caAdapter Global Model Exchange (GME) Module Version 4.2

User's Guide

NATIONAL® CANCER INSTITUTE

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REVISION HISTORY

Date	*Author(s)*	*Document Version*	*Change Reference (Major Changes)*
3/11/08	Nicholas Schroedl	0.1	First draft
3/12/08	Charles Yaghmour	0.2	Review and edits
11/11/08	Eugene Wang	1.0	Update

CONTENTS

About This Guide

This section introduces you to the *caAdapter Global Model Exchange 4.2 User's Guide*. It includes the following topics:

Purpose

This guide introduces the Global Model Exchange (GME) module of caAdapter, version 4.2.

Release Schedule

This guide may be updated between releases if errors or omissions are found. The current document refers to the 4.0 version of caAdapter, released in December 2007 by the NCI Center for Biomedical Informatics and Information Technology (CBIIT).

Audience

Typical User

The intended audience for this guide is the medical data analyst interested in mapping an external XSD representation of a GME Namespace to a UML model elements.

Prerequisites

Note that this guide includes instructions for using the GME module only. For information on using other caAdapter functionality, refer to the *caAdapter 4.0 User's Guide*.

To get the most out of this guide, you should be familiar with the following topics:

- XSD metadata file structures
- Data and object models
- Enterprise Architect (EA)
- Using caAdapter's mapping tool

Topics Covered

This guide includes the following chapter and appendix.

- *Using the GME Module* on page 5 explains how to use the caAdapter GME module.
- *caAdapter GME Glossary* on page 11 is a glossary of terms related to caAdapter Global Model Exchange 4.2.

Text Conventions Used

This section explains conventions used in this guide. The various typefaces represent interface components, keyboard shortcuts, toolbar buttons, dialog box options, and text that you type.

Convention	*Description*	*Example*
Bold	Highlights names of option buttons, check boxes, drop-down menus, menu commands, command buttons, or icons.	Click **Search**.
URL	Indicates a Web address.	http://domain.com
text in SMALL CAPS	Indicates a keyboard shortcut.	Press ENTER.
text in SMALL CAPS + text in SMALL CAPS	Indicates keys that are pressed simultaneously.	Press SHIFT + CTRL.
Italics	Highlights references to other documents, sections, figures, and tables.	See *Figure 4.5*.
Italic boldface monospaced type	Represents text that you type.	In the **New Subset** text box, enter ***Proprietary Proteins.***
Note:	Highlights information of particular importance	**Note:** This concept is used throughout the document.
{ }	Surrounds replaceable items.	Replace {last name, first name} with the Principal Investigator's name.

Credits and Resources

The following people contributed to the development of this document.

caAdapter Global Model Exchange 4.2 Development and Management Teams		
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LISTSERV facilities pertinent to the caAdapter		
LISTSERV	***URL***	***Name***
caAdapter_Users	https://list.nih.gov/archives/caadapter_users-l.html	caAdapter Users Discussion Forum
caBIO_Users	https://list.nih.gov/archives/cabio_users.html	caBIO Users Discussion Forum
caBIO_Developers	https://list.nih.gov/archives/cabio_developers.html	caBIO Developers Discussion Forum

CHAPTER 1

USING THE GME MODULE

This chapter provides step-by-step instructions for using the caAdapter Global Module Exchange (GME) module. Topics include:

Introduction to caAdapter

caAdapter provides mapping capabilities between different source and target formats. Each mapping type has its own business rules. This documentation describes caAdapter's mapping capability from an XSD (XML Schema Definition) metadata to an object model. This capability was designed to support the Global Model Exchange Namespaces effort at NCI CBIIT. This chapter provides step-by-step instructions for using this module to perform the mapping.

For details on caAdapter design and implementation, please refer to the caAdapter 4.0 documentation distributed with the caAdapter 4.0 product.

Create an XSD Meta to XMI Model Mapping File

An XSD metadata file defines the specification of an Extensible Markup Language (XML) schema definition. XML Metadata Interchange (XMI) is a standard used to exchange metadata information via XML.

Creating an XSD meta to XMI model mapping file involves loading an XSD metadata file and an XMI into the caAdapter mapping tool.

