

CAMEO DATAHUBTM

USER GUIDE

version 17.0.1

No Magic, Inc.
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INTRODUCTION

This user guide is designed to help you familiarize yourself with Cameo DataHub features. It is intended as a guideline and adopts an essentially thematic approach, each section within each chapter looking at a specific Cameo DataHub feature whose understanding is central to mastering Cameo DataHub.

Cameo DataHub is a plugin for MagicDraw, Cameo Requirements+, IBM Rational DOORS, and IBM Rational RequisitePro.

The order in which Cameo DataHub features are introduced is based on a step-by-step approach. It assumes that you will follow that sequence when learning how to use them as, for example, it is necessary to create 'Relations' first before synchronizing data. Thus, supposing you have to synchronize data, you will first need to learn how to create Associations and manage them, hence the order, for example, Creating Relations, Managing Relations, and Synchronizing Data. However, if you are already familiar with any particular Cameo DataHub features, you can skip them and go directly to the sections covering features with which you need to familiarize yourself. This user guide is divided into six chapters, and each chapter is sub-divided into various sections; each section looking at a feature that is specific to the application considered (for example, Managing Relations in MagicDraw). Chapter 1 guides you how to get started with DataHub including installation and configuration. Chapter 2 gives an overview of Cameo DataHub features. Chapter 3 shows you how to manage DataHub Server through DataHub Console. Starting with Chapter 3, a specific example will be used recurrently to illustrate how you can use Cameo DataHub to transfer data between different formats from other applications. Chapters 4 through 6 explain how to use these features with the applications that Cameo DataHub supports, which are MagicDraw, Cameo Requirements+, IBM Rational DOORS, and IBM Rational RequisitePro. The appendix describes a list of key terms in Cameo DataHub.

You need to familiarize yourself with the Cameo DataHub's own terminology. Even though you may think you know what a term implies, that word may have different implications when used for Cameo DataHub purposes. For example, a term "data", when used for Cameo DataHub purposes, has a far more restricted meaning. This is generally true of many commonly used terms, such as items, drivers, and many more. To that end, the appendix provides a list of key terms, listed under the section called Cameo DataHub Terminology. They will go a long way in speeding up your grasp of Cameo DataHub features.

1 GETTING STARTED

Cameo DataHub or DataHub consists of DataHub Server and DataHub Plugin. DataHub is a complete solution that enables you to import, export, synchronize, and make data references in the following formats: CSV files, MagicDraw UML/SysML/UPDM(DoDAF and MODAF) elements, Cameo Requirements+ requirements, DOORS objects, and RequisitePro requirements. DataHub also reads data from a repository in CSV format.

DataHub Plugin is available for MagicDraw, Cameo Requirements+, and two third-party tools:

- MagicDraw (MagicDraw® with SysML, and UPDM Plugin 17.0.1)
- Cameo Requirements+ (Cameo Requirements+® 4.1)
- RequisitePro (IBM® Rational® RequisitePro® 7.0 and 7.1)
- DOORS (IBM® Rational® DOORS® 8.0, 8.1, 8.2, 8.3, 9.0, 9.1, 9.2, and 9.3)

In this chapter the following information is included:

- 1.1 System Requirements
- 1.2 Installation
- 1.3 Running Cameo DataHub
- 1.4 Upgrading
- 1.5 Uninstallation

1.1 System Requirements

Resource	Minimum	Recommended
Processor	Pentium™ 4, 1.6 GHz or higher	Core™ i3, 2.5 GHz or higher

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Resource	Minimum	Recommended
Memory	2GB of RAM	3GB of RAM recommended; higher memory capacity generally improved responsiveness. 4GB of RAM is recommended for Microsoft™ Windows Vista and for very large projects.
Disk space	400MB	400MB or more
Video mode	800x600 @ 64k colors	1280x1024 @ 64k colors
Operating Systems	All that support Java compatible JVM 1.6. Windows XP sp3, Windows Vista, Windows 7, Linux and Mac OS X v10.6 Snow Leopard (most testing procedures and debugging were performed on these platforms).	
MagicDraw	17.0.1	17.0.1
Java Virtual Machine (JVM)	JDK 1.6	JDK 1.6.0_26

NOTE:	Due to performance issue, Windows Vista or Windows 7 is recommended for using Cameo DataHub with DOORS.
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1.2 Installation

1.2.1 Instructions for MagicRQ Users

If you have installed a MagicRQ version that is earlier than 16.6, except 16.0 sp1 and greater, you need to first remove it from (i) MagicDraw, (ii) RequisitePro, and (iii) DOORS by following the instructions right below, and then install DataHub by following the instructions in section 1.2.2 below.

1 GETTING STARTED

(i) To remove MagicRQ Plugin from MagicDraw:

1. Open **MagicDraw**.
2. Click **Help > Resource/Plugin Manager**.
3. Select **MagicRQ** and click the **Remove** button.

(ii) To remove MagicRQ Plugin from RequisitePro:

1. On the menu, click **Tools > Add-ins**.
2. Select **MagicRQ** and click the **Remove** button.

(iii) To remove MagicRQ Plugin from DOORS:

- Remove the **DOORS\lib\dxl\config\formalPopupFiles\magicrq.dxl** and **DOORS\lib\dxl\addins\MagicRQ** files.

NOTE:	If MagicRQ 16.6 or one of its earlier versions has already been installed, DataHub will remove it while configuring DataHub Server and installing DataHub Plugin.
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1.2.2 Installing Cameo DataHub

To install DataHub Server and DataHub Plugin, either (i) use the installer file or (ii) extract the no-installer package to the location where you want to install them.

The operating systems that DataHub supports are (1.2.2.1) Windows, (1.2.2.2) Linux, and (1.2.2.3) Mac.

1.2.2.1 Windows

(i) To install DataHub Plugin using the installer file:

1. Double-click **CameoDataHub_<version>.exe**. The **Installer Wizard** dialog will open. Click **Next**.
2. Select an installation folder and click **Next**.

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3. Select either (i) a location for the product icons to be created or (ii) the **Don't create icons** button, and then click **Next**.
4. You may select the option to open DataHub automatically when Windows starts, and then click **Install**. The DataHub installation will start.
5. Enter the directories for MagicDraw, Cameo Requirements+, and DOORS application with a specific version, and then click **Next**. The drivers installation will start.
6. Click **Done**.

(ii) To install DataHub Plugin using the no-installer package:

1. Install Java Virtual Machine if it has not yet been installed.
2. Extract **CameoDataHub_<version>.zip**.
3. Open the **<DataHub folder>bin** folder and double-click **dhserver.vbs**. Cameo DataHub Console will appear and prompt you to enter a license key file.
4. Click **Browse**. The **Select Key File** dialog will open.
5. Select a license file and click **Open**.
6. DataHub provides a function to configure the required parameters. In DataHub Console, click **View > Deployment** on the main menu.
7. Click the **Add** button to add the tool that you want to work with DataHub.
8. Select the installation folder of a particular tool and click **OK**.

1.2.2.2 Linux

(i) To install DataHub Plugin using the installer file:

1. Double-click **CameoDataHub_<version>_setup** to run the installer. The **Installer Wizard** dialog will open.
2. Click **Next**.
3. Select an installation folder, and then click **Next**.
4. Select a location to create the product icons and the installation will start.
5. Configure DataHub in each application.

(ii) To install DataHub Plugin using the no-installer package:

1. Extract **CameoDataHub_<version>.tar.gz**.

1 GETTING STARTED

2. Double-click dhserver in <DataHub folder>\bin folder. DataHub Console will appear and prompt you to enter a license key file.
3. Click **Browse**. The **Select Key File** dialog will open.
4. Select a license file and click **Open**.
5. DataHub provides a function to configure the required parameters. In DataHub Console, click **View > Deployment** on the main menu.
6. Click the **Add** button to add the tool that you want to work with DataHub.
7. Select the installation folder of a particular tool and click **OK**.

1.2.2.3 Mac

(i) To install DataHub Plugin using the installer file:

1. Double-click **CameoDataHub_<version>.zip** to run the installer. The **Installer Wizard** dialog will open.
2. Click **Next**.
3. Select an installation folder, and then click **Next**.
4. Select a location to create the product icons and the installation will start.
5. Add DataHub Plugin into each application.

(ii) To install DataHub Plugin using the no-installer package:

1. Extract **CameoDataHub_<version>.tar.gz**.
2. Double-click dhserver under the <DataHub folder>\bin folder. DataHub Console will appear and prompt you to enter a license key file.
3. Click **Browse**. The **Select Key File** dialog will open.
4. Select a license file and click **Open**.
5. DataHub provides a function to configure the required parameters. In DataHub Console, click **View > Deployment** on the main menu.
6. Click the **Add** button to add the tool that you want to work with DataHub.
7. Select the installation folder of a particular tool and click **OK**.

1.3 Running Cameo DataHub

After installing and configuring Cameo DataHub, there are three simple steps to do before you start working with DataHub in MagicDraw, Cameo Requirements+, IBM Rational Doors, or IBM Rational RequisitePro:

- (i) start DataHub Server
- (ii) start the application driver
- (iii) connect the application to DataHub Server

(i) To start DataHub Server:

1. Open **Cameo DataHub Console**. The **Cameo DataHub Console** window will open.
2. Click **View > Server Perspective**. The **Server** perspective tab will open (Figure 1).

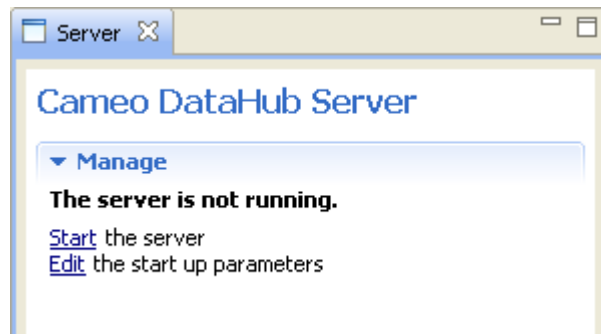


Figure 1 -- Server Perspective

3. Click **Start**. The **License Agreement** dialog will open (Figure 2).

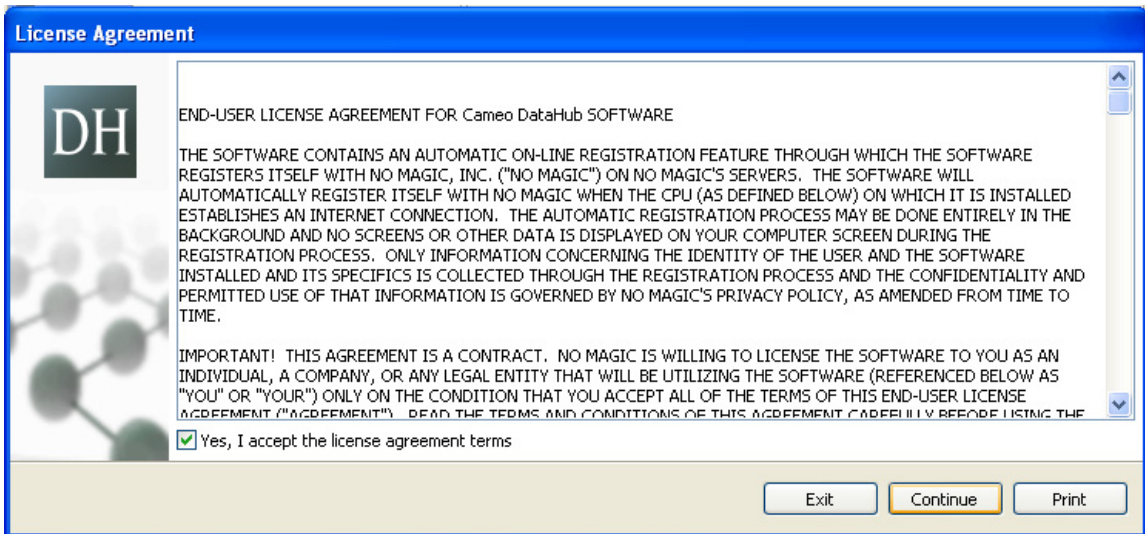


Figure 2 -- License Agreement

4. Select the **Yes, I accept the license agreement terms** check box, and then click **Continue**. The **License File** tab will open (Figure 3).

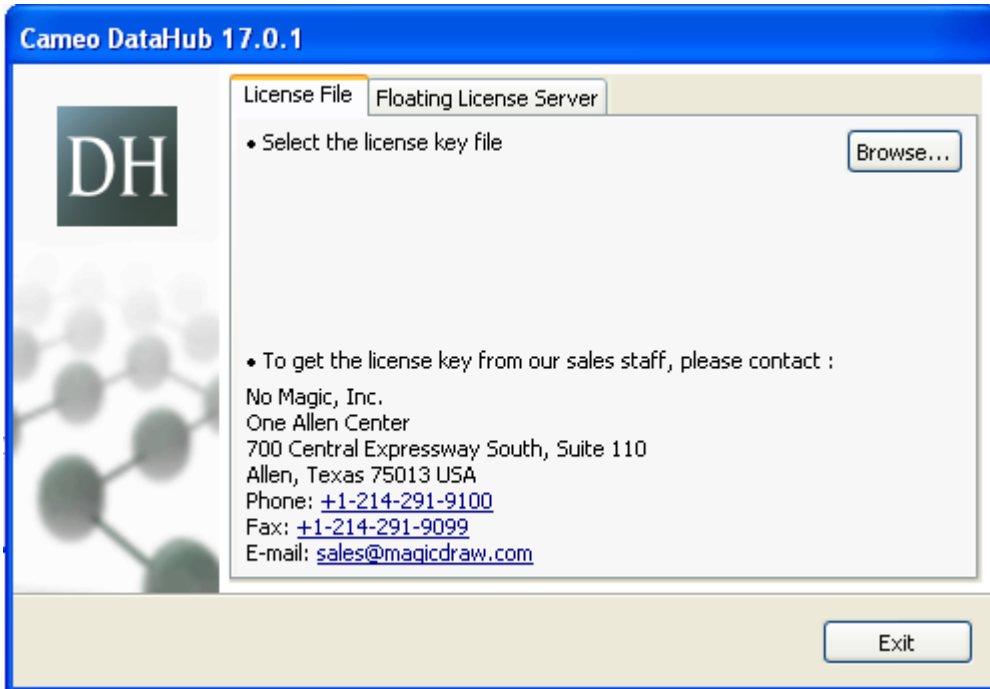


Figure 3 -- License File Tab

5. Click **Browse** to select a license key file.
6. Select the license key file and click **Open**.
7. The **License Information** dialog will open.
8. Click **OK**.

NOTE

When working with DataHub on Windows Vista or Windows 7, you **should not** run DataHub Console as Administrator because it may cause DataHub to not work properly.

(ii) To start the application driver:

- In MagicDraw: the driver will automatically start whenever the application starts.
- In Cameo Requirements+: the driver will automatically start whenever the application starts.

1 GETTING STARTED

- In third-party tools:
 1. Open Cameo DataHub Console.
 2. Click either (i) **View > Agent Perspective** or (ii) **Agent > Manage Drivers**.

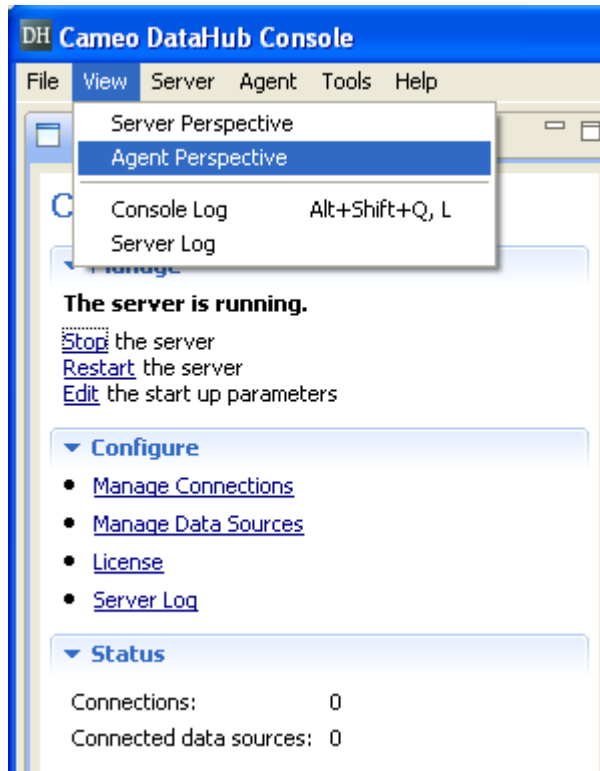


Figure 4 -- Opening Agent Perspective

3. Select a driver and click **Start** (Figure 5).

1 GETTING STARTED

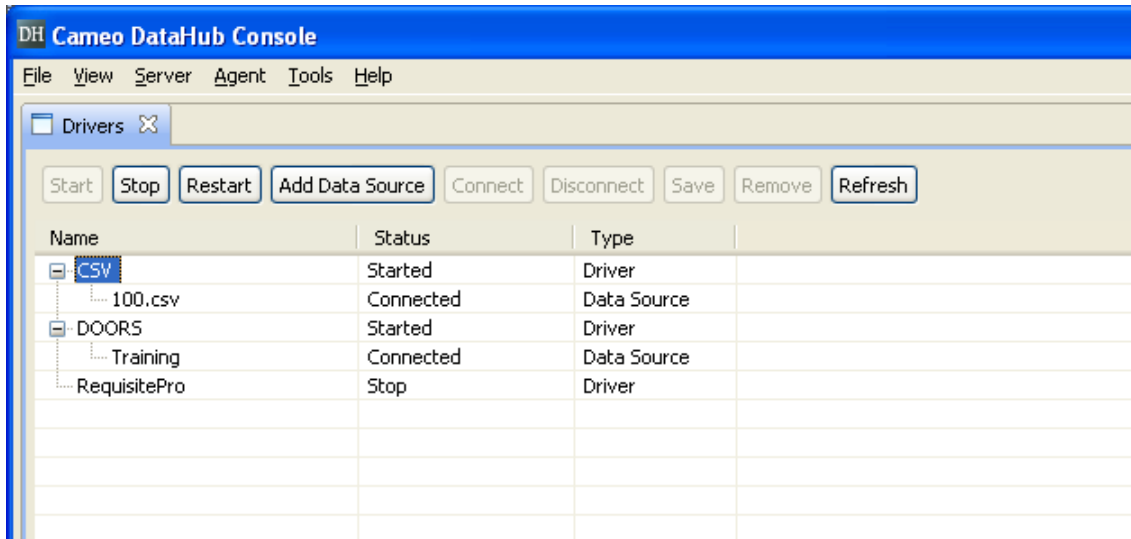


Figure 5 -- Starting a Third-Party Tool Driver in DataHub Console

(iii) To connect the application to DataHub Server, do any of the following:

- In MagicDraw: click **Tools > Requirements > DataHub > Connect Server** (Figure 6).

1 GETTING STARTED

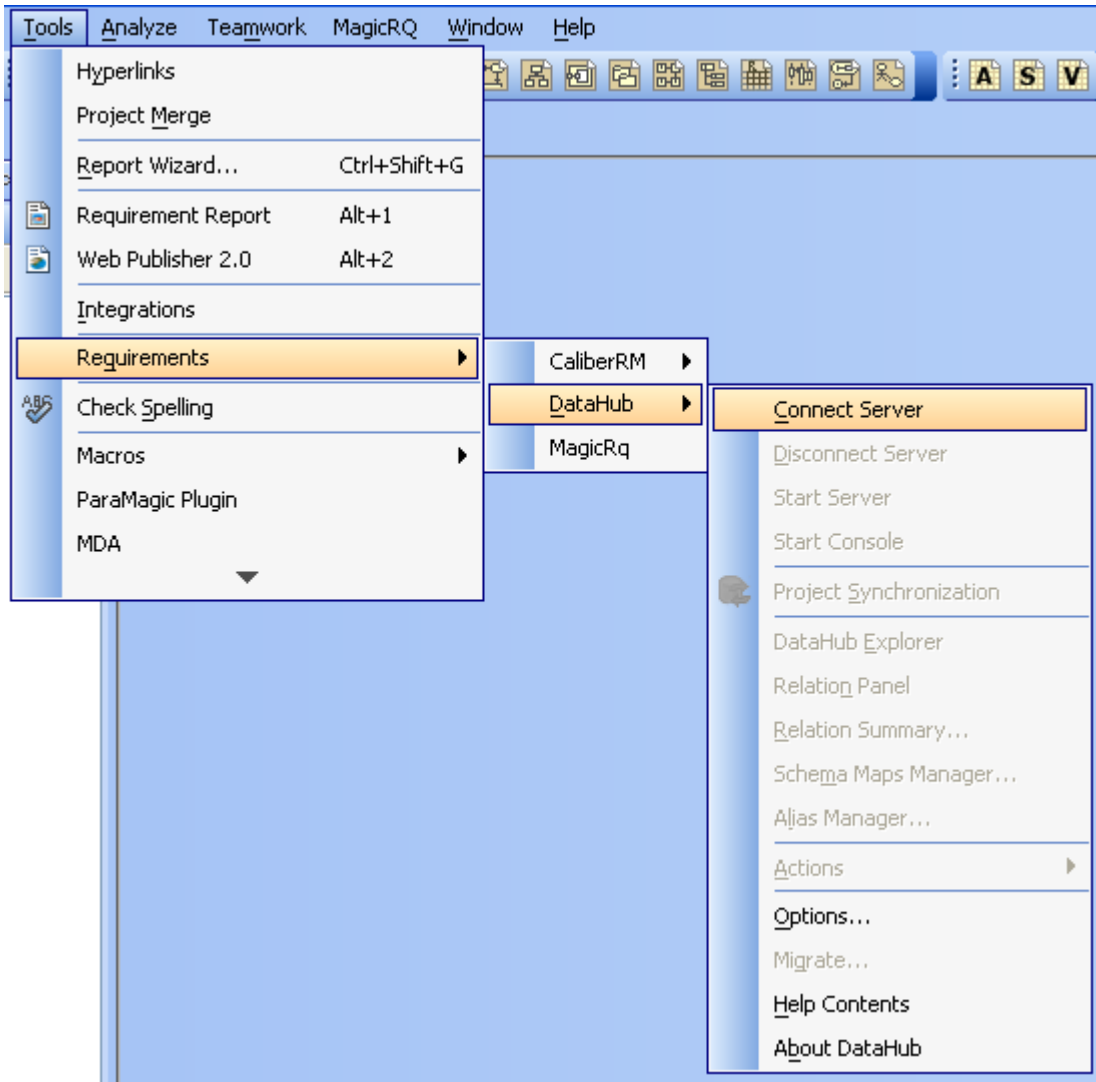


Figure 6 -- Connecting to DataHub Server in MagicDraw

- In Cameo Requirements+: click **Tools > DataHub > Connect Server**.

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- In other third-party tools: once you have started the driver, the applications will be connected to DataHub Server automatically.

Once DataHub Server and the drivers have been started, you are ready to use DataHub Plugin whenever you connect your applications to DataHub Server.

NOTE

- You need to activate the DataHub menu in Rational RequisitePro when you open DataHub for the first time.

To use DataHub in IBM Rational RequisitePro:

1. Open the Rational RequisitePro application.
2. On the main menu, click **Adds in**. The **Add-in** dialog will open.
3. Click the **Add** button and browse for the **datahub-requisitepro.mnu** file in the <DataHub home>\config directory.
4. Type the plugin name: Cameo DataHub in the **Name** box and click **OK**.
5. Restart the Rational RequisitePro application to activate Cameo DataHub Plugin.

If you installed DataHub by using the no-installer package, you need to edit the datahub-requisitepro.mnu file by following the procedure below:

1. Open the <**DataHub Directory**>\Data directory.
2. Edit **datahub-requisitepro.mnu** using any Text Editor application, such as Notepad.
3. Replace the text: **#DATAHUB_INSTALL_DIR#** with: **DataHub Folder**. For example, replace: **#DATAHUB_INSTALL_DIR#\bin\reqpro\sync.exe** with: **C:\Program Files\Cameo DataHub17.0.1\bin\reqpro\sync.exe**
4. Open the <**DataHub Directory**>\bin\reqpro directory.
5. Replace the text: **#DATAHUB_INSTALL_DIR#** with: **DataHub Folder** the same way as previously exemplified, and then edit the following files.
 - about.properties
 - help.properties
 - openassoc.properties
 - report.properties
 - sync.properties

1.4 Upgrading

You can upgrade to the latest version of Cameo DataHub by downloading the latest Cameo DataHub exe.file from the following MagicDraw website:

<https://www.magicdraw.com/cameodatahub>

(i) To upgrade using the installer file:

1. Run **CameoDataHub_<version>.exe**.
2. Click **Yes** to remove an earlier version.
3. Follow the wizard to complete the installation. **Do not install the plugin into the same folder as the earlier version.**

(ii) To upgrade using the no-installer package:

1. Call the DataHub configuration and remove all of the earlier version drivers. (See more information in the User Guide for each particular version.)
2. Follow the instruction to install DataHub using the no-install package from the previous section.

Once you have upgraded to the new version, you can follow the instruction right below to import a schema map template in the case that you have installed an earlier version of DataHub.

To import a schema map template to DataHub 17.0.1 (only for those who have not deleted the old DataHub folder prior to upgrade):

1. (i) In **MagicDraw**: click **Tools > Requirements > DataHub > Schema Maps Manager...**
(ii) In **Cameo Requirements+**: click **Tools > DataHub > Schema Maps Manager...**
2. The **Cameo DataHub Schema Maps Manager** dialog will open. Click the **Import** button.
3. Browse for a schema map file (.xml).
4. Click **Confirm** to overwrite an existing schema map template.

1.5 Uninstallation

If you installed DataHub using the installer file, you can remove it by opening the uninstaller from the menu or double-clicking the uninstaller file in the DataHub installed folder. However, if you installed it by using the no-installer package, you have to manually remove the DataHub Plugin files from each application folder to uninstall DataHub.

2 OVERVIEW OF THE DATAHUB FEATURES

This chapter describes the features of DataHub in brief. The order in which the following DataHub features are introduced is based on a step-by-step approach and assumption that you will follow that sequence when learning how to use them. For example, it is necessary to familiarize with section 2.1 Cameo DataHub Layout before you go to section 2.2 DataHub Server. However, if you are already familiar with any particular steps, you can skip them and go directly to the sections covering features which you need to master.

You may find some steps to work with a particular feature described in some sections, but they are not the complete procedure. You can find more information about each feature and detailed procedures to work with DataHub in MagicDraw, Cameo Requirements+, IBM Rational DOORS, and IBM Rational RequisitePro in the next chapters.

2.1 Cameo DataHub Layout

The DataHub layout is available only in MagicDraw and Cameo Requirements+. The **DataHub** layout consists of the following tabs:

2.1.1 Cameo DataHub Explorer

2.1.2 Cameo DataHub Properties

2.1.3 Cameo DataHub Relation

2.1.1 Cameo DataHub Explorer

DataHub Explorer consists of (2.1.1.1) DataHub browser and (2.1.1.2) DataHub operation mode. For more information about DataHub Explorer in MagicDraw and Cameo Requirements+ see section 4.2.1 DataHub Explorer.

2.1.1.1 DataHub Browser

You can use the DataHub browser to connect, add, or remove data sources. You can also use it to view drivers, data sources, and items of the connected data sources in the DataHub tree.

2.1.1.2 DataHub Operation Mode

The DataHub Operation mode consists of the following eight relation types:

- (i) Export Data
- (ii) Export Data and Create Scope Sync
- (iii) Export Data and Create Data Sync Auto
- (iv) Export Data and Create Data Sync Manual
- (v) Export Data and Create Trace
- (vi) Create Data Sync Auto
- (vii) Create Data Sync Manual
- (viii) Create Trace

Each relation type in the operation mode enables you to export or import data, create a relation, or synchronize data. For more information about the relation types and functions, see section 4.4.4 Using DataHub Operation Mode.

2.1.2 Cameo DataHub Properties

The **DataHub Properties** tab shows the properties and associations of an item selected in the DataHub browser. You can update, delete, or open the following items through the DataHub Properties tab:

- MagicDraw elements
- Cameo Requirements+ nodes
- DOORS objects
- RequisitePro requirements
- CSV

For more information about DataHub Properties, see section 4.2.2 DataHub Properties.

2.1.3 Cameo DataHub Relation

The **DataHub Relation** tab shows the details of all the relations you have made using the DataHub operation mode. For more information about DataHub Relation, see section 4.2.3 DataHub Relation.

2.2 DataHub Server

DataHub Server is a service that you can start either automatically when the operating system starts or manually from Cameo DataHub Console.

DataHub Server stores all pending changes as PendingUpdate and PendingDelete items. It also stores all details on relations, Traces, and Schema Maps. You must start DataHub Server before you use any of the DataHub functions. For more information about DataHub Server see section 3.3 Working with DataHub Server.

2.3 DataHub Console

Cameo DataHub Console has a separate user interface from DataHub Plugin. Cameo DataHub Console allows you to manage DataHub Server and its connections. For more information about DataHub Console see Chapter 3 DataHub Console.

2.4 Drivers and Data Sources

Before connecting to a data source, you need to start the DataHub driver to connect to the application first. In MagicDraw and Cameo Requirements+, you will just need to connect to the driver for it to start automatically. However, you will need to start the DataHub driver first in IBM Rational DOORS, IBM RequisitePro, or CSV file. You will also need to add a Data source to an appropriate driver, for

example, a DOORS data source must be first added to a DOORS driver. A data source can be any of the following:

- MagicDraw project
- Cameo Requirements+ repository
- IBM Rational DOORS database
- IBM RequisitePro project
- CSV file

Once a new data source has been added, it will be automatically connected to its items in that driver. However, all data sources will be disconnected if the DataHub layout is open for the first time. If this is the case, right-click the data source that you want to connect, and then click **Connect**.

2.5 Data Update

If, after a specific data source is connected, data in another application or third-party tool are changed, you need to manually reload these data to update the changes, as they cannot update themselves automatically.

2.6 Schema Maps Manager

You can use Schema Maps Manager to edit an attribute map. Once the relations between nodes and attributes have been created, Schema Maps Manager will store the mapping. You can also edit the attribute map for a specific schema map. You can also export the mapping to XML format and share it with other parties.

2.7 Data Export

You can export data by dragging the source item to the target item. The source or target item can be any of the following:

- MagicDraw element
- Cameo Requirements+ node
- Telelogic DOORS formal module or requirement
- Rational RequisitePro package or requirement
- CSV data

The selected source item(s) will then be copied to the selected target item(s).

NOTE	<ul style="list-style-type: none">• The parent-and-child relationships will be transferred from the source to target items.• The dependency relationships from MagicDraw and Cameo Requirements+ will also be transferred if both the source and target items are selected.
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Any relationship that exists within the exported items will automatically be copied to the target item, if all of those items are exported.

2.8 MagicDraw Diagrams Support

DataHub supports two types of MagicDraw diagrams, which are SysML Requirement and Use Case diagrams. You can create diagrams from any of the following items:

- MagicDraw folder or model
- Cameo Requirements+ requirements folder
- Telelogic DOORS formal module
- Rational RequisitePro package
- CSV file

2.9 Relations

There are three types of associations: (2.9.1) Scope Sync Relation, (2.9.2) Sync Relation, and (2.9.3) Trace (see related section 2.1.1.2 DataHub Operation Mode above).

2.9.1 Scope Sync Relation

A Scope Sync Relation is used to synchronize the attributes of each related node as well as maintain the hierarchy of any newly created nodes.

2.9.2 Sync Relation

A Sync Relation is used to synchronize the attribute values from one item to another either automatically or manually.

2.9.3 Trace

A Trace is a link between two items. The link is a reference that allows you to analyze the impact of changes in one item on the other item. Once the target item has been changed, the source item status will be **Suspect**.

You can create a sync, scope sync, or trace relation during data import/export by selecting **Export Data and Create Scope Sync**, **Export Data and Create Data Sync Auto**, **Export Data and Create Data Sync Manual**, or **Export Data and Create Trace** from the DataHub Explorer operation mode. The DataHub operation mode is available only in MagicDraw and Cameo Requirements+.

2.10 Data Synchronization

Once the synchronization process has been started, all changes in the attribute values of a particular application including a list of deleted items will be sent to DataHub Server. DataHub Server will then check all of the associated items to be synchronized.

If an item's sync mode is SyncAuto, the item will be automatically updated to reflect any changes, if any, based on the predefined Schema Map. However, if the related item is disconnected (the

2 OVERVIEW OF THE DATAHUB FEATURES

application has not been started or the project is not currently open), the item status will be **PendingUpdate** and that particular item will have pending properties.

If an item's sync relation is Sync Manual, the item status will be **PendingUpdate** and that item will have pending properties to be determined based on the predefined Schema Map.

A deleted item that has a sync relation will also be notified to DataHub Server. If the sync relation of an associated item is Sync Auto, the item will be deleted automatically. If it is Sync Manual, the item status will be **PendingDelete**. In addition, if change(s) applied to an item that has a Trace relation, its related item will have a **Suspect** status.

Table 1 -- Sync Relations Status Condition

Status	Condition of SyncAuto Item	Condition of SyncManual Item
Synchronized	The item has no PendingUpdate or PendingDelete changes.	The item has no PendingUpdate or PendingDelete changes.
Orphan	The item that is trying to synchronize with the other side of the relation that has been deleted.	The item that is trying to synchronize with the other side of the relation that has been deleted.
PendingUpdate	The item has one or more attributes in PendingUpdate status. DataHub could not previously update the item directly as it was disconnected (the application had not been started or the project had not been opened).	The item has one or more attributes in PendingUpdate status. You can review or update the changes, or ignore the PendingUpdate status.
PendingDelete	The item status is PendingDelete since a related node has been deleted. DataHub could not previously delete the item directly as it was disconnected (the application had not been started or the project had not been opened).	The item status is PendingDelete since a related node has been deleted. You can choose to delete the related item, or remove Sync Relation.

Table 2 -- Reference Association Status Detail

Status	Description
Trace	The item status is Trace because there is a trace relation between the source and target items.
Suspect	The source item status becomes Suspect because the target item has been changed.

2.11 Relations Summary

The **Cameo DataHub Report** window allows you to filter elements by relation type, such as Scope Sync, Sync, or Trace. You can also filter elements that have no relations. The **No Relation** filter is useful to help you see the elements to which you might want to add a relation. The **Cameo DataHub Relation Summary** window also allows you to generate a report and save it in HTML format.

2.12 Related Elements

You can open a list of relations between two items by clicking the **Open Related Elements** menu on the DataHub menu in DOORS and RequisitePro. Once you have clicked the menu, the **Cameo DataHub Open Relation** window will open.

2.13 Migration

DataHub functions are based on MagicRQ earlier versions. MagicRQ Associations can therefore be migrated as DataHub Associations. Migration is available for both MagicRQ 2.0 and its later versions as well as from previous version of DataHub.

2.14 Hot Keys

DataHub hot keys are available in (2.14.1) MagicDraw and (2.14.2) DOORS.

2.14.1 Hot Keys in MagicDraw

To define a DataHub hot key from the MagicDraw menu, click **Options > Environment > Keyboard**, and select **Tools** from the **Category** drop-down list box. You can define a set of hot keys to execute particular DataHub commands that are available on the list.

2.14.2 Hot Keys in DOORS

Table 3 lists the hot keys in DOORS.

Table 3 -- Hot Keys in DOORS

Hot Key	Function
Ctrl + T	To synchronize data.
Ctrl + O	To open Related Elements.
Ctrl + R	To open Relation Summary.

2.15 Alias Explorer

An Alias Explorer is another DataHub Explorer that is created to scope particular data. The **Alias Explorer** tab will show the selected data as the root node. An Alias Explorer behaves the way DataHub Explorer does.

2.16 Alias Manager

An Alias Manager contains all of Alias Explorers that have been created. All created Alias Explorers will be stored in Alias Manager for later use.

3 DATAHUB CONSOLE

Cameo DataHub Console is a separate user interface from DataHub Plugin. Cameo DataHub Console allows you to manage DataHub Server, its license, and other applications' driver connections. DataHub Console consists of tools that can help you migrate data from the previous versions of DataHub and configure the required library in case the installation has not been properly configured.

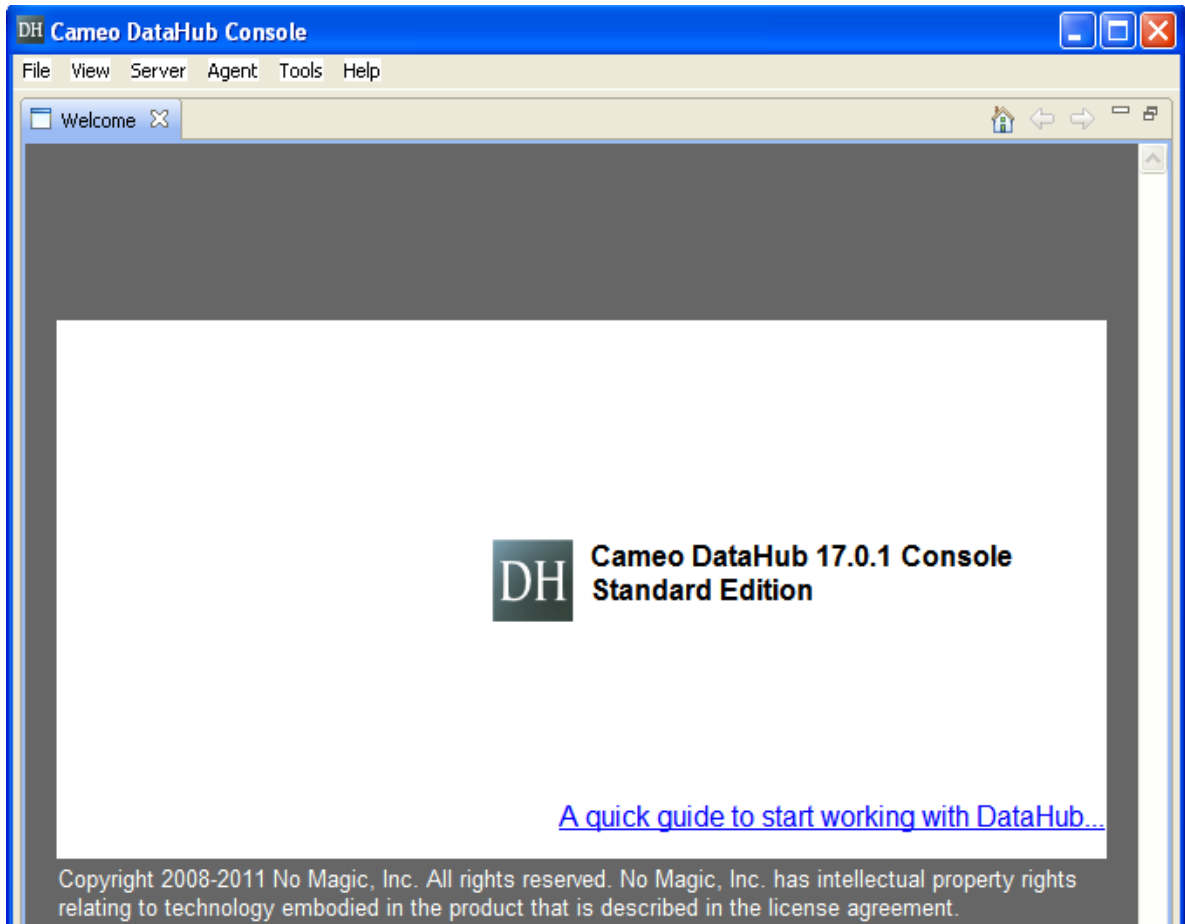


Figure 7 -- Cameo DataHub Console Window

When you first open DataHub Console (Figure 7), you will see a welcome screen and six DataHub Console main menus: File, View, Server, Agent, Tools, and Help (see 3.1 DataHub Console Main Menu below for more information).

3.1 DataHub Console Main Menu

The main menu in DataHub Console provides access to every feature that is available in DataHub Console. It contains six main menus as follows:

- 3.1.1 File Menu
- 3.1.2 View Menu
- 3.1.3 Server Menu
- 3.1.4 Agent Menu
- 3.1.5 Tools Menu
- 3.1.6 Help Menu

3.1.1 File Menu

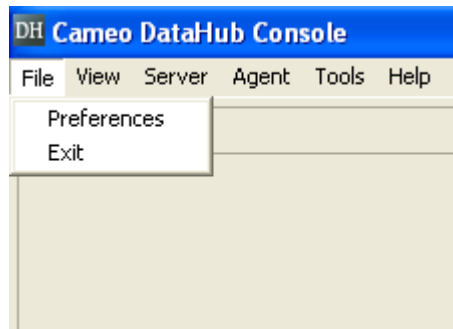


Figure 8 -- DataHub Console File Menu

The **File** menu on the menu bar contains the **Preferences** and **Exit** menus (Figure 8).

Menu	Function
Preferences	To configure the DataHub Console settings.
Exit	To close DataHub Console.

