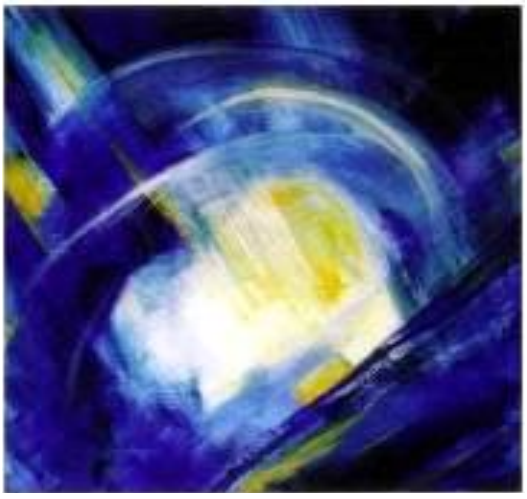
SemTalk

Version 3.2

Tutorial



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SemTalk minimum requirements:

- Microsoft Visio® 2003 or Microsoft Visio® 2007, Microsoft Visio® 2010
- Microsoft .NET Framework Version 3.5 Redistributable Package
    - Download Link: (http://www.microsoft.com/downloads/)

NOTE SemTalk's startup language will be set according to your system settings. To change your regional settings and system language please go to Window's **START → Settings → System control → Regional and language settings.**

You may also change the start language in SemTalk without modifying your computer's regional settings. In SemTalk go to menu bar option **Tools → SemTalk Options →Language (Tab) → GUI Language** and choose a language or the source of start language setting.

What is SemTalk?

SemTalk is a user-friendly editor for Semantic Web ontologies and processes. Because Microsoft Visio® is embedded in SemTalk, it combines the graphical strength of Microsoft Visio® and the consistency of a professional modeling tool.

New modeling methodologies for virtually any modeling problem are easily defined using SemTalk. Applying a graphically configurable metamodel, Microsoft Visio® can be adapted to different modeling worlds such as CASE Tools, organizational models and object models.

The main purpose of this tutorial is to learn how to use SemTalk. This tutorial does not include specific methodologies nor SemTalk Web or BPM use cases. It is assumed that the reader is familiar with the basic Microsoft Visio® functionalities.

The of process modeling using specific business process modeling methods (e.g. CSA, EPC, BPMN, Promet and others) is covered in additional tutorials. You can find these tutorials at our homepage www.semtalk.com/manuals.

What is an Ontology?

For the purposes of this tutorial an ontology is a formal explicit description of concepts (i.e. classes) in a domain of discourse, properties of each concept describing various features and attributes, and restrictions on properties and attributes (i.e. relation and data types). In simple words, an ontology is a formal model for a specific domain of knowledge. An ontology together with a set of individual instances of classes constitutes a knowledge base.

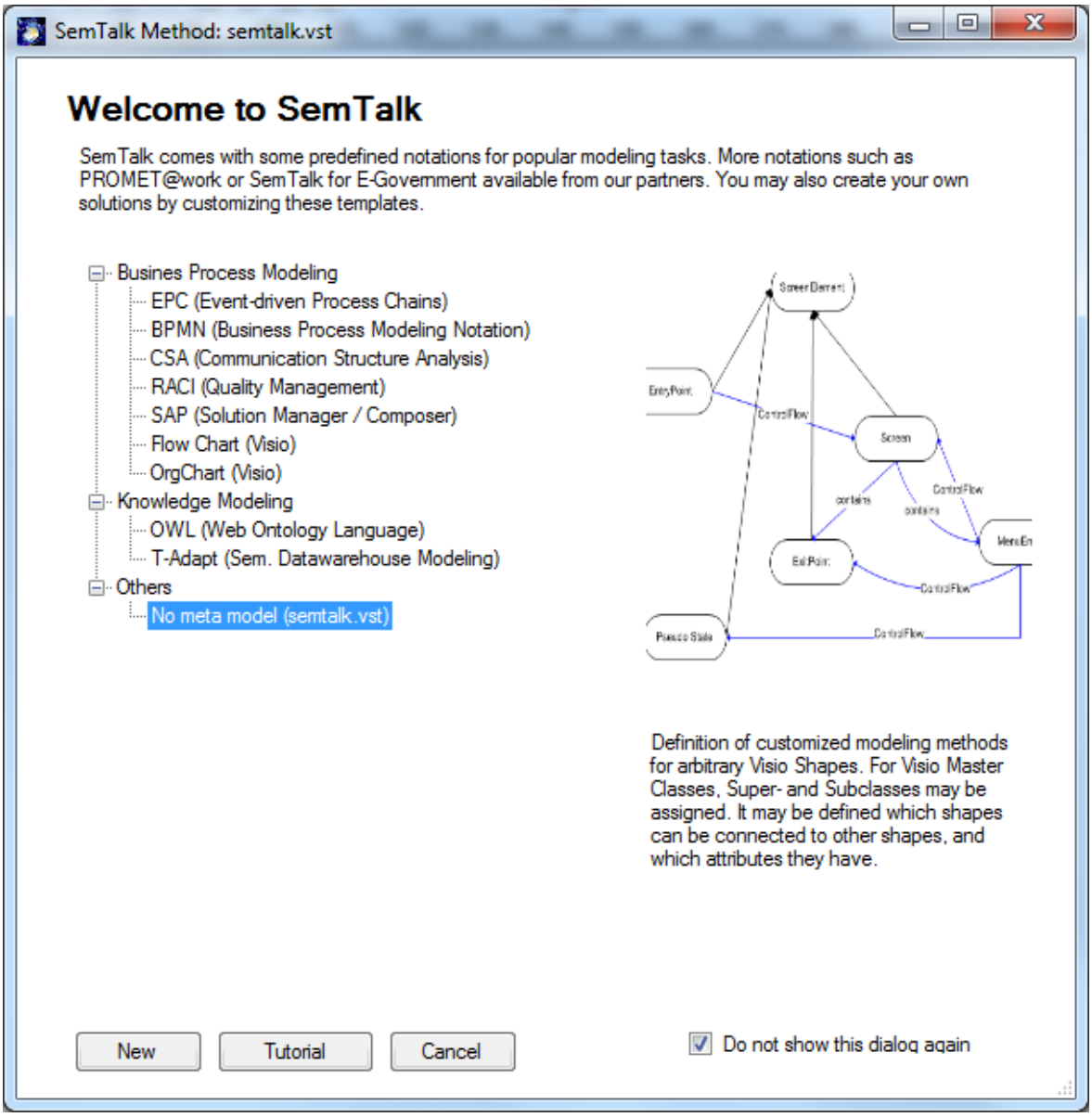
Ontologies are developed to provide a machine-understandable semantics of information sources that can be communicated between different agents (software and humans). Some reasons to develop ontologies are:

- to share common understanding of the structure of information among people or software agents.
- to enable reuse of domain knowledge.
- to make domain assumptions explicit.
- to separate domain knowledge from the operational knowledge.
- to analyze domain knowledge.

Web Ontology Language (OWL) is a W3C recommendation for the representation of ontologies. In case you want to work with OWL, you should use the OWL Template: File->New and select OWL.vst in the SemTalk program directory. In this tutorial, we will use the SemTalk default notation, which is a subset of OWL. OWL Export / Import is explained at 24.4

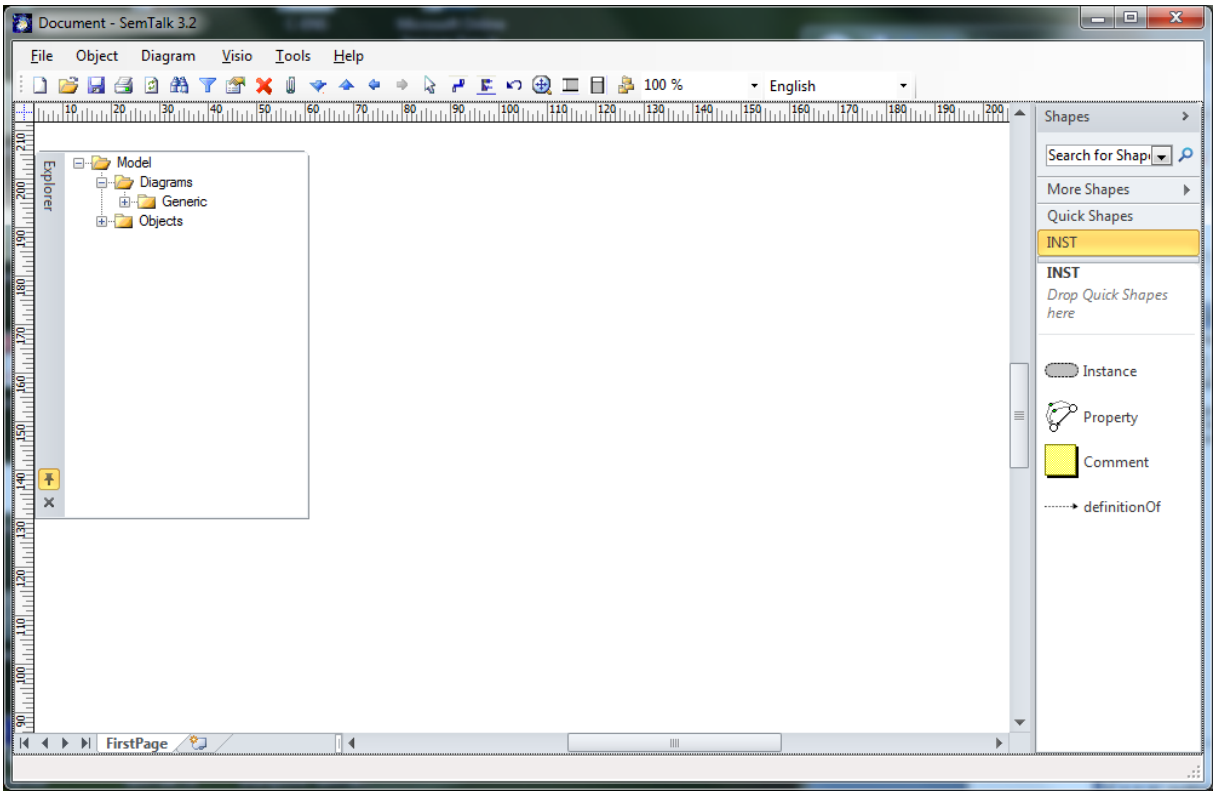
Getting Started

After installing SemTalk you can start working with SemTalk by clicking on it's icon on the desktop or selecting **Start → Programs → SemTalk → SemTalk2.**
If you are starting SemTalk for the very first time after installing it you will see the following dialog box:



For this tutorial, you will use SemTalk's most basic modeling notation. Please select the last node on the tree structure 'No metamodel (semtalk.vst)'.

After doing this, the following screen will appear:

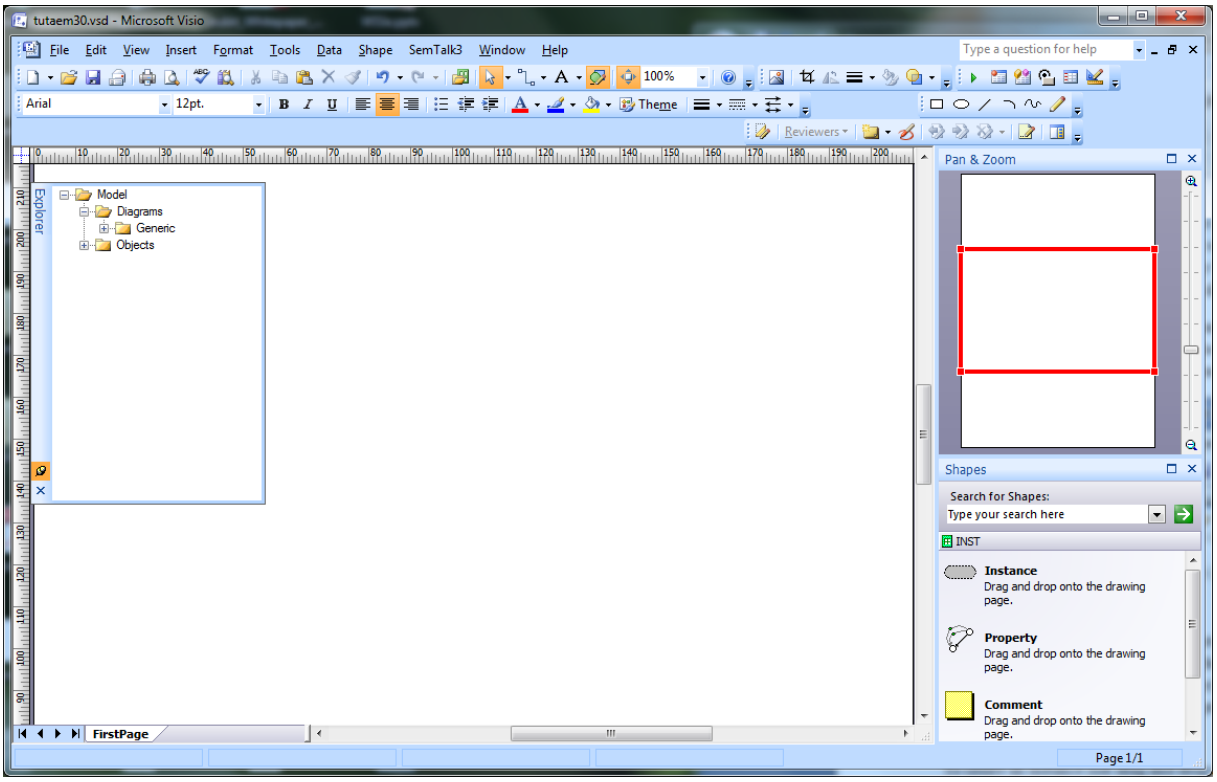


In this tutorial, we will develop a simple ontology about the users and products.

SemTalk as Visio Add-On

You may also start SemTalk embedded into Visio. In order to do that you must have installed the SemTalk Visio Add-On. The SemTalk Visio COM Add-On is a separate and independent application and it is not installed when you install SemTalk. You can find the installation file **Setup.exe** in the program directory where SemTalk was installed (usually under C:\Program Files\Semtation GmbH\SemTalk3\setup.exe)

Start Visio 2007 or Visio 2003 and open a SemTalk Template (semtalk.VST or OWL.vst):

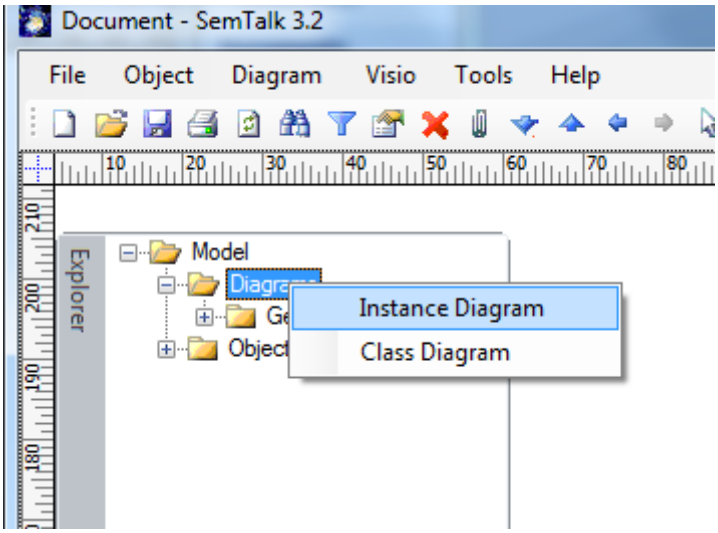


You will find SemTalk now embedded into the Visio Menu. Using SemTalk from Visio 2007/2003 is recommended, if you need the collaboration functions of Microsoft Office 2007/2003, especially Sharepoint Team Services integration. Please be aware that some functionality such as “Searching”, “Save as Html” is available from Visio and from SemTalk. The SemTalk variant is obviously preferred. In this tutorial, we will use the SemTalk program version.

Instance Diagram

With the instance editor, you will create diagrams for concrete objects having a specific identity. Instance diagrams are used in SemTalk solutions for business processes, org. charts, data warehouse cubes, product models etc. Virtually any Visio drawing containing real world objects such as buildings or a subway map would be an instance diagram.

Diagrams, which are not instance diagrams, are called class diagrams. Class Diagrams contain abstract objects like data types and classes. In the Visio world, classes correspond to masters and instances to the shapes in the drawing. Class diagrams are explained in chapter 4.

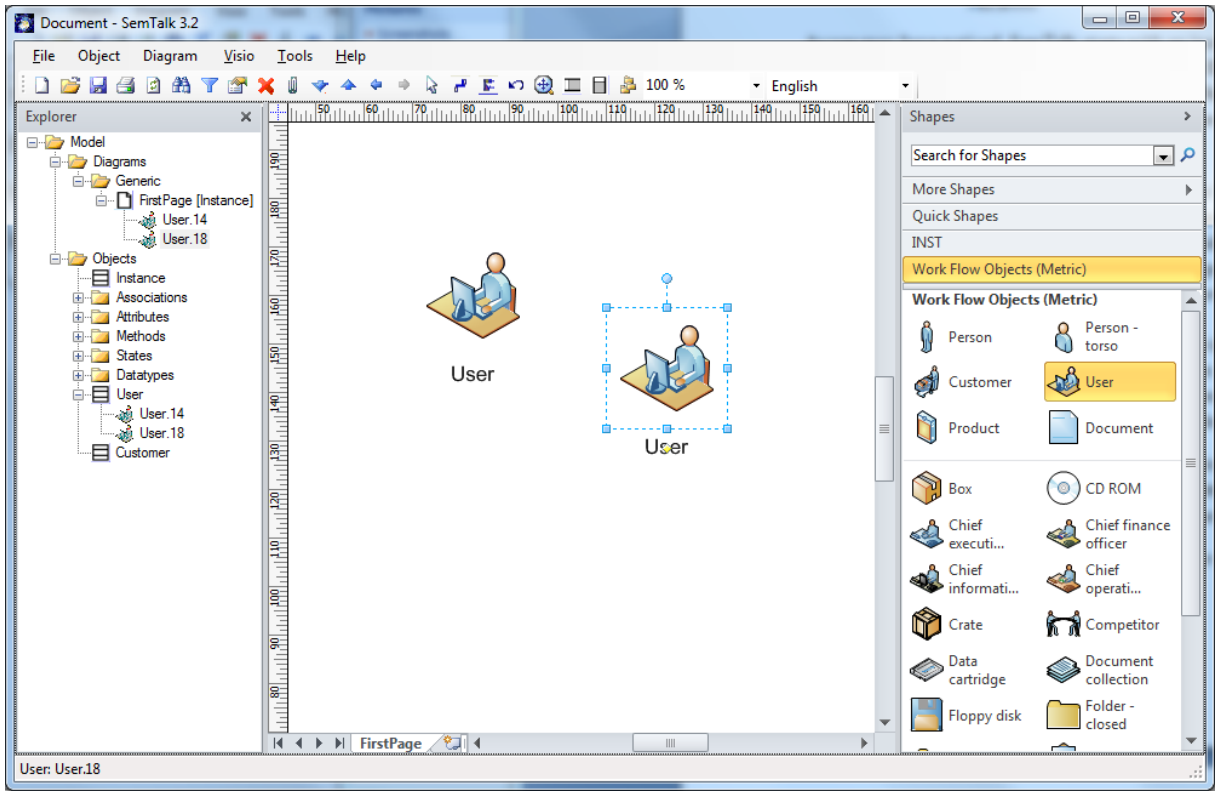


As you may have noticed, SemTalk starts with an instance diagram "First Page". To create new instance diagram you may select from the menu bar **Diagram → New → Instance Diagram** or select from SemTalk's Explorer (tree structure) the node **Diagrams/Generic** and from its context menu (right click on the **Generic** node) the option **Instance Diagram**.

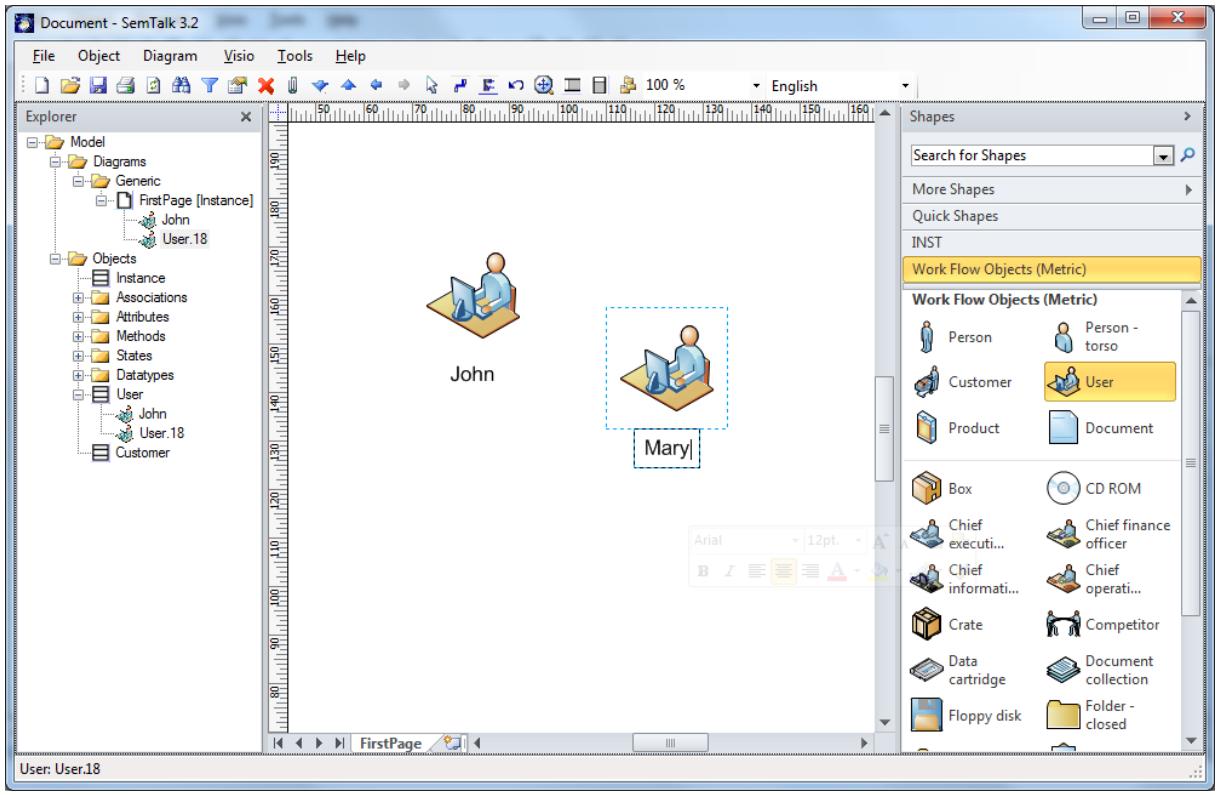
Creating an Instance

To create an instance just drag and drop an "Instance" symbol from a stencil in the drawing area. Please open a Visio® stencil e.g., **File → Open Stencil** select C:\Program Files\Microsoft Office\Office12\1033\WRKFLO_M.VSS (for English Visio 2007). In the embedded Version, use **File → Shapes** to open a stencil. Now, please find and open the stencil "Work Flow Diagram Shapes" (file: WRKFLO_M.VSS). See section 0 to learn how to work with Visio stencils.

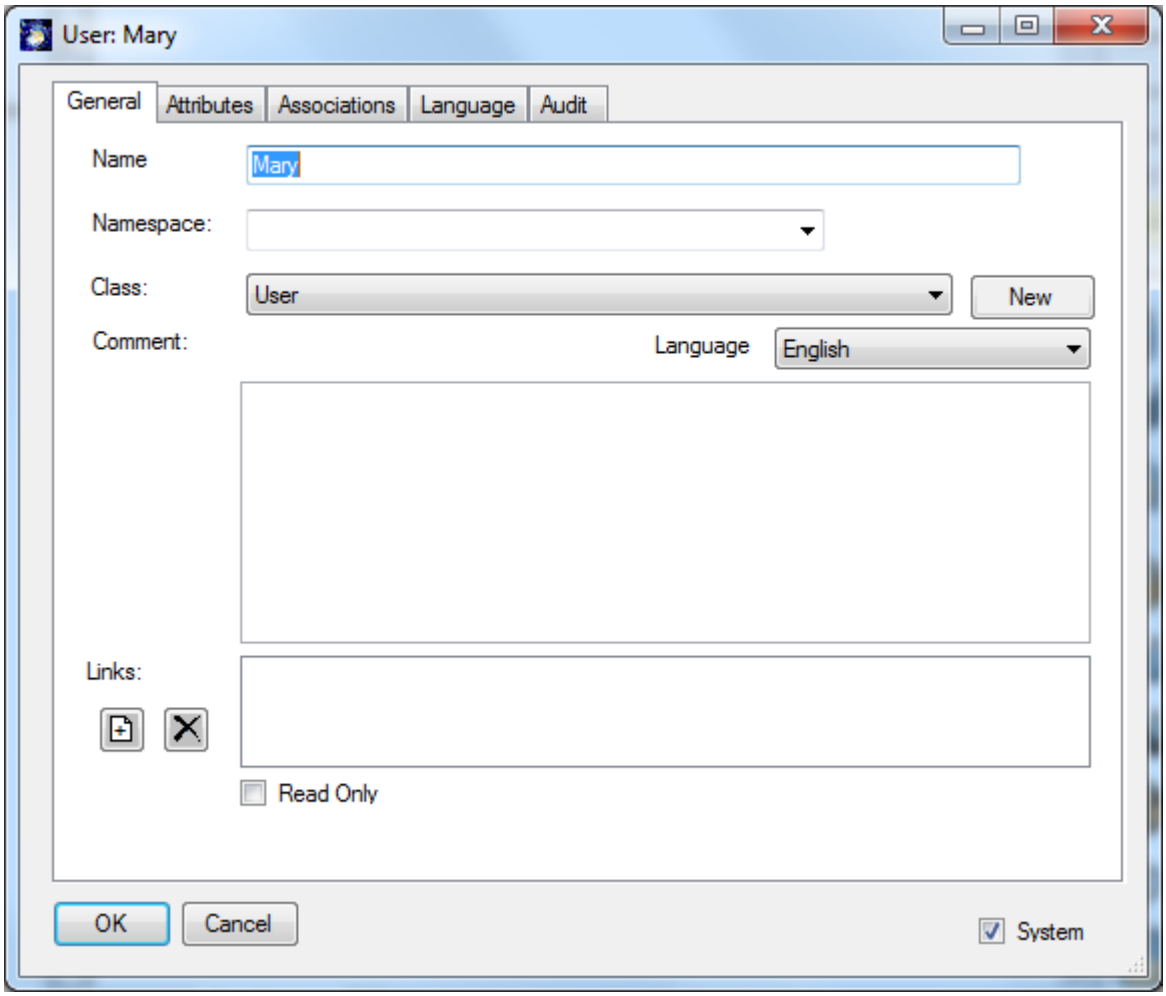
Now, you can drag & drop your shape of preference in the drawing area. In this case, please use the shape titled "User". Repeat this procedure once more. You can use the shape search function on top of the stencil window. In this way, you can look for special shapes in the installed Visio® stencils. Please find a "User" shape now. Once you find it, drag & drop the shape in the drawing area twice.



SemTalk assigns automatically an individual name to each object according to the name they have in the Visio® stencil. For example, “User.14” and “User.15 are different objects of the class “User”. If you select them you can simply type in the new name.



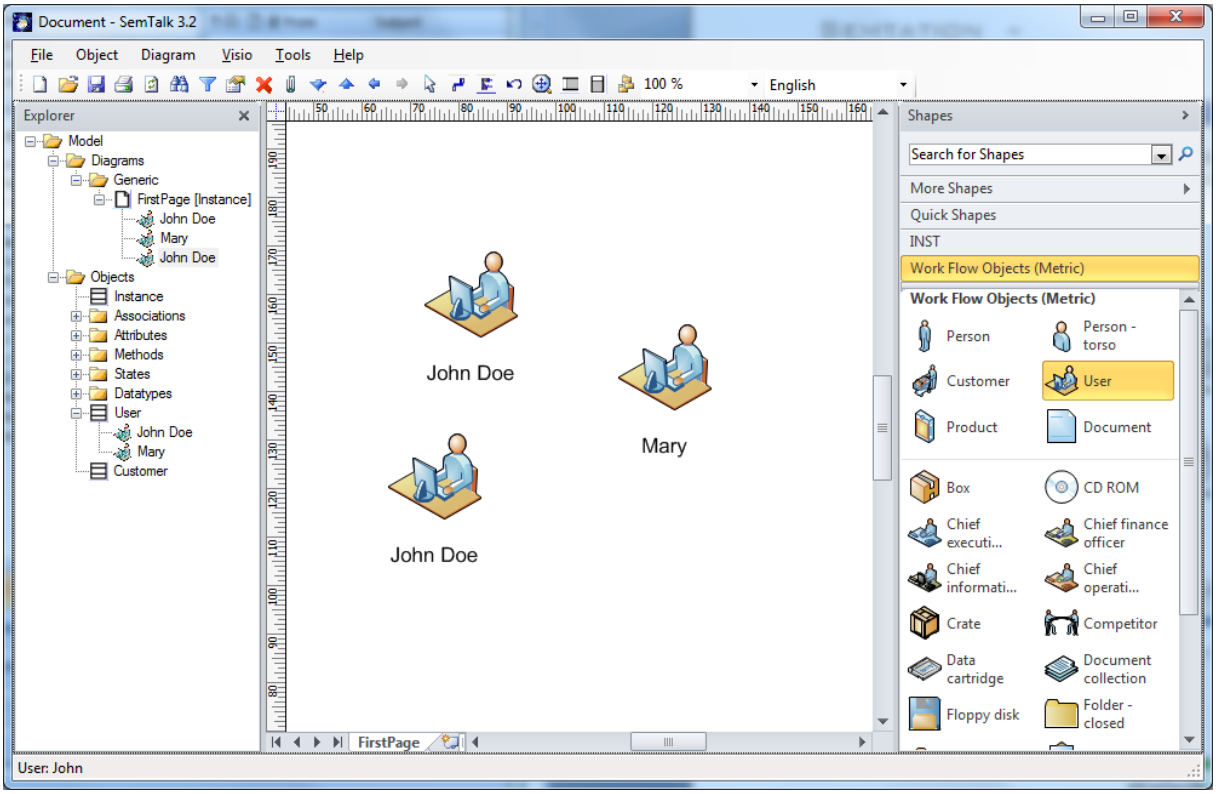
To change the object’s name or other property make double-click on the shape or click the right button of your mouse and select **Edit**.



Consistency

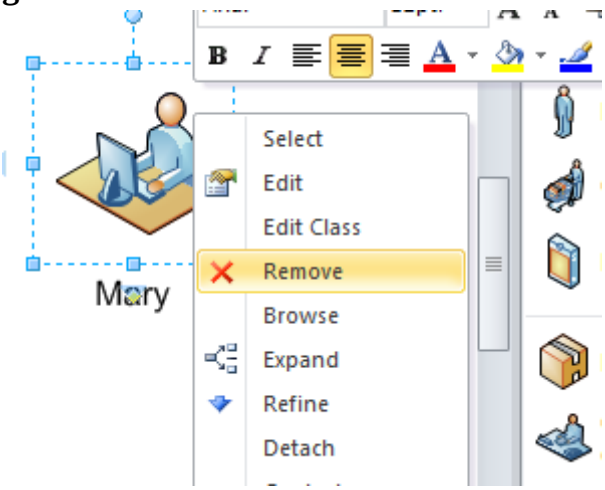
When duplicating an object with SemTalk, it is necessary to maintain its consistency. For example, if the user modifies the name of an object, the modification must also occur in every duplicate of that object.

Please create a second shape for the Instance “John” by using Copy&Paste. (Ctrl-C, Ctrl-V)



Now, every modification done on the object "John" will be replicated in every of its shapes.

Removing or Deleting an Instance



At this moment, it is convenient to point out that with **Del-key**, **Ctrl-X** or **Object → Delete from Drawing** you are only **erasing** the chosen shape from the drawing area, but not **removing** it from SemTalk's object base. In case you want to remove an object from the drawing area AND from the object base, you must use **Remove** from the context menu or **Object → Remove** the menu bar.

Please select the an Instance in your drawing area and right-click on the shape.

In this way, you removed the from the object base and from the active page, as well as, from every other page of your SemTalk model. In SemTalk, there is no Undo command that to restore the

removed object and its properties. If you **delete** an object, you may restore it in your diagram(s) using Insert or drag it from the Explorer.

Other SemTalk model-based functions like **Browse, Find** and **Expand** are described later in this tutorial.

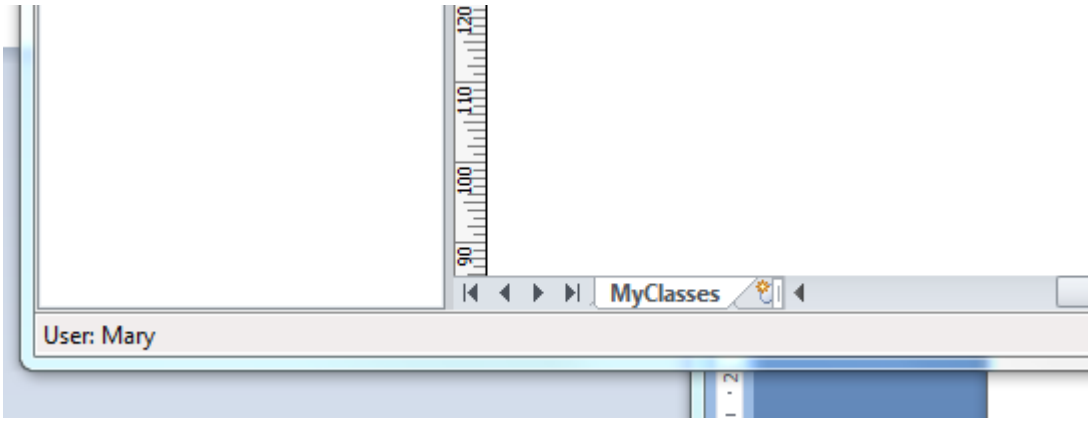
Class Diagram

So far, you have created instances of classes. The meaning of the Visio® shapes you previously used is defined in class diagrams. In our example, we used Visio® shapes related to users and we gave them individual names. In a class diagram, we could now extend the definition of our model by defining that a user uses a product. This declaration is valid for the instances we modeled before. Furthermore, in the class diagram you can define attributes that are inherited by subclasses of your class. For example, the subclass "Expert" will inherit attributes and relationships from the class "User". Abstract classes, e.g. "Person", have no Visio®-shape (yet) and therefore, you can use the general class symbol.

Creating a Class Diagram

Each SemTalk page has a type, i.e. an instance type or a class type. Thus, the first step is to define the page as a class diagram. To do this, insert a new page by:

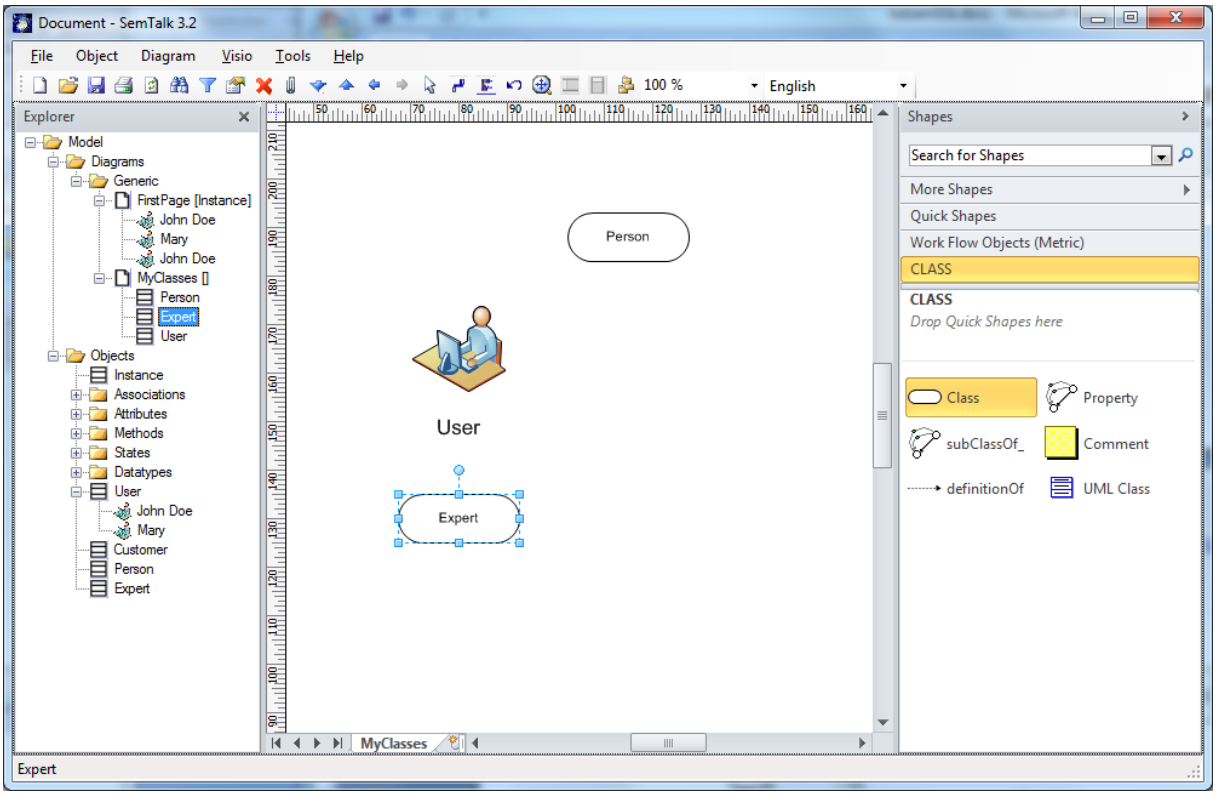
- Select from the menu bar **Diagram → New → Class Diagram** or
- Alternatively, select from SemTalk's Explorer (tree structure) the node **Diagrams/Generic** and from its context menu (right click on the **Generic** node) the option **Class Diagram**.



Please change now the diagram's name "My Classes". Now you are ready to insert and create more class shapes and thus give your model more semantic consistency and expressiveness.

Creating a New Class

At this moment, you are ready to begin defining classes. If you drag & drop the shape "User" in the drawing area, you will define general properties of the class "User". Remember that everything you define for a class is valid for its instances.



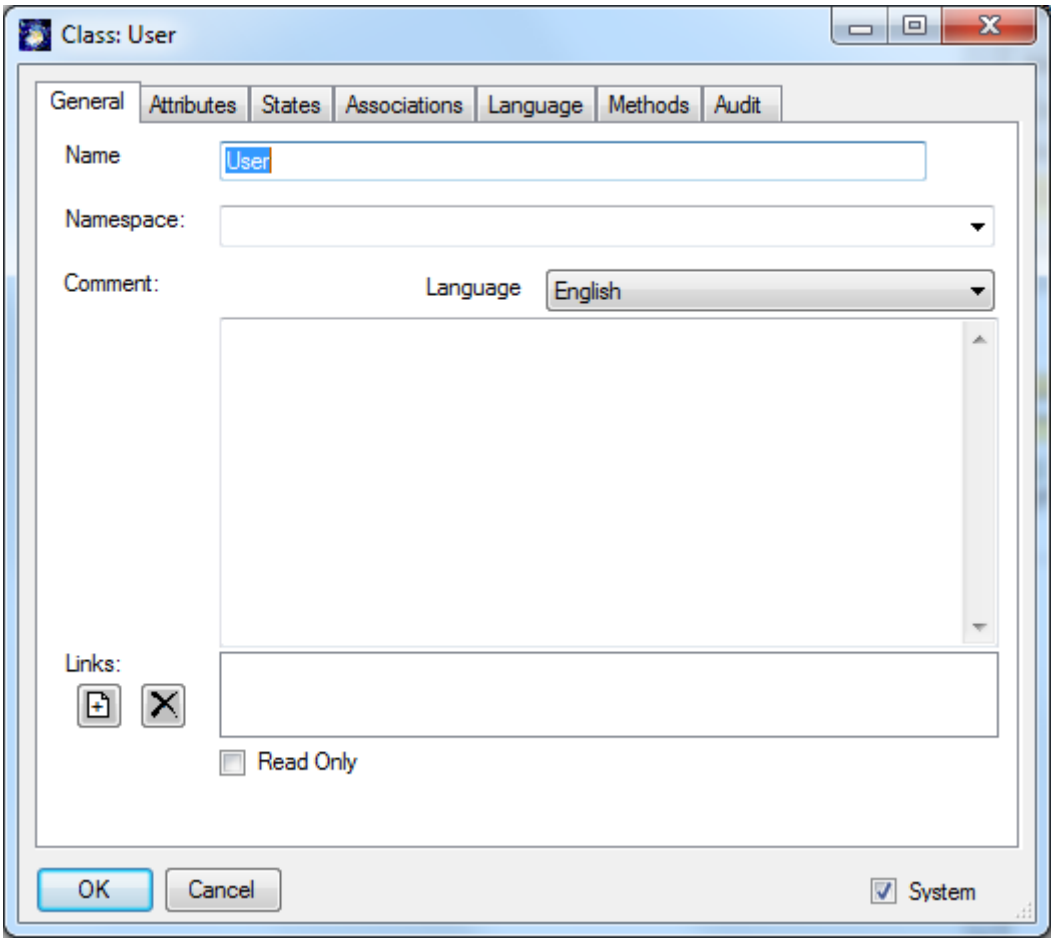
Adding a new class using no predefined Visio® Master Shape is very easy. Please drag the class symbol from the "Class" stencil window and drop it on the drawing area. You may just write a name on the shape or open its Edit dialog to create a new class. For example give the shape the name "Expert".

