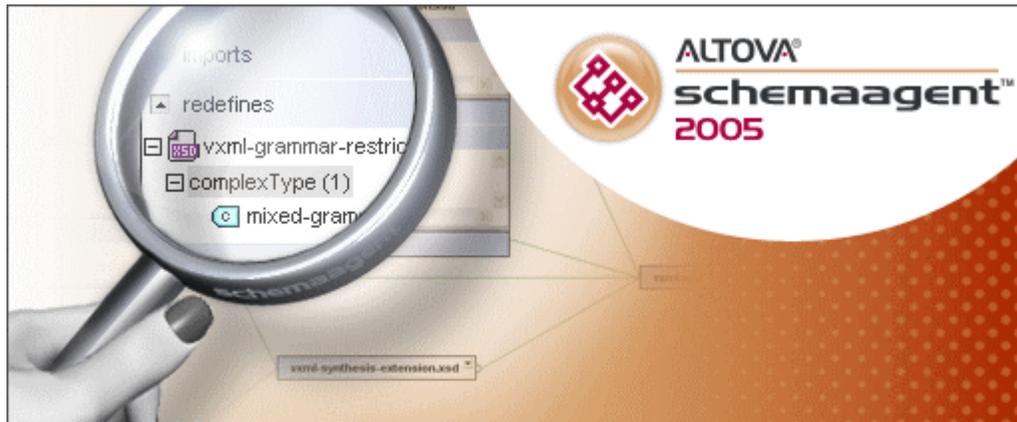


User and Reference Manual



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ALTOVA®

Altova® SchemaAgent™ 2005 User Manual

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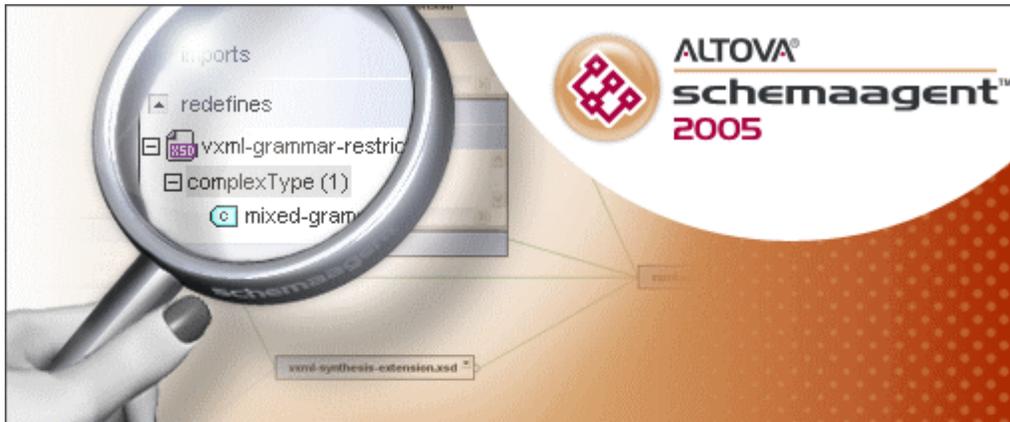
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Chapter 1

SchemaAgent 2005

1 SchemaAgent 2005

SchemaAgent™ 2005 is a graphical schema administration application that enables you to manage multiple schemas from within a GUI. The SchemaAgent GUI provides access to schemas in multiple repositories. It uses standard GUI mechanisms, such as copy-and-paste and drag-and-drop, to build relationships between these schemas and to make large-scale changes—such as in path references—across multiple schemas.



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1.1 Introduction

This introduction describes: (i) SchemaAgent in the Altova range of products; (ii) the features of SchemaAgent; and (iii) how to work with SchemaAgent.

About this document

This document is divided into four broad parts, as follows:

- An introduction to SchemaAgent and its working mechanism (this section).
- A description of the installation, configuration, and usage of SchemaAgent Server.
- A description of the installation, configuration, and usage of SchemaAgent Client.
- A description of the usage of XMLSpy 2005 Enterprise and Professional Editions as SchemaAgent Clients.

1.1.1 SchemaAgent in the Altova Product Range

SchemaAgent comprises two parts, a server application and a client application. The product names and the naming conventions used in this documentation are as follows:

- The server application is available as the Altova product **SchemaAgent Server™ 2005**. In this documentation, this product will be referred to as SchemaAgent Server.
- The standard client application is the Altova product **SchemaAgent™ 2005**. In this documentation, this product will be referred to as SchemaAgent Client.
- Altova's XMLSpy 2005 can be used as a SchemaAgent client. When used as a SchemaAgent client, XMLSpy 2005 works together with SchemaAgent Server and SchemaAgent Client.

Note: The term **SchemaAgent** is used in this documentation in two senses: (i) for the combined SchemaAgent Server and SchemaAgent Client functionality; and (ii) as the official product name of Altova's SchemaAgent client application. In most instances, we use SchemaAgent in the first sense, that is, of the overall functionality provided by Altova's SchemaAgent products. The context in which the term is used should make it clear when the term is used in its second sense (that of the Altova SchemaAgent client product). Note that, for the sake of clarity, we will be referring to Altova's client application product as SchemaAgent Client—and only rarely as SchemaAgent.

Product information

Please note the following important product-related information.

- Both SchemaAgent Server and SchemaAgent Client are to be downloaded separately from the [Altova website](#) and installed separately.
- SchemaAgent Server is available free of charge.
- SchemaAgent Client requires a license that must be purchased from Altova.
- Both SchemaAgent Server and SchemaAgent Client must be installed in order for XMLSpy 2005 to work as a SchemaAgent client. SchemaAgent Server can be installed anywhere on the network. SchemaAgent Client must be installed on the same machine as XMLSpy 2005. Once SchemaAgent Server and SchemaAgent Client are correctly installed, XMLSpy 2005 will automatically make the necessary associations.
- Altova's Enterprise XML Suite and Professional XML Suite products includes the SchemaAgent Client product and a license key for it. The SchemaAgent Server application, however, is not included as part of the Altova XML Suite packages, and must be downloaded from the [Altova website](#).
- XMLSpy 2005 Enterprise Edition and XMLSpy 2005 Professional Edition (when purchased independently of Altova's XML Suite applications) can both be used with SchemaAgent. To do this, you must (i) download and install SchemaAgent Client with a valid license on the same machine as XMLSpy 2005, and (ii) download and install the free SchemaAgent Server application anywhere on your network.

Important: All SchemaAgent and SchemaAgent-related products from Altova (including XMLSpy 2005) starting with Version 2005 release 3 are **not compatible** with previous versions of SchemaAgent or SchemaAgent-related products.

1.1.2 Features of SchemaAgent

SchemaAgent is a graphical schema administration tool that enables you to:

- Manage single or multiple schemas as schema components in a graphical workspace.
- Create schema designs, helping you to manage, or organize schema collections intuitively.
- Create, update, or delete IIRs (Includes, Imports, and Redefines) between schemas by direct manipulation using drag-and-drop.
- Propagate changes made in one schema (e.g. rename or move) to all other schemas that reference it in the workspace.
- View Includes, Imports, and Redefines immediately, and in greater detail in the component itself.
- Select or insert schemas that reference other schemas in the workspace.
- Access SchemaAgent schemas and their constructs when working on schemas in the Schema/WSDL view of XMLSpy 2005, and automatically update all schemas in the workspace that reference the one you are currently working on.
- Access schemas located in WebDAV folders on (secure) WebDAV servers with UNC paths and drive letters.

1.1.3 Working with SchemaAgent

The basic working mechanism of SchemaAgent is as follows:

1. In SchemaAgent Server, you define search paths. SchemaAgent Server then builds an internal map of the relationships between all schemas in the defined search paths.
2. SchemaAgent Client displays the schemas in SchemaAgent Server's internal map and displays these in the Explorer pane in a hierarchical tree view and as a list of schemas organized by folders (within individual search paths).
3. In the Design Pane of SchemaAgent Client, you can create designs of schemas that enable you to manage relationships between various schemas in the search paths defined for that SchemaAgent Server.

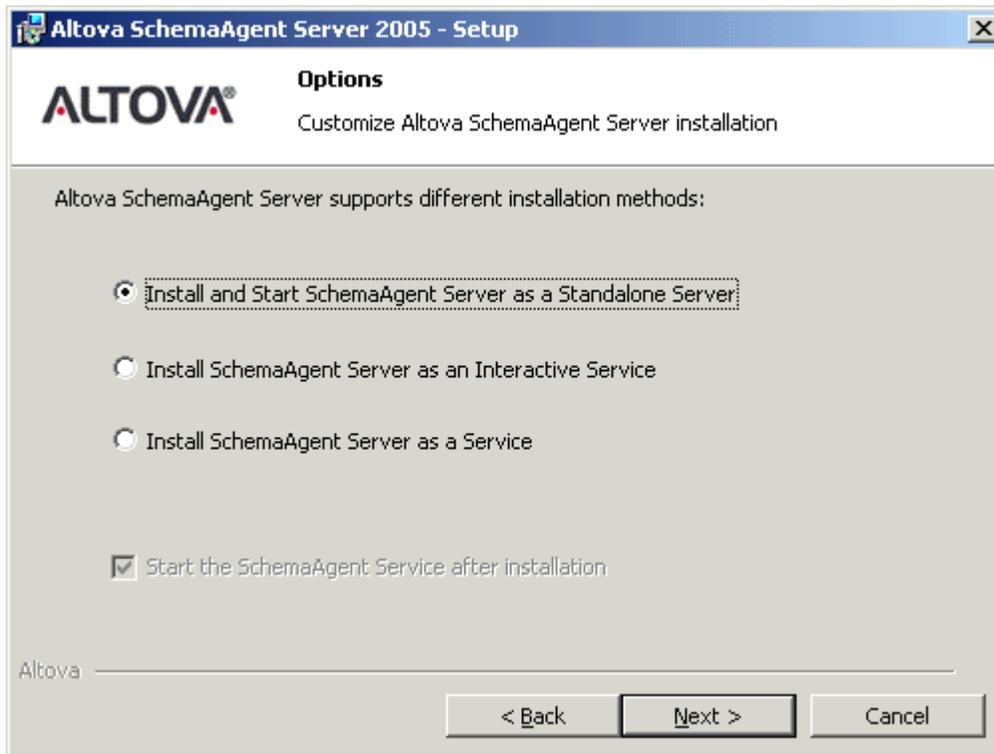
1.2 SchemaAgent Server: Installation and Usage

SchemaAgent Server is available as a standalone installation, free of charge, from the [Altova website](#).

SchemaAgent Server serves schemas and manages the communication process between it and any number of clients. SchemaAgent Server processes client requests to create, update or delete schema Includes, Imports, or Redefines (IIRs). It can also create and delete schemas.

1.2.1 SchemaAgent Server Installation

SchemaAgent Server is available as a standalone installation, free of charge, from the [Altova website](#). After you download the installation package start the installation by clicking on the SchemaAgent Server installer file. Follow the onscreen instructions. During the installation process, you will be given a choice of installation options (*screenshot below*). These options determine the level of user interactivity required to start SchemaAgent Server on your machine. They are explained below.



Install and start SchemaAgent Server as a standalone server

When installed as a standalone server, SchemaAgent Server can be started from the **Start | All Programs** menu or from a desktop icon. The application opens in a GUI, and, when started, an application icon appears in the system tray. SchemaAgent Server can be reconfigured directly in the GUI. This installation is well suited for installation on a local machine.

Install SchemaAgent Server as an interactive service

Installing SchemaAgent Server as an interactive service causes SchemaAgent Server to be started automatically on every system start. The SchemaAgent Server application icon is available in the system tray, and the application can be started and stopped using the system tray icon. SchemaAgent Server can also be started and stopped using operating system tools (in Windows XP, **Administrative Tools | Services**). Installing SchemaAgent Server as an interactive service saves you the task of starting and stopping the service manually.

Note the following:

- Clicking the application icon in the system tray enables you to show/hide the GUI, change the configuration settings, and shutdown SchemaAgent Server.
- If installed in this mode, all interactive notifications (for example, secure WebDAV folder access) are displayed without the user having to provide logon credentials.

