InterSystems®

Caché

Using InterSystems Documentation

Version 2018.1
2019-09-20

For Support questions about any InterSystems products, contact:

InterSystems Worldwide Response Center (WRC)

Tel:	+1-617-621-0700
Tel:	+44 (0) 844 854 2917
Email:	support@InterSystems.com

Table of Contents

About This Book

If you are reading this page, you are already using the InterSystems product documentation. However, there are some features that you might not expect, or use every day, that are very helpful when you need them. The chapters in this book describe:

- Basic Features

- Using the Search Engine

- Printing the Documentation

- Legacy Documentation

For a detailed outline, see the Table of Contents.

1

Basic Features

InterSystems provides documentation in HTML format and in Adobe Page Description Format (PDF):

- The Online Documentation can be displayed any time the InterSystems server is running.

- Class Reference information is available from the online documentation home page.

- PDF files of the online documentation can be viewed or printed as you choose.

1.1 Online Documentation

Whenever the local server is online, it displays documentation in HTML format via a Web browser. The online documentation system gives access to information about core InterSystems technologies and specific InterSystems products and features, such as Caché, Ensemble, HealthShare, Zen, DeepSee, Zen, and TrakCare.

1.1.1 Starting Up

While the server is running, you can access the online documentation in any of the following ways:

- Find the InterSystems cube in the Windows system tray. Click on it to display the cube menu, then choose **Documentation** from the menu.

- From the Windows **Start** menu, choose **Programs**. Navigate to the InterSystems product name and server instance name, then choose the **Documentation** option.

- Enter the following URL into a browser page on the local InterSystems server, where 57772 is the Web server port number configured for the server:

  http://localhost:57772/csp/docbook/DocBook.UI.HomePageZen.cls

- While using the Management Portal, click the **Help** link in the banner at the top of the page. A second window pops up. If this does not already contain the information you need, click the **Documentation** link in the navigation bar near the top left of this page.

If your preferred InterSystems instance is not running when you request **Documentation** using any of these techniques, the documentation system responds as if you are having difficulty running that instance. That is, an HTML page displays from which you can navigate to the InterSystems documents that are most likely to help when the system is down. To view these documents, click on a language name in the page (**English** or **Japanese**) and choose a document from the list. These documents are in PDF format so that they can be viewed even when the server is down. If you want to see the full set of documents in HTML format, restart the preferred instance and request **Documentation** again.

Studio provides two convenient short cuts for displaying online documentation:

- While viewing code, select any text string in the source code and press the **F1** key. The online documentation **Search Results** page opens to reveal the results of a search on this text string. If the highlighted text string was an ObjectScript language keyword, the documentation for that specific item displays.

- From the Studio **Help** menu, choose the **On-line Documentation** option. This opens the online documentation home page, from which you can navigate to a specific book or topic.

If you have tried all of these techniques and still cannot view the online documentation, contact the InterSystems Worldwide Response Center for assistance. Meanwhile, you can still access InterSystems documentation in PDF format as described in the chapter "Printed Documentation."

1.1.2 Navigation

Each page of the InterSystems documentation system displays a banner at the top of the page that provides the following choices from left to right:

Option	Action
Home	Takes you to the main Documentation page.
«	Displays the previous chapter or reference page in the book that you are currently viewing. Appears dimmed if there is no previous chapter or reference page. The « link is not the same as the Back button in your browser; it reflects book sequence rather than your browsing history.
»	Displays the next chapter or reference page in the book that you are currently viewing. Appears dimmed if there is no next chapter or reference page. The » link is not the same as the Forward button in your browser; it reflects book sequence rather than your browsing history.

Below the banner, a navigation bar contains the following items from left to right:

Option	Action
Navigation trail for the documentation system	To return to the main Documentation page, click **Documentation** in this trail.
Go to	The **Go to** box is visible only when you are currently viewing a book. It does not appear on the main Documentation page. The **Go to** box contains a list of section titles within the current page. Selecting one brings you directly to that section.
Search	Typing a word into the **Search** field and pressing the **Enter** key takes you to the **Search Results** page for that word. Alternatively, you can click on the **Search** label to go to the advanced search page. For details, see the chapter "Using the Search Engine."