In the next sections, you will learn how to edit classes and instances. Therefore, the term object will represent both classes and instances. In most cases, the edit dialogs are the same for both of them, but exceptions are highlighted.

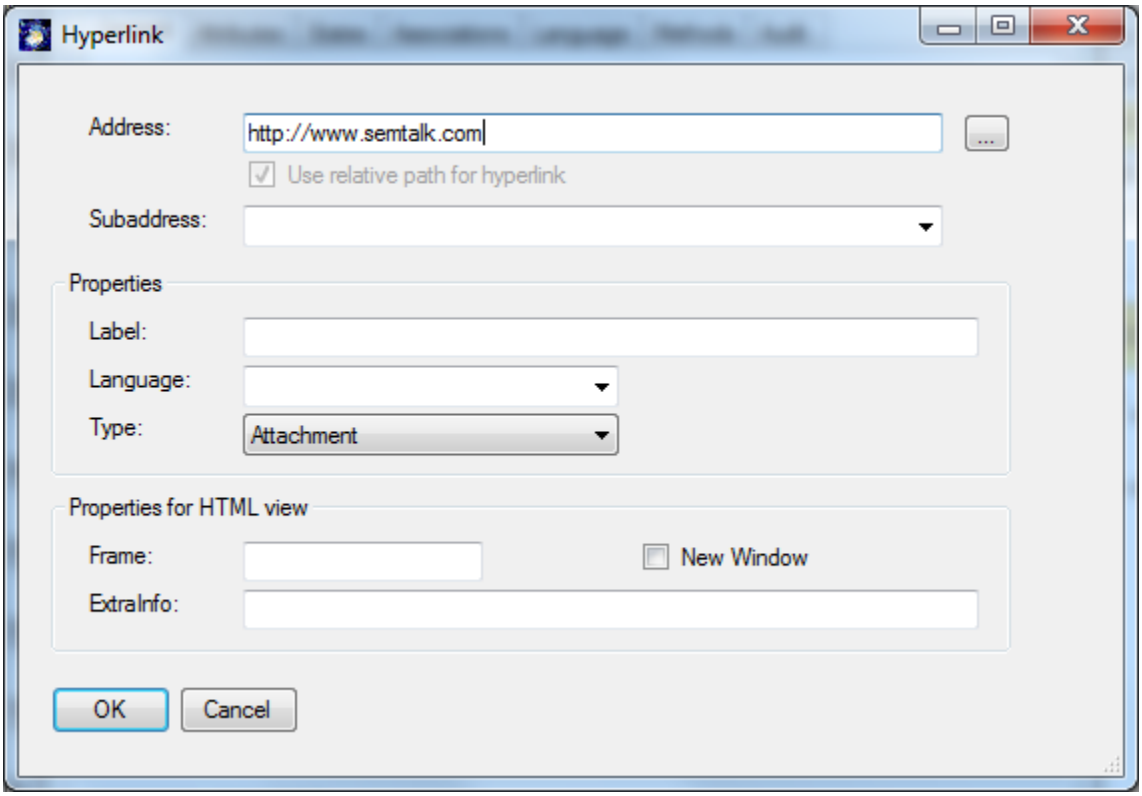
Editing objects - General Tab
To edit a class and its properties,

- double-click on the object or
- press the right button of your mouse and choose **Edit** from the context menu or
- from the menu select **Object → Edit** or
- find the object in the explorer as a child of **Diagrams → Generic → My Classes (context menu)**
- find the object in the explorer as a child of **Objects** (context menu)

You should now see the following dialog box:

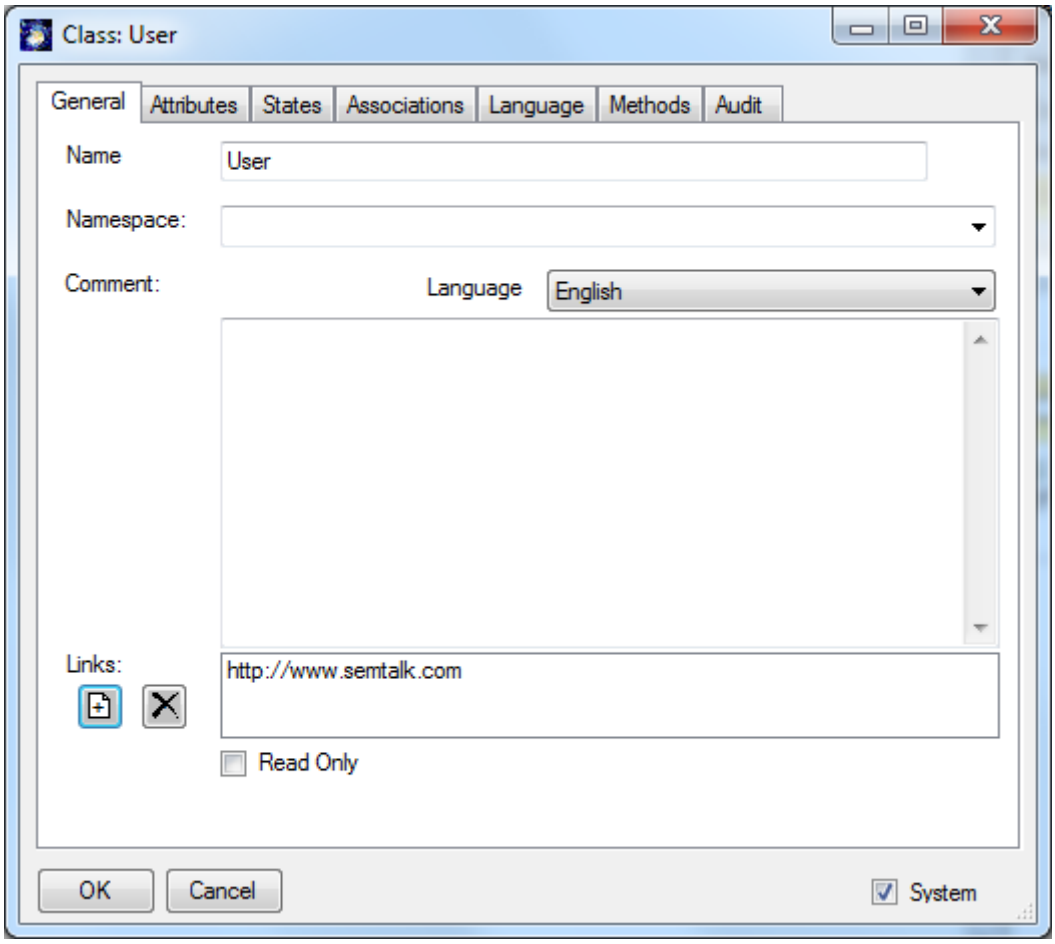


Name	The name of the object. You may change this name to specify the class name.
Namespace	The namespace of the class name for the object. The identifier of an object is the combination of a namespace and the name. E.g., “Tr#Treasurer” is the object named “Treasurer” in the namespace “Tr”. There might be another object “Hu#Treasurer” which is also displayed as “Treasurer”. Use each name only once in a namespace. You can precisely define an object companywide or even worldwide by combining of the name of an object and an **Error! Reference source not found.**, e.g. like this: "http://www.SemTalk.com/banking#Bank". Each name can be used in a namespace only once.
Comment	The description or definition of the class.
Language	To specify the language of a comment. Objects may have multiple names in different languages and multiple comments.
Links	e.g. hyperlinks can be added or deleted using the context menu (right-click) of the Links text field or the “+” or “-“button respectively.
Read Only	Marks the class as read only and protects it e.g. from renaming or deletion.



In the **Hyperlink** dialog, you can enter the following information:

Address	Use to type a Web site's URL, starting with the protocol (such as http://) or type the path of a local file (a file on your computer or network) that you want to link to. Alternatively, click ... to locate the file or Web site.
Subaddress	If the text field **Address** is empty, it displays a page in your SemTalk model that you can link to. If you enter the path of a local MS Excel file or a Visio file in the **Address** text field, you can a named location (e.g. an Excel Worksheet or a Visio page) within the target associated with the specified file.
ExtraInfo	Use this argument to specify additional information that HTTP requires to resolve the hyperlink. The most common uses for this argument are to send a Web server the contents of a form, the coordinates of an image map, or a search parameter for an ASP file. (Example: Address: http://www.google.com/bin/search ExtraInfo: ?q=*keyword*)
Label	Use to replace the hyperlink character string with text of your choice.
Language	If you are working with multi-languages models, choose a language that relates to the target specified through the hyperlink. E.g., you want to link a document explaining the tasks of the bank treasurer in different languages. If the object has been translated to English and Spanish you may attach different documents for each language.
Frame	A HTML Target frame where the document will be opened
New Window	The document will be opened in a new (Browser-) Window


Class: User
General
Attributes
States
Associations
Language
Methods
Audit
Name
User
Namespace:
Comment:
Language
English
Links:
http://www.semtalk.com
Read Only
OK
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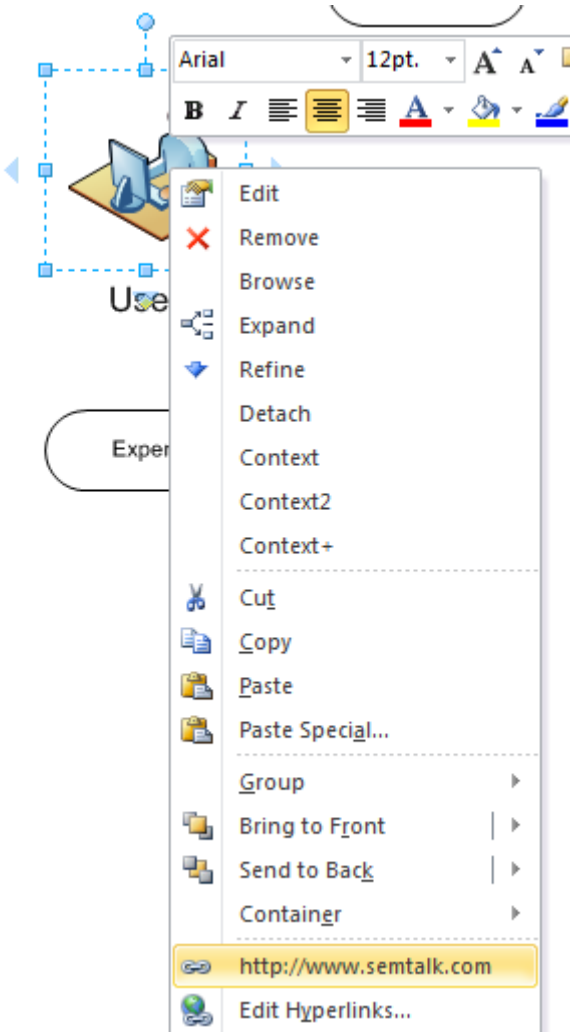
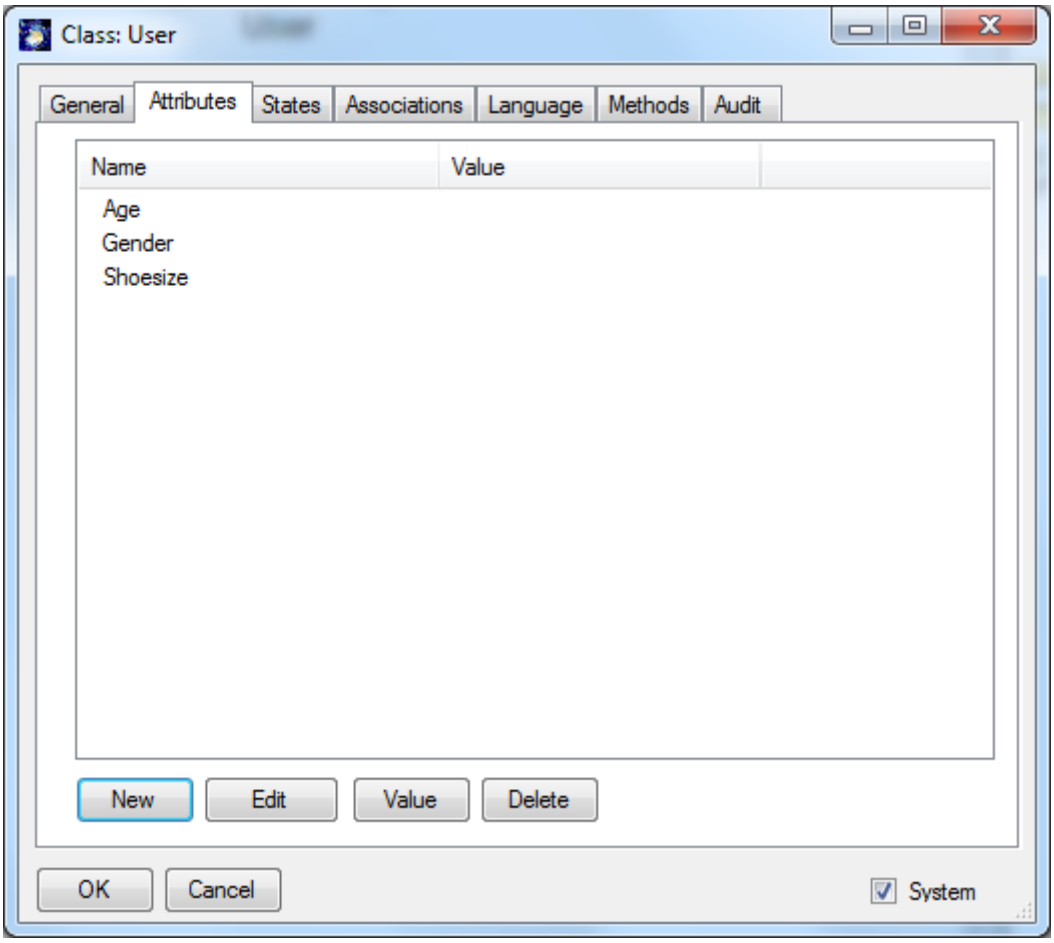
System

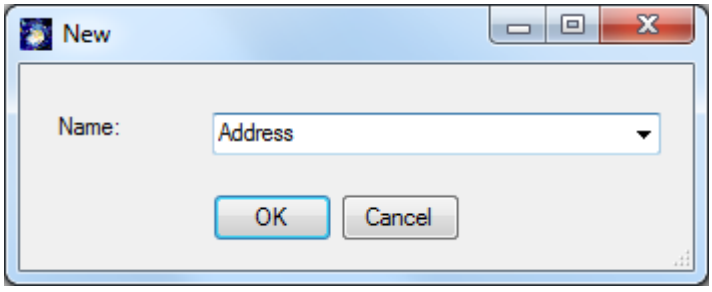


Attributes

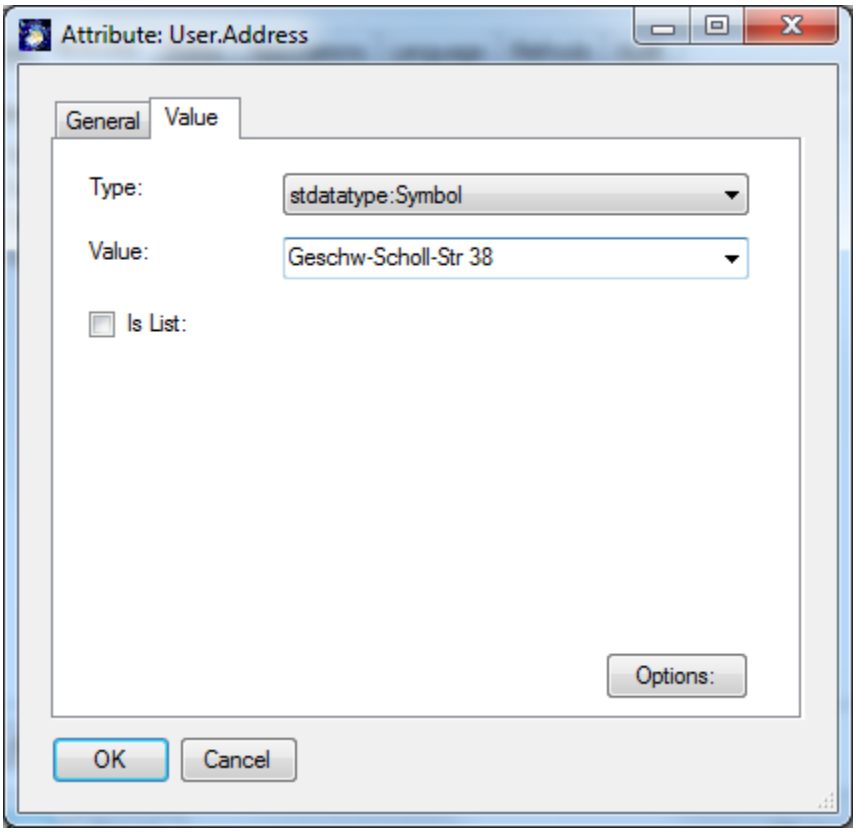
The attributes of a class can be defined and edited on the **Attributes** tab. Some Visio-Shapes have already attributes. You can use them, but you can also edit them or just delete them.



Please create the attribute “Address” by pressing **New**.



Double click or press the **Edit** button to open the attribute details dialog box. The button **Delete** is intended to delete an attribute. **Value** is a convenient way to enter a larger piece of text into an attribute value.



Type	Specifies the type of this attribute e.g. Symbol, Boolean, Float or Number. Attributes do not require the selection of a type.
Value	The default value for this attribute.
Is List	Allows the use of multiple valued attributes. E.g. “red”and “green”.
Options	Specifies the options for values of that attribute E.g. “red”, “green”, or “blue”. Those options will be used as options for the values combo box.

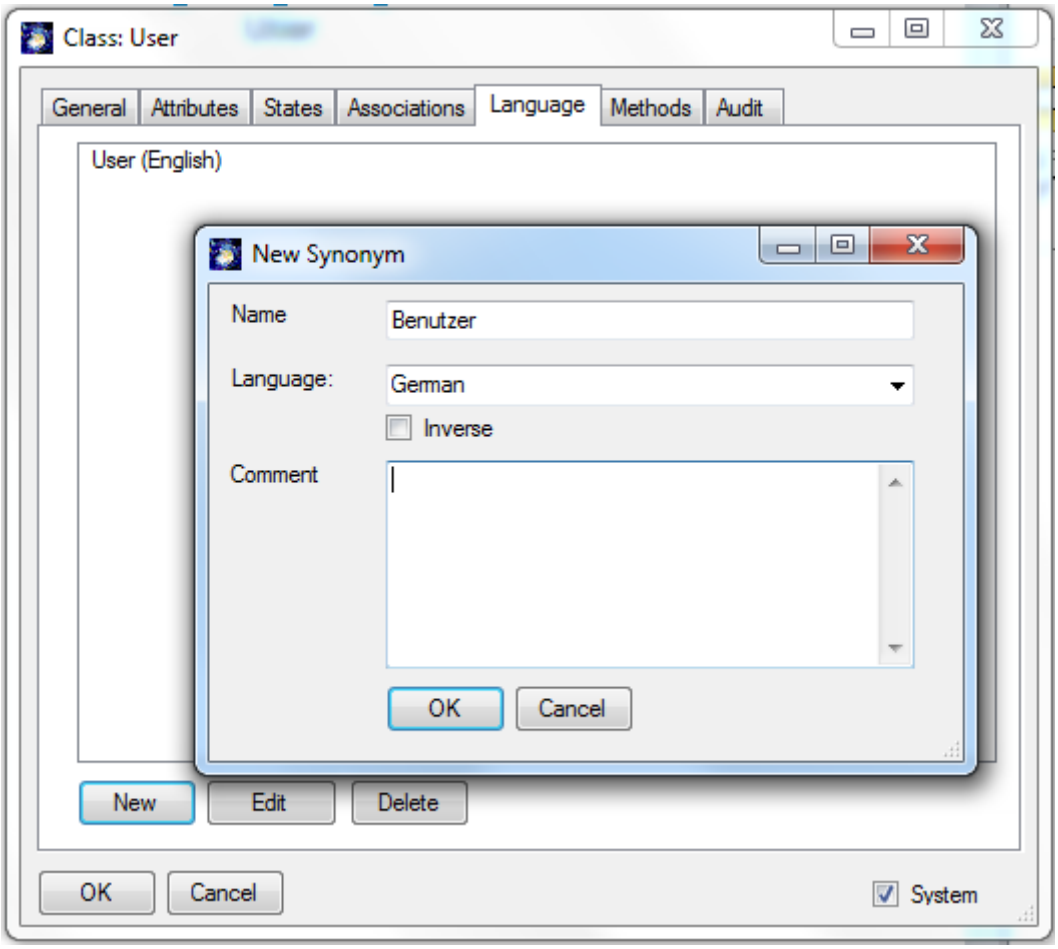
After closing the dialog, the value is shown in the right part of the attribute list.

NOTE: The **Error! Reference source not found.** of attributes and values is explained in the course of the section 0.

Language

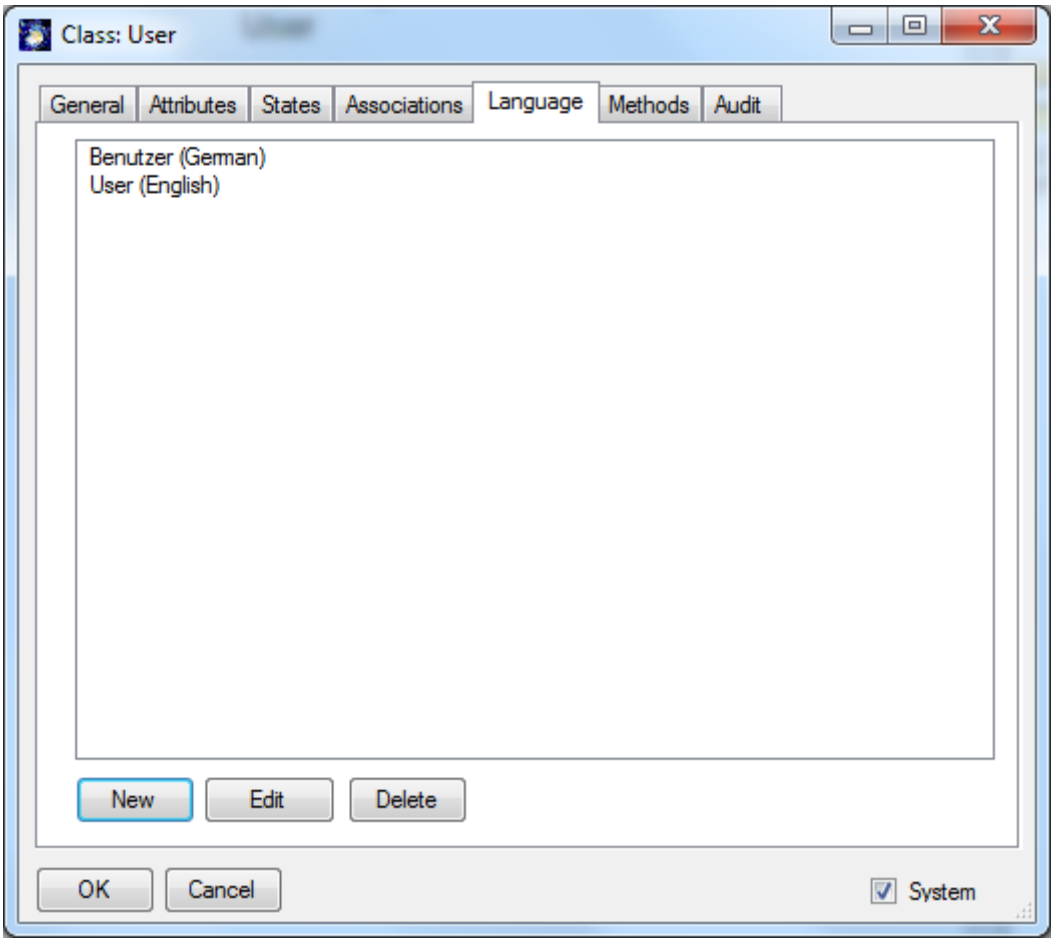
SemTalk offers you the possibility to create multi-language models. You can give every class, association class, instance, attribute or method different names in any language. SemTalk supports Unicode characters, which means that it supports Chinese, Arabic, Japanese und other character types.

Open the edit dialog for the class “User” and go to the tab **Language** and press the **New** button. You should the following dialog.



Enter the term “Benutzer”, which means “User” in German. Select “German” from the **Language** combo box or enter a new Language.

You should now see the following dialog as result:



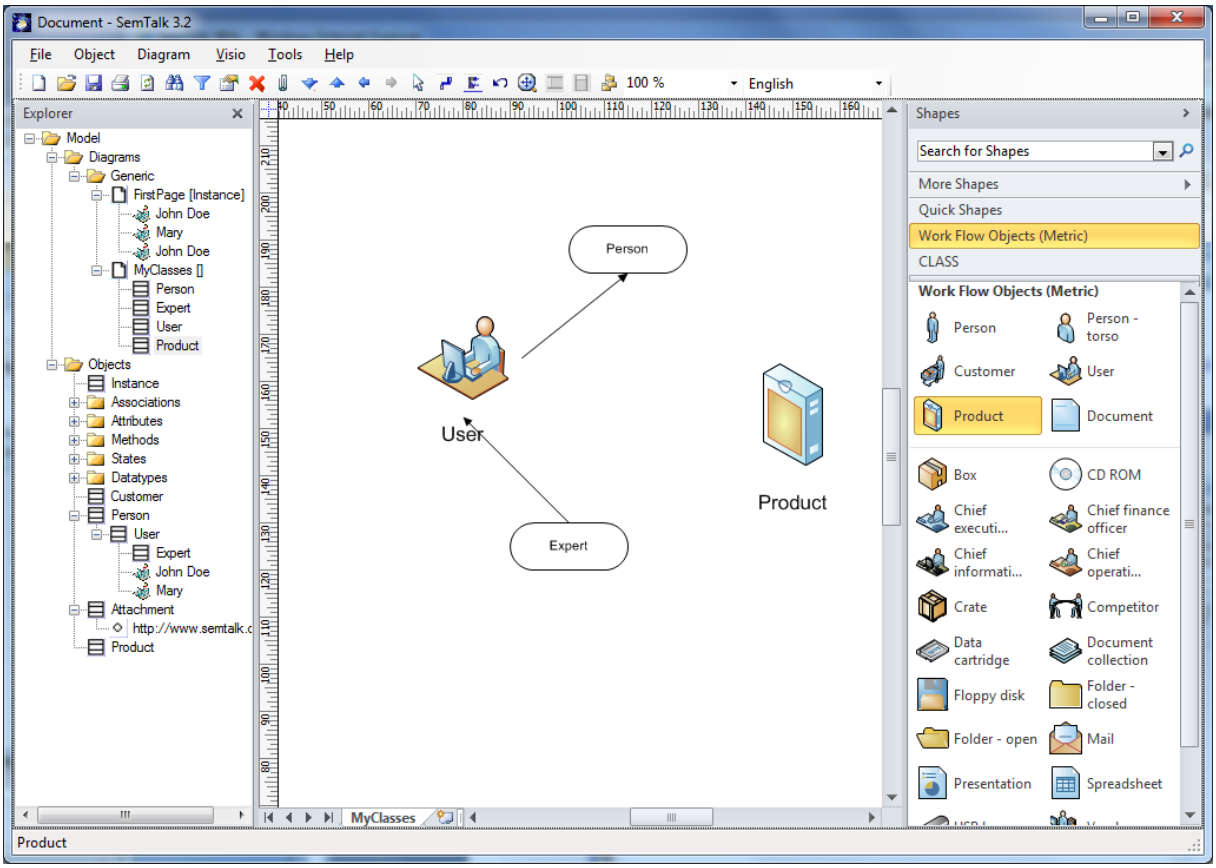
Associations

The **Associations** tab of the class or instance editor shows the object's associations and they can be edited there. Nevertheless, the easiest way to create, edit or remove an association is to do it graphically. In order to do this, we will add additional classes to this example.

From the "Work Flow Diagram Shapes" drag & drop the Product shape in your drawing area.

A class can have subclasses that represent concepts that are more specific than the superclass. The "subClassOf" association defines a taxonomic (subclass – superclass) hierarchy. Adding relationships is quite simple.

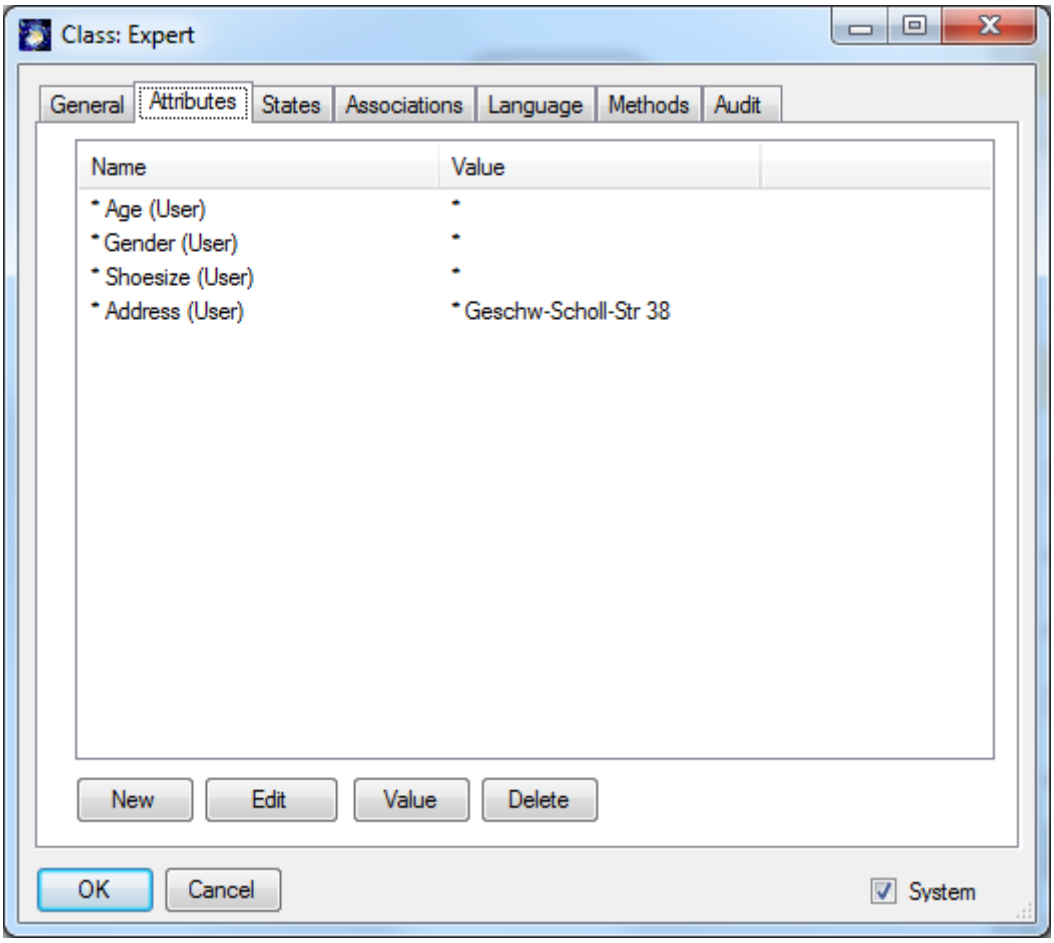
Drag & drop the "subClassOf" shape somewhere in the drawing area or by clicking first over the **Connector Tool**  on the menu bar and then clicking over the "subClassof" shape in the CLASS Stencil.



If you pull the end-point of the arrow over an object's "connections point", you will notice that you can glue the relationship to that object. With the "Connector Tool", you just must click over the two shapes you want to relate. You can do it more than one time consecutively. A red coloring tells you if the connection was success. Select an end-point and glue your new relationship to the objects of your choice. Notice that in case of the "subClassOf" relationship the arrow points toward the superclass.

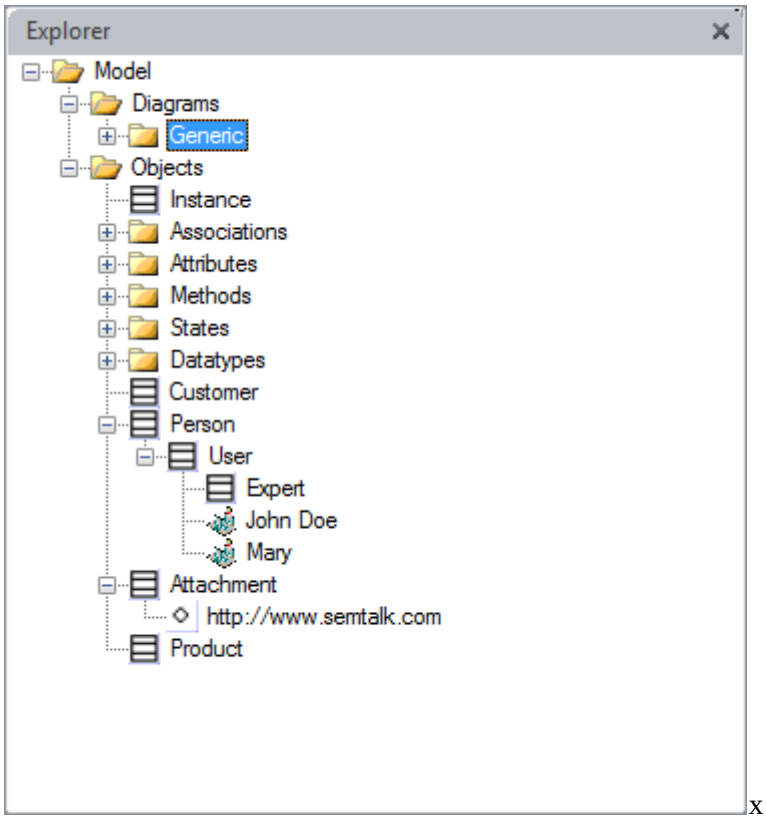
NOTE: Use always a singular name as object name. It is not recommended to use the class "Users", since the class "User" already describes one or more Users.

In our model, "Expert" became a subclass of "User". It inherited the attributes of "User", but you can now add further attributes to "Expert" (e.g. Domain) or change the values of inherited attributes using the **Edit** button. In the same way, "User" is a subclass of "Person".



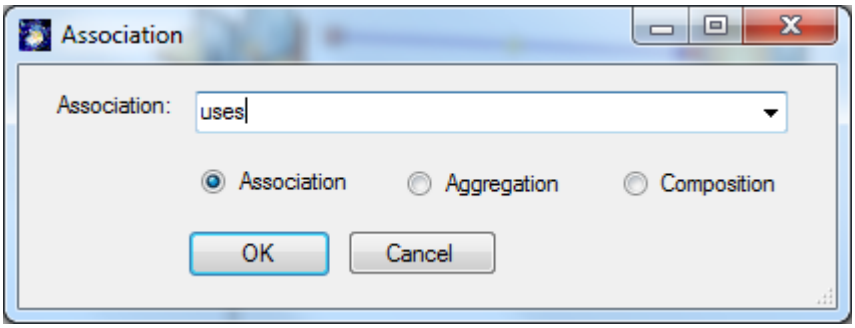
Inherited attributes are characterized by a "*". If you change the value of inherited attributes, SemTalk's object engine creates a local copy of the attribute. It will be deleted when you delete (reset) its value.

Please take a look at the model explorer. Below "Objects" you will see the inheritance hierachy.

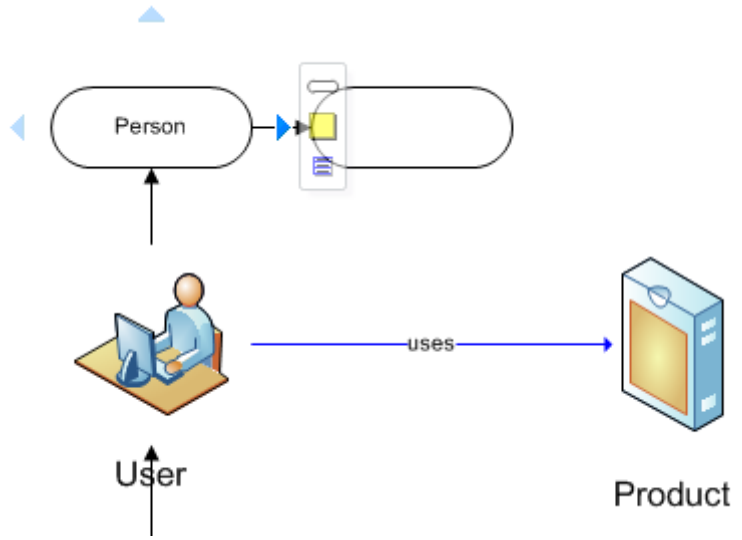


x

Associations can be made graphically using the "Property" connector. After adding the connector you will be prompted for an association name. Define a new association between User and Product. As the Property name, type "uses".

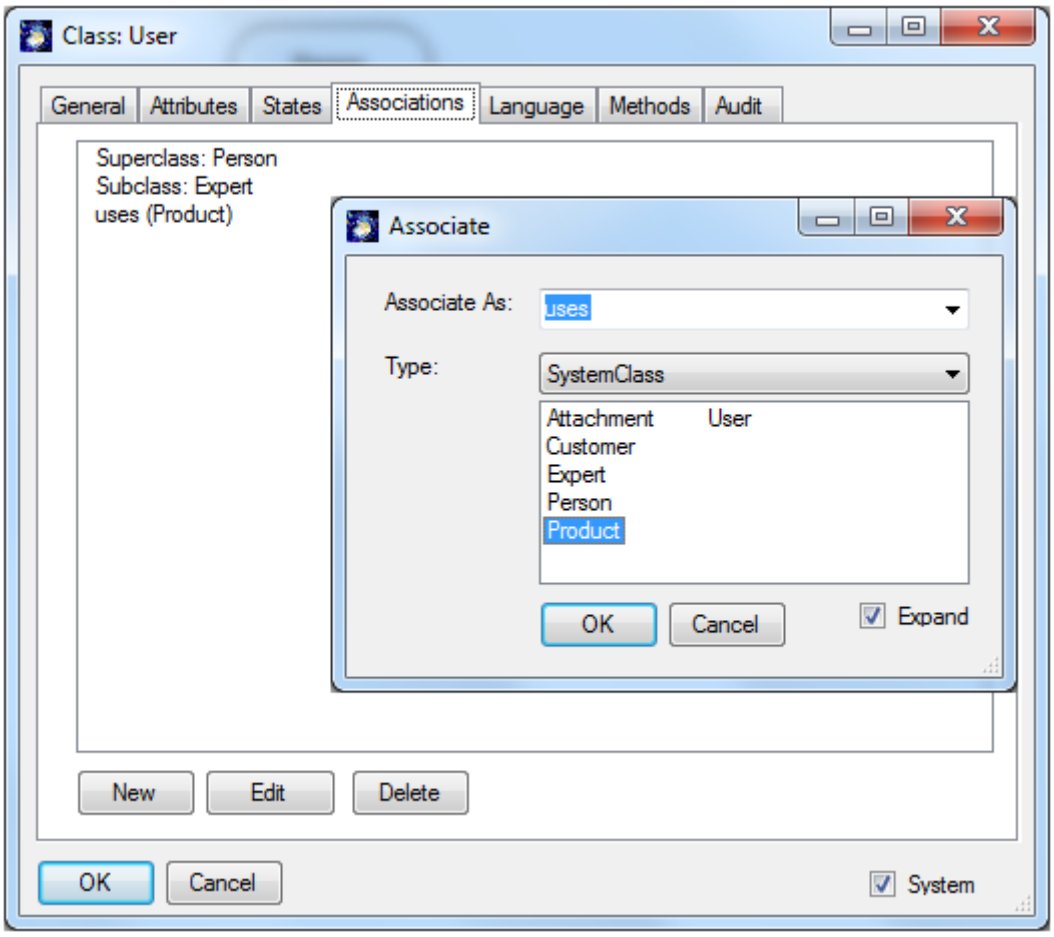


NOTE FOR VISIO 2007 AND VISIO 2010:

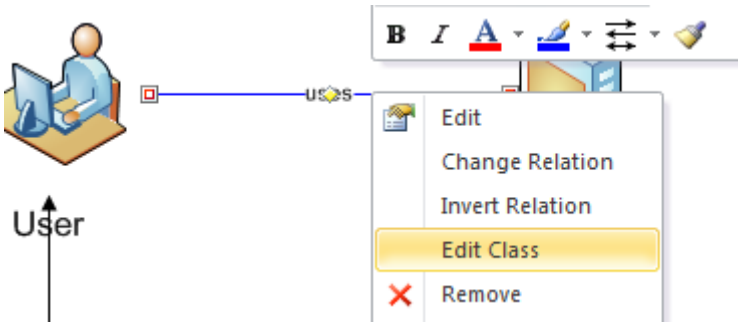


As Visio 2007 users may have already noticed, Visio offers a new tool to connect neighboring shapes. As the figure shows, you can choose one of the blue arrows from the origin shape (just move the mouse pointer over it) and Visio will mark red the next neighboring shape. Click on the blue arrow to confirm the selection and SemTalk opens the association dialog box immediately after. Visio 2010 hat "Quick Shapes" which to allow a very fast construction of a diagram without drag & drop.