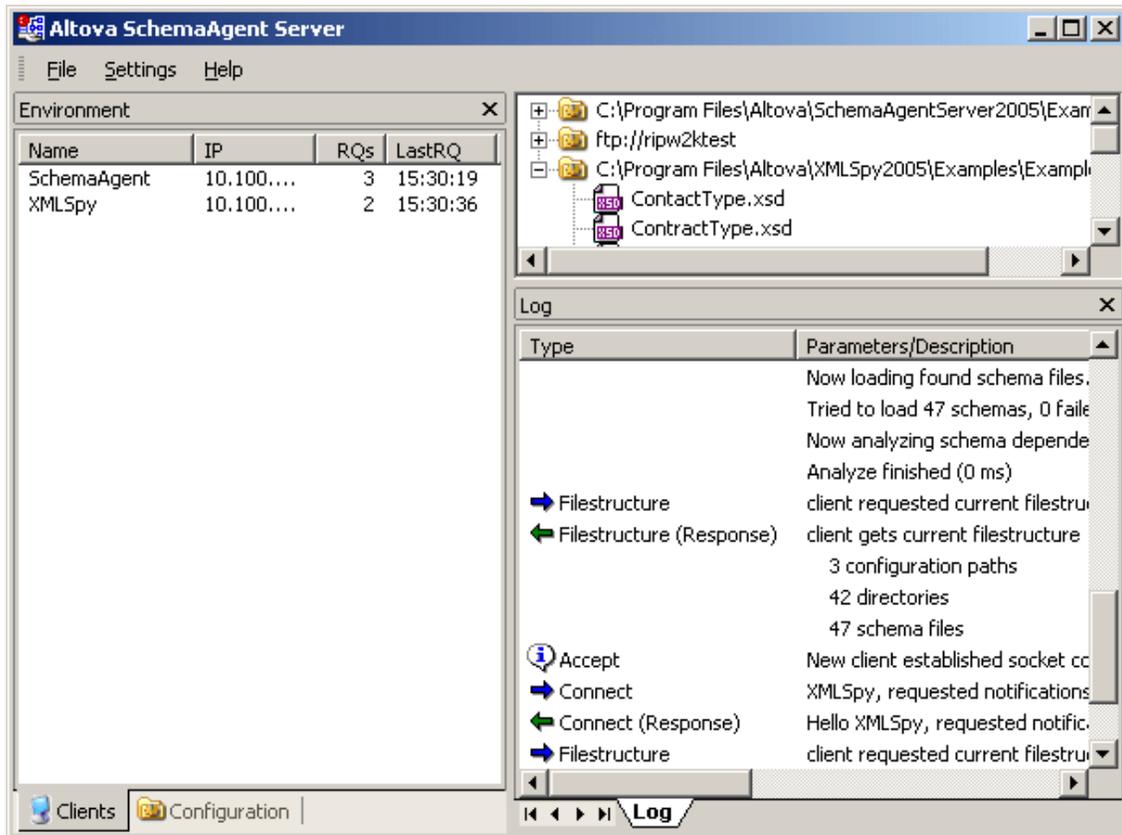
This type of installation is best if SchemaAgent Server is to act as a network server for multiple clients.

Install SchemaAgent Server as a (non-interactive) service

Installing SchemaAgent Server as a non-interactive service completely hides it from users. The operating system starts SchemaAgent Server automatically on every system start. No system tray icon is available in this installation mode. Starting and stopping the server can only be accomplished using the operating system tools. Neither will interactive notifications be displayed in this mode, for example, secure WebDAV folder access, without providing logon credentials.

1.2.2 SchemaAgent Server User Interface

This section describes the SchemaAgent Server GUI (*screenshot below*), which is available if you have installed SchemaAgent Server as a standalone server. (If you have installed and started SchemaAgent Server as a non-interactive service, no GUI will be available.)



The GUI consists of a **menu bar** (below the title bar), and three panes: the **Environment pane**, the **Schema pane**, and the **Log pane**. When the application is running, the **SchemaAgent**

Server application icon  appears in the system tray at bottom right. Each of these GUI components is described in more detail below.

Menu Bar

The menu bar contains the various menus.

File

Shutdown: Shuts down SchemaAgent Server. Before commencing shutdown, if connected clients, a prompt appears displaying the currently connected clients.

Settings

Logging Options: Enables you to configure the logging options of SchemaAgent Server.



Configuration: Opens the SchemaAgent Server Search Path dialog box, in which you can add or delete server search paths. For details, see [Configuring SchemaAgent Server](#).

Help

Provides access to the onscreen help files and displays the About SchemaAgent Server text, which contains the version number and copyright notice.

Environment Pane

The Environment pane consists of two tabs: **Clients** and **Configuration**.

The **Clients tab** displays the currently active/running clients detailing (i) client name, (ii) client IP address, (iii) number of client requests (RQs), and (iv) the time of last request (LastRQs) for each client.

The **Configuration tab** displays (i) the currently defined search paths, and (ii) the status of the Recurse setting (active/inactive).

Schema Pane

The Schema pane displays the search path, associated folder structure, and all retrieved schema files in a tree view. Each search path defined in the configuration file has its own entry and folder structure beneath it. Folders that do not contain a schema file are shown shaded in a lighter color. Note that, in this view, schemas **cannot** be manipulated in any way. Moving, renaming, or copying schemas to another location is not possible.

Log Pane

The Log pane shows all server-related data, such as connection types, client requests, modification data, notifications, IP addresses, as well as timestamps. The Failed to read schema message appears when a schema file includes or imports other schemas which cannot be found at the location specified.

<SCENT-SERVER> Icon in System Tray

When SchemaAgent Server is running, a SchemaAgent Server application icon  is displayed in the system tray (at bottom right of the Windows screen). Clicking this icon opens a popup with

the following options:

- **Hide:** A toggle to show/hide the SchemaAgent Server GUI. This command also correspondingly shows/hides the SchemaAgent Server icon in the taskbar. Note that double-clicking the SchemaAgent Server application icon in the system tray also toggles the Show/Hide function.
- **Configuration:** Opens the [SchemaAgent Server Search Paths](#) dialog, in which the schemas to be served by SchemaAgent Server are defined.
- **Shutdown:** If clients are connected, opens a prompt displaying the currently connected clients, before commencing the shutdown.

1.2.3 Configuring SchemaAgent Server

SchemaAgent Server manages and serves XML Schemas to SchemaAgent Clients. The set of schemas managed by SchemaAgent Server are defined in an XML file called `SchemaAgentServerCfg.xml`, which is stored in the SchemaAgent Server application folder. This file defines what we call the **search paths**, which are the paths or folders that are scanned for schema files. The `SchemaAgentServerCfg.xml` file looks something like this:

```
<?xml version="1.0" encoding="UTF-8"?>
<SearchPaths>
  <Path recursive="true">s:\schemas-mydir\</Path>
  <Path recursive="true">X:\schemas\</Path>
  <Path recursive="true">http://test.webdav.org/dav</Path>
  <Path recursive="true">\\Server1\Share1\Dir1\Schemadata</Path>
  <Path recursive="true">ftp://myftpserver</Path>
</SearchPaths>
```

Note that any number of search paths can be defined, and search paths include (i) paths on a local machine, (ii) network paths (mapped drive letters and UNC paths), as well as (iii) folders on WebDAV servers and FTP access.

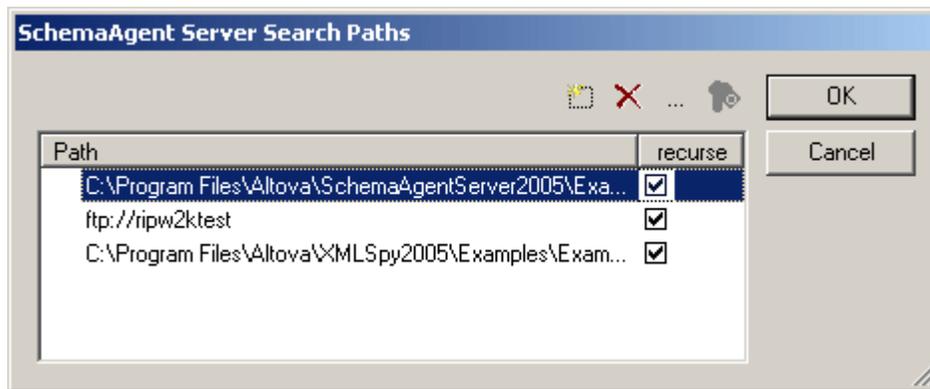
After search paths have been defined, SchemaAgent Server retrieves all schemas in individual search paths and builds an internal map of the relationships between the schemas in a search path. It is this mapping of relationships that enables SchemaAgent Clients to present data about schema relationships graphically. Further, this mapping also enables the automatic updating of any change made to a schema (in a SchemaAgent Client) that might affect other schemas in the search path.

Note: It is possible to have multiple SchemaAgent Servers running simultaneously in a network environment; SchemaAgent Clients on the network can be connected to any server on the network.

Defining Search Paths

Search Paths are defined in the SchemaAgent Server Search Paths dialog. To define search paths, do the following:

1. Select the menu option **Settings | Configuration**. This pops up the SchemaAgent Server Search Paths dialog (see *screenshot below*).
2. Click the Append/Edit new line icon  to add a new line to the path list.
3. Enter the path directly, or click the Browse button  to select the path interactively.
4. Click the **recurse** check box to include schemas from all subfolders. After you have entered search paths, the SchemaAgent Server Search Paths dialog will look something like this.

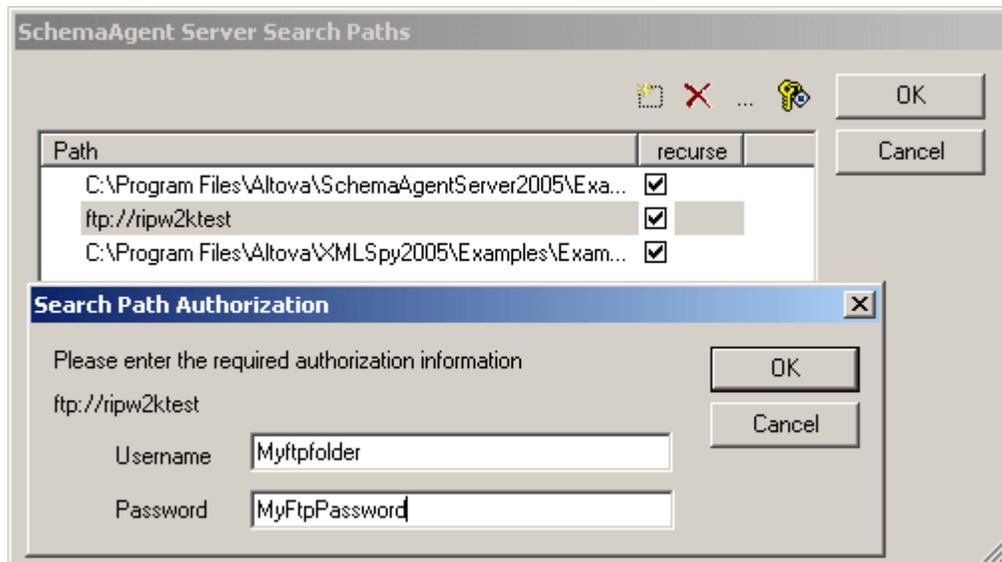


Note: Search paths that will be used in SchemaAgent Clients can only be defined in SchemaAgent Server.

Adding login data for secure WebDAV folders and FTP access

If you wish to add password authorization for secure WebDAV folders and for FTP access, do the following:

1. In the SchemaAgent Server Search Paths dialog, click the search path for which authorization is required to select it.
2. Click the  icon to add authorization (login) data for secure WebDAV folders or FTP access. This pops up the Search Path Authorization dialog (*screenshot below*), in which you enter the authorization data.



Access to these folders now requires a password. Note that passwords in XML files are not secure.

Search Path considerations

Depending on the installation location of SchemaAgent Server, certain file access and path restrictions may apply. If you access schemas on a network share, make sure that the SchemaAgent Server application has the correct access permissions.

File system support is as listed below:

- UNC paths are supported. Schema paths can be, or references within schemas can contain, UNC or relative paths.
- WebDAV folders are supported. Schema paths can be, or references within schemas can contain, WebDAV folders or relative paths.
- FTP connections are supported. Schemas can be directly accessed using FTP.
- Mapped drives are supported. If drive letters are used in search paths, then machines hosting SchemaAgent Clients must have the identical drive letter mapped to the same shared folder.
- Local drives/directories are **not directly** supported. Access to local directories or resources, however, is possible if the local directories are shared to the network and search paths on SchemaAgent Server are configured to use the network shares.

1.2.4 SchemaAgent Server Command Line Options

The commands listed below are available when calling SchemaAgent Server. The EXE always returns a return code when run in command-line mode. If an error is encountered using the install and remove parameters, then the returned error code is identical to the code supplied by the operating system.

SchemaAgentServer.exe

| | |
|--|---|
| No command line parameters | Start as GUI application. |
| /install or -install | Install as a service (creates an entry in the SCM-Database). |
| /install:interactive or -install:interactive | Install as an interactive service (creates an entry in SCM-Database). |
| /remove or -remove | De-installs the service (deletes entry from the SCM-Database). |
| /quiet or -quiet | Suppresses message boxes that appear when an error occurs using the Install or Remove commands. |

1.2.5 SchemaAgent Server Protocols and Ports

All applications that work in conjunction with SchemaAgent Server transfer data using UDP and TCP over port 2799.

1.3 SchemaAgent Client: Installation and Usage

Having retrieved all the schemas in the search path, SchemaAgent Server builds an internal map of the relationships between all schemas. This allows SchemaAgent Client to present this data graphically in the Design pane.

This section of the documentation describes the installation of SchemaAgent Client and how to use it.

1.3.1 SchemaAgent Client Installation

To install SchemaAgent Client (the Altova product **SchemaAgent™ 2005**), you must do the following:

1. Download the SchemaAgent Client installation package from the [Altova website](#). If you have purchased Altova's Enterprise XML Suite or Professional XML Suite, SchemaAgent Client is included in the package.
2. Run the installation process (by double-clicking the installer file).
3. Enter and save the licensing information so as to activate the product license. The SchemaAgent Client license must be purchased at the Altova Shop at the Altova Website. If you have purchased Altova's Enterprise XML Suite or Professional XML Suite, the license for SchemaAgent Client is included in that package.

