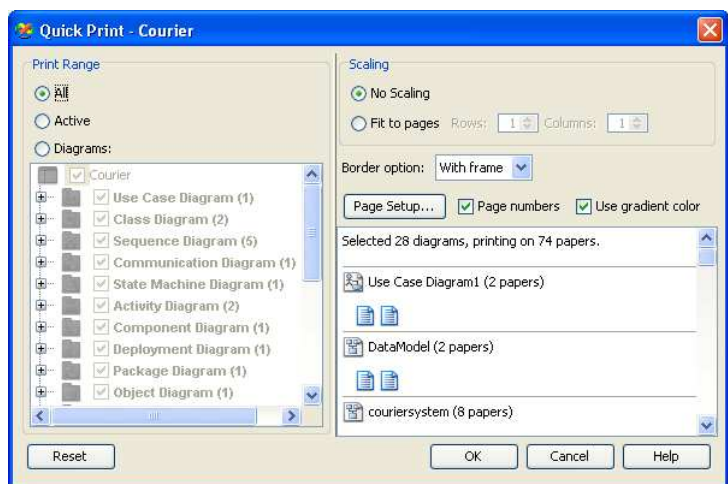


Figure 2.124- Quick Print dialog

Field	Description
Print Range	Click on either of the below options to specify the print range. All - Print all the diagrams within the current project Active - Print only the active diagram 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

Aligning Shape

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.

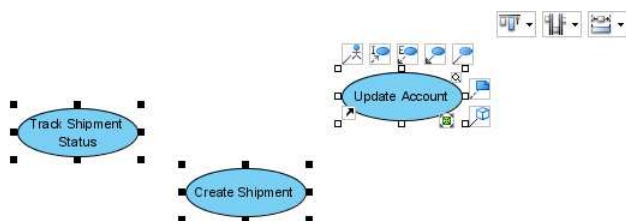


Figure 2.125 - Three use cases selected

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

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

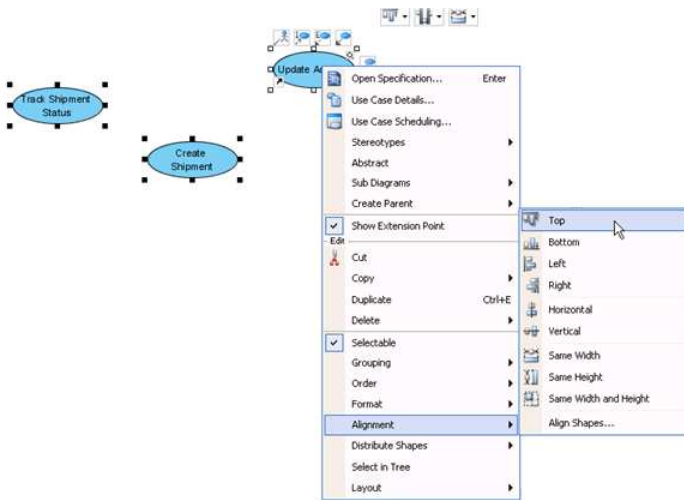


Figure 2.127 - Select Top from popup menu

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.

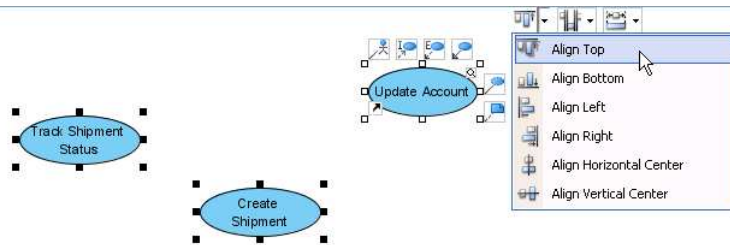


Figure 2.128 - Select Align Top from Alignment resource

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



Figure 2.129 - 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.

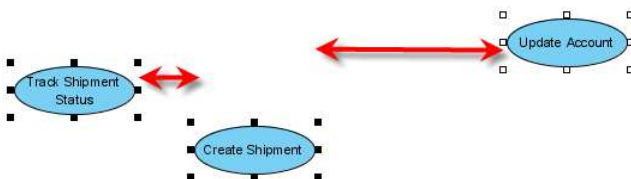


Figure 2.130 - Three use cases selected

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.

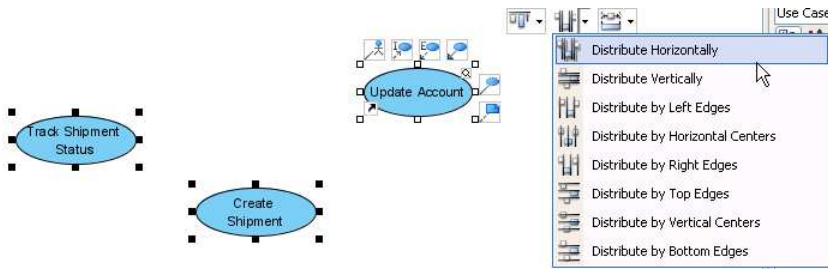


Figure 2.131 - Select Distribute Horizontally

The use cases after **Distribute Horizontally**.

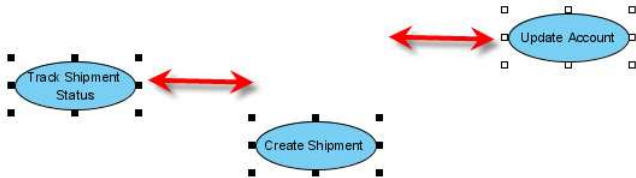


Figure 2.132 - Three use cases distribute horizontally

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.

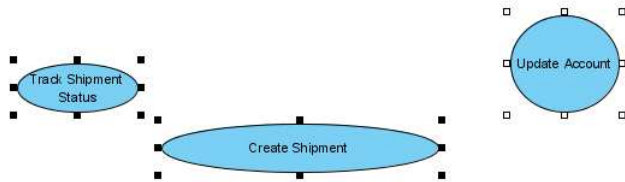


Figure 2.133 - Three use cases selected

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

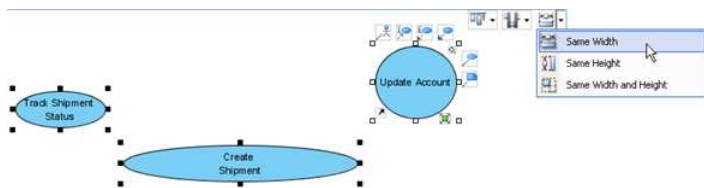


Figure 2.134 - Select Same Width

The resultant use cases now have the same width.

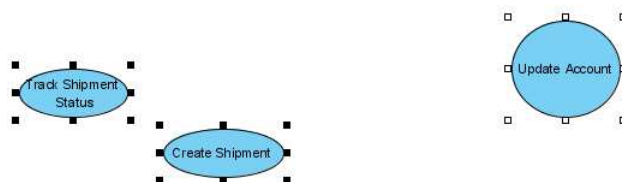


Figure 2.135 - Resultant use cases

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 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.

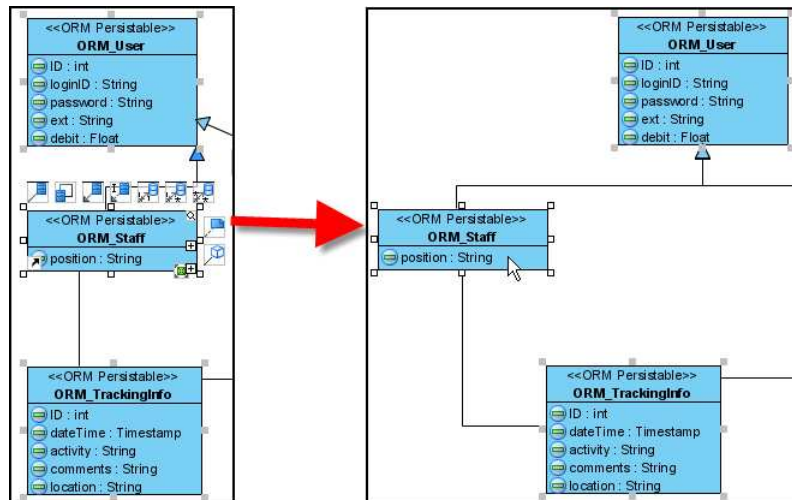


Figure 2.136- before and after Alignment left

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** by right-click on the elements and select **Alignment > Align shapes...**. 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.

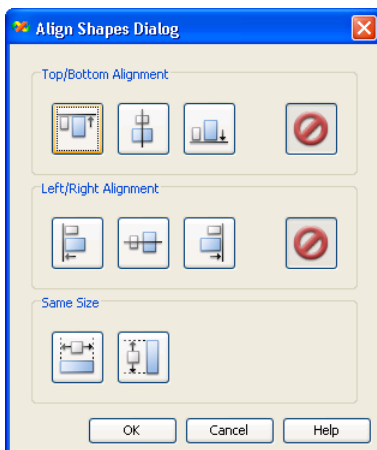


Figure 2.137 - Align Shapes Dialog

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.

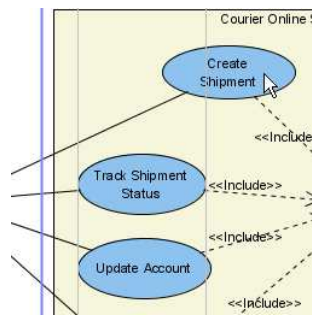


Figure 2.138 - Use case with guide lines before alignment

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

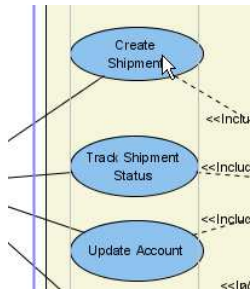


Figure 2.139 - Move the use case

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

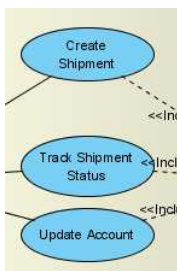


Figure 2.140 - Use case aligned

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.

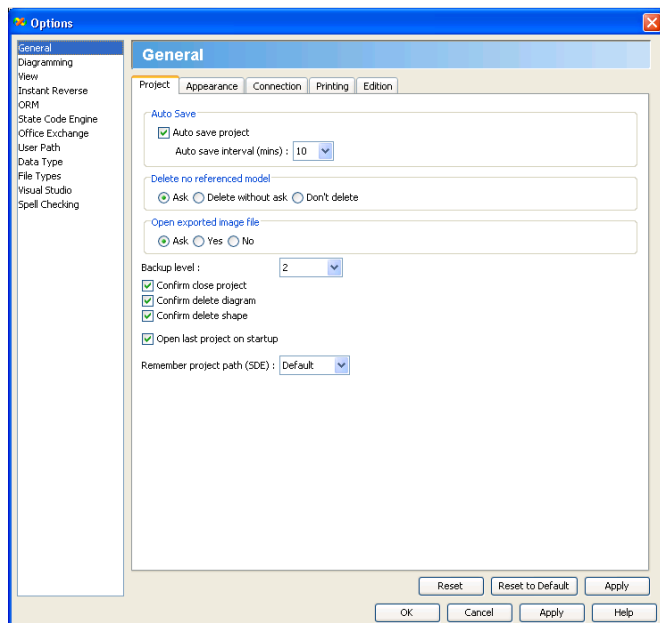


Figure 2.141- Options dialog box

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

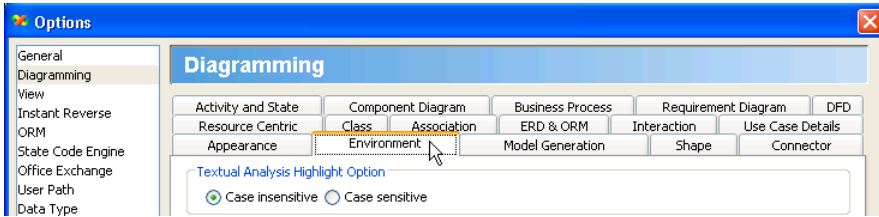


Figure 2.142 - Select Environment tag

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

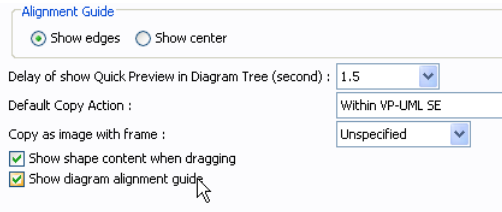


Figure 2.143 - Enable/disable the guide lines

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

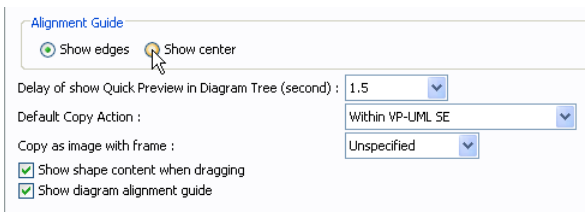


Figure 2.144- Change the style of guide lines

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

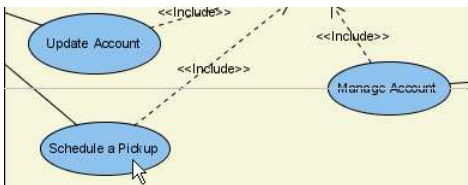


Figure 2.145 - Show center of the closest shape

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

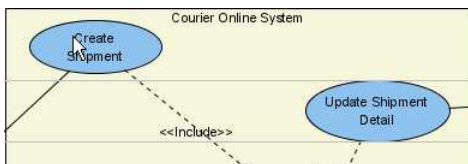


Figure 2.146 - Show edges of the closest shape

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.

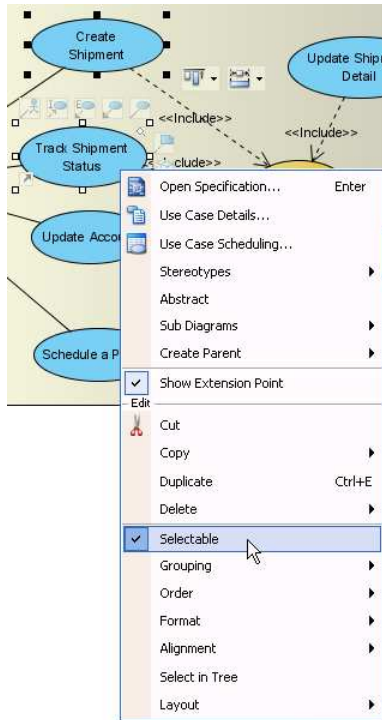


Figure 2.147 - Deselect the selectable option

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 will happen.

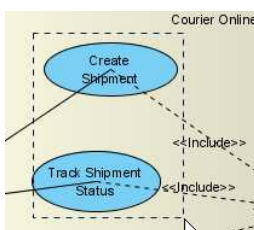


Figure 2.148 - Diagram element after deselection

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

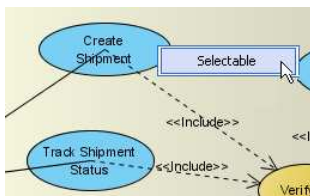


Figure 2.149 - Diagram element can be selected again

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.

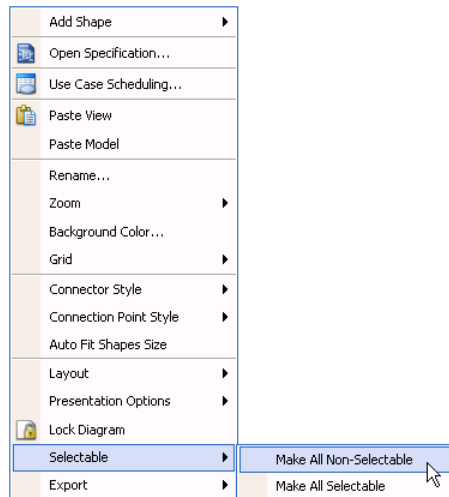


Figure 2.150 - Make all diagram elements Selectable or Non-selectable

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.

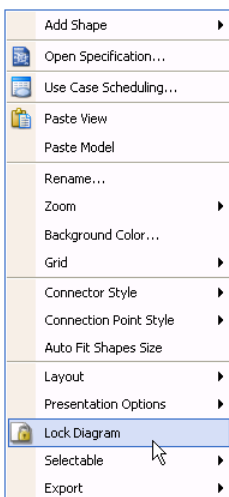


Figure 2.151- Locking a diagram

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-VS, 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-VS provides five connector styles to help you handle the connectors, namely Rectilinear, Oblique, Curve, Round Oblique and Round Rectilinear.

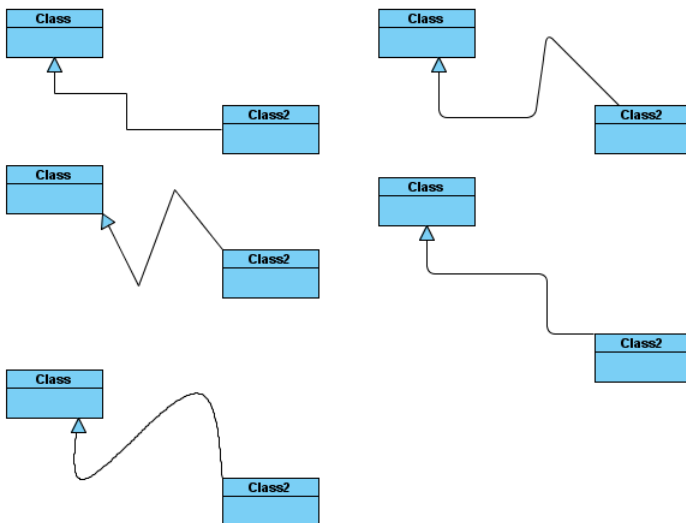


Figure 3.1 - Different types of connectors

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**.

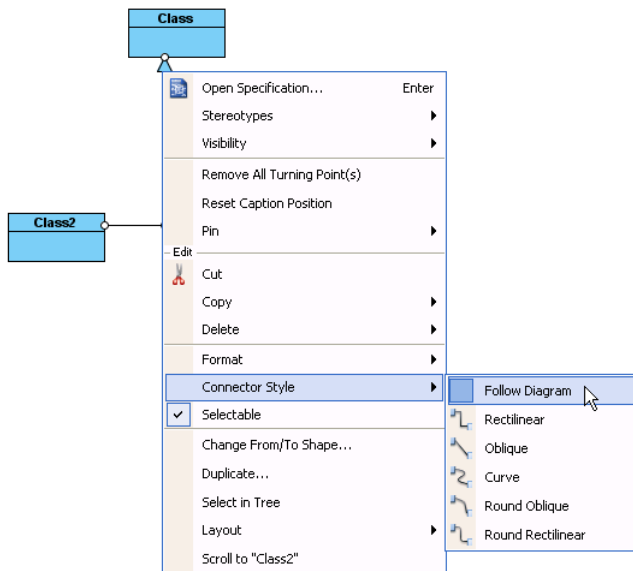


Figure 3.2 - Change connector style on popup menu

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**.

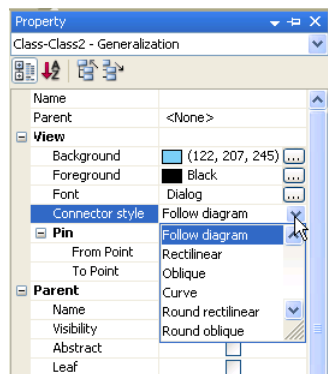


Figure 3.3 - Change connector style on properties table

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.

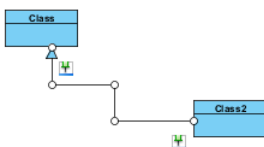


Figure 3.4 - Rectilinear Connector Style

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.

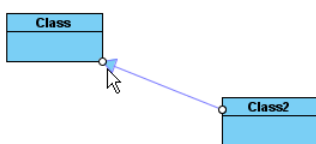


Figure 3.7 - Oblique Connector Style

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.

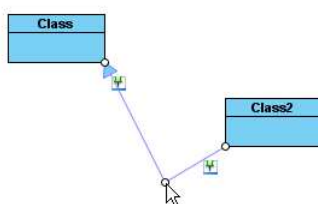


Figure 3.8 - Create a break point by drag on the line



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.

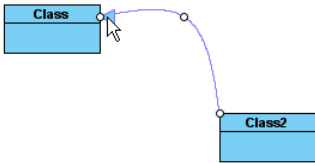


Figure 3.9 - Curve Connector Style

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.

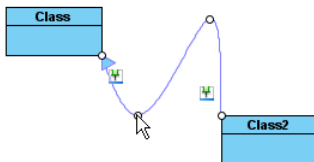


Figure 3.10 - Create a break point by drag on the line

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.

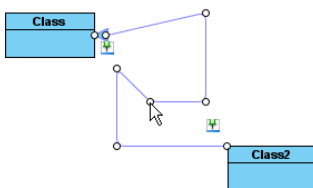


Figure 3.11 - Round Oblique Connector Style

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.

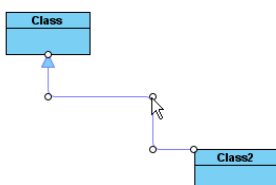


Figure 3.12 - Round Rectilinear Connector Style

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-VS, 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.

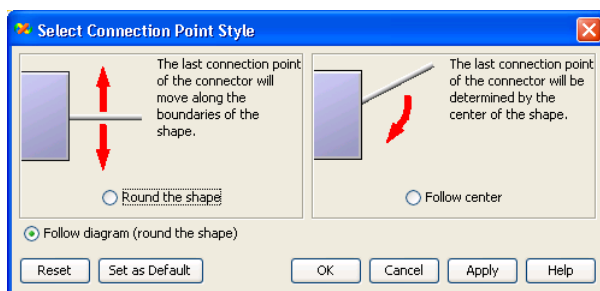


Figure 3.13 - Select Connection Point Style Dialog

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.

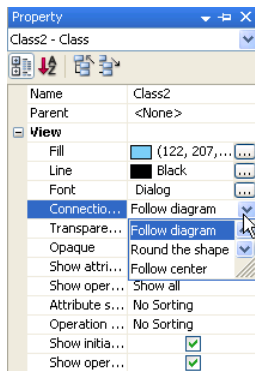


Figure 3.14 - Properties Table

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.

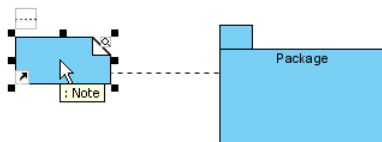


Figure 3.15 - Round the shape

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.

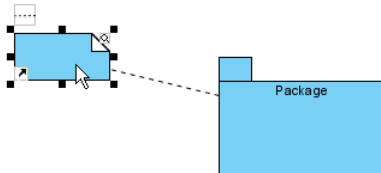


Figure 3.16 - Follow center

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.

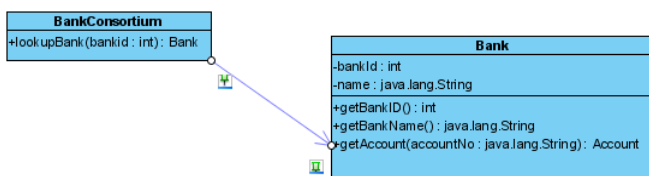


Figure 3.17 - Pin a connector point

In SDE-VS a connecting end point is unpinning by default. If a connecting end point is unpinning, 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.

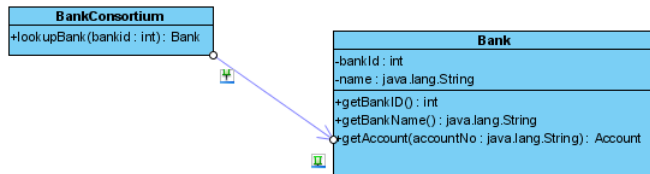


Figure 3.18 - Toggle the pin state

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.

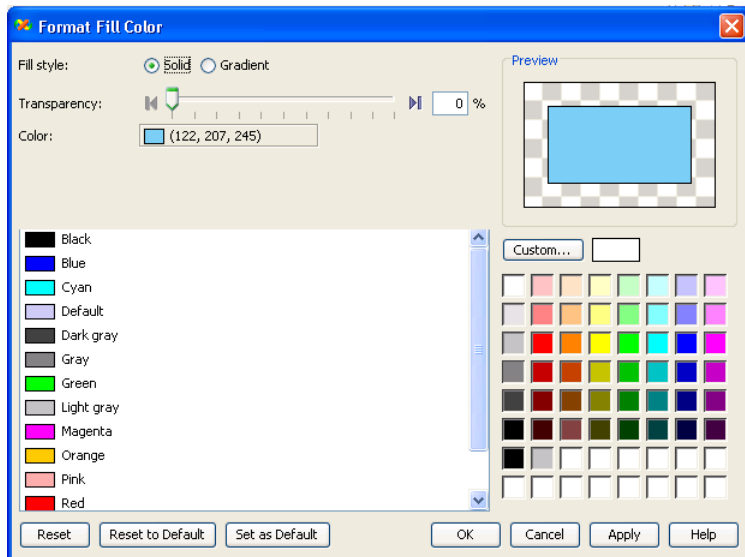


Figure 3.19 - Format Fill Color Dialog



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. You can adjust the transparency by dragging the slider, or by typing the value in the text field. 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.

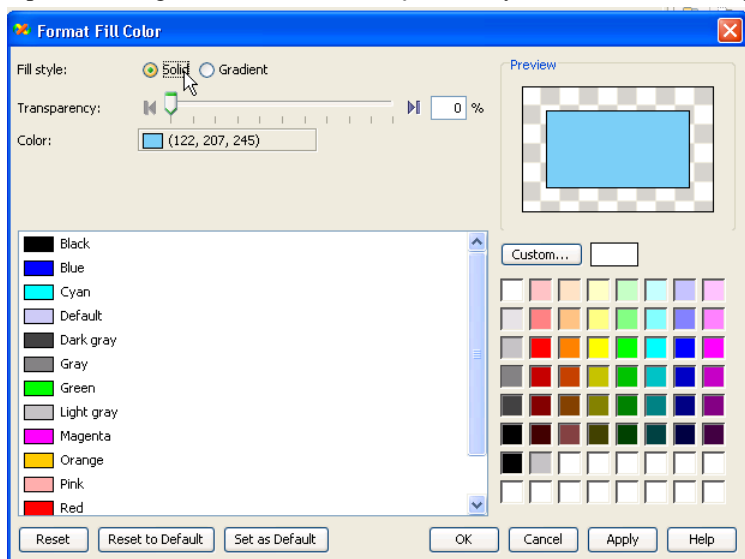


Figure 3.20 - Select Solid Fill Style

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.

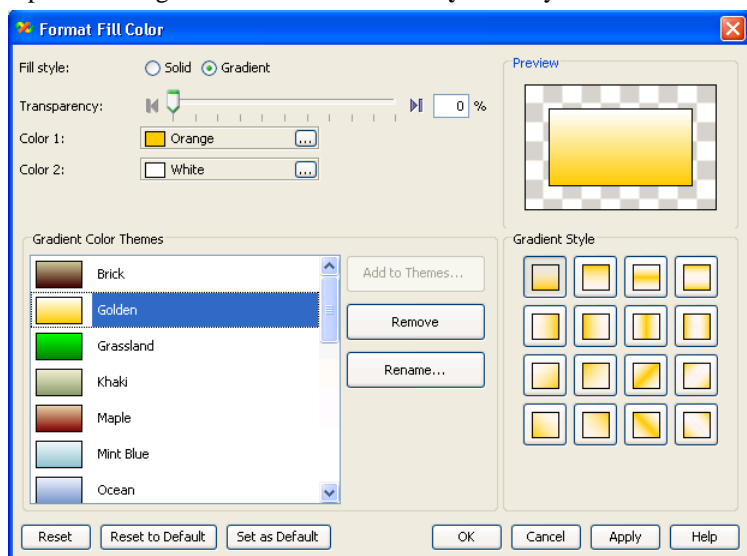


Figure 3.21 - Select Gradient Fill style

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. 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. 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. 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.

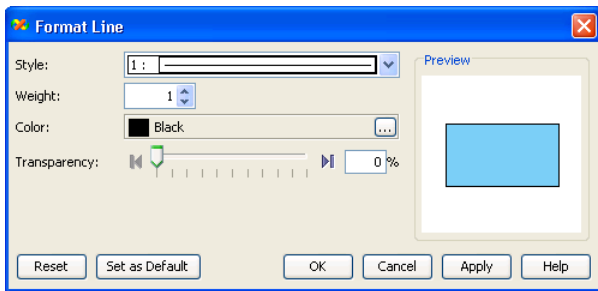


Figure 3.22 - Format Line Dialog

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. <div style="border: 1px solid gray; padding: 5px; width: fit-content;"> Only integer values can be used for line weight. If you type 2.8 in the text field, 2 will be applied instead. </div>
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. 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.

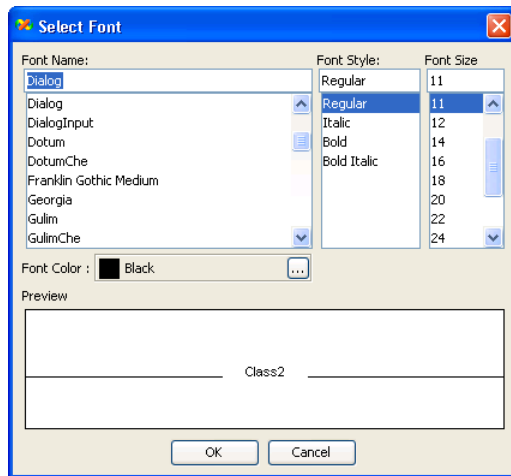


Figure 3.23 - Select Font dialog box

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.

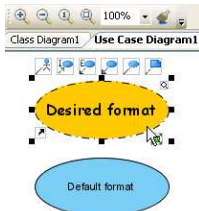


Figure 3.24 - Select the source shape

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

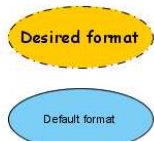
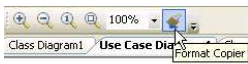


Figure 3.25 - Click Format Copier

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

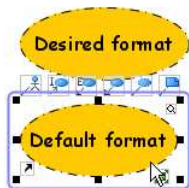
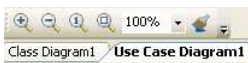


Figure 3.26 - Apply formatting

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.

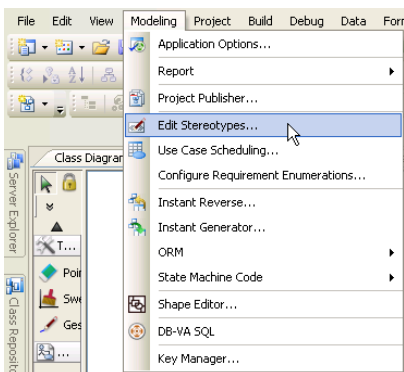


Figure 3.27 - Select Configure Stereotypes...

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.

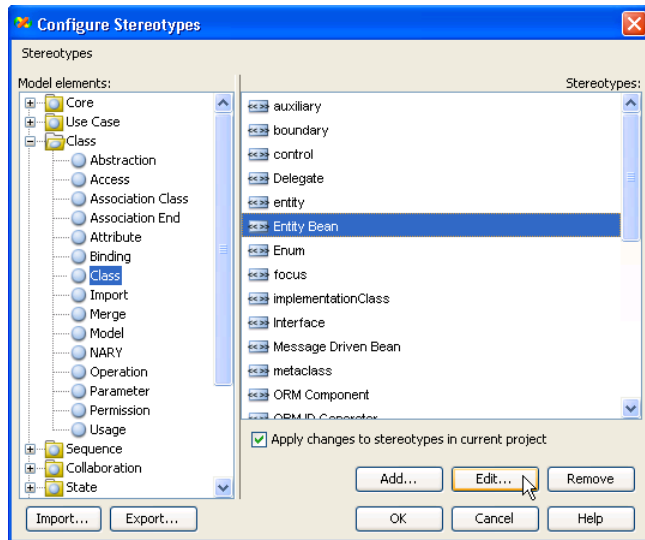


Figure 3.28 - Configure Stereotypes dialog box

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

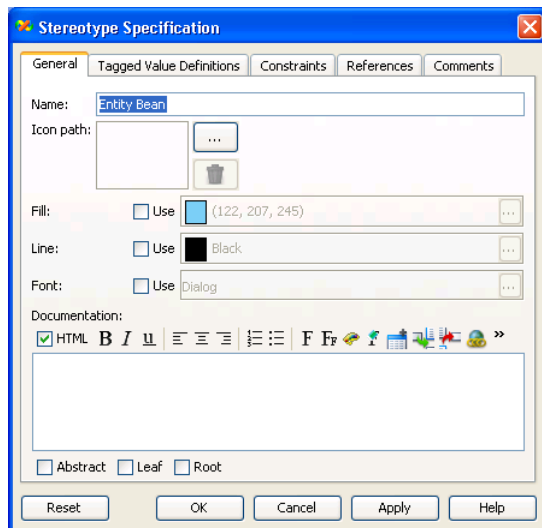


Figure 3.29 - Stereotype Specification

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**.

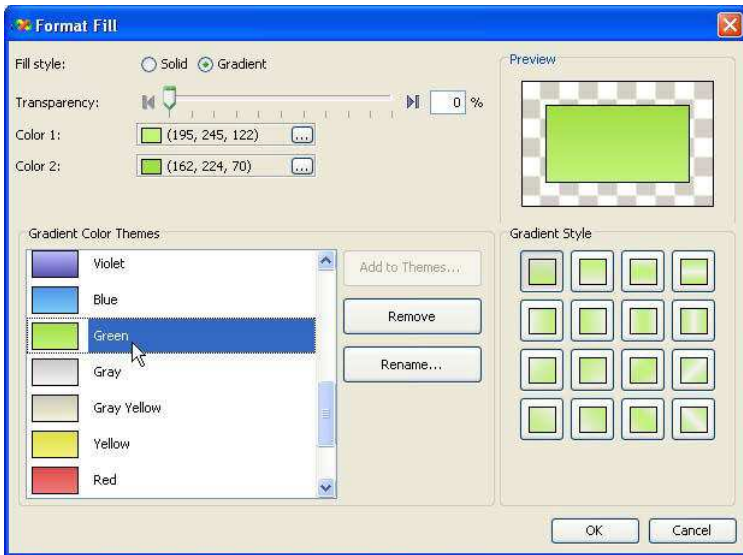


Figure 3.31 - Format Fill dialog box

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**.

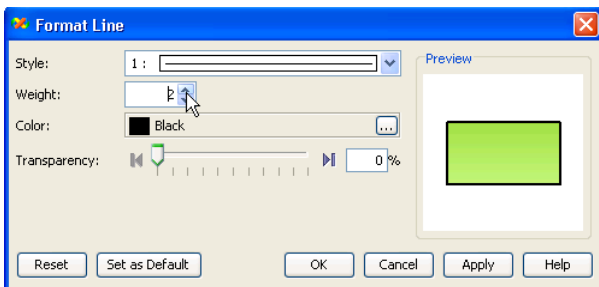


Figure 3.33 - Format Line dialog box

To apply font to stereotype:

1. Select the **Use** checkbox and click the ... button of the **Font** property.

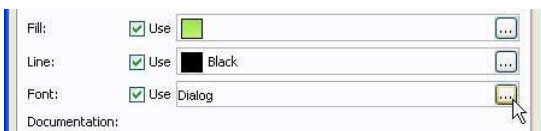


Figure 3.34 - Check Use and edit Font property

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

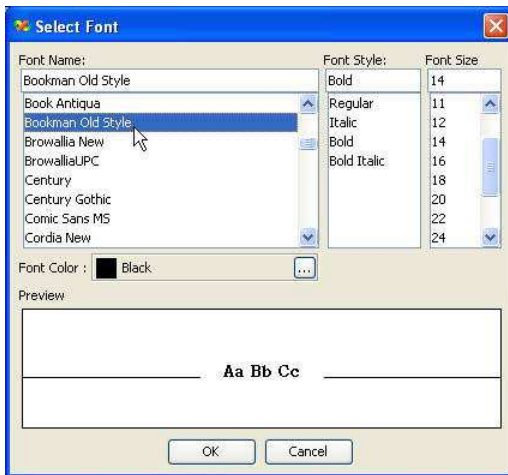


Figure 3.35 - Select Font dialog box

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

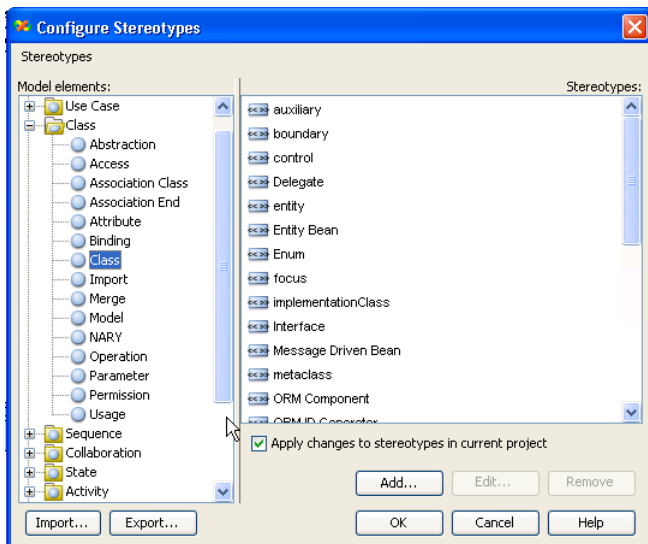


Figure 3.36 - Stereotype appearance configured

Applying Stereotypes to Shape

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

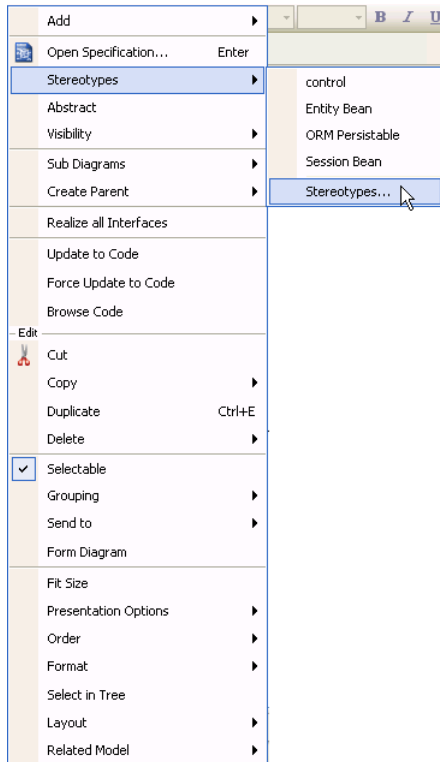


Figure 3.37 - Select Stereotypes...

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

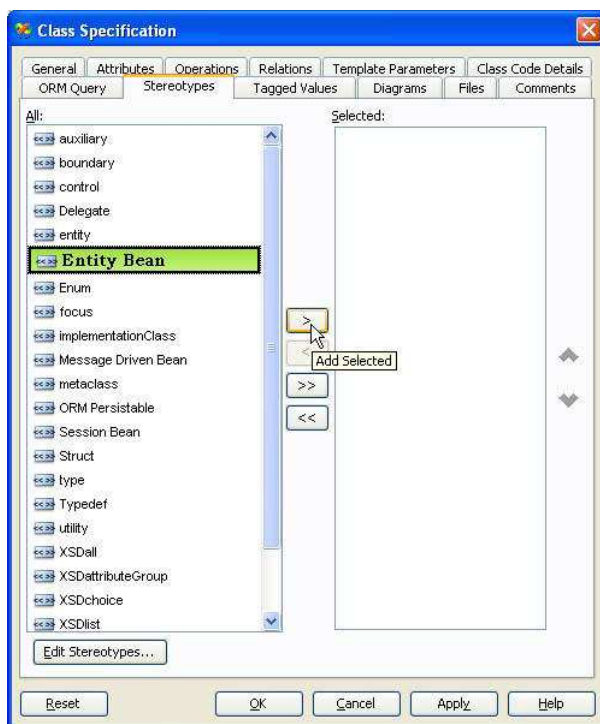


Figure 3.38 - Add a stereotype to Selected list

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.

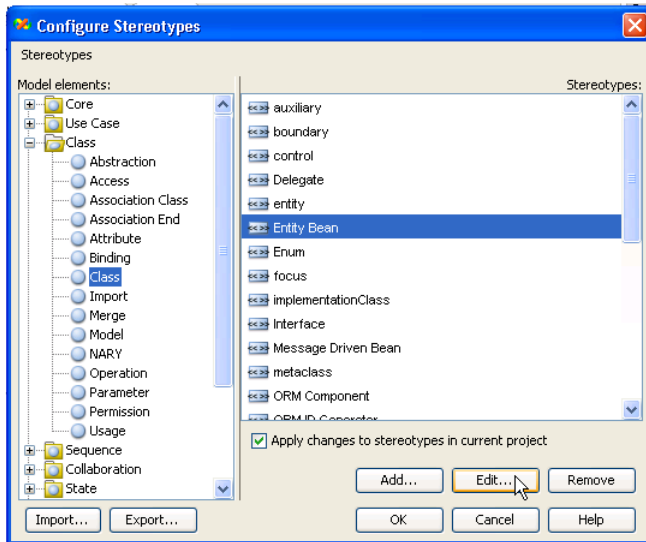


Figure 3.40 - Select a model type and the target stereotype

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

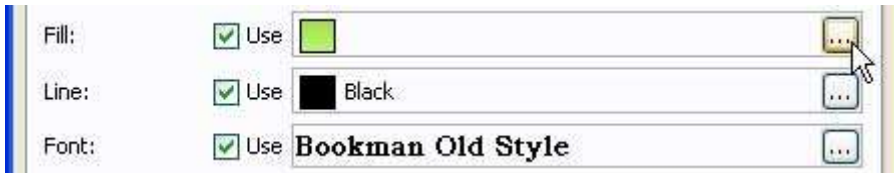


Figure 3.41 - Modify the stereotype fill color

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

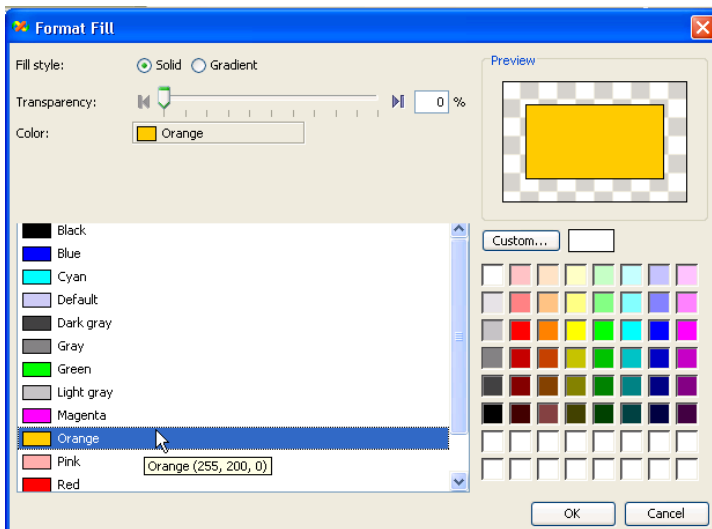


Figure 3.42 - Select a fill color

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.

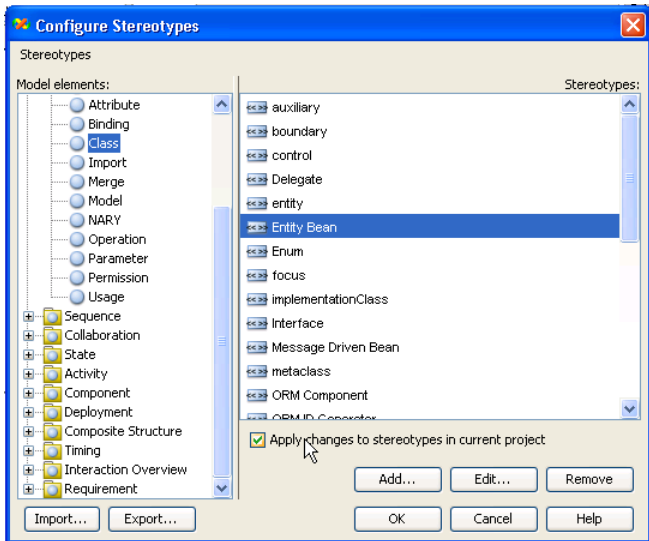


Figure 3.43 - Return to Configure Stereotypes

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-VS, one model can have multiple views. Also, SDE-VS 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.

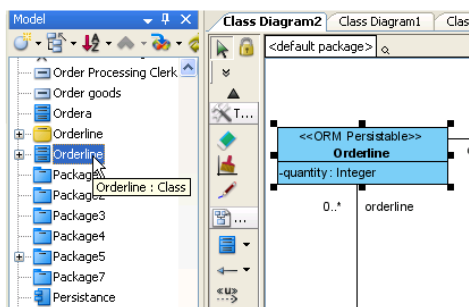


Figure 4.1 - Select a class model

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

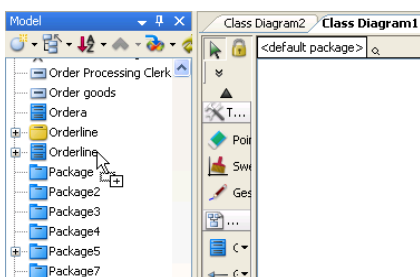


Figure 4.2 - Drag the model

3. A new view of the model is created.

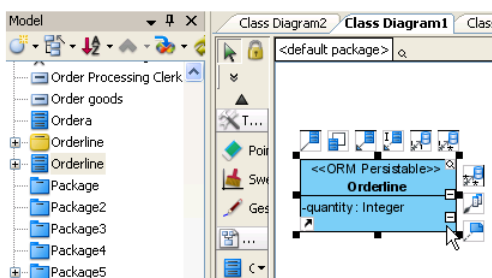


Figure 4.3 - View created

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.

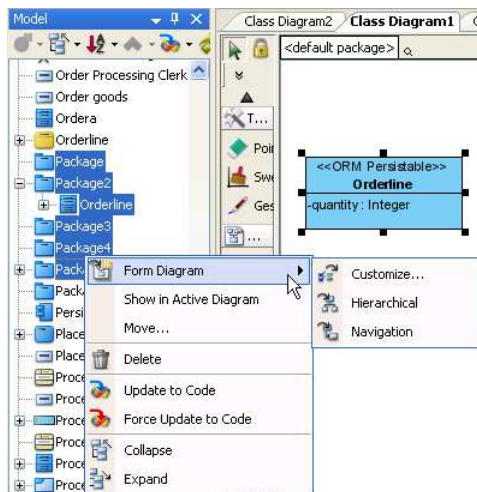


Figure 4.4 - Form diagram from model



Currently SDE-VS 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**.

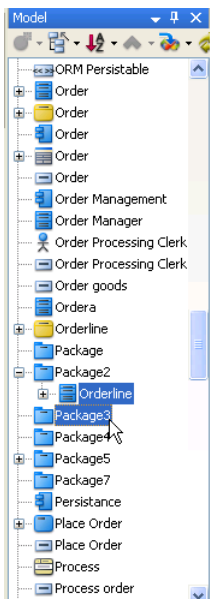


Figure 4.5 - Select models

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

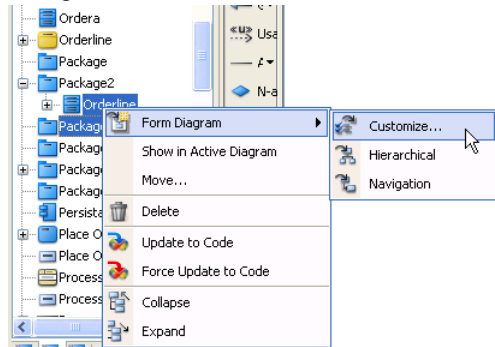


Figure 4.6 - Open Form Diagram dialog box

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.

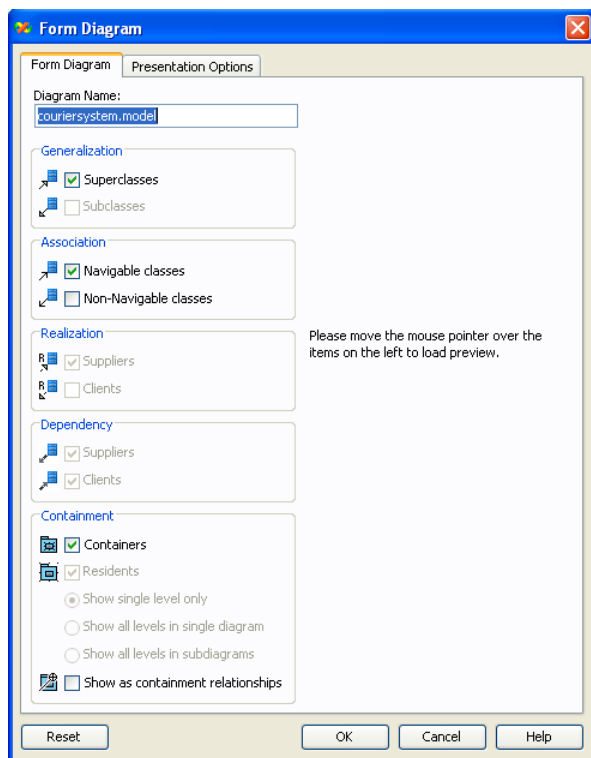


Figure 4.7 - Form Diagram Dialog

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

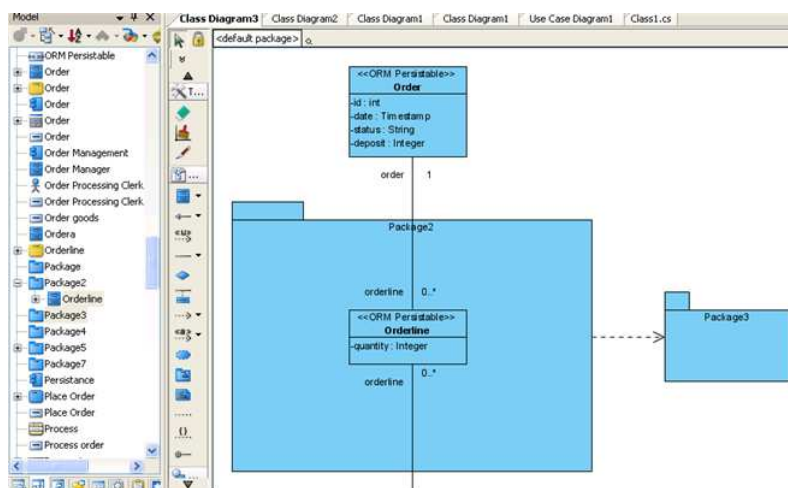


Figure 4.8 - The generated Class Diagram

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

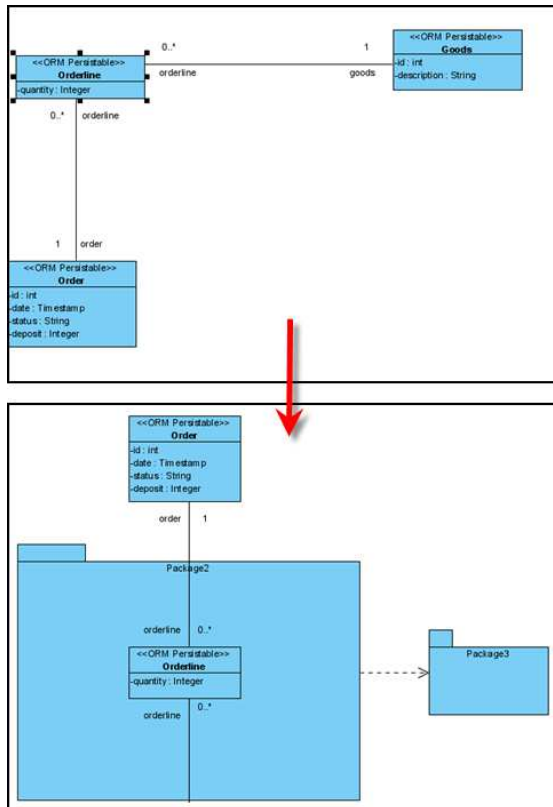


Figure 4.9 - The association of the selected classes are included in the new diagram

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.

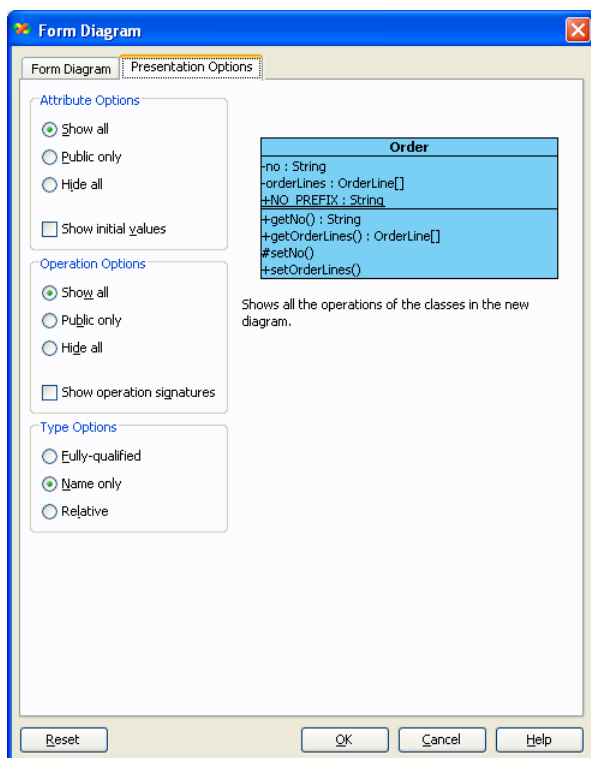


Figure 4.10 - The presentation options

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.

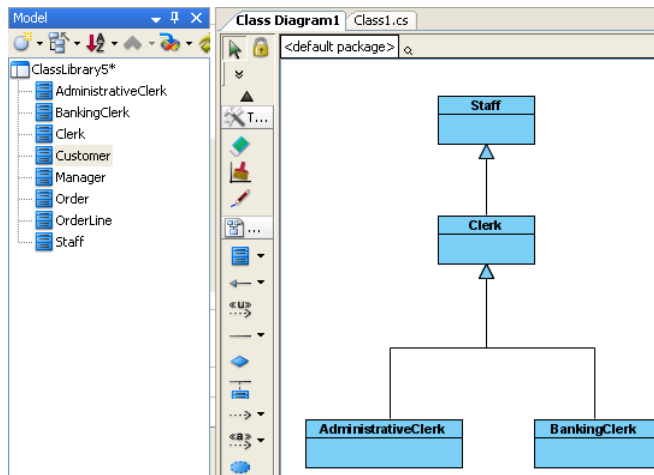


Figure 4.11 - Hierarchical Diagram

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.

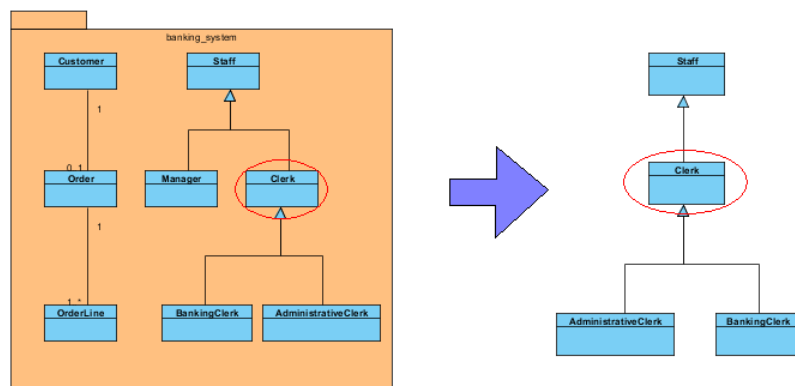


Figure 4.12 - Show the inheritance hierarchical in the new diagram

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.

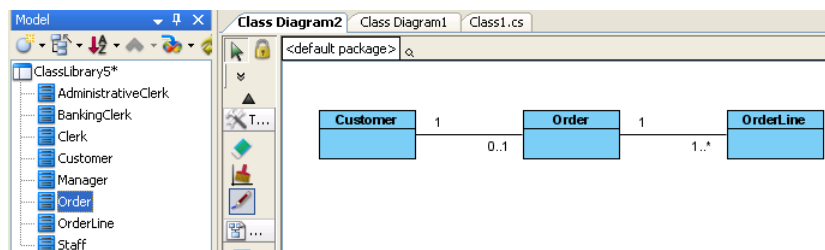


Figure 4.13 - Navigation Diagram

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.

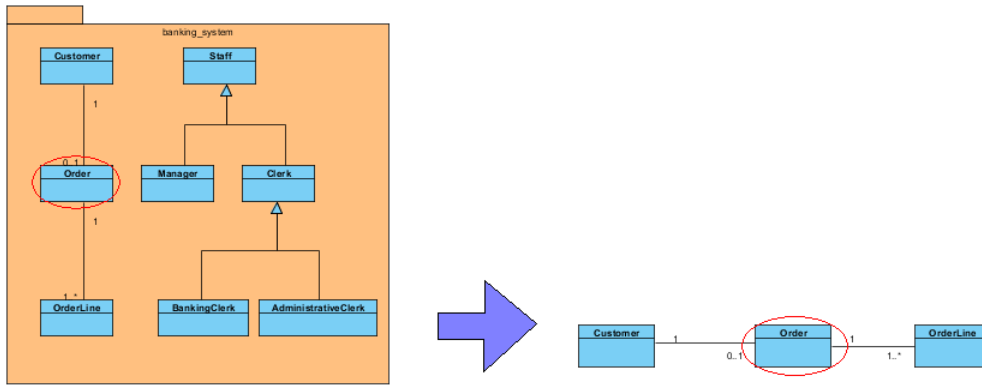


Figure 4.14 - show the navigation association of the selected classes.

Sub-Diagrams

It is a known fact that elaboration is one of the common modeling techniques.

SDE-VS 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.

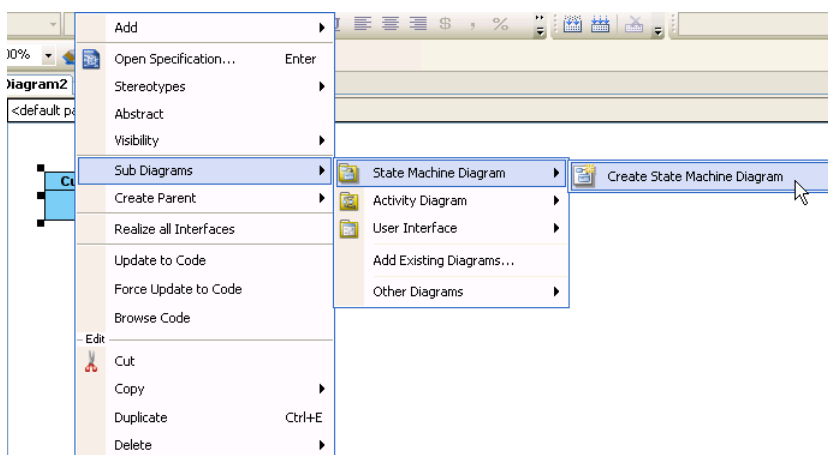


Figure 4.15 - Create Sequence Diagram

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.

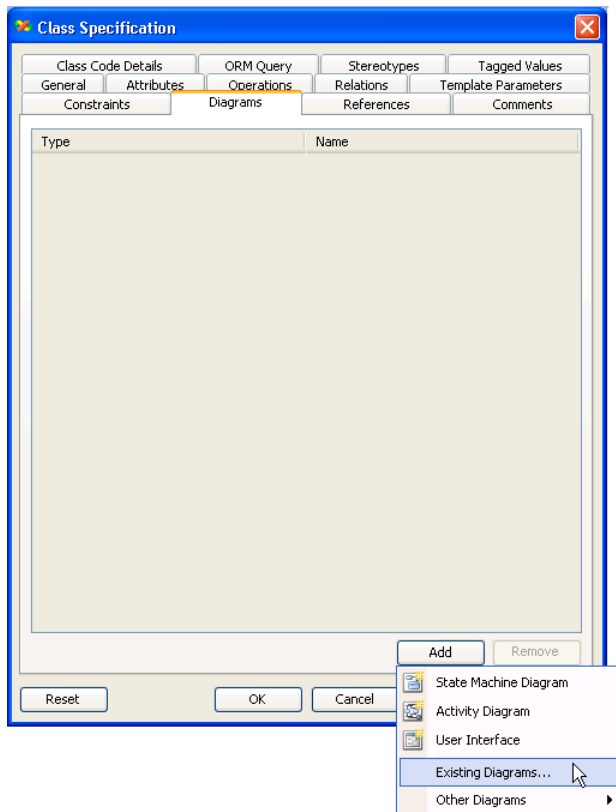


Figure 4.16 - Add existing diagram to Sub-Diagram

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

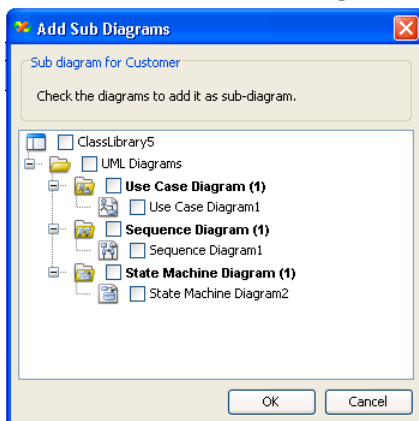


Figure 4.17 - Select the existing diagram

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:

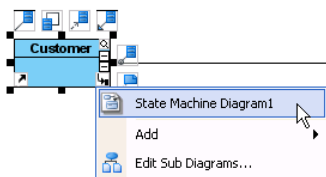


Figure 4.18 - Open Sub-diagram

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.

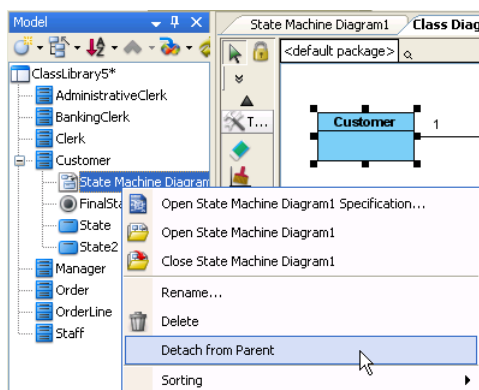


Figure 4.19 - Remove Sub-Diagram

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 Files

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.

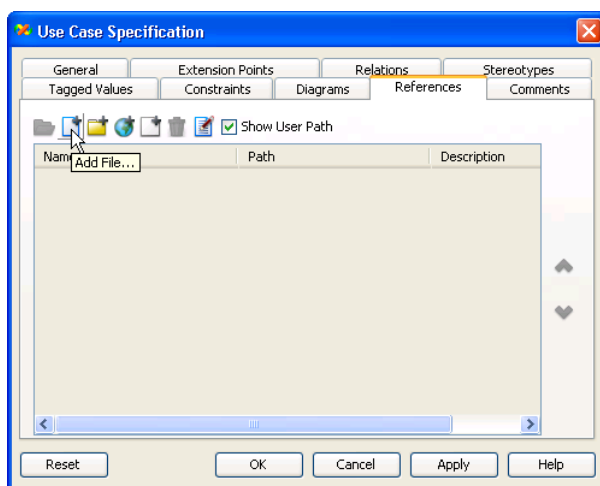


Figure 4.20 - Add Reference Files

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).

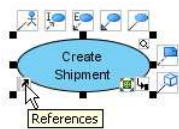


Figure 4.21 - Edit reference resource-centric

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

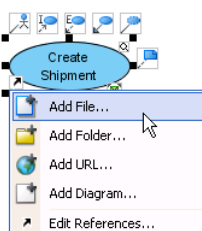


Figure 4.22 - Select Add File in the popup menu

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**.

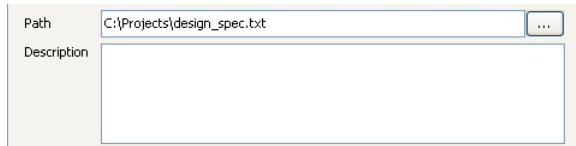


Figure 4.23 - Edit Reference

Adding Referenced URL

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.

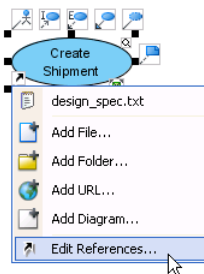


Figure 4.24 - Open edit reference dialog

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

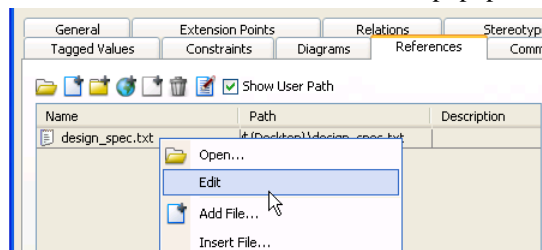


Figure 4.25 - Edit reference by clicking on popup menu

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

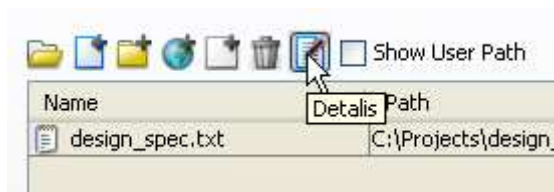


Figure 4.26 - Show reference details

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

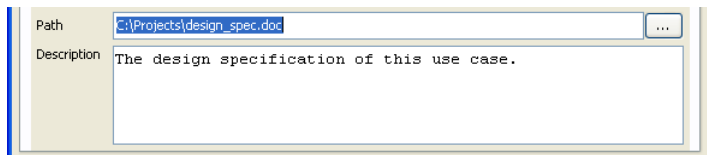


Figure 4.27 - The reference details

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.

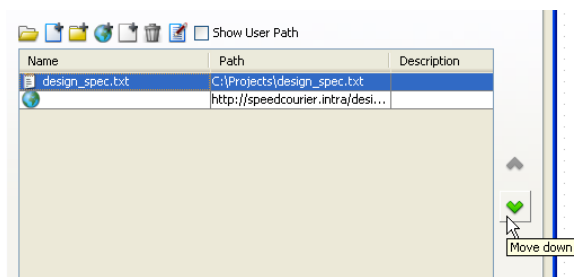


Figure 4.28 - Re-ordering reference

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.

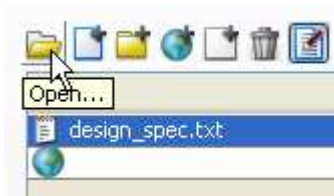


Figure 4.29 - Press Open button to open the selected references.

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

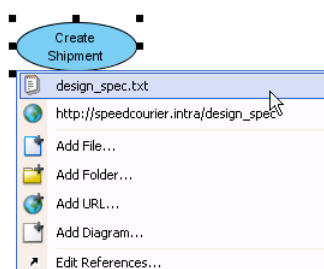


Figure 4.30 - Open reference by clicking on popup menu

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

Removing References

To remove references:

- Open the specification dialog box of the model, select the **References** page.
- 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.

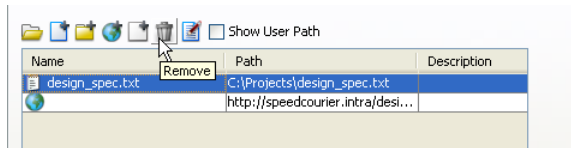


Figure 4.31 - Remove reference

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.

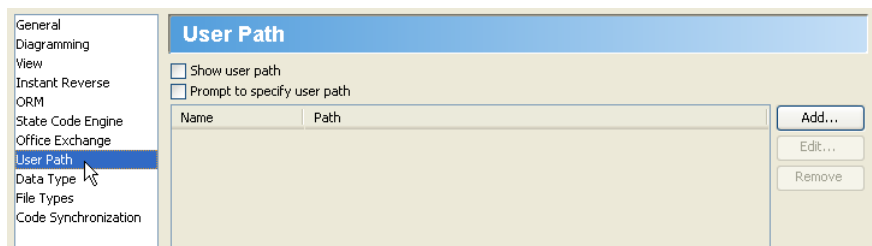


Figure 4.32 - Configure User Paths

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

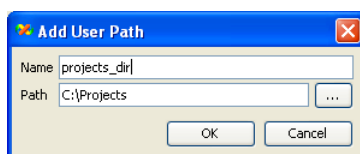


Figure 4.33 - Add User Path

- 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 $\{\}$.

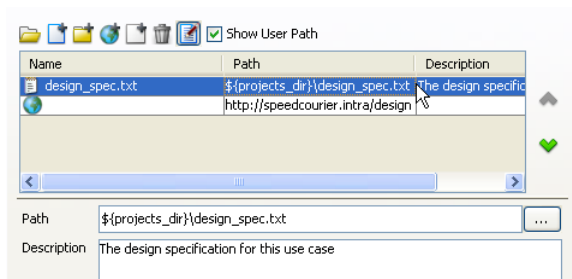


Figure 4.34 - Using User Path in the references

- **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.

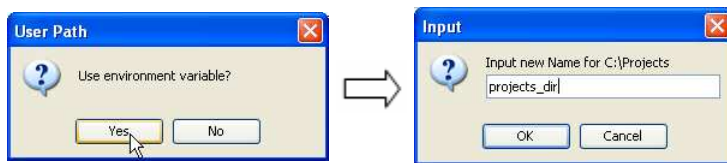


Figure 4.35 - Specify user path

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.

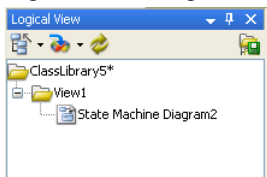


Figure 4.36 - Logical View Pane

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 and Replace > Quick Find** from main menu.

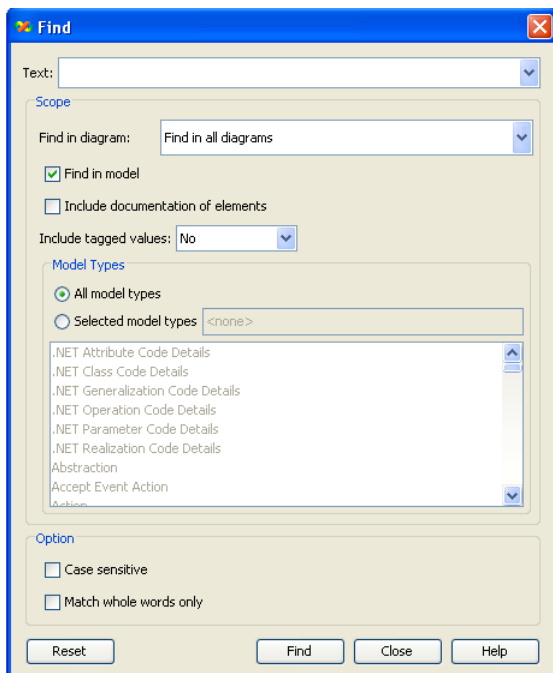


Figure 4.37 - Find Model Element Dialog

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: Find in All Diagrams - To search for views in all diagrams within the project. Find in Opened Diagrams - To search for views in all opened diagrams within the project. Find in active diagram only - To search for views in the active diagram. 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:

	No - Do not include tagged value during searching Name - Include Name of tagged value only during searching Value - Include Value of tagged value only during searching 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**.

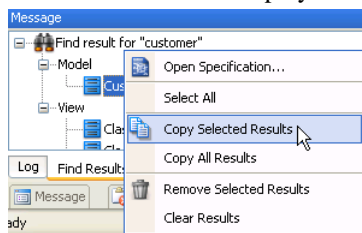


Figure 4.38 - Find result

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

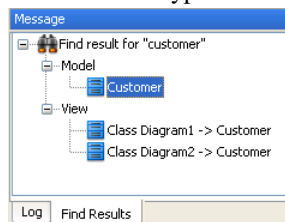


Figure 4.39 - Types of result found

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**.

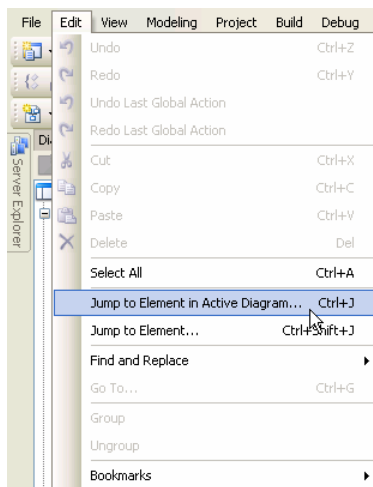


Figure 4.40 - Select Jump to shape in active diagram

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.

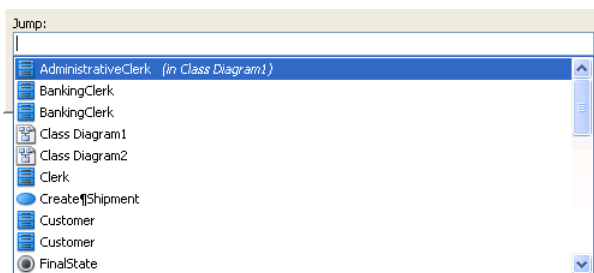


Figure 4.41 - Shape in the active diagram is shown

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.

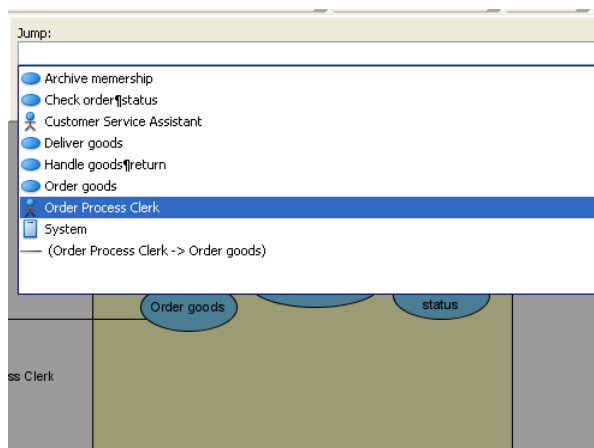


Figure 4.42 - Spotlight on the diagram when select the shape

- 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.

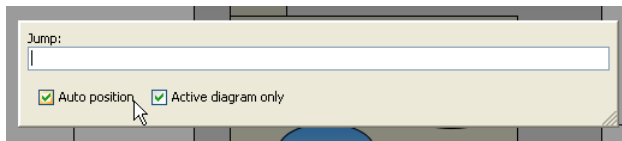


Figure 4.43 - Auto position

- 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.

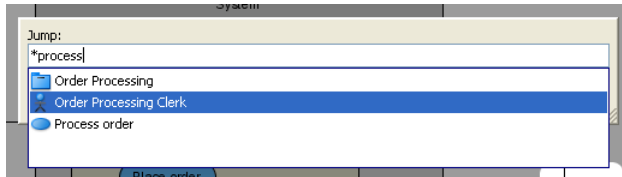


Figure 4.44 - Filter the shapes

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

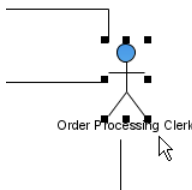


Figure 4.45 - Auto select the shape and centered in diagram

Jumping to Element in Project

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

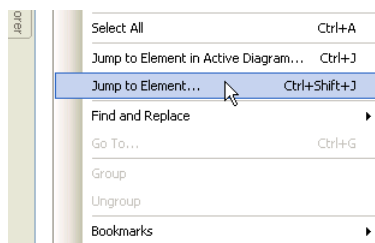


Figure 4.46 - Select Jump to element

- 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.

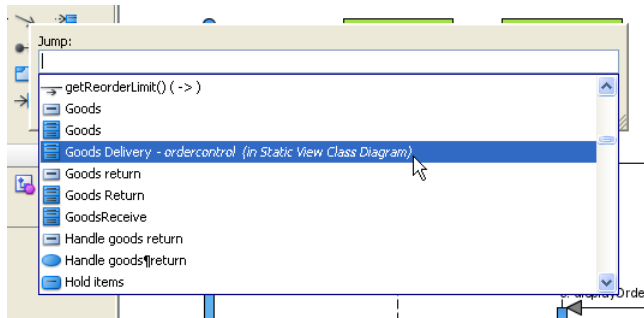


Figure 4.47 - Select the Element

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

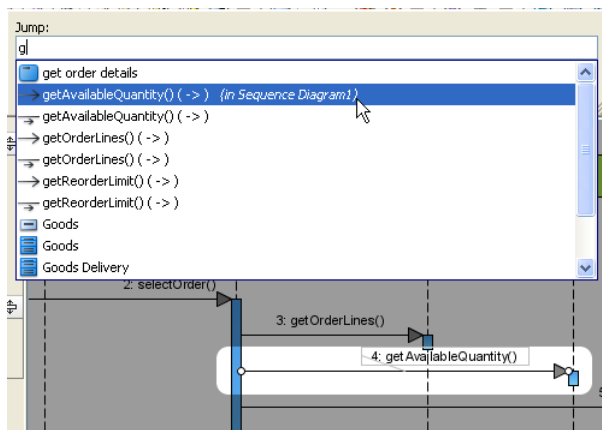


Figure 4.48 - Spotlight in the diagram

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.

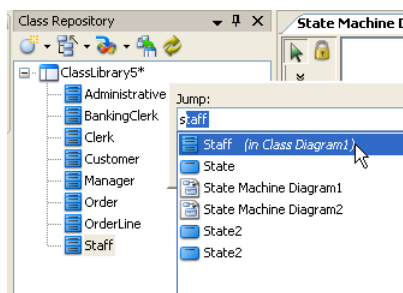


Figure 4.49 - Select in Model pane

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.

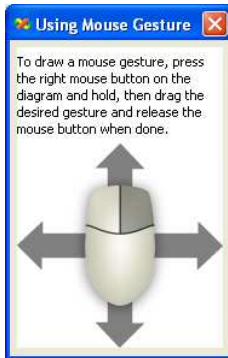


Figure 4.50 - Using mouse gesture in Windows

General Features

The following is the 11 basic gestures supported by SDE-VS:












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](#).

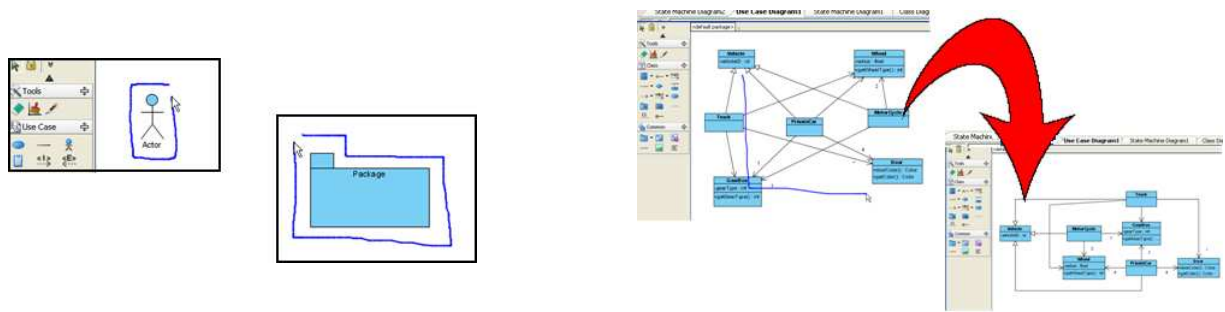


Figure 4.51 - Mouse Gesture Example

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



Figure 4.52 - 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.

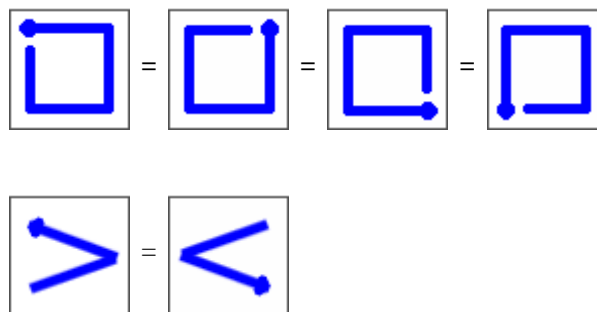


Figure 4.53 - Gesture Start Point and Direction

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.

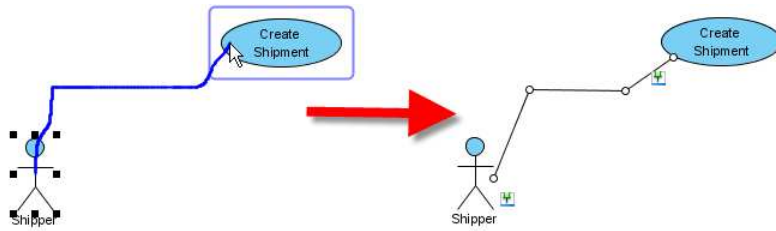


Figure 4.54 - Create association

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.

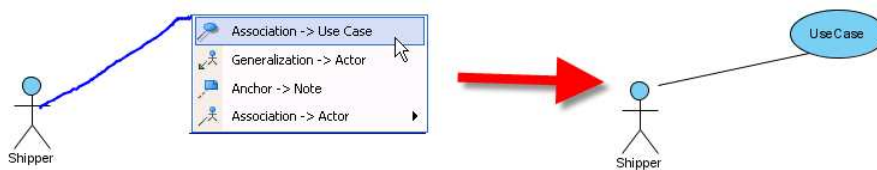


Figure 4.55 - Create Use Case with Association

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.

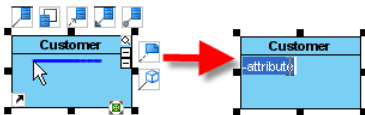


Figure 4.56 - Create attribute

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 4.57 - 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.

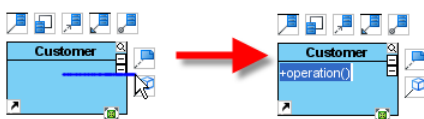


Figure 4.58 - Create operation

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.

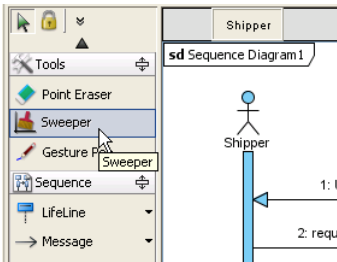


Figure 4.59 - Select Sweeper icon

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

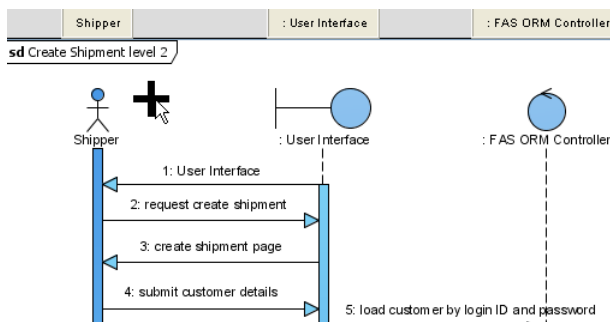


Figure 4.60 - Sweeper appears as Plus sign

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

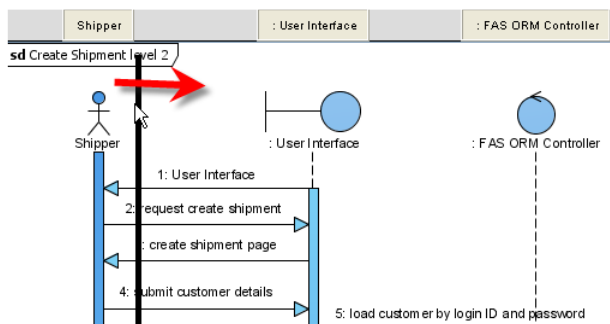


Figure 4.61 - Use Sweeper to create horizontal Space

4. Horizontal space created.

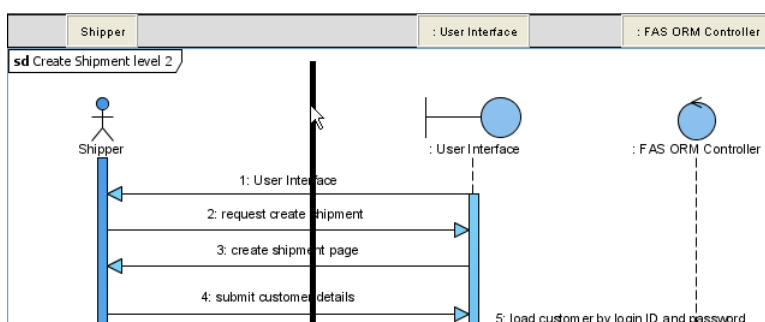


Figure 4.62 - Horizontal space created

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

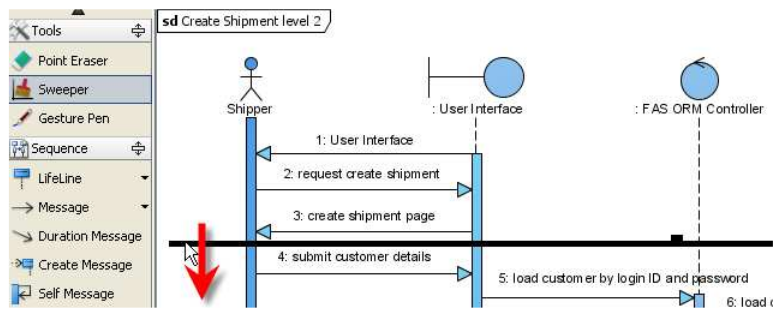


Figure 4.63 - Use Sweeper to create vertical space

Vertical space is created.

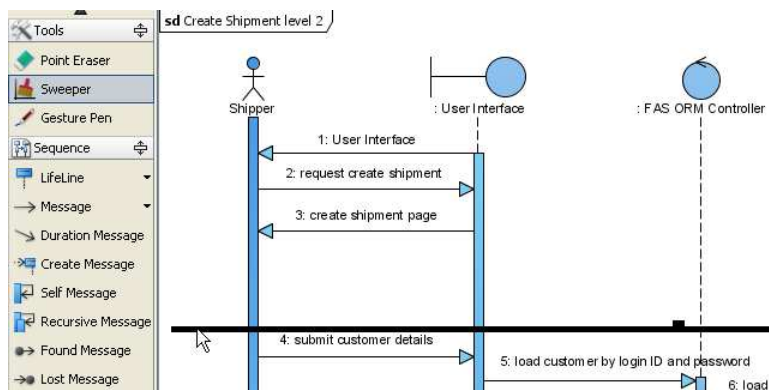


Figure 4.64 - Vertical space is created.

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.

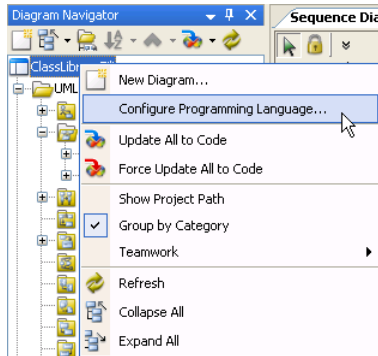


Figure 4.65 - Select Configure Programming Language button

2. Select the language to switch to.

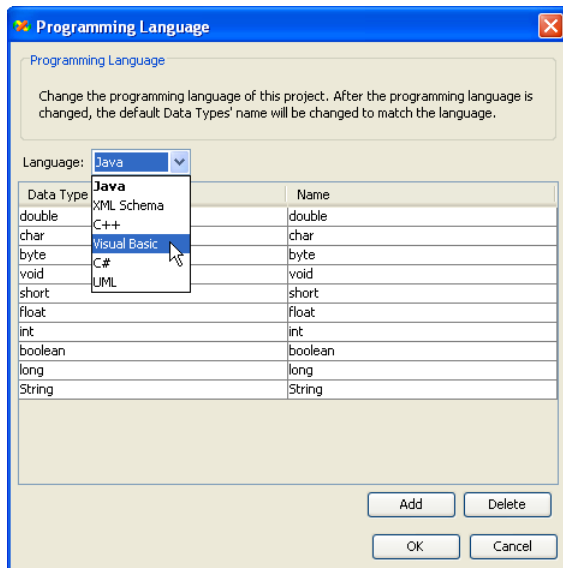


Figure 4.66 - Select language to switch to

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

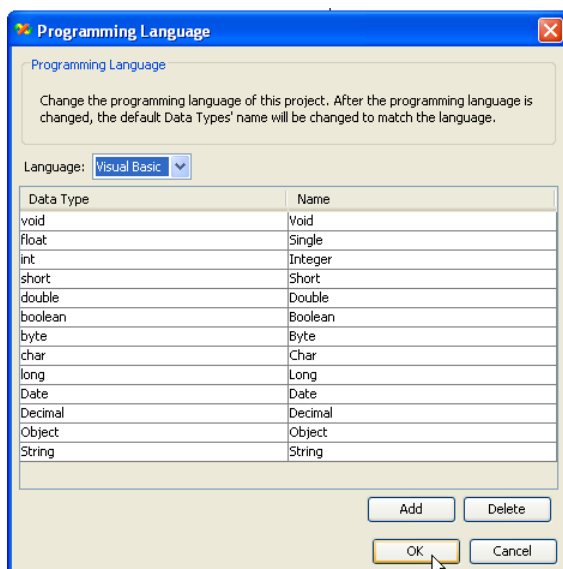


Figure 4.67- Language changed

Adding Languages and Data Types

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

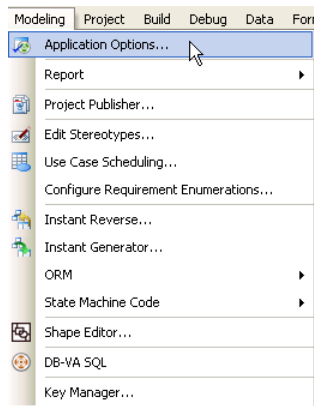


Figure 4.68 - Select Option button from main menu

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

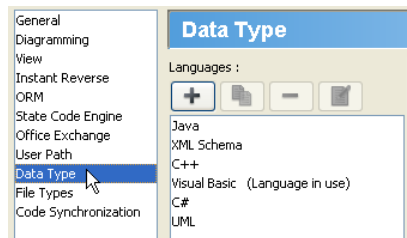


Figure 4.69 - Open the Data Type page

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

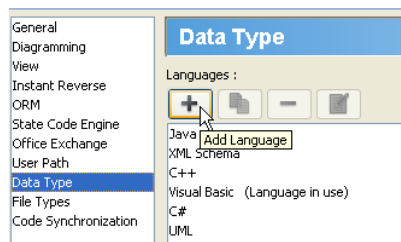


Figure 4.70 - Add a language

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

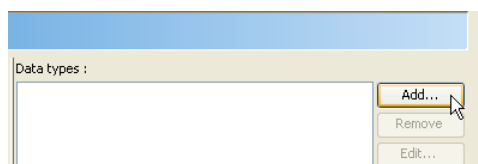


Figure 4.71 - Add a data type

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

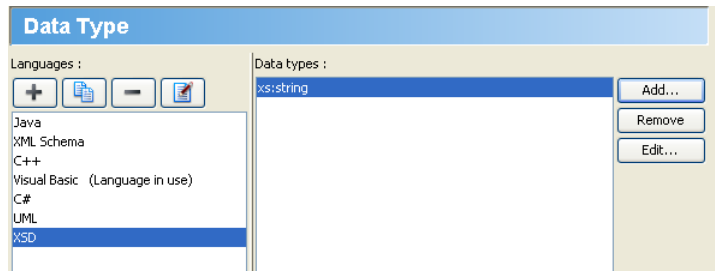


Figure 4.72 - A new language with data-type is added

5

Automatic Diagrams Layout

Chapter 5 - Automatic Diagrams Layout

SDE-VS provides a layout facility for arranging diagram elements in diagrams. It re-lays 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.

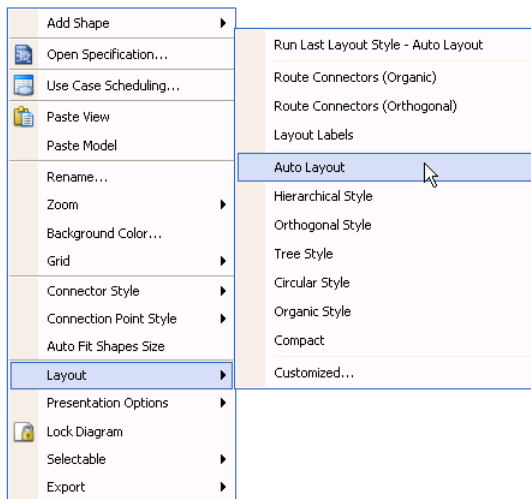


Figure 5.1 - Select Auto Layout

Class Diagram

Hierarchy base (Factory class diagram)

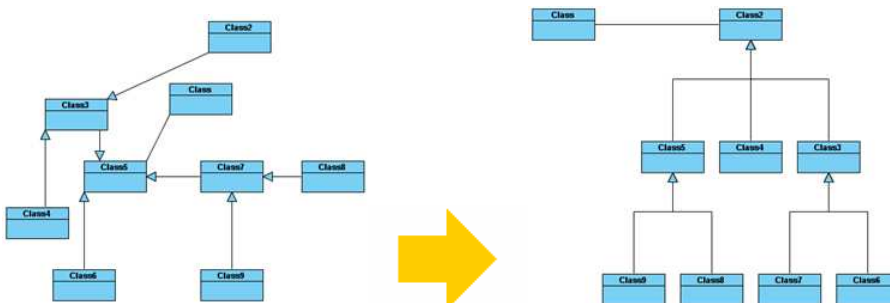


Figure 5.2 - Hierarchy base (Factory class diagram)

Navigation base (Mediator class diagram)

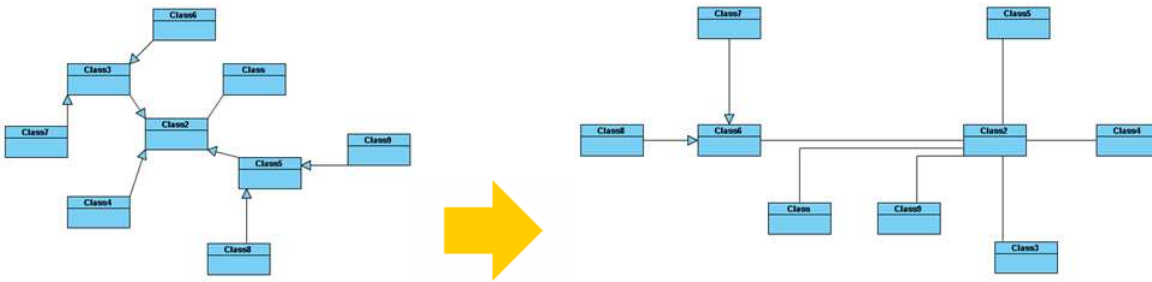


Figure 5.3 - Navigation base (Mediator class diagram)

Activity Diagram

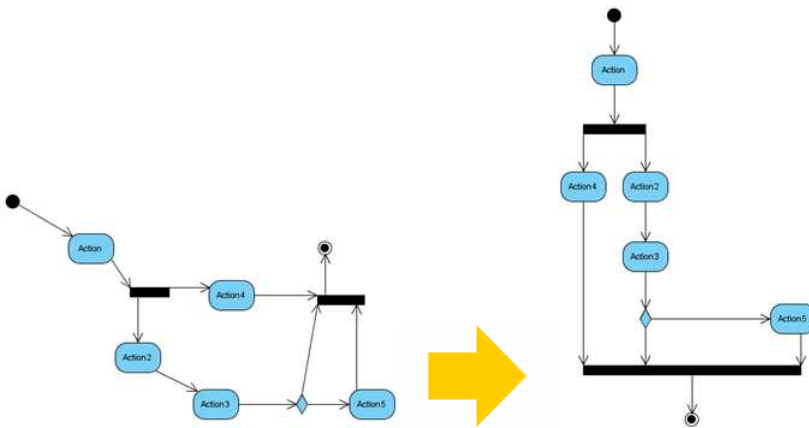


Figure 5.4 - Auto layout of activity diagram

State Machine Diagram

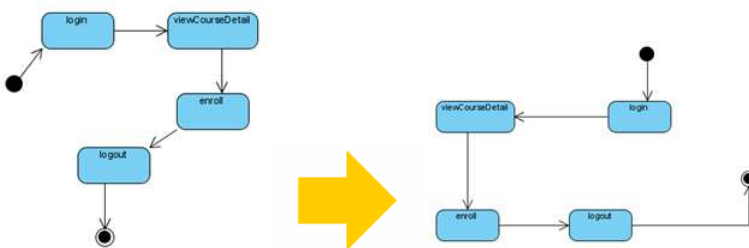


Figure 5.5 - Auto layout of state machine diagram

Communication Diagram

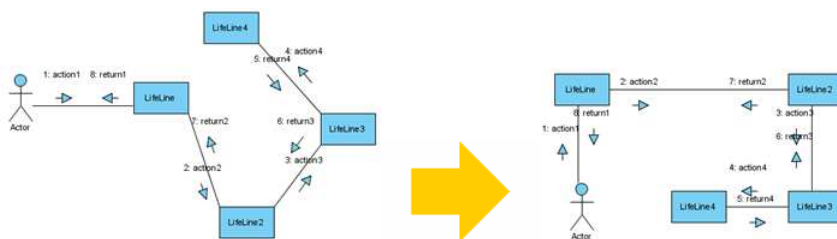


Figure 5.6 - Auto layout of communication diagram

Other Diagrams

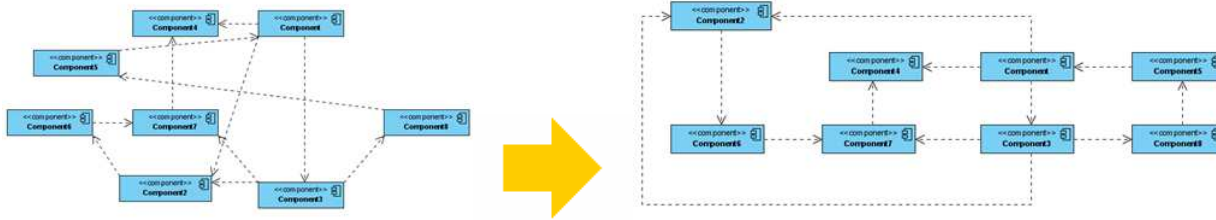


Figure 5.7 - Auto layout of other diagrams

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).