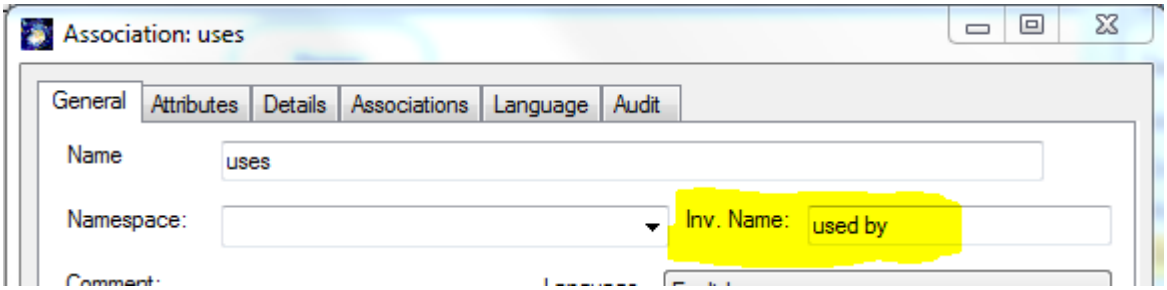
Association can be made without graphics using the Associations tab.



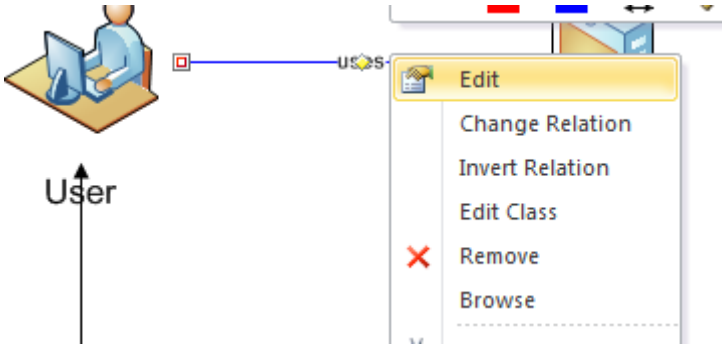
If you open the **Edit** dialog box for "Product" and select the **Associations** tab, you will notice, that the relationship is named "inv uses". "inv" means that it is the inverse relation and no specific inverse name of "uses" has been defined yet. If you right-click on a link and choose **Edit** you can edit the properties of the association. To edit the relation class "uses" select "Edit Class" on then connector itself:



find this class in SemTalk's Explorer under Associations. Edit this class and change "inv uses" to "used by".



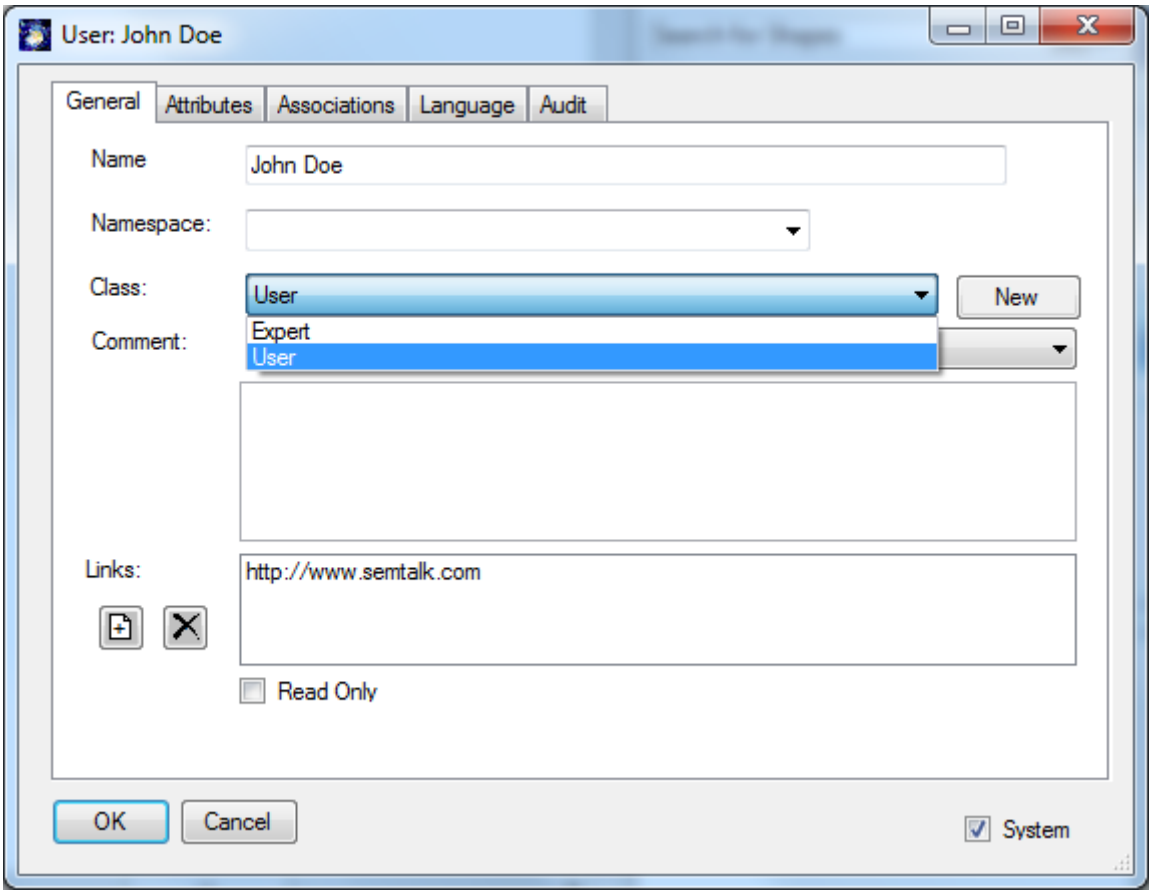
Notice the association's context menu has more options:



Change Relation	Use to change (create a new association or replace it with an existing one). The original class association is not erased or modified, just replaced between the two associated objects.
Invert Relation	Use to reverse the direction of an association.
Edit Class	Use to open directly the edit dialog of the association's class.
Browse is explained later in this tutorial.	

NOTE: **Remove** deletes the association from the model. Deleting using Delete from Drawing or the Del-key only removes it from the drawing. Classes and other objects behave in a similar manner.

You can change the class of instances by using the **Class** combo box of this dialog box in the **Edit** dialog.


User: John Doe
General
Attributes
Associations
Language
Audit
Name
John Doe
Namespace:
Class:
User
New
Comment:
Expert
User
Links:
http://www.semtalk.com
Read Only
OK
Cancel
System

Basic SemTalk functions

In the following sections, you will learn about SemTalk basic functions while modeling. In some cases, the examples in this tutorial will need supplementary models to illustrate the functions. Some of these models can be found online and their URL will be appropriately listed.

Saving a Model

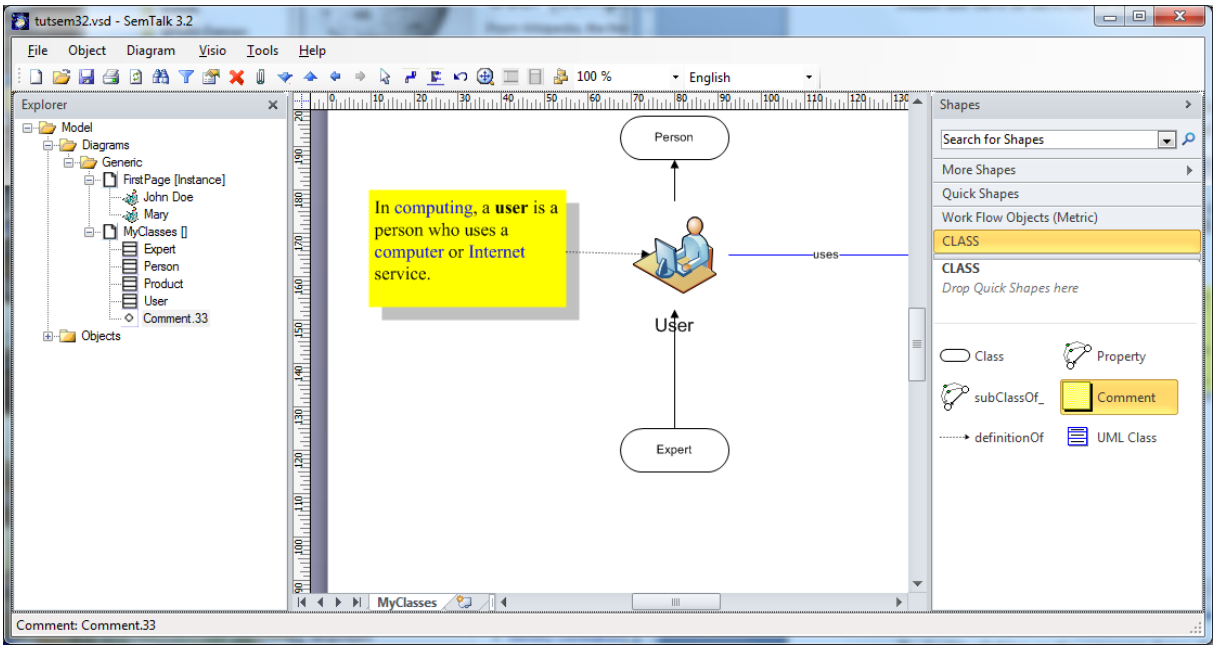
Please use Save or Save As. In addition to Visio®'s VSD file, a XML file for the model is created. You may turn of saving of XML files via SemTalk->Options. Internally SemTalk saves an XML anyway. The external XML is used only used for referencing objects from other models. If the XML file get lost, it does not really matter since SemTalk creates a new XML file everytime you save.

You can use Visio's AutoSave from the Visio options.

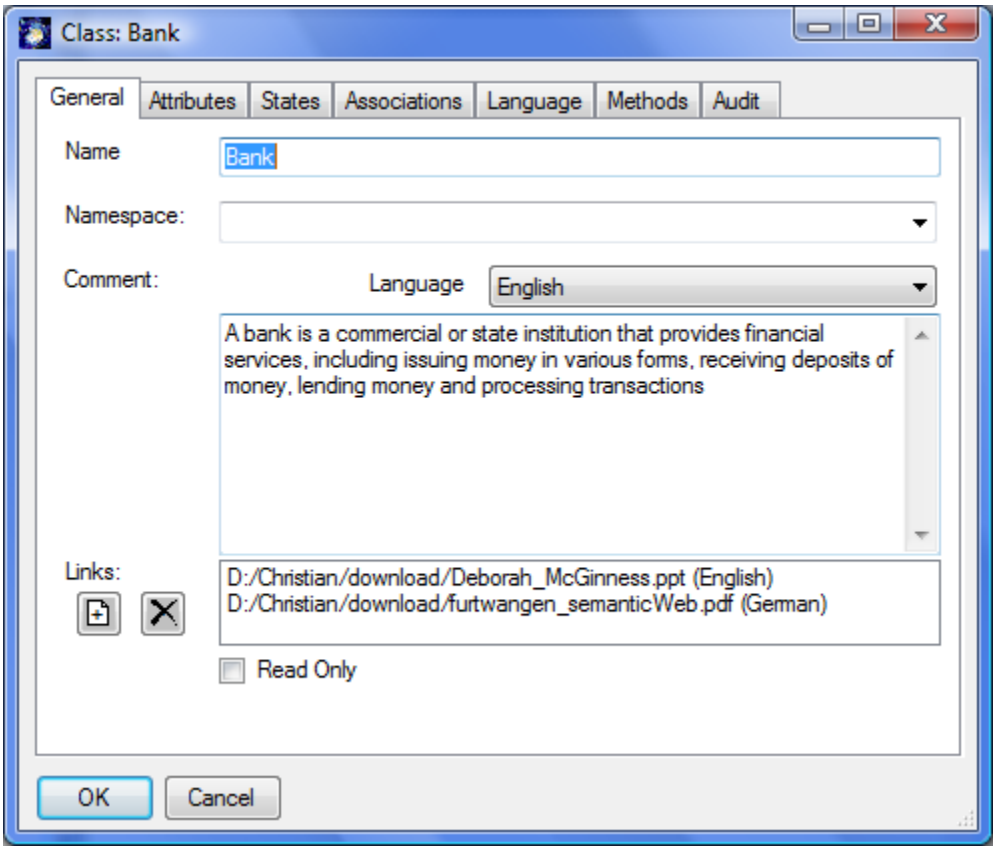
If you use Sharepoint Integration you may directly save into Sharepoint document libraries.

Comments

In order to display a comment / definition of an object drag & drop the "Comment" shape in the drawing area and point with the "definition of" connector to one or more objects:



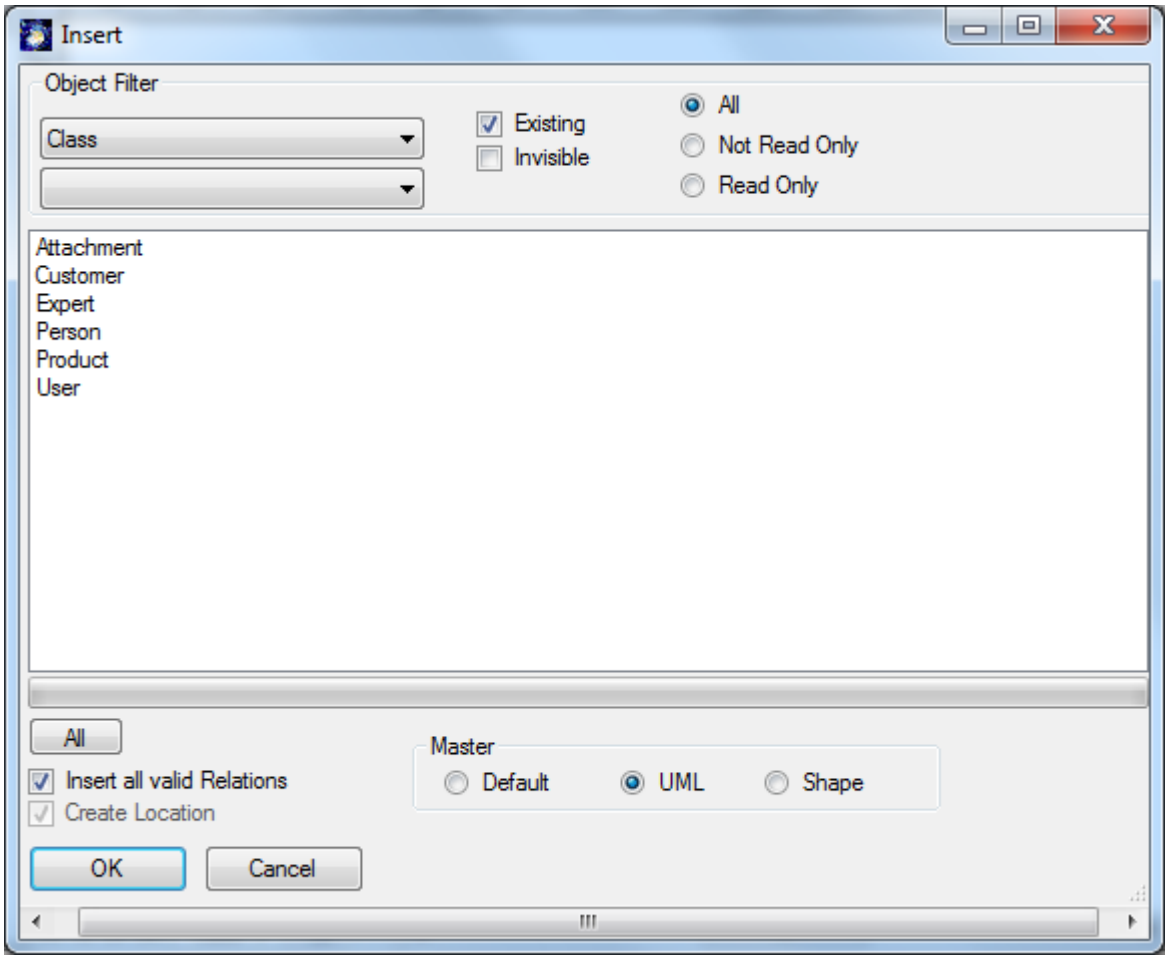
By double-clicking on the comment shape, the **Edit** dialog of the object will open.



Changing the language for the comment will allow you to maintain comments in multiple languages.

Insert Objects

You can insert existing classes in new diagrams very easily with SemTalk. Please create a new class diagram. Having done that, please right-click on the drawing area and choose **Insert (Model)** to insert existing classes into the new diagram. Alternatively, you may use the menu Diagram → Insert. You will see the following dialog box:



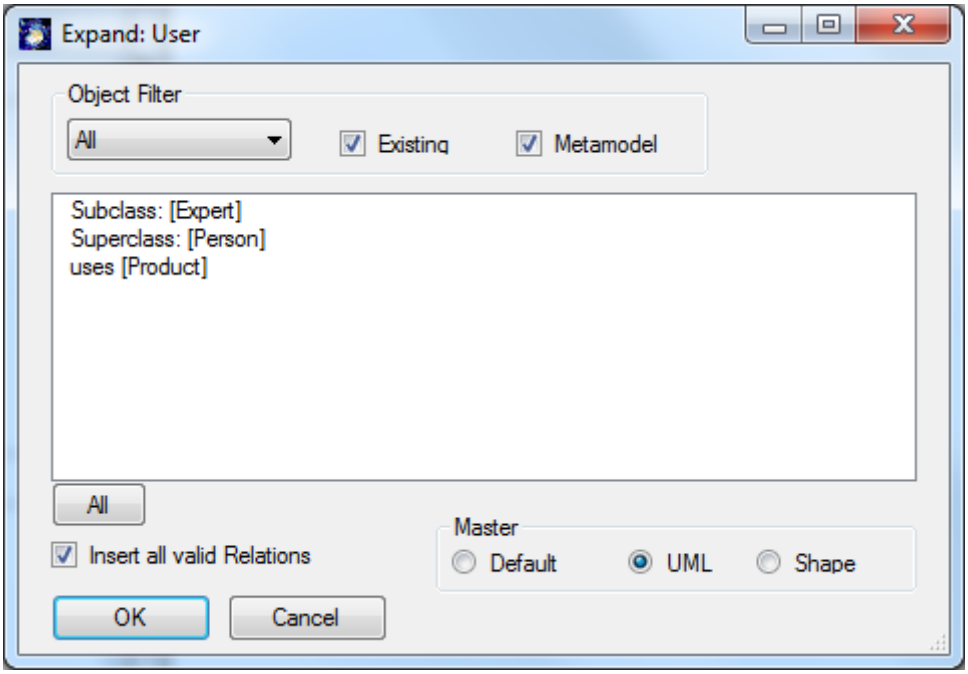
Object Filter	You can insert classes, relation types or diagram types into generic class diagrams. For other diagram types restrictions may apply. The second combobox of the object filter allows filtering by subclasses or instances (applies only for Diagram types with a root class)
Existing	As default the list contains only objects, which are not shown on the current page. If you check **Existing**, you can insert those objects again.
All / Not ReadOnly / ReadOnly	Include classes, which are marked as ReadOnly or not. Typically these are the elements of a method's **Error! Reference source not found.**.
Invisible	You can insert only those objects that exist in the model's object base, but are not present in any page.
Insert all valid Relations	All relations, which are in the object base, to other objects on the diagram are being visualized.
All	Selects all the objects in the list at once.
Master (options)	It specifies the shape to use. **Default** is until now used shape. **UML** uses a **Error! Reference source not found.**-style class shape. **Shape** searches for a shape master with the same name as the class.

NOTE: You can change the size of the **Insert** dialog box with your mouse.

Expand

When objects are expanded, diagrams are extended using information that has already been modeled. For example, if a User is associated with Product, we can add related objects to the active diagram based on information modeled in other diagrams.

Insert the class "User" in a new diagram and right-click **Expand** on the class. Alternatively, you may use the menu **Object → Expand**.



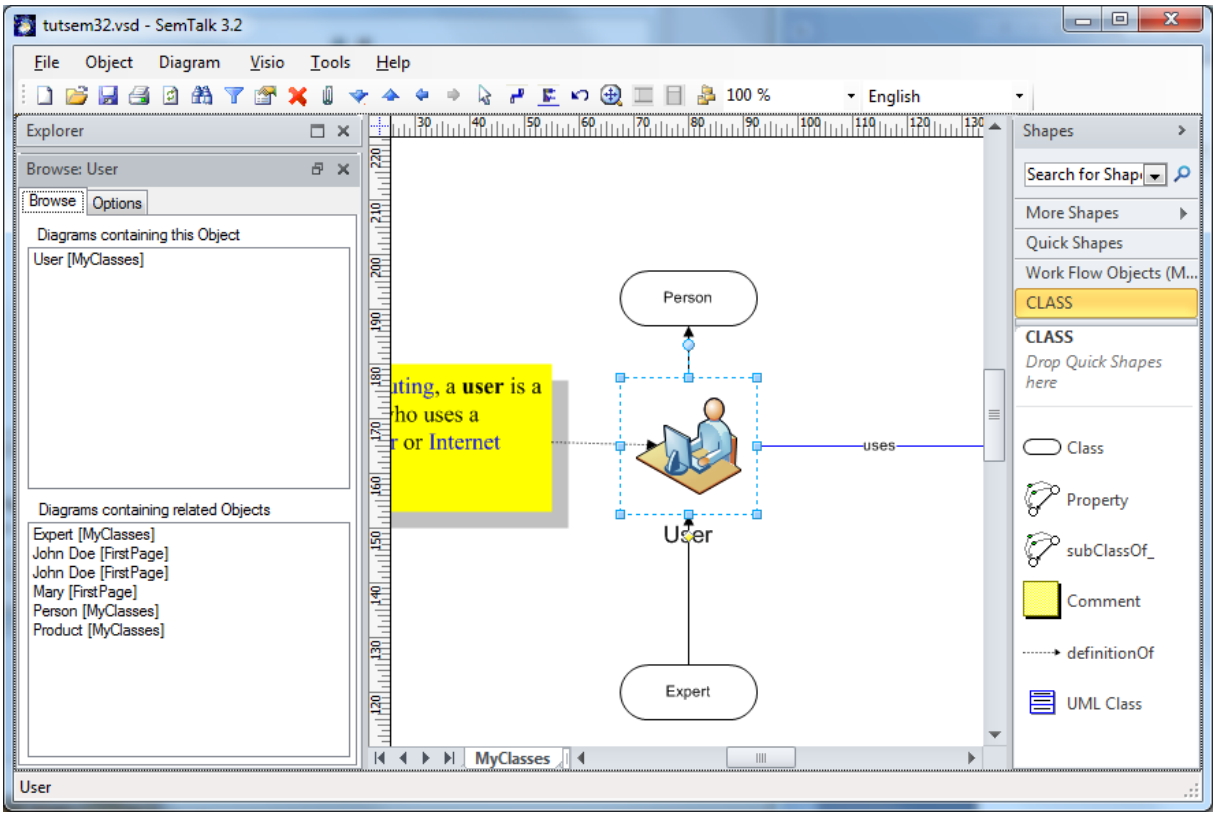
Select "uses" and press OK to insert the class "Product" in the diagram.

For the expand options see "Insert"

Browse

With the **Browse** command in the context menu (right-click on an object) you can navigate to other visualizations of that object. Alternatively, you may use the menu Object → Browse.

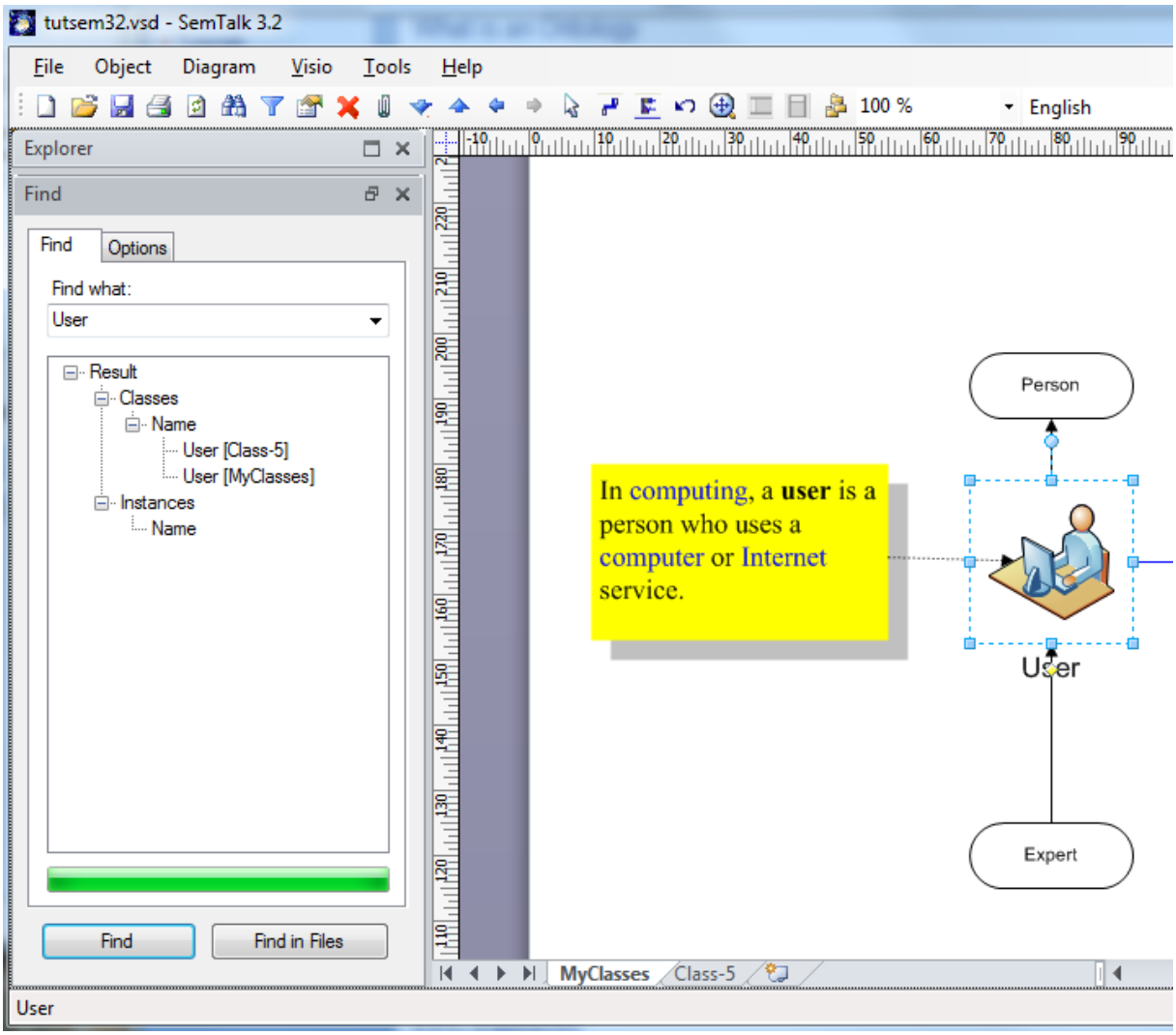
The upper list box shows all diagrams that have a node for the object. The lower list box shows all diagrams that have a node with objects having a relationship to the object.



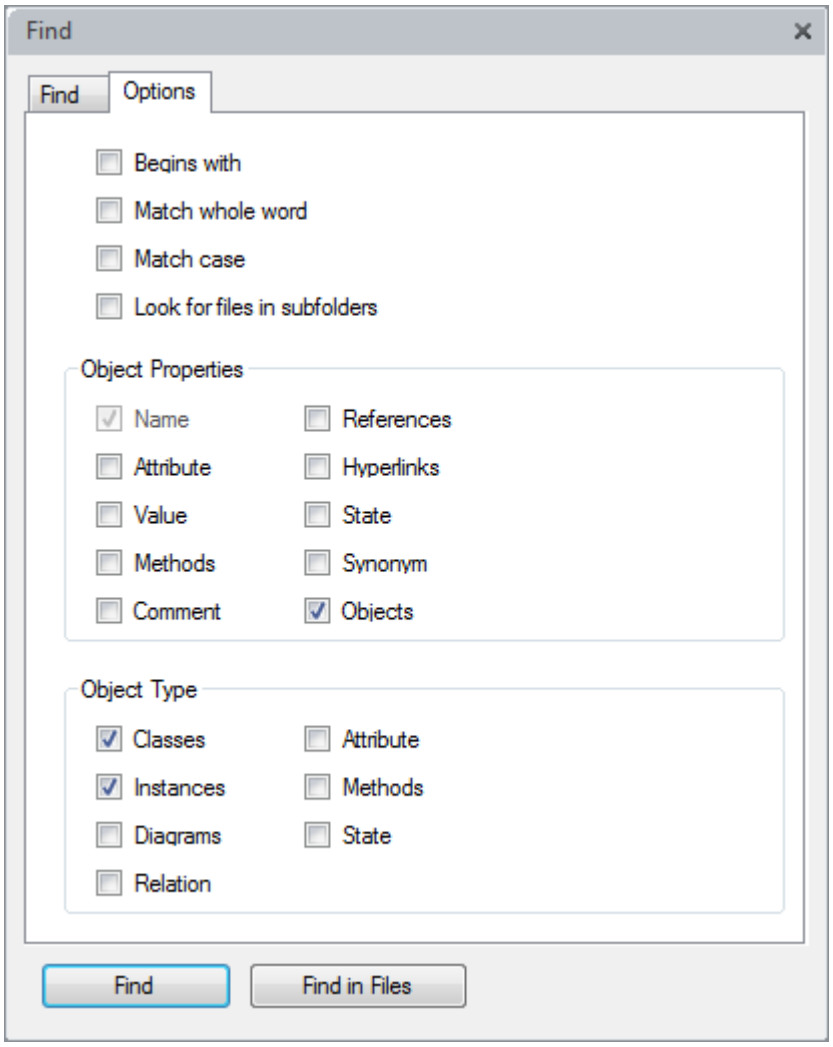
In order to show the object in different diagrams just selecte it. To navigate to related objects use a double-click on the object. By checking / deselecting the options **Super**, **Sub, Relation** and **Instance** you can filter the objects in the lower list box. **Objects with compose** is used for Business Process Modeling only.

Find

The command **Find** is located on the context menu of the drawing pane or in the SemTalk menu. With **Find** you can search objects displayed on your diagram and navigate to them.



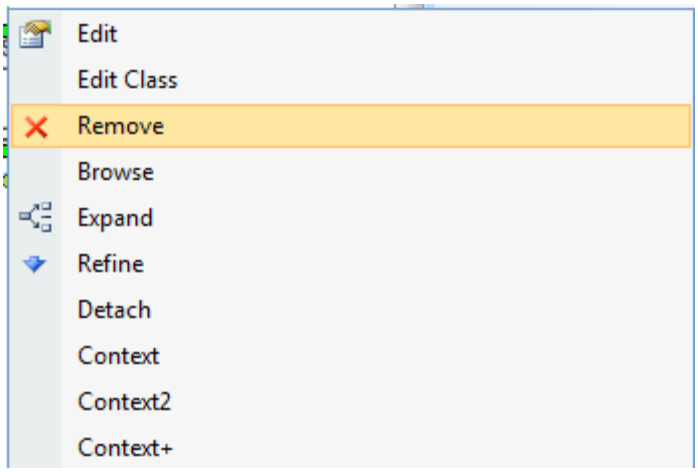
Name	The string to match. Blank "Name" matches every object.
Begins with	Searches only for objects where the name starts with the string in **Name**.
Match case	Use to carry out a case sensitive search.
Match whole word	Use to find the whole string only enter in **Name**.
Find	Use to begin searching.
Find in Files	Use to search a string in local SemTalk model xml files.
Show	Go to the object's location in the model.
Edit	Opens the selected object's edit dialog.



Object Properties	Select the properties the objects to be searched.
Object Types	Select what kind of object is to be searched.
Look for files in subfolders	Use to search subfolders of the folder selected when using the command **Find in Files**.

The tree view shows the matching objects and corresponding type. You may double-click an object or use **Show** to go to the object.

Remove

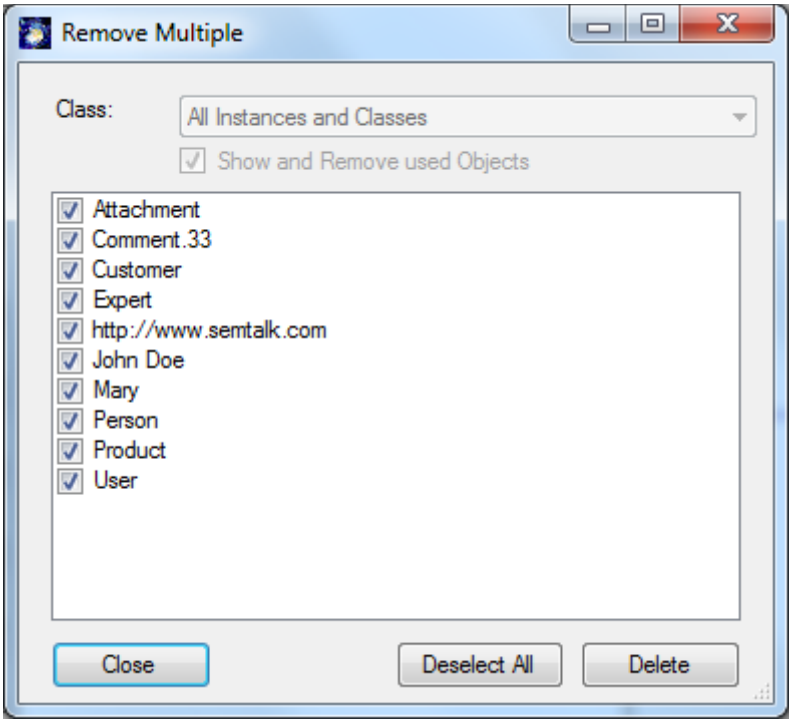


The **Remove** command on the context menu (right-click on a node) will delete the object or relationship from all diagrams in the model. Alternatively, you may use from the tool bar the menu **Object → Remove.**

NOTE: Objects that are not displayed in any diagram can only be deleted from the model using the explorer or Remove Multiple. Select the object in the explorer and use **Delete from Model**.

Remove Multiple

The command **Object → Remove Multiple** gives you the opportunity to remove more than one object at once.

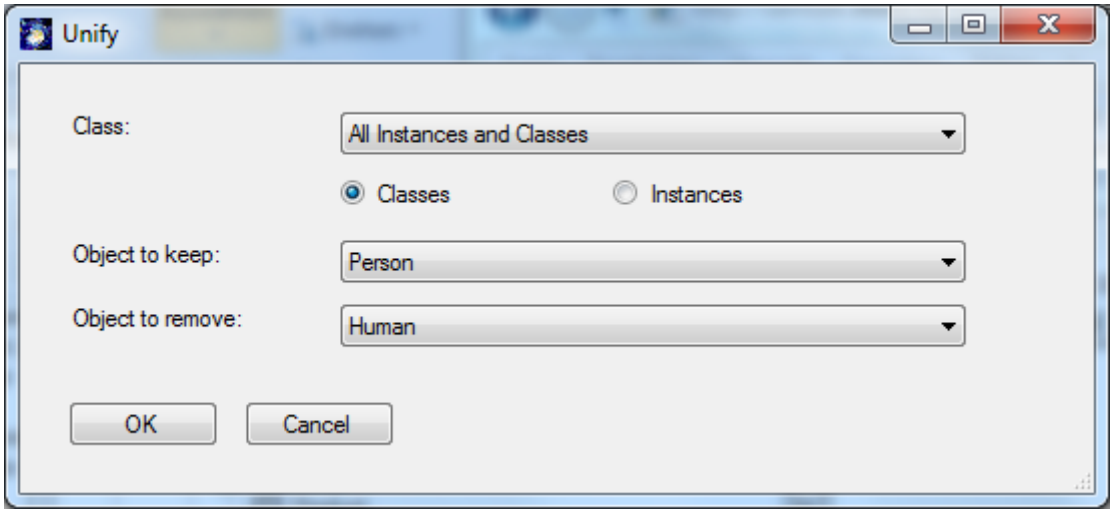


When you are working with modeling methods (e.g. process modeling methods), the combo box **Class** acts as a filter.

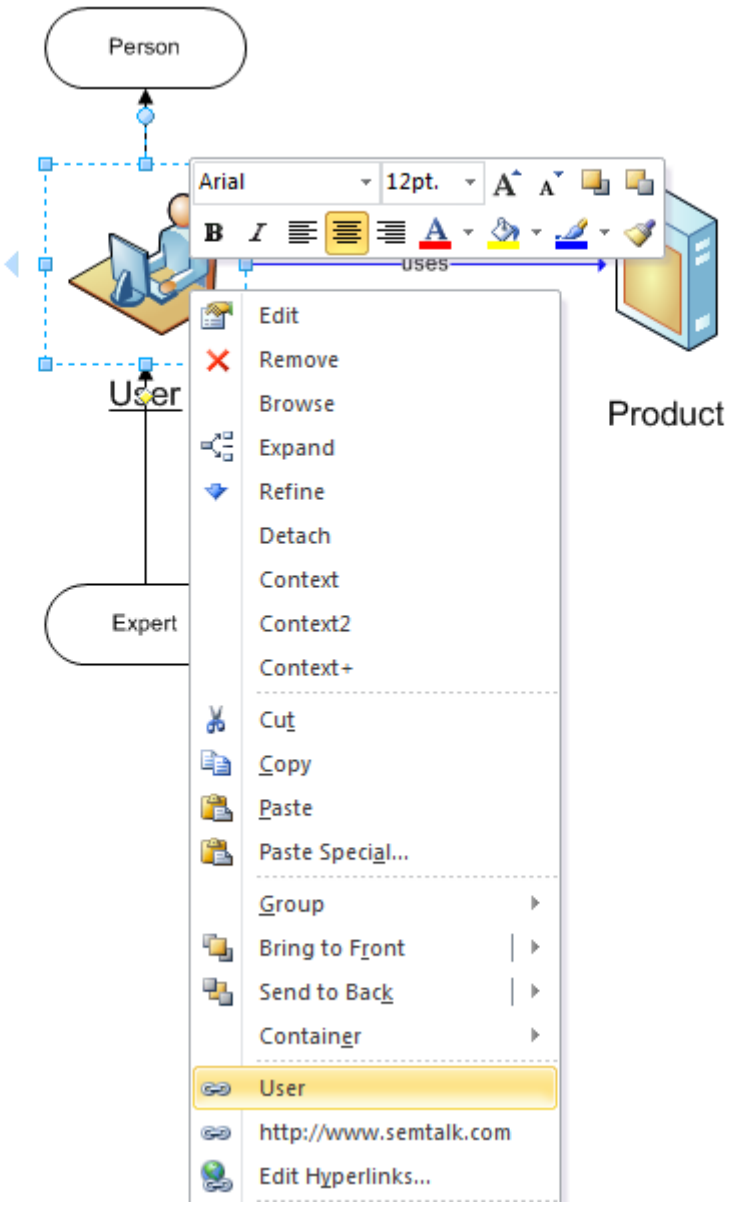
Because with this dialog you can remove several objects at once and there is no Undo possibility, pressing **Delete** button will execute the removal of the objects and not the OK button.

Unify

To combine two objects, select for the menu bar the options **Object → Unify**. One of the objects will inherit every relation, attribute and visual representation of the other object, and thus the later will be removed.



Refine / Detach



The right-click command **Refine** attaches a diagram to an object. You can also use **Object → Refine**.

If the object has a refinement, **Refine** will open the corresponding diagram immediately because of a kind of hyperlink navigation.

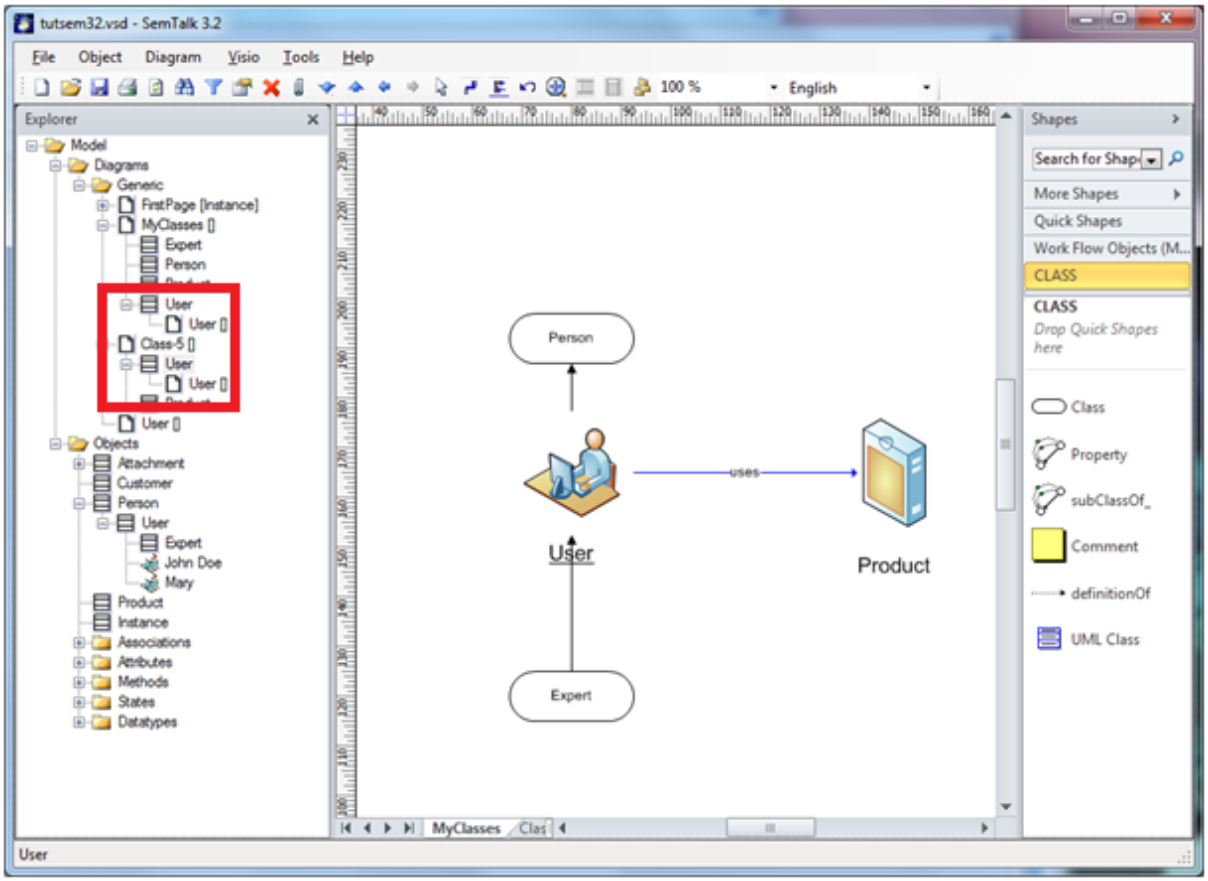
You can navigate back from the refinement to the refined object using **Diagram → GoUp** or selecting **GoUp** from the context menu of a diagram (by right-clicking an the drawing area of a diagram).