Running the installation

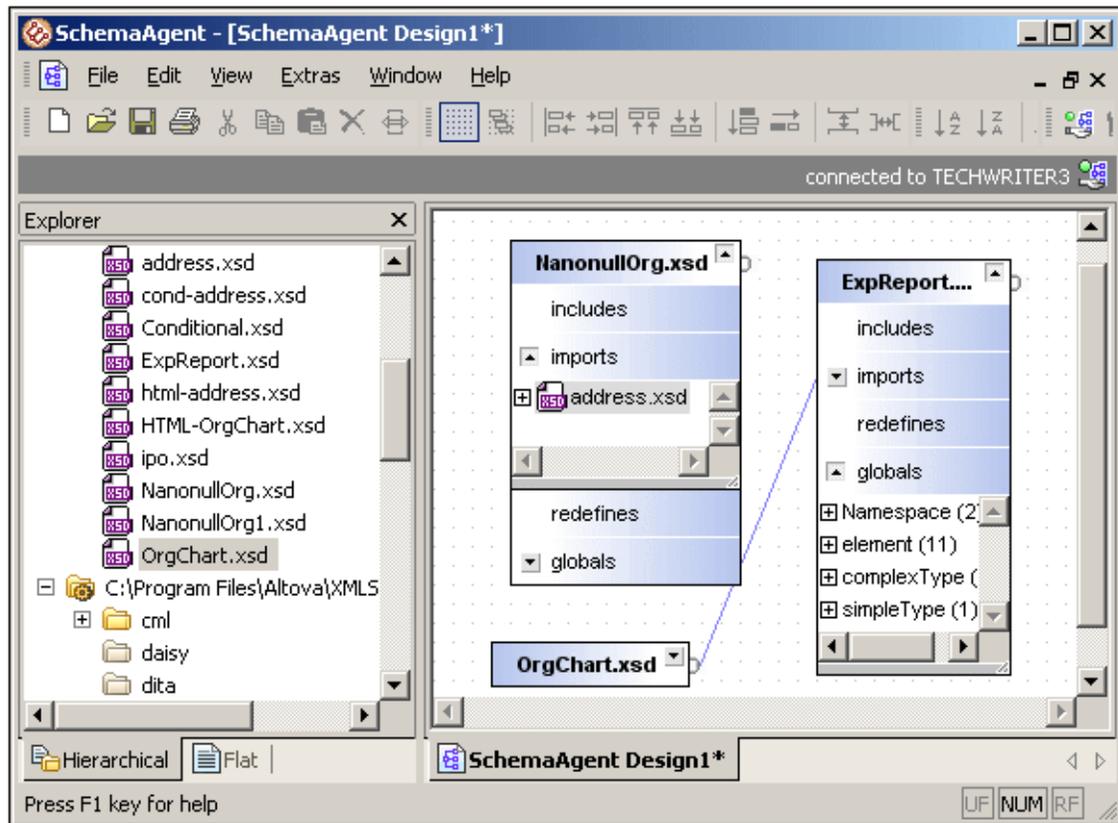
To run the installation, double-click the downloaded installer file and follow the installer wizard's onscreen instructions. During installation, you will be asked whether you wish to configure a connection to a SchemaAgent Server on your network (if one is detected). At this point, you can select the SchemaAgent Server to which you want this SchemaAgent Client to connect. You can opt for no connection at this point and select a SchemaAgent Server whenever you wish to connect to a SchemaAgent Server (menu option **Schema Design | Connect to SchemaAgent Server**).

Starting SchemaAgent Client

After you have successfully installed SchemaAgent Client, the application appears in your program list (**Start | All Programs**). To start SchemaAgent Client, click the SchemaAgent entry in the All Programs list or the SchemaAgent icon  in the Quick Launch tray. If your license information has not yet been registered with SchemaAgent, you will be prompted for it when you try to start SchemaAgent. Usage of SchemaAgent Client is described in the rest of this section.

1.3.2 SchemaAgent Client User Interface

The SchemaAgent Client (also referred to simply as SchemaAgent) GUI has two main areas: the **Explorer pane** at left, and the **Design pane** at right (in which one or more SchemaAgent Designs can be open at a time). In addition, the GUI has standard Windows GUI features such as a Menu Bar, Toolbars, and a Status Bar.



Menu Bar, Toolbars, and Status Bar

The Menu Bar contains the various SchemaAgent Client menus, which provide access to application commands.

The display of individual toolbars can be switched on and off in the **View | Toolbars** menu. You can also configure the toolbars in the Customize dialog (**View | Toolbars | Customize**). To move individual toolbars to alternative locations in the GUI, drag the handle of the toolbar to the desired location.

The Status Bar can be toggled on/off using the **View | Status Bar** toggle command.

Explorer Pane

The Explorer pane displays all schemas available in all search paths defined for the selected SchemaAgent Server, in alphabetical order. Folders are ordered alphabetically, and, within each folder, schemas are ordered alphabetically. In the Hierarchical tab, schemas are displayed in a tree structure. In the Flat tab, schemas are displayed as a flat list, together with the location of schemas and their status.

In the Explorer pane, you can create a new schema or folder; rename schemas and folders; delete schemas and folders; move schemas and folders to other positions under each path

entry; and recreate schemas. Each of these actions is described in more detail in the section, [Explorer Pane](#).

Note: Actions taken in the Explorer pane affect schema files **immediately and automatically**, and are propagated throughout the workspace wherever necessary. Such actions include renaming and deleting, as well as IIR changes (Includes, Imports, Redefines) which affect any schema referencing the changed schema.

Warning: Any change made in the Explorer pane automatically affect any schema referencing a changed schema, and there is currently no Undo command available for these actions. It is therefore highly recommended that you have a working backup system or use source control software when working with SchemaAgent.

Design Pane

The Design pane contains one or more SchemaAgent Design tabs (Design tabs, for short). Each Design tab graphically displays schemas dragged into the tab from the Explorer pane and shows existing IIRs (Includes, Imports, Redefines) between these schemas with colored lines. You can also create your own IIR relationships using drag-and-drop. SchemaAgent Designs created in the Design tab can be saved individually, thus enabling you to manage large groups or collections of schemas. SchemaAgent Designs can be saved as `.sad` files, which can subsequently be re-opened and edited.

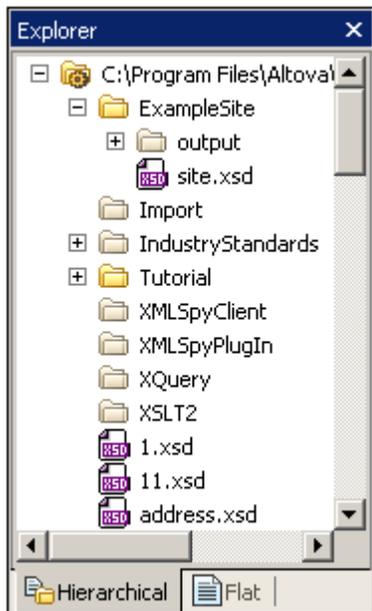
In the Design tab, you can create IIR relationships between schemas using drag-and-drop; correct IIR paths; align and sort schemas; delete schemas; and recreate ghost schemas. These actions are discussed in more detail in the following sections.

Explorer Pane

When the state of a schema or folder (that is, its name or state of existence) is changed, all IIRs (Includes, Imports, Redefines) of any schemas referencing it are immediately and automatically updated. This applies to all schemas visible in the Hierarchical and Flat tabs of the Explorer pane in SchemaAgent Client.

Hierarchical Tab

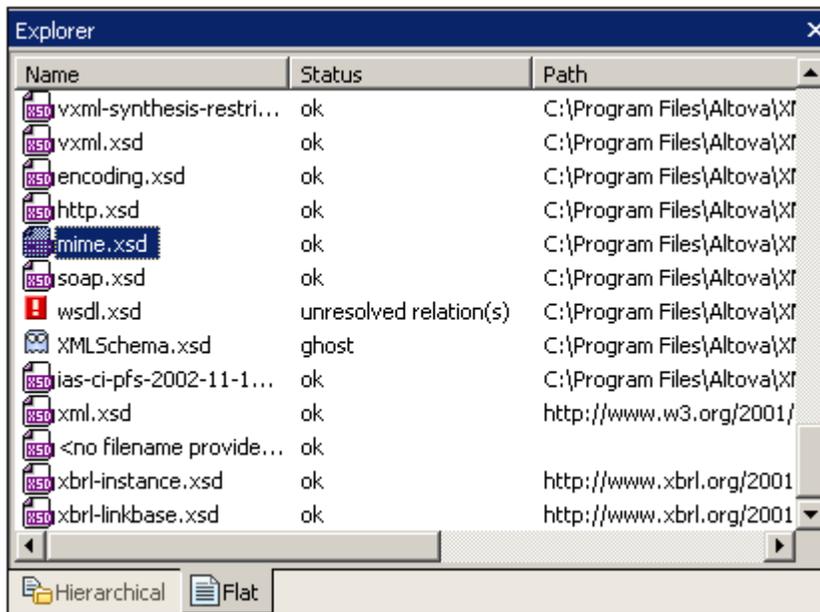
The Hierarchical tab shows all the schemas in all the search paths defined in the selected SchemaAgent Server in a tree structure (*screenshot below*). Folders that contain W3C XML Schemas are colored yellow. Folders that contain no W3C XML Schema or no subfolder containing a W3C XML Schema (empty folders) are grayed out. The option to show empty folders (accessed in the context menu by right-clicking an entry) can be toggled off.



Additional to the search paths defined in the selected SchemaAgent Server, the Hierarchical tab may display a folder called `External schemas`. The schemas contained in this folder are schemas which are referenced by schemas in the defined search paths but which are not themselves in any of the defined search paths.

Flat Tab

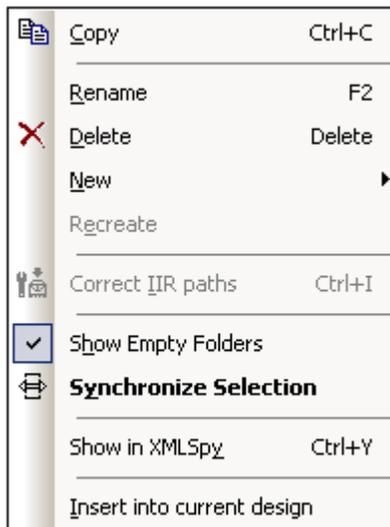
The Flat tab (*screenshot below*) displays a flat list of (i) all W3C XML Schemas in all search paths defined in the selected SchemaAgent Server plus (ii) all schemas in the `External schemas` folder (i.e. schemas referenced by schemas in the search paths, but which are not themselves in any search path), if such schemas exist. Each schema entry is displayed with its location and its status.



In the screenshot above, note the different icons used to indicate [ghost schemas](#) and schemas with [unresolved relations](#).

Explorer Pane Commands

Explorer pane commands are accessed via a context menu (*screenshot below*). This menu pops up when you right-click an entry in the Explorer pane. The commands available in the context menu depend on (i) what tab is active (Hierarchical or Flat), and (ii) what entry in a tab has been clicked. If a command is not applicable to a particular tab it is not displayed in the context menu: If a command is not applicable to the selected entry in the context menu, it is grayed out in the context menu.



The following Explorer pane commands are available.

Copy (Ctrl+C)

Copies the selected folder or schema to the clipboard. A selection can then be pasted from the clipboard into a SchemaAgent Design tab.

Rename (F2)

Renames the selected folder or schema. Any schema IIRs referencing the changed path or schema file name are automatically updated.

Delete

Deletes the folder or schema physically from the hard disk and updates all IIRs (Includes, Imports, or Redefines) of any schemas referencing the deleted schema. Note that a deleted schema is not placed in the Windows Recycle Bin, and this step cannot be undone.

If the deleted schema is present in a Design tab, then it is represented differently as it has now become an **unknown schema** (*screenshot below*); since the schema is physically deleted, SchemaAgent Server has no more knowledge of it.



SchemaAgent Client, however, still has an entry for it in the Design tab, where it receives a yellow alert icon.

New

Pops out a submenu containing commands to create either a new schema or new folder (directory). This command is only available in the Hierarchical tab.

When a new schema is created, two things happen:

- A skeleton schema file called `untitled.xsd` is physically created in the folder that currently has the focus in the Hierarchical tab. The file will have an empty schema declaration, and will look like this:

```
<?xml version="1.0" encoding="UTF-8"?>
<xs:schema elementFormDefault="qualified"
attributeFormDefault="unqualified"
xmlns:xs="http://www.w3.org/2001/XMLSchema"/>
```
- In the Hierarchical tab, an entry for a schema called `untitled.xsd` is created in the folder that currently has the focus in the Hierarchical tab. You can now change the filename. If you add a different file extension than `.xsd`, a warning prompt appears.

When a new folder (directory) is created, an empty folder called `new folder` is physically created in the folder that currently has the focus in the Hierarchical tab and an entry for this folder is created in the Hierarchical tab. Note that if the Show Empty Folders option is unselected, the new folder, because it contains no schema, will not be displayed in the Hierarchical tab.

Move (drag-and-drop command, in Hierarchical tab only)

Moves a folder or schema file to a different position within the folder structure. Note that folders and schemas can only be repositioned within the search path that contains it. Any schema IIRs referencing the changed path are automatically updated.

Recreate

A schema may contain an IIR statement that references a schema which cannot be found at the location specified in the IIR statement. We call such a schema that is referenced but cannot be found at the location specified for it in the IIR statement a **ghost schema**. Right-clicking a ghost schema and selecting `Recreate` creates a rudimentary schema of the same name at the location specified for it in the IIR statement. (A rudimentary schema is one that contains only the `xs:schema` declaration.)

