

# Release Bulletin Software Developer's Kit Version 15.0 for IBM AIX

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## 1. Accessing current release bulletin information

A more recent version of this release bulletin may be available on the Web. To check for critical product or document information added after the release of the product CD, use the Sybase® Technical Library Product Manuals Web site.

### ❖ Accessing release bulletins at the Technical Library Product Manuals Web site

- 1 Go to Product Manuals at <http://www.sybase.com/support/manuals/>.
- 2 Follow the links to the appropriate Sybase product.
- 3 Select the Release Bulletins link.
- 4 Select the Sybase product version from the Release Bulletins list.
- 5 From the list of individual documents, select the link to the release bulletin for your platform. You can either download the PDF version or browse the document online.

## 2. Product summary

This release bulletin describes issues relating to all the components in the Software Developer's Kit (SDK), including Open Client™. See "Product components" on page 3 for a complete list of SDK components.

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**Warning!** If you install both SDK and Open Server™ in the same directory, Sybase recommends that you use the same version and ESD levels. Because SDK and Open Server share files, using different version and ESD levels can cause product failures.

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Sybase SDK version 15.0 products are available on IBM RISC System/6000 AIX version 5.2 (32-bit and 64-bit).

For more information regarding these platforms and the features supported, refer to Table 1 on page 9.

### 2.1 Product components

The Software Developer's Kit version 15.0 CD includes the following components:

- Open Client, version 15.0
- Embedded SQL™/C, version 15.0
- Embedded SQL/COBOL, version 15.0
- jConnect™ for JDBC™, version 6.05
- Extended Architecture (XA) Interface Library for ASE Distributed Data Manager
- Language modules 15.0

### 2.2 POSIX threads and pthreads libraries

Open Client™ uses POSIX threads. When you use threaded libraries (\*\_r), link with the pthreads library.

See the Open Client and Open Server *Programmer's Supplement* for UNIX for information on Open Client libraries.

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Note DB-Library does not support any type of thread interface.

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## 2.3 IPv6 support

As of this release, Sybase SDK on IBM AIX 5.2 supports IPv6.

## 2.4 Sample files

You can find sample files in the SDK installation directory `$$SYBASE/$$SYBASE_OCS/sample`.

## 2.5 Utilities

There are two versions of the bcp, isql, defncopy, cobpre, and cpre utilities; nonthreaded and native-threaded. The native-threaded version names have “\_r” suffixes.

# 3. Special installation instructions

See the Software Developer's Kit and Open Server *Installation Guide* version 15.0 for your platform for instructions on how to install the software. For guidelines for installing SDK with other Sybase products on the same server, refer to “Guidelines for installing SDK with other Sybase products” on page 11 of this release bulletin.

For instructions on configuring your environment, see the Open Client and Open Server *Configuration Guide* version 15.0 for your platform.

For information on compiling and executing Open Client and Open Server applications, including the sample programs, see the Open Client and Open Server *Programmer's Supplement* version 15.0 for your platform.

## 3.1 Installing EBFs

To ensure that your installation is the most current, Sybase strongly recommends that, after you have installed SDK version 15.0, you download and install the corresponding latest available EBFs. You can download product updates at Sybase Downloads at <http://downloads.sybase.com>.

## 3.2 Installation and configuration instructions

Follow the instructions in the Software Developer's Kit and Open Server *Installation Guide* version 15.0 for your platform to install the SDK and Open Server software. When the software has completed installation with no errors, the products are ready to use and you can configure your environment.

## 3.3 Modifying *interfaces* file entries with *dscp* or *dsedit*

Use *dscp* or *dsedit* to modify directory service entries. See the Open Client and Open Server *Configuration Guide* version 15.0 for UNIX for details on how to use these utilities.

## 4. Changed functionality in this version

Changed functionality for Sybase SDK is described in the New Features Guide, *New Features SDK 15.0 and Open Server 15.0 for Microsoft Windows and UNIX*.

## 5. Known problems

This section describes all of the known issues that exist for this release.

### 5.1 Availability with 64-bit libraries

Version 15.0 of SDK is available in 64-bit versions, with these caveats:

- ESQL/COBOL is not available on 64-bit platforms.
- The 64-bit version of ESQL/C is not available on 64-bit platforms.
- Applications using the 64-bit libraries must be compiled with the `-DSYB_LP64` flag.

### 5.2 Client-Library scrollable cursor issues

This section describes the known issues with scrollable cursors.

#### 5.2.1 `ct_scroll_fetch` returns incorrect rows

[CR #397247]

In a `ct_bind` call, if you set the array bind *count* value less than the number of rows returned (`CS_CURSOR_ROWS`), you can receive unpredictable results. This problem occurs only with `ct_scroll_fetch` calls.

For best performance, set `CS_CURSOR_ROWS` to the same value as the *count* field in the `ct_bind` call. For `ct_scroll_fetch` calls, the *count* value must be equal to or greater than `CS_CURSOR_ROWS`.