NOTE: Objects having a refinement are highlighted with underlined text.

The **External** button assigns a diagram in another SemTalk model.

NOTE: The diagrams are attached to the object, not to its visualization. This implies that the object is refined in all diagrams.

The resulting refinement tree is reflected in SemTalk explorer:



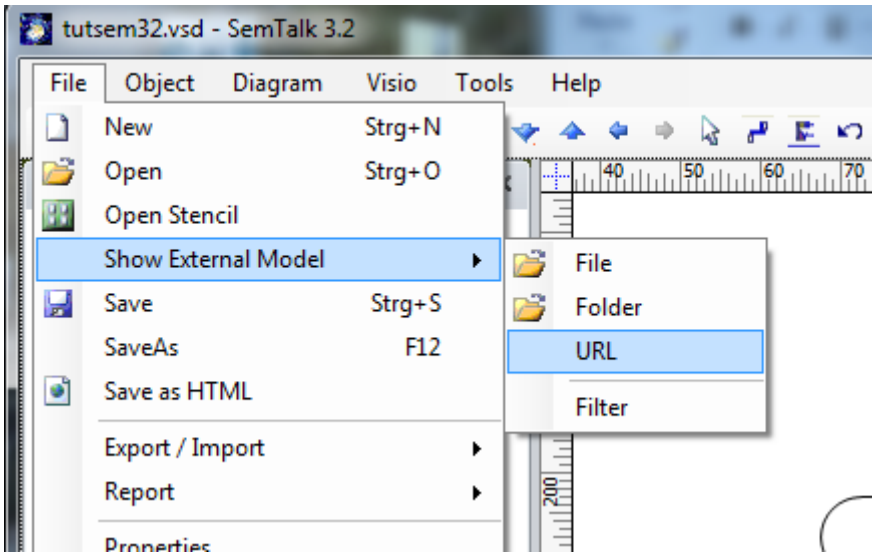
The command **Detach** removes the link to the diagram, but not the refined diagram itself.

External Model

There are different ways to insert external models in a SemTalk model. Next, we explain two alternative ways to insert external objects in SemTalk models.

Load Individual External Models

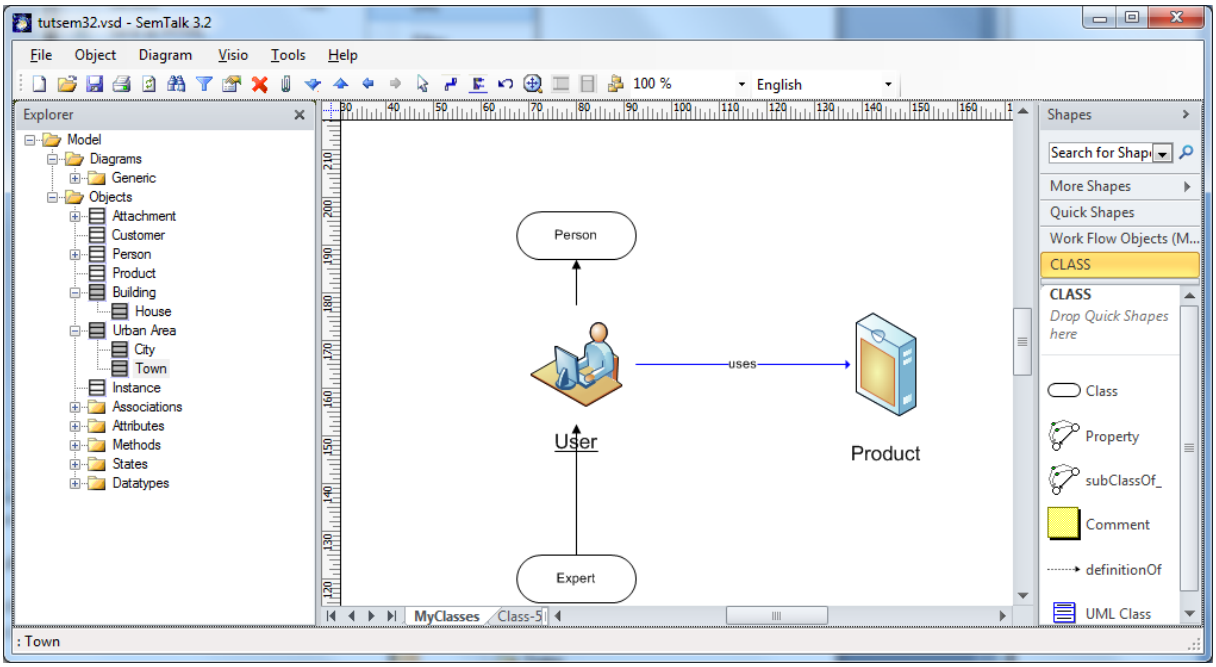
In order use external objects in a SemTalk diagram, an external model must be loaded first. Loading an external model is very easy. From the menu, select **File → Show External Model**.



From the submenu list, choose **File** for a local file, **URL** for a model published in the internet or **Repository** if you are using SemTalk database variant. In the first two cases, you are searching for the XML file of the model. You do not need the Visio file or HTML file for this operation.

For the purpose of this tutorial, we created in advance an "Urban areas" model to be imported http://www.semtalk.com/pub/urban.xml. You can use **File → Show External Model→URL** to reference it.

Once you have opened the XML file, SemTalk's Explorer should look like this:

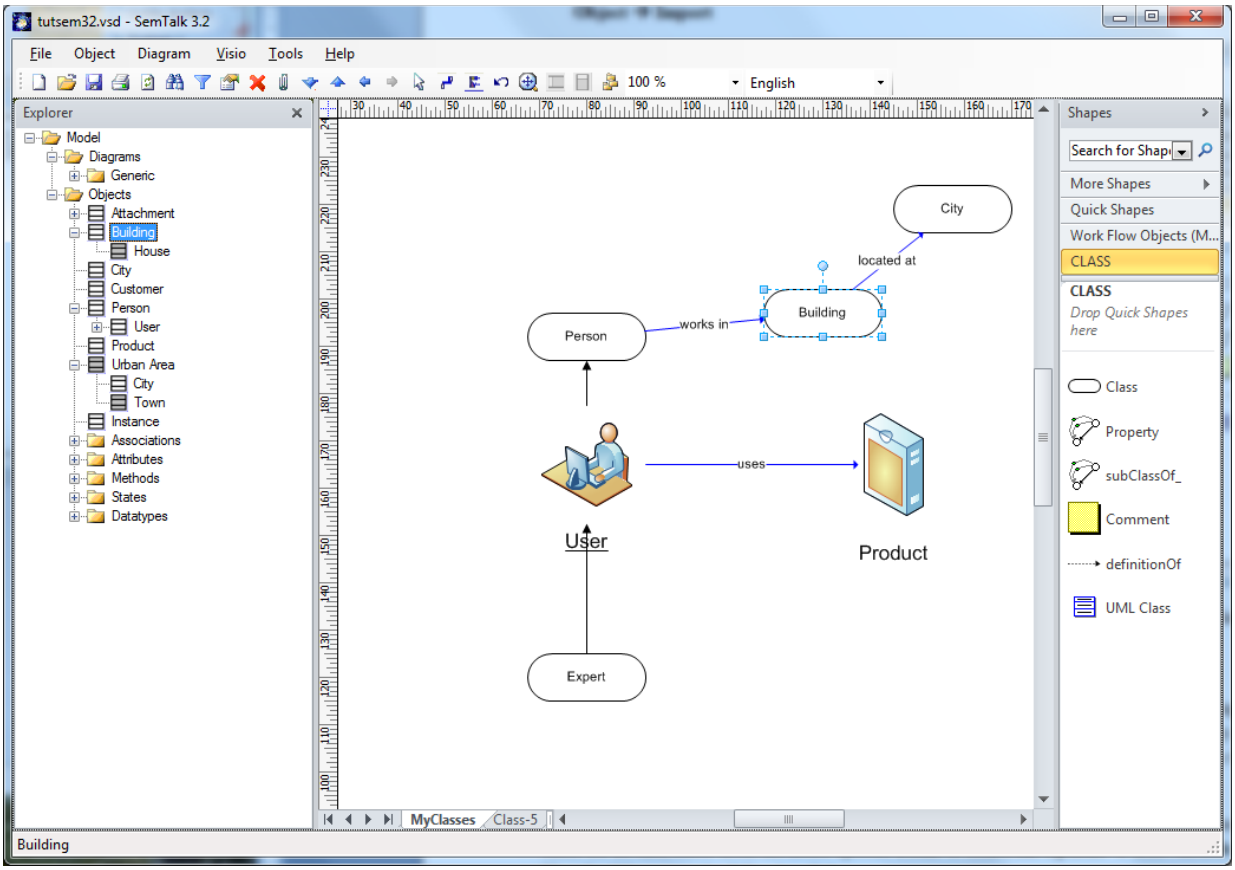


As you can see, the explorer contains new grey colored objects. These objects exist in the "to-be-imported" model. Until now, they exist only virtually in the "urban" model. To make them part of your model you have to import them. There are four ways to do this:

- Drag & drop the object(s) in your diagram.

- Mark the grey colored object from SemTalk Explorer and select from the menu bar **Object → Import**

- Right-click over the grey colored object in SemTalk Explorer and select from its context menu **Object → Import**

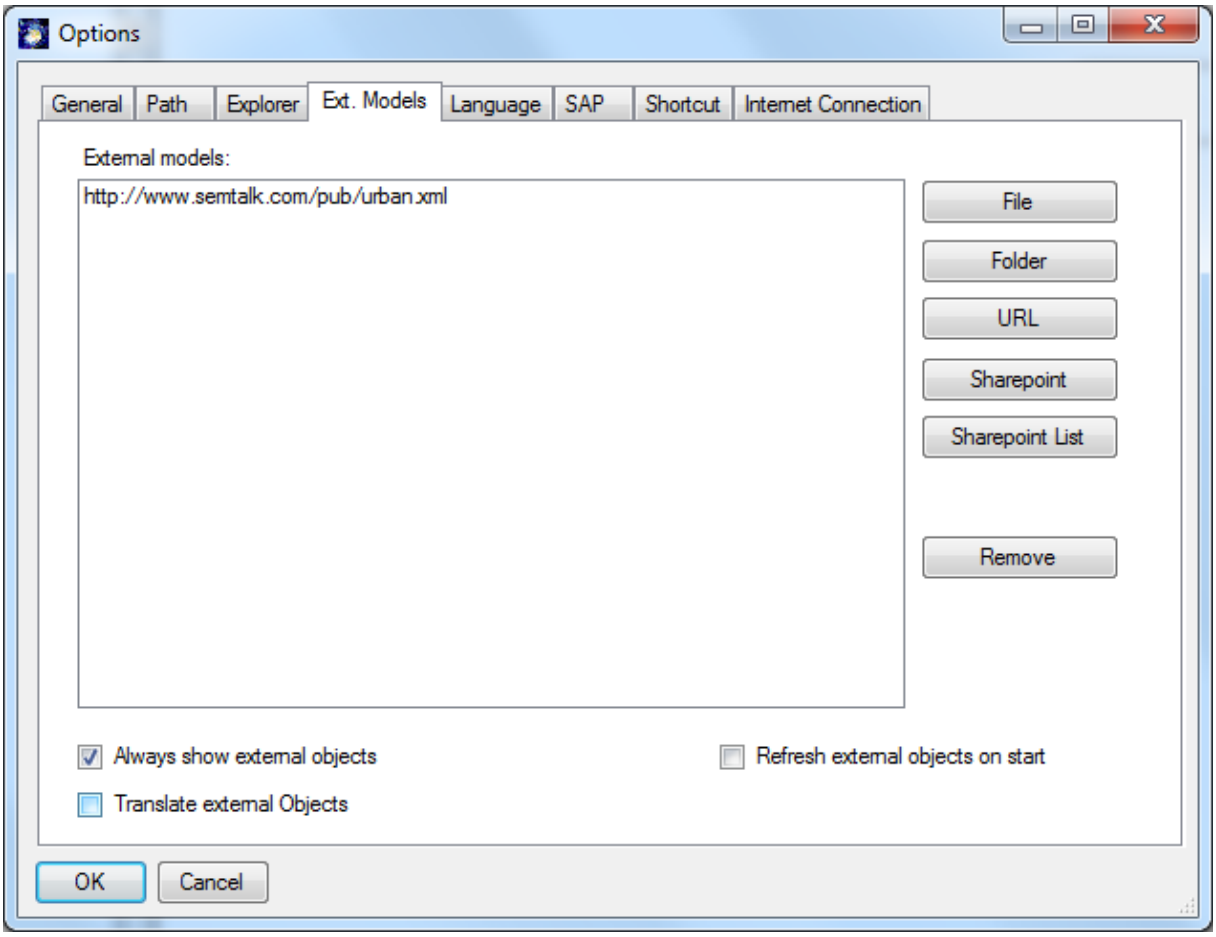


Please insert the classes "Building" and "House" using the way you prefer. Please notice that the objects inserted can only use the **Default** or **UML** shapes.

Load multiple External Models

Frequently, users work with more than one source of external objects. Imagine the following scenario: You are working a unifying model of concepts from different departments in your company. The model files are found in your company's intranet and on the internet. You need to visualize the objects you are working with constantly.

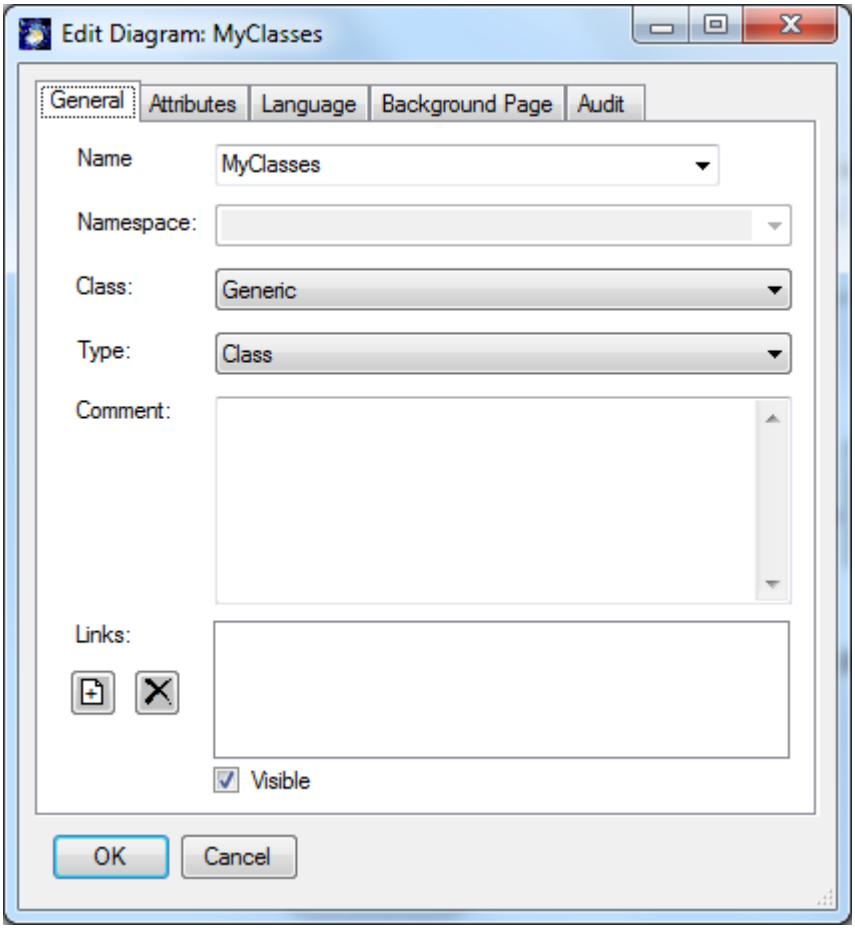
To accomplish this task, you might want to load several external models to your working model at once. To do this, select from the menu options **Tools → SemTalk Options → Ext. Models (Tab)**. You should see now the following dialog:



File	Use to add local files (in your hard disk or intranet) to the external models list.
Folder	Use to add a folder of files (in your hard disk or intranet) to the external models list.
URL	Use to add URL address (xml file of the model published in the Internet) to the external models list.
Sharepoint	Use to add files located in a SharePoint Services Workspace to the external models list.
Sharepoint List	Use to add a objects defined in a Sharepoint list to the external models list.
Remove	Use to remove any link or path in the external models list.
Always show external objects	Use external objects in SemTalk dialogs. (instead of pushing the "External" Button. Objekts are imported/referenced as soon as they are being used.
Translate external objects	Try to translate objects from external models. Better uncheck this option for large external models, if you know that they are single language
Refresh objects on starts	Update all references to external model on startup

Edit a diagram

Please select a diagram and right-click the option **Edit**. You may also use **SemTalk → Diagram → Edit.**



Name	The name of the diagram.
Class	The diagram class (or diagram type). Diagrams are also SemTalk objects. New diagram classes may be processes or product models. Details of how to create a new diagram class can be found in a later chapter.
Type	Specifies the type of object being displayed in this diagram. There are class diagrams and instance diagrams.
Visible	Indicates if this page visible in SemTalk, Word Export or HTML Export. The page will continue to appear in SemTalk Explorer, in case you need to make it visible again.

SemTalk Interfaces

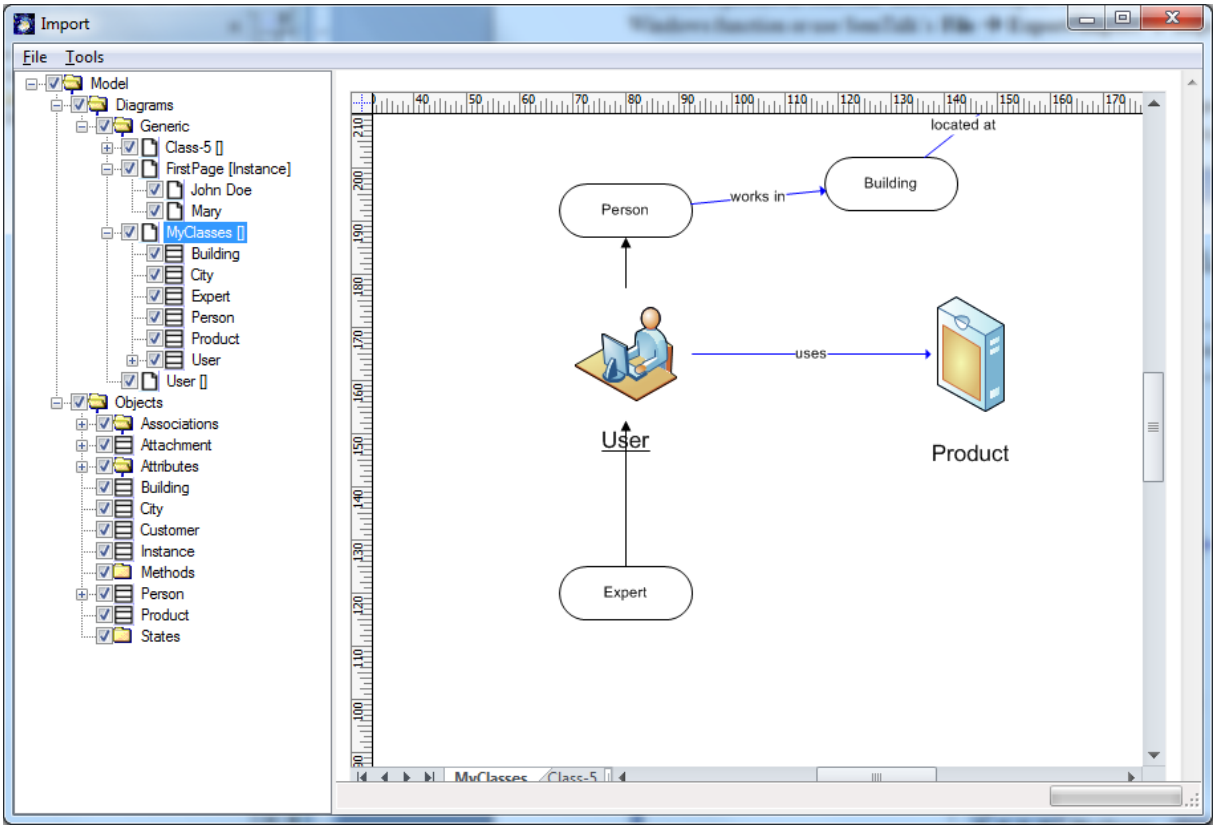
Most of SemTalk interfaces depend on the modeling method and the template been used. Almost of SemTalk interfaces, options are located under **File → Export / Import** on the menu bar. Next, SemTalk basic interfaces will be explained. For specific interfaces, please check the corresponding methods. At the end of this section, you will find a complete list of SemTalk interfaces.

Import Picture

To insert a picture in SemTalk and not creating an object out of it, you may just use the copy & paste Windows function or use SemTalk's **File → Export/Import → Import Picture** command.

SemTalk Import

In order to merge SemTalk models use **File→Export/Import→Import**. Use import to merge complete or partial models. Select an existing model and the following import window will appear:



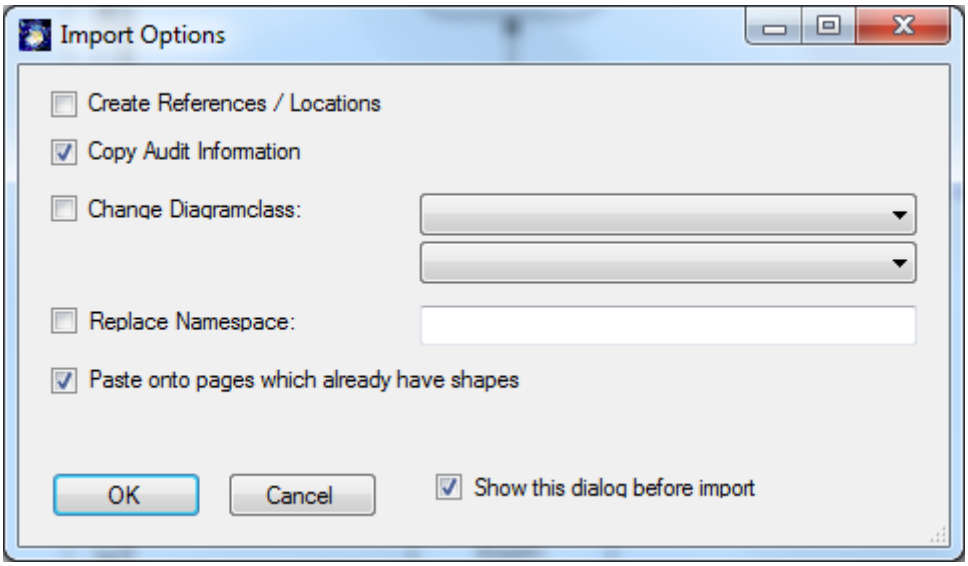
On the left hand side, there is a tree view similar to the SemTalk Explorer where you can select objects by diagram or by hierarchy. Additional objects may be imported. On the right side, you can preview the page(s) to be imported

NOTE: preview is not available for the Visio embedded version.

NOTE: Do not try to change anything in the preview. You cannot save it anyway.

Please check those objects or diagrams you want to import and afterwards use **File→Import**.

Select from the Import dialog menu bar **Tools → Options** to pop-up the import options available, which allows to specify some parameters for the import.



Create References / Locations	Each object will get a reference to the imported file so that it can be updated using **Object → Refresh** afterwards.
Copy Audit Information	Audit Information such as Created, CreatedBy will be copied from the imported model. If this option is not checked, the current user and the current time will be used
Change Diagram class	Use this option to import method specific ontologies (class models) and change the original diagram class.
Replace Namespace	Replace the namespace of imported classes by a new namespace
Paste onto pages which already have shapes	In order to enable incremental import, SemTalk per default does not import pages which are already exiting and have shapes. This means that you can not import "Process-1" from a different document if you also have a page named "Process-1". Checking this option will enable copying on used pages

SemTalk Import is an option if you want to import complete diagrams or a large set of objects. If you need single objects **Show External Model** with Drag & Drop (see section 0) is more convenient.

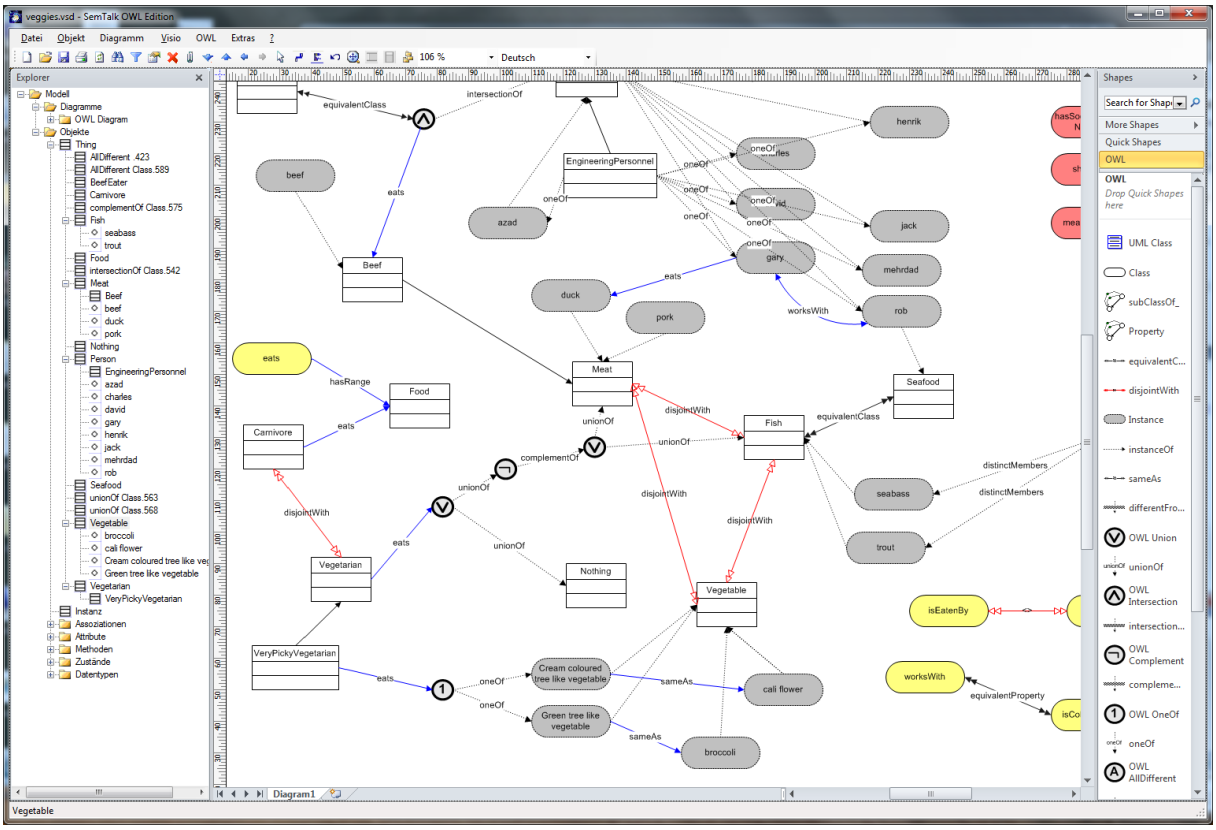
Semantic Web

Error! Reference source not found. is the idea of an Internet made of data. Models for the Semantic Web are called ontologies. The W3C recommends storing information in the Semantic Web using the following protocols: RDF (~Instances), RDFS (~some aspects of classes as you have seen in SemTalk so far), OWL (http://www.w3.org/TR/owl-features/, complete description logic).

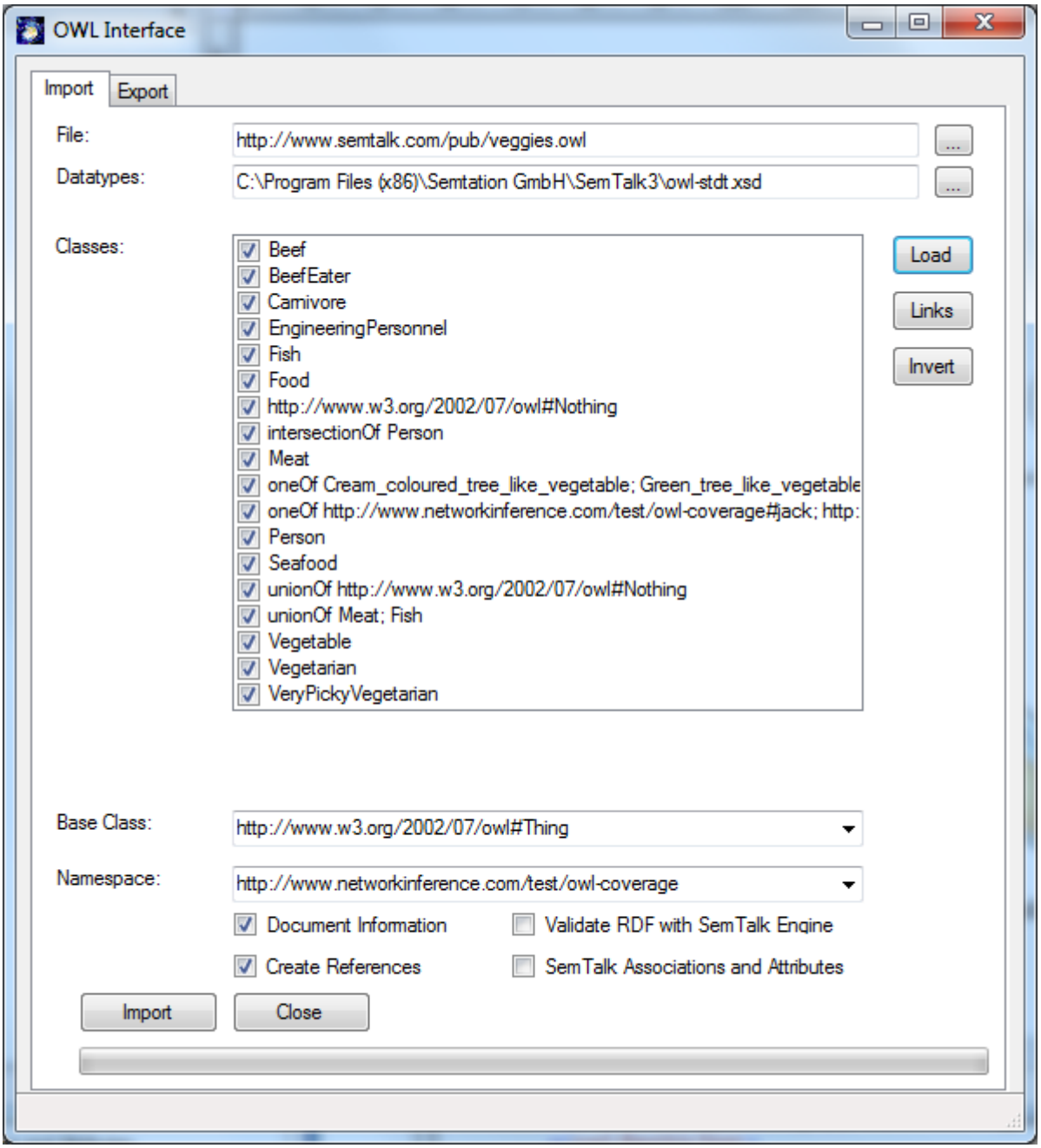
In SemTalk we use Semantic Web data structures to exchange data in a vendor independent way. Any SemTalk model can be exported completely to OWL. SemTalk can import und use OWL ontologies as class models for various purposes.

If you want to use SemTalk as an OWL editor, you should use the OWL template **OWL.vst** which has all the additional constructs, which are needed to cover the complete set of OWL feature. If you need

to exploit these features, we recommend using SemTalk in conjunction with reasoners such as PELLET (see Chapter 10 on details for working with OWL). The following example was created using OWL.vst



In order to import OWL, RDFS, RDF data select **File→ Export/Import → Semantic Web**.



For example, import the following file: http://www.semtalk.com/pub/veggies.owl

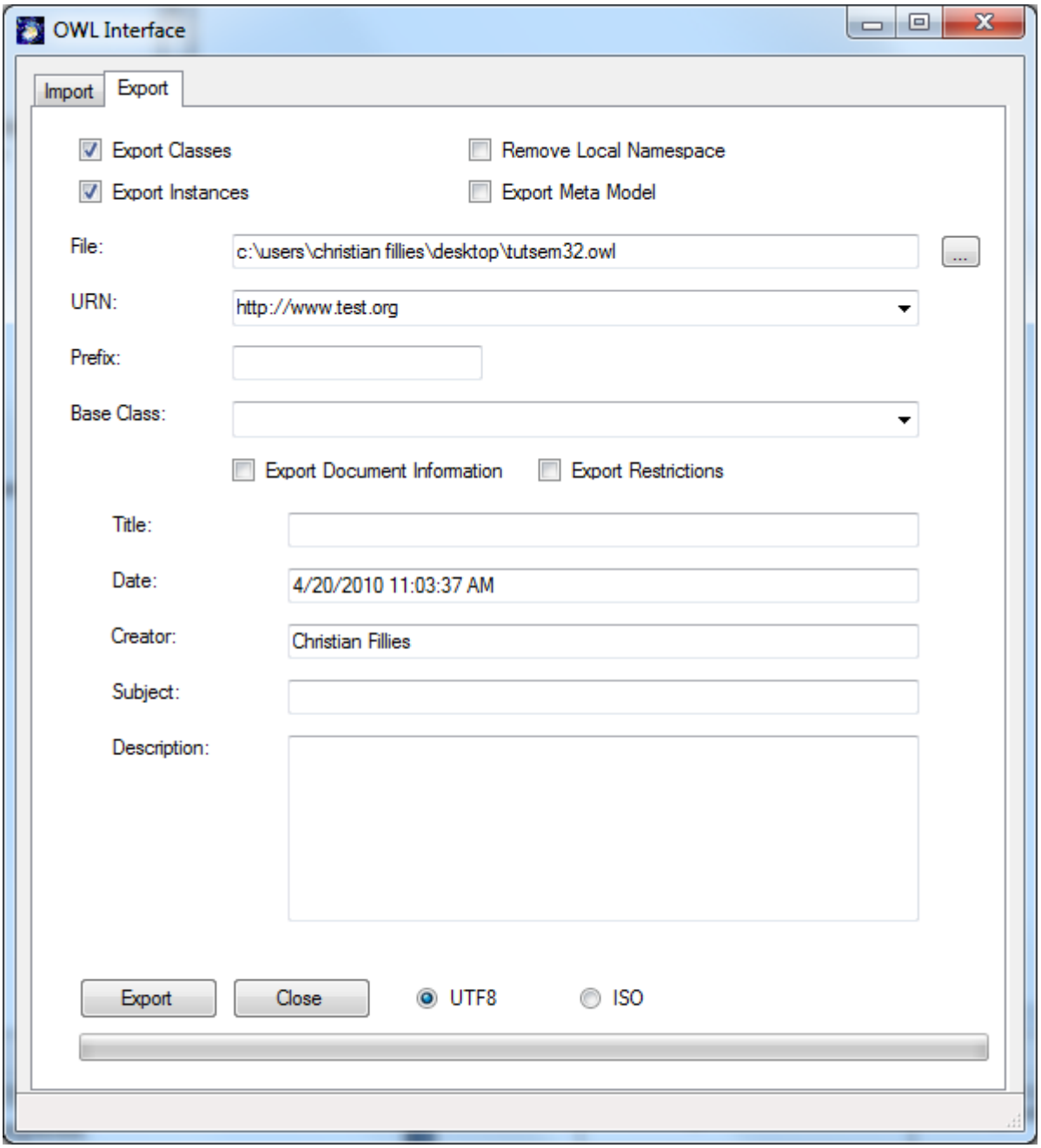
Additional SemTalk datatypes are needed. The standard OWL datatypes are found in the SemTalk program directory.

NOTE: Instead of importing complete ontologies, you can use **Show External Model** with Drag & Drop (see section 0) and open an OWL file or URL.

Load	redisplay the contents of the file in the list box
Links	selects objects related to the current selection in the list box

Invert	inverts the selection of the list box
Base Class	is a common superclass for all object to be imported
Namespace	is the default namespace for all object to be imported
Validate RDF with SemTalk Engine	only those associations with are defined at classes are allowed and imported
Document Information	is meta data of the document
Create References	Each object will get a reference to the imported file so that it can be updated using Object->Refresh afterwards
SemTalk Associations and Attributes	If you **do not check** this option, the import of ObjectProperties will be OWL compliant ("has Domain", "has Range"). If you **do check** this option ObjectProperties will be mapped to SemTalk's more UML style Attributes and Associations, which make more sense in various SemTalk modelling scenarios but srew up the sematics of some OWL ontologies.

Exporting to OWL or RDFS is quite simple. You can choose to export classes, instances, meta model (read only classes) etc.



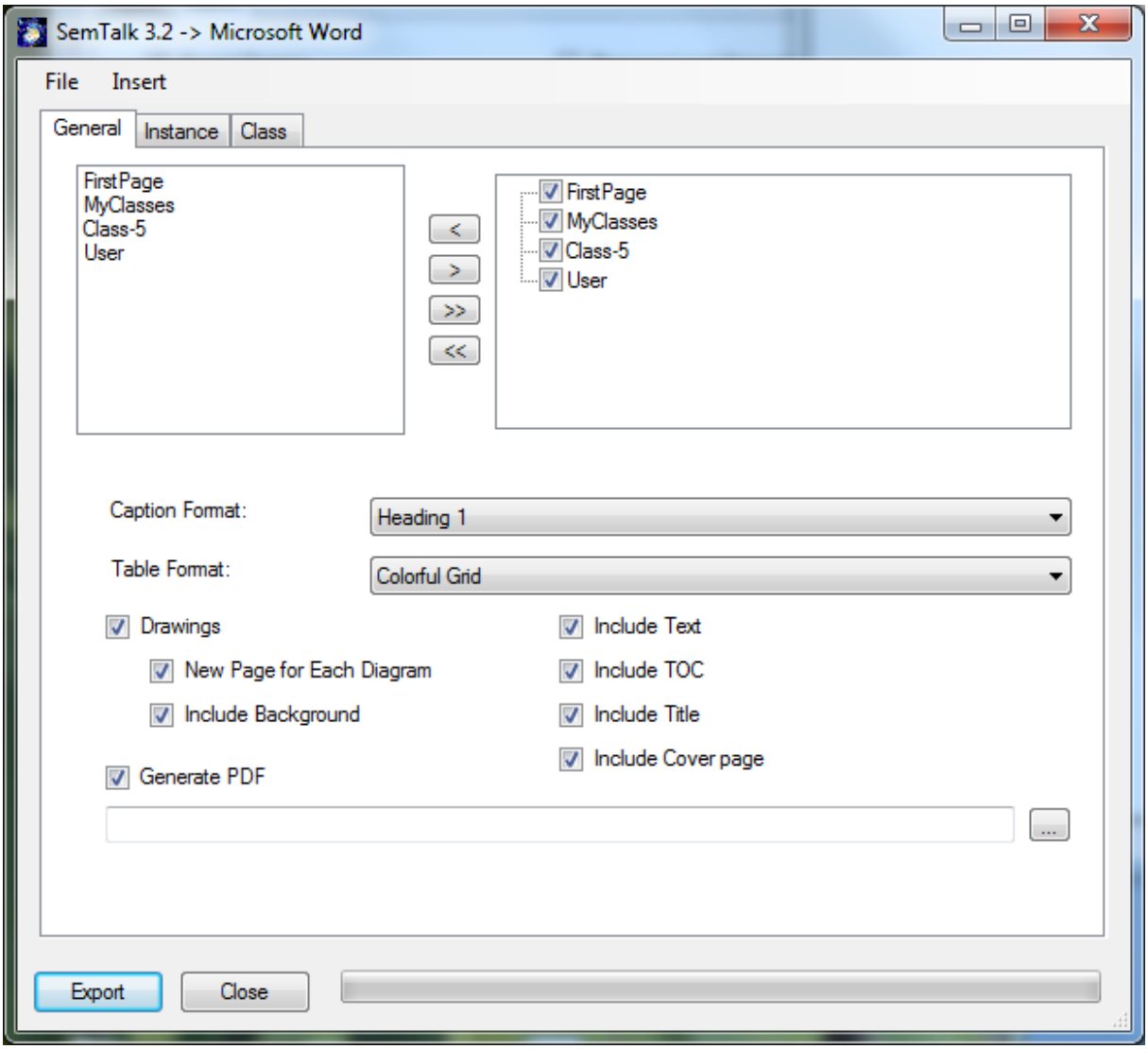
If you have selected some objects in your drawing, only those objects will be exported.