To create an XSD meta to XMI model mapping file

1. Select **File** > **New** > **XSD Meta To XMI Model Mapping** *(Figure 1.1)*.

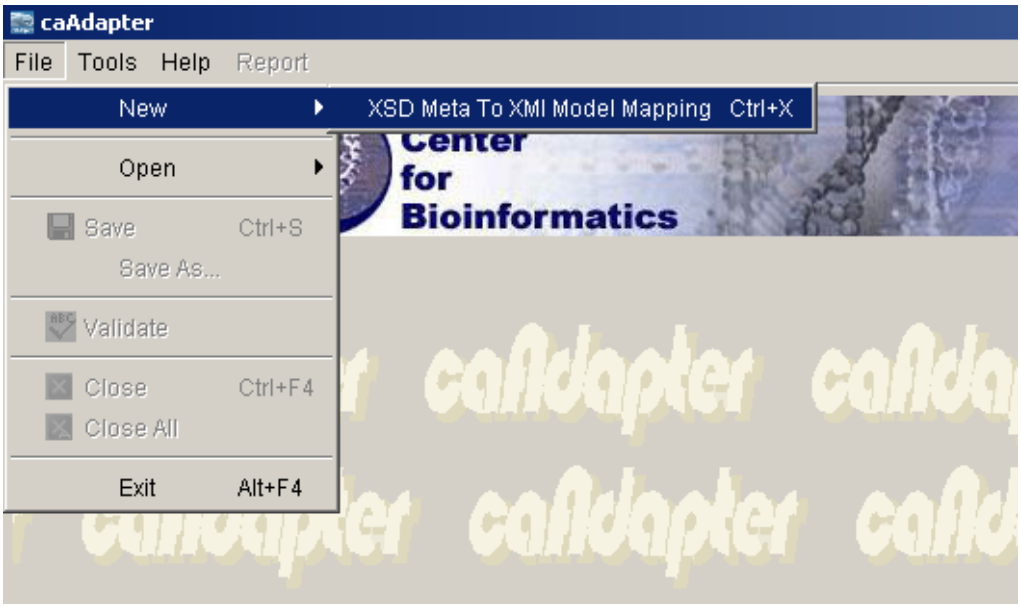

Figure 1.1 New XSD Meta to XMI Model Mapping Menu Item

The XSD to XMI Mapping screen *(Figure 1.2)* appears.