Correct IIR paths (Ctrl+I)

When an IIR statement in a schema references a file that cannot be found at the location specified in the IIR statement, the `Correct IIR paths` command causes SchemaAgent to look for a file with a name matching that of the referenced file at other locations in the search path. If it finds one or more matches, a message box pops up asking whether the IIR path should be corrected, and, in the case of multiple matches, which of the matches should be used. If no match is found, this is reported.

Show Empty Folders

Toggles on and off the display of empty folders (folders that contain no schema). This command applies only in the Hierarchical tab.

Synchronize Selection

This command is available in both the Explorer pane as well as the Design pane. It causes the currently selected schema in the active view (Explorer | Hierarchical tab or Explorer | Flat tab or the currently selected Design tab in the Design pane) to be selected in the other, non-active views. This command is most useful when a Design tab is active because it is not possible to rename, delete, or move a schema in a design tab. So, if you

synchronize the selection in the Design tab, then the currently selected schema in the Design tab is also selected in the Hierarchical tab and Flat tab of the Explorer pane, enabling you to switch to the Explorer pane and take the required action.

Show in XMLSpy (Ctrl+Y)

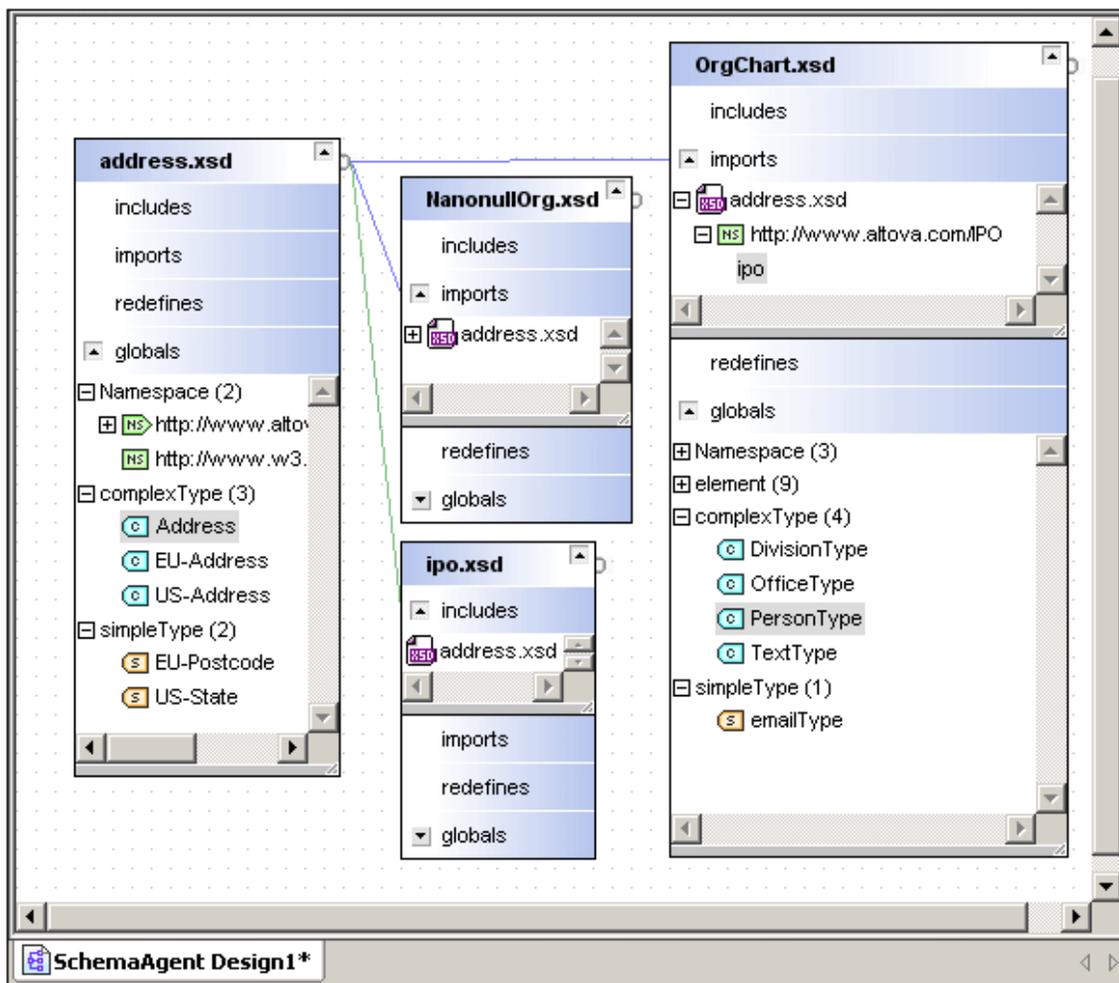
When a schema is selected, opens the selected schema in XMLSpy 2005 if XMLSpy 2005 is installed.

Insert into current design

Inserts the selection into the current design tab. If a folder is selected, then all schemas in the folder are inserted into the design. If a schema is selected, then the schema is inserted.

Design Pane

In the Design pane, you can open multiple Design tabs. Each Design tab contains a SchemaAgent Design, in which you can graphically design and manage the relationships between an unlimited number of W3C XML Schemas. In this way you can organize schemas into collections of related schemas. A SchemaAgent Design can be saved as a .sad file for editing at a later time. Any IIR relationship created in a SchemaAgent Design is immediately propagated to the respective files as soon as the relationship is created.



The Design tab graphically shows the structure of individual schemas and the relationships

between schemas in a collection. The schemas in a collection are dragged into the Design tab from the Explorer pane. Existing relationships, that is IIRs (Includes, Imports, or Redefines), are represented with colored lines. Additional IIRs can be created in the SchemaAgent Design. When you mouseover the title bar of a schema box in the Design pane, a Quick Info box appears which contains information about the location of the schema, its namespaces, and its IIRs.

Note that you can resize schema boxes by dragging box borders; expand and minimize schema boxes by clicking the arrowheads in the title bar of schema boxes; and expand and collapse trees within schema boxes by clicking the plus and minus symbols to the left of tree entries.

Copy-paste and drag-and-drop

SchemaAgent Client supports copy-paste and drag-and-drop GUI functionality both within a single Design tab as well as across multiple Design tabs.

Navigating within the Design tab

Within a Design tab, you can navigate from one schema to the next using the cursor keys (Up, Down, Left, Right).

Synchronized selection

Synchronized selection refers to the selection of a schema in both tabs of the Explorer pane and in the currently selected Design tab of the Design pane. Synchronized selection can be applied by double-clicking a schema in any of the three tabs (**Explorer | Hierarchical tab** or **Explorer | Flat tab** or the currently selected **Design tab** in the Design pane). This will cause that schema to be selected in the other two tabs as well. This command is most useful when you wish to locate a schema in any of the other tabs. Synchronized selection can also be invoked by right-clicking the schema, and selecting Synchronized Selection from the popup context menu.

1.3.3 Inserting Schemas in a Design

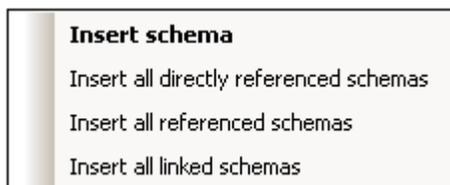
Schemas are inserted into a SchemaAgent Design from the Explorer pane or by inserting schemas related to the selection in the Design tab.

Inserting Schemas from the Explorer Pane

To insert a schema or schemas, select a schema or a folder containing schemas and drag using the left mouse button (left-drag) or right mouse button (right-drag). Alternatively, right-click the schema or folder, and select **Insert into current design** from the popup context menu. Note that only one schema or one folder can be selected at a time in the Explorer pane.

When you left-drag a schema into the Design tab, the schema is inserted in the Design. When you left-drag a folder, all the schemas in that folder are inserted into the Design.

When you right-drag a schema or folder into the Design tab, a pop-up (*screenshot below*) appears asking whether you wish to insert only the selected schema or folder schemas, or whether related schemas should also be inserted.



For a description of the various types of related schemas, see [Working with Related Schemas](#).

Inserting schemas related to a selection in the Design

When one or more schemas are selected in a Design, related schemas can be inserted into that Design. To access this command, select the required schema or schemas, right-click, and, from the menu that appears, select Insert. For a description of the various types of related schemas that can be inserted, see [Working with Related Schemas](#).

1.3.4 Viewing Schema Information

Information about schemas in Design tabs are available in the following forms.

Schema box

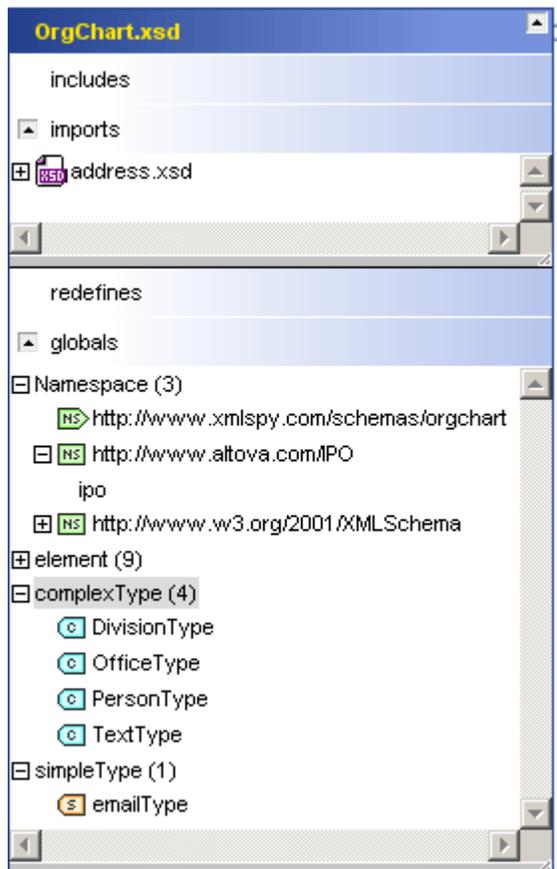
Each schema is displayed as a box, which can be expanded and minimized. When schemas are inserted into a Design, they are inserted as minimized schema boxes.



Schema boxes can be expanded by clicking the arrowhead in the title bar.



The components of the schema box can be further expanded by expanding the components, and then expanding the tree structure of the IIRs and global components.



Note the following points about schema boxes:

- The schema box displays IIRs (Includes, Imports, Redefines) graphically as well as a list of all global components of the schema.
- You cannot edit schemas directly in SchemaAgent Design. What you can do is manipulate the IIRs of schemas in the Design.

Quick Information

When you mouseover the title bar of a schema box, a Quick-Info Box containing the following information is displayed:

- Location of the schema.
- Schema namespaces.
- IIR information about the schema, for example, what schemas are included in or by that schema.

```
Quickinfo <address.xsd>
C:\Program Files\Altova\XMLSPY2004\Examples\address.xsd

Target namespace: http://www.altova.com/IPO
Prefix: ipo

included in:
  ipo.xsd

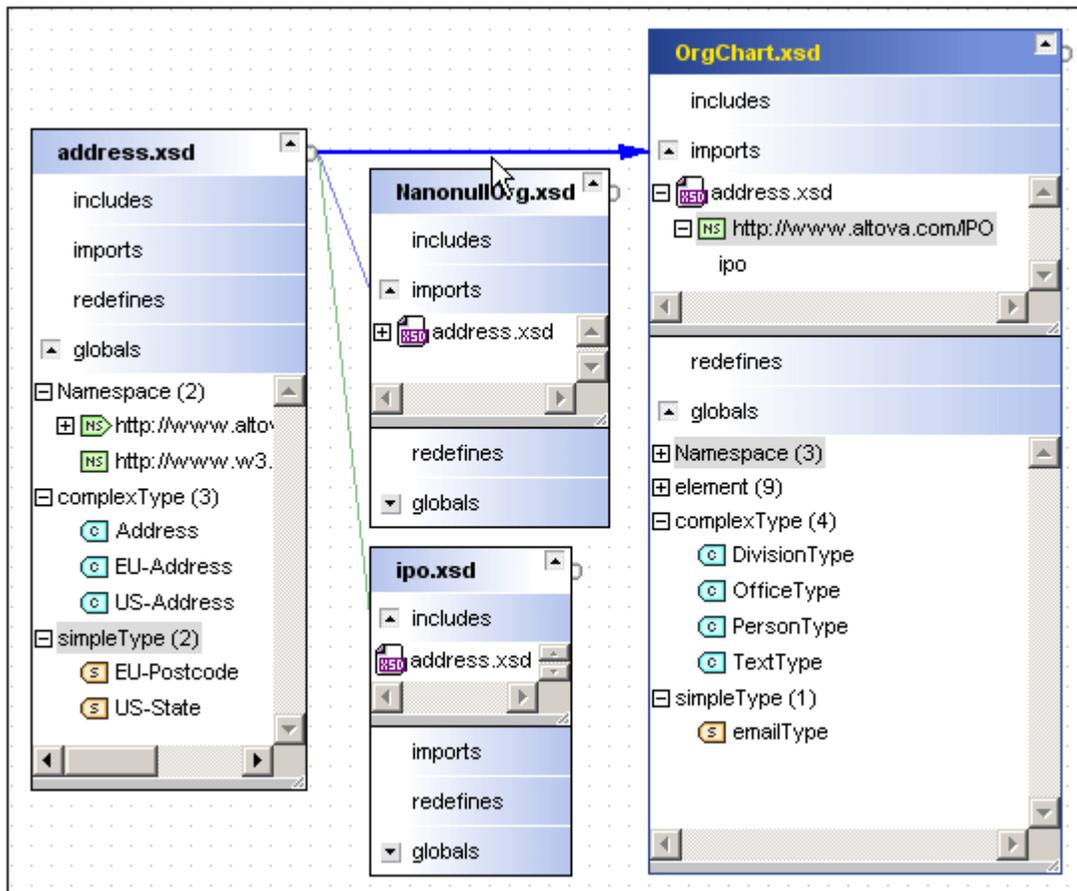
imported in:
  NanonullOrg.xsd
  OrgChart.xsd
```

Note:

- The Quick-Info Box displays IIR information as determined in the SchemaAgent Server search path.
- Placing the text cursor over an **alert** icon , if visible in the schema box, opens the relevant error message in the Quick-Info Box.