Remove Local Namespace	Ignores the namespaces. This makes sense if you plan to export ontologies from process models
Export Meta Model	Export classes marked as “Read Only”
URN	Base namespace for the ontology
Base Class	only subclasses of that class

Prefix	Prefix for the base namespace
Export Document Information	Title, Date, Creator, Subject, Description
SemTalk Associations and Attributes	If you **do not check** this option, the import of ObjectProperties will be OWL compliant ("has Domain", "has Range"). If you **do check** this option ObjectProperties will be mapped to SemTalk's more UML style Attributes and Associations, which make more sense in various SemTalk modelling scenarios but srew up the sematics of some OWL ontologies.

Microsoft Office Word Export

Generating documentation of your models is quite easy with SemTalk and Microsoft Office Word. To generate a Word document from a SemTalk model, select from the menu options **File → Export/Import → MS Winword**. You should see the following dialog now:



On the upper right corner of the dialog, you see a tree view with the existing diagrams in your model classified according to their diagram type. You can select with the buttons between the two boxes, which diagrams to export to a Word document. Use the **Insert->Add Text File** button to insert text files (.doc, .txt, etc.) or **Insert->Add Reports** to add reports into the Word export. The items' sequence on the list on the upper left corner determines the order of the diagrams and text in the Word export.

Use the File menu option of the dialog, if you want to do the following:

Load Diagram List	Load a predefine diagram list to generate as Word document.
Save Diagram List As	Save the current diagram list as .txt file. You may load this file and generate a custom Word export.
Open Document Template	SemTalk loads the Word Normal.dot as default template, but you may select a custom template with this command.

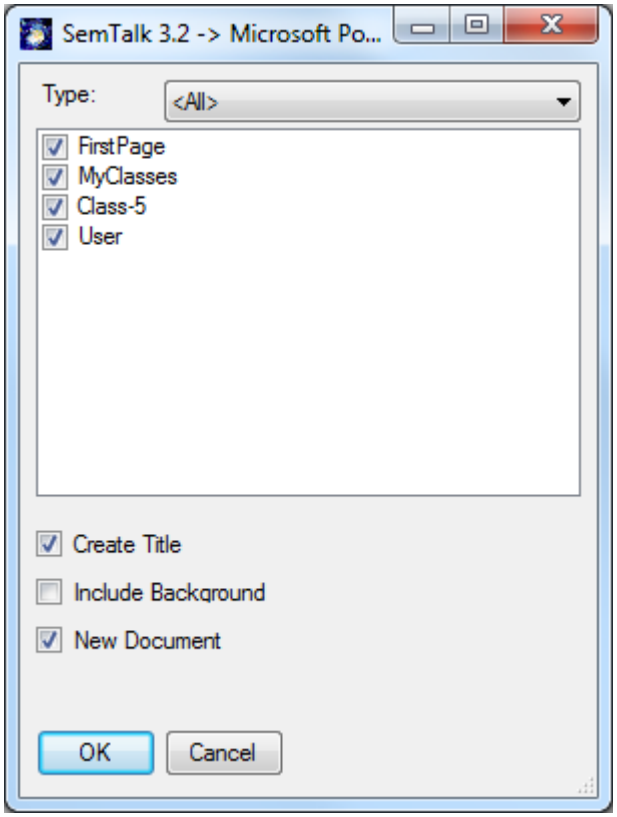
More layout options on the Word export dialog:

Caption Format	Use to define the heading format according to your MS Word.
Table Format	Use to define the layout format of your tables.
Drawings	Use to include or not diagrams in the Word export.
New Page for Each Diagram	Use to define to insert one or more than one diagram in a page.
Include Background	Use to include or not the diagrams' background (e.g. company's logo), if they have any.
Include TOC	Use to include or not a Table of Contents at the beginning of the Word document.
Include Text	Use to include or not tables in your Word document.
Include Title	Document Title
Include Cover page	Document Title on an extra page
Generate PDF	Automatically generate PDF using Word2007 save as PDF

In the **Instance** and **Class** tabs select what object properties and information to include in the Word export.

Microsoft Office PowerPoint Export

With SemTalk you can generate automatically PowerPoint presentations of your models. To generate a PowerPoint presentation from a SemTalk model, select from the menu options **File → Export/Import → MS PowerPoint**. You should see the following dialog now:



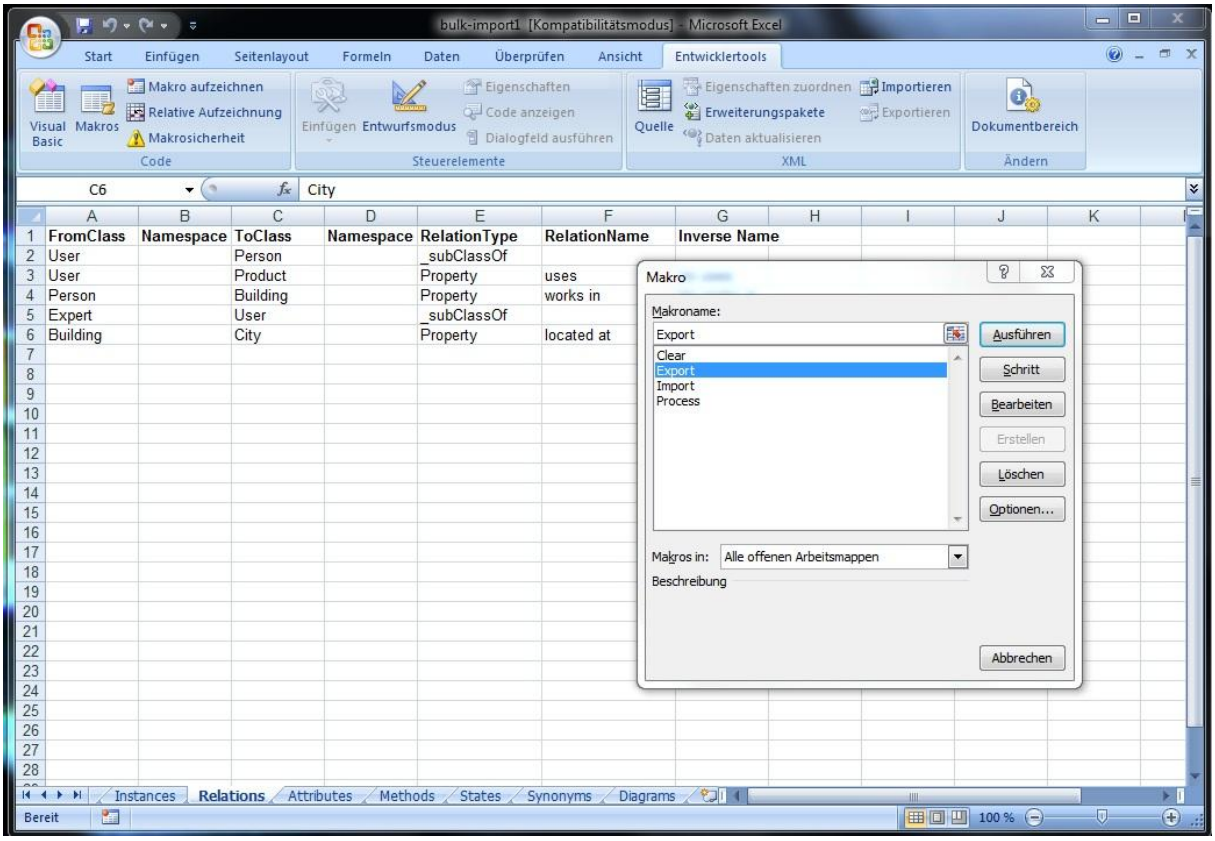
You have the following options:

Type	Use to filter the diagrams after their diagram type.
Create Title	Use to give or not each presentation's slide a title matching the SemTalk's page titles. This is not recommend if you have a background page which also shows the page title
Include Background	Use to include or not the diagrams' background (e.g. company's logo), if they have any.
New Document	If this option is not checked AND a PowerPoint presentation is open, the slides are added to the open presentation

Microsoft Office MS Excel Import

The MS Excel Import function can be very handy when creating big models with lots of classes and or instances. Instead of creating every single class and/or instance in SemTalk, you can import them from a MS Excel spreadsheet. The only condition is that the spreadsheet must reflect SemTalk's logical structure. Therefore, an appropriate spreadsheet is included and you may find it in the following location: C:\Program files\Common Files\SemTalk3\bulk-import.xlt. You may create your own bulk-import spreadsheets, but you must follow the original structure.

To import objects from a MS Excel spreadsheet into a model, select from the menu options **File → Export/Import → MS Excel**. Then select an appropriate MS Excel spreadsheet (e.g. bulk-import.xls). Once your are ready to import the objects and information in the spreadsheet, select from Excel's menu options Tools → Macro → Macros. You should see the following dialog:



Click on the button "Export" and SemTalk will export the objects and information to Excel. "Import" will import the current elements back to SemTalk. "Clear" will remove all content from the Excel. "Process" is a sample intended for process modelling notations. It will create a simple process hierarchy from the spreadsheets data.

All macros are includes in the document as source code. The intension of bulk import is to provide you with an API sample how to read and write SemTalk content. If you copy/change the macros to match your personal ideas you will have a convienient way to export/import mass data from virtually any other application.

More Export / Imports

The following is a short summary of export import options.

Import Picture	Insert a picture such as bmp, jpg etc in the drawing.
MS PowerPoint	Export to MS PowerPoint 2003. For MS Office only the 2003 version is supported. For Office XP and Office 2000 use SemTalk 1.2.5
MS Word	Export to MS Word >= 2003
MS Excel	Import from MS Excel >= 2003. Provides an MS Excel sample macro

	to create SemTalk objects via the SemTalk API.
MS Project	Export and Import to MS Project. Available for KSA ("ksa.vst"), EPC ("epc.vst") and others.
SAP Explorer	Import Solution Maps and other diagrams from the SAP Solution Composer, which must be installed. Some content of the Enterprise Service Repository ESR und Buiness Blueprints created via SAP Solution Manager.
SAP R/3 4.6c Reference Model	Import processes of the SAP's R/3 Reference model. An reference model database is required which can be obtained from SAP's Value SAP (Asap) CD. Use the template "epc.vst"
AML / EPML (ARIS)	Import and export of EPC models from other EPC tools such as ARIS via ARIS XML using the tool indepented standard EPML http://wi.wu-wien.ac.at/Wer_sind_wir/mendling/EPML/ Use the template "epc.vst"
BPEL	Export of the Web Services format BPEL e.g. for BizTalk. Use the template bpmn.vst
WSDL Import	Create object definitions from XML-Schema files / WSDL. To be used with BPMN

Additional SemTalk Functions

Next you will review additional functions intended to assist you create comprehensive models.

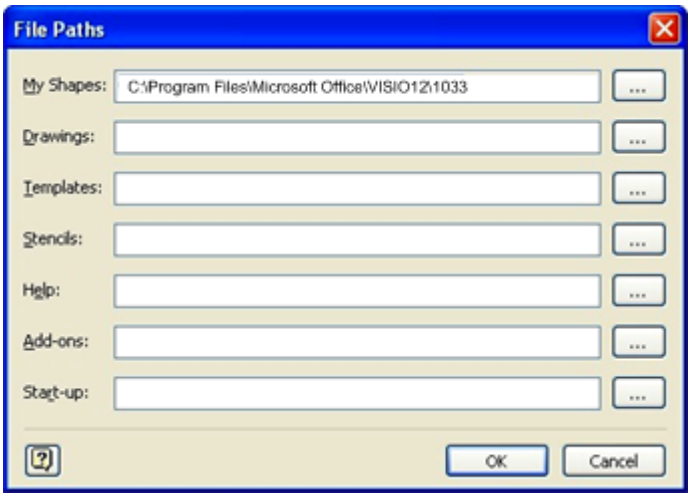
Working with Visio Stencils

You may define classes and instances based on Visio masters from any stencil. To open a Visio® stencil e.g**. File → Open Stencils**. In the embedded Version, use **File → Shapes** to open a stencil.

NOTE FOR VISIO 2007

If you are using SemTalk not embedded in Visio 2007 and you plan to use regularly Visio shapes, you should define the path for the Visio stencils. To do this select from the menu bar **Tools→Visio Options→Advanced (Tab)→File Paths… (Button).** You should now see the following dialog:

In the text field "My Shapes:" navigate to the directory where Visio saves the stencils (e.g. "C:\Program Files\Microsoft Office\VISIO12\1033") (1033 for English version).

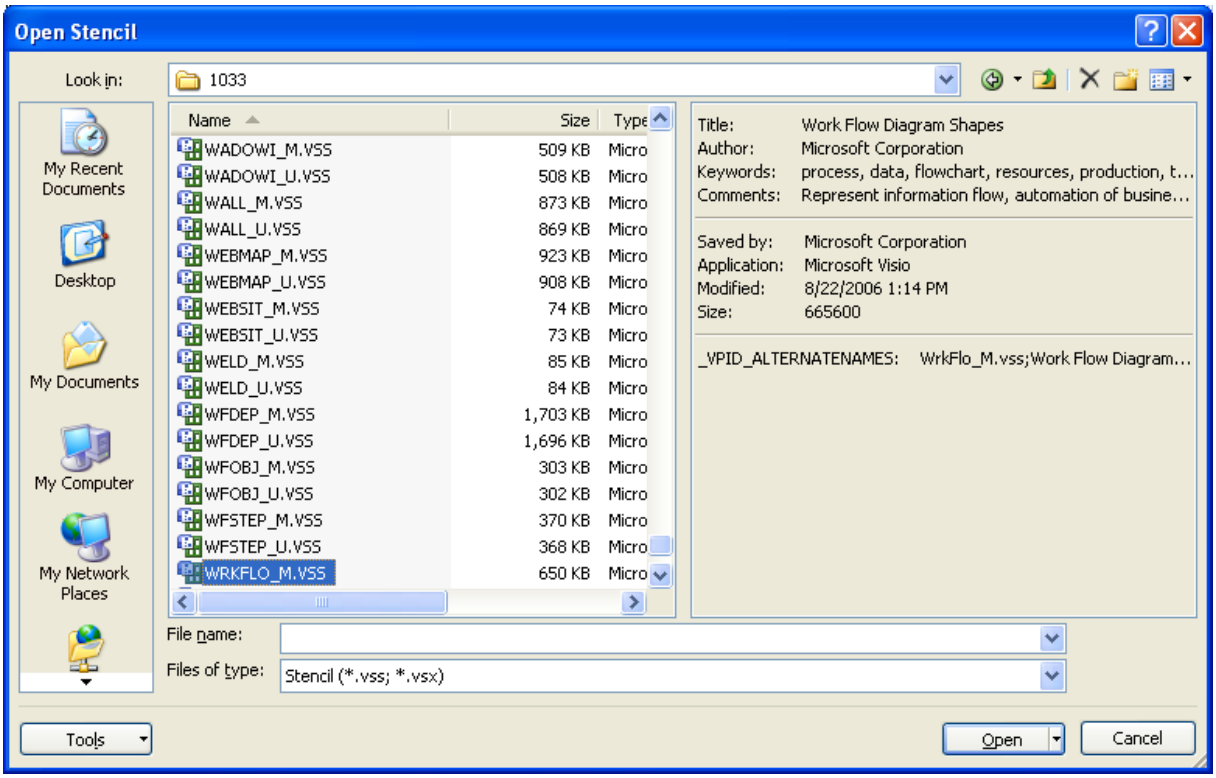


NOTE FOR VISIO 2003

Unfortunately, in Visio 2003 you cannot define a file path for the shapes you regularly use. In this case, you must navigate every time to the directory where the stencils are located.

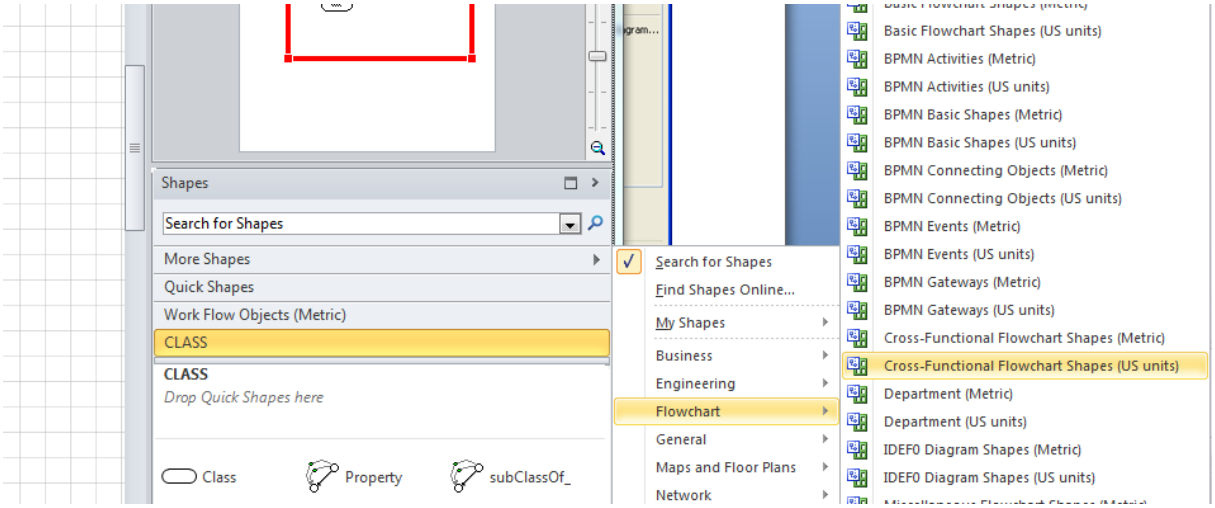
TIP: You may copy those stencil files that you regularly use to the directory "C:\My Files\My Shapes\". SemTalk will automatically open this directory.

NOTE: Users of English Visio will notice that there are two files .VSS with the same name for every stencil. The letters _M and _U tell you, which of the stencils is in **M**etric or **U**S units.



NOTE FOR VISIO 2010

In Visio 2010 the handling of Stencils has changed. You will open a new stencil now from the Shapes anchor window.



New Visio Master

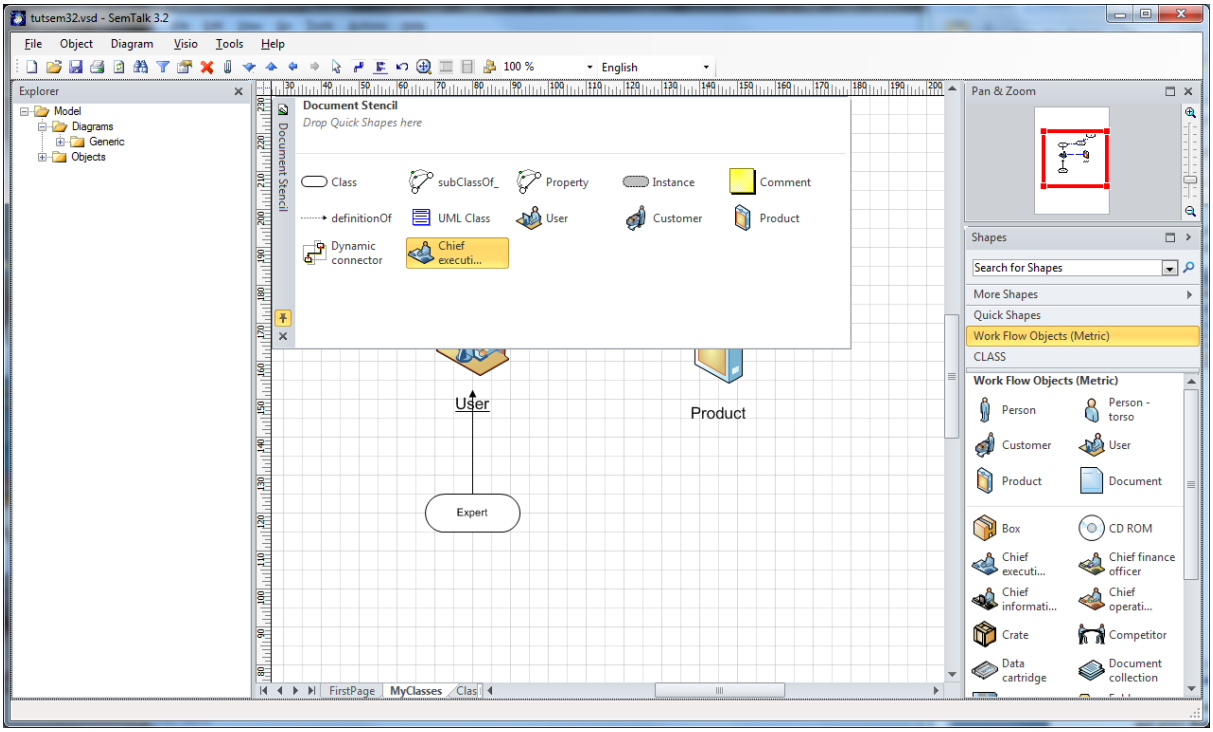
If you drop a shape on a class diagram, SemTalk creates for each master a class. You may have to rename the class afterwards to match your requirements. If you drop a shape into an instance diagram, SemTalk will create an instance for each shape that inherits from the class with the master's name.

Until now, you have created class diagrams with existing Visio-Master-Shapes or with abstract objects. You have also built instances with Drag & Drop.

If you want to create new Visio-Master-Shapes, you have two possibilities. Either you copy an existing Visio-Master-Shape or you create a new one. Important is, that the names of the template symbol correspond with the class names in the existing models. Therefore, please copy the respective Master-Shape and insert it in the **Document stencil** and rename the symbol ("Master-Shape-Properties" in the master's context menu). Now, you can use the symbols from the **Document stencil** or create your own stencil to build your models.

For the purpose of this tutorial, we use the Visio-Master-Shape for "Person 2" as "Manager". Please do as follows:

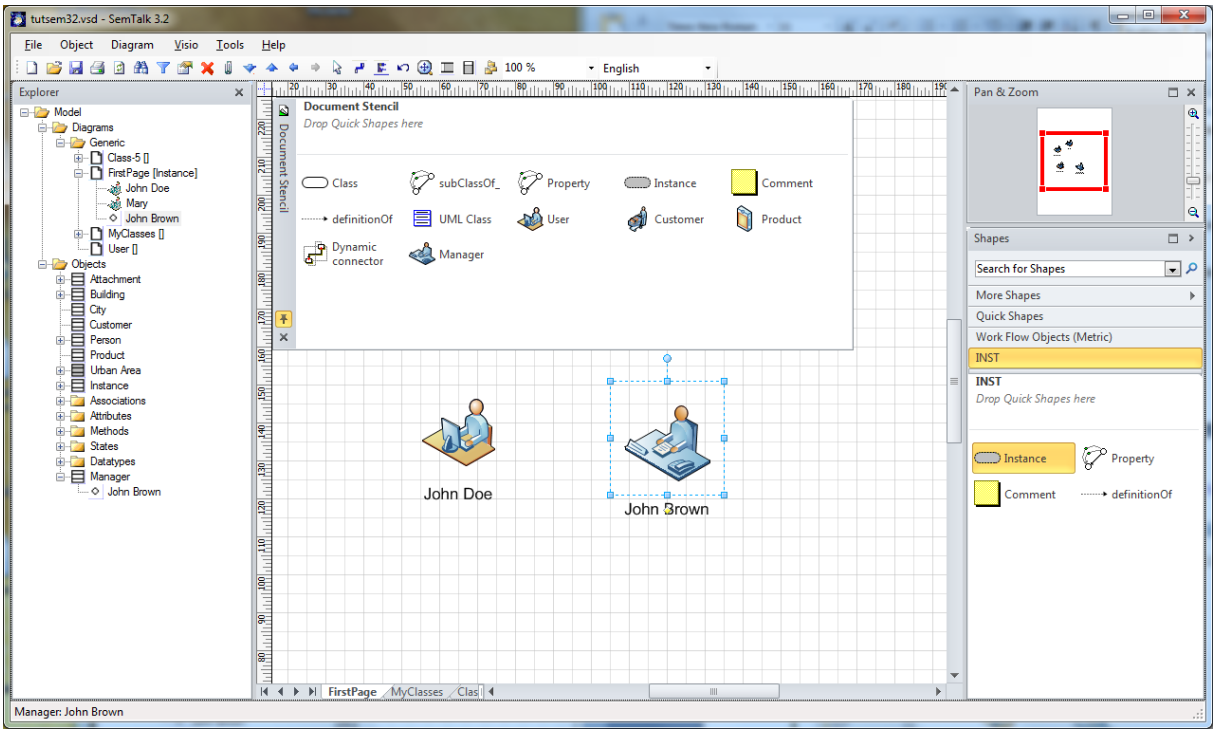
1. Open the **Document stencil** in the tool bar menu **Visio → View → Document stencil**.
2. Open the "Work flow diagram shapes stencil". (**File → Open Stencil** file: WRKFLO_M.VSS)
3. Drag & drop the master "Chief executive officer" from the "Work flow diagram shapes stencil" in the "Document stencil".



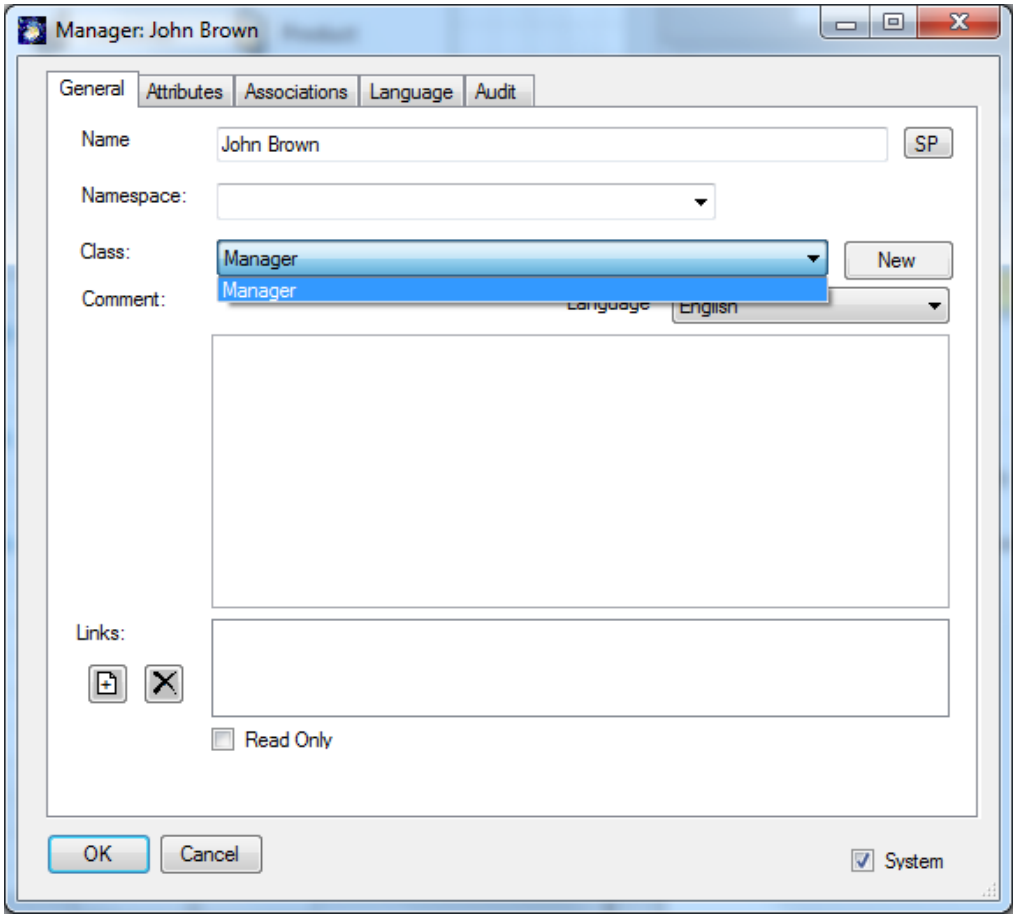
Rename the master "Chief executive officer" to "Manager" in the **Document stencil** by right-clicking on the symbol and select **Rename Master** from the context menu.

NOTE: In SemTalk, you cannot create or edit graphically a Visio master. Stencils and masters can be edited only in Visio.

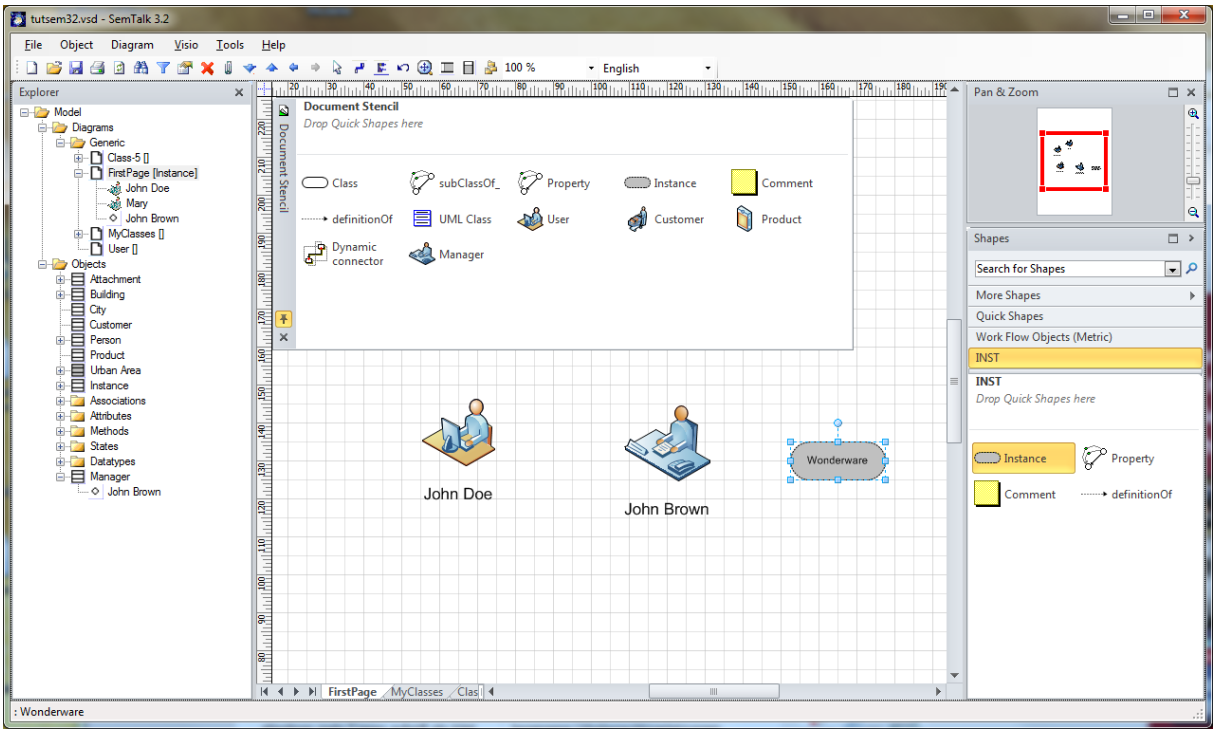
Please drag a "Manager" and drop it in your instance diagram. Then, assign a new name to the new "Manager" instance.



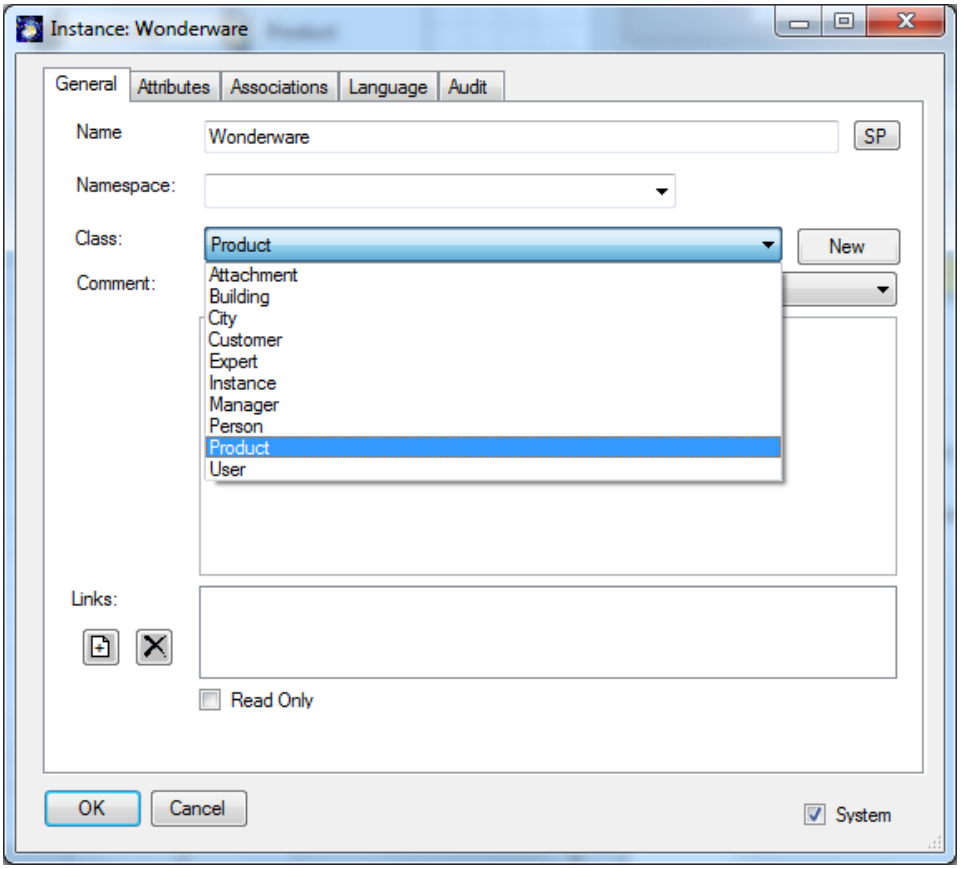
Instances which use the new "Manager" Shape must stay to that class. They can not be changed to be instances of other classes such as "Product"



If use you use the generic Instance symbol, it can be changed to any class. Please, drag the "Instance" master from the "INST" stencil and drop it in the drawing area.



When you create instances with the “Instance” master, you can choose any class you wish.



Customize

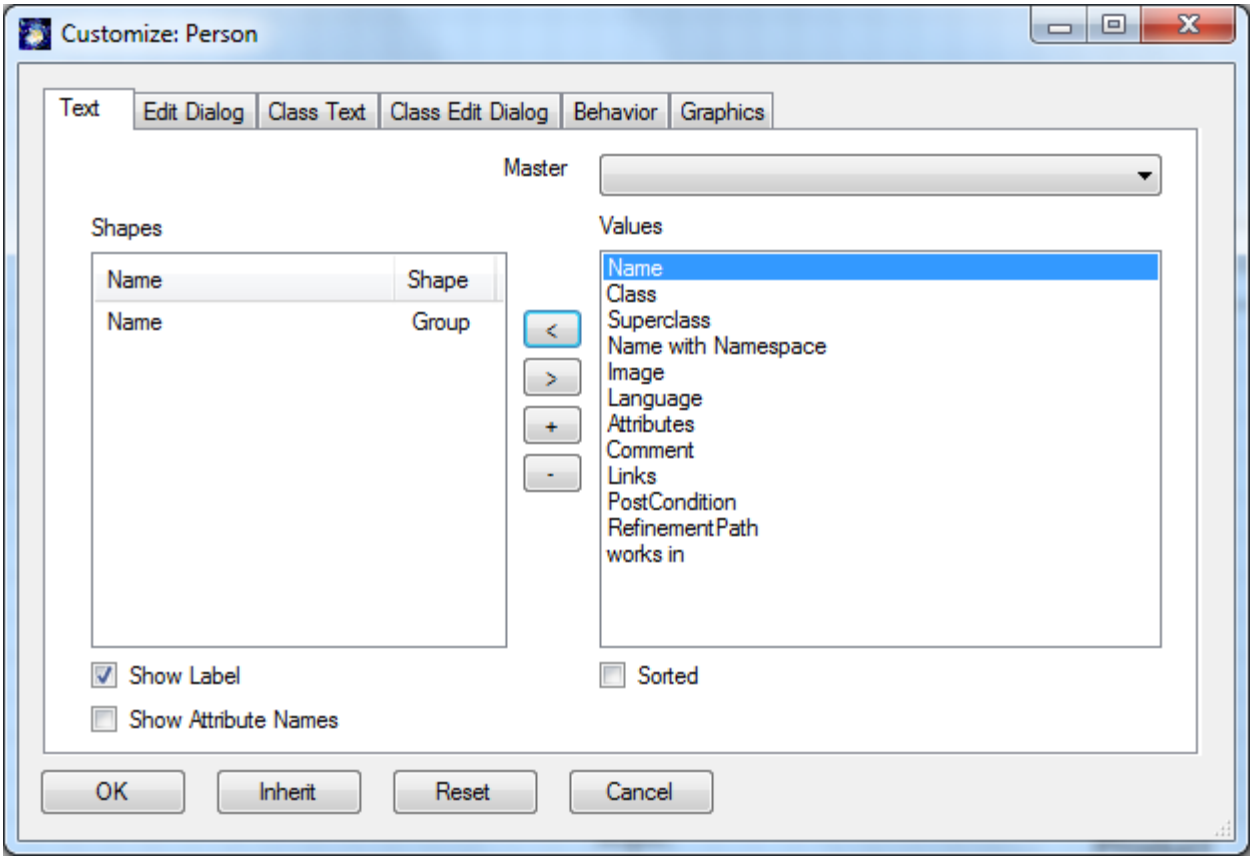
Customize specifies how objects will be displayed and which tabs will appears in the edit dialog. In addition to the object's name, it is possible to show any attribute or association value.

Layout specification may be overwritten for subclasses or for single instances. Please select the Person class from the explorer and select the menu **Object → Customize** or from the object's context menu in SemTalk Explorer. In the dialog, select the **Text** tab.

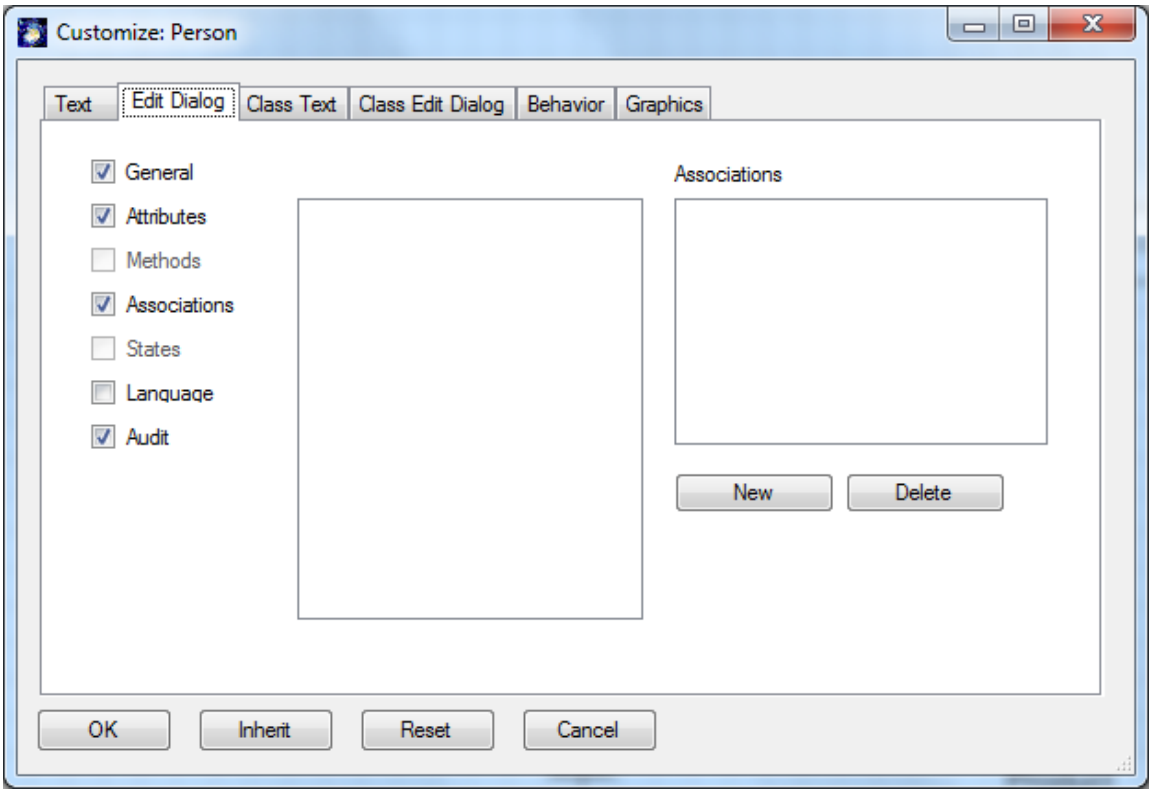
Text specifies how instances of the class (or its subclasses) will be displayed in instance diagrams. **Class Text** specifies how the class itself or its subclasses will be displayed in class diagram.

The left list box shows all currently selected attributes and the right list box shows all possible attributes or associations. Use "<" and ">" to add and remove selections.

In case you have complex shapes, you can choose, by "+" and "-" in which sub shape the value will be displayed. You can address up to ten sub shapes. Multiple attributes can be displayed in the same sub shape. By selecting **Group** you specify that you select the whole shape itself (and not a sub shape).



Edit Dialog is used to customize the appearance of the object's edit dialog.



Here you can select which tabs to show in the object editor. The check boxes on the left side enable or disable SemTalk's system-defined tabs. If you were using a specific modeling method (e.g. a specific process modeling method), you would see a list of check boxes with the name of the method-defined tabs for that method.

With "Associations->New" you have the option to specify new tabs for a specific association. A new tab will be added which allows to associate other objects using a dialog.

NOTE: In the screenshot, you can see the other SemTalk tabs - Methods, States and Language. In particular, the language tab is quite useful for specifying alternative names for the object. The SemTalk **Find-Dialog** also searches for label in different language ("Synonyms").

