

Object Selection

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OBJECT SELECTION DESIGNER – TOC

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1 Introduction

This manual describes Genova's Object Selection Designer.

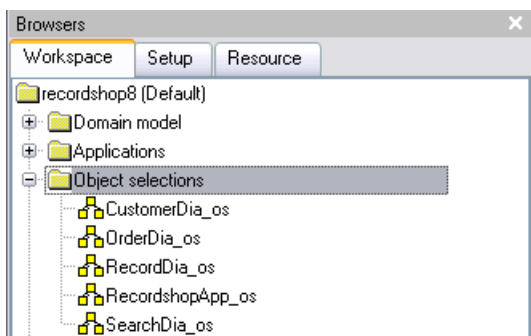
The following chapters contain information about the elements in and use of Object Selection Designer:

- Chapter 1 ["Introduction" on page 1](#) is the chapter you are now reading.
- Chapter 2 ["Overview of Object Selection Designer" on page 2](#) gives a short description of the Object Selection Designer.
- Chapter 3 ["Object selection menu" on page 8](#) explains the menu commands available in the *Object Selection* menu.
- Chapter 4 ["Object selection tool bar" on page 9](#) explains the buttons available in the *Object Selection* tool bar.
- Chapter 5 ["Setup database" on page 10](#) explains the setup parameters that determine how Object Selection Designer behaves.
- Chapter 6 ["Manipulating object selections" on page 11](#) explains how to select and move role objects and role attribute objects using the mouse.
- Chapter 7 ["Modifying an object selection structure" on page 12](#) explains how to add, rename and delete role nodes, how to include or exclude attributes in roles and how to save and reconnect an object selection.
- Chapter 8 ["Object selection properties" on page 16](#) describes the properties available for the object selection.
- Chapter 9 ["Role properties" on page 18](#) describes the properties available for the object selection roles.
- Chapter 10 ["Role attribute properties" on page 21](#) describes the properties available for the object selection role attributes.

2 Overview of Object Selection Designer

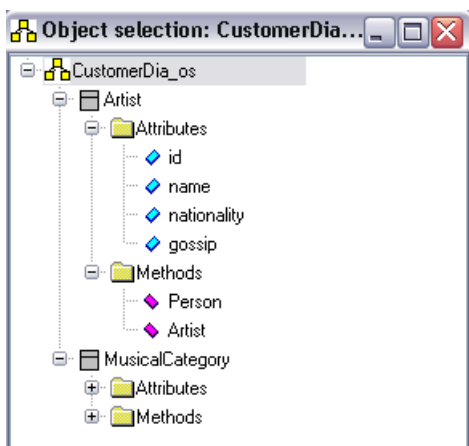
Object selections represent a subset of the class model and are used as a basis for generating service code and as a basis for creating dialogs. Each dialog model is usually based on one object selection.

The **Object selections** folder of the Workspace browser page is used to view and define object selections:



An object selection is a hierarchical sub-model of the UML class model, with one or more root nodes representing classes from the class model. Each node may have child nodes representing classes connected to the parent node's class via an association in the class model.

The object selection is displayed in a tree-view manner. The nodes in the object selection are *roles* representing *classes* from the corresponding class model. A given role has expandable *Attributes* and *Methods* sub-nodes.



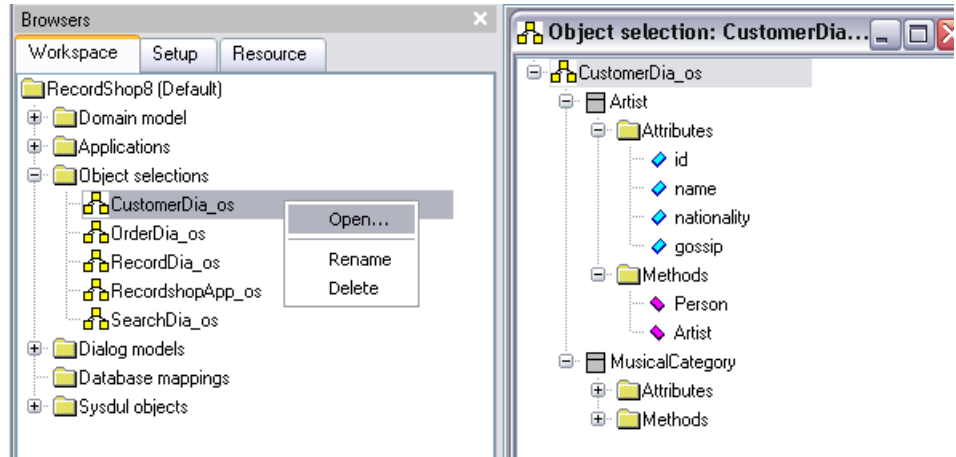
In the setup database's Behavior section, the *Autocreate object selections* parameter defines if an empty object selection is defined for a dialog the first time it is created in Genova, i.e. when the first synchronization is done with the modeling tool. (See [section 7.1.4 on page 35](#) in the User Guide for more information on synchronization).

