

caCORE Training Workbook

Course 1020: Using the CDE Browser and UML Browser



caCORE Training Website: http://ncicb.nci.nih.gov/NCICB/training/cadsr_training
Help & Support: ncicb@pop.nci.nih.gov (please include "caCORE Training" in the subject)

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1 Introduction

Welcome to caCORE training. This is course 1020: Using the CDE Browser and UML Model Browser. This session is designed for caDSR users and metadata consumers, including caBIG[®] developers and other participants.

In order to receive credit for this course, you will need to register for this course and complete the accompanying quiz in the caBIG[®] Learning Management System at:

<http://ncicbtraining.nci.nih.gov/TP2005/tp2000web.dll/NCICBTraining>

In order for these sessions to be as effective as possible in meeting your needs, we ask that you complete the short training evaluation form (available when you register for a course) to share your feedback on the overall quality of the training process and materials.

2 Course Details

Course Category: caCORE
Course Number: 1020
Course Title: Using the CDE Browser and UML Model Browser
Course Level: Basic
Audience: caDSR Users and Metadata Consumers

3 Course Outline

This session will cover the following areas:

- Learning Objectives
- Lesson 1: Overview of the CDE Browser
 - Key Search Features
 - Search Preferences
 - Search Results
 - Compare Data Elements
 - Tips for Evaluating Data Elements
- Lesson 2: Overview of the UML Model Browser
 - Key Search Features
 - Search Preferences
- Sample Exercises

The primary focus of this session is how to find existing data elements in the caDSR by using the CDE Browser and UML classes and attributes using the UML Model Browser. This includes: the key search features and paradigms of the Browsers, how to navigate the browser trees, how to focus a search using some of the advanced features and filters, how to set search preferences for each session and how to interpret and examine search results.

4 Objectives for the Learner

On completion of these course materials, you will be able to:

- Identify how to find a data element in the caDSR using a variety of options and filters
- Identify where to edit your search preferences
- Evaluate the metadata you find for re-use
- Identify the two metadata download formats available in the CDE Browser
- Identify how to find UML-derived data elements in the caDSR using the UML Model Browser
- Identify how to find a group of UML-derived data elements related to your project or application using the UML Model Browser

5 Lesson 1: Overview of the CDE Browser

The CDE (common data element) Browser is a web-based tool designed to let users search for, view, export and compare data elements (DEs). The CDE Browser was designed as the public interface to caDSR metadata. Users are able to search for and view CDEs in caDSR:

- by context
- by classification
- by protocol form
- filter by any administered item

The CDE Browser can also be used to view basic information related to forms, templates, standards, and other specialized collections of data elements. However, if users need to create or edit forms, we recommend using the Form Builder tool.

The CDE Browser is publicly available (no password required) at:

<http://cdebrowser.nci.nih.gov/CDEBrowser/>

Online help for the CDE Browser can be found at:

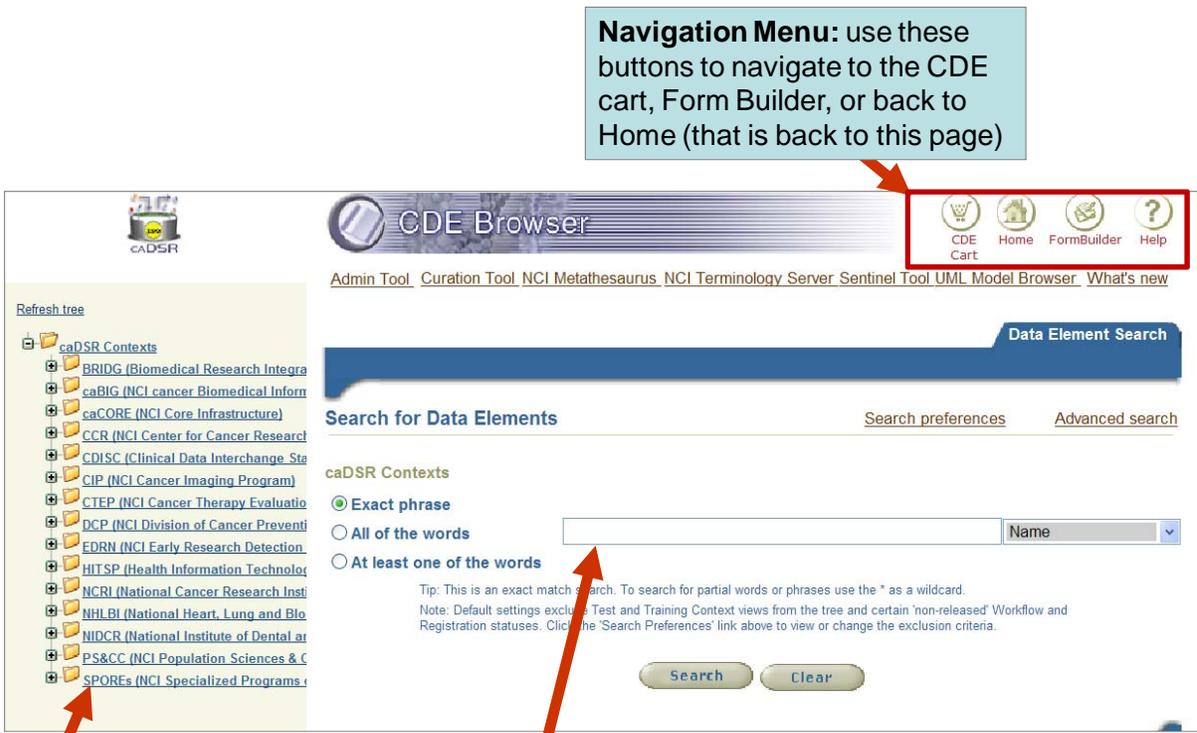
<http://cdebrowser.nci.nih.gov/CDEBrowser/common/help/cdeBrowserHelp.html>

Key points to remember when using the CDE Browser:

- The CDE Browser opens to the data element search page. This page contains the main navigation menu, the caDSR search tree, and the basic data element search pane

- Do not use the Internet Explorer back button, there is navigation built into the CDE Browser pages
- Wait for the tree to build (on the left of the screen) before beginning a search

Figure 1 below illustrates the main search page for the CDE Browser.



Navigation Menu: use these buttons to navigate to the CDE cart, Form Builder, or back to Home (that is back to this page)

caDSR Search Tree: Displays all the current caDSR Contexts. Users can search for groups of DEs by navigating the tree

Data Element Search Pane: This is the main search window. Users looking for Data Elements can enter a key word or phrase

The screenshot shows the CDE Browser interface. At the top right, a navigation menu contains icons for 'CDE Cart', 'Home', 'FormBuilder', and 'Help'. Below this is a search bar labeled 'Data Element Search' with options for 'Search for Data Elements', 'Search preferences', and 'Advanced search'. On the left, a 'caDSR Contexts' tree lists various categories like BRIDG, caBIG, caCORE, CCR, CDISC, CIP, CTEP, DCP, EDNR, HITSP, NCR, NHLBI, NIDCR, PS&CC, and SPOEs. The search pane includes radio buttons for 'Exact phrase', 'All of the words', and 'At least one of the words', along with a search input field and 'Search' and 'Clear' buttons.

Figure 1. CDE Browser Interface

The list below is a quick overview of the functionality built into the screen.

- Navigation menu - Use these buttons to navigate to the CDE Cart, Form Builder, Help, or Home (back to this page).
- CDE Cart: functions like a shopping cart used at an online store. Data elements can be moved to the CDE cart from the data elements search page. The elements in the Cart can then be downloaded in Excel or XML format or used with Form Builder to create or update forms and templates. The CDE cart provides a convenient way for

- users to collect a variety of data elements for downloading or viewing from a diverse set of searches.
- Form Builder: used by curators to create, update, and maintain forms and templates using the data elements maintained in the caDSR.
 - Data element search pane - the main search window. Users looking for data elements can enter a keyword or phrase. A wildcard (*) search is supported.
 - Search tree - Displays all the current caDSR contexts. Users can search for groups of data elements by navigating the tree.

5.1 What's New?

As part of the caDSR tool suite, the CDE Browser is updated with bug fixes and implementation of feature requests. Here is a list of new features/bug fixes for the current release of the CDE Browser (v4.0.0.0):

- The context tree is sorted in alphabetical order and is case insensitive
- Four new columns (PV Begin Date, PV End Date, VM Public Id, VM Version) were added to the Permissible Values tab in the Data Elements Details
- Two new columns (CSI Type, CSI Public ID/Version) were added to the Classifications tab in the Data Elements Details
- The "Search in the following field(s)" list is now defaulted to "All" in the advanced search pane
- Technology stack has been upgraded to use the caCORE 4.0 recommended technologies
- CDE Cart has been re-factored. The functionality of the CDE cart has been implemented with new Object Cart
- A link to download CDE Browser DTDs has been added to the browser. The link is located near the other download links above the search Result Set

5.2 Key Search Features

There are several different ways to search for Data Elements using the CDE Browser including:

- Basic Search - search by perfect identifiers such as name or public id (wild card (*) search supported)
- Exact / Partial Search - search by exact phrase or word(s)
- Search Tree - search across contexts or within a specific context
- Advanced Search - search by name, concept, attributes or filters
- Search Within Results - filter search results by entering additional search criteria
- Search Preferences - allows for exclusion of certain registration or workflow statuses in a search

The list above identifies options built into the CDE Browser search functionality. The best way to search will depend on what the user is trying to find.

If a user is looking for a collection of data elements (for example, a user is trying to find the data elements used on an existing form or trying to find the data elements associated with a standard), the user should use the tree search.

Otherwise, the best bet is to search by keyword using either the basic or advanced search.

- Basic search utilizes perfect identifiers such as public ID or name or allows for a wildcard (*) search
- Advanced search provides options for specificity such as looking by a specific permissible value or limiting your search to the latest version of the data element

A broad or targeted search can be conducted depending on requirements and the information available to work with. Remember, the less specific or targeted the search criteria is, the larger the number of results. As we work through specific scenarios, this will become evident.

5.3 Basic Search

The basic search screen is the default setting for searching data elements. An overview is provided below in Figure 2.

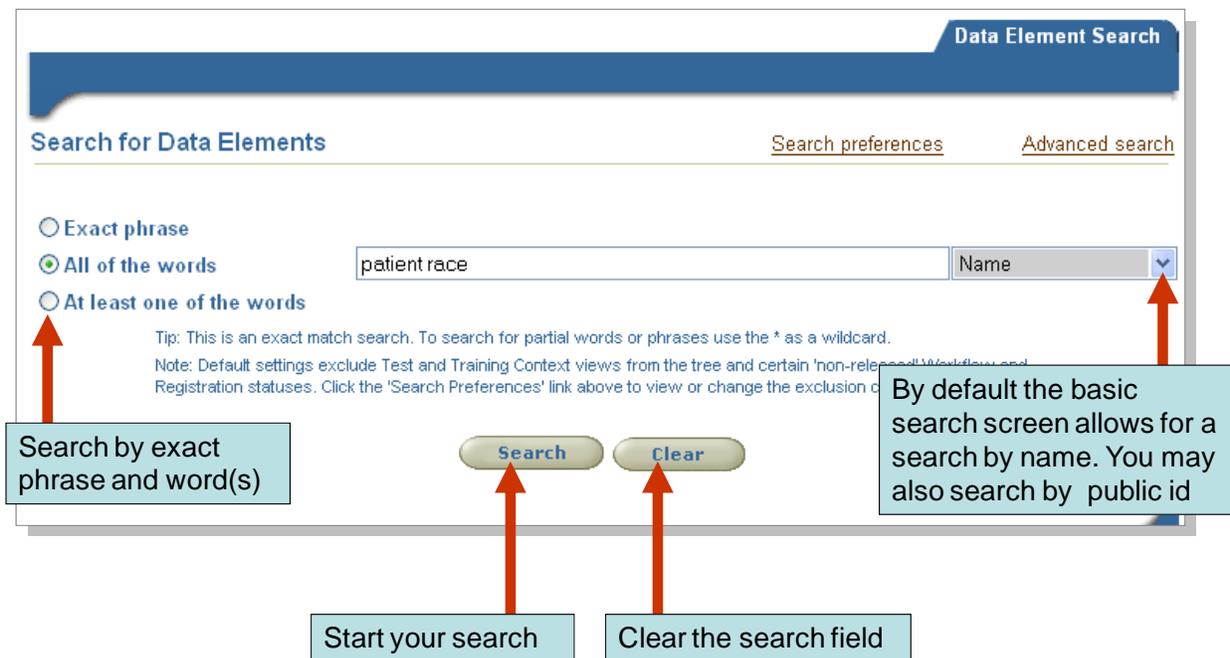


Figure 2. Basic Search

To enter a basic query into the CDE Browser, type in the term you want to search for and click the search button. These searches are NOT case sensitive. By default, the basic search screen allows for a search by name, either an exact match of long or preferred name, document text, reference documents and alternate names. The radio buttons to the left of the keyword search item provide users with three options for conducting a keyword search:

- **Exact phrase:** This search uses key words and a wildcard character (*). The Browser searches for an exact match of the search term(s) in the long name, preferred name, document text, definition, reference documents, and designations.
- **All of the words:** This search ensures that all the words in the search box are present before returning a data element to the results table. (This is the same as performing a logical “AND” on the keywords.)
- **At least one of the words:** This search will return data elements based on the presence of any individual keyword in the search box. (This is the same as performing a logical “OR” on the keywords.)