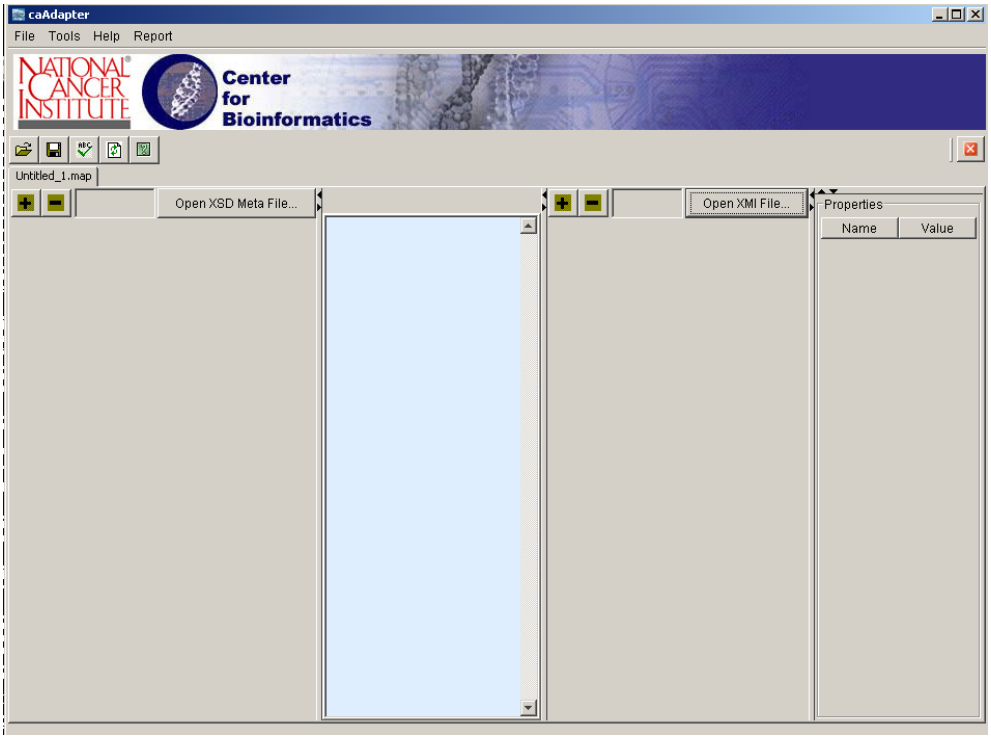

Figure 1.2 XSD to XMI mapping screen

2. Click the **Open XSD Meta File** button to locate the source XSD data file *(Figure 1.3)*.

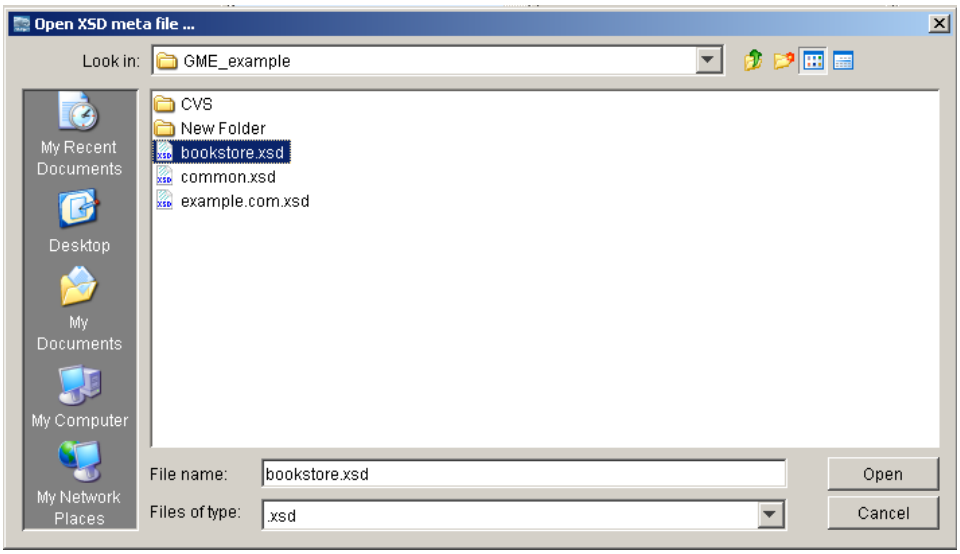

Figure 1.3 Locate the Source XSD data file

caAdapter displays the selected XSD file metadata in a tree structure in the left panel of the mapping tool *(Figure 1.4)*.

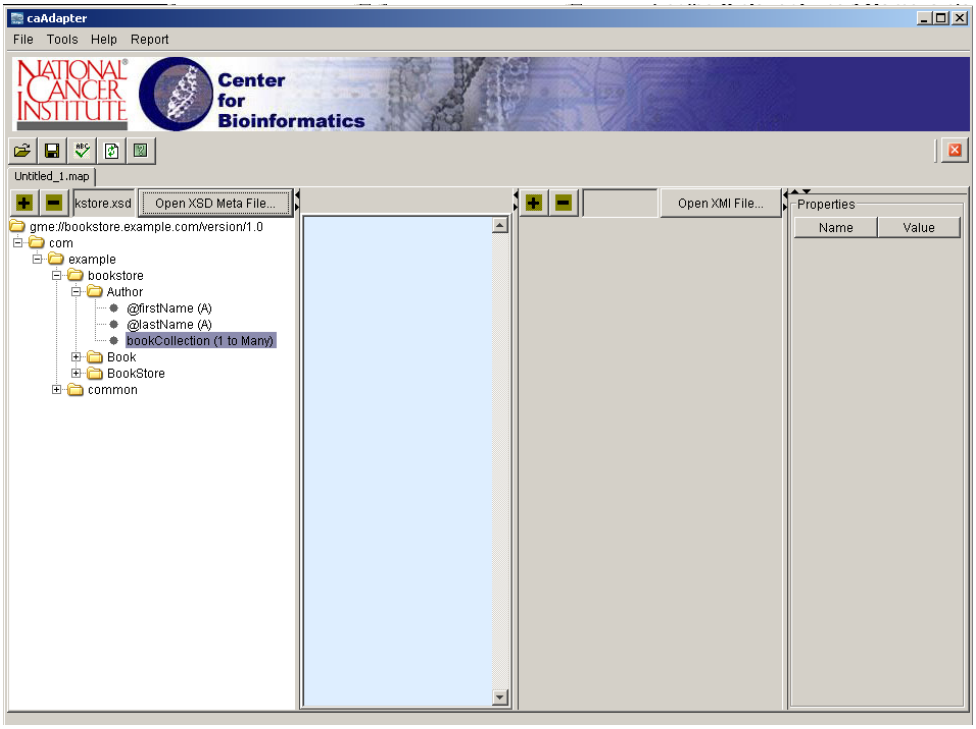

Figure 1.4 XSD metadata loaded into caAdapter

3. Click **Open XMI File** to load the Object Model file *(Figure 1.5)*. The XMI appears in the right panel of the mapping tool.