Class Text and **Class Edit Dialog** are basically the same for displaying and editing classes.

On the **Behavior** tab you can specify important options how SemTalk manage new instances or subclasses of the class.

Instances exist on exactly one Diagram	Instances will be deleted from the objectbase as soon as they are deleted from the diagram.
Anonymous Instances	Behavior often used for activities in processes. You must have a master named as the class. If you renamed an instance of the class, a new super class for the instance is created. The instance is not individually named. It name is super class name + "." +ID
Refinement of Class	Used together with **Anonymous Instances**: refinement will be attached to the super class and to the instance. E.g. the activity "write Book" will be refined by the same subprocess in all processes where write book is used

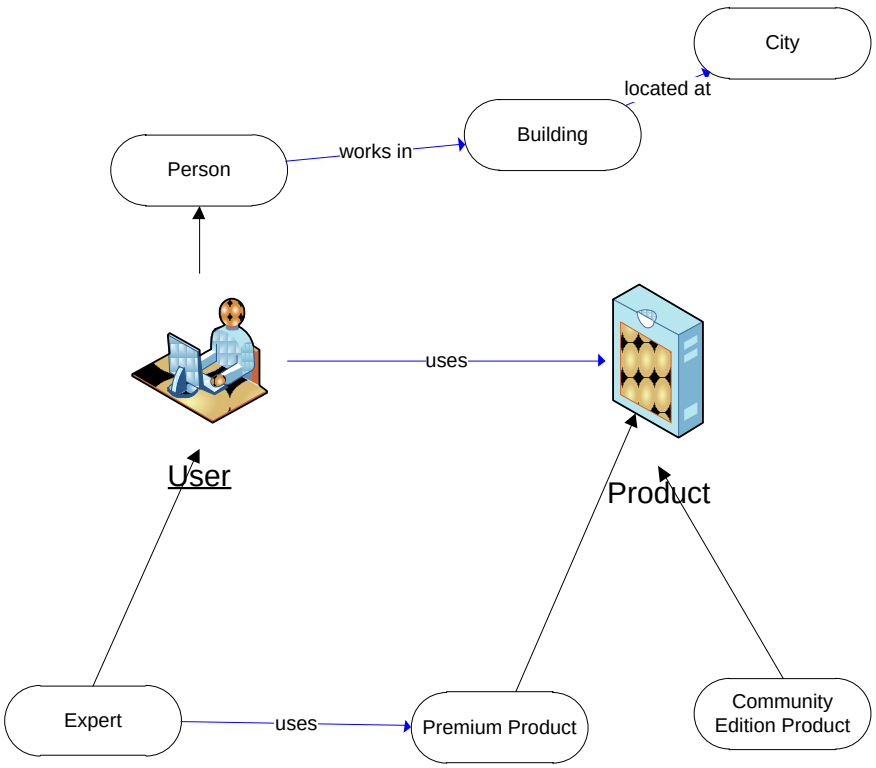
Create Subclass on Drop	Similar to **Anonymous Instances** but used on classes. Every time a class master or class from explorer is dropped onto as class diagram, new subclass is created instead of inserting the class in the diagram
Hide in Explorer	This class is not shown as a root class in the SemTalk Explorer

The **Graphics** tab gives you some basic control how the shapes will be displayed without the need of changing the Visio master shape

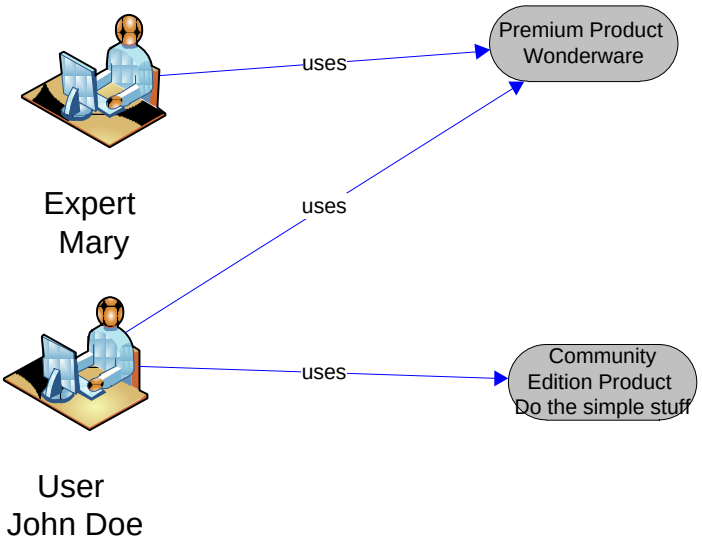
Color	Shapes showing instances of the class will get the specified color overwriting the color of the master
Line Pattern, Line Weight	Line Pattern and Line Weight applied to the shapes AND ALL Subshapes
Use Image	A bitmap to be displayed in the first subshape

Associations and Instances

The property connector is used to define associations between instances. If two instances are connected, a dialog box pops up and offers the possible associations for the object's class. Only for the purpose of our example, an "Expert" uses a "Premium Product", but does not use the at a "Community Edition Product".



On instances this means that the expert Mary may not use the community edition but John, as a standard user may use any product.



You may change the association class of each existing link by right-clicking the connector and choosing **Change Relation**. Associations, which are not specified in the class model, are not allowed between instances.

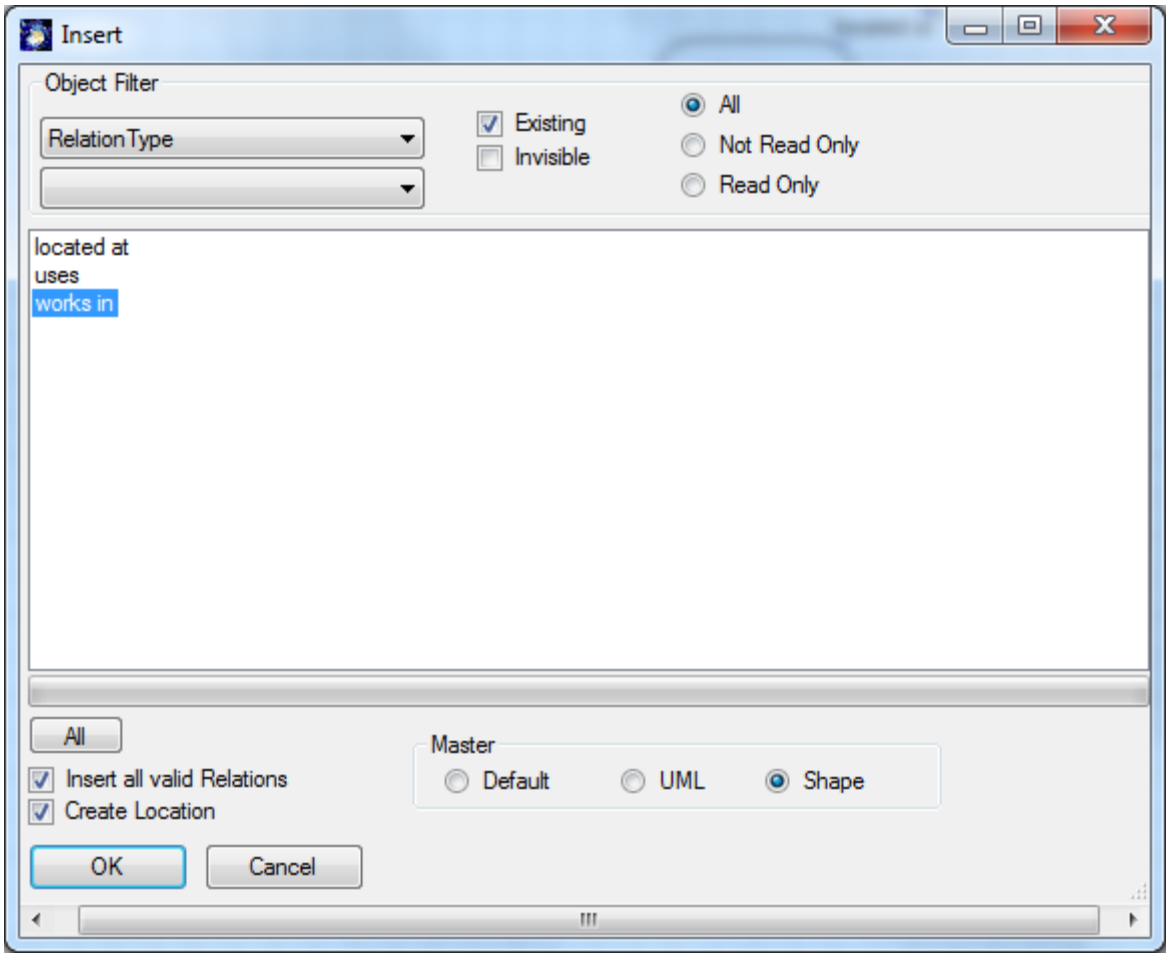
In this way, SemTalk adds semantics to Visio shapes. Class models (so called onotoligies) specify how shapes can be used on instances. This paradigm allows to define a huge range of modeling scenarios.

In the **Associations** tab of the instance edit dialog, you may select an association (property) without displaying it graphically.

Associations are ordinary instances of their association class. You may also define associations on associations.

Association Classes

Since associations are instances of an association class, they are used to define attributes. In our example, we can add an attribute “arrival time” on the class “works in”, which can then be edited for each instance.



Please add the association class “works in” to your class diagram, using right click insert on the background of the diagram. Select **Relation Type** in the type combo box and then “works in” in the list box.

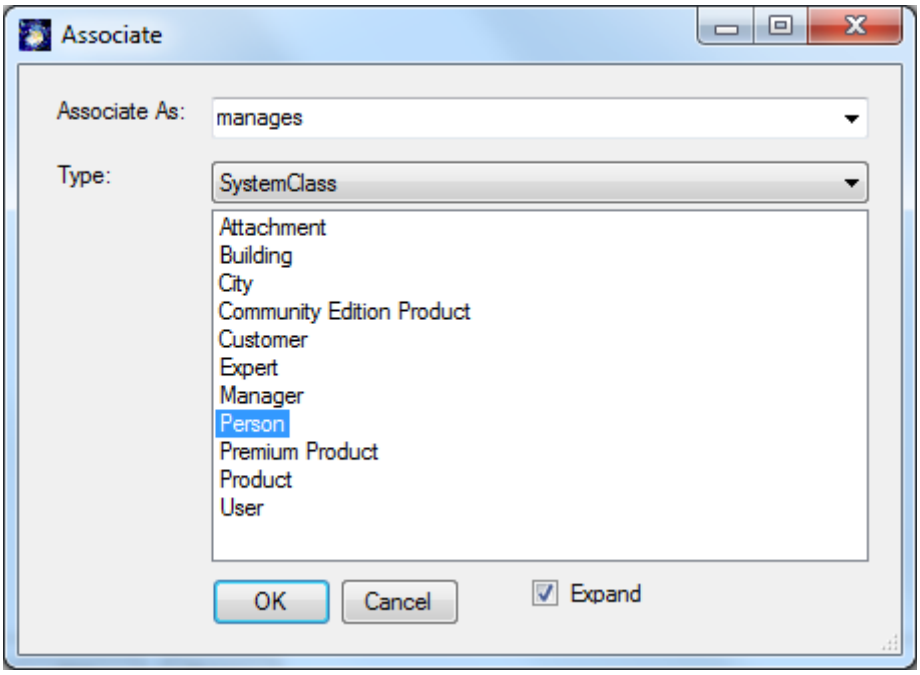
The class will be displayed in the class diagram. You may add now attributes, subclasses and new associations.

If you need a specific Visio connector for an association class, you can drop a Visio Connector to a stencil and rename it to the name of the relationship you want to use. Using the new master shape will automatically select the specified relation with the matching name.

Association Class Options

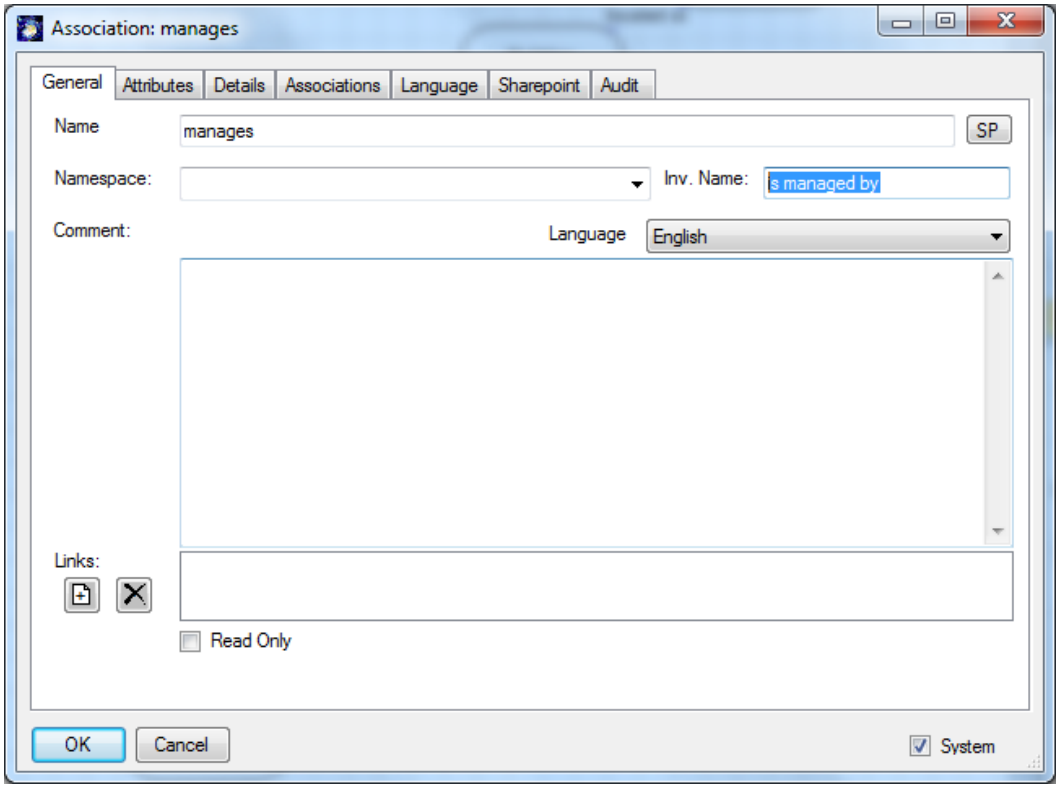
Associations can not just simply connect instances with instances, but they can also be used to connect instances with classes and vice versa.

Please create the association class “manages” by associating the classes “Manager” and “Person”.

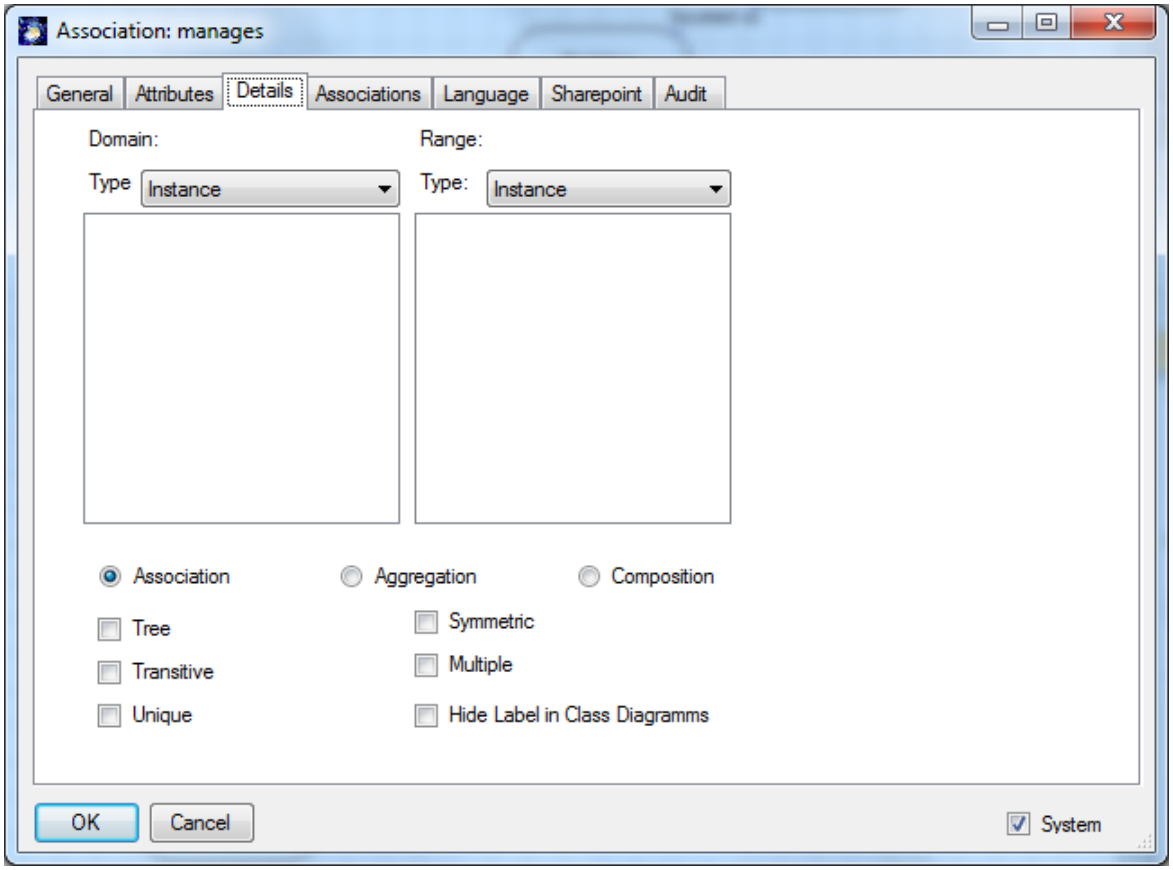


Select “manages” in the explorer as a direct child node of **Associations**. Open the dialog box using right click **Edit** (context menu).

NOTE: You may edit any object from the explorer using right-click edit as classes, instances, diagrams and diagram classes.



The tab **Details** presents other options to specify which types of object may be associated (class or instance) and some of their cardinalities.



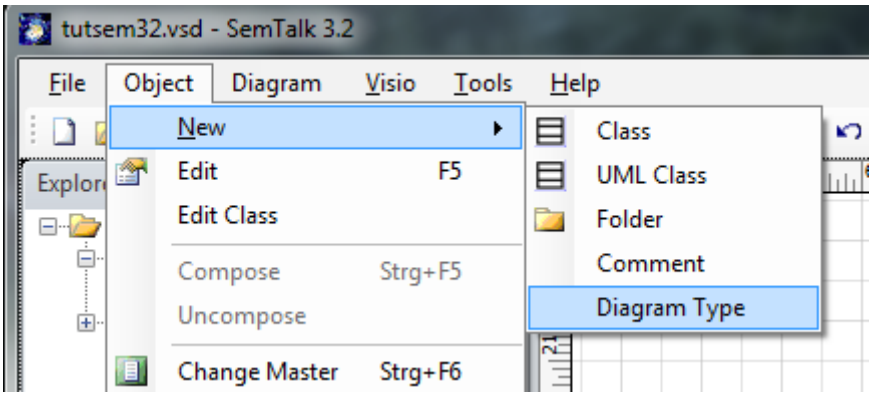
In case of an aggregation, the class own relations and its inherited relations will be shown. When working with an aggregation, the relations of a subclass will be added to those from of a superclass.

Aggregation can be here understood as a "is part of" relationship. **Composition** a specific "is part of relation" but has not a real meaning in SemTalk. It is simply used to display a diamond on the line. No partial objects will be deleted if you delete the container.

With **Tree,** you prevent cycles. A **Transitive** relation is e.g. "bigger". When A is bigger than B and B is bigger than C, then A is bigger than C. In case of **Symmetric** relations, the inverse name is the same as the name. **Multiple** means that between two objects more than one relation of the same kind are allowed. **Unique** means that only one relationship of this relation class is allowed to exactly one other object.

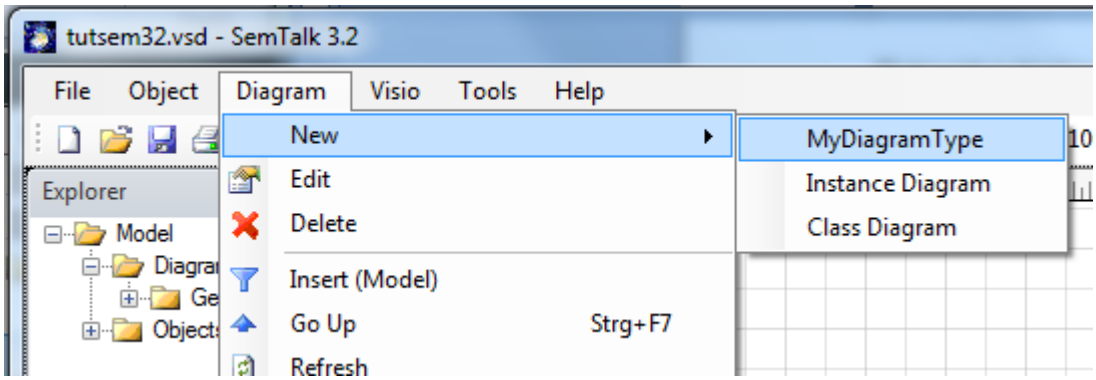
Diagram Types

You may create new diagram types in SemTalk. To create a new diagram type select from the menu options **Object → New → Diagram Type**.



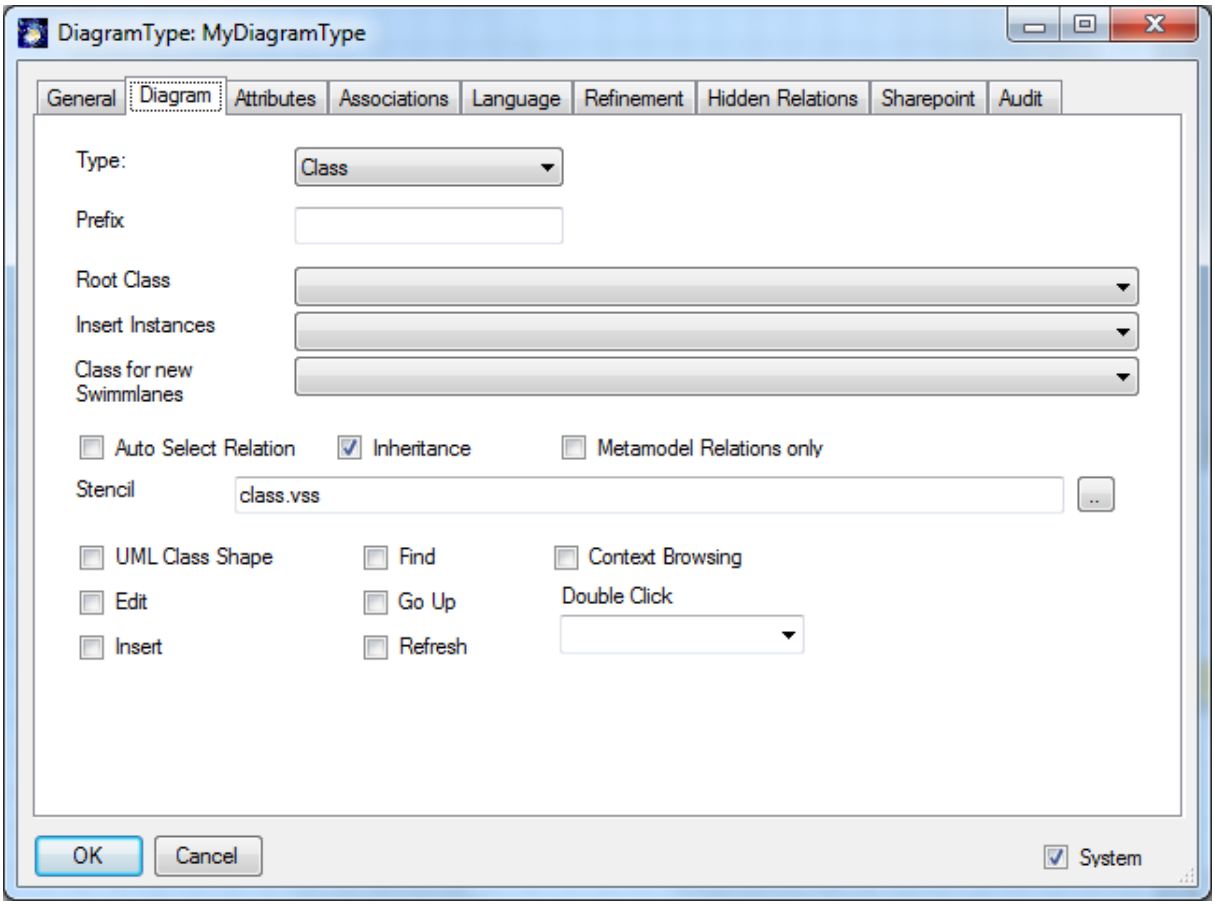
Please enter a name in the dialog to identify the diagram type.

Do not worry if you do not see the new diagram type in SemTalk Browser. Select from the menu options **Diagram → New** and you should see the new diagram type listed as an option. Click on it and you will see the new diagram type and diagram in SemTalk Browser.



You may edit a diagram type to constrain the objects you may use in it, to open specific stencils to work with, to define what operations are available from its context menu, etc. To do this, select the node in the SemTalk Explorer for the new diagram type (in this case "My Diagram Type") and select from the menu options Object → Edit. Please create a new diagram of type "MyDiagramType" because you will not find the diagram type in in the Explorer until it is used.

Next, select the **Diagram** tab. You should see the following dialog:



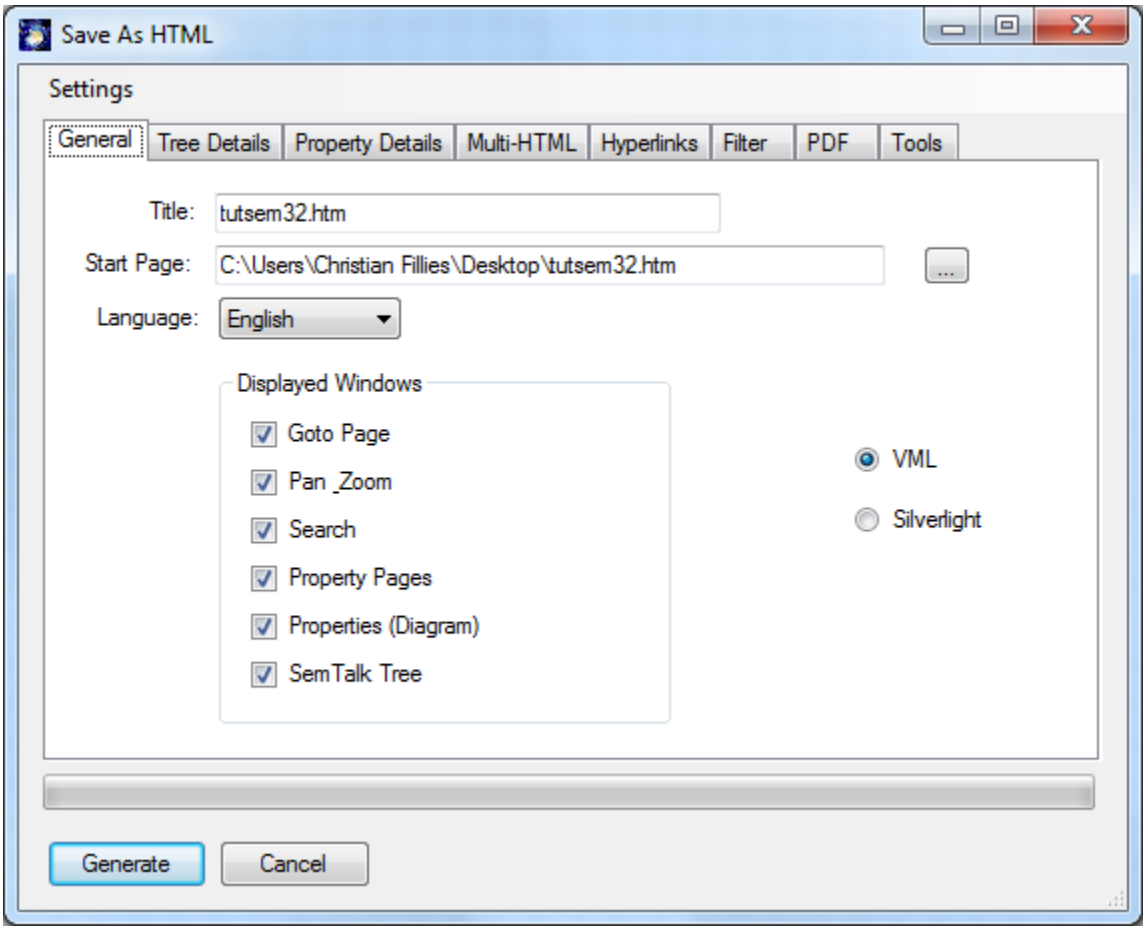
Type	Select **Instance** or **Class** diagram.
Prefix	To set a namespace to new classes derived from the **Root Class** of this diagram type.
Root Class	To set a class that clusters objects in this diagram type. If the diagram type is a class diagram, the classes on the diagram are subclasses of the root class. If the diagram type is set to instance diagram, the objects on the diagram are instances of the root class or its subclasses. The goal of the diagram's root class is to manage what objects are allowed on the diagram. This gives a diagram a context and it is necessary when modeling with a specific modeling method.
Insert Instances	To set a class in a class diagram, from which instances are allowed in the diagram. In other words, instances of a class are permitted in a class diagram. For an example, see section 0 on modeling with OWL.
Class for new Swimlanes	To be used in process modeling. A swimlane usually represents a human resource that carries out tasks illustrated on it. So may change the standard class for the swimlanes.
Auto Select Relation	To set that if only a single association between two classes exists, this association will be selected every time a relation is drawn

	between their instances.
Inheritance	SubClassOf Relations will be offered on links between to classes
Metamodel Relations only	Only Relations, which are defined on system classes (no namespace) will be valid in the diagram
Stencil	To set which stencils open automatically when the page is visible.
UML Class Shape	To set the UML class shape as standard shape when class are created or inserted in a class diagram.
Edit, Insert, Find, Go Up, Refresh, Context	To add this option in the diagram's context menu.

HTML Generator

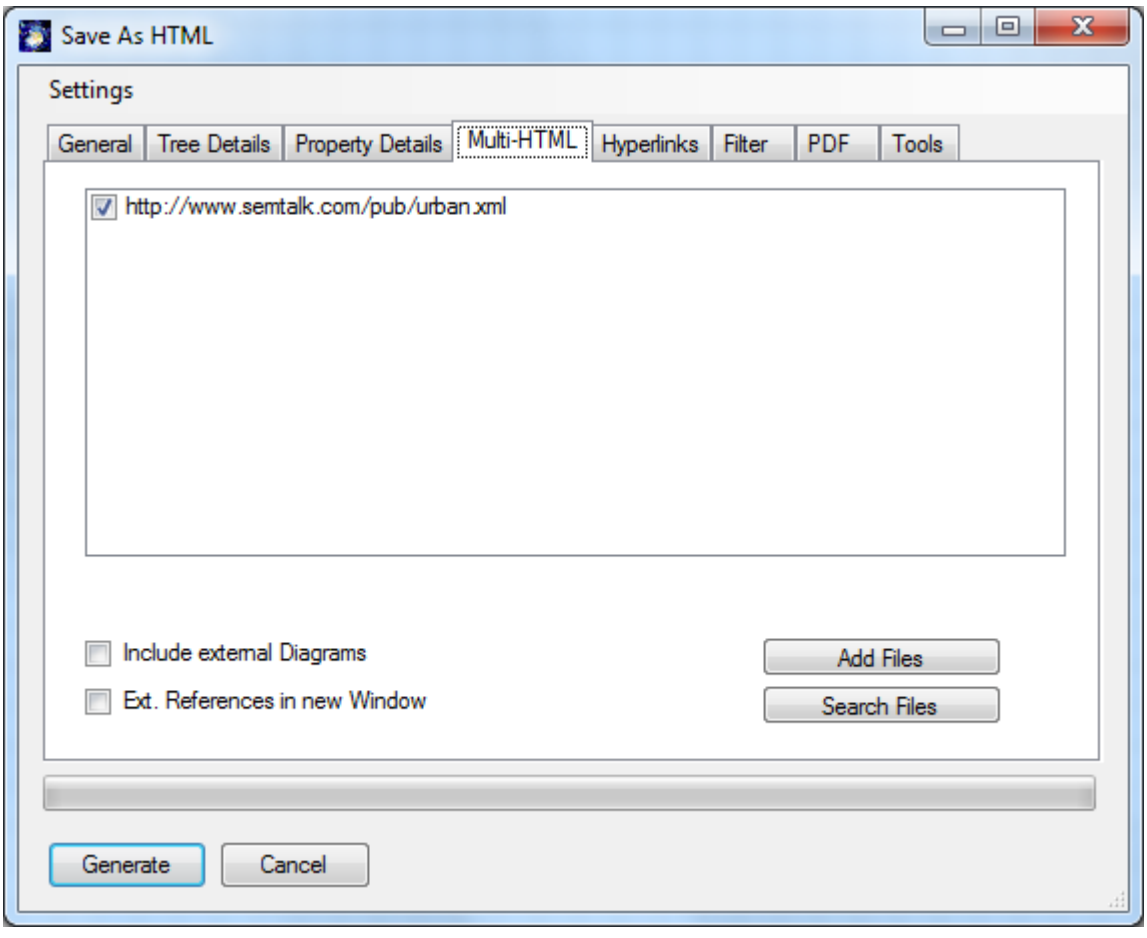
In order to create an HTML version of your model select from the menu bar **File →Save as HTML**.

Remember to save your diagram before using the HTML generator.



Title	Specifies the name of the Website. In case of working with multilingual models, the next field is used to specify the language in which the Website

	will be saved.
Stat page	Determines the file path of the start page to be generated. Do not generate to network drives. Always generate to a local directory such as C:\myhtml and transfer the html afterwards to the fileserver.
Select the following options to add elements and functionalities to the HTML export from the **General** tab.	
Goto Page	Facilitates a fast navigation across the diagrams.
Pan Zoom	Allows zooming of the diagrams.
Search	Enables the search in the website.
Property Pages	Shows the properties of a selected object in a diagram
Properties (Diagram)	Even if you do not use Property Pages for all objects, you may want a Property Page for each diagram for navigation purpose
SemTalk Tree	Reproduces the SemTalk Explorer in the Website
VML / Silverlight	Specifies how Visio will generate graphics
Language	Use to define the language of preference for the model attached objects.

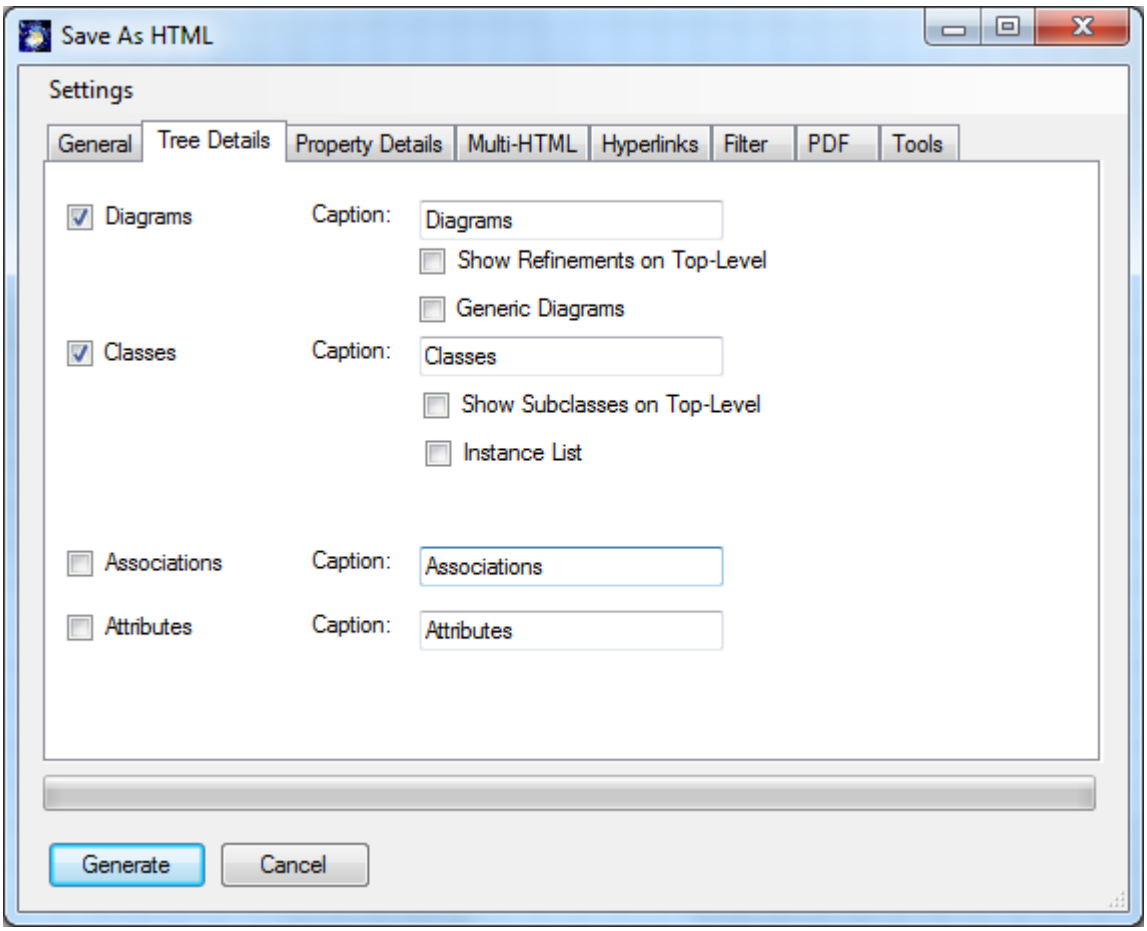


Under the **Multi-HTML** tab, you can decide which models to connect to your HTML export.

Include external Diagrams	Select to generate links to from objects in the to-be HTML model to other external HTML diagrams. **NOTE**: to open the HTML files of the external models from a HTML model all the start pages (not the supporting files) must be located in the same directory.
Ext. References in new Window	If selected, external referenced HTML models or documents (e.g. Word documents, forms, etc.) open in a new internet browser instance.
Add files	Use to add and search files yourself to the list of files for the multi-html export.
Search files	Use to search and add automatically files, which have a reference to the current model, to the multi-html list.

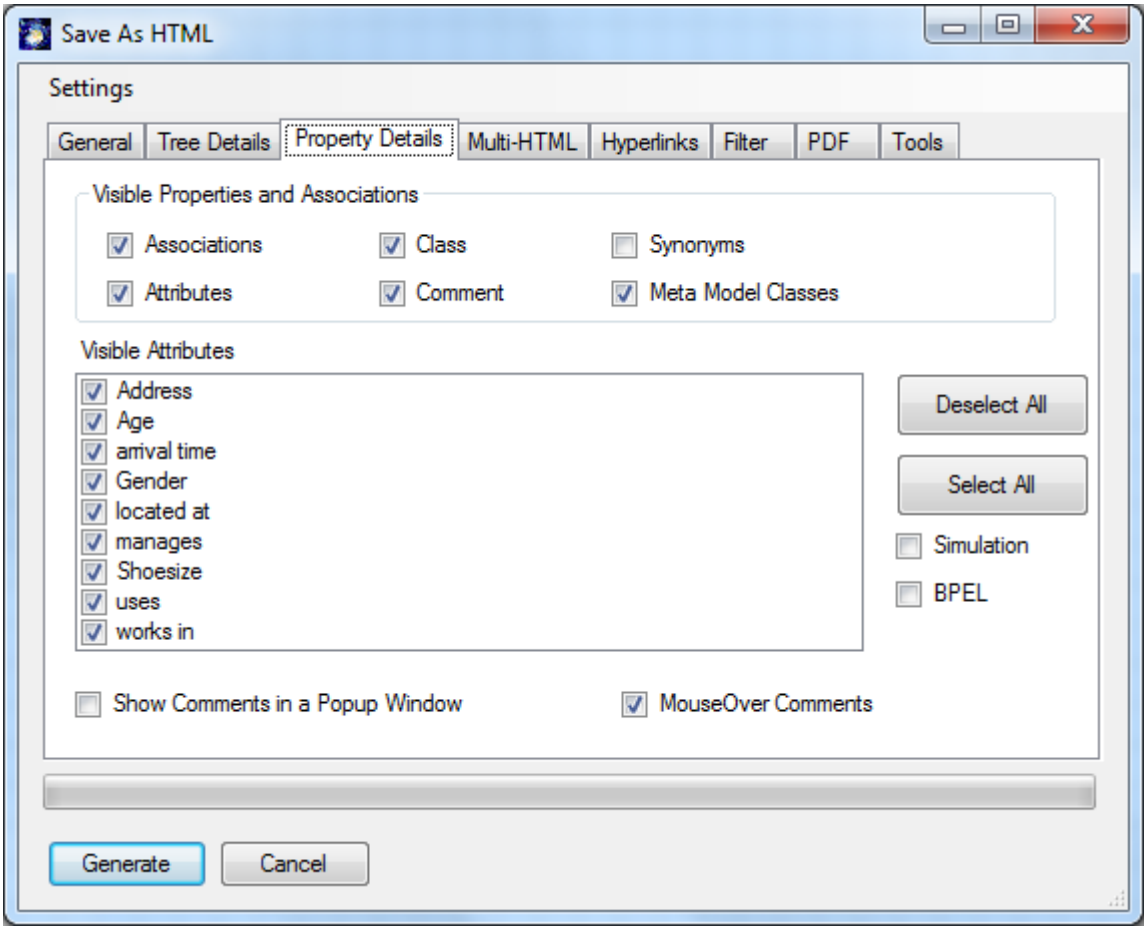
NOTE: The linking of HTML files works only when the index files (i.e. HTML start files) of the linking web pages (models) have the same name as their XML files, since the intern referencing uses the XML file names of the external models. Please notice that the name of the index file should not exceed 38 characters.