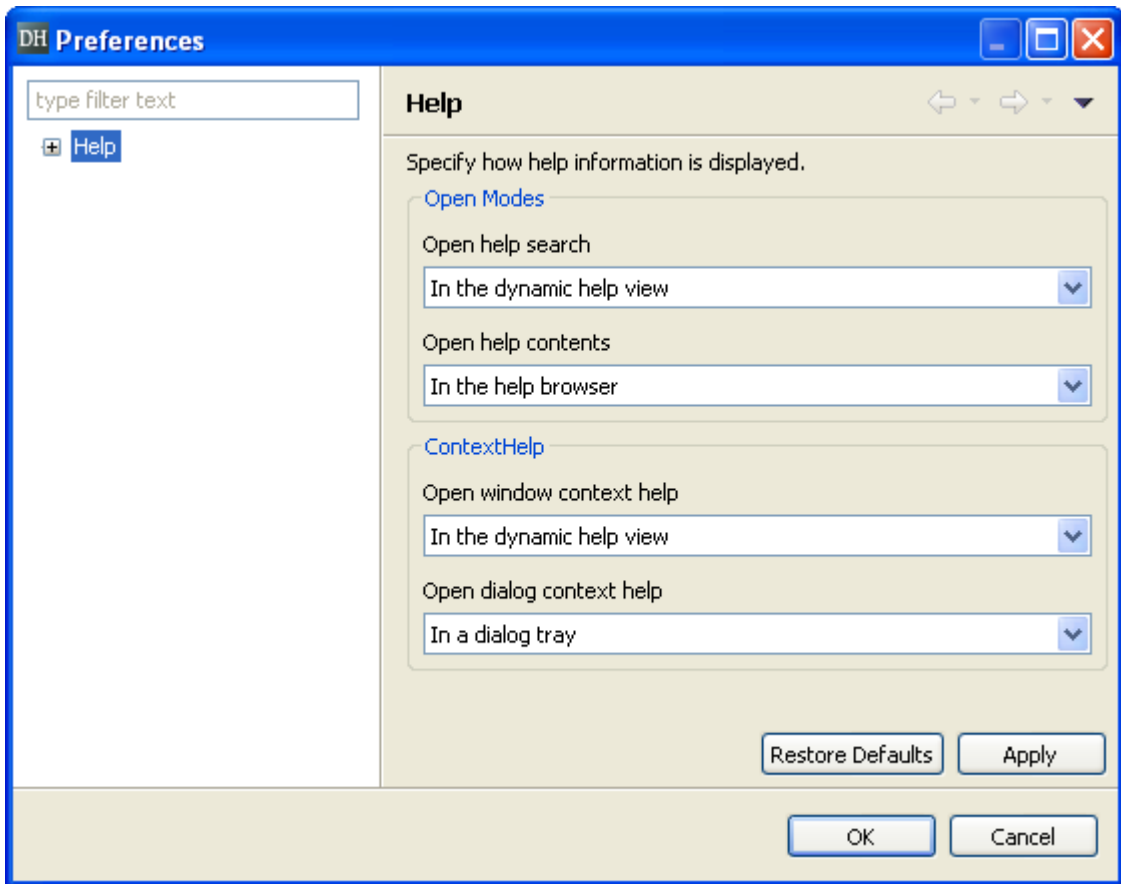


Figure 9 -- DataHub Preferences Window

3.1.1.1 Help Settings

On the **Help** preferences page, you can indicate how to display help information.

To select how to help contents will be displayed:

1. Click **File > Preferences**. The **Preferences** window will open (Figure 9).
2. Click **Help**.
3. Specify the settings and click **OK**.

Table 4 -- Help Contents Display Properties and Functions

Option	Function	Default
Open Modes: Open help search	To display the help contents in an external browser (if your system supports external browsers) instead in DataHub Console.	Off
Open Modes: Open help contents	To allow you to select whether the documents selected in the help view will open in the same place or in the editor.	In place
Context Help: Open window context help	To allow you to select whether the context help window will open in a dynamic help view or in an infopop.	In the dynamic help view
Context Help: Open dialog context help	To allow you to select whether the context help dialog will open in a dynamic help section of the help view or in an infopop.	In dialog tray

3.1.1.2 Help Contents

You can include the help topics from remote servers seamlessly into a local help system. The **Preferences** window allows you to configure one or more remote servers from which you want to include the contents.

To include help contents from a remote server:

1. Click **File > Preferences**. The **Preferences** window will open (Figure 10).
2. Click **Help > Content**.
3. Select the **Include help content from a remote infocenter** check box.
4. Define the remote infocenter settings.

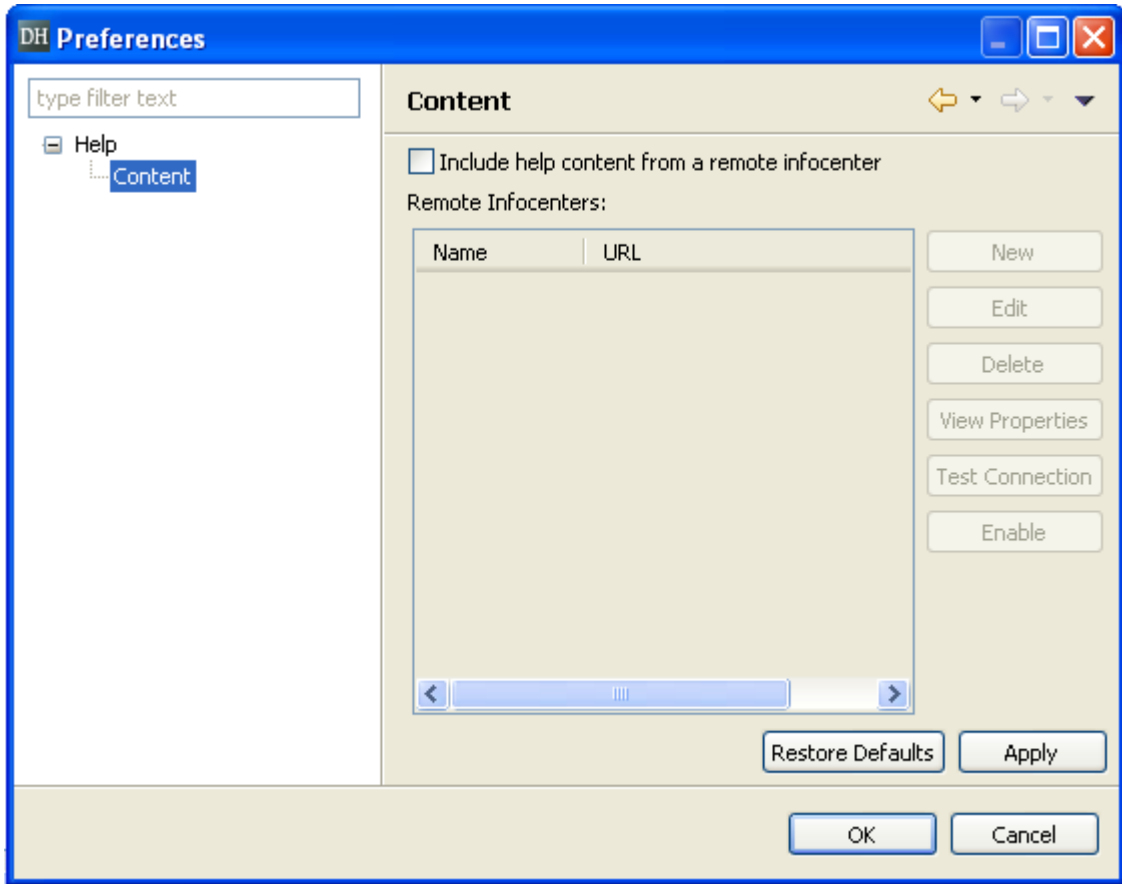


Figure 10 -- Help Contents from a Remote Server Settings

Table 5 below explains the available options to define the remote infocenter settings.

Table 5 -- Help Contents from a Remote Infocenter Properties and Functions

Property	Function
Include help content from a remote infocenter check box	To enable the use of remote help contents. The rest of the fields on the page will be enabled if this option is selected.
New/Edit/Delete button	To add, edit, or delete a remote data source.
View Properties button	To view the properties of a selected remote data source.
Test Connection button	To test to see if it is possible to connect to a particular host/port combination.
Disable/Enable button	To disable a data source so that the help system will not try to read any topics from that source.

If you click the **New** button, a dialog will open for you to add a new infocenter. Table 6 explains the functions of the properties in the **Add new infocenter** dialog.

Table 6 -- Add New Infocenter Properties and Functions

Property	Function
Name	To specify the name of an infocenter.
Host	To specify the host name of a system that is running an infocenter. This must be a host name and cannot be a URL, that is, it cannot start with "http://".
Part	To specify the context root of an Infocenter application running on the host.
Port	To specify a port to be used. If the Use default port option is selected, port 80 will be used to access remote contents on the host. To use any other port, select the Use port option and type the correct port in the text field.

3.1.2 View Menu

The **View** menu (Figure 11) allows you to open the Server, Drivers, Console Log, or Server Log tab.

DATAHUB CONSOLE

DataHub Console Main Menu

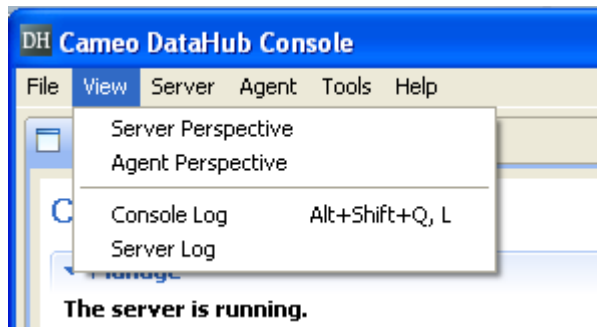


Figure 11 -- DataHub Console View Menu

The **View** menu contains four submenus (Table 7).

Table 7 -- DataHub Console View Menu Functions

Menu Name	Function
Server Perspective	To open the Server Perspective tab.
Agent Perspective	To open the Agent Perspective tab.
Console Log	To open the Console Log tab.
Server Log	To open the Server Log tab.

3.1.3 Server Menu

The **Server** menu contains a list of commands to manage DataHub Server and its connections (Figure 12). When you are connected to the server, the **Connect** menu is disabled.

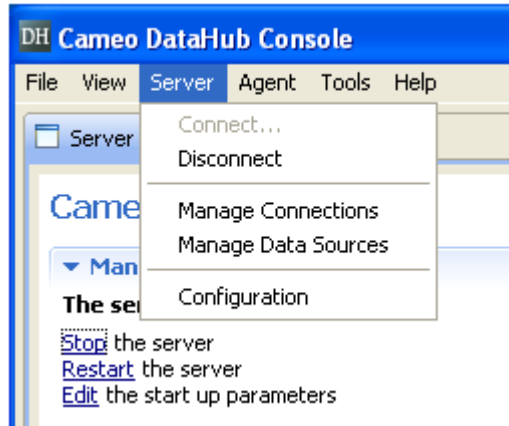


Figure 12 -- DataHub Console Server Menu

Table 8 below lists the menu names and their functions.

Table 8 -- DataHub Console Server Menu Functions

Menu Name	Function
Connect...	To connect DataHub Console to DataHub Server automatically once you start the server.
Disconnect	To disconnect DataHub Console from DataHub Server.
Manage Connections	To manage drivers connection.
Manage Data Sources	To manage data sources connection.
Configuration	To edit the server configuration.

3.1.4 Agent Menu

The **Agent** menu allows you to manage other application drivers and data sources as well(Figure 13).

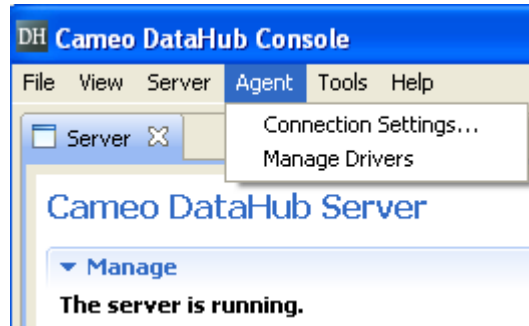


Figure 13 -- DataHub Console Agent Menu

Table 9 below lists the menu names and their functions.

Table 9 -- DataHub Console Agent Menu Functions

Menu Name	Function
Connection Settings...	To set up drivers connection to DataHub Server.
Manage Drivers	To manage drivers connection and data sources under each driver.

3.1.5 Tools Menu

The **Tools** menu allows you to deploy DataHub Plugin and migrate relations from an earlier version of DataHub (Figure 14).

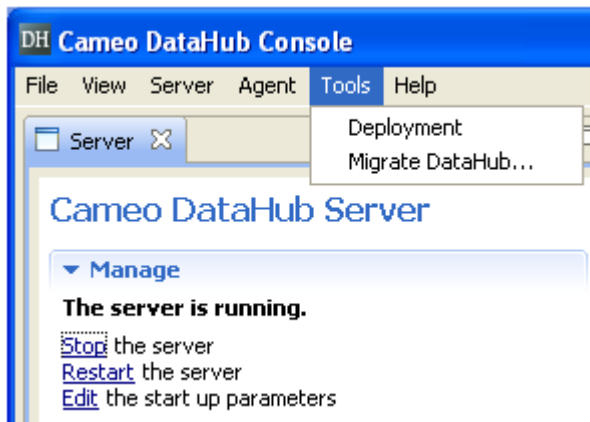


Figure 14 -- DataHub Console Tools Menu

Table 10 belows lists the menu names and their functions.

Table 10 -- DataHub Console Tools Menu Functions

Menu Name	Function
Deployment	To deploy DataHub Plugin.
Migrate DataHub...	To migrate DataHub relations from a previous version.

3.1.6 Help Menu

The **Help** menu allows you to open the Welcome, Help Contents, or License tab, or the About Cameo DataHub Console dialog (Figure 15).

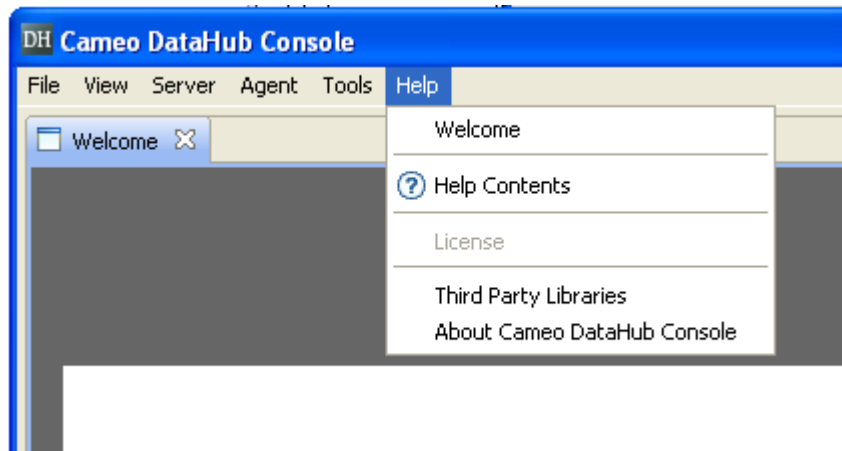


Figure 15 -- DataHub Console Help Menu

You can see detailed information about your DataHub license or manage it through the **Help** menu (see 3.2 Managing DataHub License below for more information).

Table 11 below lists the menu names and functions.

Table 11 -- DataHub Console Help Menu Functions

Menu Name	Function
Welcome	To open the Welcome tab.
Help Contents	To open the Help menu contents.
License	To open the License information tab and manage a license key.
Third Party Libraries	To open the libraries of Cameo DataHub.
About Cameo DataHub Console	To open the About dialog.

3.2 Managing DataHub License

The **Help** menu in Cameo DataHub Console contains a submenu named **License** that you can use to (i) apply a license key or (ii) connect to a Floating License Server through the **License** tab.

(i) To apply a new license:

1. Click **Help > License** on the DataHub Console main menu. The **License** information tab will open (Figure 16).

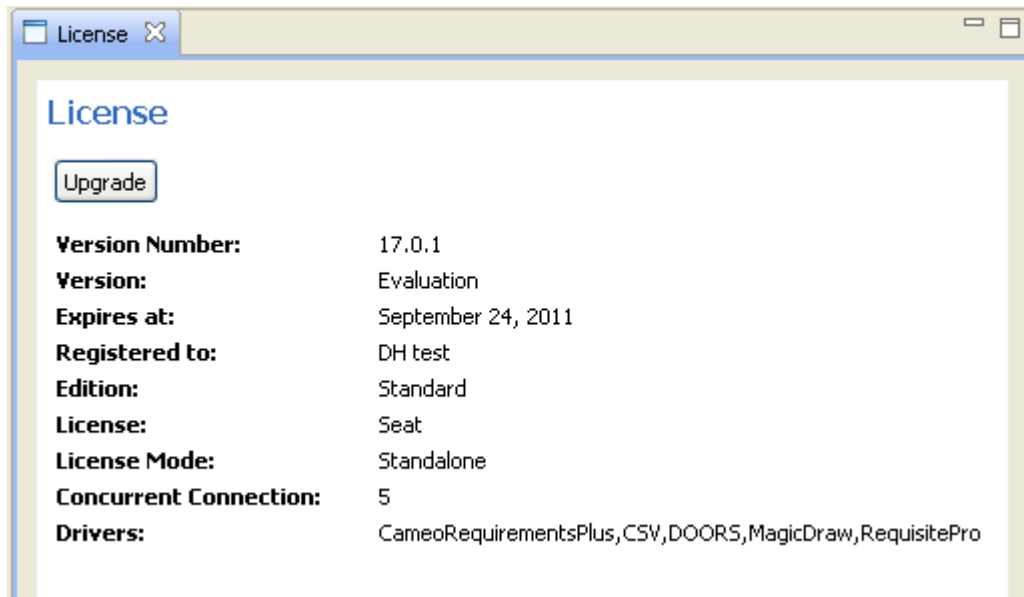


Figure 16 -- License Tab

2. Click the **Upgrade** button. The **License Manager** dialog will open (Figure 17).

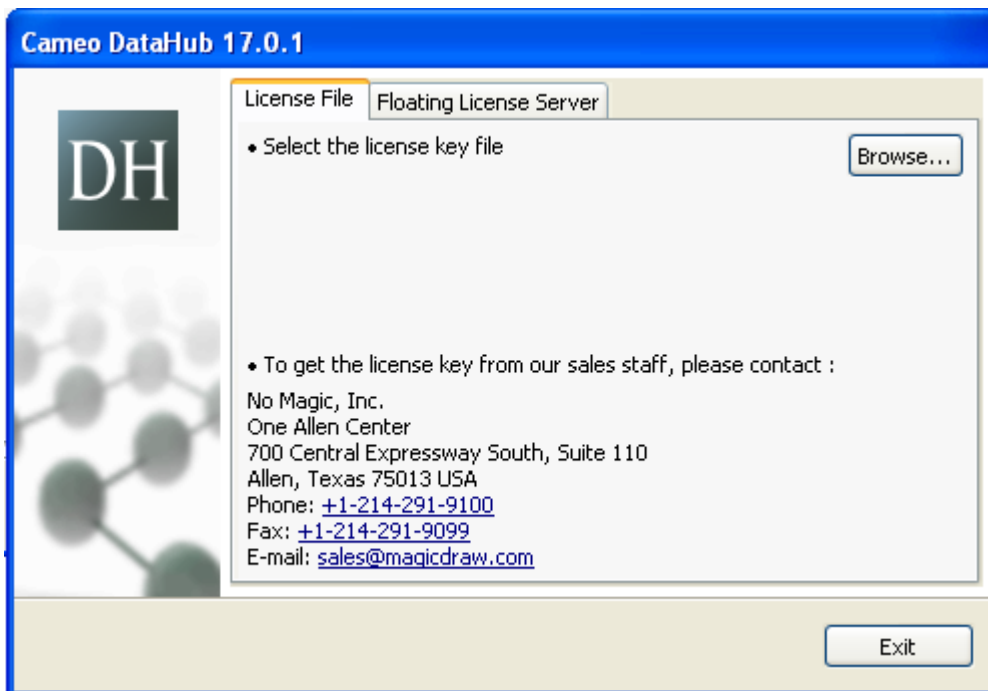


Figure 17 -- License Manager Dialog

3. Click the **Browse...** button in the **License File** tab and choose a license key file.
4. Click **Open**. The **License** information tab will open if the key is valid.

(ii) To connect to Floating License Server:

1. Click **Help** > **License** on the Cameo DataHub Console main menu. The **License** information tab will open.
2. Click the **Upgrade** button. The **License Manager** dialog will open.
3. Click the **Floating License Server** tab (Figure 18).

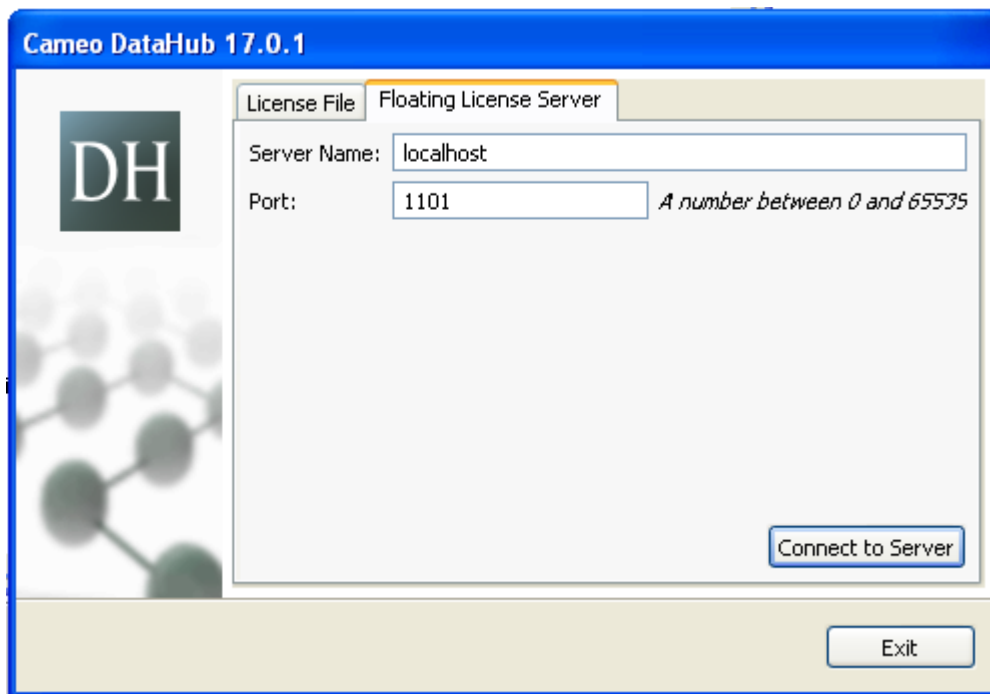


Figure 18 -- Floating License Server Tab

4. Enter the Floating License Server name and port, and then click the **Connect to Server** button.

3.3 Working with DataHub Server

Cameo DataHub Console is a user interface that can help you configure DataHub Server and manage its activities. You can also connect DataHub Console on a remote machine to DataHub Server. This section focuses on how to connect DataHub Console to DataHub Server both on local and remote machines, and how to use DataHub Console in order to manage the connections with the server as well.

3.3.1 Configuring DataHub Server

The **Manage** section in the **Server** perspective tab contains the **Configuration** menu to allow you to specify the parameters that are needed to set up DataHub Server's connection and log in the **Start Up Parameters** tab (see 3.3.1.1 Configuring Parameters). The **Manage** section also allows you to start, stop, or restart DataHub Server (see 3.3.1.3 Starting, Restarting, or Stopping DataHub Server).

3.3.1.1 Configuring Parameters

You can specify whether to allow DataHub Console on a remote machine to connect to DataHub Server by configuring the DataHub Server parameters.

To configure the server parameters:

1. Click either
 - (i) **View > Server Perspective** to open the **Server** tab, and then click the **Edit** link under the **Manage** section.
 - (ii) **Server > Configuration**.
2. The **Start Up Parameters** tab will open (Figure 19).

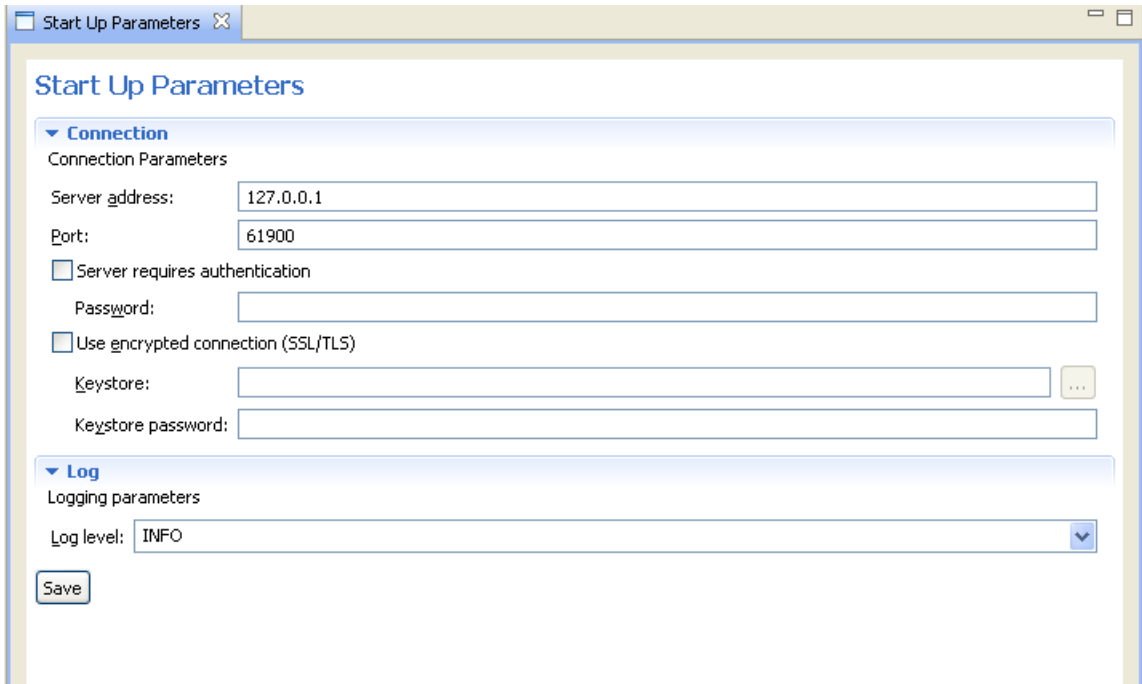


Figure 19 -- Start Up Parameters Tab

3. Edit the server parameters:

- Set the server address to 127.0.0.1 **if you do not want to allow** DataHub Console on a remote machine to connect to this machine.
- Set the server address to 0.0.0.0 **if you want to allow** DataHub Console on a remote machine to connect to this machine.

4. Click **Save**.

In addition to the server address, other start-up parameters, which can be optionally set for authentication, encryption, and log level, are further explained in regards of their functions in Table 12 below.

Table 12 -- Start Up Parameters Function

Parameter Name	Function
Server address	To specify the value as either (i) 127.0.0.1 for local use only or (ii) 0.0.0.0 to allow DataHub Console from another machine to connect to this DataHub Server.
Port	The port number of DataHub Server.
Authentication	To prompt for a password to connect to DataHub Server. Once the password has been specified, you need to set the connection password in the: <ul style="list-style-type: none"> • Agent > Connection Settings in DataHub Console • DataHub Server option (in MagicDraw and Cameo Requirements+)
Encryption	To turn on an SSL/TLS encryption for data transfer. <ul style="list-style-type: none"> • The default Keystore file is provided in the <DataHub folder>/etc/server.key file • The default Keystore password is: keypassword
Log level	To specify how descriptive the log will be stored on DataHub Server. The default is INFO.
Save	To save changes made to the parameters.

3.3.1.2 Connecting to a Remote DataHub Server

The default connection of DataHub Console is to connect with a local DataHub Server instance once it has started. DataHub Console can also connect to the other DataHub Server running on a remote machine.

To connect DataHub Console to a local DataHub server.

1. Click **Server > Connect...** The **New Connection** dialog will open (Figure 20).

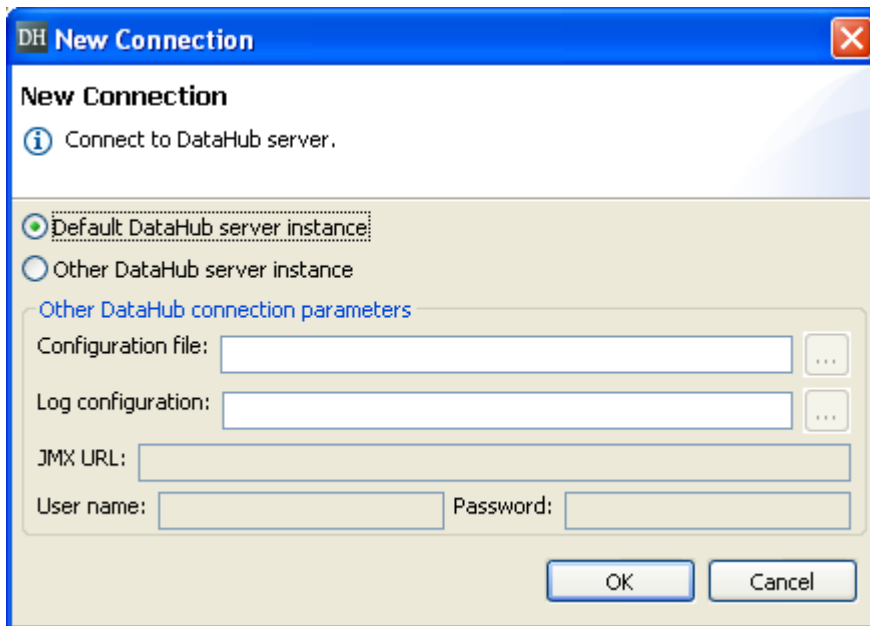


Figure 20 -- New Connection Dialog

2. Select the **Default DataHub server instance** button.
3. Click **OK**.

To connect DataHub Console to a remote DataHub Server:

1. Click **Server > Connect....** The **New Connection** dialog will open (Figure 20).
2. Select the **Other DataHub server instance** button.
3. Enter all of the DataHub connection parameters.
4. Click **OK**.

Table 13 below explains in detail about the function of each parameters.

Table 13 -- DataHub Connection Parameters Function

Parameter	Function
Configuration file	To point to the <install folder>/etc/dhserver.properties file. You need to edit the following DataHub Server information attributes: - datahub.server.address=127.0.0.1 - datahub.server.port=61900 - datahub.server.password=
Log configuration	To point to the <install folder>/etc/dhserver.log.conf file.
JMX URL	Enter a URL and the format is: service:jmx:rmi://<IP address of DataHub Server>/jndi/rmi://<IP address of DataHub Server>:<port>/jmxrmi For example: service:jmx:rmi://127.0.0.1/jndi/rmi://127.0.0.1:1046/jmxrmi You can find the URL value in the <user home>/datahub/<version>/server/dhserver.log file. The valid URL should be in the last occurrence of the line with "Initialize JMX at..."
Username	To refer to the first word in the <user home>/datahub/<version>/server/jmxpassword.conf file. You need to acquire the value from the machine you are currently connecting to if the value has been changed from the default value.
Password	To refer to the second word in the <user home>/datahub/<version>/server/jmxpassword.conf file. You need to acquire the value from the machine you are currently connecting to if the value has been changed from the default value.

3.3.1.3 Starting, Restarting, or Stopping DataHub Server

You can start or stop DataHub Server through the **View** menu.

To start or stop DataHub Server:

1. Click **View > Server Perspective**. The **Server** tab will open.

2. Click **Start** to start DataHub Server. Once the server has started, the **Restart** and **Stop** links will be enabled (Figure 21).

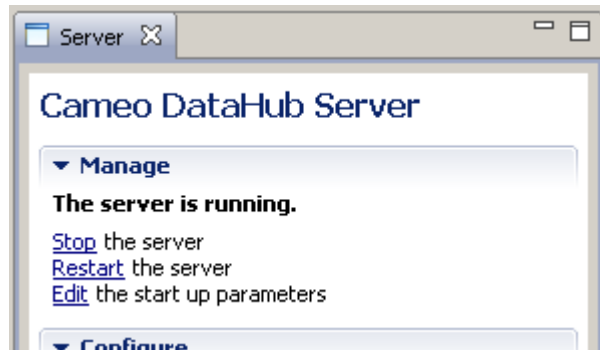


Figure 21 -- DataHub Server Started

3. Click **Stop** if you want to stop the server.

3.3.2 Managing Connections

The **Configure** section of the **Server** perspective allows you to monitor and control the Drivers and Data Sources connections to DataHub Server.

3.3.2.1 Driver Connections

The **Connections** tab allows you to see a list of Drivers connected to DataHub Server. It also allows you to disconnect a driver from DataHub Server.

To open the **Connections** tab:

1. Click either:
 - (i) **View > Server Perspective** to open the **Server** tab, and then click the **Manage Connections** link under the **Configure** section.
 - (ii) **Server > Manage Connections**.
2. The **Connections** tab will open (Figure 22).

To disconnect a driver from DataHub Server:

1. Click either:
 - (i) **View > Server Perspective** to open the **Server** tab, and then click the **Manage Connections** link under the **Configure** section.
 - (ii) **Server > Manage Connections**.
2. The **Connections** tab will open (Figure 22).

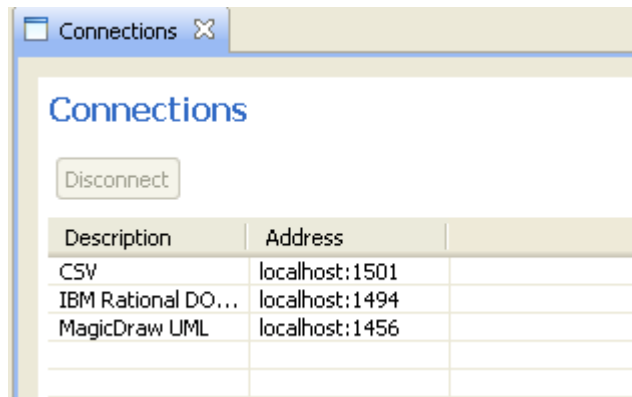


Figure 22 -- Connections Tab

3. Select a driver from the list and click **Disconnect**.

3.3.2.2 Data Source Connections

The **Data Sources** tab allows you to see a list of Data Sources connected to DataHub Server. It also allows you to remove a data source from DataHub Server.

To open the **Data Sources** tab:

1. Click either:

(i) **View > Server Perspective** to open the **Server** tab, and then click the **Manage Data Sources** link under the **Configure** section.

(ii) **Server > Manage Data Sources**.

2. The **Data Sources** tab will open (Figure 23).

To remove a data source:

1. Click either:

(i) **View > Server Perspective** to open the **Server** tab, and then click the **Manage Data Sources** link under the **Configure** section.

(ii) **Server > Manage Data Sources**.

2. The **Data Sources** tab will open (Figure 23).

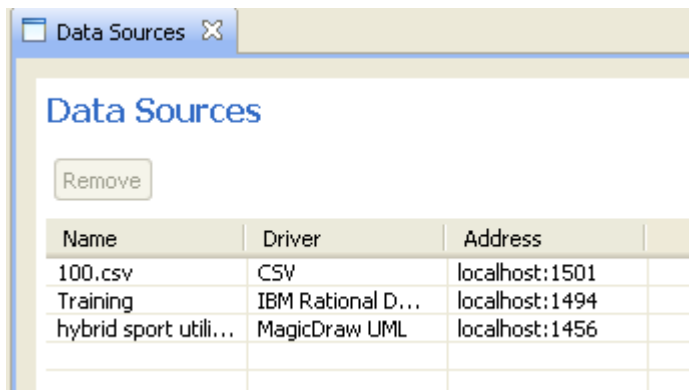


Figure 23 -- Data Sources Tab

3. Select a data source from the list and click **Remove**.

3.3.3 Managing Agents

The **Agent Perspective** tab allows you to see other third-party drivers and data sources (CSV, DOORS, and RequisitePro) and their connections to DataHub Server. You can start, stop, or remove

a driver. You can also connect, disconnect, or remove a data source through the **Agent Perspective** tab. This tab also allows you to add a data source to the CSV driver.

3.3.3.1 Agent Connection

The Agent is connected to a local DataHub Server by default. But, you can change the default connection so that the Agent can connect to DataHub Server that runs on a remote machine.

To connect the Agent to a local DataHub Server:

1. Click **Agent > Connection Settings....** The **Setting** dialog will open (Figure 24).

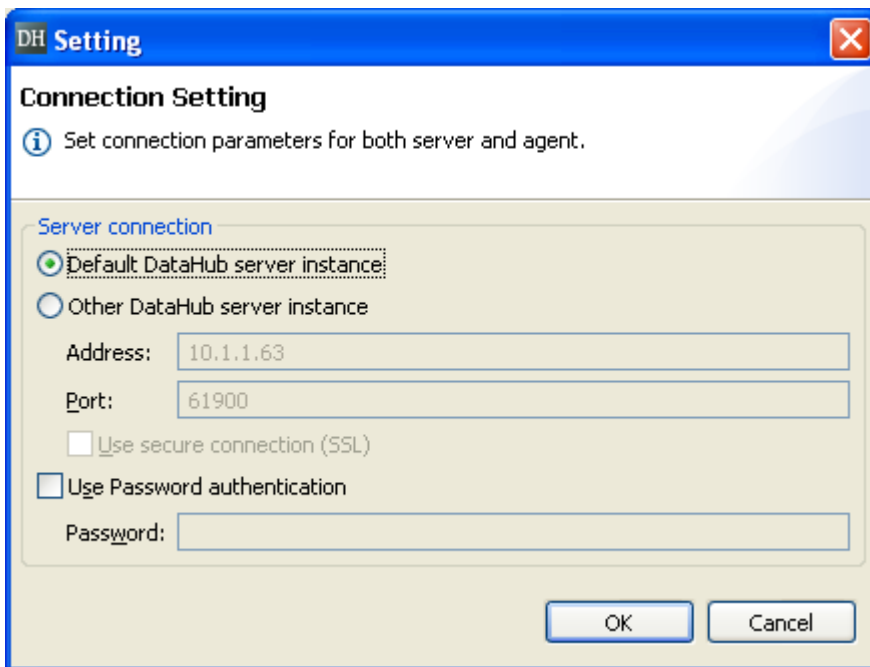


Figure 24 -- Agent Connection Settings Dialog

2. Select the **Default DataHub server instance** button.

To connect the Agent to a remote DataHub Server:

1. Click **Agent > Connection Settings...** The **Setting** dialog will open (Figure 24).
2. Select the **Other DataHub server instance** button.
3. Enter the DataHub Server information.
4. Click **OK** to change the settings.

3.3.3.2 Managing Drivers and Data Sources

You need to start a driver of a third-party tool before you work with that particular application. Once the driver has started, you can add or remove its Data Source and manage the Data Source connection.

To start or stop a driver:

1. Click either (i) **View > Agent Perspective** or (ii) **Agent > Manage Drivers...**
2. The **Drivers** tab will open (Figure 25).

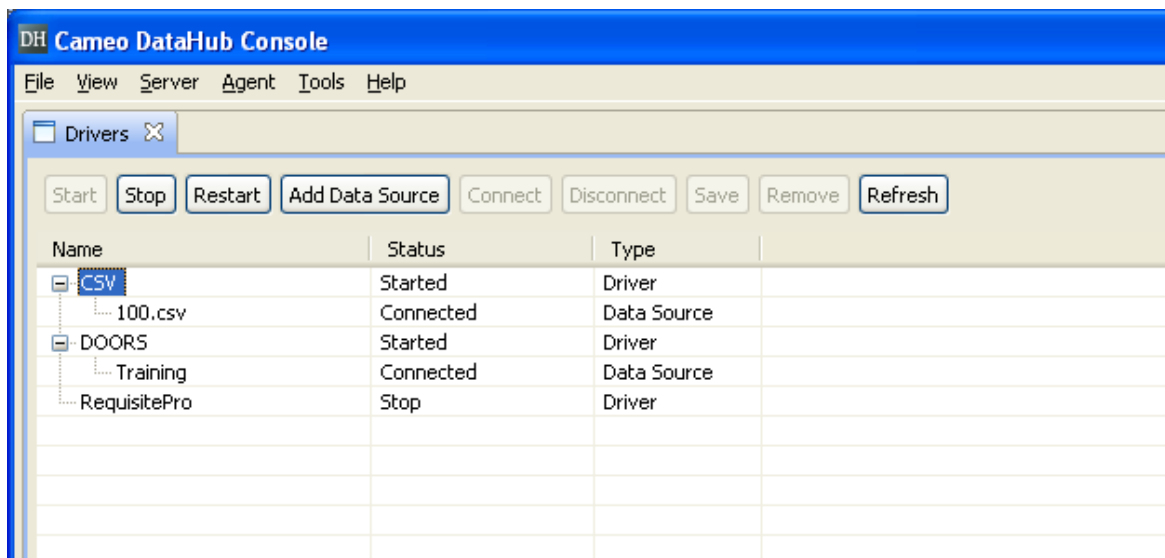


Figure 25 -- Drivers Tab

3. Select a driver and click either **Start** or **Stop**.

To add a data source to a driver:

1. Click either (i) **View > Agent Perspective** or (ii) **Agent > Manage Drivers**.
2. The **Drivers** tab will open (Figure 25).
3. Select a driver that has been started and click the **Add Data Source** button. The **Add Data Source** dialog will open (Figure 26).