Below the navigation bar, a menu provides the following choices from left to right. These choices are not visible when you are viewing a book. You can only use them from the main page:

Option	Action
Getting Started	Displays the official Getting Started page for the product.
Class Reference	Opens the Class Reference documentation system.
Search Page	Invokes the Search Facility for online documentation.

1.1.3 Security

Security features can affect your ability to view the online documentation.

For example, depending on the security settings for your InterSystems server, you might need to perform special configuration to allow *any* user to gain access to the online documentation. For background information see the "Tightening Security for a Caché Instance" chapter in the *Caché Security Administration Guide*. For a detailed procedure, see the section "Making the Documentation or Samples Available" in that chapter.

Also, on Windows, when trying to access the documentation via the InterSystems cube, the user ID assigned for the attempt is UnknownUser. This can cause problems in using the online documentation as follows:

- When the InterSystems server instance is installed with a security level of Normal or Locked Down, the UnknownUser only has the `%DB_DocBook:R` privilege. This is insufficient to read the Caché class reference documentation. The `%Development:Use` privilege is required.

- In order to run program examples in the online documentation, the user must have `%DB_SAMPLES:W` permission. If the UnknownUser lacks this permission, the button labeled **Run It** will not appear in any of the executable program examples.

The solution for both of these problems is to define one or more roles with the necessary permissions and assign these roles to the UnknownUser. Alternatively, you can edit the application definition for /csp/docbook to add these roles whenever it is run. See the "Roles" chapter in the *Caché Security Administration Guide*.

1.2 Class Reference Documentation

The online documentation home page displays a link called *Class Reference*. This documentation system contains the comments provided by InterSystems developers for the object-oriented classes in the InterSystems product code. All comments for general, public use are visible in this system.

To view the *Class Reference* documentation, do one of the following:

- Start the online documentation system. On the main page, click *Class Reference*.

- Enter the following URL into a browser page on the local InterSystems server, where 57772 is the Web server port number configured for the server:

  http://localhost:57772/csp/documatic/%25CSP.Documatic.cls

- In Studio, From the **View** menu, choose the **Show Class Documentation** option.

- When viewing code in Studio, select the name of a data type and press the **F1** key. The *Class Reference* opens at the description of the class that defines this data type.

When the *Class Reference* main page displays, you can use the names in the left panel to navigate to the namespace, package, and class for which you want to view documentation. The right panel displays the documentation. The *Class Reference* has its own banner which provides two choices from left to right:

Option	Action
DocBook	Takes you to the main Documentation page.
Search	Takes you to the Class Reference search page.

When you add your own classes to your installation, comments you add to these classes using specific documentation conventions will appear in the *Class Reference*. For instructions, see "Creating Class Documentation" in the chapter Defining and Compiling Classes in *Using Caché Objects*.

Note: Documentation for any class member that is private only appears if the **Private** checkbox in the upper-right corner of the Class Reference is selected. Documentation for storage-related information only appears if the **Storage** checkbox in the upper-right corner of the Class Reference is selected.

The *Class Reference* has no PDF equivalent. It does have a search facility, which is entirely separate from the online documentation search described in the chapter "Using the Search Engine."

1.3 Printed Documentation

The full set of online documentation is available in PDF format; see docs.intersystems.com. A limited set of PDF files is also available under the directory where you installed the product, usually C:\InterSystems\Ensemble\docs or similar.

InterSystems strongly recommends that if you want printed documentation, you *do not* print HTML pages from the browser, but instead take advantage of the pre-formatted PDF files, whose content is identical to the HTML. You can print these files yourself or send them to a print shop to be professionally printed and bound as books. For details, see the chapter "Printing the Documentation."

Many InterSystems products share core underlying technologies, so you might need to examine more than one subdirectory to find the documents you need. For example, the Ensemble product provides docs\ensemble for Ensemble information and docs\cache for technologies that Ensemble and Caché share.

2
Using the Search Engine

To perform a simple search in InterSystems documentation, enter search terms in the **Search:** field near the top right of the page and then press **Enter**.

For advanced search facilities, click the **Search:** label itself, which displays the **Key Word Search** page and the **Recent searches** list. This page includes the following elements:

1. **Search words** — Enter search terms here. Previous search terms with the same spelling will appear in a drop-down list as you type, so you also may select one from the list if you would like to search for it again.

    Note: This is also referred to as the "content field."

2. **Find topics with** menu: choose **all words** or **any word**.