IIRs in the Design tab

IIRs (Includes, Imports, Redefines) between schemas in a Design tab are also graphically displayed by means of connector lines between schema boxes (*screenshot below*). The colors of the connector lines indicate the kind of IIR: Imports are blue; Includes are green; and Redefines are purple-violet. When you place the cursor over a connector line, the line is highlighted and an arrowhead appears that indicates the "direction" of the relationship.



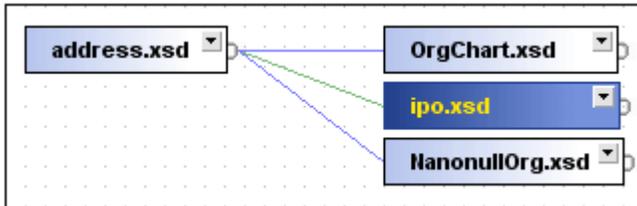
In the above screenshot, address.xsd is imported into NanonullOrg.xsd and OrgChart.xsd, and is included in ipo.xsd. Note that the connector line between address.xsd and OrgChart.xsd is highlighted, and that the arrowhead indicates that address.xsd is imported by OrgChart.xsd.

1.3.5 Selecting Schemas in a Design

In a Design tab one or more schemas can be selected at a time. However, only one of all selected schemas has the focus. It is important to set the focus correctly for some actions, such as aligning, because the selected schemas are aligned on the schema that has the focus. For other actions, such as sorting, the focus is irrelevant.

Selecting a single schema

To select a schema in a Design tab, click anywhere inside the schema box. The title bar of the selected schema becomes a darker blue.



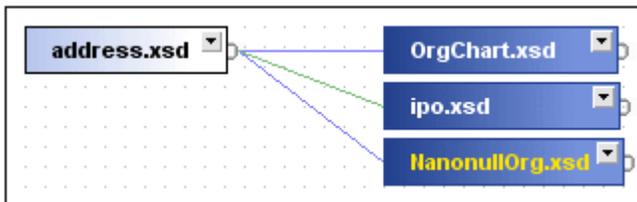
Since a single schema is selected, this schema also has the focus, which is indicated by the title being displayed in yellow.

Selecting multiple schemas

To select multiple schemas in a Design tab, you have two options:

- Click the schema boxes of the schemas you wish to select while keeping the **Ctrl** key pressed.
- Use the marquee selection technique on the schema boxes of the schemas you wish to select (that is, click and drag the marquee rectangle around the required schema boxes).

The title bars of the selected schema boxes will become a darker blue (*screenshot below*).



If you use the **Ctrl+click** method to select multiple schemas, the last schema to be selected will receive the focus. If you use the marquee selection method, the last schema box over which the cursor passes will receive the focus. (If you drag the marquee in such a way that the cursor passes over no schema box, then no schema will receive the focus.)

Changing the focus

To change the focus in a selection of multiple schemas, press **Ctrl** and click twice on the schema box of the schema to which you wish to give the focus.

1.3.6 Working with Related Schemas

A schema can have three types of related schemas:

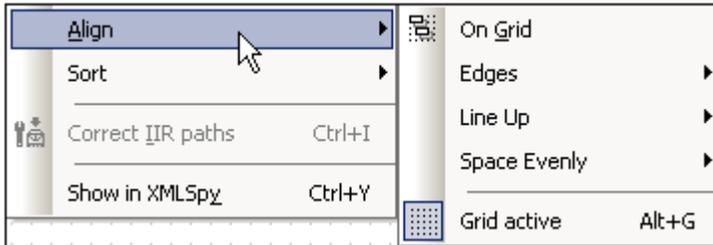
- **Directly referenced schemas:** These are schemas that are directly referenced with an IIR statement. For example, if Schema A has an Include statement that references Schema B, then Schema B is directly referenced by Schema A.
- **Referenced schemas:** These are schemas that are directly as well as indirectly referenced. For example, if Schema A has an Include statement that references Schema B, and Schema B has an Include statement that references Schema C, then (i) Schema B is directly referenced by Schema A, (ii) Schema C is directly referenced by Schema B, and (iii) Schema C is indirectly referenced by Schema A.
- **Linked schemas:** These are schemas that are directly and indirectly referenced, as well as schemas that are linked to any of the directly or indirectly referenced schemas in any way. For example, if we extend our previous example so that Schema Z includes Schema B, then Schema Z is linked to Schema A (because Schema A includes Schema B).

Related schemas are used in the following ways:

- When inserting schemas from the Explorer pane by dragging with the right mouse button depressed. You are given the option of inserting related schemas in the current Design.
- In the Design pane, you can select related schemas by right-clicking a schema and selecting the Select option from the popup context menu that appears.
- In the Design pane, you can insert related schemas by right-clicking a schema and selecting the Insert option from the popup context menu that appears.

1.3.7 Aligning Schemas in a Design

The schema boxes in a Design can be aligned, which helps give your Design a cleaner visual appearance. You can align schema boxes on the background grid or relative to the schema box that has the focus. To align schema boxes, first select the schema boxes to be aligned, and then select an alignment option from the context menu (accessed by right-clicking in the Design tab after making the selection and selecting the **Align** option).



Aligning on the background grid

If the background grid is switched on (**Align | Grid active**), then schema boxes can be aligned on the background grid (**Align | On Grid**). This aligns the top and left edges of schema boxes on grid lines.

Aligning on a schema box edge

To align a set of schema boxes on an edge of one schema box, do the following:

1. Select all the schema boxes you wish to align, taking care to give the focus to the schema box on which you wish to align.
2. Right-click, and, from the context menu that appears, select **Align | Edges | required edge**. The required edge could be left, right, top, or bottom.

All the selected schema boxes align so that the edge you selected, of all boxes, are aligned on that edge of the schema box with the focus. For example, if you select alignment on right edge, the right edges of all boxes align with the right edge of the box that has the focus. There is no translation in any other direction, which might cause some boxes to overlap. So, in the example of boxes lining up on the right edge, there could be overlap in the vertical dimension.

Lining up schema boxes vertically and horizontally

You can align a selection of schema boxes vertically on the left edge of the schema box that has the focus, and horizontally on the top edge of the schema box that has the focus. To line up a set of schema boxes vertically or horizontally, do the following:

1. Select all the schema boxes you wish to align, taking care to give the focus to the schema box on which you wish to align.
2. Right-click, and, from the context menu that appears, select **Align | Line Up | required dimension**. The required dimension could be vertical or horizontal.

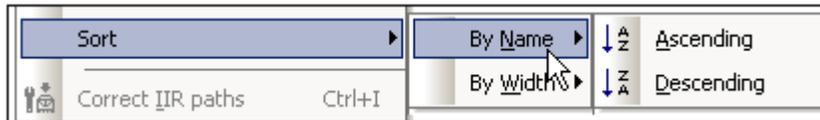
All the selected schema boxes align with the left edge (for vertical alignment) or top edge (for horizontal alignment) of the schema box that has the focus. The schema box that has the focus is always placed at the top (vertical alignment) or at first left (horizontal alignment), and is followed by the other boxes. The other boxes are ordered relatively to each other according to the vertical coordinates of their top edges, starting from the topmost box. The topmost box before alignment is placed immediately following the box with the focus, in the direction of alignment. The bottom-most box before alignment is placed last in the line (vertical or horizontal).

Uniform horizontal and vertical spacing

The selected schema boxes can be spaced evenly in horizontal and vertical directions (**Align | Space Evenly**). This is most useful after you have aligned schema boxes in a vertical or horizontal line.

1.3.8 Sorting Schemas in a Design

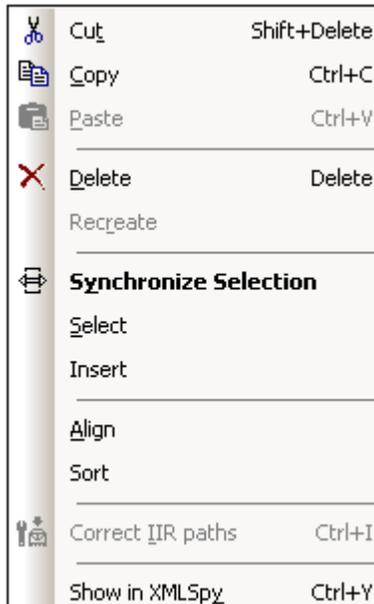
The schema boxes in a Design can be sorted in alphabetical order or according to their widths, in ascending or descending order. The alignment conditions are maintained. To sort schemas in a design, first select the set of schemas to be sorted relative to each other, then right-click and select **Sort** from the context menu that appears.



Note: Alphabetical sorting is case-sensitive.

1.3.9 Design Tab Commands

Design tab commands are accessed via a context menu (*screenshot below*). This menu pops up when you right-click an entry in the Design tab. If a command is not applicable to the selected component in the Design tab, it is grayed out in the context menu.



The Design tab commands are summarized below. More detailed descriptions are in subsequent sections on the corresponding actions.

Cut (Shift+Delete), Copy (Ctrl+C), Paste (Ctrl+V), Delete (Delete)
 Respectively, cuts and copies the selected schema to the clipboard, pastes from the clipboard to the selected Design tab, deletes the selected schema from the Design tab. Note that these commands apply to the selected schema, not to individual components within schema boxes. To select a schema, (i) click the title bar of the schema box or a component within a schema box, or (ii) drag a marquee around the schemas to be selected. Multiple schemas can be selected by (i) clicking a schema with **Shift** or **Ctrl** pressed, or (ii) using the marquee option.

Note: You can copy schemas from one Design tab to another.

Recreate

A schema may contain an IIR statement that references a schema which cannot be found at the location specified in the IIR statement. We call such a schema that is referenced but cannot be found at the location specified for it in the IIR statement a **ghost schema**. Right-clicking a ghost schema and selecting `Recreate` creates a rudimentary schema of the same name at the location specified for it in the IIR statement. (A rudimentary schema is one that contains only the `xs: schema` declaration.)

Synchronize Selection

This command is available in both the Explorer pane as well as the Design pane. It causes the currently selected schema in the active view (**Explorer | Hierarchical tab** or **Explorer | Flat tab** or the currently selected **Design tab** in the Design pane) to be selected in the other two, non-active views. Double-clicking a schema in any of the three listed tabs also applies synchronized selection, that is, the schema is selected in the other two tabs as well. Note that synchronized selection only applies to the currently selected Design tab—and not to all open Design tabs.

This command is most useful when a Design tab is active because it is not possible to rename, delete, or move a schema in a design tab. So, if you synchronize the selection in the Design tab, then the currently selected schema in the Design tab is also selected in the Hierarchical tab and Flat tab of the Explorer pane, enabling you to switch to the Explorer pane and take the required action.

Select

With one or more schemas in a Design tab selected, you can use the Select command to select related schemas. Schemas can be related in different ways. These relationships and the use of the Select command are described in more detail in [Working with Related Schemas](#). Note that related schemas in the active Design tab only are selected.

Insert

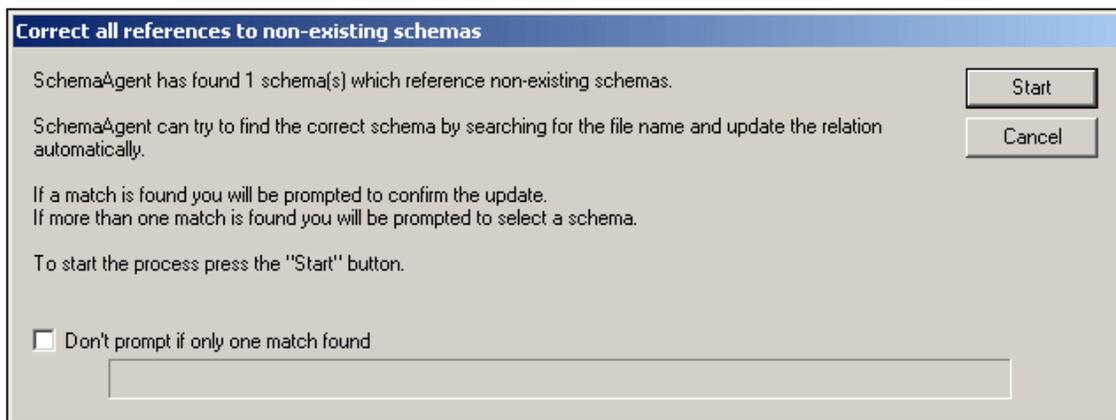
With one or more schemas in a Design tab selected, you can use the Insert command to select related schemas. Schemas can be related in different ways. These relationships and the use of the Insert command are described in more detail in [Working with Related Schemas](#). Note that related schemas are inserted in the active Design tab only.