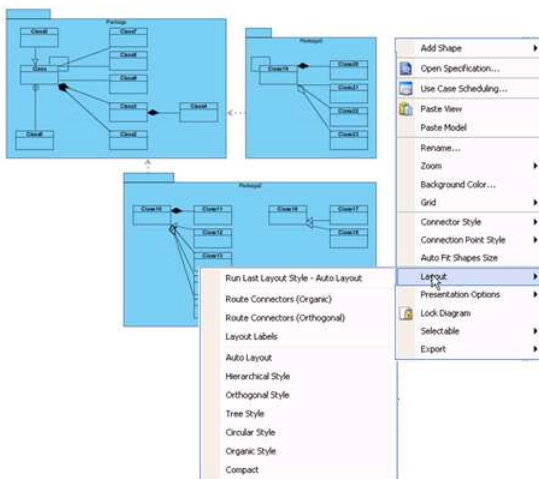


Figure 5.8 - Performing layout

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-VS. 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.

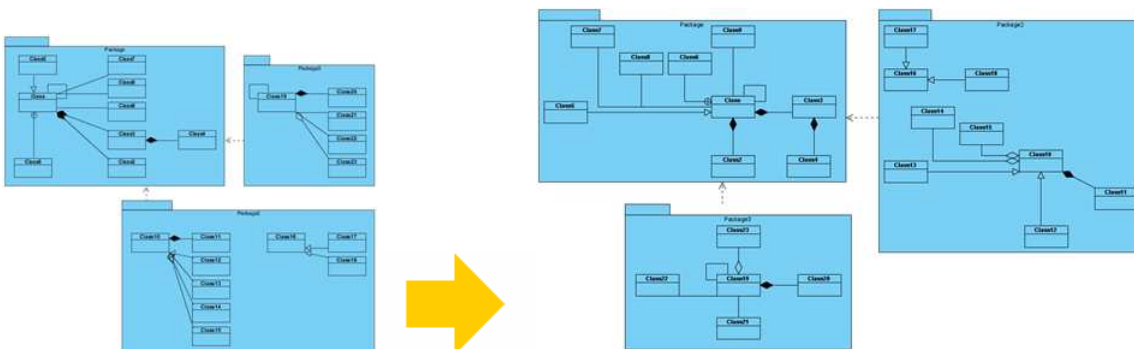


Figure 5.9 - Orthogonal Layout

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.

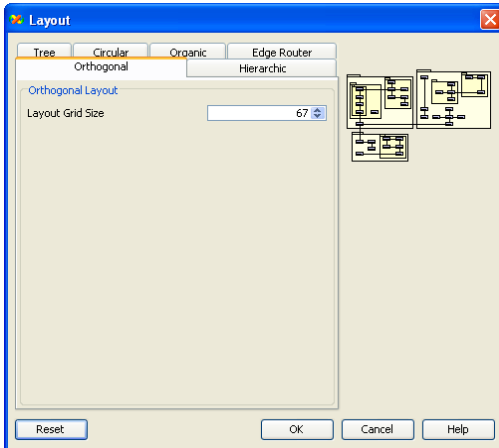


Figure 5.10 - Orthogonal Layout setting

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.

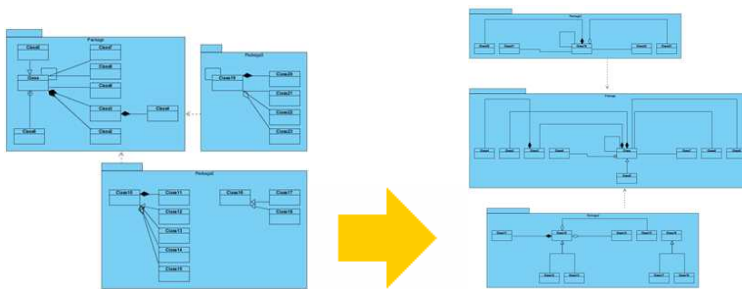


Figure 5.11 - Hierarchic Layout

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

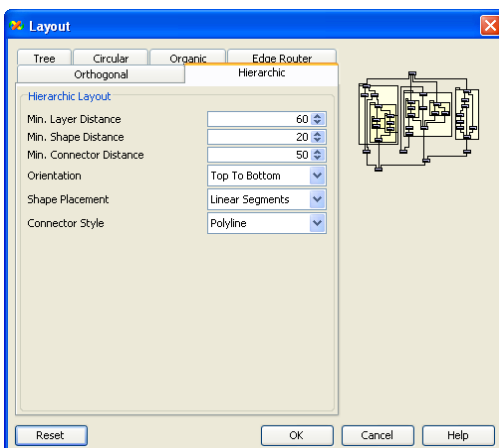


Figure 5.12 - Hierarchic Layout setting

Directed Tree Layout

Directed Tree Layout is one of the tree layouts in SDE-VS. 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.

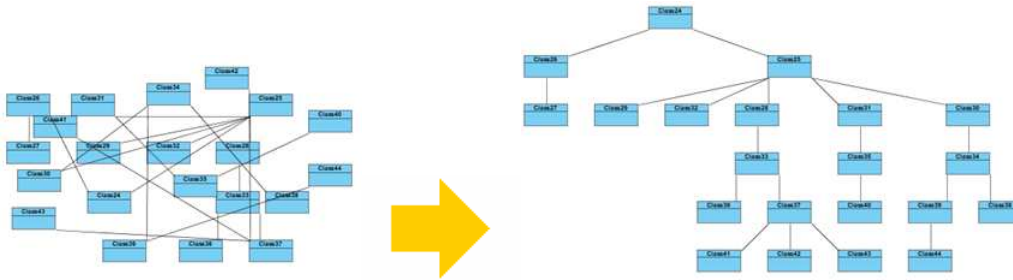


Figure 5.13 - Directed Tree Layout

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

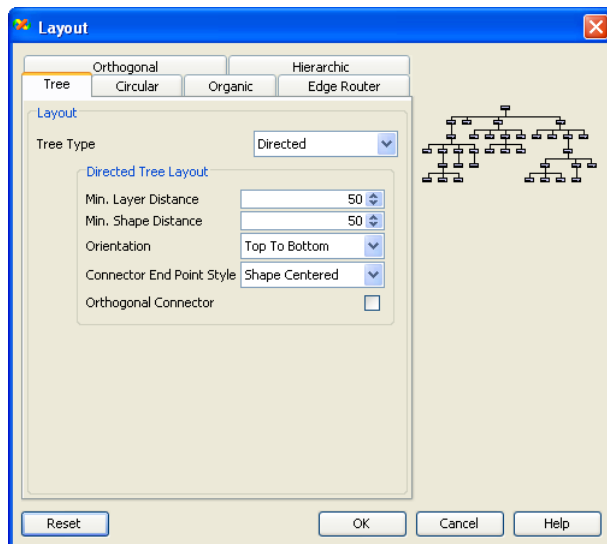


Figure 5.14 - Directed Tree Layout Setting

Balloon Tree Layout

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

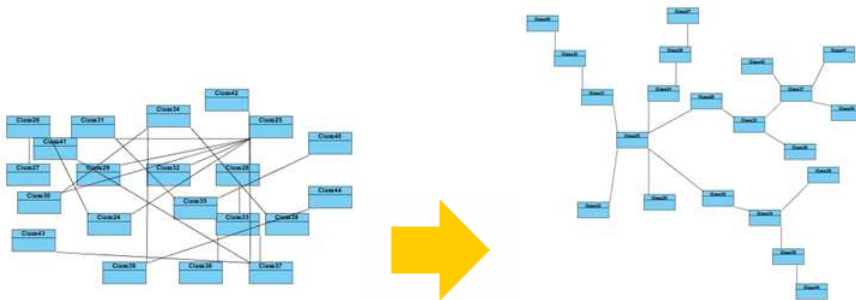


Figure 5.15 - Balloon Tree Layout

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

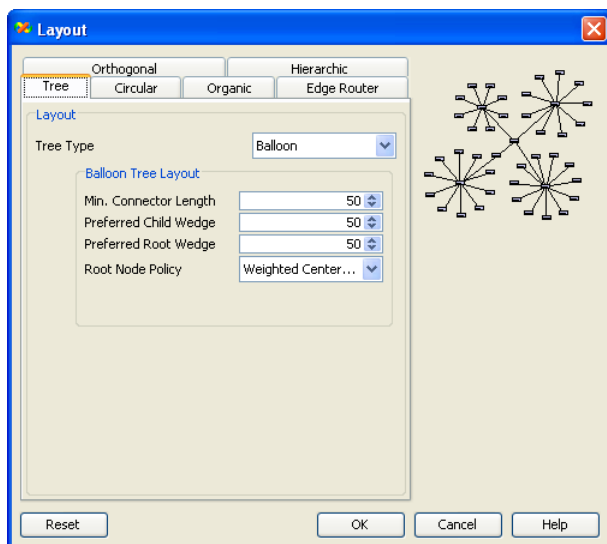


Figure 5.16 - Balloon Tree Layout Setting

Compact Tree Layout

Compact Tree Layout is one of the tree layouts in SDE-VS. 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.

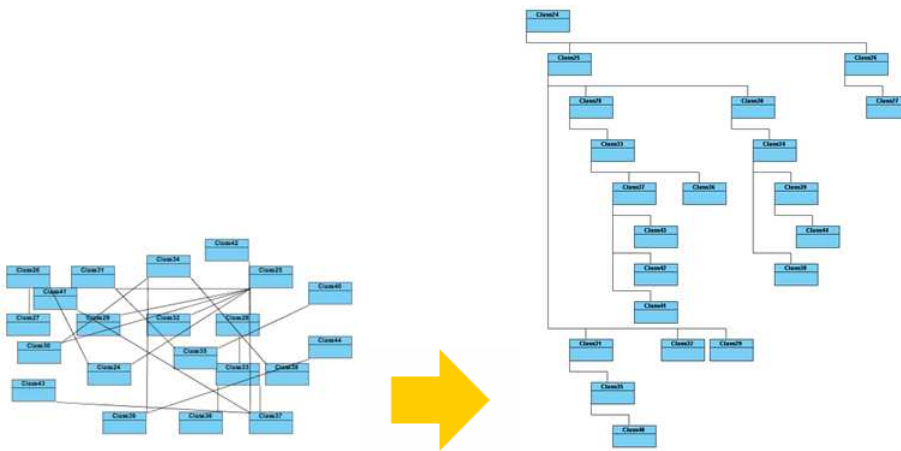


Figure 5.17 - Compact Tree Layout

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

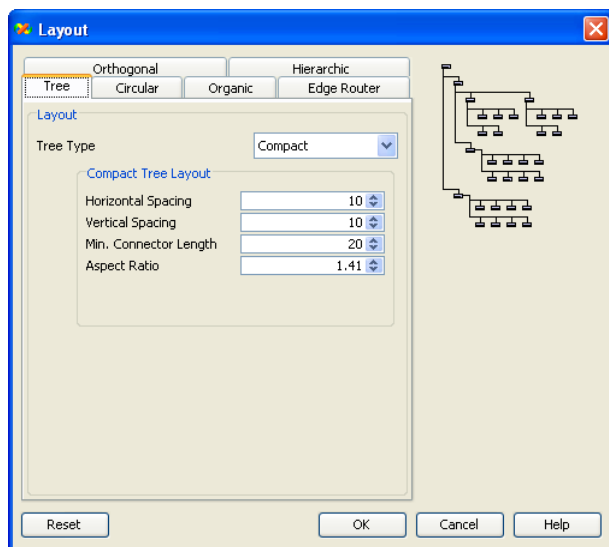


Figure 5.18 - Compact Tree Layout Setting

Horizontal-Vertical Tree Layout

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

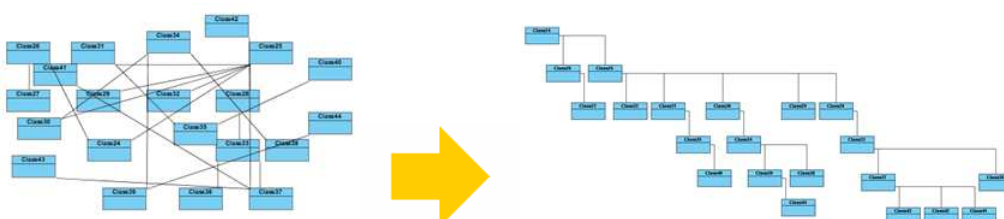


Figure 5.19 - Horizontal-Vertical Tree Layout

Horizontal Spacing: the horizontal spacing between the shapes

Vertical Spacing: the vertical spacing between the shapes

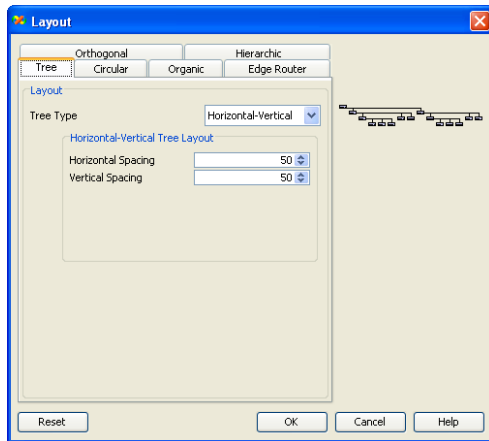


Figure 5.20 - Horizontal-Vertical Tree Layout Setting

BBC Compact Circular Layout

BBC Compact Circular Layout is one of the circular layouts in SDE-VS. 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.

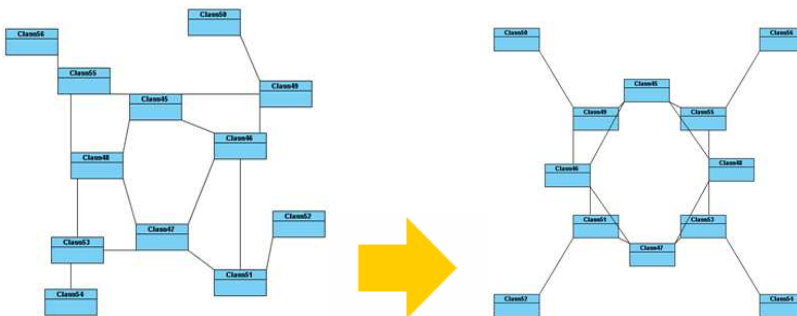


Figure 5.21 - BBC Compact Circular Layout

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

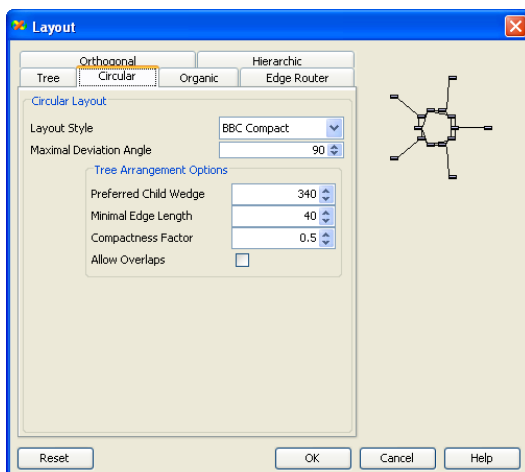


Figure 5.22 - BBC Compact Circular Layout Setting

BBC Isolated Circular Layout

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

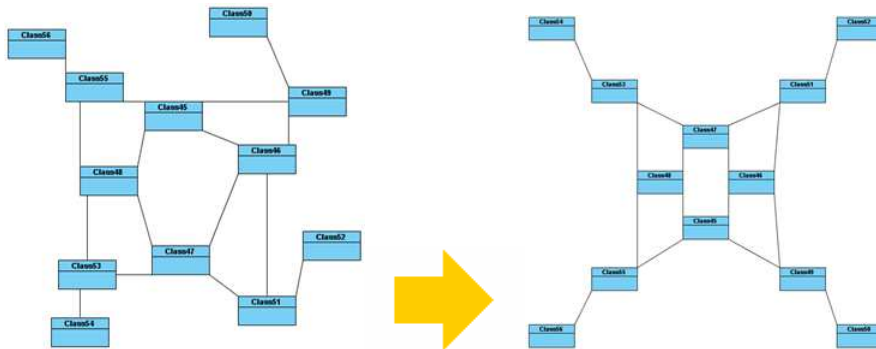


Figure 5.23 - BBC Isolated Circular Layout

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-VS. It can arrange shapes in circular structure in single circle.

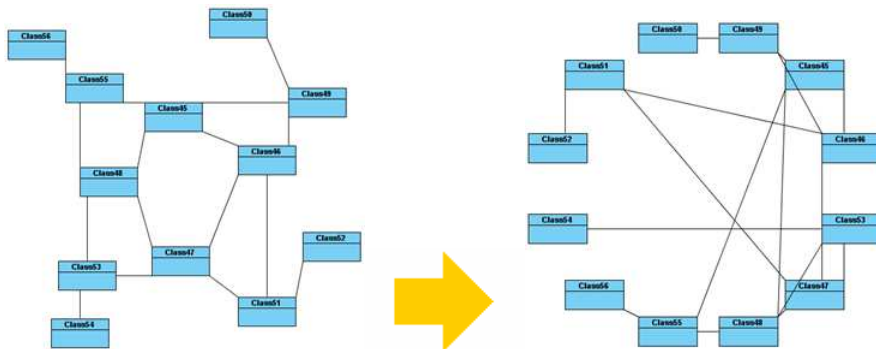


Figure 5.24 - Single Cycle Circular Layout

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

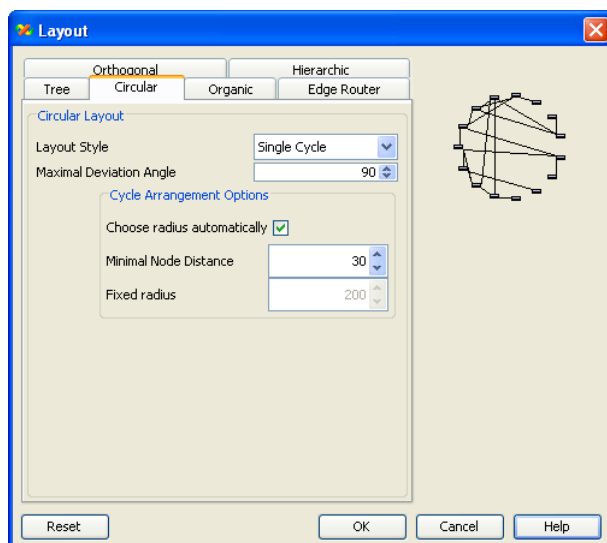


Figure 5.25 - Single Cycle Circular Layout Setting

Organic Layout

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

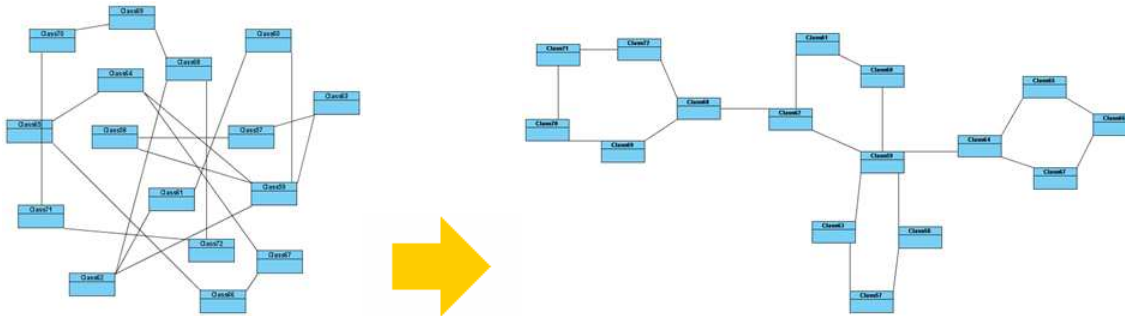


Figure 5.26 - Organic Layout

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

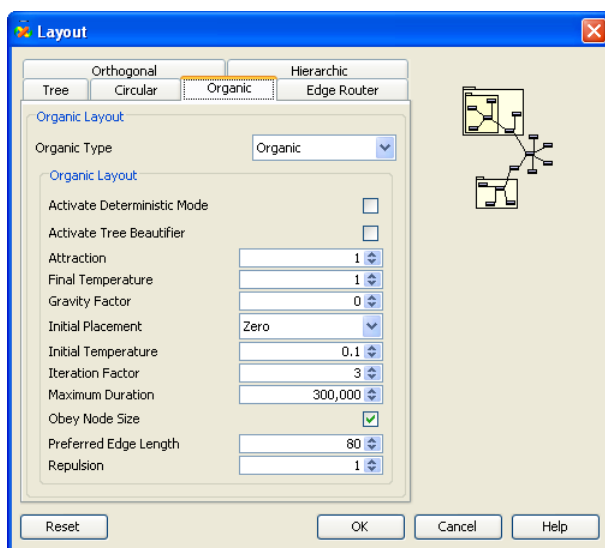


Figure 5.27 - Organic Layout Setting

Smart Organic Layout

Smart Organic Layout is one of the organic layouts in SDE-VS. 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.

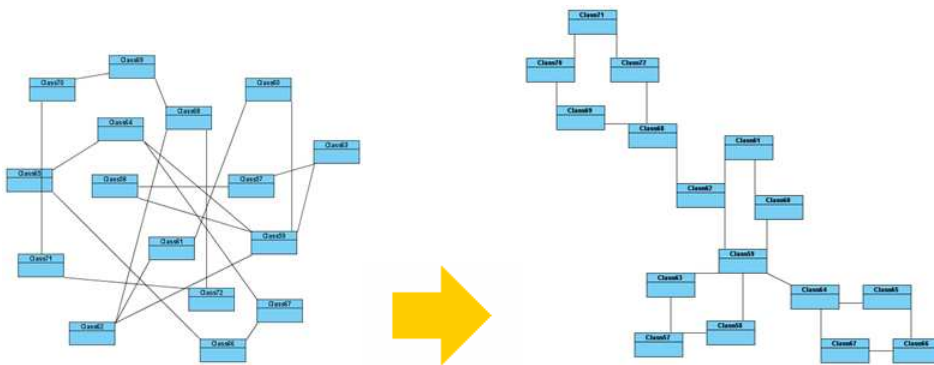


Figure 5.28 - Smart Organic Layout

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

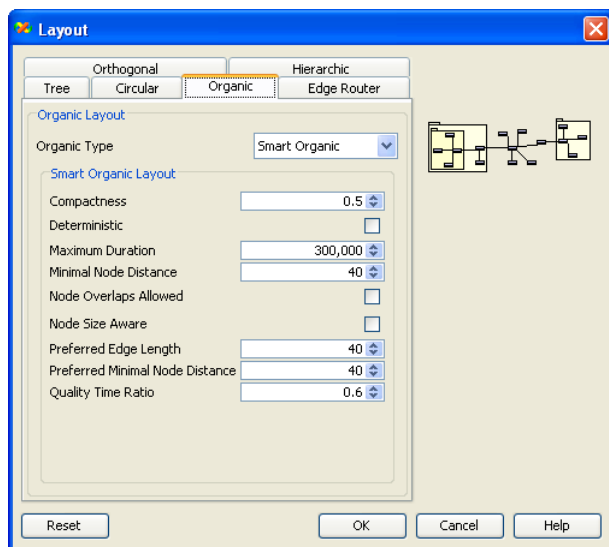


Figure 5.29 - Smart Organic Layout Setting

Organic Edge Route Layout

Organic Edge Route Layout is one of the edge route layouts in SDE-VS. 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.

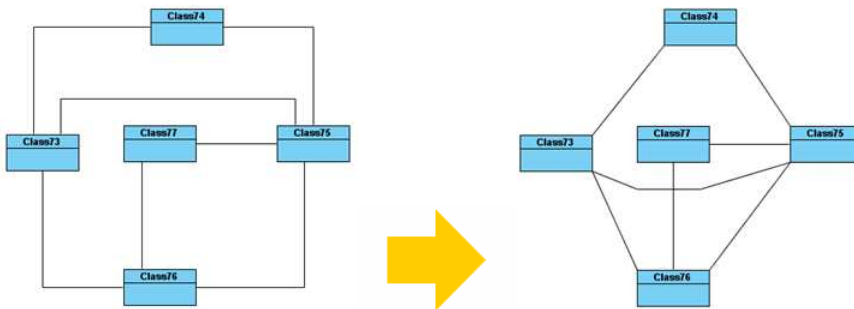


Figure 5.30 - Organic Edge Route Layout

Minimal Distance: the minimal distance of the connectors

Route All: whether all the connectors will be routed

Use Existing Bends: whether using existing bends

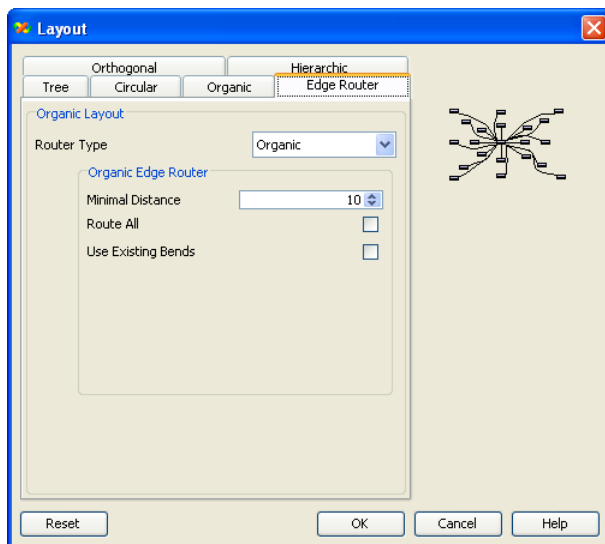


Figure 5.31 - Organic Edge Route Layout setting

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.

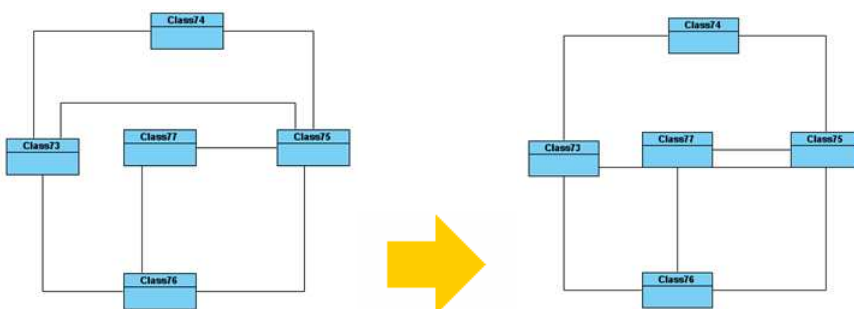


Figure 5.32 - Orthogonal Edge Route Layout

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

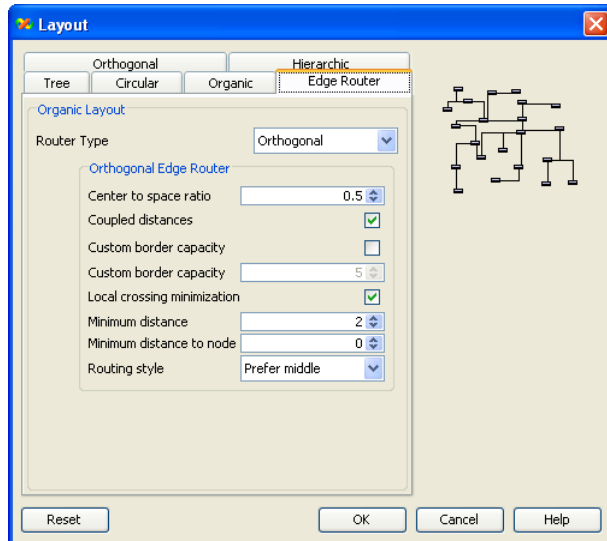


Figure 5.33 - Orthogonal Edge Route Layout setting

6

Generating Documentation

Chapter 6 - Generating Documentation

SDE-VS 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:

- PDF Report Generation
- Word Report Generation
- HTML Report Generation
- Project Publisher
- Report Writer
- Sorting Element in Report

A report is generated by converting project or diagrams in SDE-VS to other types of document, such as HTML and PDF. With report, users without VP can still read the project and diagrams. For example, if the user has installed a browser, he can read the SDE-VS 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 > Generate PDF Report...** from main menu.

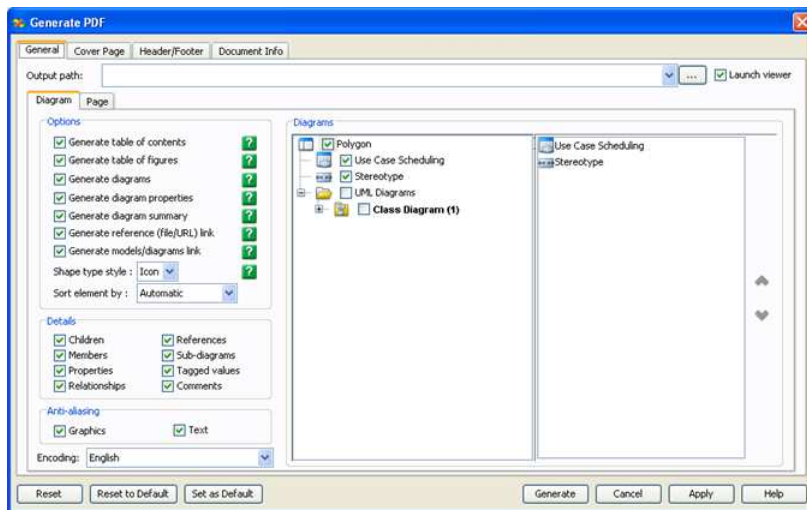


Figure 6.1 - Generate PDF Dialog

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 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 Follow tree - sorting elements by following the sort order of the diagram tree in the tool id or name - sorting elements by their ID or names 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.

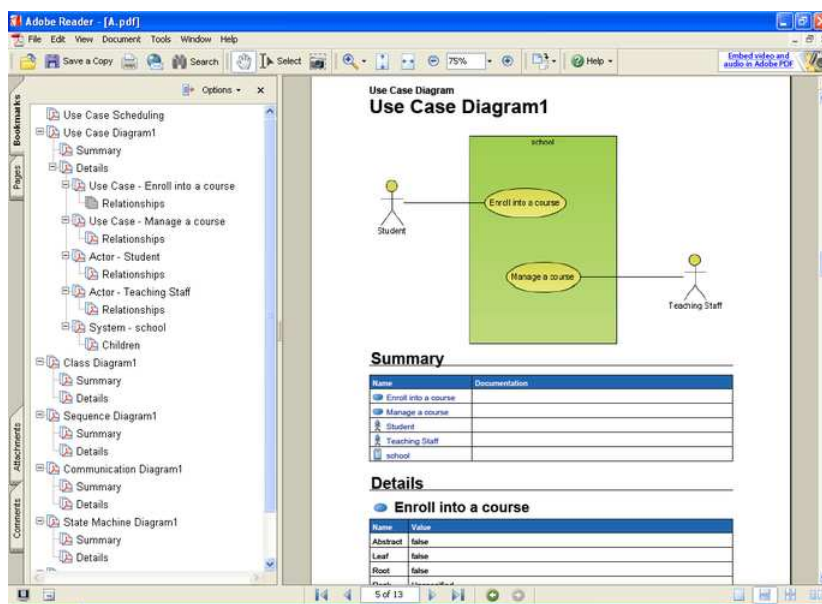


Figure 6.2 - PDF Report

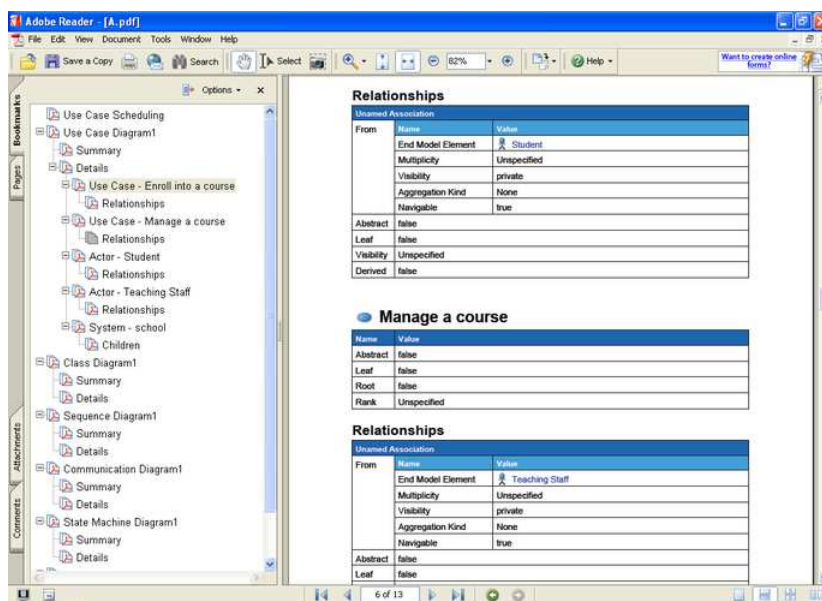


Figure 6.3 - The Generated PDF Report

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-VS 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.

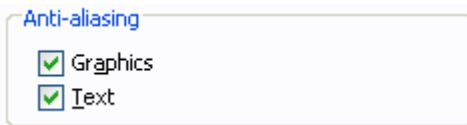


Figure 6.4 - Define image quality

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.

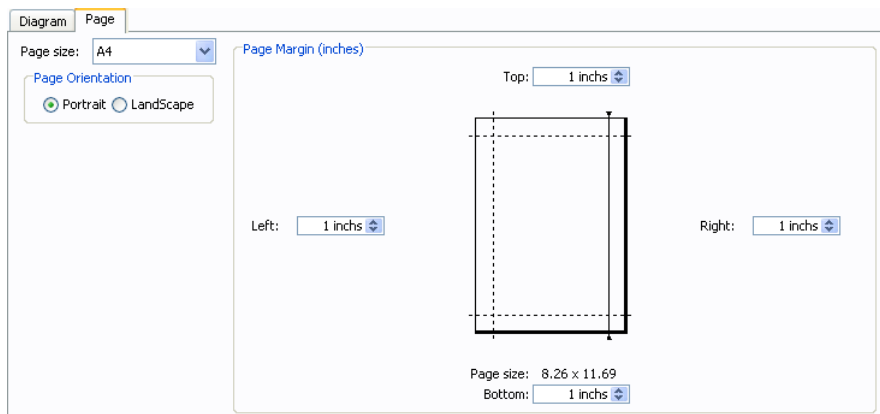


Figure 6.5 - Page setup

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

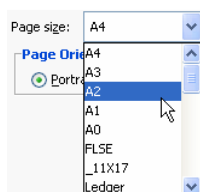


Figure 6.6 - Select the Page Size

Selecting the Page Orientation

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

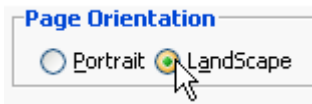


Figure 6.7 - Select the Page Orientation

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.

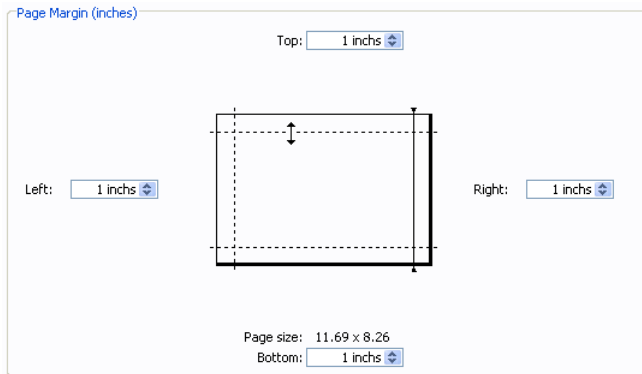


Figure 6.8 - Adjust the page margin

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.

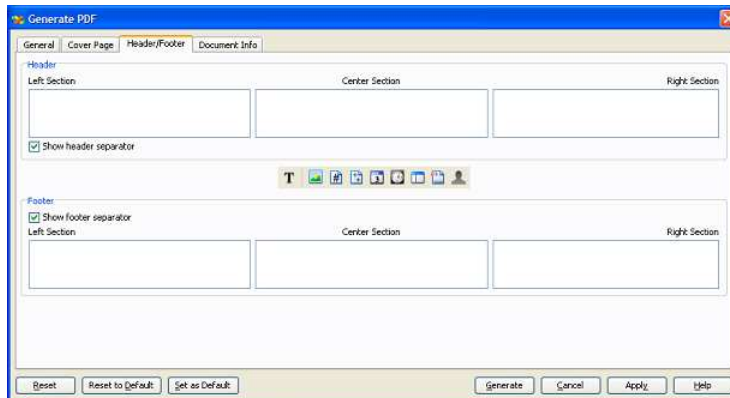


Figure 6.9 - Define a Header/Footer

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










Header/Footer Style	Description
	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.

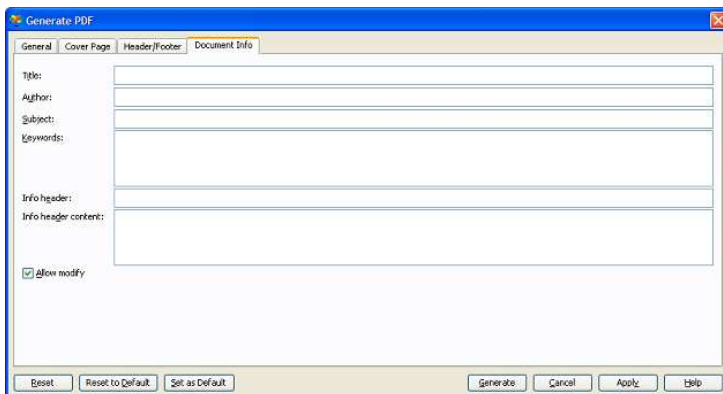


Figure 6.10 - Define Document Info

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

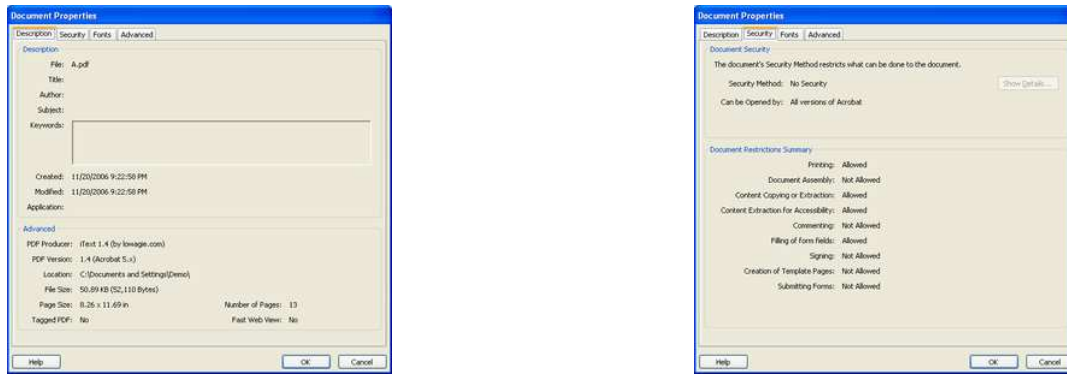


Figure 6.11 - The generated PDF Document Info

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**.

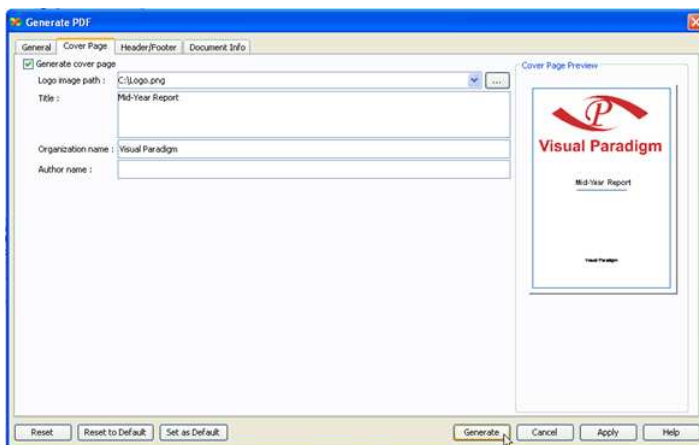


Figure 6.12 - Define the cover page

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 > Generate Word Report...** from main menu.

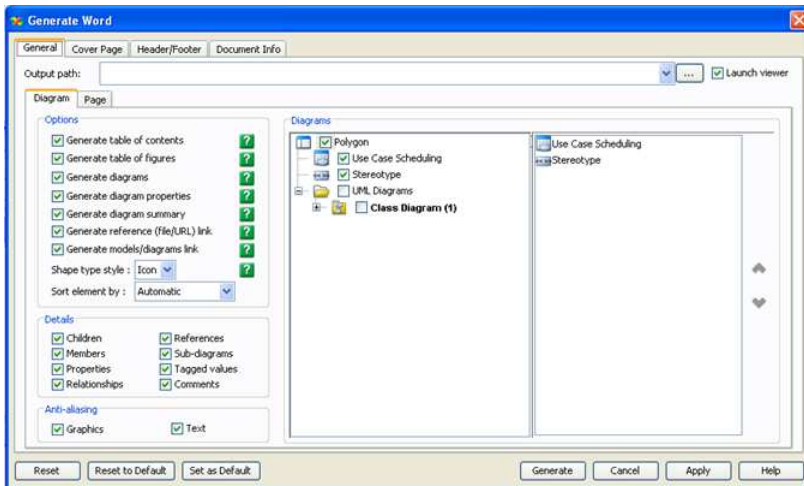


Figure 6.13 - Generate Word Dialog

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 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 Follow tree - sorting elements by following the sort order of the diagram tree in the tool id or name - sorting elements by their id or names 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.

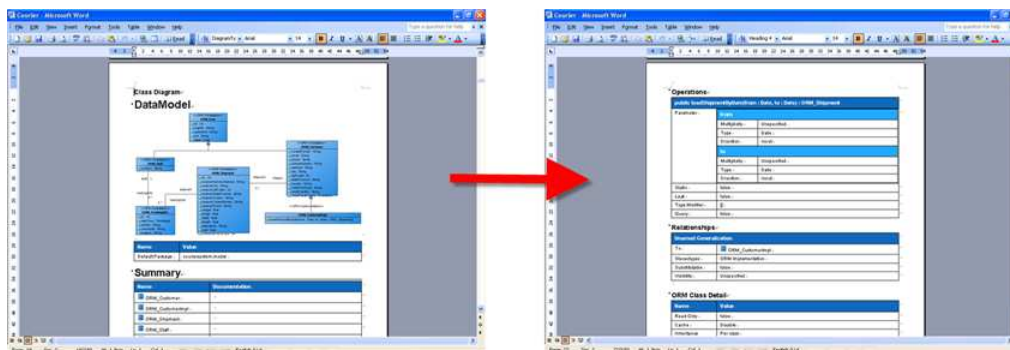


Figure 6.14 - The Generated Word Report

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-VS 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.

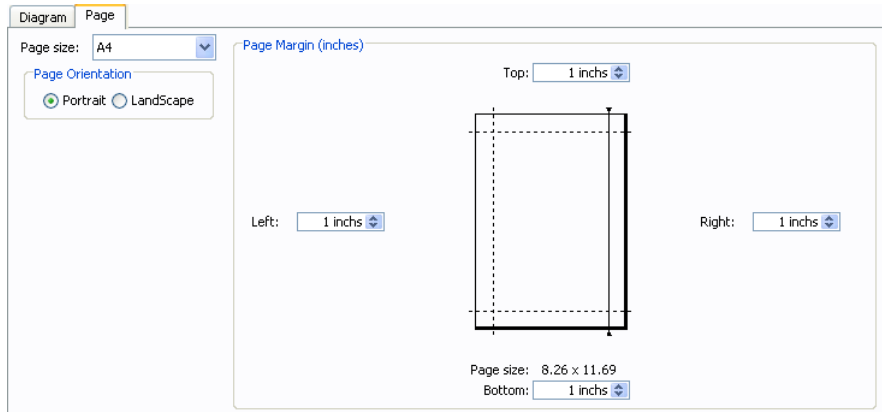


Figure 6.16 - Page setup

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

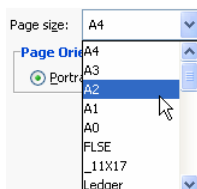


Figure 6.17 - Select the Page Size

Selecting the Page Orientation

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

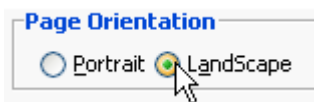


Figure 6.18 - Select the Page Orientation

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.

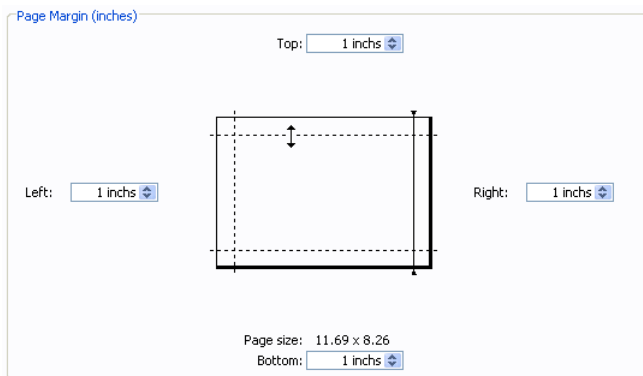


Figure 6.19 - Adjust the page margin

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.

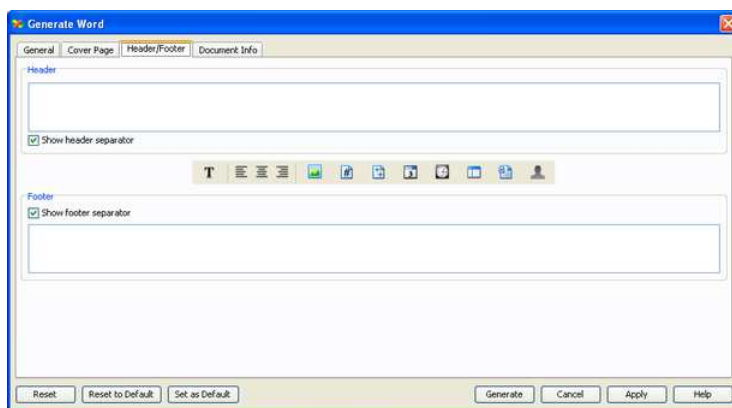









Figure 6.20 - Define a Header/Footer

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

Defining the Header/Footer Style

SDE-VS 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.

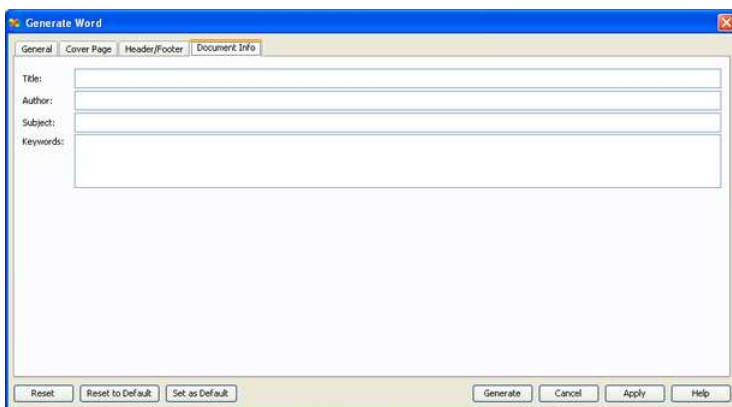


Figure 6.21 - Define Document Info

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**.

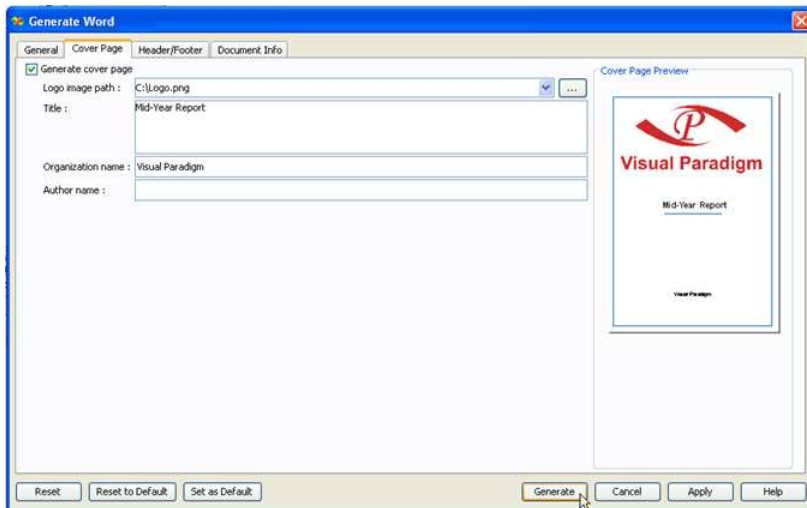


Figure 6.22 - Define the cover page

HTML Report Generation

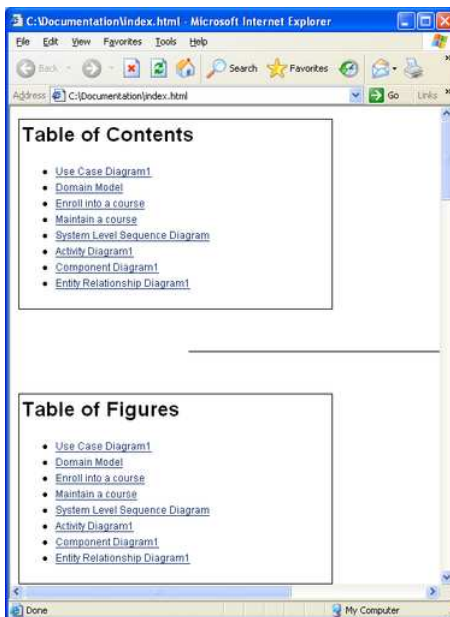


Figure 6.23 - HTML Report

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 > Generate HTML Report...** from main menu.

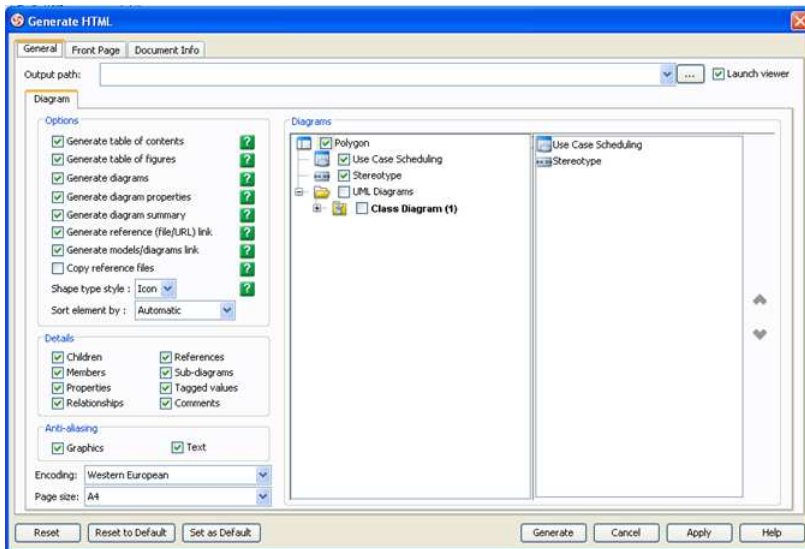


Figure 6.24 - Generate HTML dialog

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 Follow tree - sorting elements by following the sort order of the diagram tree in the tool id or name - sorting elements by their id or names 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.

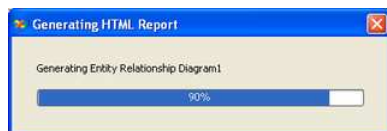


Figure 6.25 - Generating HTML report

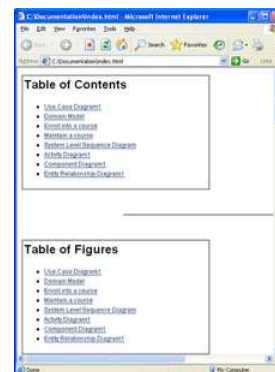


Figure 6.26 - The generated HTML report

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.

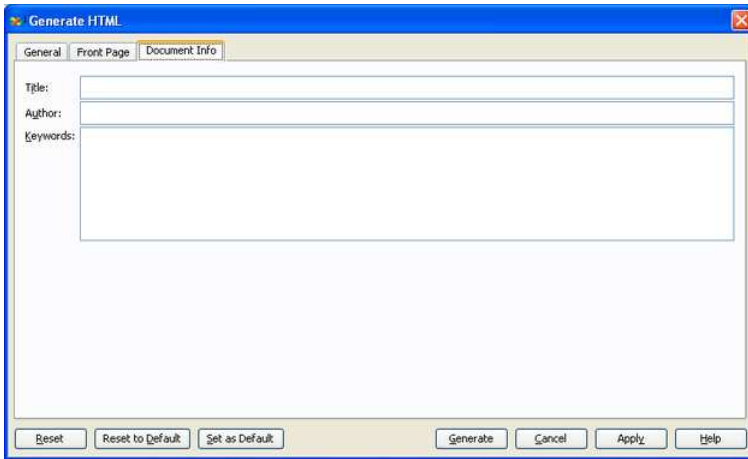


Figure 6.29 - Set the Document Info

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.

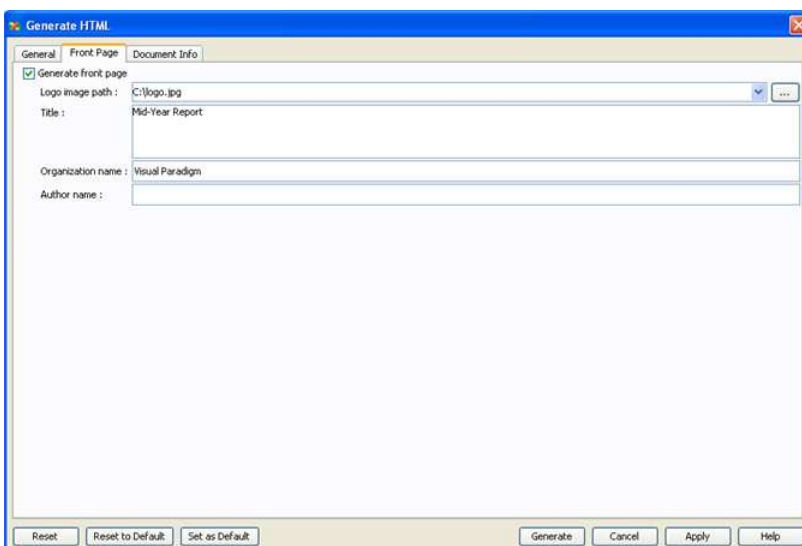


Figure 6.30 - Configure the front page

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.

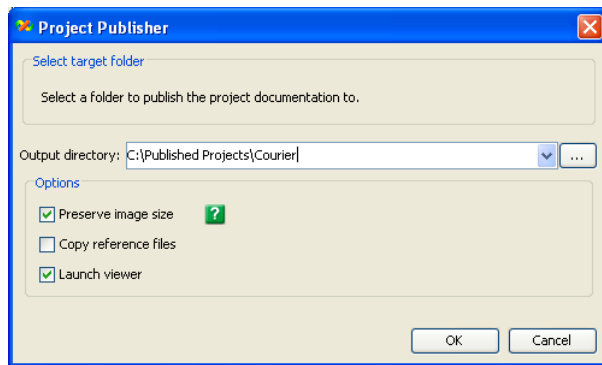


Figure 6.31 - Project Publisher

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**.

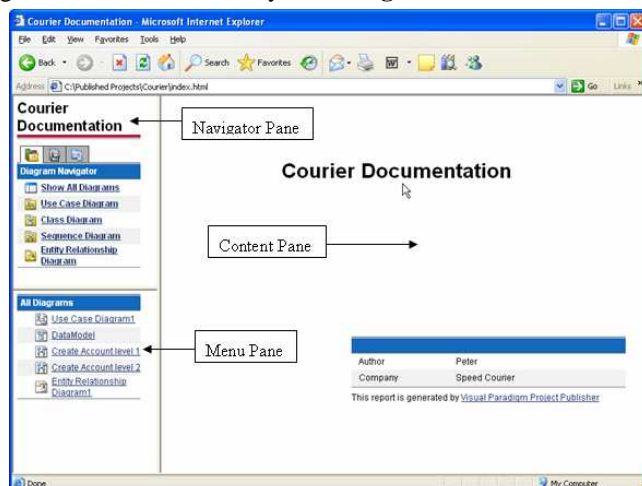


Figure 6.32 - Published project

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.

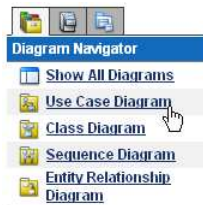


Figure 6.33 - Diagram Navigator

- **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.

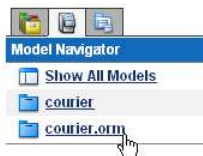


Figure 6.34 - Model Navigator

- **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.

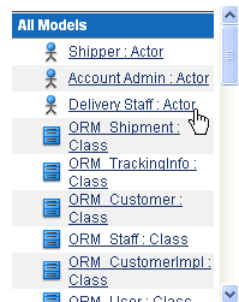


Figure 6.36 - Menu Navigator

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

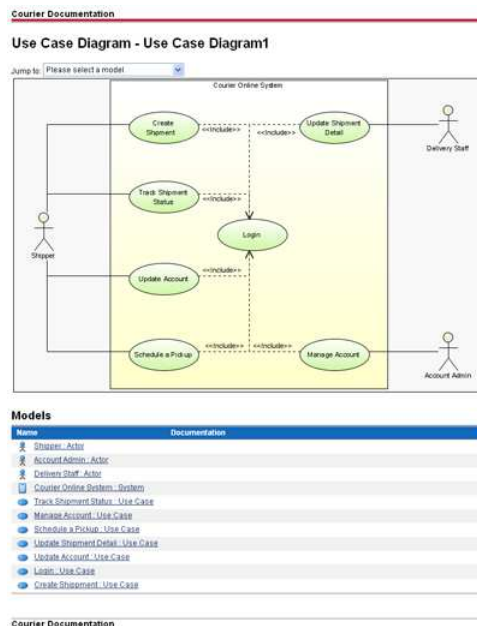


Figure 6.37 - The Diagram Content

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.

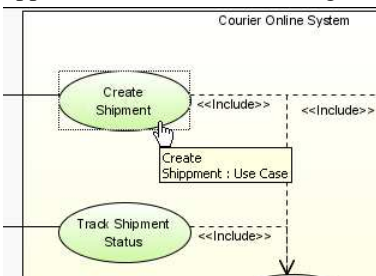


Figure 6.38 - Shape link to the descriptions

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.

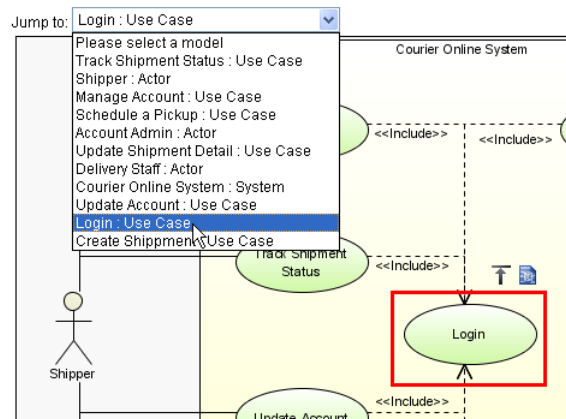


Figure 6.39 - Jump to an element

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

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

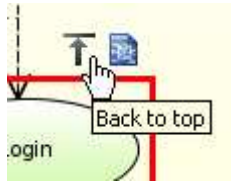


Figure 6.40 - Back to top button

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

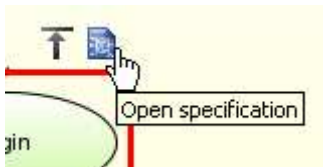


Figure 6.41 - Open Specification button

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.

Models

Name	Documentation
Shipper : Actor	
Account Admin : Actor	
Delivery Staff : Actor	
Courier Online System : System	
Track Shipment Status : Use Case	
Manage Account : Use Case	
Schedule a Pickup : Use Case	
Update Shipment Detail : Use Case	
Update Account : Use Case	
Login : Use Case	
Create Shipment : Use Case	

Figure 6.42 - Model list

Model Content

Courier Documentation

courier : Package - erm : Package

Class - ORM_CustomerImpl

Properties

Name	Value
Active	false
Visibility	public
Abstract	false
Leaf	false
Root	false

Operations Overview

Visibility	Return Type	Name
public	ORM_Shipment	loadShipmentByDate

Relationships Summary

Name	Begin	End
Generalization	ORM_Customer_Class	ORM_CustomerImpl_Class

Operations Detail

Name	Value
Name	loadShipmentByDate
Type Modifier	
Visible	True
Return Type	ORM_Shipment
Visibility	public
Scope	instance
Query	false
Abstract	false

Relationships Detail

Name	Value
Type	Generalization
From	ORM_Customer_Class
To	ORM_CustomerImpl_Class
Visibility	Unspecified

Courier Documentation

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.

[courier : Package](#) . [orm : Package](#)

Class - ORM_CustomerImpl

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.

Relationships Summary

Name	Begin	End
← Generalization	ORM_Customer : Class	ORM_CustomerImpl : Class

Relationships Detail

Name	Value
Type	Generalization
From	ORM_Customer : Class
To	ORM_CustomerImpl : Class
Visibility	Unspecified

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.

Operations Overview

Visibility	Return Type	Name
public	ORM_Shipment	loadShipmentByDate

Operations Detail

Name	Value
Name	loadShipmentByDate
Type Modifier	∅
Visible	true
Return Type	ORM_Shipment
Visibility	public
Scope	instance
Query	false
Abstract	false

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-VS. SDE-VS offers seamless integration of UML modeling tool with word processors to provide a unified documenting environment. By dragging the models from SDE-VS 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 > 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.

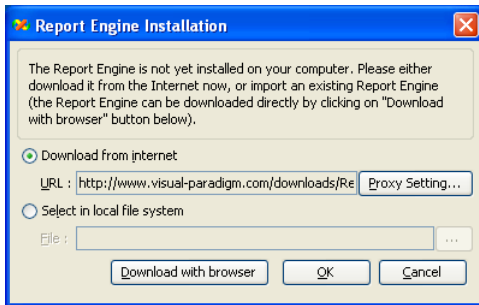


Figure 6.47 - Report Engine Installation Dialog

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.

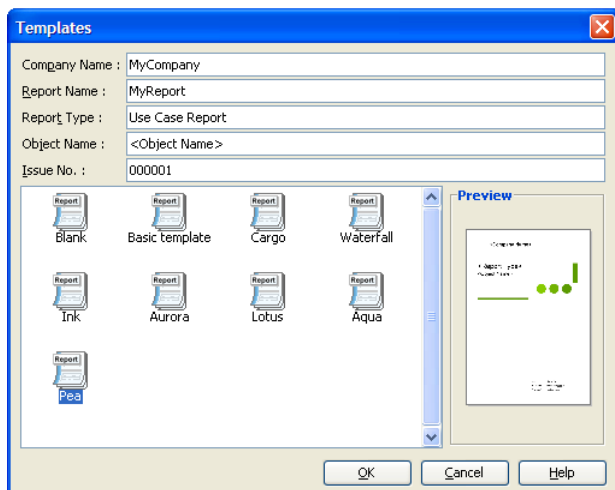


Figure 6.48 - Templates Dialog

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**.

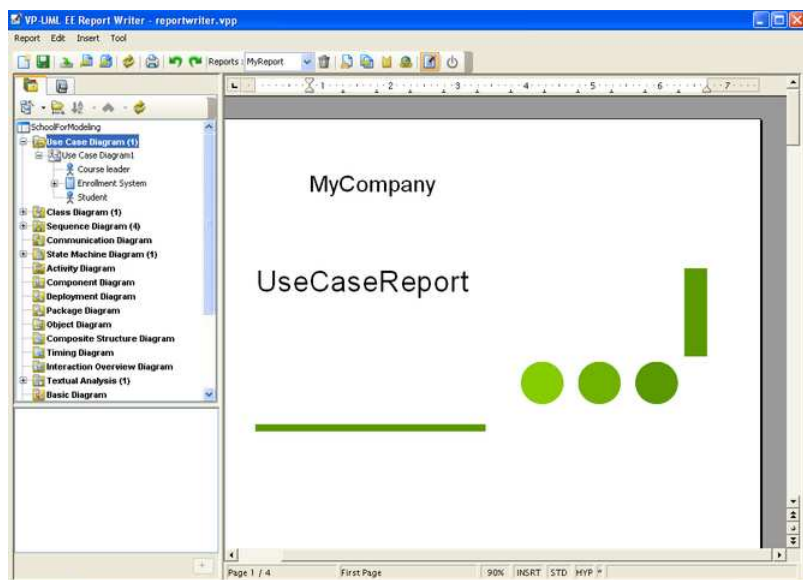


Figure 6.49 - Report Writer

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.

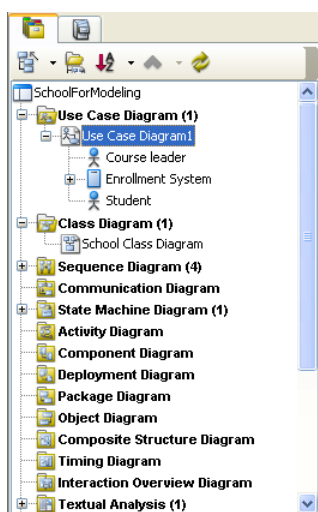


Figure 6.50 - Diagram Navigator

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.

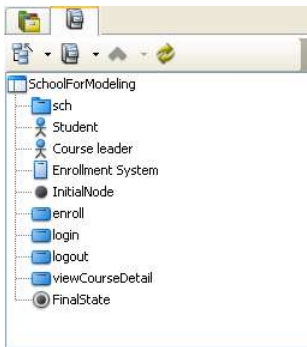


Figure 6.51 - Model Tree

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**.

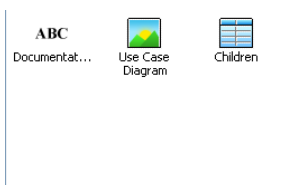


Figure 6.52 - Template Pane

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		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.

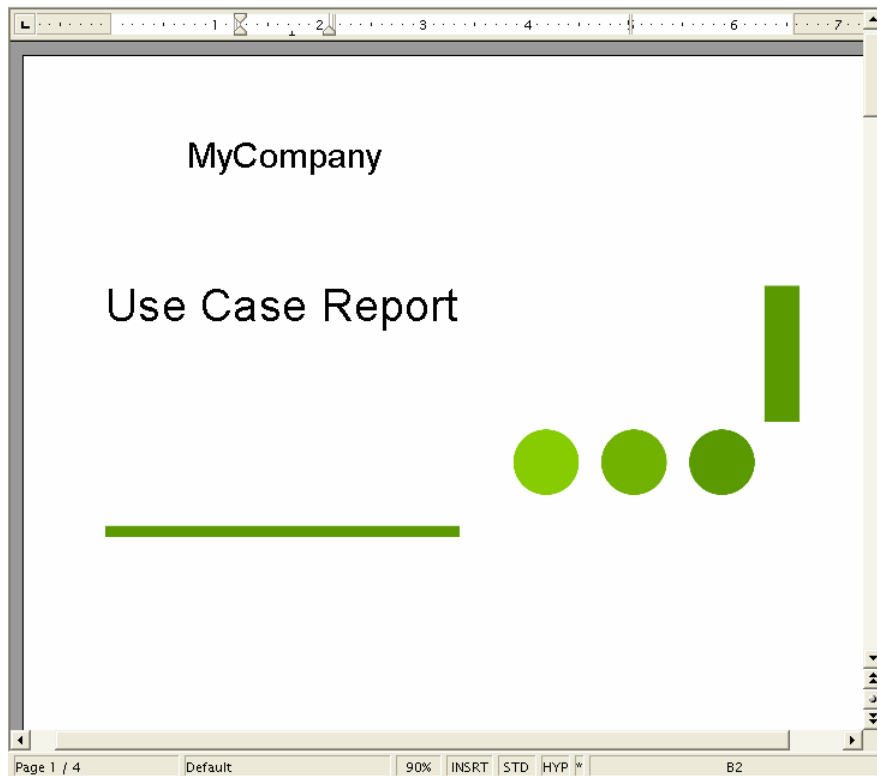


Figure 6.53 - Writer Pane

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-VS 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.
Reports : *Use Case Report ▾	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-VS.

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.

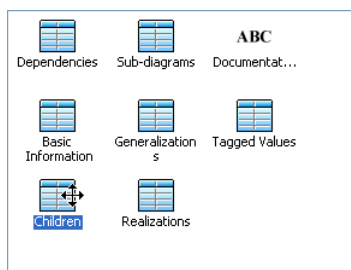


Figure 6.54 - Template Pane

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.

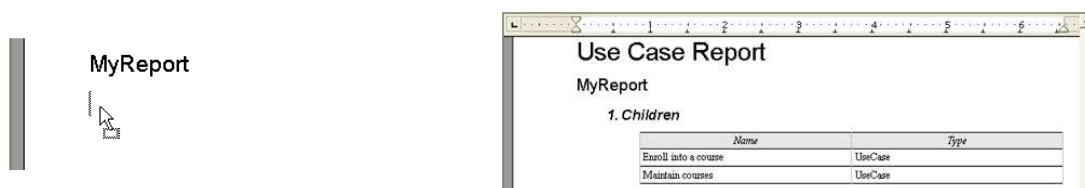


Figure 6.56 - Drag the template to report



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.

1. start-of-generated-elementChildren	
Name	Type
Enroll into a course	UseCase
Maintain courses	UseCase

end-of-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.

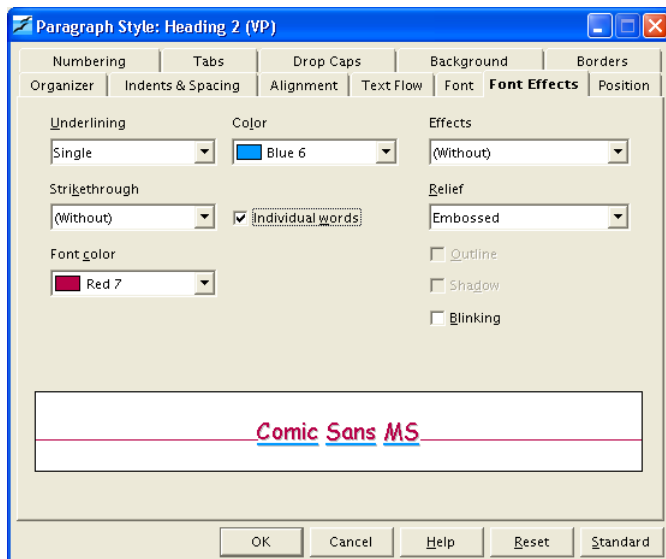


Figure 6.59 - Edit Paragraph Style

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

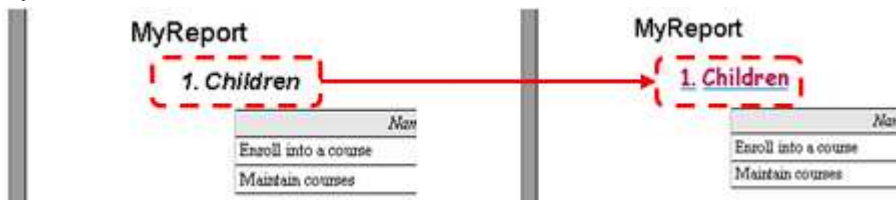



Figure 6.60 - Style Change

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.

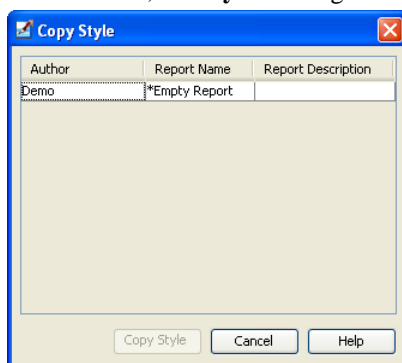


Figure 6.61 - Copy Style Dialog

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-VS. 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.

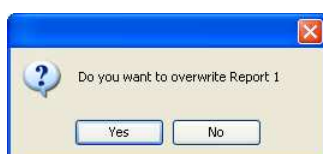


Figure 6.62 - Confirm overwrite existing report

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-VS 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 > Generate PDF Report...** from the main menu.

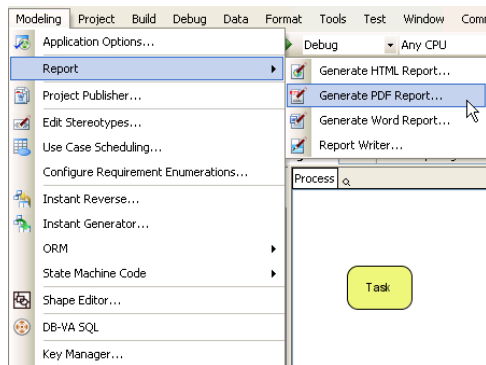


Figure 6.63 - Select Generate PDF Report...

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

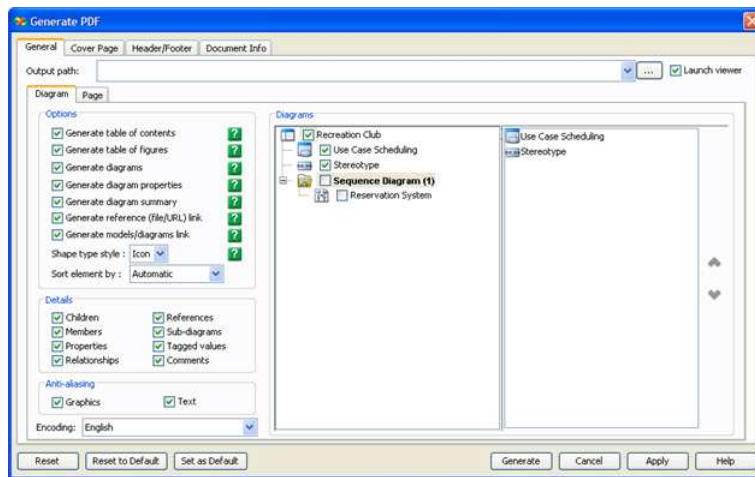


Figure 6.64 - Generate PDF dialog box

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

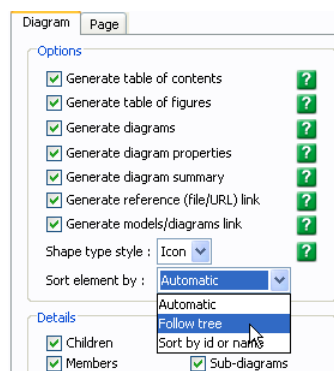


Figure 6.65 - Select way of sorting

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.

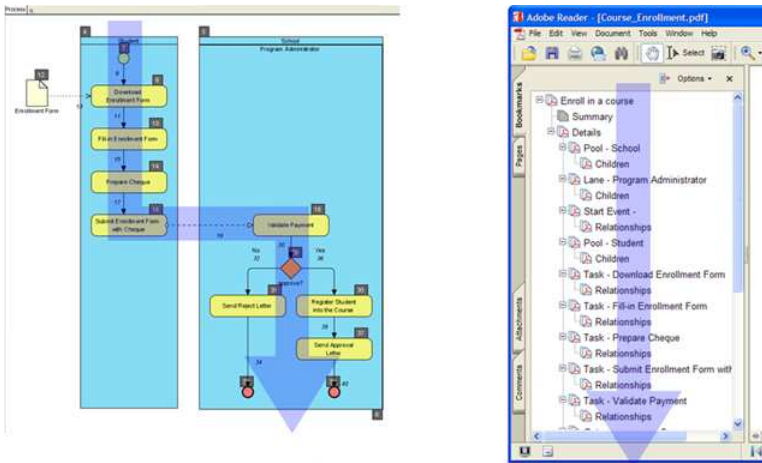


Figure 6.66 - Sorting by Automatic

- Follow tree

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

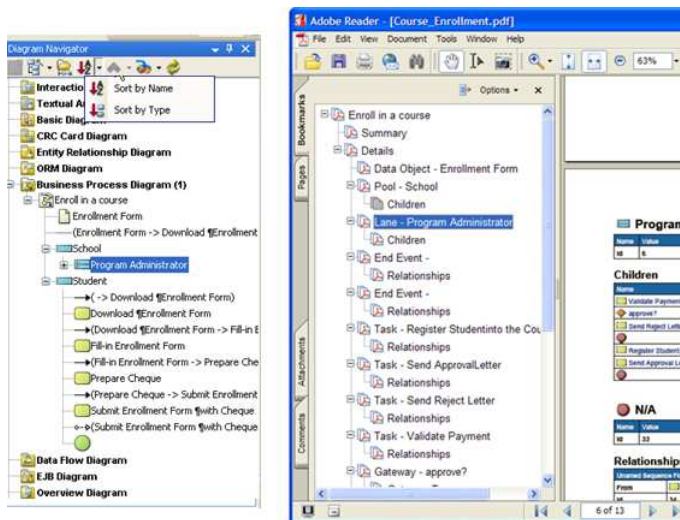


Figure 6.67 - Sort by Follow tree

- Sort by id or name

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

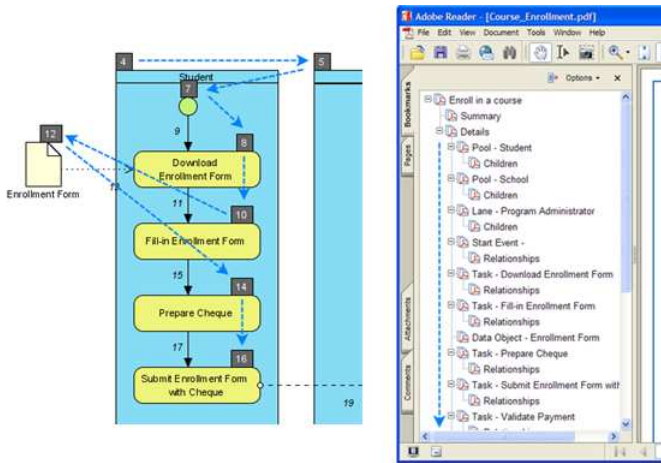


Figure 6.68 - Sort by id or name

7

Export and Import

Chapter 7 - Export and Import

SDE-VS 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 VP project, an XML file or an XMI file. You can also learn how to export a VP project as an image and how to import a IBM Rational Rose Project.

In this chapter:

- Image Exporter
- VP 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-VS 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 > Export > Active Diagram as Image...** from main menu.

A 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 > 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.

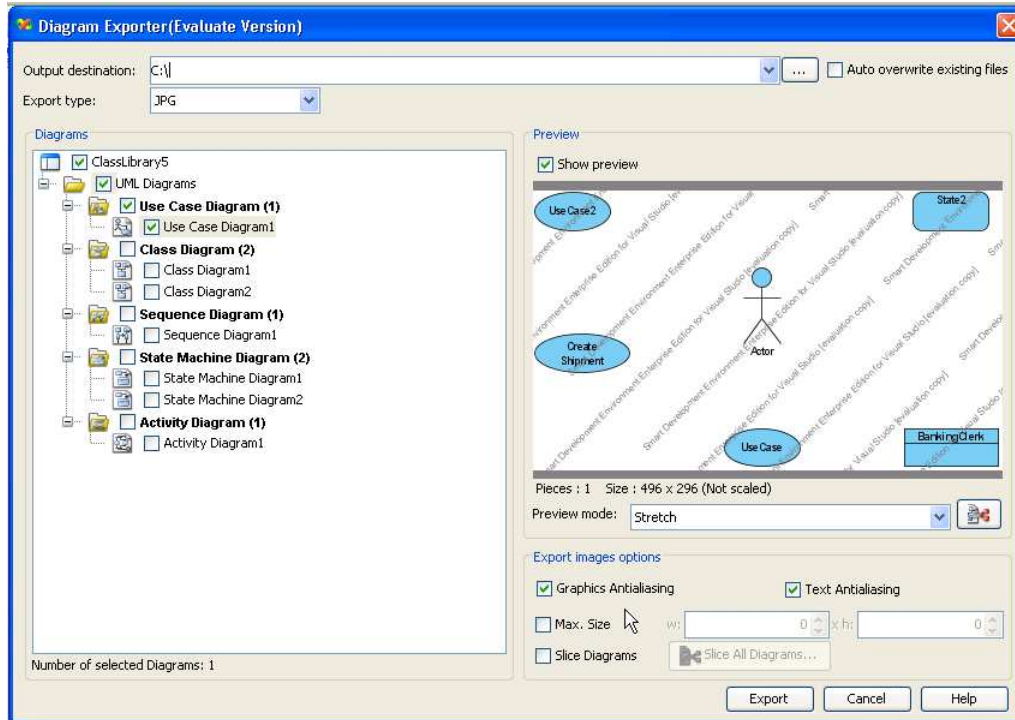


Figure 7.1 - Diagram exporter

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. 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.

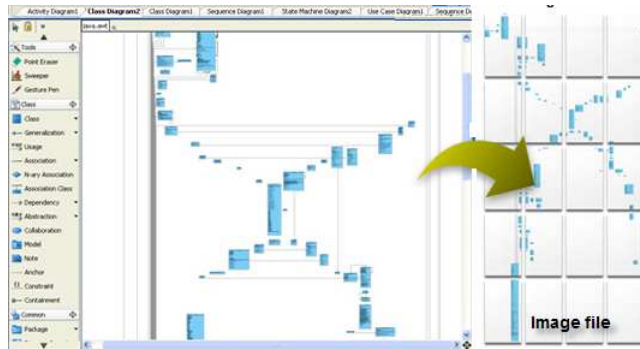


Figure 7.2 - Slice diagrams

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-VS 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 > Export > Diagrams as Image...** in the main menu.

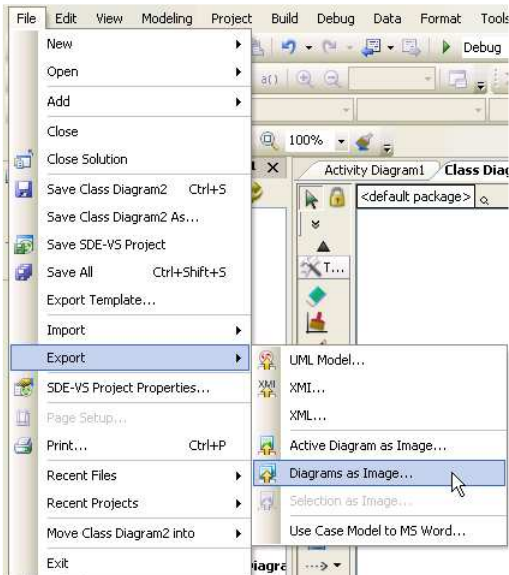


Figure 7.3 - Select Diagrams as Image...

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

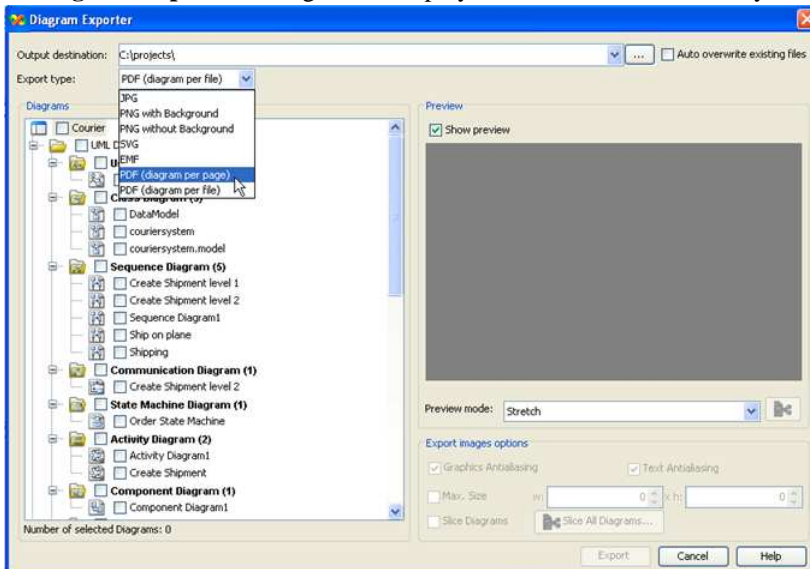


Figure 7.4 - Select PDF format

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.

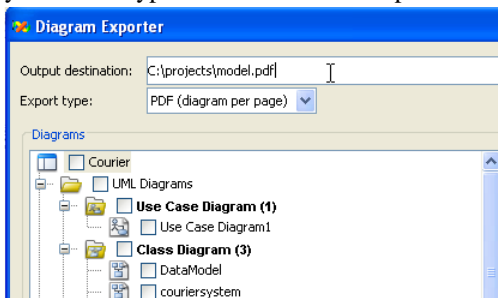


Figure 7.5 - Type in Output destination

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

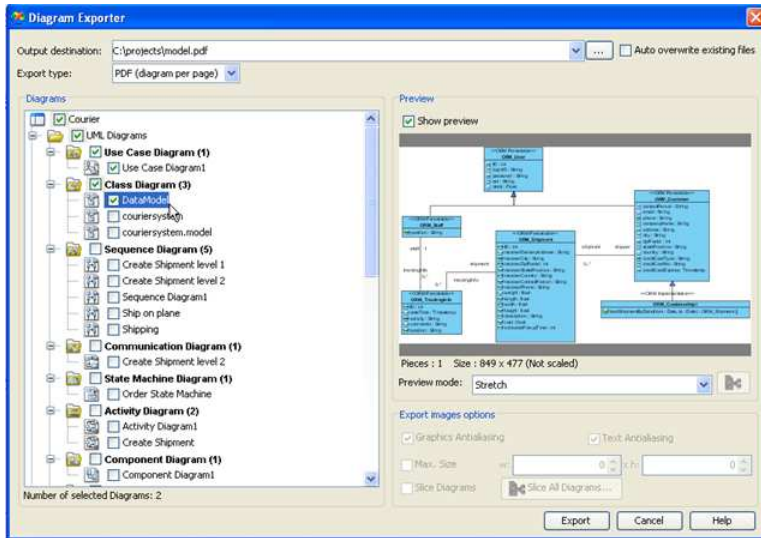


Figure 7.6 - Select diagrams to export

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.

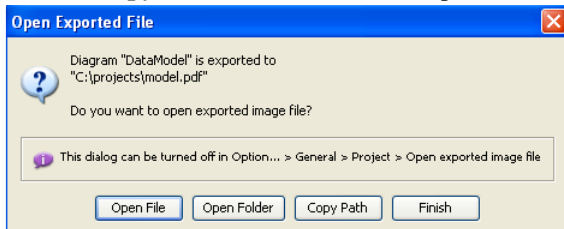


Figure 7.7 - Export finished

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

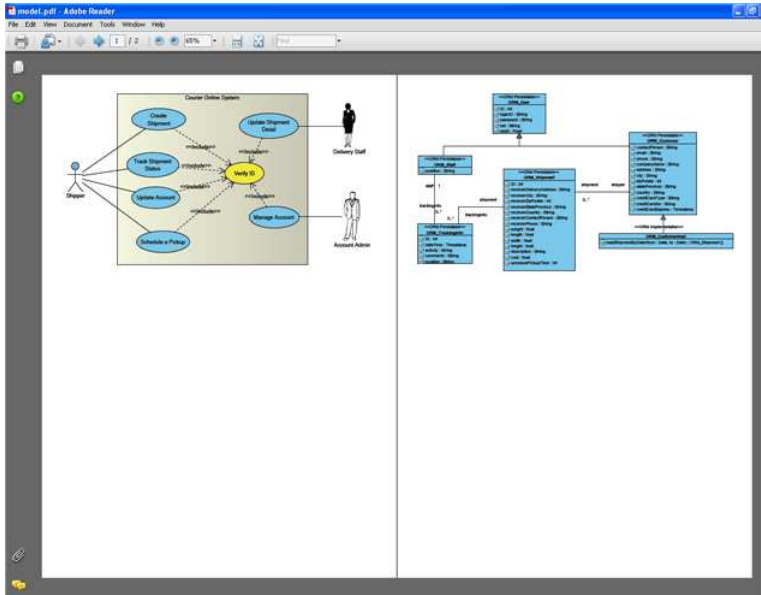


Figure 7.8 - Exported file

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**.

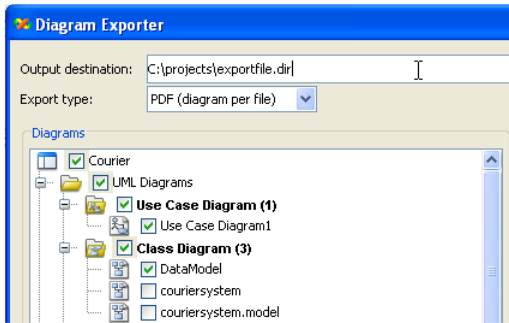


Figure 7.9 - Type in a directory

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

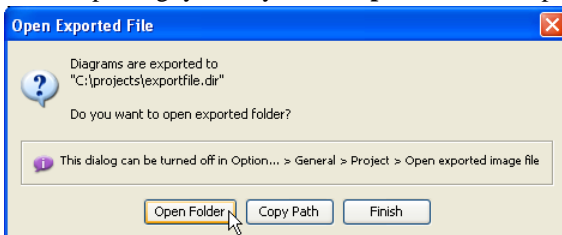


Figure 7.10 - Select Open Folder

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

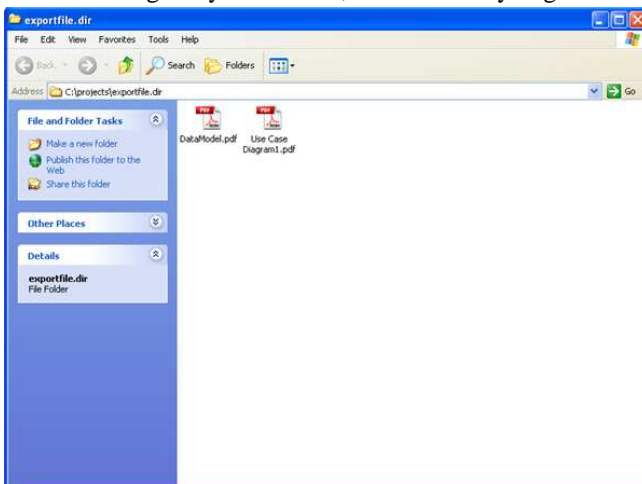


Figure 7.11 - Exported files in the designated directory

Each file exported will only contain one diagram.