You may also search by public ID by using the drop down list on the right of the search field.

Use the “Clear” or “New Search” buttons to clear existing results or to start a new search.

5.3.1 Searching with Wildcard

An asterisk (*) is used as the wildcard character when searching with the CDE Browser. The wildcard search can be conducted from either the basic or advanced search screens. The wildcard character (*) can be used to broaden your search. The wildcard character can be used more than once within a search term. Here are a couple of tips for using wildcards:

- To search for a data element that contains the word “status” somewhere in its name, definition, or in the title of attached reference documents, put a wildcard (*) before or after the term or in both places
- To search for data elements that begin with the word “gene”, put a wildcard after the term (i.e., “gene*”)
- To search for matching phrases, use wildcards to bridge words. For example, “status*patient*”, will return a match for patient status
- Underscores are not needed between terms when searching

5.4 Tree Search

The search tree is a navigable tree of contexts. The tree lists the names of the caDSR contexts and displays the various groupings of data elements within each context. Users can use the tree to quickly find forms, templates, and other collections of data elements. A context is used to distinguish data element development efforts that are managed by different authorities. Each context has a curatorial authority that manages the creation, editing, and designation of data elements for that context. The training and test contexts are excluded from the tree by default.

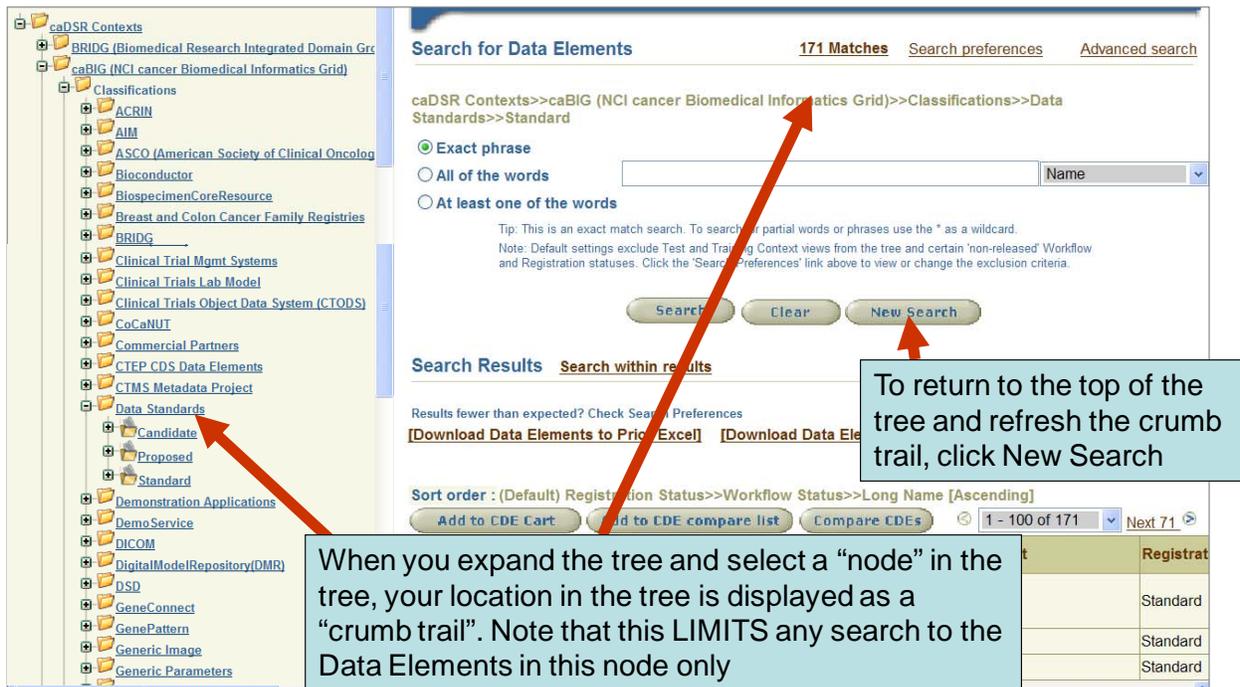


Figure 3. Browser Tree

The top nodes of the tree correspond to contexts in the caDSR. All nodes occurring beneath the first level are branches that correspond to logical groupings of the data elements in that context. Groupings can be any of the following types:

- Classifications and Classification Scheme Items (CSIs) - A classification is a collection of related classification scheme items that define a sub-hierarchy within the tree. A data element may be assigned to one or more classification scheme items. Classification assignments are managed by the context administrator. Only those classifications with a workflow status of RELEASED are displayed in the tree.
- Protocol Form Templates
- Protocol Forms
- Other Specialized Groupings

Click on a collapsed folder to expand it as seen in Figure 4 for the caBIG[®] context to reveal the classifications and protocol forms within the caBIG[®] context. Click the hypertext label to restrict the search to data elements in the selected group.



Search for Data Elements 171 Matches Search preferences Advanced search

caDSR Contexts>>caBIG (NCI cancer Biomedical Informatics Grid)>>Classifications>>Data Standards>>Standard

Exact phrase
 All of the words
 At least one of the words

Tip: This is an exact match search. To search for partial words or phrases use the * as a wildcard.
 Note: Default settings exclude Test and Training Context views from the tree and certain 'non-released' Workflow and Registration statuses. Click the 'Search Preferences' link above to view or change the exclusion criteria.

Search Clear New Search

Search Results Search within results

Results fewer than expected? Check Search Preferences
[\[Download Data Elements to Price Excel\]](#) [\[Download Data Elements to Excel\]](#)

Sort order: (Default) Registration Status>>Workflow Status>>Long Name [Ascending]
 Add to CDE Cart Add to CDE compare list Compare CDEs 1 - 100 of 171 Next 71

CaDSR Contexts

- caDSR Contexts
 - BRIDG (Biomedical Research Integrated Domain Grid)
 - caBIG (NCI cancer Biomedical Informatics Grid)
 - Classifications
 - ACRIN
 - AIM
 - ASCO (American Society of Clinical Oncology)
 - Bioconductor
 - BiospecimenCoreResource
 - Breast and Colon Cancer Family Registries
 - BRIDG
 - Clinical Trial Mgmt Systems
 - Clinical Trials Lab Model
 - Clinical Trials Object Data System (CTODS)
 - CoCaNUT
 - Commercial Partners
 - CTEP CDS Data Elements
 - CTMS Metadata Project
 - Data Standards
 - Candidate
 - Proposed
 - Standard
 - Demonstration Applications
 - DemoService
 - DICOM
 - DigitalModelRepository(DMR)
 - DSD
 - GeneConnect
 - GenePattern
 - Generic Image
 - Generic Parameters

When you expand the tree and select a "node" in the tree, your location in the tree is displayed as a "crumb trail". Note that this LIMITS any search to the Data Elements in this node only

To return to the top of the tree and refresh the crumb trail, click New Search

Registrat
Standard
Standard
Standard

Figure 4. Browser Tree Continued

5.4.1 Tips and Techniques when Using the Tree Search

A few tips to remember when using the context tree to search:

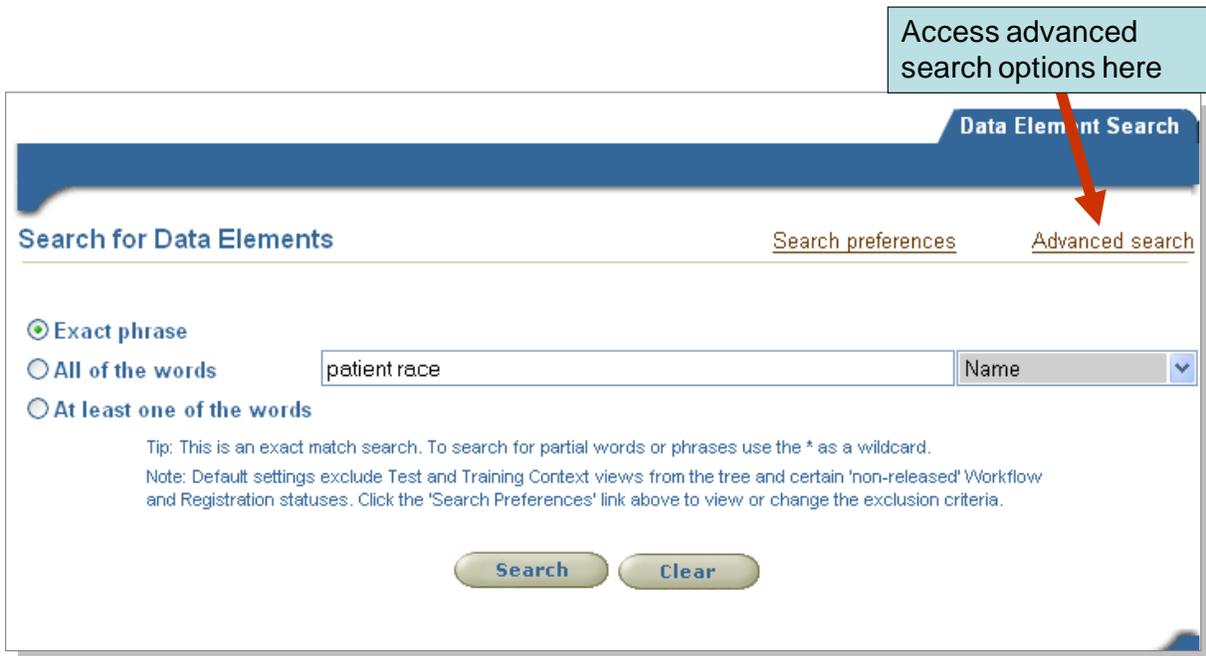
- Click the hypertext link to select a context before entering any additional search constraints in the search pane. This will trigger a search for all data elements in that context. Some contexts are quite large so it is a good idea to enter some constraints in the search pane before selecting a context.
- Contexts may be switched at any time. Selecting a new context effectively de-selects the previous context.
- The name of the current context is always displayed in the upper left hand corner above the search tree.

If search results are sparse:

- Check the "crumb trail" in the search results window (search may be limited to a specific context or classification).
- Use a wildcard to expand search results.
- If the tree is not displaying, be patient, the tree includes all the metadata in the caDSR and may take a few moments to load.