Correct IIR paths (Ctrl+I)

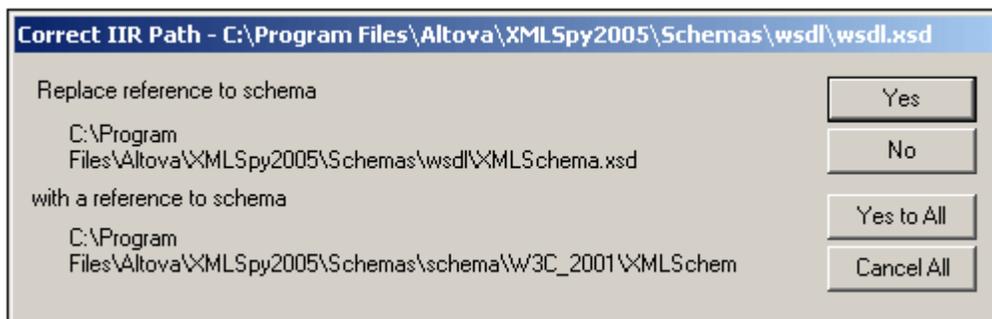
When an IIR statement in a schema references a file that cannot be found at the location specified in the IIR statement, the `Correct IIR paths` command causes SchemaAgent to look for a file with a name matching that of the referenced file at other locations in the search path. If it finds one or more matches, a message box pops up asking whether the IIR path should be corrected, and, in the case of multiple matches, which of the matches should be used. If no match is found, this is reported.

Correct All IIR paths (in Extras menu)

Selecting this command in the Extras menu enables you to correct all IIR paths in all defined search paths. The following dialog pops up.



To go ahead with the process, click Start. If one match is found, you will be prompted to confirm the correction (*screenshot below*). If more than one match is found, you will be prompted to select the correct path from a list of schemas.



Clicking **Yes** confirms the correction, and the correction is made. Clicking **No** does not make the correction. Clicking **Yes to All** makes the correction in each case where there is only one match. (Where there are multiple matches, you will be prompted for a selection.) Clicking **Cancel All** cancels the process.

Show in XMLSpy (Ctrl+Y)

Opens the selected schema in XMLSpy 2005 if XMLSpy 2005 is installed.

1.3.10 Working with IIRs

XML Schema provides three main methods of modularizing your schemas: Imports, Includes, and Redefines, what we collectively call IIRs for short. Each of these methods has specific namespace requirements, which are automatically checked by SchemaAgent when you create IIRs in SchemaAgent Client.

Overview of IIRs

Given below is a summary of how IIRs are used.

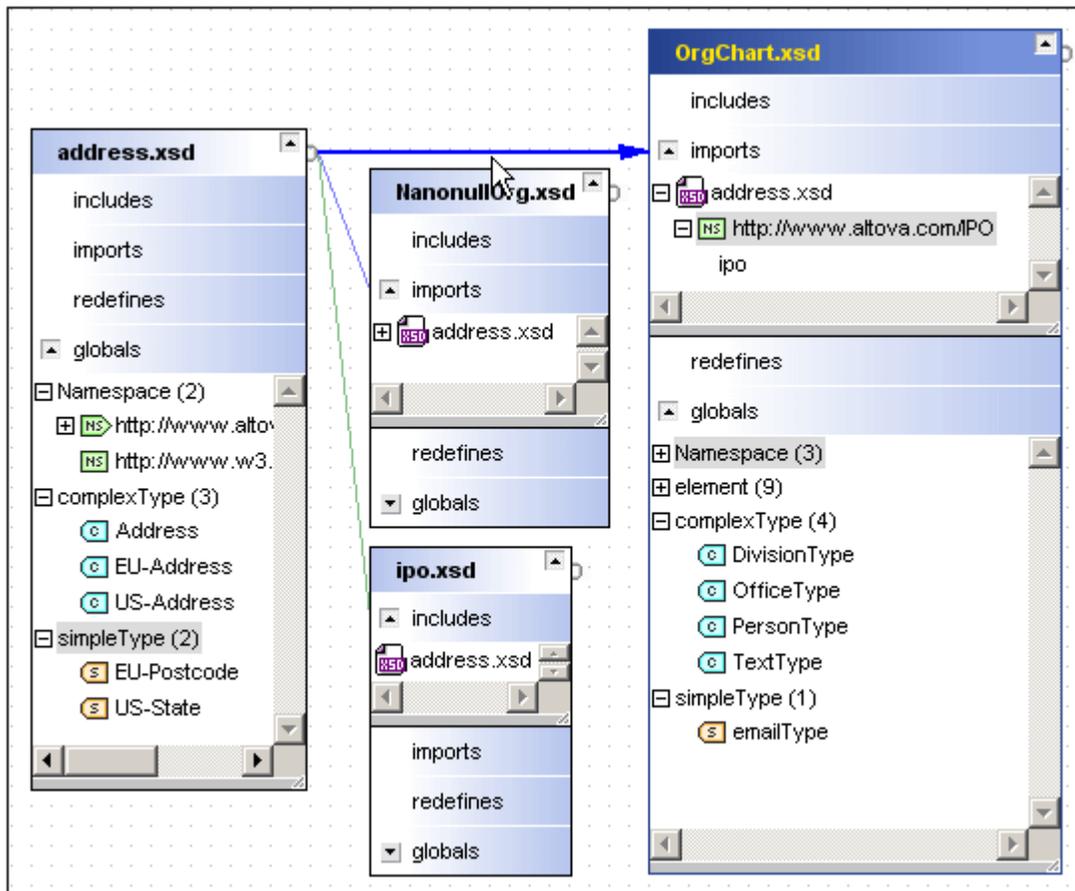
- **Imports** are used when combining schema components that belong to different namespaces. Using Import defines the schema location, as well as the namespace for the schema. This allows the document instance to contain both namespaces.
- **Includes** are used to incorporate schema components that belong to the same target namespace or that do not have a target namespace.
- **Redefines** are used to combine and modify schema components of the same target namespace or that do not have a target namespace. Using Redefines allows you to incorporate external schema definitions and declarations, such as `complexType`, and change them in the redefining schema.

IIRs in the Design Tab

In the Design tab, IIR relationships between schemas are shown with lines that are color-coded as follows:

- Imports = blue
- Includes = green
- Redefines = purple-violet

When you place the cursor over a connector line, the line is highlighted and an arrowhead appears that indicates the "direction" of the relationship.



In the above screenshot, `address.xsd` is imported into `NanonullOrg.xsd` and `OrgChart.xsd`, and is included in `ipo.xsd`. Note that the connector line between `address.xsd` and `OrgChart.xsd` is highlighted, and that the arrowhead indicates that `address.xsd` is imported by `OrgChart.xsd`.

Note: Connectors appear as soon as a schema is inserted into the Design if the inserted schema has existing IIR relationships with other schemas present in the Design.

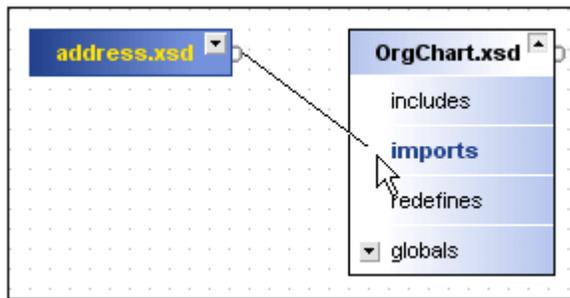
Creating IIRs in the Design Tab

You can create IIRs between schemas in the Design by using simple drag-and-drop. To create an IIR, do the following:

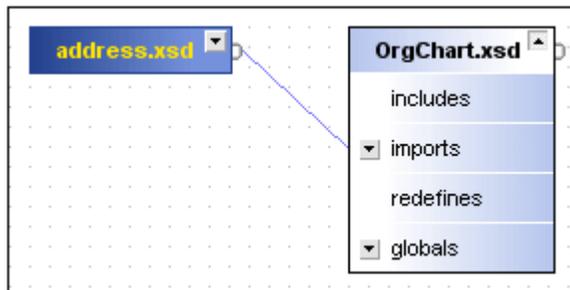
1. Place the mouse cursor over the schema box handle (located at the right border of the title bar) of the schema from which you wish to create the IIR. For the purpose of this description, let's call this schema the source schema.



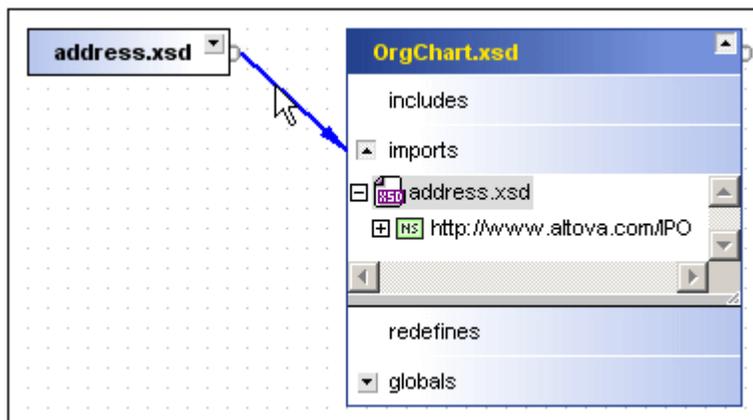
2. Click the handle and drag the cursor to the schema in which the IIR statement is to appear (the target schema for our purposes). If minimized, the target schema box expands, allowing you to drop the connector onto one of the IIR entries.



- When the selected IIR entry becomes bold, drop the connector. The IIR command has now been inserted in the schema, and a drop-down symbol appears next to the IIR entry (in this case, `imports`).



Clicking the drop-down arrow expands the IIR entry (in this case, `imports`).



If you drop the connector on an entry that does not turn bold, an error message appears, explaining why the selected IIR relationship is not allowed.

Note: SchemaAgent automatically checks namespaces. This ensures that no invalid IIR statement is created in the target schema.

1.3.11 Deleting Schemas

Schemas can be deleted from a Design as well as from the Explorer pane using the **Delete** key, or by selecting the Delete option from the context menu. Deleting a schema in the Design tab deletes it only from the Design; the physical schema file is not deleted and is still visible in the Explorer pane. On the other hand, deleting a file from the Explorer pane, physically deletes the file from the repository; the file entry will no longer appear in the Explorer pane (both Hierarchical and Flat tabs).

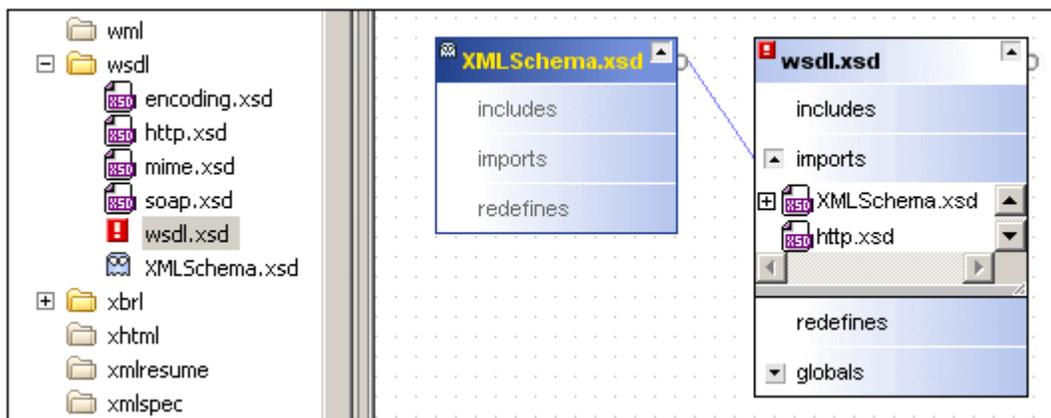
Warning: There is **no** Undo command for deletions. So files you delete from the Explorer pane cannot be restored.

Unknown schemas

If a schema that is deleted from the Explorer pane is present in a Design, then that schema in the Design becomes an **unknown** schema (because SchemaAgent Server no longer has any knowledge about it). Such a schema is represented in Design tabs with a yellow exclamation mark. The only way to bring a deleted schema back into use is to have it physically created or copied to its correct location.

Incorrect IIRs and ghost schemas:

If a schema contains an IIR statement that references a schema that cannot be found, an error icon appears  in the top left of its title bar (*screenshot below*). The schema that cannot be found at the specified location is called a **ghost schema** (*screenshot below*). In the screenshot below, `wSDL.xsd` has an `import` statement that points to the schema `XMLSchema.xsd` in the same folder. `XMLSchema.xsd` is the ghost file.



A schema becomes a ghost schema due to any of several causes. The most common causes are:

- The schema is not physically present at the specified location for any of several reasons. For example, it might have been moved.
- The schema cannot be loaded because the web server or network node is unavailable.

Note that ghost schemas are retained and displayed in the Explorer and Design panes (even though they are not at the location specified in the IIR of the target schema). In the Design, the connector line between the ghost schema and its target schema are also displayed.

If you encounter a ghost schema, there are three possible ways to deal with the problem:

- SchemaAgent Client offers the **Correct IIR Paths** command when you right-click the schema with the incorrect IIR path. This action causes SchemaAgent Client to look for

schemas of the same name in the search path. This is the ideal solution if the ghost schema has been moved to another location. In such cases, SchemaAgent Client lists all the schemas with the ghost schema's name that it finds in the search paths. You can then select the correct location path to insert in the IIR path of the target schema.