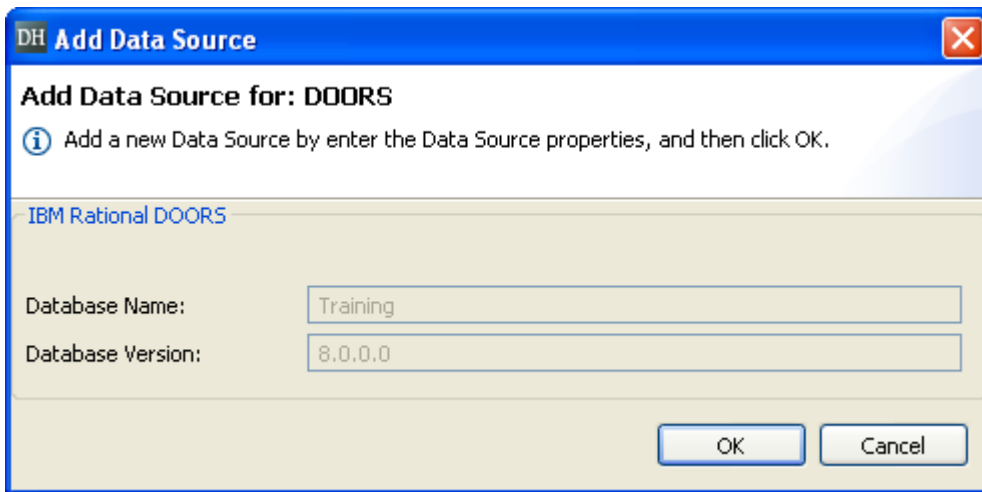


Figure 26 -- Add Data Source Dialog

4. Enter the required information.
5. Click **OK** (see section 4.4 Working with DataHub for more information).

To manage a data source:

1. Click either (i) **View > Agent Perspective** or (ii) **Agent > Manage Drivers**.
2. The **Drivers** tab will open (Figure 25).
3. Select a Data Source and click **Connect**, **Disconnect**, or **Remove**.

3.4 Other DataHub Console Features

3.4.1 Configuring DataHub Plugin

The **Deployment** tab allows you to configure DataHub Plugin with the required parameters in MagicDraw, Cameo Requirements+, and DOORS. You can use this Deployment feature if you installed DataHub using the no-installer package or if you installed DataHub prior to installing MagicDraw, Cameo Requirements+, or DOORS.

To configure the plugin:

1. Click **Tools > Deployment**. The **Deployment** tab will open (Figure 27).



Figure 27 -- Deployment Tab

2. Click the **Add** button to add a specific application.
3. Browse for the application installed folder and click **OK**. DataHub will set up the plugin into the selected application.

3.4.2 Migrating Data from Earlier Versions of DataHub

Since Cameo DataHub 17.0.1 is a rearchitected version of the earlier one, the structure of data stored in DataHub has changed. Therefore, you need to migrate your data once you have upgraded to DataHub 17.0.1 or greater.

NOTE:	DataHub 17.0.1 will automatically migrate the database of DataHub 4.1SP3 once the server is started.
--------------	--

To migrate the relations from version DataHub 2.0 - 4.0:

1. Open **Cameo DataHub Console** and click **Tools > Migrate DataHub....** The **Cameo DataHub Migration** dialog will open (Figure 28).

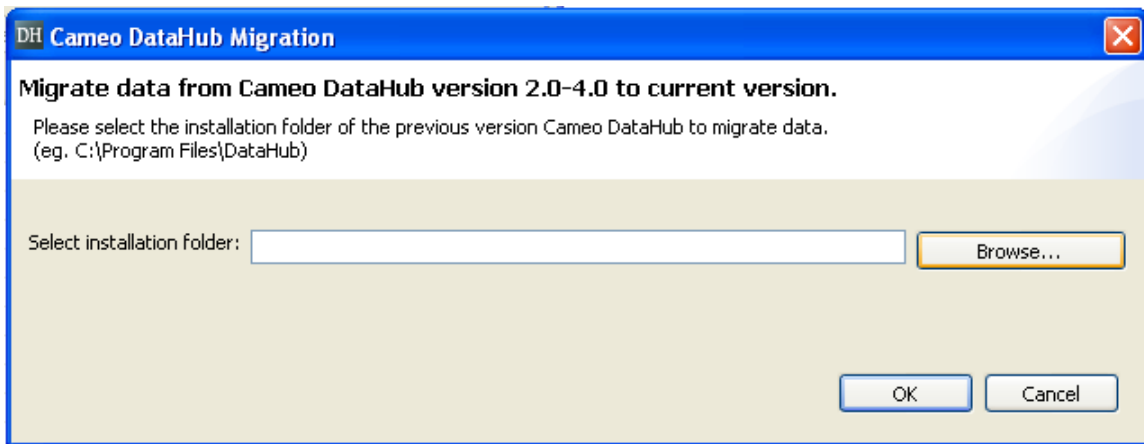


Figure 28 -- Cameo DataHub Migration Dialog

2. Click **Browse** and select the folder where 2.0 - 4.0 version of DataHub was installed.
3. Click **OK** to start migrating the relations.

NOTE:

Before migrating data you need to:

- start each participating Driver (see section 3.3.3.2 Managing Drivers and Data Sources for more information)
- open each participating application

3.4.3 DataHub Logs

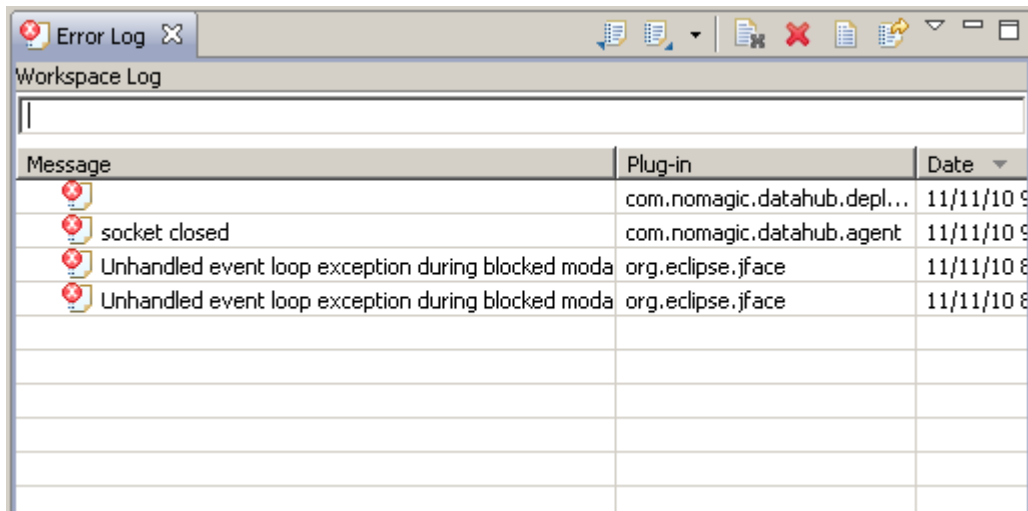
You can see a list of operations and errors occurring in DataHub Console through the (3.4.3.1) Console Log and (3.4.3.2) Server Log tabs. DataHub Console retrieves the recorded information from its log file.

3.4.3.1 Console Log

The **Error Log** tab records a list of errors that occurred within DataHub Console. The log file is stored in <user home folder>/datahub/<version>/console/.metadata/.log.

To open the **Console Log** tab:

- Click **View > Console Log**. The **Error Log** tab will open (Figure 29).







Message	Plug-in	Date
 socket closed	com.nomagic.datahub.depl...	11/11/10 9
 socket closed	com.nomagic.datahub.agent	11/11/10 9
 Unhandled event loop exception during blocked moda	org.eclipse.jface	11/11/10 8
 Unhandled event loop exception during blocked moda	org.eclipse.jface	11/11/10 8

Figure 29 -- Error Log Tab

3.4.3.2 Server Log

The **Server Log** tab (Figure 30) displays a history of server actions from the <user home folder>/datahub/<version>/server/dhserver.log file.

To open the **Server Log** tab:

- Click either (i) **View > Server Log** or (ii) the **Server Log** link in the **Configure** section in the **Server** tab.

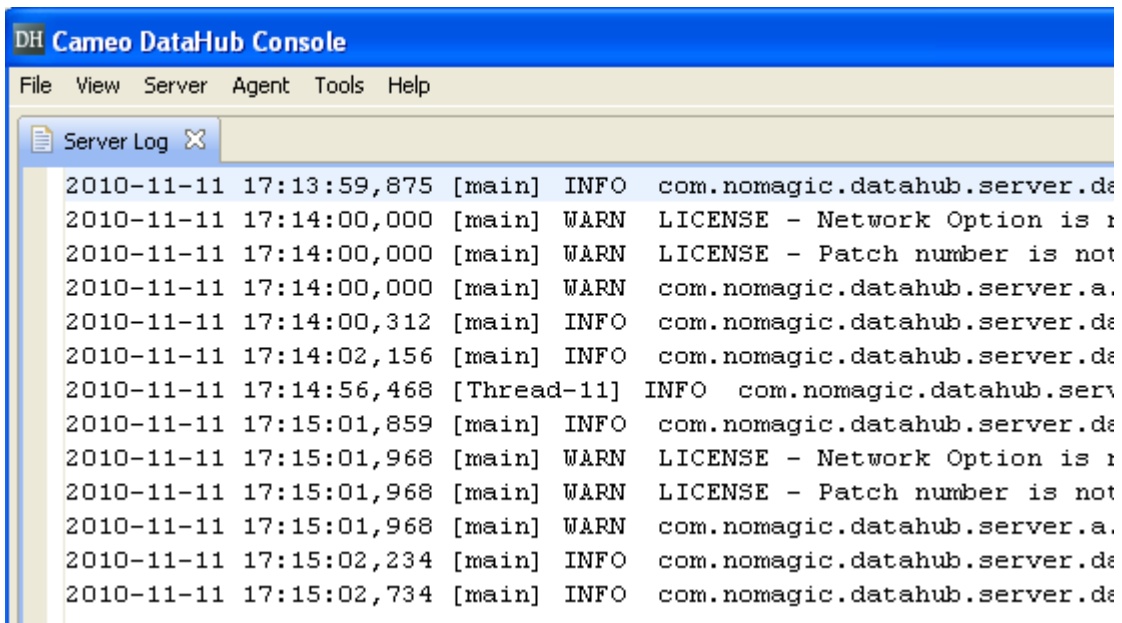


Figure 30 -- Server Log Tab

4 DATAHUB IN MAGICDRAW AND CAMEO REQUIREMENTS+

DataHub is a fully functional plugin for MagicDraw® and Cameo Requirements+. This chapter introduces the DataHub menu and layout. The DataHub menu (see section 4.1 DataHub Menu below) and DataHub layout (see section 4.2 DataHub Layout below) provide complete DataHub functionalities for MagicDraw and Cameo Requirements+ such as exporting data, synchronizing data, and creating and viewing relations.

This chapter also explains how to run DataHub and use its features in MagicDraw and Cameo Requirements+.

In order to use Cameo DataHub, make sure you have deployed it on your application (see 3.4.1 Configuring DataHub Plugin above). DataHub Plugin is available for both **Local** and **Teamwork** projects. However, only the **Locked For Edit** Teamwork project elements will be allowed to perform DataHub functions such as importing, exporting, creating associations, or synchronizing data.

NOTE:	To load a MagicDraw Teamwork project or Cameo Requirements+ repository as a data source in DataHub, you need to first log into MagicDraw Teamwork Server.
--------------	---

4.1 DataHub Menu

The DataHub menu in MagicDraw and Cameo Requirements+ will be enabled once the applications has been connected to DataHub Server (see section 3.3.1.3 Starting, Restarting, or Stopping DataHub Server above).

To open the DataHub menu, do any of the following:

- In **MagicDraw**: click **Tools > Requirements > DataHub** (Figure 31). The DataHub menu will open.

DATAHUB IN MAGICDRAW AND CAMEO REQUIREMENTS+

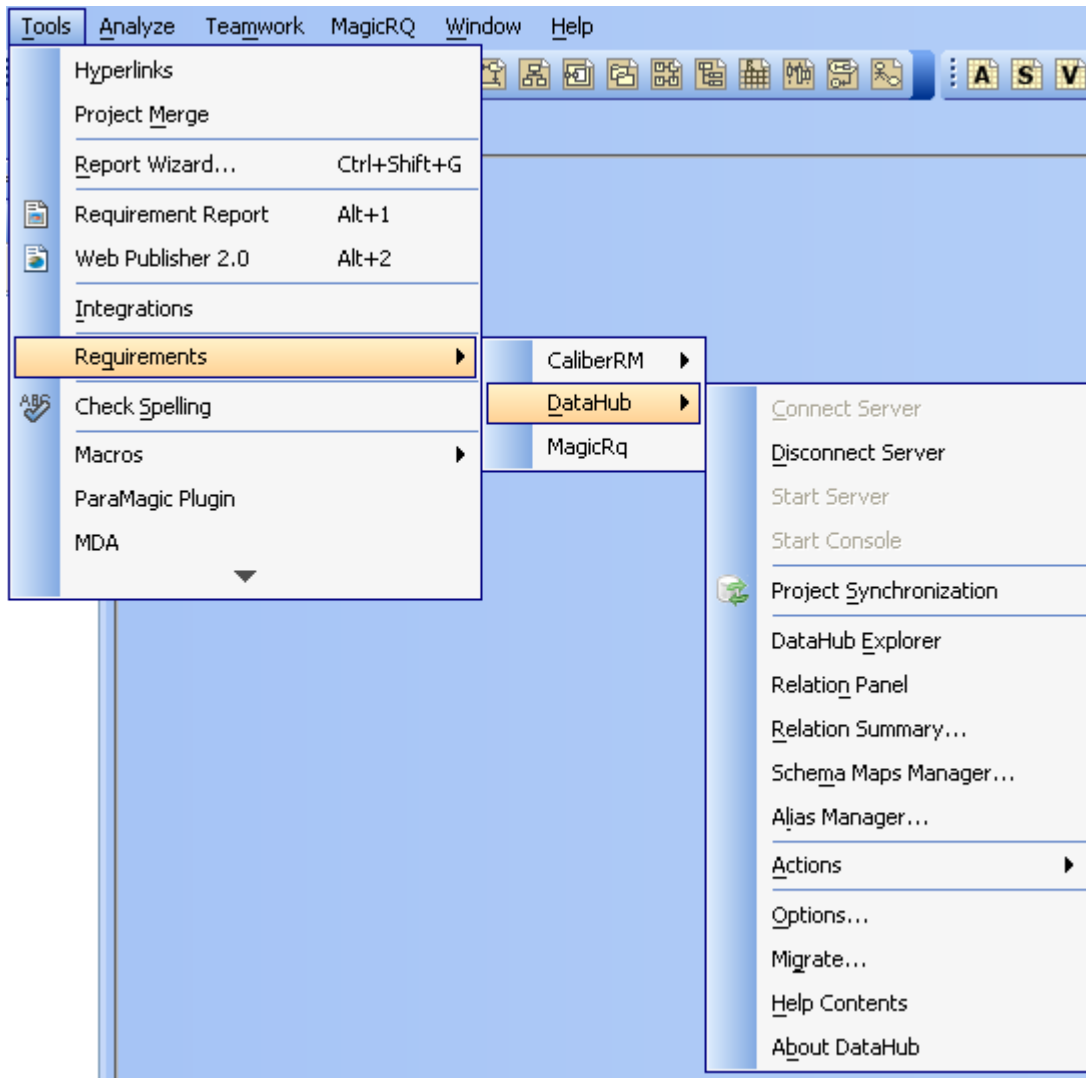


Figure 31 -- DataHub Menu in MagicDraw

DATAHUB IN MAGICDRAW AND CAMEO REQUIREMENTS+

- In **Cameo Requirements+**: click **Tools > DataHub** (Figure 32). The DataHub menu will open.

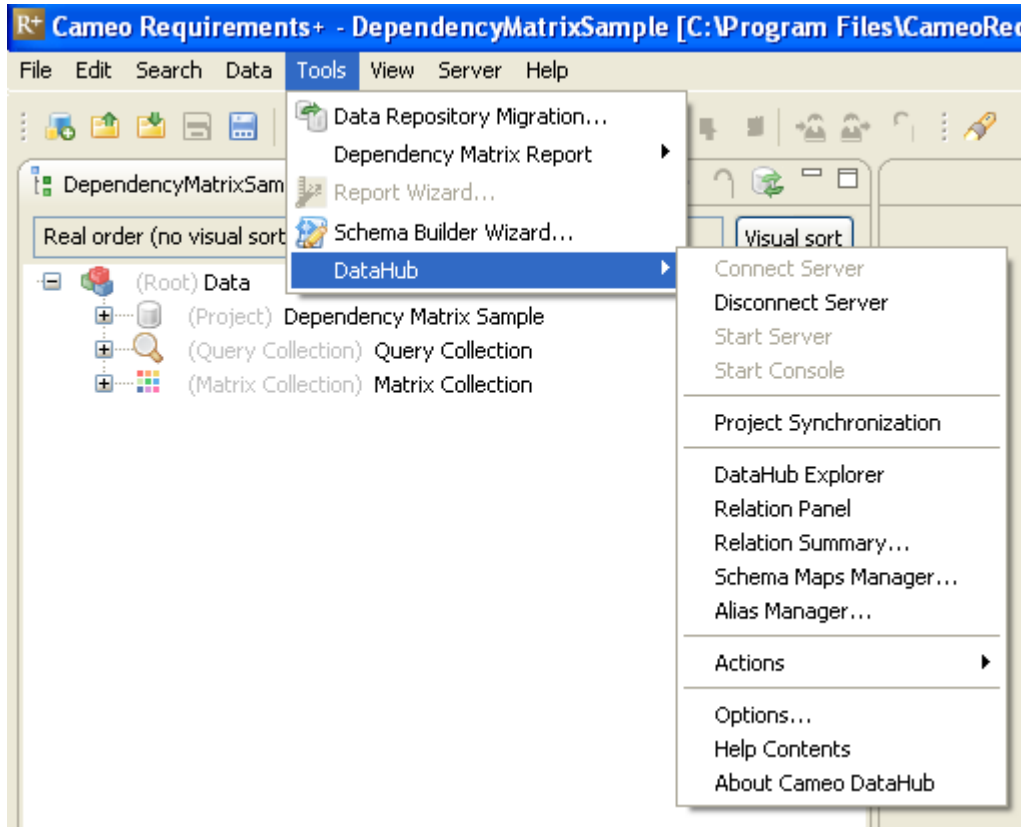


Figure 32 -- DataHub Menu in Cameo Requirements+

Table 14 below explains the DataHub menu functions in detail.

Table 14 -- DataHub Menu Function

Name	Function
Connect Server	To connect MagicDraw to DataHub Server.
Disconnect Server	To disconnect MagicDraw from DataHub Server.
Start Server	To start DataHub Server. This menu will be enabled if DataHub Console is not open and DataHub Server is not started.
Start Console	To start DataHub Console.
Project Synchronization	To sync a current MagicDraw project.
DataHub Explorer	To open the DataHub Explorer tab.
Relation Panel	To open a list of relations of a selected node in the MagicDraw Containment tree and DataHub/Alias explorer.
Relation Summary	To open the Relation Summary window.
Schema Maps Manager...	To open the Schema Maps Manager dialog.
Alias Manager	To open Alias Manager.
Actions	To open a list of available functions to perform on each selected node.
Options...	To open the Options dialog.
Migrate	To open the Migration dialog to migrate MagicRQ files.
Help Contents	To open the Help Contents dialog.
About DataHub	To open the About DataHub dialog.

4.2 DataHub Layout

When you open the following three tabs you will see that they are arranged into one layout and the layout is your workspace (Figure 33):

- 4.2.1 DataHub Explorer
- 4.2.2 DataHub Properties
- 4.2.3 DataHub Relation

DATAHUB IN MAGICDRAW AND CAMEO REQUIREMENTS+

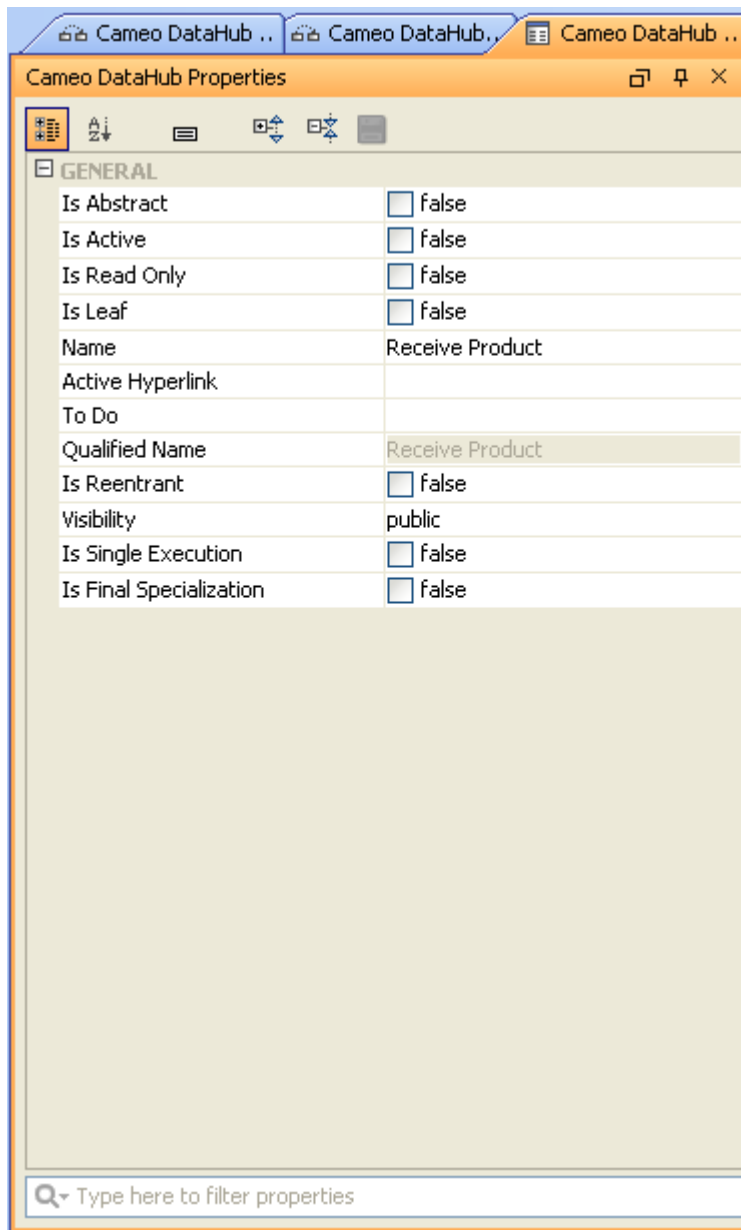


Figure 33 -- DataHub Layout

4.2.1 DataHub Explorer

You can open the **DataHub Explorer** tab in MagicDraw and Cameo Requirements+ only.

To open the DataHub Explorer tab, do any of the following:

- In **MagicDraw**: click **Tools > Requirements > DataHub > DataHub Explorer** (Figure 34).

DATAHUB IN MAGICDRAW AND CAMEO REQUIREMENTS+

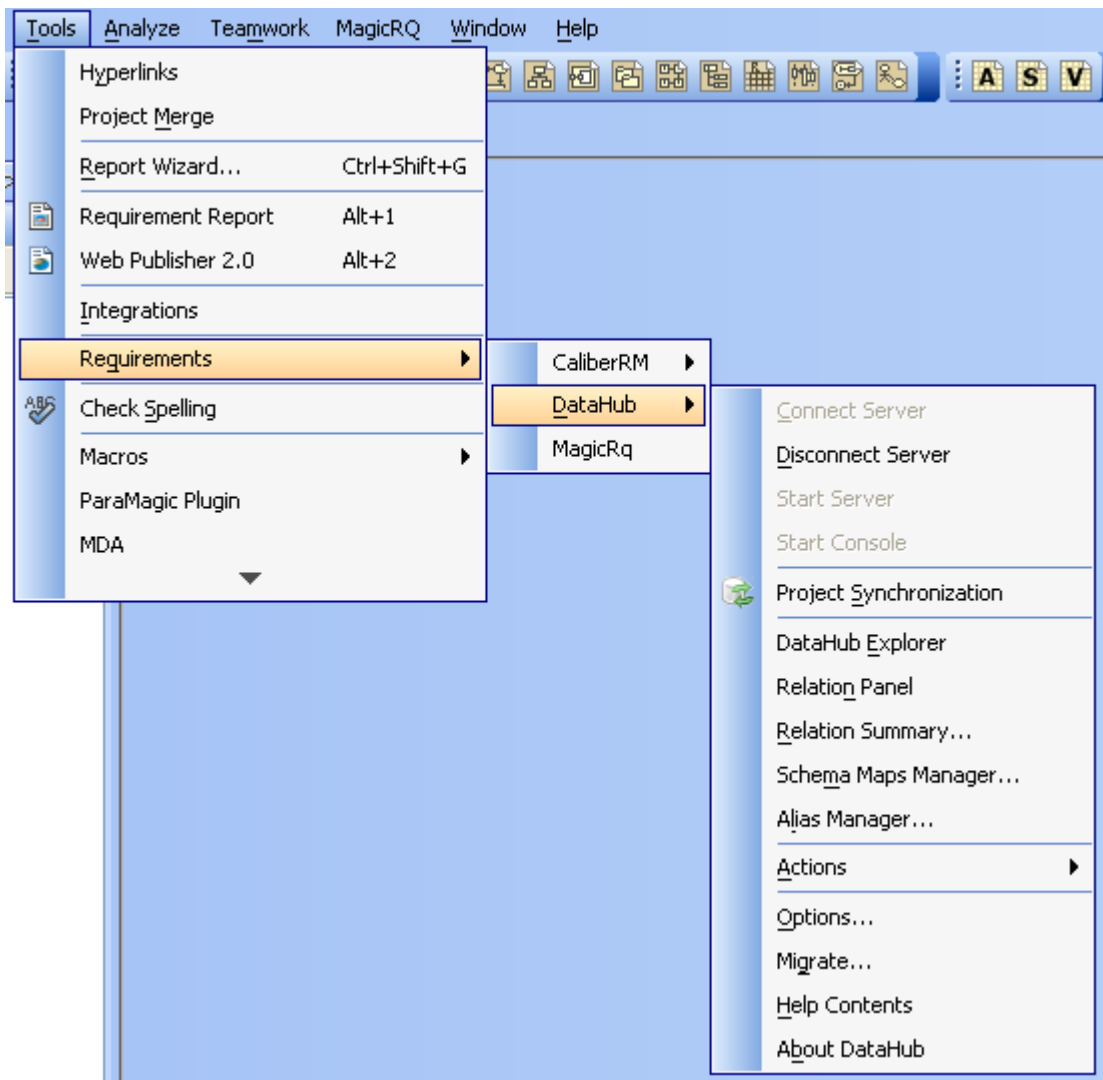


Figure 34 -- DataHub Explorer Menu in MagicDraw

DATAHUB IN MAGICDRAW AND CAMEO REQUIREMENTS+

- In **Cameo Requirements+**: click **Tools > DataHub > DataHub Explorer** (Figure 35).

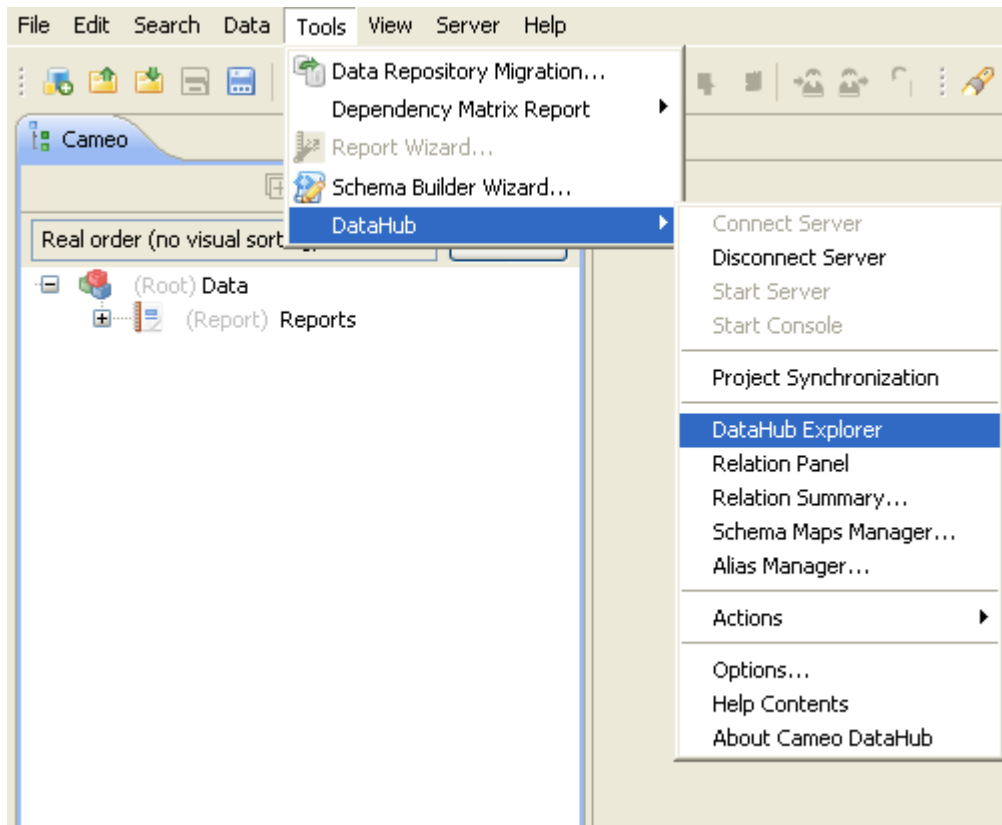


Figure 35 -- DataHub Explorer Menu in Cameo Requirements+

The **DataHub Explorer** tab (Figure 36) contains the following:

- 4.2.1.1 DataHub Browser
- 4.2.1.2 DataHub Operation Mode

:

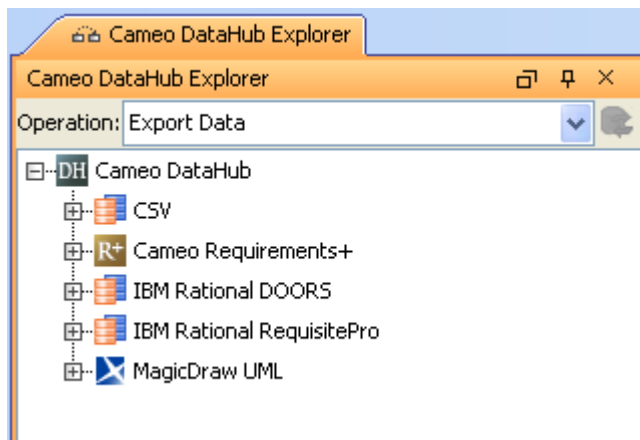











Figure 36 -- DataHub Browser

4.2.1.1 DataHub Browser





You can see all connected data sources in the DataHub browser. Use the browser to connect, add, or remove a data source. As shown in Table 15 below, the icons shown in the DataHub browser refer to different types of items.

DATAHUB IN MAGICDRAW AND CAMEO REQUIREMENTS+

Table 15 -- DataHub Browser Icons

Icon	Name	Description
	Project Sync Button	This button is used to synchronize the entire project through selected nodes.
	DataHub	The DataHub root.
	MagicDraw Driver	The MagicDraw driver to connect to a MagicDraw project.
	Cameo Requirements+ driver	The Cameo Requirements+ driver to connect to the Cameo Requirements+ repository and projects.
	Drivers	The drivers to connect to other tools.
	Data Source connected	The repository of a MagicDraw, Cameo Requirements+, DOORS, or RequisitePro project, or a CSV file. The data source is connected to its source.
	Data Source disconnected	The repository of a MagicDraw, Cameo Requirements+, DOORS, or RequisitePro project, or a CSV file. The data source is disconnected from its source.
	Folder, Package	A folder or package.
	DOORS Link	A link in the DOORS application.
	RequisitePro Traceability	A traceability in the RequisitePro application.
	MagicDraw relationship	Support all relationships.
	Cameo Requirements+ relationship	Dependency, Satisfy, Verify, Copy, Derived, Refine, or Trace to.

DATAHUB IN MAGICDRAW AND CAMEO REQUIREMENTS+

Icon	Name	Description
	Item	Any item, for example, a DOORS object, RequisitePro requirement, MagicDraw element, Cameo Requirements+ node, or a CSV item.
	Item with Scope Sync	The item has been exported in the Scope Sync mode.
	Item with Sync	The item has a between-tools Sync relation.
	Item with Trace	The item has a between-tools Trace relation.

You can right-click an item in the browser to open its shortcut menu (Figure 37).

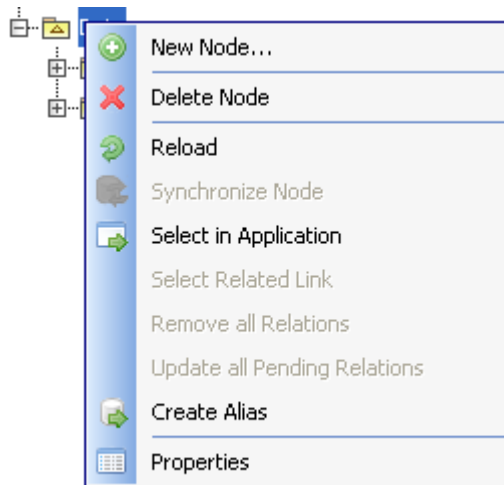


Figure 37 -- DataHub Browser Shortcut Menu

NOTE: The availability of the shortcut menu depends on the type of the item.

DATAHUB IN MAGICDRAW AND CAMEO REQUIREMENTS+

Table 16 below explains the function of each menu on the DataHub browser shortcut menu.

Table 16 -- DataHub Browser Shortcut Menu Functions

Name	Function
Add Data Source	To add a new data source to a driver.
Connect	To connect a data source in DataHub Explorer.
Save	To save a data source.
Synchronize	To send the updated data from a selected data source to all of the related items in other tools.
Remove	To remove a data source from a driver.
Reload	To reload all properties and items in a selected item and subitem.
Properties	To show a property pane that will list all the properties values of a selected item. It also open the Relation Panel
New Node...	To add a new node under a selected item.
Delete Node	To remove a node.
Create Alias	To open an Alias Explorer that will open a selected node as the root node.
Select in Application	To select an original item.
Select Related Link	To select a related link item.
Remove All Relations	To remove relations from a selected node.
Synchronize Node	To send the updated data from a selected node to all of the related items in other tools.
Update All Pending Relations	To update all Pending Update status items after synchronization.

NOTE

If you remove a data source, you will also remove all of its mappings and relations.

4.2.1.2 DataHub Operation Mode

DataHub Operation Mode provides you with several data relation and synchronization types (Figure 38). The operation mode is helpful when you want to export data and synchronize them or when you want to create a relation between items. All you need to do is select one relation type from the operation mode and drag a node from the DataHub browser to the Containment tree, or vice versa, and the selected relation type will be applied to the node.

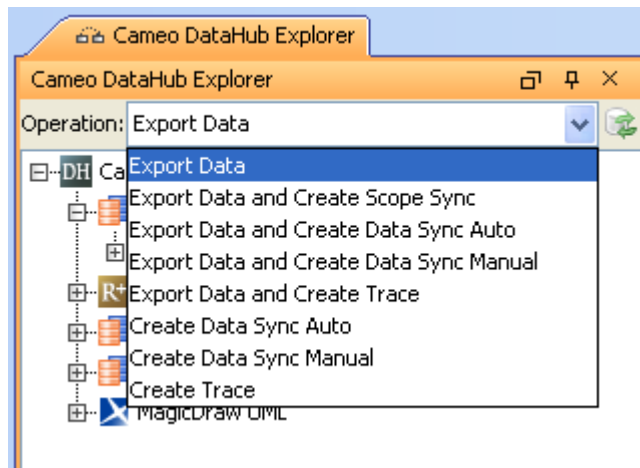


Figure 38 -- DataHub Operation Mode

Table 17 below shows all of the DataHub relation types and functions.

DATAHUB IN MAGICDRAW AND CAMEO REQUIREMENTS+

Table 17 -- DataHub Relation Types and Functions

Mode	Function
Export Data	To export data and the child only.
Export Data and Create Scope Sync	To export data and create a Scope Sync relation between the original and new data to be exported. When data synchronization is being executed, associated items will automatically be updated or deleted whenever other items are changed or deleted. The Scope Sync relation will detect and transfer new created nodes to other associated tools as well.
Export Data and Create Data Sync Auto	To export data and create an auto data Sync relation between the original and new data to be exported. When data synchronization is being executed, associated items will automatically be updated or deleted whenever other items are changed or deleted. This operation mode cannot detect new created node(s).
Export Data and Create Data Sync Manual	To export data and create a manual data Sync relation between the original and new data to be exported. When data synchronization is being executed, associated items will be notified as PendingUpdate or PendingDelete whenever other items are changed or deleted. You can update or discard PendingUpdate , and/or delete or remove the PendingDelete items. This operation mode cannot detect new created node(s).
Export Data and Create Trace	To export and trace data. Once a data trace relation has been created, it can only detect changes to the data. This operation mode does not synchronize the trace relation.
Create Data Sync Auto	To create an auto data Sync relation between two items. When data synchronization is being executed, associated items will automatically be updated or deleted whenever other items are changed or deleted. The data Sync relation function is to update data only.
Create Data Sync Manual	To create a manual data Sync relation between two items. When data synchronization is being executed, associated items will be notified as PendingUpdate or PendingDelete whenever other items are changed or deleted. You can update or discard PendingUpdate , and/or delete or remove the PendingDelete items. The data Sync relation function is update data only.
Create Trace	To create a Trace relation when dragging the source data to the target data. Whenever the data is changed, the related node status will be Suspect .

4.2.2 DataHub Properties

The **DataHub Properties** tab shows all property names and values of an item selected in **DataHub Explorer**.

To open the DataHub Properties tab in MagicDraw or Cameo Requirements+:

- Right-click a node in DataHub Explorer and click **Properties**. The **DataHub Properties** will open in MagicDraw (Figure 39) or Cameo Requirements+ (Figure 40).

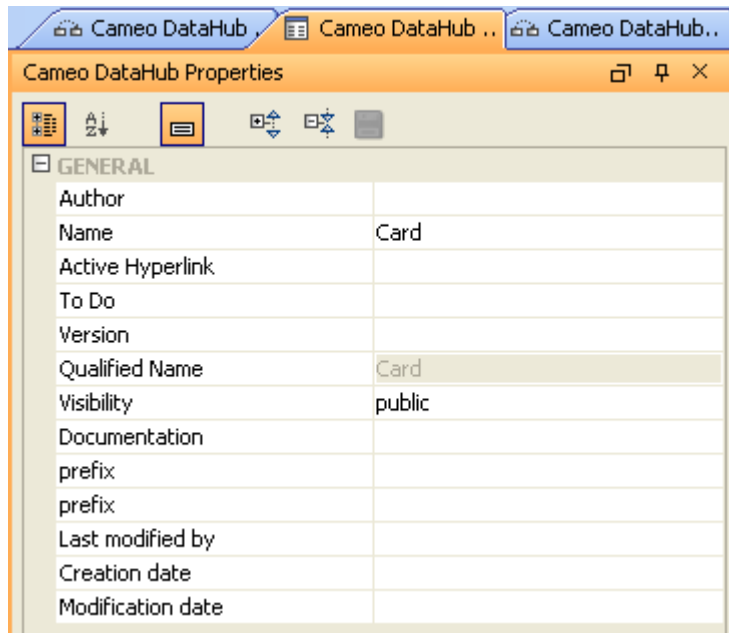


Figure 39 -- DataHub Properties Tab in MagicDraw







NOTE: The **DataHub Relation** tab will open whenever the **DataHub Properties** tab is open.

You can edit a property value if it is allowed to be modified in the **DataHub Properties** tab. You can also save the value you have edited by clicking the **Save** icon in the **Properties** tab.

DATAHUB IN MAGICDRAW AND CAMEO REQUIREMENTS+

You can find the function of each icon in the **DataHub Properties** tab in MagicDraw and Cameo Requirements+ in Table 18 and Table 19 respectively.

Table 18 -- DataHub Properties Icons and Functions in MagicDraw

Button	Name	Function
	Categorized View	To show all property names by category.
	Alphabetical View	To show all property names in an alphabetical order.
	Show Description	To show a description of each property.
	Expand	To show all property names and values.
	Collapse	To hide all property names and values.
	Save	To save changes made to a property name or value.