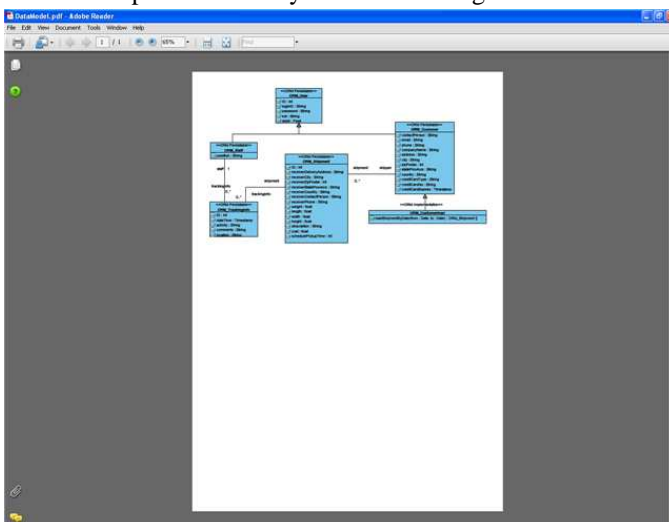


Figure 7.12 - Exported file

Exporting and Importing VP Project File

Exporting VP Project File

Many hands make simple work. Exporting a VP 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 VP 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 VP Project File:

1. Select **File > Export > UML Model...** in main menu.

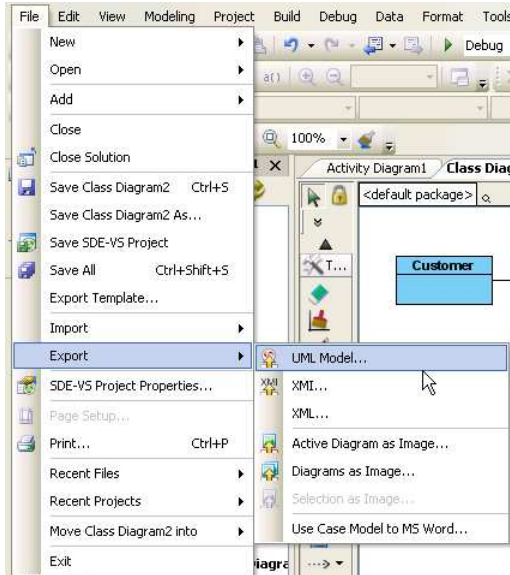


Figure 7.13 - Export SDE-VS project

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

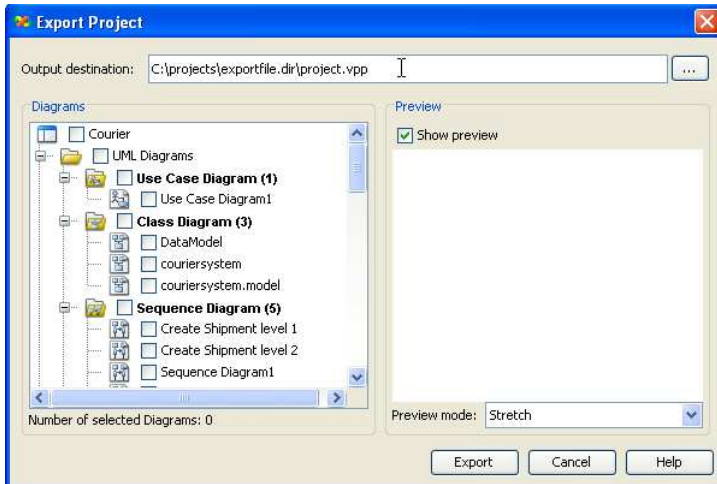


Figure 7.14 - Export Project dialog box

3. Select the diagram you want to export.

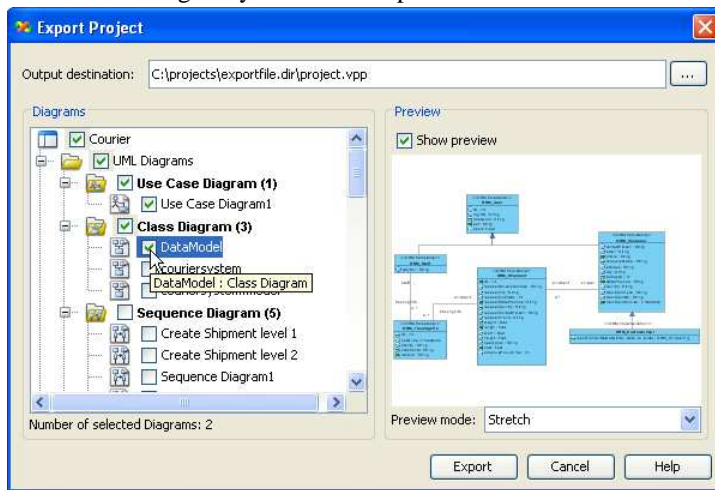


Figure 7.15 - Select diagram to export

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

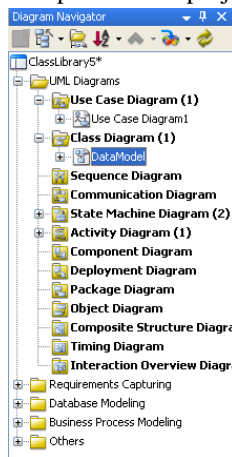


Figure 7.16 - Diagram Navigator of exported project

Importing VP 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 > Import > UML Model...** in the main menu.

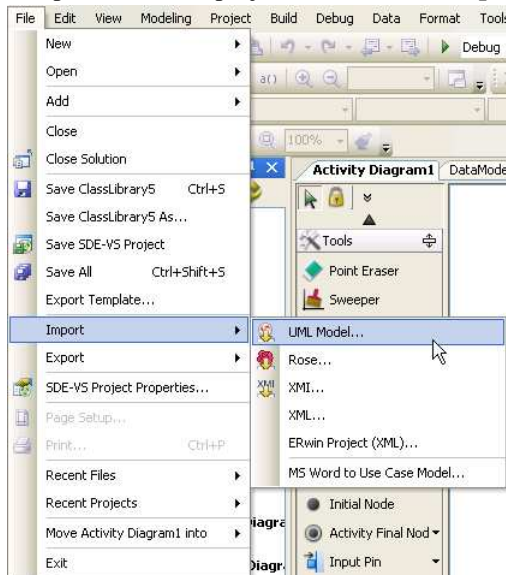


Figure 7.17 - Import SDE-VS Project

2. Select the project to be imported.

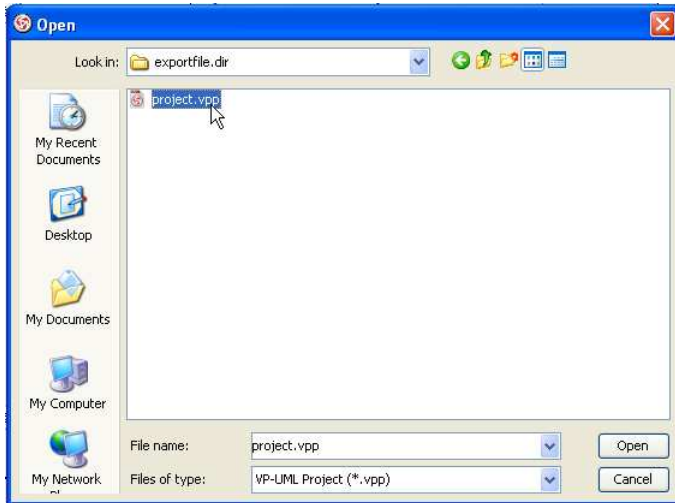


Figure 7.18 - Select a project to import

Diagram in the master project before import.

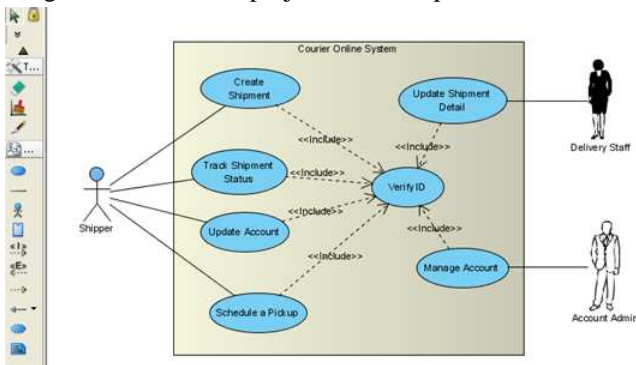


Figure 7.19 - Diagram before import

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

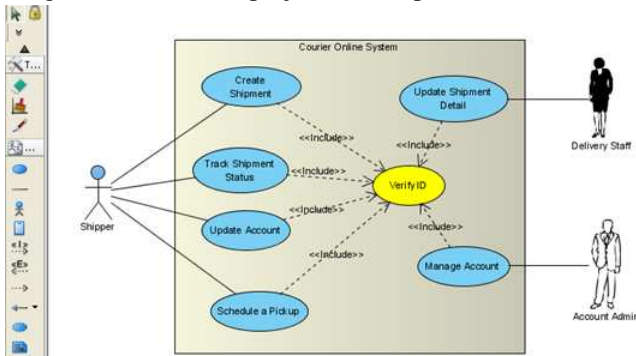


Figure 7.20 - Diagram after import

Exporting and Importing XML

XML is a widely used standard for exchanging data. You can export the whole VP 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 VP Project to reflect your changes.

Exporting XML

To export a project to XML:

1. Select **File > Export > XML...** in the main menu.

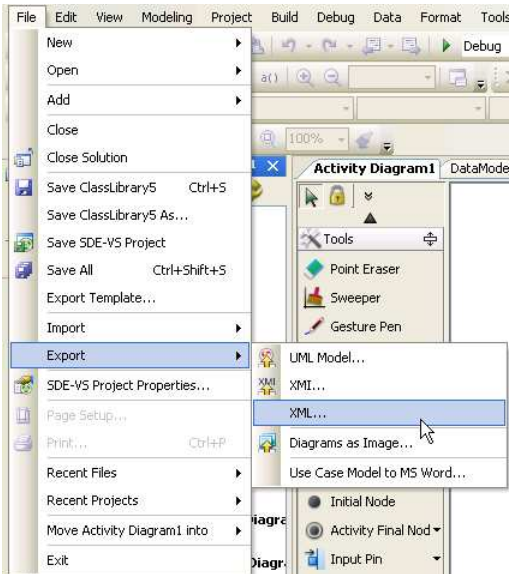


Figure 7.21 - Export XML

2. The Export to XML dialog box is displayed.

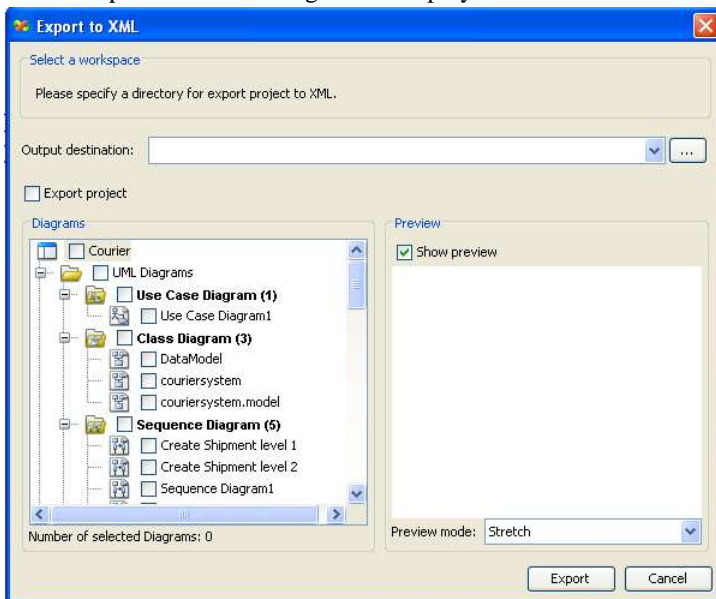


Figure 7.22 - XML dialog box displayed

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.

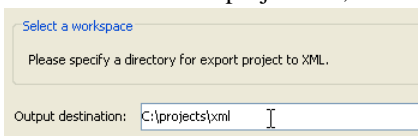


Figure 7.23 - Text box for Output destination

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**.

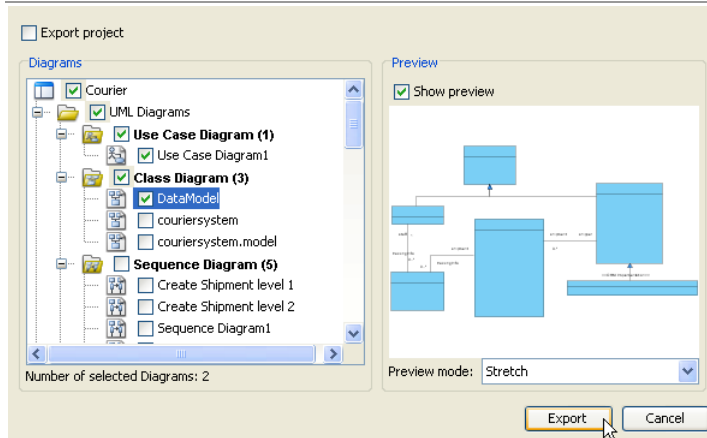


Figure 7.24 - Select Export

5. The XML file is generated.

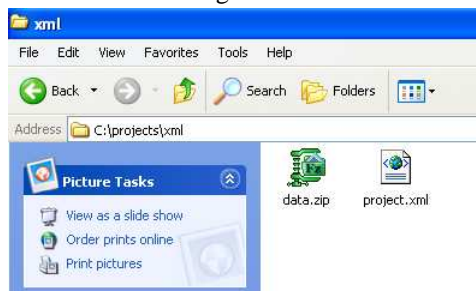


Figure 7.25 - XML file is generated

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**.

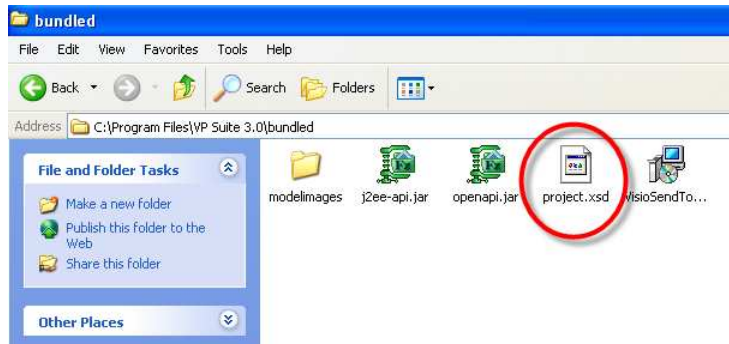


Figure 7.26 - XML schema

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.

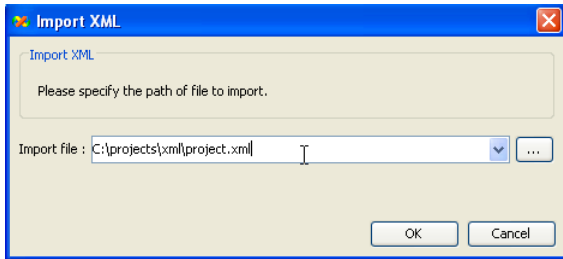


Figure 7.30 - Specify the file path

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-VS 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 VP project is exported to XMI, users without SDE-VS can use other CASE tools to open the XMI to get the content of the project.

To export XMI:

1. Select **File > Export > XMI...** in main menu.

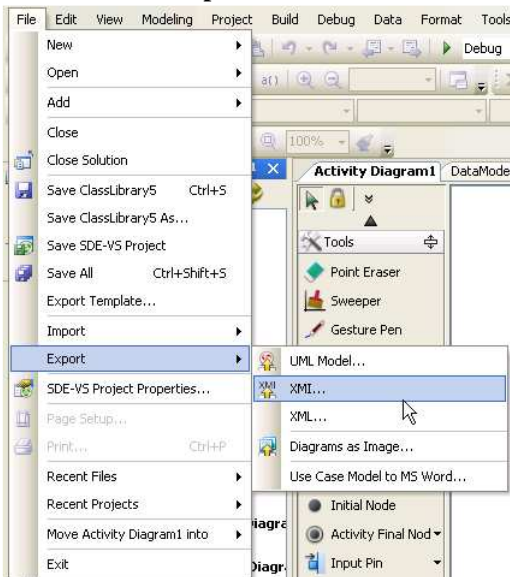


Figure 7.32 - Export XMI

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

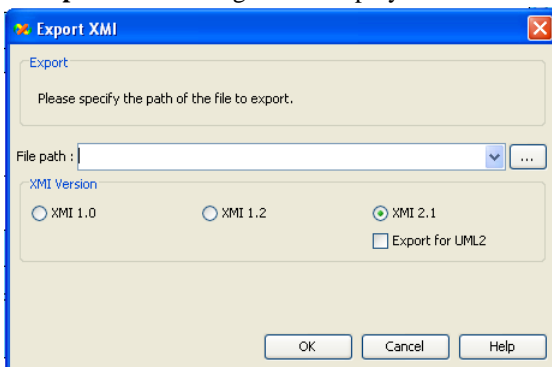


Figure 7.33 - Export XMI dialog box

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

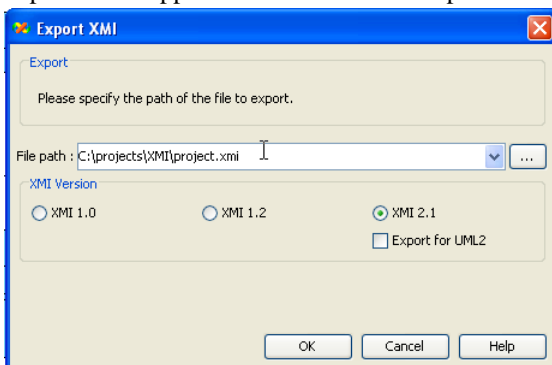


Figure 7.34 - Specify the export file path

4. The XMI is generated.

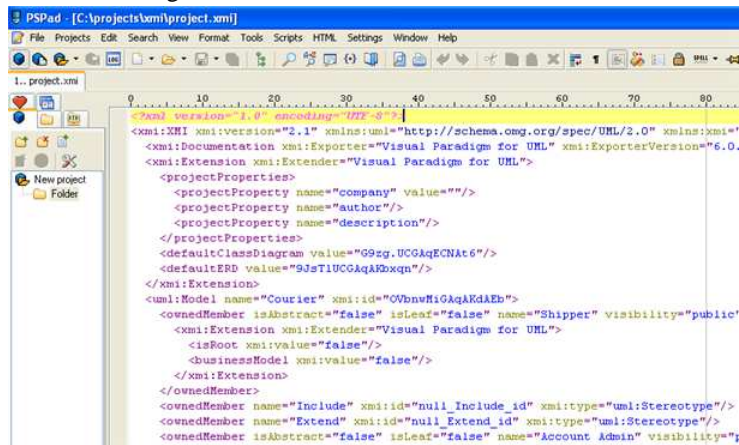


Figure 7.35 - XMI file created

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 > Import > XMI...** in the main menu.

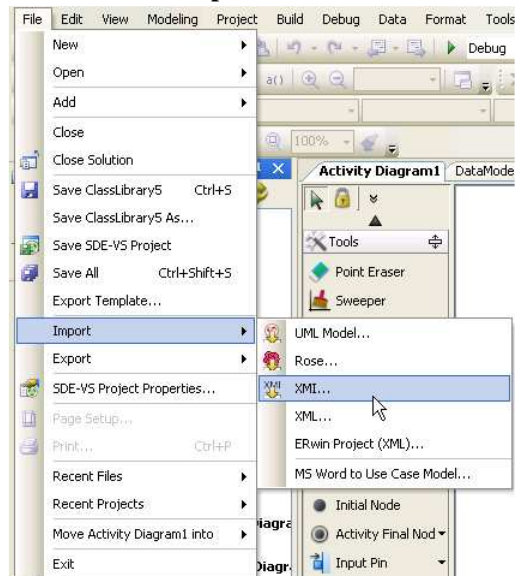


Figure 7.36 - Import XMI

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.

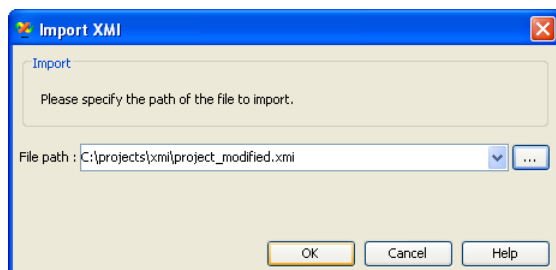


Figure 7.37 - Specify import file's path

Exporting and Importing EMF-based UML2

Exporting to UML2

EMF stands for Eclipse Modeling Framework. In SDE-VS, 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 > Export > XMI... in main menu. **Export XMI** dialog box is displayed.

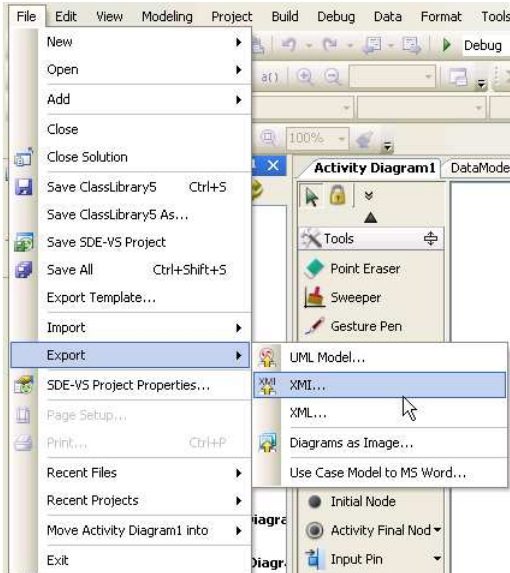


Figure 7.38 - Export EMF-based UML2

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.

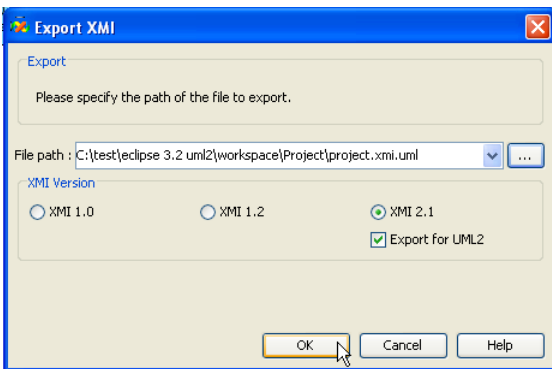


Figure 7.39 - Check Export for UML2 and specify file path

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.

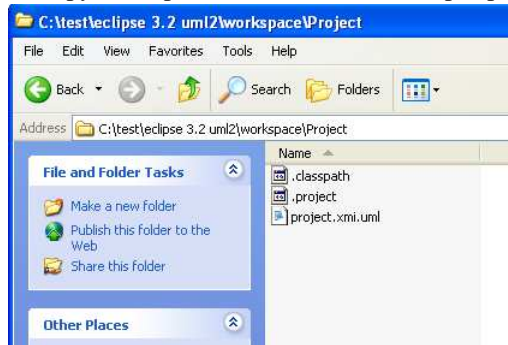


Figure 7.40 - Get the XMI file in project's directory in Eclipse

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

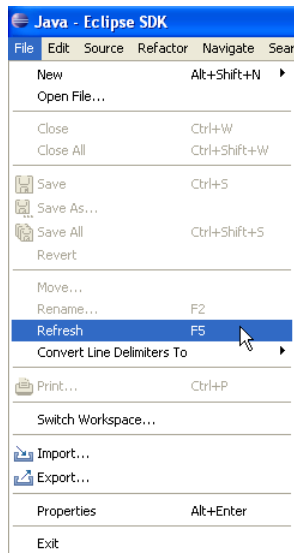


Figure 7.41 - Refresh eclipse

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

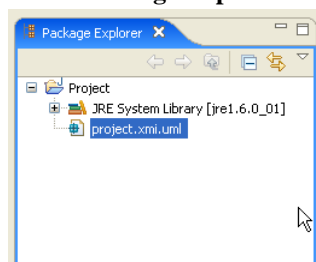


Figure 7.42 - XMI file imported

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 its name.

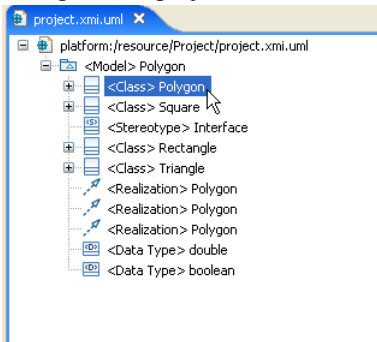


Figure 7.43 - Select the class to modify

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

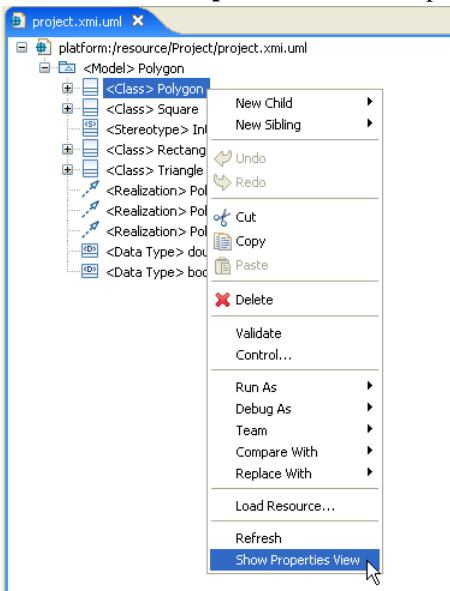


Figure 7.44 - Select Show Properties View

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

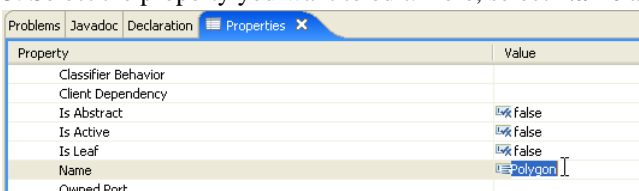


Figure 7.45 - Select the property to edit

4. Change the Name and save the project.

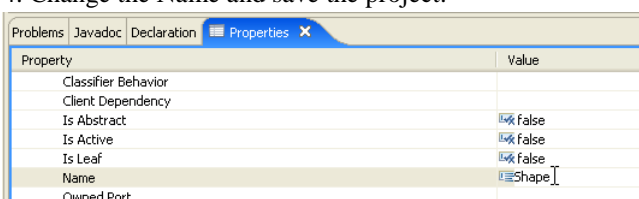


Figure 7.46 - Change the property

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 > Import > XMI...** in the main menu.

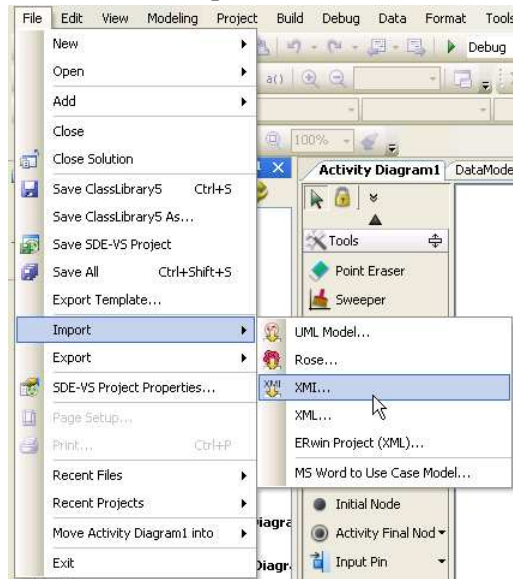


Figure 7.47 - Import XMI

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.

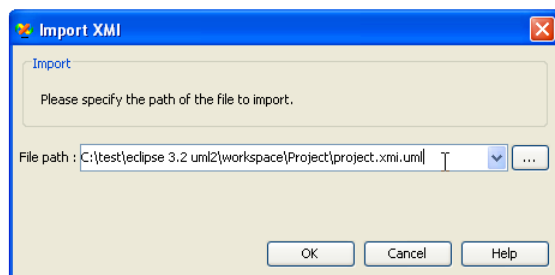


Figure 7.48 - Specify import file's path

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

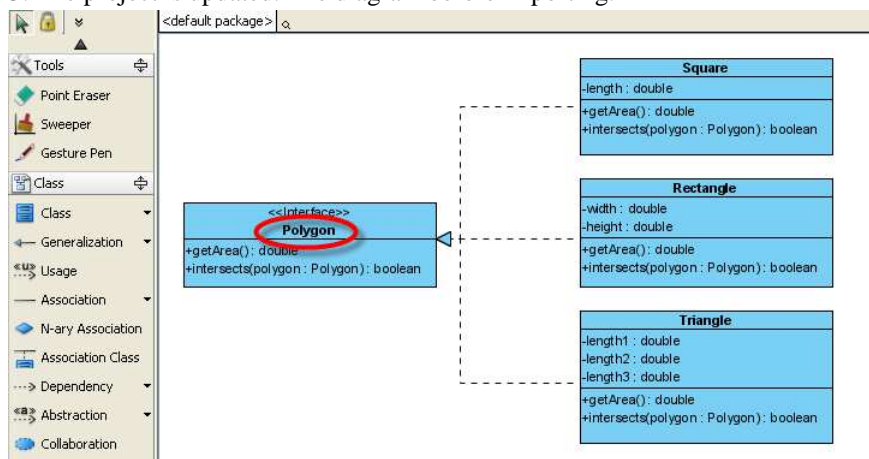


Figure 7.49 - The diagram before importing

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

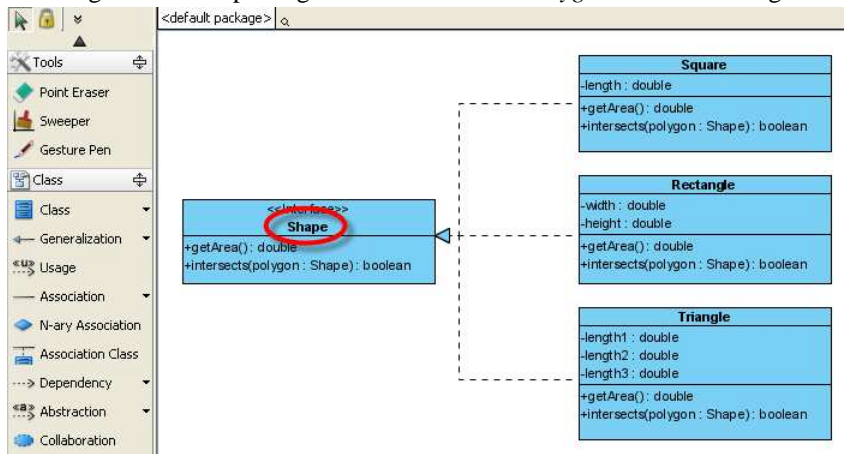


Figure 7.50 - The diagram after importing

Importing Rational Rose Project File



Rational Rose® is one of the most widely used UML CASE tool in 90's.

VP supports the importing of Rational Rose file. As a result, you can import your Rational Rose project into VP and retain all the information in the project, including color and position.

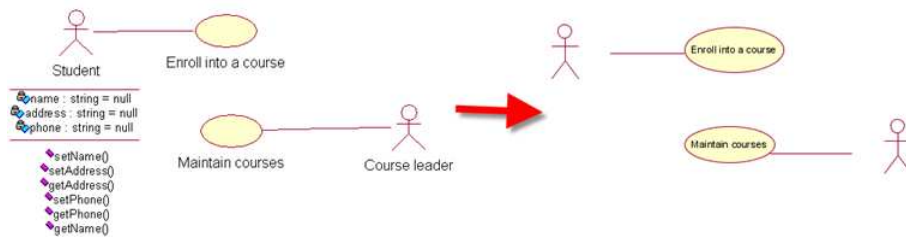


Figure 7.51 - Import from Rational Rose®

To import a Rose project into SDE-VS.

1. Select **File > Import > Rose Project...** from main menu. This displays the **Import Rose Option** dialog box.

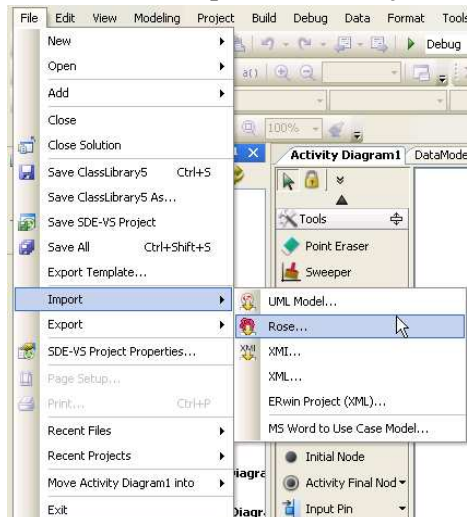


Figure 7.52 - Import a Rose Project

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

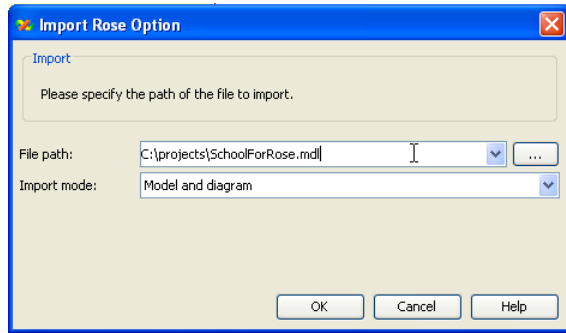


Figure 7.53 - Specify the file path

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.

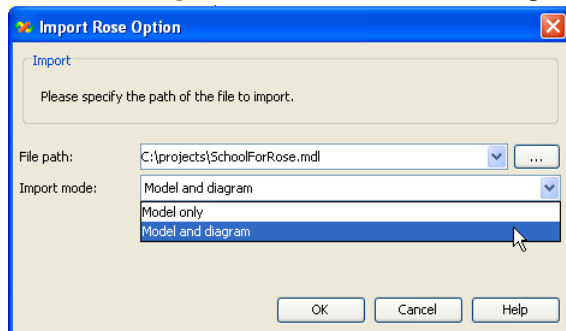



Figure 7.54 - Select the import mode

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.

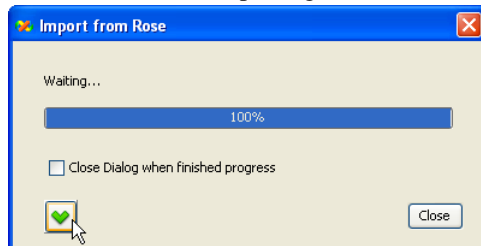


Figure 7.55 - Progress dialog box

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.

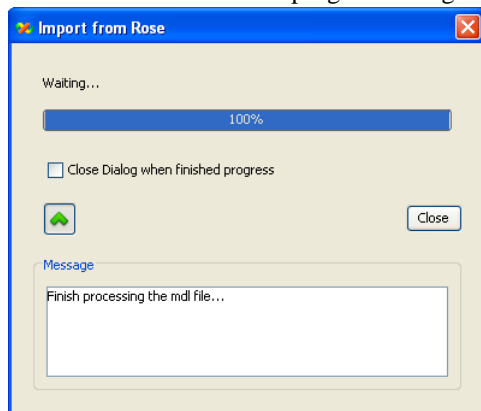


Figure 7.56 - Message pane opened

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.

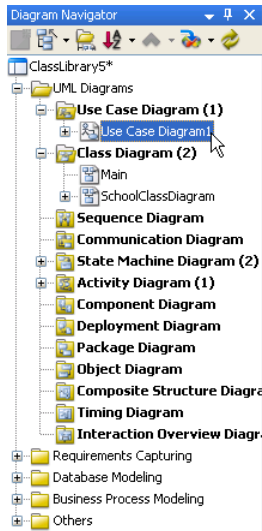


Figure 7.57 - Diagrams imported

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.

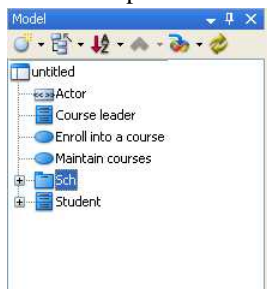


Figure 7.58 - Models Imported

ERwin Modeler Project File Importer



Importing an ERwin Data Modeler Project

To import an ERwin Project into SDE-VS:

1. Design and save the model in ERwin Data Modeler as a XML file.

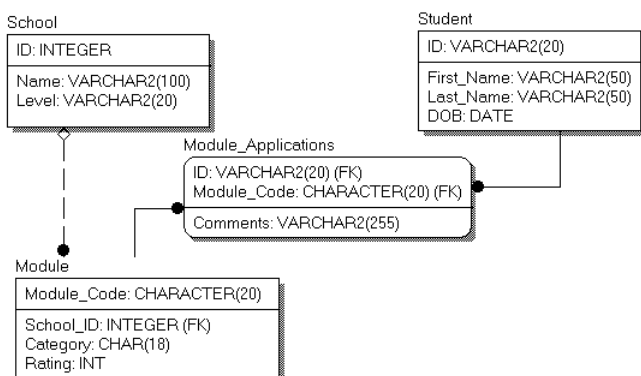


Figure 7.59 - Modeling in ERwin

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

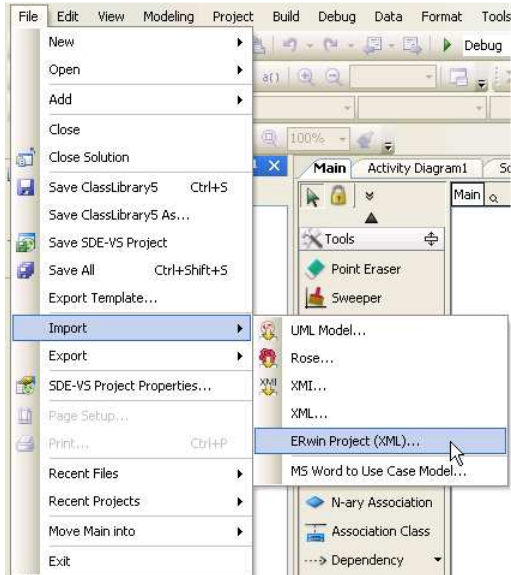


Figure 7.60 - Menu for Import ERwin Project

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.

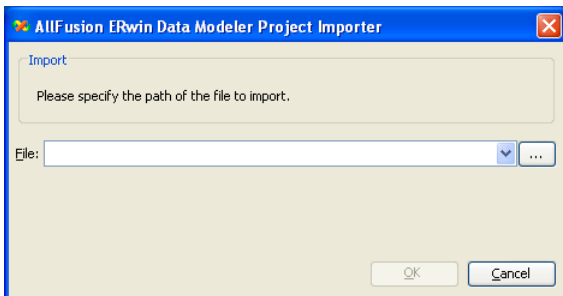


Figure 7.61 - Import ERwin Project dialog box

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.

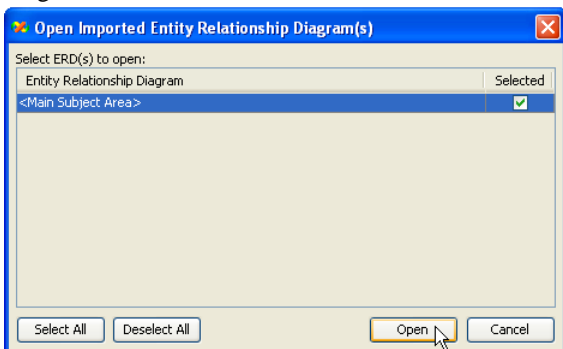


Figure 7.62 - Open Imported Entity Relationship Diagrams dialog box

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

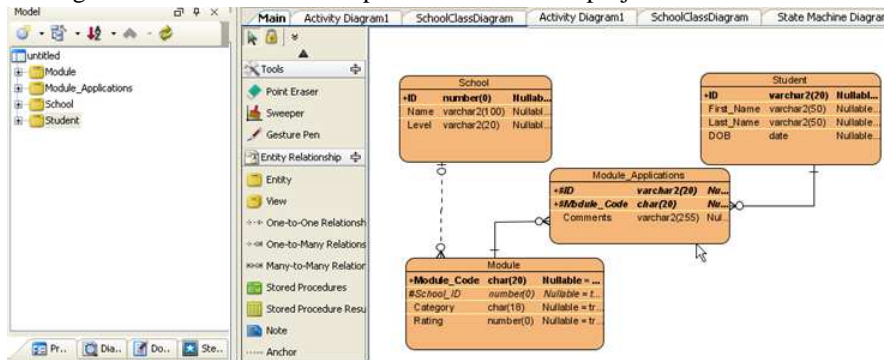


Figure 7.63 - The imported ERwin project

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-VS

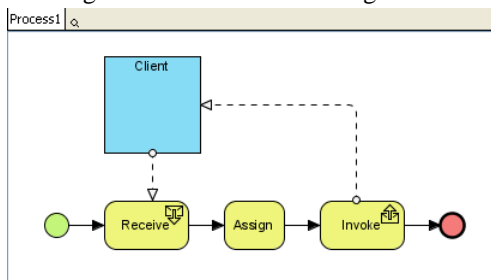


Figure 7.64 - Business Process Diagram

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

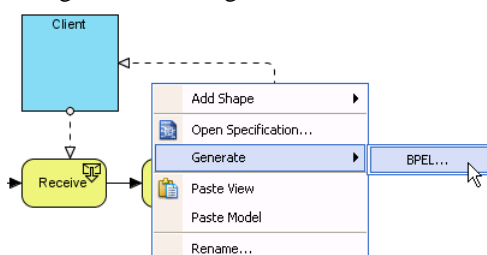


Figure 7.65 - Menu for generate BPEL

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.

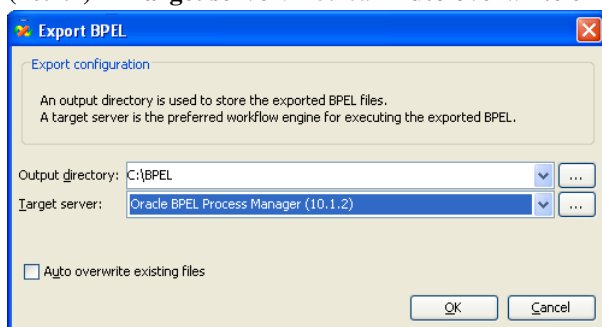


Figure 7.66 - Export BPEL Dialog box

4. List of exported files will be shown.

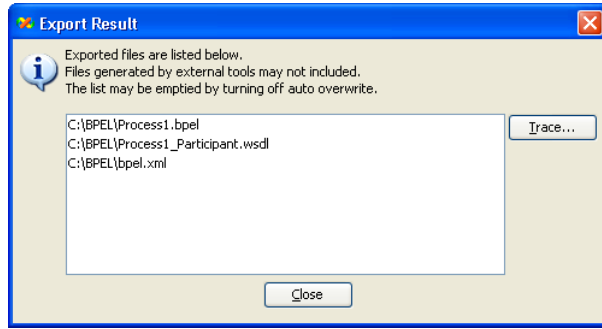


Figure 7.67 - Exported files

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-VS.

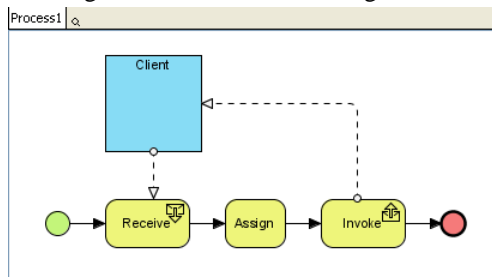


Figure 7.68 - Business Process Diagram

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

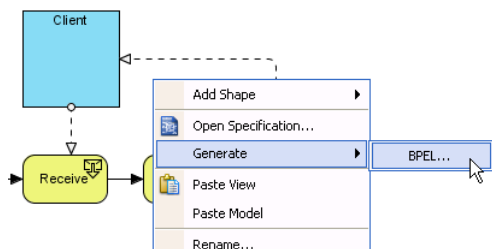


Figure 7.69 - Menu for generate BPEL

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.

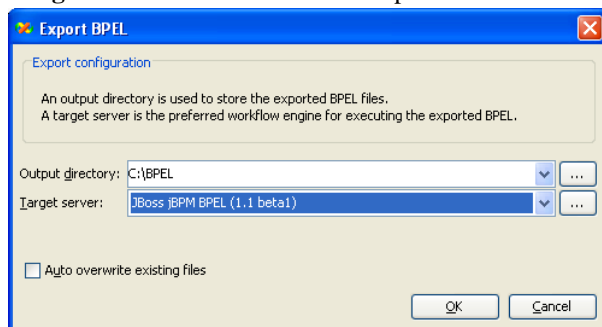


Figure 7.70 - Export BPEL dialog box

4. List of exported files will be shown.

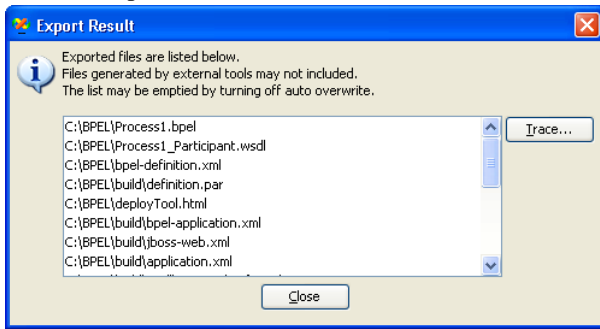


Figure 7.71 - Exported files

8

User Interface Designer

Chapter 8 - User Interface Designer

Apart from facilitating visual modeling, SDE-VS also facilitate screen mock up in early requirement capturing stage. With SDE-VS 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 User Interface** from toolbar.

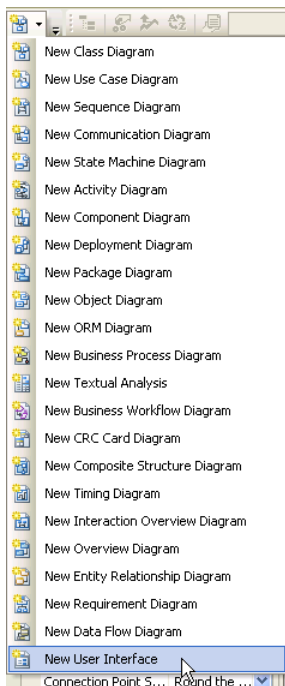


Figure 8.1 - Select New User Interface

The diagram is created.

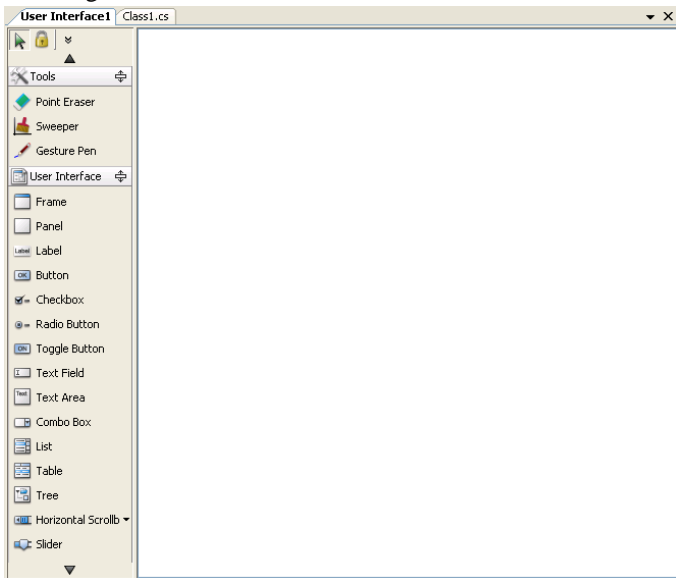


Figure 8.2 - New User Interface Diagram

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.

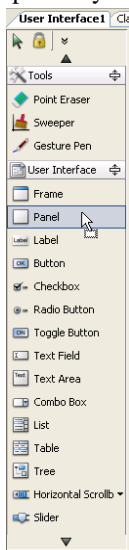


Figure 8.3 - Drag the component

2. Then drop the component on the diagram pane.

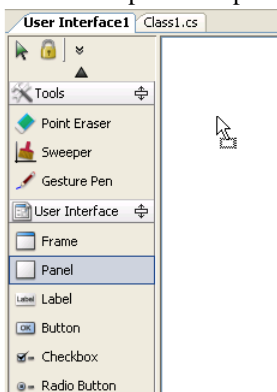


Figure 8.4 - Drop on diagram pane

To create by select and click:

1. Select the component you want to add in the toolbar.

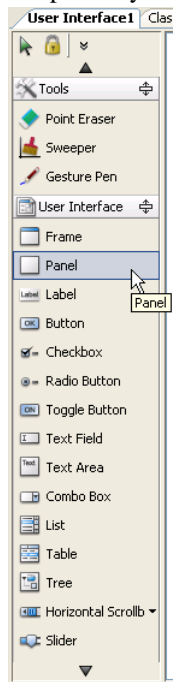


Figure 8.5 - Select component

2. Click on the diagram pane. The component is created.

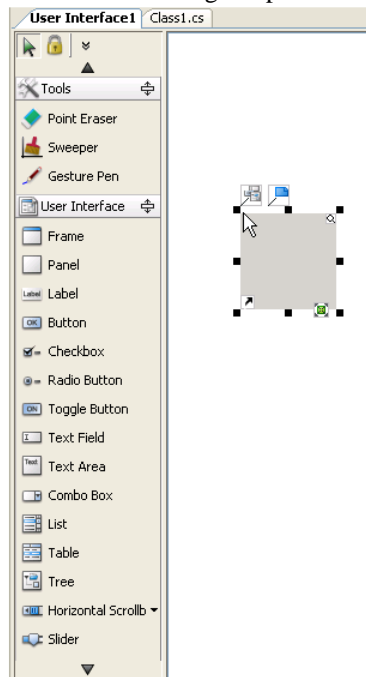


Figure 8.6 - Component created

To create by defining an initial size:

1. Select the component you want to add in the toolbar.

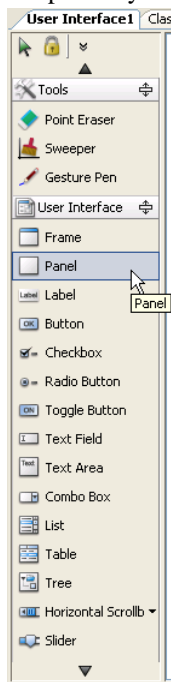


Figure 8.7 - Select component

2. Drag a specific boundary before releasing the mouse to define the component's initial size.

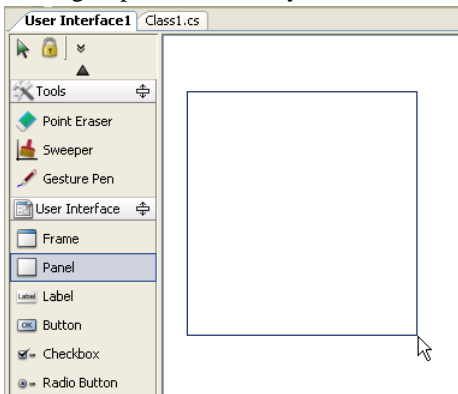


Figure 8.8 - Define an initial size

3. The component with specific size is created.

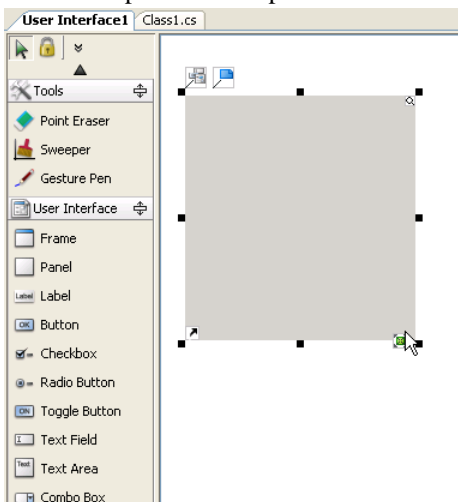


Figure 8.9 - Component created

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.

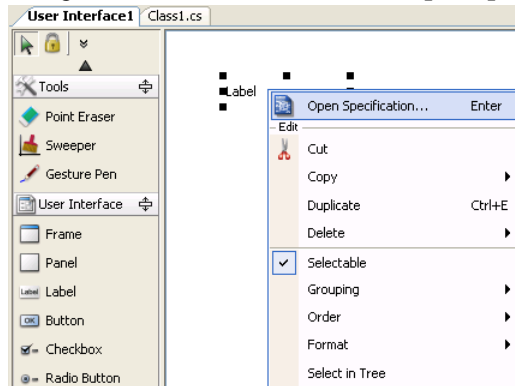


Figure 8.10 - Select Open Specification

2. Then, select **UI** tab.

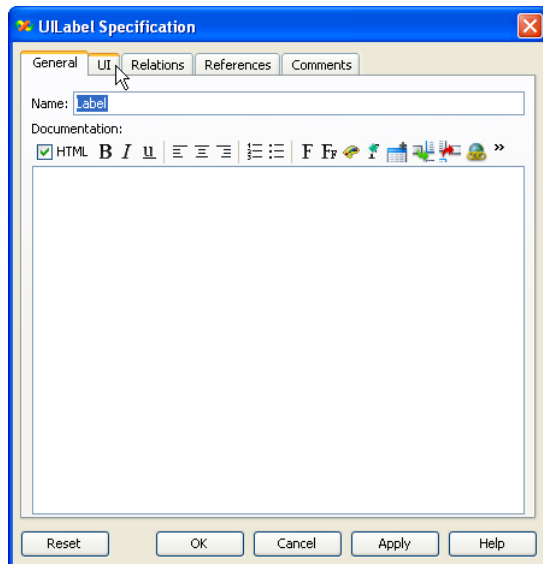


Figure 8.11 - Select UI tab

3. User interface properties can be configured.

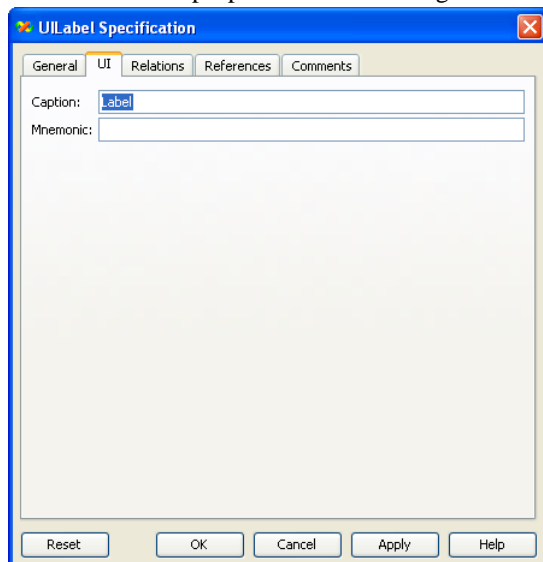


Figure 8.12 - UI properties of label

4. You can edit the **Caption** and **Mnemonic**.

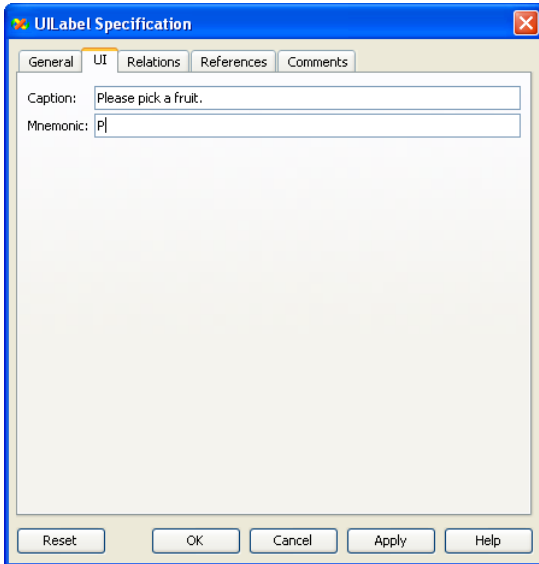


Figure 8.13 - Edit user interface properties

5. The label has been edited.

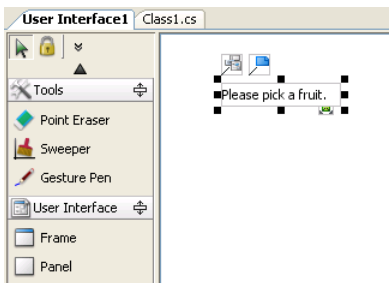


Figure 8.14 - Label edited

To set the user interface of a list:

1. Right click on a list and select **Open Specification...** from the popup menu.

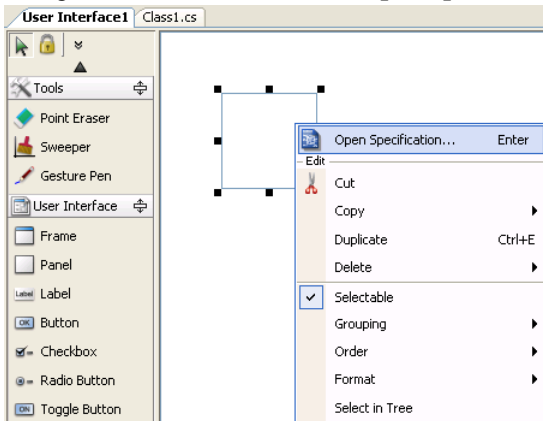


Figure 8.15 - Open Specification

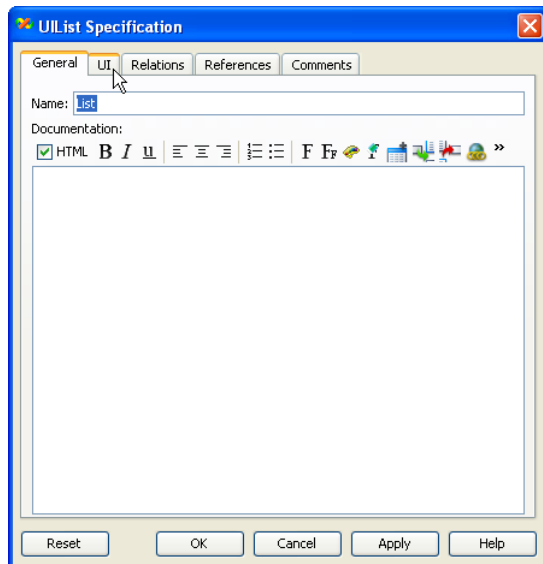
2. Select **UI** tab.

Figure 8.16 - Select UI tab

3. The UI properties you can edit is shown.

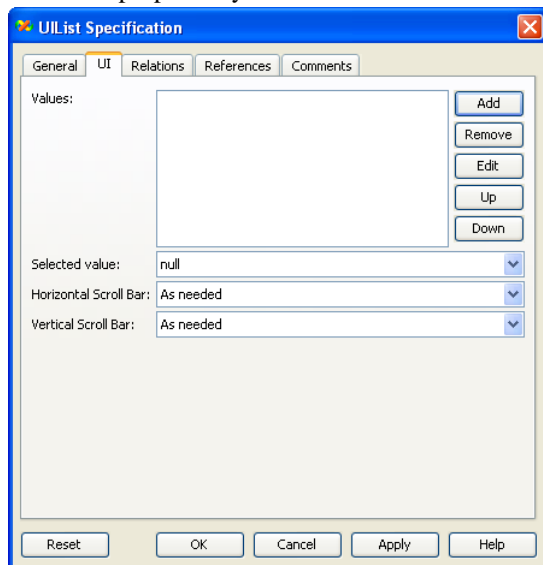


Figure 8.17 - UI properties of List

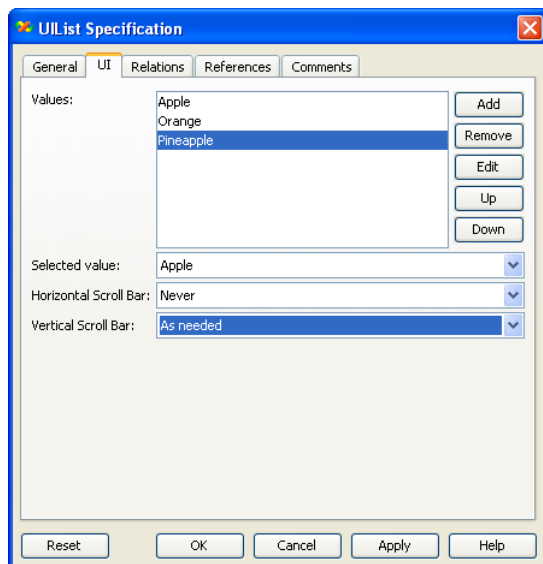
4. You can edit the **Values** and **Selected value** of the user interface. You can also decide the properties of **Horizontal Scroll Bar** and **Vertical Scroll Bar**.

Figure 8.18 - Edit UI properties

5. List has been edited.

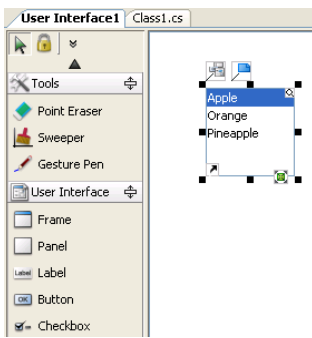


Figure 8.19 - List edited

Annotating Component

You may want to add annotation to specific UI Component as instruction. In SDE-VS, 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.

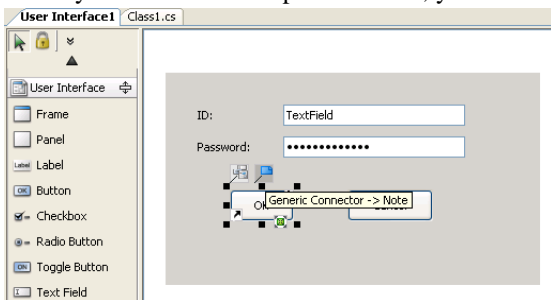


Figure 8.20 - Note resource

Drag the Note resource to a place on diagram pane where you want the note to be created on.

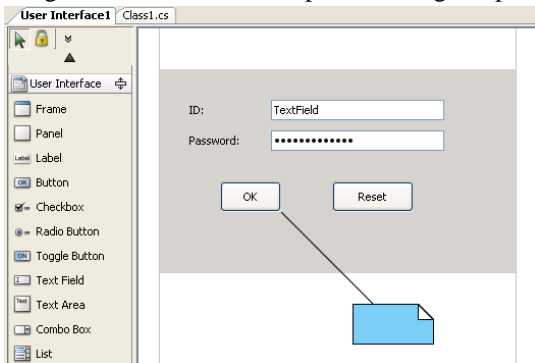


Figure 8.21 - Drag the Note resource

When you release the mouse, you can type in annotation in the note.

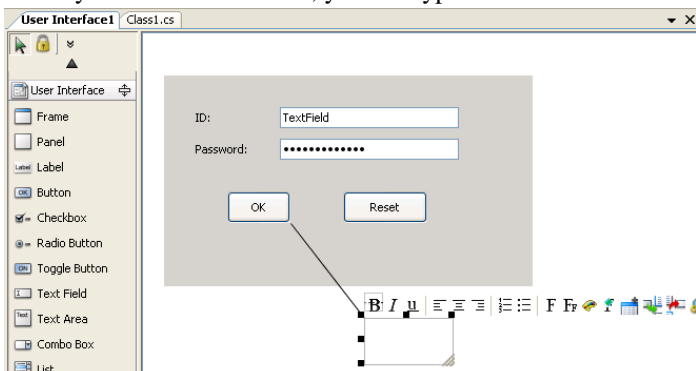


Figure 8.22 - Type in annotation

Annotation has been added.

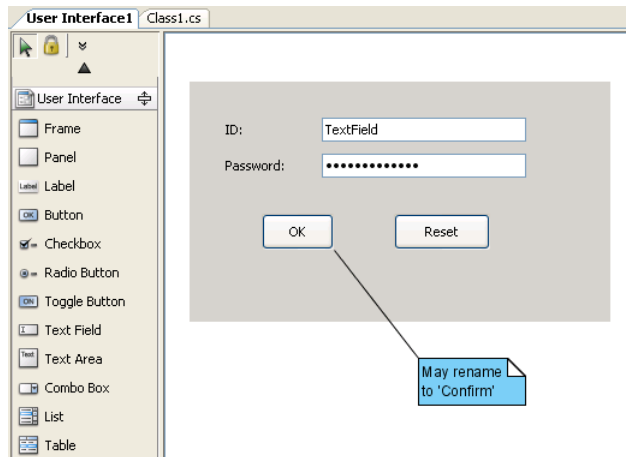


Figure 8.23 - Annotation added

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.

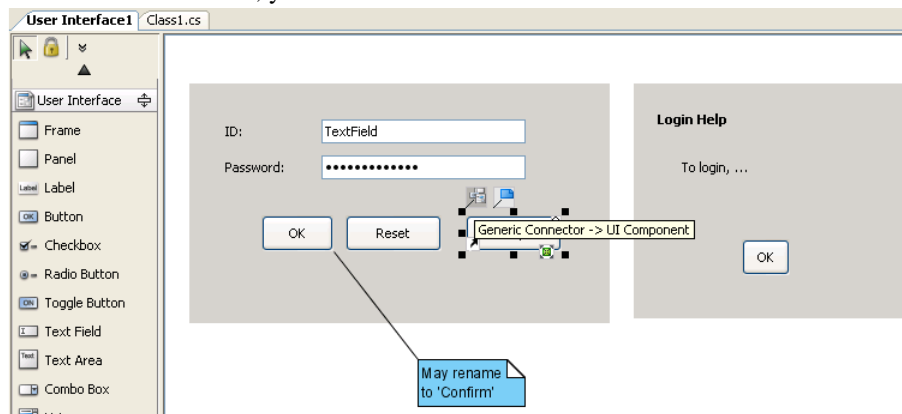


Figure 8.24 - Select Centric Resource for Generic Connector

2. Drag the resource to the component you want to connect to.

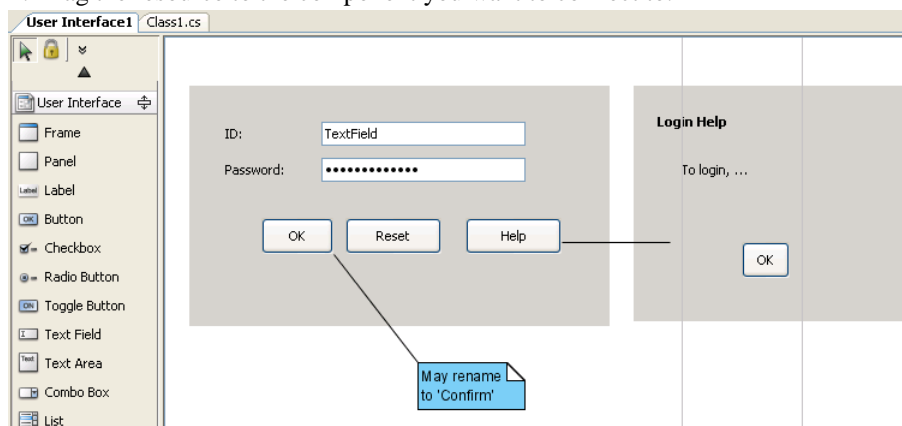


Figure 8.25 - Drag the resource

3. Release the mouse and connector is created. You may also edit the name of connector.

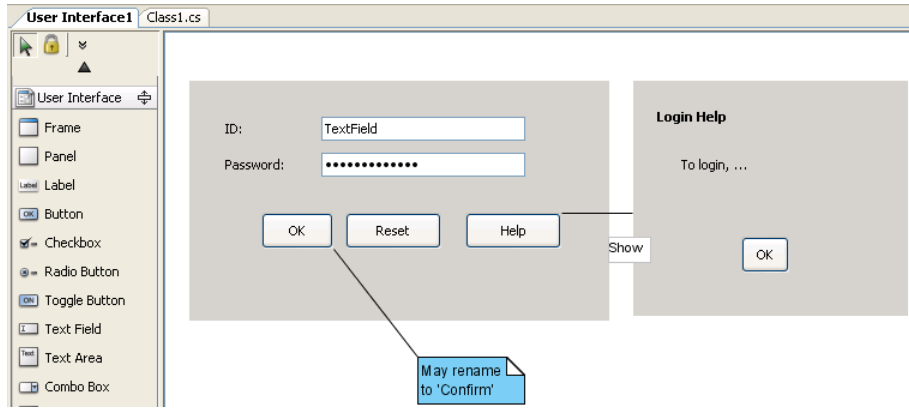


Figure 8.26 - Edit the name of connector

Switching Orientation by Resource-centric Interface

Sometimes, you may want to switch the orientation of certain component. In SDE-VS, you can use the Switch Orientation Resource to do so.

When your mouse move over some components like scrollbar, you can see the Switch Orientation Resource.

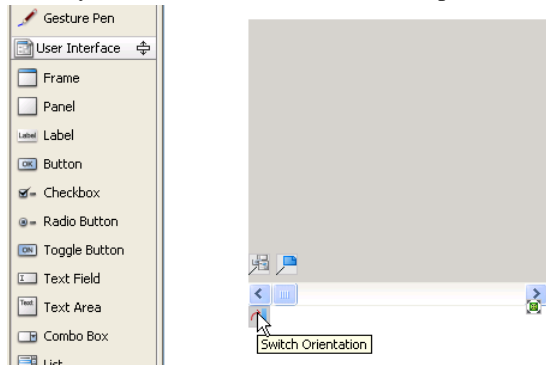


Figure 8.27 - Switch Orientation Resource

By selecting the resource, the orientation of component has been switched.

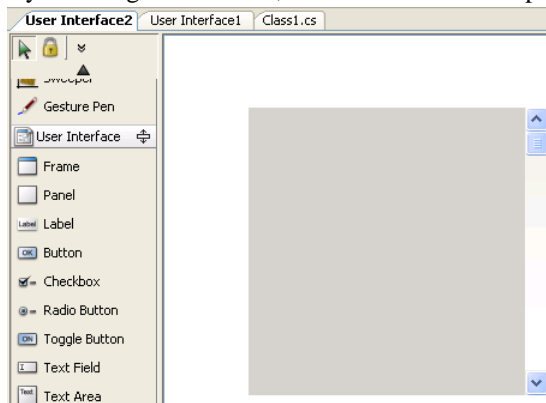


Figure 8.28 - Orientation switched

Auto Detect Orientation

SDE-VS can detect the orientation of a component when you create it with specific size. For example, you may drag vertically to create a slider

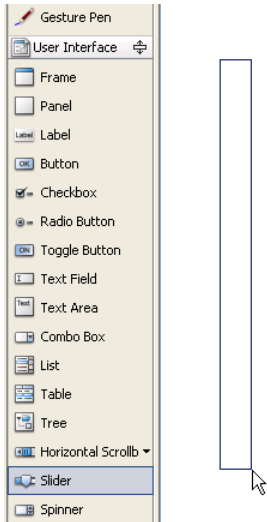


Figure 8.29 - Drag vertically

The slider created is in vertical orientation.

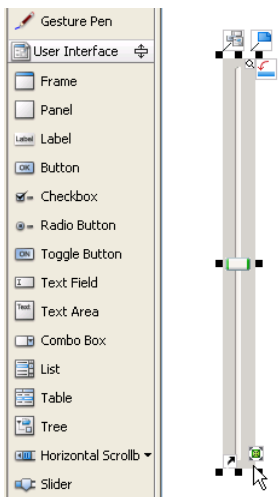


Figure 8.30 - Component with vertical orientaton

9

Instant Reverse

Chapter 9 - Instant Reverse

SDE-VS 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-VS 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, windows executables, JDBC, XML, XML schema, CORBA IDL source, PHP 5.0 source, Hibernate and Ada 9x Source. 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-VS.

Supported Sources

Instant Reverse currently supports eleven types of sources (Instant Types), they are Java source, Java class, C++ source, .NET binaries, windows executables, JDBC, XML, XML schema, CORBA IDL source, PHP 5.0 source, Hibernate and Ada 9x Source.

For reversing Java source, you can supply a single source file or a directory. For reversing Java classes, you can supply a single class file, a jar file, a zip file or a directory. For reversing C++ source, you can supply a .cpp source file or a .h header file. For reversing .NET binaries, you must supply a single binary file (.dll or .exe), and the related files must in the same directory as the source file.

Supported Instant Type	Extension	Remarks
Java Source	Dir/.java	
Java Class	Dir/.class/.jar/.zip	
Dynamic Link Library	.dll	Must be created by MicrosoftR Visual Studio .NET 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 MicrosoftR 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, there are more advanced options for Java Instant Reverse compared to other languages.

Select menu **Modeling > Instant Reverse...**, the **Instant Reverse** dialog box appears with the Java Instant Reverse options for configuration.

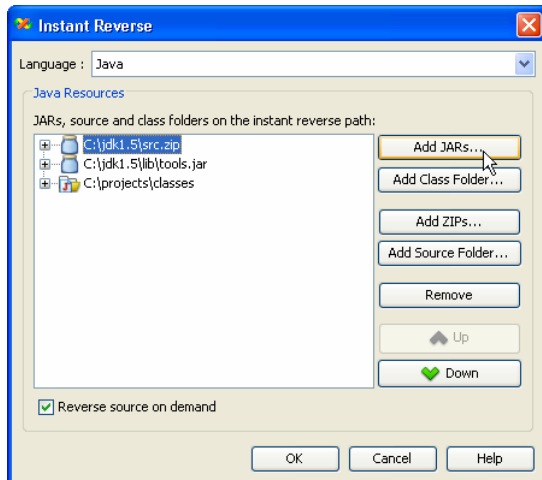


Figure 9.1 - Java Instant Reverse Dialog

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.

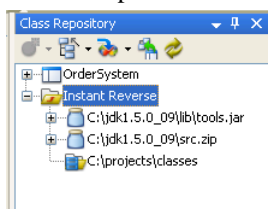


Figure 9.2 - Class Repository

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.

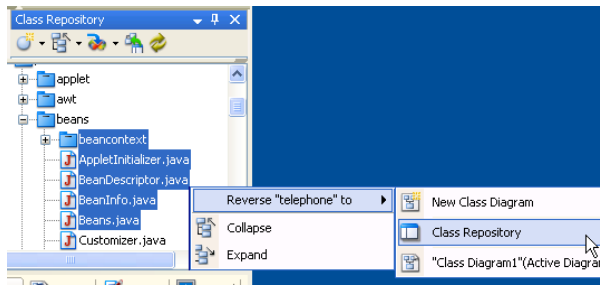


Figure 9.3 - Revert resources to Class Repository

The resources will be reversed to UML models and added to the project, but no diagrams or shapes will be generated.

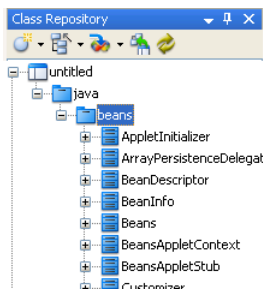


Figure 9.4 - Resource reversed in Class Repository

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.

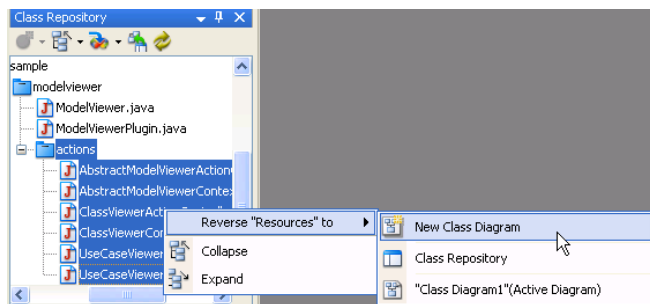


Figure 9.5 - Revert resources to form a new diagram

If you select the **New Class Diagram** menu, a new class diagram will be generated from the reversed UML models.

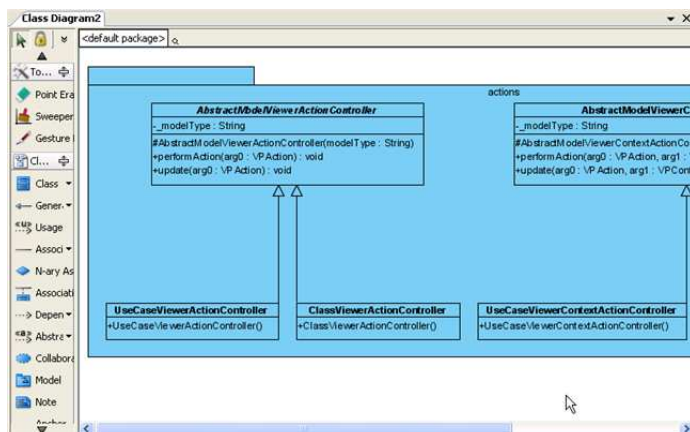


Figure 9.6 - The reversed Class Diagram

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.

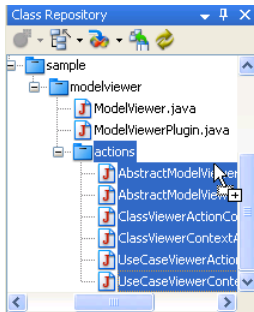


Figure 9.7 - Reverse by Drag and Drop

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** in the main menu. The **Instant Reverse** dialog box appears for further configuration.

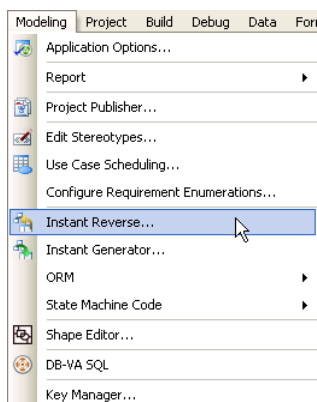


Figure 9.9 - Open Instant Reverse dialog box

2. Select .NET dll or exe files as language and type in the path of the Dynamic Link Library file. You may also select ... to select the file path. Then select **OK** to start.

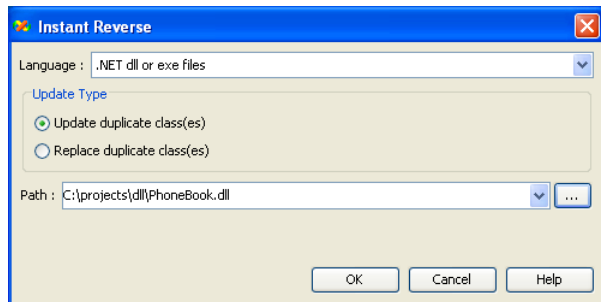


Figure 9.10 - Specify the file path

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**.

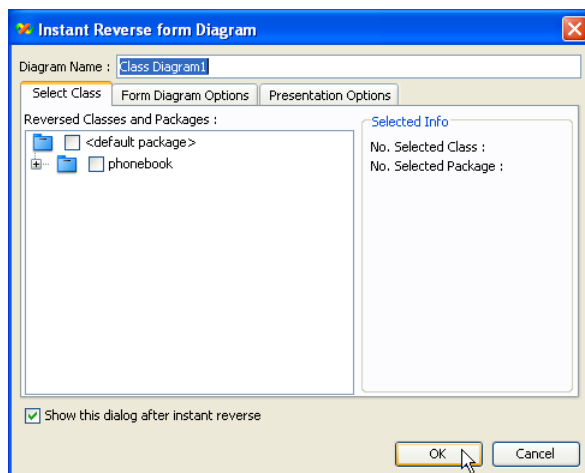


Figure 9.12 - Instant Reverse form Diagram dialog box

5. You can see the result of reversal in the **Model** pane.

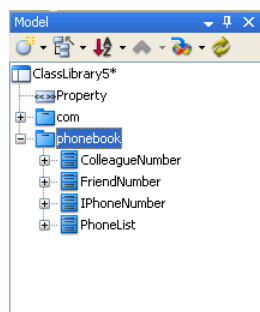


Figure 9.13 - Model pane

6. You may also select one or more models and select **Form Diagram > Customize.../Hierarchical/Navigation** to form a new diagram.

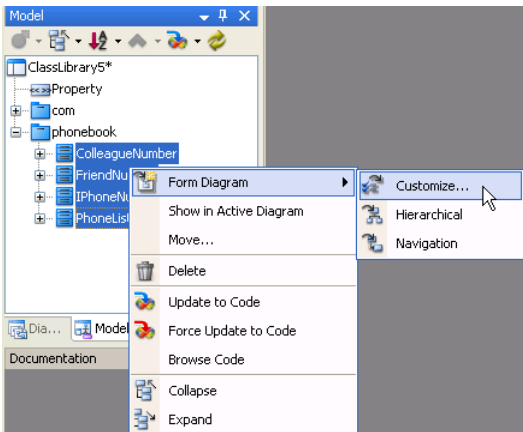


Figure 9.14 - Select model to form diagram

7. The Form Diagram dialog box is shown. You can edit the details of the new diagram there.

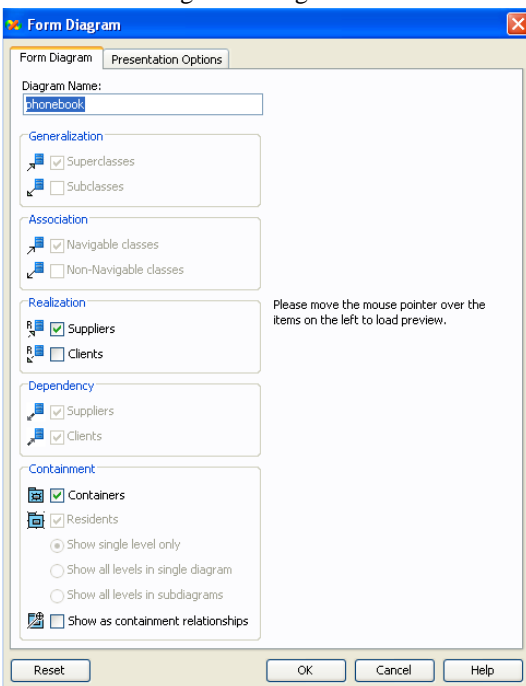


Figure 9.15 - Form Diagram dialog box

8. A new diagram is formed by the selected models.

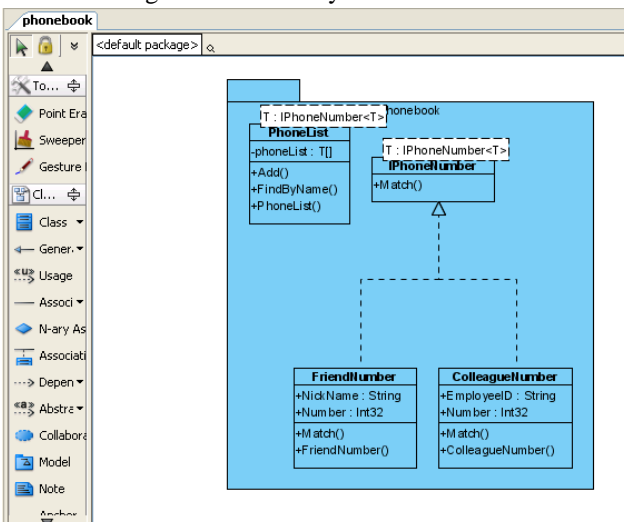


Figure 9.16 - New diagram formed

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 into root -->
    <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** in the main menu. The **Instant Reverse** dialog box appears for further configuration.

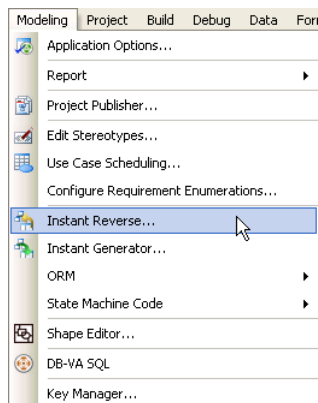


Figure 9.18 - Open Instant Reverse dialog box

2. Select XML as language and type in the path of the Dynamic Link Library file. You may also select ... to select the file path. Then select OK to start.

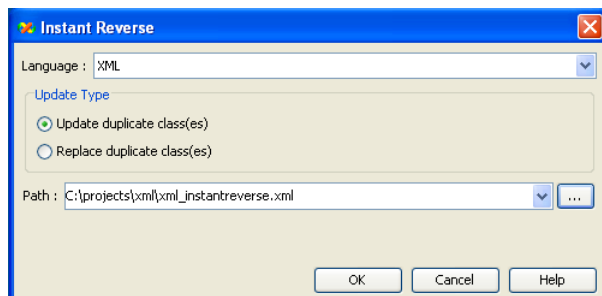


Figure 9.19 - Specify the file path

3. A **Message** dialog box appears telling you the reversal is successful.

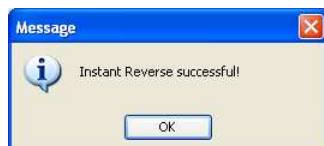


Figure 9.20 - Message dialog box

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**.

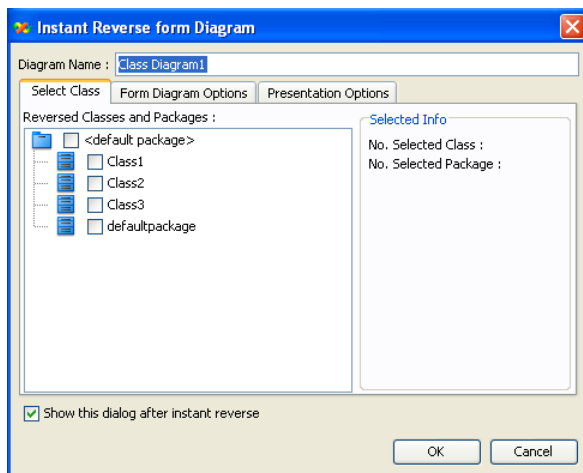


Figure 9.21 - Instant Reverse form Diagram dialog box

5. You can see the result of reversal in the **Model** pane.

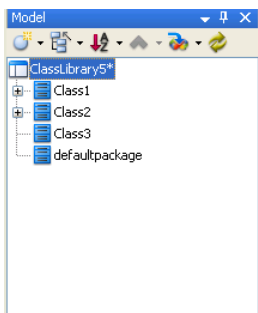


Figure 9.22 - Model pane

6. You may also select one or more models and select **Form Diagram > Customize.../Hierarchical/Navigation** to form a new diagram.

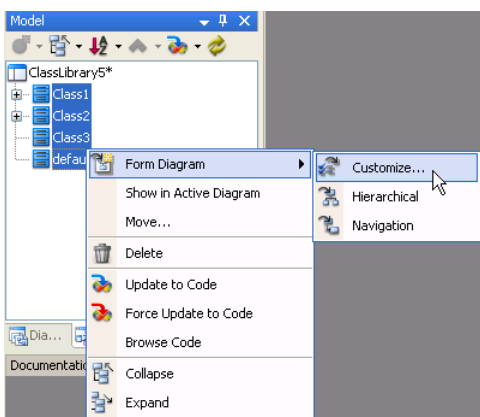


Figure 9.23 - Select model to form diagram

7. The Form Diagram dialog box is shown. You can edit the details of the new diagram there.

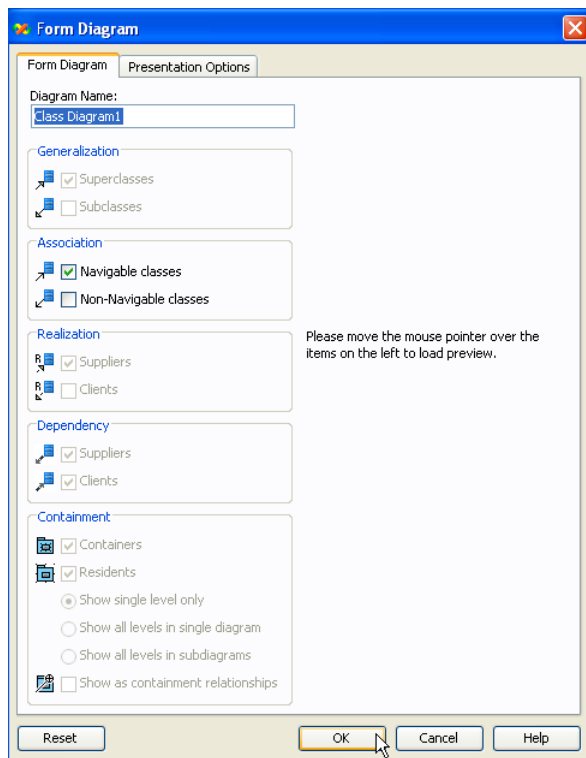


Figure 9.24 - Form Diagram dialog box

8. A new diagram is formed by the selected models.

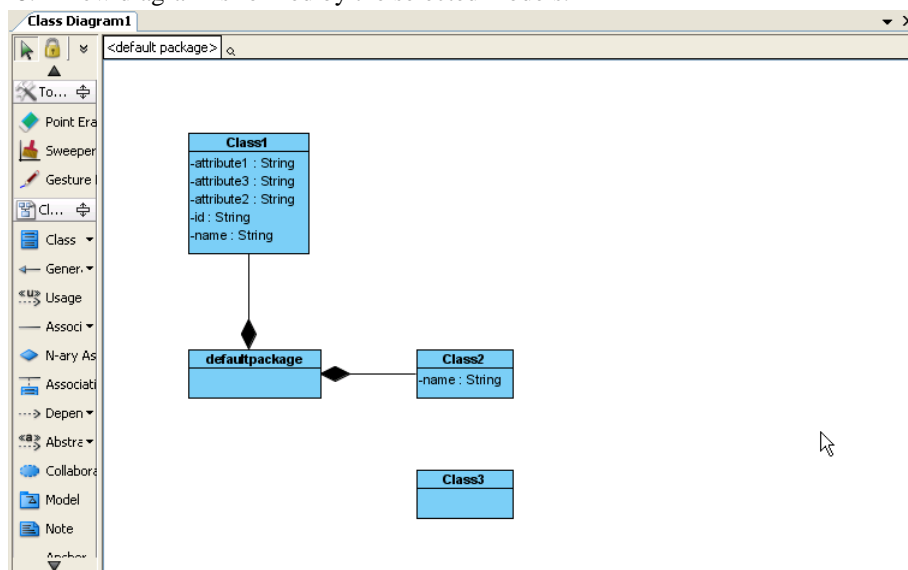


Figure 9.25 - New diagram formed

XML Schema Instant Reverse

SDE-VS 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 menu **Modeling > Instant Reverse** in the main menu. The **Instant Reverse** dialog box appears for further configuration.
2. Select XML Schema as language and type in the path of the XML file. You may also select ... to select the file path. Then select **OK** to start.

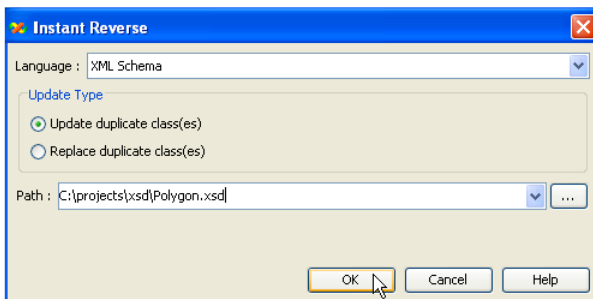


Figure 9.28 - Specify the file path

3. A **Message** dialog box appears telling you the reversal is successful.

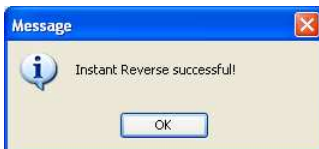


Figure 9.29 - Message dialog box

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**.

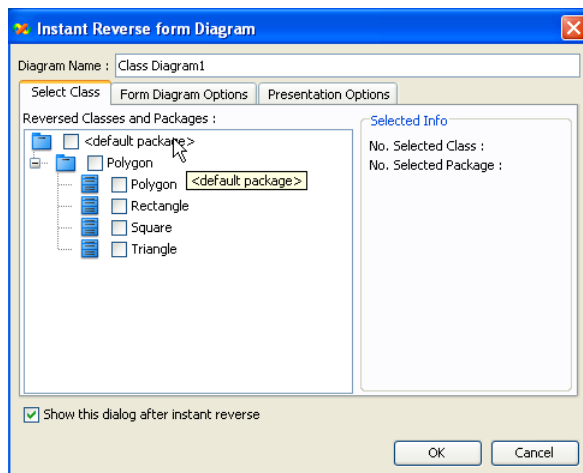


Figure 9.30 - Select class or package to form diagram

5. You can see the reverse result in the Model pane, and expand the tree to see the what the models contain.

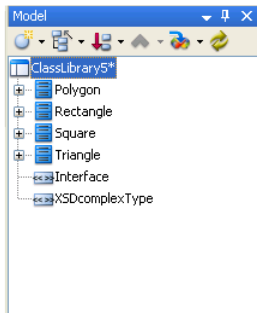


Figure 9.31 - Model pane showing result

6. You may also select one or more models and select **Form Diagram > Customize.../Hierarchical/Navigation** to form a new diagram.