### 5.2.2 Fetch size issue

[CR #401659]

In Client-Library scrollable cursors and implicit cursors you must explicitly set the number of rows to fetch ( *fetch size*) before you open the cursor. The fetch size must be set to 1 or greater than 1 using `ct_cursor(CS_CURSOR_ROWS)`. Failing to do so, can result in unpredictable results.

## 5.3 Bulk-Library issue

[CR #400849]

If you call `blk_done(CS_BLK_CANCEL)` before you call `blk_done(CS_BLK_ALL)`, incorrect information about the row data is sent to the Adaptive Server. Adaptive Server generates an error. No invalid data is inserted in the Adaptive Server.

## 5.4 Incorrect ASE default packet size with SSL functionality causes Open Client/Open Server applications to hang

[CR #395517]

If you set the ASE default network packet size to larger than 4096 bytes and then enable Secure Sockets Layer (SSL), Open Client/Open Server applications can hang. To avoid this, set the default network packet size to 4096 bytes or less, using `sp_configure`.

## 5.5 Error in installer string

[CR #398187]

The installer version string contains "EBF XXXXX", which you can ignore.

## 5.6 Language installation using ASE langinstall fails in pre-15.0 ASE location

[CR #398720]

Addition of any new Sybase supported language using langinstall on UNIX (or langinst.exe on Windows) fails if you install SDK 15.0 in a pre-15.0 ASE installation directory. SDK 15.0 locales overwrites the locales in the pre-15.0 ASE installation directory.

Sybase recommends that you not install SDK 15.0 in a pre-15.0 ASE release area.

## 5.7 InstallShield issues

This section describes the known problems you might encounter when installing the SDK product.

### 5.7.1 Server not responding causes InstallShield to hang

[CR #402530]

If you have an inaccessible NFS mounted device, InstallShield can hang while displaying the following message:

```
Performing install checks. Please wait ...
```

If this happens, the console from which you executed the installation displays a message similar to the following:

```
NFS3 server not responding still trying
```

You can verify this problem by executing `df -P` command from a command prompt. This command should also hang.

*Workaround:*

- 1 Stop the installation process.
- 2 Unmount the inaccessible device.
- 3 Retry the installation.

### 5.7.2 Installation fails with a “JVM not found” error

[CR #402531]

If the installation directory has the set-group-ID bit set, the installation may fail with the following error:

```
JVM not found
```

If this happens, the *install\_location/log.txt* file (where *install\_location* is your installation directory) contains an error similar to the following:

```
An error occurred attempting to copy the current JVM:  
ServiceException: (error code = 399; message = "Command  
failed: '/bin/chmod 775 <install location>/uninstall  
/JRE-1_4 ' rc = 1 Error message: chmod: not all  
requested changes were made to <install location>  
/uninstall/JRE-1_4
```

*Workaround:* Retry the installation a second time.

### 5.7.3 InstallShield overwrites existing Sybase files

[CR #402532]

InstallShield overwrites any existing file with the same name.

To protect against loss of data, save a copy of the *\$SYBASE/SYBASE.sh* and *\$SYBASE/SYBASE.csh* files before installing SDK under the *\$SYBASE* directory.

### 5.7.4 Error messages received during creation of response file

[CR #398188]

Error messages appear when SDK 15.0 installer generates a response file. The response file is created when the "template" option is used during setup.

Error messages begin with, "...Error formatting options file entry...Illegal character '8' in encoding name", and end with, "Options file ... was successfully created, however one or more entries were not formatted properly".

Ignore these error messages as they have no effect on the functionality of the response file created.

## 6. Product compatibilities and interoperability

Version 15.0 of Open Client works with Adaptive Server 15.0 on the following platforms:



- IBM RS/6000 AIX 5.2
- HP-UX 11.11 (or HP-UX11iv1.0)
- Linux RHEL 3.0
- Sun Solaris 2.8 (SPARC)
- Windows 2000, 2003, XP

Table 1 lists the compilers Sybase uses to build version 15.0 of Open Client.