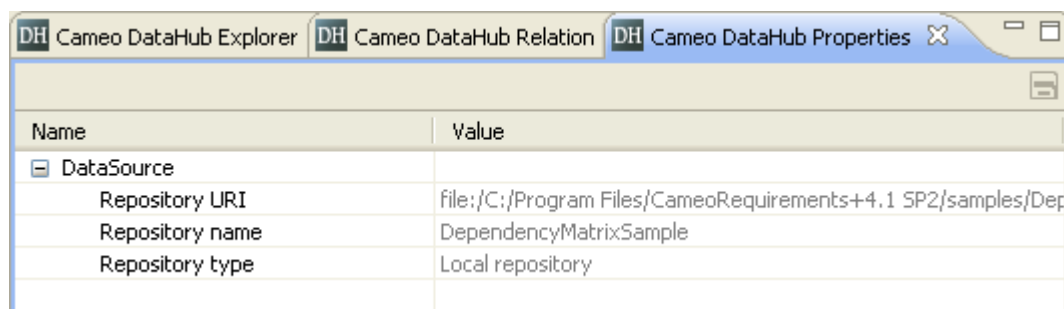



Figure 40 -- DataHub Properties Tab in Cameo Requirements+

Table 19 -- DataHub Properties Icon and Function in Cameo Requirements+

Button	Name	Function
	Save	To save changes made to a property name or value.

4.2.3 DataHub Relation

The **DataHub Relation** tab will open whenever the **DataHub Properties** tab is open. The **DataHub Relation** tab shows the relation details of a selected node. The details of relations are arranged in a table.

To open the **DataHub Relation** tab in MagicDraw or Cameo Requirements+:

- Right-click an item in **DataHub Explorer** and click **Properties**. The **DataHub Relation** tab will open (Figure 41).

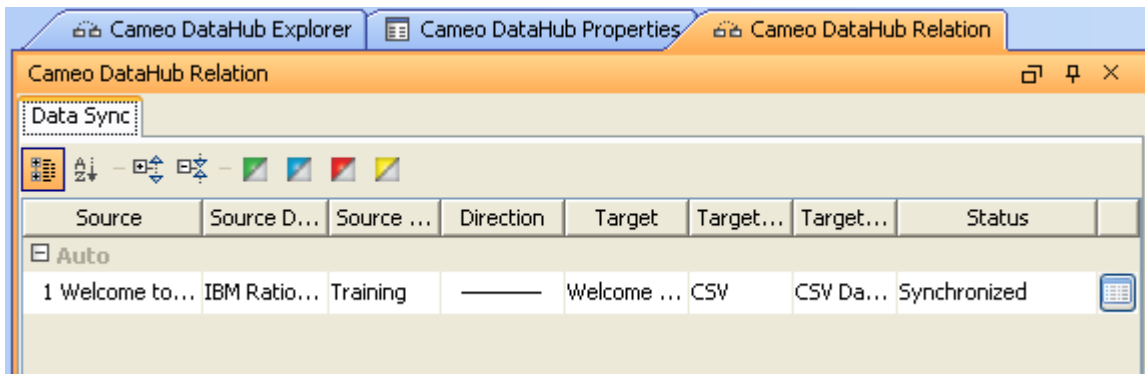


Figure 41 -- DataHub Relation Tab

Table 20 gives the description of each column in the **DataHub Relation** tab.

DATAHUB IN MAGICDRAW AND CAMEO REQUIREMENTS+

Table 20 -- DataHub Relation Table

Column Name	Description
Source	The nodes on the first ends of a relation.
Source Driver	The tool of the source data.
Source Data Source	The Data Source of the source data.
Direction	The direction of synchronization and trace relation.
Target	The nodes on the second ends of a relation.
Target Driver	The tool of the target data.
Target Data Source	The Data Source of the target data.
Status	The relation status that tells whether data of both elements have been updated.

You can right-click an item on the table to open a shortcut menu (Figure 42). The menu provides some functions that you can perform in the **DataHub Relation** tab (see section 4.4.8 Managing Relations and Reports below for more details).

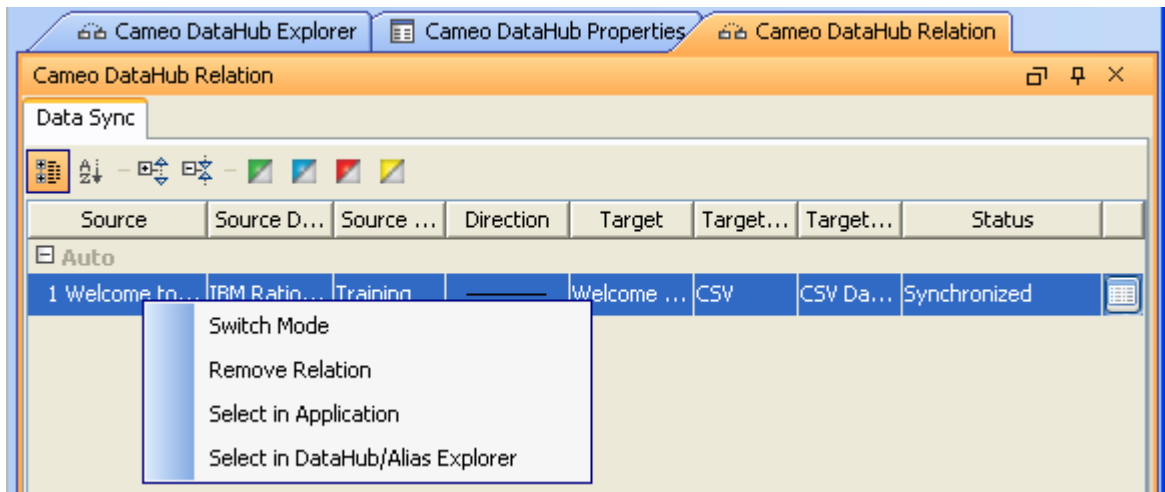


Figure 42 -- DataHub Relation Actions Shortcut Menu

DATAHUB IN MAGICDRAW AND CAMEO REQUIREMENTS+

Table 21 -- DataHub Relation Actions and Functions

Menu Name	Function
Switch Mode	To switch to Sync Auto/Manual mode.
Remove Relation	To remove a relation from an element.
Select in Application	To make a selection on the original item.
Select in DataHub/Alias Explorer	To make a selection on the item in DataHub Explorer.

4.3 Running DataHub in the Application

Now that you know how the DataHub menus and layout work (see sections 4.1 DataHub Menu and 4.2 DataHub Layout above), you can start working with Cameo DataHub. However, to run DataHub in MagicDraw or Cameo Requirements+, you need to first:

- 4.3.1 Start DataHub Server
- 4.3.2 Start the application driver
- 4.3.3 Connect the application to DataHub Server

4.3.1 Starting DataHub Server

To start DataHub Server:

1. Either (i) open **Cameo DataHub Console** or (ii) go to **<installed folder>/bin** and double-click **dhserver.vbs** to open Cameo DataHub Console.
2. Click **View > Server Perspective**. The **Server** perspective tab will open.
3. Click **Start** to run Cameo DataHub Server (Figure 43).

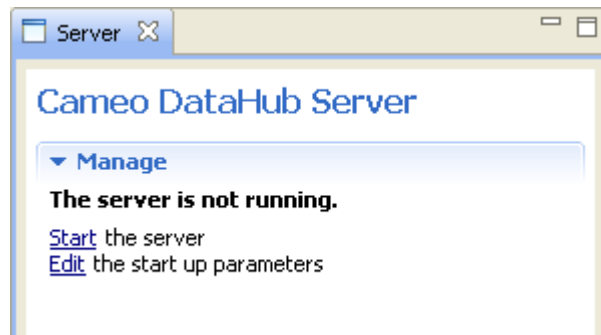


Figure 43 -- Cameo DataHub Server Start Link

4. Once the server has been started, the **Stop** and **Restart** links will be enabled to stop and restart the server respectively (Figure 44).

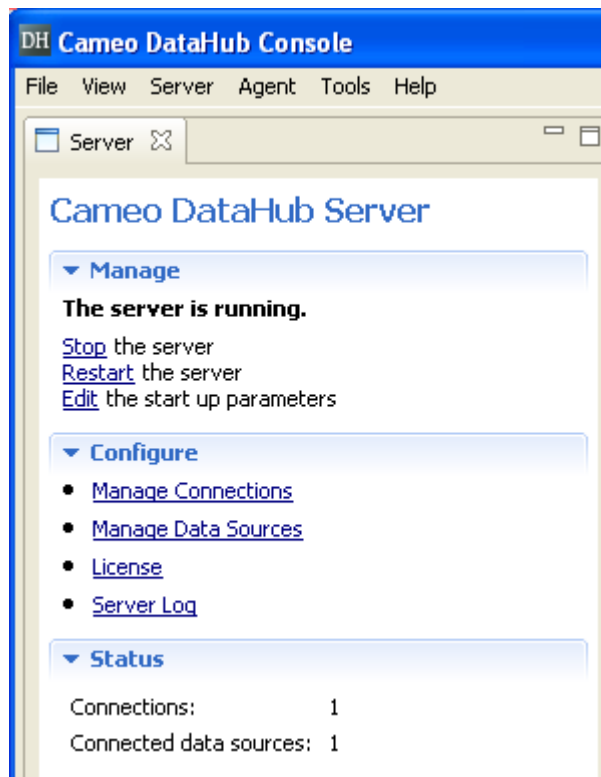


Figure 44 -- Cameo DataHub Server is Started

4.3.2 Starting the Application Driver

To start the driver, do any of the following:

- In **MagicDraw**: the driver will automatically start whenever the application starts.
- In **Cameo Requirements+**: the driver will automatically start whenever the application starts.

4.3.3 Connecting to DataHub Server

To connect the application to Cameo DataHub Server, do any of the following:

- In **MagicDraw**, click **Tools > Requirements > DataHub > Connect Server**.
- In **Cameo Requirements+**, click **Tools > DataHub > Connect Server**.

4.4 Working with DataHub

Cameo DataHub 17.0.1 provides a fully functional working interface for MagicDraw and Cameo Requirements+. Once DataHub Server and the application drivers have started, you are ready to use DataHub Plugin whenever you connect to DataHub Server.

4.4.1 Opening DataHub Layout

You need to open the **DataHub Explorer**, **Properties**, and **Relation** tabs in MagicDraw or Cameo Requirements+ as a starter.

To open the DataHub Explorer, Properties, and Relation tabs:

1. Create a new project or open an existing one.
2. Either:
 - (i) In **MagicDraw**, click **Tools > Requirements > DataHub > DataHub Explorer** on the main menu.
 - (ii) In **Cameo Requirements+**, click **Tools > DataHub > DataHub Explorer** on the main menu.
3. The **DataHub Explorer** tab will open (Figure 45).

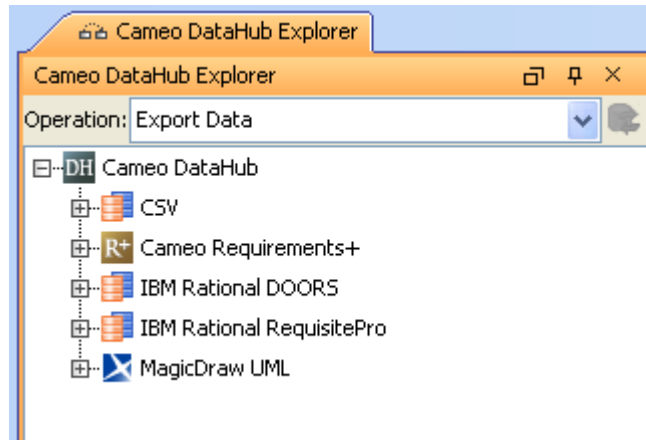


Figure 45 -- DataHub Explorer

4. Right-click a node in DataHub Explorer and click **Properties**. The **DataHub Properties** and **DataHub Relation** tabs will open.

NOTE

- The nodes under a particular driver in DataHub Explorer represent the nodes in that application.
- If a driver is correctly started, the name will appear in the DataHub Explorer tree. The driver will be the connection point of data from each application.

4.4.2 Adding a New Data Source to a Driver

To add a new data source to a driver:

1. Right-click a driver to which a new data source will be added, and then select **Add Data Source...** (Figure 46). The **Add Data Source** dialog will open.

DATAHUB IN MAGICDRAW AND CAMEO REQUIREMENTS+

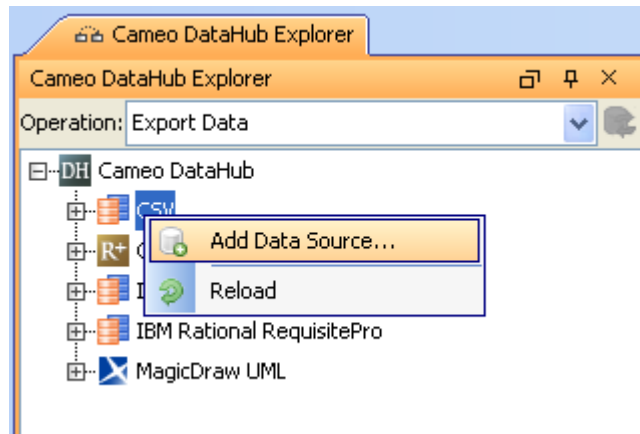


Figure 46 -- Add Data Source Shortcut Menu

2. Add a data source and click **OK**.

The contents of the Add Data Source dialog vary according to the data source that you are creating. For instance:

- Cameo Requirements+, MagicDraw, and RequisitePro will ask for the project file.
- IBM Rational DOORS will inform you about the DOORS database name and version to be connected. The whole information in the database will be shown in DataHub Explorer.

To add a new MagicDraw data source to the MagicDraw driver:

1. Right-click the MagicDraw driver node and click **Add Data Source...** (Figure 47). The **Add Data Source** dialog will open (Figure 48).

DATAHUB IN MAGICDRAW AND CAMEO REQUIREMENTS+

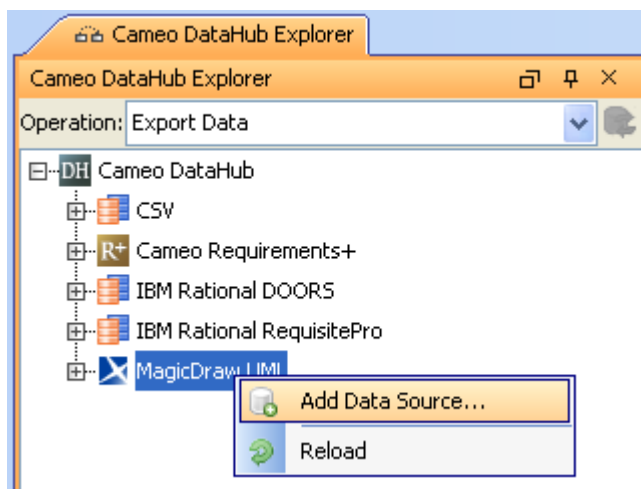


Figure 47 -- Browsing for MagicDraw Project File

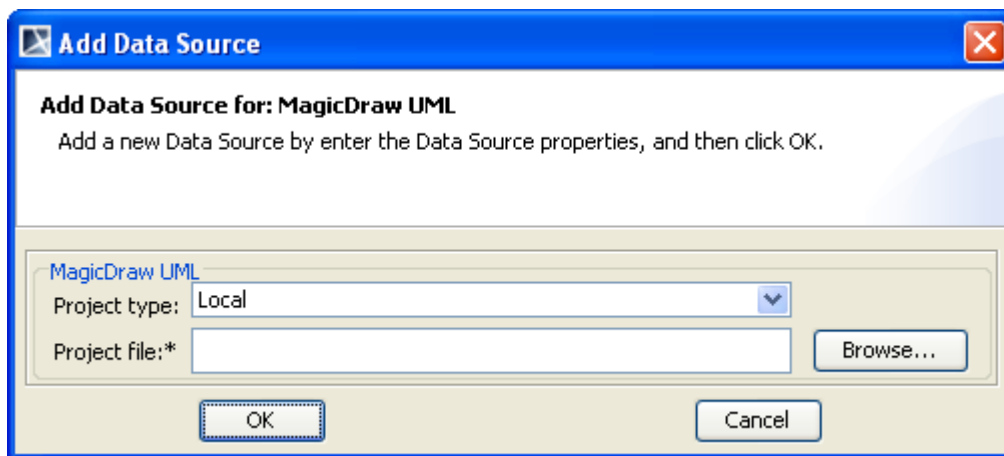


Figure 48 -- Add MagicDraw Data Source Dialog

2. Browse for a local MagicDraw project file and click **OK**.

To add a new CSV data source to the CSV driver:

1. Right-click the CSV driver node and click **Add Data Source....** The **Add Data Source** dialog will open (Figure 49).

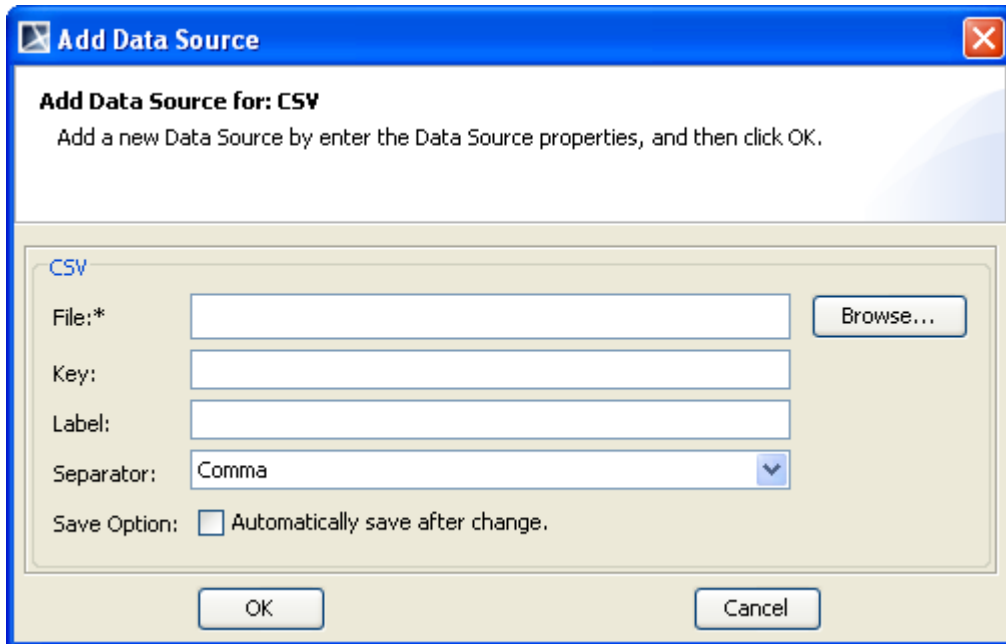


Figure 49 -- Adding CSV Data Source Dialog

2. Enter the CSV information in the following fields:

- **File:** the CSV file to be added.
- **Key:** the name of the column that will be created as the ID of the node. If you leave it blank, a sequence number will be generated for the ID.
- **Label:** the name of the column that will be created as the name of the node. If you leave it blank, a recording number will be assigned for the name.
- **Separator:** select a delimiter for CSV file. The available delimiters are comma, semi-colon, space, and slash.
- **Save Option:** if you select the **Automatically save after change** check box, DataHub will save the CSV Data Source whenever the CSV file is changed.

DATAHUB IN MAGICDRAW AND CAMEO REQUIREMENTS+

NOTE	<p>A CSV file must contain the names of the attributes in the first row and data in the following rows.</p> <p>Once the CSV Data Source has been created:</p> <ul style="list-style-type: none">• If a column name has been edited or a new column has been added, the CSV Data Source will be corrupted. You have to remove and add the CSV Data Source again.• If the value of data in the key column has been changed, that particular row will be treated as delete by DataHub.
-------------	--

To add a new IBM Rational DOORS data source to the IBM Rational DOORS driver:

1. Right-click the IBM Rational DOORS driver node and click **Add Data Source...** The **Add Data Source** dialog will open.
2. Click **OK** to add an IBM Rational DOORS database (Figure 50).

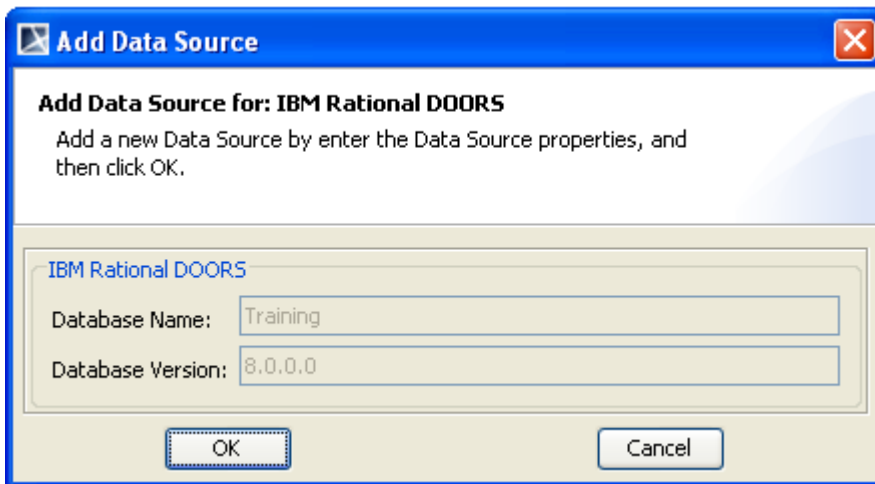


Figure 50 -- Add IBM Rational DOORS Database Dialog

To add a new IBM RequisitePro data source to the IBM RequisitePro driver:

1. Right-click the IBM RequisitePro driver node and click **Add Data Source...** The **Add Data Source** dialog will open.

2. Choose an existing IBM RequisitePro project and click **OK** (Figure 51).

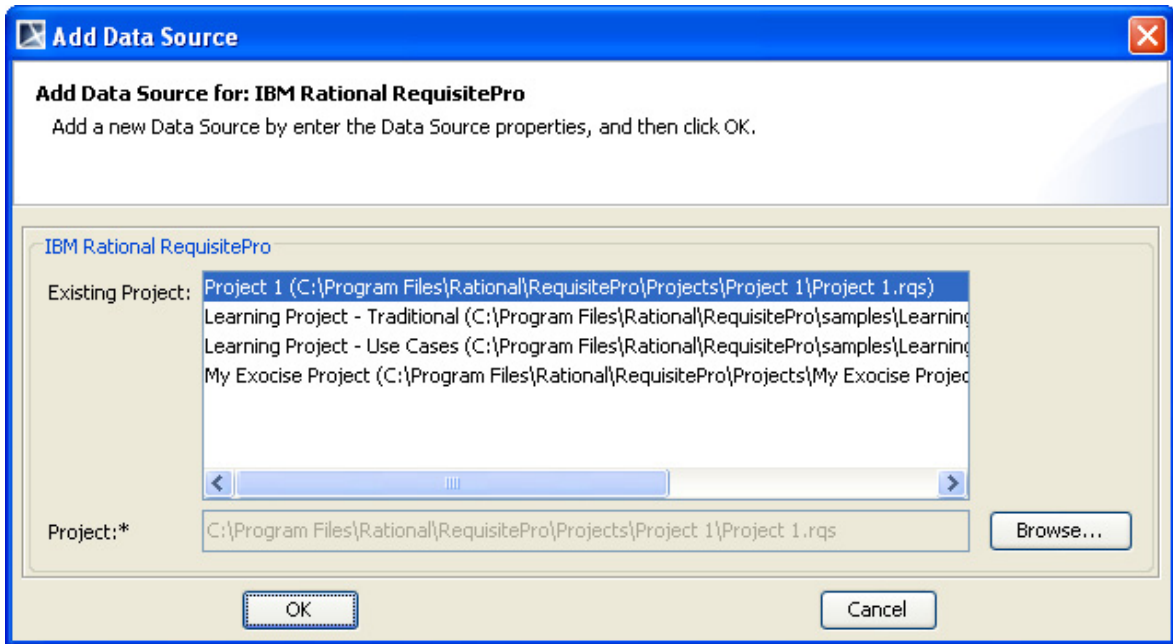


Figure 51 -- Choosing IBM RequisitePro Project

NOTE: Only the Package and Requirements nodes of the IBM RequisitePro application are available in DataHub Explorer.

To add a new Cameo Requirements+ data source to the Cameo Requirements+ driver:

1. Right-click the Cameo Requirements+ driver node and click **Add Data Source...** (Figure 52). The **Add Data Source** dialog will open (Figure 53).

DATAHUB IN MAGICDRAW AND CAMEO REQUIREMENTS+

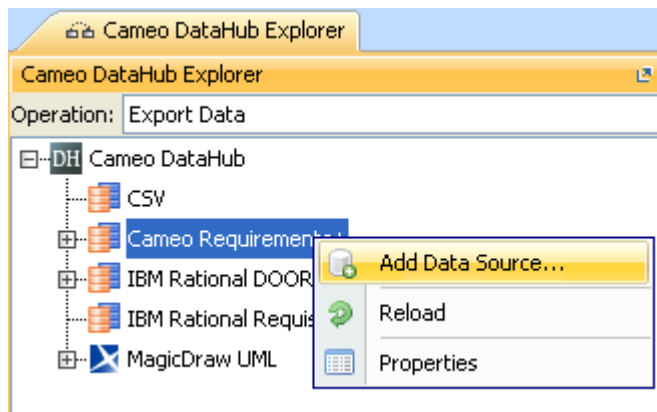


Figure 52 -- Adding Cameo Requirements+ Data Source

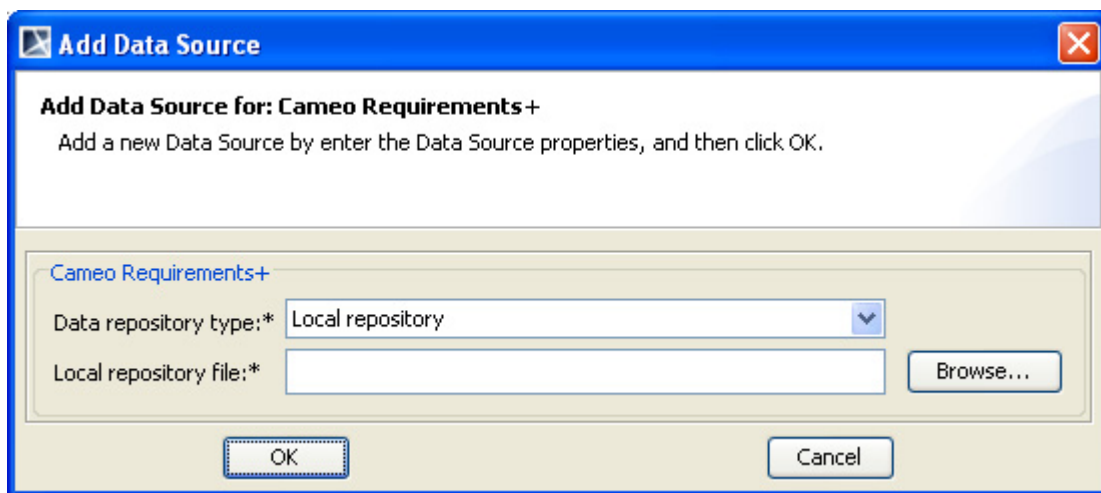


Figure 53 -- Browsing for a Cameo Requirements+ Repository

2. Browse for a local repository file and click **OK**.

4.4.3 Adding a New Node to Data Source

You can use DataHub Explorer to add a new node in a particular application without switching to that application. In addition, the new node you have added in DataHub Explorer will also appear in the application itself. You can add a new node to any connected data source by using the **New Node** menu in DataHub action menu. The types of nodes available will vary depending on the parent of the new node.

To add a new node to a specific data source:

1. Right-click a node and select **New Node...** (Figure 54).

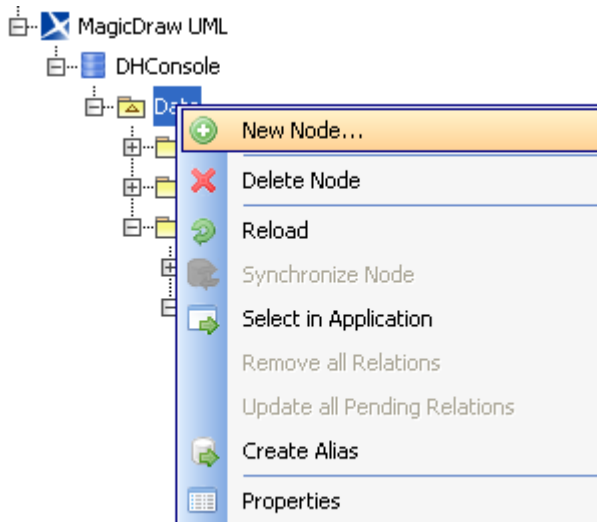


Figure 54 -- Adding a New Node to MagicDraw Driver

2. Select a new node type and click **Next** (Figure 55).

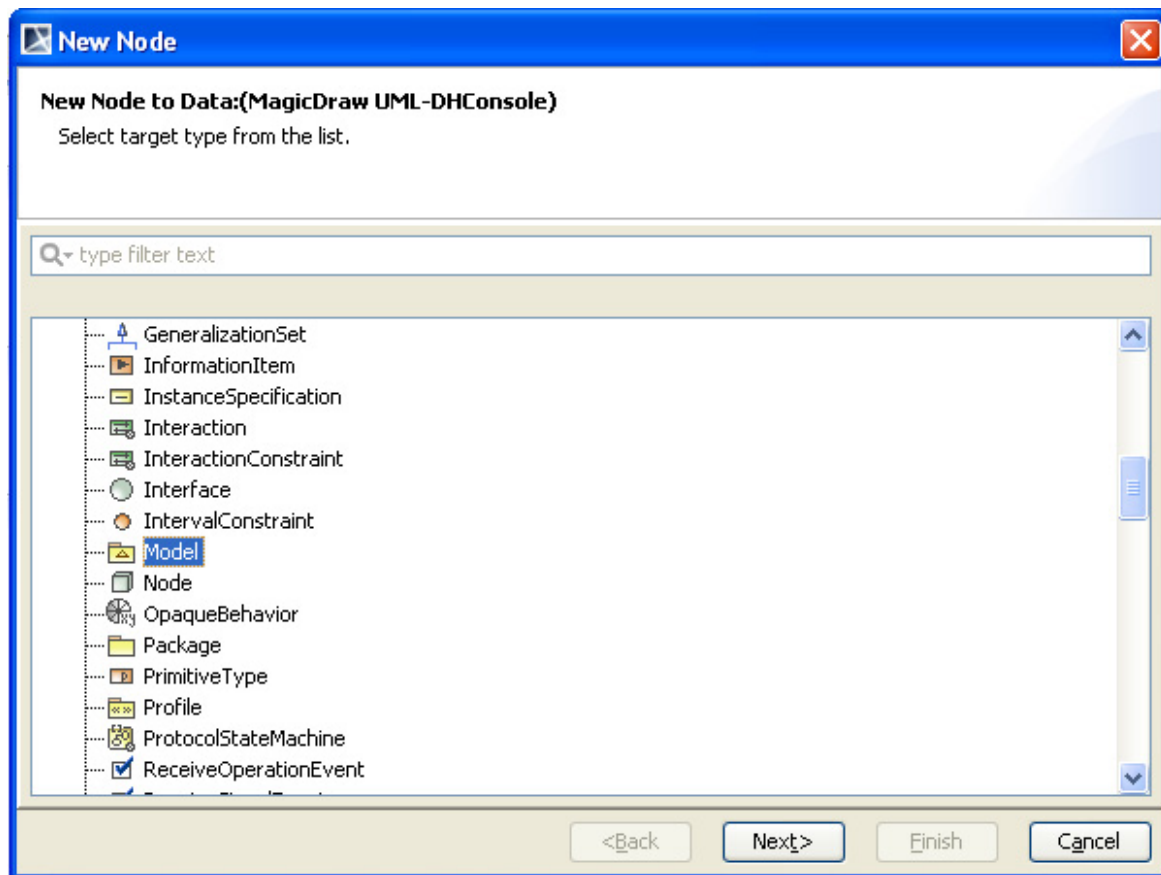


Figure 55 -- Available Node Types under Data Node

NOTE

- The types of new nodes will vary according to the drivers and parent nodes.

3. Type the new node's properties details and click **Finish** (Figure 56).

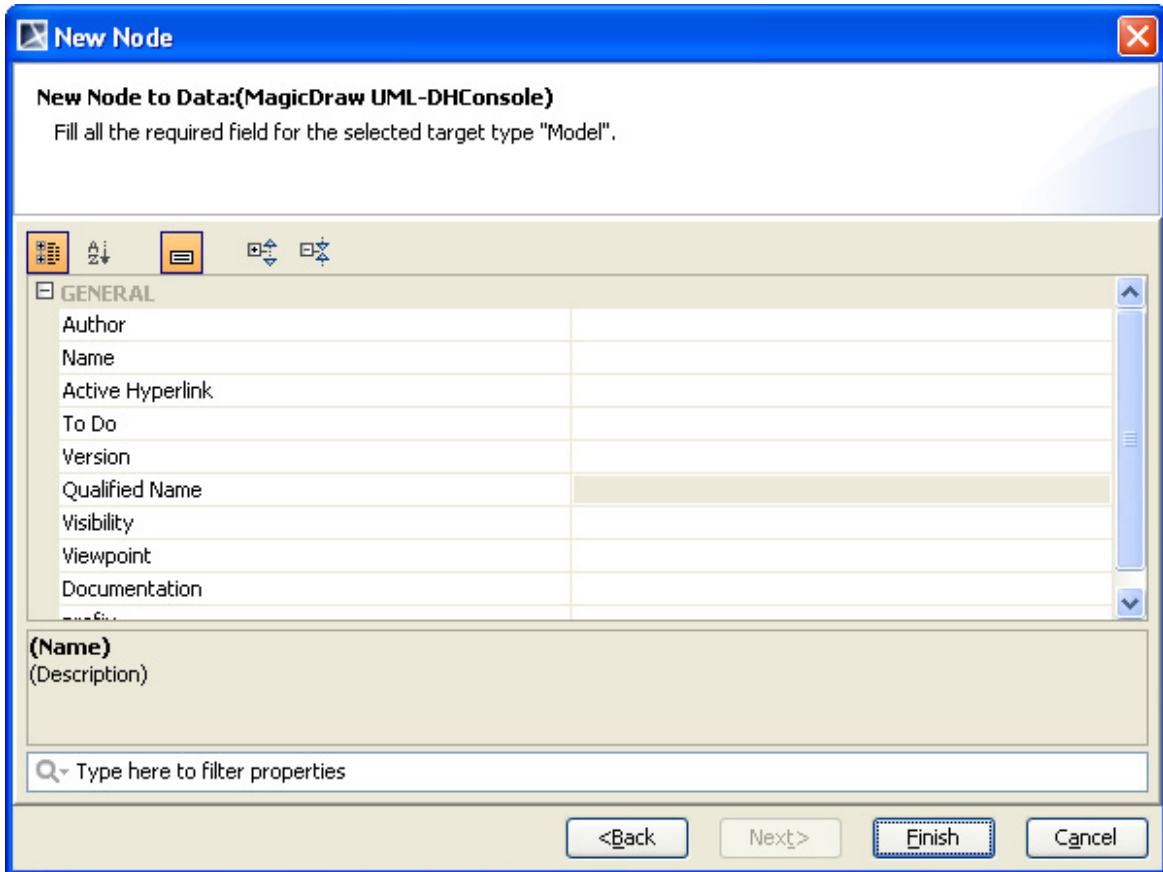


Figure 56 -- New Node's Properties

4.4.4 Using DataHub Operation Mode

The DataHub operation mode in DataHub Explorer provides several options for you to work with your data. You can export or synchronize data, or create a relation between the source and target items by dragging a node from DataHub Explorer to the Containment tree or vice versa (Figure 57).

DATAHUB IN MAGICDRAW AND CAMEO REQUIREMENTS+

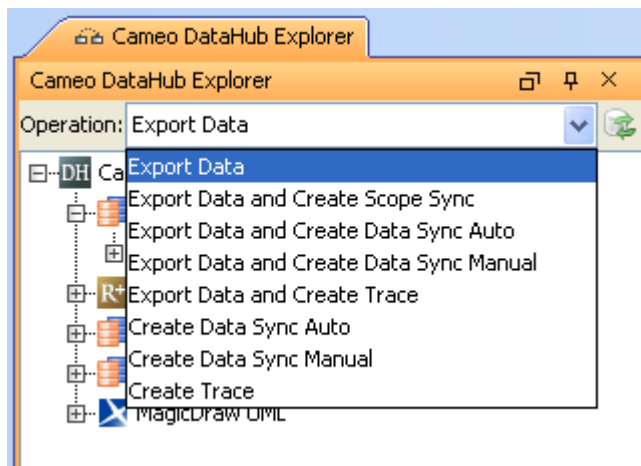


Figure 57 -- DataHub Operation Mode

DATAHUB IN MAGICDRAW AND CAMEO REQUIREMENTS+

Table 22 -- Operation Mode Functions

Mode	Function
Export Data	To export data and the child only.
Export Data and Create Scope Sync	To export data and create a Scope Sync relation between the original and new data to be exported. When data synchronization is being executed, associated items will automatically be updated or deleted whenever other items are changed or deleted. The Scope Sync relation will transfer the new created nodes to other associated tools as well.
Export Data and Create Data Sync Auto	To export data and create an auto data Sync relation between the original and new data to be exported. When data synchronization is being executed, associated items will automatically be updated or deleted whenever other items are changed or deleted. Unlike Export Data and Create Scope Sync mode, new created node is not detected.
Export Data and Create Data Sync Manual	To export data and create a manual data Sync relation between the original and new data to be exported. When data synchronization is being executed, associated items will be notified as PendingUpdate or PendingDelete whenever other items are changed or deleted. You can update or discard PendingUpdate , and/or delete or remove PendingDelete items. Unlike Export Data and Create Scope Sync mode, new created node is not detected.
Export Data and Create Trace	To export data and add a Trace relation to the data. When data is traced, only data changed is detected. No synchronization on trace relation.
Create Data Sync Auto	To create an auto data Sync relation between two items. When data synchronization is being executed, associated items will automatically be updated or deleted whenever other items are changed or deleted. The target node will be updated once the source node is dropped and relation will update data only.
Create Data Sync Manual	To create a manual data Sync relation between two items. When data synchronization is being executed, associated items will be notified as PendingUpdate or PendingDelete whenever other items are changed or deleted. You can update or discard PendingUpdate , and/or delete or remove PendingDelete items. The data Sync relation will update data only.

Mode	Function
Create Trace	To create a Trace relation when dragging the source data to the target data. When data is changed, the related node status will be Suspect .

4.4.5 Exporting Data with Relations

You can export data from the **MagicDraw** or **Cameo Requirements+** Containment tree to **DataHub Explorer** or vice versa, or export data within **DataHub Explorer** by dragging the source item to the target item.





You can also export data and create a relation between items. Scopes synchronization is one type of relation. It maintains the structure and hierarchy of the elements within its scope. During data synchronization, Cameo DataHub will check for new nodes. If it finds any new nodes within the scope, Cameo DataHub will export them to the other side and create a scopes synchronization relation between them. In order to do that, a *Data Type* and a *Schema Map* are required. If no default data type or auto schema map is found in the system, Cameo DataHub will ask you to create one.

DataHub also provides a default schema map template for data mapping (see section 4.4.10 Updating Schema Maps). If the exported data match the default schema map template, DataHub will use them for mapping data types and attributes. For example, if you export a Business Requirement node from the Cameo Requirements+ driver to MagicDraw driver, DataHub will automatically choose a SysML Business Requirement node as the target type. However, you can change the default schema map template if you want to.

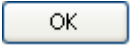
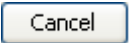
If the exported node has no default schema map, you have to resolve any unmapped node using the schema map window (Table 23).

DATAHUB IN MAGICDRAW AND CAMEO REQUIREMENTS+

Table 23 -- Components of the Schema Map Window

Component	Function
Ambient	<p>Export Data</p> <p>To resolve all of the missing target types and schema maps. You can select a target type from the list and define a schema map. Next, choose a target attribute from the combo box to map with the source attribute. The Transformation Rule will be available for mapping between Enumerations.</p>
Quick search	To find the type containing specific input text in real time. Real-time search results will be displayed as you type in characters.
Target Type tree	To serve as a Data Type tree containing all of the types that are allowed to be added by a selected type. The tree is provided by its adapter. A Cameo DataHub client shows the tree the way it was sent by the adapter.
Set as default target type [Check Box]	To allow a Cameo DataHub client to create the same type of target whenever a source type is selected. If the map already exists in the system, the new target type will override the old one.
Source Tree	To specify a data tree of the source that will be exported. You will need to specify a target type for every source type. (See below for the status icon).
Description of how to use Source Tree	To select a suspect node in the tree to be resolved. You need to resolve all suspect nodes before exporting them.
	To refer to a node whose Source type has already been resolved.
	To refer to a node whose source type needs to be resolved before exporting it.
	<p>To refer to:</p> <ul style="list-style-type: none"> • a node that will not be exported since the target type does not support adding any child. • a link that will not be exported since the source of the target type and/or the target type does not support creating links.
	To refer to a node that has been mapped and locked since it already has a scope sync relation.

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Component	Function
Do not show this map again next time [Check Box]	To hide the schema map window the next time you want to export the same source and target types as shown in the schema map.
 [Button]	To confirm the target type and schema map to be exported.
 [Button]	To cancel the export process.

To export data or create a relation from **DataHub Explorer** to the **MagicDraw** or **Cameo Requirements+** Containment tree:

1. Select (i) the **Export Data** mode from the DataHub operation mode to export data only, (ii) the **Export Data and Create Sync Auto/Manual** mode to export data and create auto/manual synchronization, or (iii) the **Export Data and Create Scope Sync** mode to export data and create scopes synchronization.