5.5 Advanced Search

The advanced search pane gives the user greater control over the search parameters. This page is accessed by clicking the 'Advanced search' hyperlink on the right hand of the basic search screen. Users can opt to search by name, public ID, concept, or by a number of other attributes. Users can also combine criteria to create complex searches.



Access advanced search options here

Data Element Search

Search for Data Elements [Search preferences](#) [Advanced search](#)

Exact phrase
 All of the words
 At least one of the words

patient race Name

Tip: This is an exact match search. To search for partial words or phrases use the * as a wildcard.
 Note: Default settings exclude Test and Training Context views from the tree and certain 'non-released' Workflow and Registration statuses. Click the 'Search Preferences' link above to view or change the exclusion criteria.

Search Clear

Figure 5. Advanced Search

5.5.1 Searching by Concept

The ability to search by concept was added to provide additional semantic support. Searching by concept can be a powerful way to find the appropriate data elements. The Browser will search object classes, properties, and value domains for matches. If a match is found, the Browser will return the data element associated with the object class, property, or value domain that matched the concept name or code. Wildcards (*) are supported in the concept search.

Search by Name 4 Matches [Search preferences](#) [Basic search](#)

Exact phrase
 All of the words
 At least one of the words

Tip: To search for partial words or phrases use the * as a wildcard.
 Note: Default settings exclude Test and Training Context views from the tree and certain 'non-released' Workflow and Registration statuses. Click the 'Search Preferences' link above to view or change the exclusion criteria.

Search in the following field(s)

ALL

Long Name

Short Name

Document Text

Tip: Use Shift or Ctrl to select multiple fields.

Wildcard searching is supported

Concept Name

Concept Code

Search by Attributes

Public ID	<input type="text"/>	Alternate Name	<input type="text"/>
Data Element Concept	<input type="text"/> Clear	Alternate Name Type(s)	<div style="border: 1px solid #ccc; padding: 2px;"> ALL ABBREVIATION C3D Name </div>
Classification	<input type="text"/> Clear	Object Class	<input type="text"/>
Value Domain	<input type="text"/> Clear	Property	<input type="text"/>
Permissible Value	<input type="text"/>	<input checked="" type="radio"/> Exact phrase <input type="radio"/> All words	

Search for Alternate Names

Filter by Object Class and Property

Figure 6. Advanced Search by Attributes

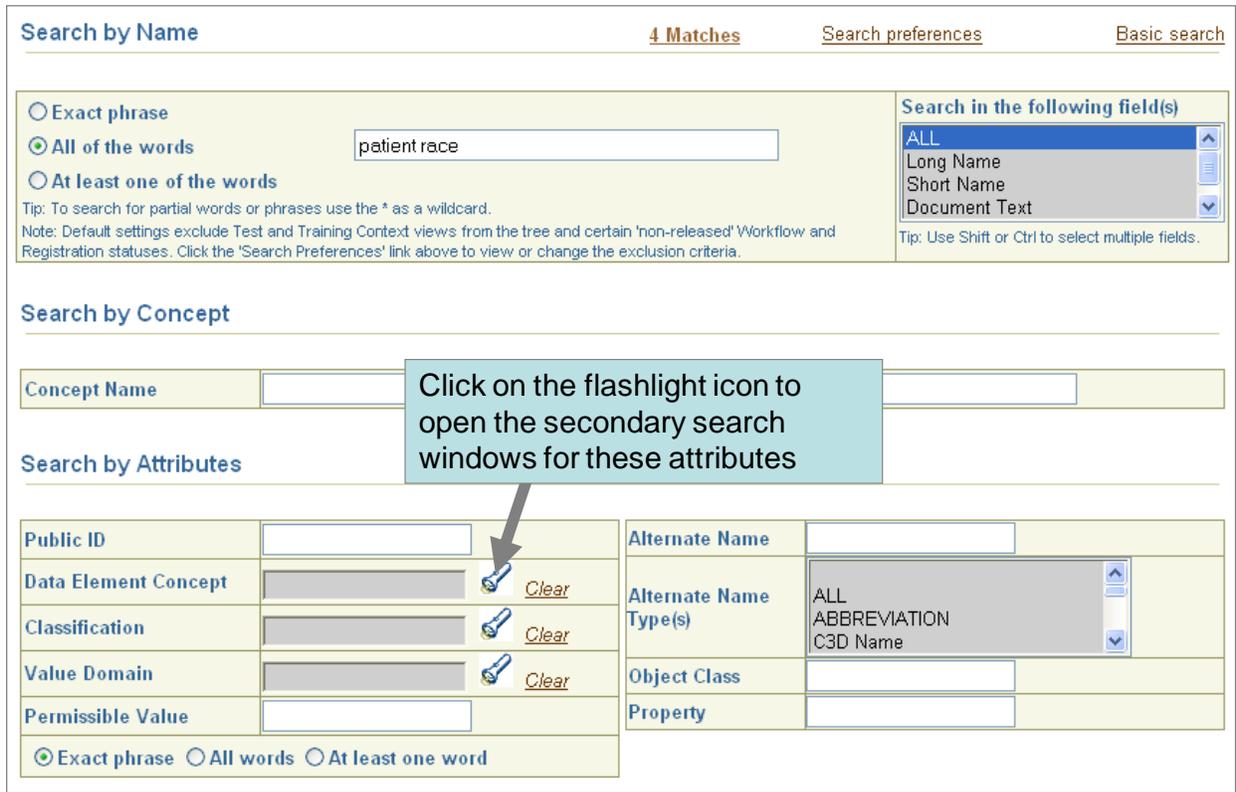
5.5.2 Searching by Attributes

The option to search by specific attributes of administered items is now available:

- **Public ID** - To search for data elements based on public ID, enter a valid public ID in the field provided. An asterisk (*) wildcard character can be added at the end of a series of numbers, for example 348*, to broaden the search. The wildcard character can be used at the beginning, middle, or end of the search term.
- **Permissible Value** - To search for data elements based on their permissible values, enter a value in the field provided. An asterisk (*) wildcard character can be added to broaden the search. The wildcard character can be used at the beginning, middle, or end of the search term.
- **Alternate Name** - A data element is allowed to have multiple alternate names in multiple contexts. This search criterion should be used for searching data elements based on alternate names. It is used in conjunction with alternate name type(s) search criteria.
- **Alternate Name Type(s)** - This list displays the types of alternate names. Multiple values can be selected from this list by holding the Ctrl key. Alternate name type has to be specified for a search based on alternate name.

5.5.2.1 Searching for Data Element Concepts, Classifications and Value Domains

The CDE Browser searches for data elements using the following ISO 11179-based attributes: data element concept, classifications and value domain. From the advanced search screen, click the desired flashlight icon (🔦) to open a secondary window to search for data elements based on one of the attributes as shown in Figure 7 below.



Search by Name 4 Matches [Search preferences](#) [Basic search](#)

Exact phrase
 All of the words
 At least one of the words

Tip: To search for partial words or phrases use the * as a wildcard.
 Note: Default settings exclude Test and Training Context views from the tree and certain 'non-released' Workflow and Registration statuses. Click the 'Search Preferences' link above to view or change the exclusion criteria.

Search in the following field(s)

ALL
 Long Name
 Short Name
 Document Text

Tip: Use Shift or Ctrl to select multiple fields.

Search by Concept

Concept Name

Click on the flashlight icon to open the secondary search windows for these attributes

Search by Attributes

Public ID <input type="text"/>	Alternate Name <input type="text"/>
Data Element Concept <input type="text"/> 🔦 Clear	Alternate Name Type(s) <input type="text"/>
Classification <input type="text"/> 🔦 Clear	<input checked="" type="checkbox"/> ALL <input type="checkbox"/> ABBREVIATION <input type="checkbox"/> C3D Name
Value Domain <input type="text"/> 🔦 Clear	Object Class <input type="text"/>
Permissible Value <input type="text"/>	Property <input type="text"/>

Exact phrase All words At least one word

Figure 7. Search DEC, Classifications, and VDs

The data element concept is the component of the data element that indicates the semantic meaning of the data element. To filter data elements based on data element concept, click on the 🔦 icon.

Classification scheme items are particular classifications that data elements can be assigned to by the context administrator. To filter data elements based on their classification scheme item assignment, click on the 🔦 icon to search for and select the classification scheme item of interest.

The value domain is the component of the data element that indicates the permissible values that can be collected in an actual research study. To filter data elements based on value domain, click on the 🔦 icon.

Figure 8 below illustrates the popup window that will appear after clicking on the  icon. This window allows you to perform a keyword search for the data element concept of interest. A similar secondary search pane appears for value domain and classification scheme item searches.

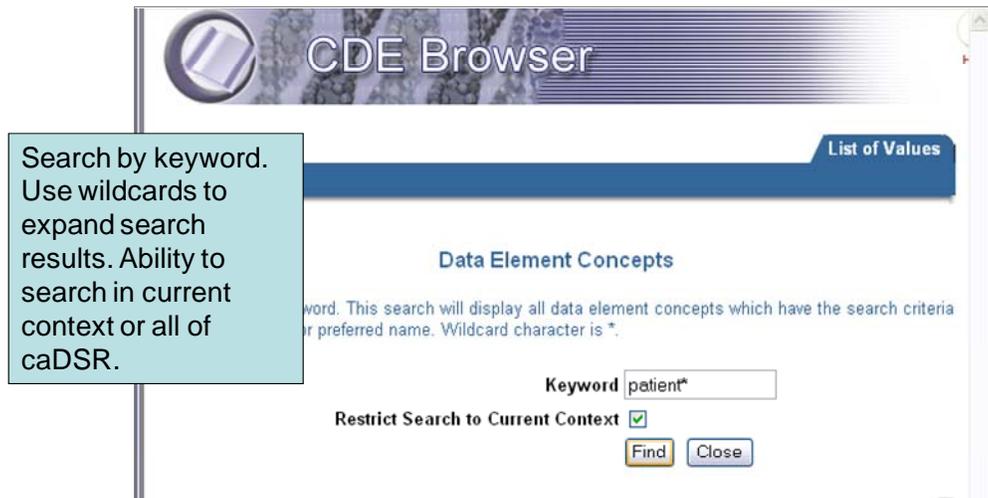


Figure 8. Data Element Concept Search

Wildcard (*) searches are also supported in these secondary windows as seen in Figure 8 above. Once the results appear in the popup window, click the desired data element concept to filter the data element search. The selected data element concept will automatically be entered into the search criteria box on the main search page.

Value domain and classification searches work the same as data element concept.

5.5.3 Search Using Filters

Users have the ability to limit search results using filters. These filters include: version, context use, workflow status and registration status. Figure 9 displays how to view the latest version or all versions of a data element.

Limit search results using filters

View previous / all versions by using the "All Versions" filter

Version	<input checked="" type="radio"/> Latest Version <input type="radio"/> All Versions	Context Use	Owned By/Used By
Workflow Status	ALL APPRVD FOR TRIAL USE DRAFT MOD DRAFT NEW	Registration Status	ALL Application Candidate Proposed

Search Clear New Search

Figure 9. Filter by Version

5.6 Searching within Search Results

If an initial keyword search returns many results, the list can be filtered by performing a subsequent search within that list of results. The same search options apply; the only difference is to click the "Search within results" link, enter additional search criteria, and then click the "Search within results" button.

For example, an initial keyword search for "All of the words" for "*patient" has returned 2103 matches.

Data Element Search

Search for Data Elements **2103 Matches** [Search preferences](#) [Advanced search](#)

caDSR Contexts

Exact phrase
 All of the words
 At least one of the words

patient Name

Tip: This is an exact match search. To search for partial words or phrases use the * as a wildcard.
 Note: Default settings exclude Test and Training Context views from the tree and certain 'non-released' Workflow and Registration statuses. Click the 'Search Preferences' link above to view or change the exclusion criteria.