2.1 Opening an object selection

To open an object selection:

- ◆ **Right-click and select the *Open* command.**

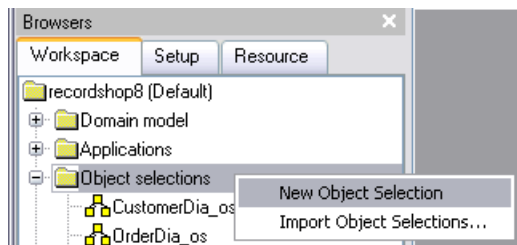
The Object selection window allows you to view and modify the selection.



2.2 Creating a new object selection

To create a new object selection:

- ◆ **Right-click on the Object selections folder, select the *New object selection* command and type in the name of the selection.**



- ◆ **Open the new object selection by double-clicking it, or right-click it and select the *Open* command.**

The first time an object selection is opened, Genova will display the New Object Selection window:



- ◆ **Specify the service target for the application to be generated.**

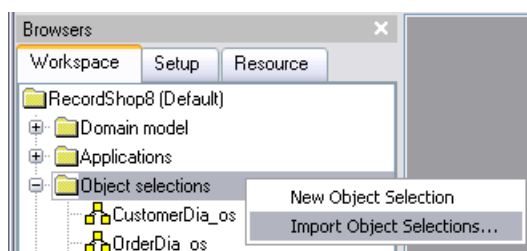
This refers to the target language for the generated code. Select the service target from the list. If the object selection only will be used as bases for dialog and not to generate service code, the service target may be left unspecified.

To modify the structure of the object selection see [section 7 on page 12](#).

2.3 Importing an object selection

Object selections may be imported from other workspaces. To import one or more object selections:

- ◆ **Right-click on the Object selections folder, select the *Import Object Selections* command.**



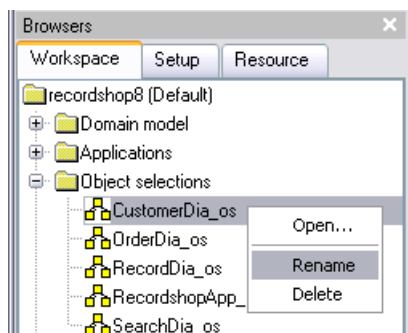
In the file chooser dialog, select one or more object selection database files to be imported.

Roles and attributes in the imported object selections must match the domain model of the current workspace. Items not found in the domain model will be removed from the imported object selections.

2.4 Renaming an object selection

To rename an existing object selection:

- ◆ **Right-click on the desired object and select the *Rename* command.**
- OR**
- ◆ **Click twice on the desired object and then enter the new name.**



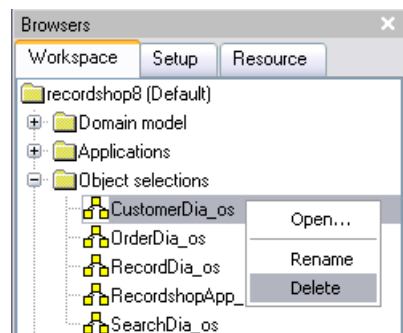
If a dialog model is built on an object selection that has been renamed, the dialog model will automatically point to the renamed object selection.

Note: To rename an object selection definitively, the workspace must be saved. If you do not save the modifications to the workspace, Genova will prompt you to do so when you close it. See [section 7.1.3 on page 34](#) in the User Guide for more information on saving a workspace.

2.5 Deleting an object selection

When an object selection is no longer necessary, it can be removed from the workspace. To delete an existing object selection:

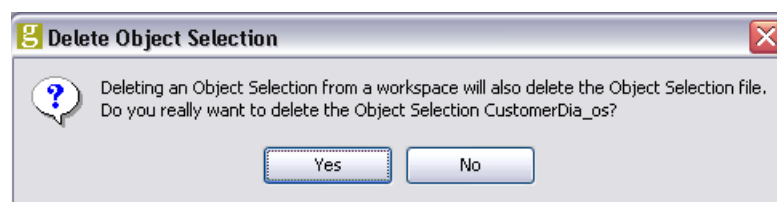
- ◆ **Right-click the desired object selection and select the *Delete* command.**



OR

- ◆ **Select the desired object selection and hit the Delete keyboard key.**

Deleting an object selection will delete the corresponding file (.gosx). A dialog box prompts you to delete the object selection or to cancel the Delete command.*



If a dialog model is based on a deleted object selection, when opening the dialog model the object selection will be *<Not set>*.