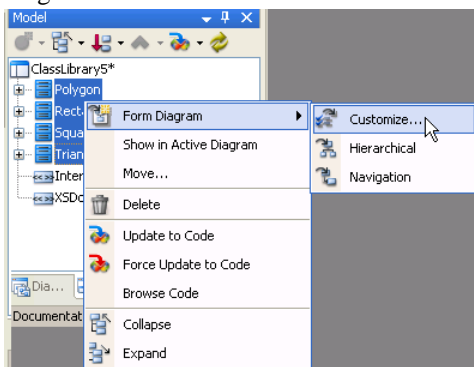


Figure 9.32 - Select model to form diagram

7. The Form Diagram dialog box is shown. You can edit the details of the new diagram there.

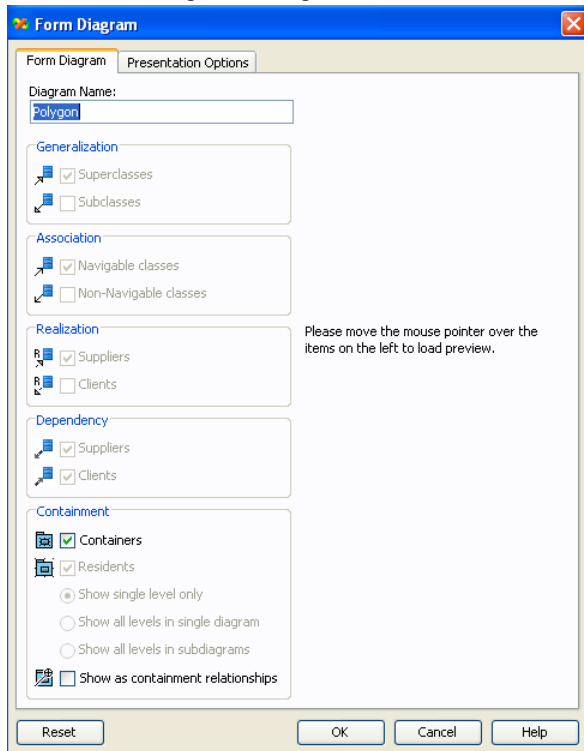


Figure 9.33 - Form Diagram dialog box

8. A new diagram is formed with the selected models.

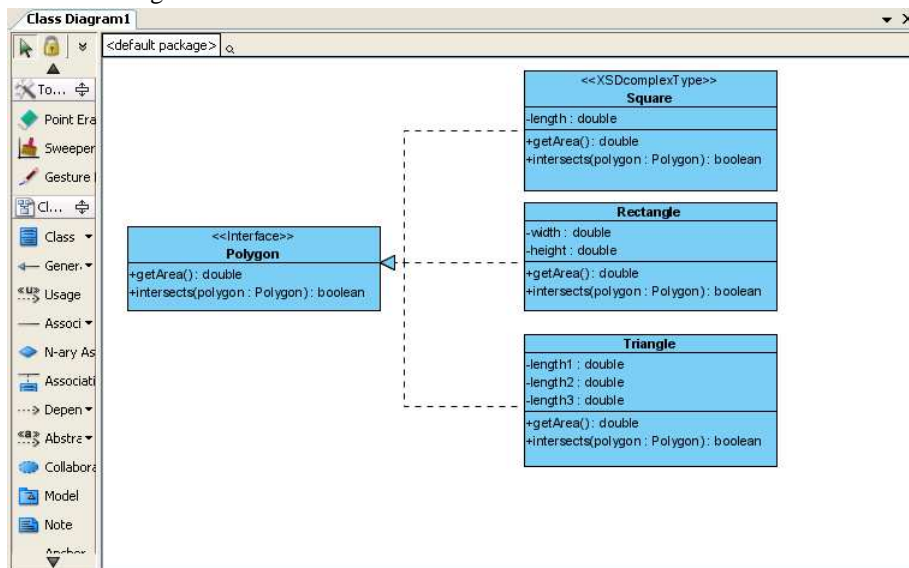


Figure 9.34 - Diagram formed

C++ Instant Reverse

SDE-VS can reverse C++ into UML class model.

```
#include <string>
#include <vector>
#include <exception>
using namespace std;

#ifdef __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** in the main menu. The Instant Reverse dialog box appears for further configuration.
2. Select C++ as language 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

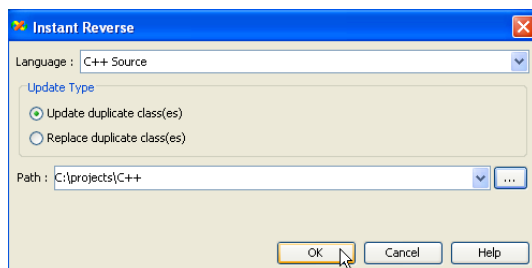


Figure 9.37 - Specify the file path

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**.

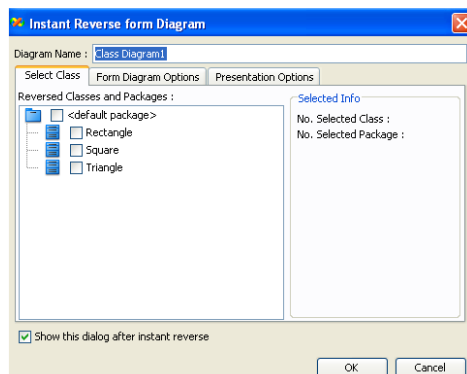


Figure 9.39 - Instant Reverse form Diagram dialog box

5. You can see the result of reversal in the **Model** pane.

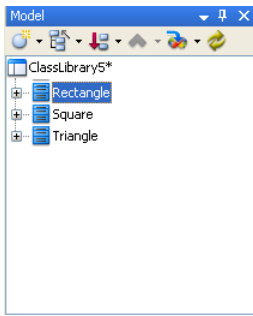


Figure 9.40 - Model pane

6. You may also select one or more models and select **Form Diagram > Customize.../Hierarchical/Navigation** to form a new diagram.

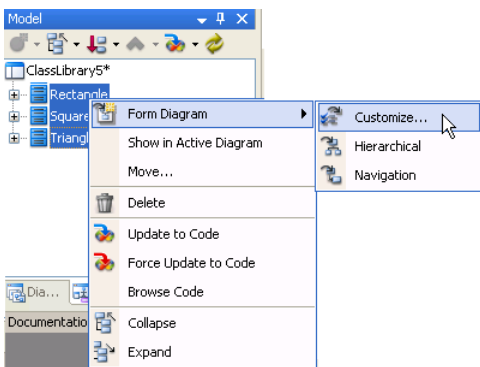


Figure 9.41 - Select model to form diagram

7. The **Form Diagram** dialog box is shown. You can edit the details of the new diagram there.

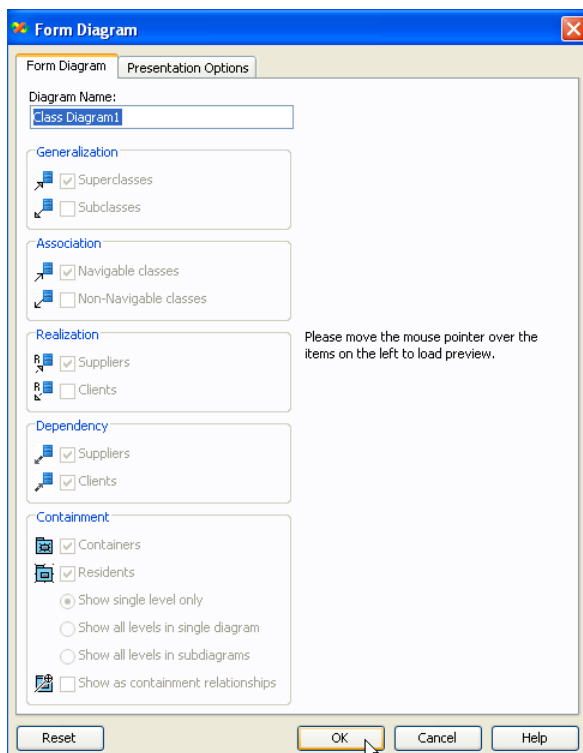


Figure 9.42 - Form Diagram dialog box

8. A new diagram is formed with the selected models.

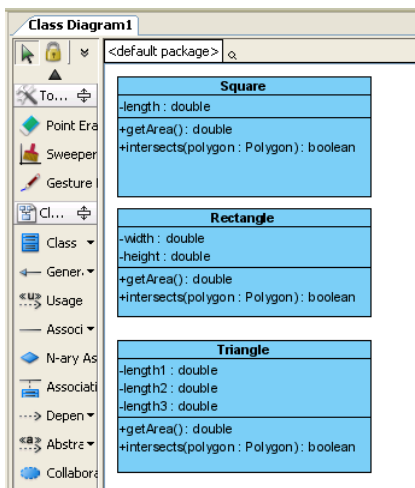


Figure 9.43 - New diagram formed

CORBA IDL Source Instant Reverse

SDE-VS also supports reversing CORBA IDL Source into VP 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** in the main menu. The Instant Reverse dialog box appears for further configuration.

2. Select CORBA IDL Source as language 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.

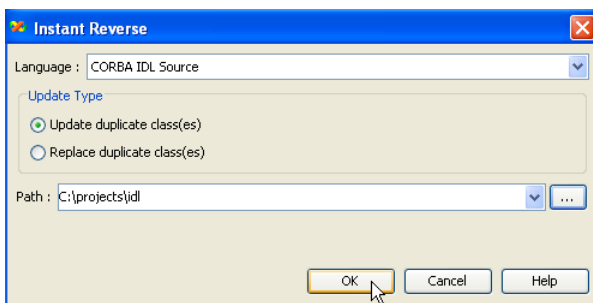


Figure 9.46 - Specify the file path

3. A **Message** dialog box appears telling you the reversal is successful.

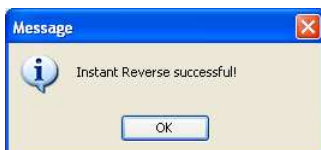


Figure 9.47 - Message dialog box

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**.

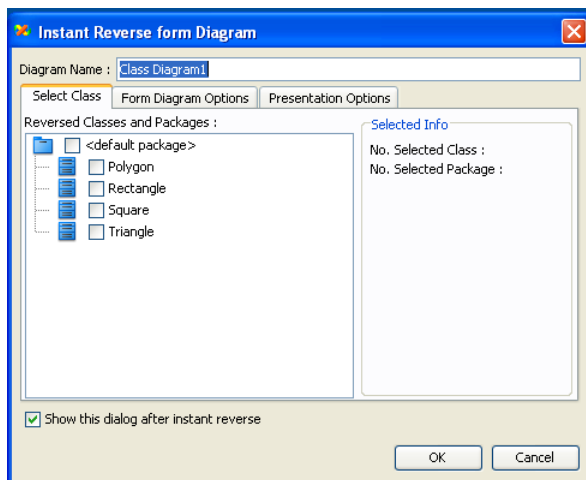


Figure 9.48 - Instant Reverse form Diagram dialog box

5. You can see the result of reversal in the **Model** pane.

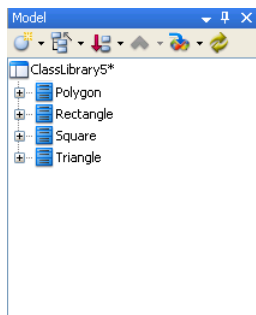


Figure 9.49 - Model pane

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.

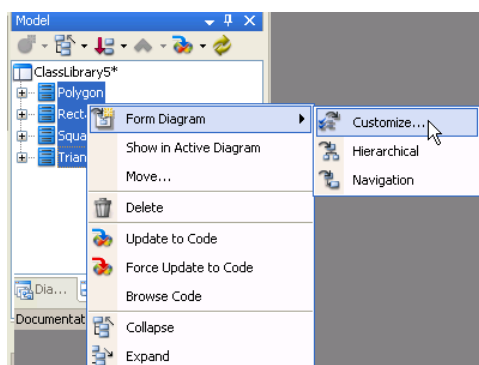


Figure 9.50 - Select model to form diagram

7. The **Form Diagram** dialog box is shown. You can edit the details of the new diagram there.

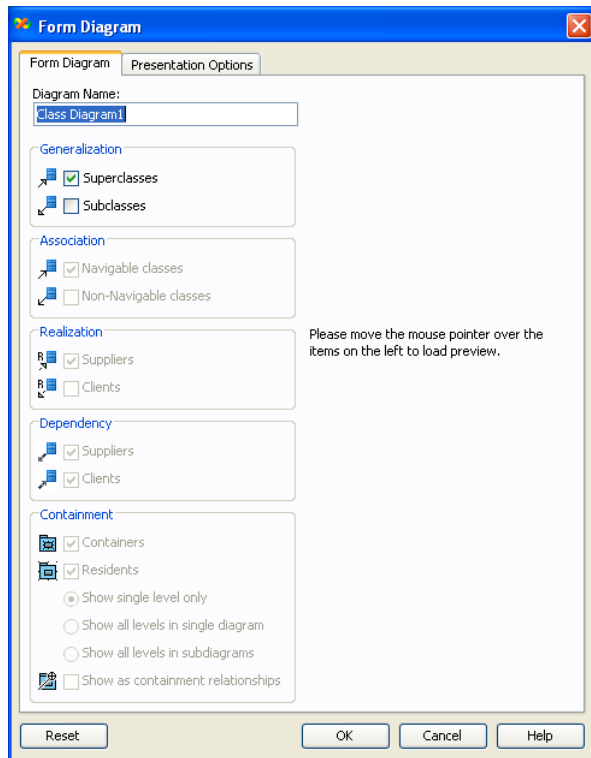


Figure 9.51 - Form Diagram dialog box

8. A new diagram is formed with the selected models.

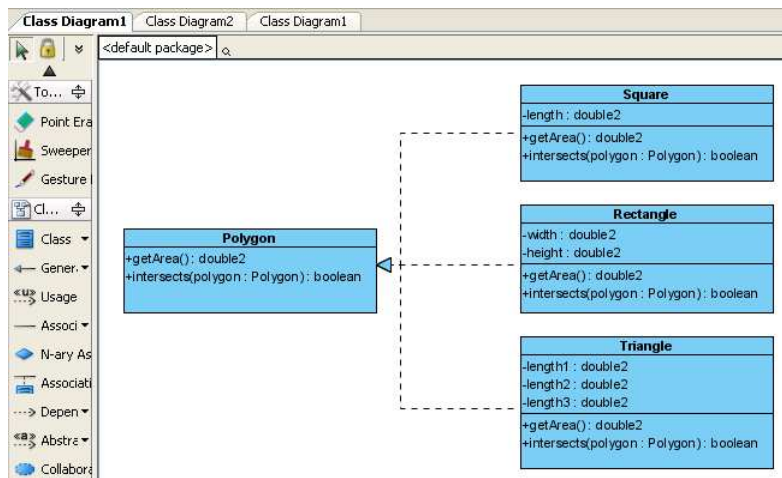


Figure 9.52 - New diagram formed

PHP Instant Reverse

SDE-VS can reverse PHP into UML class model.

```
#include <string>
#include <vector>
#include <exception>
using namespace std;

#ifdef __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** in the main menu. The **Instant Reverse** dialog box appears for further configuration.
2. Select PHP 5.0 Source as language 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.

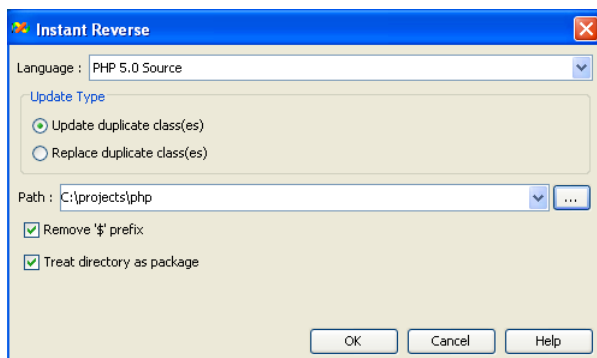


Figure 9.55 - Specify the file path

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**.

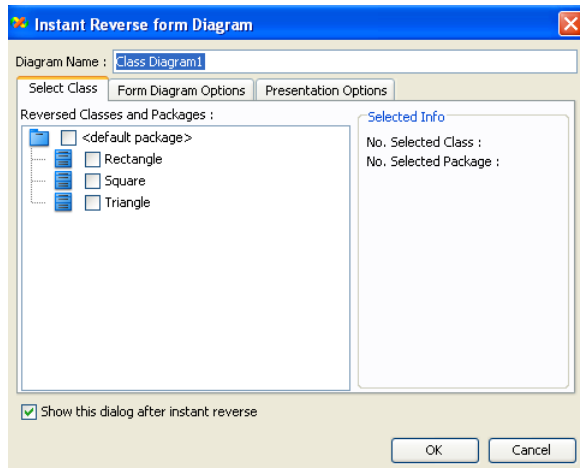


Figure 9.57 - Instant Reverse form Diagram dialog box

5. You can see the result of reversal in the **Model** pane.

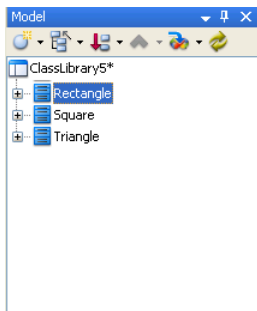


Figure 9.58 - Model pane

6. You may also select one or more models and select **Form Diagram > Customize.../Hierarchical/Navigation** to form a new diagram.

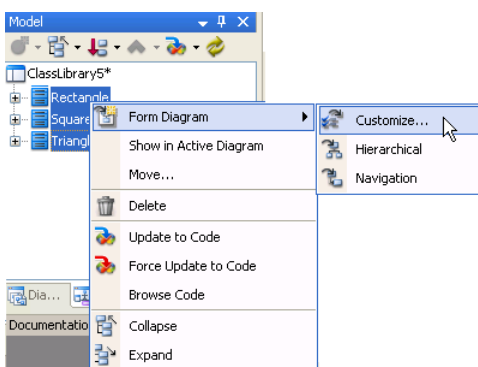


Figure 9.59 - Select model to form diagram

7. The **Form Diagram** dialog box is shown. You can edit the details of the new diagram there.

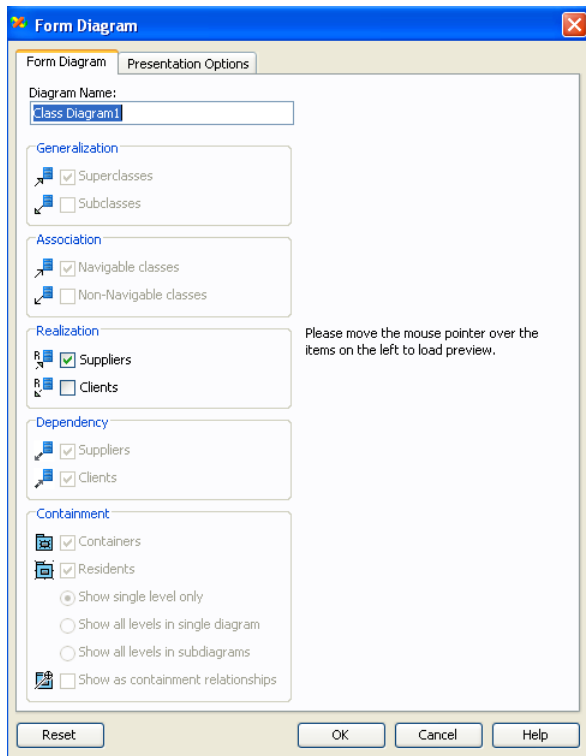


Figure 9.60 - Form Diagram dialog box

8. A new diagram is formed with the selected models.

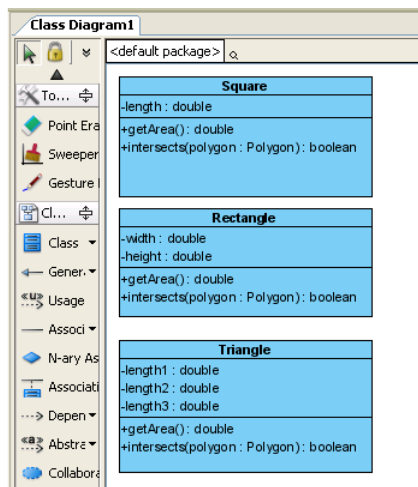


Figure 9.61 - New diagram formed

Hibernate Instant Reverse

In SDE-VS, you can generate VP classes and models by converting Hibernate code.

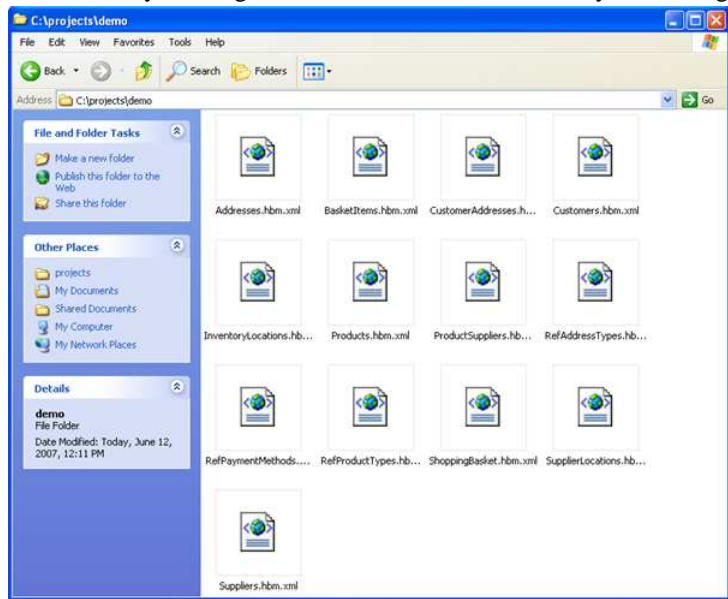


Figure 9.62 - Hibernate file

To perform instant reverse of Hibernate:

1. Select menu **Modeling**> **Instant Reverse** in the main menu. The **Instant Reverse** dialog box appears for further configuration.
2. Select **Hibernate** as language 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.

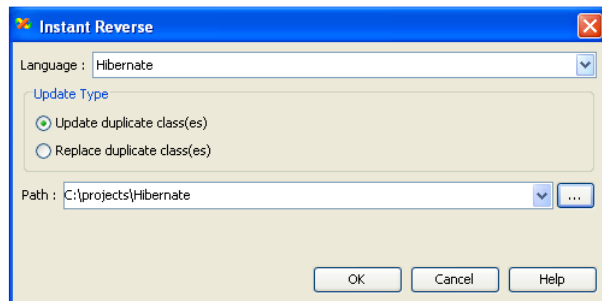


Figure 9.64 - Specify the file path

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**.

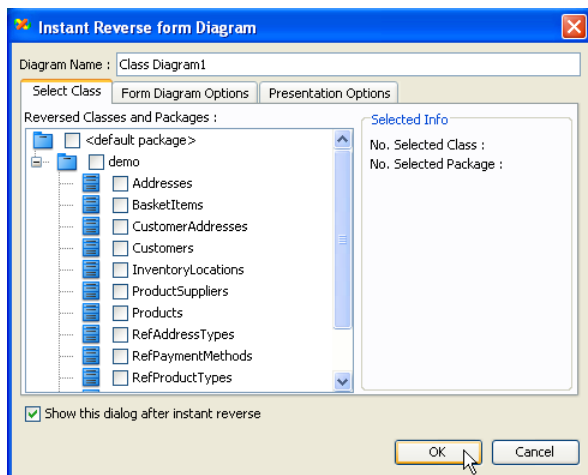


Figure 9.66 - Instant Reverse form Diagram dialog box

5. You can see the result of reversing in the **Model** pane.

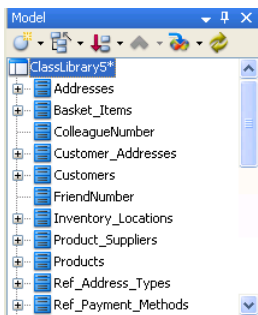


Figure 9.67 - Model pane

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.

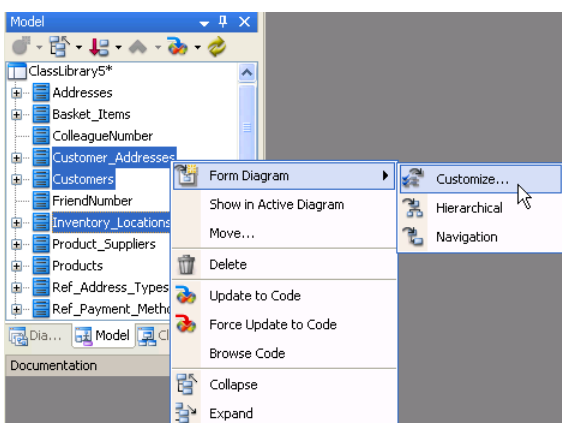


Figure 9.68 - Select model to form diagram

7. The **Form Diagram** dialog box is shown. You can edit the details of the new diagram there.

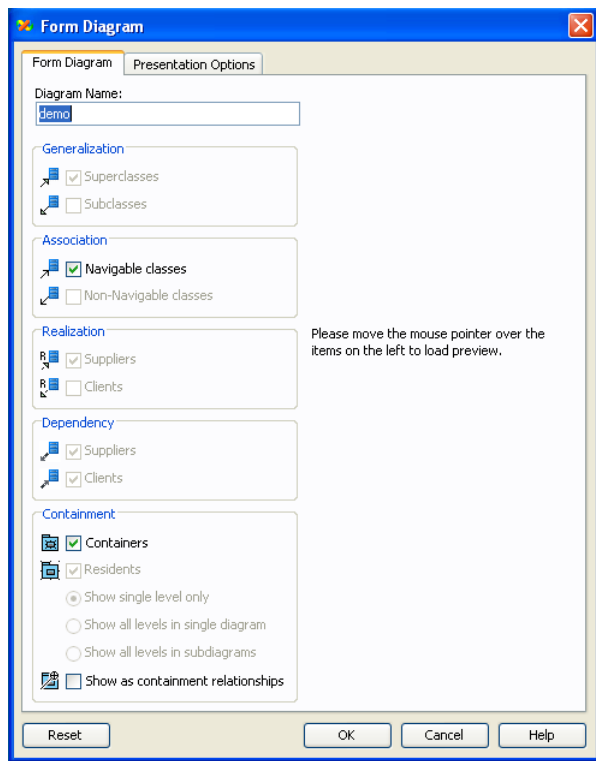


Figure 9.69 - Form Diagram dialog box

8. A new diagram is formed by the selected models.

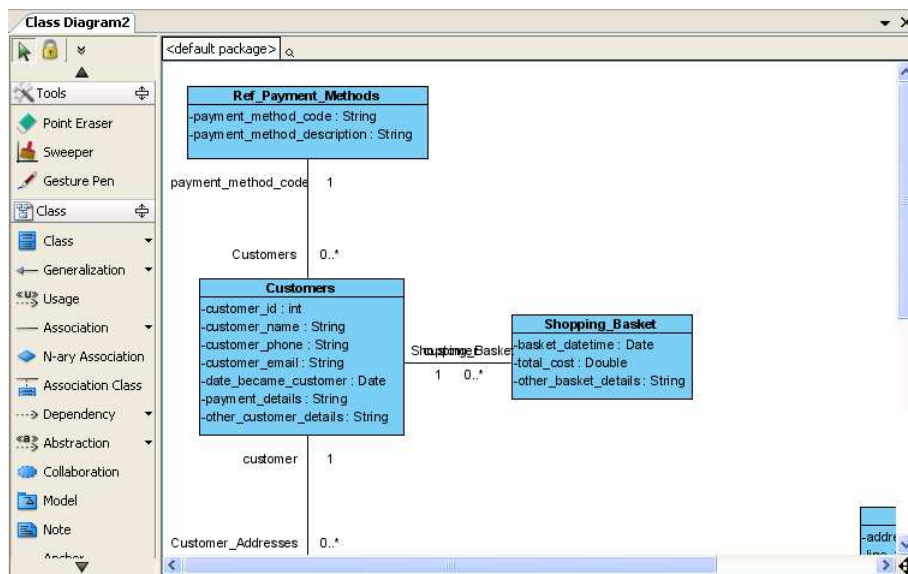


Figure 9.70 - New diagram formed

JDBC Instant Reverse

You can reverse database into VP classes and models via JDBC.

To perform instant reverse of JDBC:

1. Select menu **Modeling > Instant Reverse** in the main menu. The **Instant Reverse** dialog box appears for further configuration.

2. Select **JDBC** as language 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.

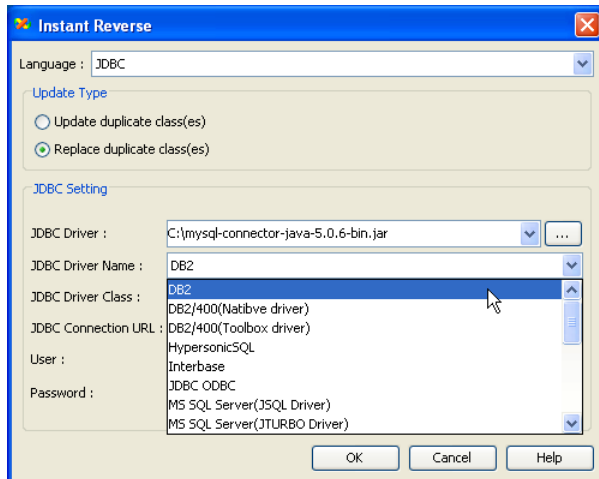


Figure 9.72 - Select the Driver Name

3. The **JDBC Driver Class** is automatically generated. You may also configure the driver class yourself.

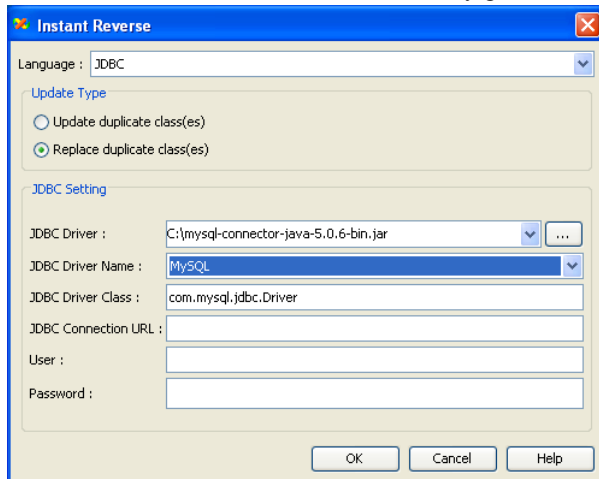


Figure 9.73 - Driver class is generated automatically

4. Configure the **JDBC Connection URL**, **User** and **Password**. Then select **OK**.

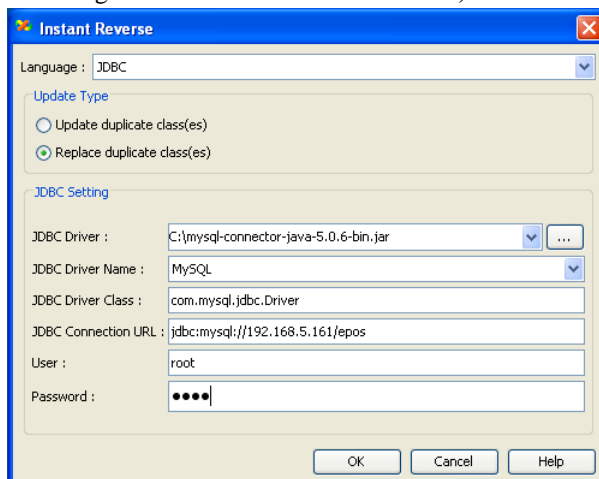


Figure 9.74 - Configure connection URL, user and password

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**.

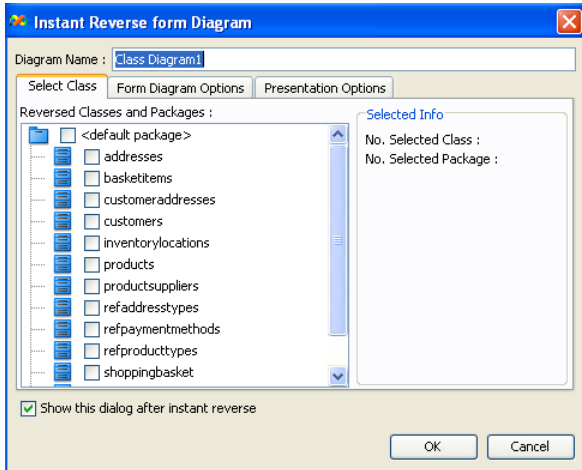


Figure 9.76 - Instant Reverse form Diagram dialog box

7. You can see the result of reversing in the **Model** pane.

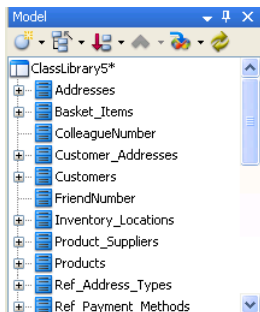


Figure 9.77 - Model pane

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.

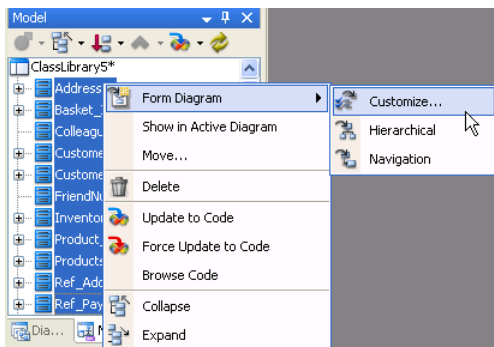


Figure 9.78 - Select model to form diagram

9. The **Form Diagram** dialog box is shown. You can edit the details of the new diagram there.

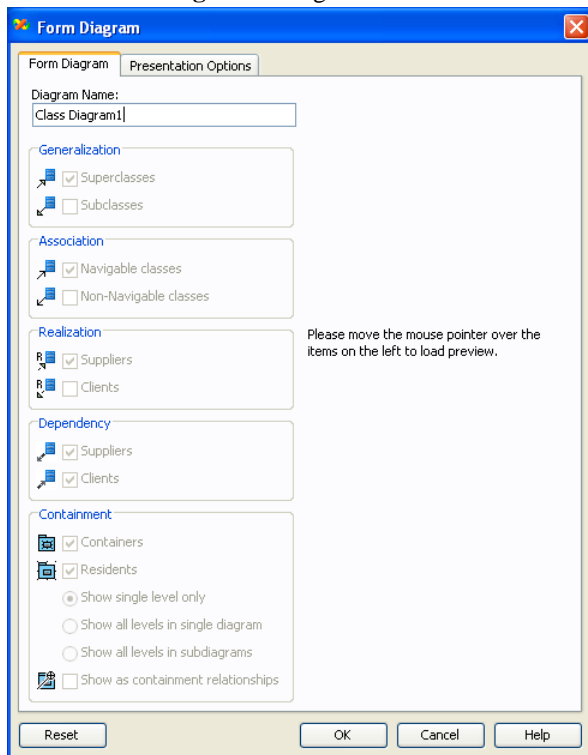


Figure 9.79 - Form Diagram dialog box

10. A new diagram is formed by the selected models.

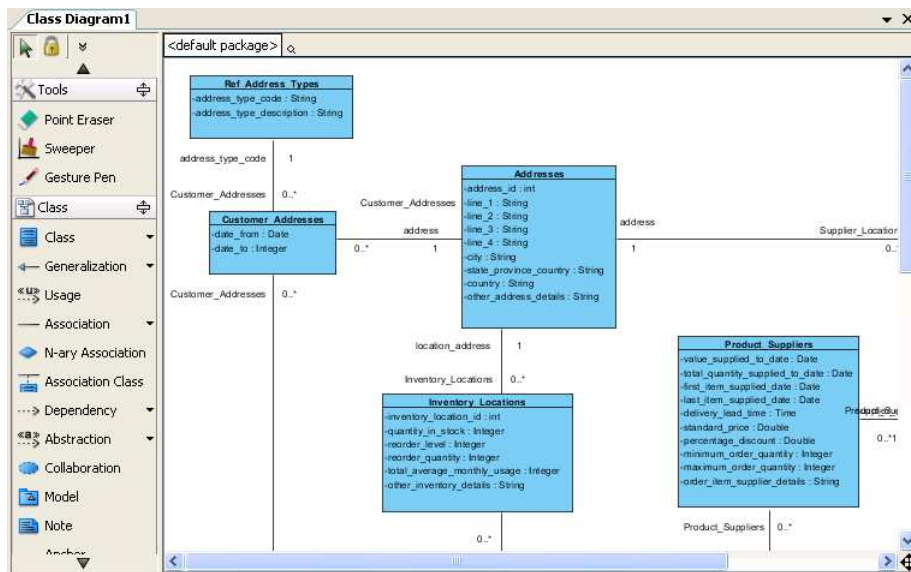


Figure 9.80 - New diagram formed

Ada 9x Instant Reverse

SDE-VS also supports reversing Ada 9x code into VP 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** in the main menu. The **Instant Reverse** dialog box appears for further configuration.

2. Select Ada 9x Source as language 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.

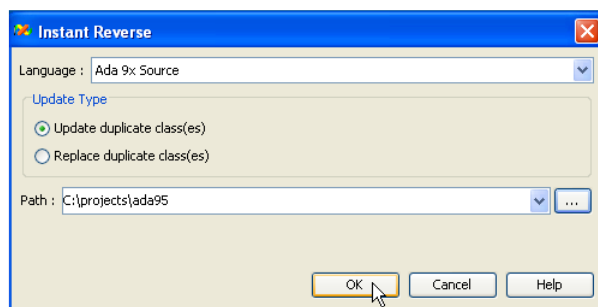


Figure 9.83 - Specify the file path

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**.

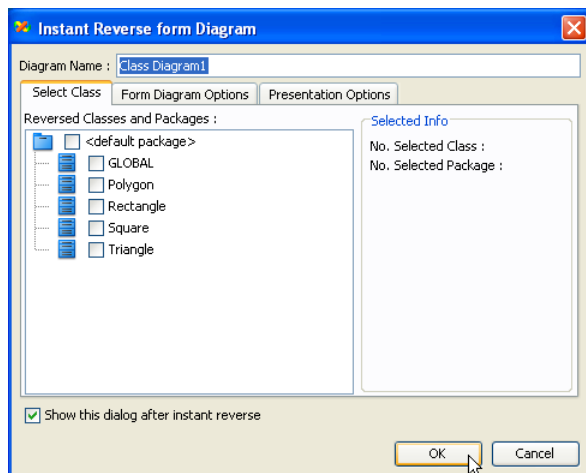


Figure 9.85 - Instant Reverse form Diagram dialog box

5. You can see the result of reversing in the **Model** pane.

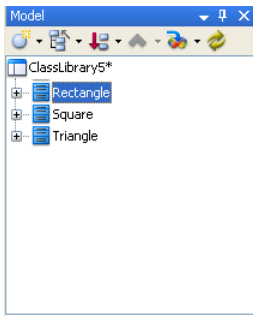


Figure 9.86 - Model pane

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.

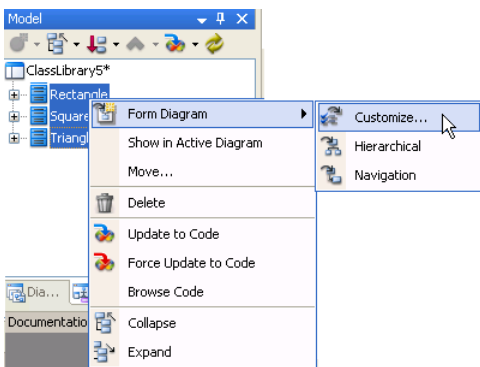


Figure 9.87 - Select model to form diagram

7. The **Form Diagram** dialog box is shown. You can edit the details of the new diagram there.

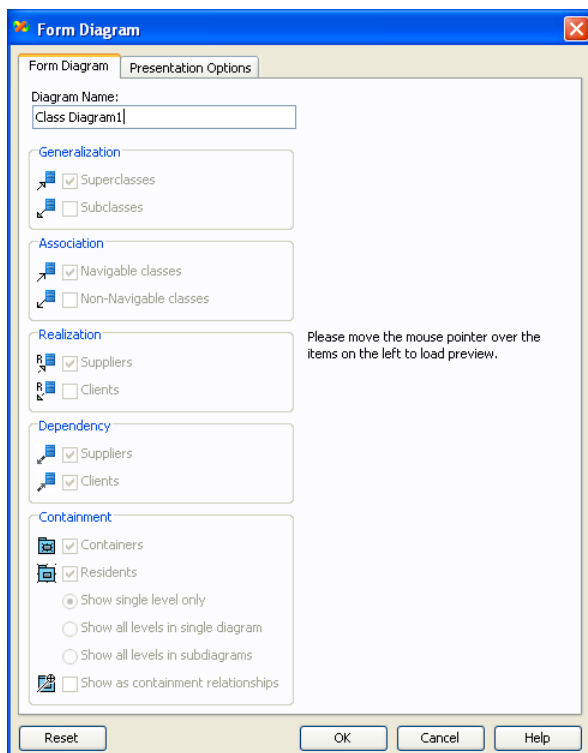


Figure 9.88 - Form Diagram dialog box

8. A new diagram is formed by the selected models.

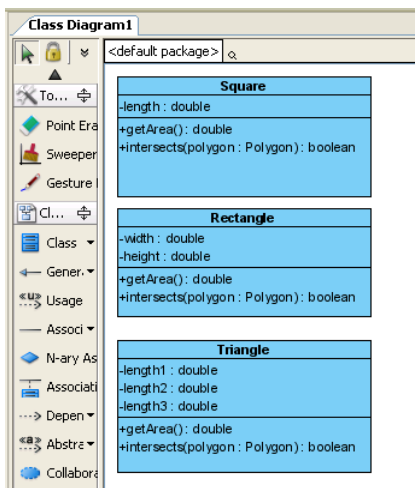


Figure 9.89 - New diagram formed

Objective-C Instant Reverse

SDE-VS also supports reversing Objective-C code into VP 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** in the main menu. The Instant Reverse dialog box appears for further configuration.
2. Select Objective-C as language 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 Objective-C file. Then select **OK** to start.

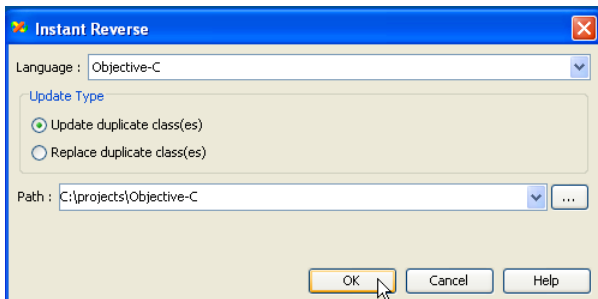


Figure 9.92 - Specify the file path

3. A **Message** dialog box appears telling you the reversal is successful.

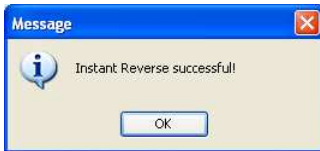


Figure 9.93 - Message dialog box

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**.

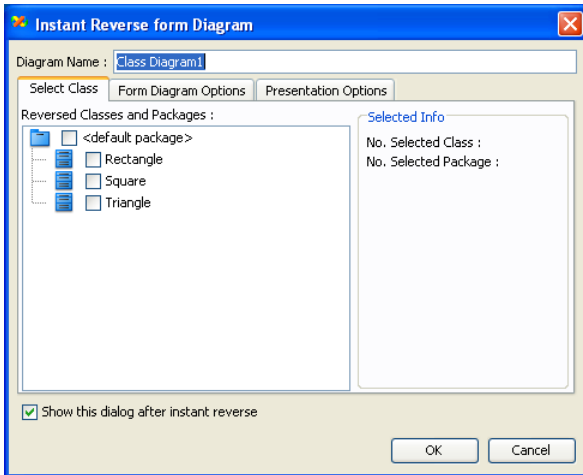


Figure 9.94 - Instant Reverse form Diagram dialog box

5. You can see the result of reversing in the **Model** pane.

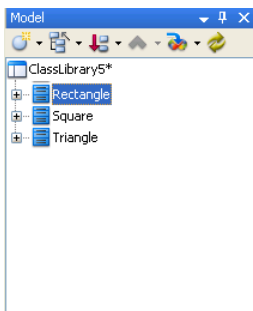


Figure 9.95 - Model pane

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.

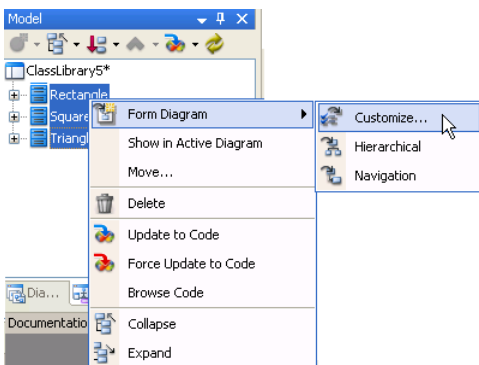


Figure 9.96 - Select model to form diagram

7. The **Form Diagram** dialog box is shown. You can edit the details of the new diagram there.

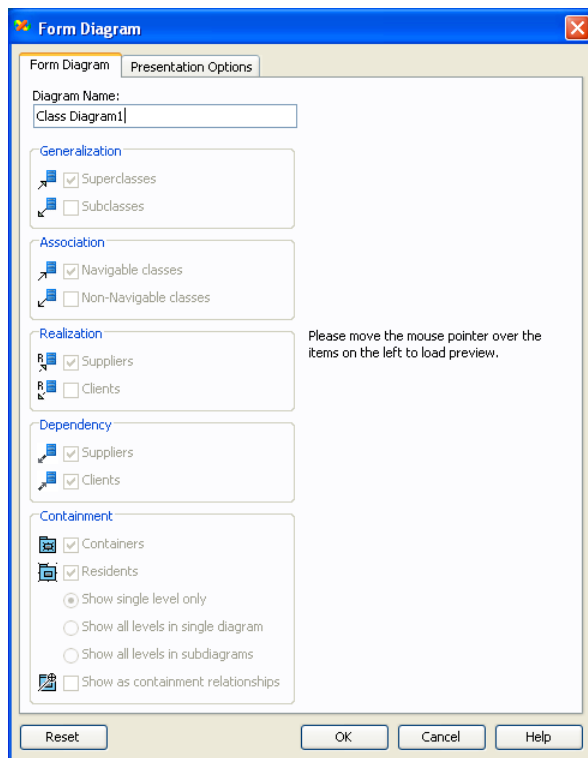


Figure 9.97 - Form Diagram dialog box

8. A new diagram is formed by the selected models.

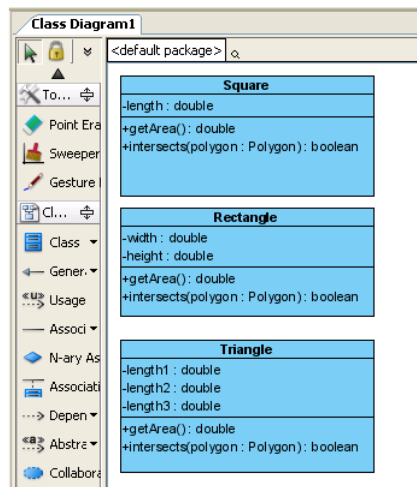


Figure 9.98 - New diagram formed

10

Instant Generator

Chapter 10 - Instant Generator

In SDE-VS, 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-VS allows you to generate codes. SDE-VS 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 VP project as an example to illustrate the advanced options of different languages.

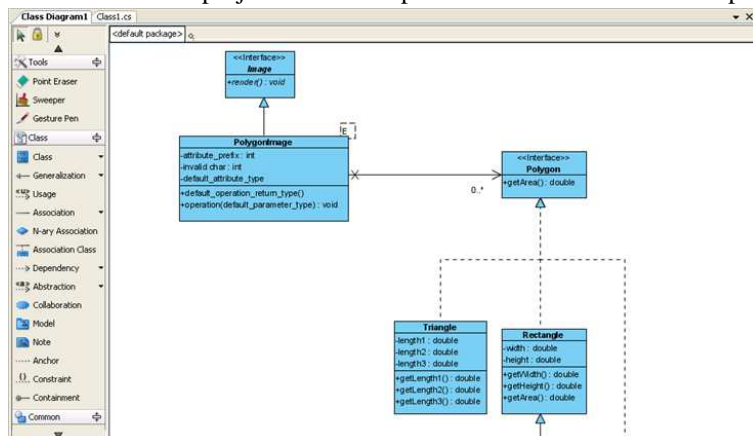


Figure 10.1 - Sample VP project to illustrate the advanced options

Using Instant Generator

Open the **Instant Generator** dialog from the main menu: click **Modeling > Instant Generator...**

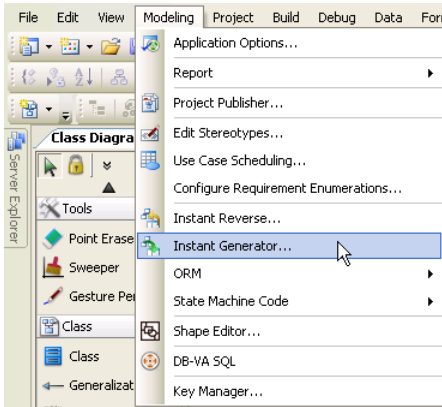


Figure 10.2 Open Instant Generator dialog

The **Instant Generator** dialog box will be displayed.

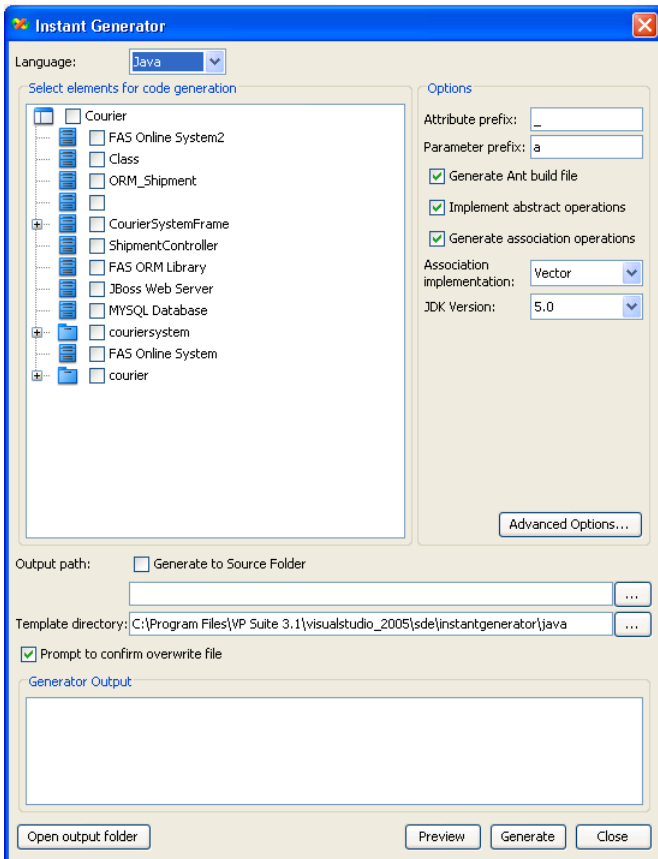


Figure 10.3 Instant Generator dialog

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.

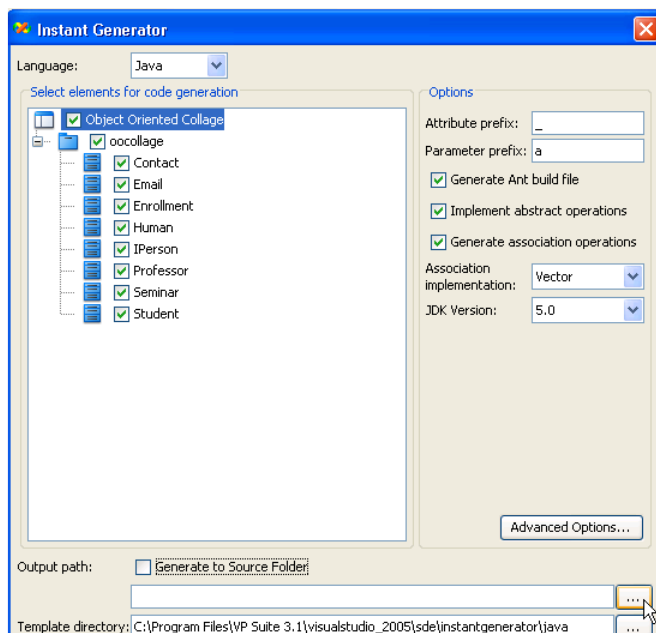


Figure 10.6 - Select output path

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.

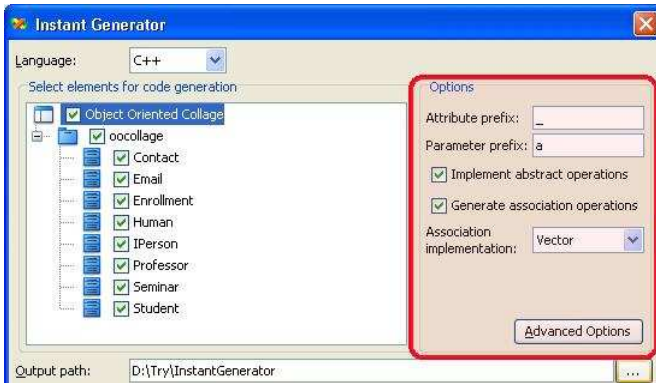


Figure 10.7 - Basic Options

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.

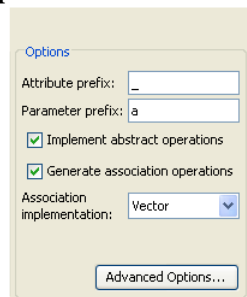


Figure 10.8 - Select Advanced Options

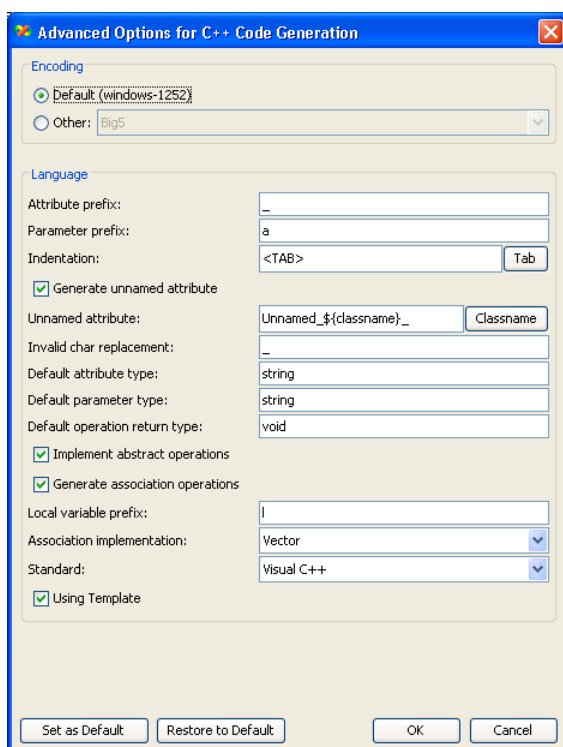


Figure 10.9 - Advanced Options

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.

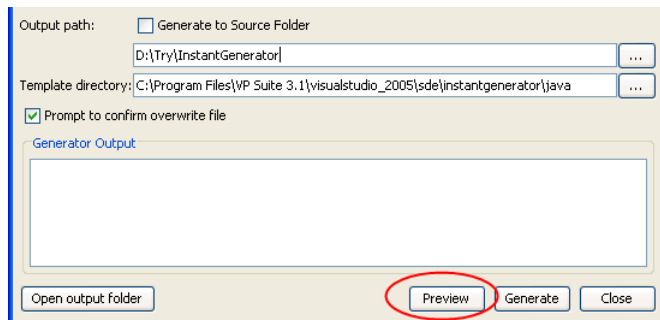


Figure 10.10 - Select Preview

Previewing result:

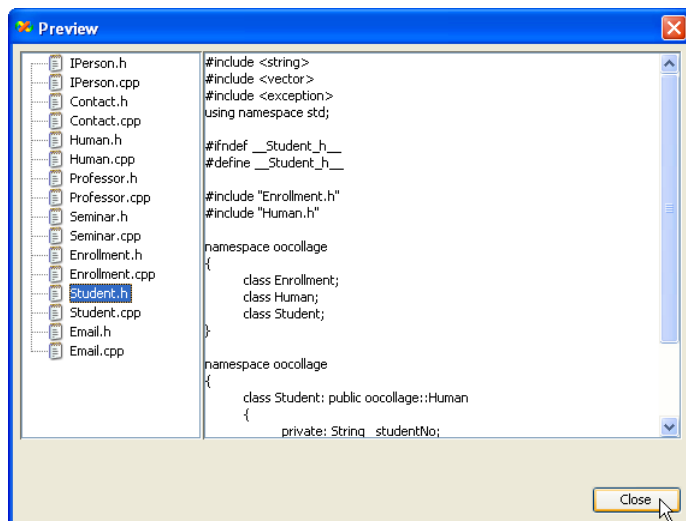


Figure 10.11 - Previewing result

To generate codes using the Instant Generator dialog:

Press **Generate** in the Instant Generator dialog to perform actual generation.

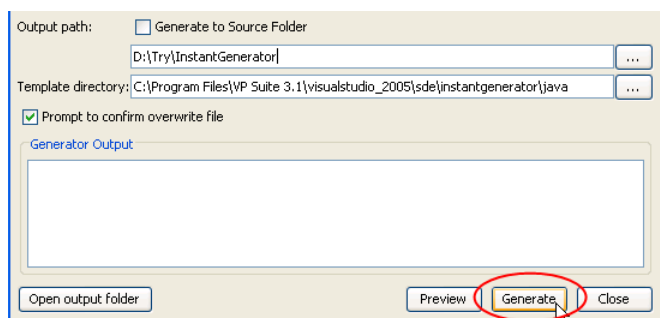


Figure 10.12 - Select Generate

While the generation, the progress is displayed in *Generator Output*.

Output folder can be opened by pressing **Open output folder** in Instant Generator dialog.

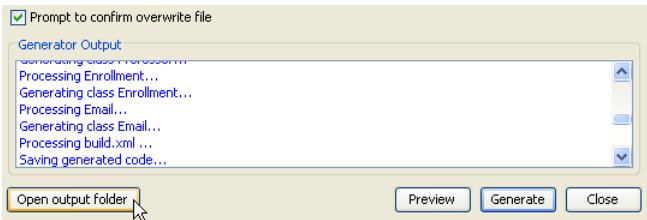


Figure 10.13 - Open output folder

Generating Java

Using SDE-VS, Java can be generated easily.

To generate Java:

1. Open the **Instant Generator** dialog for Java by clicking **Modeling > Instant Generator...** in the main menu.

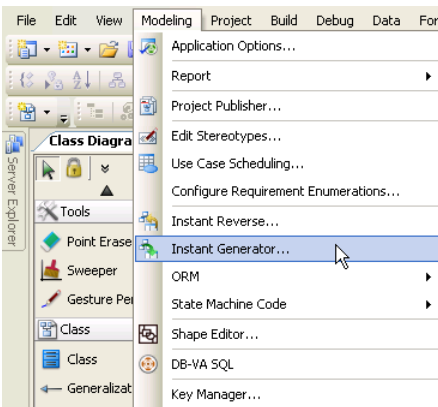


Figure 10.14 - Open Instant Generator dialog for Java

2. The **Instant Generator** dialog box for Java is displayed. Select the language as Java from the drop-down menu.

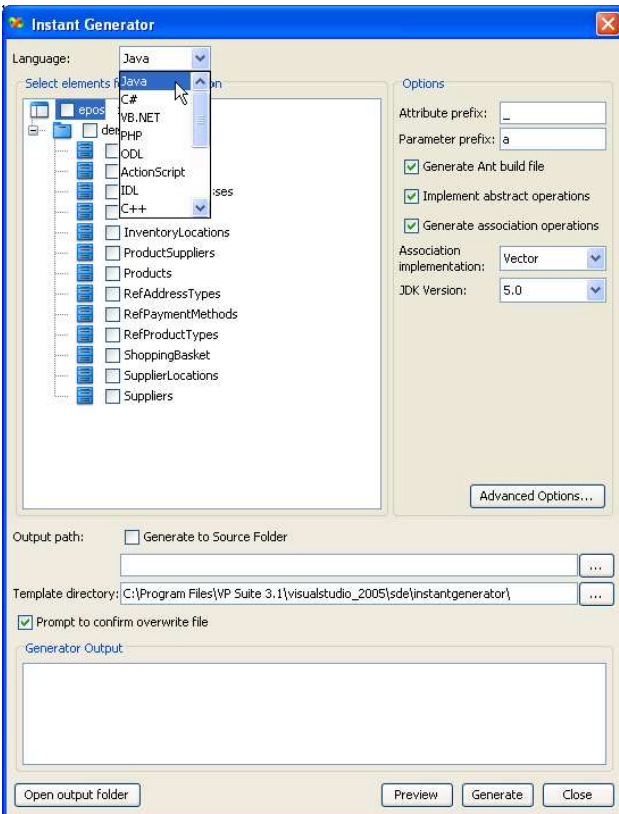


Figure 10.15 - Instant Generator dialog box

3. Choose the classes or packages you want to generate in Java.

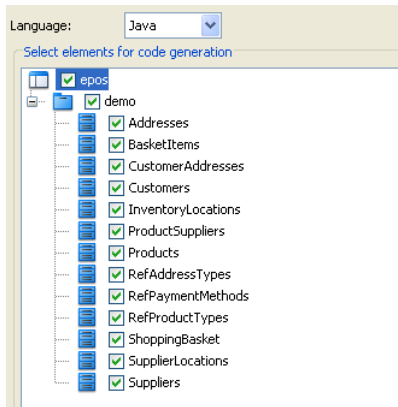


Figure 10.16 - Choose the classes and packages

4. Edit the Options.

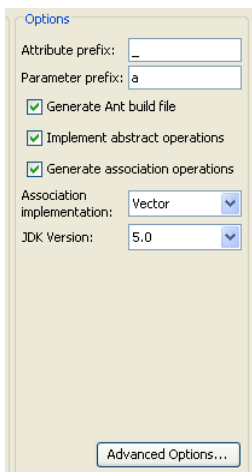


Figure 10.17 - Edit the options

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: Vector - The collection is expandable size. Array - The collection has fixed size.
JDK Version	Select this option to generate code for target JDK. The version SDE-VS supports are 5.0 and 1.4.
Advanced Options...	Edit the advance options.

Table 10.1

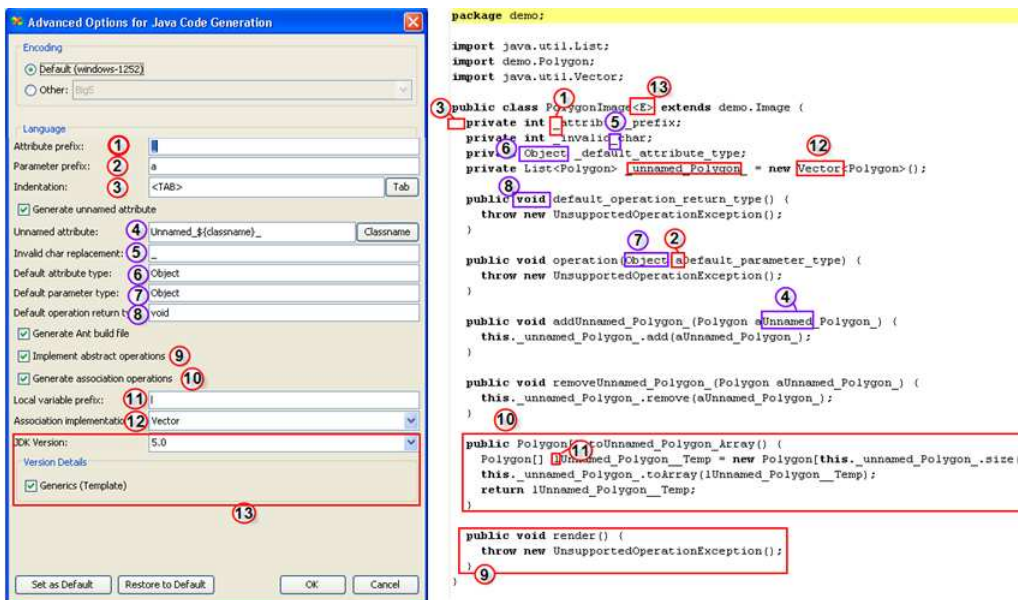


Figure 10.18 - Example illustrating the functions of different options in Advanced Options

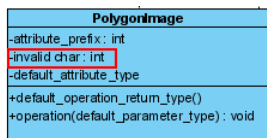


Figure 10.19 - Diagram of invalid char

4. Specify the **Output path** and select **Generate** to generate Java.

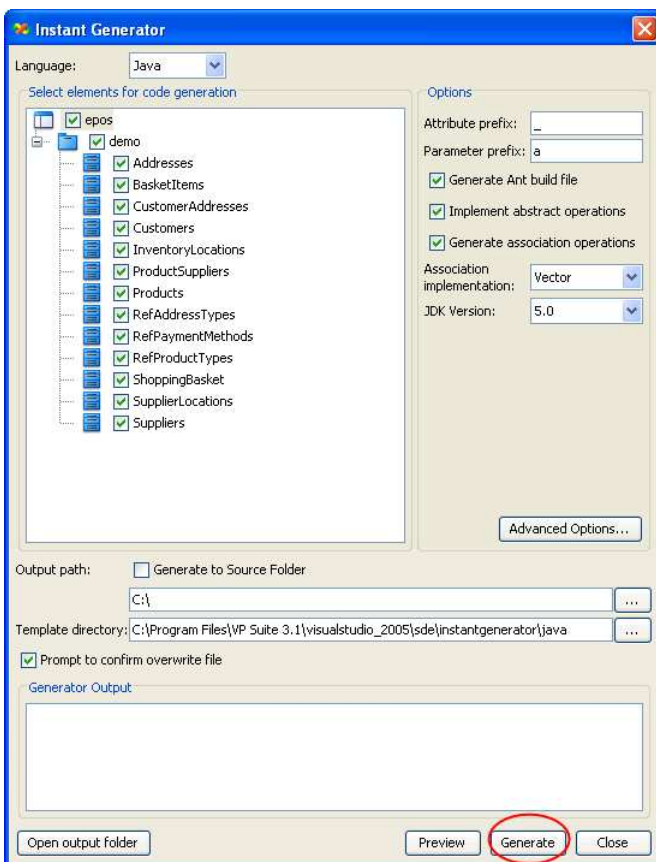


Figure 10.20 - Select Generate

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.

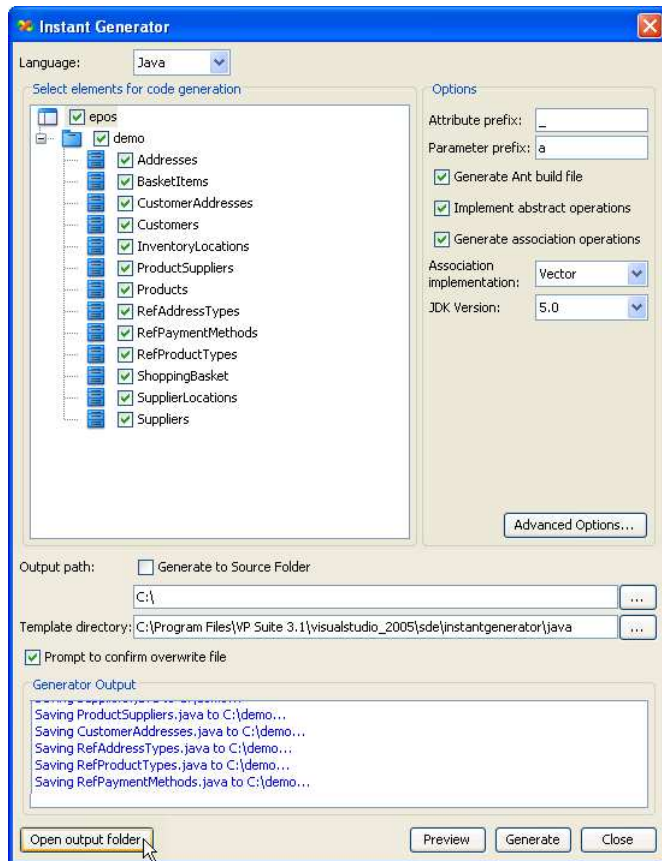


Figure 10.21 - Open output folder

6. Java files are generated.

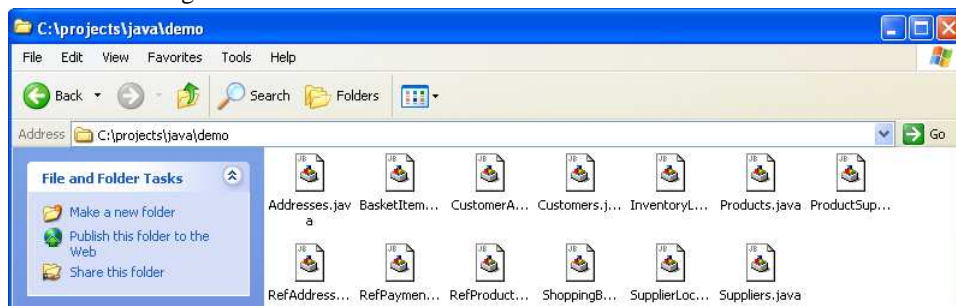


Figure 10.22 - Java files generated

Generating C#

SDE-VS can generate C# file.

To generate C#:

1. Open **Instant Generator** dialog for C# by clicking **Modeling > Instant Generator...** in the main menu.

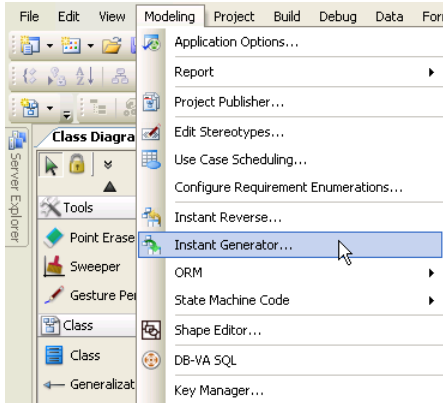


Figure 10.23 - Open Instant Generator dialog for C#

2. The **Instant Generator** dialog box for C# is displayed. Select C# as the generated language in the drop-down menu.

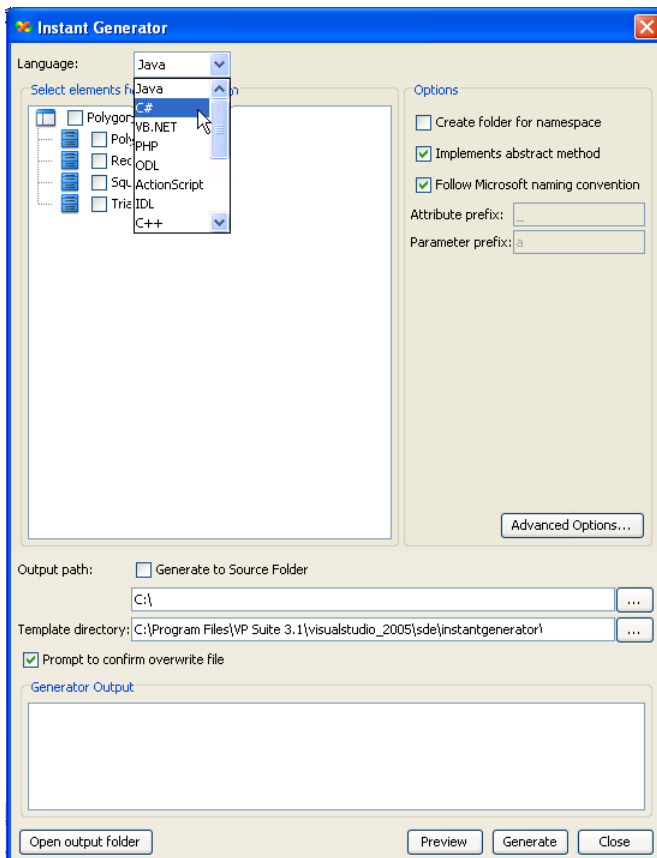


Figure 10.24 - Instant Generator dialog box

3. Choose the classes or packages you want to generate C#.

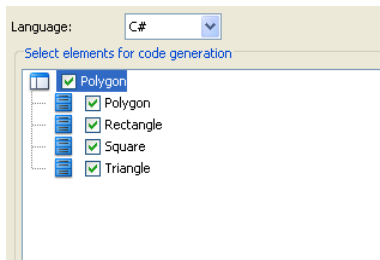


Figure 10.25 - Choose the classes and packages

4. Edit the Options.

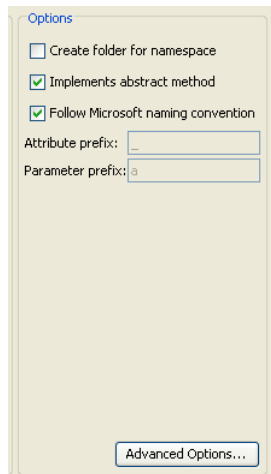


Figure 10.26 - Edit the options

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

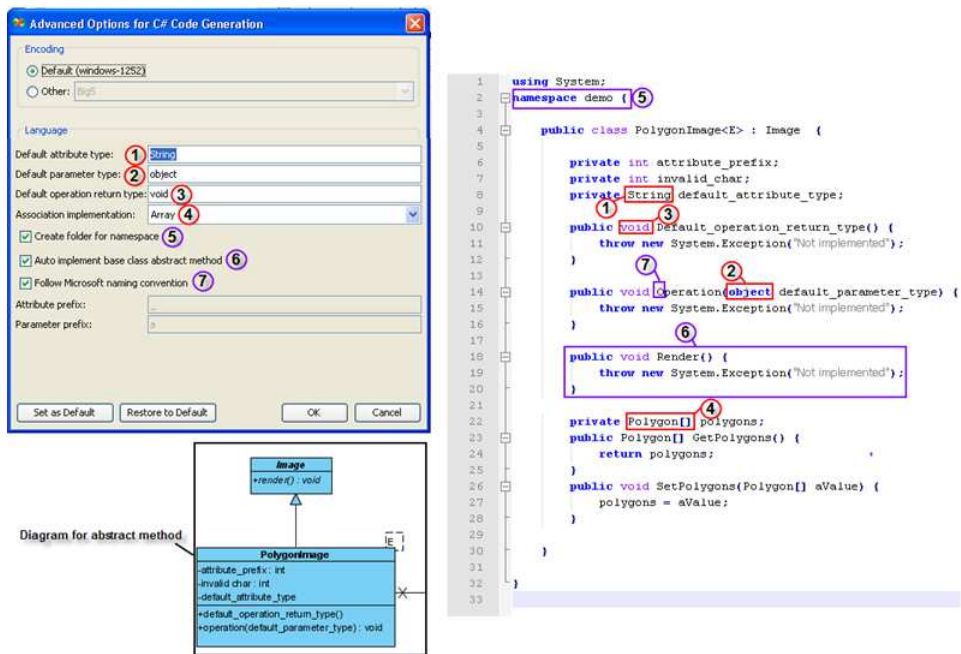


Figure 10.27 - Example illustrating the functions of different options in Advanced Options

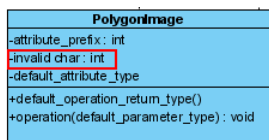


Figure 10.28 - Diagram of invalid char



Figure 10.29 - File generated with folder created for namespace

5. Specify the **Output path** and select **Generate** to generate C#.

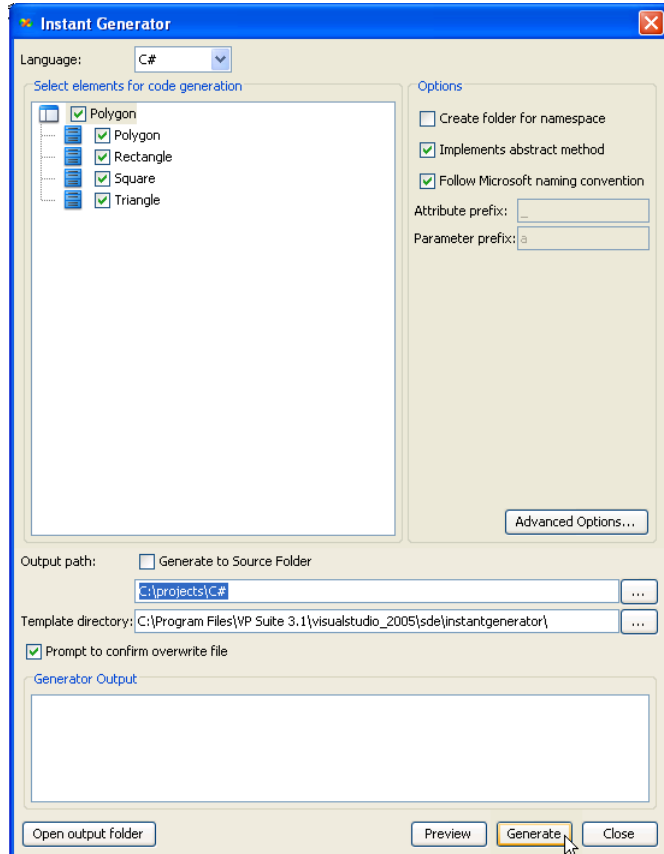


Figure 10.30 - Select Generate

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.

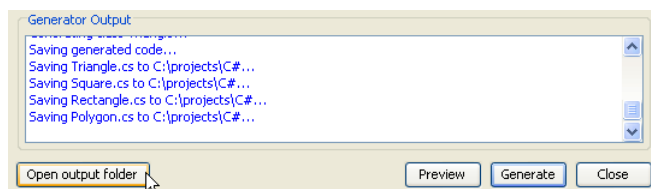


Figure 10.31 - Open output folder

7. C# files generated.

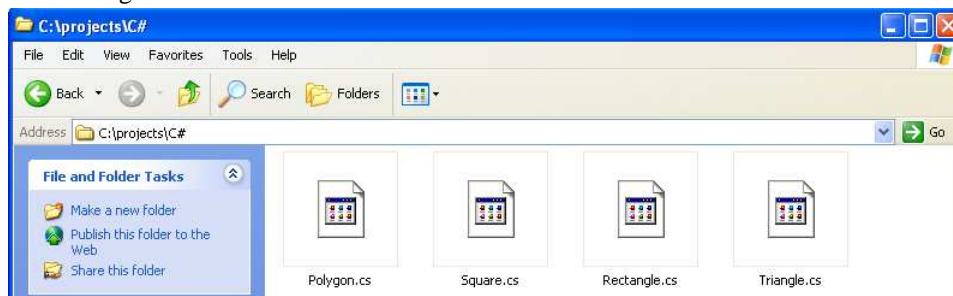


Figure 10.32 - C# files generated

Generating VB.NET

SDE-VS can generate VB.NET file.

To generate VB.NET file:

1. Open the **Instant Generator** dialog for VB.NET by clicking **Modeling > Instant Generator...** in the main menu.

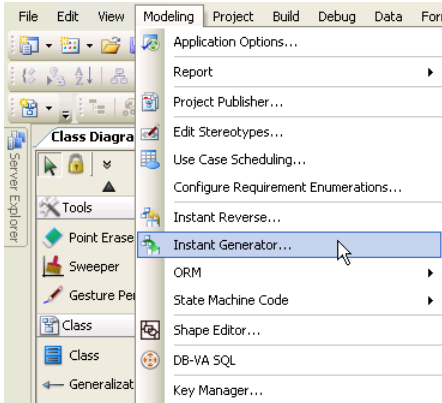


Figure 10.33 - Open Instant Generator dialog

2. The **Instant Generator** dialog box is displayed. Select VB.NET as generated language from the drop-down menu.

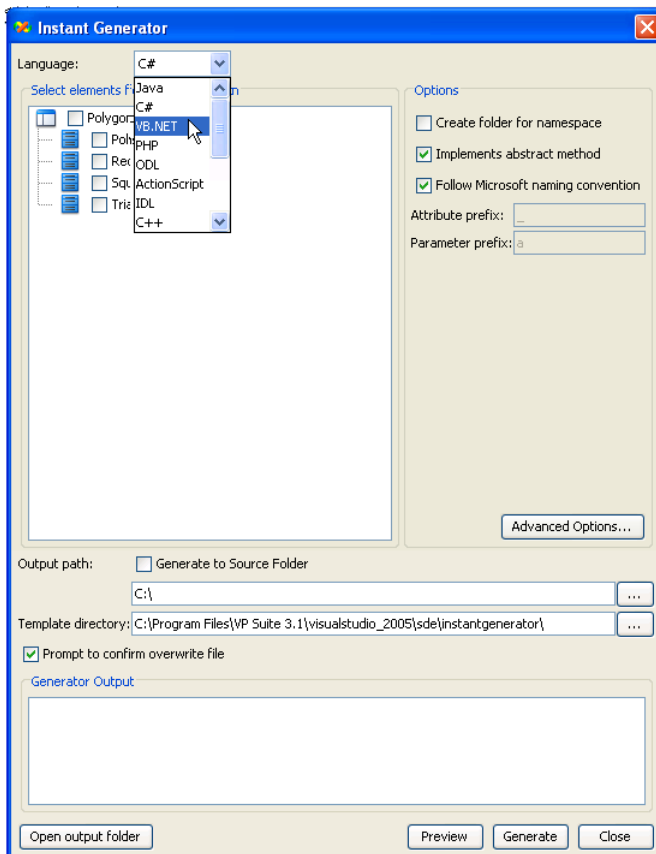


Figure 10.34 Instant Generator dialog box

3. Choose the classes or packages you want to generate .

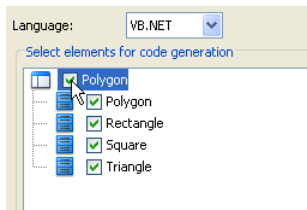


Figure 10.35 - Choose the classes and packages

4. Edit the Options.

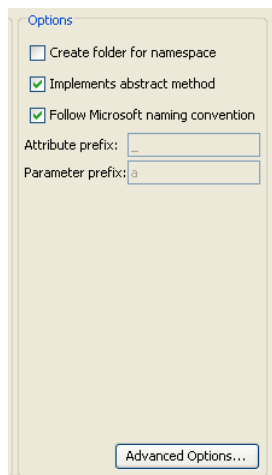


Figure 10.36 - Edit the options

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

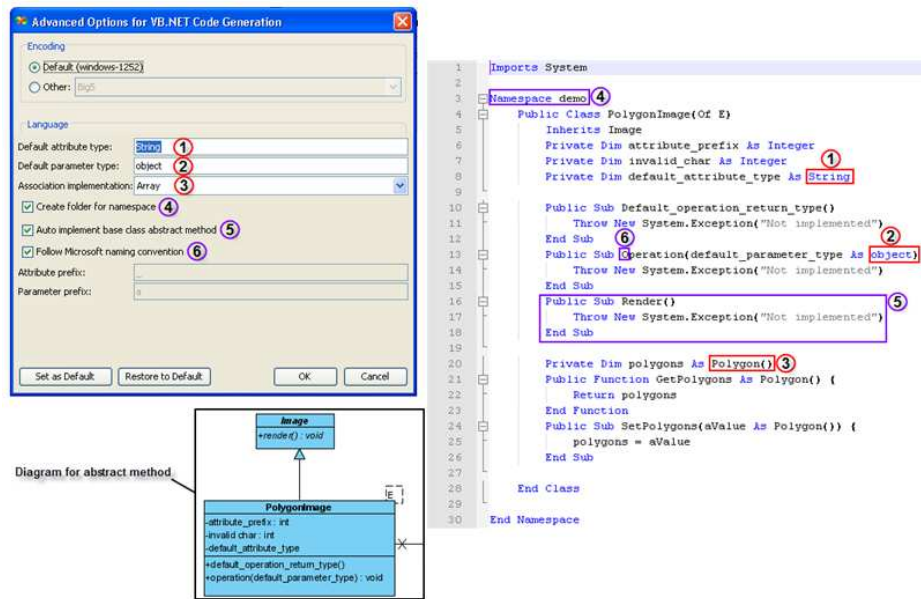


Figure 10.37 - Example illustrating the functions of different options in Advanced Options



Figure 10.38 - File generated with folder created for namespace

5. Specify the **Output path** and select **Generate** to generate VB.NET.

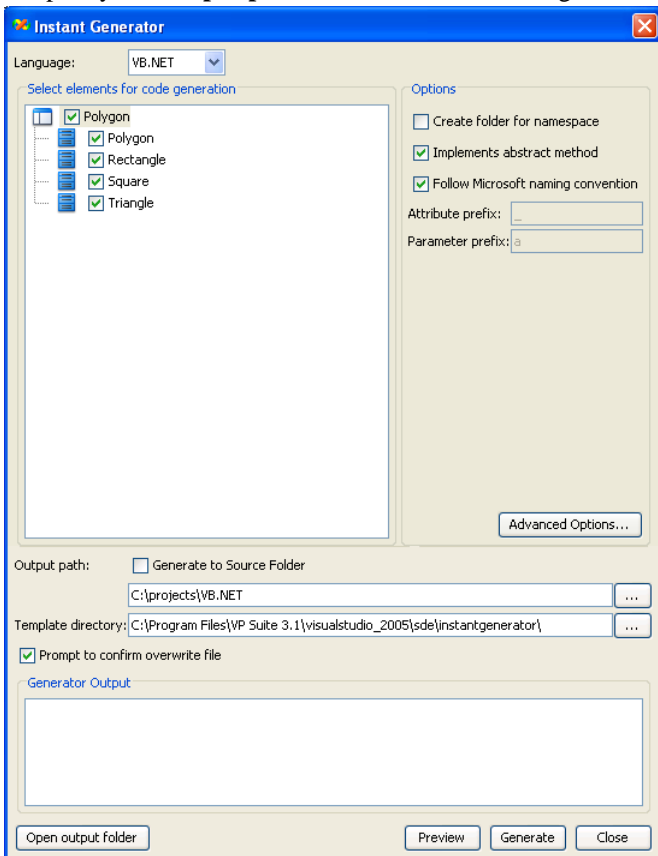


Figure 10.39 - Select Generate

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.

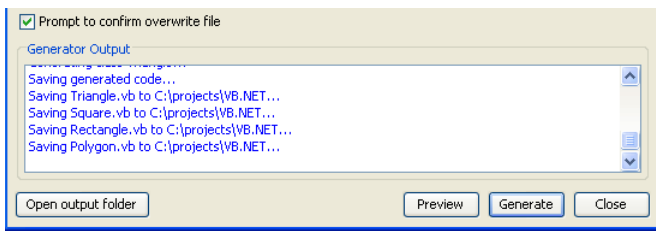


Figure 10.40 - Open output folder

7. VB.NET files generated.

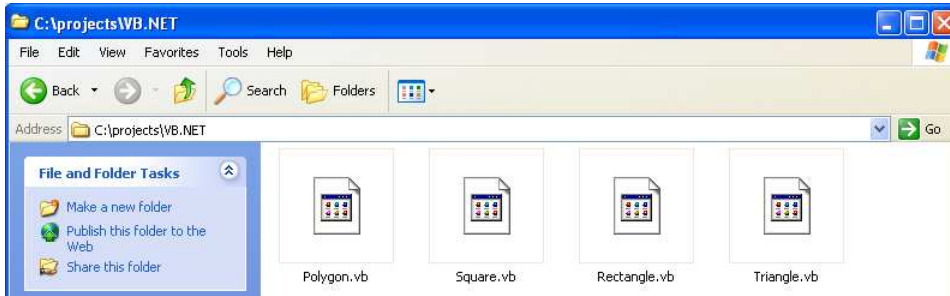


Figure 10.41 - VB.NET files generated

Generating PHP

SDE-VS can generate PHP file.

To generate PHP file:

1. Open the **Instant Generator** dialog for PHP by clicking **Modeling > Instant Generator...** in the main menu.

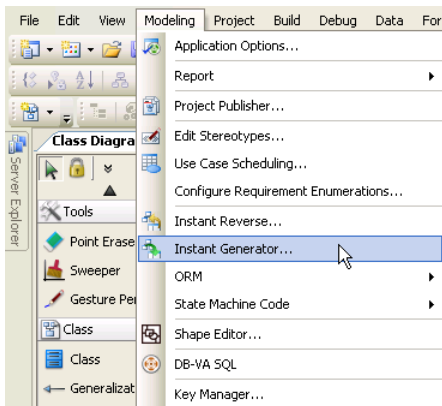


Figure 10.42 - Open Instant Generator dialog

2. The **Instant Generator** dialog box is displayed. Select PHP as generated language from the drop-down menu.

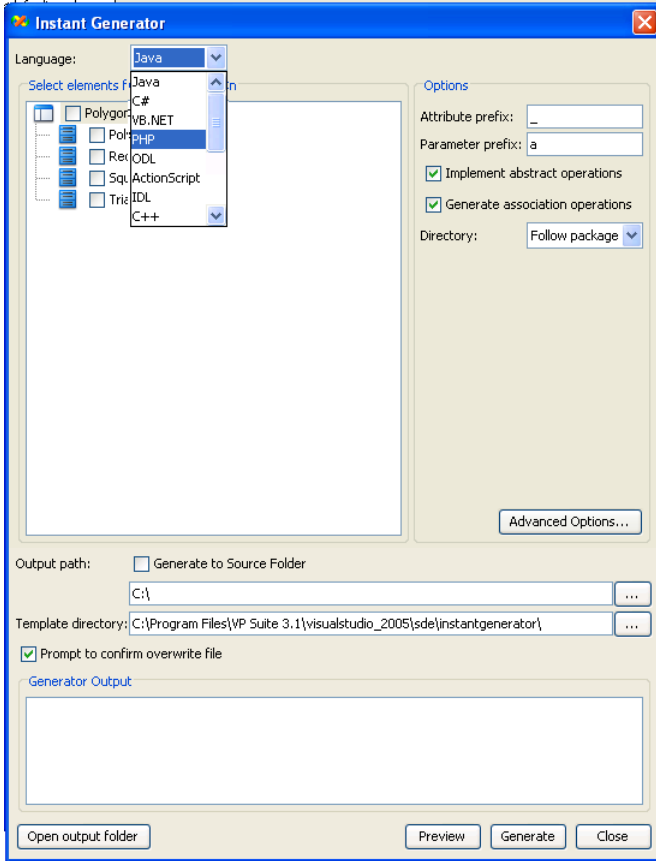


Figure 10.43 - Instant Generator dialog box

3. Choose the classes or packages you want to generate .

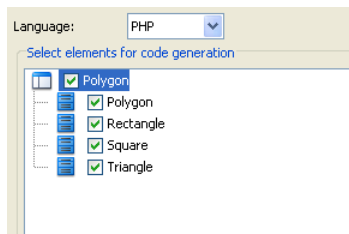


Figure 10.44 - Choose the classes and packages

4. Edit the Options.

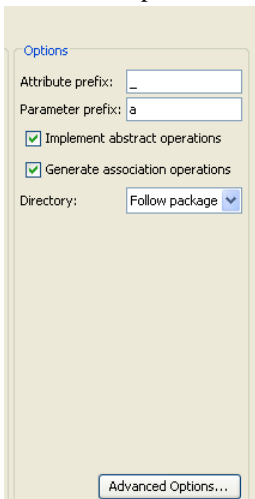


Figure 10.45 - Edit the options

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: Flat level: Save files to the output path defined below. 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

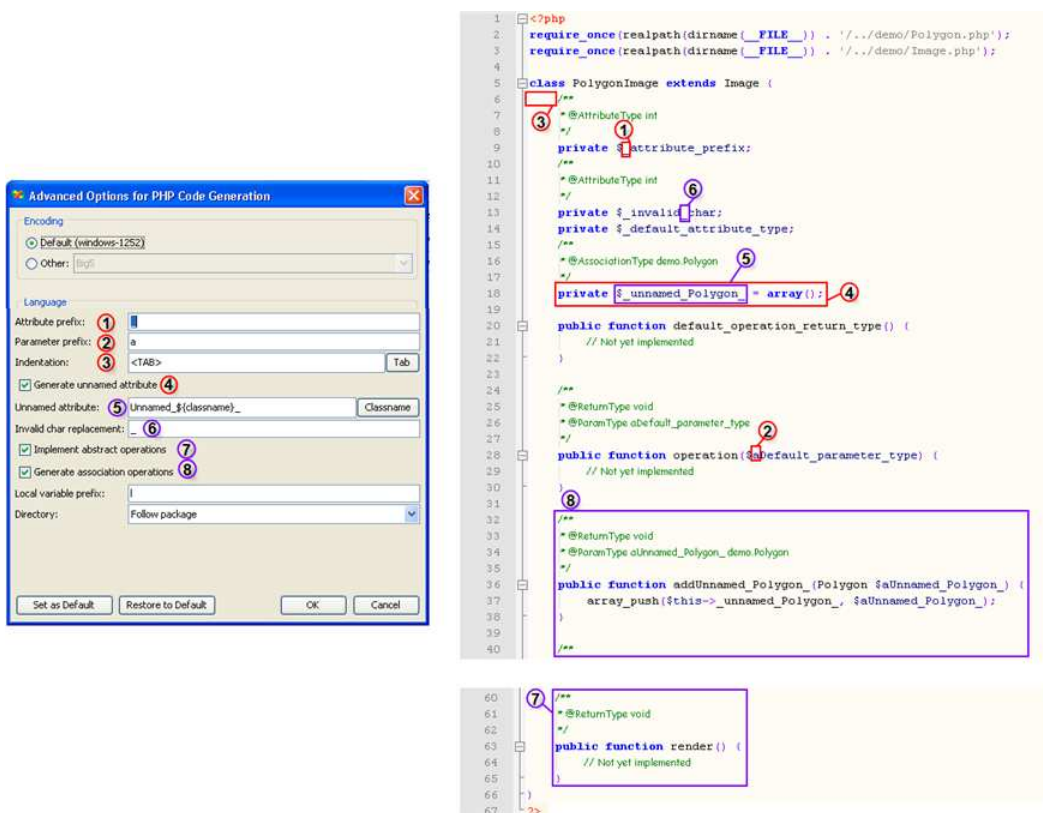


Figure 10.46 - Example illustrating the functions of different options in Advanced Options

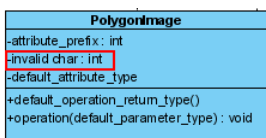


Figure 10.47 - Diagram of invalid char

5. Specify the **Output path** and select **Generate** to generate PHP.

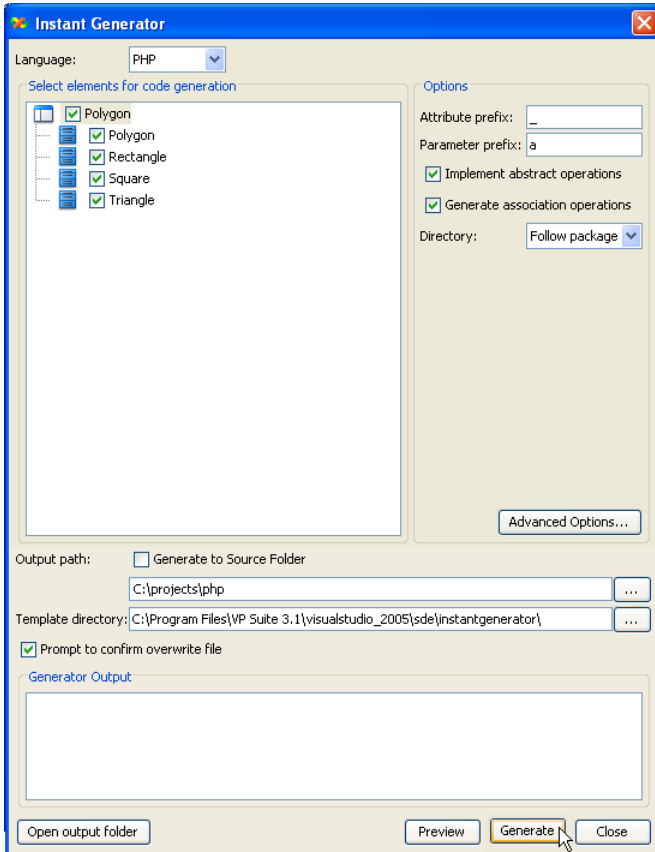


Figure 10.48 - Select Generate

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.

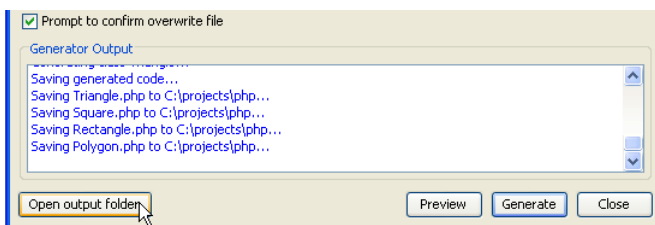


Figure 10.49 - Open output folder

7.PHP files generated.

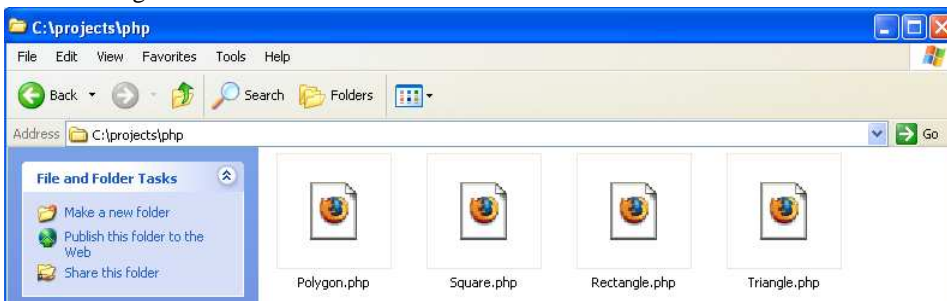


Figure 10.50 - PHP files generated

Generating ODL

SDE-VS can generate ODL file.

To generate ODL file:

1. Open the **Instant Generator** dialog for ODL by clicking **Modeling > Instant Generator** in the main menu.

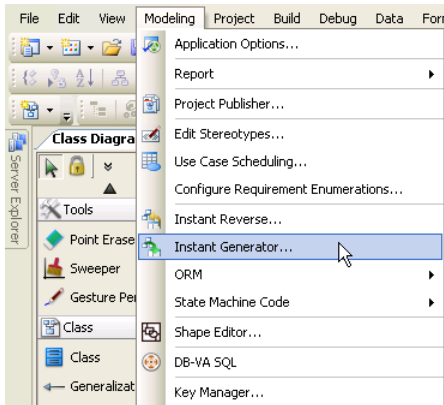


Figure 10.51 - Open Instant Generator dialog

2. **Instant Generator** dialog box is displayed. Select ODL as generated language from the drop-down menu.