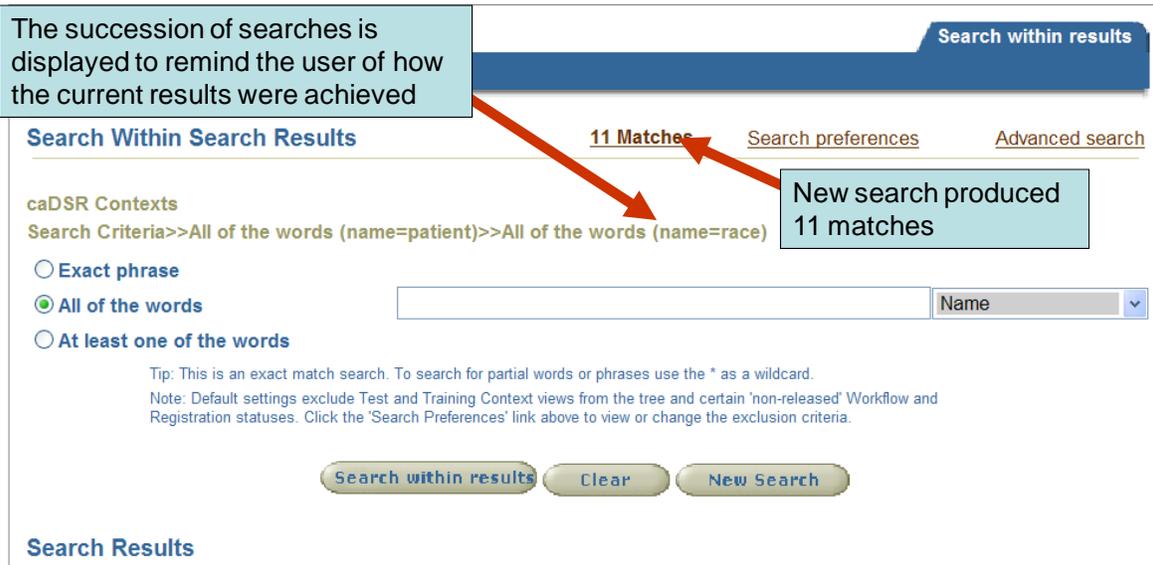
Search Clear New Search

Search Results [Search within results](#)

To search within the 2103 results, click [Search within results] and enter another search term

Figure 10. Search Within Results

To search within these 2103 results, click the “Search within results” link at the bottom of the page. The screen will refresh and then type in a new search term (i.e., “race”) and then click the “Search within results” button. The screen refreshes with the 11 results for all of the words where name=patient and name=race as shown in Figure 11.



The succession of searches is displayed to remind the user of how the current results were achieved

Search within results

Search Within Search Results [11 Matches](#) [Search preferences](#) [Advanced search](#)

caDSR Contexts
Search Criteria>>All of the words (name=patient)>>All of the words (name=race)

Exact phrase
 All of the words
 At least one of the words

Tip: This is an exact match search. To search for partial words or phrases use the * as a wildcard.
Note: Default settings exclude Test and Training Context views from the tree and certain 'non-released' Workflow and Registration statuses. Click the 'Search Preferences' link above to view or change the exclusion criteria.

[Search within results](#) [Clear](#) [New Search](#)

Search Results

New search produced 11 matches

Figure 11. Search Within Results Cont'd.

5.7 Search Preferences

Click the search preferences link to change the exclusion and inclusion criteria for searches. From the basic search screen, the option to further specify search preferences exists as a separate link at the upper right of the screen as shown in Figure 12 below.

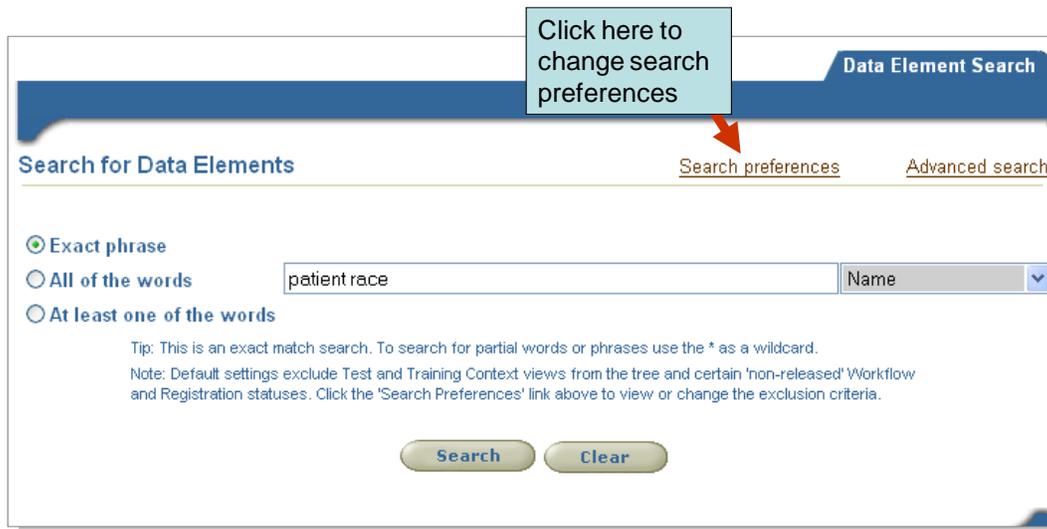


Figure 12. Change Search Preferences

On the search preference page, users can change the following default search options:

- Context - By default, data elements owned by the Test and Training Contexts are excluded from the search results. This setting can be overridden by unselecting the 'Exclude "Test" Context' or 'Exclude "Training" Context' checkbox as shown in Figure 13 below.
- Workflow Status - By default, data elements with one of the following statuses are excluded from the results:
 - CMTE APPROVED, CMTE SUBMTD, CMTE SUBMTD USED, RETIRED ARCHIVED, RETIRED PHASED OUT, RETIRED WITHDRAWN
 Users can select any set of Workflow Statuses to include or exclude in the search results.
- Registration Status - By default, data elements with a registration status of RETIRED are excluded from the search results. Users can select any set of registration statuses to include or exclude in the search results.
- Click the "Save" button to save your preferences for the current. Please Note: At this time, preferences cannot be saved across sessions. Selections will be saved for the current session only. Once a user exits from the Browser, the preferences will return to the default settings.

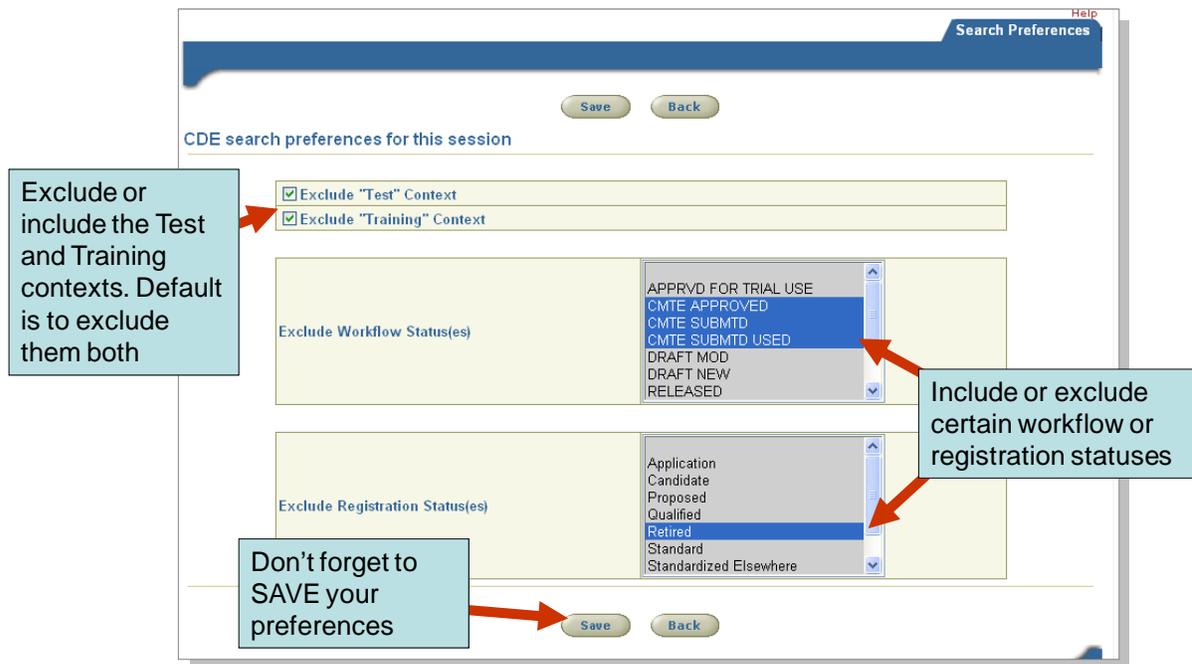


Figure 13. Select Search Preferences

5.8 Search Results

After performing a search on the basic or advanced search screen, data elements meeting the specified criteria are displayed in the search results table. A maximum of 40 records are shown on a page. When the record count is greater than 40, the search results are paginated across multiple pages. To view other pages, click the “Next” link on the top right of the screen or select a set of 40 results from the drop down menu.

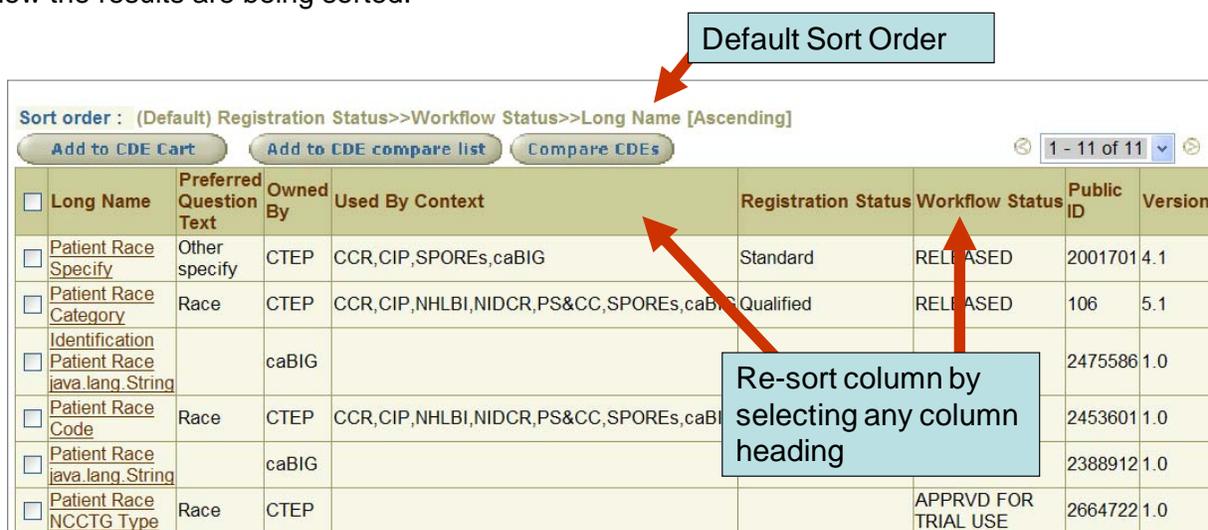
5.8.1 Key Display Features

The CDE Browser has many display features to help you find and view exactly what you are looking for in the caDSR. These include:

- Results Table – data elements that match the search criteria are displayed in the results table
- Compare Feature - allows for side by side comparison of data elements selected from the results table
- Display all CDE Versions - view information about all the other versions of a data element
- View forms usage info - the usage tab on data element details screen now displays the forms on which a data element is used (“Usage”)
- View reference documents and attachments for object class / classification scheme / classification scheme item

5.9 Sorting Results

By default, the results are sorted by registration status, workflow status, and then long name. The results are initially sorted in this way to ensure that the data elements with the highest registration and workflow statuses appear at the top of the list. However, results can be sorted as needed by clicking on column headings. The Browser lets users sort up to three columns. The current sort order is displayed above the results table so that users can easily determine how the results are being sorted.