Note: To delete an object selection definitively, the workspace must also be saved. If you do not save the modifications to the workspace, Genova will prompt you to do so when you close it. See [section 7.1.3 on page 34](#) in the User Guide for more information on saving a workspace.

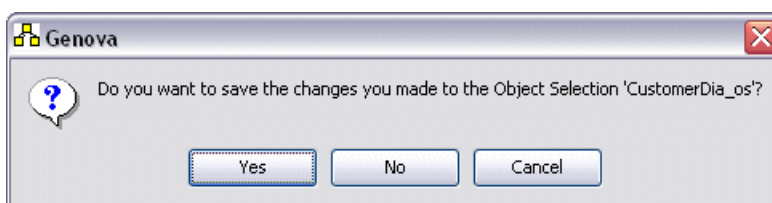
2.6 Saving an object selection

Whenever work is done in an object selection, it is necessary to save it:

- ◆ Click the *Save* icon in the Object selection tool bar,
OR
- ◆ In the *Object Selection* menu, select the *Save* command.

The *Save* command is used to save the current object selection using the same name.

If you do not explicitly save modifications made to a object selection, Genova will prompt you to save when the object selection is closed.

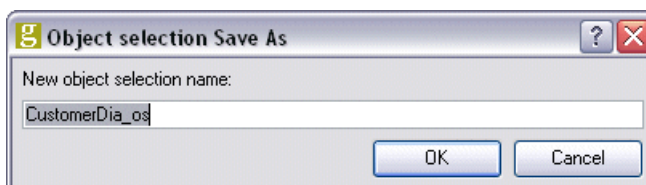


Note: To save a new object selection definitively, the workspace must also be saved. If you do not save the modifications to the workspace, Genova will prompt you to do so when you close it. See [section 7.1.3 on page 34](#) in the User Guide for more information on saving a workspace.

2.7 Duplicating an object selection

If it is necessary to duplicate an existing object selection, this can be done using the *Save as* command:

- ◆ Open the desired object selection and ensure that it is the active window.
- ◆ Choose *Save As* from the *Object selection* menu.
- ◆ At the Genova prompt, enter the new object selection name.



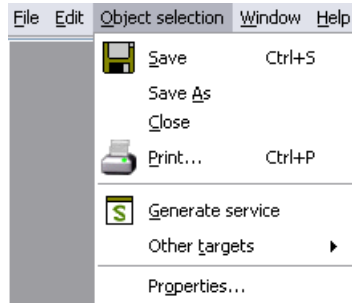
Genova by default proposes to save to the original model name.

When doing a *Save As*, the object selection is saved with the new name, and the new object selection is displayed in the Object selection window. The original object selection is automatically closed without saving any of the modifications made since the previous save.

Note: To save a object selection definitively, the workspace must also be saved. If you do not save the modifications to the workspace, Genova will prompt you to do so when you close it. See [section 7.1.3 on page 34](#) in the User Guide for more information on saving a workspace.

3 Object selection menu

When an object selection window is opened, the **Object selection** menu option appears in Genova's main menu:



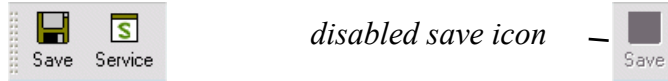
Below is a table with an explanation of each menu command.

Command	Function
Save	Saves the current object selection using the same name. Clicking the Save button in the tool bar has the same effect. See section 7.1 on page 14 .
Save As	Saves the current object selection under a new name. The new object selection is then displayed in the window. The original object selection is automatically closed without saving any of the modifications made since the previous save.
Close	Closes the currently active object selection window.
Print	Prints the visible part of the object selection in the currently active object selection window.
Generate service	Starts Service Generator. Service Generator (see the Service Generator manual) generates service code for the object selection.
Other targets	Opens a submenu with the other service targets from the setup database. When a service target is selected in the submenu, service code is generated for the object selection.
Properties	Opens the properties window for the currently active object selection. Double-clicking on the root level of the object selection structure has the same result. See chapter 8 on page 16 , chapter 9 on page 18 and chapter 10 on page 21 for more information on available properties.