3. **Search type** — use the menu to choose **Free-text**, **Exact match (except for case)**, or **Exact match (including case)**.

4. The **Search** button — Click to search.

5. The **Reset** button — Click to empty the content field and return to default search rules. Selecting this button will also display the **Recent searches** list.

6. The **Search the Web** button — Click to use the terms specified in the content field for a Google search of the Web.

In addition to the above elements, there are three optional menus with which you can restrict your search further. They include:

1. **Products** — Select a product or product line from the list, or keep the default **all products**. If you are searching an instance of Ensemble or of a HealthShare product, this menu allows you to search only within the documentation of one product or product line. This option is helpful if you want to search, for example, for information about an Ensemble setting. Many topics about Ensemble might not actually contain the word "Ensemble," so simply searching for `Ensemble setting` may not return the result you want. Instead, choose to search only Ensemble documentation for the word `setting`, and then the search only displays results related to Ensemble that include the string `setting`.

    Note: If you only have Caché documentation installed, this menu does not appear.

2. **Books and articles** — Select the title of a book, or keep the default **all books and articles**. If you know which book contains the information you are seeking, use this to restrict the search to results within that book only. If you have selected a product from the previous menu, this list will contain books and articles from that product only.

3. **Tags** — Select a tag from the list, or keep the default **all tags**. Tags are a useful way to narrow your search if you are looking for a topic that spans multiple books but also might return an unwieldy number of hits. For example, if you search for just SQL, the search will return hundreds of results. If you instead select the **SQL** tag and enter a related search term in the content field, the search returns only topics that are relevant to SQL, rather than any reference to it.

Note: If you are having difficulties using documentation search, you may have insufficient privileges. You can read and navigate the online documentation with any level of database access, but in order to use the online documentation **Search:** feature, your account must have Write privileges in the DOCBOOK database. Most accounts do have this access, but if you run into trouble with searches, you should adjust your privilege level, use a different account that does have the privilege, or contact the administrator in your organization for this instance of your product.

2.1 Default Search Rules

The following are the default rules for searches:

- A search can include one or more terms.

- The search engine returns results that contain all terms.

- The default search is not case-sensitive. For example, searches for SET, Set, and set yield the same results.

- If the search string exactly matches the title of a section or an entry in a definition list, this hit appears at the beginning of the results and is highlighted.

- All other results are grouped by topic, and display up to nine hits for the search term within that topic. A topic could be a chapter, an appendix, or an entry in a reference, such as this entry on $PIECE. If there are additional hits within that topic, the page will display "Topic has more results." Each finding is displayed below its closest parent heading to help you determine which result will be the most useful for your search.

- The order of search results is primarily determined by the topic (see previous bullet) in which they are found. Each topic has an overall ranking, such that topics of more general interest appear before those that have a narrower scope. To a lesser degree, the number of matches in a given topic also affects the ranking of search results.

2.2 Finding Topics with All or Any Words

Use the first menu to the right of the content field to choose between searching either for text that includes all or text that includes any of the specified search terms. The default setting is to find results that include all terms; if you do not know the exact term you are seeking, enter several synonyms and select **Find topics with any word** to determine which term the documentation uses. For example, if you are not sure whether to search for the word transform or the word translate, enter both into the content field and select the option **Find topics with any word**.

2.3 Search Type

Choose a search type from the second menu. The default search type is **Exact match (except for case)**, which searches for an exact string but ignores the case of the search term.

If you do not know the case of a search term, use **Exact match (except for case)**. If you know the exact capitalization of a term, select **Exact match (including case)** to further restrict results.

The search engine also supports the Caché **Free-text search** (sometimes called a "stemmed search"). This kind of search is based on an extensive list of related forms of words. For any word appearing in the list, the search engine takes the stem of each word provided and finds all matches associated with that stem. For example, save, saving, and saved all yield the same results. The order of the results is the same for all variants of a particular stem (for example, regardless of whether a search is for save or saving). Note that words which contain the same string are not necessarily stemmed variations of each other. For example, a stemmed search for the word "user" does not return results including username.

The search engine supports stemmed search for most words. For words with forms that are relevant to InterSystems products, search may not support all forms of stemming. For example, include and including return different sets of results, since "include" is a reserved word with a specific meaning in some programming languages.