- From within SchemaAgent Client, you can recreate the ghost schema as a rudimentary schema at the location specified in the IIR statement of the target schema. You can do this by right-clicking the ghost schema, and selecting **Recreate** from the context menu that appears. This solution ensures that the IIR path correctly points to the specified schema. However, you still have to add appropriate content to the recreated rudimentary schema.

1.3.12 Printing the Design

The Design diagram in the active Design tab can be printed together with a header and footer that provides meta information about the user environment and SchemaAgent application information. To print the Design diagram, click **File | Print**.

1.4 XMLSpy 2005 as a SchemaAgent Client

Using XMLSpy 2005 as a SchemaAgent Client provides powerful schema editing functionality that leverages the schema management capabilities of SchemaAgent. SchemaAgent Server enables the XMLSpy 2005 user to access all schemas defined in the search paths defined for the SchemaAgent Server to which XMLSpy 2005 is connected. These editing capabilities are available in the Schema/WSDL View of XMLSpy 2005 (Enterprise and Professional Editions). In the Schema/WSDL View, users can access the **components** of all schemas in the search paths of SchemaAgent Server. The ability to access components of multiple schemas and reuse them in the schema being currently created or edited considerably simplifies the building of complex schemas.

This section describes the powerful schema editing features of XMLSpy 2005 when it is used as a SchemaAgent Client.

SchemaAgent schema constructs, global elements, complexTypes, simpleTypes, etc. are visible in bold blue text in the various **entry helpers**, or **list boxes**, in the Schema/WSDL view of XMLSpy 2005, along with the constructs defined in the currently active schema.

1.4.1 Connecting to SchemaAgent Server

To connect to SchemaAgent Server, do the following:

1. With a schema that appears in the search path of SchemaAgent Server open in Schema Design View, select **Schema design | Connect to SchemaAgent Server**, or click the Connect to SchemaAgent Server icon . (See the SchemaAgent Server documentation for a description of how to define search paths.)
2. Click the down-arrow of the combo box to drop down a list of available SchemaAgent Servers (*screenshot below*).



Note on servers running with Windows XP SP2

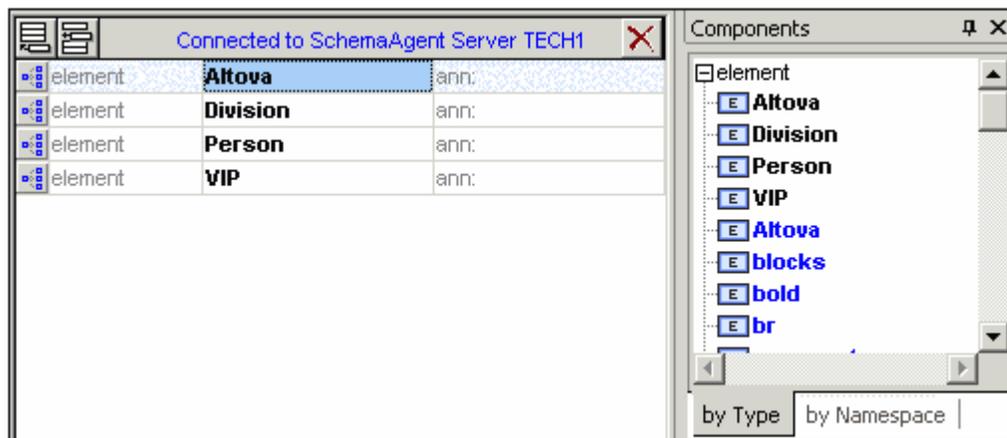
If the SchemaAgent Server name is listed in the Connect to SchemaAgent Server dialog but you cannot connect to it, it is possible that your server is not taking part in the name resolution process of your network. Name resolution is blocked by the default settings of the Windows XP SP2 Firewall.

To connect to such a server either, do one of the following:

- Change the server settings to enable the name resolution process, or
- Enter the IP address of the server in the Edit field of the Connect Dialog box.

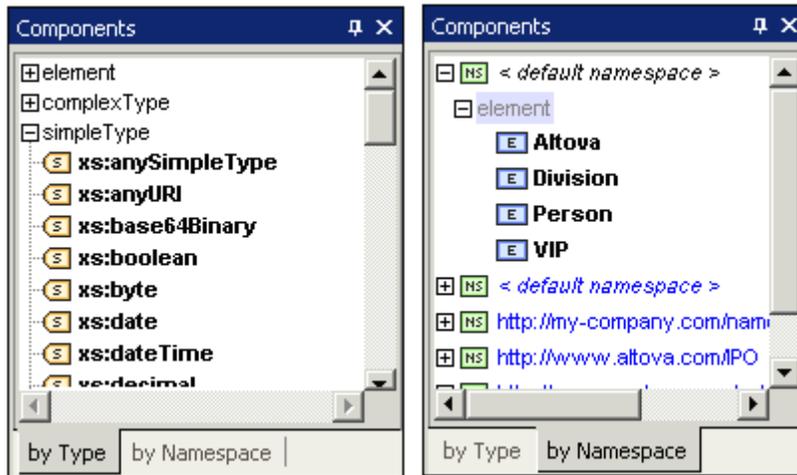
This need be done only once as SchemaAgent Client stores the connection string of the last successful connection.

3. Select the server you want to connect to, and click OK to confirm. XMLSpy 2005 connects to the selected SchemaAgent Server. Note that if SchemaAgent Client is not installed, then the connection to SchemaAgent Server will fail.



The globals view of the Schema/WSDL view now displays the text "SchemaAgent Server available", as well as the toolbar icons. You now have full access to all schemas and schema constructs available in the server search path. SchemaAgent schema constructs: global elements, complexTypes, simpleTypes etc. are visible in bold blue

text, below the constructs of the active schema. Schema constructs of the currently active schema appear in black, while those served by SchemaAgent appear in blue.

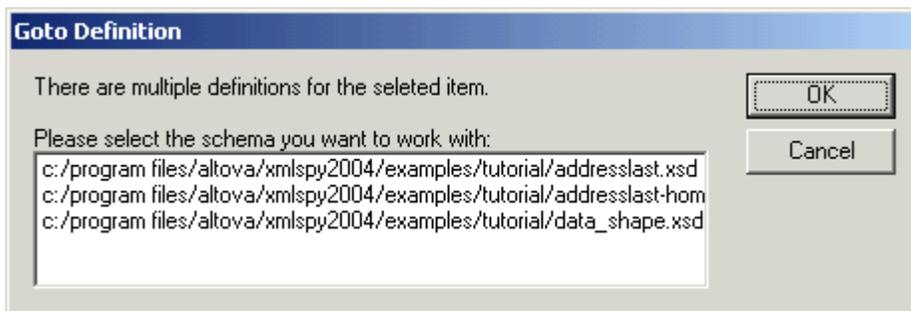


Schema constructs can be viewed by Type, or by Namespace in the respective tabs in the Schema/WSDL view.

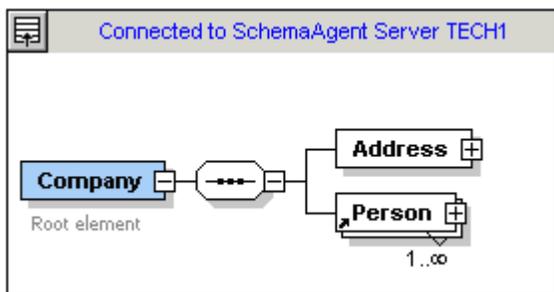
1.4.2 Opening a Schema Found in the Search Path

This example demonstrates how to open a schema found in a search path defined in SchemaAgent Server. It uses the `DB2schema.xsd` file available in the `..\Tutorial` folder as the active schema. The `By Type` tab of the Components entry helper is active.

1. Scroll down to the blue `Company` entry in the Components entry helper, and double click it. The Goto Definition dialog box is opened.



2. Click the `Addresslast.xsd` entry, and click OK to confirm. This opens the `addresslast.xsd` schema and displays the content model of the `Company` element.



Note: Double-clicking a SchemaAgent schema construct, such as Element, complexType, or simpleType, opens the associated schema (as well as all other included schemas) in XMLSpy 2005.

1.4.3 Using Schema Constructs

XML schema provides three main methods of modularizing you schemas: Import, Include, and Redefine (IIR). For a description of IIRs, see [Working with IIRs](#). Each method has different namespace requirements, which are however automatically checked by SchemaAgent Client and XMLSpy 2005 when you try to create IIRs.

Imports, Includes, and Redefines (IIRs)

Schema constructs can be "inserted" by different methods:

- Global elements can be dragged directly from the Components Entry Helper into the content model of a schema component (in the Schema/WSDL view)
- Components, such as complexTypes and simpleTypes, can be selected from the list box that automatically opens when defining new elements/attributes, etc.
- Components, such as complexTypes, can be selected from the Details Entry Helper when creating/updating these type of constructs.

Incorporating schema components

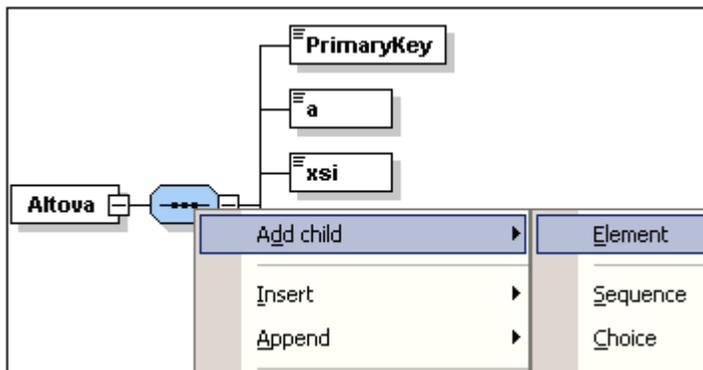
This example uses the `DB2schema.xsd` file available in the `..\Tutorial` folder as the active schema; the `By Type` tab of the Components Entry Helper is active.

To use schema constructs from SchemaAgent Server schemas, do the following

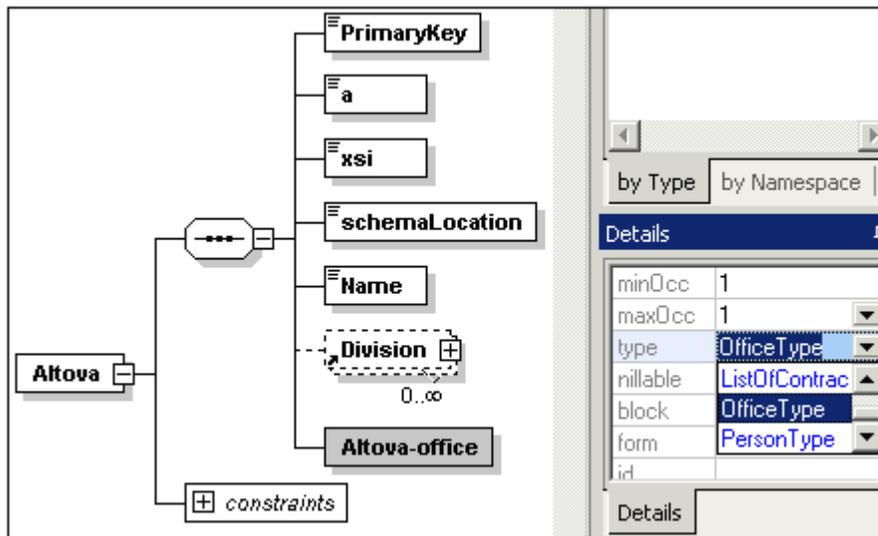
1. Open and rename the `DB2Schema.xsd` file for this example, for example to `Altova-office`.

| Connected to SchemaAgent Server TECH1 | | |
|---------------------------------------|-----------------|------|
| element | Altova | ann: |
| element | Division | ann: |
| element | Person | ann: |
| element | VIP | ann: |

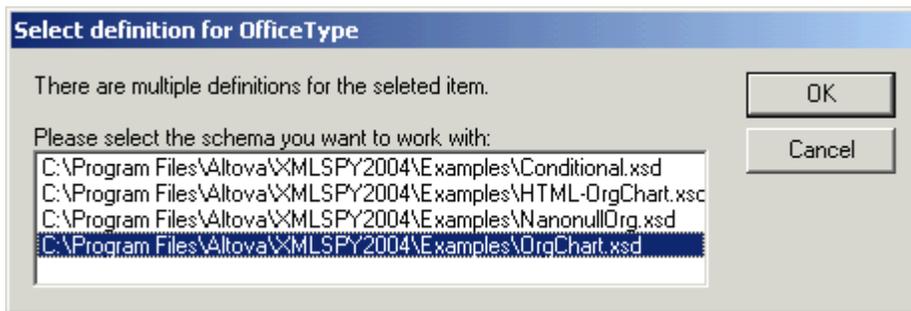
2. Click the `Altova` element in the Schema Overview to see the content model.
3. Right click the `Altova` sequence compositor and select the menu option **Add Child | Element**. Note that a list box containing all global elements within the server path opens automatically at this point. Selecting one would incorporate that element.