4 Object selection tool bar

The Standard Genova tool bar is covered in [chapter 6 on page 28](#) in the User Guide.

When an object selection is opened and active, the *Object Selection* tool bar is displayed:



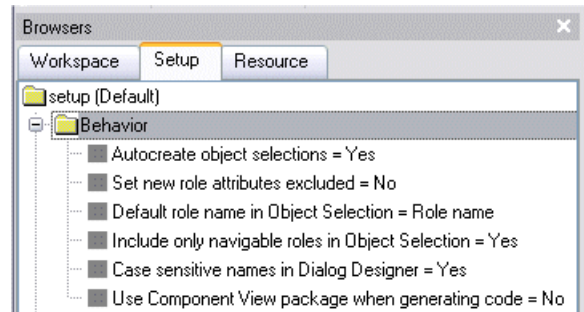
See [chapter 3 on page 8](#) for information on the menu commands.

All of the tools have corresponding commands in the Object Selection menu as follows:

Command	See
Save	Save
Service	Generate service code

5 Setup database

The object selection generation and definition only depends on three *Behavior* setup parameters. The following general behavior setup parameters come with the default Genova installation.



The four parameters used by object selections are:

Autocreate object selections : This property defines if an empty object selection is defined for a dialog the first time it is created in Genova, i.e. when the first synchronization is done with the modeling tool. If the parameter is set to *Yes* (the default value), an empty object selection will be created for dialog classes defined in the modeling tool when they are read into Genova. See [section 7.1.4 on page 35](#) in User Guide about synchronizing workspace with model.

Set new role attributes excluded : When synchronizing with the UML model, a class may get new attributes. By default such attributes are added to an object selection role as included attributes. Setting this parameter to *Yes* such attributes will be set excluded in the object selections.

Default role name in Object Selection : This property defines what default name is given to a role when it is added in an Object Selection. The value by default is Role name, but it can be changed to Class name. If Role names is set, role names from the class model are used as is, or – if not given in the model – on the form *the<otherClassname>*.

Include only navigable roles in Object Selection : This property defines which roles that can be added in an Object Selection. By default, the value is *Yes*, i.e. from one role only accept roles connected through associations navigable from the role already in the Object Selection.

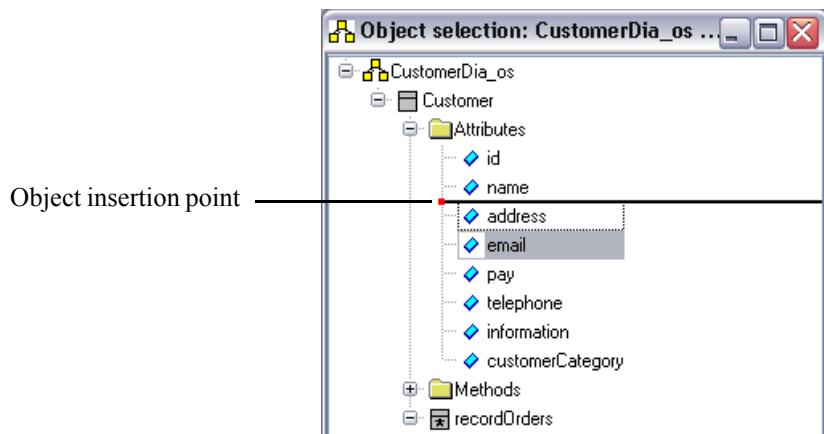
For a description of how to manipulate the setup database see [Chapter 8 "Setup" on page 48](#) in the User Guide.

For a full description of the *Behavior* setup see [section 8.4.2 on page 59](#) in the User Guide.

6 Manipulating object selections

Roles and attributes can be moved around in the object selection structure with the drag and drop method. To move a role or attribute:

- ◆ **Click on the object to move, and holding down the mouse button, drag the object to the desired position.**



The insertion point is shown by a bold line with a red marker. The insertion point is only visible if the object can be moved to that part of the tree.