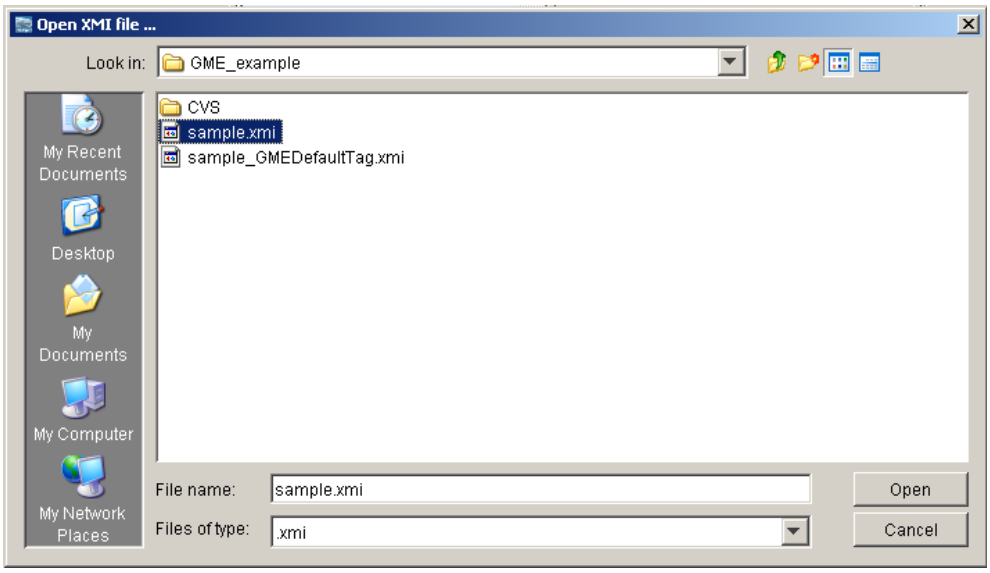

Figure 1.5 Locate the XMI data file

Once valid XMI and XSD files are selected, they appear in the right and left panels of the mapping tool *(Figure 1.6)*.