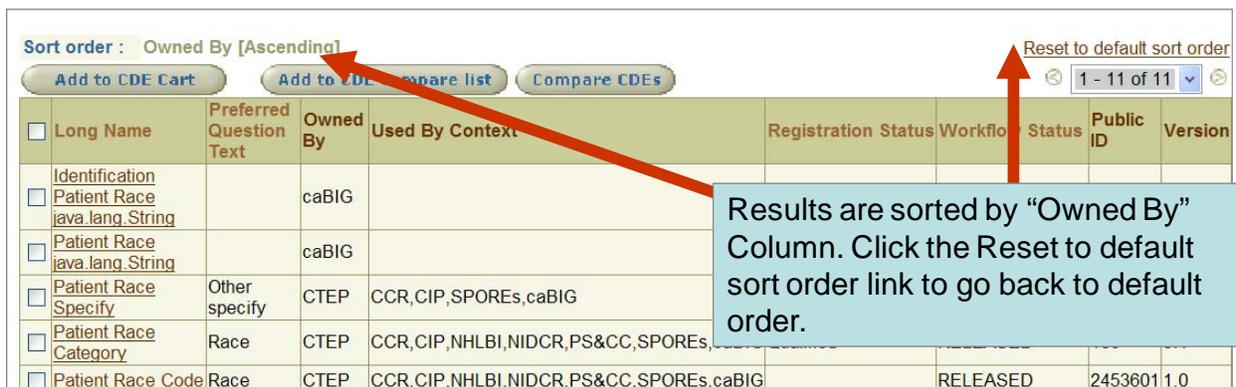


Sort order : (Default) Registration Status >> Workflow Status >> Long Name [Ascending]

<input type="checkbox"/> Long Name	Preferred Question Text	Owned By	Used By Context	Registration Status	Workflow Status	Public ID	Version
<input type="checkbox"/> Patient Race Specify	Other specify	CTEP	CCR,CIP,SPORES,caBIG	Standard	RELEASED	2001701	4.1
<input type="checkbox"/> Patient Race Category	Race	CTEP	CCR,CIP,NHLBI,NIDCR,PS&CC,SPORES,caBIG	Qualified	RELEASED	106	5.1
<input type="checkbox"/> Identification Patient Race java.lang.String		caBIG				2475586	1.0
<input type="checkbox"/> Patient Race Code	Race	CTEP	CCR,CIP,NHLBI,NIDCR,PS&CC,SPORES,caBIG			2453601	1.0
<input type="checkbox"/> Patient Race java.lang.String		caBIG				2388912	1.0
<input type="checkbox"/> Patient Race NCCTG Type	Race	CTEP			APPRVD FOR TRIAL USE	2664722	1.0

Figure 14. Sorting Results

Figure 15 below shows the results sorted by the “Owned By” column. To reset the sort order back to the default setting, click the “Reset to default sort order” link located at the top right of the screen.



Sort order : Owned By [Ascending]

<input type="checkbox"/> Long Name	Preferred Question Text	Owned By	Used By Context	Registration Status	Workflow Status	Public ID	Version
<input type="checkbox"/> Identification Patient Race java.lang.String		caBIG					
<input type="checkbox"/> Patient Race java.lang.String		caBIG					
<input type="checkbox"/> Patient Race Specify	Other specify	CTEP	CCR,CIP,SPORES,caBIG				
<input type="checkbox"/> Patient Race Category	Race	CTEP	CCR,CIP,NHLBI,NIDCR,PS&CC,SPORES,caBIG				
<input type="checkbox"/> Patient Race Code	Race	CTEP	CCR,CIP,NHLBI,NIDCR,PS&CC,SPORES,caBIG		RELEASED	2453601	1.0

Figure 15. Results Sorted by Owned By Column

5.10 View Details

When search results are narrowed down to a list of desirable data elements, users view the detail required to evaluate the data element. In Figure 16 below, a data element detail link (long name) has been selected and a description of Patient Race Category is displayed.

Sort order : (Default) Registration Status>>Workflow Status>>Long Name [Ascending]

<input type="checkbox"/>	Long Name	Preferred Question Text	Owned By	Used By Context				Version
<input type="checkbox"/>	Patient Race Specify	Other specify	CTEP	CCR,CIP,SPOREs,caBIG	Standard	RELEASED	2001701	4.1
<input type="checkbox"/>	Patient Race Category	Race	CTEP	CCR,CIP,NHLBI,NIDCR,PS&CC,SPOREs,caBIG	Qualified	RELEASED	106	5.1
<input type="checkbox"/>	Identification Patient Race java.lang.String		caBIG			RELEASED	2475586	1.0
<input type="checkbox"/>	Patient Race Code	Race	CTEP	CCR,CIP,NHLBI,NIDCR,PS&CC,SPOREs,caBIG		RELEASED	2453601	1.0

Select link to view details of the Data Element

Figure 16. Data Element Details Link

By clicking the data element tab as shown in Figure 17, the details of the selected data element are displayed. The details window provides additional details of the data element concept, permissible values, classifications, usage and derivation of data elements as shown by the tabs displayed at the top of the screen.

Data Element	Data Element Concept	Permissible Values	Classifications	Usage	Data Element Derivation
Data Element Details					
Public ID:	2001701				
Version:	4.1				
Long Name:	Patient Race Specify				
Short Name:	PT_RACE_SPEC				
Preferred Question Text:	Other specify				
Definition:	the free text description of the patient's self-declared racial origination.				
Value Domain:	Race Specify				
Data Element Concept:	Patient Race				
Context:	CTEP				
Workflow Status:	RELEASED				
Origin:	CTEP CDE Committee				
Registration Status:	Standard				

Figure 17. Data Element Details

Scroll down the data elements details screen to view the reference documents and alternate names / definitions associated with the selected data element.

Reference Documents				
Document Name	Document Type	Document Text	Context	URL
CRF Text	Alternate Question Text	Other race specify	CTEP	
Other specify	Preferred Question Text	Other specify	CTEP	

Alternate Names and Definitions			
Alternate Names			
Name	Type	Context	Language
PT_RACE_SPEC	USED_BY	CIP	ENGLISH
PT_RACE_SPEC	USED_BY	CCR	ENGLISH
PT_RACE_SPEC	USED_BY	caBIG	ENGLISH
PT_RACE_SPEC	USED_BY	SPOREs	ENGLISH

Alternate Definitions		
Name	Type	Context
There are no alternate definitions for the selected CDE.		

Figure 18. Details (Reference Document and Alternate Names/Definitions)

Scroll down further to view other versions of the selected data element as shown in Figure 19.

Other Versions				
Version	Long Name	Workflow Status	Registration Status	Context
3.0	Race Other, specify	RETIRED ARCHIVED	Standard	CTEP

Classifications				
CS* Long Name	CS* Definition	CS* Public ID	CSI* Name	CSI* Type
There are no classifications for the selected CDE				

Version	Long Name	Workflow Status	Registration Status	Context
4.0	Patient Race Specify	RETIRED ARCHIVED	Standard	CTEP

Classifications				
CS* Long Name	CS* Definition	CS* Public ID	CSI* Name	CSI* Type
Multiple Myeloma	Type of Disease	2008587	Multiple Myeloma	DISEASE_TYPE
Lymphoma	Type of Disease	2008587	Lymphoma	DISEASE_TYPE
NonHodgkins Lymphoma	Trial Type Usages (CDE Disease Committees)	2008594	NonHodgkins Lymphoma	TRIAL_TYPE_USAGE
Hodgkin's Lymphoma	Trial Type Usages (CDE Disease Committees)	2008594	Hodgkin's Lymphoma	TRIAL_TYPE_USAGE
Waldenstrom Macrogli	Trial Type Usages (CDE Disease Committees)	2008594	Waldenstrom Macrogli	TRIAL_TYPE_USAGE
Primary Amyloidosis	Trial Type Usages (CDE Disease Committees)	2008594	Primary Amyloidosis	TRIAL_TYPE_USAGE
Multiple Myeloma	Trial Type Usages (CDE Disease Committees)	2008594	Multiple Myeloma	TRIAL_TYPE_USAGE

Figure 19. Details (Other Versions)

Users can also view details of the associated data element concept, permissible values, classifications, usage, and data element derivations as shown by the tabs displayed at the top of the screen. Click the data element concept tab to view information about the object class, property, and concept classes upon which the data element is based.

Data Element	Data Element Concept	Permissible Values	Classifications	Usage	Data Element Derivation
Selected Data Element					
Public ID:	2001701				
Version:	4.1				
Long Name:	Patient Race Specify				
Short Name:	PT_RACE_SPEC				
Preferred Question Text:	Other specify				
Definition:	the free text description of the patient's self-declared racial origination.				
Workflow Status:	RELEASED				
Data Element Concept Details					
Public ID:	2009937				
Version:	2.31				
Long Name:	Patient Race				
Short Name:	PT_RACE				
Definition:	the patient's self-declared racial origination.				
Context:	CTEP				
Workflow Status:	RELEASED				
Conceptual Domain Public ID:	2008552				
Conceptual Domain Short Name:	PHYS_DESC_OF_INDS				
Conceptual Domain Context Name:	CTEP				
Conceptual Domain Version:	1.0				
Origin:					

Figure 20. Data Element Concept Details

Scroll down to the object class section on the data element concept tab, and then click the “More Details” link to open the object class details page.

Object Class		More Details			
Public ID:	2177068				
Version:	1.0				
Long Name:	Patient				
Short Name:	Patient				
Context:	CTEP				
Qualifier:					
Object Class Concepts					
Concept Name	Concept Code	Public ID	Definition Source	EVS Source	Primary
Patient	C16960	2202778	NCI		Yes
Property					
Public ID:	2177392				
Version:	1.0				
Long Name:	Race				
Short Name:	Race				
Context:	CTEP				
Qualifier:					
Property Concepts					
Concept Name	Concept Code	Public ID	Definition Source	EVS Source	Primary
Race	C17049	2202465	MSH2001	NCI_CONCEPT_CODE	Yes

Figure 21. Object Class More Details Link

The object class details page provides users with a way (without leaving the CDE Browser) of viewing key information about the domain model to which a data element may be linked. For example, users can view details about the objects or classes in the domain as well as the associations that exist between the objects. Note: In this release, detailed information about objects and associations will be available for viewing in the object class browser only for those data elements that were created in caDSR using the UML Loader.

The object class details page will open in a new window. There are two tabs: Object Class and Associations. When the page first opens, it will list key details about the object class that is linked to the data element. In this example, the object class is Patient.

The object class details page provides the following information about the objects in the underlying domain model:

- Concepts - All object classes in caDSR are linked to one or more concepts found in the EVS terminology server. This section displays, for each concept, the concept name, concept code, public ID, definition source, and EVS source.

- Inheritance - If an object has an inheritance relationship to another object, this information will be displayed here.
- Classification - When a UML model is loaded into caDSR using the UML Loader, the data elements and object classes that are created are automatically assigned classification schemes by the tool.
- Alternate Names - When a UML model is loaded into caDSR using the UML Loader, the object classes that are created are automatically assigned alternate names based on information in the UML model. These alternate names are also automatically assigned to a set of classification schemes.
- Alternate Definitions - When a UML model is loaded into caDSR using the UML Loader, the object classes that are created are automatically assigned alternate definitions based on information in the UML model. These alternate definitions are also automatically assigned to a set of classification schemes.