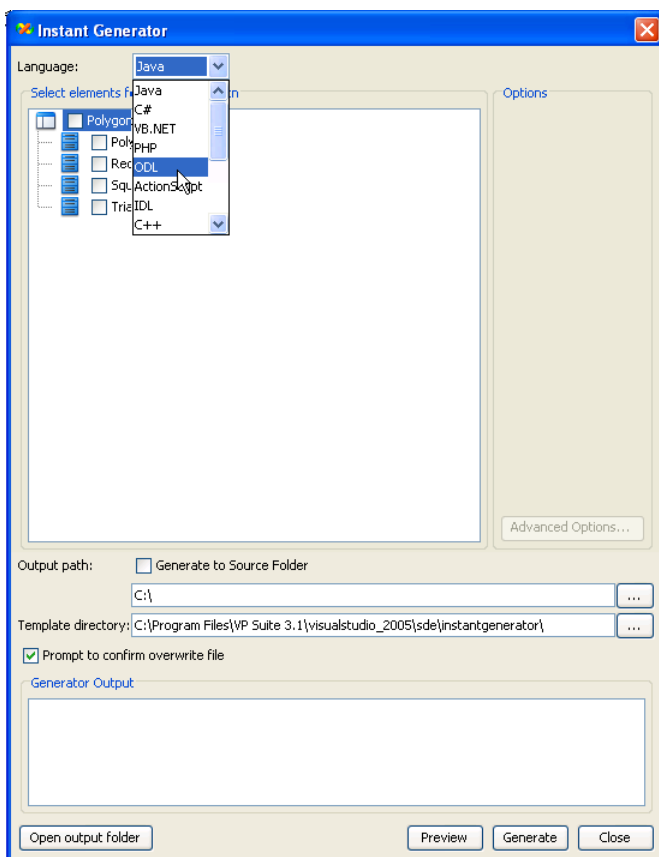


Figure 10.52 - Instant Generator dialog box

3. Choose the classes or packages you want to generate .

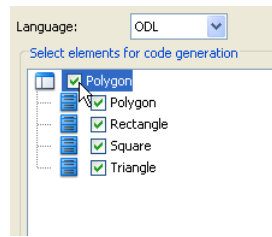


Figure 10.53 - Choose the classes and packages

4. Specify the **Output path** and select **Generate** to generate ODL.

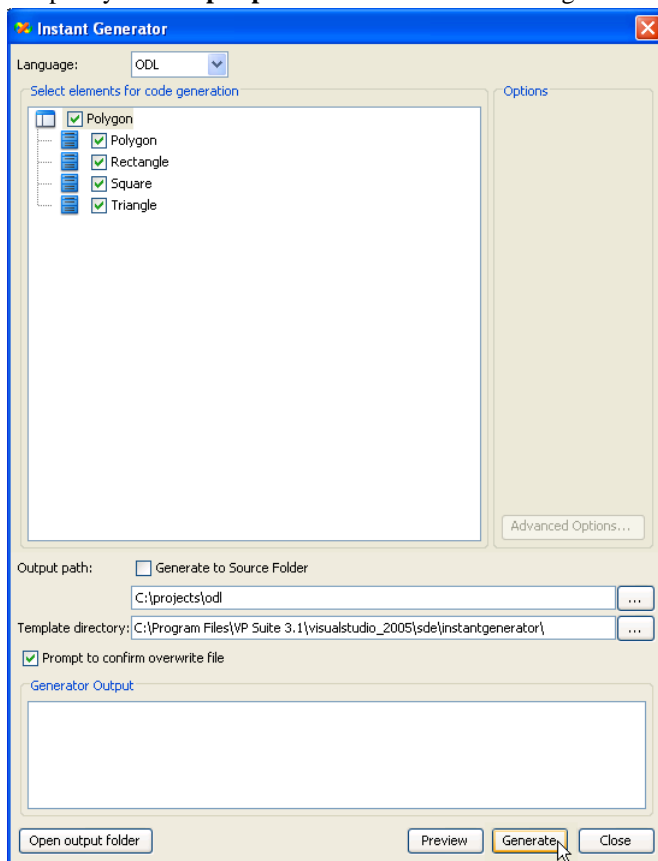


Figure 10.54 - Select Generate

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.

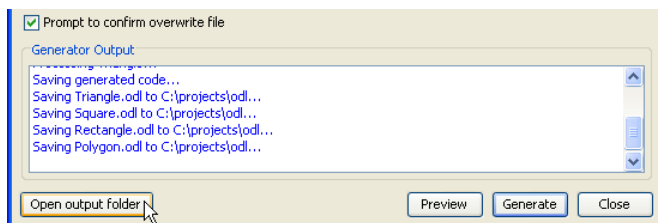


Figure 10.55 - Open output folder

6.ODL files generated.

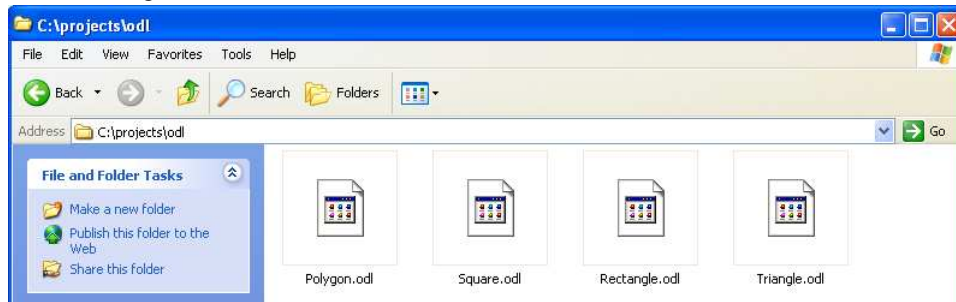


Figure 10.56 - ODL files generated

Generating ActionScript

SDE-VS can generate ActionScript file.

To generate ActionScript file:

1. Open the **Instant Generator** dialog for ActionScript by clicking **Modeling > Instant Generator...** in the main menu.

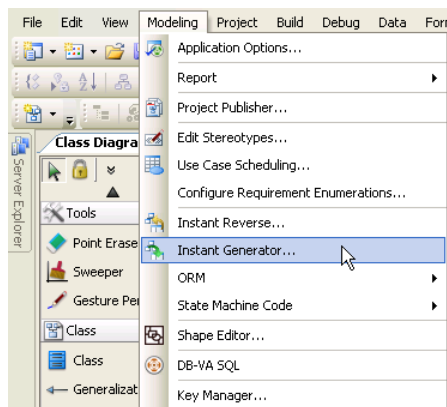


Figure 10.57 - Open Instant Generator dialog

2. The **Instant Generator** dialog box is displayed. Select ActionScript as generated language from the drop-down menu.

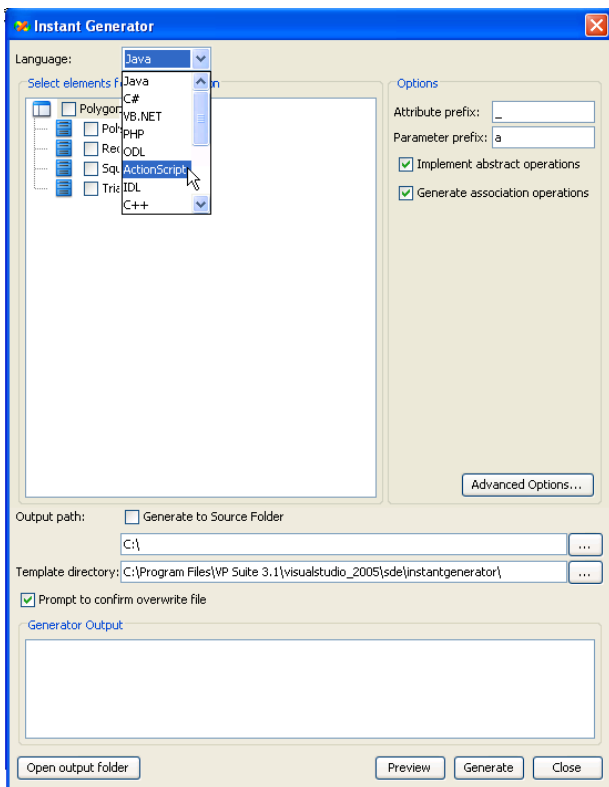


Figure 10.58 - Instant Generator dialog box

3. Choose the classes or packages you want to generate .

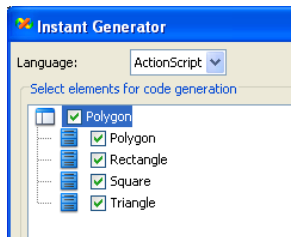


Figure 10.59 - Choose the classes and packages

4. Edit the Options.

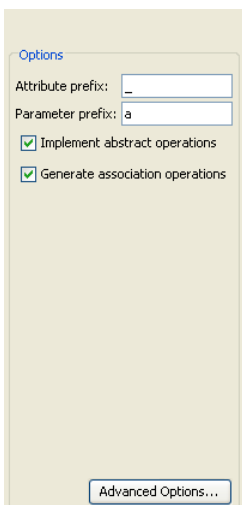


Figure 10.60 - Edit the options

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

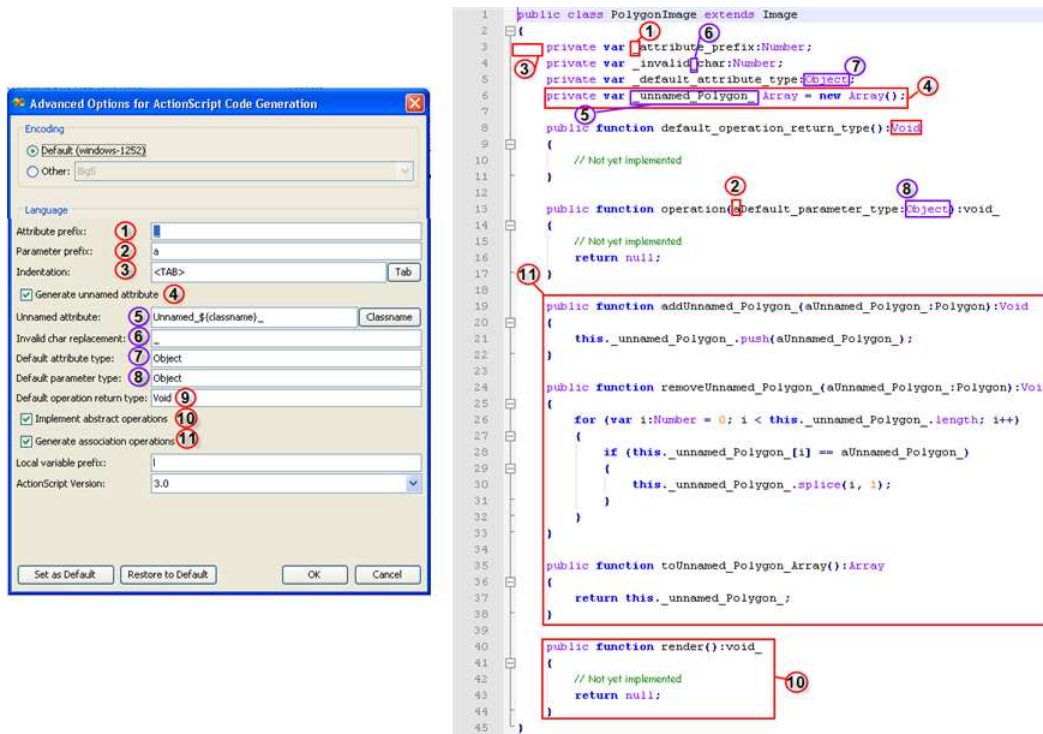


Figure 10.61 - Example illustrating the functions of different options in Advanced Options

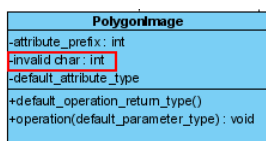


Figure 10.62 - Diagram of invalid char

5. Specify the **Output path** and select **Generate** to generate ActionScript.

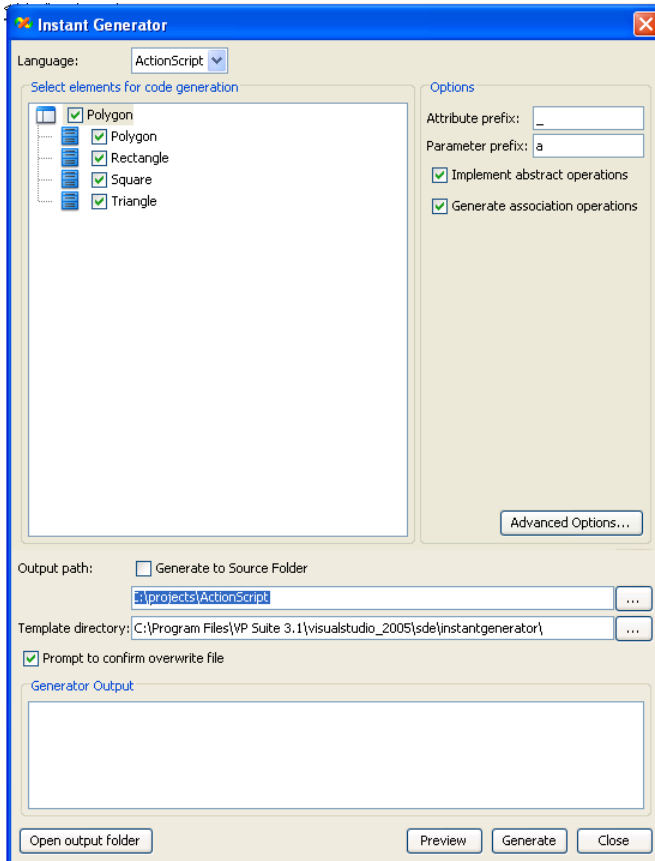


Figure 10.63 - Select Generate

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.

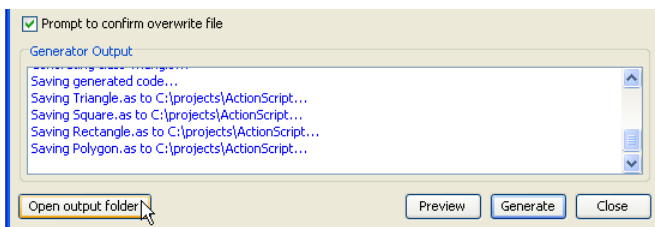


Figure 10.64 - Open output folder

7. ActionScript files generated.

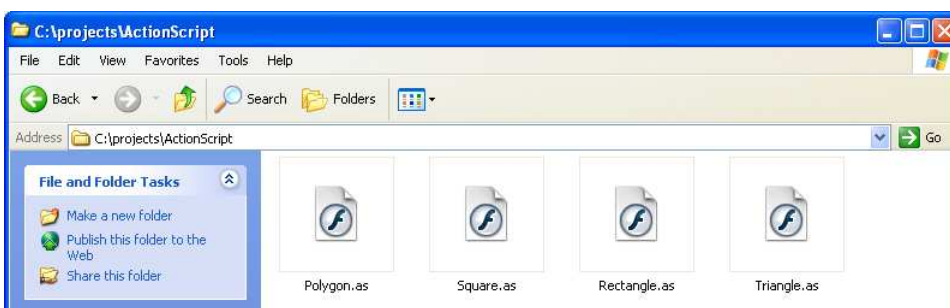


Figure 10.56 - ActionScript files generated

Generating IDL

SDE-VS can generate IDL file.

To generate IDL file:

1. Open the **Instant Generator** dialog for IDL by clicking **Modeling > Instant Generator...** in the main menu.

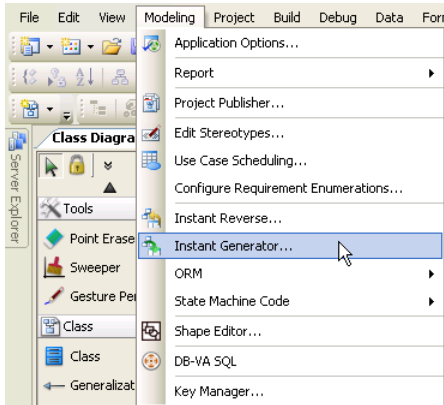


Figure 10.66 - Open Instant Generator dialog

2. The **Instant Generator** dialog box is displayed. Select IDL as generated language from the drop-down menu.

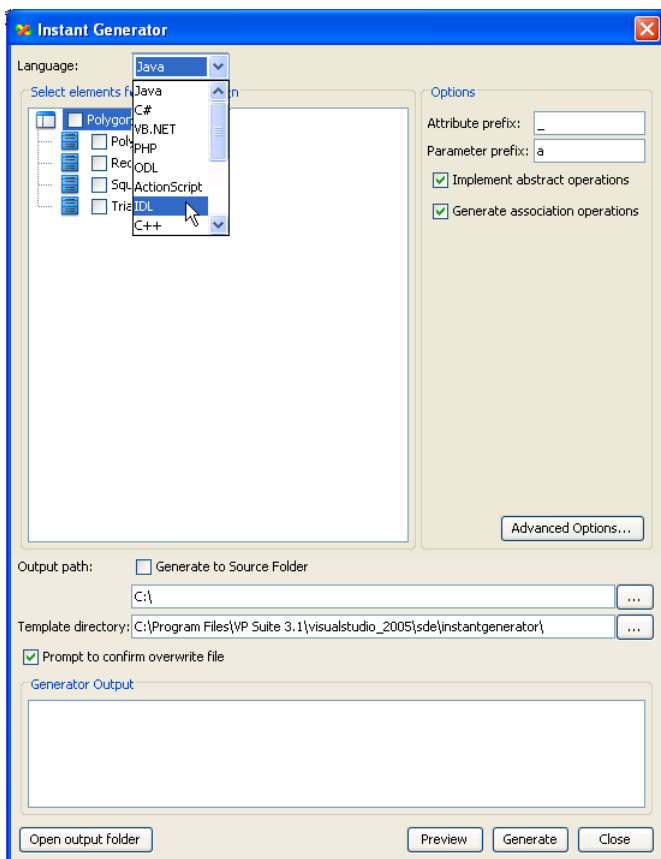


Figure 10.67 - Instant Generator dialog box

3. Choose the classes or packages you want to generate .

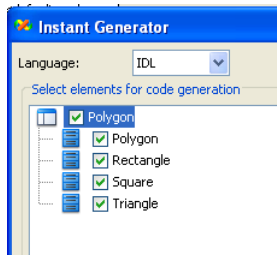


Figure 10.68 - Choose the classes and packages

4. Edit the Options.

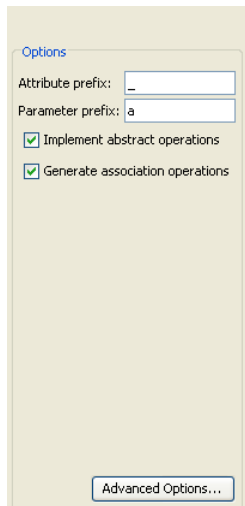
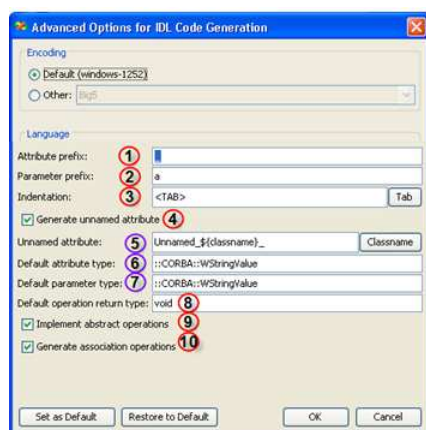


Figure 10.69 - Edit the options

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



```

1 interface PolygonImage : Image (
2     attribute long _ attribute_prefix;
3     attribute long _ invalidU0020char;
4     attribute [CORBA::WStringValue] default attribute type;
5     attribute ::org.omg::boxedRMI::seq1_Polygon _ unnamed_Polygon_;
6
7     void default_operation_return_type();
8
9     void operation(inout [CORBA::WStringValue] default_parameter_type);
10
11     void addUnnamed_Polygon (Polygon aUnnamed_Polygon_);
12
13     void removeUnnamed_Polygon (Polygon aUnnamed_Polygon_);
14
15     ::org.omg::boxedRMI::seq1_Polygon toUnnamed_Polygon_Array();
16
17     void _render();
18 );
19

```

Figure 10.70 - Example illustrating the functions of different options in Advanced Options

5. Specify the **Output path** and select **Generate** to generate ActionScript.

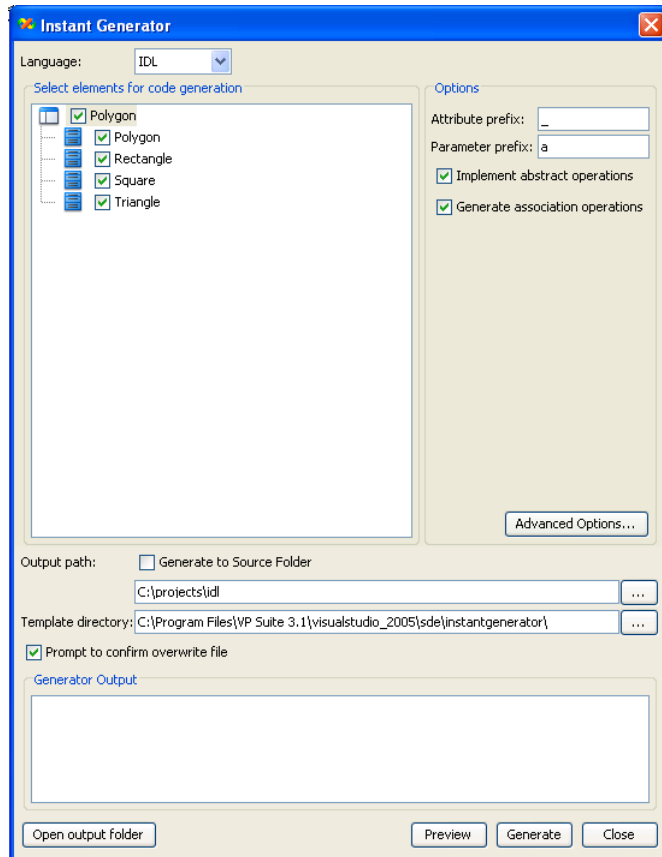


Figure 10.71 - Select Generate

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.

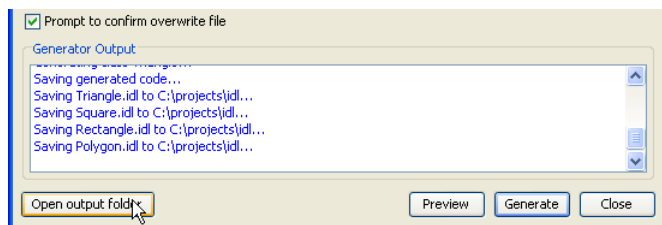


Figure 10.72 - Open output folder

7.IDL files generated.

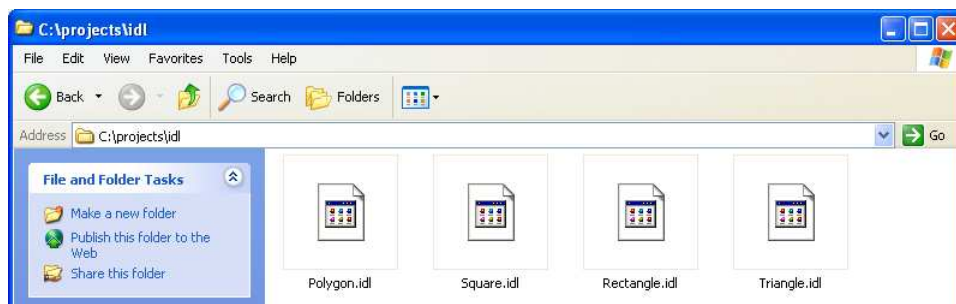


Figure 10.73 - IDL files generated

Generating C++

SDE-VS can generate C++ file.

To generate C++ file:

1. Open the **Instant Generator** dialog for IDL by clicking **Modeling > Instant Generator...** in the main menu.

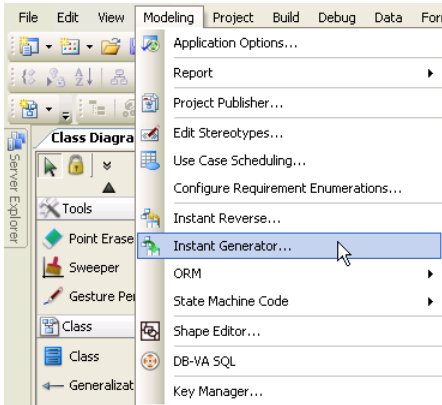


Figure 10.74 - Open Instant Generator dialog

2. The **Instant Generator** dialog box is displayed. Select C++ as generated language from the drop-down menu.

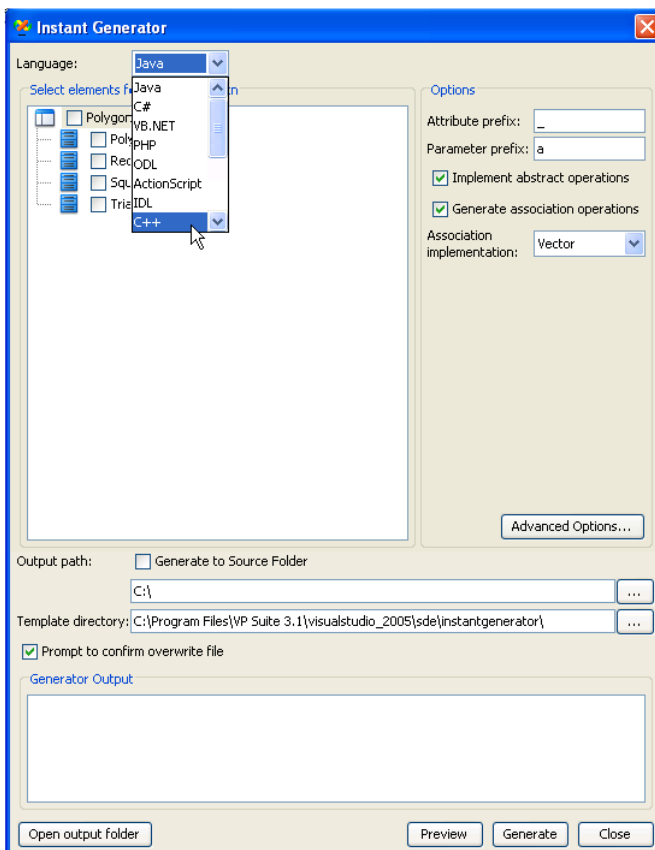


Figure 10.75 - Instant Generator dialog box

3. Choose the classes or packages you want to generate .

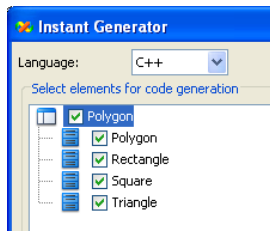


Figure 10.76 - Choose the classes and packages

4. Edit the Options.

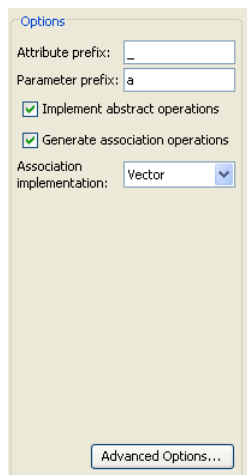


Figure 10.77 - Edit the options

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: Vector - The collection is expandable size. Array - The collection has fixed size.
Advanced Options...	Edit the advance options.

Table 10.7

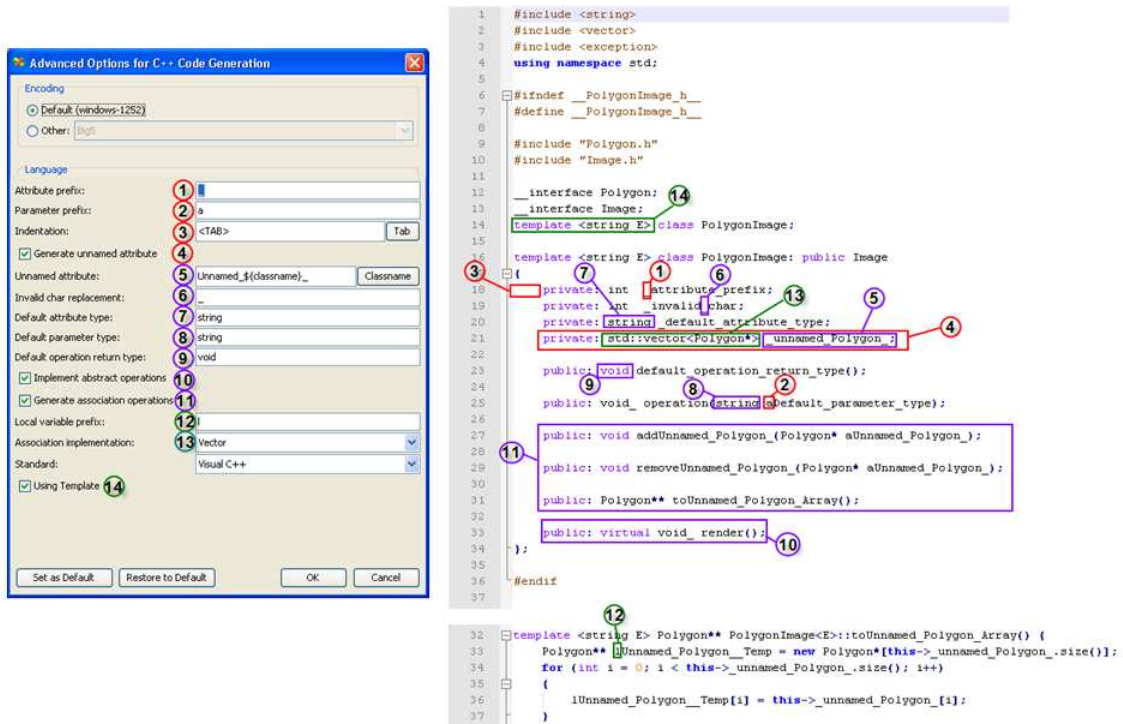


Figure 10.78 - Example illustrating the functions of different options in Advanced Options

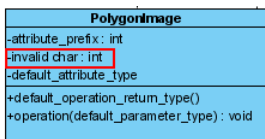


Figure 10.79 - Diagram of invalid char

5. Specify the **Output path** and select **Generate** to generate C++.

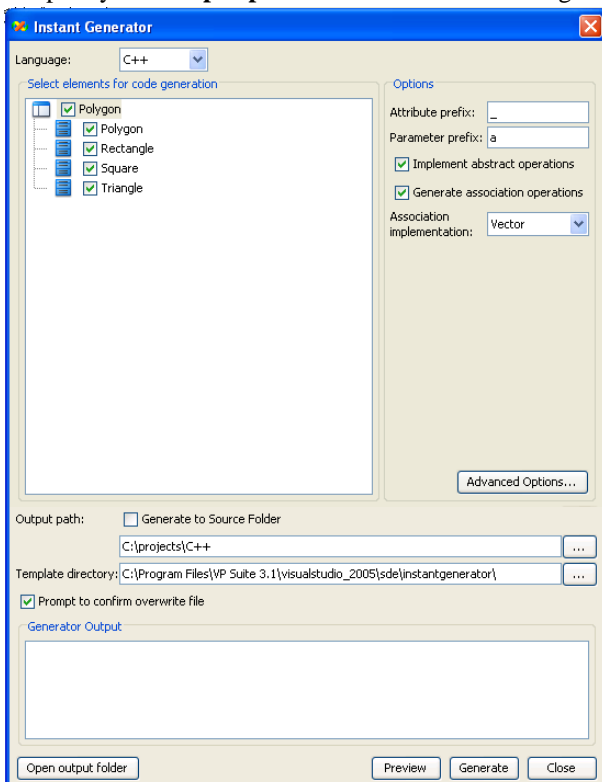


Figure 10.80 - Select Generate

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.

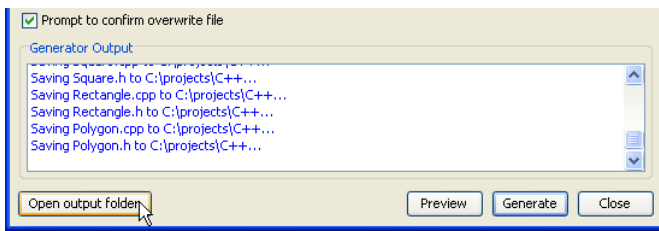


Figure 10.81 - Open output folder

7.C++ files generated.

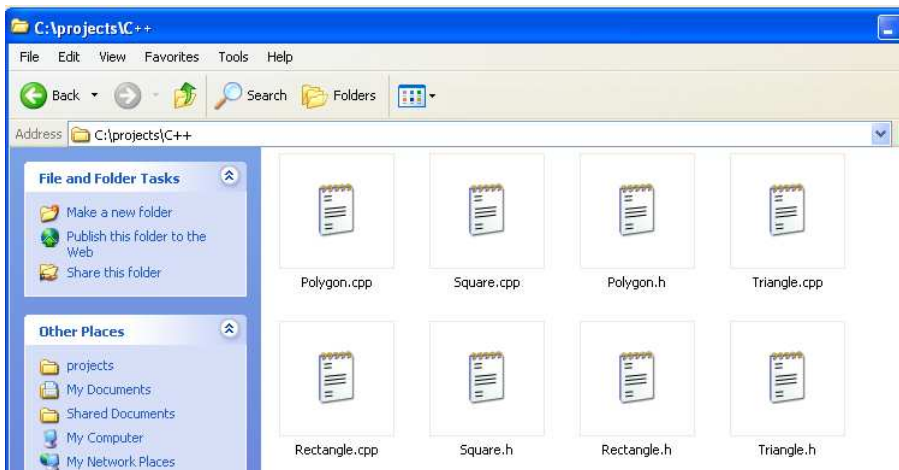


Figure 10.82 - C++ files generated

Generating Delphi

SDE-VS can generate Delphi file.

To generate Delphi file:

1. Open the **Instant Generator** dialog for Delphi by clicking **Modeling > Instant Generator...** in the main menu.

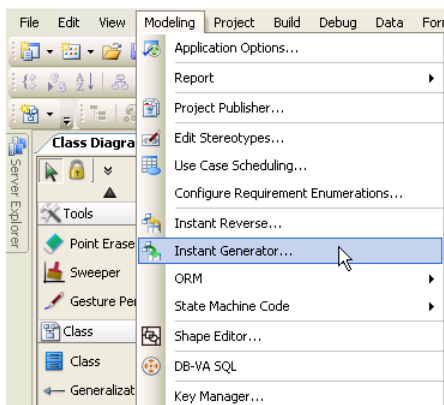


Figure 10.38 - Open Instant Generator dialog

2. The **Instant Generator** dialog box is displayed. Select Delphi as generated language from the drop-down menu.

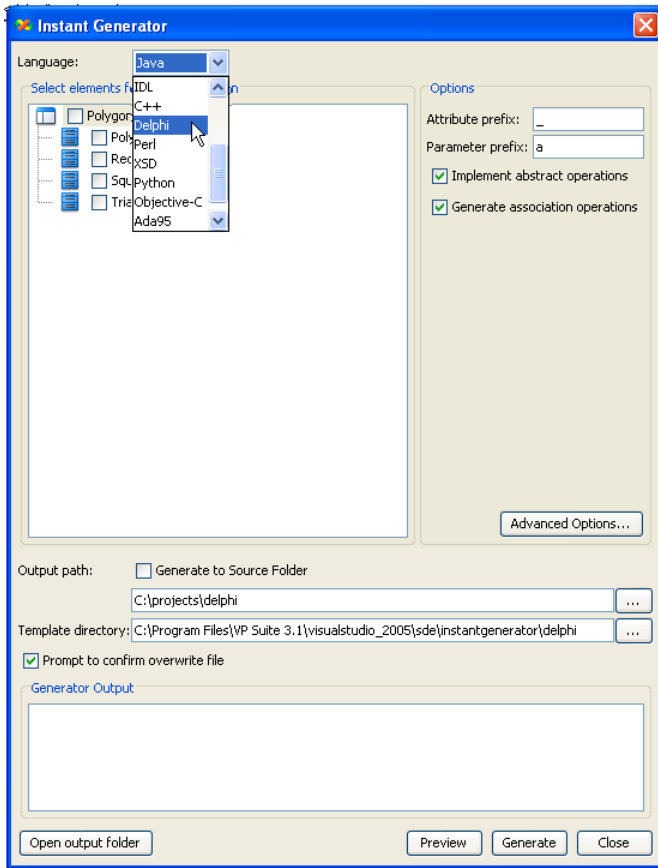


Figure 10.84 - Instant Generator dialog box

3. Choose the classes or packages you want to generate .

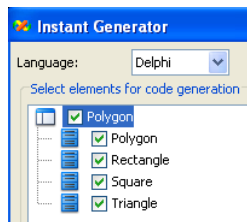


Figure 10.85 - Choose the classes and packages

4. Edit the Options.

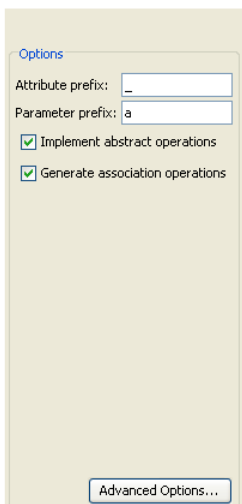


Figure 10.86 - Edit the options

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

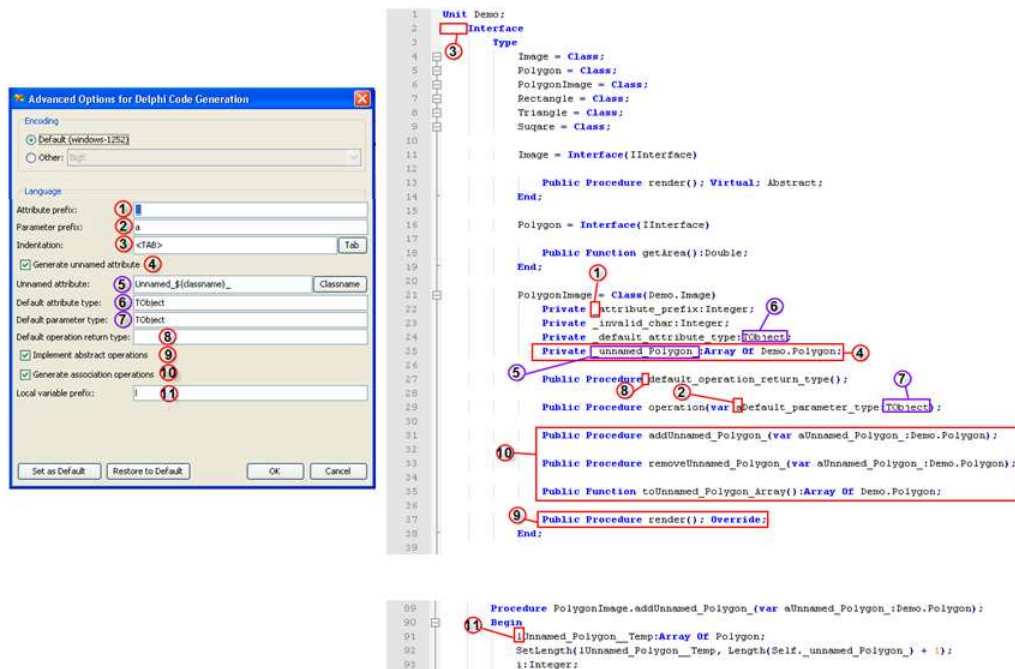


Figure 10.87 - Example illustrating the functions of different options in Advanced Options

5. Specify the **Output path** and select **Generate** to generate Delphi.

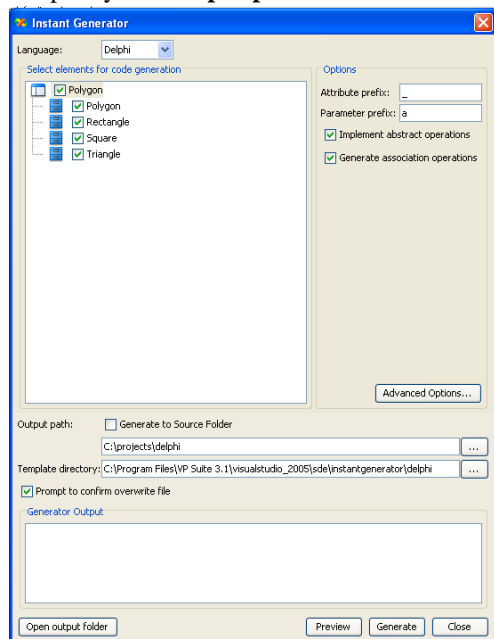


Figure 10.88 - Select Generate

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.

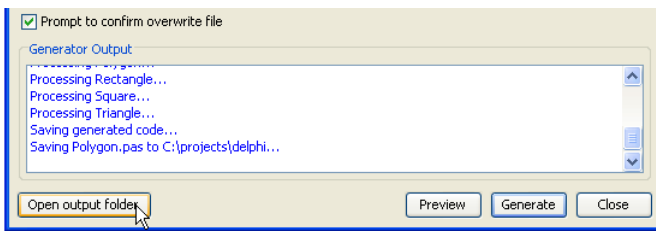


Figure 10.89 - Open output folder

7. Delphi files generated.

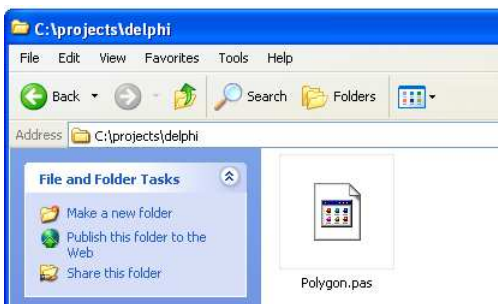


Figure 10.90 - Delphi files generated

Generating Perl

SDE-VS can generate Perl file.
To generate Perl file:

1. Open the **Instant Generator** dialog for Delphi by clicking **Modeling > Instant Generator...** in the main menu.

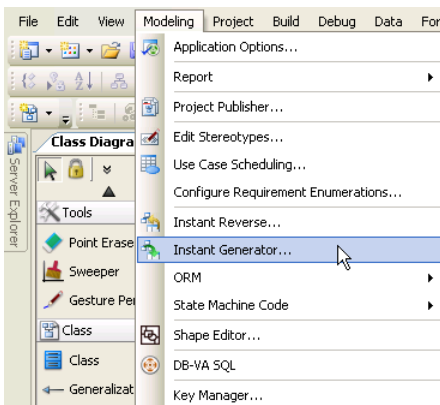


Figure 10.91 - Open Instant Generator dialog

2. The **Instant Generator** dialog box is displayed. Select Perl as generated language from the drop-down menu.

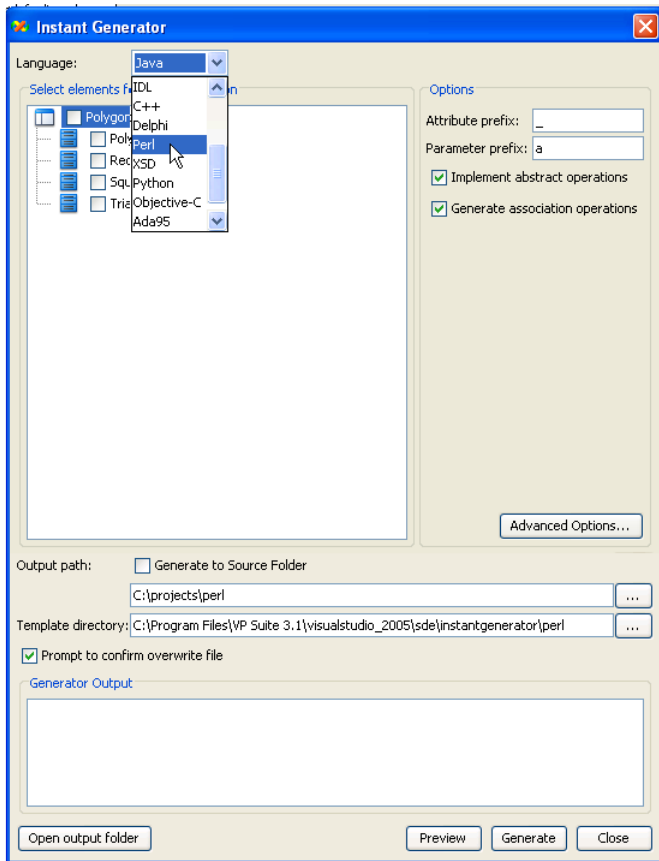


Figure 10.92 - Instant Generator dialog box

3. Choose the classes or packages you want to generate .

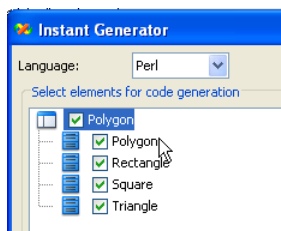


Figure 10.93 - Choose the classes and packages

4. Edit the Options.

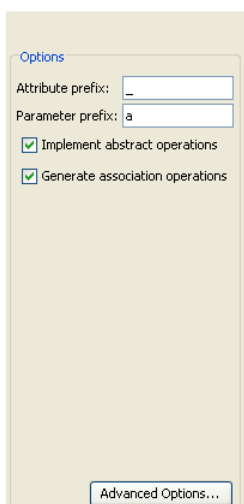


Figure 10.94 - Edit the options

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

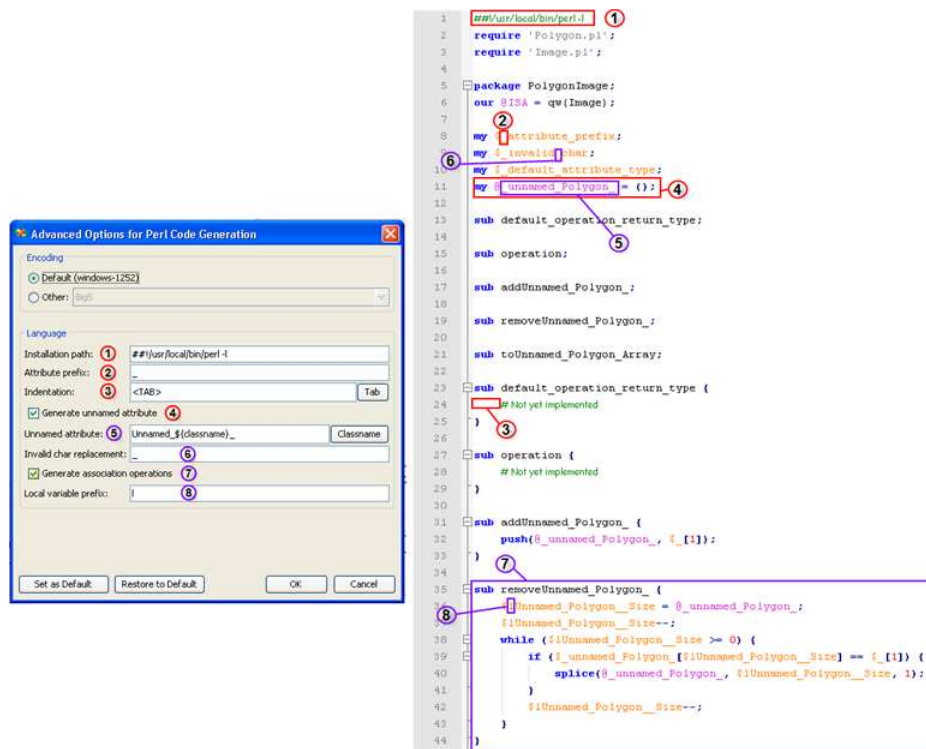


Figure 10.95 - Example illustrating the functions of different options in Advanced Options

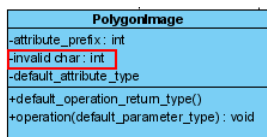


Figure 10.96 - Diagram of invalid char

5. Specify the **Output path** and select **Generate** to generate Perl.

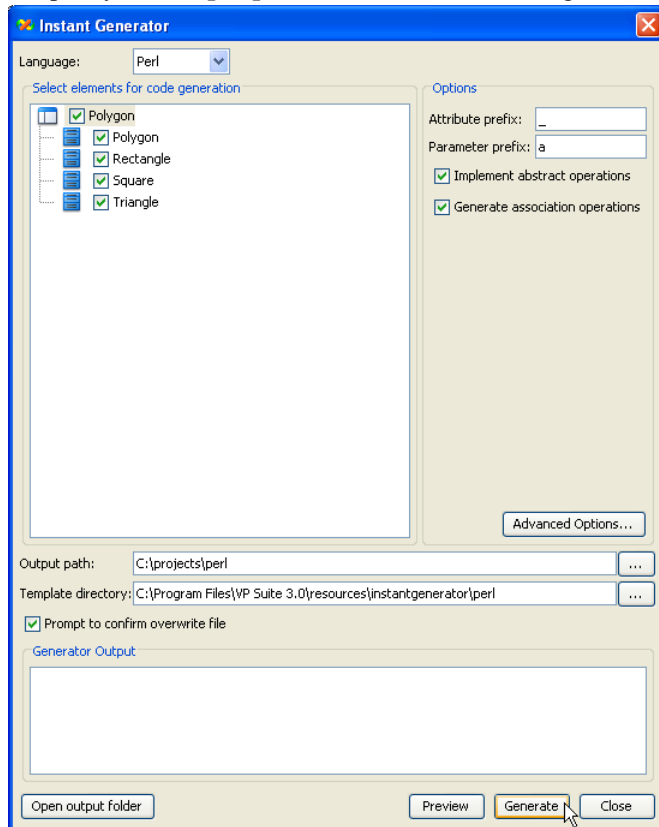


Figure 10.97 - Select Generate

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.

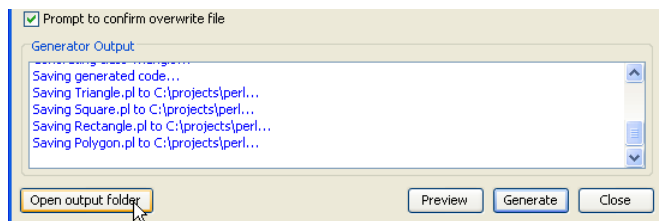


Figure 10.98 - Open output folder

7. Perl files generated.

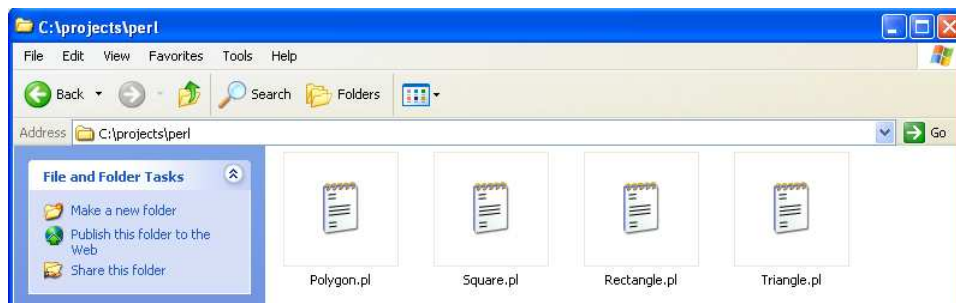


Figure 10.99 - Perl files generated

Generating XSD

SDE-VS can generate XSD file.

To generate XSD file:

1. Open the **Instant Generator** dialog for XSD by clicking **Modeling > Instant Generator...** in the main menu.

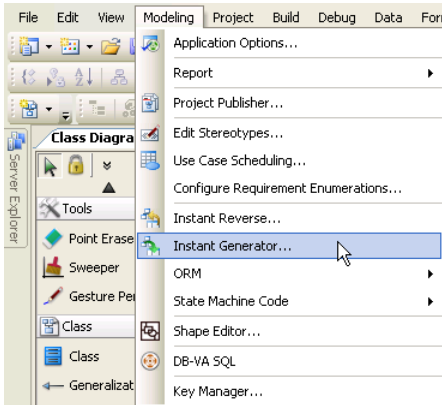


Figure 10.100 - Open Instant Generator dialog

2. The **Instant Generator** dialog box is displayed. Select XSD as generated language from the drop-down menu.

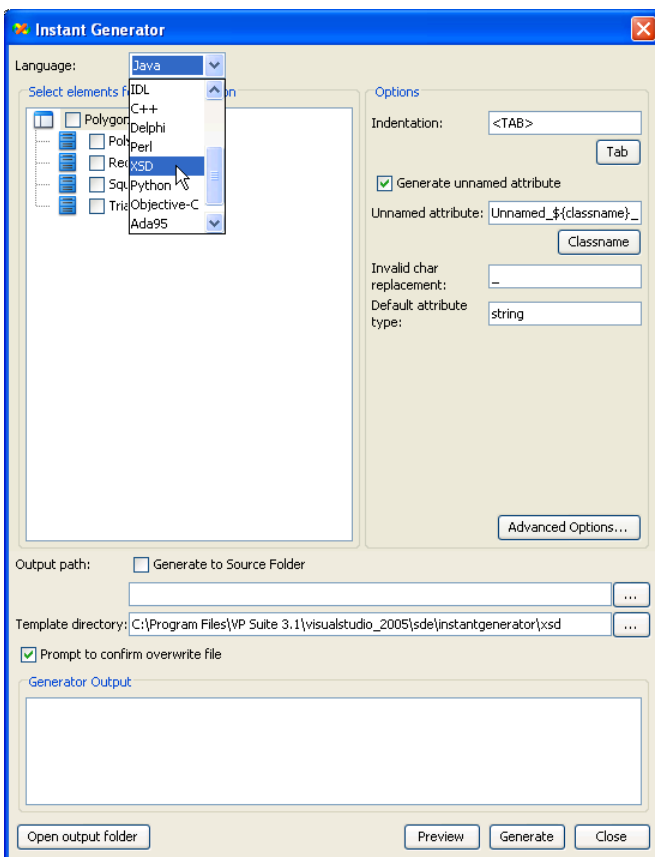


Figure 10.101 - Instant Generator dialog box

3. Choose the classes or packages you want to generate .

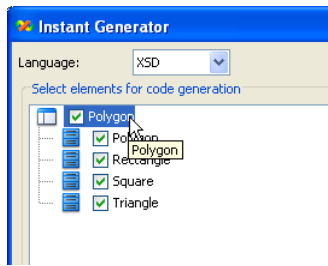


Figure 10.102 - Choose the classes and packages

4. Edit the Options.

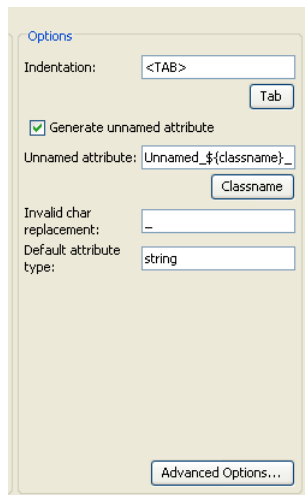


Figure 10.103 - Edit the options

Name	Description
Indentation	To configure the spacing characters you want to use for each indent level. 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

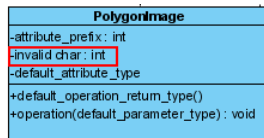


Figure 10.105 - Diagram of invalid char

5. Specify the **Output path**. Then, select **Generate** to generate XSD.

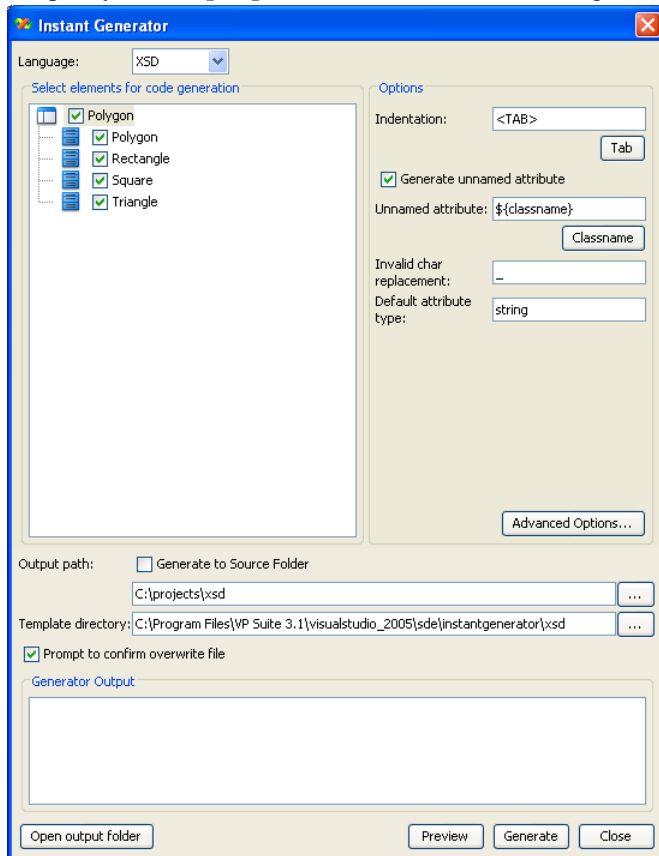


Figure 10.106 - Select Generate

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.

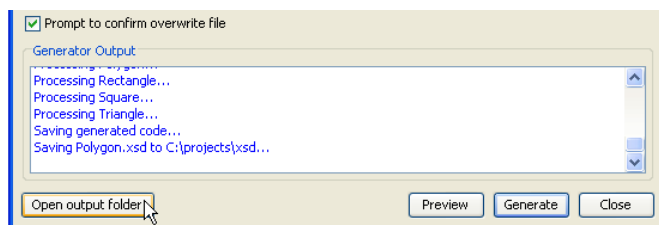


Figure 10.107 - Open output folder

7.XSD files generated.

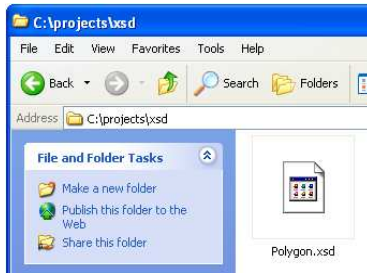


Figure 10.108 - XSD files generated

Generating Python

SDE-VS can generate Python file.

To generate Python file:

1. Open **Instant Generator** dialog for Python by clicking **Modeling > Instant Generator...** in the main menu.

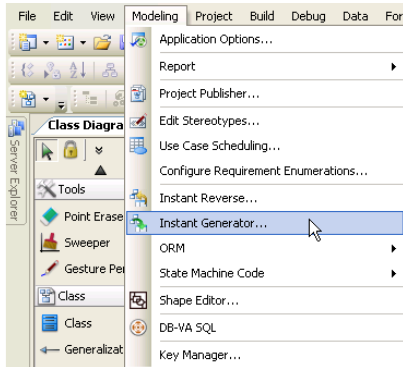


Figure 10.109 - Open Instant Generator dialog

2. **Instant Generator** dialog box is displayed. Select Python as generated language from the drop-down menu.

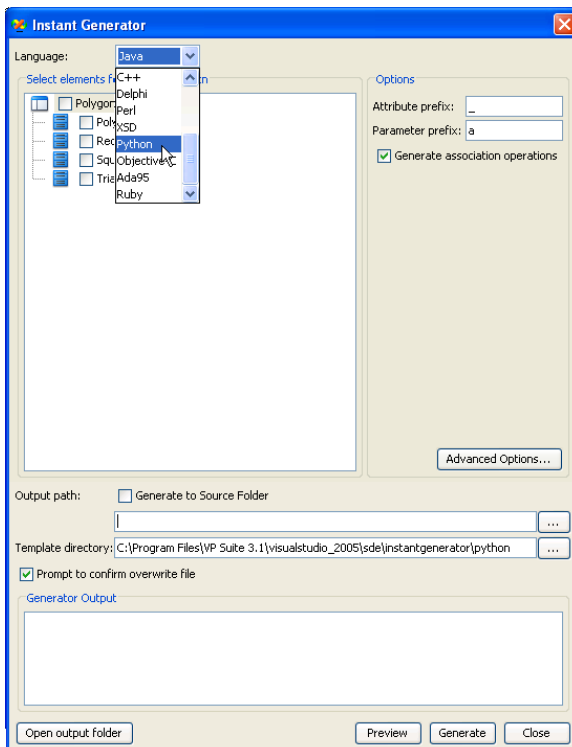


Figure 10.110 - Instant Generator dialog box

3. Choose the classes or packages you want to generate .

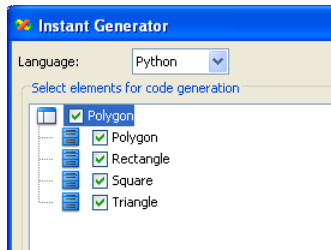


Figure 10.111 - Choose the classes and packages

4. Edit the Options.

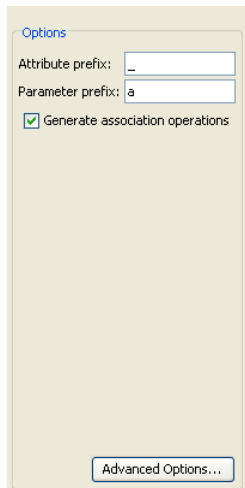


Figure 10.112 - Edit the options

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

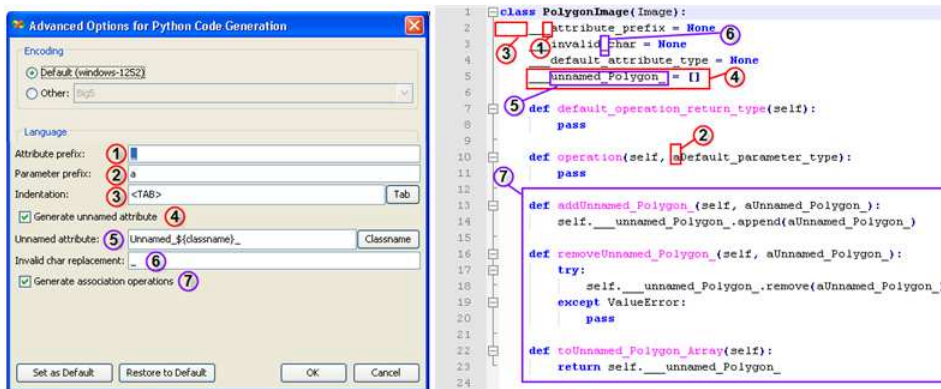


Figure 10.113 - Example illustrating the functions of different options in Advanced Options

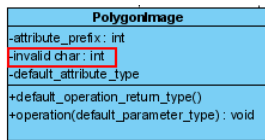


Figure 10.114 - Diagram of invalid char

5. Specify the **Output path** and select **Generate** to generate Python.

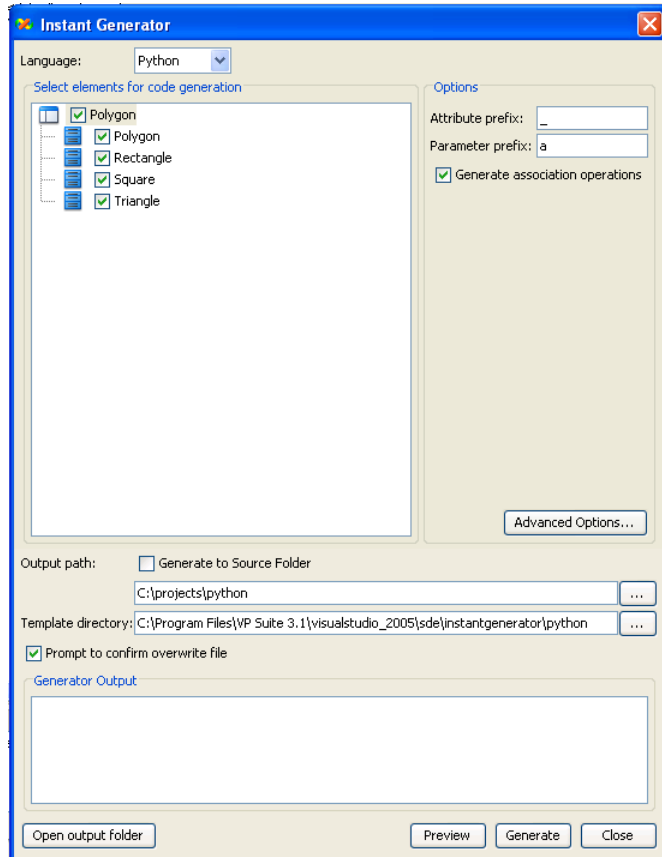


Figure 10.115 - Select Generate

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.

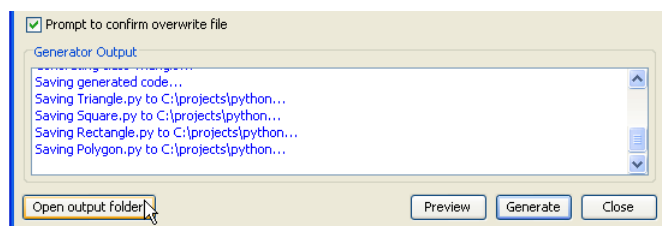


Figure 10.116 - Open output folder

7. Python files generated.

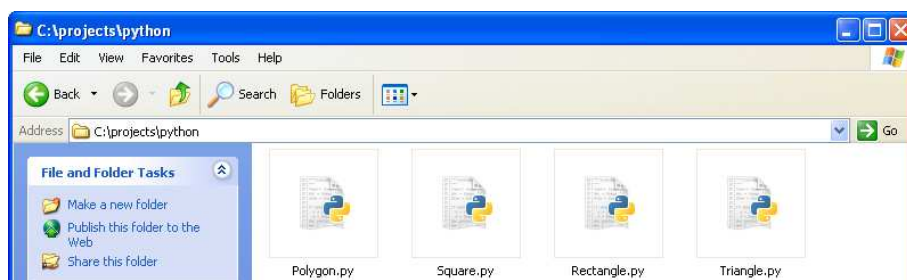


Figure 10.117 - Python files generated

Generating Objective-C

SDE-VS 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...** in the main menu.

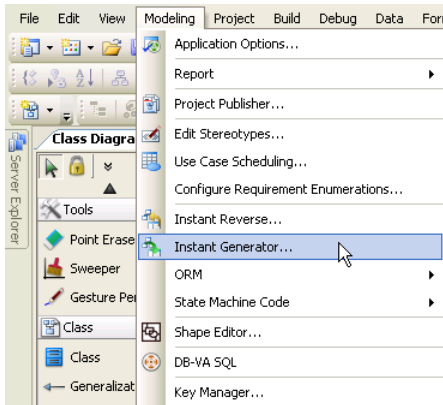


Figure 10.118 - Open Instant Generator dialog

2. **Instant Generator** dialog box is displayed. Select Objective-C as generated language from the drop-down menu.

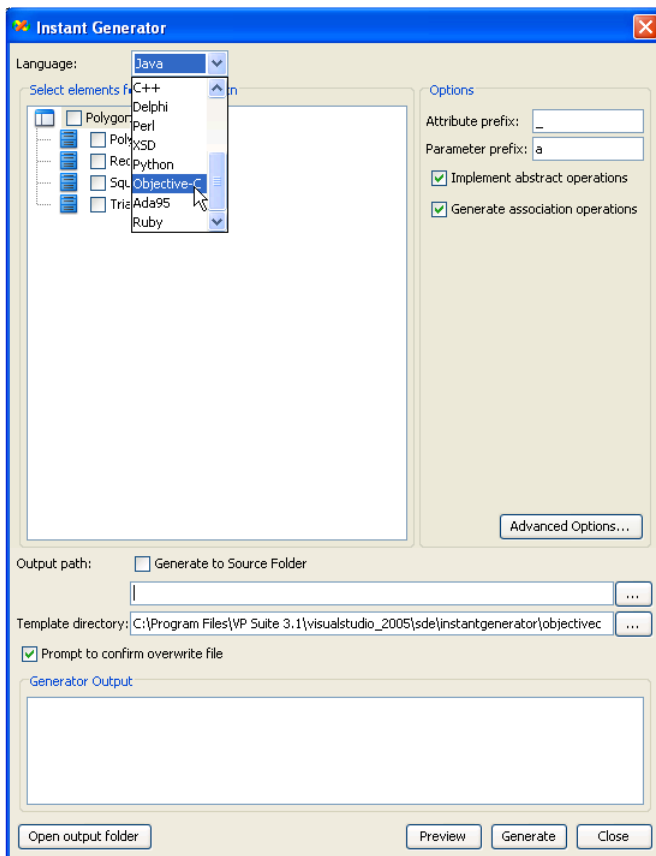


Figure 10.119 - Instant Generator dialog box

3. Choose the classes or packages you want to generate .

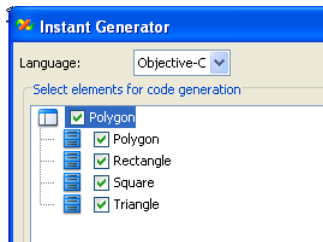


Figure 10.120 - Choose the classes and packages

4. Edit the Options.

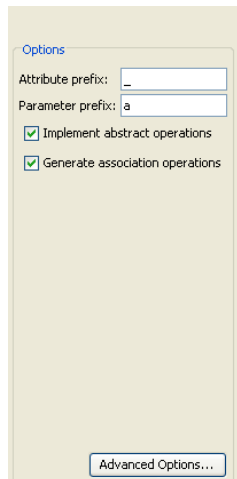


Figure 10.121 - Edit the options

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

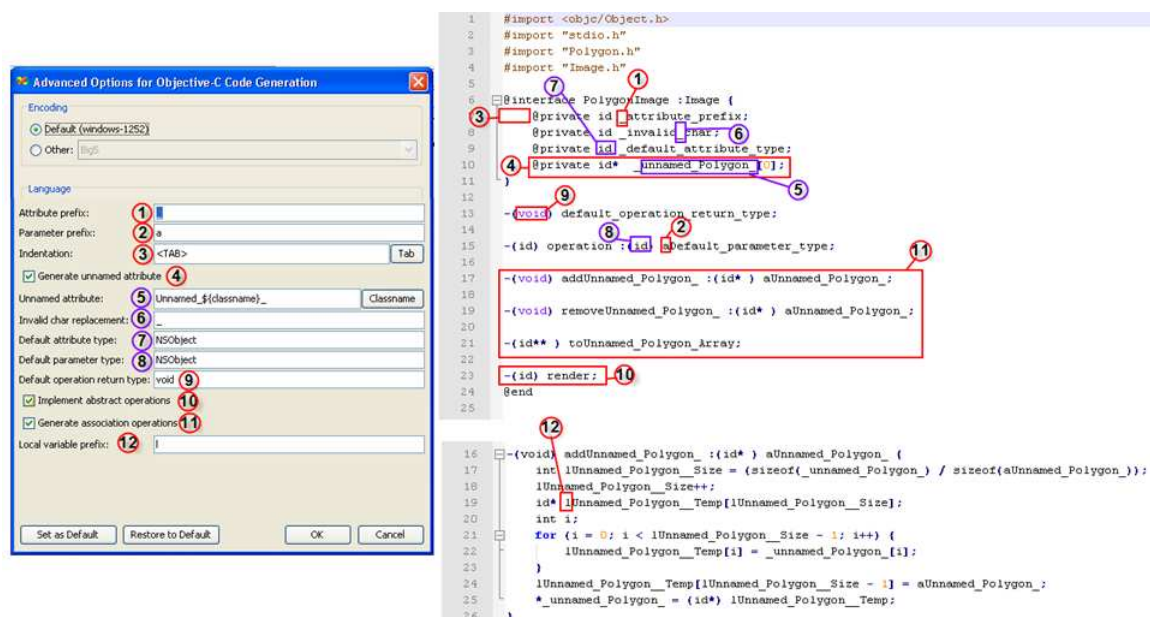


Figure 10.122- Example illustrating the functions of different options in Advanced Options

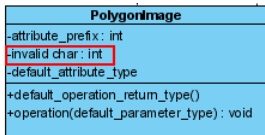


Figure 10.123- Diagram of invalid char

5. Specify the **Output path**. Then, select **Generate** to generate Objective-C.

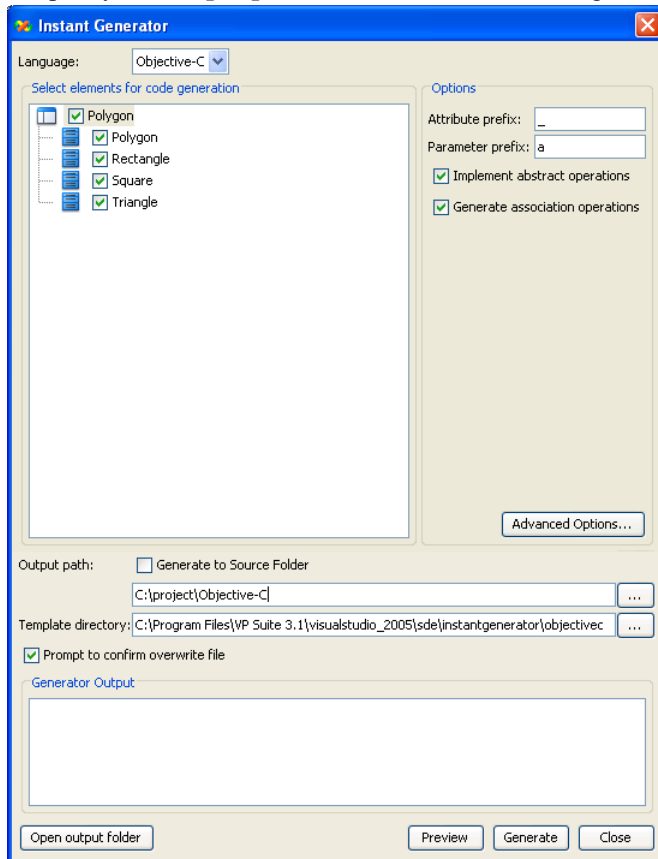


Figure 10.124 - Select Generate

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.

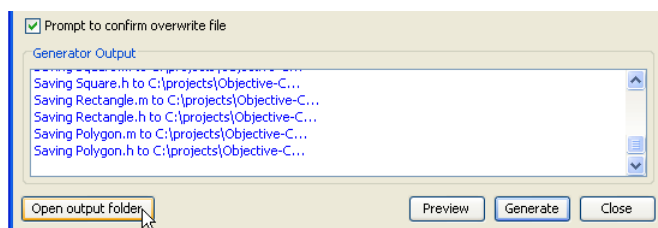


Figure 10.125 - Open output folder

7. Objective-C files generated.

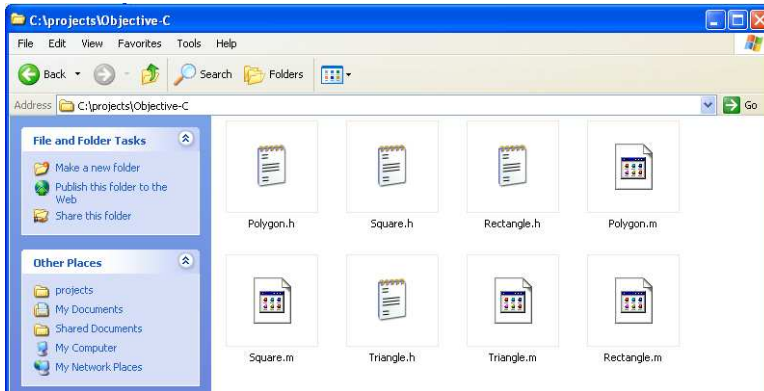


Figure 10.126 - Objective-C files generated

Generating Ada95

SDE-VS can also generate Ada95 file.

To generate an Ada95 file:

1. Open the **Instant Generator** dialog for Ada95 by clicking **Modeling > Instant Generator...** in the main menu.

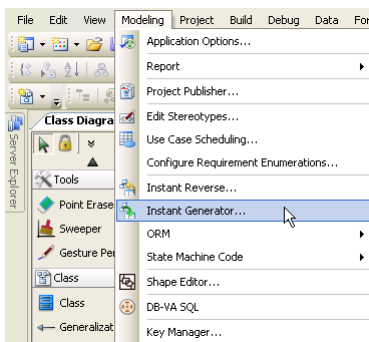


Figure 10.127 - Open Instant Generator dialog for Ada95

2. The **Instant Generator** dialog box is displayed. Select Ada95 as generated language from the drop-down menu.

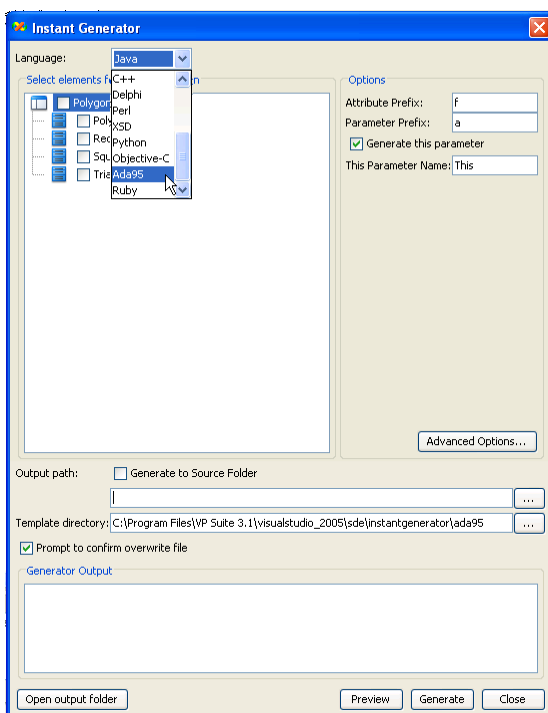


Figure 10.128 - Instant Generator dialog box

3. Choose the classes or packages you want to generate.

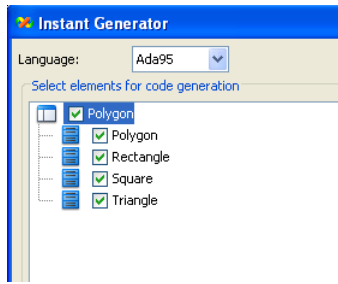


Figure 10.129 - Choose the classes and packages

4. Edit the Options.

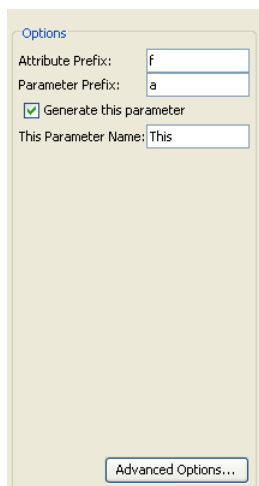
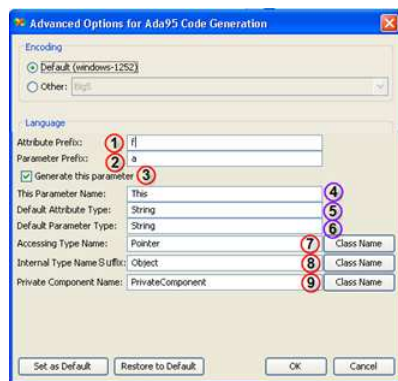


Figure 10.130- Edit the options

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



```

1  -- The Declaration of class PolygonImage
2  with Image; use Image with Polygon; use Polygon;
3  package PolygonImage is
4  ⑨ type PrivateComponent is tagged private;
5  type PolygonImageClass is new ImageObject with null record;
6  type Pointer is access all PolygonImageObject Class;
7  procedure default_operation_return_type@this : PolygonImageObject);
8  function operation@this : PolygonImageObject; ① default_parameter_type : String return void;
9  ⑦
10 private
11 type PrivateComponent is tagged
12 record
13  ① attribute_prefix : int;
14  finvalid_char : int;
15  fdefault_attribute_type : String; ⑤
16  f : PolygonObject;
17 end record;
18
19 end PolygonImage;
    
```

Figure 10.131 - Example illustrating the functions of different options in Advanced Options

5. Specify the **Output path** and click **Generate** to generate Ada95.

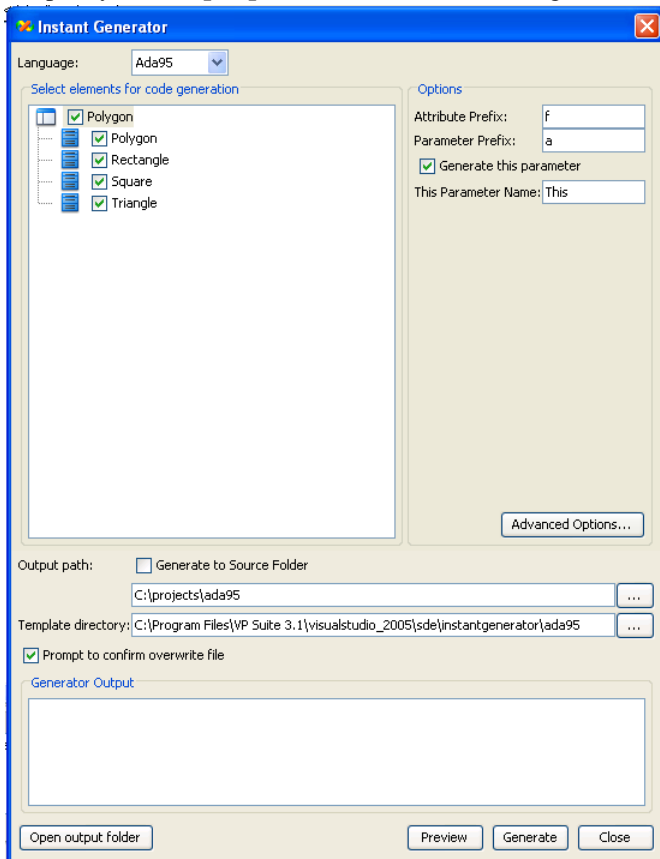


Figure 10.132 - Select Generate

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.

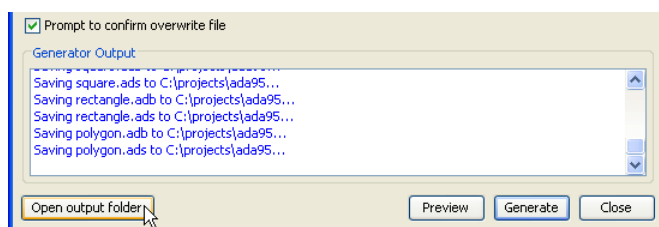


Figure 10.133 - Open output folder

7. Ada95 files generated.

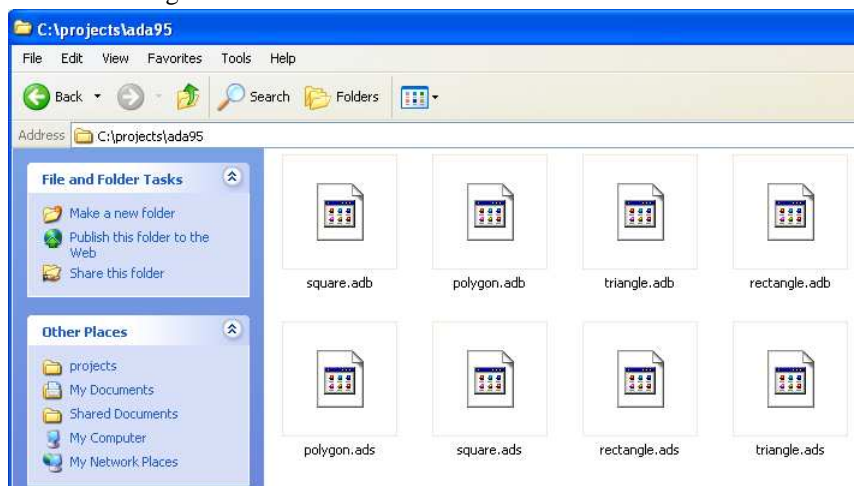


Figure 10.134 - Ada95 files generated

Generating Ruby

SDE-VS can generate Ruby files.

To generate a Ruby file:

1. Open **Instant Generator** dialog for Ruby by clicking **Modeling > Instant Generator ...** in the main menu.

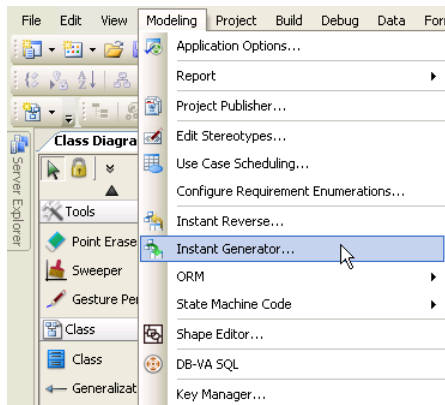


Figure 10.135 - Open Instant Generator dialog

2. **Instant Generator** dialog box for is displayed. Select Ada95 as generated language from the drop-down menu.

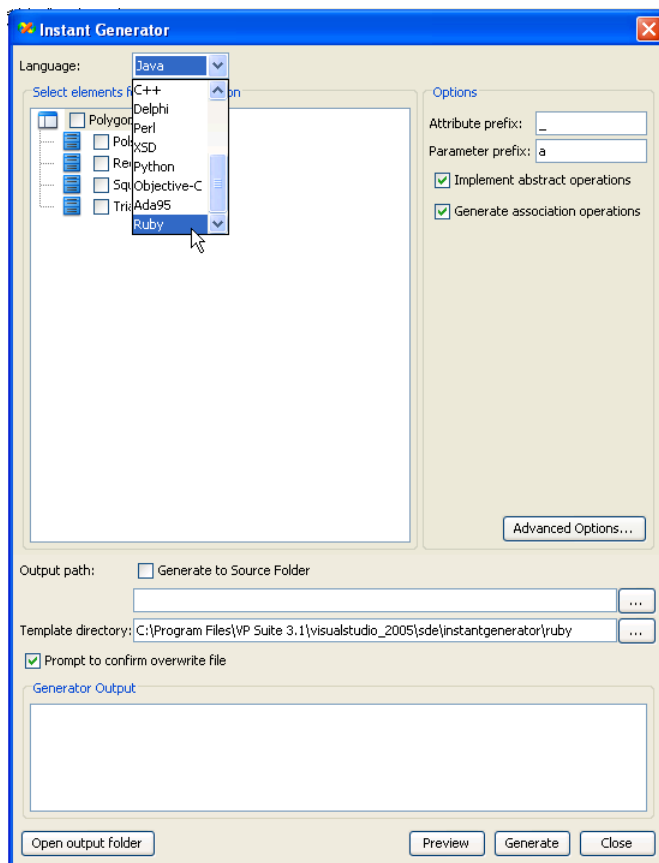


Figure 10.136 - Instant Generator dialog box

3. Choose the classes or packages you want to generate .

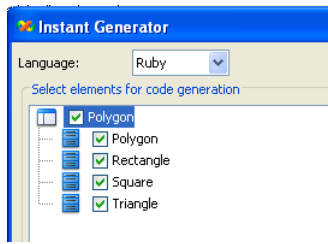


Figure 10.137 - Choose the classes and packages

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

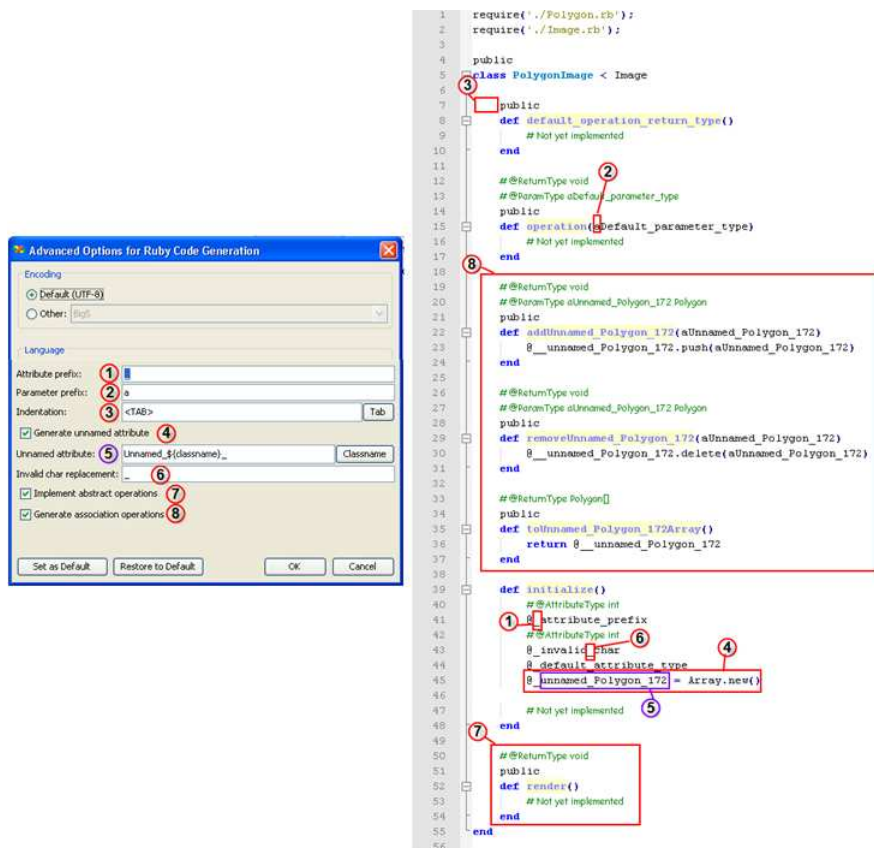


Figure 10.139 - Example illustrating the functions of different options in Advanced Options

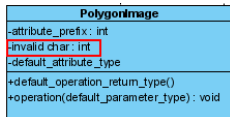


Figure 10.140 - Diagram of invalid char

5. Specify the **Output path**. Then, select **Generate** to generate Ada95.

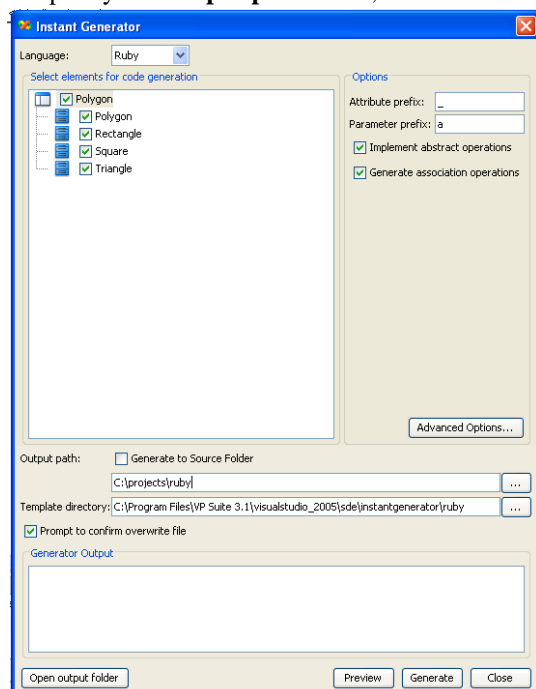


Figure 10.141 - Select Generate

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.

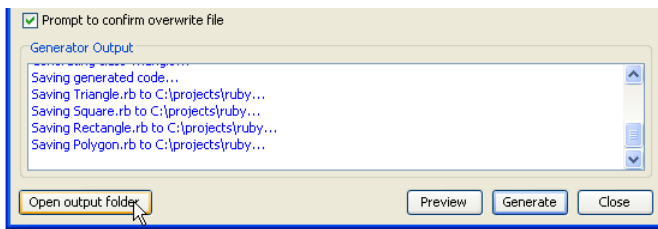


Figure 10.142 - Open output folder

7. Ruby files generated.

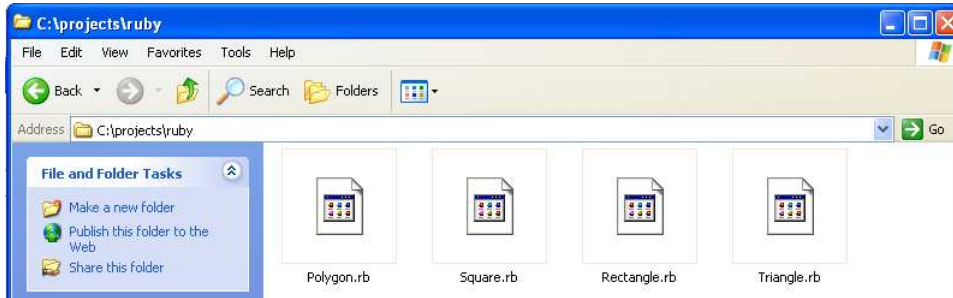


Figure 10.143 - Ruby files generated

11

.NET Round-Trip Engineering

Chapter 11 - .NET Round-Trip Engineering

SDE-VS facilitate the generation and reverse of .NET source by the .NET 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 .NET source using .NET round-trip Engineering in SDE-VS.

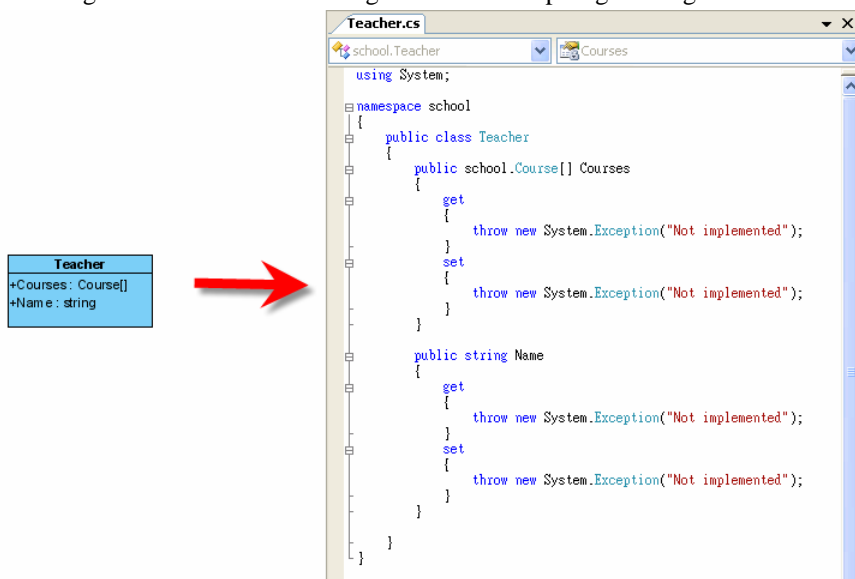


Figure 11.1 - Generate code

Here, a class diagram is used as an example to illustrate the steps of generating code.

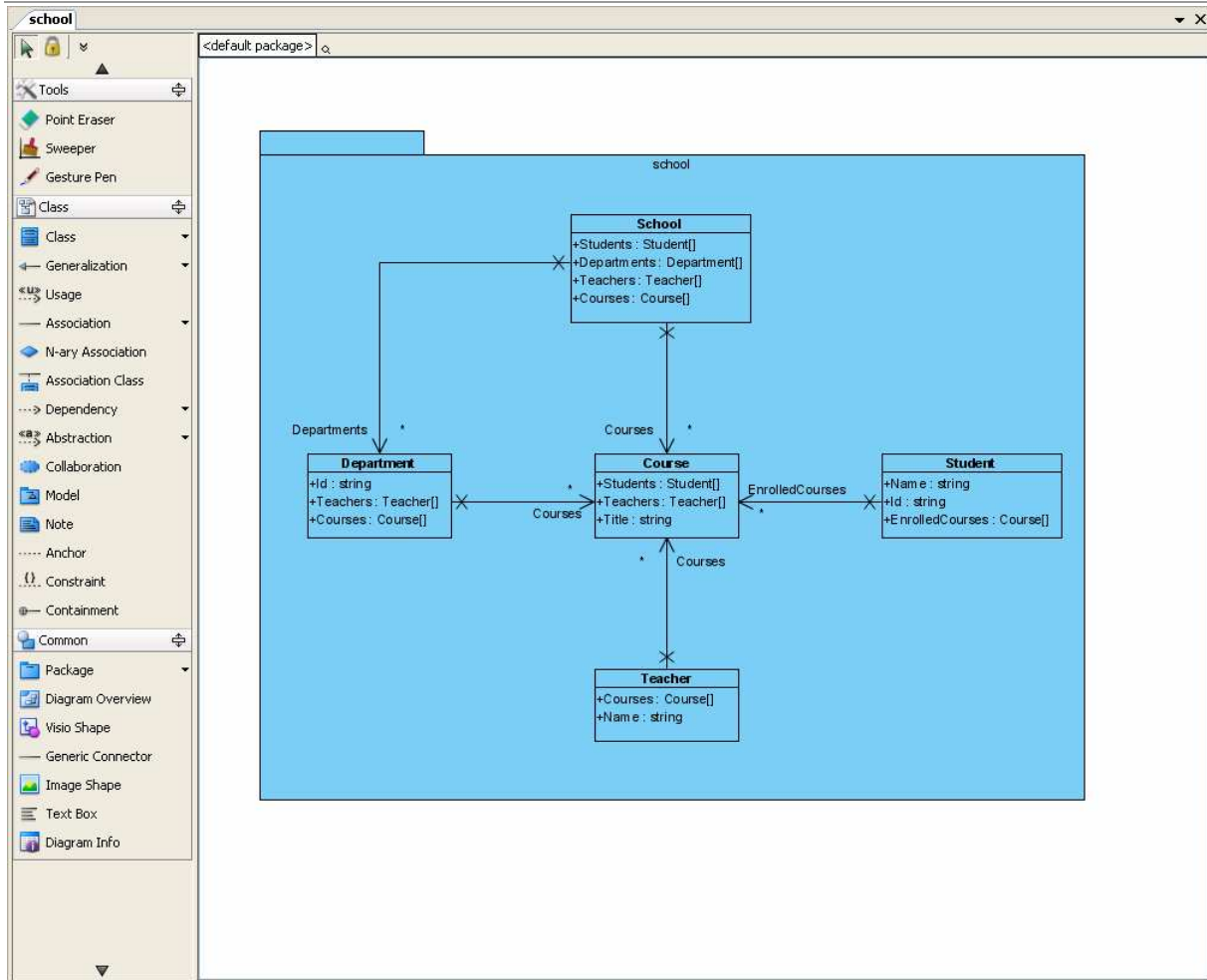


Figure 11.2 - Class diagram used as an example

You may generate .NET source code from three kinds of sources: project, package and class.