For details on free-text search, see the section "Using Free-text Search" in the chapter "Querying the Database" of *Using Caché SQL*.

When using free-text search, the results may begin with one or more featured links that have been flagged as notable results for the search term. Exact search disables this feature. Also note that free-text search does not currently return results with the matches highlighted.

2.4 Searching for Symbols and Special Characters

The free-text search will ignore non-alphanumeric symbols, with the exception of the special characters "$" and "%," which have special meaning in Caché commands and keywords. If your search text includes non-alphanumeric symbols such as a caret (^), use exact search to make sure they are included in the search query. For example, if you are searching for the routine **^DATABASE**, but you do not want to do a general search for the word database, use exact search to narrow your results.

The search engine indexes words that include é as if they contained e; it also indexes words that include ñ as if they contained n. Hence, to search for the word "Caché", simply enter Cache for the search; to search for the word "cache," use cache. Similarly, use Espanol instead of Español.

Note: If you are using exact match, do not put quotation marks (" ") around the search term unless they are, themselves, part of the search item.

2.5 Searching for Common Terms

The various search rules, taken together, offer a powerful means of locating information in InterSystems documentation. They can also sometimes cause unexpected search results. If you search for a common word, such as and or the, the search may return fewer results than you expected. This is because the search returns only the first 10,000 results, some of which are too short to be useful, so you will have only the topics that include those. If you are having difficulty finding a common word, try using other related terms that will return more specific results.

2.6 Recent Searches

To repeat a previous search, select a link from the **Recent searches** list. These links appear if you click the Search label at the top-right corner of a documentation page, or if you select the **Reset** button.

This list displays a link for each past search, follower by the number of results for that search, a specific description of the search (see "URL Parameters," later in this chapter).

Recent searches:

$$$OK *(104 topics)* search options: KeyWord=$$$OK&SearchType=3&Op=AND
AND *(396 topics)* search options: KeyWord=AND&SearchType=2&Op=AND
CACHE *(750 topics)* search options: KeyWord=CACHE&SearchType=2&Op=AND
DATABASE *(761 topics)* search options: KeyWord=DATABASE&SearchType=2&Op=AND
INCLUDE *(1162 topics)* search options: KeyWord=INCLUDE&SearchType=1&Op=AND
INCLUDE *(1258 topics)* search options: KeyWord=INCLUDE&SearchType=2&Op=AND
INCLUDING *(836 topics)* search options: KeyWord=INCLUDING&SearchType=1&Op=AND
INCLUDING *(657 topics)* search options: KeyWord=INCLUDING&SearchType=2&Op=AND
JALAPENO *(23 topics)* search options: KeyWord=JALAPENO&SearchType=2&Op=AND
OBJECTSCRIPT *(128 topics)* search options: KeyWord=OBJECTSCRIPT&SearchTag=SQL&SearchType=2&Op=AND
SAVE *(582 topics)* search options: KeyWord=SAVE&SearchType=1&Op=AND
SAVING *(582 topics)* search options: KeyWord=SAVING&SearchType=1&Op=AND
SET *(931 topics)* search options: KeyWord=SET&SearchType=2&Op=AND
THE *(212 topics)* search options: KeyWord=THE&SearchType=2&Op=AND
TRANSFORM TRANSLATE *(358 topics)* search options: KeyWord=TRANSFORM TRANSLATE&SearchType=2&Op=OR
USER *(1205 topics)* search options: KeyWord=USER&SearchType=1&Op=AND
USERNAME *(213 topics)* search options: KeyWord=USERNAME&SearchType=1&Op=AND
^DATABASE *(13 topics)* search options: KeyWord=^DATABASE&SearchType=3&Op=AND
WRITE ZWRITE *(210 topics)* search options: Book=RCOS&SearchType=2&Op=OR
SETTING *(216 topics)* search options: KeyWord=SETTING&Product=ENSEMBLE&SearchType=2&Op=AND

2.7 URL Parameters

To help you create searches programmatically, the search page DocBook.UI.SearchPageZen.cls supports the URL Parameters, which are as follows:

Keyword

Specifies the search term or terms.

Op

Corresponds to the first menu. For this parameter, the value AND corresponds to **Find topics with all words**. The value OR corresponds to **Find topics with any word**.