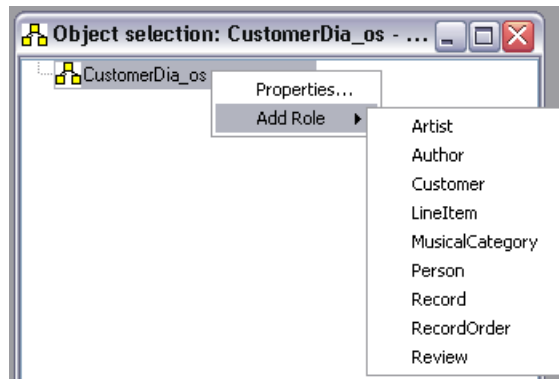
Attributes may only be moved within the role. The sequence of roles can be changed within a parent, but roles cannot be moved to a different parent.

The attributes and roles moved in an object selection will be reflected in the generated dialog.

7 Modifying an object selection structure

New roles can be added to an object selection:

- ◆ **Right-click the node where a new role is to be created. Select the *Add Role* command and then select the role to add from the provided list..**



When adding a role at the root level, all roles from the class model are presented. When adding a child role, only those roles associated with the given root role are listed.

The roles that may be added as a child role can be manipulated by a setting in the Behavior section of the setup database. You can either allow all associated classes or only classes connect via associations navigable to the child, see [section 8.4.2 on page 59](#) in User Guide manual.

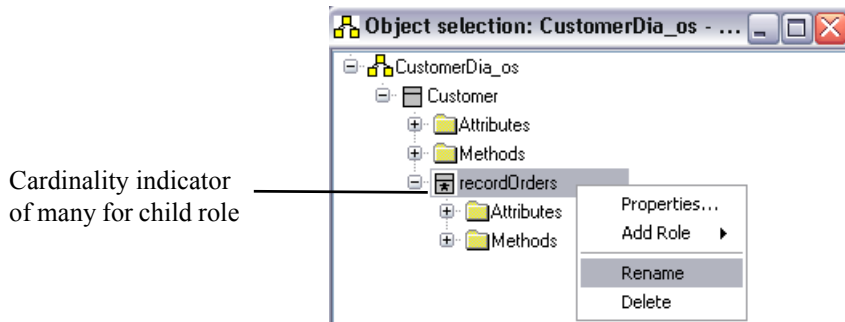
The default names given to roles in the object selections can be either the role name or class name from the class model in the UML model. The default role name option is set in the setup database in the Behavior section. See [section 8.4.2 on page 59](#) of User Guide manual for more information. Default role names may be overridden.

To rename a role:

- ◆ **Right-click on the desired role and select the *Rename* command.**

OR

- ◆ **Click twice on the desired role and then enter the new name.**

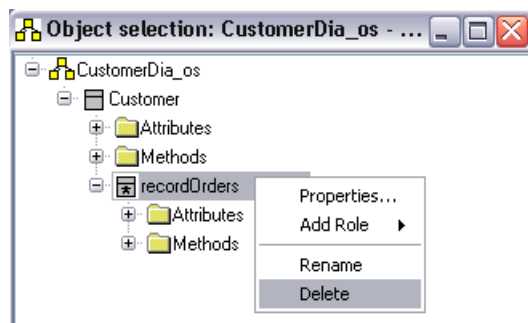


See [section 3.1 on page 11](#) in the *Dialog Designer manual* for information on naming conventions.

When the icon representing a role has a star, it indicates that the child role is on the many side of the association with the parent role.

Existing roles can be deleted as necessary:

- ◆ **Right-click on the desired role and select the *Delete* command, or select the desired role and hit the Delete keyboard key.**

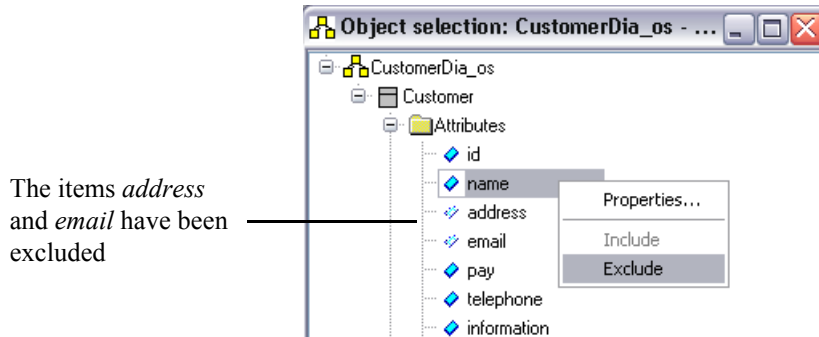


When a role is deleted, all the child roles that are connected to it lower in the hierarchy are also automatically deleted.

By expanding the *Attributes* sub-node and selecting a given item, the item can be excluded (or included) in the object selection – meaning that no data item will be generated for the item in the dialog.