Under **Tree Details,** you can choose which object types are to be displayed. Normally, you will want to display classes and diagrams, but you can also choose associations, attributes, synonyms or instances.



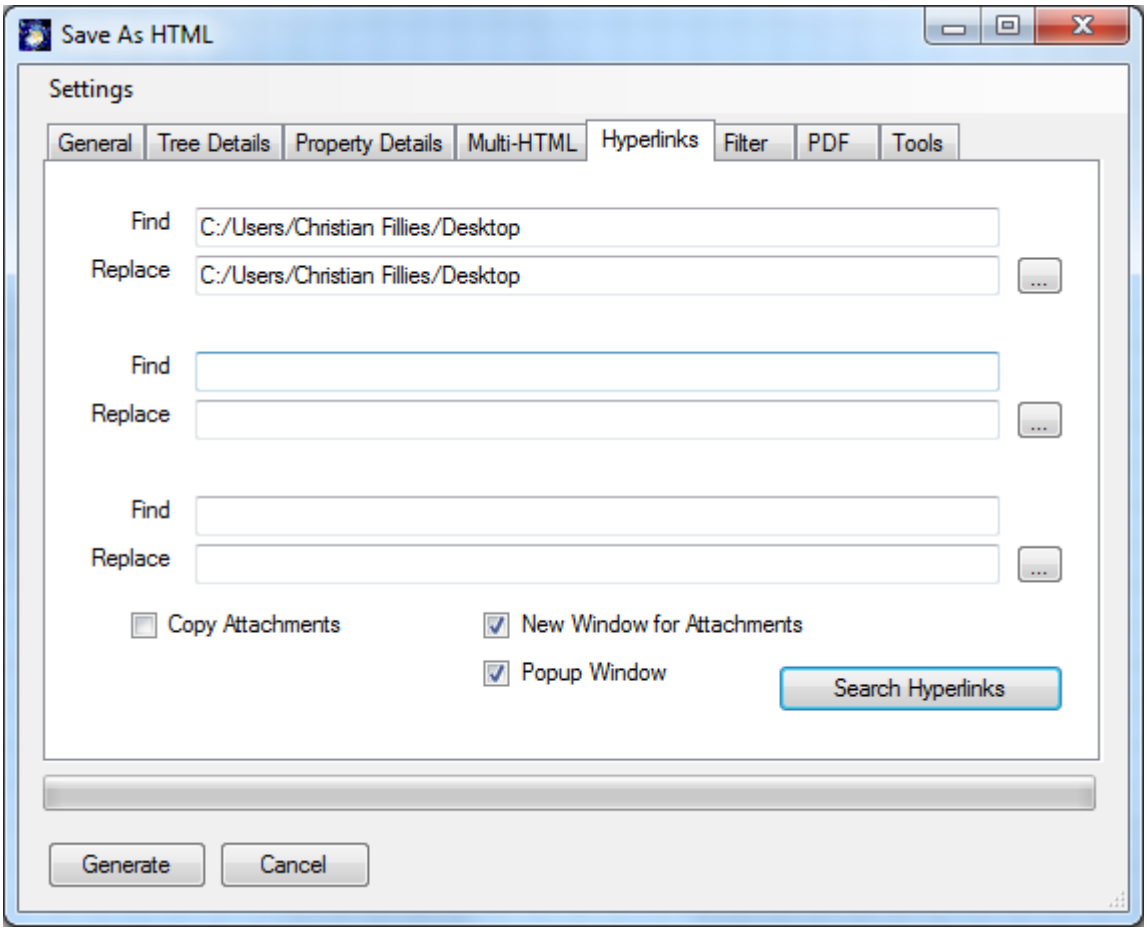
Diagrams, Classes, Associations, Attributes (Caption)	Normally, you will want to display classes and diagrams, but you can also choose associations and attributes. You may also change the node name of these objects in the tree view. (E.g. Classes -> Concepts or Associations -> Relations).
Show Refinements on Top-Level	Specify if diagrams that are refinements of other elements become root nodes in the tree. If not checked, user have a more hierarchical navigation, if it is checked users get a complete list
Generic Diagrams	In many uses case generic (or "Untyped") pages are used for displaying the meta model. These pages should often be excluded from the html representation
Show Subclasses on Top-Level	Use to display in the tree view a hierarchical structure (subclass of) for each class.
Instance List	Use to display in the tree view only a list of instances a no classes.

In the **Property Details** tab, you can choose which properties are to be shown in the property frame in the HTML export.



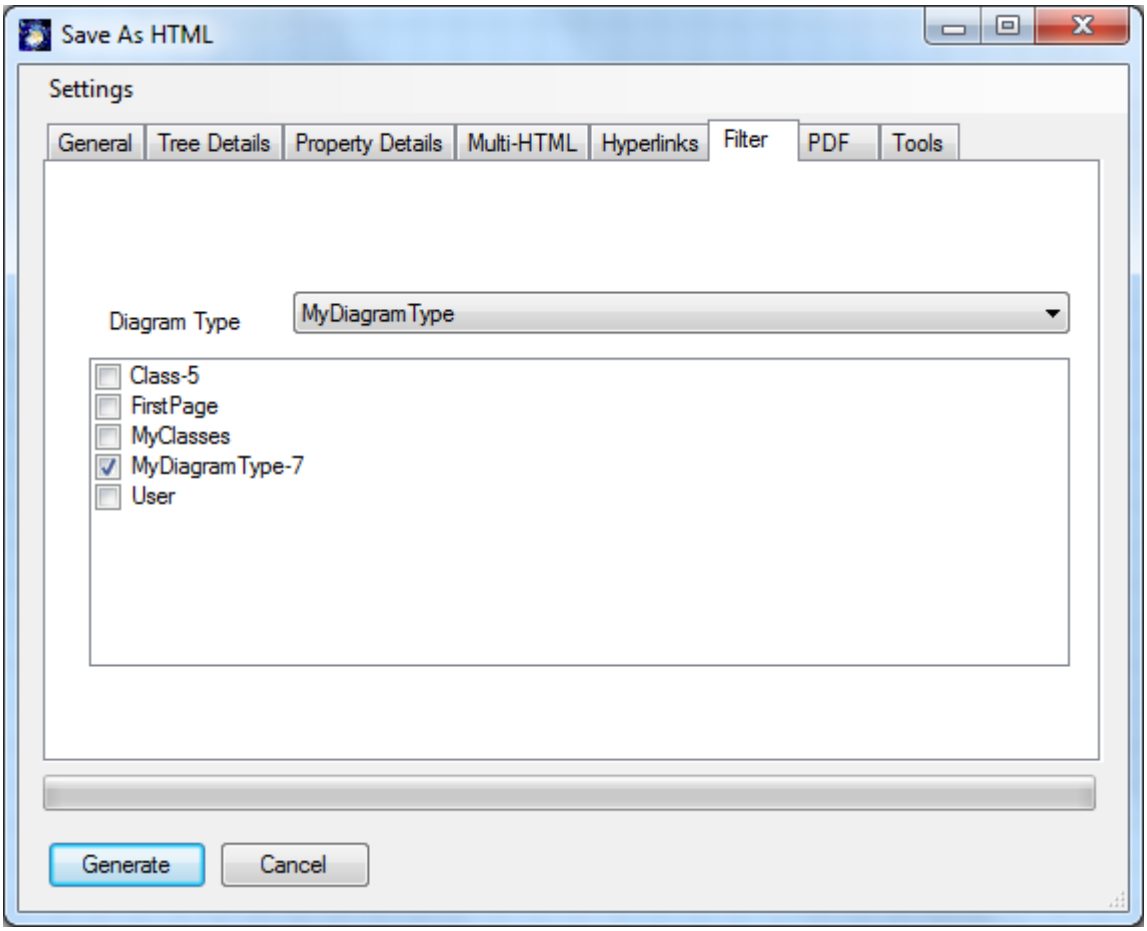
Visible Properties	Select the object properties that you will like to see for an object in the property frame in the HTML export.
Visible Attributes	Select specific properties and associations that you will like you see for an object in the property frame in the HTML export. *Simulation* and BPEL allow to select common sets of attributes, which are usually not wanted
Show Comments in a Popup Window	Specify if an extra menu entry for the comment should be generated. The menu will popup an extra window showing to comment
MouseOver Comments	Specify if the comment of an object will be shown if a user hoover over the shape

Use the **Hyperlinks** tab to edit the path of the referenced objects in the current model.

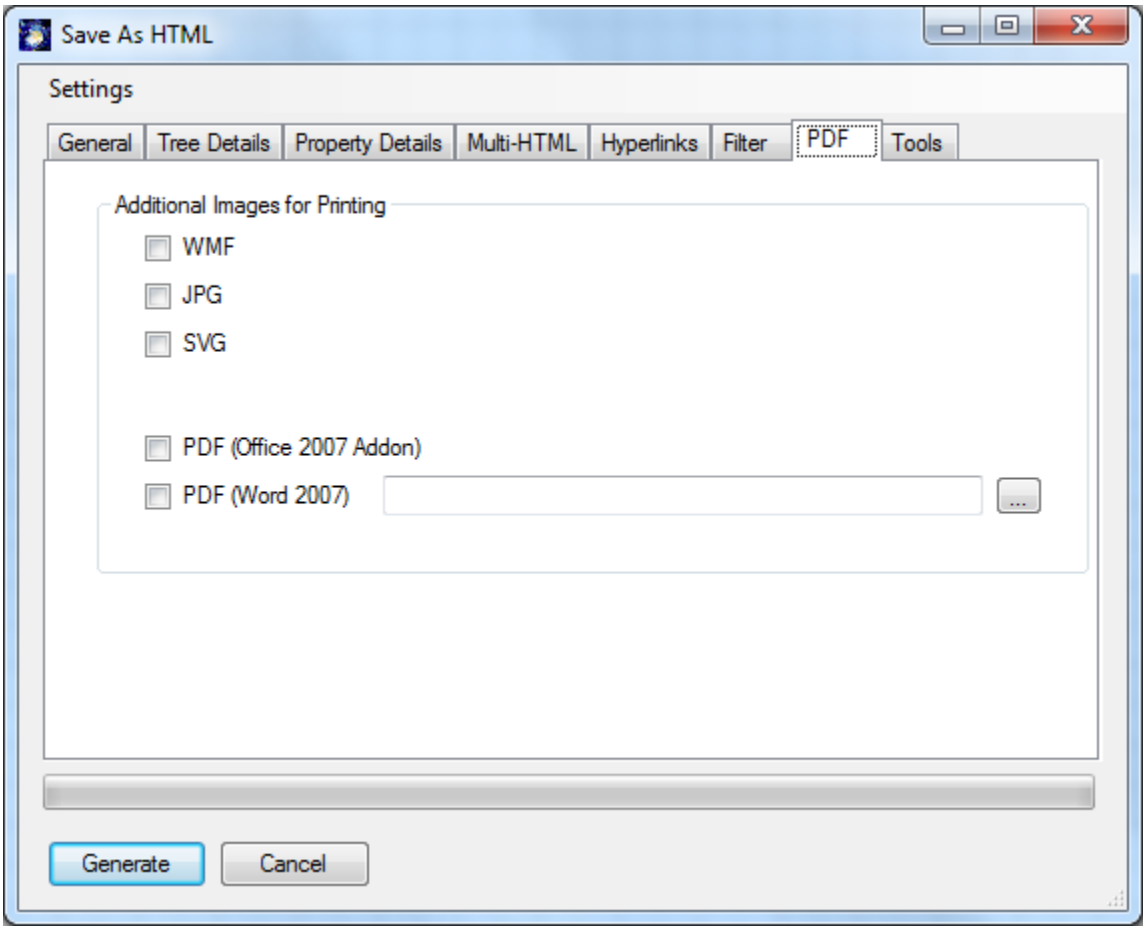


Find **Replace**	You may search and replace up to three sub paths. The button **Search Hyperlinks** will search for existing paths in your model and display them in the **Find** text field. You may replace absolute paths with relative paths ("../"). Please remember that the relative path does not begin with the "Start Page" directory, but with the subdirectory "xxx files". The "../" in the HTML tag tells the browser to go up one directory level (i.e. to the "Start Page" directory in this case.
Copy Attachments	Use to indicate that files attached to objects in the model will be copied to the target directory of the HMTL export.
New Window for Attachments	Use to indicate that the attached files should be opened in a separate instance of your internet browser.
Popup Window	Attachments will open in a limited Popup Window instead of a new browser window

Use the **Filter** tab to select those pages to be included in the HTML export.

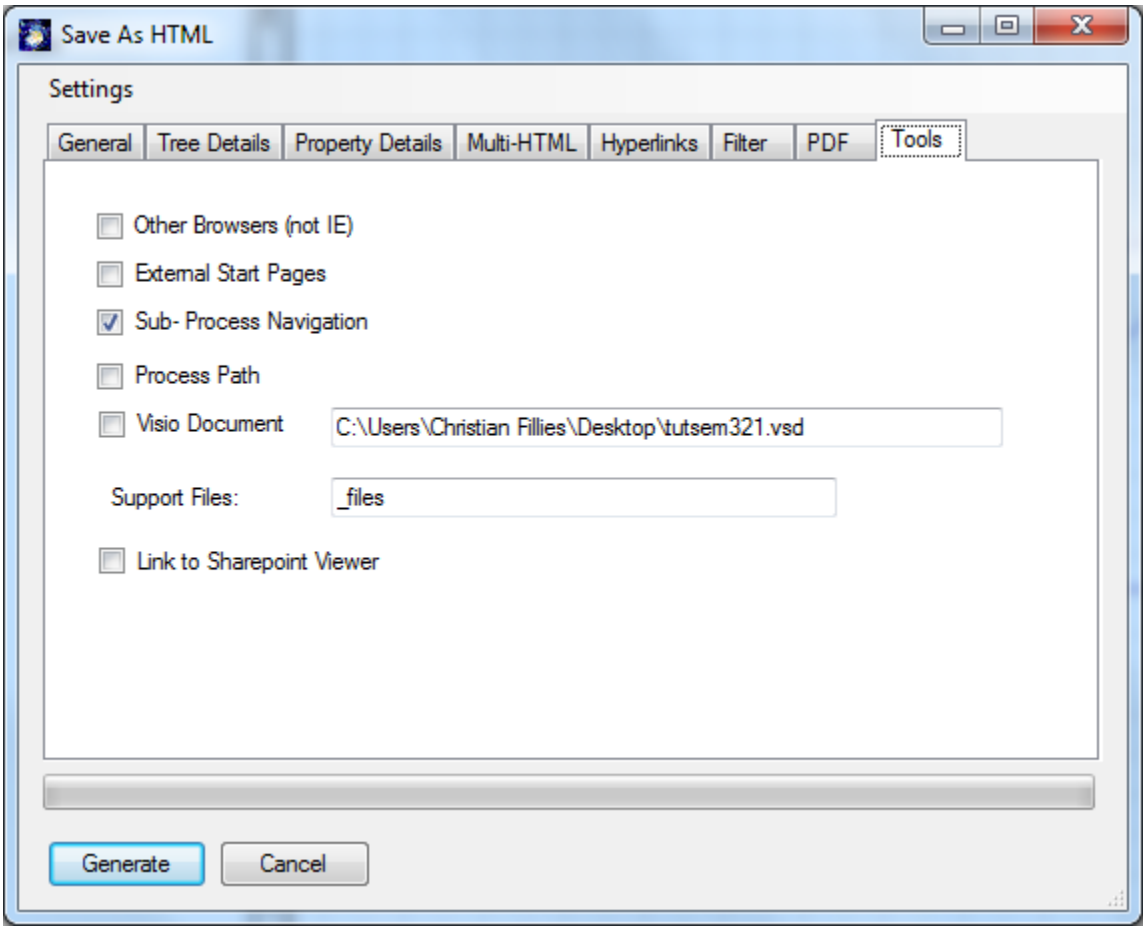


Organization unit, Buffer	(If modeling method applies) Select one of the options to file the adjacent combo box with the corresponding objects. Selecting one of the objects filters the list of diagrams below, marking only those diagrams where the object is present.
Diagram Type	Selecting one of the diagram types filters the list of diagrams below, marking only diagrams of that type.



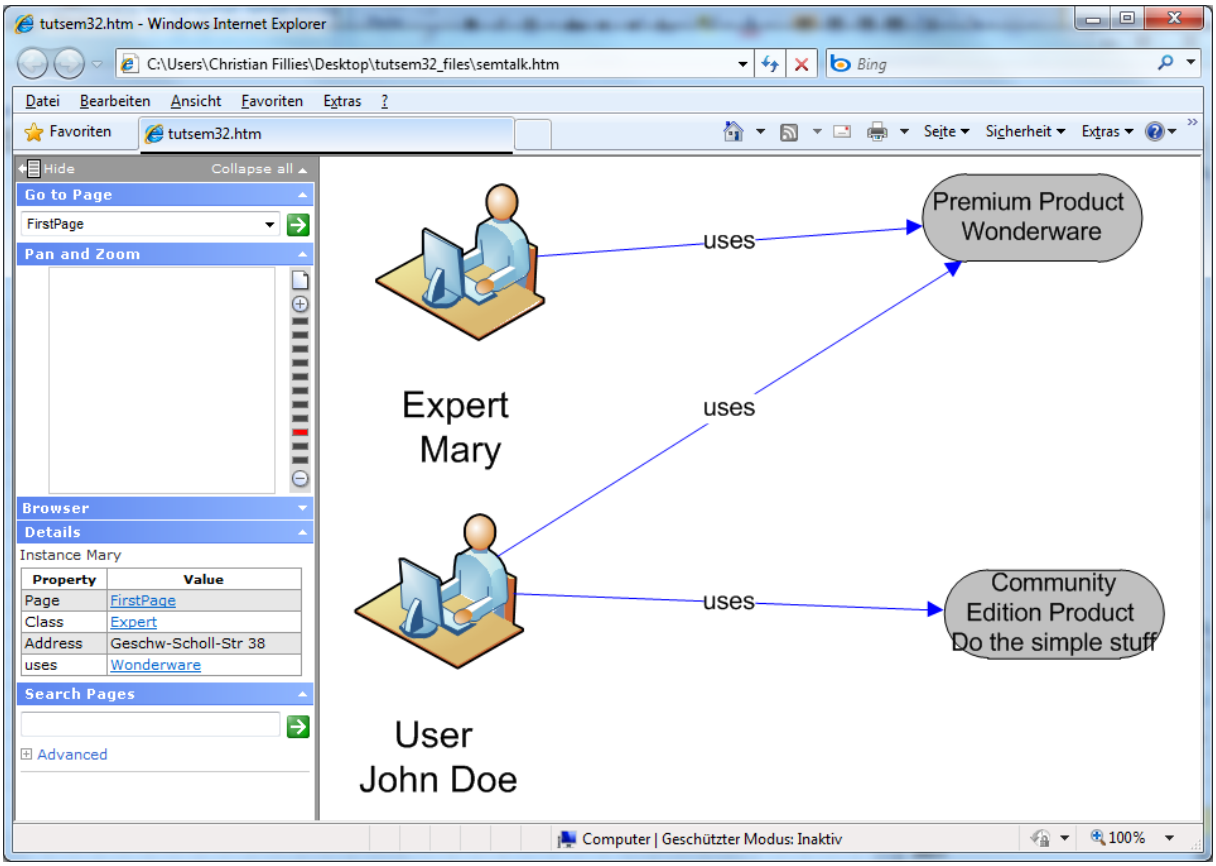
The PDF tab allows to specify that for each page a printable copy in the desired format will be created, to simplify printing of individual pages. You may choose from Bitmap formats such as **WMF, SVG, JPG** or use PDF. You can also use Word (-Export) to generate the PDF. Please select a template for this use case.

Other options can be found at the **Tools** tab.



Other Browsers (Not IE)	Visio generates HTML for IE 6 or superior. HTML export for other browsers has limited functions and generates are large number of small html pages.
External Start Pages	For each object, SemTalk generates an individual start page, where external models can be referenced.
Sub- Process Navigation	Navigation between lower level diagrams in process models
Process Path	Breadth crump navigation for process models. You'll a shape with text REFINEMENTPATH on the background page
Visio Document	SemTalk generates additionally a Visio document with the selected properties for the Visio Viewer. SemTalk object attributes are transformed into Visio User attributes.
Support Files	Specify how the folder for support files will be named. "_files" is not allowed for Sharepoint
Link to Sharepoint Viewer	A menu entry with a link to a specific webpage will be added. The ID of the object will be passed as an argument. The intendet use is to link elements to Sharepoint forms

The resulting HMTL:



Report Generator

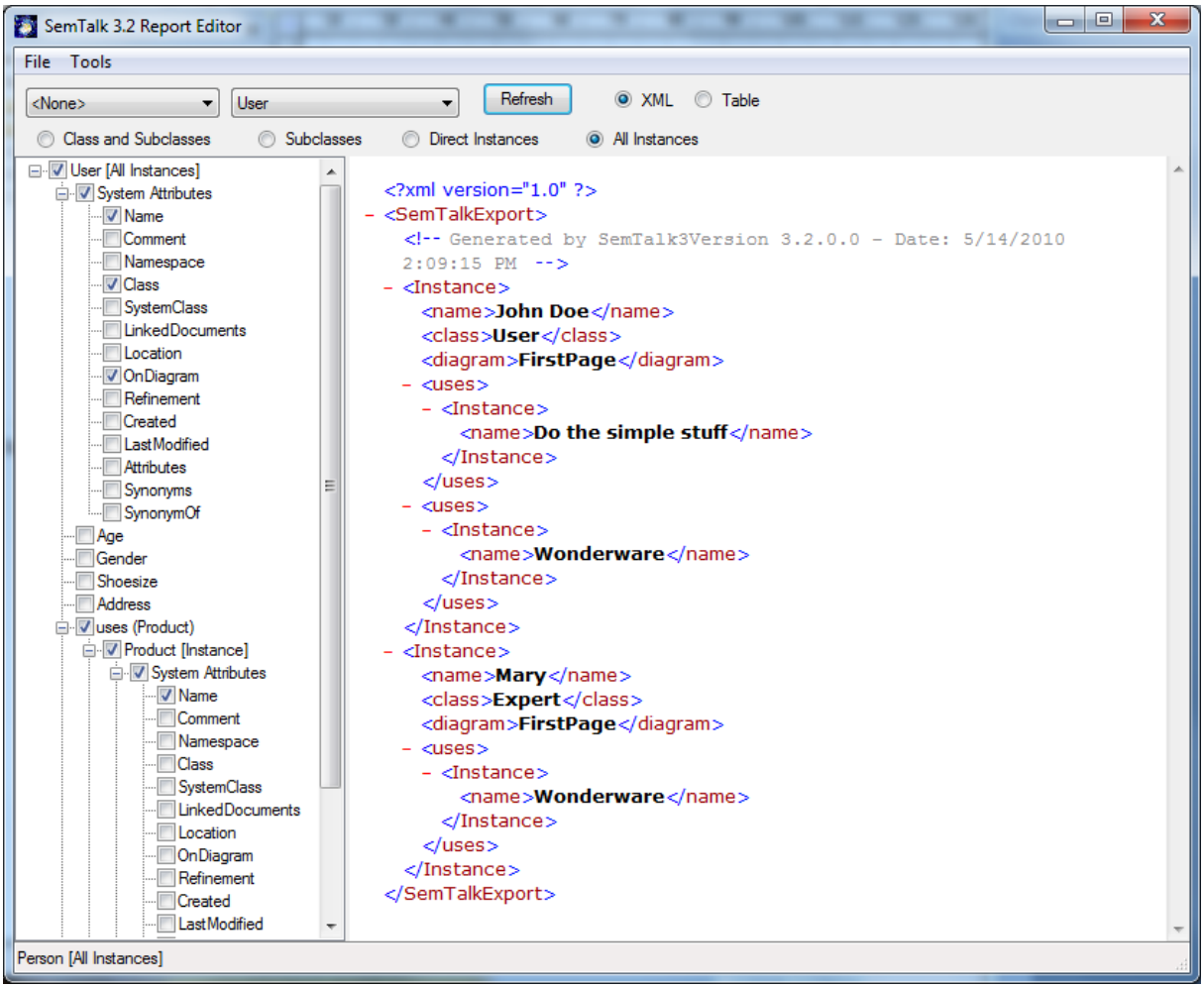
In addition to all the multiple possibilities to view your business process, SemTalk offers you a comfortable way of generating reports of every model.

To create new reports open SemTalk Report Editor selecting **File → Report → Report Editor**.

With SemTalk Report Editor you can create reports, save and reuse report formats. The tree structure shows the logical structure of the query and the attributes included. The right part shows the result of the query as XML or as a table.

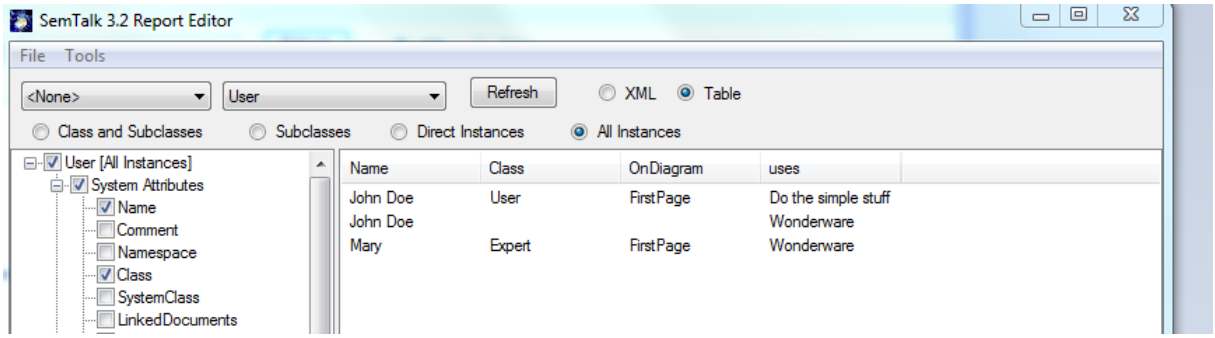
In the right combo box, select “User”. The option “All Instances” will list direct and indirect instances of User. You can see now the attributes and related objects in the tree view.

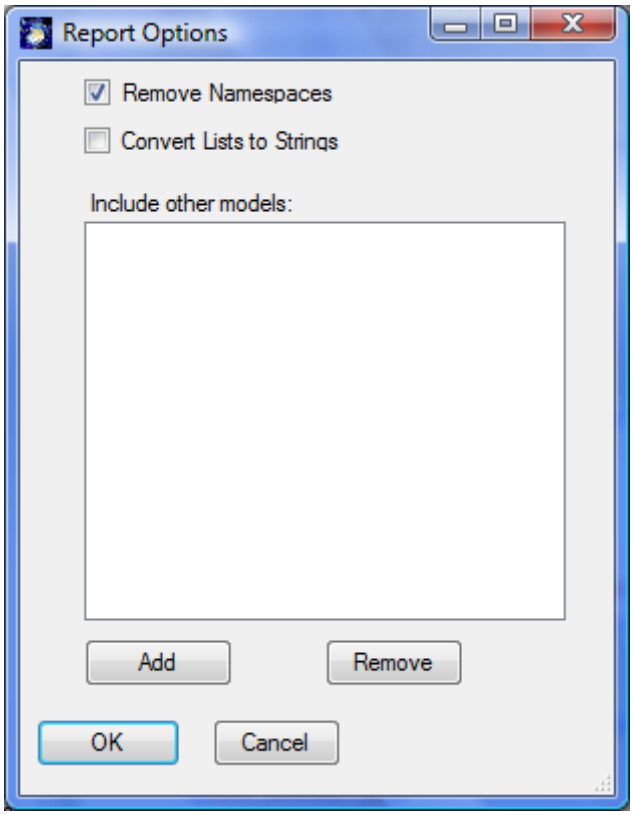
Now select in the tree view User / System Attributes /Name, User / System Attributes / Class, User / System Attributes / OnDiagram and uses / Product /Name to see a list of the Banks and the name of the treasurer who works there and in which page they can be found.



The objects, attributes and associations in the model determine the structure of the reports. The queries can be nested as deep as you need.

The XML output can be saved as an XML file, as html table, which can be opened in many tools including MS Excel, directly to Excel or to a Sharepoint list.





Use the menu option **Tools → Options** to specify additional options for report.

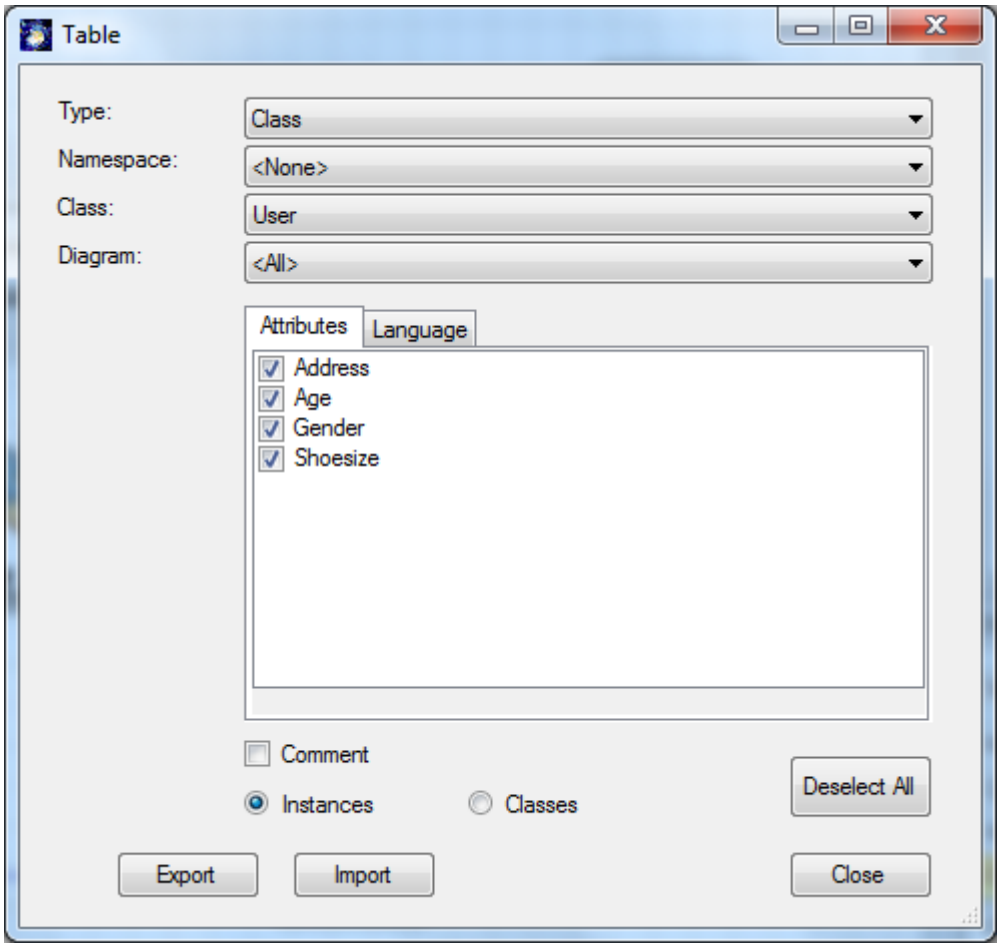
Include other model allows to run a multi model report. Other models will virtually merge in before the report as the report is being executed. Please make sure, that you are using models with a compatible **Error! Reference source not found.**.

Extras and Tools

Under the menu option **Tools**, different functions have been grouped. With the **Tool → Explorer** options, you can hide or show SemTalk's Explorer by selecting **Show Explorer**. With **Refresh**, you will renew the explorer.

Table Editor

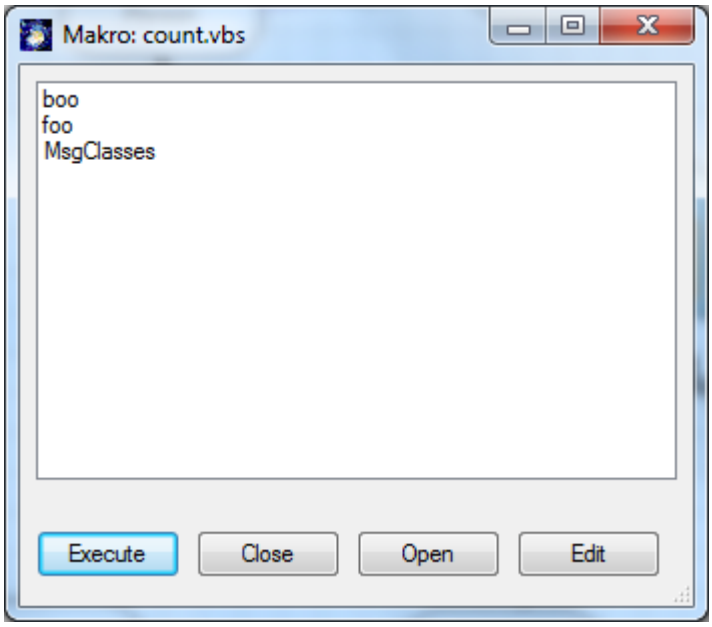
With the **Table Editor** you have at your disposal another way to edit information in your models. You can create and use Microsoft Excel tables to visualize and edit information about classes and instances in your models.



Type	Use to filter according the some of SemTalk's most abstract objects: Attribute, Class, Method, Relation, State
Namespace	Use to filter according to namespaces. <None> for classes with no namespace. <All> for classes regardless their namespace.
Class	Select a class to see a list of its attributes (if any). <All> to list the attributes of every class in the model.
Diagram	Select a diagram as filter argument. <All> to take into account every diagram. <None> to list those object that do not appear in any diagram, but exist in the object base.
Comment	Check to include the corresponding 'comment' in the table.
Instances	Select to generate a table with the instances of the class(es) you set as filter arguments.
Classes	Select to generate a table with the subclasses of the class(es) you set as filter arguments.
Export	Generates an Excel table according to the filter arguments.
Import	Imports the values you changed in the generated table.

Language	Use to translate the objects name in different languages and import them in the model.

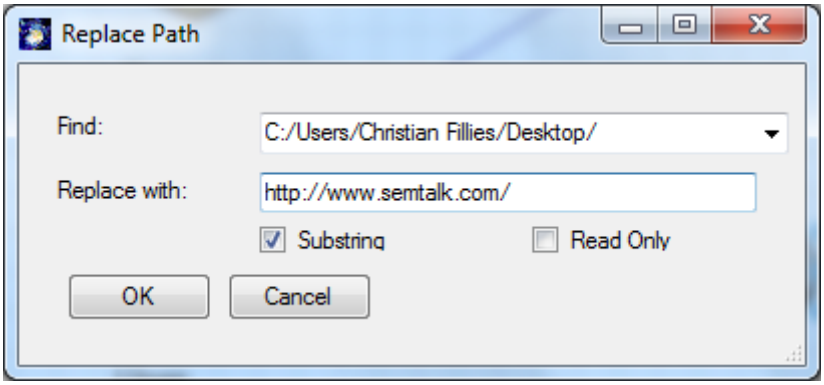
Macros



The **Macros** command allows you to run small SemTalk complementary applications written in a script language.

The example shows three subroutines contained in the file count.vbs. You can open a new macro file by clicking **Open**. Edit will open a script editor (not part of SemTalk). **Execute** will run the selected subroutine.

Replace



The **Replace** command is used to globally replace strings (rename) in different object properties. You have the following options:

Name	Replace the name of an object with another character string globally.

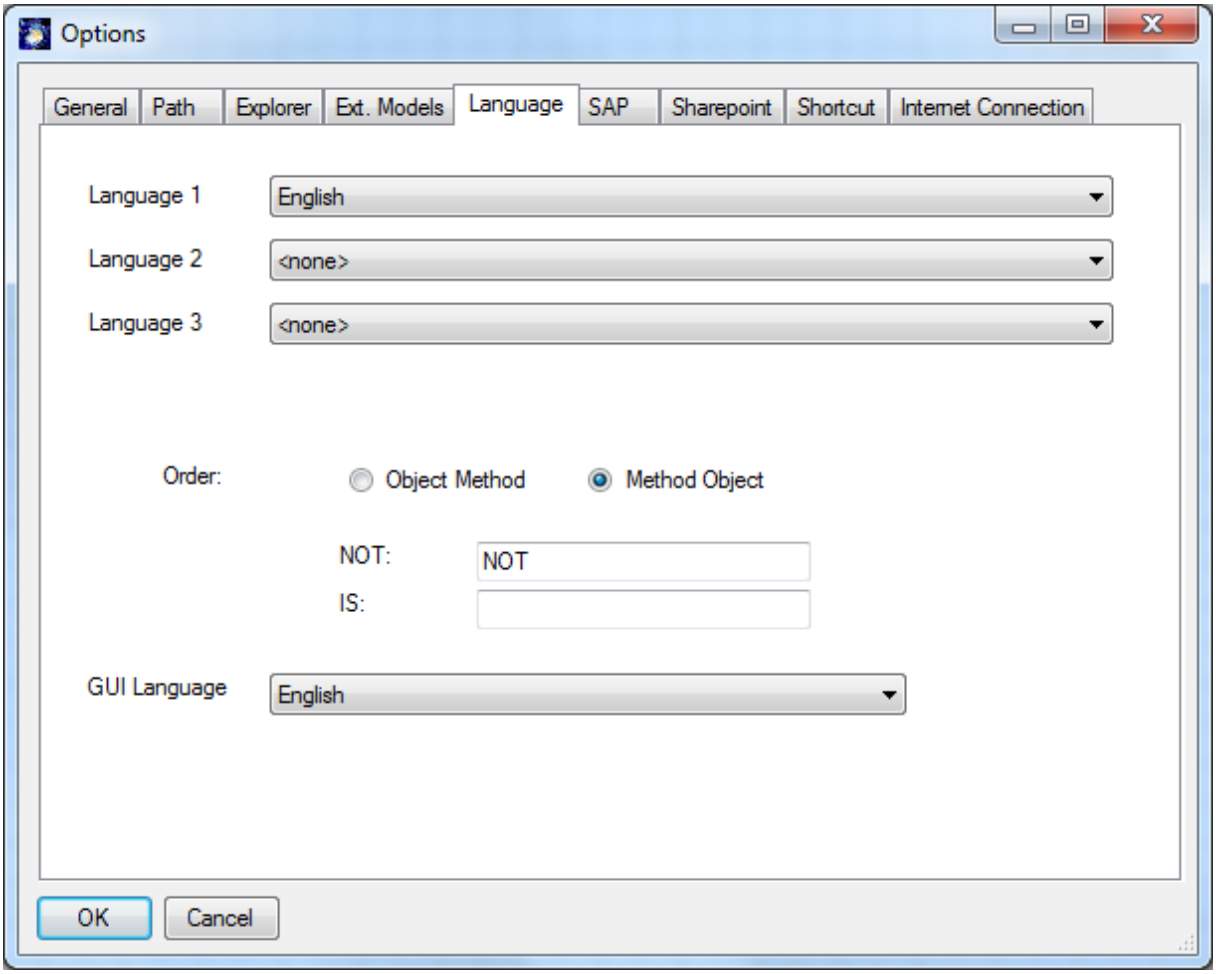
Location	Replace a location path of referenced objects with a character string globally.
Document Path	Replace a location path of attached files (e.g. documents) with a character string globally
Namespace	Replace the name of an object with another character string globally.
Refinement	Replace the location of a refinement with another character string globally. (E.g. after moving the file of an external refinement to another directory)
Substring	This checkbox must be checked if you do not want to match singles documents e.g. changing a directory path
ReadOnly	Include ReadOnly objects

SemTalk Options

SemTalk configuration options are found under the menu command **Options** (Tools → **Options**)

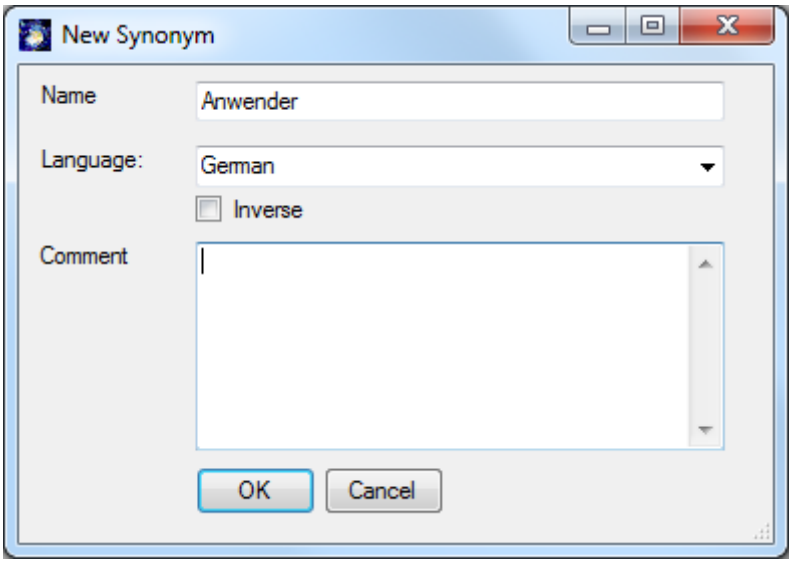
SemTalk Language Options

In the tab **Language,** you can specify the language priority for your models. You may specify a neutral language (option "<none>") to develop a standard version of your model. In our example, we have specified "English" as our model language. Language 1-3 are used to specify alternative languages. E.g., Language 1 is English and Language 2 is Medical (as technical language). If there is no definition in Language 3, Language 2 is used. If there is no definition in Language 2, Language 1 is used.