DATAHUB IN MAGICDRAW AND CAMEO REQUIREMENTS+

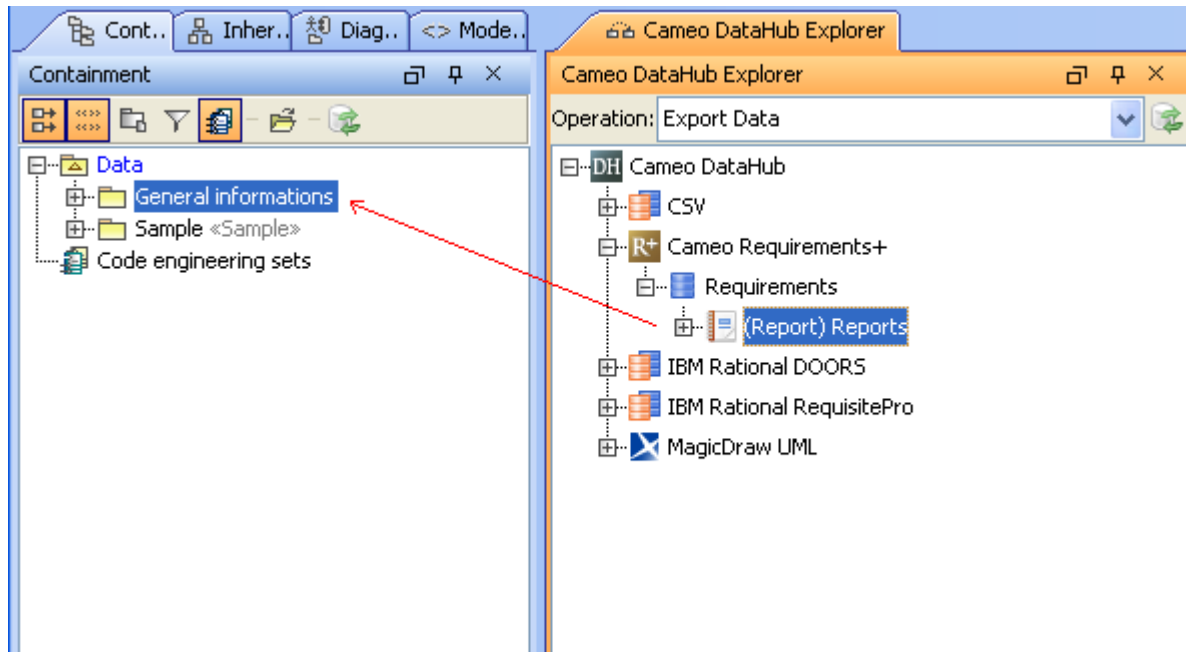


Figure 58 -- Exporting from DataHub Explorer to MagicDraw

2. Drag a node from DataHub Explorer to an element in the Containment tree in MagicDraw (Figure 58) or Cameo Requirements+ (Figure 59). The **Export** dialog will open (Figure 61) and show a schema map for the source and target types.

NOTE:

If you want to export a link relation (MagicDraw relation, Cameo Requirements+ relation, DOORS link, or IBM RequisitePro traceability), you have to export all the parent nodes of this relation. If only one parent node is exported, the link relation will not appear.

DATAHUB IN MAGICDRAW AND CAMEO REQUIREMENTS+

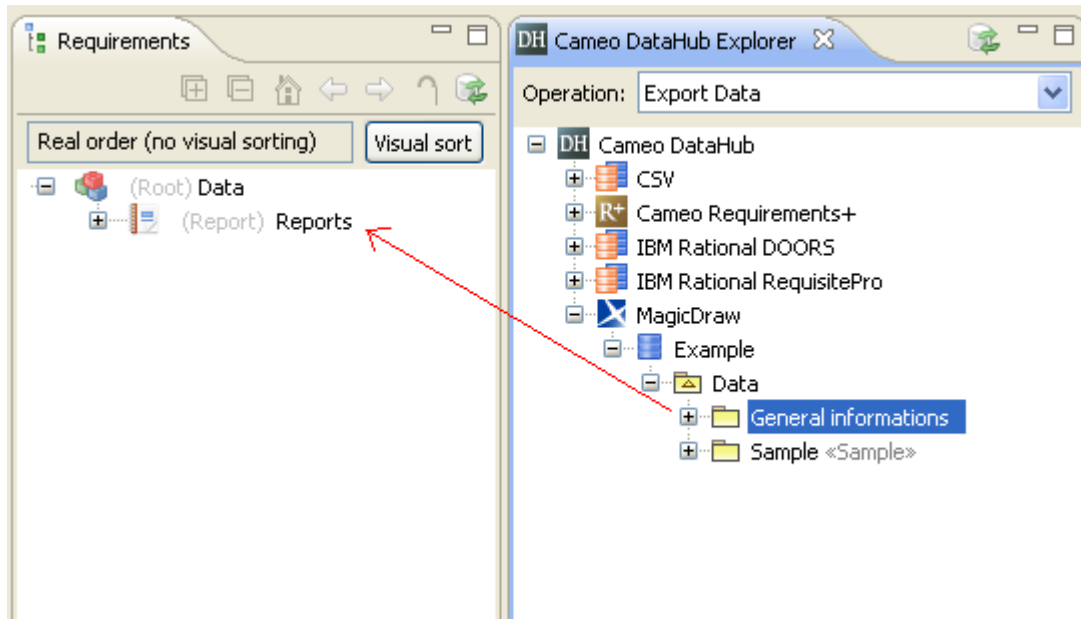


Figure 59 -- Exporting from DataHub Explorer to Cameo Requirements+

3. You can also drag a node from DataHub Explorer to the MagicDraw diagram pane. The dragged node will be displayed as an element (Figure 60) (this feature is only available in MagicDraw). Any nodes that has not been mapped to a type in the target tool will be shown with a red circle (Figure 61).

DATAHUB IN MAGICDRAW AND CAMEO REQUIREMENTS+

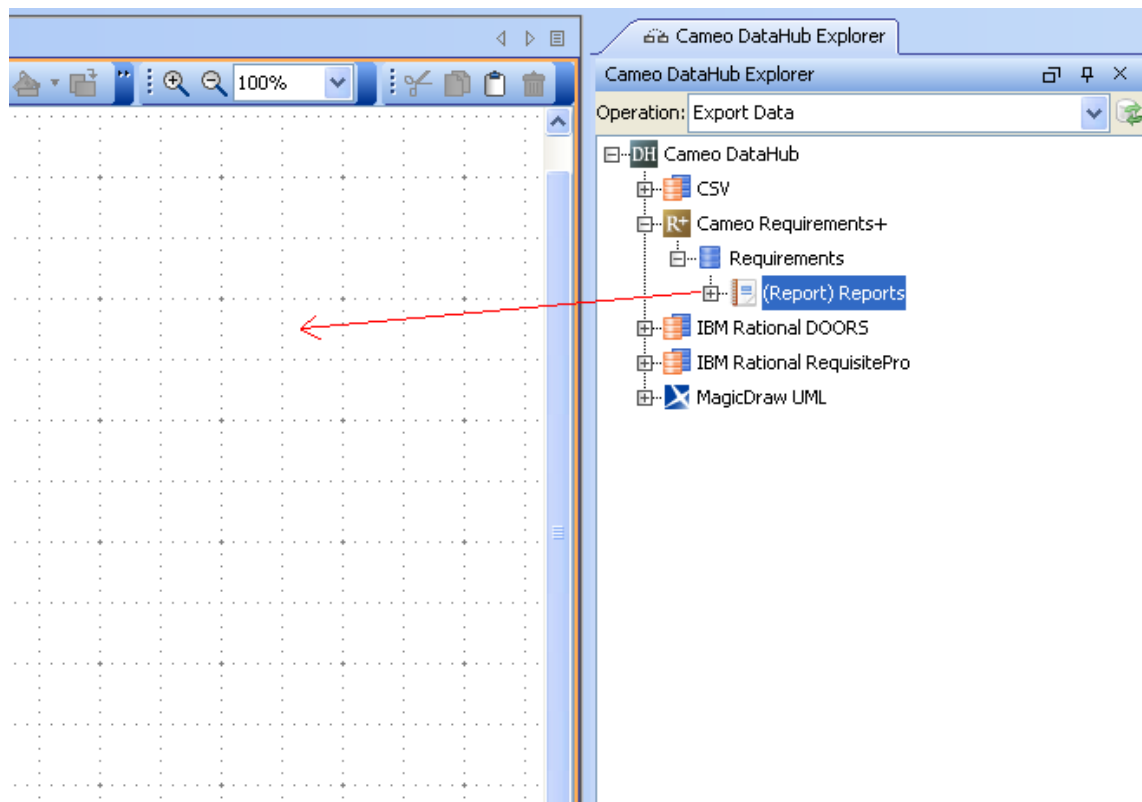


Figure 60 -- Dragging a Node to the MagicDraw Diagram Pane

NOTE:

If you want the exported models on the MagicDraw diagram pane to have particular layouts. You can use **MagicDraw Macro Engine** to do it (See MagicDraw Macro Engine User Guide for more details).

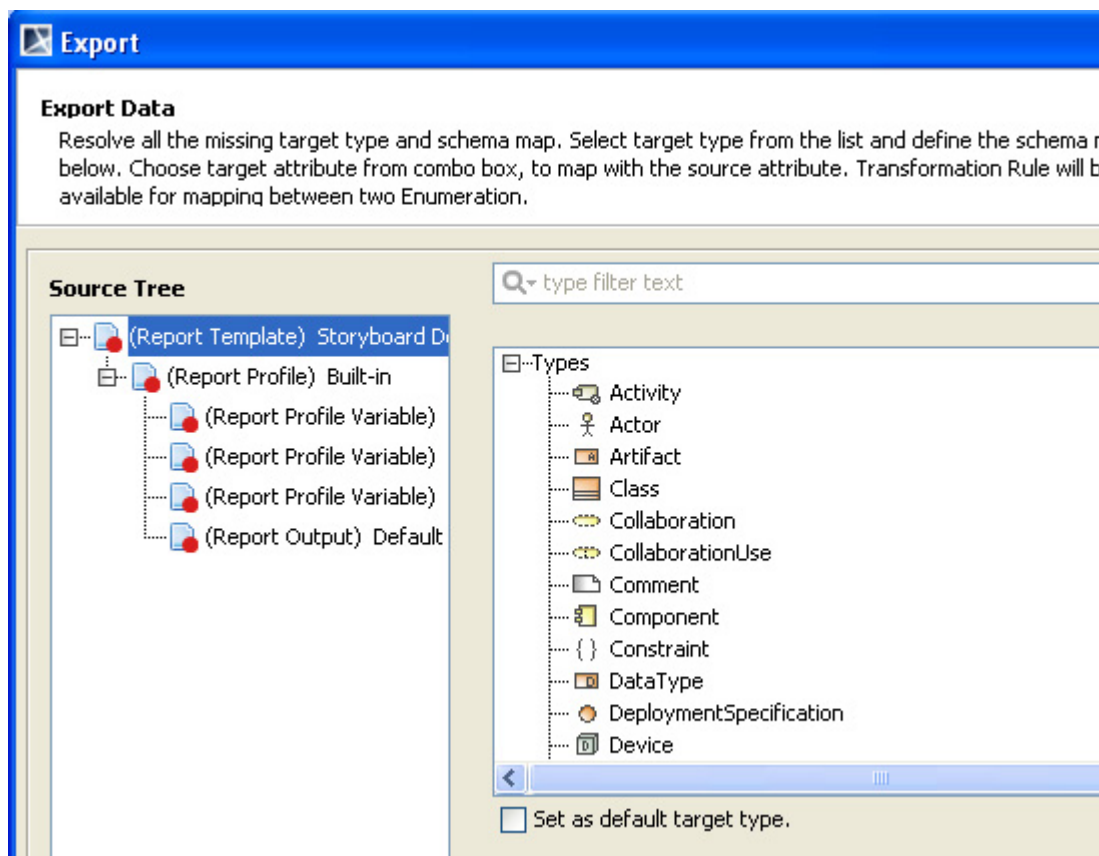


Figure 61 -- Export Dialog

4. To resolve an unmapped node (a node with a red circle), select it from the Source tree and choose a target type that is available on the list on the right-hand side of the dialog. You can select the **Set as default target type** check box so that your nodes will be mapped to the same target type whenever you export data (Figure 62).

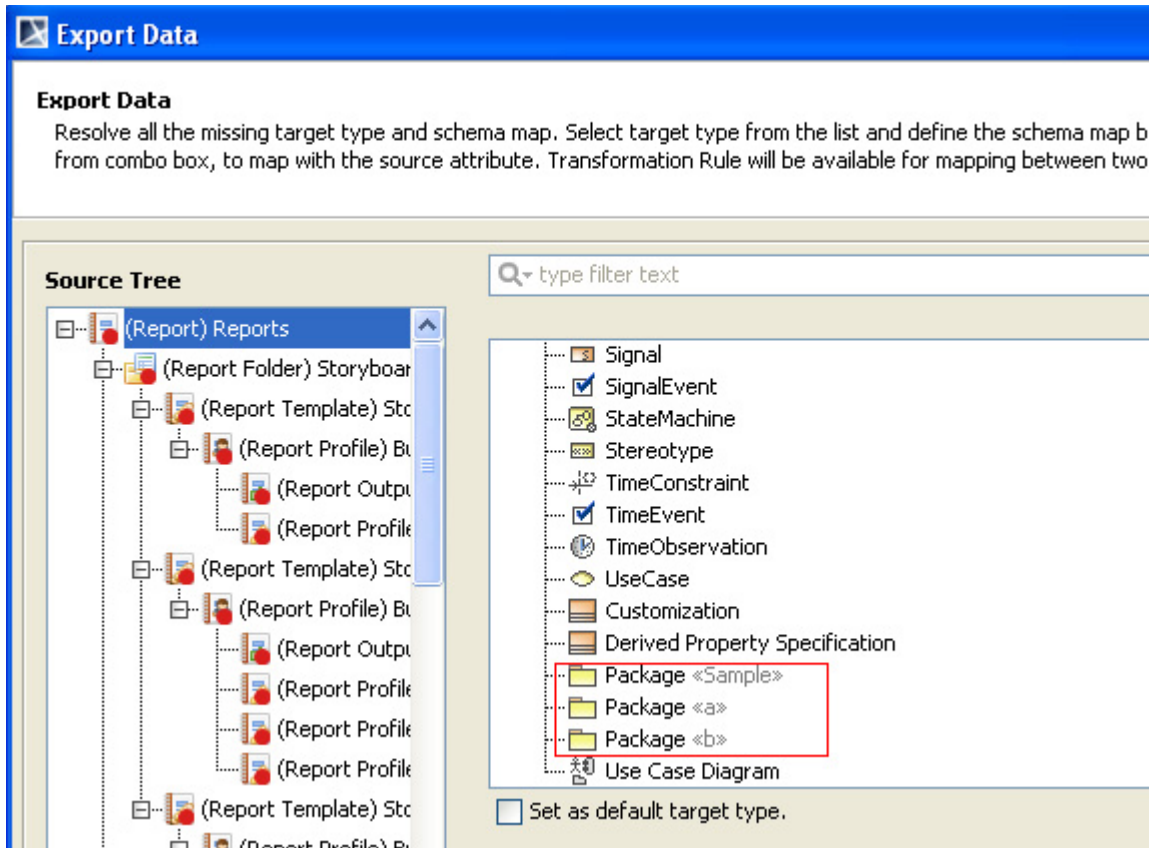


Figure 62 -- Target Type of Applied Stereotype Element

NOTE

- DataHub support stereotypes so if you have the same MagicDraw data type with different stereotypes, you can map these two nodes using a different schema.
- You can also map custom nodes or your own created nodes. Once you have created the nodes, restart the DataHub driver and reconnect to DataHub Server (see section 3.3.1.3 Starting, Restarting, or Stopping DataHub Server). Then you will be able to see the custom nodes in the DataHub schema map window.

DATAHUB IN MAGICDRAW AND CAMEO REQUIREMENTS+

5. To map a source attribute with a target attribute, click the cell of the target attribute to be mapped with the source attribute and select the target attribute from the drop-down menu. Once the type and attributes have been mapped, the color of the circle on the source node will change from red to green (Figure 63).
6. Continue mapping all the types of the source node, and then click **OK** to export them.

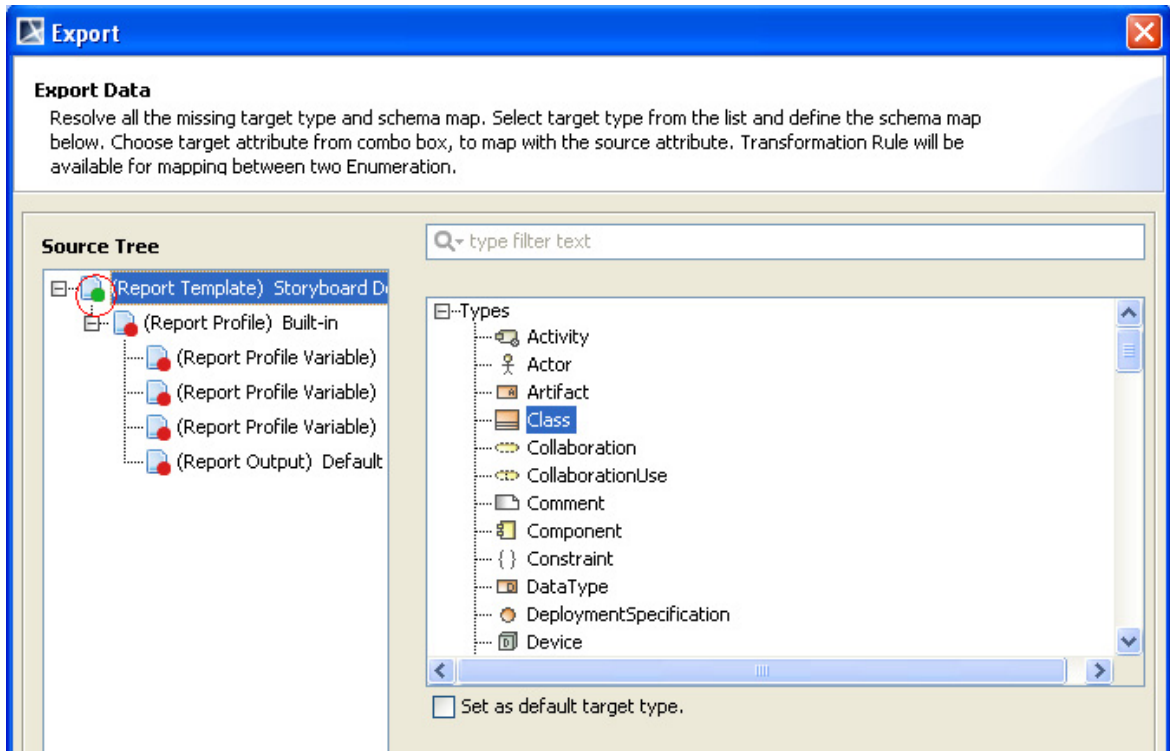


Figure 63 -- Nodes Mapping

7. When data have been exported successfully, the **Export summary** dialog will open and show a list of all exported data (Figure 64).

DATAHUB IN MAGICDRAW AND CAMEO REQUIREMENTS+

NOTE If you select the **Export Data and Create Sync Auto/Manual** mode, DataHub will allow you to leave unresolved nodes when exporting data. However, if you select the **Export Data and Create Scope Sync** mode, you have to map all nodes in order to maintain data hierarchy.

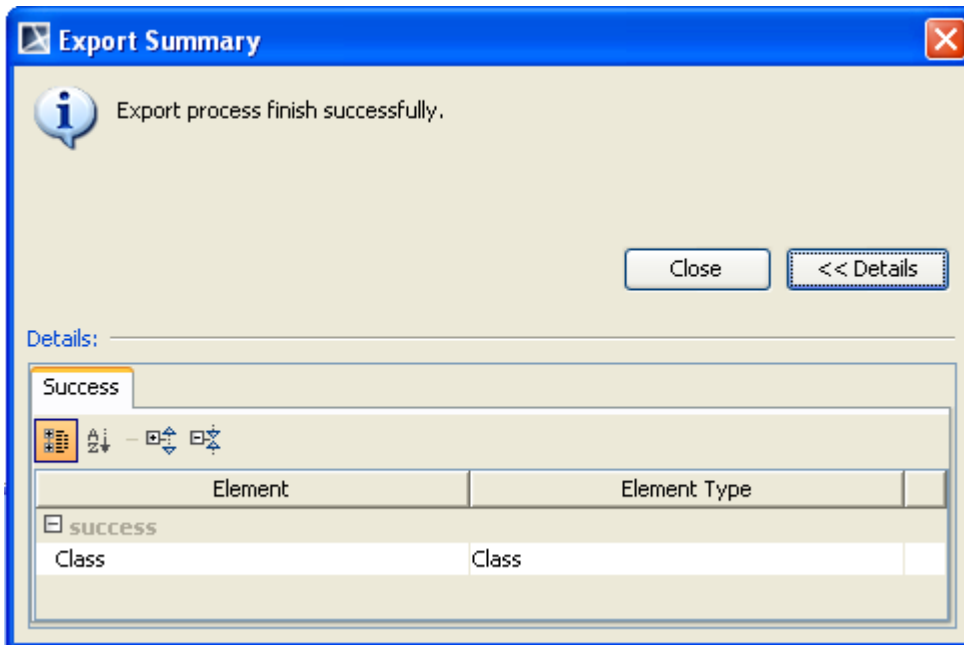


Figure 64 -- Export Summary Dialog

To export data or create a relation from a Data Source within DataHub Explorer:

1. You can select (i) the **Export Data** mode from the DataHub operation mode box to export data only, (ii) the **Export Data and Create Sync Auto/Manual** mode to export data and create auto/manual synchronization, or (iii) the **Export Data and Create Scope Sync** mode to export data and create scopes synchronization.

DATAHUB IN MAGICDRAW AND CAMEO REQUIREMENTS+

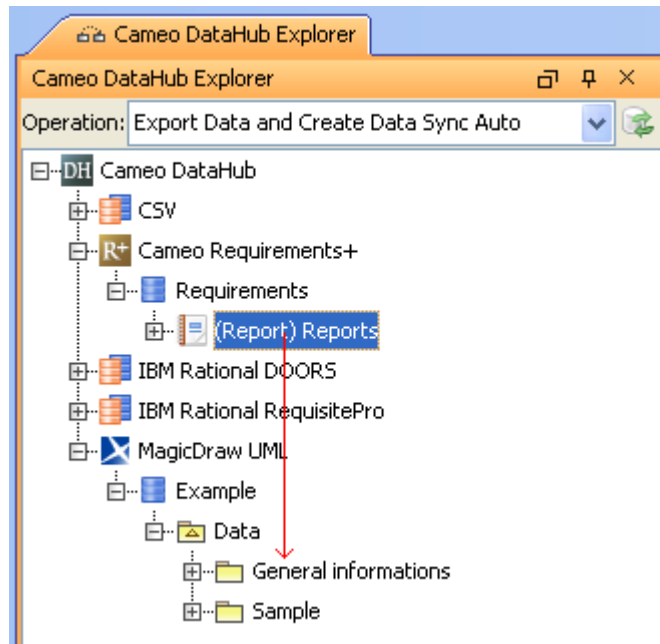


Figure 65 -- Dragging a Node within DataHub Explorer

2. Drag a node from any **Data Source** to a node within **DataHub Explorer** (Figure 65).
3. Repeat steps 4 to 7 of section 4.4.5 Exporting Data with Relations above to finish the DataHub Export with Relations operation.

To export data to a CSV Data Source:

1. Select either (i) the **Export Data** mode from the DataHub operation mode box to export data only or (ii) the **Export Data and Create Sync Auto/Manual** mode to export data and create auto/manual synchronization.

DATAHUB IN MAGICDRAW AND CAMEO REQUIREMENTS+

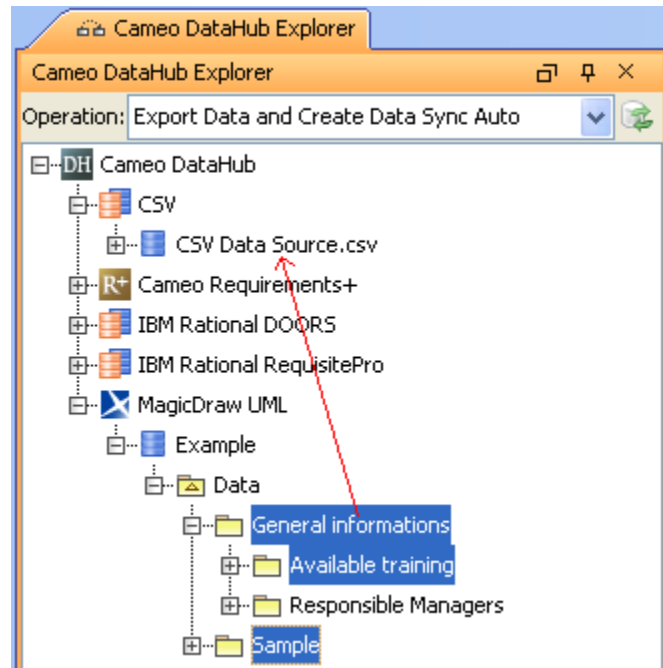


Figure 66 -- Multiple select nodes

2. You can select and export multiple nodes and their sub-nodes to the CSV Data Source by dragging them. Once you have dragged the nodes to the CSV Data Source, a dialog will appear asking whether you want to add the nodes recursively. Select **No** to export the nodes without data hierarchy (Figure 66).
3. Repeat steps 4 to 7 of section 4.4.5 Exporting Data with Relations above to finish the DataHub Export with Relations operation.

DATAHUB IN MAGICDRAW AND CAMEO REQUIREMENTS+

NOTE

- A CSV Data Source does not support the **Export Data and Create Scope Sync** operation since a CSV file has no data hierarchy.
- You cannot import links (MagicDraw or Cameo Requirements+ relation, DOORS link, or IBM RequisitePro traceability) to a CSV Data Source since links always have data hierarchy with their parent nodes.
- You will not be able to synchronize relations with a CSV data source if you change the attribute synchronized with an CSV key field. This is because DataHub uses the CSV key field to indicate the synchronization target.

4.4.6 Working with Data Sync

With synchronization relations, you can synchronize data between the source and target nodes. DataHub has two types of synchronization relations, auto and manual. You can create a synchronization relation by choosing **Create Data Sync Auto** or **Create Data Sync Manual** from the DataHub operation mode.

NOTE	When you perform data synchronization, DataHub will use data in the selected nodes or project to be synchronized. So, any changes in the Data Source on the other side will be lost.
-------------	--

4.4.6.1 Synchronizing Data Using Sync Auto Relation

The **Create Data Sync Auto** mode will update the source and target nodes once you click **Synchronize**.

To synchronize data using the Sync Auto relation:

1. Select **Create Data Sync Auto** from the Operation mode box (Figure 67).

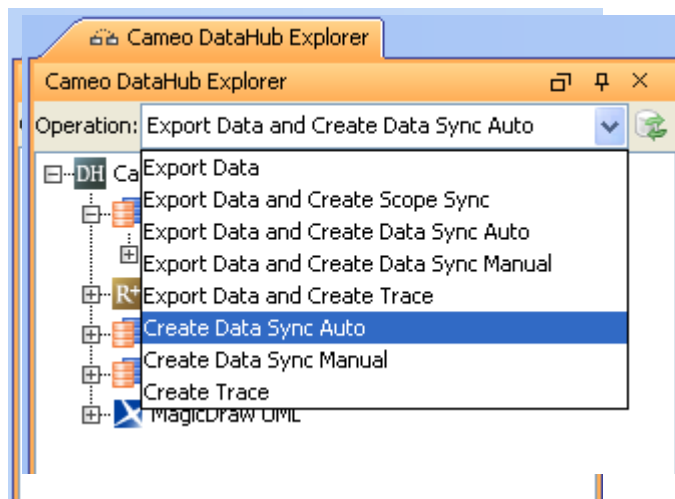


Figure 67 -- Creating a Sync Auto Relation between Nodes

2. Drag a source node to a target node.
3. Once the synchronization relation has been created, the **Create Data Synchronization** dialog will open, prompting you to map the attributes between the source and target nodes (Figure 68).

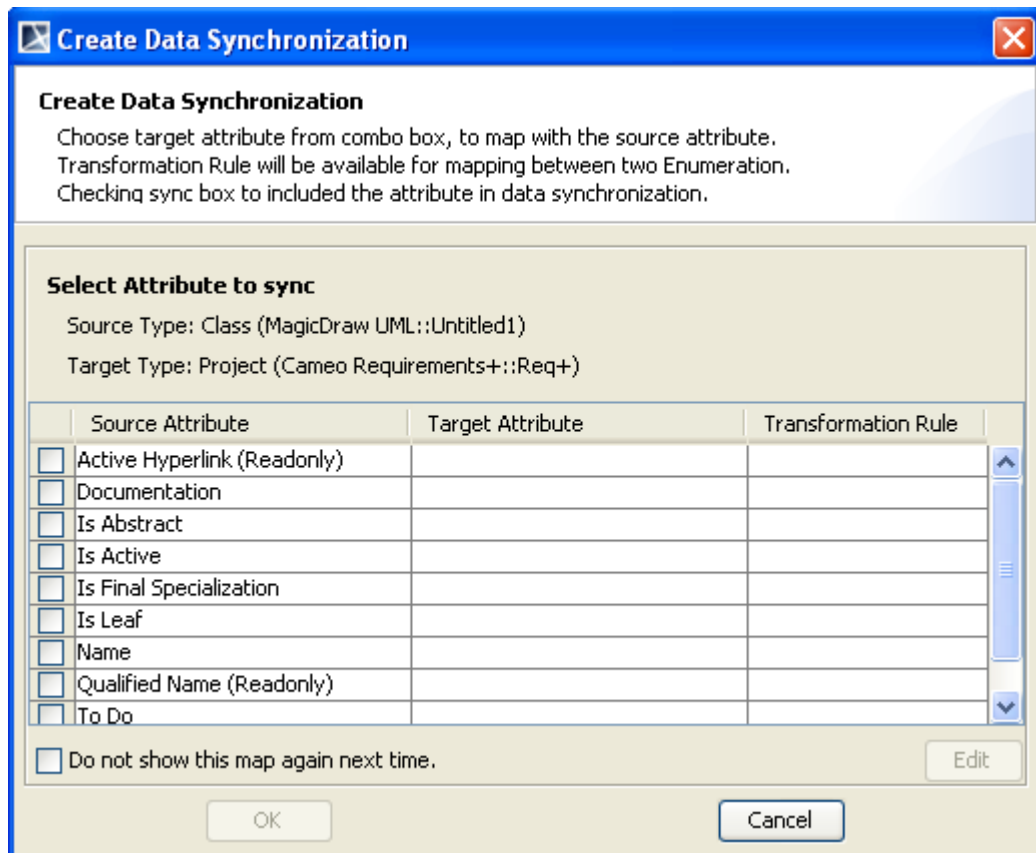


Figure 68 -- Create Data Synchronization Dialog

4. When you finish mapping the attributes, click **OK**.

4.4.6.2 Synchronizing Data Using Sync Manual Relation

The Data Sync Manual mode will not update the source and target nodes automatically once you click **Synchronize**. The following are the steps to update your data.

To synchronize data using the Sync Manual relation:

1. Select **Create Data Sync Manual** from the Operation mode box (Figure 69).

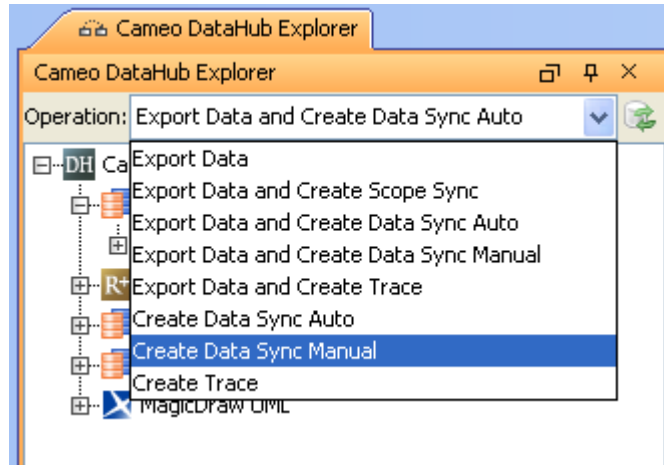


Figure 69 -- Creating a Sync Manual Relation between Nodes

2. Drag a source node to a target node.
3. Once the Sync Manual relation has been created, the **Create Data Synchronization** dialog will open, prompting you to map the attributes between the source and target nodes (Figure 70).

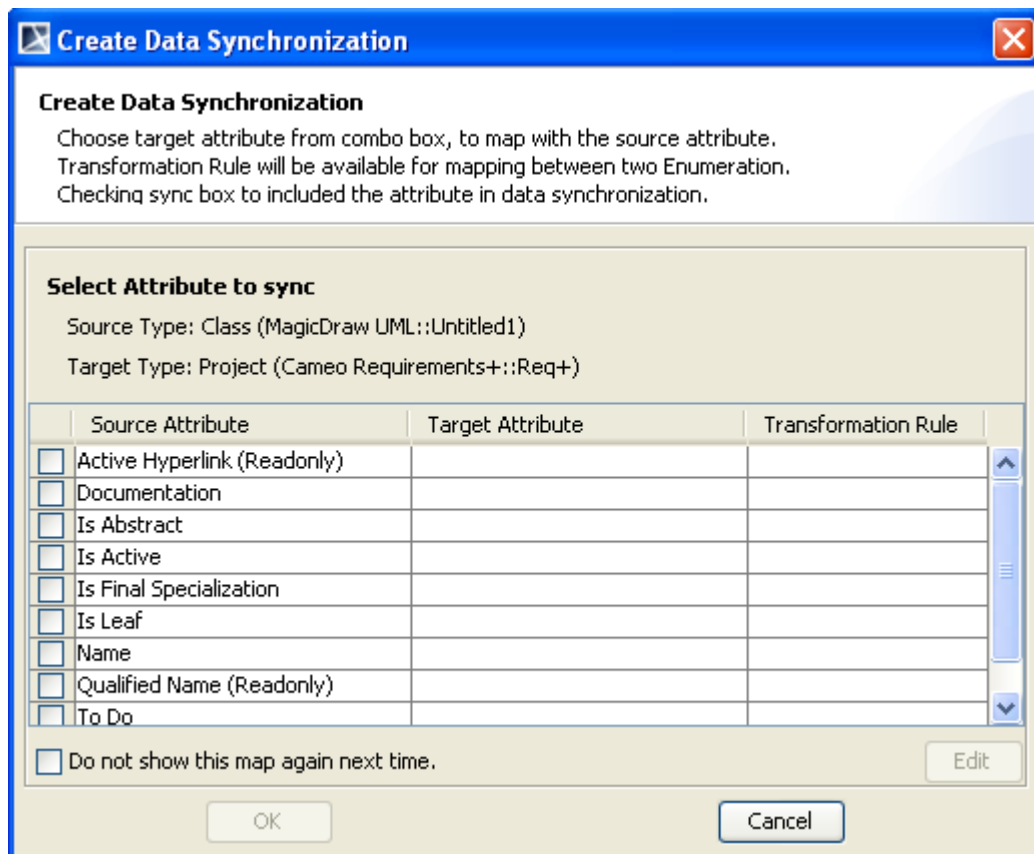


Figure 70 -- Create Data Synchronization Dialog

4. When you finish mapping the attributes, click **OK**.

When you synchronize data using the Sync Manual relation, you can use the same steps as you would using the Sync Auto relation (see 4.4.6.1 Synchronizing Data Using Sync Auto Relation), but the updated data will not be sent to the associated nodes automatically. Those nodes will be in PendingUpdate or PendingDelete status. A node in pending status will be shown with a yellow half square triangle icon (Figure 71).

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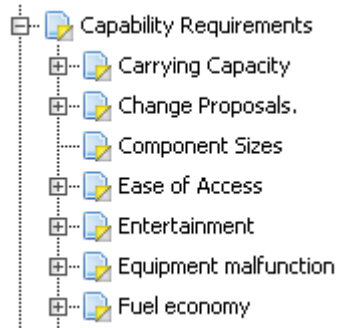


Figure 71 -- Nodes in Pending Status

To update a node after synchronizing it using the Sync Manual relation:

1. Either (i) double-click any node in DataHub Explorer or (ii) right-click and select **Properties** to open the **DataHub Relation** tab.
2. Select the associated node in pending status in the **DataHub Relation** tab. The list will show a **Pending** relation.
3. Right-click the node in the column **Status**, and then click **Update** (Figure 72).

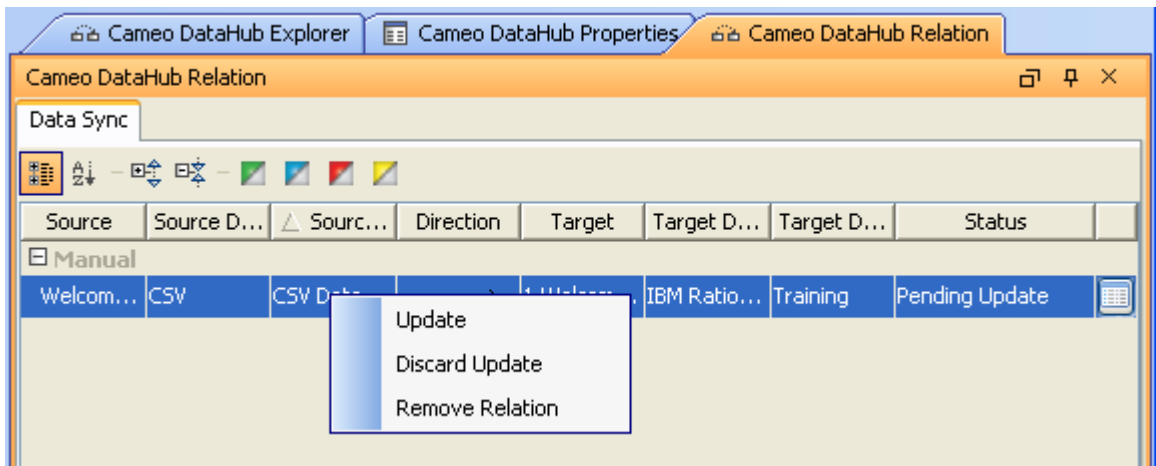


Figure 72 -- Updating a Node in Pending Status

4.4.6.3 Synchronizing Data Using Project Synchronization Button

You can click the **Project Synchronization** button to synchronize the entire Data Source (Figure 73).

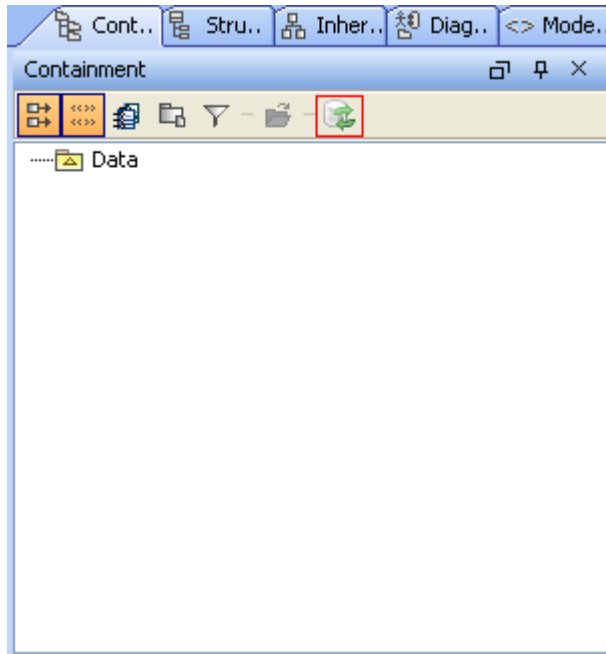


Figure 73 -- Project Synchronization Button

The **Project Synchronization** button is available in the **MagicDraw** and **Cameo Requirements+** Containment tree, and DataHub Explorer. When you click the **Synchronize** button, it will synchronize all items that have relations in the currently open project.

Another method to synchronize the entire connected driver is to use the Synchronization feature, which is available on the DataHub **Actions** menu.

To synchronize a driver in Cameo Requirements+:

1. Select a Driver node to be synchronized.
2. On the application main menu, click **Tools > DataHub > Actions**.
3. Click **Synchronize** (Figure 74).