To include/exclude an attribute:

- ◆ **Right-click the Attribute and select either the *Exclude* or *Include* command.**

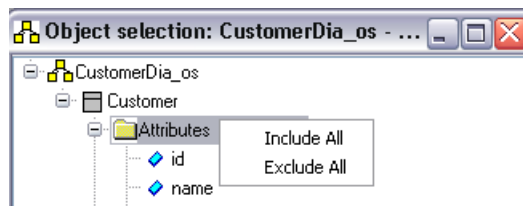


Included items are represented with the following icon: 

Excluded items are represented with the following icon: 

In addition, all attributes for a role can be excluded or included:

- ◆ **Right-click the Attributes sub-node and select either the *Exclude All* or *Include All* command.**



7.1 Saving changes to object selections

Changes made to one or more object selections can be saved to the *.gosx* files by selecting the menu options *Object selection/Save* or by clicking the *Save* button in the Object Selection tool bar. If you close the object selection dialog without saving the changes, you will be prompted to save.

Note: If you have added a new object selection or removed an existing one, you must also save the workspace by selecting the menu options *File/Save workspace* or clicking the *Save* button.

7.2 Reconnecting object selections

When modifications are made to the class model in the UML modeling tool, the model must be synchronized for the changes to be reflected in Genova. After synchronization, Genova reconnects all open object selections with the new or changed class model. All other object selections will be reconnected as they are opened. Once reconnected, all object selections will reflect the modifications made to the class model.

Reflected changes include changed class / association / aggregation names and changed / removed / new attribute names. Role names in existing object selections are not modified to match corresponding model names in order to preserve names overridden in object selections.

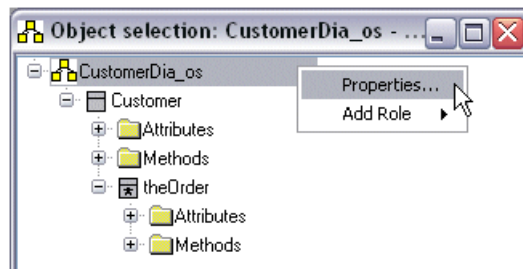
If classes and associations referenced by object selections have been deleted in the class model, affected nodes are marked in red. These should be checked and corrected before continuing work on dialogs.

8 Object selection properties

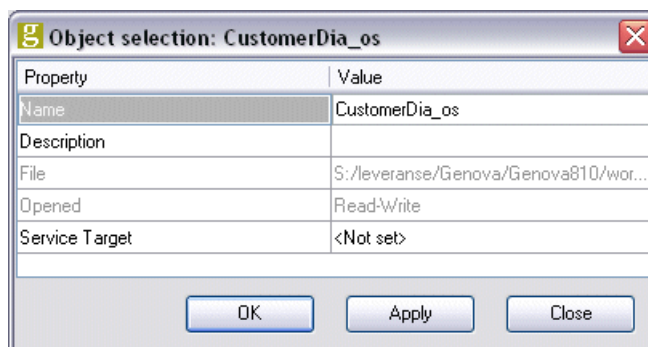
The object selection, its nodes and attributes all have properties.

To view the properties for the object selection, open the desired object selection and:

- ◆ **Double-click the root node**
- OR**
- ◆ **Right-click the root node and select the *Properties* command.**



The object selection has the following properties:



For more general information on properties, how to display them and how to modify them, see [section 6.4 on page 29](#) in the Dialog Designer manual.

Name: The name of the object selection.

The *Name* property is not modifiable in the properties window. To rename an object selection, see [section 2.4 on page 4](#).

Description: Textual description of the object selection which can be more descriptive than the *Name* (see above).

File: The *File* property points to the path and filename of the current object selection file (*.gosx) for the object selection. Each object selection is stored in a separate file.

An object selection file is always stored in the workspace directory. This directory is defined in the Genova options accessible through the Edit/Op-

tions menu. See [section 4.14 on page 19](#) in the User Guide for more information.

Opened: Specifies the mode in which the object selection is opened. By default, the object selection is opened in *Read-Write* mode, which means the object selection can be modified.

Genova will always try to open an object selection for writing, unless:

- the file containing an object selection is read-only,
- the object selection is already opened by another user for writing.