Object Class
Associations

[Concepts](#)
[Inheritance](#)
[Classification](#)
[Alternate Names](#)
[Alternate Definitions](#)
[Reference Documents](#)

Object Class Details

Public ID:	2177068
Long Name:	Patient
Short Name:	Patient
Context:	CTEP
Version:	1.0

Concepts

Concept Name	Concept Code	Public ID	Definition Source	EVS Source	Primary
Patient	C16960	2202778	NCI		Yes

Inheritance

Does not Inherit from any Object Class

Classifications

CS* Long Name	CS* Definition	CS* Public ID	CS* Version	CSI* Name	CSI* Type
NCIA (National Cancer Imaging Archive)2.0	The NCIA application is based on this model.	2553603	1.0	gov.nih.nci.ncia.domain	UML_PACKAGE_NAME

Figure 22. Object Class Details

5.11 Compare Data Elements

The CDE Compare Tool within the CDE Browser allows users to view a selected set of data elements in a convenient, side-by-side format. To select data elements to compare, check the box by the desired data elements from the search results table, and then click the ‘Compare CDEs’ button on the top half of the screen. This selection method works for putting CDEs into a shopping cart or downloading data elements to Excel or XML.

Download to Excel, XML, or DTDs

Results fewer than expected? Check [Search Preferences](#)

[\[Download Data Elements to Prior Excel\]](#)
[\[Download Data Elements to Excel\]](#)
[\[Download Data Elements as XML\]](#)
[\[Download CDE Browser DTDs\]](#)

Sort order: (Default) Registration Status>>Workflow Status>>Long Name [Ascending]

[Add to CDE Cart](#)
[Add to CDE compare list](#)
[Compare CDEs](#)
1 - 11 of 11

<input type="checkbox"/>	Long Name	Preferred Question Text	Owned By	Used By Context	Registration Status	Workflow Status	Public ID	Version
<input checked="" type="checkbox"/>	Patient Race Specify	Other specify	CTEP	CCR,CIP,SPOREs,caBIG	Standard	RELEASED	2001701	4.1
<input checked="" type="checkbox"/>	Patient Race Category	Race	CTEP	CCR,CIP,NHLBI,NIDCR,PS&CC,SPOREs,caBIG	Qualified	RELEASED	106	5.1
<input type="checkbox"/>	Identification Patient Race java.lang.String		caBIG			RELEASED	2475586	1.0
<input checked="" type="checkbox"/>	Patient Race Code	Race	CTEP	CCR,SIP		RELEASED	2453601	1.0
<input type="checkbox"/>	Patient Race java.lang.String		caBIG			RELEASED	2388912	1.0
<input type="checkbox"/>	Patient Race NCCTG Type	Race	CTEP			APPRVD FOR TRIAL USE	2664722	1.0

Select DE(s) before adding to the CDE Cart or the Compare list

Figure 23. Select Records to Download or Compare

After clicking the “Compare CDEs” button, the screen below displays. This feature allows users to compare selected data element details side by side. The CDE Compare Tool displays most of the key details pertaining to each data element.

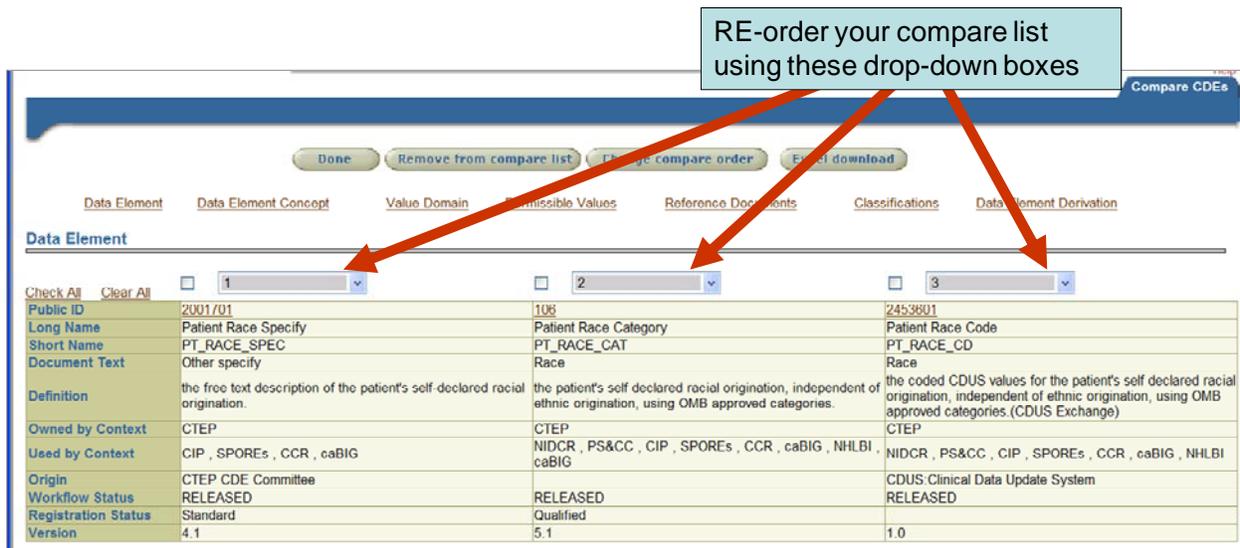


Figure 24. Compare Data Elements

Use the hyperlinks at the top of the page to jump to the section that contains the desirable details to review. You can also use the drop-down boxes to re-order the compare list. Since the focus of this session is finding data elements, this session will not go into all the details on how to manipulate the compare feature, but details on changing the comparison order and adding/removing data elements can be found in the online help at:

<http://cdebrowser.nci.nih.gov/CDEBrowser/common/help/cdeBrowserHelp.html#ComparingCDEs>

5.12 Tips for Evaluating Data Elements

When evaluating Data Elements for re-use, keep the following tips in mind:

- In general, data elements with a workflow status of “Released” and/or a registration status of “Standard” or “Qualified” are preferred
- If a data element is versioned, the old version is retired immediately, but it still may be used by studies
- If a retired data element is perfect for use in your context, notify the context curator

6 Lesson 2: Overview of the UML Model Browser

The UML Model Browser is a web-based tool designed for UML model owners to search for and view UML model components loaded in the caDSR. These model components include:

- classes
- attributes
- associations between classes and attributes
- ISO components (metadata) related to those classes and attributes.

The tool is accessible at: <http://umlmodelbrowser.nci.nih.gov>

Figure 25 is an illustration of the main page of the UML Model Browser.

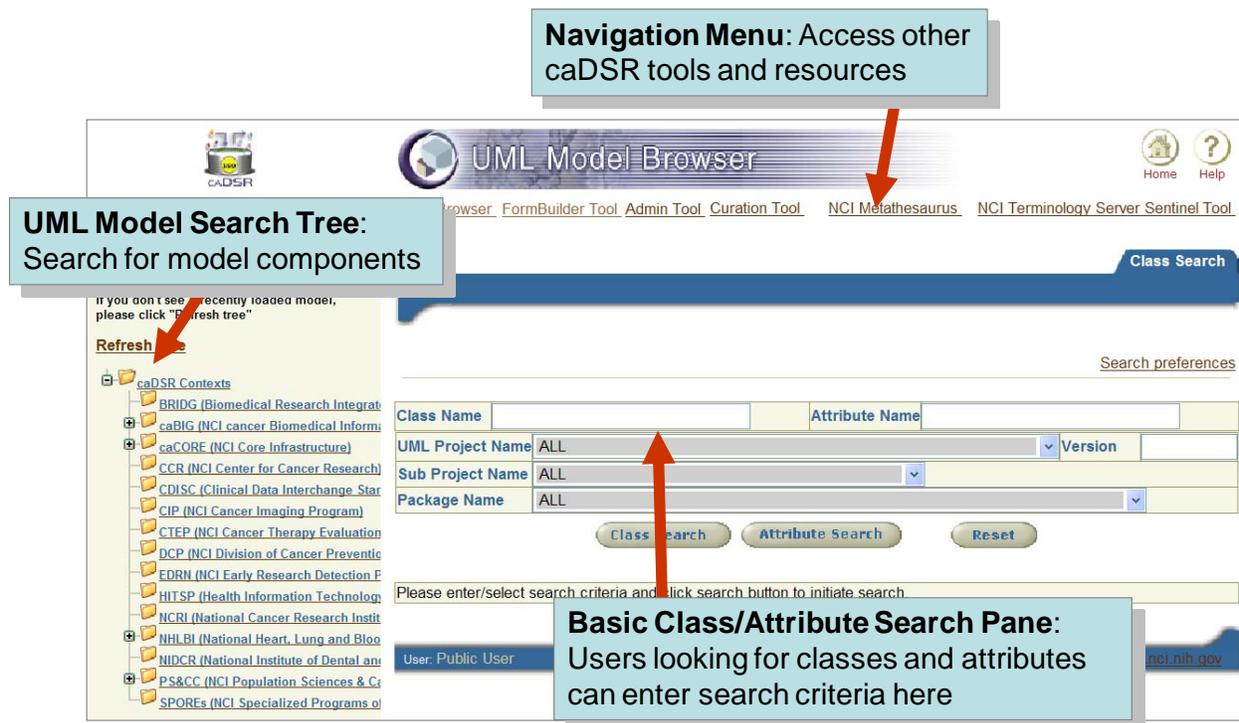


Figure 25. UML Model Browser Overview

The UML Model Browser opens to the search page. This page contains the main navigation menu, the UML model search tree, and the basic class/attribute search pane. The search tree displays all the current caDSR contexts at the top level. All the UML classes loaded in that context, grouped by project, subproject and package are located in the tree structure under each context.

6.1 Search Tree

The UML Model Browser has a search tree very similar to the CDE Browser. This tree displays current caDSR contexts. For each context, all UML classes are listed grouped by project, subproject and package as illustrated in Figure 26 below.

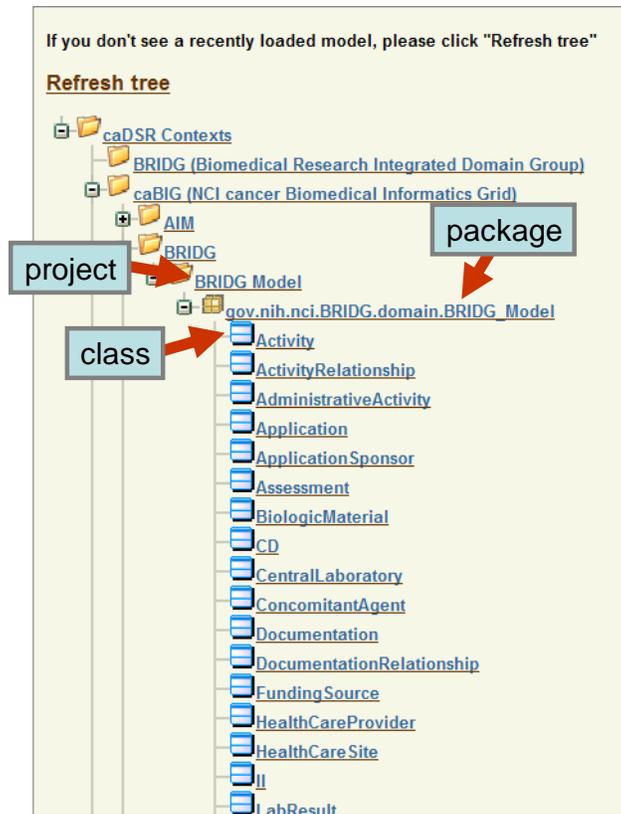


Figure 26. UML Model Browser Search Tree

Search for classes by navigating the tree and clicking on a context, project, subproject or package. Clicking on a class in the tree will display the class attributes in the search results table.

Users can also search for classes and attributes by entering a search term. The basic attribute search pane is shown in Figure 27 below.

Class Search

Enter a class or attribute name (or fragment - the asterisk (*) can be used as a wild card character)

Class Name

Attribute Name

UML Project Name ALL

Version

Sub Project Name ALL

Package Name ALL

Class Search

Attribute Search

Reset

Please enter/select search criteria and click search button to initiate search.