DATAHUB IN MAGICDRAW AND CAMEO REQUIREMENTS+

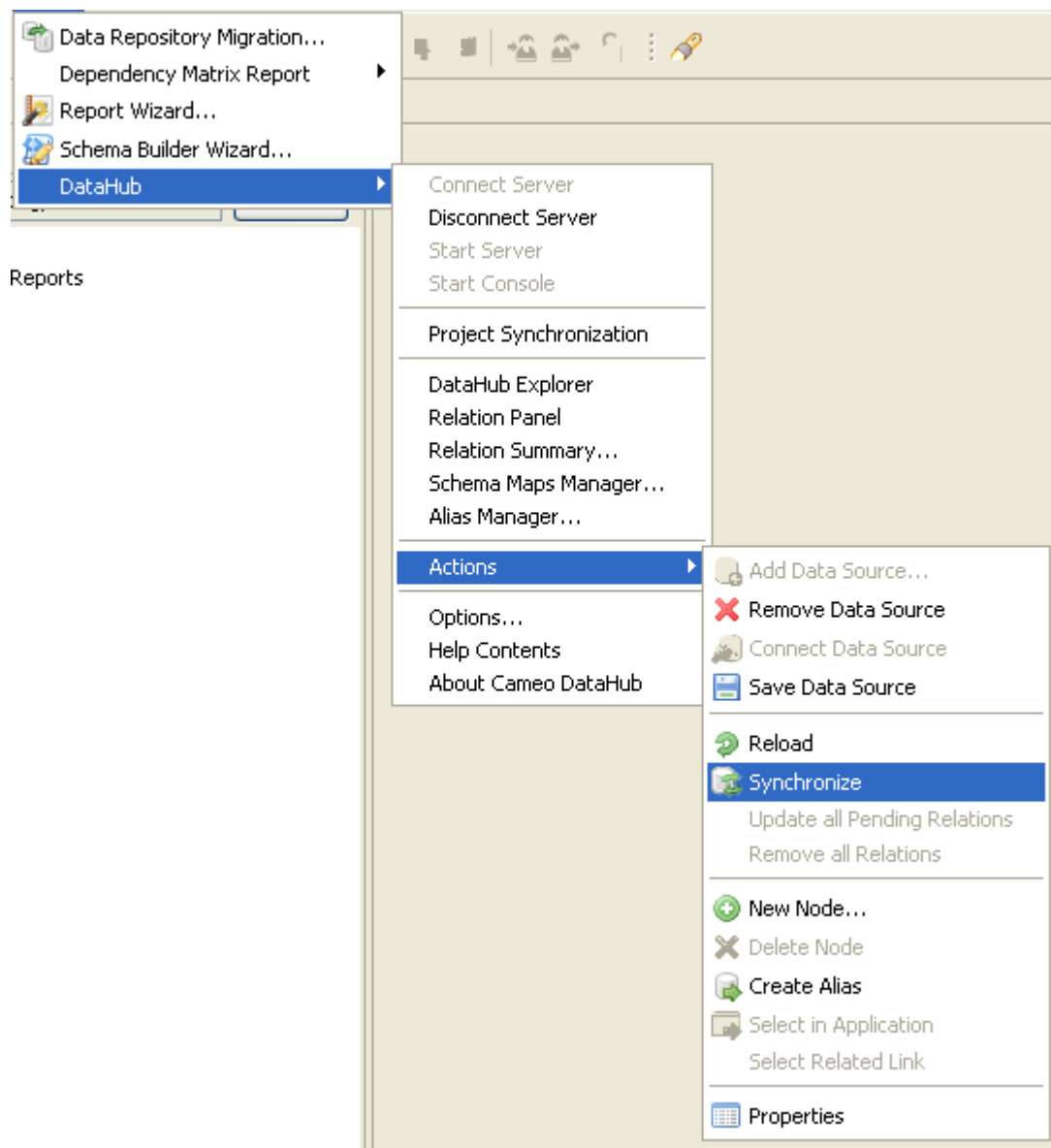


Figure 74 -- DataHub Synchronize Menu in Cameo Requirements+

DATAHUB IN MAGICDRAW AND CAMEO REQUIREMENTS+

To synchronize a driver (in MagicDraw):

1. Select a Driver node to be synchronized.
2. On the application main menu, click **Tools > Requirements > DataHub > Actions**.
3. Click **Synchronize** (Figure 75).

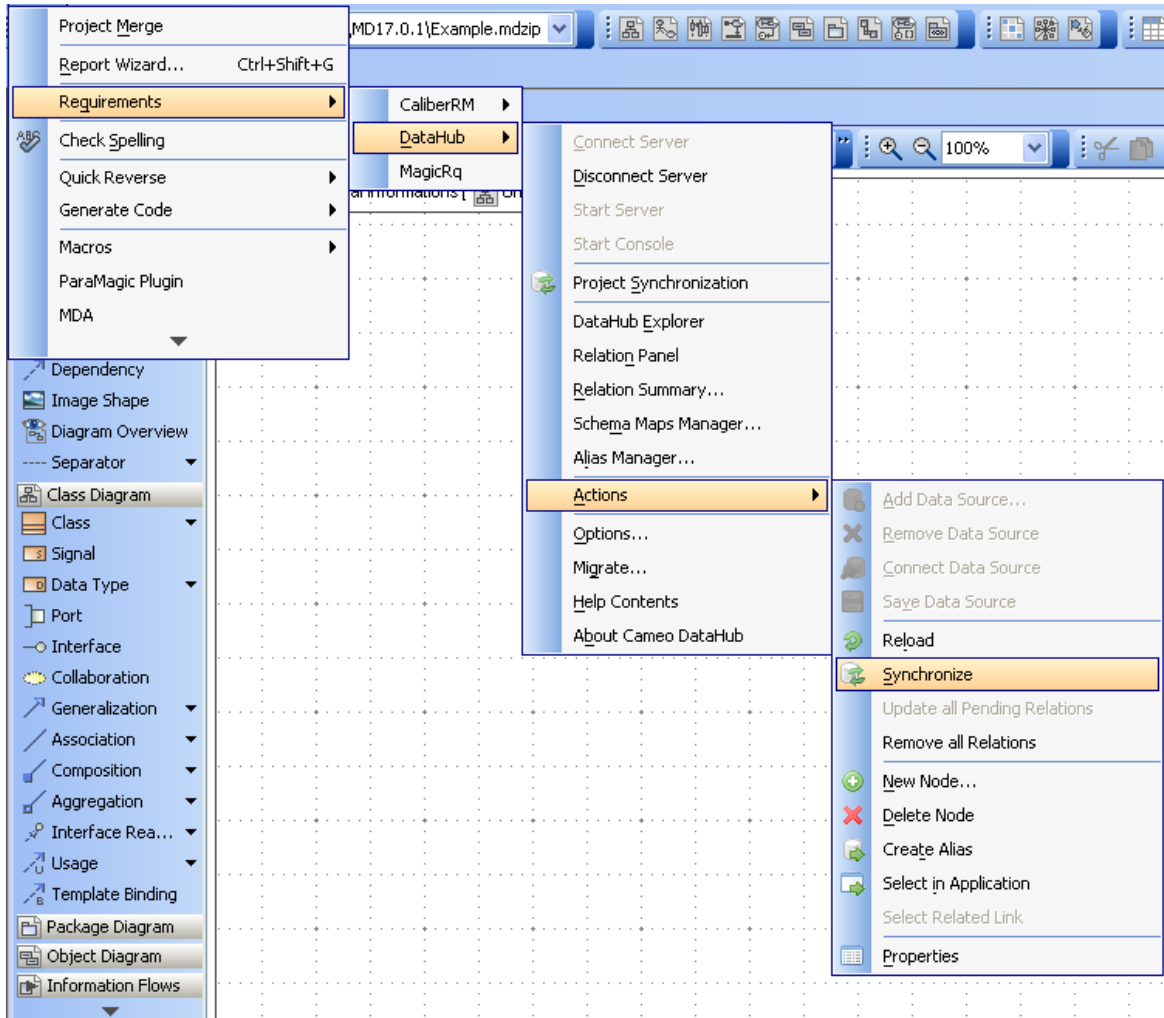


Figure 75 -- DataHub Synchronize Menu in MagicDraw

DATAHUB IN MAGICDRAW AND CAMEO REQUIREMENTS+

To synchronize the entire data source:

1. Select any nodes under the data source that you want to synchronize in DataHub Explorer.
2. Click the **Project Sync** button (Figure 76).

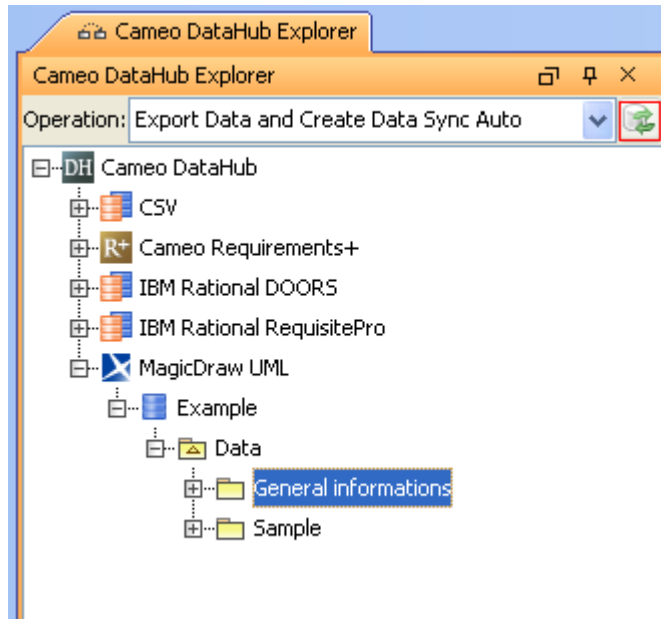


Figure 76 -- Project Sync Button in DataHub Explorer

You can also synchronize a project or repository in the Containment tree (Figure 77) or DataHub Explorer in MagicDraw and Cameo Requirements+.

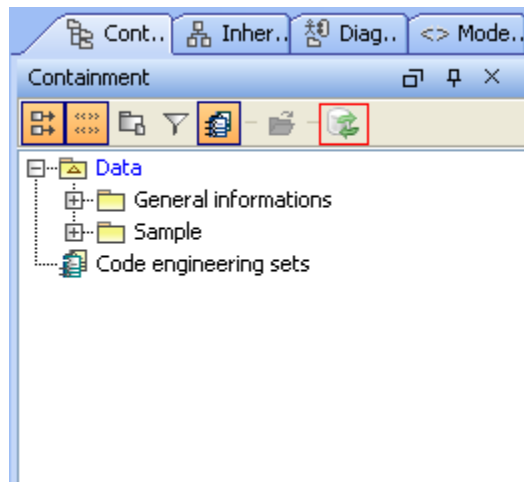


Figure 77 -- Sync Button in MagicDraw Containment Tree

You can also synchronize a particular node by using the DataHub context menu.

To synchronize a node using a context menu (in both MagicDraw and Cameo Requirements+):

1. Right-click a node to be synchronized.
2. Click **Synchronize Node** (Figure 78).

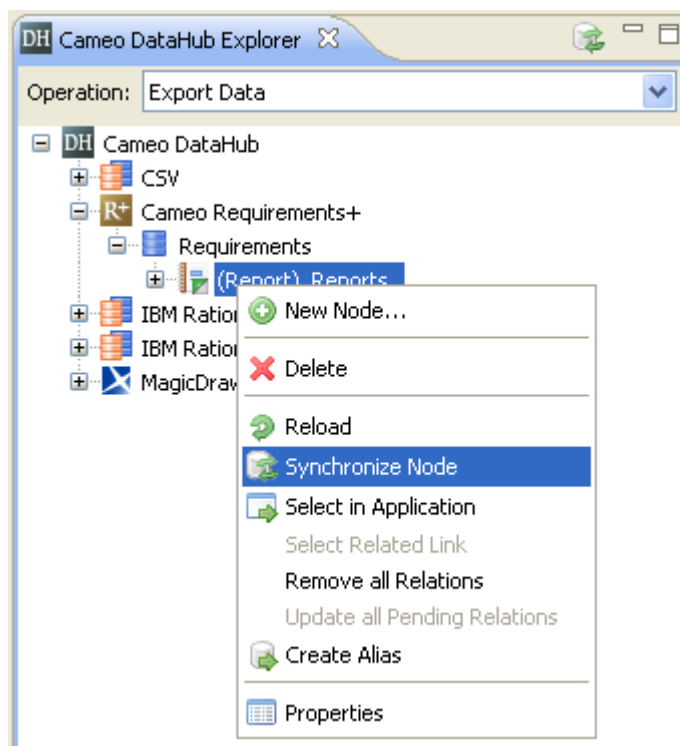


Figure 78 -- Synchronizing a Node Using the DataHub Context Menu in Cameo Requirements+

If you synchronize nodes that have scope relations, DataHub will maintain data hierarchy on the side which data synchronization is performed. Therefore, if there are any new created nodes, DataHub will also create them on the target side. The **Synchronize New Node** dialog (Figure 79) will open whenever you synchronize new nodes under the **Scope Sync** relation.

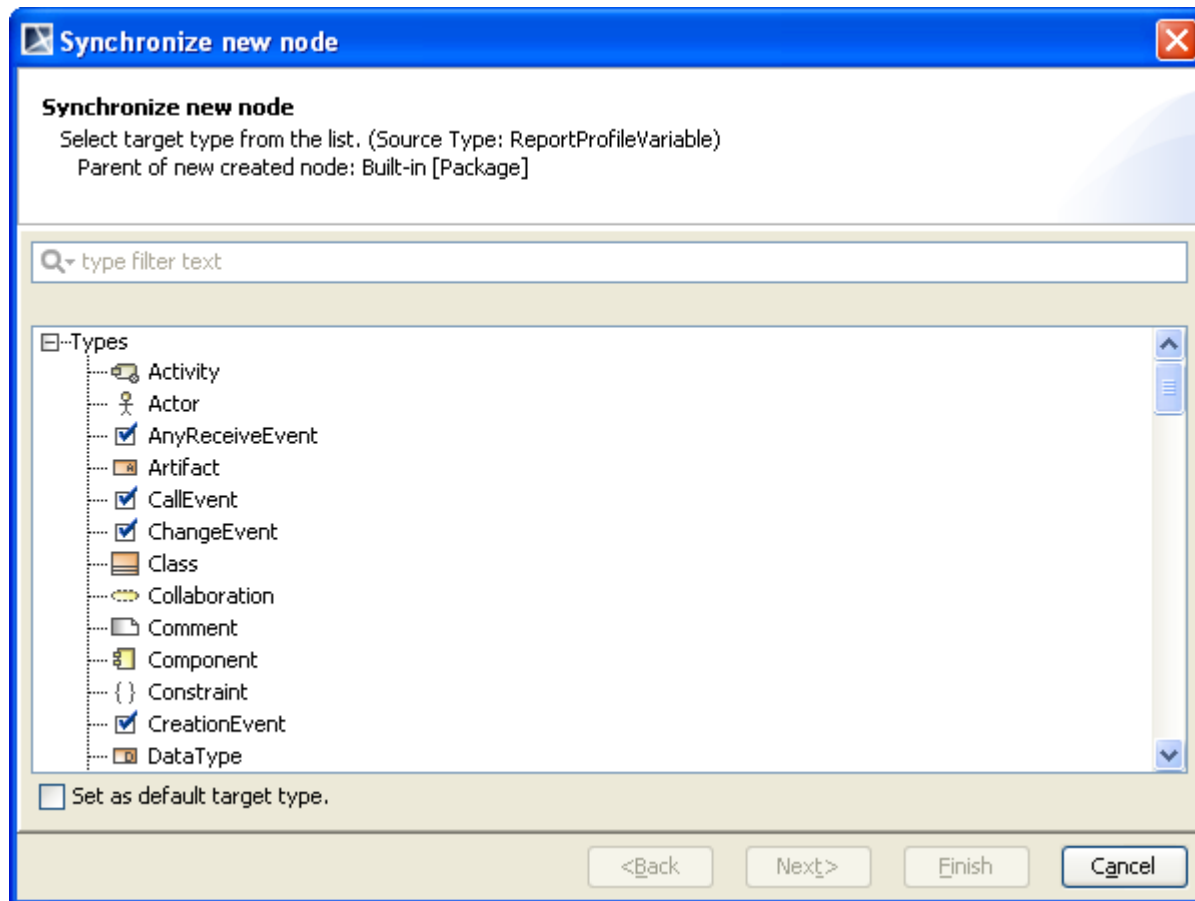


Figure 79 -- Synchronize New Node Dialog

To synchronize a new node under the **Scope Sync** relation:

1. Right-click a node and select **Synchronize Node** at the root of the scope relation that has new created nodes.
2. Select a target type in the **Synchronize New Node** dialog and click **Next**.
3. Map the target attributes and click **Finish**.

NOTE

If you have already set a default target type and select the **Do not show this map again next time** check box in **DataHub Schema Maps Manager**, DataHub will automatically create new nodes, and the **Synchronize New Node** dialog will not open.

DataHub will synchronize data of the selected nodes or project. In the case that you need to synchronize data in the MagicDraw and Cameo Requirements+ Data Sources, you have to click **Synchronize** in MagicDraw Data Source in the DataHub Explorer tab or MagicDraw containment tree. The **Sync Confirmation** dialog will open and ask for a confirmation (Figure 80). You can disable this dialog using the DataHub option menu.

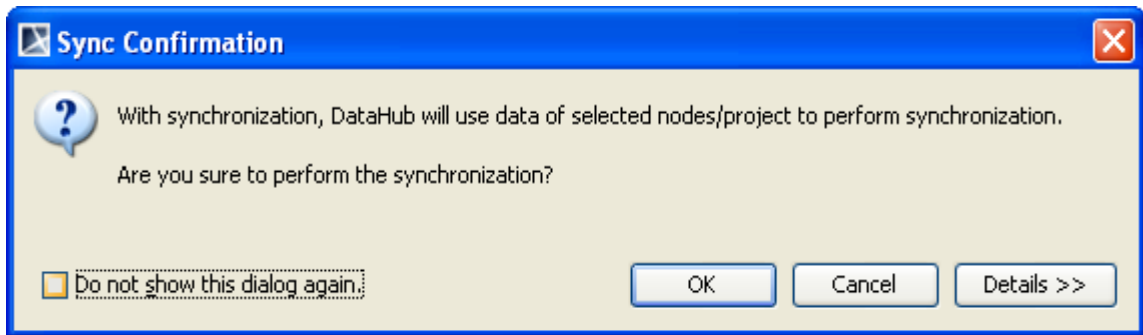


Figure 80 -- Sync Confirmation Dialog

4.4.6.4 Sync Status

A colored half square triangle icon represents a node with a Sync relation in the Containment tree and DataHub Explorer. Each color represents a different Sync status: (i) Synchronized, (ii) Pending Update, (iii) Pending Delete, or (iv) Orphan (Figure 81).



Figure 81 -- Sync Status Icons

Table 24 -- Sync Status Icon Colors and Meanings

Sync Status	Color	Meaning
Synchronized	Green	The node has some data that have been updated.
Pending Update	Yellow	The node has new synchronized data that have not been updated.
Pending Delete	Red	The node has been deleted and the synchronized data have not been updated.
Orphan	Blue	The node has been deleted, but it has new updated data to be synchronized.

4.4.6.5 Removing Relations

To remove a relation:

- Right-click either (i) an item in the DataHub browser and select **Remove all relations** from the shortcut menu (Figure 82) or (ii) a relation in the **DataHub Relation** tab, and click **Remove Relation** (Figure 83).

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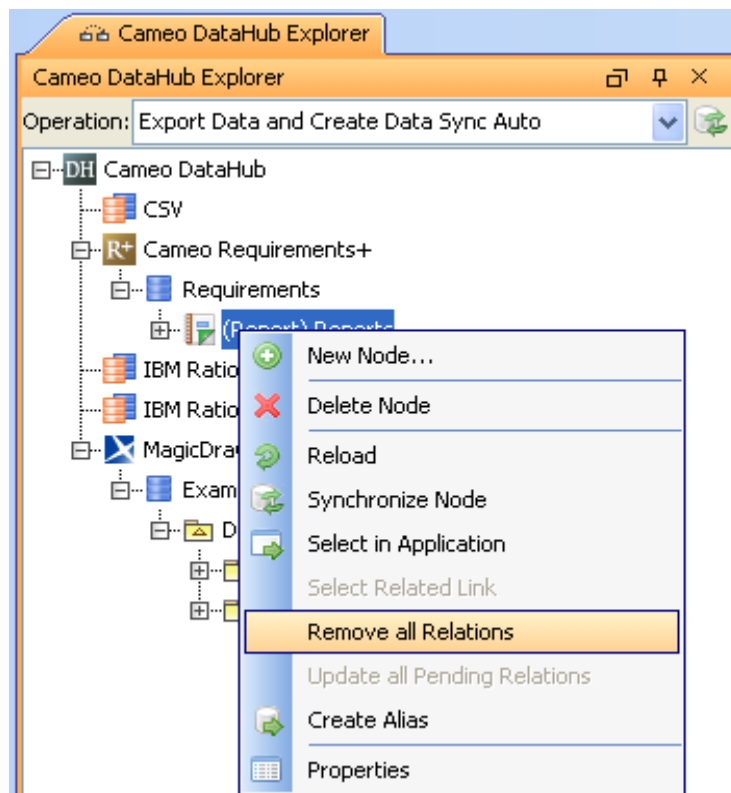


Figure 82 -- Removing Relation Using the DataHub Explorer Shortcut Menu

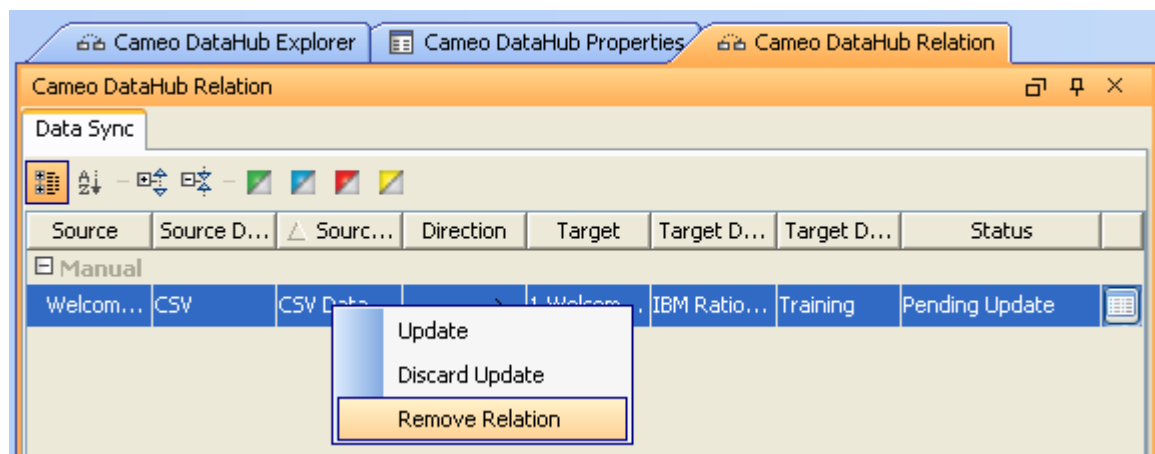


Figure 83 -- Removing Relation Using DataHub Relation Tab

4.4.7 Working with Trace

A Trace relation does not have any data transfer capability. It can only monitor whether an element has been changed.

To create a Trace relation:

1. Select **Create Trace** from the Operation mode box (Figure 84).

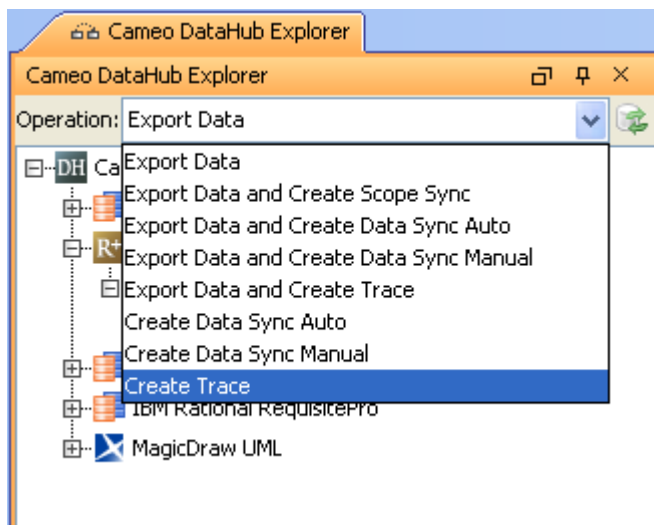


Figure 84 -- Creating Trace Relation between Nodes

2. Drag a source node to a target node.
3. Once the Trace relation has been created.

Once data on either side of the Trace relation have been changed and synchronized, the icon color will change to yellow, meaning that the nodes are now in **Suspect** status (Figure 85) and no data will be synchronized.

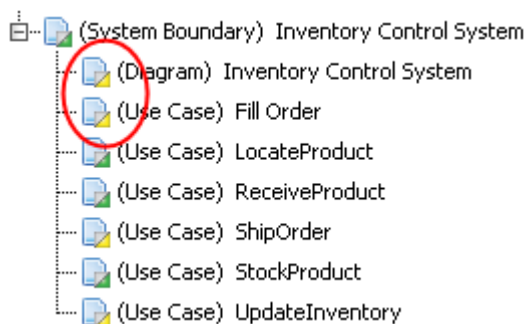


Figure 85 -- Trace with Suspect Status

To clear a Suspect status:

1. Either (i) double-click any node in DataHub Explorer or (ii) right-click and select **Properties** to open the **DataHub Relation** tab.
2. The list will show a suspect relation. Select a node in **Suspect** status in the **DataHub Relation** tab.
3. Right-click the node in the Status column, and then click **Clear Status** (Figure 86).

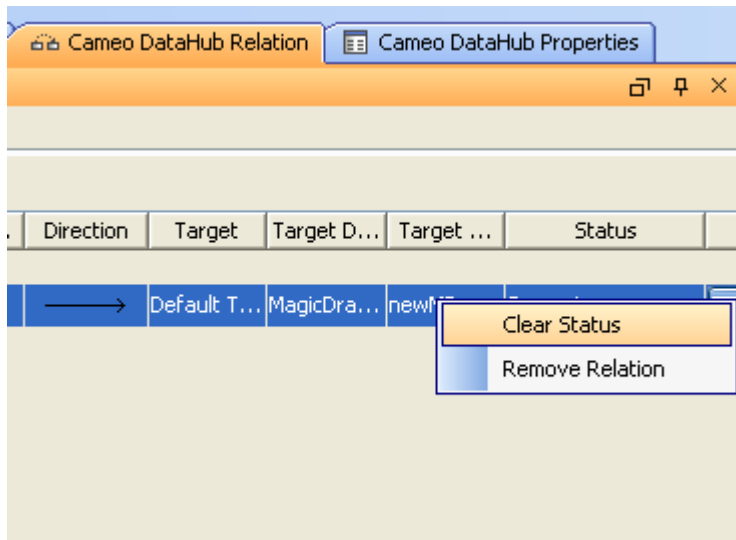


Figure 86 -- Clearing Data in Suspect Status

4.4.8 Managing Relations and Reports

If you have many relations to review, you can select **Relation Summary** from the DataHub menu to view all types of relations (Figure 87). In the **Relation Summary** window, you can filter the relations that you want to view and adjust the display. You can also manage those relations such as remove a relation, update, or clear a status in the summary window.

There are two filter options: (i) **No Relation** and (ii) **Relation**. The **No Relation** elements are the elements that have no relation in DataHub and the **Relation** elements are those that contain relations such as Scope Sync, Sync, and Trace relations.

DATAHUB IN MAGICDRAW AND CAMEO REQUIREMENTS+

To open the **Relation Summary** window:

1. Either
 - (i) in MagicDraw, click **Tools > Requirements > DataHub > Relation Summary....**
 - (ii) in Cameo Requirements+, click **Tools > DataHub > Relation Summary....**
2. The **Relation Summary** window will open (Figure 87 and Figure 88). The Filter Option pane on the left-hand side allows you to choose what types of relations to be displayed. You can select either:
 - (i) **No Relation** to display elements and relation types only.
 - (ii) **Relation** to display the relation between elements. If you select the **Relation** button, the **Data Sync** (Auto and Manual), **Scope Sync**, and **Trace** options will be enabled for you to select.
3. You can select any check box that represent the driver and data source to view the to-be generated relation summary.
4. Click **View**. The relation summary will open on the right-hand side of the window. Full details of the generated report are available in Table 25.

Details of each column shown in the Relation Summary window are explained in Table 25 below.

Table 25 -- Relation Summary Details

Column	Details
Source	The name of the element from a selected driver that has relations.
Direction	Direction of synchronization between two elements.
Target	The name of the element that has a relation with the Source column.
Data Source	The name of the data source of the Target column.
Relation Type	The type of the relation between the Source and Target .
Status	The Relation Type status.

DATAHUB IN MAGICDRAW AND CAMEO REQUIREMENTS+

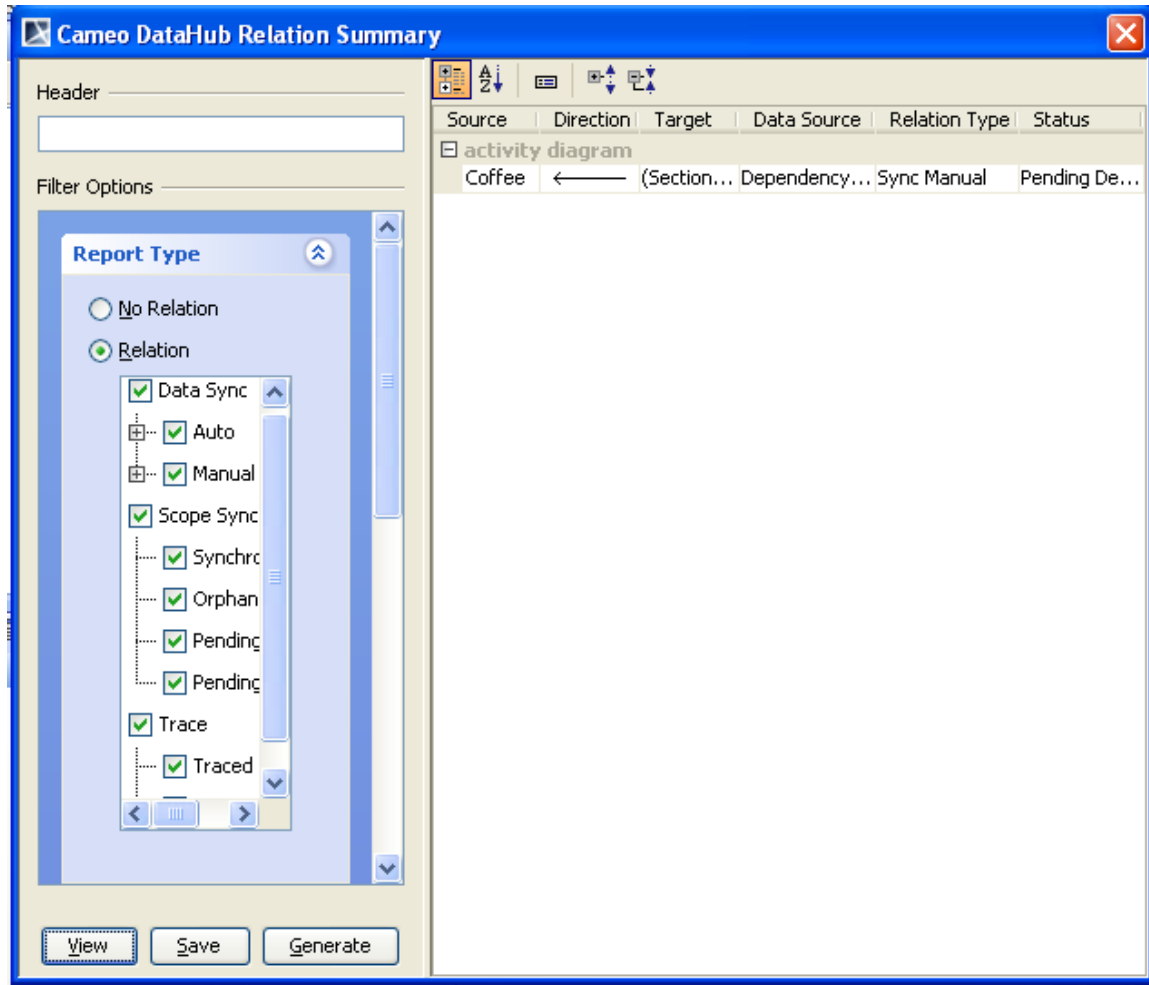


Figure 87 -- Relations Summary in MagicDraw

DATAHUB IN MAGICDRAW AND CAMEO REQUIREMENTS+

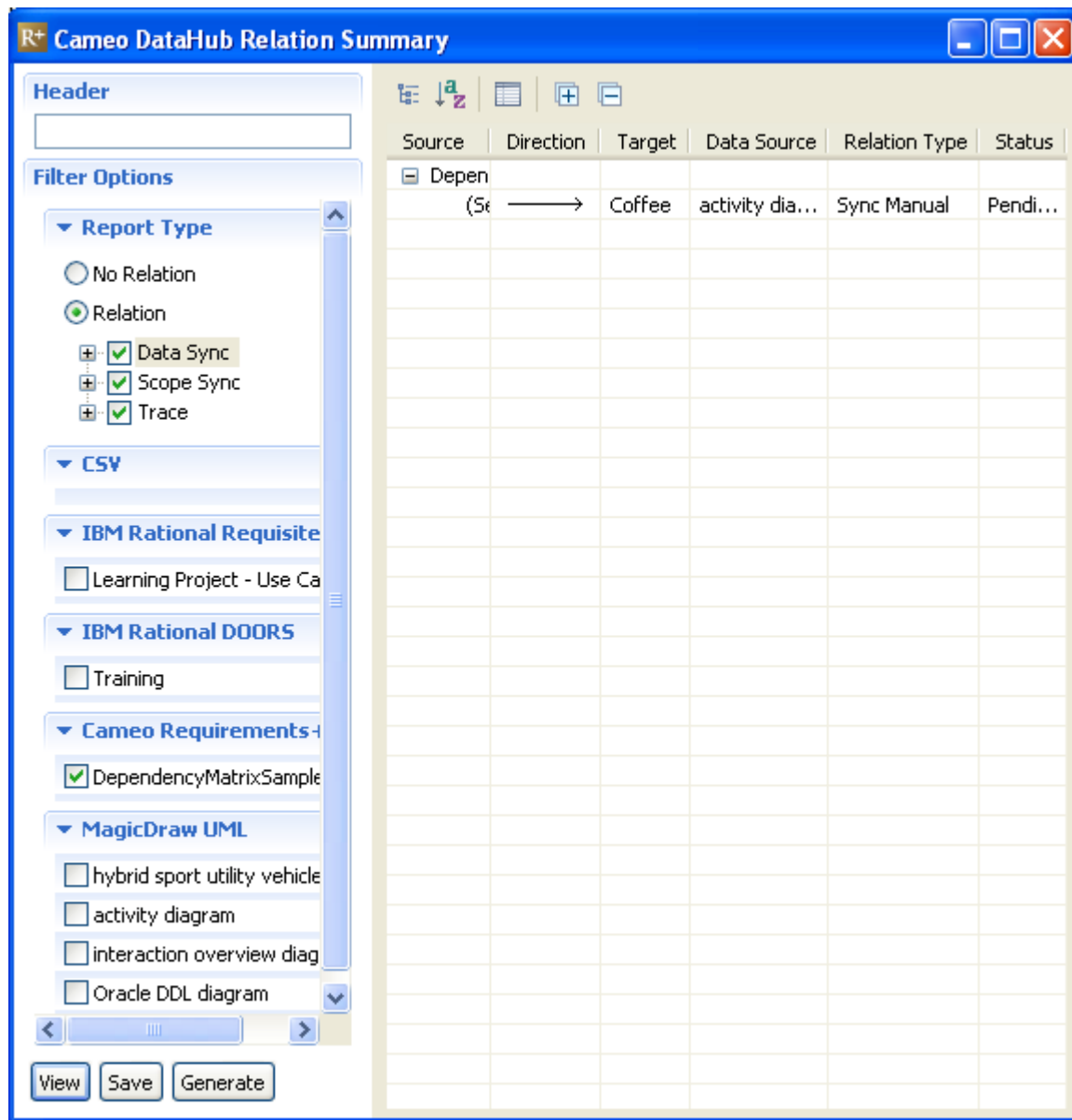


Figure 88 -- Relations Summary in Cameo Requirements+

4.4.8.1 Common Actions on Relations

The **Relation Summary** window provides a common actions menu that allows you to (i) switch mode, (ii) remove a relation, (iii) select a node in a particular application, or (iv) select a node in DataHub or Alias Explorer (Figure 89).

To open the common actions menu:

- Right-click a value in the Element (Source) or Direction column. The common actions menu will open (Figure 89).

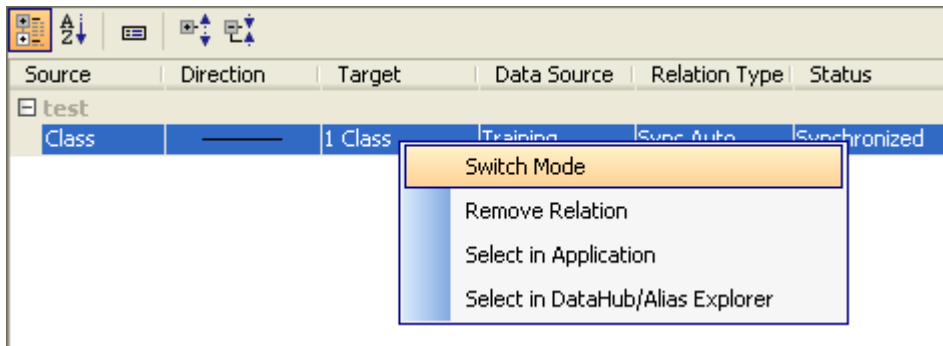


Figure 89 -- Common Relation Actions Menu

Table 26 -- Common Relation Actions Menus and Functions

Menu	Function
Switch Mode	To switch to Sync Auto or Manual mode.
Remove Relation	To remove a relation from both of the associated nodes.
Select in Application	To select an original node from its particular application.
Select in DataHub/Alias Explorer	To select a node from DataHub or Alias Explorer.

4.4.8.2 Actions on Sync Relations

You can perform some actions on Sync relations such as update, discard update, or remove a relation in the **Relation Summary** window. Right-click a value in the Relation Type column to open the Sync Relations shortcut menu and select an action to perform on that relation (Figure 90).

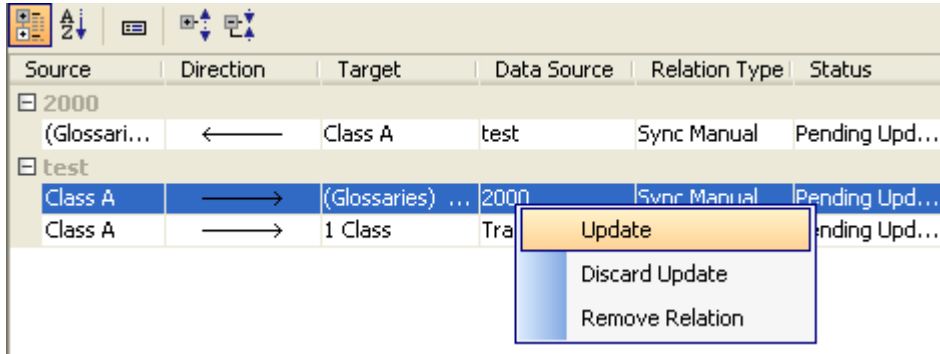


Figure 90 -- Sync Relation Actions Menu

Table 27 -- Sync Relation Actions Menu and Functions

Menu	Function
Update	To update pending data to a target node.
Discard Update	To delete pending data to a target node.
Remove Relation	To remove a relation from both of the associated nodes.

4.4.8.3 Actions on Trace Relations

You can select either (i) **Clear Status** or (ii) **Remove Relation** on the Trace relation shortcut menu in the **Relation Summary** window. Right-click a value in the Status column to open the shortcut menu (Figure 91).

Source	Direction	Target	Data Source	Status
MagicDraw UML:activity diagram				
ee	→	Collect Computer	MagicDraw UML:activity ...	Suspe
rove Reading Item	→	Sub-systems	IBM Rational DOORS:Tra...	Trace
d Mail	→	Test	IBM Rational DOORS:Tra...	Trace

Clear Status

Remove Relation

Figure 91 -- Trace Relation Actions Menu

Table 28 -- Trace Relation Actions Menus and Functions

Menu	Function
Clear Status	To delete Suspect status of a Trace relation.
Remove Relation	To remove a relation from both of the associated nodes.

4.4.8.4 Saving Relations Summary as Report

After you view a relations summary, you can click the **Save** button to save the summary view (Figure 92). The file will be saved in HTML format so that you can open it in any web browser applications such as IE and Firefox.