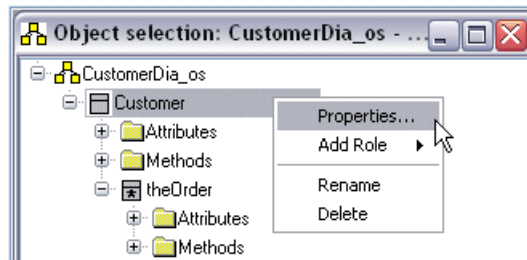
Service target: *Service Generator* uses this property when generating service code for a single object selection only. This property can be left unset if *Service Generator* is not used for this object selection.

9 Role properties

The object selection, its nodes and attributes all have properties.

To view the properties for role, open the desired object selection and:

- ◆ **Double-click the role node**
- OR**
- ◆ **Right-click the role node and select the *Properties* command.**



Roles have three different types of properties, General, Genova UI and Legal Functions.

9.1 General properties

The general properties are properties mostly from the underlying class and may not be edited. There are some differences in available properties for root roles and child role in an object selection.

The general properties are:

Root role properties

Role: Customer	
Property	Value
Name	Customer
Description	
Class	Customer
Logical package	domain/customer
Component package	no/recordshop/domain/custo...
Visibility	Public
Abstract	False
Persistent	True

Child role properties

Role: recordOrders	
Property	Value
Name	recordOrders
Description	
Class	RecordOrder
Association	RecordOrder (theCustomer_re...
Cardinality	0..n
Logical package	domain/order
Component package	no/recordshop/domain/order
Visibility	Public
Abstract	False
Persistent	True

Name : The name of the role. The name must be unique within the object selection. By default a new root role is given a name derived from the class name. For a child role the name is either derived from the class name or from the association role name. Which one is used depends on the setting of the property *Default role name in Object Selection* under *Behavior* in the

setup database. This property can either have the value *Class name* or *Role name*.

Description : Textual description of the role which can be more descriptive than the *Name* (see above).

Class : Specifies the class from the UML model the object selection role represents.

Association : Name of the association connecting the roles class to the parent roles class. This property does not apply to root roles.

Cardinality: The cardinality of the class in the association connecting the role to its parent role. This property does not apply to root roles.

Logical package : Name of the package under Logical View in the UML model containing the role's class.

Component package : Name of the package under Component View in the UML model containing the role's class.

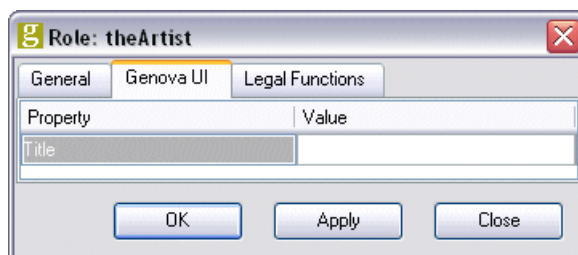
Visibility : The *Export Control* or *Scope* setting from the UML model.

Abstract : The *Abstract* setting from the UML model.

Persistent : The *Persistent* property indicates if the class in the UML model is defined as persistent or transient. For a transient class this role property can not be changed. For a persistent class this property can be changed to transient, giving the role a transient behavior property when service code is generated.

9.2 Genova UI properties

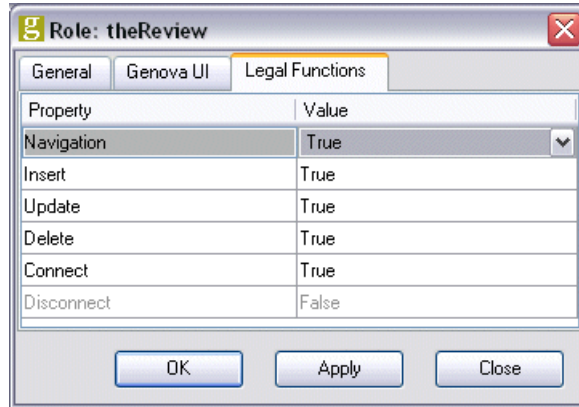
The Genova UI properties shows the Genova UI properties as defined for the class in the UML model.



The only property available is the title property, see [6.2 on page 37](#) in the Genova Rose Add-Ins manual or [section 7.1 on page 49](#) in the Genova Enterprise Architect Add-Ins manual.