Generate by Selecting Project

There are several ways of generating code from project. You may select **Update Code** in Diagram Navigator, Model Tree or Class Repository.

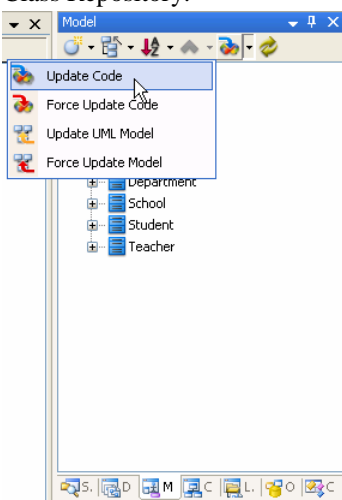


Figure 11.3 - Selecting Update Code

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.

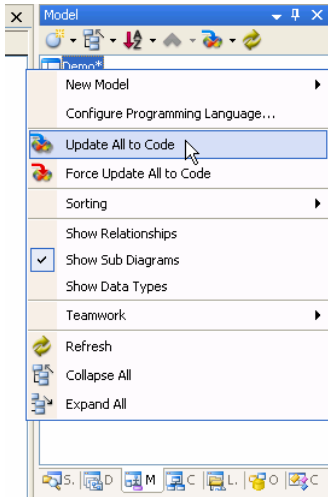


Figure 11.4 - Selecting Update Project to Code

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.

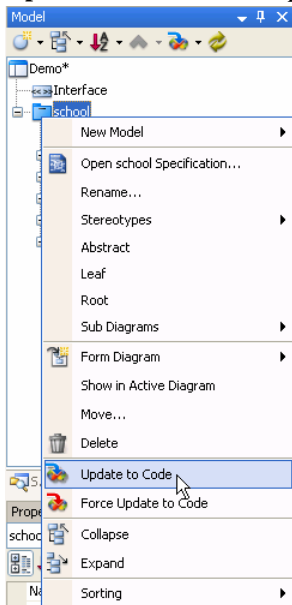


Figure 11.5 - Selecting Update to Code

You may also right-click on a package on diagram, and select **Update to Code** from the popup menu.

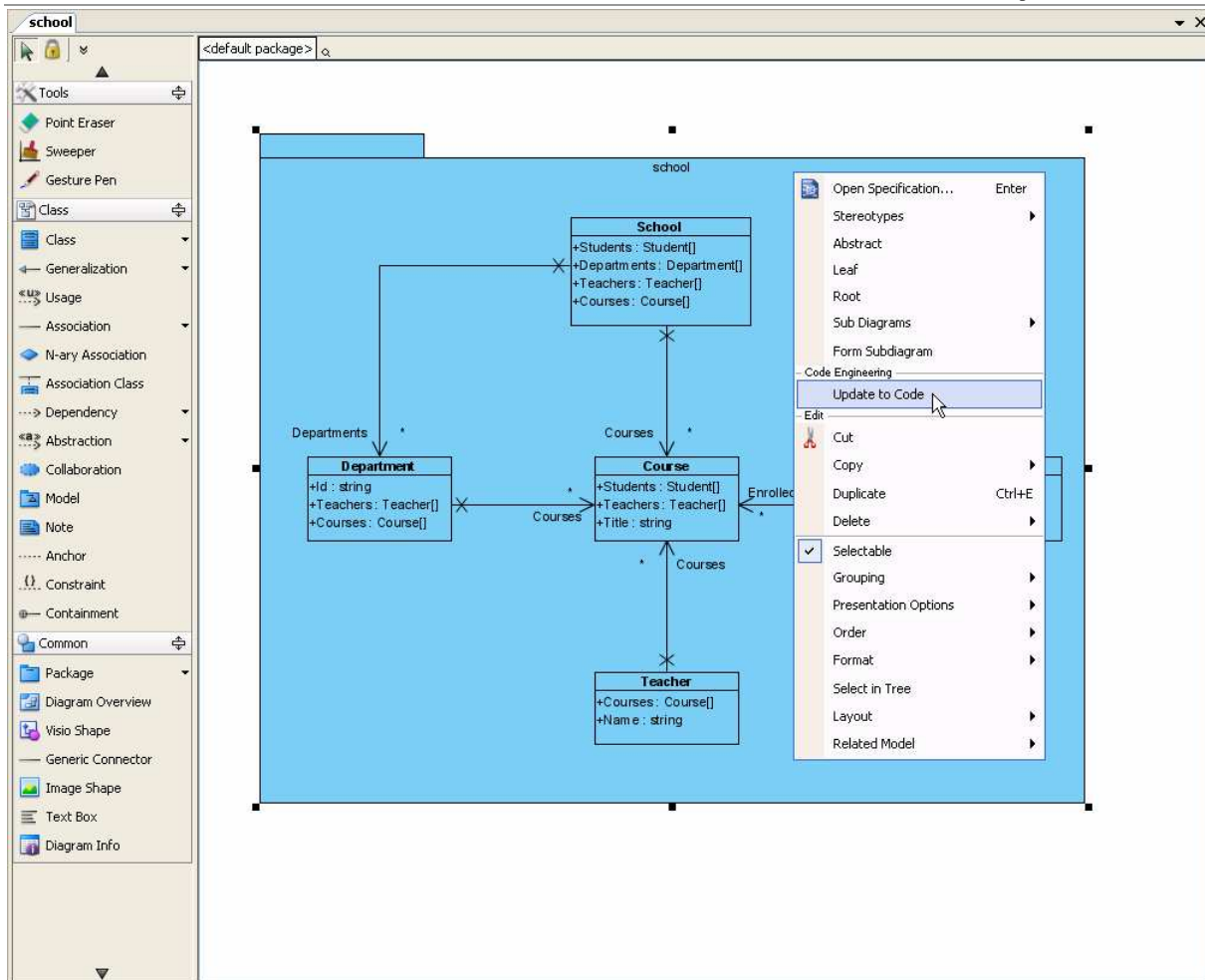


Figure 11.6 - Selecting Update to Code from the popup menu of a package on diagram

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.

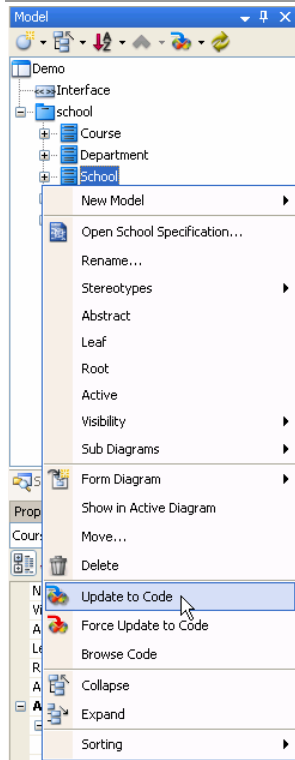


Figure 11.7 - Selecting Update to Code

Alternatively, right-click on a class on diagram, and select **Update to Code** from the popup menu.

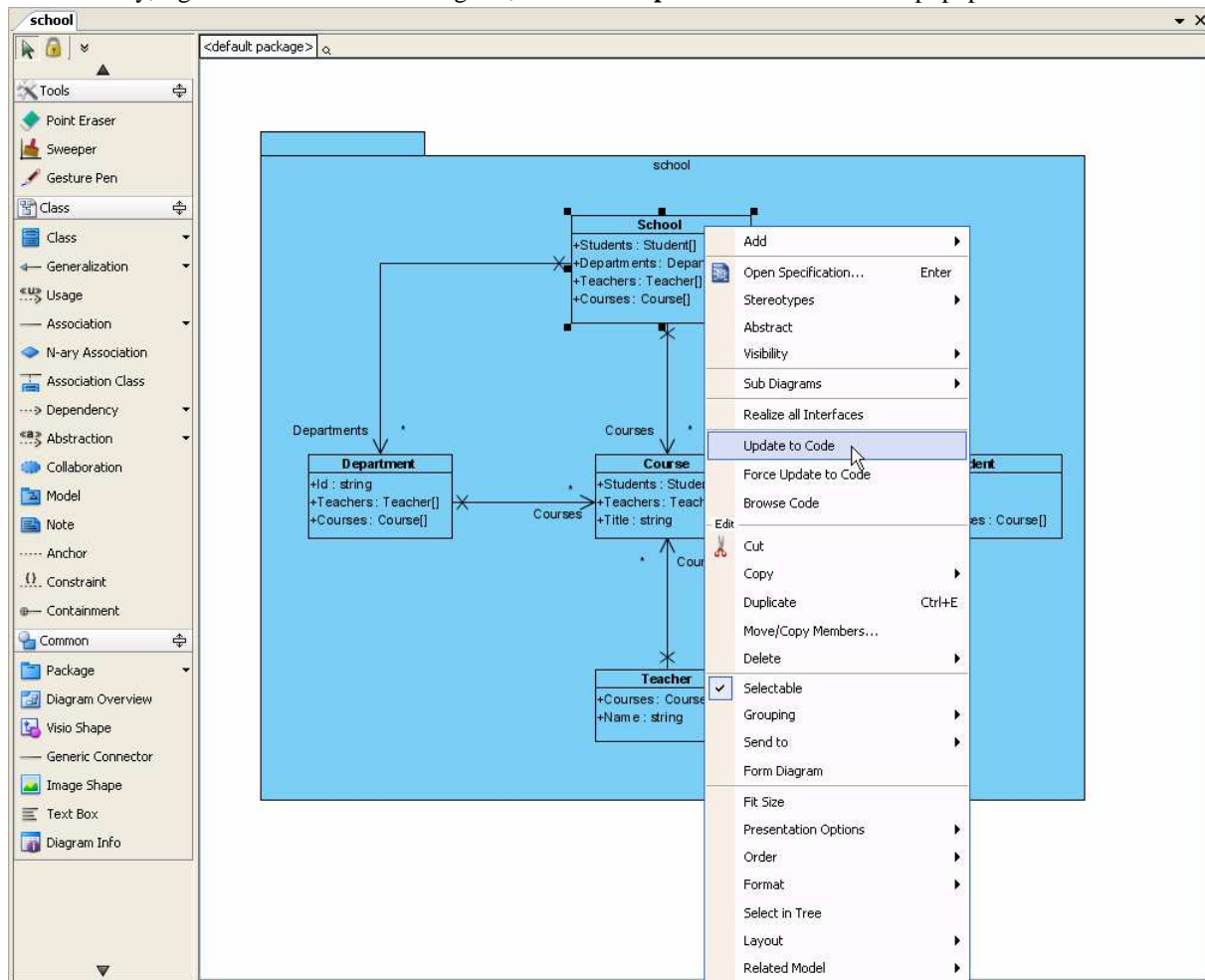


Figure 11.8 - Selecting Update to Code

This will generate code from the selected class model.

Reverse Code

You can reverse class model using .NET round-trip Engineering in SDE-VS.

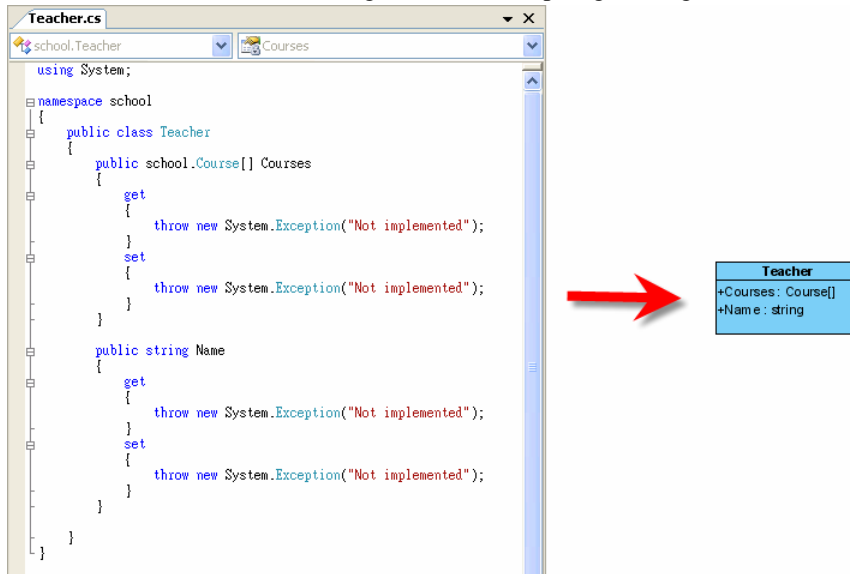


Figure 11.9 - Reverse code

Here, a class called `Professor` which created in the Visual Studio is used as an example.

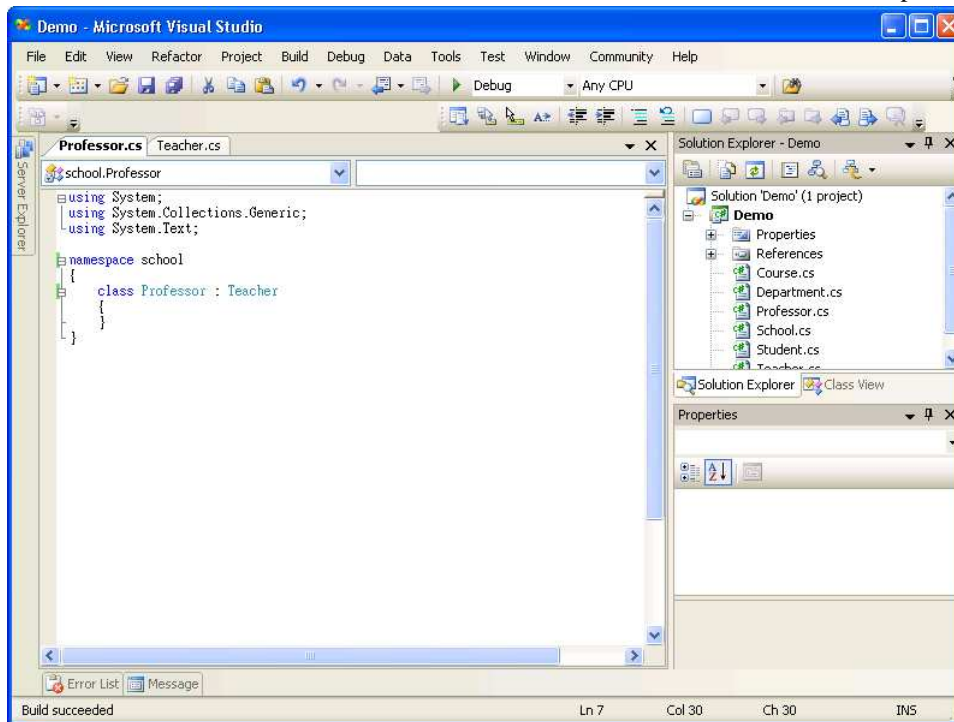


Figure 11.10 - C# source of Professor.cs

You may reverse .NET source code from three kinds of sources: project, package and class.

Reverse by Selecting Project

There are several ways of reversing code from project. You may select **Update UML Model** in Diagram Navigator, Model Tree or Class Repository.

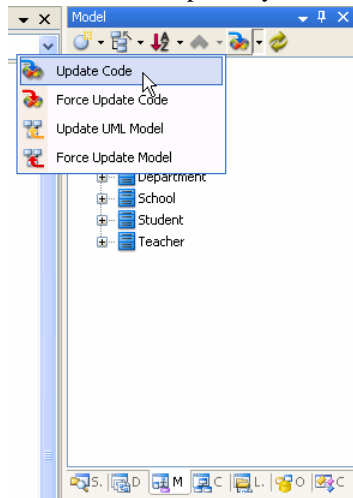


Figure 11.11 - Selecting Update UML Model

You may also right-click on the project node under the Solution Explorer, and then select **Update UML Model** from the popup menu.

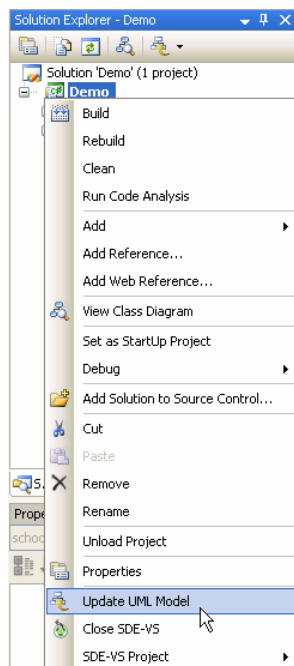


Figure 11.12 - Selecting Update UML Model

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 folder node under the source project, and then by selecting **Update UML Model** from the popup menu.

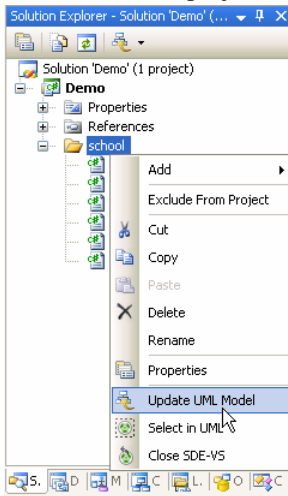


Figure 11.13 - Selecting Update UML Model

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.

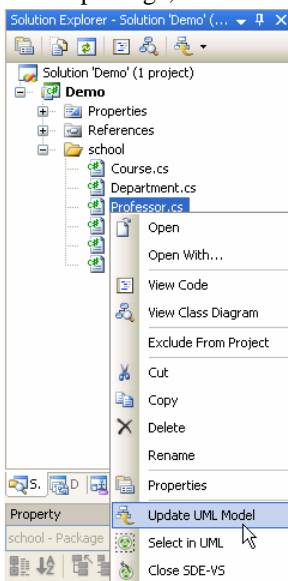


Figure 11.14 - Selecting Update UML Model

Alternatively, right-click on the code editor, and select **Update UML Model** from the popup menu.

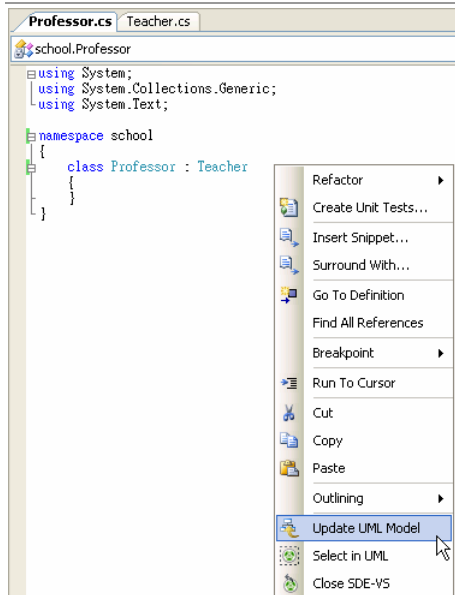


Figure 11.15 - Selecting Update UML Model

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.

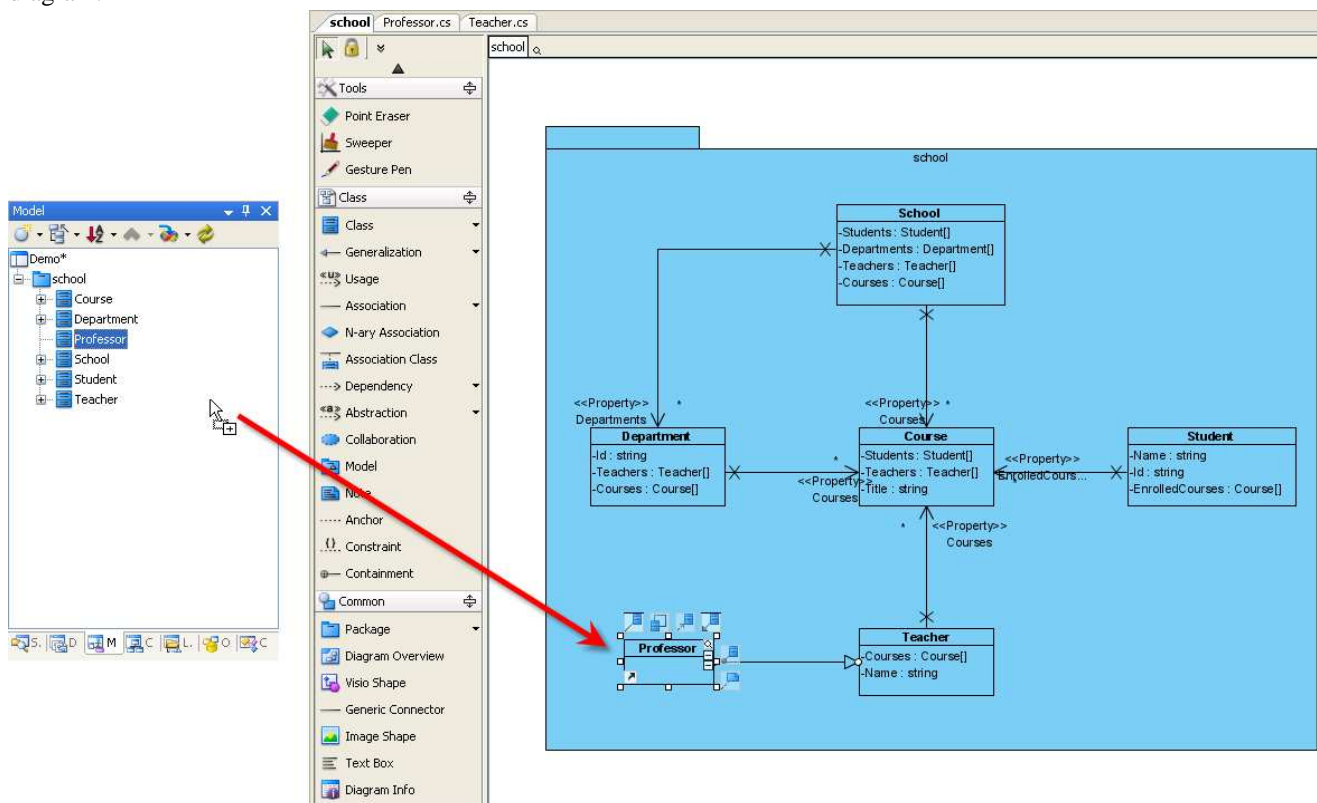


Figure 11.16 - Drag and drop to add a class model to diagram

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.

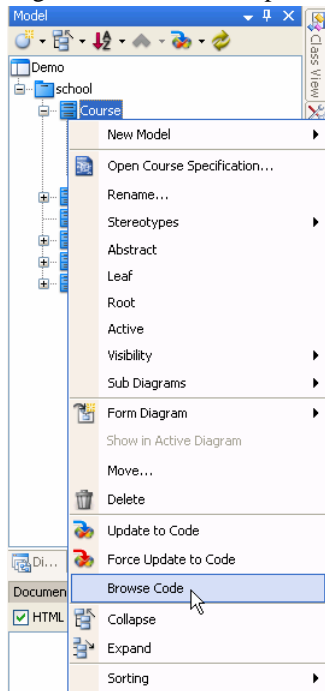


Figure 11.17 - Selecting code from class model

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.

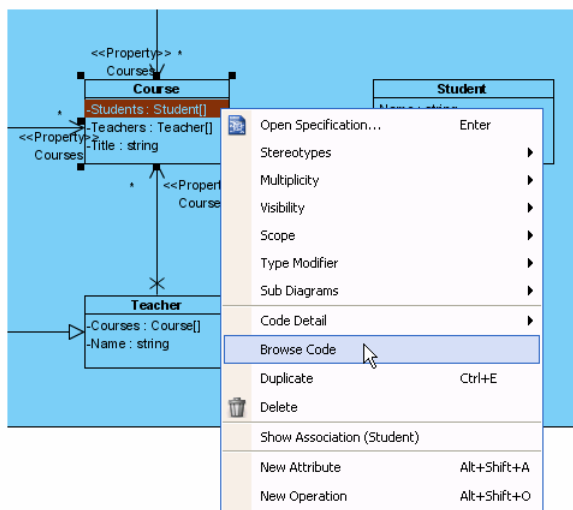


Figure 11.18 - Selecting code from operation

Note 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 editor

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.

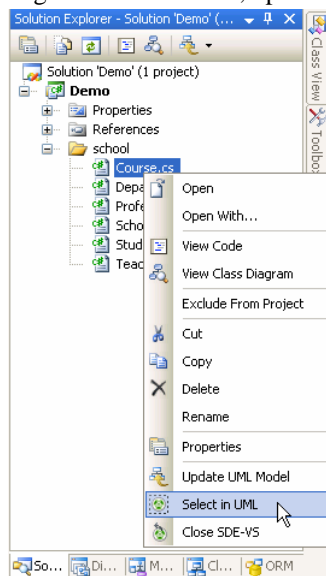


Figure 11.19 - Selecting class model from code

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.

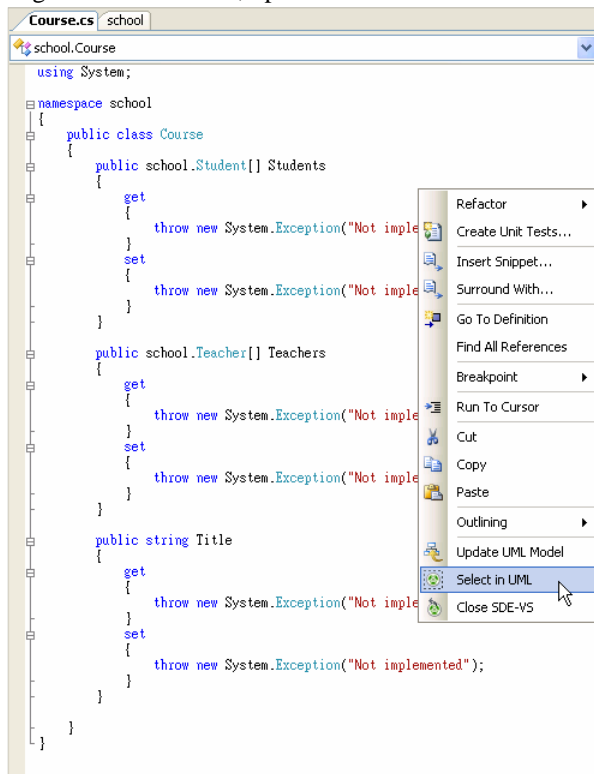


Figure 11.20 - Selecting class model from code



Selection cannot be made to project, package, attribute and operation.

Round-trip Code Engineering

Here, the C# round-trip Engineering is shown.

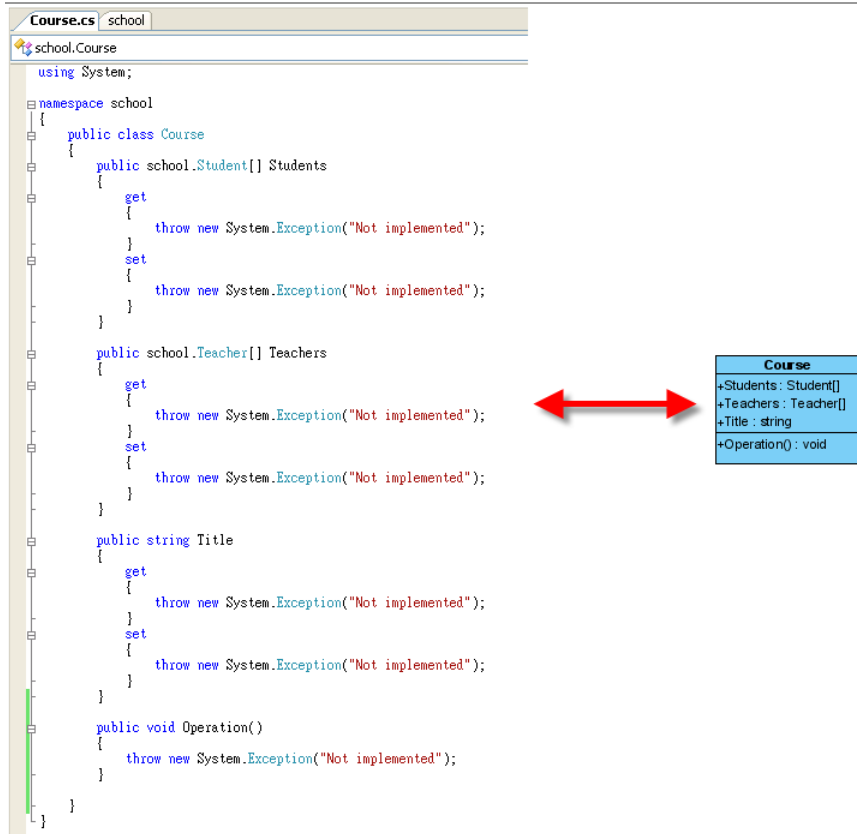


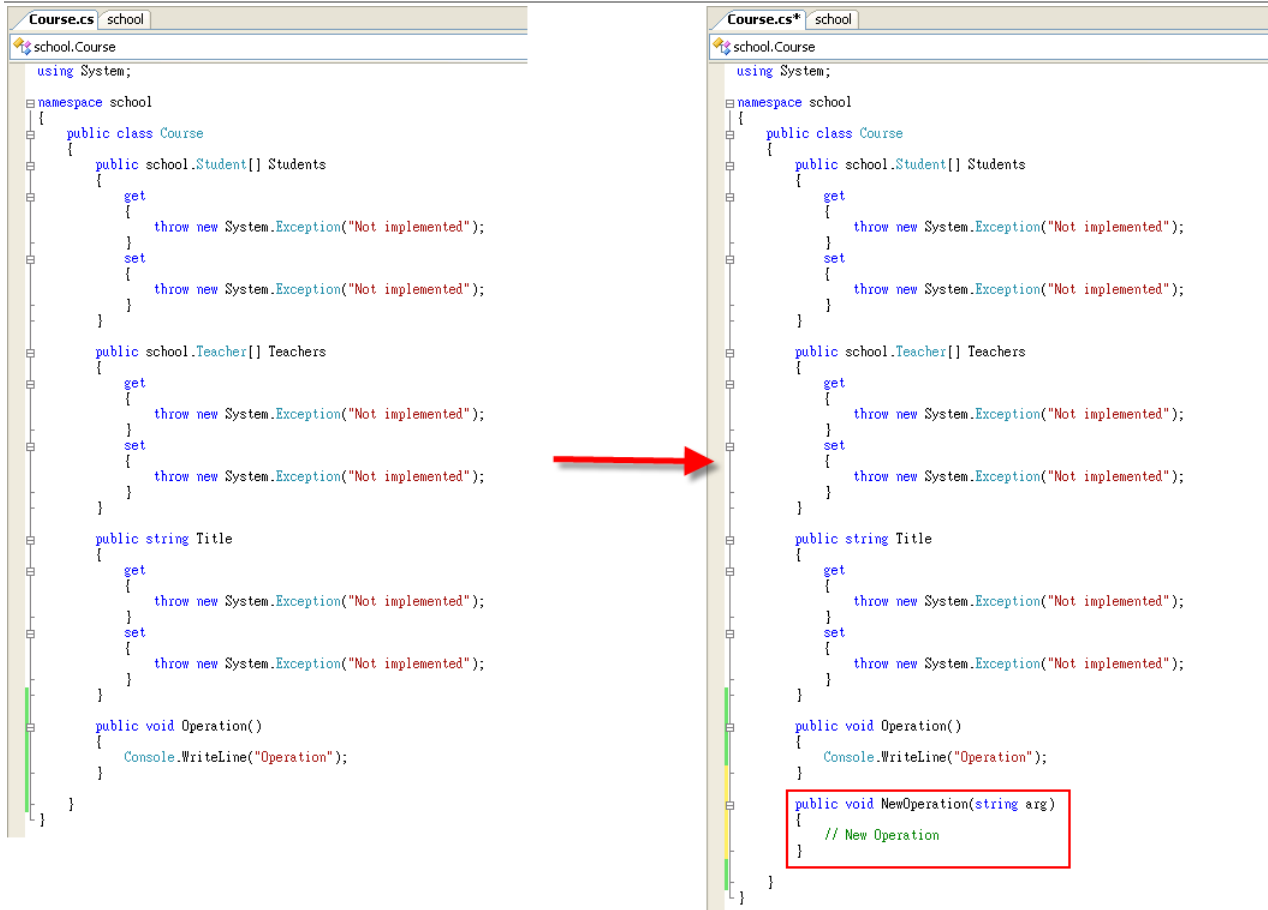
Figure 11.21 - C# round-trip Engineering

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.



Figure 11.22 - Statement amended

Also, an operation is added.



```
Course.cs school
school.Course
using System;
namespace school
{
    public class Course
    {
        public school.Student[] Students
        {
            get
            {
                throw new System.Exception("Not implemented");
            }
            set
            {
                throw new System.Exception("Not implemented");
            }
        }
        public school.Teacher[] Teachers
        {
            get
            {
                throw new System.Exception("Not implemented");
            }
            set
            {
                throw new System.Exception("Not implemented");
            }
        }
        public string Title
        {
            get
            {
                throw new System.Exception("Not implemented");
            }
            set
            {
                throw new System.Exception("Not implemented");
            }
        }
        public void Operation()
        {
            Console.WriteLine("Operation");
        }
    }
}

Course.cs* school
school.Course
using System;
namespace school
{
    public class Course
    {
        public school.Student[] Students
        {
            get
            {
                throw new System.Exception("Not implemented");
            }
            set
            {
                throw new System.Exception("Not implemented");
            }
        }
        public school.Teacher[] Teachers
        {
            get
            {
                throw new System.Exception("Not implemented");
            }
            set
            {
                throw new System.Exception("Not implemented");
            }
        }
        public string Title
        {
            get
            {
                throw new System.Exception("Not implemented");
            }
            set
            {
                throw new System.Exception("Not implemented");
            }
        }
        public void Operation()
        {
            Console.WriteLine("Operation");
        }
        public void NewOperation(string arg)
        {
            // New Operation
        }
    }
}
```

Figure 11.23 - Class added

On the other hand, the signature of a class is amended in the diagram.



Figure 11.24 - 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.

Figure 11.25 - Source changed

Now reverse code. The source is reversed into diagram.

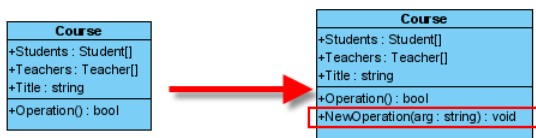


Figure 11.26 - Class changed

Advanced Options

Upon generation of Java code, there are advanced options for you to configure your output with. To open the options dialog:

There are two tabs.
Generate Code tab

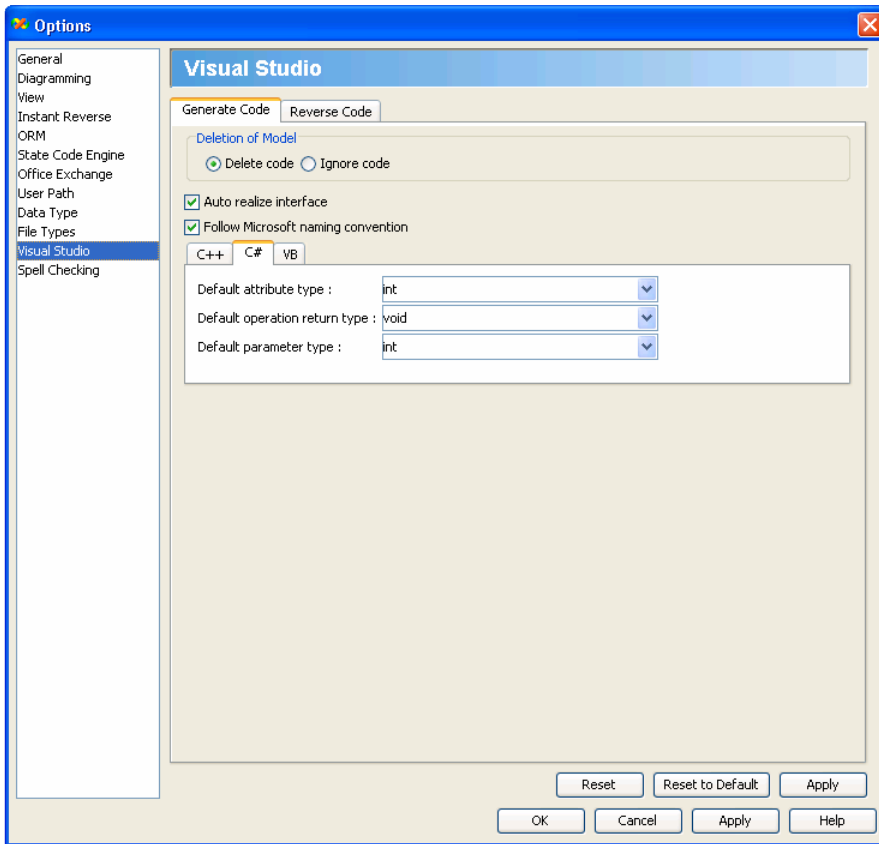


Figure 11.27 - Generate Code tab

Name	Description
Deletion of Model	Specify delete the code or keep it if UML model is deleted.
Auto realize interface	Check the check box to realize interface automatically.
Follow Microsoft naming convention	Check the check box to make the generated code follow Microsoft code formatting.

Table 11.1

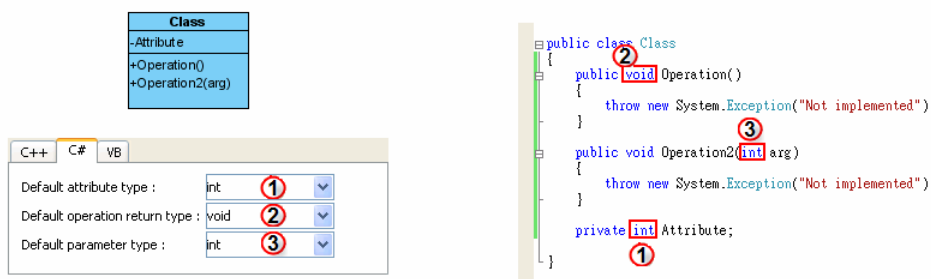


Figure 11.28 - Example illustrating options in Code tab about default type setting

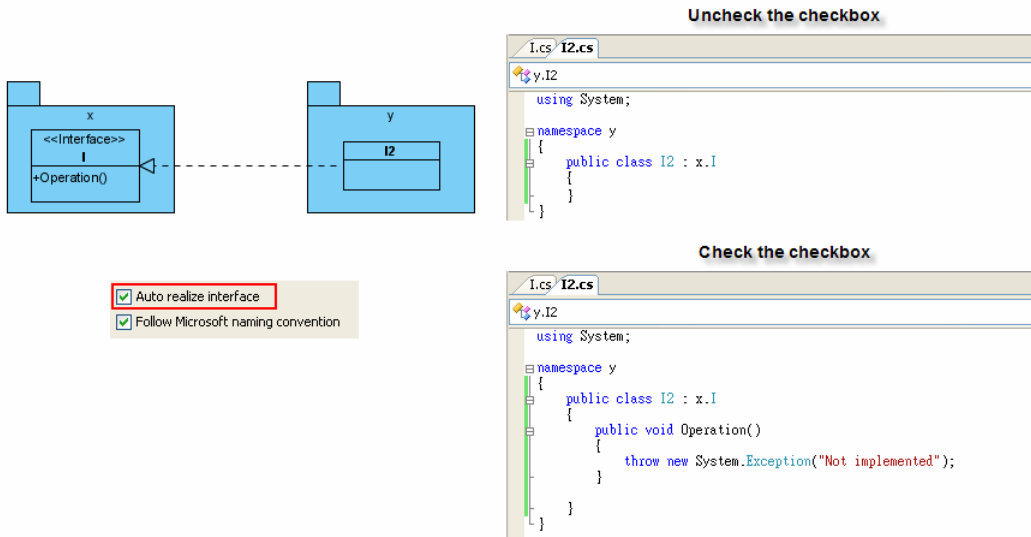


Figure 11.29 - Example illustrating options in Code tab about Auto realize interface

Reverse Code tab

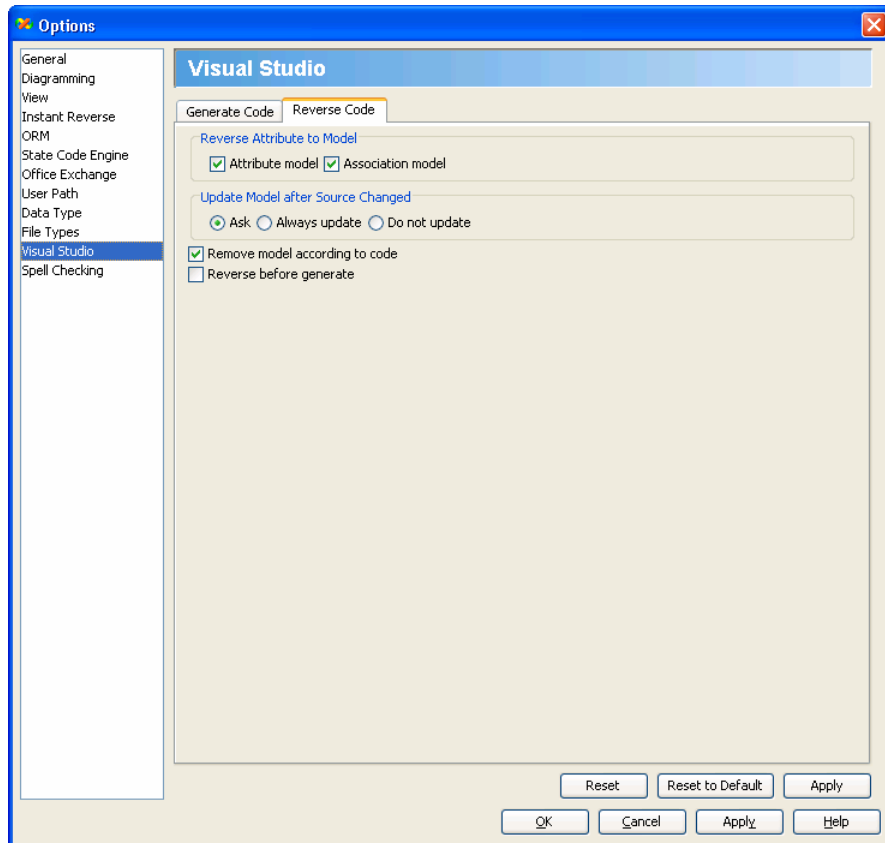


Figure 11.30 - Reverse Code

12

State Machine Diagram Code Generation

Chapter 12 - State Machine Diagram Code Generation

SDE-VS can assist you in drawing a State Machine Diagram, as well as generate a State Machine Diagram Code.

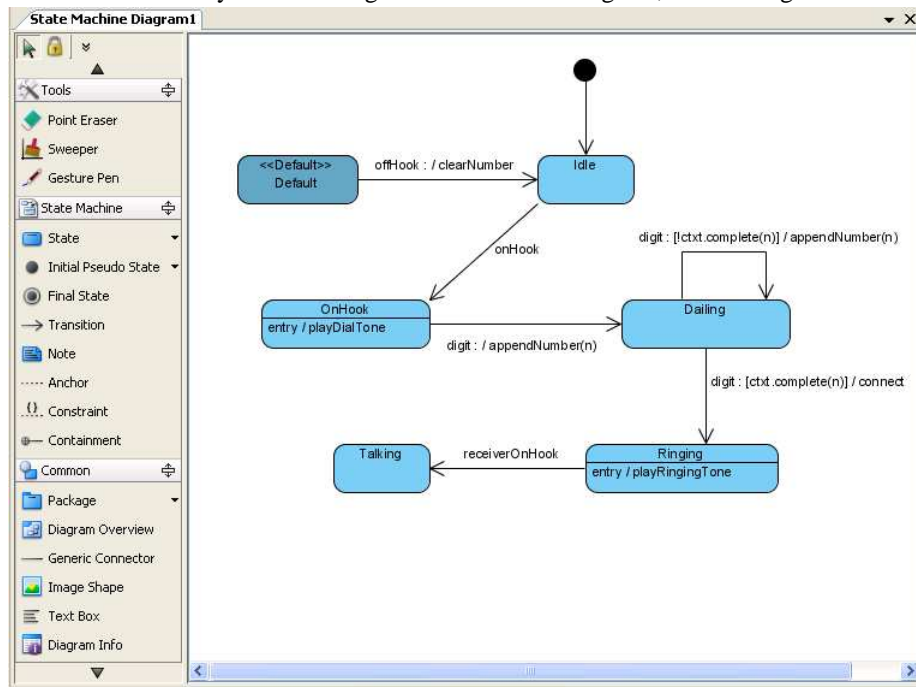


Figure 12.1 - State Machine Diagram

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.

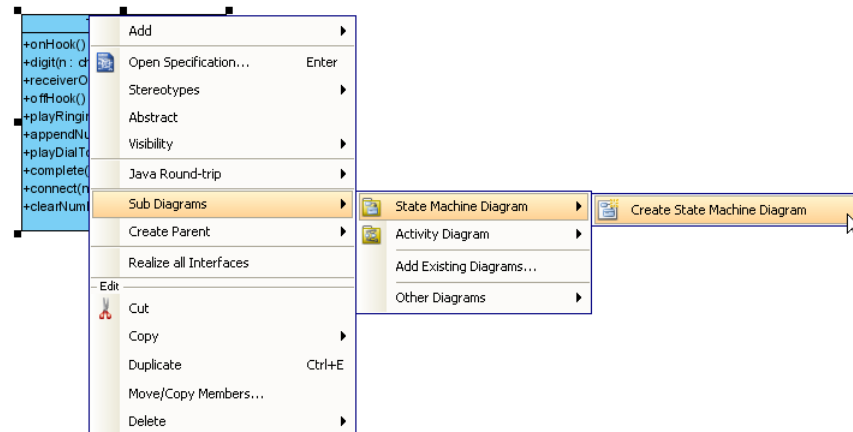


Figure 12.2 - Select Create State Machine Diagram

You will see an initial pseudo state on the state machine diagram.

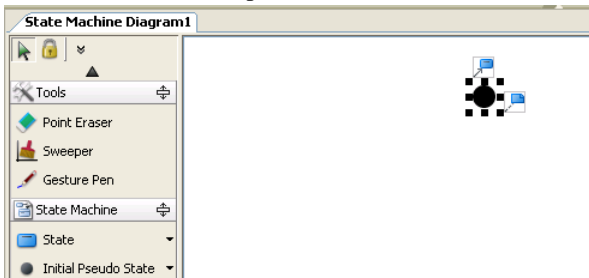


Figure 12.3 - State machine diagram with an initial pseudo state

Drag a State from the diagram toolbar and drop the diagram.

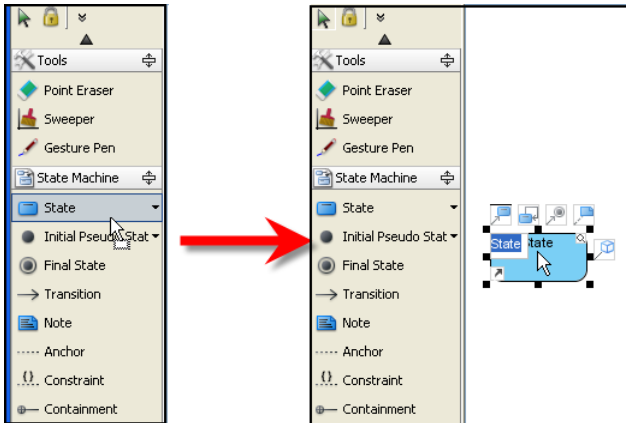


Figure 12.4 - Drag and drop a State

Alternatively, you can use the resources of the initial pseudo state.

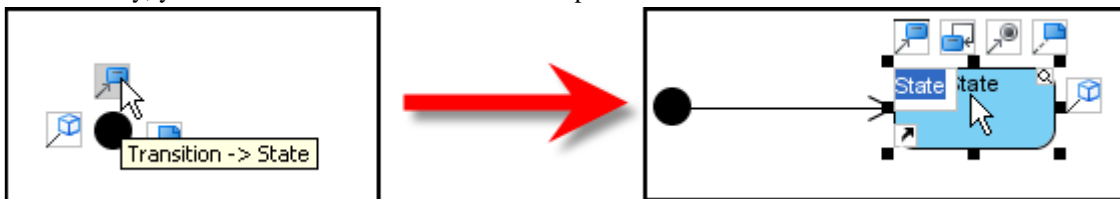


Figure 12.5 - Using resources

A diagram can then be created.

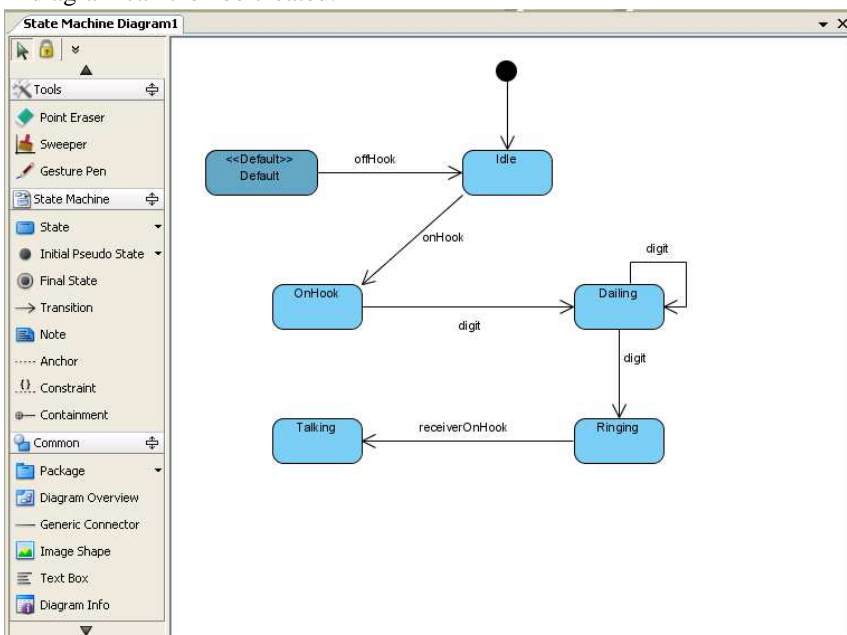


Figure 12.6 - Diagram created

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.

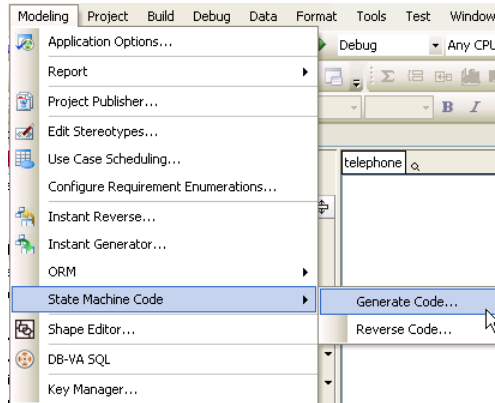


Figure 12.7 - Select Generate Code...

2. The **Generate state machine code** dialog is displayed.

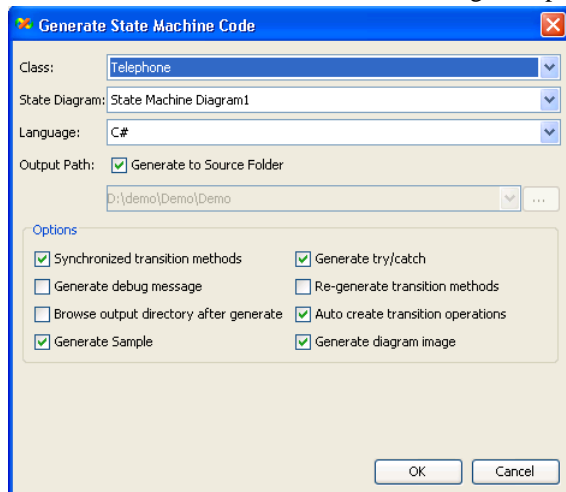


Figure 12.8 - Generate state machine code dialog

3. Select a language to generate the code in from the drop-down menu.

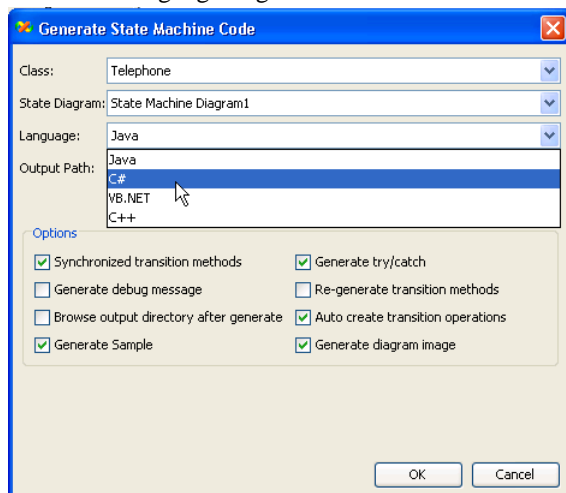


Figure 12.9 - Select Language

4. Configure the Output Path. The default output directory is the directory of Visual Studio. You may change the output directory by deselecting the "Generate to Source Folder" item.

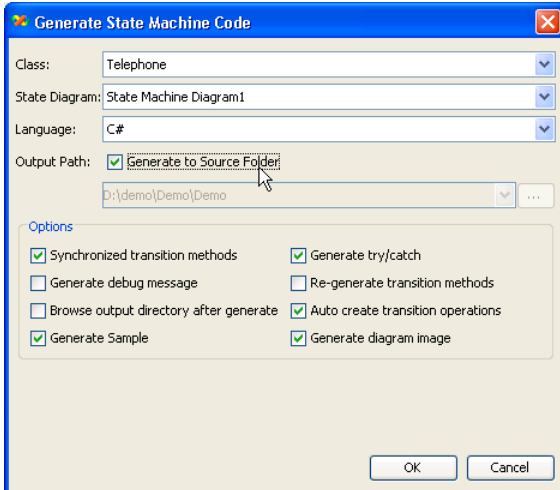


Figure 12.10 - Configure an output path

5. The process of generation is shown. You may choose to **Close Dialog when finished progress** by checking the check box.

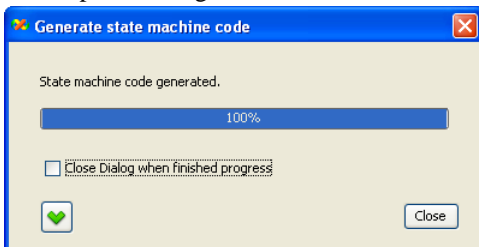


Figure 12.11 - Process of generation

6. The code is generated.

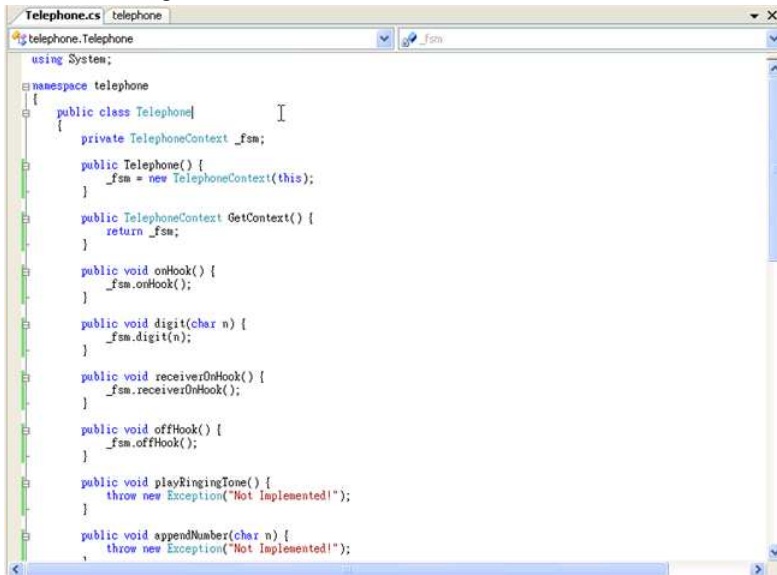


Figure 12.12 - Code generated

Programming with Generated State Machine Code

SDE-VS 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.

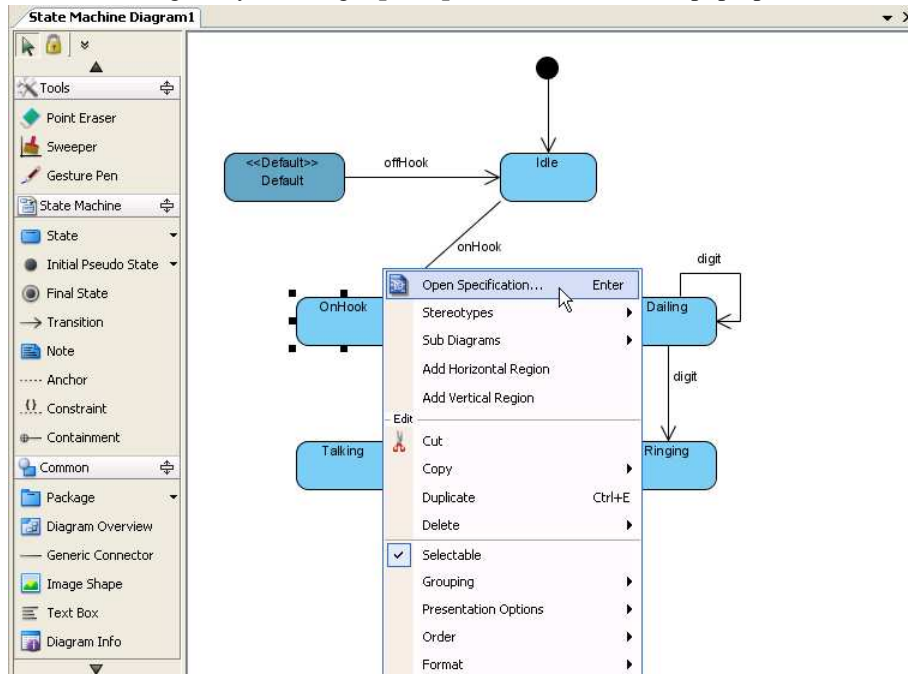


Figure 12.13 - Select Open Specification...

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...**

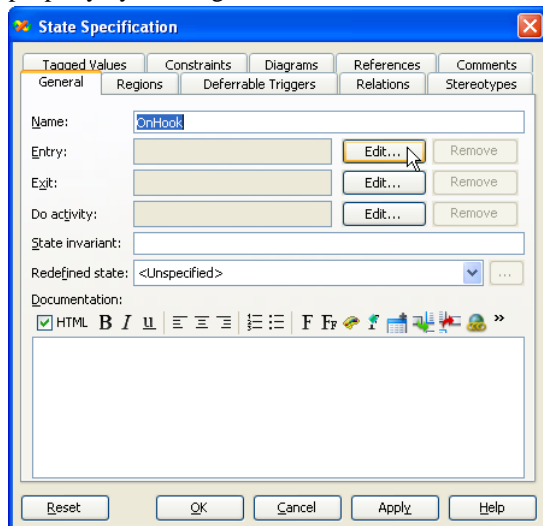


Figure 12.14 - State Specification dialog box

This is the **Activity Specification(Entry)** dialog box. After editing to suit your needs, click **OK** to confirm.

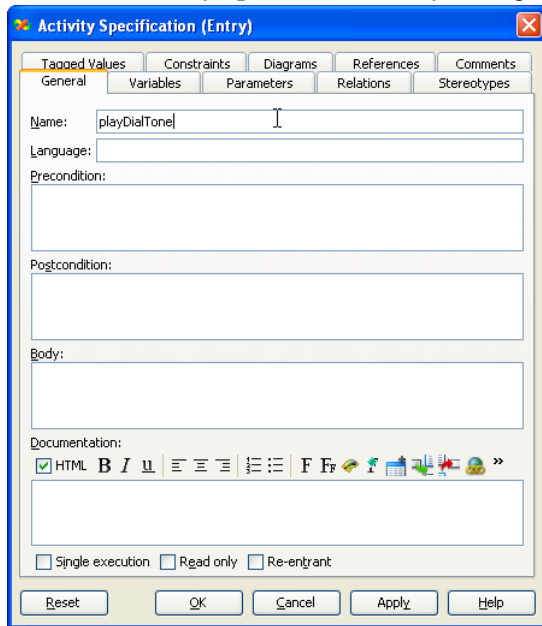


Figure 12.15 - Activity Specification(Entry) dialog box

State's property has been edited.

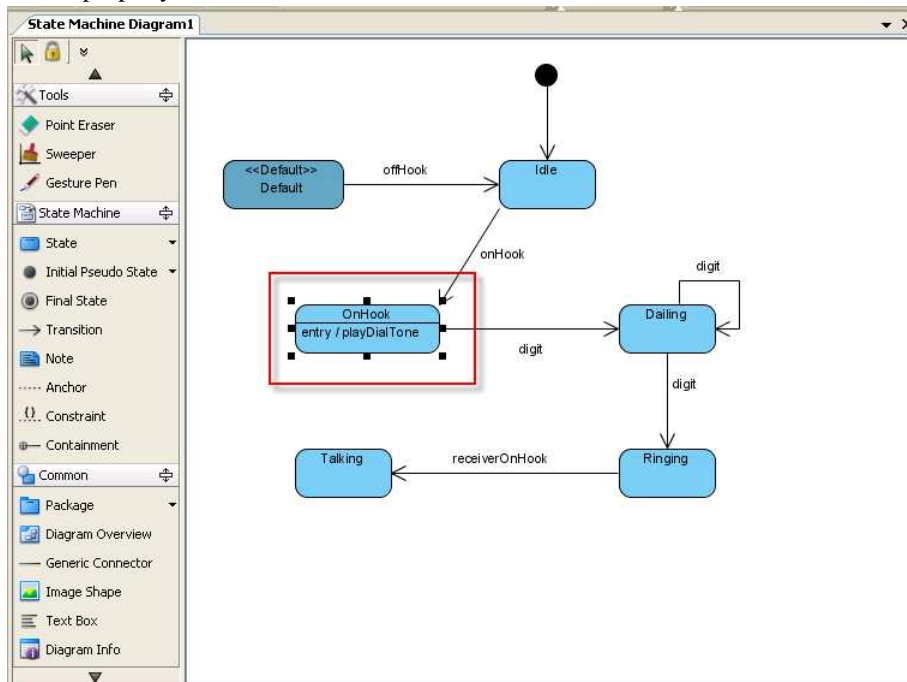


Figure 12.16 - State's property edited

Similarly, you can edit the transition by selecting the **Open Specification...** from the pop-up menu.

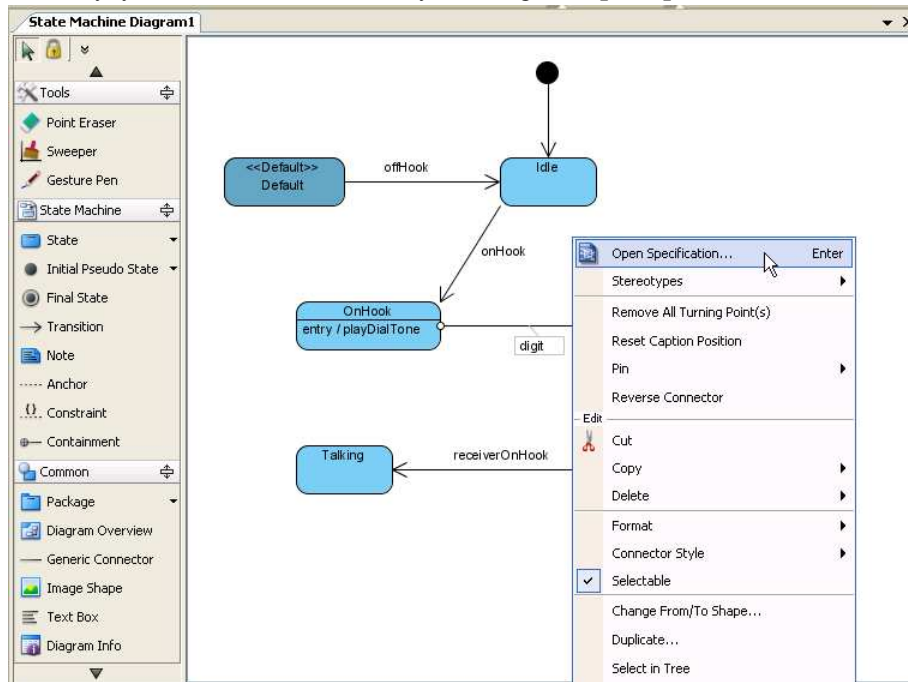


Figure 12.17 - Open Specification...

Then, edit the properties of transition in the **Transition Specification** dialog box.

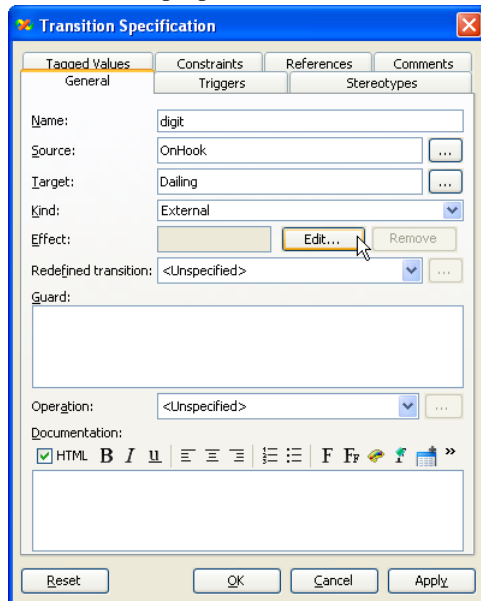


Figure 12.18 - Transition Specification dialog box

The states and transitions properties are configured.