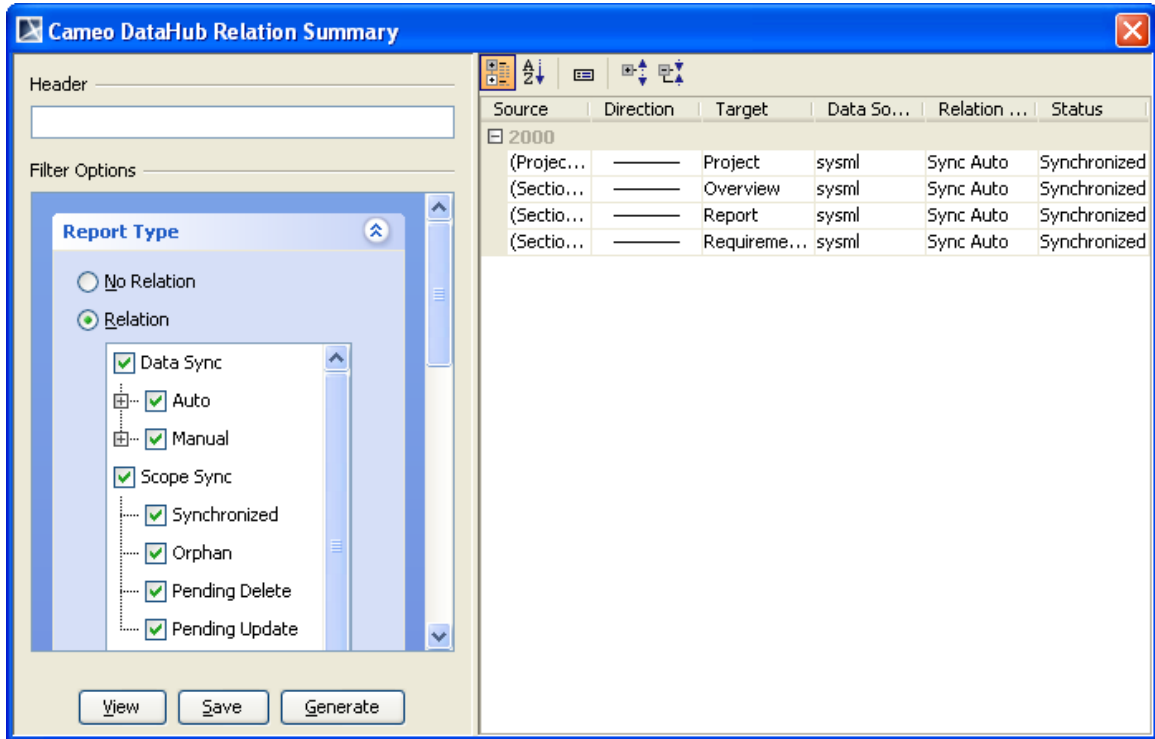


Figure 92 -- Save Button to Save a Relation Summary

To save a relations summary as a report:

1. Select the filter options for the relations summary.
2. Save it as a report by clicking either:
 - (i) the **View** button to view the relations summary, and then click the **Save** button to save the summary as a report.
 - (ii) the **Generate** button to save it as a report without viewing the items in the relation summary.

NOTE

To generate a large amount of report data, we recommend you to use the **Generate** button to produce a report faster.

4.4.9 Working with Alias Explorer

DataHub Explorer can contain a very long and deep tree hierarchy. However, you can select only the section that you want to work with and open it in an Alias Explorer.

4.4.9.1 Creating an Alias Explorer

To create an Alias Explorer:

- Right-click a node that you want to scope and click **Create Alias** (Figure 93). An **Alias Explorer** tab will open, showing only the section that you have selected (Figure 94).

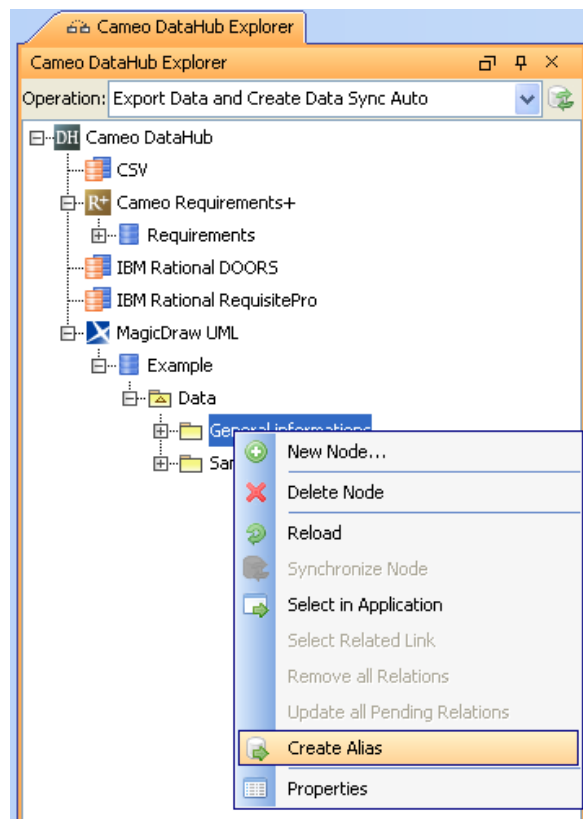


Figure 93 -- Creating an Alias Explorer

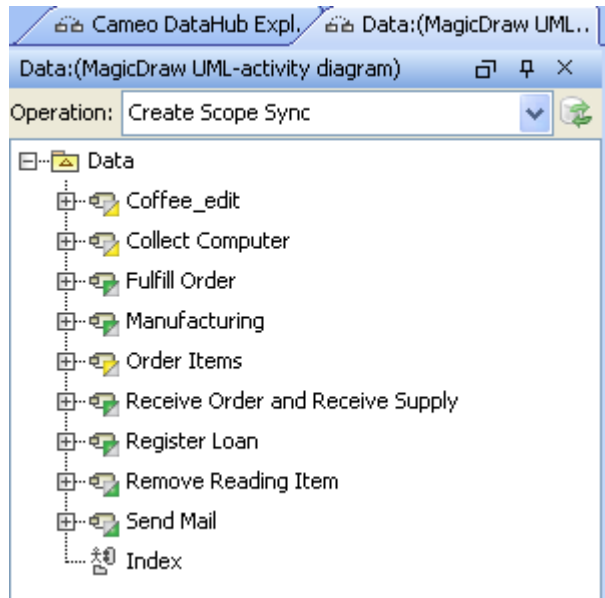


Figure 94 -- Alias Explorer Tab

4.4.9.2 Managing an Existing Alias Explorer

Once an Alias Explorer has been created, it will be saved in Alias Manager even though the **Alias Explorer** tab is not open. You can reopen or remove an Alias Explorer you have created.

To manage an existing Alias Explorer:

1. (i) In **MagicDraw**: click **Tools > Requirements > DataHub > Alias Manager...**
(ii) In **Cameo Requirements+**: click **Tools > DataHub > Alias Manager...**
2. The **Alias Manager** dialog will open. Expand each Driver to see all of the Alias Explorers under each Driver.
3. Select one or more Alias Explorers.
4. Click either (i) **Open** to open the selected Alias Explorer or (ii) **Remove** to delete it.

4.4.10 Updating Schema Maps

Once you have exported data with types and attributes mapping, DataHub will keep the mappings between the types and attributes if you set them as the default mapping. You can edit those mappings later in the **Schema Maps Manager** dialog.

To open the Schema Maps Manager dialog:

1. (i) In **MagicDraw**: click **Tools > Requirements > DataHub > Schema Maps Manager...**
(ii) In **Cameo Requirements+**: click **Tools > DataHub > Schema Maps Manager...**
2. The **Cameo DataHub Schema Maps Manager** dialog will open (Figure 95). Expand the Source Type section to see the types that have already been mapped.

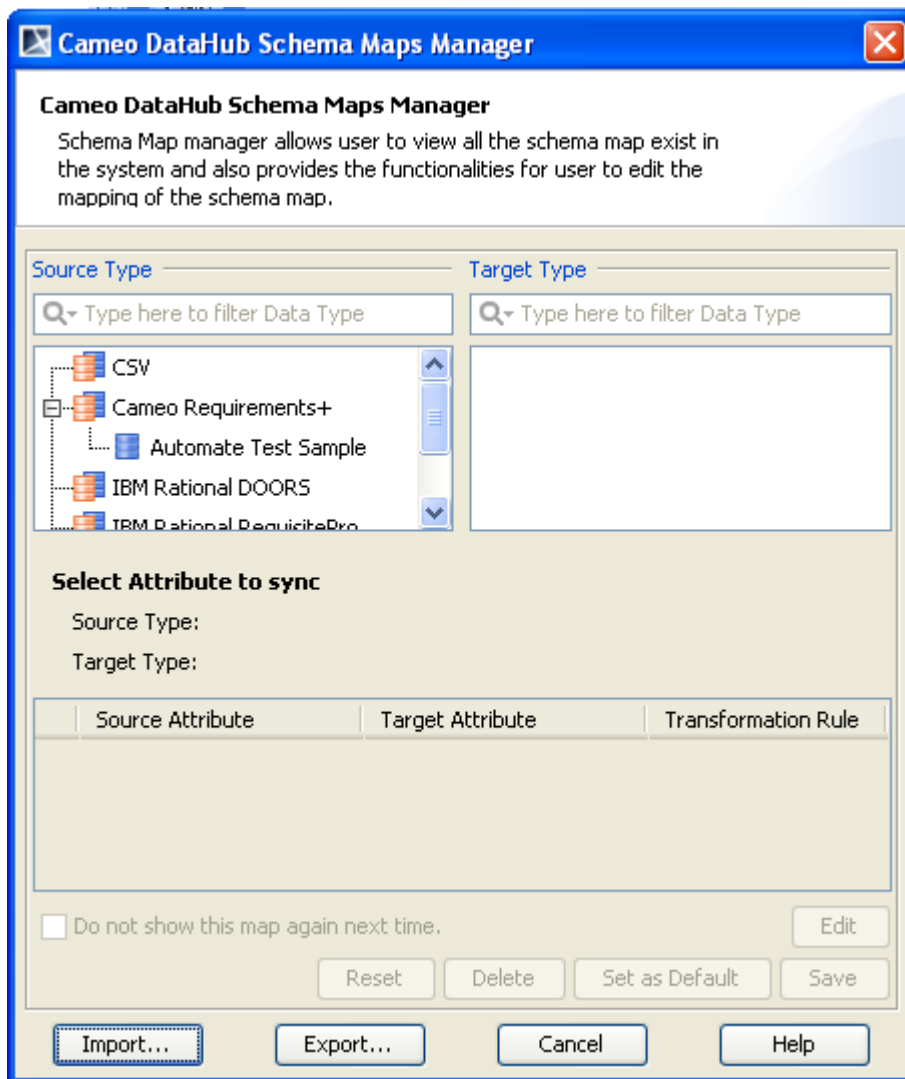


Figure 95 -- Schema Maps Manager Dialog

To edit a default mapping:

1. Select a Source Type whose mapping you want to edit. The default target type will open in the Target Type section (Figure 96).

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2. Click a Target Type. The default attributes mapping list will open.
3. Click the **Edit** button to enable editing mode.
4. Change the attributes mapping, and then click **Save**.

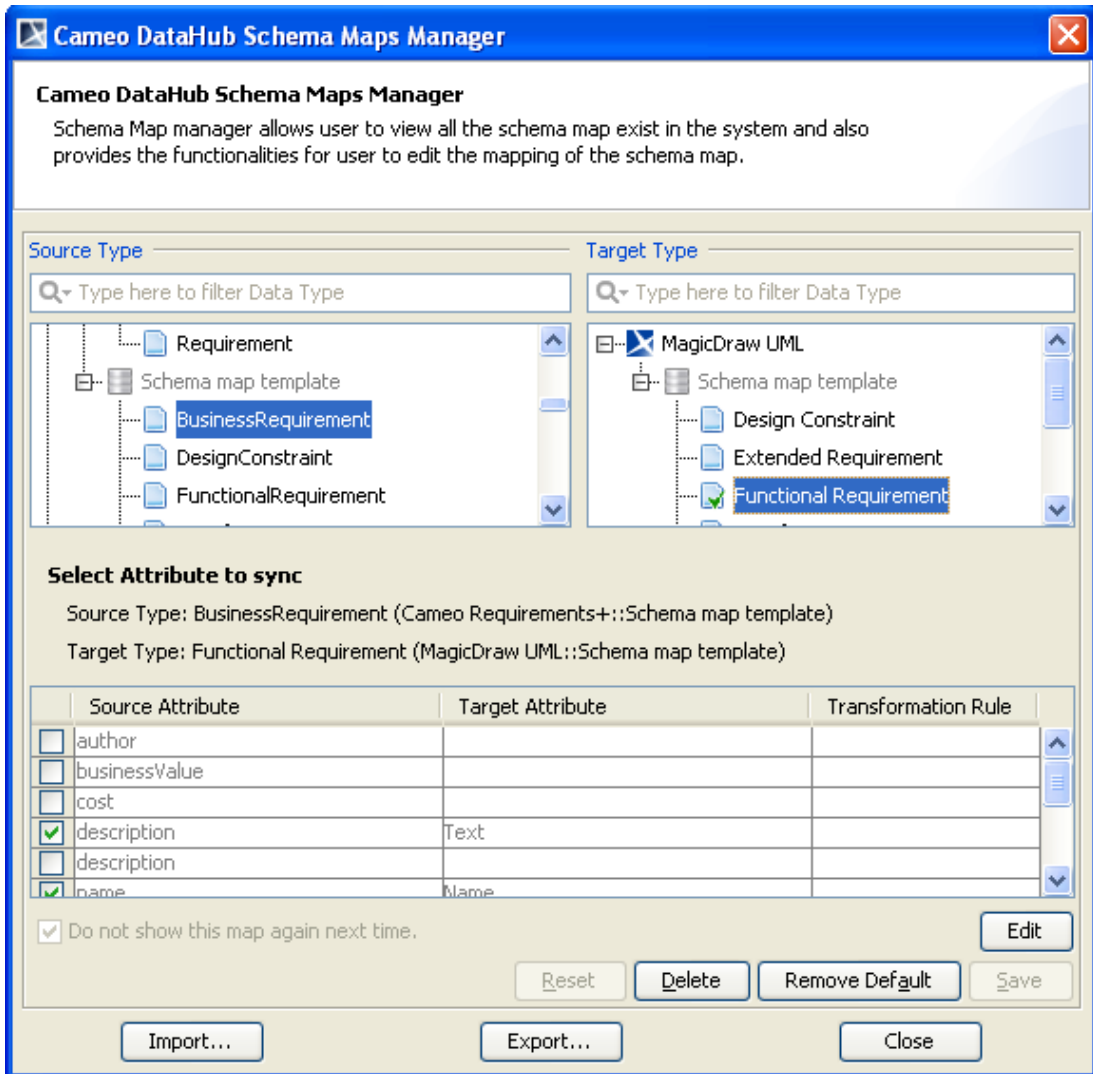


Figure 96 -- Editing Schema Maps

To export a schema map:

1. Open the **Schema Maps Manager** dialog and click **Export...** (Figure 95).
2. The **Export Schema Map Wizard** dialog will open (Figure 97).

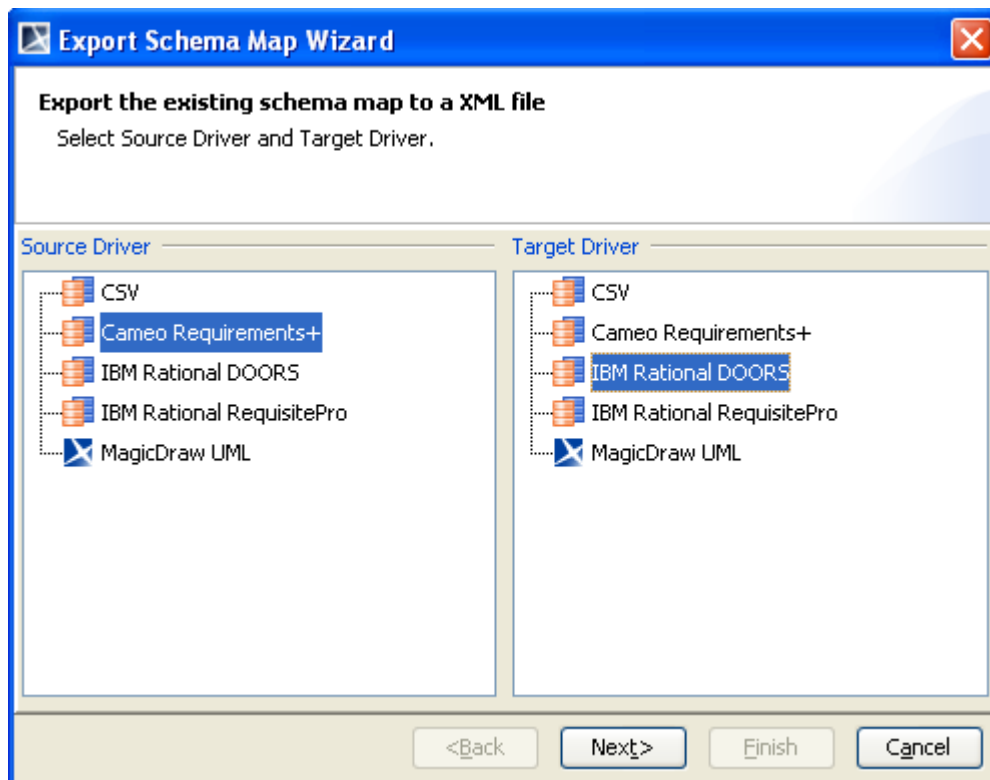


Figure 97 -- Export Schema Map Wizard

3. Select the Source and Target drivers whose mapping you want to export, and then click **Next**.

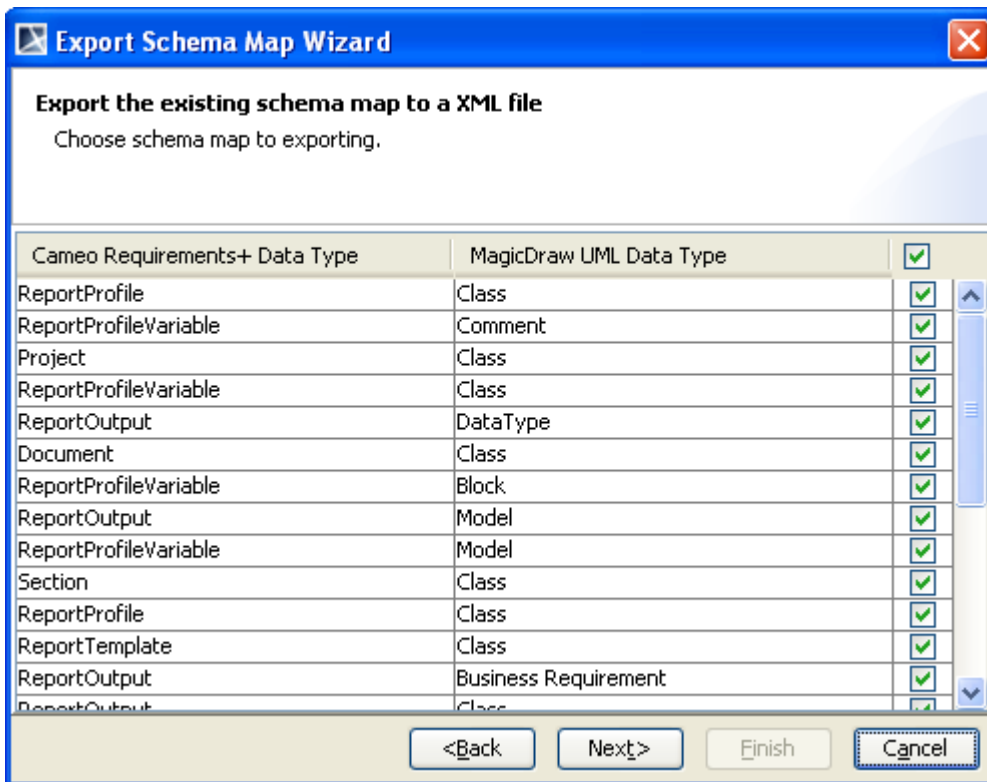


Figure 98 -- Selecting Data Types of Mapping to be Exported

4. Select the data types whose mapping you want to export, and then click **Next** (Figure 98).

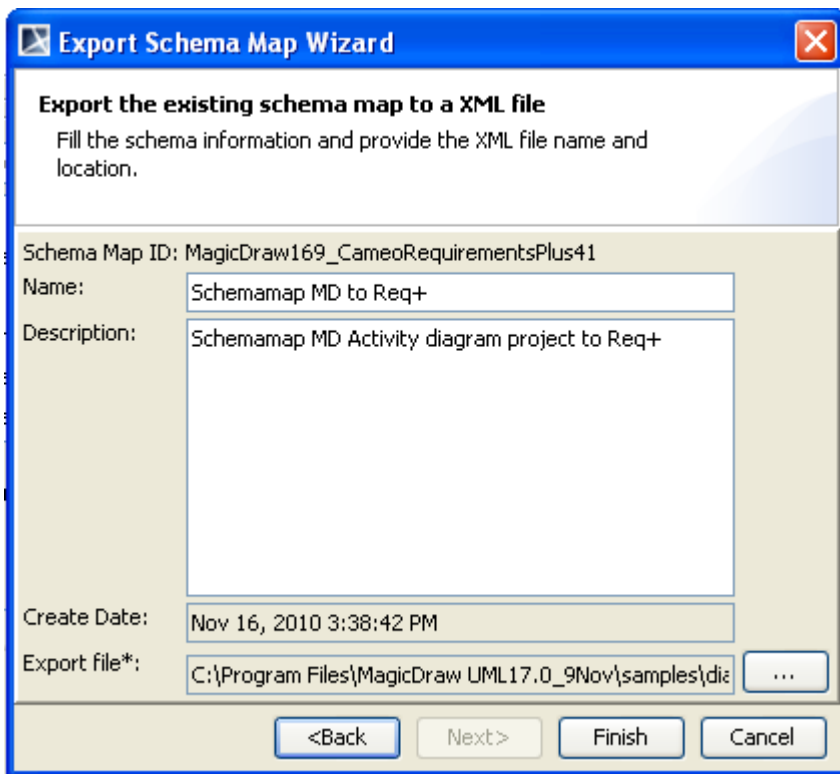


Figure 99 -- Exporting the File

5. Type the name and description of the mapping (Figure 99).
6. Click the “...” button to select a location to save the file.
7. Click **Finish** to export the schema mapping (Figure 99).

To import a saved schema map:

1. Open the **Schema Maps Manager** dialog and click the **Import...** button.
2. Select a schema file to be imported, and then click **Open**.

4.4.11 Configuration Options

You can configure the DataHub Server settings to create authentication or encryption for a connecting client, or connect MagicDraw to a remote DataHub Server. The **Cameo DataHub Options** dialog allows you to apply security measures to the server or enable popup dialogs for some particular actions in DataHub.

To apply connection parameters in MagicDraw:

1. Click **Tools > Requirements > DataHub > Options....** The **Options** dialog will open (Figure 100).

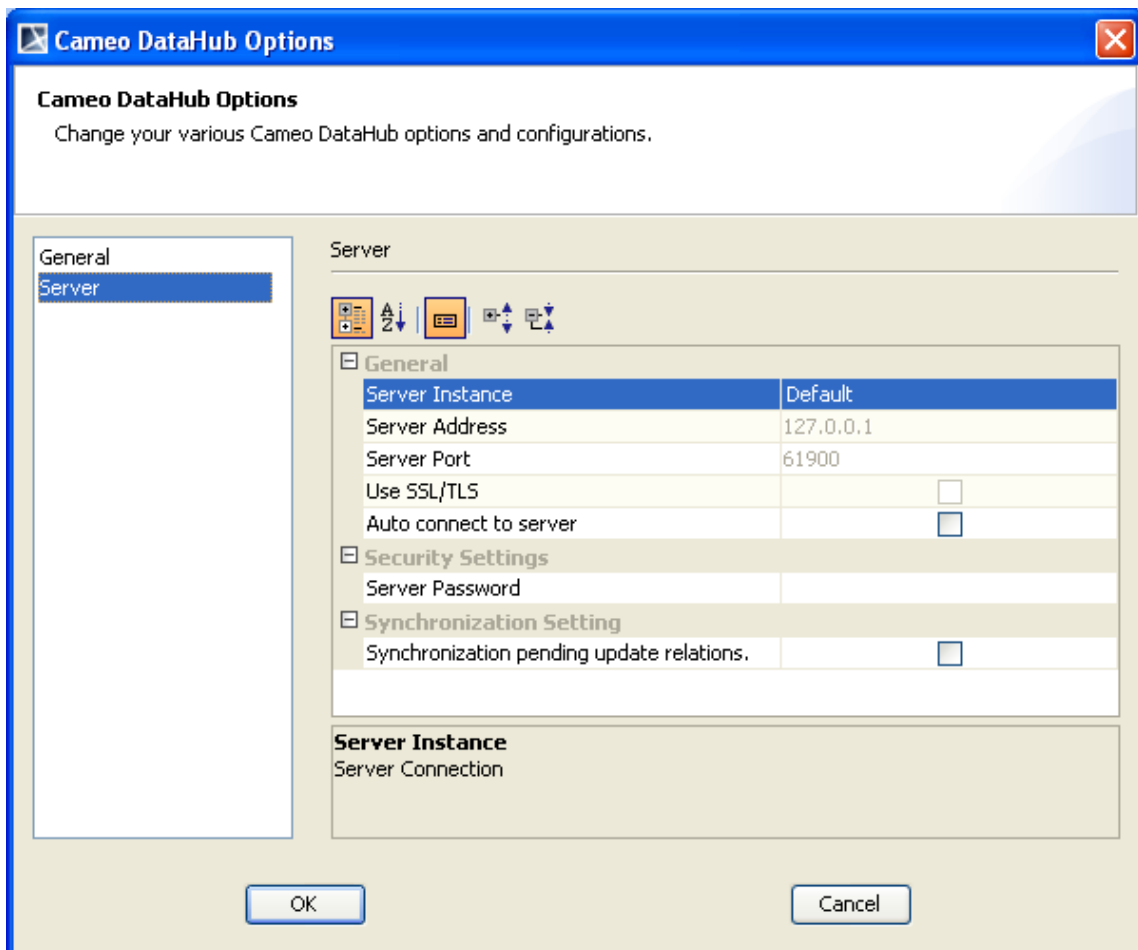


Figure 100 -- Options Dialog: Server (in MagicDraw)

2. Click the **Server** category on the left-hand side of the **Options** dialog.
3. Change the parameters.
4. Click **OK**.

Table 29 explains the functions of server parameters in the **Cameo DataHub Options** dialog.

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Table 29 -- Server Parameters Functions

Parameter	Function
Server Instance	To change the default settings.
Server Address	The IP address of DataHub Server.
Server Port	The port number of DataHub Server.
Use SSL/TLS	To enable SSL encryption. The setting has to be identical with that of DataHub Server.
Auto connect to server	To enable automatic connection whenever DataHub Server is available.
Server Password	To assign a password. The password has to be identical to the one set in DataHub Server.
Synchronization pending update relations	To discard a previous update and synchronize all pending update relations by using the new updated data in the selected nodes/project.

To set up other preferences in MagicDraw:

1. Click **Tools > Requirements > DataHub > Options....** The **Options** dialog will open (Figure 101).

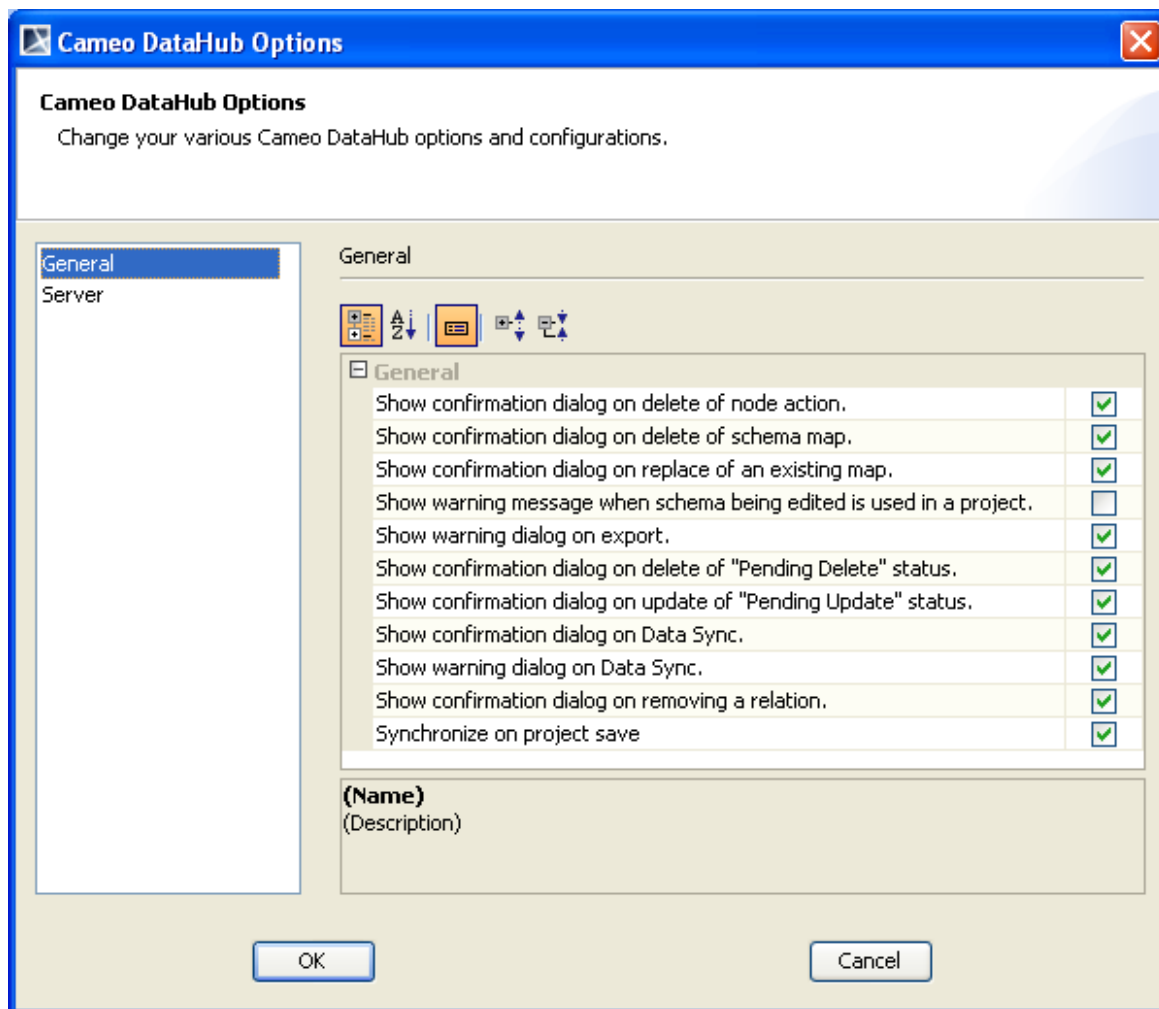


Figure 101 -- Options Dialog: General (in MagicDraw)

2. Click the **General** category on the left-hand side of the **Options** dialog.
3. Select your options.
4. Click **OK**.

Table 30 explains the functions of general preferences in the **Cameo DataHub Options** dialog.

Table 30 -- General Preferences Functions

Option	Function
Show confirmation dialog on delete of node action.	To open a confirmation dialog before deleting a node.
Show confirmation dialog on delete of schema map.	To open a confirmation dialog before deleting a schema mapping.
Show confirmation dialog on replace of an existing map.	To open a confirmation dialog before overwriting a schema mapping.
Show warning message when schema being edited is used in a project.	To open a warning message whenever a schema mapping being edited is used in another project.
Show warning dialog on export.	To open a warning dialog before exporting data when not all of the nodes have been completely mapped.
Show confirmation dialog on delete of "Pending Delete" status.	To open a confirmation dialog before deleting a node in PendingDelete status.
Show confirmation dialog on update of "Pending Update" status.	To open a confirmation dialog before updating a node in PendingUpdate status.
Show confirmation dialog on Data Sync.	To open a confirmation dialog before synchronizing data.
Show warning dialog on Data Sync.	To open a warning dialog before synchronizing data or updating relations with the Cameo Requirements+ driver.
Show confirmation dialog on removing a relation.	To open a confirmation dialog before removing a relation.
Synchronize on project save.	To enable automatic synchronization of the MagicDraw driver whenever a project is saved.
Show confirmation dialog on update all pending relations.	To open a confirmation dialog before updating all pending relations.

To apply connection parameters in Cameo Requirements+:

1. Click **Tools > DataHub > Options....** The **Options** dialog will open (Figure 102).

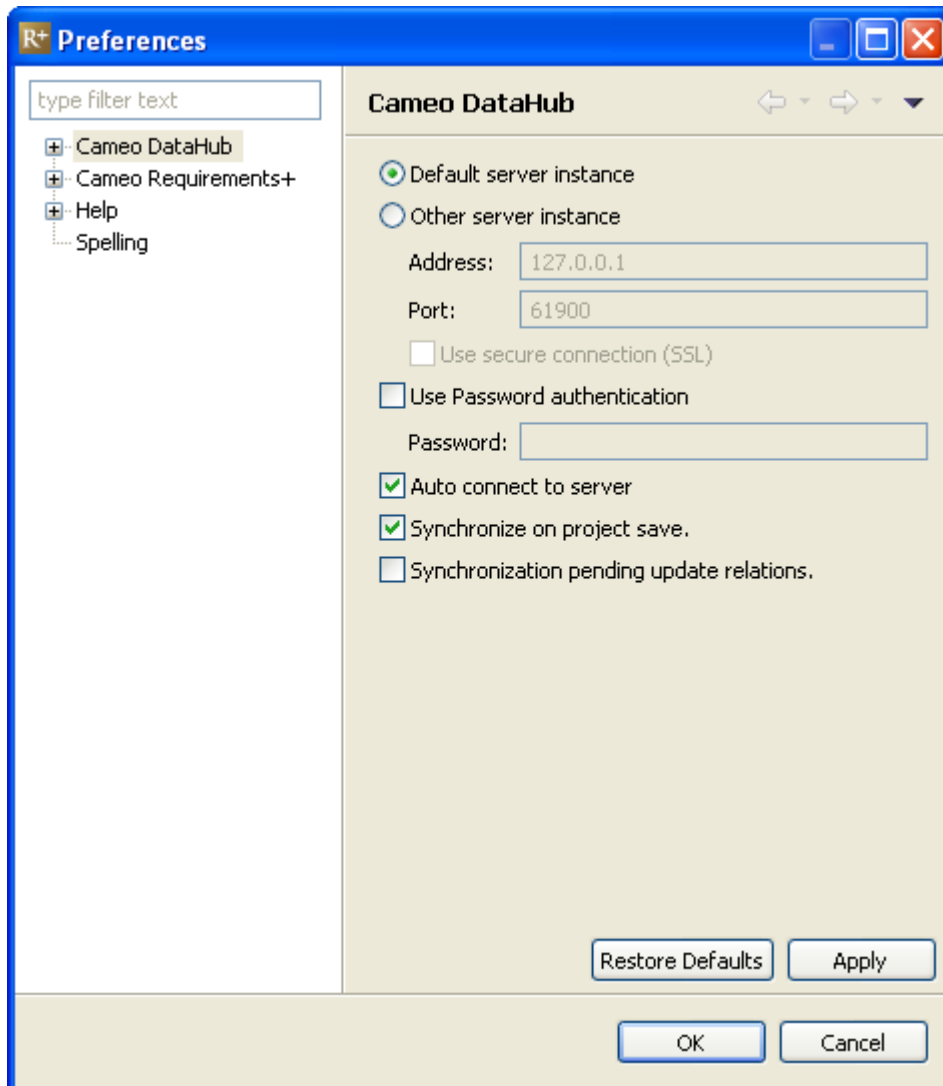


Figure 102 -- Options Dialog: Server (in Cameo Requirements+)

2. Click the **Cameo DataHub** node to adjust the DataHub Server parameters.
3. Select either (i) **Default Server Instance** to use a local server or (ii) **Other Server Instance** to use a remote server.
4. Click **OK**.

Table 31 explains the other preferences in Cameo DataHub.

Table 31 -- Server Parameters Functions

Parameter	Function
Address	To list the IP address of DataHub Server.
Port	To list the port number of DataHub Server.
Use secure connection SSL	To enable SSL encryption. The setting has to be identical with that of DataHub Server.
Use Password Authentication	To use password authentication to connect to DataHub Server.
Auto connect to server	To enable automatic connection whenever DataHub Server is available.
Synchronize on project save	To synchronize relations whenever a project is saved.
Synchronization pending update relations	To discard a previous update and synchronize all pending update relations by using the new updated data in the selected nodes/ project.

You can also adjust the behavior of the **Confirmation** dialog through the **Confirmation** options (Figure 103).

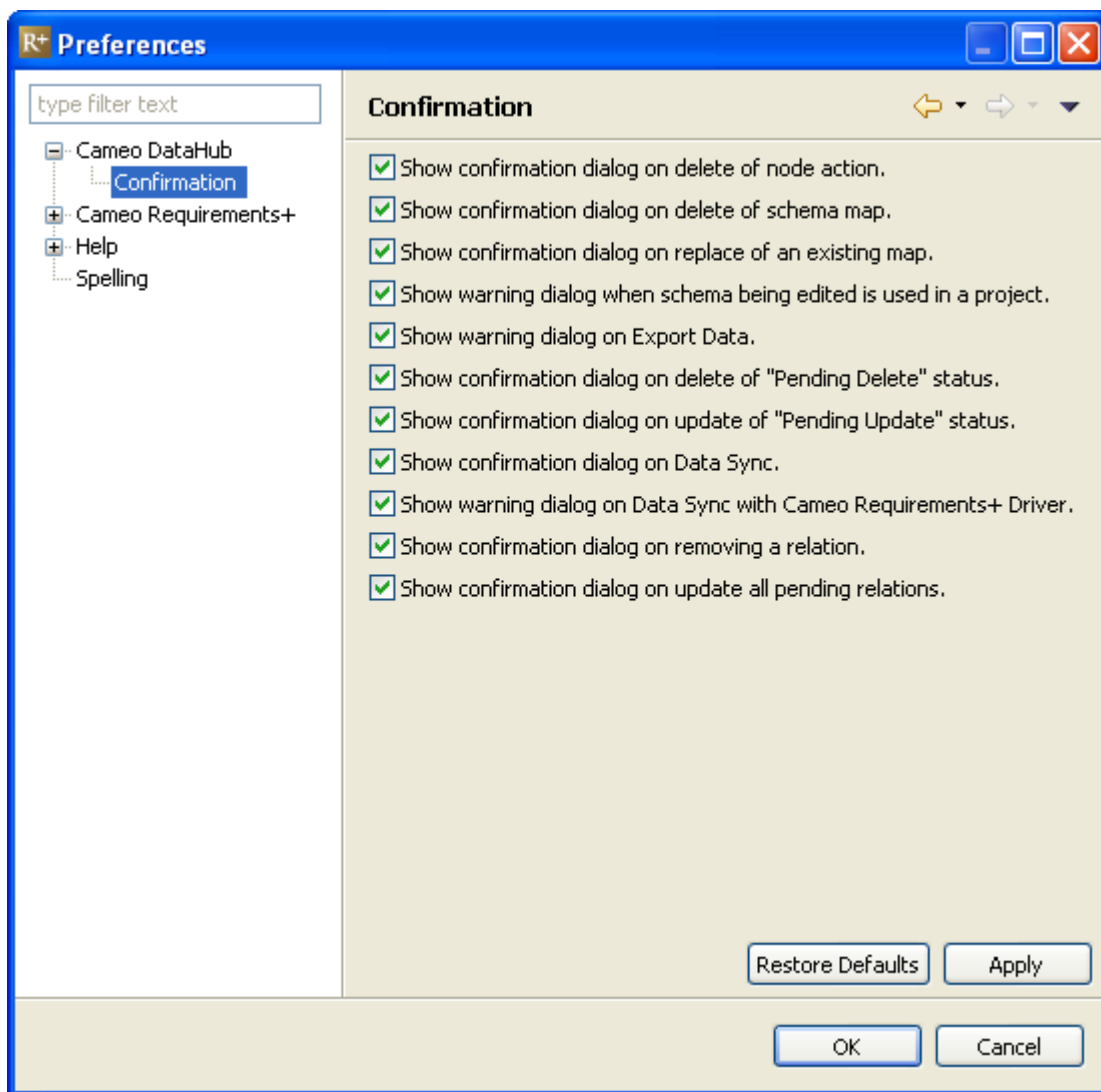


Figure 103 -- Options Dialog: Confirmation (in Cameo Requirements+)

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Table 32 -- General Preferences Functions

Option	Function
Show confirmation dialog on delete of node action.	To open a confirmation dialog before deleting a node.
Show confirmation dialog on delete of schema map.	To open a confirmation dialog before deleting a schema mapping.
Show confirmation dialog on replace of an existing map.	To open a confirmation dialog before overwriting a schema mapping.
Show warning dialog when schema being edited is used in a project.	To open a warning message whenever the schema mapping being edited is used in another project.
Show warning dialog on export.	To open a warning dialog before exporting data when not all of the nodes have been completely mapped.
Show confirmation dialog on delete of "Pending Delete" status.	To open a confirmation dialog before deleting a node in PendingDelete status.
Show confirmation dialog on update of "Pending Update" status.	To open a confirmation dialog before updating a node in PendingUpdate status.
Show confirmation dialog on Data Sync.	To open a confirmation dialog before synchronizing data.
Show warning dialog on Data Sync with Cameo Requirements+ Driver.	To open a warning dialog before synchronizing data or updating relations with the Cameo Requirements+ driver.
Show confirmation dialog on removing a relation.	To open a confirmation dialog before removing a relation.
Show confirmation dialog on update all pending relations.	To open a confirmation dialog before updating all pending relations.