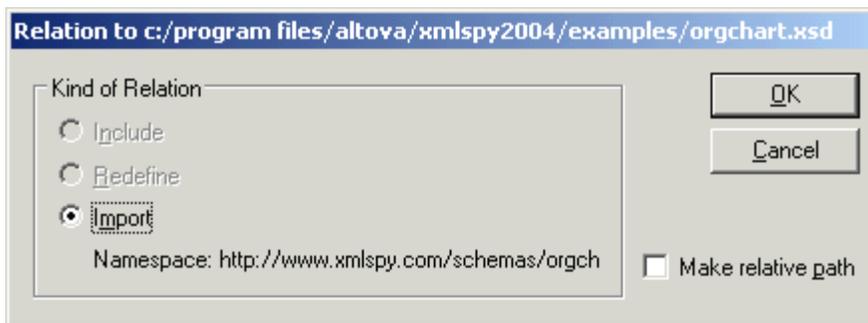
4. Enter `Altova-office` as the name for this new element and press Return.
5. Using the Details Entry Helper, click the `type` combo box and select the entry `OfficeType`.



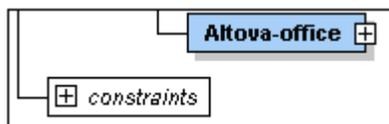
This opens the Select Definition For OfficeType dialog box.



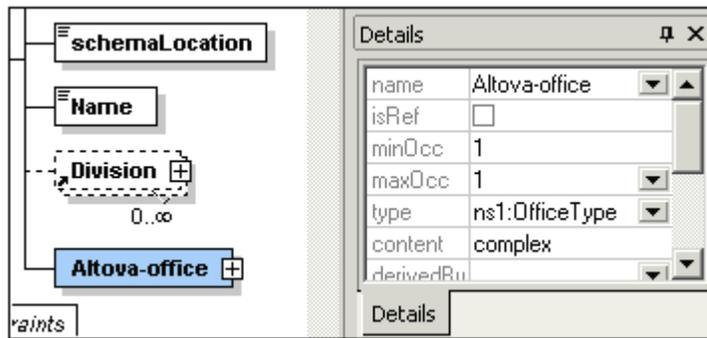
6. Select Orgchart .xsd and press OK.



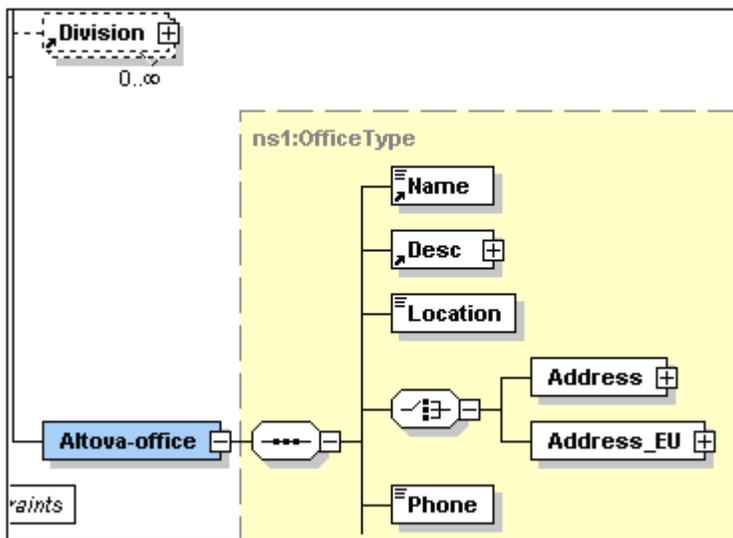
7. Click the OK button. The Import command was automatically selected for you. An expand icon appears in the Altova-office element.



Please note that the `type` entry in the Details entry helper has changed; it is now displayed as `ns1:OfficeType` due to the fact that the `Orgchart.xsd` schema file has been imported and the target namespaces must be different in both schemas. An Import command has also been added to the schema.



- Click the Expand button to see the `OfficeType` content model.



- Press F8 to validate the schema. The "Schema is valid" message should appear at this stage.

Cleaning up the schema:

- Delete the `Division` element in the content model.
- Click the "Return to globals" icon to switch to the Schema Overview.
- Delete the following global elements: `Division`, `Person` and `VIP`.

| Connected to SchemaAgent Server TECH1 | | |
|---------------------------------------|--|------|
| import | loc:c:/program files/altova/xmlns:http://www.xmlspy.com/sc | |
| element | Altova | ann: |
| element | Altova-office | ann: |

- Select the menu option **Schema Design | Schema settings** to see how the namespace settings have changed.



The ns1 prefix has been automatically added to the my-company.com/namespace. The Components and Details Entry Helpers displays all imported constructs with the ns1: namespace prefix.

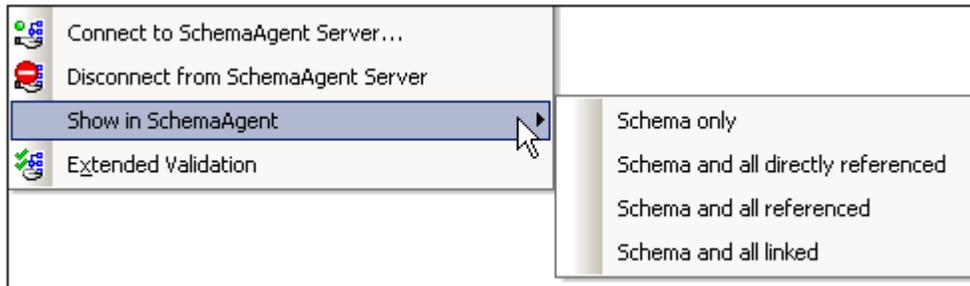


Note:

- Changes made to schemas under SchemaAgent Server control, using XMLSpy 2005, automatically update any other schemas, in the SchemaAgent Server path, that referenced the changed schema.
- It is possible to see duplicates of constructs element, simpleTypes etc. in entry helpers (in black and blue), if the schema you are working on is also in the SchemaAgent Server path.

1.4.4 Viewing Schemas in SchemaAgent

To work with the active schema and its related schemas in SchemaAgent, click the menu option **Schema Design | Show in SchemaAgent | *schema or related schemas*** (screenshot below).



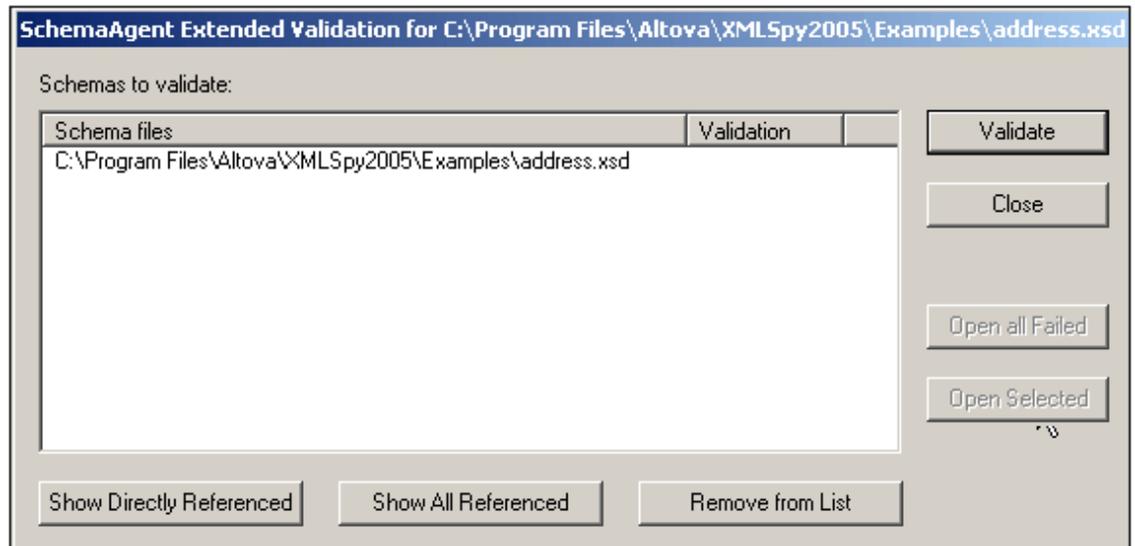
You have the option of opening only the active schema in SchemaAgent, or the active schema together with either (i) all directly referenced schemas, or (ii) all referenced schemas, or (iii) all linked schemas. These terms are defined in the section [Working with Related Schemas](#).

1.4.5 Extended Validation in XMLSpy 2005

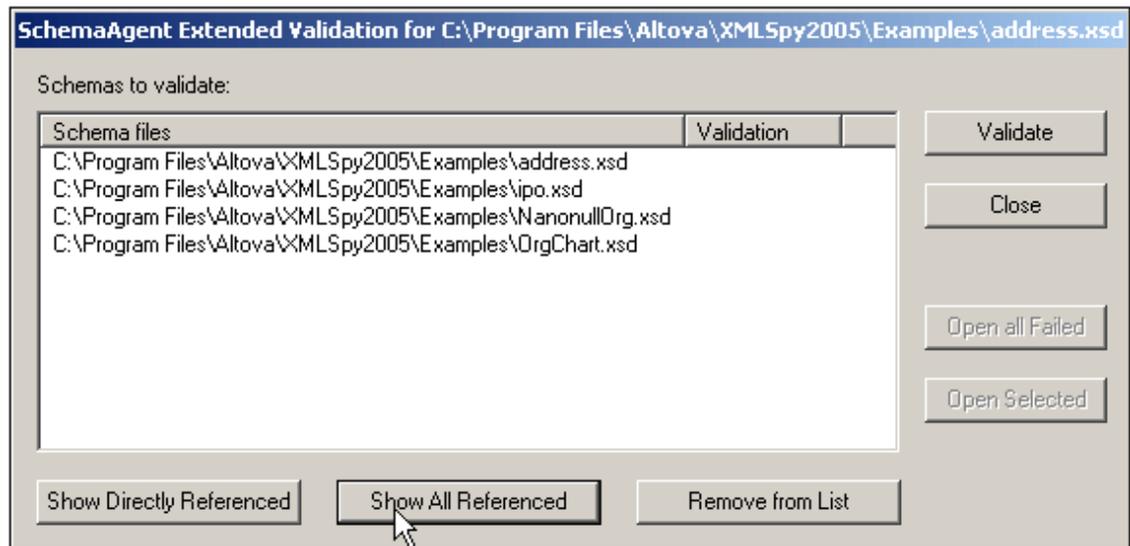
XMLSpy 2005, in conjunction with SchemaAgent, allows you to validate not only the currently active schema but also schemas related to the currently active schema. There are two types of related schemas that SchemaAgent distinguishes for extended validation: (i) directly referenced schemas, and (ii) referenced schemas. These two types of related schemas are defined in the section [Working with Related Schemas](#).

How to carry out extended validation is demonstrated below by means of an example. This example assumes that the schema file `address.xsd` is the active schema in Schema/WSDL View of XMLSpy 2005. You would then do the following:

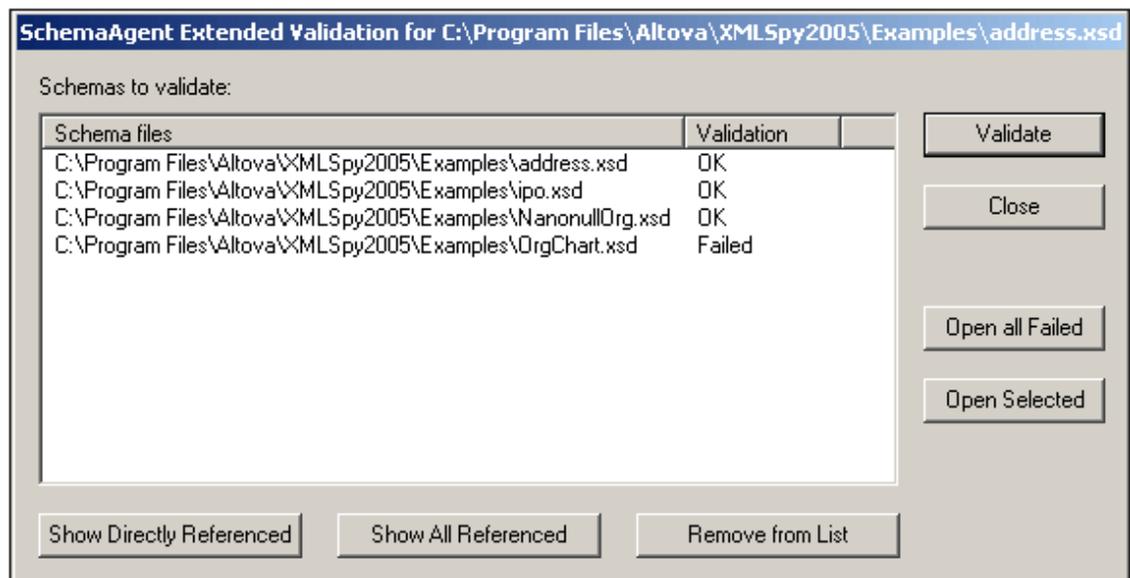
1. Click the Extended Validation icon  in the toolbar or the menu item **Schema Design | Extended Validation**. This opens the Extended Validation dialog box, in which you can choose whether to validate the active schema only or one or more related schemas as well.



2. To insert schemas into the list, click the Show Directly Referenced or Show All Referenced button as required. In this example, we have clicked the Show All Referenced button, and this inserts all referenced files into the list.



- At this point, you can remove a schema from the list (Remove from List).
3. Click the Validate button to validate all the schemas in the list box.



The Validate column displays whether the validation was successful or whether it failed.

You can now open the schemas that failed validation or a set of selected schemas in XMLSpy 2005.

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