9.3 Legal Functions properties

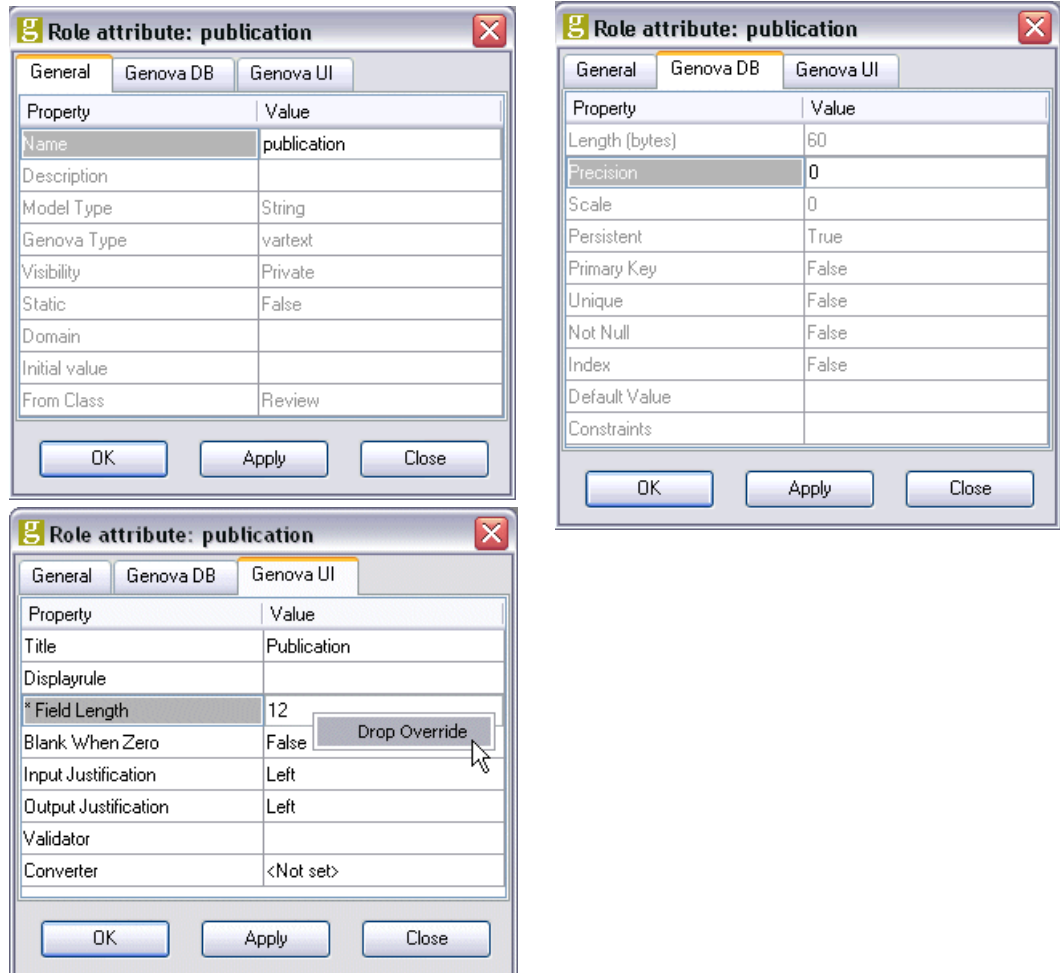
The legal functions defines properties used by *Dialog Designer* to decide which action buttons to define when generating a new dialog based on an object selection. These properties are also used by *Service Generator* when deciding which service code to generate for an object selection.



The following properties define what are the legal functions for a role; *Navigation*, *Insert*, *Update*, *Delete*, *Connect* and *Disconnect*. The value for all the properties are either *True* or *False*, the default being *True* for all modifiable properties.

10 Role attribute properties

Role attributes have the following properties:



All of the properties reflect values that are set in the modeling tool. A description of the Genova UI and Genova DB properties can be found in sections [6.2.2 on page 39](#) and [6.3.1 on page 43](#) in the Genova Rose Add-Ins manual or in sections [7.1.2 on page 49](#) and [7.2.1 on page 53](#) in the Genova Rose Add-Ins manual.

The *Genova UI* properties are modifiable in the property sheet. Modified properties will override settings from the UML model, and will influence the dialog models based on the object selection, as well as code generated from the models. An overridden value will be marked with a * at the left as seen for *Field Length* property in the figure. An overridden property can be reset to its default value from the UML model using the *Drop Override* menu item in the popup menu.

The *General* and *Genova DB* properties can not be modified in the object selection.

Setting the *Converter* will change the default UI properties for the attribute from the values taken from the attribute itself to the values defined in the converter. For the string properties (Title, Displayrule and Validator) this change of default value will only take place if the converter have values different from the empty string. For the numeric property (Field Length) this change of default value will only take place if the converter has a value different from zero. The *Drop Override* then will change a manually changed value back to the converters value.