SearchType

Corresponds to the Search Type menu. For this parameter, 1 corresponds to **Free-text search**, 2 corresponds to **Exact match (except for case)**, and 3 corresponds to the **Exact match (including case)**.

Product

Corresponds to the product menu.

Note: If you also select a book or article, the product becomes redundant, and therefore is no longer included in the URL parameters.

Book

Corresponds to the books and articles menu. For this parameter, the allowed values are the internal identifiers of the books and articles. Note that the list includes these identifiers in parentheses for your convenience.

Tags

Corresponds to the tags menu.

For the *Product*, *Book*, and *Tags* parameters, the allowed values depend upon what is present in the DOCBOOK database. Currently each of these parameters accepts only a single value.

3

Printing the Documentation

You can print any InterSystems PDF file while you are viewing it in Adobe Reader. However, to produce a useful paper document, with page numbers and headings arranged for easy skimming and information retrieval, InterSystems recommends the following procedure.

3.1 Print Options

To print and bind the PDF version of an InterSystems document, follow these steps:

1. Select a PDF file and copy it from the installation media to a local drive.

2. Send the PDF file to your administrative support team, or use a professional printing office. The cost for printing and binding as described in these instructions is usually quite reasonable, so InterSystems recommends using a professional print vendor. Most such vendors have a Web interface that allows you to upload your PDF file and specify where to deliver the paper document.

3. The person who prints and binds your document must choose among several options at each manufacturing step. The following table provides recommendations. The language used in this table is general and might vary slightly depending on the vendor.

Many print vendors are willing to bind a document that you have already printed yourself. You can output the printed pages using your own printer, then bring the pages to a print vendor for the cutting and binding. Doing this can save the apparent cost of the book, although you should check with your facility manager to see if the savings is real. The quality of the result in this case will depend on the quality of the printing machines at your office.

Choice	Recommendation
Page count	While viewing the PDF file in Adobe Reader or Adobe Acrobat, look for the total page count in the display.
Page range	Include all pages in the print job.
Double or single	Choose double-sided (duplex) printing if possible.
Ink color	You can print the books in color or in black-and-white.
Quality	Select the highest quality available (not "draft").
Resolution	Choose 600 dots per inch (dpi) or more.

Choice	Recommendation
Paper size	Book pages are designed to be 8.25 inches wide and 11 inches high, as seen on screen. This size will fit on A4 or letter-size paper.
	When printing the books in your office, while viewing the book in Adobe Acrobat, choose **File**, then **Print**. The Print dialog displays. Enable (check) **Auto-rotate and center pages**. Disable (uncheck) **Expand small pages to paper size**. Then you can print the book.
	When printing with a vendor, find the space marked Special Instructions or Additional Comments on their print request form. Provide a note: "Image size is smaller than paper size. DO NOT expand image to fit page. DO auto-rotate and center pages."
Paper type	For black-and-white, choose a standard white paper. Some print vendors require high-quality laser paper for color; this affects cost, so check before you run the job.
Binding	Choose any type of binding you prefer: 3-ring, color coil, plastic comb, or other. Stapling is not suitable for these documents.
Covers	Many vendors offer a choice of cover colors and styles.
Cutting	It should not be necessary to cut the paper after printing.

3.2 Sample Print Request

The following is a typical print request for an InterSystems document.

Choice	Sample Entry
File name	GCOS.pdf
Page count	716
Double or single	Double
Ink color	Black-and-white
Covers	None
Paper size	U.S. Letter
Paper type	Standard
Binding	3–ring, or 3–hole punch
Special instructions	Image size is smaller than paper size. DO NOT expand image to fit page. DO auto-rotate and center pages.

4

Legacy Documentation

InterSystems maintains an archive of some material from previous Caché releases (http://www.intersystems.com/priordo-cexcerpts/). This archive provides a repository for legacy documentation content that either is deprecated or has been superseded. The archive consists of a set of PDF files. You can download them from the InterSystems Web site by clicking the links in this chapter.

When using material from the archive, keep the following points in mind:

- The selections available in the archive result from frequent past requests for certain information. Items can be added or removed without notice.

- This material is offered on an "as is" basis. Beyond making the material accessible online, no other editing of the text has occurred.

- InterSystems offers no assurances regarding the completeness or accuracy of the archive, its coverage, or currency; and none should be inferred.

- If the archive content conflicts with current documentation, it is likely that the archive content is outdated and describes functionality that has been updated or superseded.

