

# caDSR Semantic Integration Workbench (SIW)

[caDSR Password Change Station](#) | [caDSR Database and Tools](#) | [caDSR Sentinel Tool](#)



## Semantic Integration Workbench

### Contents of this Page

- [Tool Overview](#)
- [Access](#)
- [FAQs, Forum and Support](#)
- [Presentations, Demos and Other Materials](#)
- [Documentation and Training](#)
- [Related Tools](#)

### At a Glance Details

- **Version Number and Release Date:** SIW and UML Loader 4.2.1 March 2, 2018
- **Primary Audience:** Developers; Metadata Curators (Forms); Metadata curators (UML Models); VCDE Mentors; Architecture Mentors; Compatibility Reviewers

### CBIIT Links

- [NBIA Cancer Data Science website](#)
- [NCI Cancer Data Science on Twitter @ NCIDataSci](#)

## Tool Overview

### Semantic Integration Workbench (SIW) Overview

The [Semantic Integration Workbench \(SIW\) Tool](#) assists users in adding consistent metadata to a UML model, or verifying consistency, by tagging their domain model with matching concepts from the NCI Thesaurus. This process helps bring the UML model semantically in-line with other registered content in caDSR, allowing for easier data-sharing between distributed systems.

The UML Loader takes the annotated [XMI file](#) output from the Semantic Integration Workbench and loads the system's metadata into the caDSR. The UML Loader is not distributed; CBIIT loads annotated XMI files for users (contact [Application Support](#)).

### Semantic Integration

Semantic Integration is the process through which the items in a UML model are made consistent with similar items from other organizations' UML models. When components of one system use the same terms as similar components of other systems, those systems will be able to easily share information, eliminating significant intervention or additional coding.

Semantic Integration is done using several tools, including:

- Semantic Integration Workbench
- Semantic Connector
- UML Loader

The Semantic Connector feature of the SIW performs a search of EVS to find elements similar to those present in the UML model. When a similar item is found, the system attaches the appropriate EVS concepts to the elements in the UML model. This provides a kind of "pre-mapping" of the UML model items, allowing for easier review and confirmation of the mapped elements.

In addition to providing a method for looking up similar information from the NCI Thesaurus, the SIW also allows users to look up and (if matches are found) bind their UML domain model objects to content that has already been registered in caDSR.

The end result of the Semantic Integration process is an annotated XMI file that can then be used to register metadata into caDSR using the UML Loader. The caDSR acts as the central repository for all registered metadata and makes that metadata available for other systems to use or map to.

The UML Loader is a tool used by the CBIIT staff to register or upload a submitted system's metadata (provided through the annotated XMI file) into the caDSR. This process reuses existing items from the caDSR or creates new items as appropriate.

Ultimately the goal of Semantic Integration and Metadata Registration is to ensure that disparate and distributed clinical data repositories and research systems are using common terms for their corresponding data elements, allowing them to more efficiently and effectively share information.

## UML Loader Overview

The UML Loader is a utility that transforms an annotated XMI file containing EVS concept information and/or caDSR links that have been associated with the classes and attributes in the model. This file is created as output from the Semantic Integration Workbench (SIW). Using a set of rules and algorithms, the UML Loader either reuses existing content, classifying the items as used by the model and adding the new model attribute and class names for each caDSR item, or creates new caDSR items based on the content of the XMI file.

The utility is run from a desktop at NCI, it organizes the UML Model related content in a caDSR Classification Scheme, one for each version of a UML Model. The user running the loader enters the Classification Scheme information to use for organizing the caDSR content, default values for workflow status for the new items created in caDSR, and contact information for the model.

The algorithms compare the concept codes associated with the classes and attributes in the model with existing caDSR content. Class concepts are compared to existing Object Class administered items, and attribute concepts are compared with existing Property administered items. If existing content is found, the names and definitions continued in the model are added as alternate names and definitions for the caDSR items so the model owners and caDSR UML Model oriented tools and services can find and display the caDSR items based on these names.

Value Domains are created if enumerations are present, otherwise, a generic non-enumerated Value Domain with the appropriate datatype is used as the basis for a CDE.

## Access

### Supported caDSR Browser

If there is problem with caDSR, ensure that you are using Mozilla Firefox before contacting Application Support ([NCIAppSupport@mail.nih.gov](mailto:NCIAppSupport@mail.nih.gov)).

There is a Java Web Start version, [SIW Java Web Start](#). For additional information about the release, see [SIW and UML Loader 4.2.1 Release Notes](#).

## FAQs, Forum and Support

### Getting Support

If you need assistance, contact the [CBIIT Application Support Team](#):

- Email: [NCIAppSupport@nih.gov](mailto:NCIAppSupport@nih.gov)
- Telephone: 240-276-5541

- [SIW FAQs](#)
- [caDSR Software Developers List](#)
- [caDSR Users List](#)
- [caDSR Wiki](#)

## Presentations, Demos and Other Materials

- [Test Cases](#)
- [Test Data](#)

## Documentation and Training

- [SIW and UML Loader Release Notes](#)
- [SIW FAQs](#)
- [SIW and UML Loader 4.1 User Guide](#) (archived)

## Related Tools

See [caDSR Database and Tools](#) for a complete list of caDSR tools.

[Return to top](#)