Click the Class or Attribute Search button to start the search based on the selected/entered criteria

Clear existing search criteria and prepare for a new search

Figure 27. Basic Class / Attribute Search Pane

Users can search for groups of classes by navigating the tree and clicking on a context, project, subproject or package. The search criteria for class and attribute include:

- Class name - text field, * can be used as wildcard
- Attribute name - text field, * can be used as wildcard
- Project - drop down combo box. When a project is selected, the options for sub project and package changes accordingly
- Project Version - text field, * can be used as wildcard
- Sub Project - drop down combo box. When a sub project is selected, the options for package changes accordingly
- Package - drop down combo box

The class search result displays the following attributes for each class matching the search criteria:

- Class Name (hyperlinked to its attribute list in the attribute tab)
- Project Name
- Project Version
- Workflow Status
- Sub Project Name
- Package Name
- Class Details (Object Class Public ID - hyperlinked to the CDE Browser Object Class Details)
- Object Class Version

The attribute search result displays the following attributes for each attribute matching the search criteria:

- Attribute name
- Version
- Context
- Data Type
- Definition
- Data Element Name
- Data Element Public ID: hyperlinked to CDE browser CDE Details screen for the associated UML Model
- Project Name
- Sub Project Name
- Package name

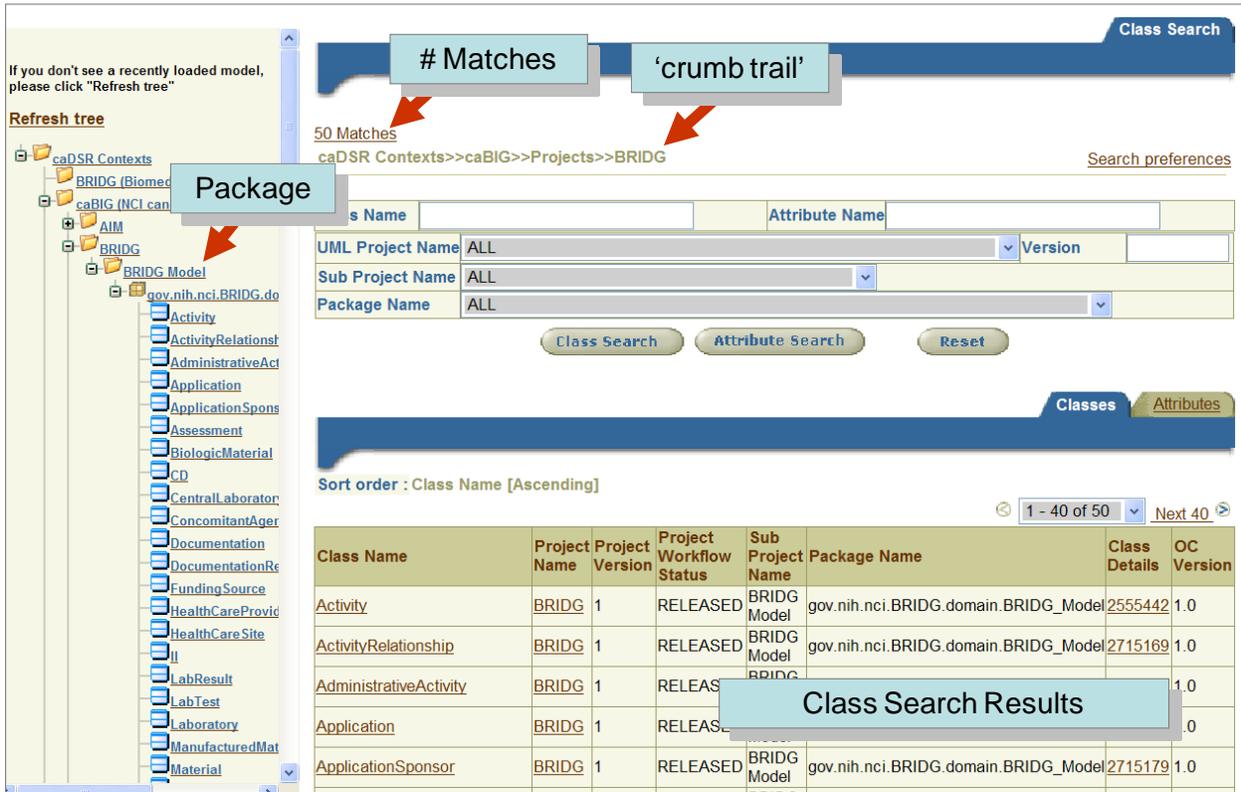
6.2 Search Tips

A couple of search tips to keep in mind while using the UML Model Browser include:

- When searching for a collection of UML Models (i.e. find the UML Models associated with an organization), use the caDSR search tree
- When searching for individual classes, search by keyword using the class search

6.3 Search Results

UML models that match your search criteria are displayed in the search results table. Figure 28 illustrates a sample results set from a tree search.



Class Search

If you don't see a recently loaded model, please click "Refresh tree"

Refresh tree

Matches: 50 Matches
'crumb trail': caDSR Contexts>>caBIG>>Projects>>BRIDG

Package: gov.nih.nci.BRIDG.domain

Search preferences

UML Project Name: ALL | Attribute Name: | Version: |

Sub Project Name: ALL

Package Name: ALL

Buttons: Class Search, Attribute Search, Reset

Classes | Attributes

Sort order: Class Name [Ascending]

1 - 40 of 50 | Next 40

Class Name	Project Name	Project Version	Project Workflow Status	Sub Project Name	Package Name	Class Details	OC Version
Activity	BRIDG	1	RELEASED	BRIDG Model	gov.nih.nci.BRIDG.domain.BRIDG_Model	2555442	1.0
ActivityRelationship	BRIDG	1	RELEASED	BRIDG Model	gov.nih.nci.BRIDG.domain.BRIDG_Model	2715169	1.0
AdministrativeActivity	BRIDG	1	RELEASED	BRIDG Model	gov.nih.nci.BRIDG.domain.BRIDG_Model	2715179	1.0
Application	BRIDG	1	RELEASED	BRIDG Model	gov.nih.nci.BRIDG.domain.BRIDG_Model	2715179	1.0
ApplicationSponsor	BRIDG	1	RELEASED	BRIDG Model	gov.nih.nci.BRIDG.domain.BRIDG_Model	2715179	1.0

Class Search Results

Figure 28. Tree Search Results

The total number of records is listed at the top of the page. A maximum of 40 records are shown on a page. When the record count is greater than 40, the search results are paginated across multiple pages.

Click on a class name to view its details (attributes).

Clicking on the class details link will open the caDSR object class browser with the details for the object class.

1 - 40 of 50 Next 40

Class Name	Project Name	Project Version	Project Workflow	Sub Project	Package Name	Class Details	OC Version
Activity	BRIDG	1	RELEASED	BRIDG Model	gov.nih.nci.BRIDG.domain.BRIDG_Model	2555442	1.0
ActivityRelationship	BRIDG	1	RELEASED	BRIDG Model	gov.nih.nci.BRIDG.domain.BRIDG_Model	2715169	1.0
AdministrativeActivity	BRIDG	1	RELEASED	BRIDG Model	gov.nih.nci.BRIDG.domain.BRIDG_Model	2715178	1.0
Application	BRIDG	1	RELEASED	BRIDG Model	gov.nih.nci.BRIDG.domain.BRIDG_Model	2715177	1.0
ApplicationSponsor	BRIDG	1	RELEASED	BRIDG Model	gov.nih.nci.BRIDG.domain.BRIDG_Model	2715179	1.0
Assessment	BRIDG	1	RELEASED	BRIDG Model	gov.nih.nci.BRIDG.domain.BRIDG_Model	2715176	1.0
BiologicMaterial	BRIDG	1	RELEASED	BRIDG Model	gov.nih.nci.BRIDG.domain.BRIDG_Model	2236707	1.0
CD	BRIDG	1	RELEASED	BRIDG Model	gov.nih.nci.BRIDG.domain.BRIDG_Model	2555441	1.0
CentralLaboratory	BRIDG	1	RELEASED	BRIDG Model	gov.nih.nci.BRIDG.domain.BRIDG_Model	2555443	1.0
ConcomitantAgent	BRIDG	1	RELEASED	BRIDG Model	gov.nih.nci.BRIDG.domain.BRIDG_Model	2715186	1.0
Documentation	BRIDG	1	RELEASED	BRIDG Model	gov.nih.nci.BRIDG.domain.BRIDG_Model	2715183	1.0
DocumentationRelationship	BRIDG	1	RELEASED	BRIDG Model	gov.nih.nci.BRIDG.domain.BRIDG_Model	2715170	1.0
FundingSource	BRIDG	1	RELEASED	BRIDG Model	gov.nih.nci.BRIDG.domain.BRIDG_Model	2715163	1.0
HealthCareProvider	BRIDG	1	RELEASED	BRIDG Model	gov.nih.nci.BRIDG.domain.BRIDG_Model	2675185	1.0
HealthCareSite	BRIDG	1	RELEASED	BRIDG Model	gov.nih.nci.BRIDG.domain.BRIDG_Model	2453150	1.0
!!	BRIDG	1	RELEASED	BRIDG Model	gov.nih.nci.BRIDG.domain.BRIDG_Model	2715187	1.0
Laboratory	BRIDG	1	RELEASED	BRIDG Model	gov.nih.nci.BRIDG.domain.BRIDG_Model	2391128	1.0

Click on a class name to view its details

Displays the number of matching UML components

Select the Class Details to view object class details in the caDSR Object Class browser

Figure 29. UML Class – Search Result Details

After clicking on a class name, the attributes are displayed that are contained in the selected class. Figure 30 below illustrates the attributes for the Assessment class.

Classer Attributes

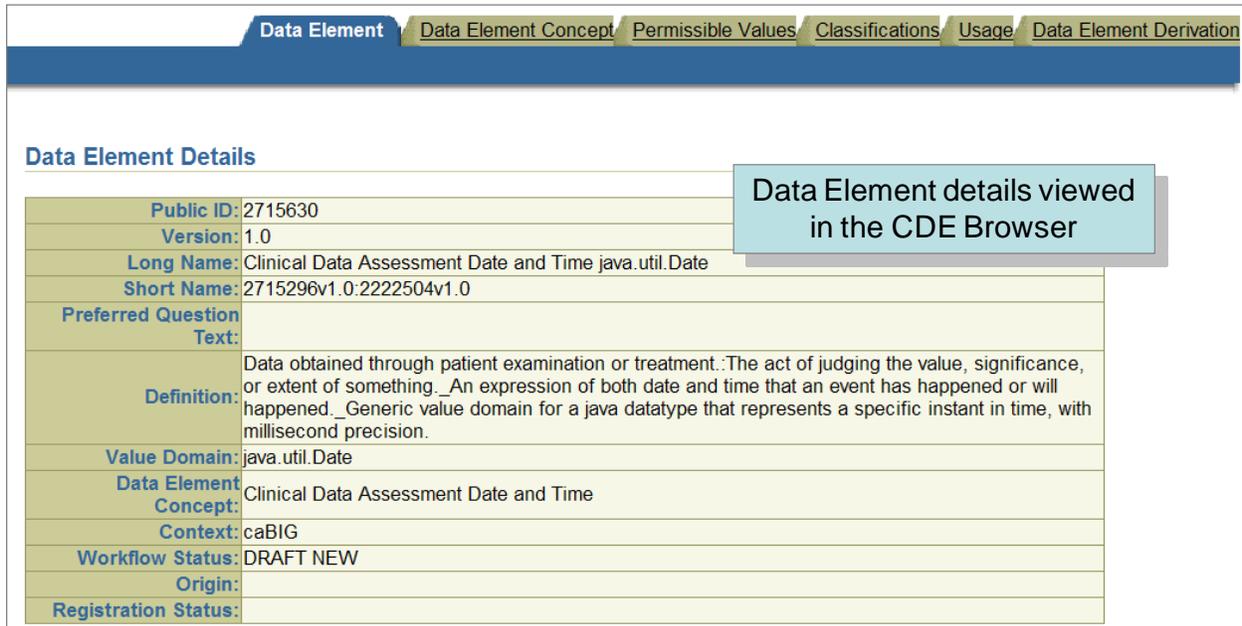
Sort order: Attribute Name [Ascending] [Download Data Elements as XML] 1 - 1 of 1

Attribute Name	Version	Context	Data Type	Definition	DE Name	DE Public ID	Project Name	Sub Project	Package Name
gov.nih.nci.BRIDG.domain.BRIDG_Model.Assessment.evaluationDateTime	1.0	caBIG	java util Date	The date and time on which the Assessment was recorded.	Clinical Data Assessment Date and Time java util Date	2715830	BRIDG	BRIDG Model	gov.nih.nci.BRIDG.domain.BRIDG_Model

Click on the Data Element (DE) Name to view DE details in the CDE Browser

Figure 30. UML Attribute - Search Results Details

After clicking on a DE name, the data element details window is displayed as shown in Figure 31.