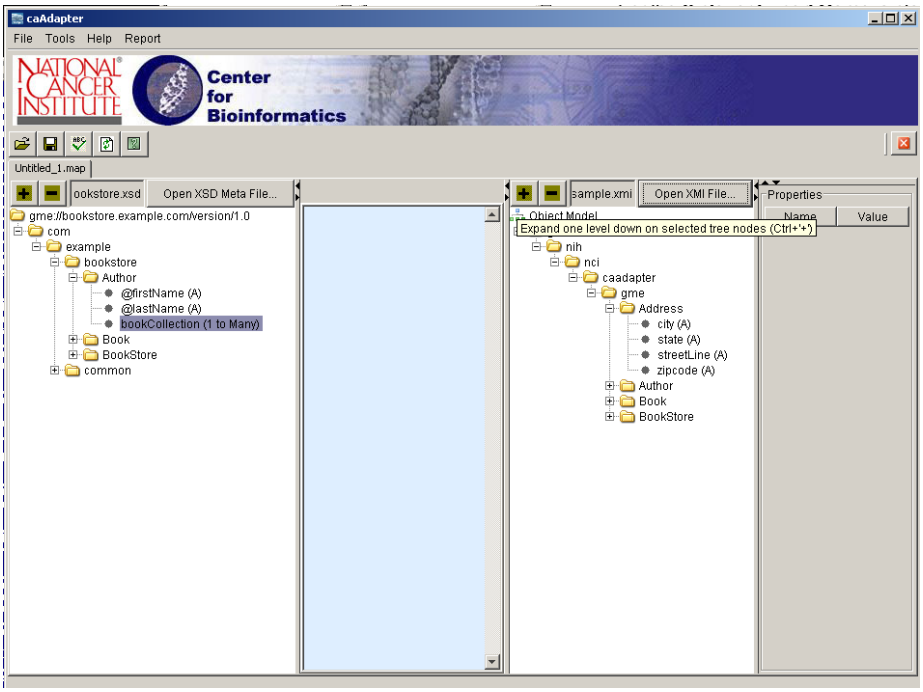

Figure 1.6 Loaded XSD and XMI data in the mapping tool

4. Drag and drop to map the data (*Figure 1.7*). Refer to *Mapping Rules* on page 9 to create valid mappings.

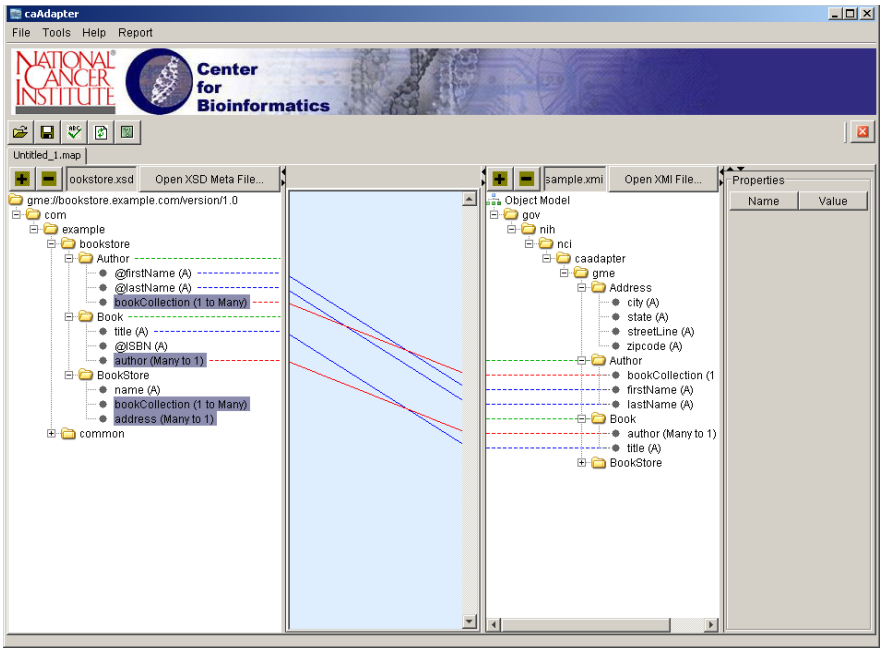

Figure 1.7 Example mappings between XSD and XMI data

As you map the elements, caAdapter creates the corresponding GME tags and places them in the XMI file. Although caAdapter creates GME tags at the Project, Package, Class, Attribute, and Association levels, you need only map attributes and associations. caAdapter automatically creates the corresponding Class, Package and Project tags.

To delete a specific mapping, highlight the mapping line, click the right mouse button, and then click **Delete**. This removes the line from the mapping screen and deletes the corresponding GME tag(s) from the XMI file.

To delete all mappings, move the mouse to the middle mapping panel, click the right mouse button, and then click **Delete All**. This removes all lines from the mapping screenl and deletes all GME tags from the XMI file.

Mapping Rules

This version of the GME Module uses the following basic mapping rules. Additional mapping rules will be implemented in later versions.

- You may not map a single attribute from the XSD file to more than one attribute in the XMI file (that is, one-to-many attribute mapping is not allowed).
- You may not map a single association, from the XSD file to more than one association in the XMI file (that is, one-to-many association mapping is not allowed).
- You may not map more than one attribute from the XSD file to a single attribute in the XMI file (that is, many-to-one attribute mapping is not allowed).

- You may not map more than one association from the XSD file to a single association in the XMI file (that is, many-to-one association mapping is not allowed).

APPENDIX

A

caAdapter GME Glossary

This glossary defines acronyms, abbreviations, and terminology used in caAdapter GME.

Term	*Definition*
EA	Enterprise Architect. UML Modeling Tool.
GME	Global Model Exchange
NCI CBIIT	National Cancer Institute Center for Biomedical Informatics and Information Technology
UML	Unified Modeling Language
XMI	XML Metadata Interchange
XML	Extensible Markup Language
XSD	XML Schema Definition
EA	Enterprise Architect. UML Modeling Tool.
GME	Global Model Exchange

Table A.1 Glossary of terms used in caAdapter GME

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