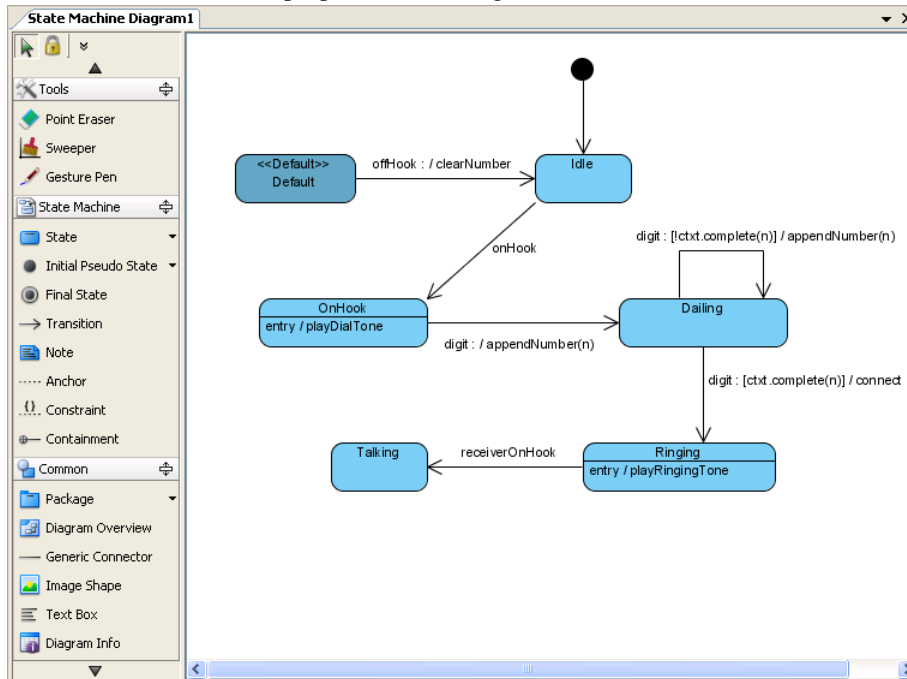


Figure 12.19 - State Machine Diagram

Reverse State Machine Code

Apart from generation of state machine code, SDE-VS also supports the reversal of the state machine code file, with extension **.sm**.

```

Telephone.sm Telephone.cs Start Page
*start TelephoneFSM::Idle
class Telephone
package telephone

%asp TelephoneFSM
%
Idle
{
    onHook OnHook {}
}

OnHook
Entry {playDialTone();}
{
    digit(n:char) Dailing {appendNumber(n);}
}

Dailing
{
    digit(n:char)[cctx.complete(n)] Dailing {appendNumber(n);}
    digit(n:char)[cctx.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 .

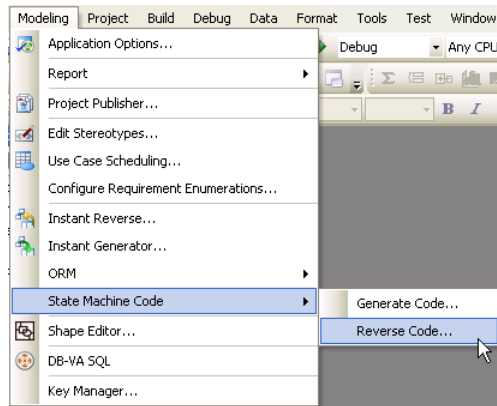


Figure 12.27 - Select Reverse Code...

2. The **Reverse State Machine Code** dialog box is displayed. Select the **Class** and **State Diagram**.

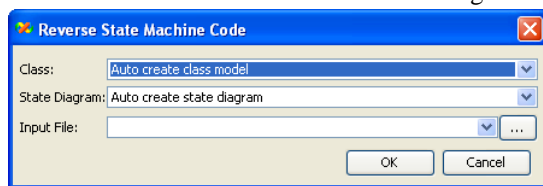


Figure 12.28 - Reverse State Machine Code dialog box

3. Configure the input file path by typing in the text box or selectSelect **OK** to confirm.

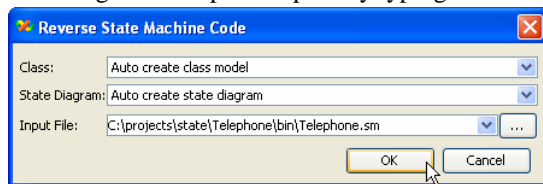


Figure 12.29 - Configure the input file path

4. The progress of reversal is shown. You can select to **Close Dialog when finished progress** by checking the check box.

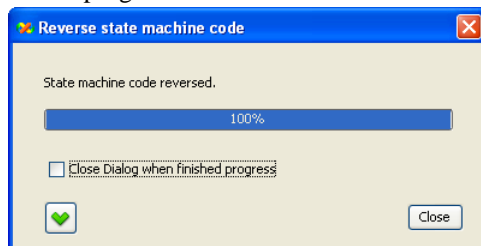


Figure 12.30- Progress of reversing

5. The state machine code is now reversed.

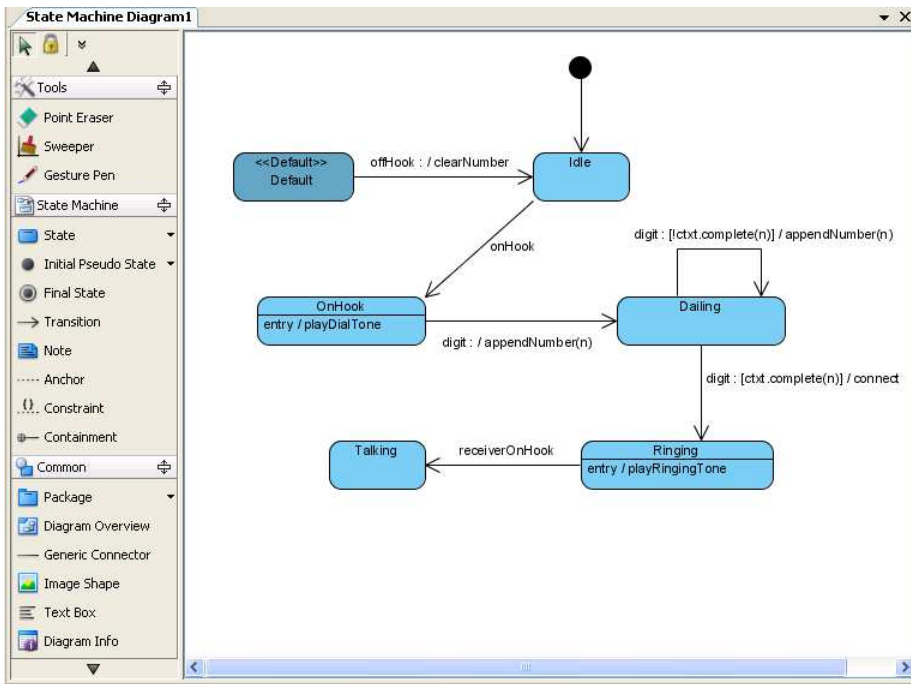


Figure 12.31 - State machine code is reversed

13

Team Collaboration with VP Teamwork Server

Chapter 13 – Team Collaboration with VP Teamwork Server

Visual Paradigm Teamwork Server is easy to use version control and collaboration platform. With SDE-VS 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.

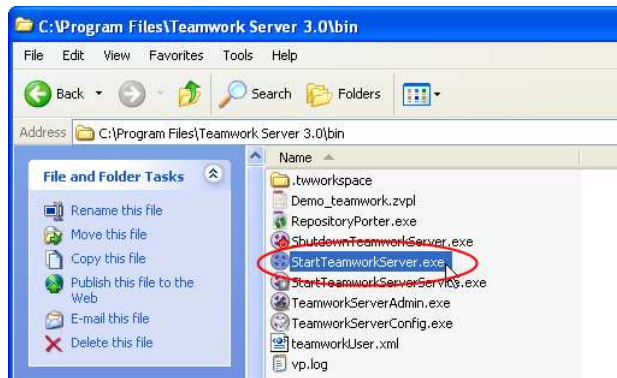


Figure 13.1 - Select StartTeamworkServer.exe

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.

You can right click on the project node of solution explorer and select **SDE-VS Project > Open Teamwork Client...** .

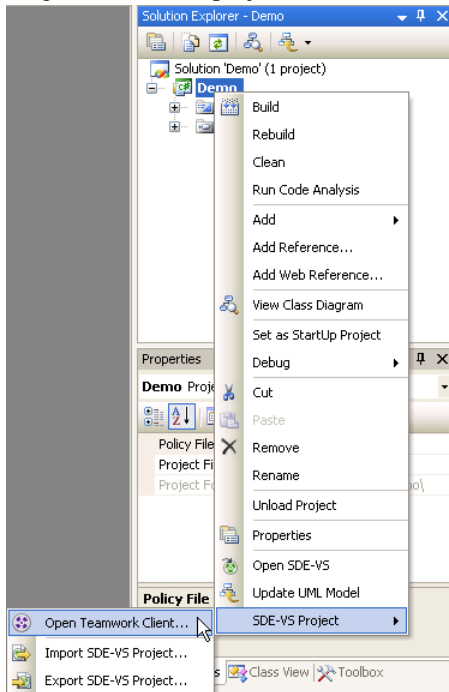


Figure 13.4 - Open Teamwork Client with project node

By using any one of these methods, the **Login to the Teamwork Server** dialog box is displayed.

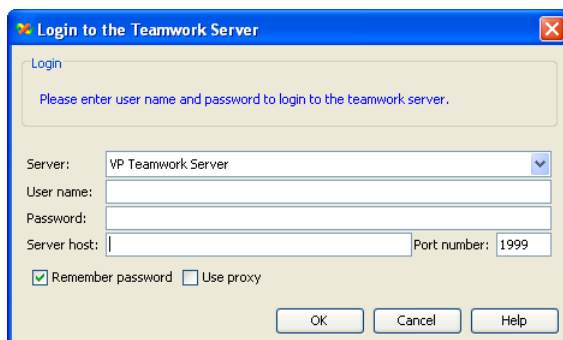


Figure 13.5 - Login to the Teamwork Server dialog box

Then, configure the details of server connection. Then click **OK** to confirm.

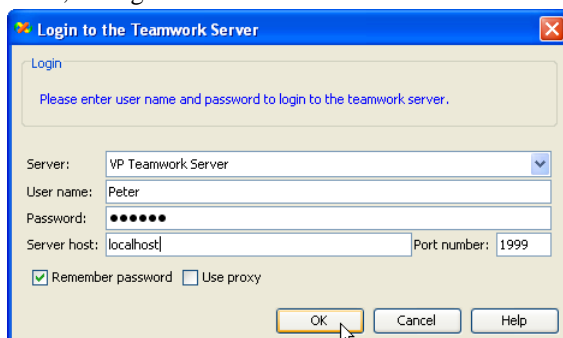


Figure 13.6 - Configure details of server connection

Teamwork Client dialog box is opened.

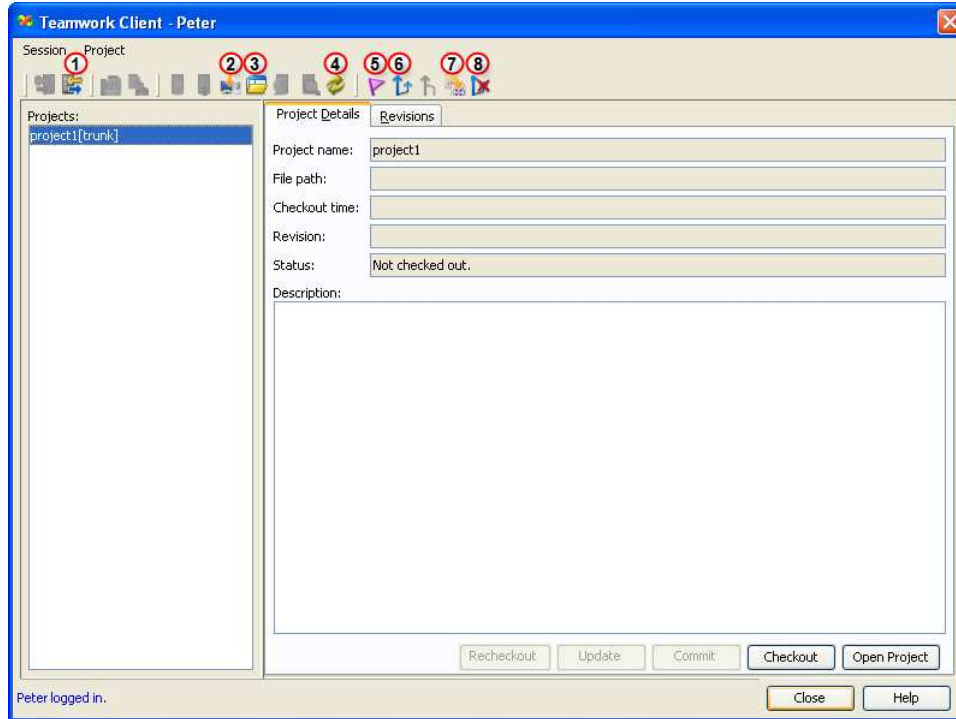


Figure 13.7 - Teamwork Client dialog box

	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**'.

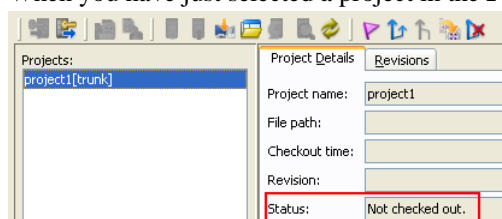


Figure 13.8 - Project not checked out

When you click **Open Project**, you can checkout the project and open it immediately.

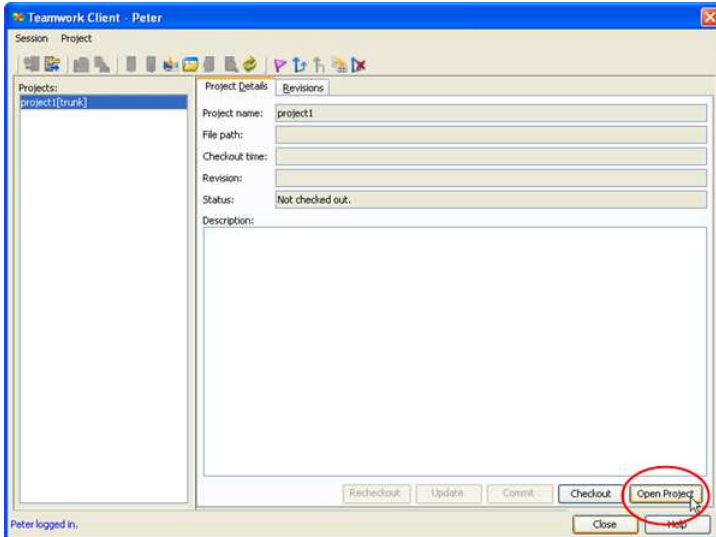


Figure 13.9 - Select Open Project

Alternatively, you can choose to checkout the project without opening it. Checkout Project is quite different from Open Project. After checking out the project, you 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.

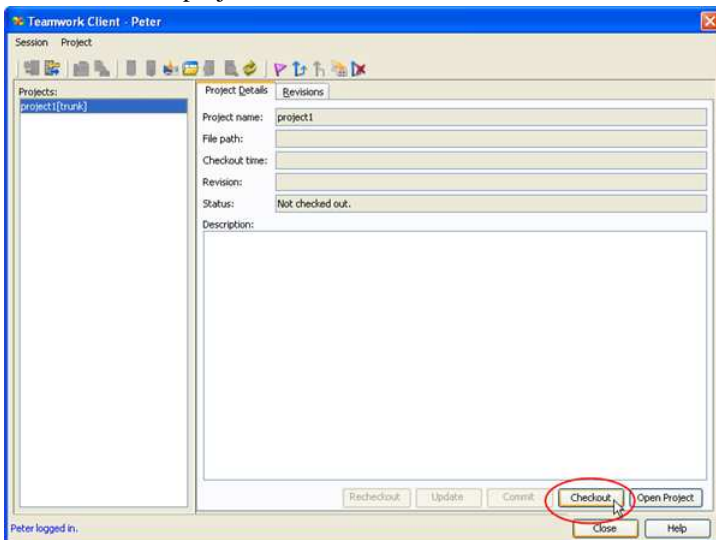


Figure 13.10 - Checkout the project

The status of the project is changed and you have checked out the project successfully.

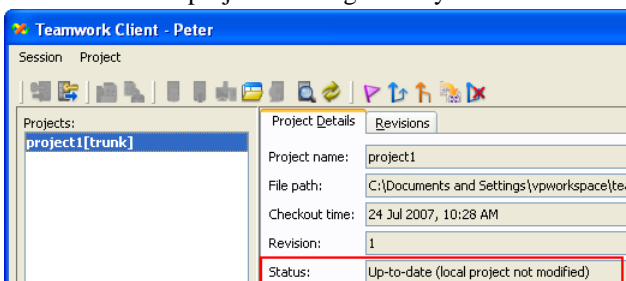


Figure 13.11 - Project checked out

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.

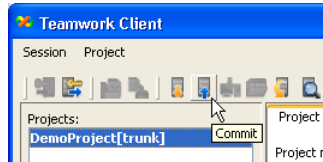


Figure 13.12 - Commit project

A **Commit Project** dialog box will show you the progress of commit.

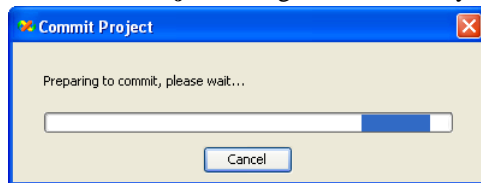


Figure 13.13 - Commit project dialog box

A dialog box will be displayed and you may enter a description of the changes. Then, click **OK**.

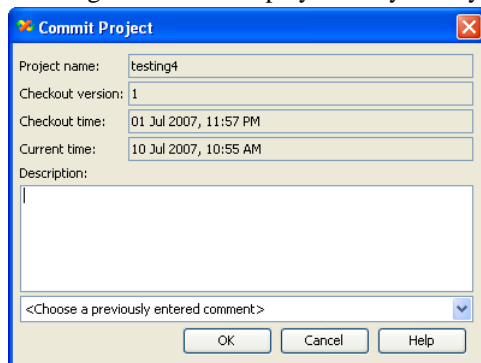


Figure 13.14 - Enter description of commit change

A **Commit Model(s)** dialog box shows the models you have modified. You can click **OK** to commit.

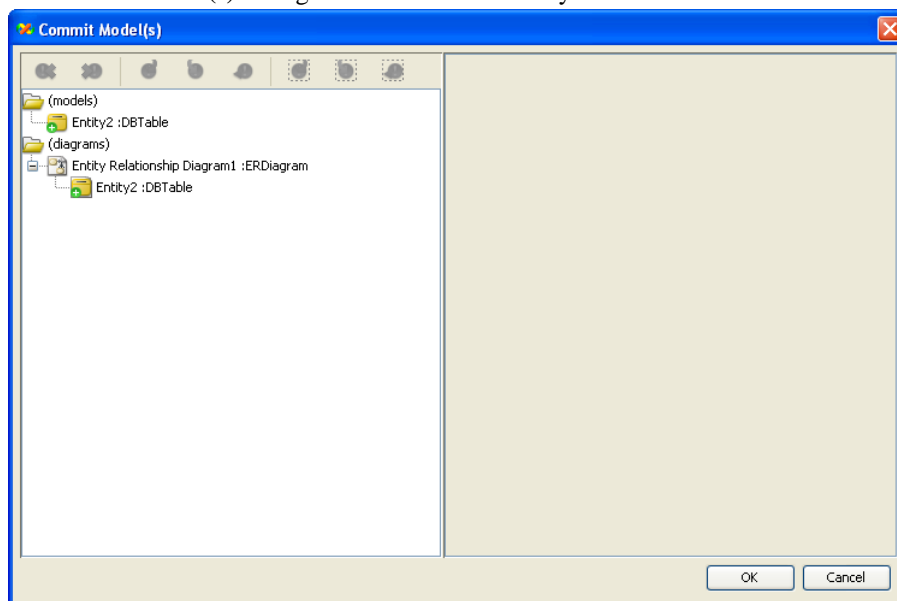


Figure 13.15 - Commit Model(s) dialog box

Sometimes, you may encounter conflict when committing models.

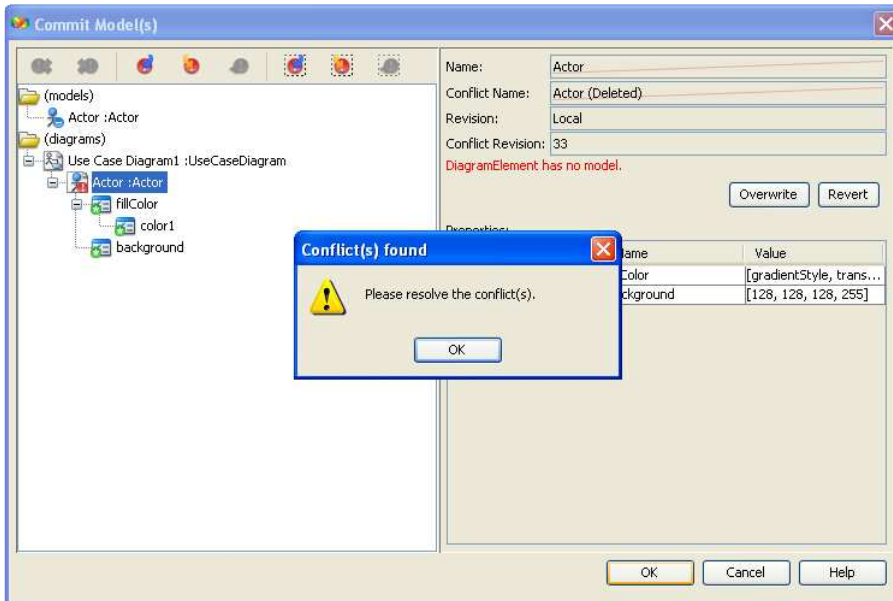


Figure 13.16 - Commit with conflict

You can choose to revert or overwrite to solve. For more details, please refer to the section 'Resolving Conflict'.

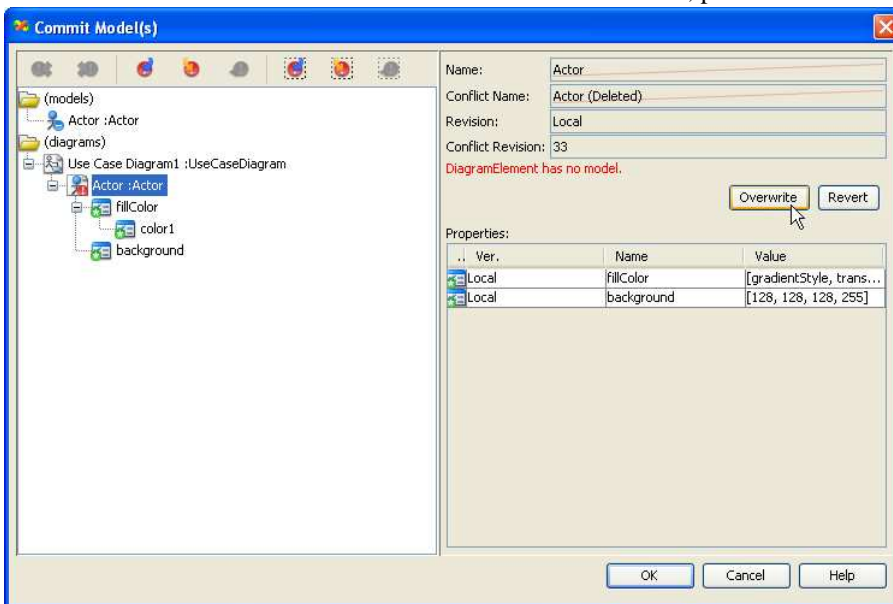


Figure 13.17 - Select overwrite or revert

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.

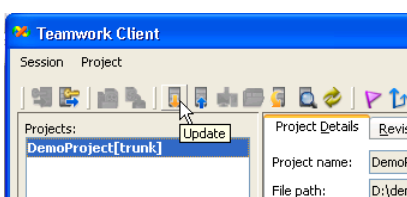


Figure 13.18 - Update project

Update Model(s) dialog box is displayed. The models changed by others are shown. You can click OK to update the models.

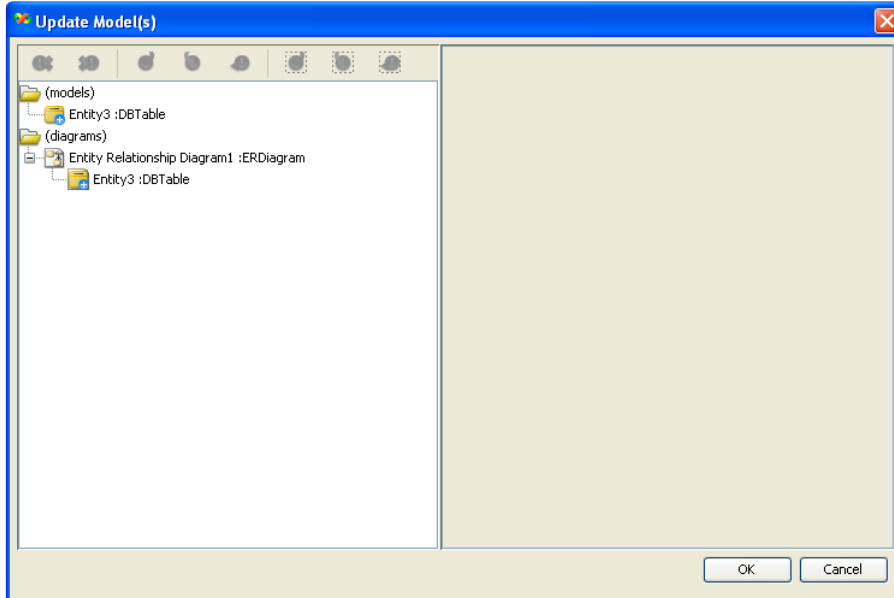


Figure 13.19 - Update Model(s) dialog box

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.

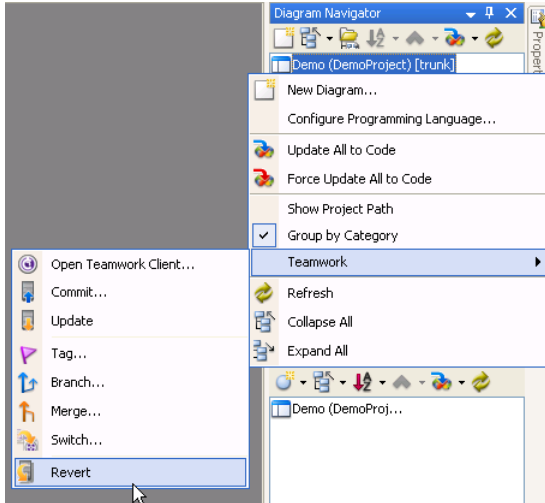


Figure 13.20 - Revert project

A dialog box will show and ask if you want to revert. Click **Yes** to confirm and the project is reverted.

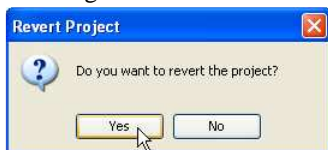


Figure 13.21 - Confirm revert project

Checking for Update

If the project you are managing is not up-to-date, the status in Teamwork Client dialog box will change.

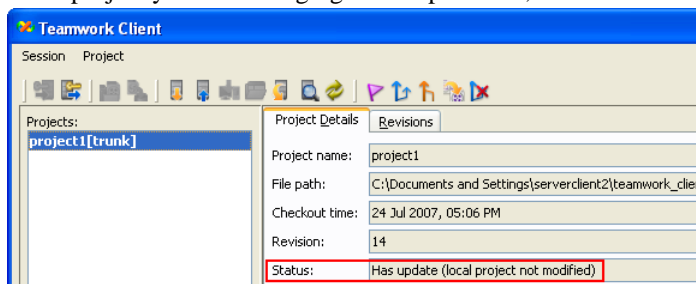


Figure 13.22 - Status changed

Alternatively, you can check if the local project has a newer version in teamwork server repository by clicking the **Check for Update** button.

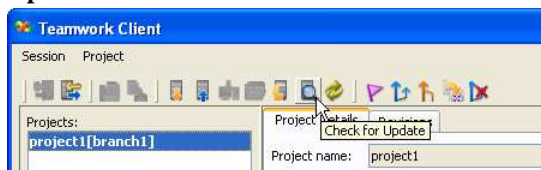


Figure 13.23 - Select Check for Update

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'.

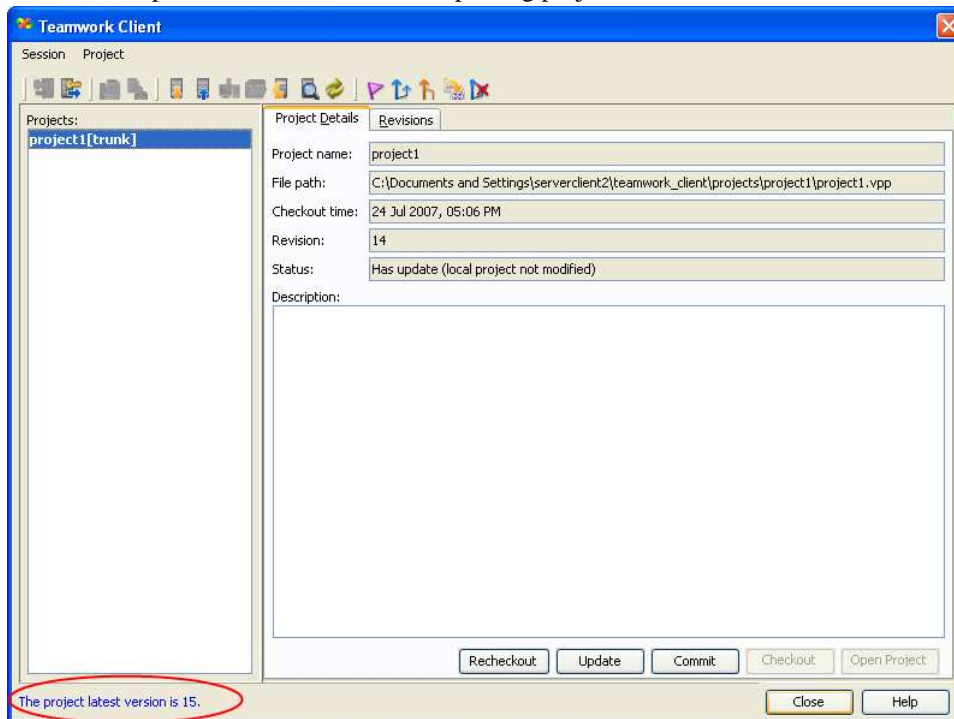


Figure 13.24 - Message showing the latest version

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.

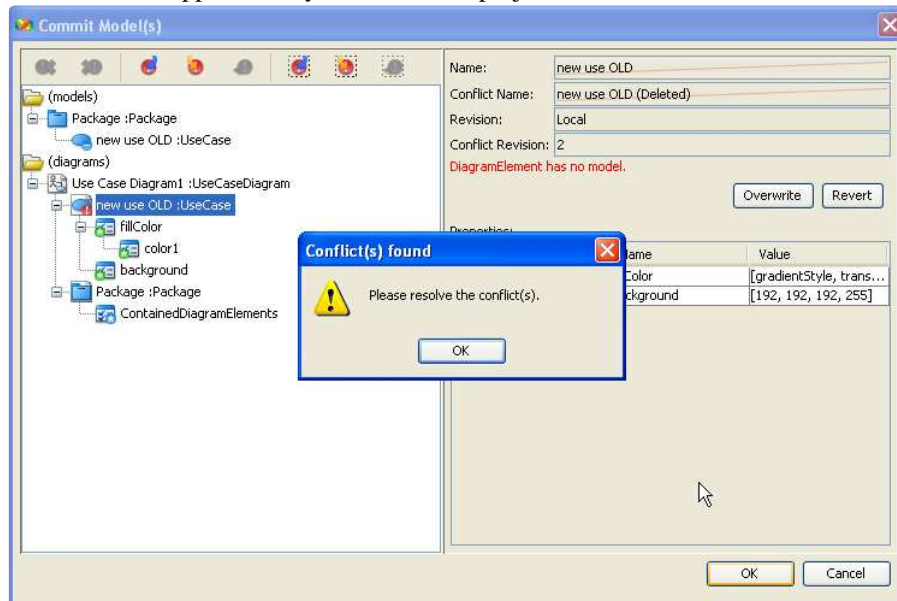


Figure 13.25 - Conflict found in merging

Conflict may also happen when you update your project.

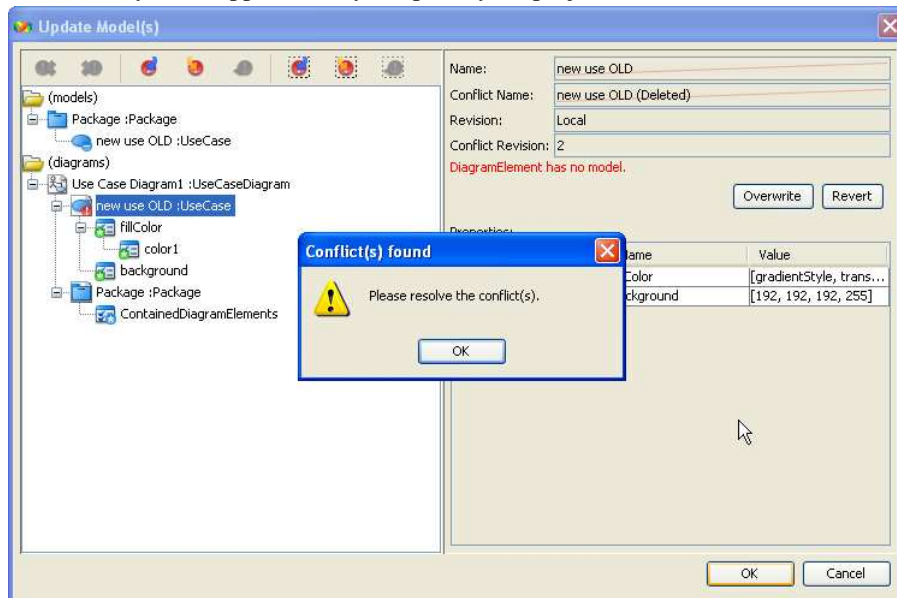


Figure 13.26 - Conflict found in updating

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.

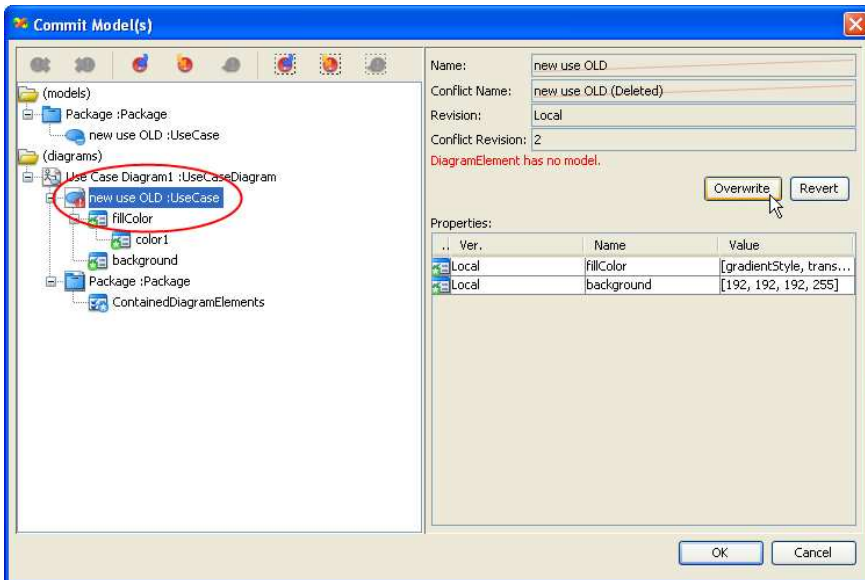


Figure 13.27 - Solving conflict

Viewing Revision History

From time to time, there may be a lot of changes made by you and your teammates. In SDE-VS, 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.

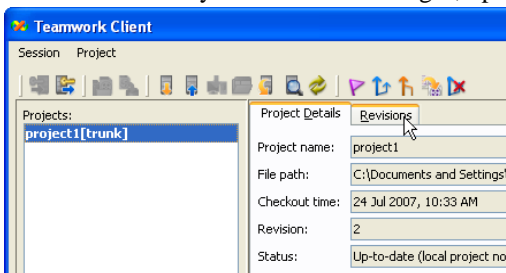


Figure 13.28 - Select Revisions

You can see the different revisions of the project.

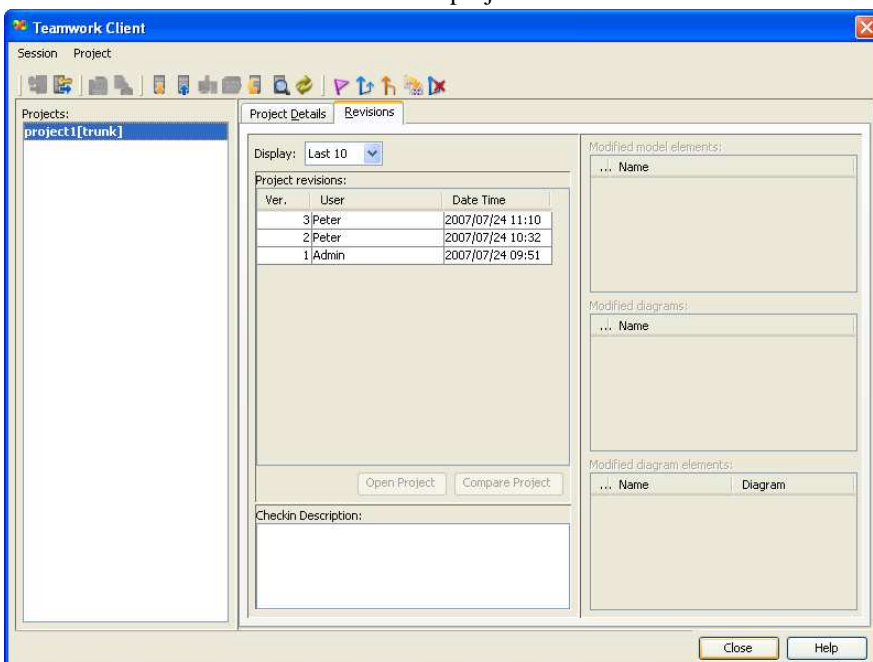


Figure 13.29 - Different revisions of the project

You can see the model, diagram and diagram elements modified in that version. You can also see the checkin description in that version.

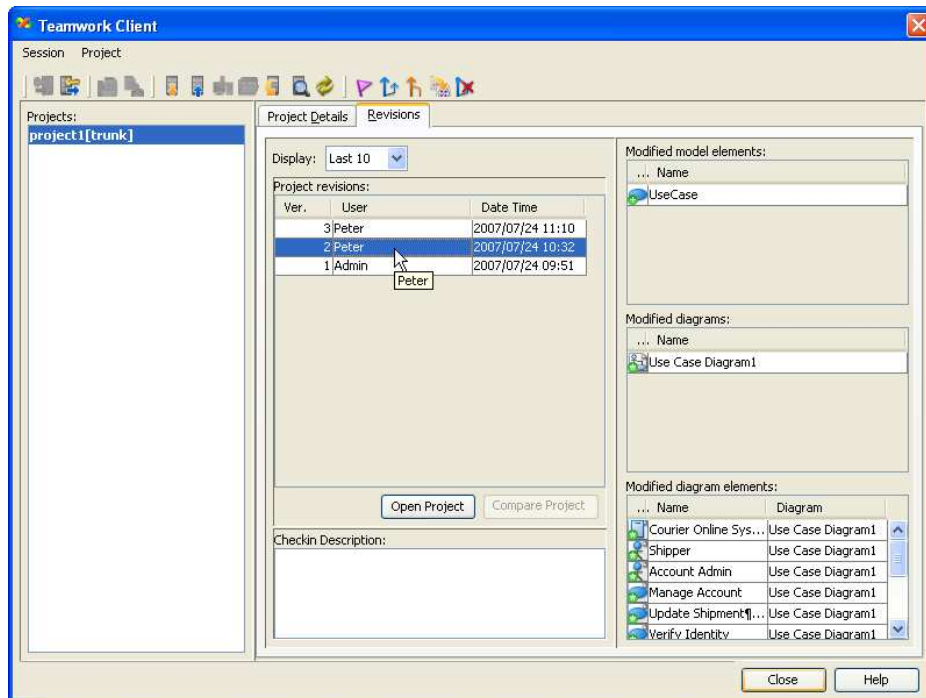


Figure 13.30 - Changes of different revisions

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**.

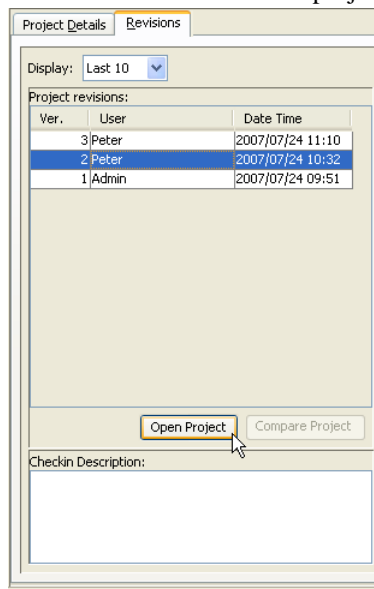


Figure 13.31 - Check out old revision

Comparing Between Revisions

You may want to see the differences between different revisions here in SDE-VS. To achieve, first you may select a revision.

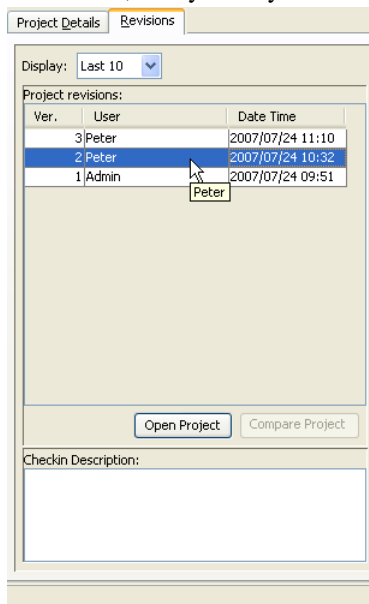


Figure 13.32 - Select one revision

Then, you may press *Ctrl* and click on the revision you want to compare with.

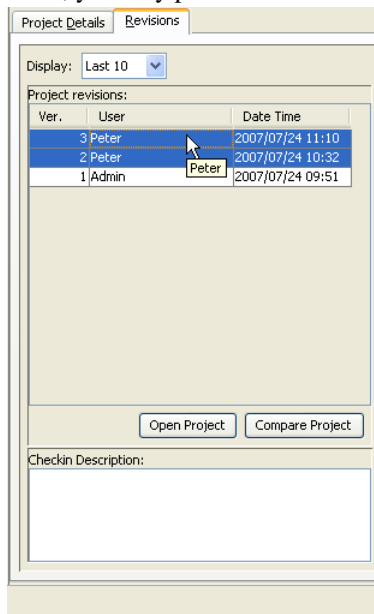


Figure 13.33- Select another revision

Afterwards, click **Compare Project** to compare.

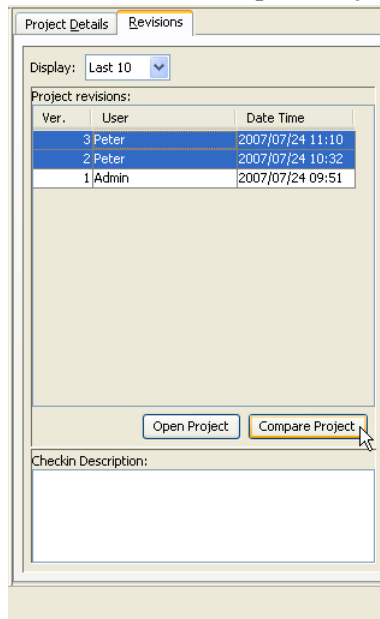


Figure 13.34 - Select Compare Project

A **Compare Projects from revision** dialog box appears and shows you the differences between your selected revisions.

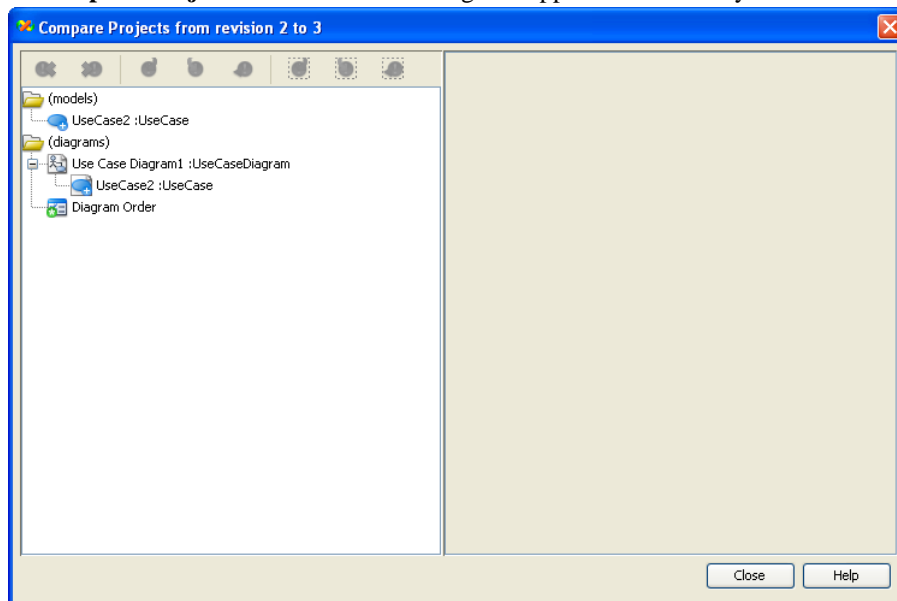


Figure 13.35 - Compare Project dialog box

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 select Branch menu item under Teamwork menu in Diagram Navigator pane.

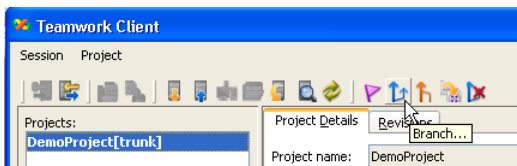


Figure 13.36 - Select branch

Create Branch dialog box is displayed and you can enter the name of branch you want to create.

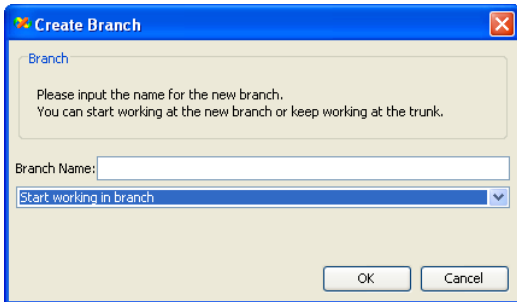


Figure 13.37 - Create Branch dialog box

Then, select a status of branch from the drop-down menu.

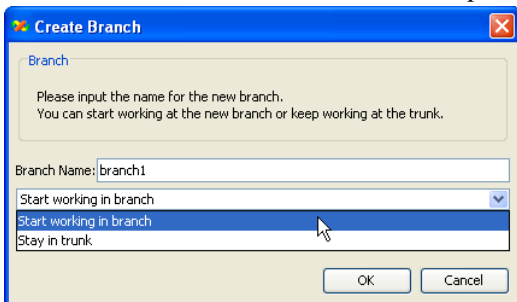


Figure 13.38 - Select from drop-down menu

Then, click OK to confirm creating branch.

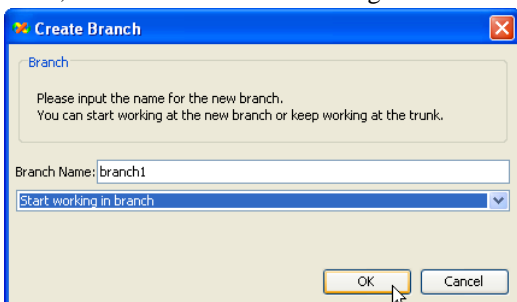


Figure 13.39 - Confirm creating branch

Managing a Branch

In VP Teamwork Server, you can manage a branch by switching to that branch.

You can select **Switch** menu item under Teamwork menu in **Diagram Navigator** pane.

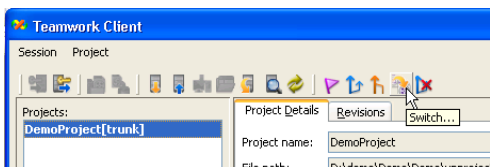


Figure 13.40 - Select Switch...

Switch 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.

You can select **Tag** menu item under Teamwork menu in **Diagram Navigator** pane.



Figure 13.43 - Select Tag...

Then, you can enter tag name in the Create Tag dialog box.

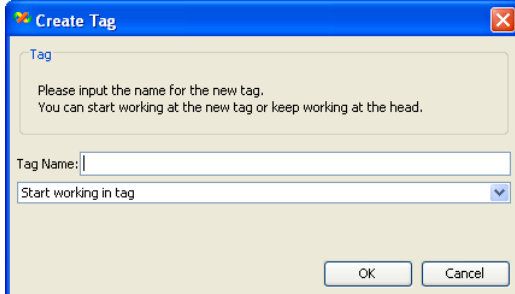


Figure 13.44 - Create Tag dialog box

Afterwards, you can select your location after creating tag.

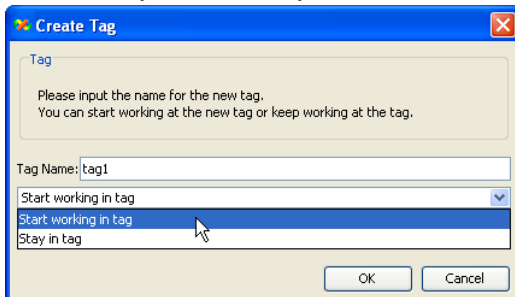


Figure 13.45 - Select location after creating tag

Tag is created.

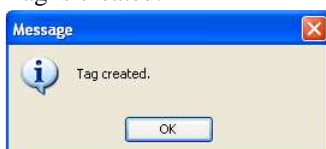


Figure 13.46 - Tag created

Managing a Tag

Similar to managing a branch, you can manage a branch by switching to that branch. To switch, you can select **Switch** menu item under Teamwork menu in **Diagram Navigator** pane.

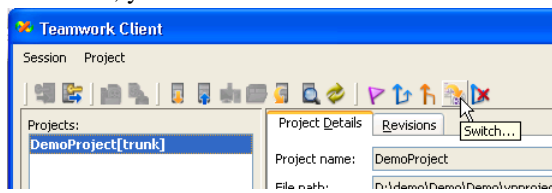


Figure 13.47 - Select Switch...

Switch 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.

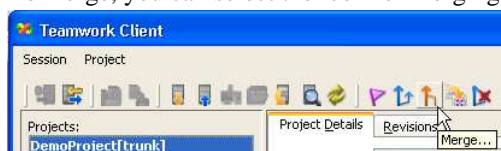


Figure 13.50 - Icon for merging

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.

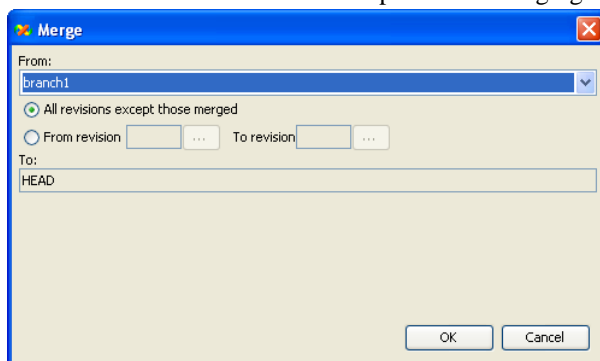


Figure 13.51 - Merge dialog box

The progress of merging is shown.

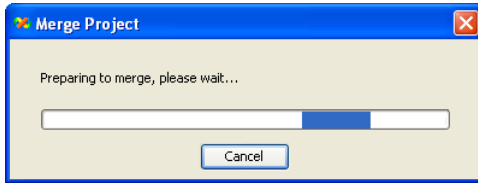


Figure 13.52 - Progress of merging

Then, a dialog box tells you what models and diagrams are going to be merged. You can click OK to confirm merging.

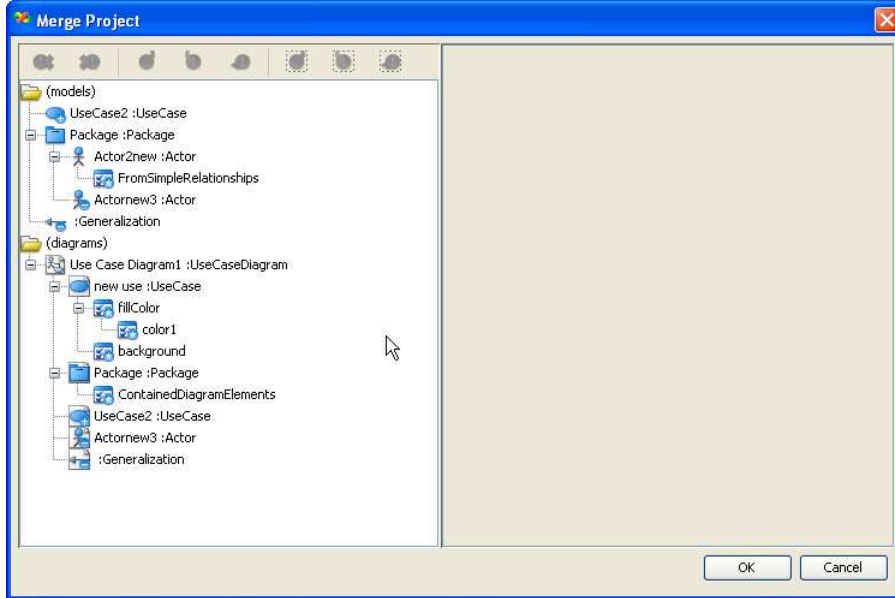


Figure 13.53 - Models and diagrams which are going to merge

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.

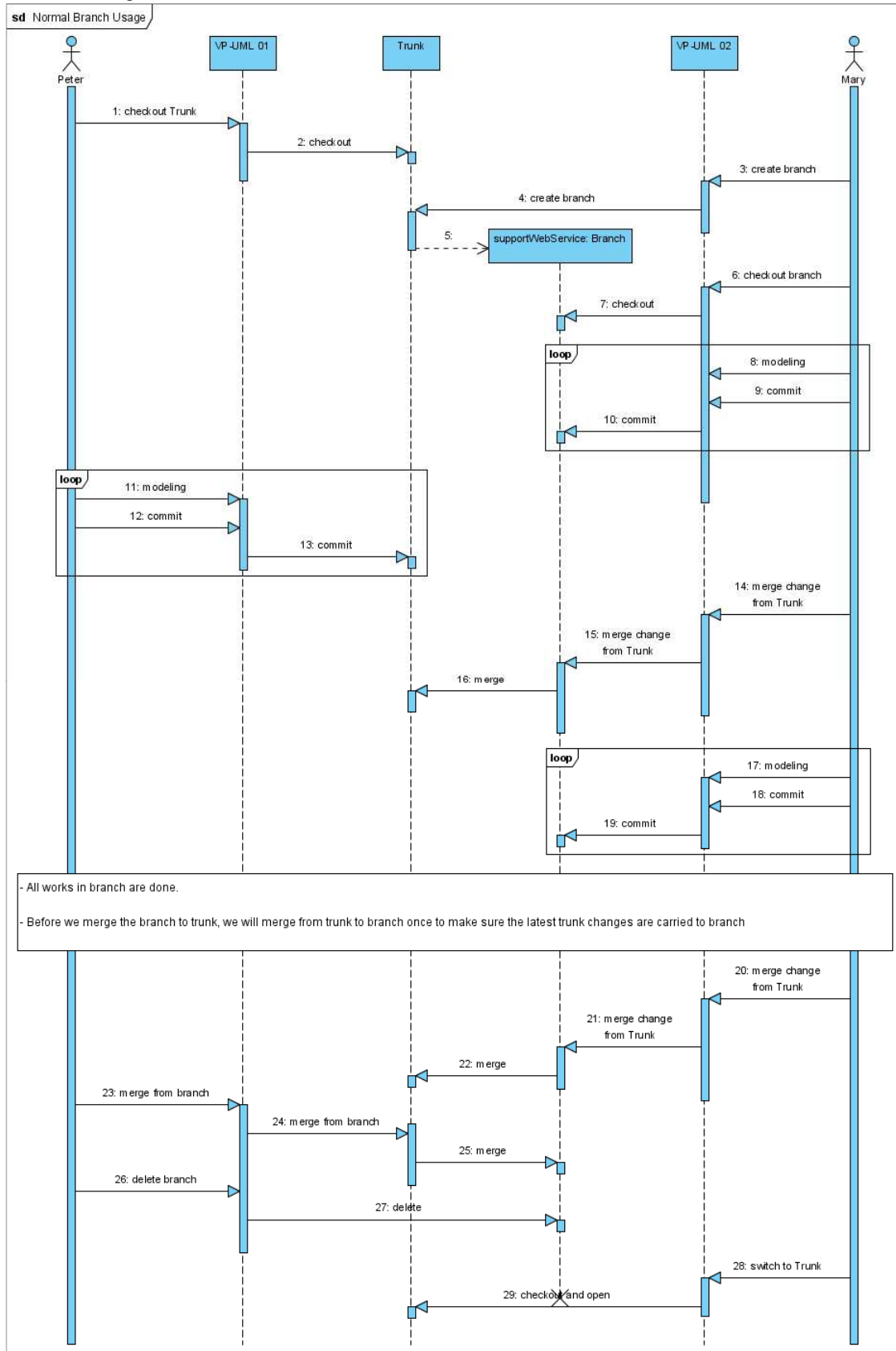


Figure 13.54 - Suggested branch usage

14

Team Collaboration with CVS Repository

Chapter 14 – Team Collaboration with CVS Repository

CVS is widely adopted version control and collaboration platform. With SDE-VS 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.

You can also right click on the project node of solution explorer and select **SDE-VS Project > Open Teamwork Client...**

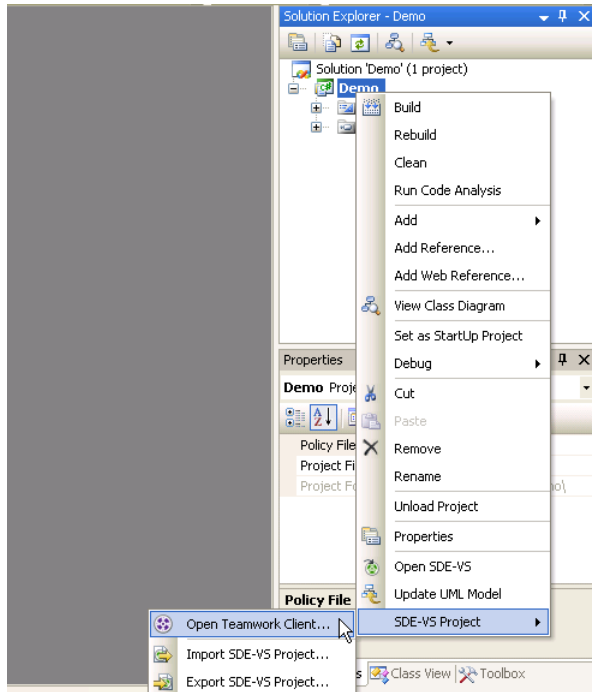


Figure 14.1 - Open Teamwork Client with project node

By using any one of these methods, the **Login to the Teamwork Server** dialog box will be displayed.

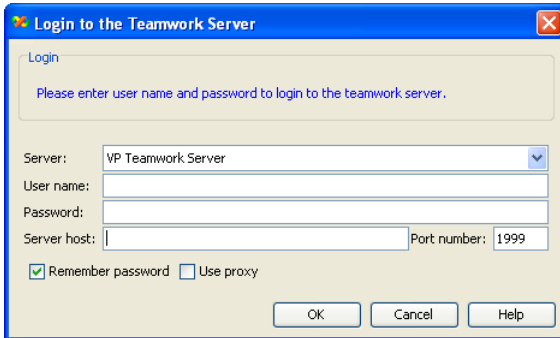


Figure 14.2 - Login to the Teamwork Server dialog box

You can select **CVS** as the server.

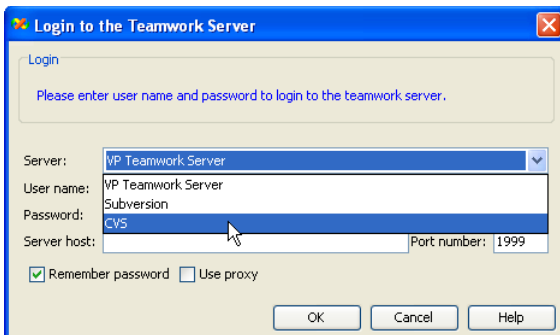


Figure 14.3- Login to the Teamwork Server dialog box

Configure the details of the server connection, then click **OK** to confirm.

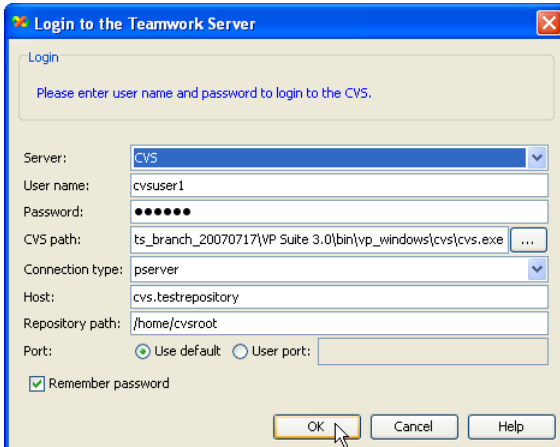


Figure 14.4 - Configure details of server connection

The Teamwork Client dialog box is opened.

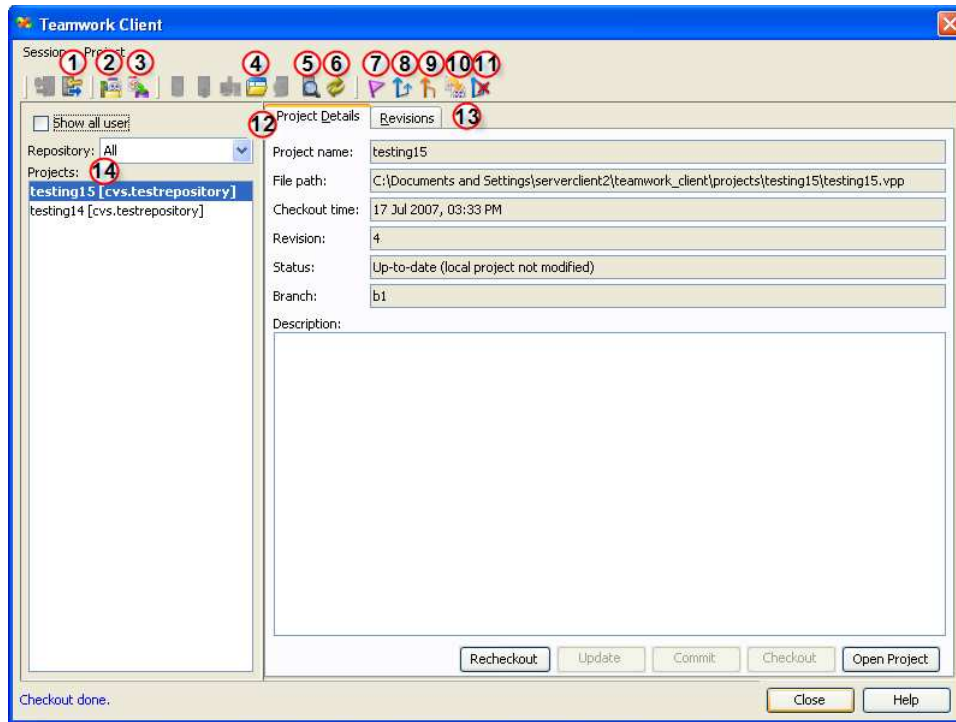


Figure 14.5 - Teamwork Client dialog box

	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.

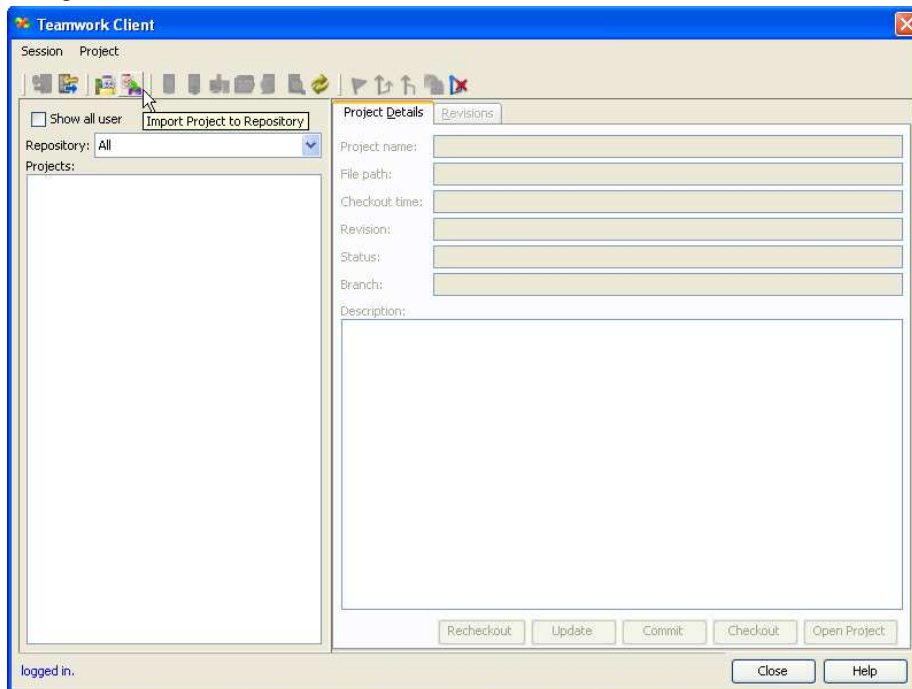


Figure 14.6 - Select Import Project to Repository

The **Import Project** dialog box will be displayed. You can edit the project name and the type of project file you want to import.

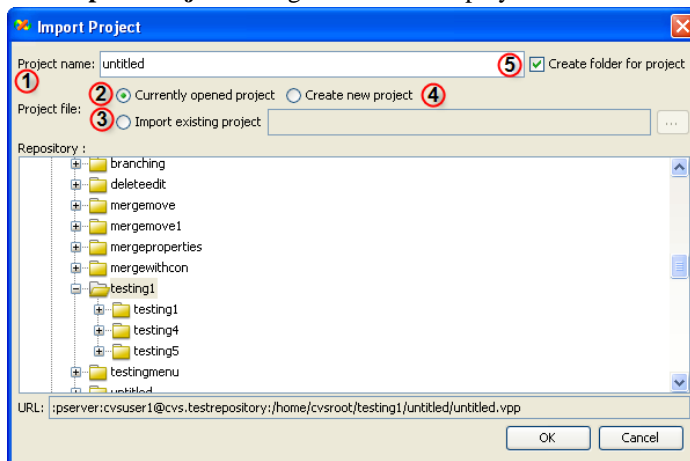


Figure 14.7 - Import Project dialog box

	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.

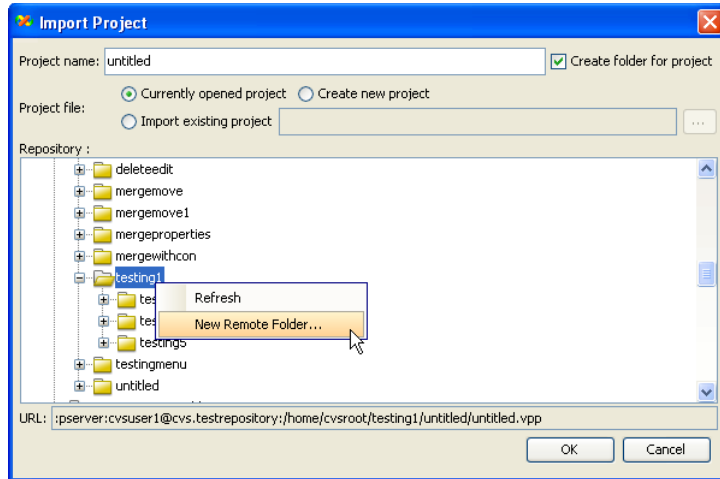


Figure 14.8 - Open a new remote folder

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.

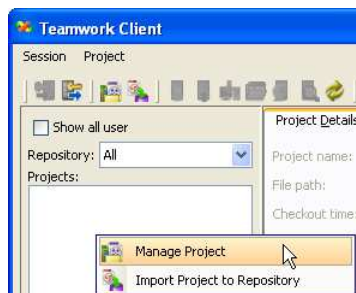



Figure 14.9 - Select Manage Project

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**.

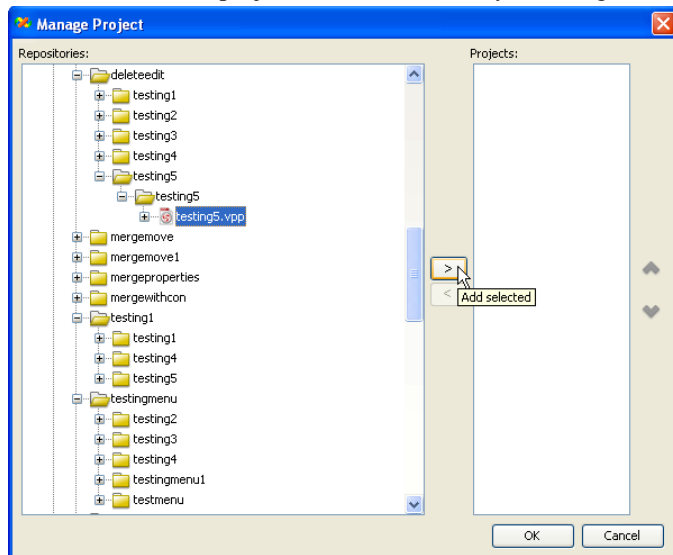



Figure 14.10 - Manage Project dialog box

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.

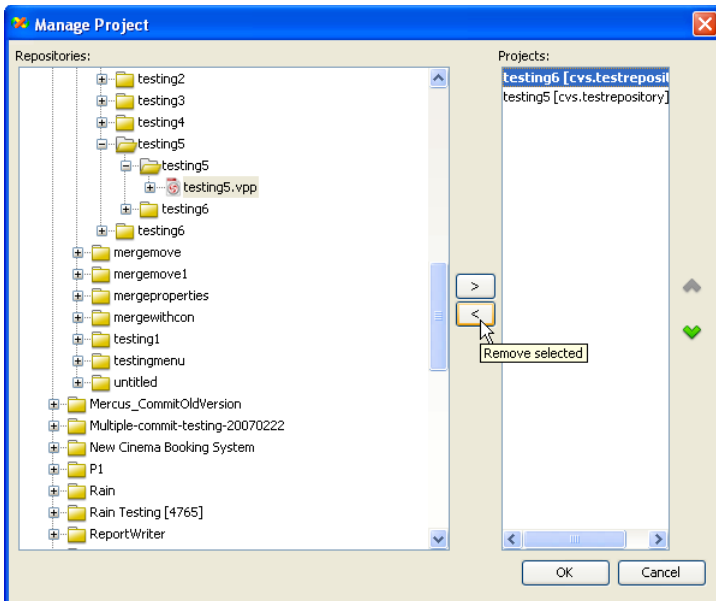


Figure 14.11 - Remove selected project

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'.

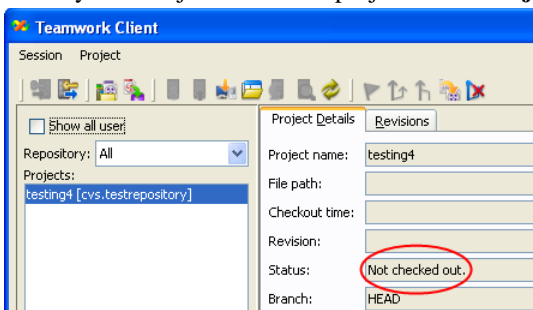


Figure 14.12 - Project not checked out

Clicking **Open Project** will checkout the project and open it immediately.

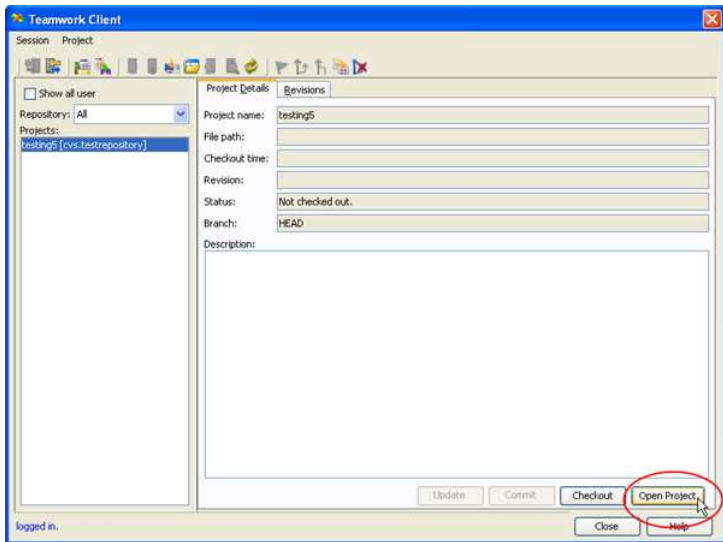


Figure 14.13 - Open the project

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.

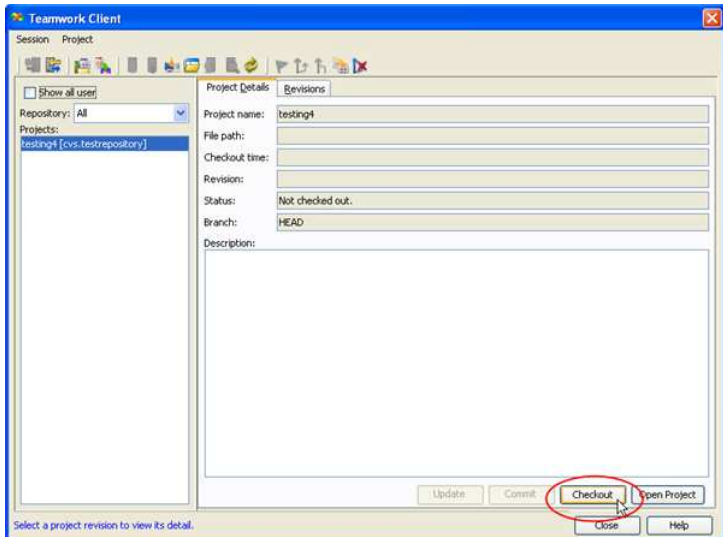


Figure 14.14 - Checkout the project

The status of the project is now changed and the project has been checked out successfully.

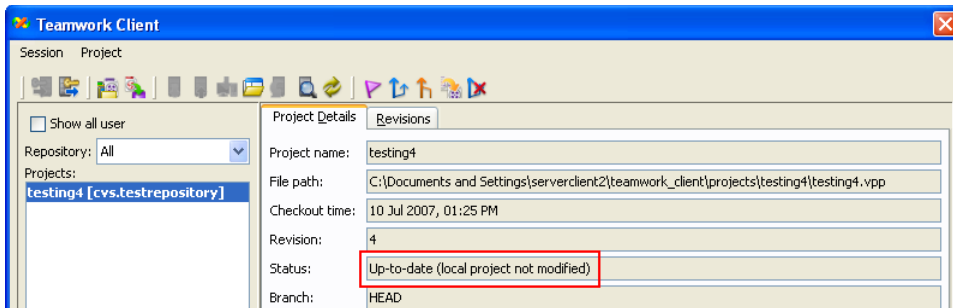


Figure 14.15 - Project checked out

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.

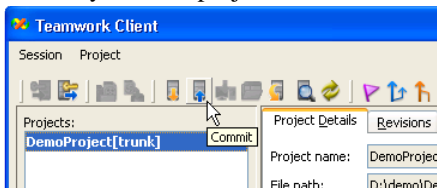


Figure 14.16 - Commit project

A **Commit Project** dialog box will show you the committing progress.

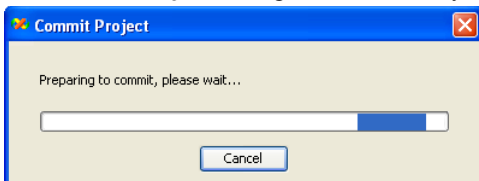


Figure 14.17 - Commit project dialog box

A dialog box will be displayed and you may enter a description of the changes. Click **OK**.

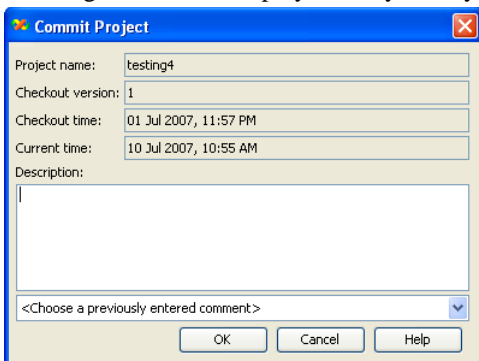


Figure 14.18 - Enter description of commit change

A **Commit Model(s)** dialog box shows the models you have modified. Click **OK** to commit.

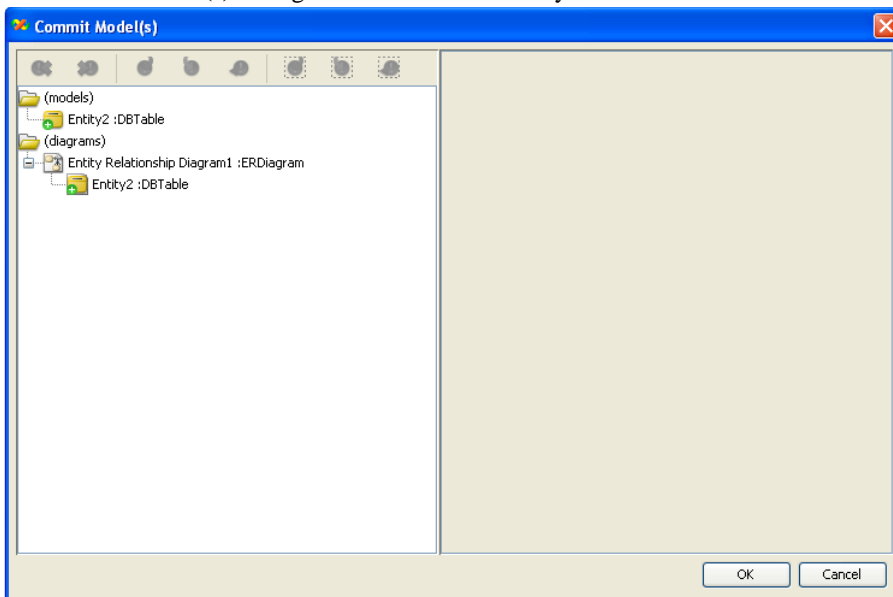


Figure 14.19 - Commit Model(s) dialog box

Sometimes, you may encounter conflict when committing models.

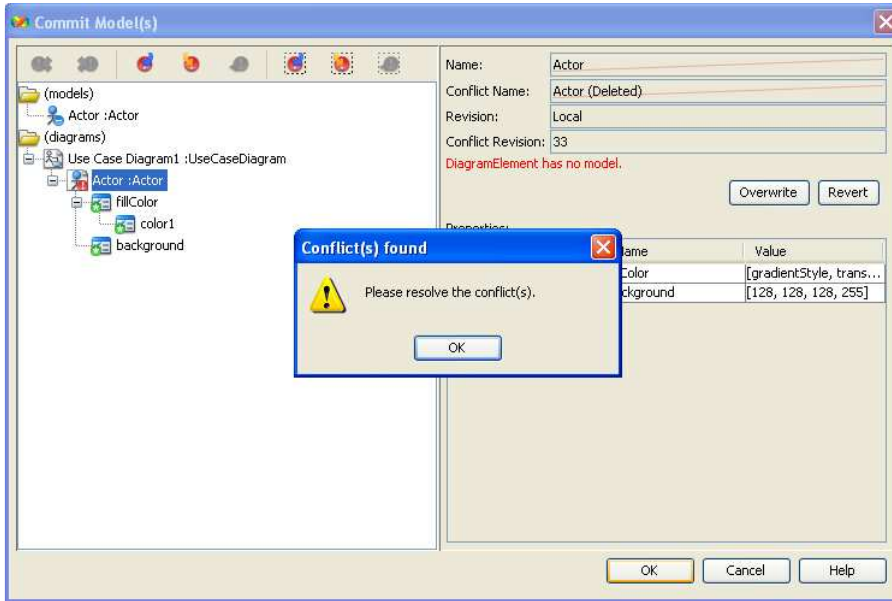


Figure 14.20 - Commit with conflict

You can choose to revert or overwrite to solve. For more details, please refer to the section 'Resolving Conflict'.

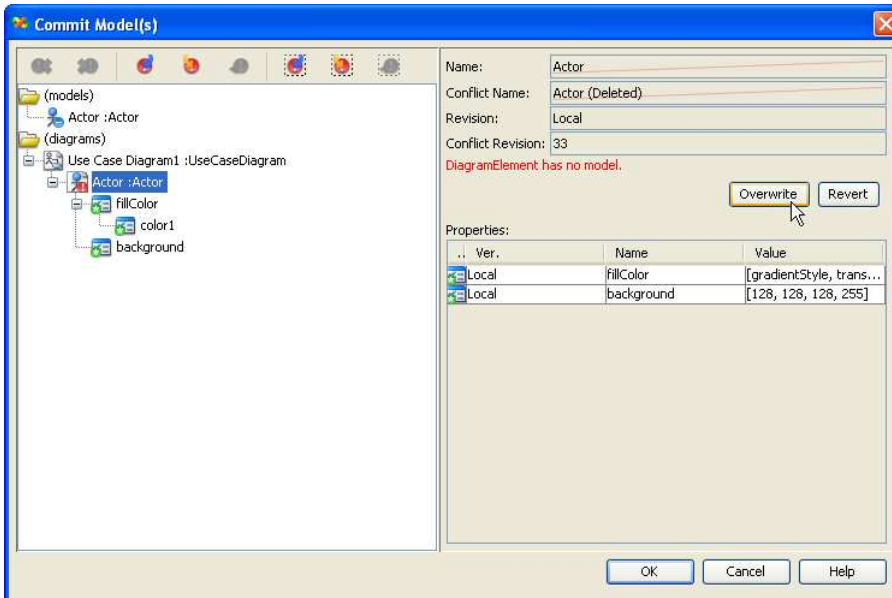


Figure 14.21 - Select overwrite or revert

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 the project. To update a project, click the icon for update in the toolbar.



Figure 14.22 - Update project

Update Model(s) dialog box is displayed. The models changed by others are shown. Click OK to update.

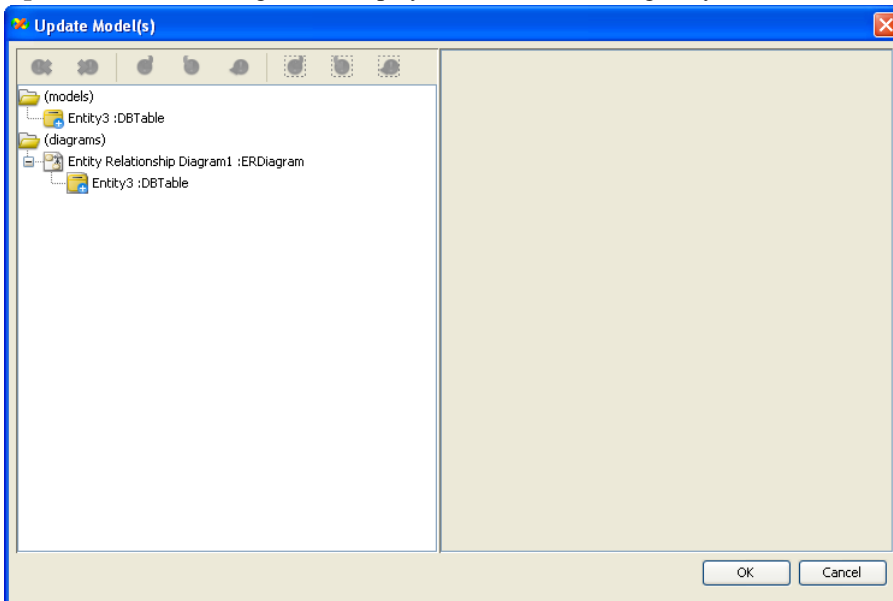


Figure 14.23 - Update Model(s) dialog box

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.

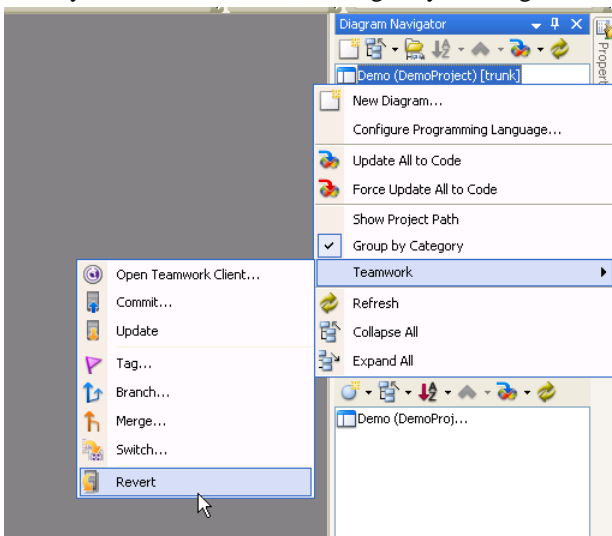


Figure 14.24 - Revert project

A dialog box will show and ask if you want to revert. Click **Yes** to confirm and the project will be reverted.

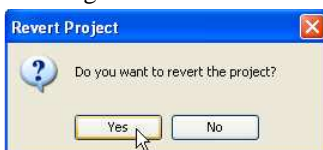


Figure 14.25 - Confirm revert project

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.

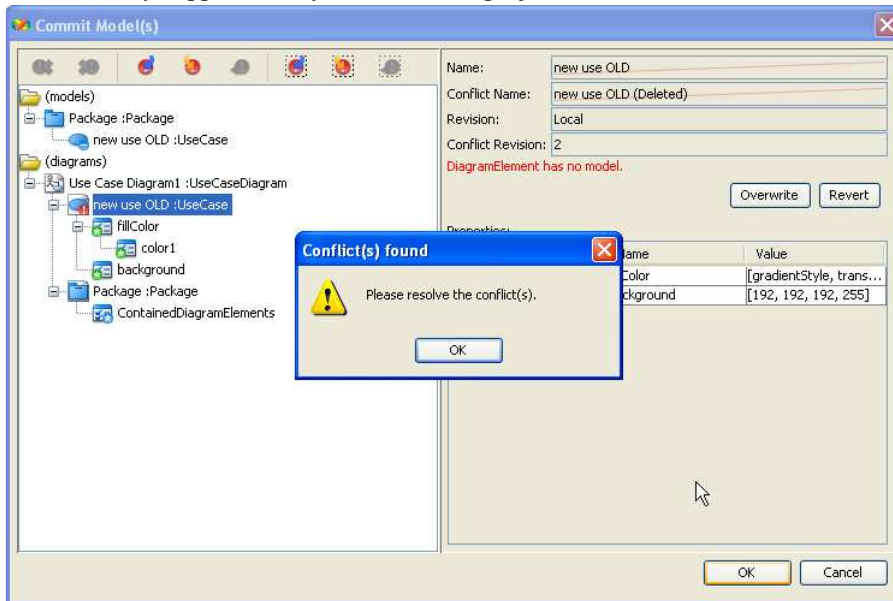


Figure 14.26 - Conflict found in merging

Conflict may also happen when you update your project.

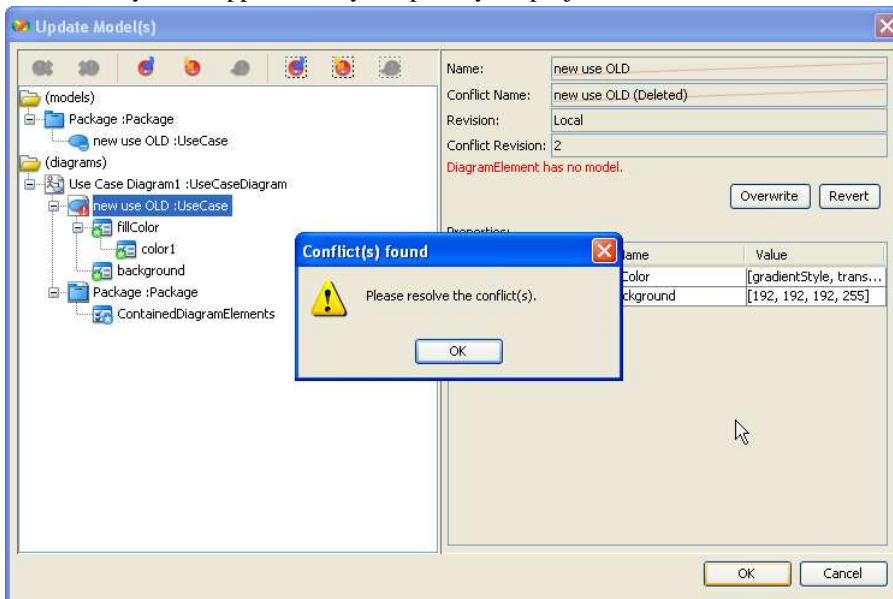


Figure 14.27 - Conflict found in updating

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.

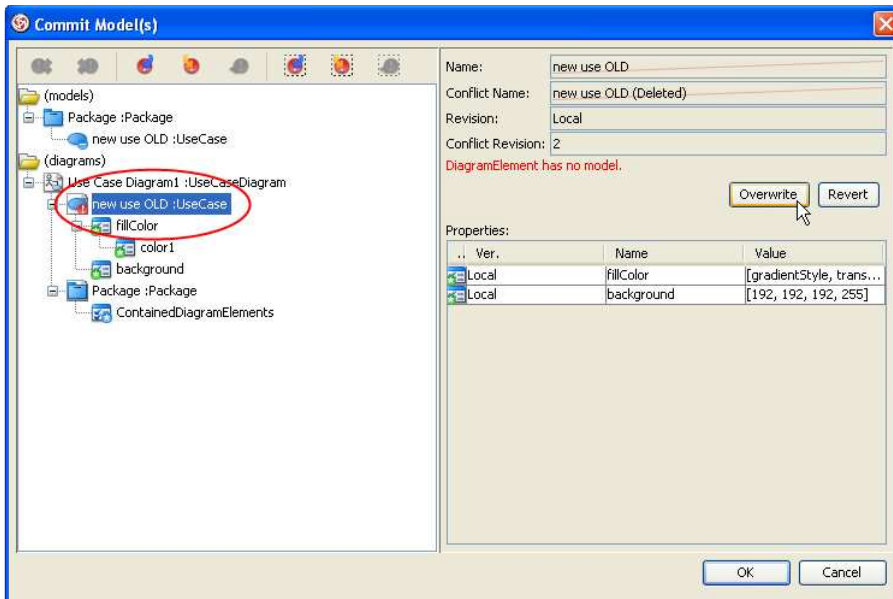


Figure 14.28 - Solving conflict

Viewing Revision History

From time to time, there may be a lot of changes made by you and your teammates. In SDE-VS, 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.

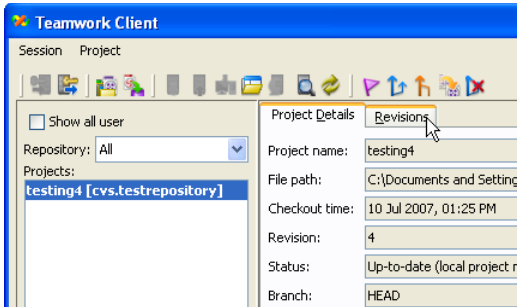


Figure 14.29 - Select Revisions

You can see the different revisions of the project.

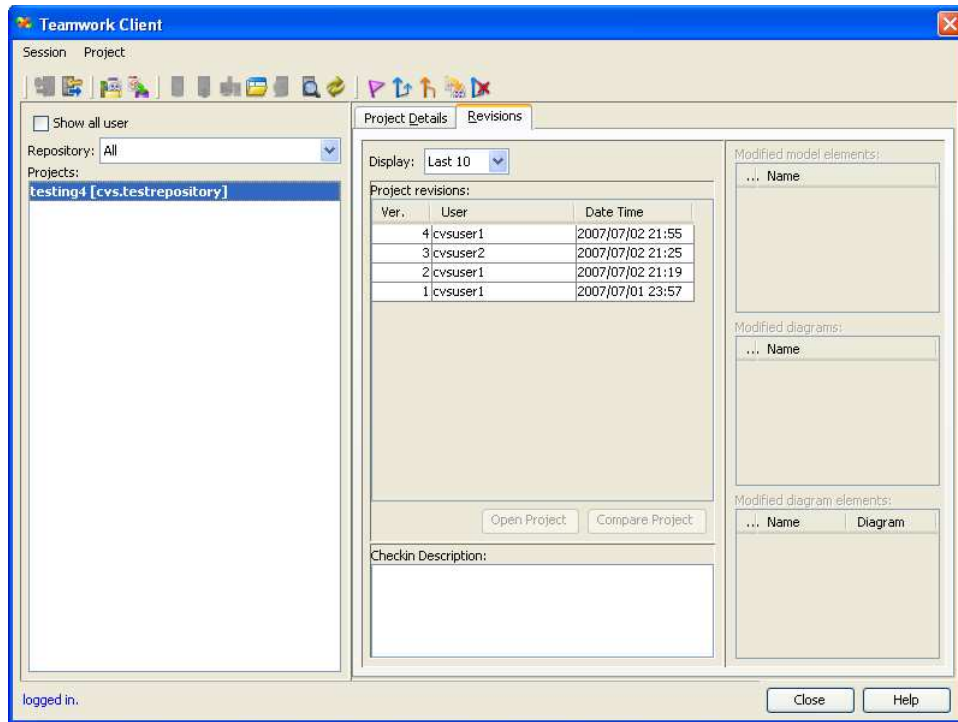


Figure 14.30 - Different revisions of the project

You can see the model, diagram and diagram elements modified in that version. You can also see the check in description in that version.

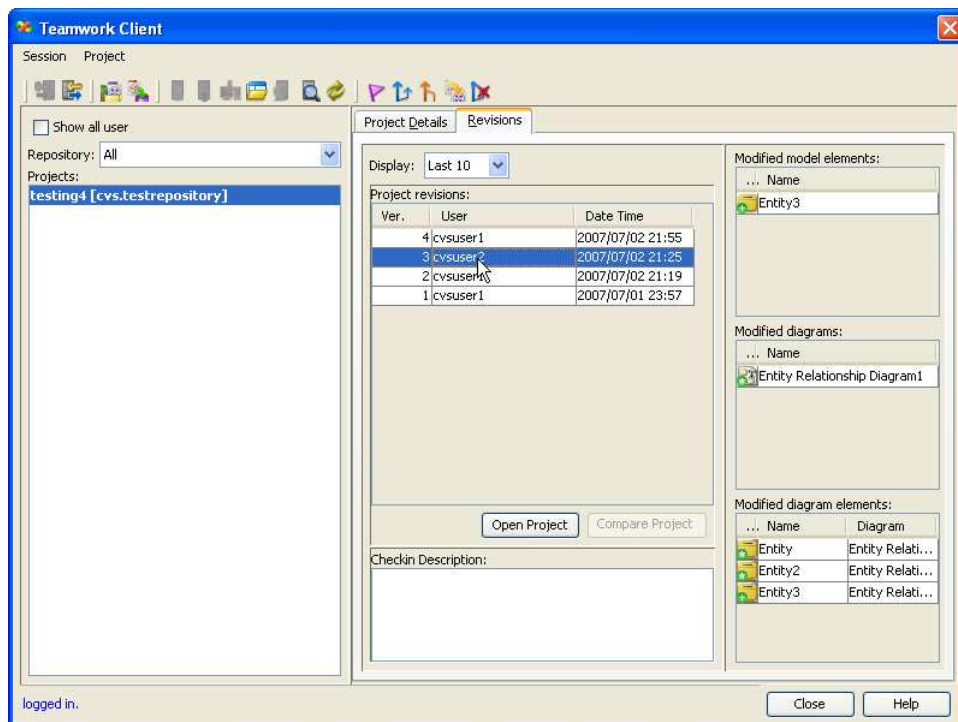


Figure 14.31 - Changes of different revisions

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, select a revision and click **Open Project**.

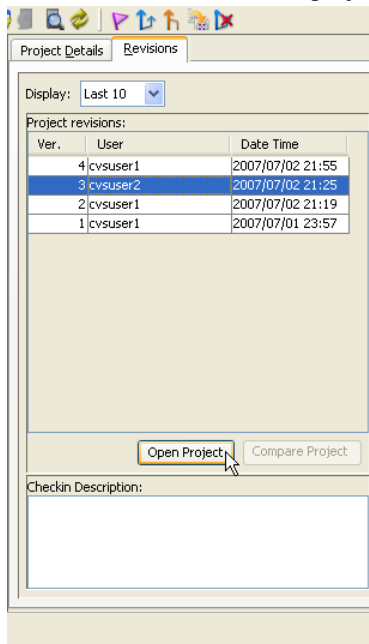


Figure 14.32- Check out old revision

Comparing Between Revisions

To see the differences between different revisions in SDE-VS, select a revision.

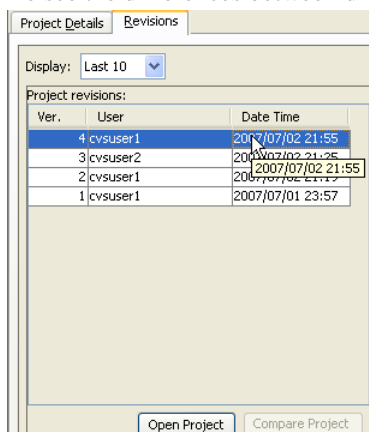


Figure 14.33 - Select one revision

Then press *Ctrl* and click on the revision you want to compare with.

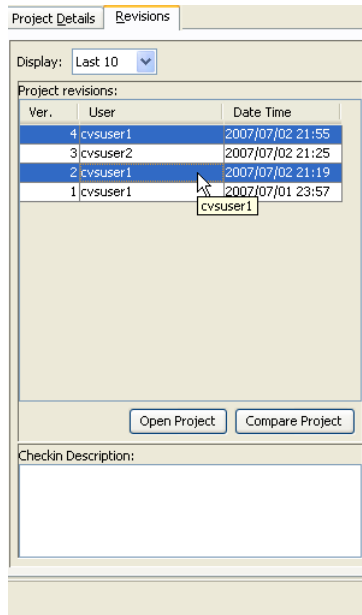


Figure 14.34 - Select another revision

Click **Compare Project** to compare.

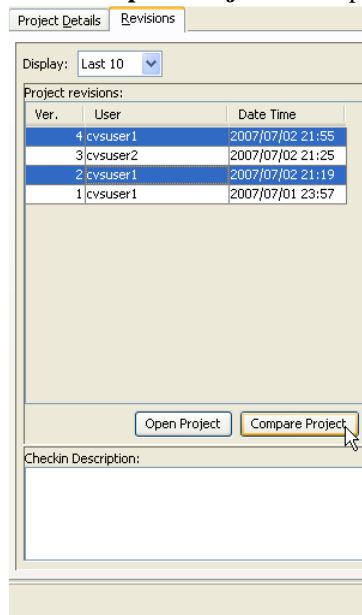


Figure 14.35 - Select Compare Project

A **Compare Projects from revision** dialog box will appear and show you the differences between your selected revisions.

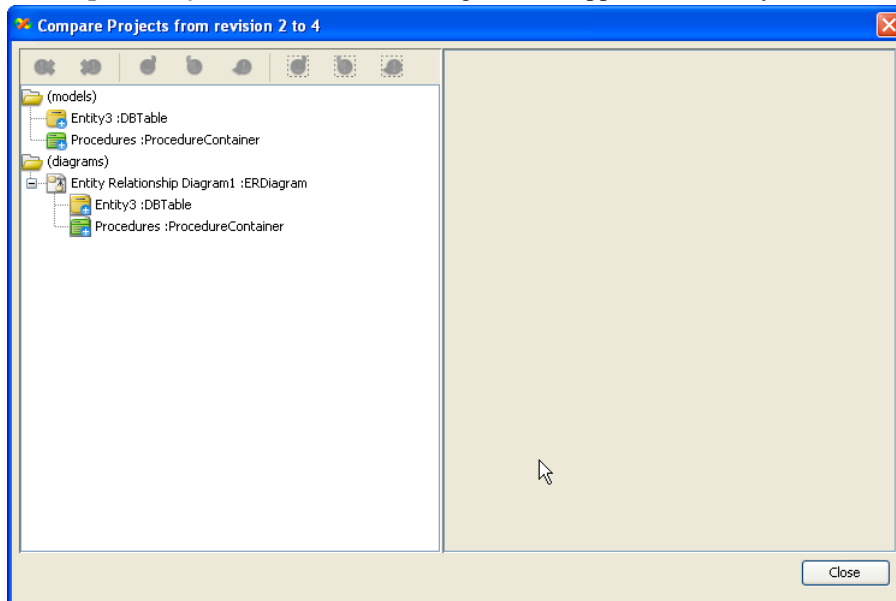


Figure 14.36 - Compare Project dialog box

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.

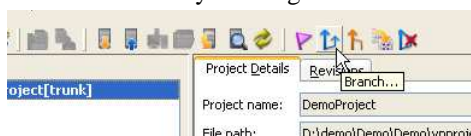


Figure 14.37 Select branch

The **Create Branch** dialog box is displayed. Enter the name of branch you want to create.

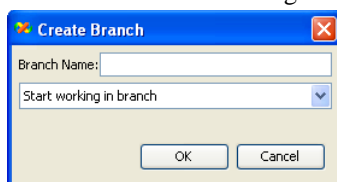


Figure 14.38 - Create Branch dialog box

Then, select a status of branch from the drop-down menu.

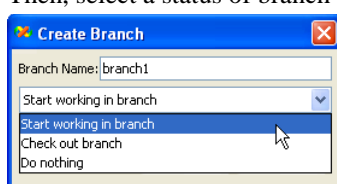


Figure 14.39 - Select from drop-down menu

Click OK to confirm creating the branch.

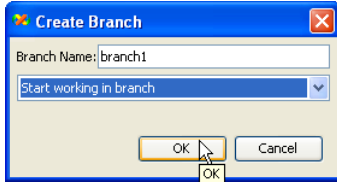


Figure 14.40 - Confirm creating branch

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.

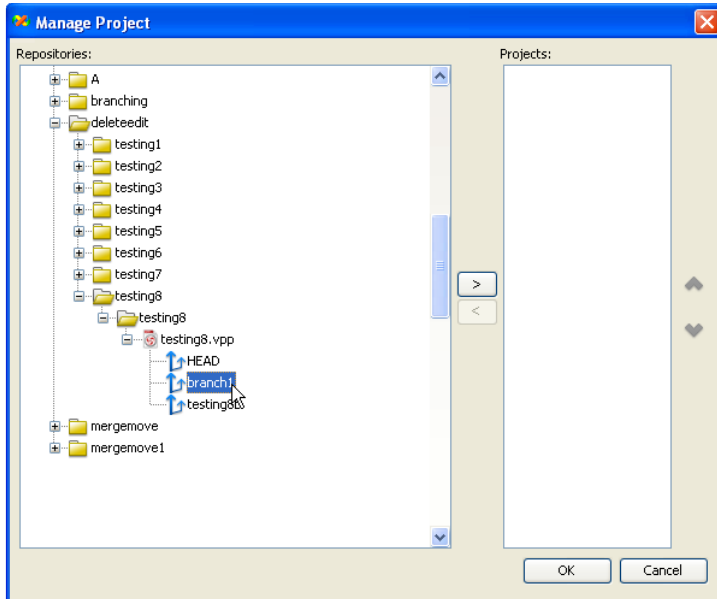



Figure 14.41 - Manage project dialog box

Click **Add selected**  to add the branch to your **Projects** list.

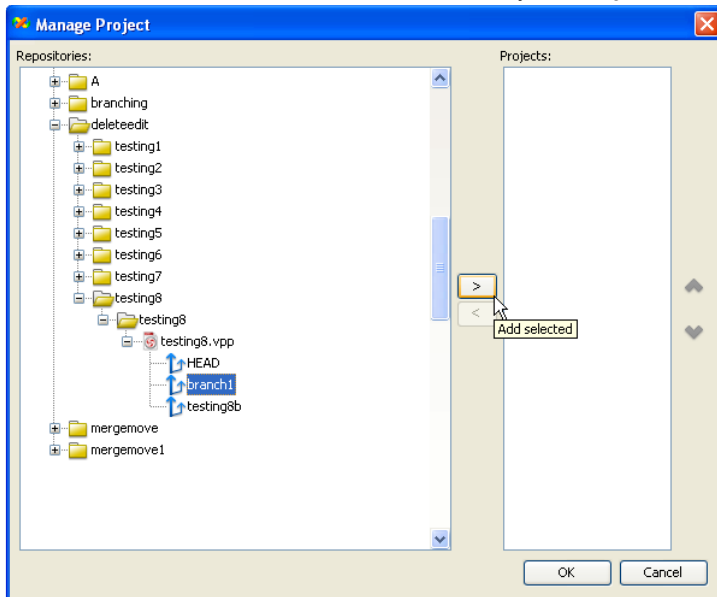


Figure 14.42 - Add selected branch

You can also click **Remove selected**  to remove the branch from the **Projects** list.

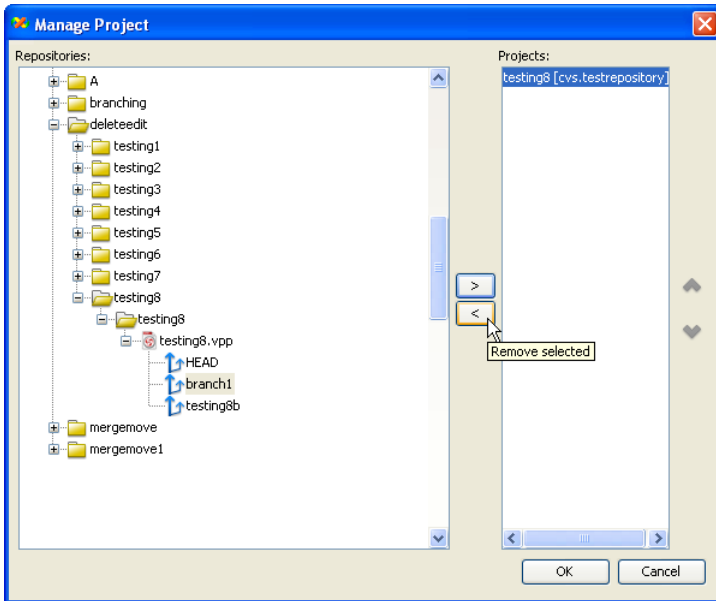


Figure 14.43 - Remove selected branch

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.

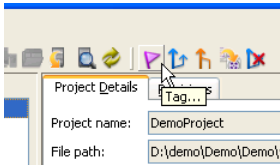


Figure 14.44 - Select Tag...

Then, edit the name of tag in **Create Tag** dialog box.

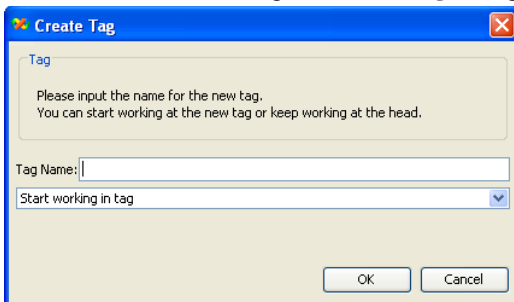


Figure 14.45 - Create Tag dialog box

Next, you can select the status after creating tag from the drop-down menu.

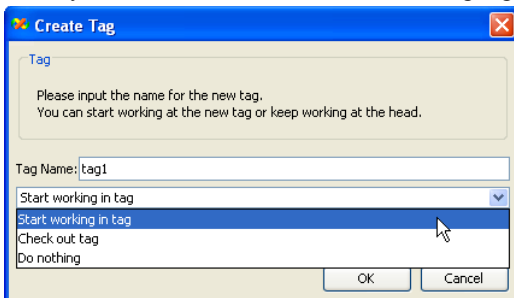


Figure 14.46 - Select the status after creating tag

After you have select **OK**, a message will show you that tag has been created.



Figure 14.47 - 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.

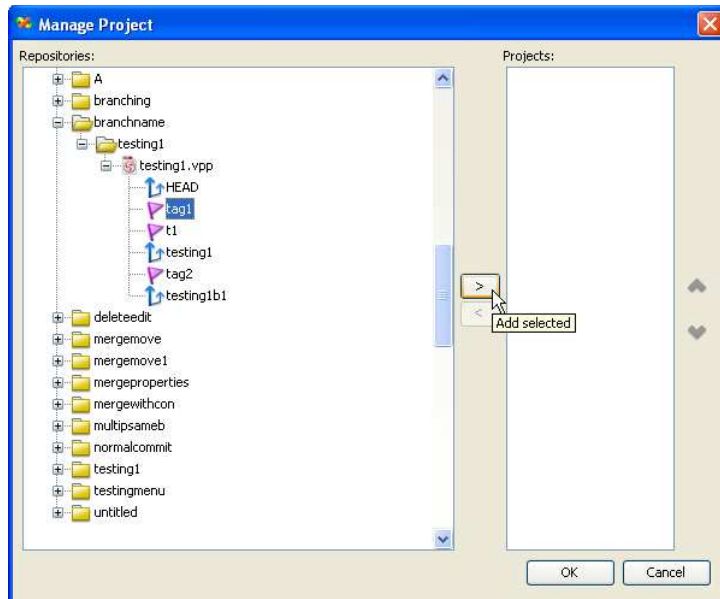


Figure 14.48 - Add selected project

You may remove the tag from **Projects** list by click **Remove selected**.

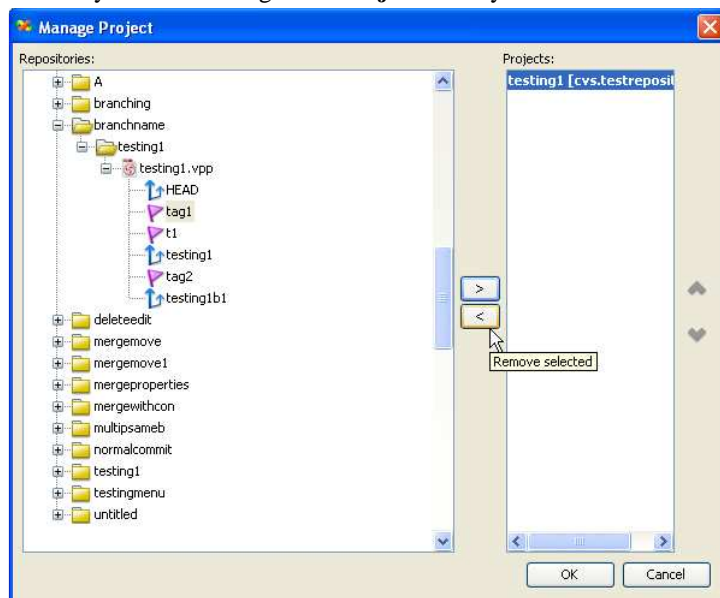


Figure 14.49 - Select Remove selected

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.

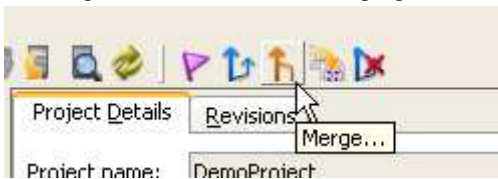


Figure 14.50 - Icon for merging

The **Merge** dialog box is displayed. Select a branch to merge to, and select the revision you want to merge.

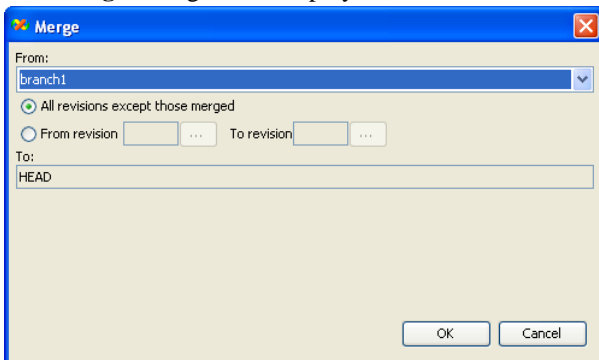


Figure 14.51 - Merge dialog box

The progress of merging is shown.

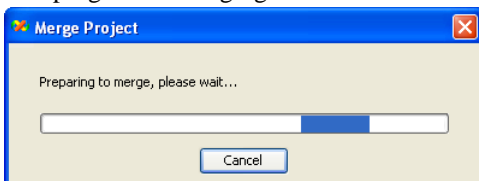


Figure 14.52 - Progress of merging

Then, a dialog box tells you what models and diagrams are going to be merged. Click OK to confirm the merge.

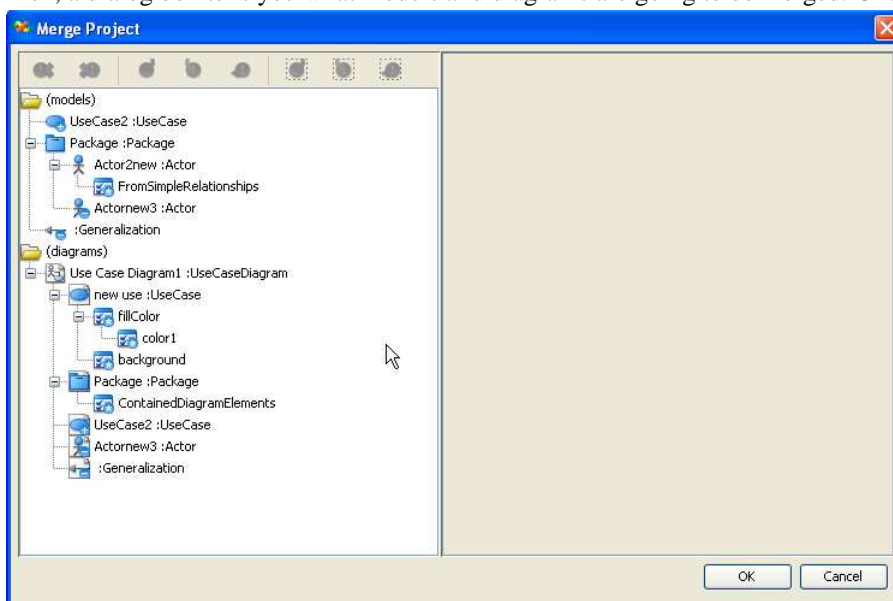


Figure 14.53 - Models and diagrams which are going to merge

Suggested Branch Usage

This section will show you the suggested usage of the Branch with SDE-VS 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.

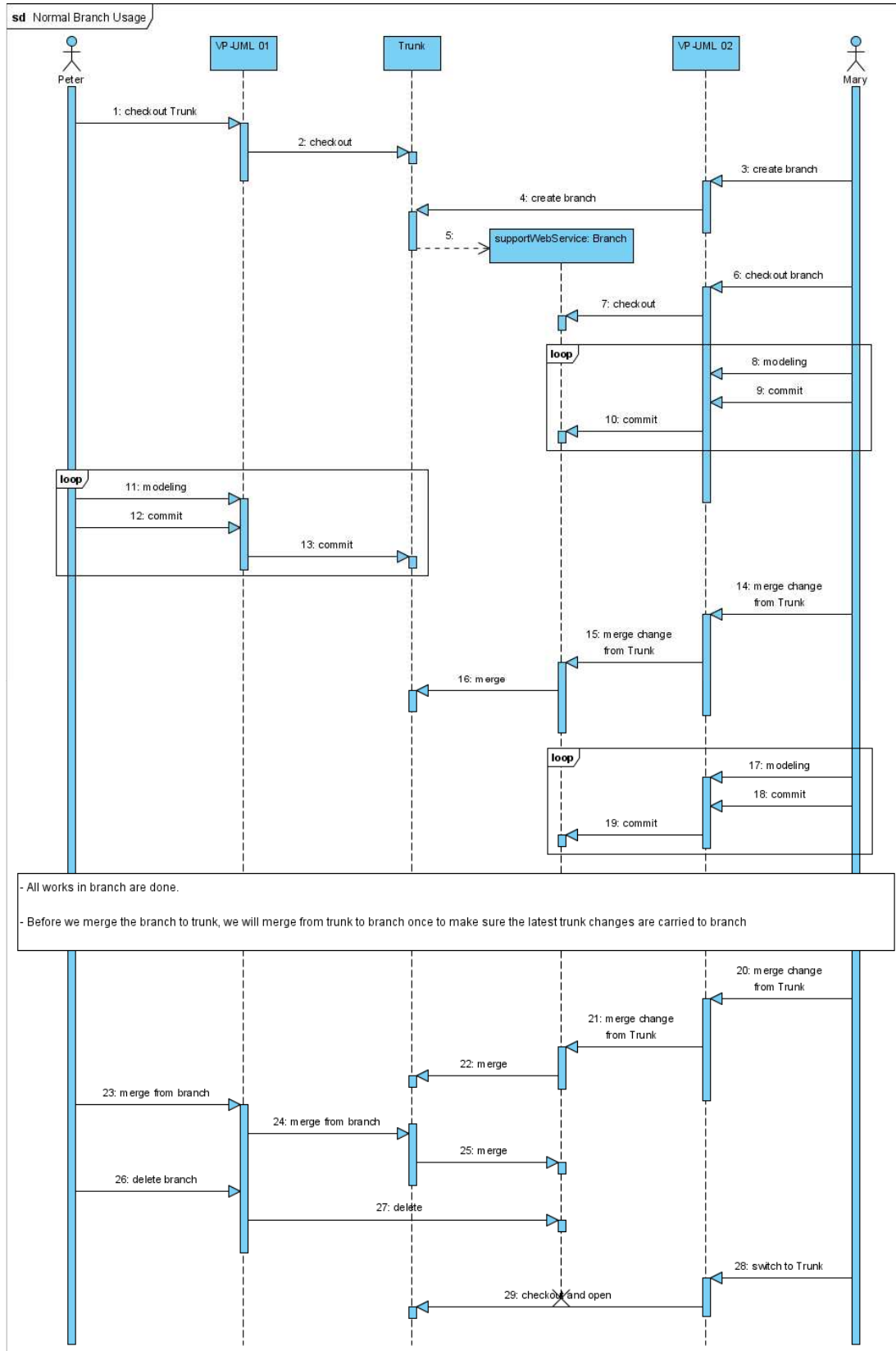


Figure 14.54 - Suggested branch usage

15

Team Collaboration with Subversion Repository

Chapter 15 - Team Collaboration with Subversion Repository

More and more development team adopt Subversion as version control and collaboration platform. With SDE-VS 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.

You can also right click on the project node of solution explorer and select **SDE-VS Project > Open Teamwork Client...** .

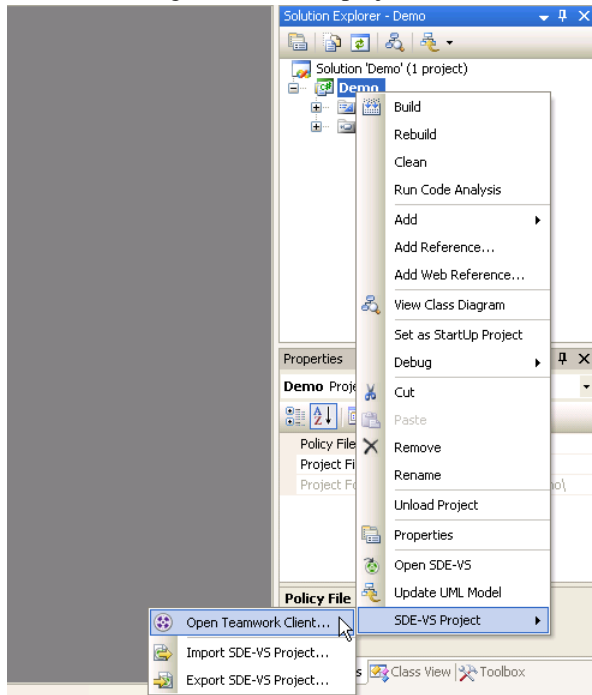


Figure 15.1 - Open Teamwork Client with project node

By using any one of these methods, the **Login to the Teamwork Server** dialog box is displayed.

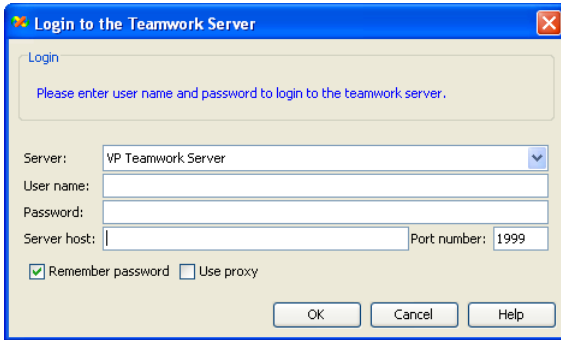


Figure 15.2 - Login to the Teamwork Server dialog box

You can select **Subversion** as server.

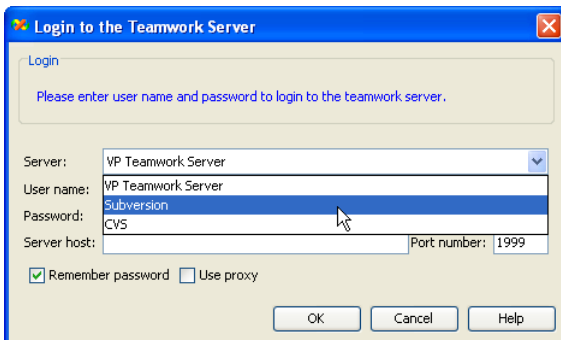


Figure 15.3 - Select subversion as server

Then, configure the details of server connection. Then click **OK** to confirm.

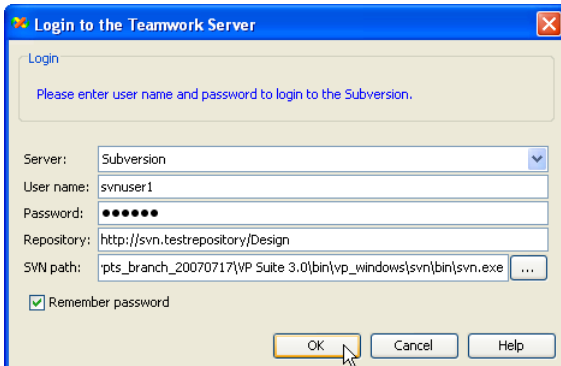


Figure 15.4 - Configure details of server connection

Teamwork Client dialog box is opened.

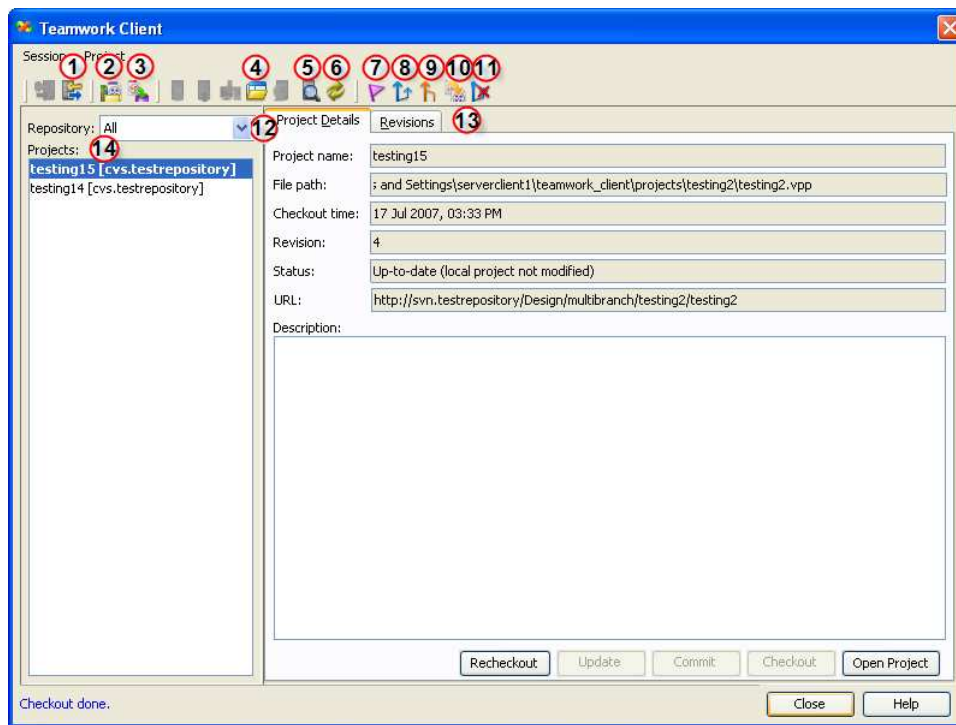


Figure 15.5 - Teamwork Client dialog box