The current archive contents are:

- DeepSee-1 (also referred to as DeepSee 1, DeepSee-I, or DeepSee I) documentation set as of Version 2011.1, including:

    – *Overview of DeepSee-1* - Provides an overview of InterSystems DeepSee-1.

    – *DeepSee-1 Model Design Guide* - Describes a possible approach for assessing how you could use DeepSee-1. Also highlights key design decisions

    – *DeepSee-1 Developer Tutorial* - Describes how to create DeepSee-1 models and use them to create pivot tables and dashboards.

    – *Using the DeepSee-1 Connector* - Describes how to use the DeepSee-1 Connector to access externally stored data.

    – *Using the DeepSee-1 Architect* - Describes how to use the DeepSee-1 Architect to create a DeepSee model for use in pivot tables.

    – *Using the DeepSee-1 Analyzer* - Describes how to use the DeepSee-1 Analyzer to create pivot tables and key performance indicators (KPIs).

    – *Using the DeepSee-1 Dashboard Designer* - Describes how to create DeepSee-1 dashboards and embed them in your applications.

    – *DeepSee-1 Site Configuration and Maintenance Guide* - Describes how to configure and maintain a DeepSee-1 site.

- – *Expressions and Scripts in DeepSee-1* - Describes the syntax and options for all formulas, expressions, and scripts supported in DeepSee-1. This book also lists all the locations where you can use these expressions and scripts.

- – *DeepSee-1 User Guide* - Describes how to use DeepSee-1 dashboards and pivot tables.

- *ObjectScript $ZUTIL Reference*, Version 2010.1.

- *New Locations of Caché 5.0 Advanced Configuration Settings*, Version 2008.2.3.

- *Using the Caché ^%R Routine*, Version 2008.1.

- *Caché Programming Guide*, Version 4.1: "Chapter 9 — Additional Routine Utilities" includes:

  - – **%RCHANGE**, **%RCMP**, **%RCMPSEQ**, **%RCOMPIL**, **%RCOPY**

  - – **%RD**, **%RDEL**, **%RDELETE**

  - – **%RFAND**, **%RFIND**, **%RFIRST**

  - – **%RI**, **%RIMF**

  - – **%RKILL**

  - – **%RO**, **%ROMF**

  - – **%RPURGE**

  - – **%RVERMAX**

- *Caché Programming Guide*, Version 4.1: "Chapter 10 — Additional Global Utilities" includes:

  - – **%G**

  - – **%GCHANGE**, **%GCOPY**

  - – **%GD**

  - – **%GI**, **%GIF**, **%GIGEN**

  - – **%GO**, **%GOF**, **%GOGEN**

  - – **%GSET**

- *Caché Programming Guide*, Version 4.1: "Chapter 11 — Date, Time, and Numeric Utilities" includes:

  - – Date functionality: **%D**, *%DAT* (variable), **%DATE** (including sliding window support), **%DO**, *%DS* (variable)

  - – Time functionality: **%T**, **%TI**, **%TIME**, and **%TO**

  - – **%NLS** and locales

  - – Numeric functionality: **%DOCTAL**, **%DX**, **%OD**, **%SQROOT**, and **%XD**

- *Caché Programming Guide*, Version 4.1: "Chapter 12 — Additional Programmer Utilities" includes:

  - – **%CD**

  - – **%DIR**

  - – **%GLO**, **%GSET**

  - – **%NSP**

  - – **%PRIO**

  - – **%RSET**, **%RSETN**

- *Caché Programming Guide*, Version 4.1: "Appendix A — Routine Development in Programmer Mode"

- *Caché Programming Guide*, Version 4.1: "Appendix C — Physical Storage of Globals and Collation"

- *Object Utility Library Reference* (**^%apiOBJ** routines), Version 3.1

- *Caché Programming Guide*, Version 2.1: "Chapter 9 — Routine Debugging" includes:

    - **%ETN**

    - **%ERN**

- F-DBMS Release Notes:

    - F-11

    - F-12

    - F-13

    - F-14

    - F-15

    - F-17

- Weblink 4.2 documentation:

    - *WebLink Guide*

    - *WebLink Developer Guide*

- *Open M with SQL Data Dictionary Guide* for F.10

- *Open M/SQL Developer Guide* for F.6 and F.7