Data Element Details	
Public ID:	2715630
Version:	1.0
Long Name:	Clinical Data Assessment Date and Time java.util.Date
Short Name:	2715296v1.0:2222504v1.0
Preferred Question Text:	
Definition:	Data obtained through patient examination or treatment. The act of judging the value, significance, or extent of something. An expression of both date and time that an event has happened or will happen. Generic value domain for a java datatype that represents a specific instant in time, with millisecond precision.
Value Domain:	java.util.Date
Data Element Concept:	Clinical Data Assessment Date and Time
Context:	caBIG
Workflow Status:	DRAFT NEW
Origin:	
Registration Status:	

Figure 31. Viewing Data Element Details in the CDE Browser

The details of the data element are shown in the CDE Browser. The associated components can also be viewed by clicking the desired tab at the top of the page.

You can view the details of the associated concepts to the data element concept by clicking the data element concept tab at the top of the screen.

On the data element concept screen, scroll down to the object class details as shown in Figure 32.

Object Class		More Details			
Public ID:	2715176				
Version:	1.0				
Long Name:	Clinical Data Assessment				
Short Name:	C15783:C25217				
Context:	caBIG				
Qualifier:					
Object Class Concepts					
Concept Name	Concept Code	Public ID	Definition Source	EVS Source	Primary
Clinical Data	C15783	2714989	NCI	NCI_CONCEPT_CODE	No
Assessment	C25217	2202457	NCI	NCI_CONCEPT_CODE	Yes
Property					
Public ID:	2437776				
Version:	1.0				
Long Name:	Date and Time				
Short Name:	C37939				
Context:	caBIG				
Qualifier:					
Property Concepts					
Concept Name	Concept Code	Public ID	Definition Source	EVS Source	Primary
Date and Time	C37939	2202495	NCI	NCI_CONCEPT_CODE	Yes

Figure 32. Object Class Details

The “More Details” link provides access to the inheritances and associations of the selected class. Click the Inheritance link or the Associations tab at the top of the page to view these UML components. Figure 33 illustrates a sample association of the class Assessment in the BRIDG model.

[Outgoing Associations](#)
[Incoming Associations](#)
[Bidirectional Associations](#)

Outgoing Associations

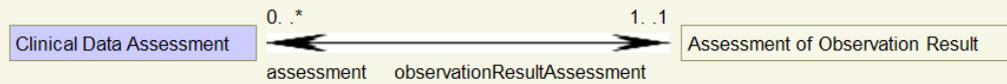
No outgoing associations exist for this Object Class

Incoming Associations

No incoming associations exist for this Object Class

Bidirectional Associations

[Navigate to this association](#)



```

classDiagram
    class ClinicalDataAssessment
    class AssessmentOfObservationResult
    ClinicalDataAssessment "0..*" -- "1..1" AssessmentOfObservationResult : assessment observationResultAssessment
    
```

Associated Object Class	Assessment of Observation Result
Relationship Type	HAS_A
Long Name	Clinical Data Assessment.assessment(0..*):Assessment of Observation Result.observationResultAssessment(1)
Preferred Definition	Many-to-one
Workflow Status	DRAFT NEW
Version	1.0
Context	caBIG

Alternate Names for Object Class: Assessment of Observation Result

Alternate Names	Type	Context
gov.nih.nci.BRIDG.domain.BRIDG_Model.ObservationResultAssessment	UML Qualified Class	caBIG
ObservationResultAssessment	UML Class	caBIG

Using Projects

- BRIDG (Project)
 - BRIDG Model (SubProject)
 - gov.nih.nci.BRIDG.domain.BRIDG_Model (Package)

Figure 33. Association Details

7 Sample Exercises

Included below are a few sample exercises to re-enforce the learning objectives of this training session.

7.1 Simple Directed Search

Learning Objective: Identify how to find a data element using a variety of options and filters.

Scenario: You have a public ID for a data element. How do you search for this data element?

Suggested Path: The most direct way to search for a data element is to use a perfect identifier such as public ID (shown in Figure 34 below).

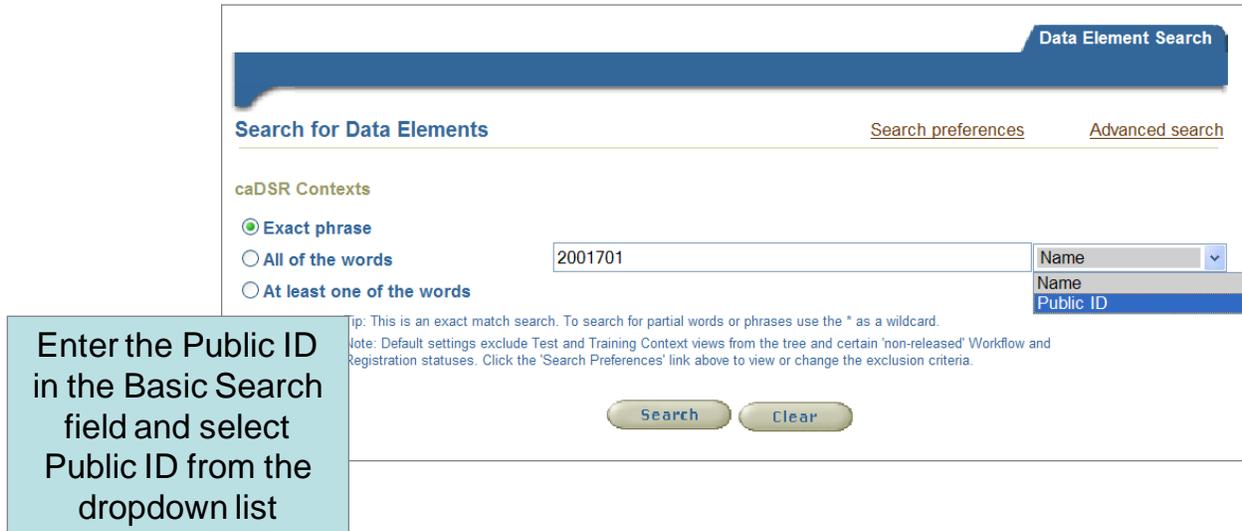


Figure 34. Exercise 1 – Answer

7.2 Search for a Group of Data Elements

Learning Objective: Identify how to find data element(s) using a variety of options and filters.

Scenario: You want to find all the available “Protocol Status” data elements in the caBIG[®] context? How would you start?

Suggested Paths:

1. Click on the caBIG[®] context within the search tree. A wild card (*) search by name can be conducted from either the basic search screen or the advanced search screen. The difference or advantage of searching using a wild card (*) in the advanced search scenario is that you may specify a search in ALL or one of four other specific fields: the basic search is set to ALL; the automatic default for advanced search is Long Name. Specific field options are: All, Long Name, Short Name, Preferred Question Text, Alternate Question Text, and UML Class: UML Attr Alternate Name. The default field selection is Long Name.
2. A second option is to search for all the new data elements to approve. To select all new data elements, use the advanced search screen and use the filters to select version as “latest” and workflow status as “Draft New”.
3. What happens if you get no returns? Remember, we have just been searching within one context, caBIG[®]. caBIG[®] is a relatively large context with CDEs being added nearly everyday.

To search all contexts, click the “New Search” button. This will reset the tree and provide the capability to search all contexts by using a search term.

7.3 Search Based on Concept across Contexts

Learning Objective: You have learned how to search within a specific context. Now you will learn how to expand your search capabilities to find data elements across contexts.

Scenario: You did not find strong candidate data elements within the caBIG[®] context for Protocol Status Code and Adverse Event Outcome. You decide to search across contexts for additional data element candidates.

Suggested Path: Use the search tree to find additional data elements in other contexts. Or use a search term to search across all caDSR contexts (ensure the tree is refreshed and you are not limited to a specific context).

7.4 Search by Permissible Value

Learning Objective: Identify how to find data element(s) using a variety of options and filters

Scenario: You want to find adverse outcome values of “none”, “possible” or “Y”. How do you do this?

Suggested Path: Enter the specified values (“none”, “possible” or “Y”) one by one in the permissible value search field of the advanced search screen.

7.5 Search by Keyword or Concept

Learning Objective: Identify how to find data element(s) using a variety of options and filters.

Scenario: You need to identify candidate data elements related to adverse events (specifically adverse events that indicate the physical location of pain symptoms). How should you start?

Suggested Path: An initial wild card search of “adverse event*” provides too many CDEs for consideration. The search needs to be more focused and the key word or phrase entered short and specific. Performing searches for “body site*” and “body pain*” returns a more manageable set of results.

8 Review Questions

1. The CDE Browser is a web-based tool that allows you to _____, export and compare Data Elements.

- a. Create
 - b. Search
 - c. Modify
2. You can use the CDE Browser to search for and view CDEs in the caDSR by all of the following EXCEPT:
- a. Context
 - b. Protocol Form
 - c. Classification
 - d. Conceptual Domain
3. Data Elements can be downloaded in _____ or XML format in the CDE Browser.
- a. Word
 - b. PowerPoint
 - c. Excel
 - d. Java
4. The _____ Menu is used to navigate to the CDE Cart, Form Builder, Help or Home page.
- a. Navigation
 - b. Search
 - c. Tree
5. The UML Model Browser also displays the _____ between classes from UML Models.
- a. Associations
 - b. Methods
 - c. Operations
6. The Training and _____ Contexts are excluded from the CDE Browser tree by default.
- a. caBIG[®]
 - b. Test
 - c. CTEP
7. The UML Model Browser can be used to _____ classes and attributes loaded into the caDSR
- a. Modify
 - b. Create
 - c. Search
8. A maximum of _____ records are shown on a page in the CDE and UML Browser search results table.
- a. 10
 - b. 40
 - c. 100

- d. 1000
9. In general, data elements with a workflow status of _____ are preferred to re-use.
- DRAFT NEW
 - RELEASED
 - DRAFT MOD
 - RETIRED ARCHIVED
10. The UML Model Browser can be used to search for UML classes and _____.
- Attributes
 - Operations
 - Methods
11. The UML Browser tree displays caDSR information organized by _____.
- Data Elements
 - Context
 - Value Domain
12. When searching for a collection of UML Models, it is best to use the _____ search function of the UML Model Browser.
- Tree
 - Class
 - Attribute
13. When searching for individual classes in the UML Model Browser, it is best to enter a search term using the _____ search.
- Tree
 - Class
 - Attribute
14. The wildcard character used in the CDE and UML Browser is the “_”.
- *
 - &
 - %
 - \$
15. The UML Browser tree displays contexts, grouped by _____, subproject and package.
- Project
 - Object Class
 - Property

9 Contact Information

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caDSR Home Page: http://ncicb.nci.nih.gov/NCICB/infrastructure/cacore_overview/cadsr

caDSR Training Home Page: <http://ncicb.nci.nih.gov/NCICB/core/caDSR/Training>

caDSR Training ListServ: https://list.nih.gov/archives/cadsr_training-l.html
<http://list.nih.gov>

caDSR Training Tools – Sandbox Server

CDE Browser: <http://cdebrowser-sandbox.nci.nih.gov/>

UML Model Browser: <http://umlmodelbrowser-sandbox.nci.nih.gov/>