4.4.12 Migrating Relations (MagicDraw Only)

You can migrate previous MagicRQ and DataHub relations to DataHub 17.0.1 (this feature is only available in MagicDraw).

To migrate relations from MagicRQ:

1. Click **Tools > Requirements > DataHub > Migrate....** The **Cameo DataHub Migration** dialog will open (Figure 104).

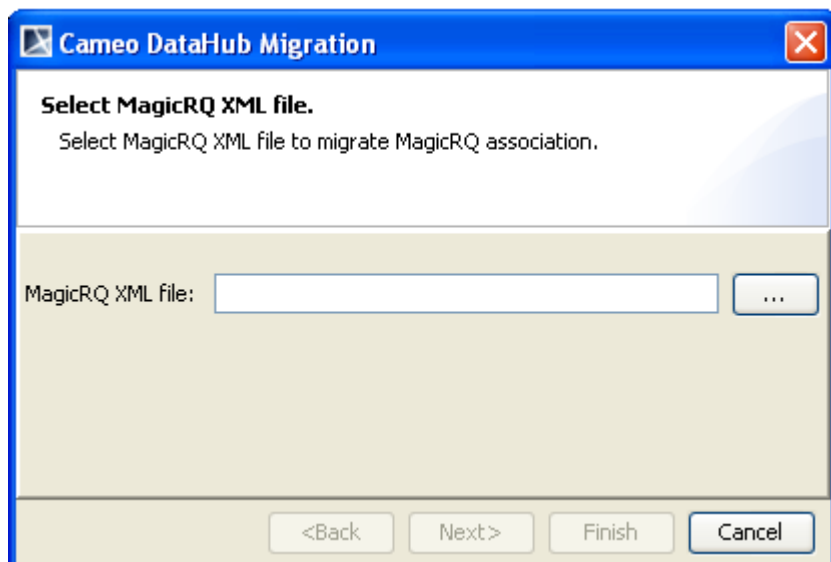


Figure 104 -- Cameo DataHub Migration Dialog

2. Click the “...” button to select a MagicRQ XML file.
3. Click **Next** to review the migration details, and then click **Finish** to start migrating the MagicRQ relations to DataHub 17.0.1.

To migrate relations from 2.0 - 4.0 version of DataHub:

1. Open **Cameo DataHub Console** and click **Tools > Migrate DataHub....** The **Cameo DataHub Migration** dialog will open (Figure 105).

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Figure 105 -- Migrating Data from 2.0 - 4.0 Version of Cameo DataHub

2. Click **Browse** and select the folder where the earlier version of DataHub was installed.
3. Click **OK** to start migrating the relations.

Table 33 -- Migration Rules

Migration	Rules
From MagicRQ 2.0 to DataHub	<p>The MagicRQ hyperlinks between requirements and elements will become Trace. Before migrating relations you need to:</p> <ul style="list-style-type: none">• open each participating tool.• start the Drivers and Data Source of each participating project so that they are ready to use (see section 3.3.3.2 Managing Drivers and Data Sources above).

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Migration	Rules
From MagicRQ 14.0 and greater to DataHub	<p>Non-Sync Associations will become Trace.</p> <p>Non-Sync Associations with Suspect status will become Trace with Suspect status.</p> <p>Orphan status cannot be migrated.</p>
	<p>Sync Associations will change to Data Sync Manual.</p> <p>Sync Associations with Suspect status will change to Data Sync Manual with Synchronized status.</p> <p>Orphan status cannot be migrated.</p>
From 2.0 - 4.0 versions of DataHub	<p>Before migrating relations you need to:</p> <ul style="list-style-type: none">● start each participating Driver (see section 3.3.3.2 Managing Drivers and Data Sources above).● open each participating application.● Sync relations with PendingUpdate status will be migrated to sync relations with Synchronized status.● Sync relations with PendingDelete status cannot be migrated.

5 DATAHUB IN IBM RATIONAL DOORS

DataHub Plugin is a plugin for DOORS application. The DataHub menu is available for synchronizing a project, opening related elements, opening the **Relation Summary** window, and the **Help** and **About** dialogs (Figure 107).

5.1 Opening DataHub Main Menu in DOORS Formal Module

When you start DOORS after installing DataHub, you will not see the DataHub main menu right away because it is only available in the formal module. Therefore, you need to first create a formal module in order to see the menu.

To open the formal module window:

1. Right-click at the root node in the left pane where the directory tree is shown and select **New > Folder...** to create a new folder.
2. Name the folder in the provided text box and click **OK**.
3. Open the newly created folder on the right-hand side. Right-click any area in that folder and select **New > Formal Module...** (Figure 106).
4. Type a name for this formal module in the **Name** text box and click **OK**.
5. The formal module window will open and the DataHub main menu will appear.

When you want to access the DataHub main menu or shortcut menu, open your created formal module. The formal module's window with the DataHub main menu will appear (Figure 107).

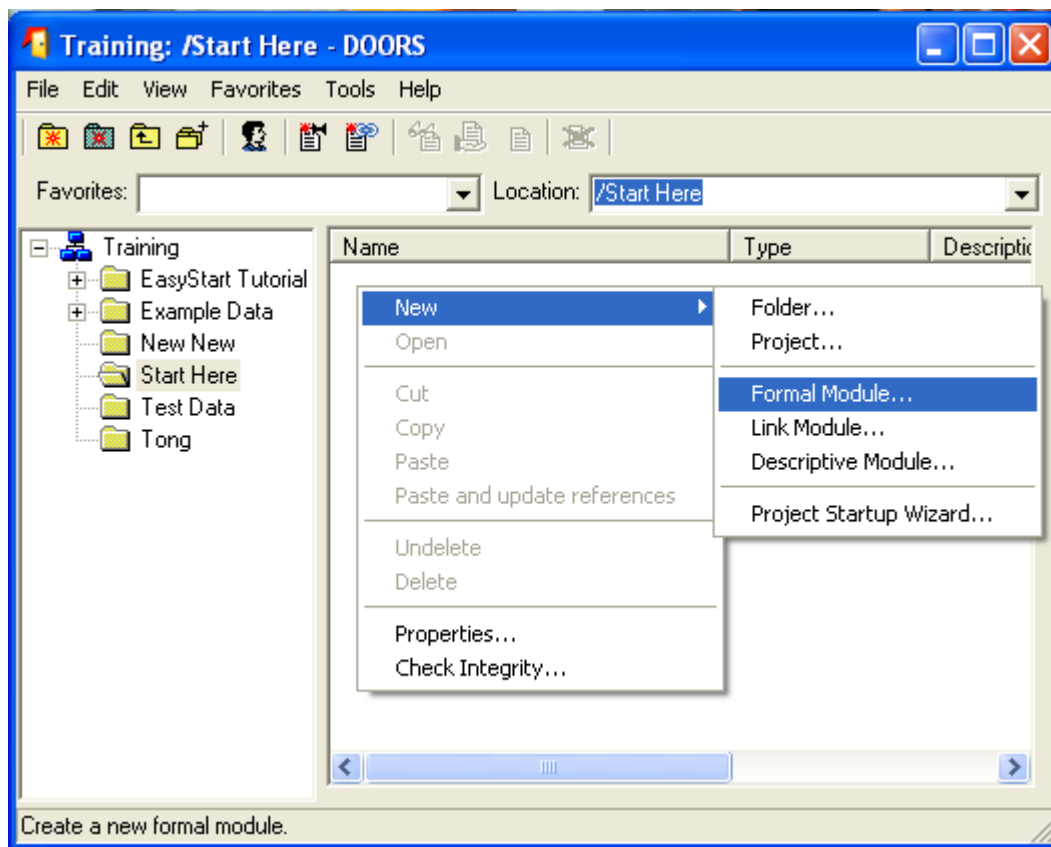


Figure 106 -- Creating a Formal Module in DOORS

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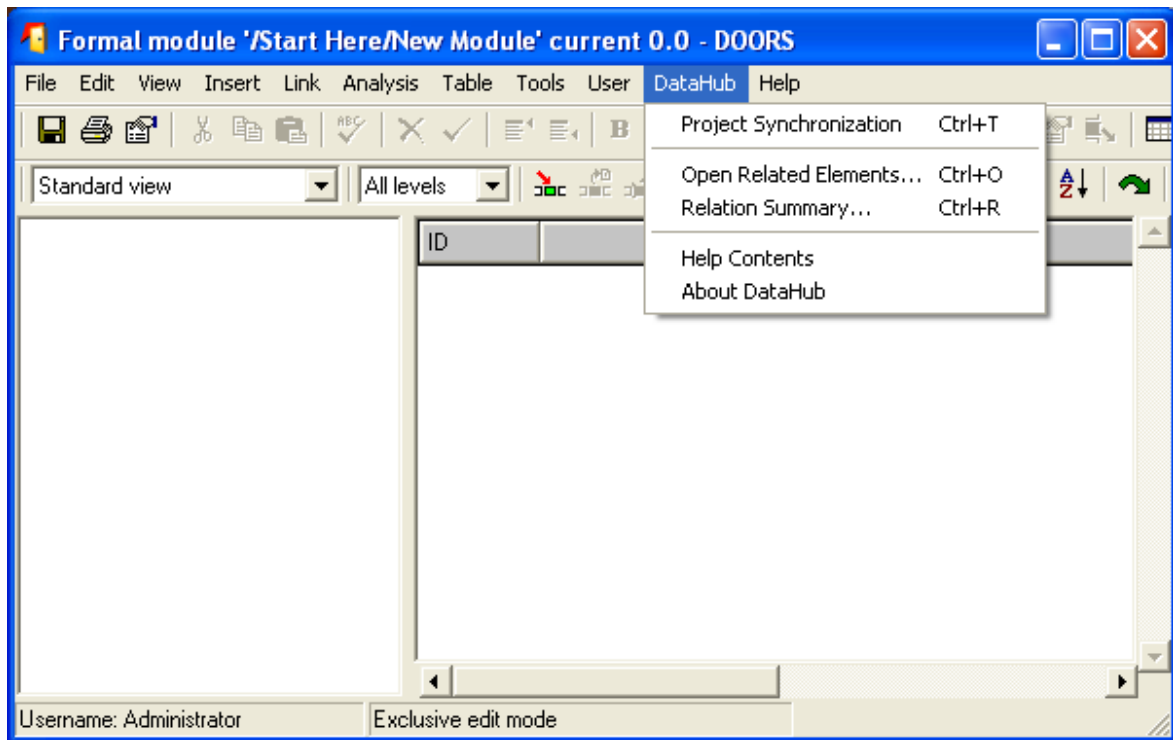


Figure 107 -- DataHub Main Menu in DOORS Formal Module

Table 34 -- DataHub Menu Functions

Name	Function
Project Synchronization (Ctrl+T)	To synchronize a project from DOORS Data Source.
Open Related Elements (Ctrl+O)	To open the associated items of the selected elements in the DOORS tree.
Relation Summary (Ctrl+R)	To open the Relation Summary window.
Help Contents	To open the Help dialog.
About DataHub	To open the About dialog.

NOTE The DataHub main menu is available only in the formal module window.

5.1.1 DataHub Shortcut Menu

The DataHub shortcut menu is available for the selected objects in the DOORS formal module (Figure 108).

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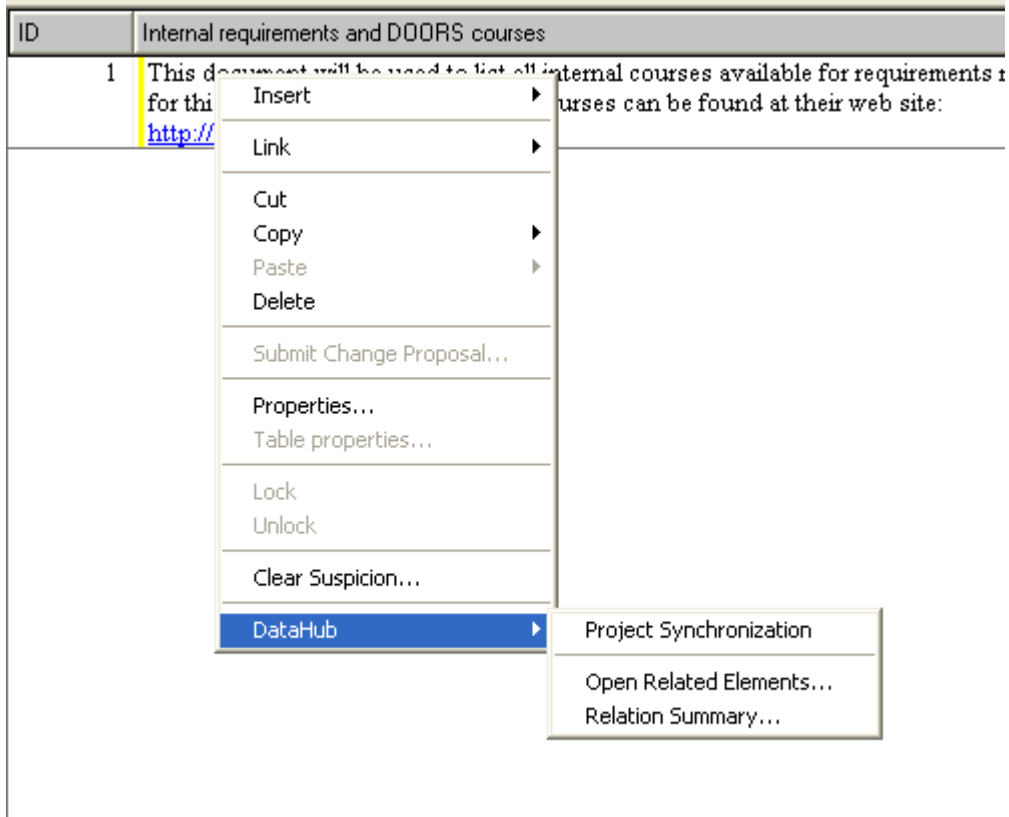


Figure 108 -- DataHub Shortcut Menu in DOORS

Table 35 -- DataHub Shortcut Menu Functions

Name	Function
Project Synchronization	To synchronize projects from the DOORS Data Source.
Open Related Elements	To open the associated items of one or more selected elements in the DOORS tree.
Relation Summary	To open the Relation Summary window.

5.2 Working with DataHub

5.2.1 Synchronizing Data

You can synchronize data from the **DataHub** menu. DataHub will synchronize data and update all pending changes.

To synchronize data from the **DataHub** menu:

- Open the **DataHub** menu and select **Project Synchronize** to synchronize and update all pending changes.

NOTE	The Sync New Node dialog will not appear when you click Project Synchronize . Therefore, any new created nodes under scope relations will be discarded. However, you can synchronize the project in the DataHub Explorer to solve this issue.
-------------	--

5.2.2 Opening Related Elements

If only one item is selected and if it has only one related item, that associated item will open directly in its own application: (i) MagicDraw, (ii) Cameo Requirements+, (iii) DOORS, or (iv) Rational RequisitePro.

To open a related element:

1. Press **Shift** and click one or more elements. The element(s) will be highlighted in red (Figure 109).

5 DATAHUB IN IBM RATIONAL DOORS

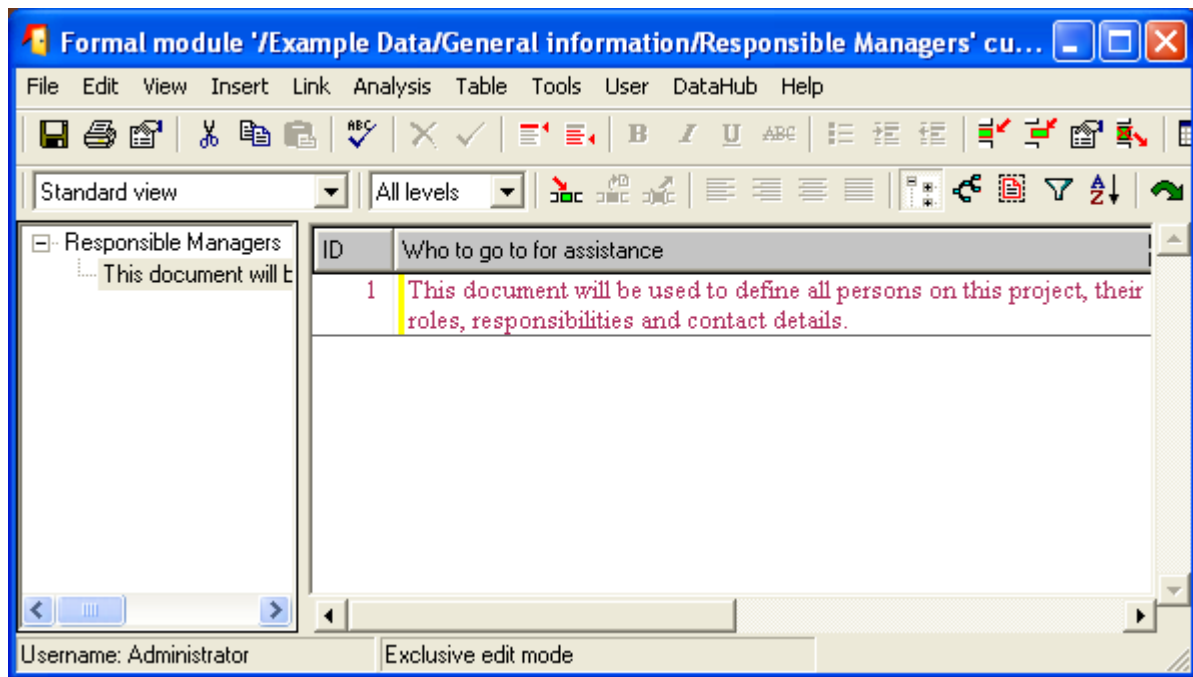


Figure 109 -- Selecting Element(s) to Open Related Elements in DOORS

2. Right-click and select **Open Related Elements**. The **Open Related Elements** window will open (Figure 110).

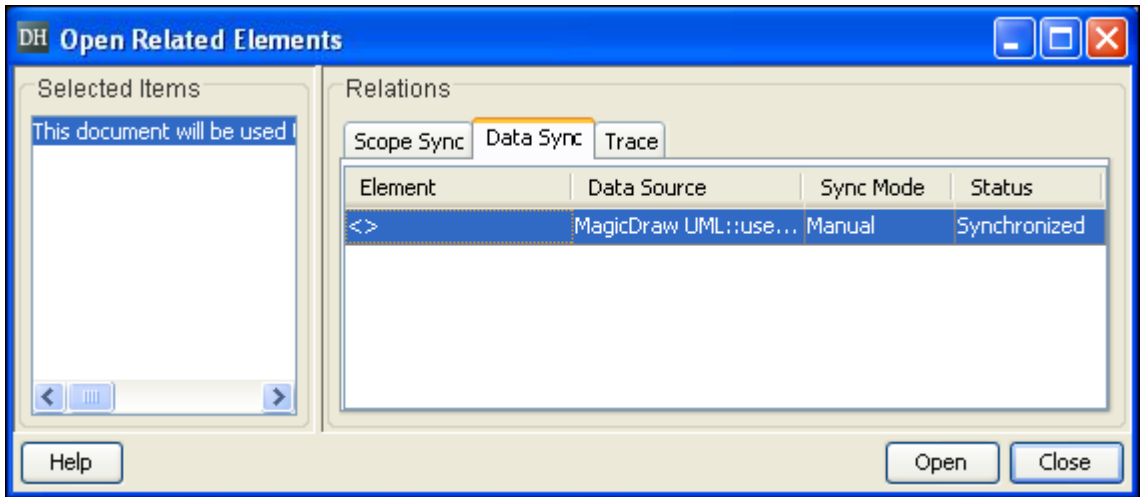


Figure 110 -- Open Related Elements Window in DOORS

3. Select an element and click **Open**. The element will be open and highlighted in its application.

5.2.3 Filtering Relations and Generating Report

You can filter related elements by relations in the **Cameo DataHub Relation Summary** window, which can be opened from the DataHub menu. There are two filter options: (i) **No Relation** and (ii) **Relation**. The **No Relation** elements are the elements that have no relation in DataHub and the **Relation** elements are those that contain relations such as Scope Sync, Sync, and Trace relations.

The **Cameo DataHub Relation Summary** window allows you to generate a project report and save the document in HTML format.

To open the **Cameo DataHub Relation Summary** window:

1. Open the **DataHub** menu and click **Relation Summary**. The **Cameo DataHub Relation Summary** window will open (Figure 111).

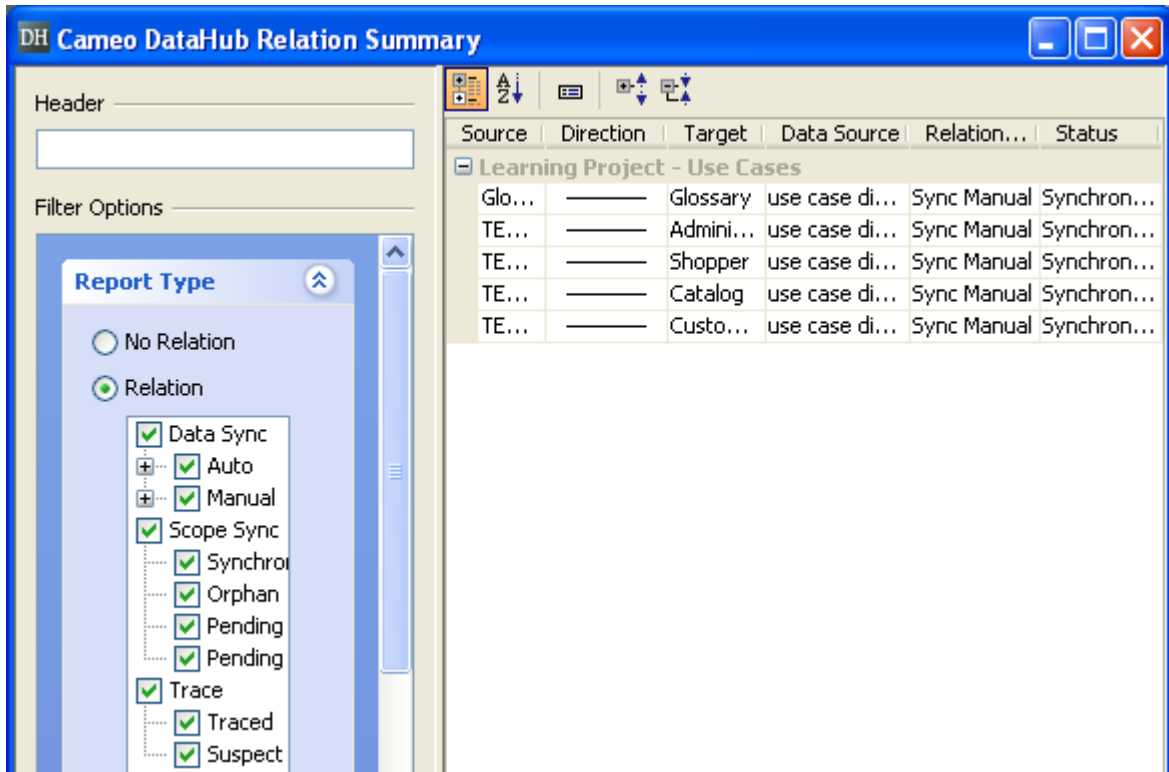


Figure 111 -- Cameo DataHub Relation Summary Window

2. Type the title of the report to be generated in the **Header** box.
3. Select either (i) **No Relation** or (ii) **Relation**. If you select the **Relation** button, the **Data Sync** (Auto and Manual), **Scope Sync**, and **Trace** options will be enabled for you to select.
4. You can also select any elements in any drivers that have relations between them.
5. Click **View**. The report will open on the right-hand side of the **Relation Summary** window.
6. Click **Save**.
7. Click **Generate**. The report will be generated and saved with the selected filtering option.

6 DATAHUB IN IBM RATIONAL REQUISITEPRO

DataHub Plugin is a plugin for Rational RequisitePro application. The DataHub menu is available for synchronizing data, opening related elements, opening the **Relation Summary** window, and the **Help** and **About** dialogs (Figure 113).

6.1 Enabling DataHub Main Menu in Rational RequisitePro

When you start Rational RequisitePro right after installing DataHub, the DataHub menu will not be visible. You need to first enable it before you can use DataHub in Rational RequisitePro.

To enable the DataHub main menu in Rational RequisitePro:

1. Click **Tools > Add-ins....** The **Add-ins** dialog will open.
2. Click the **Add...** button. The **Add-ins** window will open.
3. Click **Browse...** to open the directory where you have saved Cameo DataHub.
4. Open the **data** folder and select **datahub-requisitepro.mnu**. Click **Open**.
5. Name this add-in in the **Name** text box and click **OK**.
6. The newly created add-in will appear in the box (Figure 112). Click **OK** to enable the DataHub main menu for use in Rational RequisitePro.

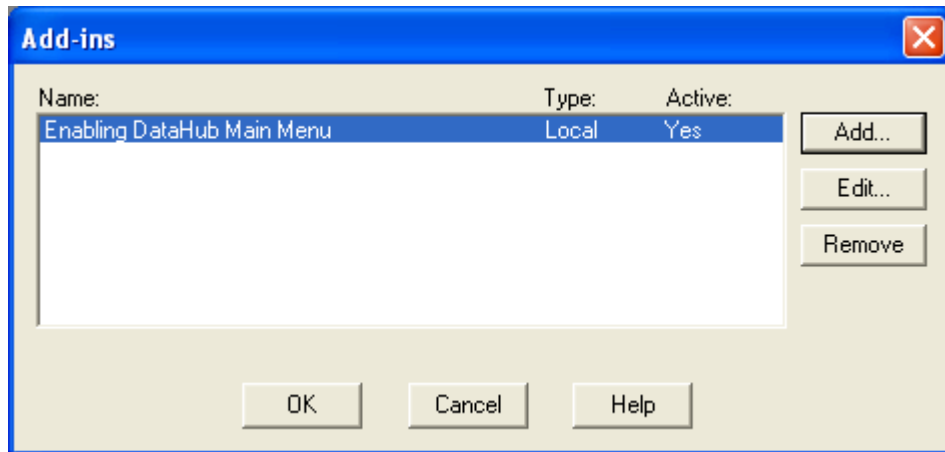


Figure 112 -- Add-ins Dialog to Enable DataHub Main Menu

To open the DataHub main menu in Rational RequisitePro:

1. On the main menu, click **Requirement > DataHub** (Figure 113).

6 DATAHUB IN IBM RATIONAL REQUISITEPRO

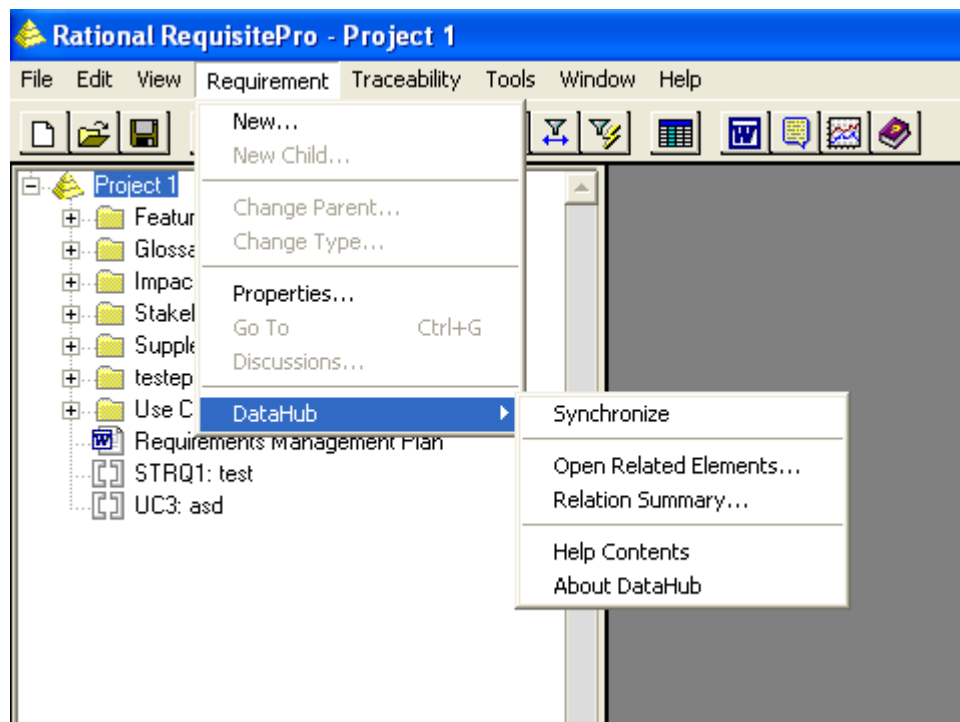


Figure 113 -- DataHub Main Menu in Rational RequisitePro

Table 36 lists the DataHub menus and their functions in Rational RequisitePro.

Table 36 -- DataHub Menu Functions

Name	Function
Synchronize	To check if there are changes in an open project and update all pending changes.
Open Related Elements	To open the related elements of one or more selected elements in the RequisitePro tree.
Relation Summary	To open the Cameo DataHub Relation Summary window.
Help Contents	To open the Help dialog.
About DataHub	To open the About dialog.

6.2 Working with DataHub

6.2.1 Synchronizing Data

You can synchronize data from the **DataHub** menu. DataHub will synchronize data and update all pending changes.

To synchronize data from the **DataHub** menu:

- Open the **DataHub** menu and select **Synchronize** to synchronize and update all pending changes.

NOTE	The Sync New Node dialog will not appear once you have clicked Synchronize . Therefore, any new created nodes under scope relations will be discarded. However, you can synchronize a project in DataHub Explorer to solve this issue.
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6.2.2 Opening Related Elements

As indicated in Chapter 2 above, if only one item is selected and if it has only one associated item, that related item will open directly in its own application: (i) MagicDraw, (ii) Cameo Requirements+, (iii) Telelogic DOORS, or (iv) Rational RequisitePro.

To open related elements:

1. On the main menu, click **Requirement > DataHub > Open Related Elements....** The **Open Related Elements** window will open.
2. Select a relation from the list and click **Open**. The item will open in its application.

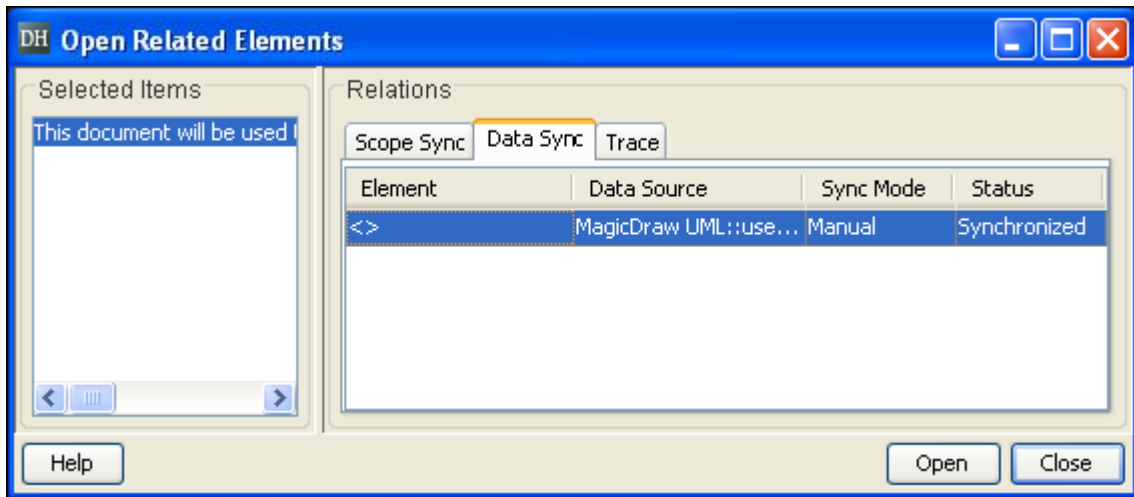


Figure 114 -- Open Related Elements in IBM RequisitePro

6.2.3 Filtering Relations and Generating Report

You can filter related elements by relations in the **Cameo DataHub Relation Summary** window, which can be opened from the DataHub menu. There are two filter options: (i) **No Relation** and (ii) **Relation**. **No Relation** elements are elements that have no relation in DataHub and **Relation** elements are those that contain relations such as Scope Sync, Sync, or Trace relations.

The **Cameo DataHub Relation Summary** window allows you to generate a project report and save the document in HTML format.

To open the **Cameo DataHub Relation Summary** window:

1. On the main menu, click **Requirement > DataHub > Relation Summary....** The **Cameo DataHub Relation Summary** window will open (Figure 115).

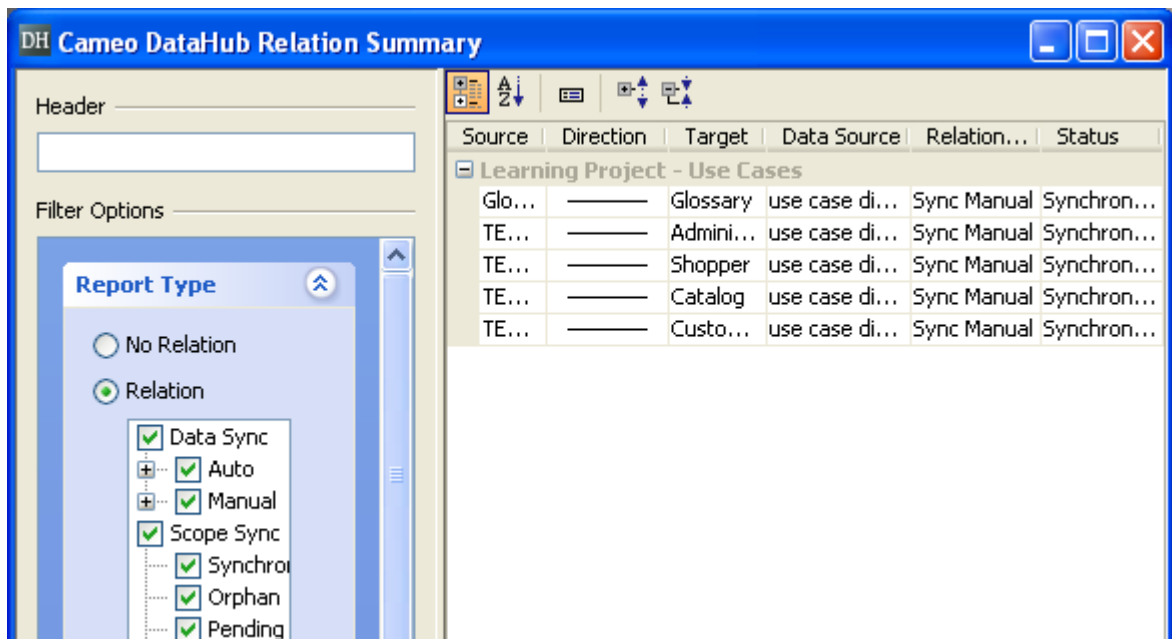


Figure 115 -- Cameo DataHub Relation Summary Window

2. Type the title of the report to be generated in the **Header** box.
3. Select either (i) **No Relation** or (ii) **Relation**. If you select the **Relation** button, the **Data Sync** (Auto and Manual), **Scope Sync**, and **Trace** options will be enabled for you to select.
4. You can also select any elements in any drivers that have relations between them.
5. Click **View**. The report will open on the right-hand side of the **Report** window.
6. Click **Save**.
7. Click **Generate**. The report will be generated and saved with the selected filtering option.

APPENDIX

Cameo DataHub Terminology

This section provides details about the terminology used throughout this user guide.

Data

Data refers to an item whose specific format enables it to be synchronized with and referenced to and from another data. Data can be a MagicDraw element or relation, a Cameo Requirements+ node or relation, a DOORS node or relation, a RequisitePro node or relation, or a CSV row.

There are various kinds of items and data is one of them. However, only data that can be both synchronized and traced.

Data Source

A data source refers to the project path of an application. A data source can be any of the following:

- MagicDraw project
- Cameo Requirements+ repository
- DOORS database
- RequisitePro project
- CSV file

An application can have more than one data source. Each data source refers to a specific project path and has a unique **Data Source ID**.

You can connect DataHub to the following five applications: (i) MagicDraw, (ii) Cameo Requirements+, (iii) DOORS, (iv) RequisitePro, and (v) data repository in CSV format.

DataHub Tree

A DataHub tree refers to a tree structure designed to show drivers, data sources, and items of the connected data sources in DataHub. The tree within DataHub Explorer has three top levels: DataHub, drivers, and data sources respectively as DataHub itself consists of five drivers (MagicDraw, Cameo Requirements+, DOORS, RequisitePro, and CSV) and each driver has one or more data sources.

Driver

A driver refers to either a connector to an application or a connector to a file. Each driver has a unique **Driver ID**. There are five applications (MagicDraw, Cameo Requirements+, CSV, DOORS, and RequisitePro), and one data repository in CSV format, and each uses a specific driver. For example, the DOORS driver connects to DOORS and the RequisitePro driver to RequisitePro.

Global ID

A Global ID consists of a **Driver ID**, a **Data Source ID**, a **Type ID**, and an **Item ID** arranged in that order and separated by a delimiter "/". Each item or item type in the DataHub tree has a unique Global ID.

Item

An item refers to a particular element of the DataHub tree. Each item has a unique **Item ID**. Elements such as drivers, data sources, folders, packages, DOORS formal modules, requirements (data), and relationships (links) in the DataHub Explorer tree are called items.

Data refers to an item whose specific format enables it to be synchronized with and traced to and from another data (see "Data" above).

A link is an item whose specific format makes it possible to link one data to another and also enables it to be synchronized with other links (see "Link" below).

Item Type

An item type consists of a list of properties, for example, a **SysML Requirement** type consists of two properties (**ID** and **Text**). Thus, every item with the same item type shares the same property list. An item type can be a driver type, data source type, Telelogic DOORS requirement type, Rational RequisitePro requirements type, MagicDraw stereotype, Cameo Requirements+ schema, or CSV column. Each item type has a unique **Type ID**.

Link

A link is an item whose specific format makes it possible to link one data to another and also enables it to be synchronized with other links. A link can only be a MagicDraw or Cameo Requirements+ relationship, an IBM Rational DOORS link, or an IBM RequisitePro traceability. Unlike data, links can only be synchronized.

Orphan

Orphan refers to the status of an updated item that attempts to synchronize to the other side of the relation that has been deleted.

PendingDelete

PendingDelete refers to the status of an item that occurs because one or more related items have been deleted. Pending delete status is similar to Orphan status, only it occurs at synchronization.

PendingUpdate

PendingUpdate refers to the status of an item that occurs because one or more related items have been updated (changes have been made to the item(s)). Items in PendingUpdate status can be either accepted to update the properties or discarded.

Relation

There are three kinds of Relations: (i) **Sync Relation**, (ii) **Scope Sync Relation**, and (iii) **Trace** (Reference Associations are referred to as 'Trace').

(i) A Sync Relation refers to the fact that both related items will be synchronized when one is changed.

(ii) A Scope Sync Relation means that two-way synchronization will apply to both data changes and the hierarchy will be maintained as well. This means that a newly created node will be automatically created in and synchronized to another related data.

(iii) A Trace refers to a dependency relationship between the source and target items. There is dependency because, once one or several attribute values of the target item have been modified, the status of the source item will be **Suspect**. You can then either ignore or remove that reference.

If two data items have an association, they can be opened from one another.

Sync Relation

Sync relations are associations between the source and target items. Items with relations can synchronize one another. Sync relations are available in the operation mode box in DataHub Explorer. You can create a relation by dragging the source to the target item.

Table 37 -- DataHub Relation Types

Name	Function
Export Data	To export data without creating any relations.
Export Data and Create Scope Sync	To export data and create a Scope Sync relation.
Export Data and Create Data Sync Auto	To export data and add an auto data Sync relation to the exporting data.
Export Data and Create Data Sync Manual	To export data and add a manual data Sync relation to the exporting data.
Export Data and Create Trace	To export data and add a Trace relation to the exporting data.
Create Data Sync Auto	To create an auto data Sync relation between two items.
Create Data Sync Manual	To create a manual data Sync relation between two items.
Create Trace	To create a trace relation between two items.

Synchronized/Traced

Synchronized or Traced refers to the status of an item that does not have any pending changes.

Schema Map

A Schema Map refers to the mapping of attributes between the source and target types. The source or target types can be identical or different. Apart from mapping, you can also use schema maps to copy items from different item types and update them for attributes synchronization.

The following is an example of attribute mapping between the MagicDraw and DOORS formal module.

Table 38 -- Example of Schema Map

MagicDraw SysML Requirements	Functional Requirements Module
Name	Object Heading
Id	Object Identifier
Text	Object Text

Status

Status refers to the status of an association item. The status of an item will vary depending on the association type (Sync Relation or Trace). If the association type is a Sync Relation, the item status will be **Synchronized**, **PendingUpdate**, **PendingDelete**, or **Orphan**. If the relation is a Trace, the item status will only be either **Suspect** or **Traced**.

Trace

A Trace is one of three kinds of Relations. A Trace refers to a dependency relationship between the source and target items. There is dependency because once one or several attribute values of the source or target item have been modified, the status of the source item will be **Suspect**. You can then either ignore or remove that reference.

Suspect

Suspect refers to the status of an item. Once one or several attribute values of the source or target item have been modified, the status of the source item will be **Suspect**.