	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.

Table 15.1

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.

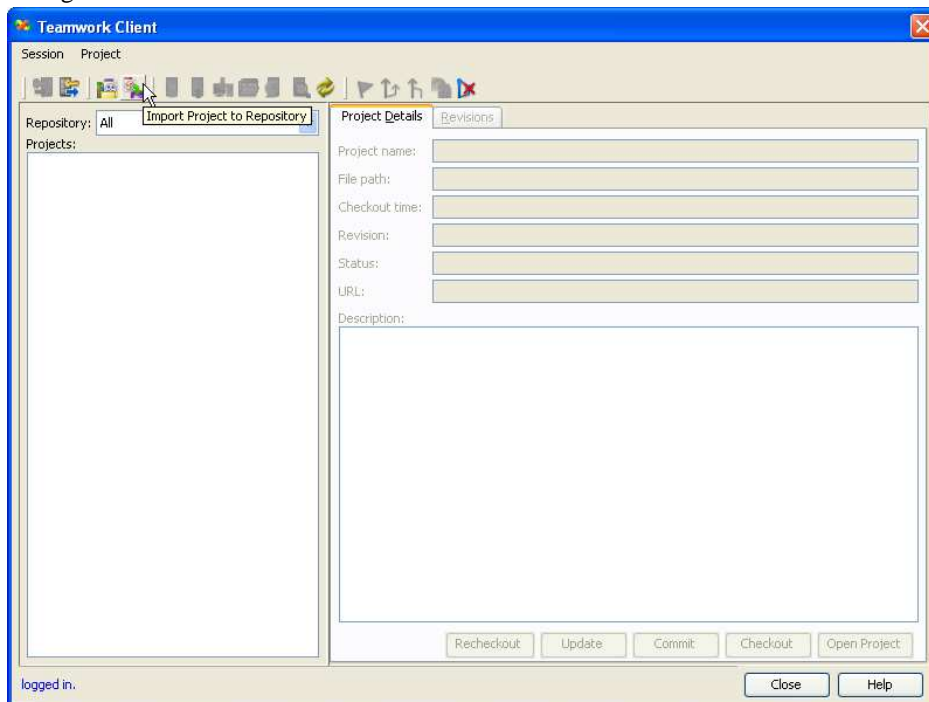


Figure 15.6 - Select Import Project to Repository

Import Project dialog box will be displayed. You can edit the project name and the type of project file you want to import.

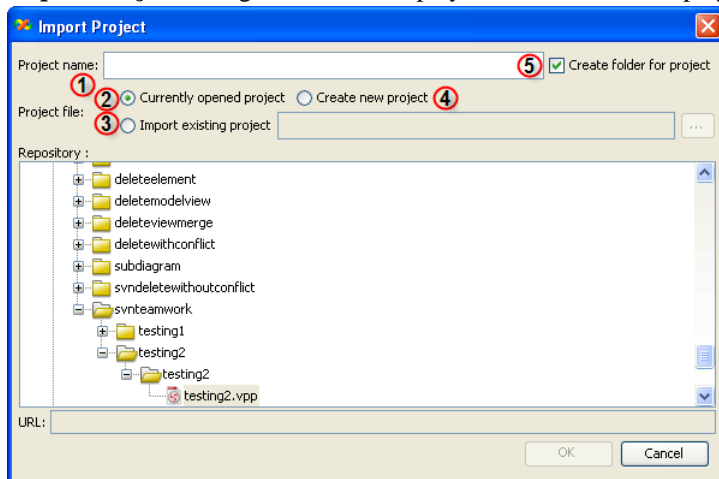


Figure 15.7 - Import Project dialog box

	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 15.2

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.

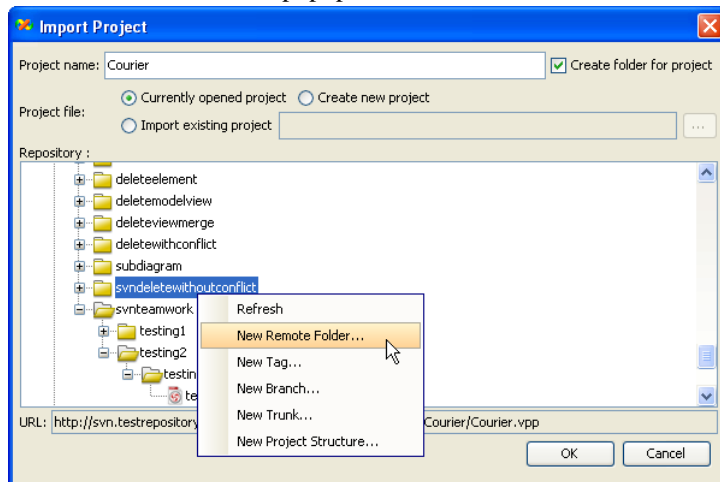


Figure 15.8 - Open a new remote folder

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.

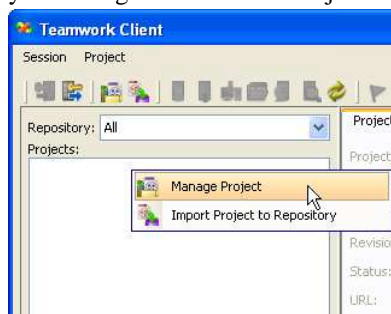



Figure 15.9 - Select Manage Project

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**.

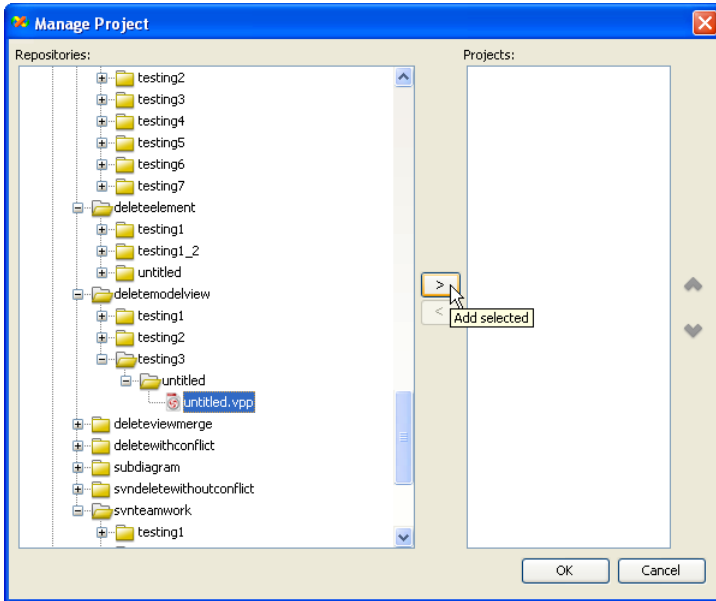


Figure 15.10 - Manage Project dialog box

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.

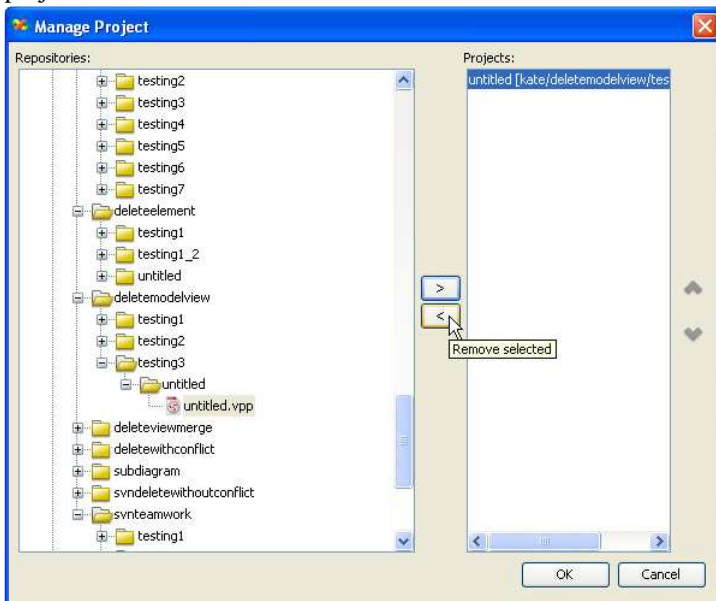


Figure 15.11 - Remove selected project

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**'.

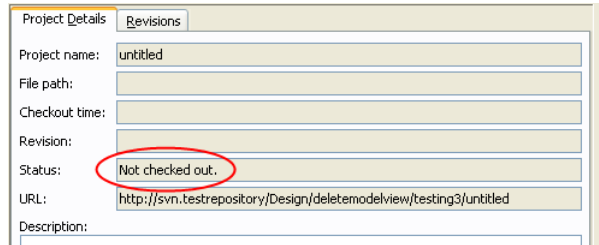


Figure 15.12 - Project not checked out

You click **Open Project**, you can checkout the project and open it immediately.

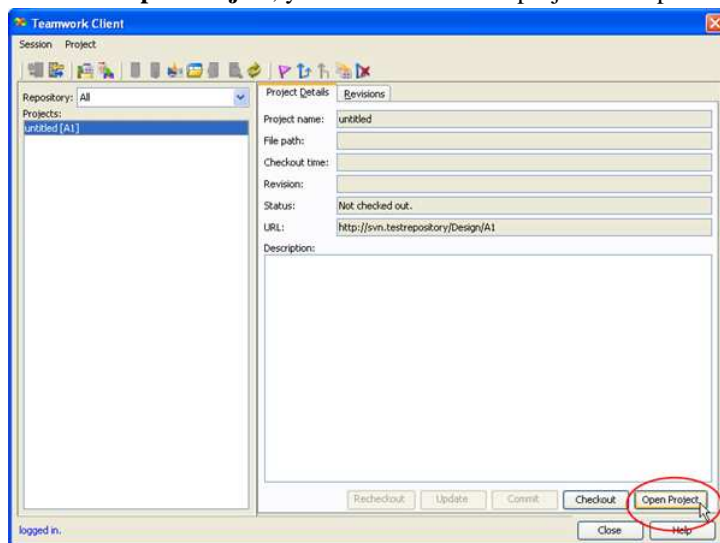


Figure 15.13 - Open the project

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.

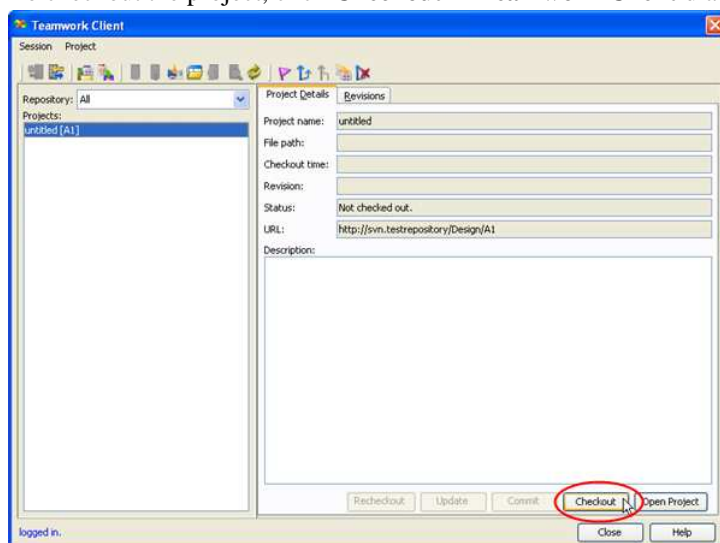


Figure 15.14 - Checkout the project

The status of the project is changed and you have checked out the project successfully.

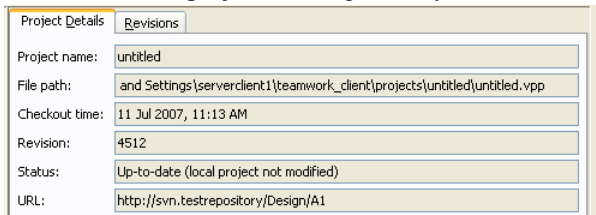


Figure 15.15 - Project checked out

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.

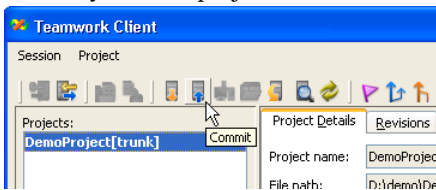


Figure 15.16- Commit project

A **Commit Project** dialog box will show you the progress of commit.

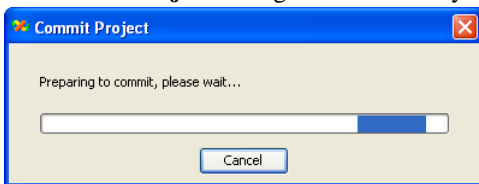


Figure 15.17 - Commit project dialog box

A dialog box will be displayed and you may enter a description of the changes. Then, click **OK**.

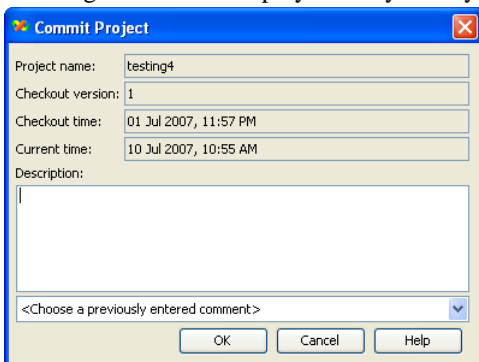


Figure 15.18 - Enter description of commit change

A **Commit Model(s)** dialog box shows the models you have modified. You can click **OK** to commit.

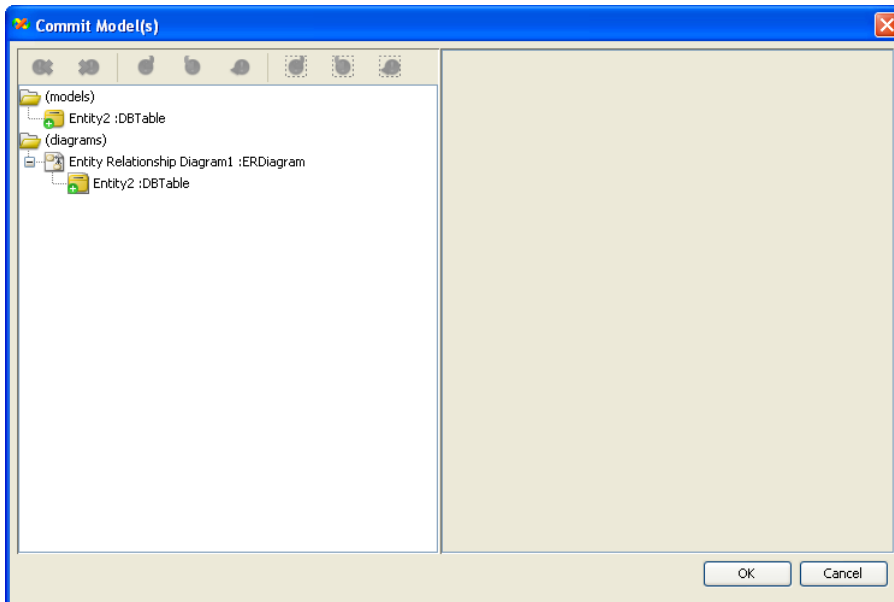


Figure 15.19 - Commit Model(s) dialog box

Sometimes, you may encounter conflict when committing models.

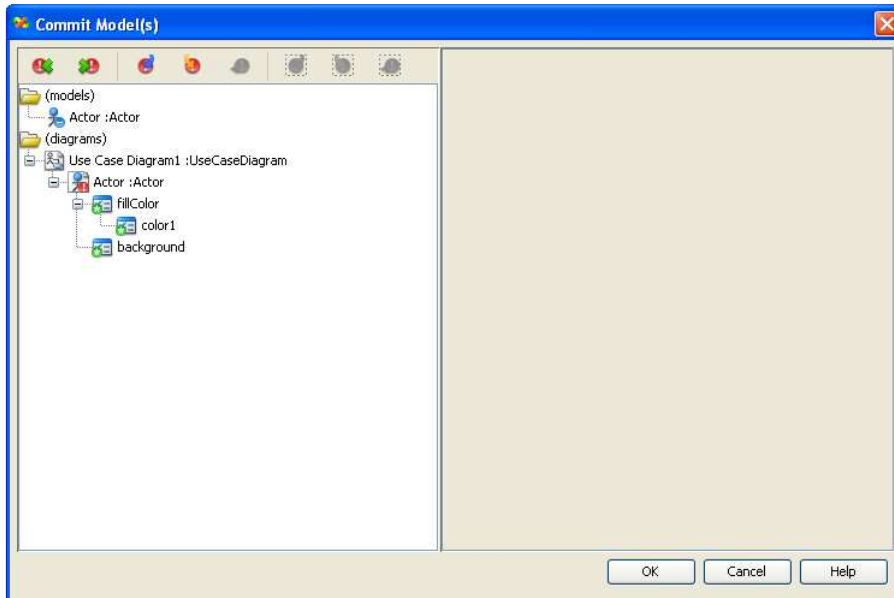


Figure 15.20 - Commit with conflict

You can choose to revert or overwrite to solve. For more details, please refer to the section 'Resolving Conflict'.

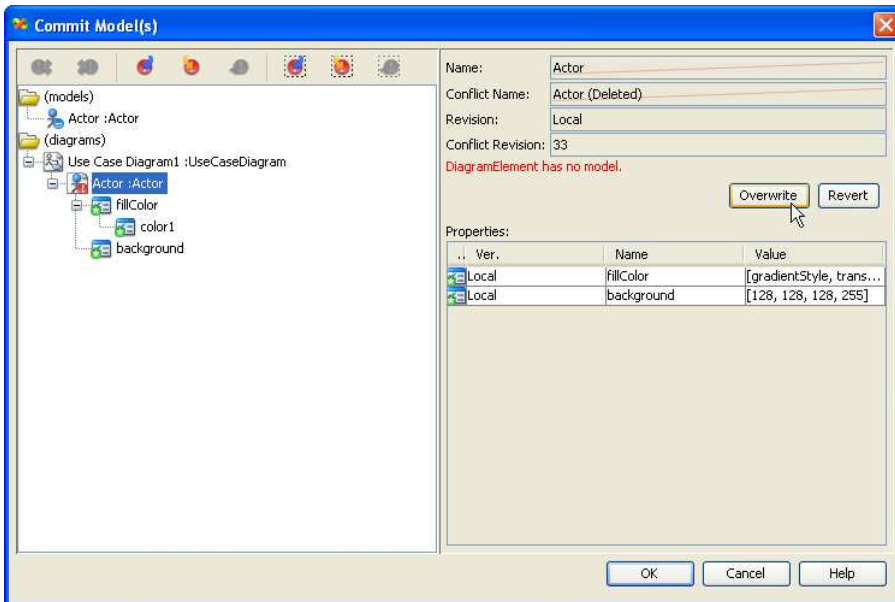


Figure 15.21 - Select overwrite or revert

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.

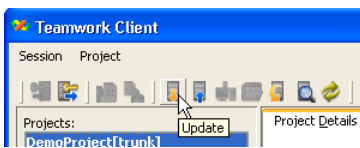


Figure 15.22 - Update project

Update Model(s) dialog box is displayed. The models changed by others are shown. You can click OK to update the models.

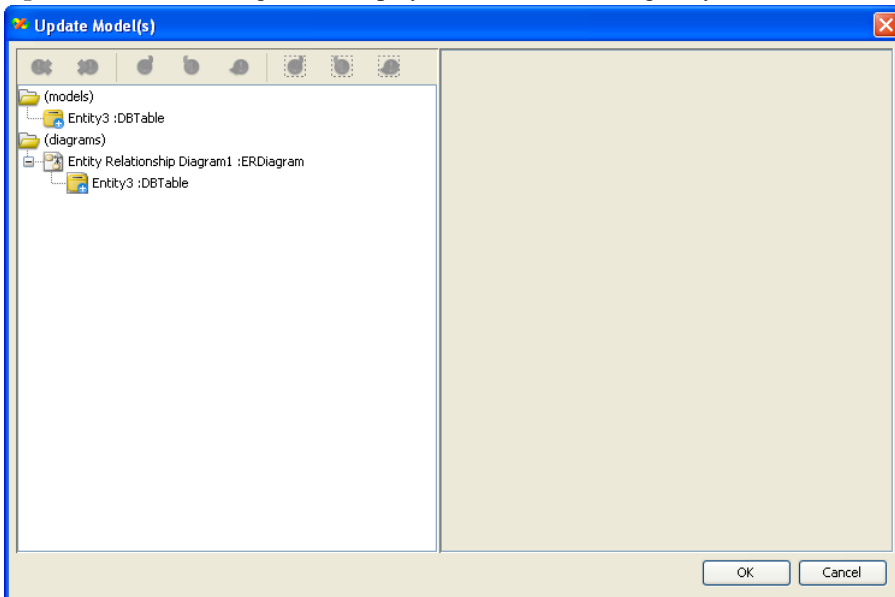


Figure 15.23 - Update Model(s) dialog box

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.

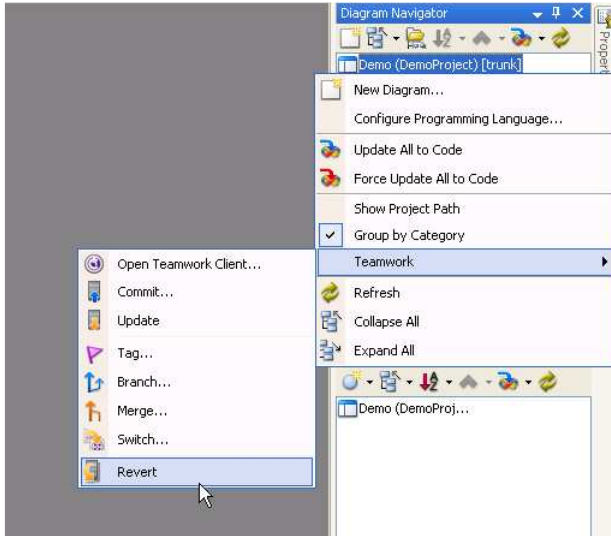


Figure 15.24 - Revert project

A dialog box will show and ask if you want to revert. Click **Yes** to confirm and the project is reverted.



Figure 15.25 - 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.

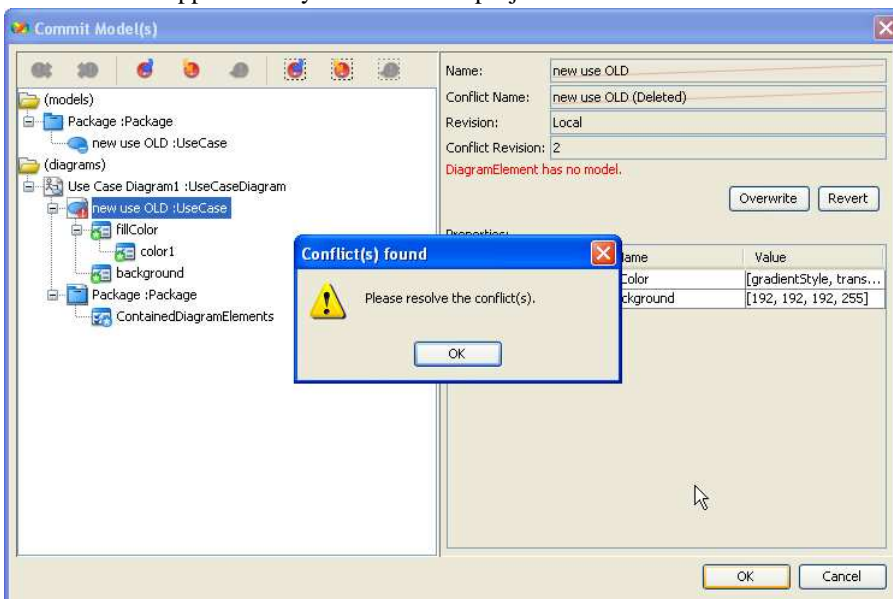


Figure 15.26 - Conflict found in merging

Conflict may also happen when you update your project.

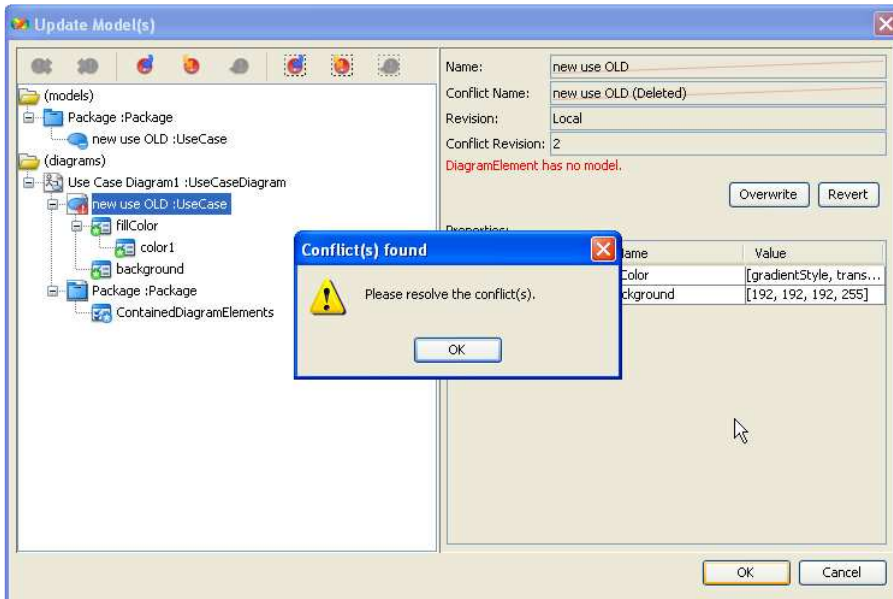


Figure 15.27 - Conflict found in updating

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.

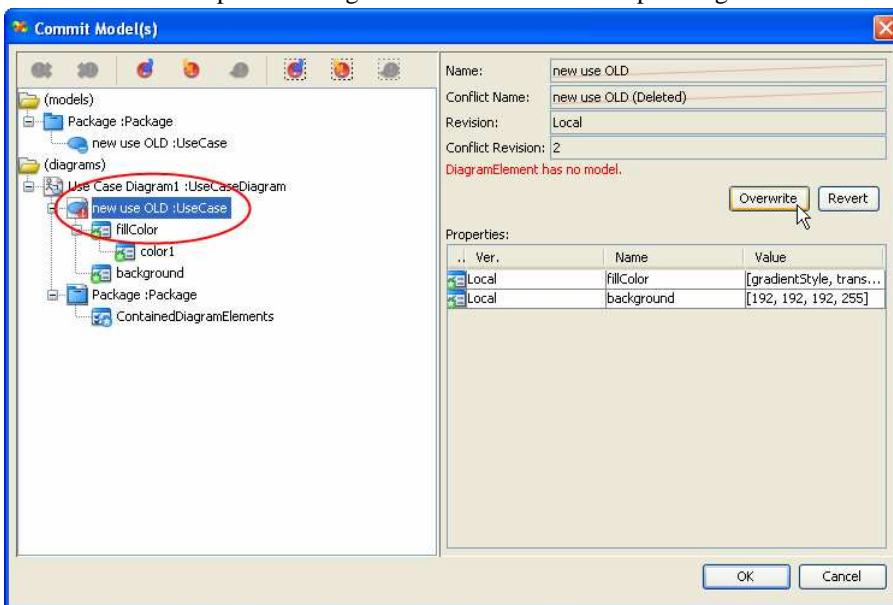


Figure 15.28 - Solving conflict

Viewing Revision History

From time to time, there may be a lot of changes made by you and your teammates. In SDE-VS, 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.

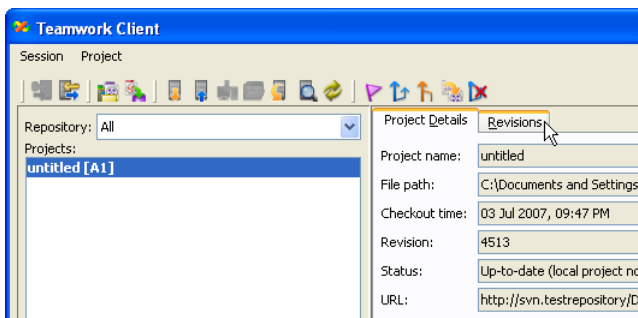


Figure 15.29 - Select Revisions

You can see the different revisions of the project.

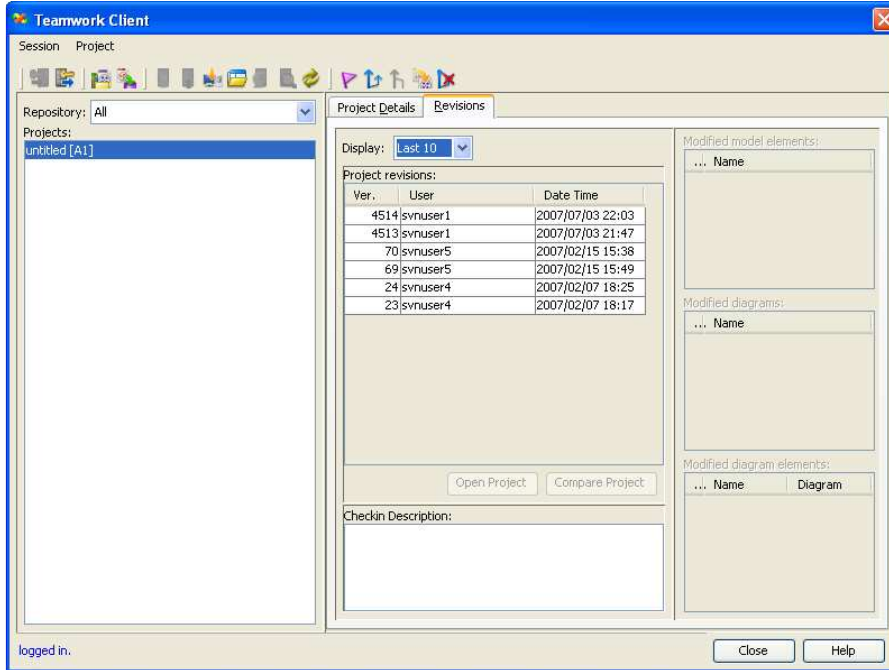


Figure 15.30 - Different revisions of the project

You can see the model, diagram and diagram elements modified in that version. You can also see the checkin description in that version.

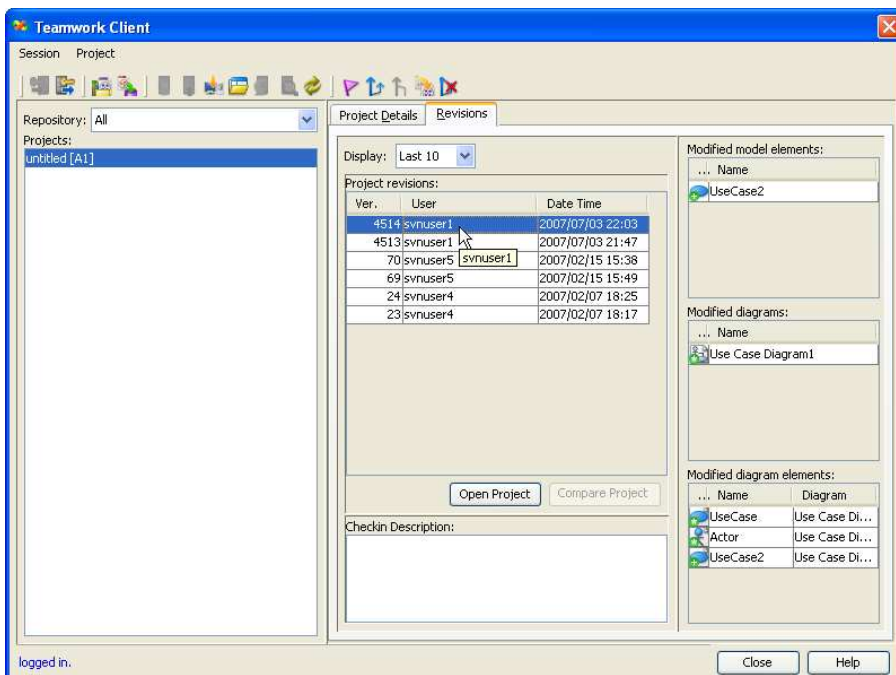


Figure 15.31 - Changes of different revisions

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**.

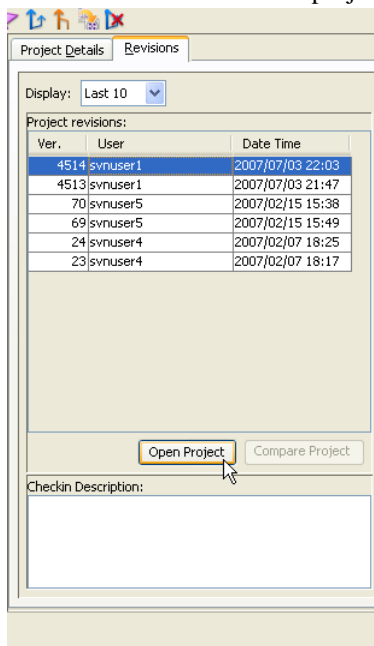


Figure 15.32 - Check out old revision

Comparing Between Revisions

You may want to see the differences between different revisions here in SDE-VS. To achieve, first you may select a revision.

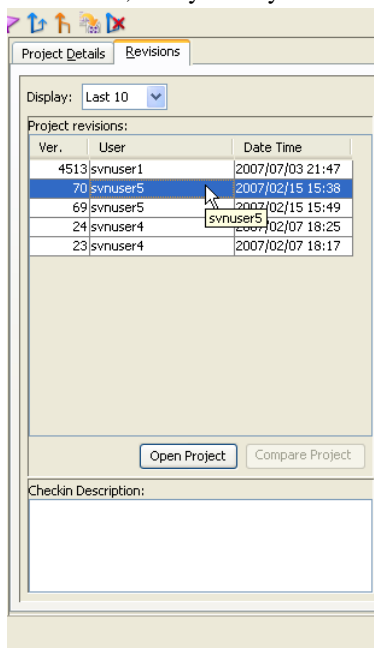


Figure 15.33 - Select one revision

Then, you may press *Ctrl* and click on the revision you want to compare with.

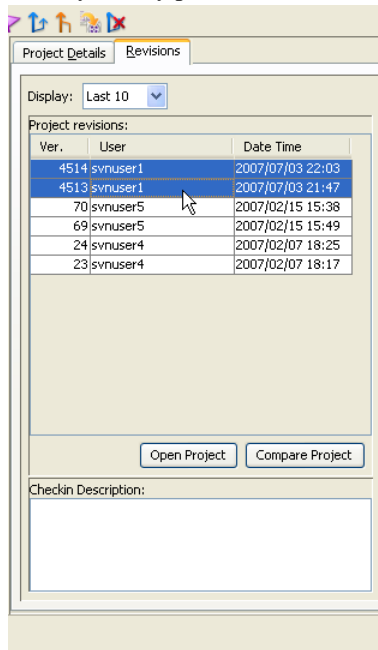


Figure 15.34 - Select another revision

Afterwards, click **Compare Project** to compare.

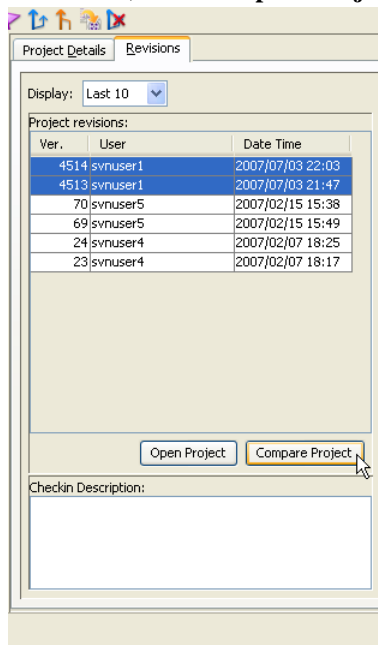


Figure 15.35 - Select Compare Project

A **Compare Projects from revision** dialog box appears and shows you the differences between your selected revisions.

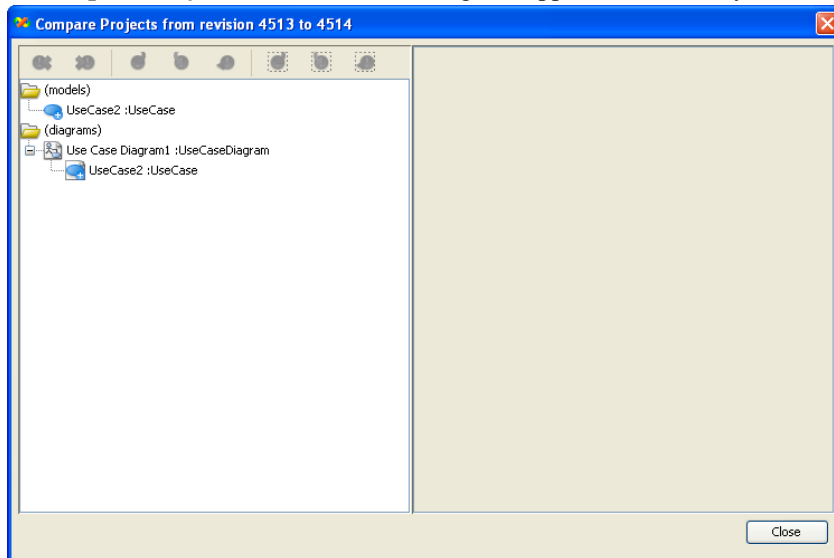


Figure 15.36 - Compare Project dialog box

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.

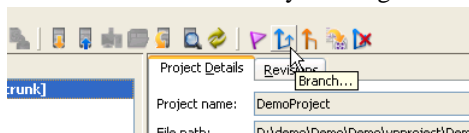


Figure 15.37 - Select branch

Create Branch dialog box is displayed and you can enter the name of branch you want to create.

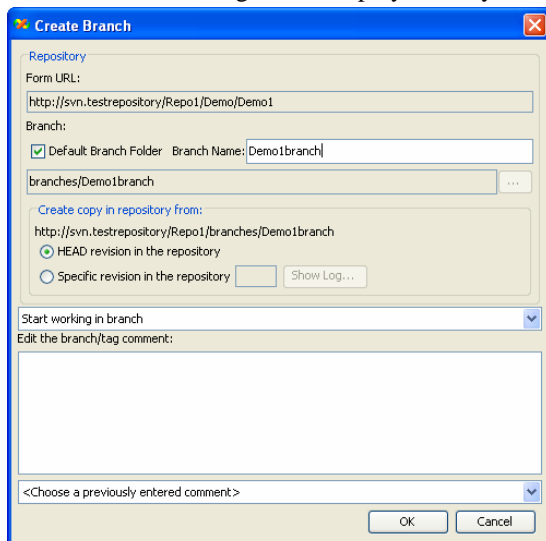


Figure 15.38 - Create Branch dialog box

Then, select a status of branch from the drop-down menu.

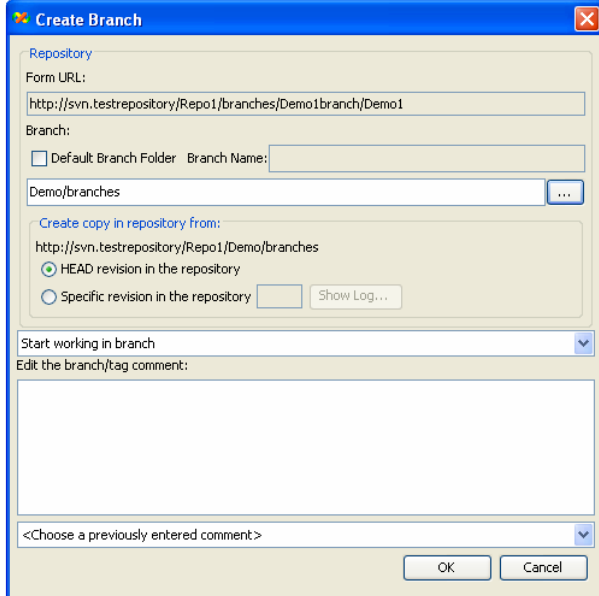


Figure 15.39 - Select from drop-down menu

Then, click OK to confirm creating branch.

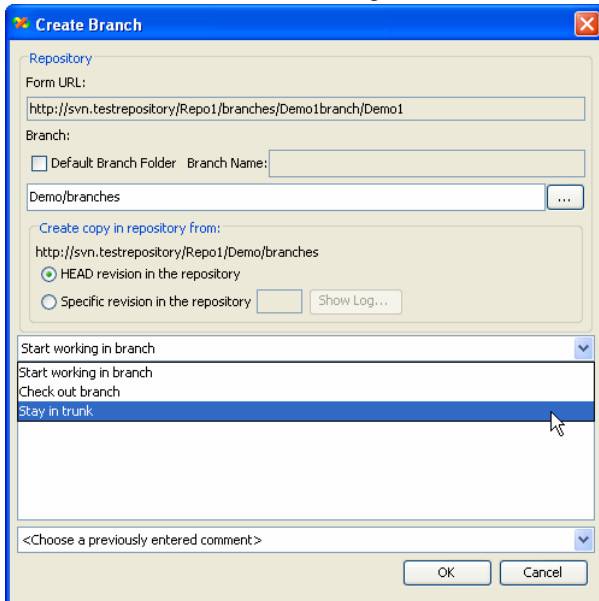


Figure 15.40 - Confirm creating branch

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.

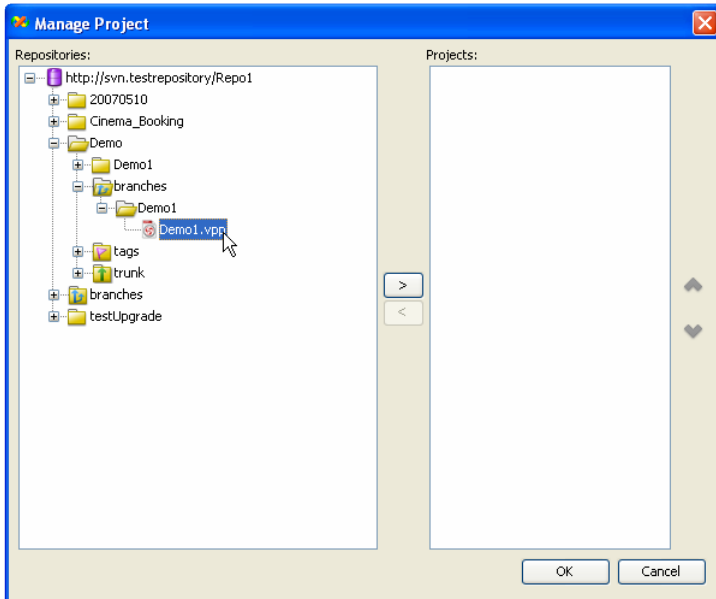



Figure 15.41 - Manage project dialog box

You can click **Add selected**  to add the branch to your **Projects** list.

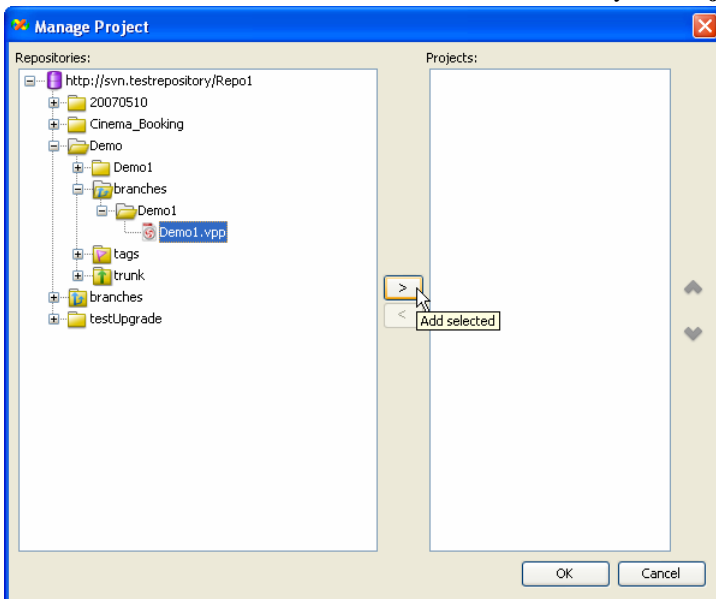


Figure 15.42 - Add selected branch

On the other hand, you can click **Remove selected**  to remove the branch from **Projects** list.

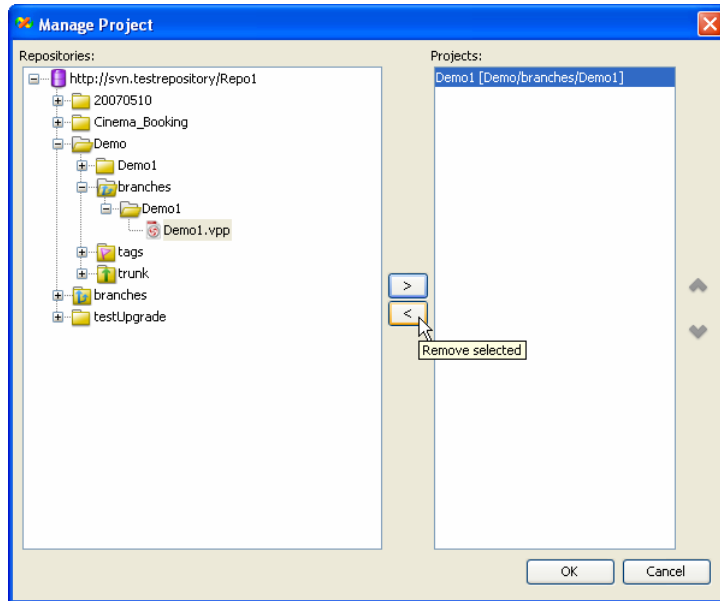


Figure 15.43 - Remove selected branch

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.

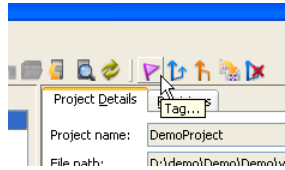


Figure 15.44 - Select Tag...

Then, you can enter tag name in the Create Tag dialog box.

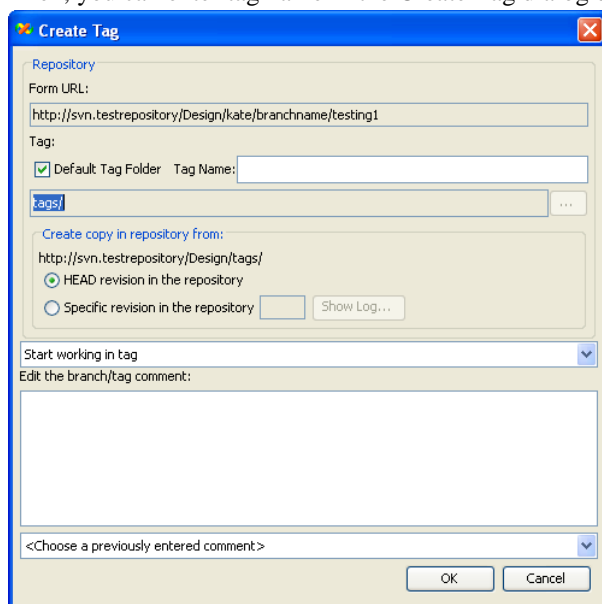


Figure 15.45 - Create Tag dialog box

Afterwards, you can select your location after creating tag.

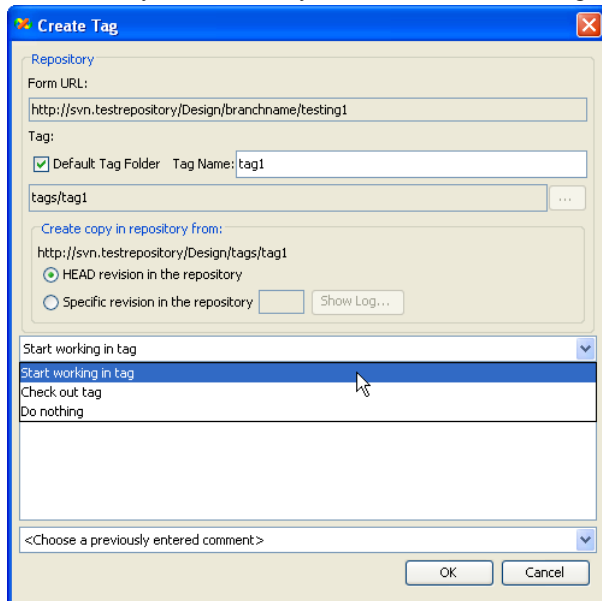


Figure 15.46 - Select location after creating tag

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.

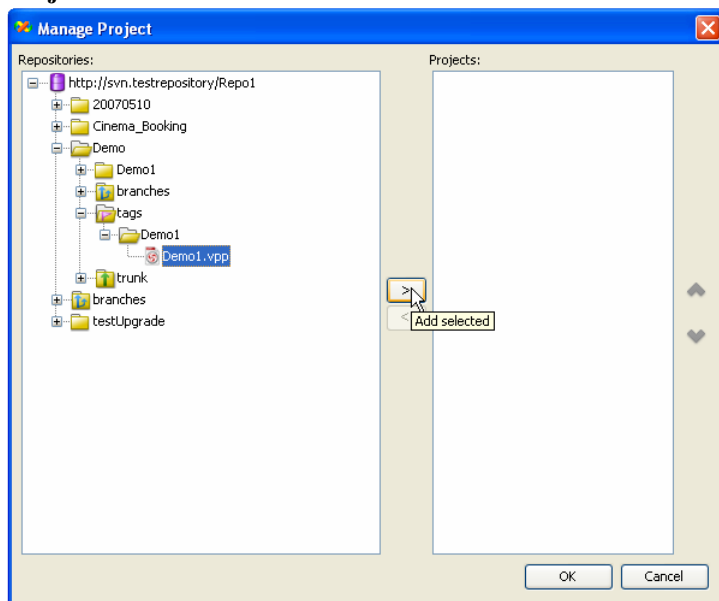


Figure 15.47 - Add selected project

You may remove the tag from **Projects** list by click **Remove selected**.

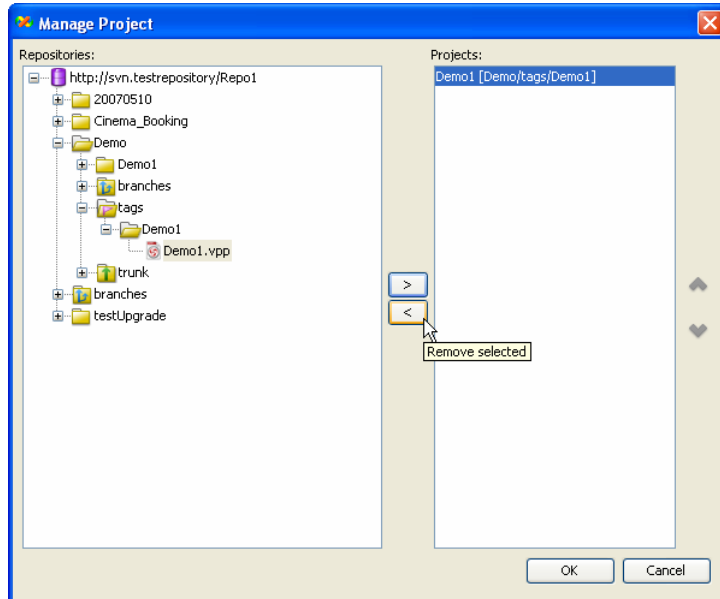


Figure 15.48 - Select Remove selected

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.

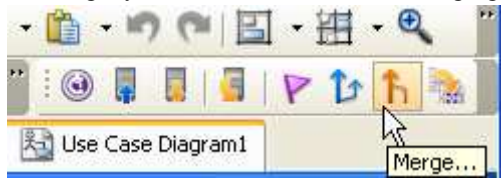


Figure 15.49 - Icon for merging

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.

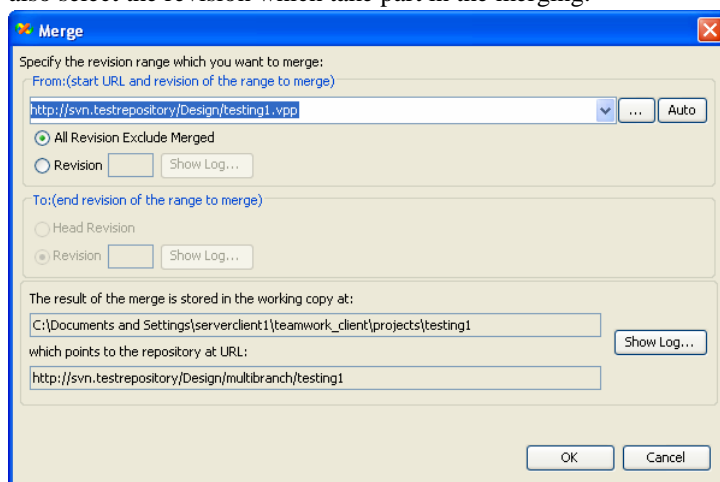


Figure 15.50 - Merge dialog box

The progress of merging is shown.

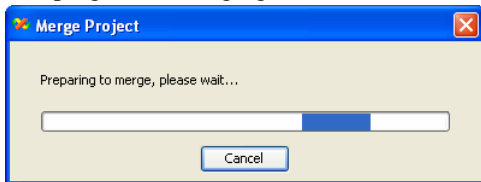


Figure 15.51 - Progress of merging

Then, a dialog box tells you what models and diagrams are going to be merged. You can click OK to confirm merging.

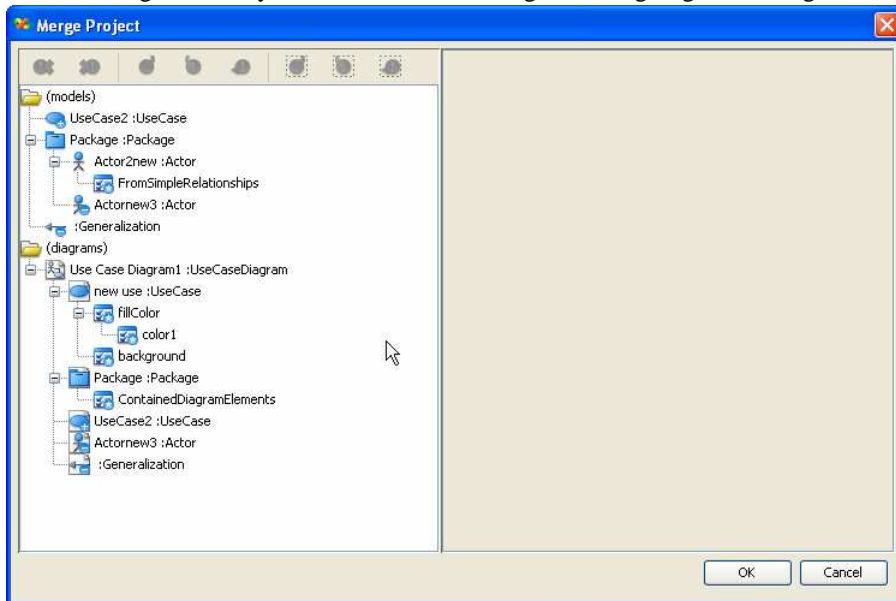


Figure 15.52 - Models and diagrams which are going to merge

Suggested Branch Usage

This section will show you the suggested usage of the Branch with SDE-VS 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.

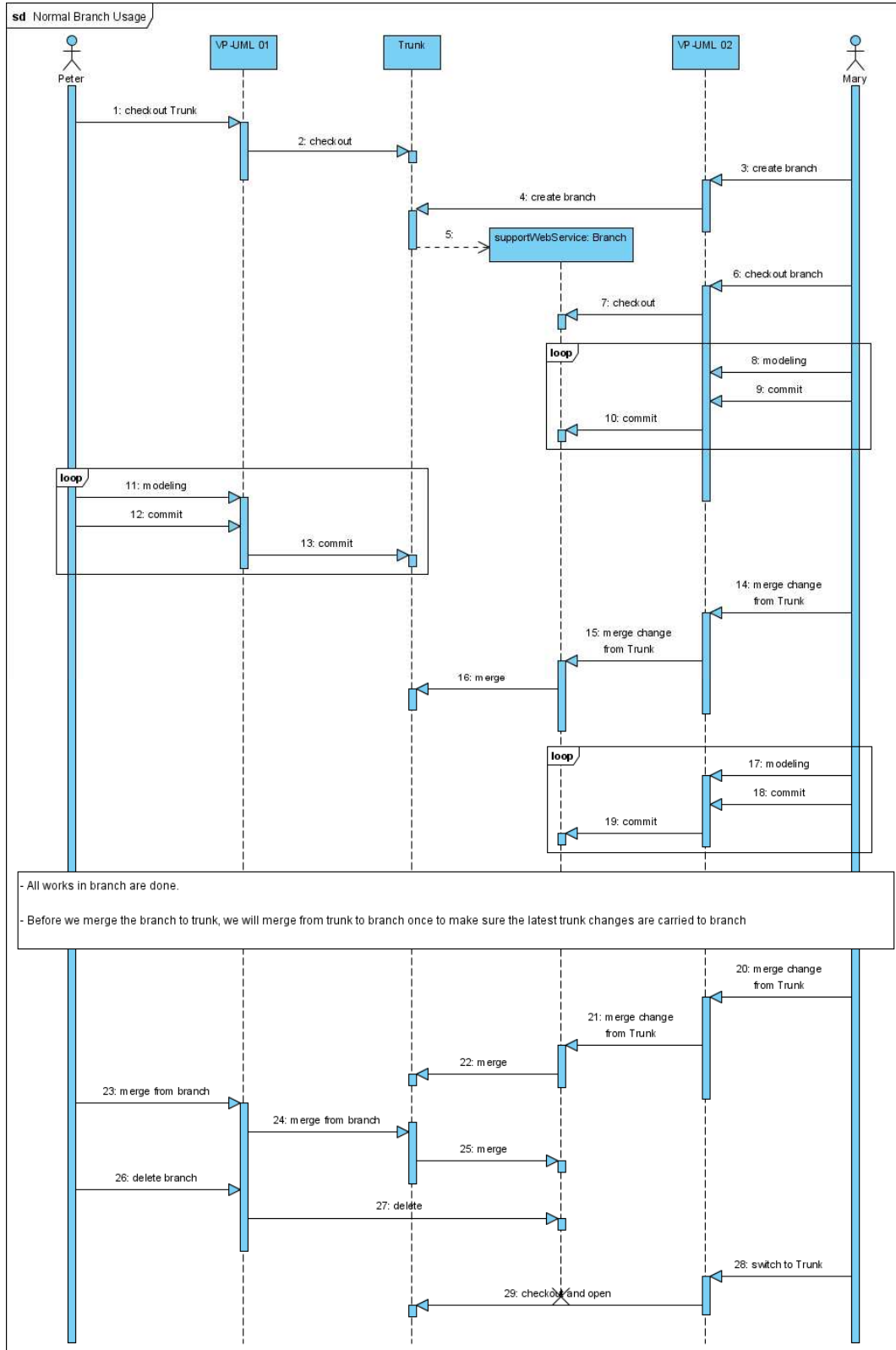


Figure 15.53 - Suggested branch usage



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.

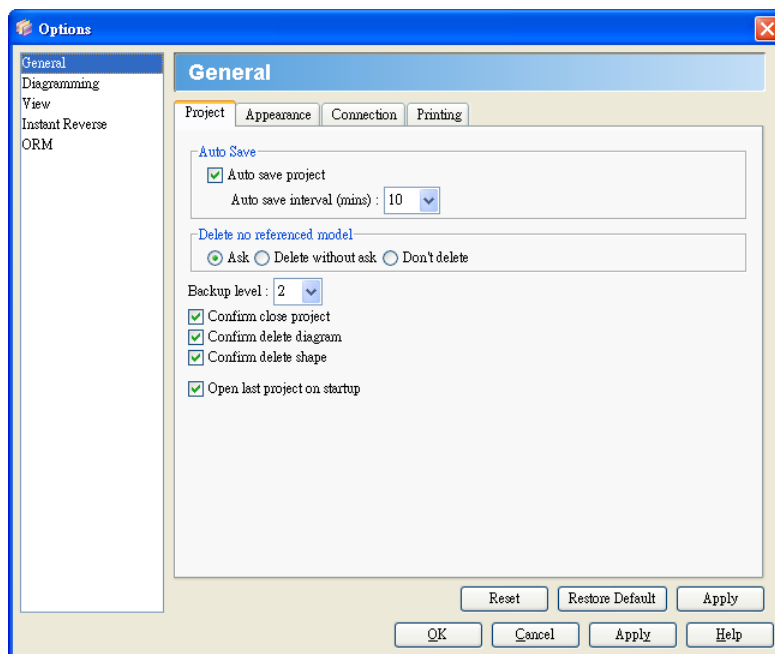


Figure A.1 - Application Option (General)

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.

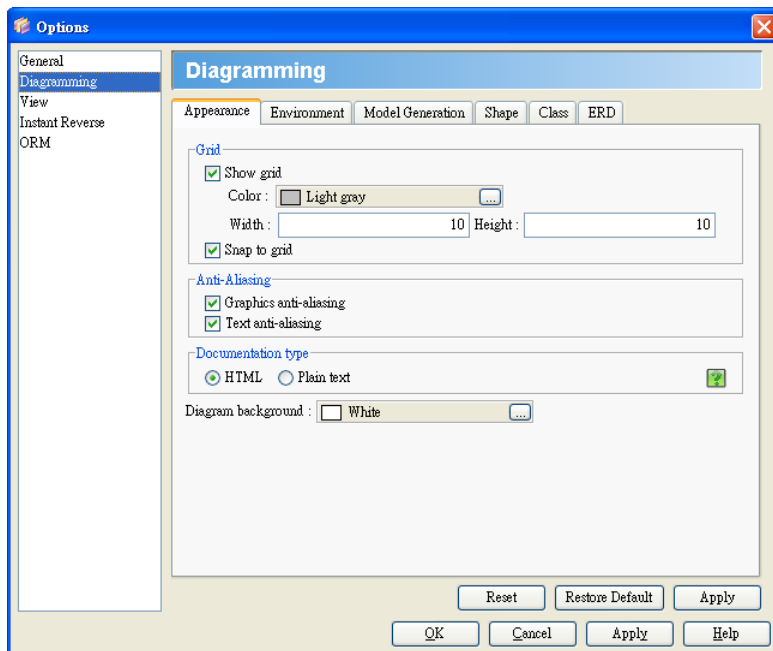


Figure A.2 - Application Option (Diagramming)

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: Hide all: All attributes are hidden. Show all: All attributes are shown. 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: Hide all: All operations are hidden. Show all: All operations are shown. Show public only: Only public operations are shown.
Visibility style	The default visibility style for Class. It can either be: Icon - Visibilities are represented by icons). UML - Visibilities are represented by UML visibility symbols, e.g. + for public, - for private. 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.

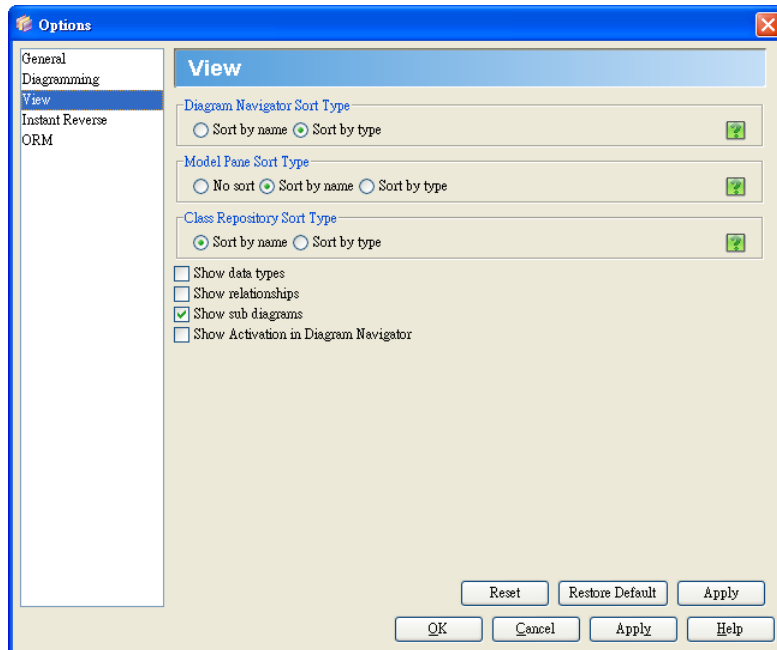


Figure A.3 - Application Option (View)

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.

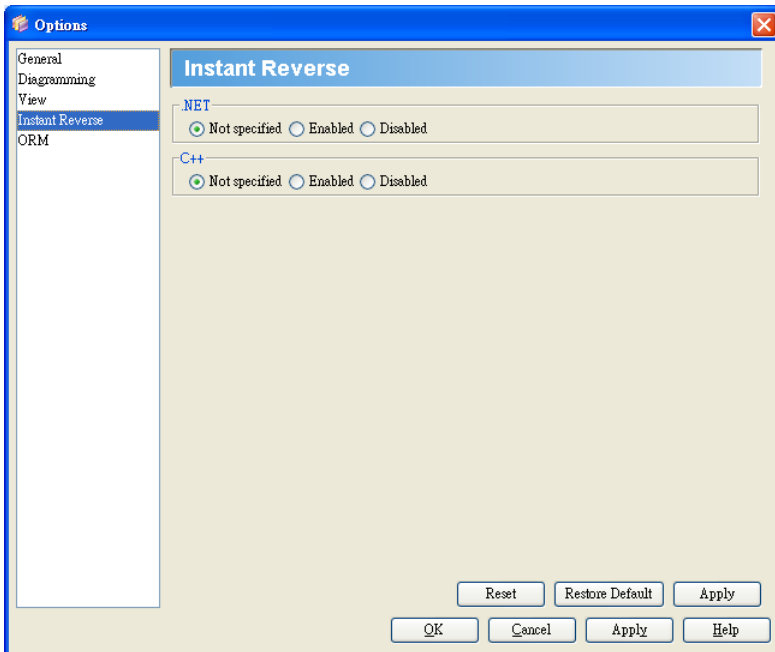


Figure A.4 - Application Option (Instant Reverse)

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.

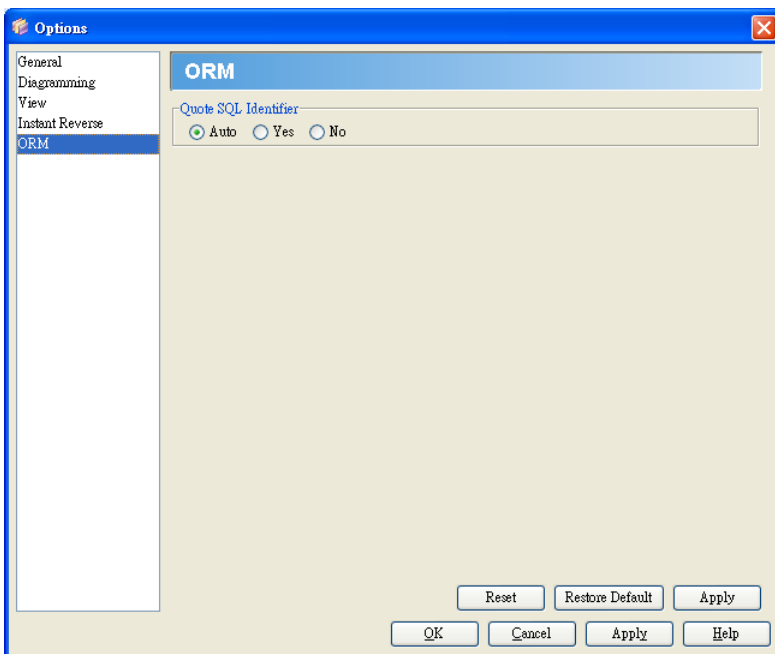


Figure A.5 - Application Option (ORM)

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

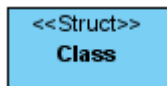


Figure B.1 - Class with Stereotypes

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.

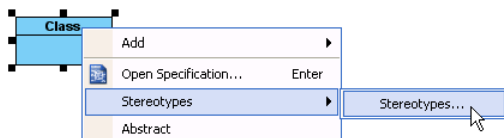


Figure B.2 - Select Stereotype in popup menu

3. This displays the **Stereotypes** page of the **Class Specification** dialog box.

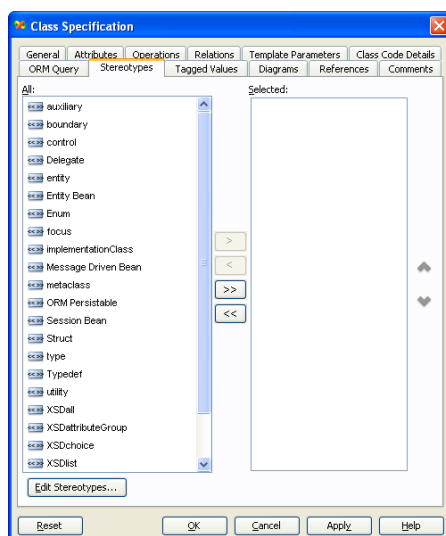


Figure B.3 - Class specification dialog (stereotypes)

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.

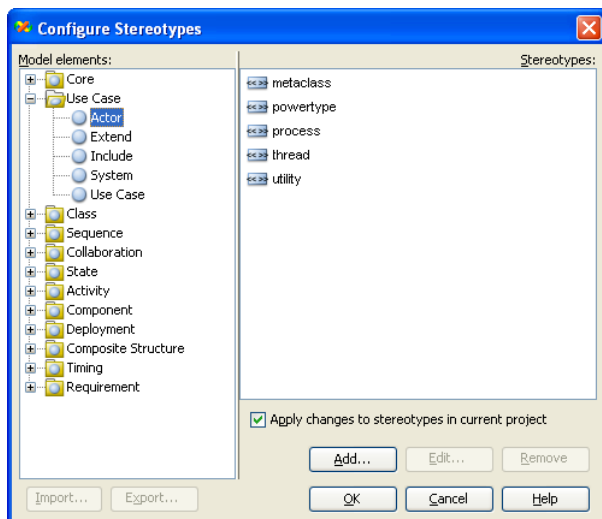


Figure B.4 - Configure Stereotypes dialog

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.

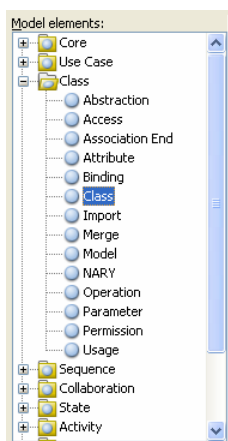


Figure B.5 - Model Elements

3. Press on the **Add...** button. This displays the **Stereotype Specification** dialog box for specifying the details of the new stereotype.

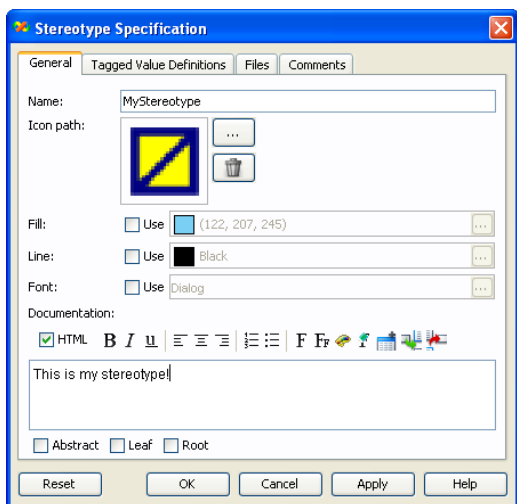


Figure B.6 - Stereotypes Specification dialog

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.

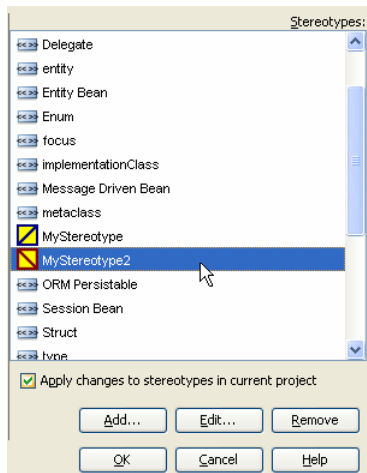


Figure B.9 - Select stereotype from the Stereotype list

3. Press on the **Edit...** button. This displays the **Stereotype Specification** dialog box for specifying the details of the new stereotype.

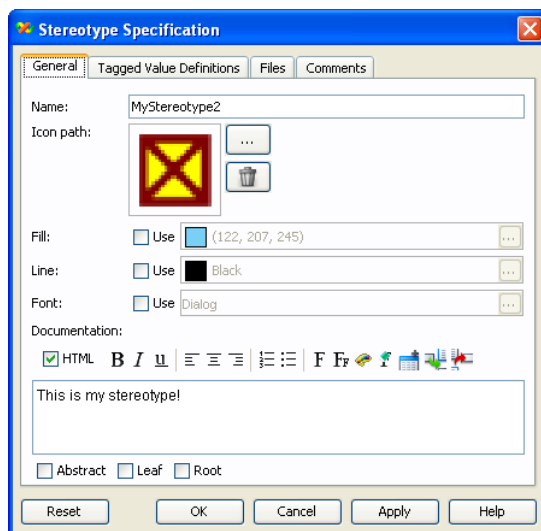


Figure B.10 - Edit Stereotype

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.

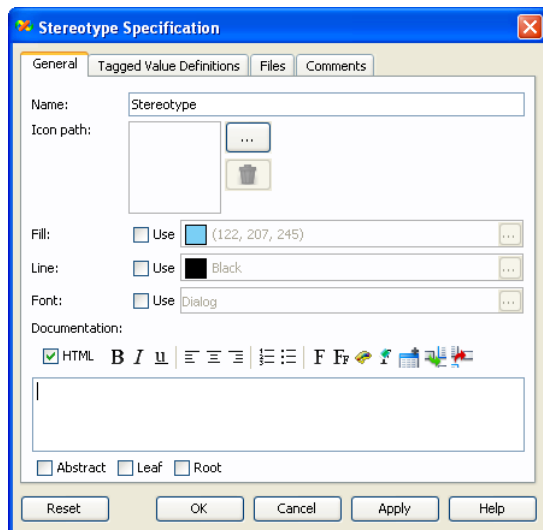


Figure B.11 - Stereotype specification dialog


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...**

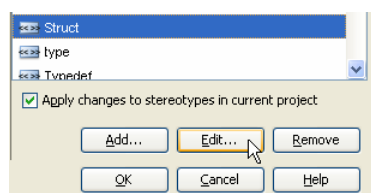


Figure B.12 - Press Edit button to open Stereotype specification

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.

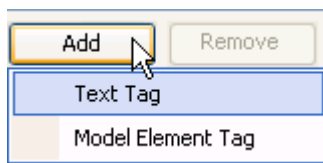


Figure B.14 - Tag options

Adding Text Tag to stereotypes

From the Stereotype Specification dialog box, press **Add** and then select **Text Tag** from the popup menu.

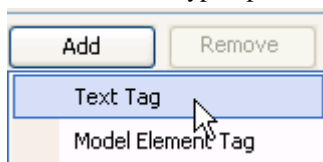


Figure B.15 - Add Text tag

This displays a new Tag entry.

Name	Type	Default Value
Tag	Text	

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.

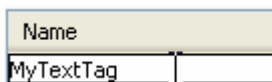


Figure B.17 - Rename the tag

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.

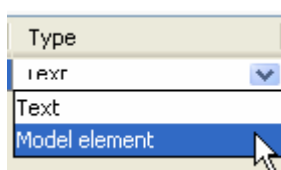


Figure B.18 - Change the type of tag

To specify a default value of the Tag, double click to the Default Value field and enter a value.

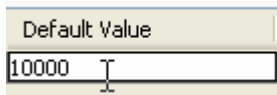


Figure B.19 - Enter the value

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.

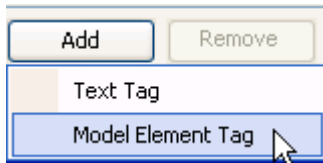


Figure B.20 - Add Model Element Tag

This displays a new Tag entry.

Name	Type	Default Value
Tag	Model element	N/A

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.

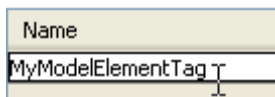


Figure B.22 - Rename the model element tag

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.

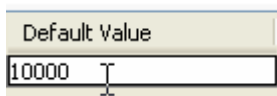


Figure B.24 - Enter the value of tag

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.

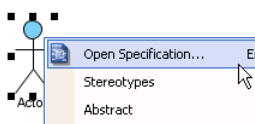


Figure B.25 - Open specification

- The specification dialog box is displayed. Switch to the **Tagged Value Definitions** tab.

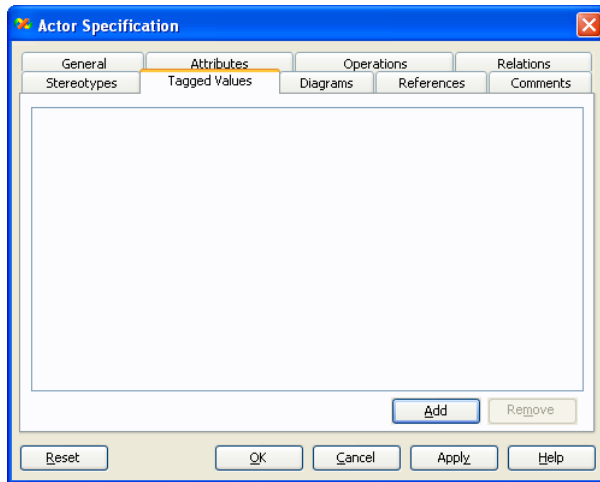


Figure B.26 - Actor Specification dialog

- 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.

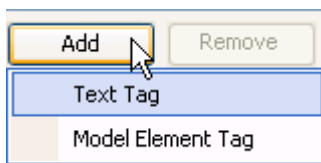


Figure B.27 - Add Tag options

Adding Text Tag to Model Element

From the Stereotype Specification dialog box, press **Add** and then select **Text Tag** from the popup menu.

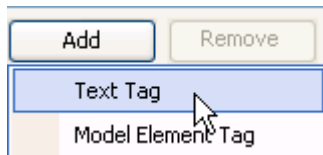


Figure B.28 - Add text tag

This displays a new Tag entry.

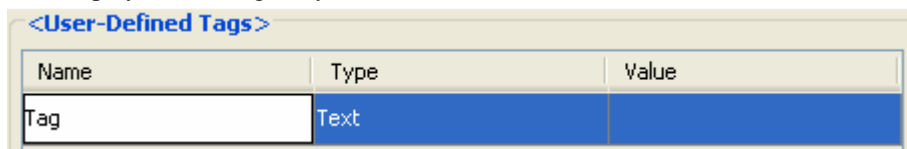


Figure B.29 - The new text tag

To change the name of the Tag, double click to the **Name** field and enter a new name.

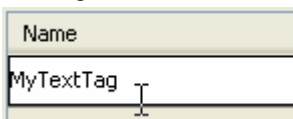


Figure B.30 - The name of tag

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.

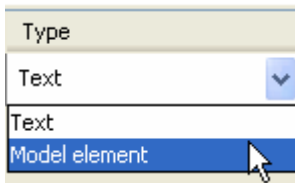


Figure B.31 - the type of tag

To specify a default value of the Tag, double click to the **Value** field and enter a value.

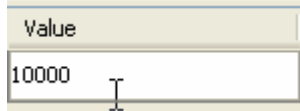


Figure B.32 - The value of tag

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.

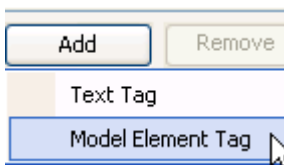


Figure B.33 - Add Model element Tag

This displays a new Tag entry.

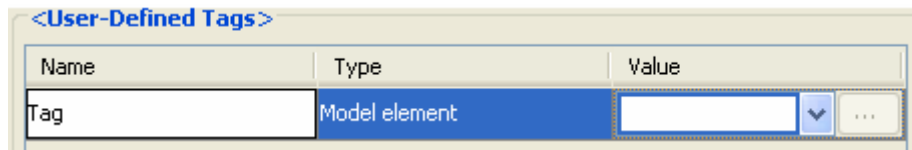


Figure B.34 - The blank new model element tag

To change the name of the Tag, double click to the **Name** field and enter a new name.

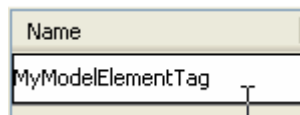


Figure B.35 - The name of tag

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.

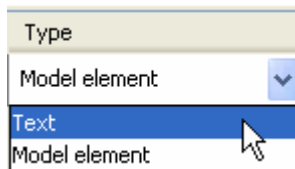


Figure B.36 - The type of tag

To specify a default value of the Tag, double click to the **Value** field and enter a value.

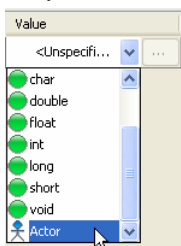


Figure B.37 - The tag value

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.

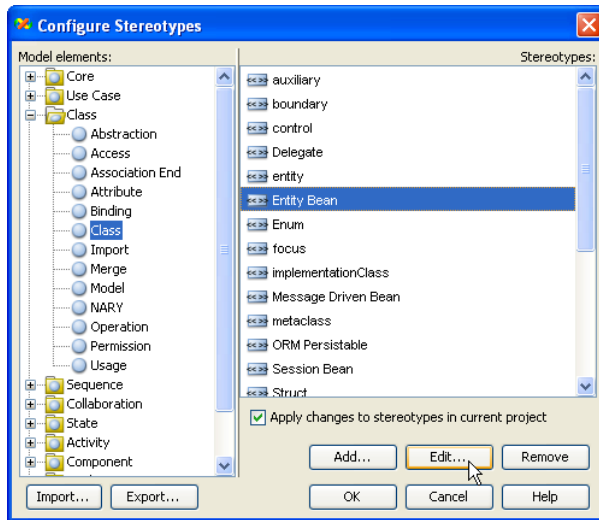


Figure B.38 - Configure Stereotype dialog

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

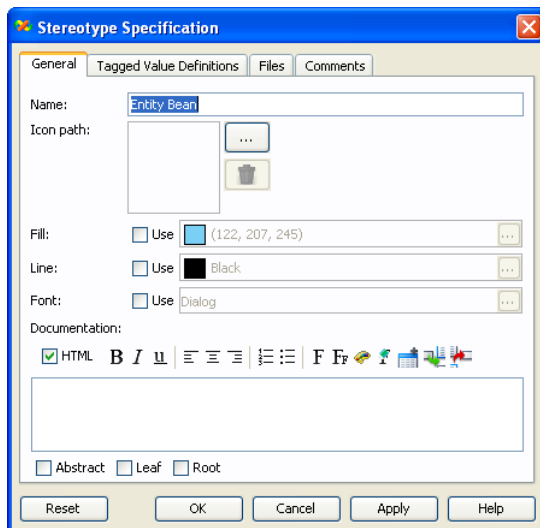


Figure B.39 - Stereotype Specification dialog

Applying Fill Color

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

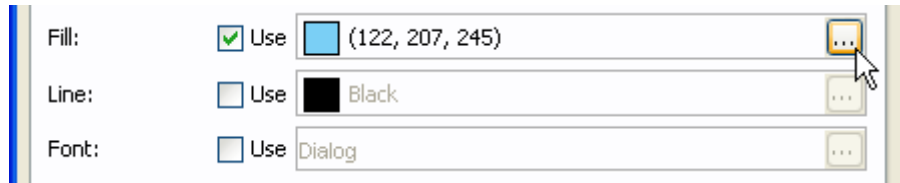


Figure B.40 - Edit fill of stereotype

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

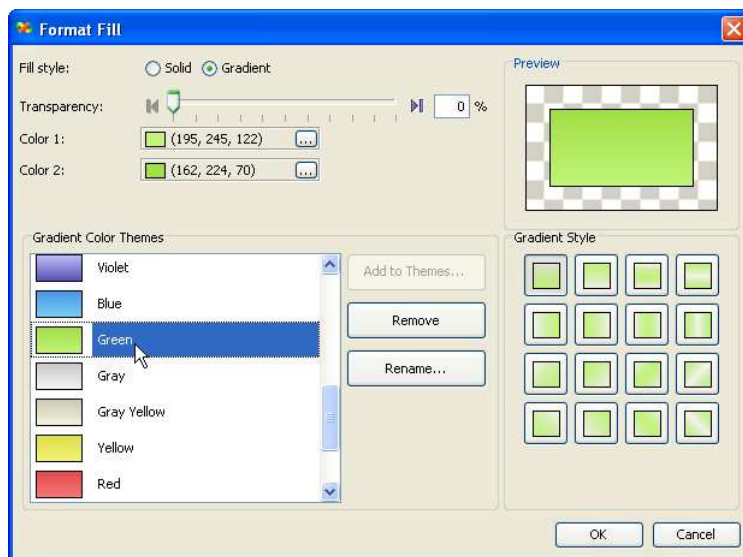


Figure B.41 - Format Fill dialog

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**.

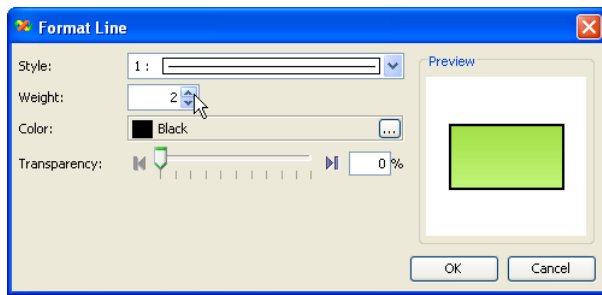


Figure B.43 - Format Line dialog

Applying Font

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

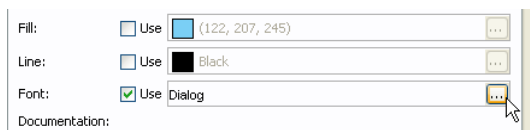


Figure B.44 - edit Font

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

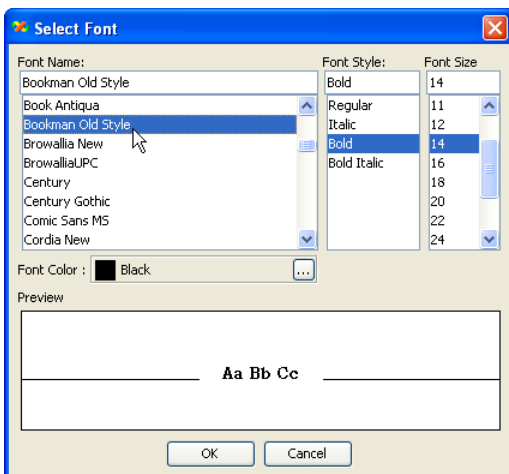


Figure B.45 - Select Font dialog

After setting a stereotype to a shape, the formats of the stereotype will be applied to the shape immediately.

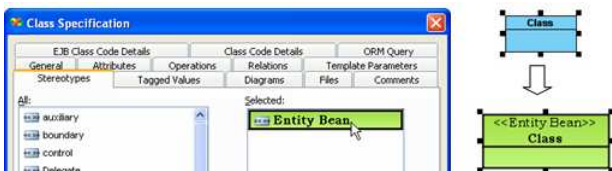


Figure B.46 - The Modified stereotype

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**.

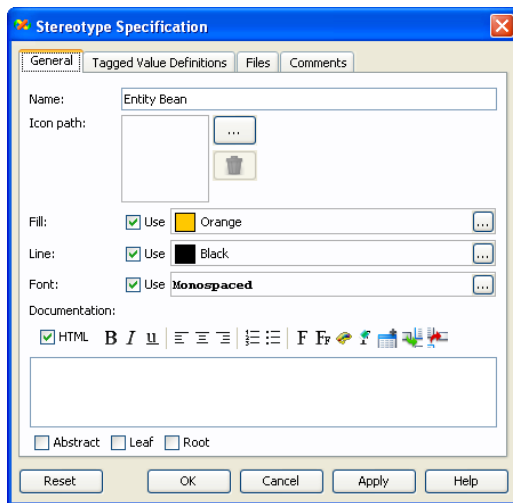


Figure B.47 - Edit the format of stereotype

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.

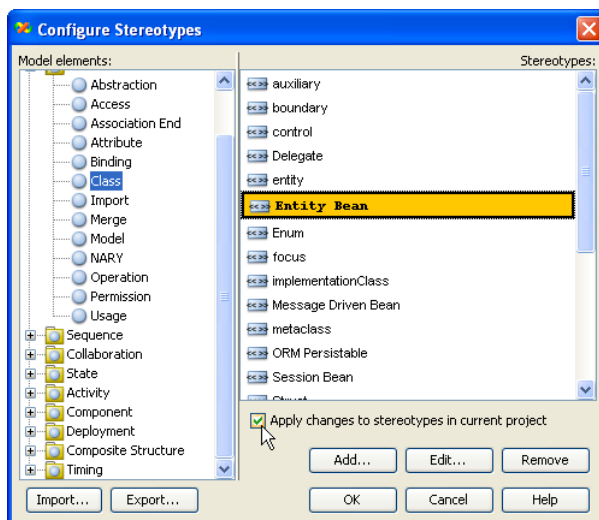


Figure B.48 - apply the change to current project

3. The appearances of shapes assigned to the changed stereotype are updated.



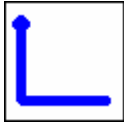
Figure B.49 - Model style updated

C

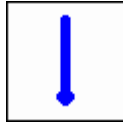
Supported Mouse Gestures

Appendix C - Supported Mouse Gestures

General Commands



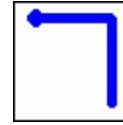
Layout Diagram



Open Diagram Specification



Close Diagram



Show Diagrams Thumbnail View

Activity Diagram (UML 2.0)



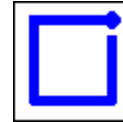
Action



Activity

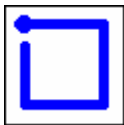


Decision Node

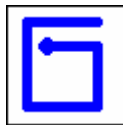


*Initial Node/Final Node
(If there is no Initial Node, an Initial Node will be created. Likewise if there is no Final Node, a Final Node will be created)*

Activity Diagram (UML 1.x)



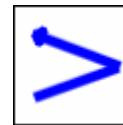
Action State



Sub-Activity



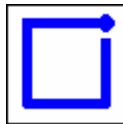
Swimlane



Horizontal Synchronization Bar

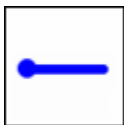


Vertical Synchronization Bar

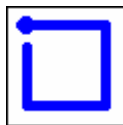


Initial State/Final State (If there is no Initial State, an Initial State will be created. Likewise if there is no Final State, a Final State will be created)

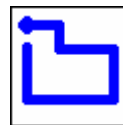
Class Diagram



Synchronize to ERD

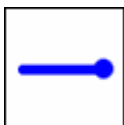


Class

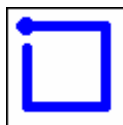


Package

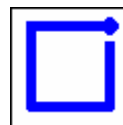
Communication Diagram



Synchronize to Sequence Diagram



Lifeline



Actor

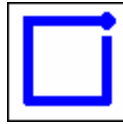


Package

Component Diagram



Component



Instance Specification



Package

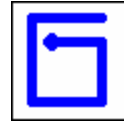
Composite Structure Diagram



Class



Interface



Collaboration



Collaboration Use

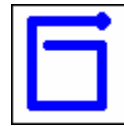
Deployment Diagram



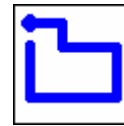
Node



Component

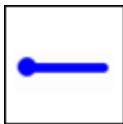


Node Instance

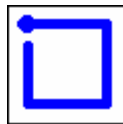


Package

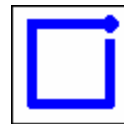
EJB Diagram



Synchronize to ERD



Entity Bean



Message-Driven Bean

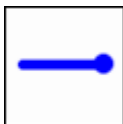


Session Bean

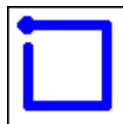


Package

Entity Relationship Diagram

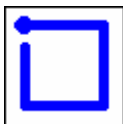


Synchronize to Class Diagram



Entity

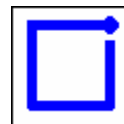
Interaction Overview Diagram



Interaction

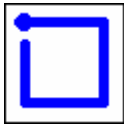


Decision Node

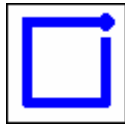


Initial Node/Final Node(If there is no Initial Node, an Initial Node will be created. Likewise if there is no Final Node, a Final Node will be created)

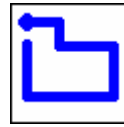
Object Diagram



Instance Specification



Class



Package

ORM Diagram



Class



Entity



Package

Overview Diagram



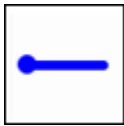
Diagram Overview

Package Diagram

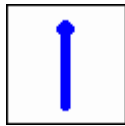


Package

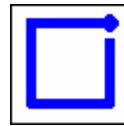
Sequence Diagram



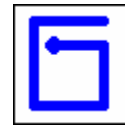
*Synchronize to
Communication Diagram*



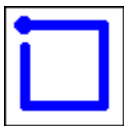
Lifeline



Actor

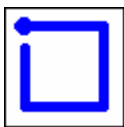


Alt Combined Fragment



Loop Combined Fragment

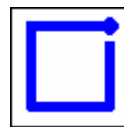
State Machine Diagram (UML 2.0)



State



Submachine State

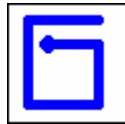


Initial Node/Final Node(If there is no Initial Node, an Initial Node will be created. Likewise if there is no Final Node, a Final Node will be created)

State Machine Diagram (UML 1.x)



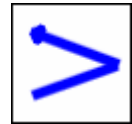
State



Concurrent State



Submachine State



Horizontal Synchronization Bar

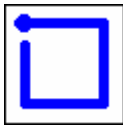


Vertical Synchronization Bar



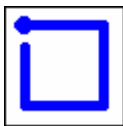
Initial State/Final State (If there is no Initial State, an Initial State will be created. Likewise if there is no Final State, a Final State will be created)

Timing Diagram

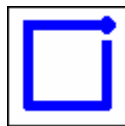


Frame

Use Case Diagram



Use Case



Actor



Package

D

Keyboard Shortcuts

Appendix D - Keyboard Shortcuts

Action	Hot Key	Description
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.
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.
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.
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-	To copy the selected diagram elements to the application clipboard. You can then paste the diagram

UML	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