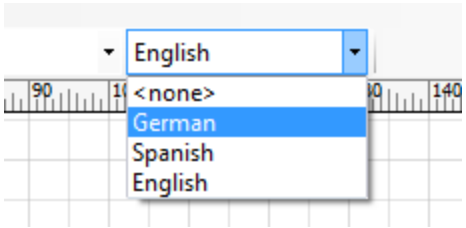


The **Object Method** and **Method Object** options are to indicate the semantic order of the name in which classes and instances of activities are identify. For example, in English, an activity would be expressed as **Method Object (read Book)**, but in German, it is expressed as **Object Method (Buch lesen)**.

GUI Language	System	Windows Operating System language
	Current	Your Windows's Language settings. (Check under Start → Window's Settings → Control Panel → Regional and Language Options)
	Visio	Visio's language settings. (Check under Start → Programs → Microsoft Office → Microsoft Office Tools → Microsoft Office 200X Language Settings)
	German, English, Spanish, Japanese	SemTalk's predefined languages

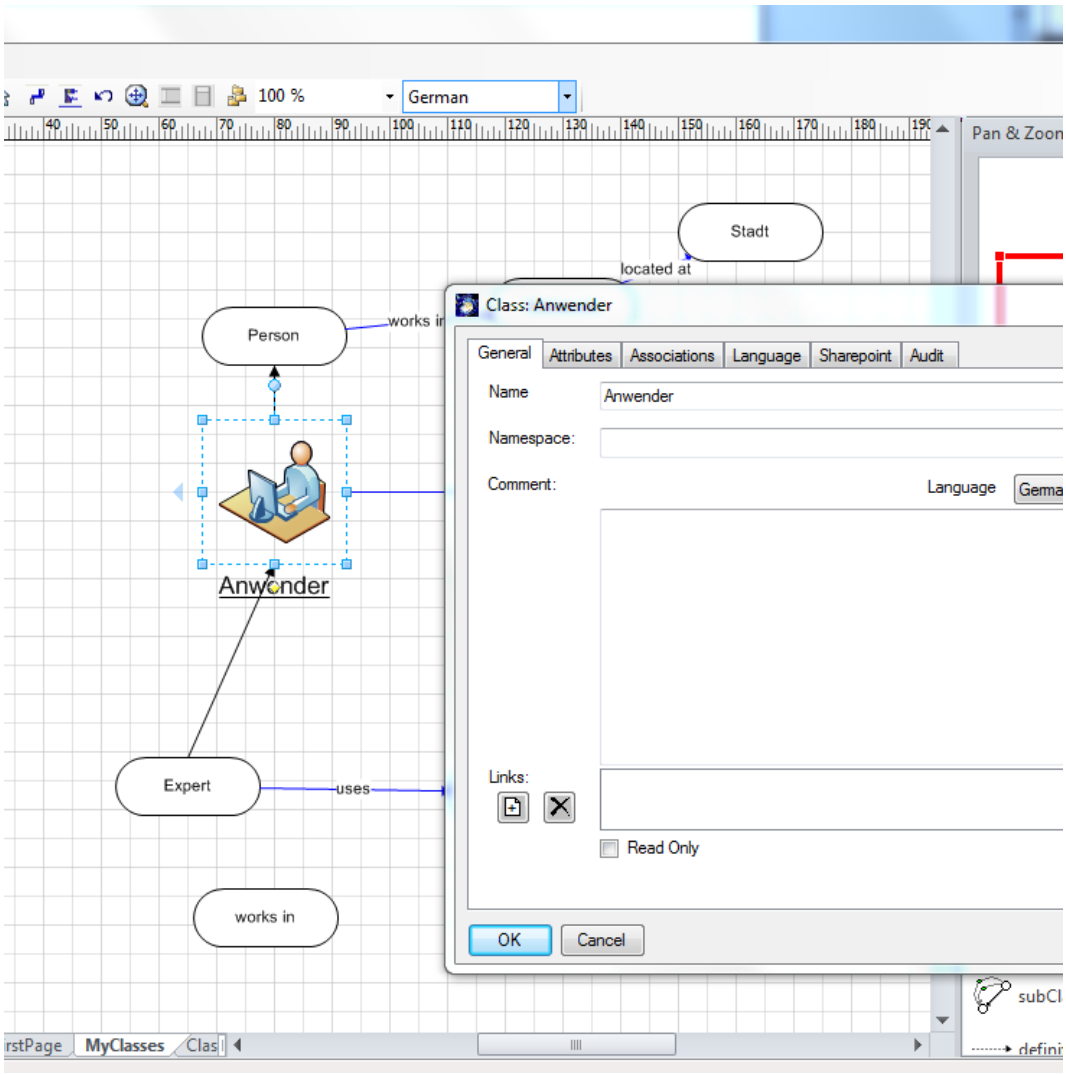


Let us add another language. In order to do that, please open now the edit dialog for the class "User". Under the tab **Language** press **New** enter the German term for user "Anwender" and press OK. In the next Synonym dialog, please enter German as the language.



You should be able to see now on the menu toolbar German as one of the optional languages for your model.

If you are working with multilingual models, it is recommended to choose a neutral language, develop the first version of your model, and then change to a different language to specify the object synonyms in that other language.



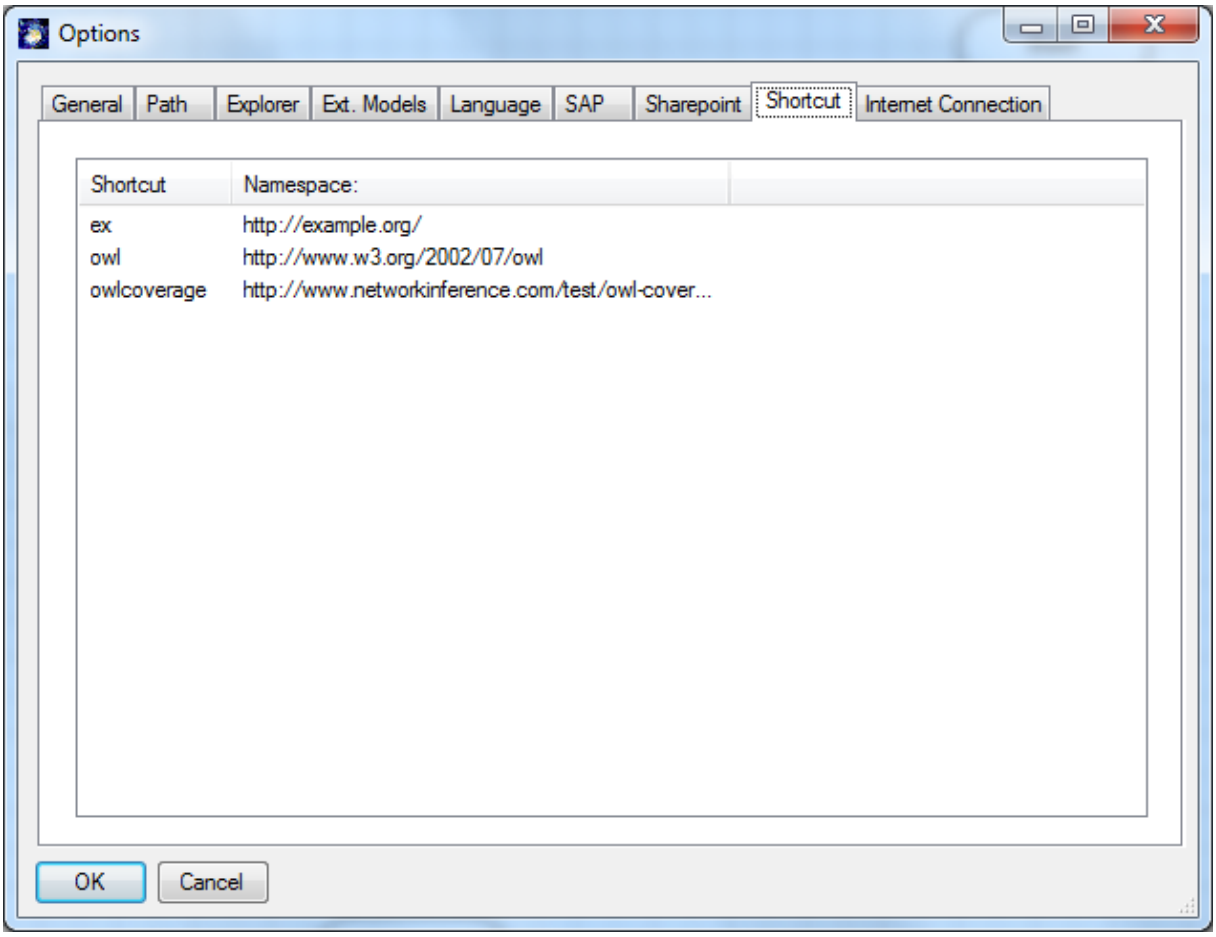
If you specify "German" as Language 1, every object that has a synonym in German will have a shape label in German, as well as the name in the edit dialog.

Shortcuts

If you are using references to external models, namespaces (URNs) can get quite long. In the **Shortcuts** dialog, you can define shortcuts for namespaces, which are used in all SemTalk dialogs. Shortcuts are assigned for the current user and apply to all objects in the current model.

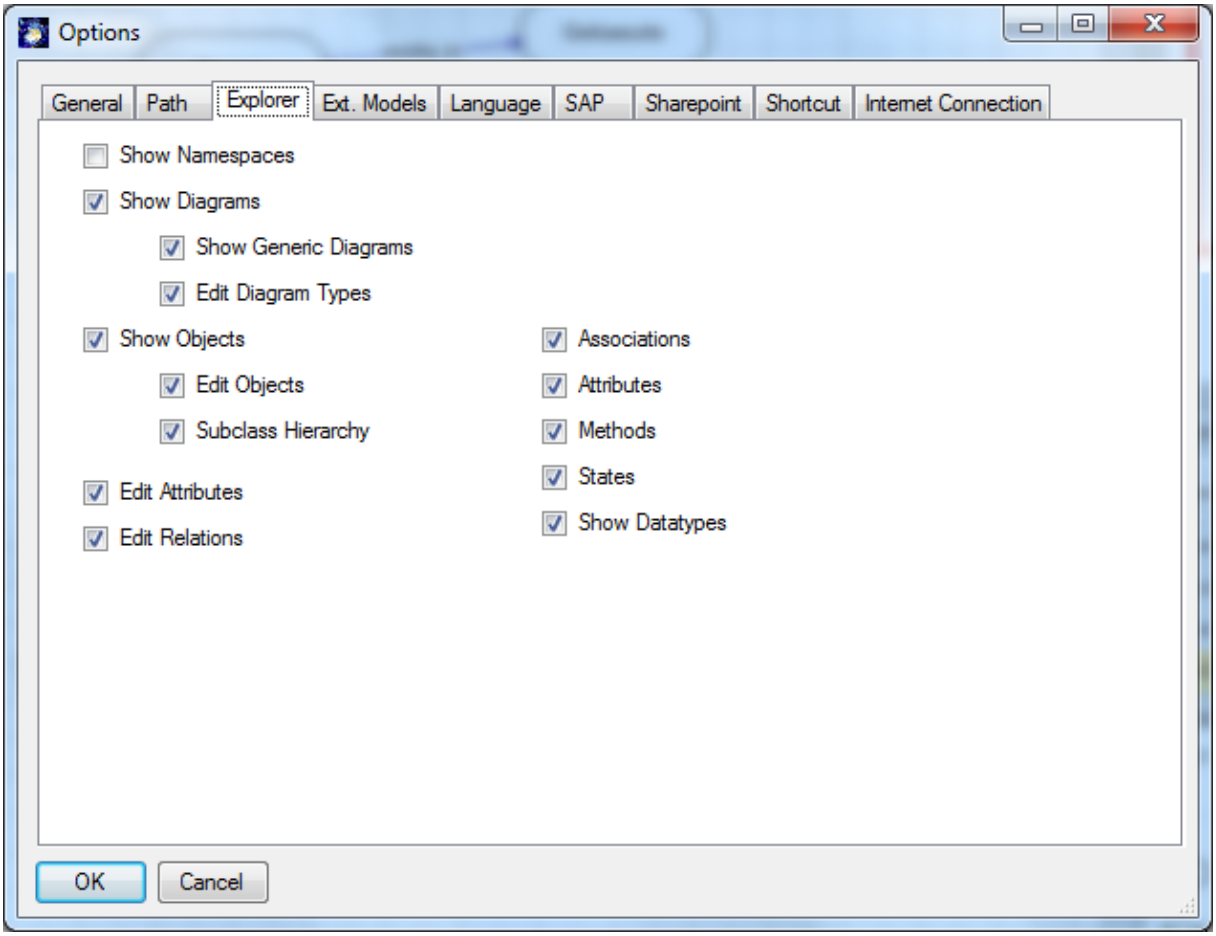
Using **New/Delete/Edit,** you can add and assign shortcuts for namespaces used in the current model.

OWL Import will automatically add all those namespaces and shortcuts found in the OWL file.


Options
General
Path
Explorer
Ext. Models
Language
SAP
Sharepoint
Shortcut
Internet Connection
Shortcut
Namespace:
ex
http://example.org/
owl
http://www.w3.org/2002/07/owl
owlcoverage
http://www.networkinference.com/test/owl-cover...
OK
Cancel

Explorer

Using the **Explorer** options, you can customize the appearance of SemTalk's Explorer. The **Explorer** options are saved with the model (xml-file).

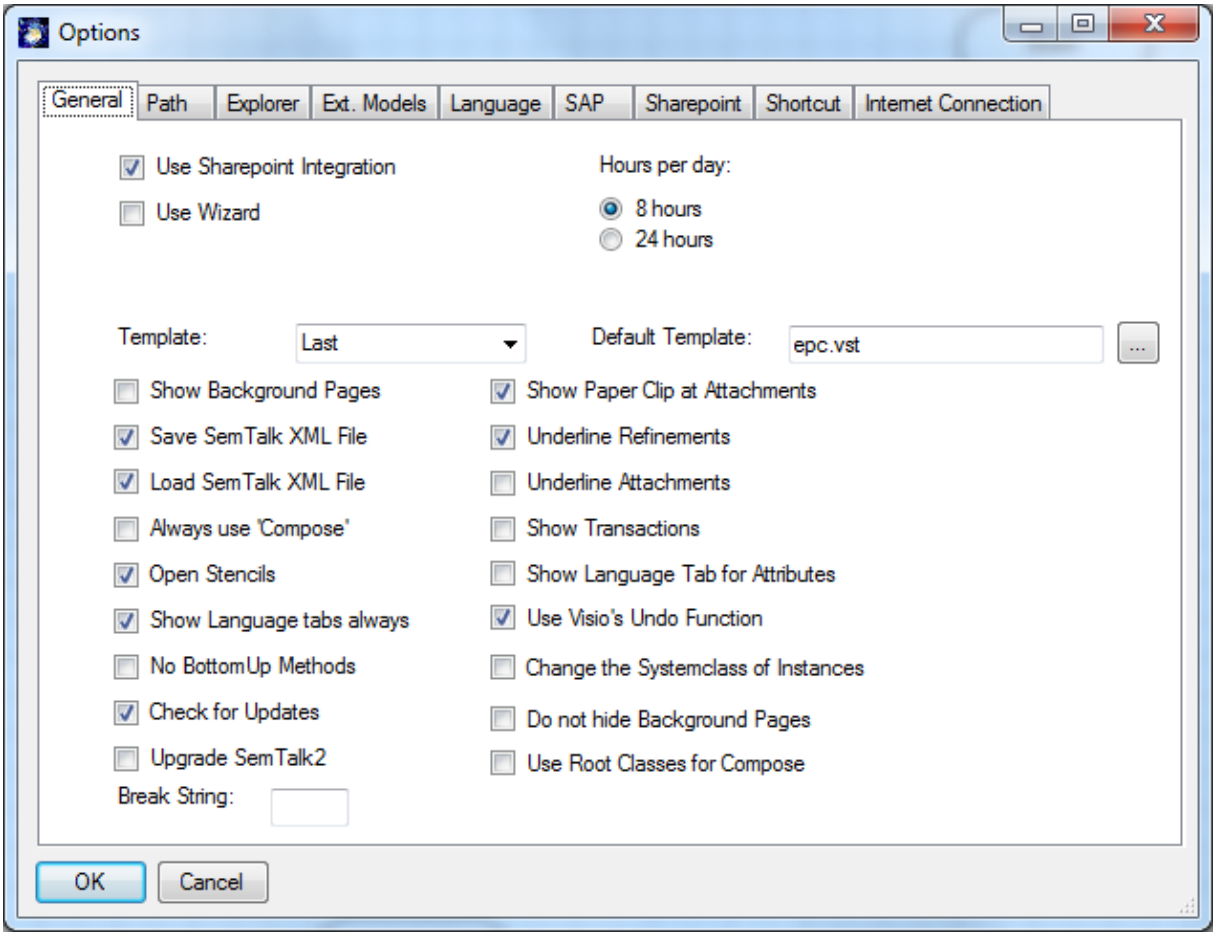


Show Namespaces	Displays the object identifier in the tree view: Namespace#Name
Show Diagrams	Show the **Diagrams** subtree.
Show Generic Diagrams	Show diagrams without a specific user defined type. These often the metamodels
Edit Diagram Types	Create, edit and delete diagram types
Show Objects	Show the **Objects** subtree.
Edit Objects	Create, edit and delete object from the browser
Subclass Hierarchy	Show subclasses as inheritance hierarchy. If you do not select this option all classes are listed alphabetically.
Edit Attributes	Edit and delete attributes.
Edit Relations	Edit and delete relation types (association types)
Associations	Show the **Associations** subtree.

Attributes	Show the **Attributes** subtree.
Methods	Show the **Methods** subtree.
States	Show the **States** subtree.
Datatypes	Show the **Datatypes** subtree.

General

On the **SemTalk options General** Tab, you can define the following options:

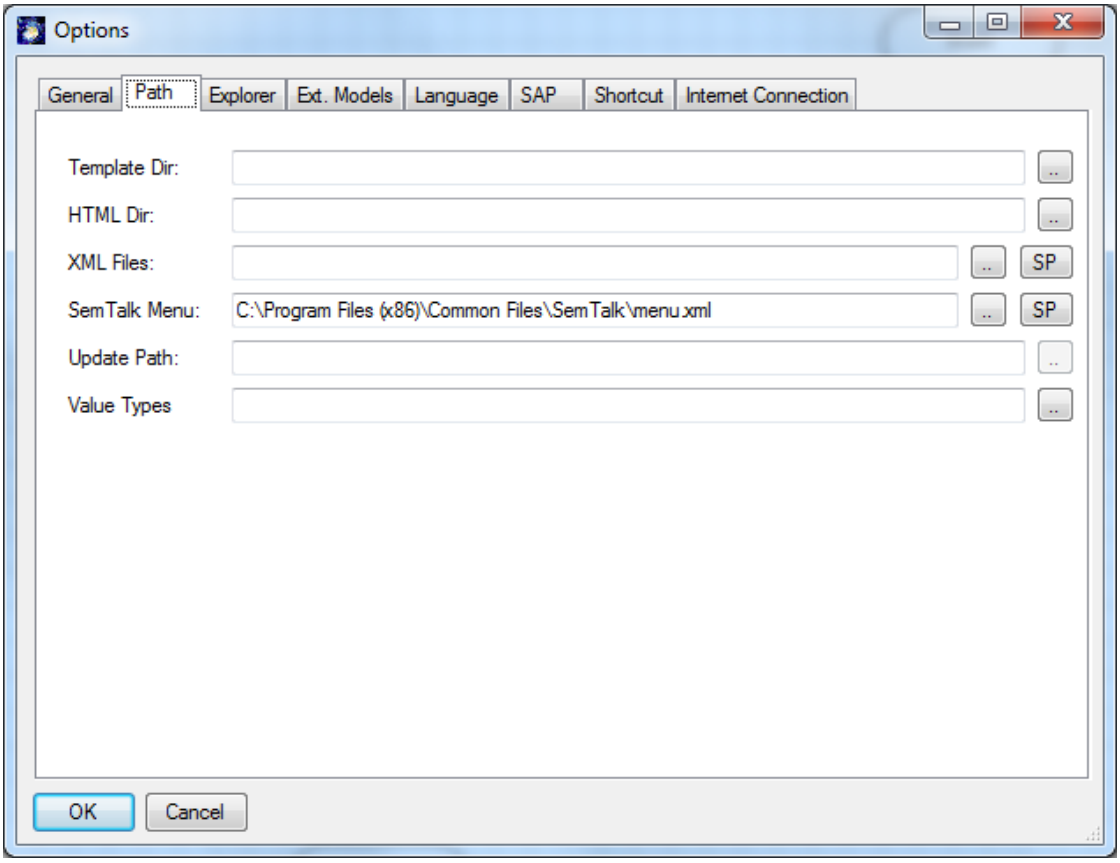


Sharepoint / Wizard	Optional SemTalk Functions supporting collaborative work with SemTalk
Hours per day	Specify how many working hours a day has. Used with business process models and simulation.
Template / Default Template	Change the template which will be loaded when SemTalk starts. The "Default Template" is used in case the last template is not available in the current SemTalk derivate.
Show Background Pages	Background pages are usually hidden. Check this option if you need to change them. No SemTalk objects can reside on background

	pages.
Save SemTalk XML File	Check this option to create an xml file of the current model without graphical information. Used to reference models.
Load SemTalk XML File	If unchecked SemTalk uses only the XML stored inside the Visio document
Always use 'Compose'	Intended for process modeling. Applies **Object → Compose** to every new activity.
Open Stencils	SemTalk opens the appropriate Visio stencil assigned to the current page type
Show Language tabs always	Language tab is always visible in Edit dialogs without customizing each individual class
No BottomUp Methods	Intended for process modeling. At **Object → Compose** new verbs can be entered that are not defined in a class model
Check for Updates	If checked, SemTalk tries to read the current version information from www.semtalk.com once every day.
Upgrade SemTalk2	Mainly change the way how attachements are stored
Show Paper Clip at Attachments	Activities/Functions in the process modelling notations will a paper clip, if they have an attachment. Please note that this will work only on masters which are built on SemTalk's Activity master shapes
Underline Refinements	Underline the text of objects having a refinement
Underline Attachments	Underline objects having an attachment. Alternative to the paper clip.
Show Transactions	Functions with transaction will get a thicker border
Show Language tab for Attributes	Using this option you can specify language specifc values for attributes. Please note that this is only supported for the "Attributes" tab in the Edit Dialog. All other attributes entered e.g. in "Measures" tabs are not supported
Use Visio's Undo Function	Visio's Undo is disabled by default, since many changes are being made which can not be undone in SemTalk. It may be used just to do repositioning of shapes. After using Undo a SemTalk consistency check will be made
Change the System Class of Instances	Instances of system classes can not be changed to other classes. Using this option you can do this even it is not recommended
Do not hide Background Pages	SemTalk automatically hides all background pages as soon as you change the active page. This is done in order to help you not to do modelling on background pages.

Use Root Classes for Compose	Compose means to build activity names from nouns and verbs. This is done via the main business object modelling class (Object or Information in CSA). Using this option you will get more options in the sense that you can use other modelling elements such as physical resources to be combined with a verb.

The **SemTalk Options Path** tab has these settings



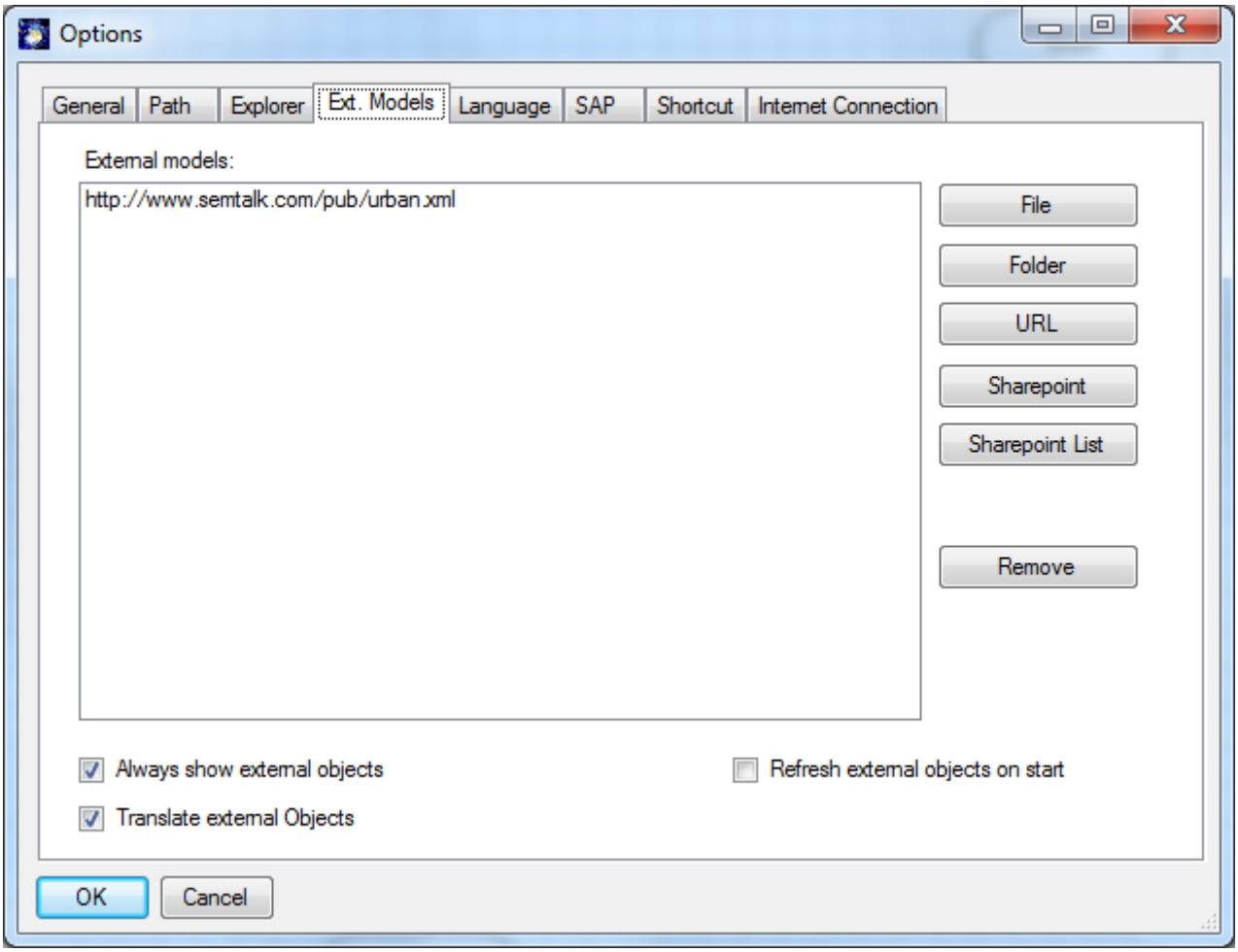
Template Dir	File directory where the SemTalk templates are located and you have at least reading rights. As default, SemTalk saves the templates at Program Files\Common Fillies\SemTalk
HTML Dir	File directory where a HTML version of a model with the external objects in your model is located. If this text field is empty, SemTalk uses location path of the original XML file of the model to locate the HTML model.
XML Files	Store XML files in a specific directory. E.g. a Sharepoint folder
SemTalk Menu	XML file to specify which menu option will be shown in the SemTalk GUI
Update Path	Specify an alternative location for SemTalk version information.
Values Types	Here you can specify your own value types for attributes. See wss-

	stdt.xsd for an example.

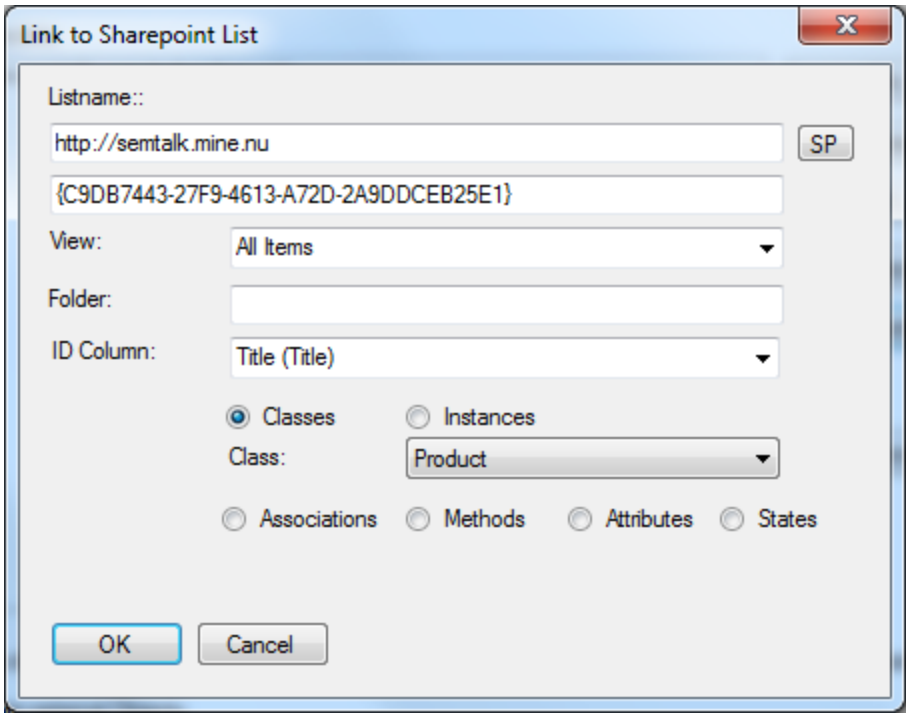
External Models

You can predefine a list of external models, so that they are loaded and shown in SemTalk's Explorer automatically when you open a model.

You will find this feature very useful if you use regularly information scattered in different models. For example, you can use organizational charts for your process models or process libraries on a regular basis. Next time you do it, you will not have to load them manually and SemTalk will keep the models semantically consistent.



The external models can exist as XML files in your local file system, published on the Internet, in a SharePoint Workspace or as well in Sharepoint lists.

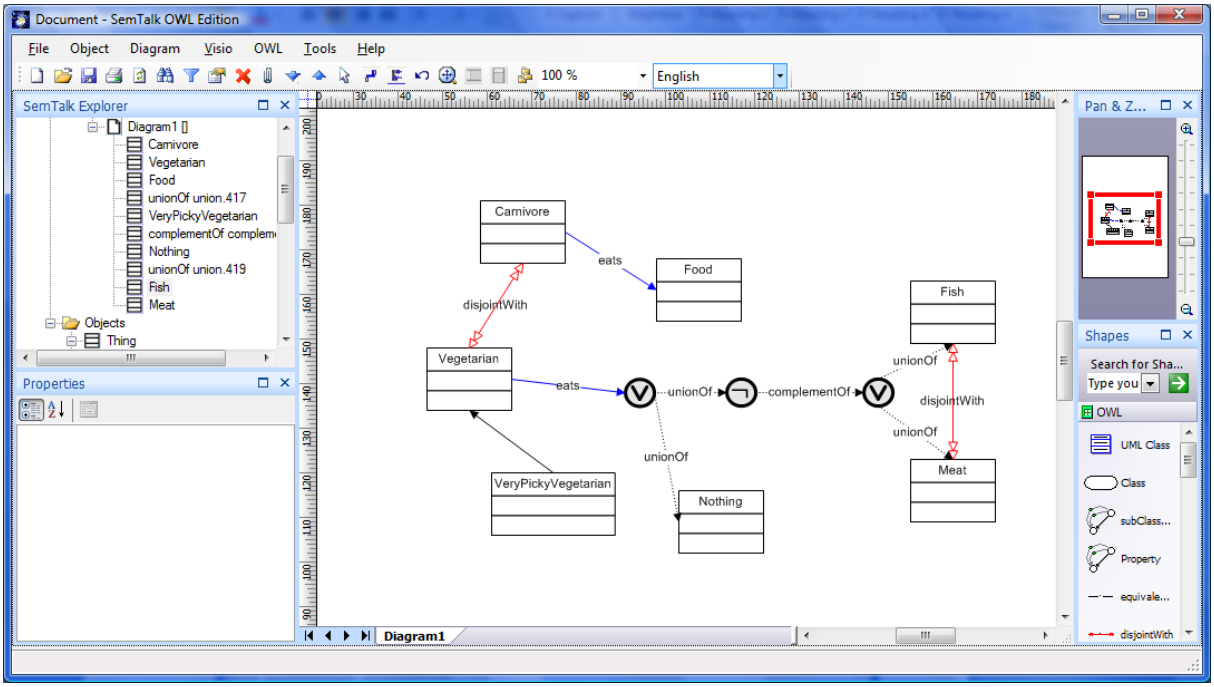


Any Sharepoint list can be assigned to any SemTalk Class in order to use list item as subclasses or instances.

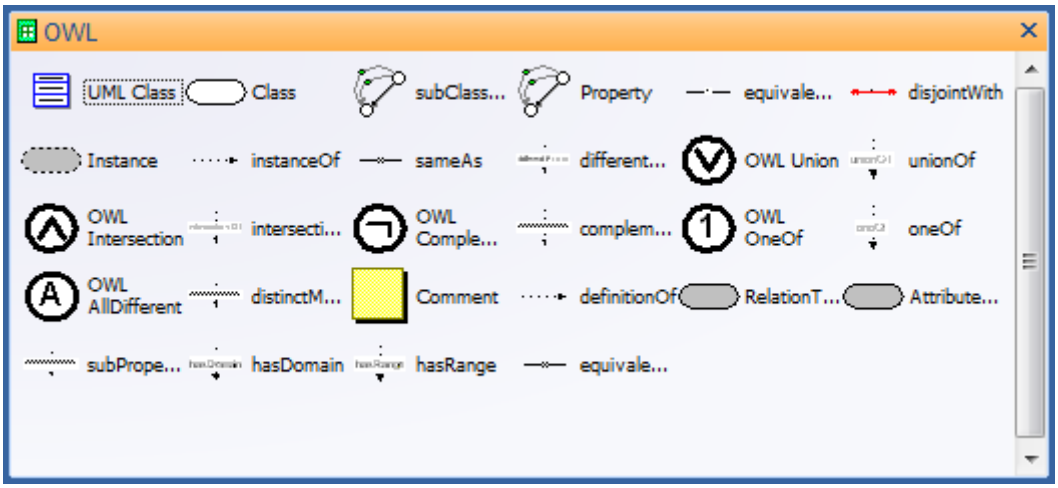
Using OWL.vst

In order to use SemTalk as an OWL editor you may open the OWL template. File->New and select OWL.vst.

This tutorial does not indent to teach you how to apply OWL to the modeling of your business problem. Please refer to the Spec (http://www.w3.org/TR/owl-features/) or to OWL tutorials out on the web (http://www.cs.man.ac.uk/~horrocks/ISWC2003/Tutorial/) to learn about the underlying ideas of OWL.

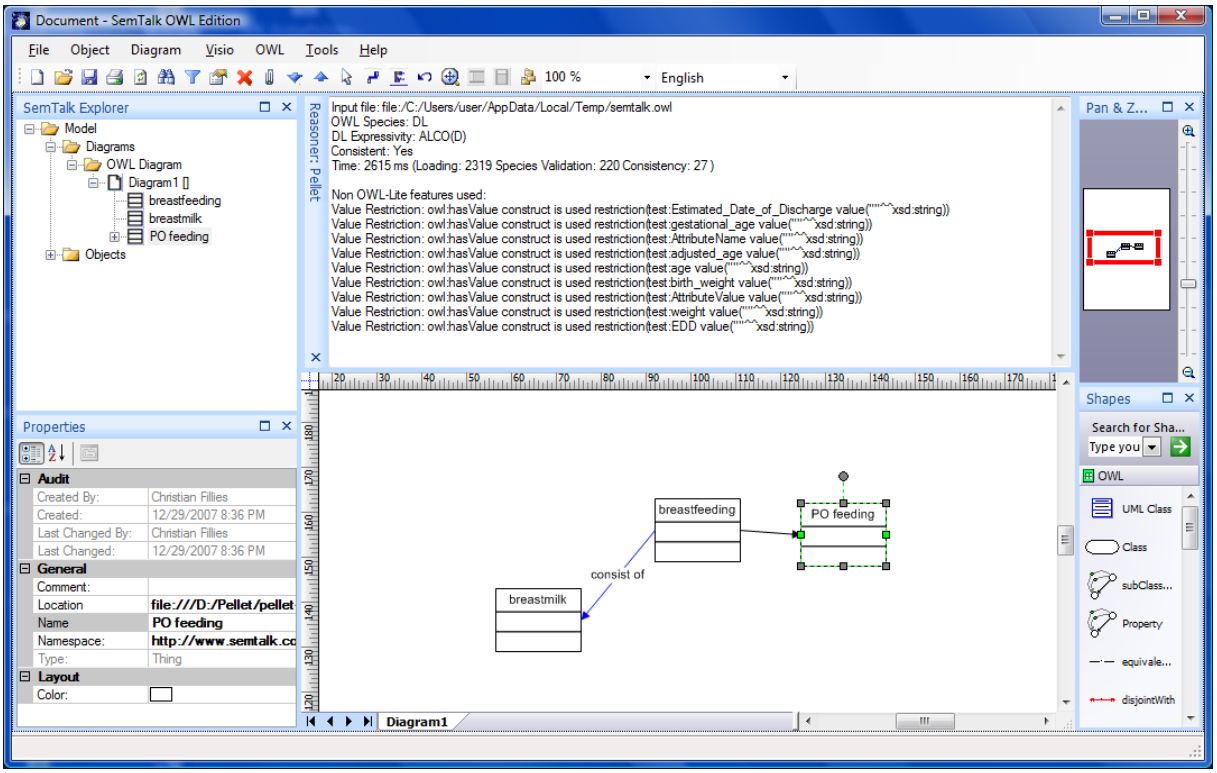


The OWL template contains additional shapes to create OWL Diagrams. An OWL diagram is a class diagram, which also allows instances and some more restriction. The OWL stencil has some additional shapes compared to the standard SemTalk class stencil:



The main difference compared to standard SemTalk is, that SemTalk assumes “Closed Word Semantics” while OWL assumes “Open World Semantics”. “Open World Semantics” assumes that every two object can denote the same concept unless someone states that they are different. This is crucial for the global vision of Semantic Web.

For everything ignored by SemTalk, you might use a reasoner. For SemTalk you might use PELLET as a reasoner (OWL->Reasoner):



equivalentClass	Two classes actually denote the same concept. Ignored by the SemTalk Engine but exported to

	OWL
disjointWith	No instance is allowed to be instance of both classes. Ignored by SemTalk Engine but exported to OWL
Instance	Just an instance
instanceOf	Graphically displays that the object is instance of a class. An instance can be instance of multiple classes. Supported by the SemTalk Engine.
sameIndivudualAs, sameAs	Two instances denote the same object. Ignored by the SemTalk Engine, which assumes closed world semantics
differentFrom	Two instances are denoting different objects. Default for SemTalk
OWL Union	An abstract class describing the union of a set of other classes. Use the unionOf relation to specify that set. Ignored by SemTalk Engine but exported to OWL
unionOf	Relation from a OWL Union class to other classes
OWL Intersection	An abstract class describing the intersection of a set of other classes. Use the intersectionOf relation to specify that set. Ignored by SemTalk Engine but exported to OWL
intersectionOf	Relation from a OWL Intersection class to other classes
OWL ComplementOf	An abstract class describing that instances of that class are not instance of another class. Use the complementOf relation to specify that other class. Ignored by SemTalk Engine but exported to OWL
complementOf	Relation from a OWL ComplementOf class to other classes
OWL OneOf	An abstract class describing that instances of that class are one of a set of other instances. Use the oneOf relation to specify that set. Ignored by SemTalk Engine but exported to OWL
oneOf	Relation from a OWL OneOf class to instances defining that class

OWL AllDifferent	Operator specifying that all related instances are different. (Default in SemTalk)
distinctMember	Member of an AllDifferent Set
AttributeType	Graphically displays an Attribute Class ("DataProperty" in OWL)
RelationType	Graphically displays an Association Class ("ObjectProperty" in OWL)
equivalentProperty	Two AttributeTypes or RelationTypes have same meaning. Ignored by SemTalk Engine but exported to OWL
subPropertyOf	Subclassing of properties. Partially supported by SemTalk Engine but exported to OWL
hasDomain	Relation from a property to its domain. This can also be specified using the edit dialog Details tab. Supported by the SemTalk Engine
hasRange	Relation from a property to its range. This can also be specified using the edit dialog Details tab. Supported by the SemTalk Engine

Help

The Help command provides the user useful functionalities.

Index	Opens a short menu reference in HTML format.
Tutorial	Opens this tutorial from the www.semtalk.com
Check and Repair	Checks the consistency of a model and repairs any detected inconsistency. Using this function has the risk of deleting corrupt information and objects, which have inconsistency problems.
Update refinement path	Update the breadth crumb navigation
Redraw and Rebuild Menus	Rebuilds menus after the import of SemTalk 1 models
Rename pages to Current Language	To set the names of the pages of a multi-language model to the current modeling language.
Registration	Register your SemTalk license (SemTalk Key) here.
Startup Screen	To open SemTalk's initial screen and read more information on SemTalk

	modeling methods.
Install Visio COM-Addin	Install the SemTalk Addin for Visio
Check for Updates	To verify if new versions and/or hot fixes have been released.
About SemTalk	Version and license info