**Note** These are not the only compilers you can use to build the programs.

**Table 1: Open Client platform compatibility**

Platform	Operating system level	C and C++ compilers	COBOL compilers	Kerberos version	Light-weight Directory Access (LDAP)	Secure Sockets Layer (SSL)
HP-UX 11.11 32-bit	HP-UX 11iv1	HP C/ANSI C B.11.11.10 HP ANSIC++ B3910B A.03.10	MF Server Express 4.0	CyberSafe Trust Broker 2.1	Netscape LDAP 4.1	Certicom SSL Plus 5.0.4, SBGSE 2.0
HP-UX 11.11 64-bit	HP-UX 11iv1 with Patch bundle 99OP	HP C 11.11.10 ANSI HP ANSIC++ B3910B A.03.10	Not available	Not available	Netscape LDAP 4.1	Certicom SSL Plus 5.0.4, SBGSE 2.0
IBM 32-bit	AIX 5.2	C++ 5.0.22	MF Server Express 4.0	CyberSafe Trust Broker 2.1	Netscape LDAP 4.1	Certicom SSL Plus 5.0.4, SBGSE 2.0
IBM 64-bit	AIX 5.2	C++ 5.0.22	Not available	Not available	OpenLDAP 2.2.23	Certicom SSL Plus 5.0.4, SBGSE 2.0
Linux Intel 32-bit	Red Hat EL 3.0	gcc 3.2.3-42	Not available	MIT 1.4.1	Netscape LDAP 4.1	Certicom SSL Plus 5.0.4
Sun 32-bit	Solaris 2.8	Sun C/C++ 6.2	MF Server Express 4.0	CyberSafe Trust Broker 2.1, MIT 1.4.1	Netscape LDAP 4.0	Certicom SSL Plus 5.0.4, SBGSE 2.0

Platform	Operating system level	C and C++ compilers	COBOL compilers	Kerberos version	Light-weight Directory Access (LDAP)	Secure Sockets Layer (SSL)
Sun 64-bit	Solaris 2.8	Sun C/C++ 6.2	Not available	CyberSafe Trust Broker 2.1, MIT 1.4.1	Netscape LDAP 4.1	Certicom SSL Plus 5.0.4, SBGSE 2.0
<ul style="list-style-type: none"> <li>• Windows 2000</li> <li>• Windows 2003</li> <li>• Windows XP</li> </ul>	<ul style="list-style-type: none"> <li>• Service Pack 4</li> <li>• Service Pack 1</li> <li>• Service Pack 1</li> </ul>	MS C 6.0 (Microsoft Developers Studio; unoptimized, development only)	NetExpress 4.0	CyberSafe Trust Broker 4.0	Netscape LDAP 4.0	Certicom SSL Plus 5.0.4, SBGSE 2.0

## 6.1 Open Client and Open Server compatibility

Open Server version 15.0 is certified to work with the Client-Library and Adaptive Server products shown in Table 2:

**Table 2: Open Client and Open Server compatibility**

Open Server 15.0 platform	Client-Library 15.0	Client-Library 12.5.1	Adaptive Server 15.0	Adaptive Server 12.5.3
HP-UX 11.11 32-bit	x	x	x	x
HP-UX 11.11 64-bit	x	x	x	x
IBM AIX 5.2 32-bit	x	x	x	x
IBM AIX 5.2 64-bit	x	x	x	x
Linux RHEL 3.0 32-bit	x	x	x	x
Solaris 2.8 SPARC 32-bit	x	x	x	x
Solaris 2.8 SPARC 64-bit	x	x	x	x
Windows 2000	x	x	x	x

LEGEND: x = compatible; n/a = product not available on that platform.

Additionally, for Open Server:

- Header files included in an application must be the same version level as the library with which the application is linked.
- Bulk-Library routines cannot be used in applications that call Open Server version 2.x routines.

- DB-Library™ based Open Server applications are not supported starting with version 11.x or later.

## 6.2 Interoperability matrix

Table 3 shows the interoperability matrix of Adaptive Server, Replication Server®, SDK, and Open Server across versions. For specific platform or O/S level information, refer to the respective product certification reports.

Although two or more products can be interoperable, remember that new features introduced in a newer version of a product may not be supported with older versions of the same or other products.

For the latest interoperability report on these products, refer to the technical document (#1026087) on MySybase at <http://www.sybase.com/>.

**Table 3: Interoperability matrix**

Adaptive Server Enterprise 15.0		SDK and Open Server		Replication Server		
	12.5.3	15.0	12.5.1	12.6	12.5	12.1
HP-UX 11.11	x	x	x	x	x	x
IBM AIX 5.2	x	x	x	x	x	x
Linux RHEL 3.0	x	x	x	x	n/a	n/a
Sun Solaris 2.8	x	x	x	x	x	x
Windows 2000, 2003, XP	x	x	x	x	x	x

LEGEND: x = compatible; n/a = product not available on that platform.

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**Note** The Open Client and Open Server compatibility information shown in Table 3 is relevant only if the compatible products are installed in different \$\$SYBASE directories.

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### 6.2.1 Guidelines for installing SDK with other Sybase products

Below are guidelines for installing version 15.0 of SDK on the same server with other Sybase products:

- In general, Sybase recommends that you place the new installation of SDK in separate directories from other Sybase products, such as Replication Server, OpenSwitch, Enterprise Connect™ Data Access, and Sybase IQ, unless Sybase Tech Support has specifically recommended installation in the same directory to address an issue.

- Sybase does not recommend mixing versions of SDK and Open Server in the same directory. For example, do not install SDK 15.0 in a directory containing Open Server 12.5.1 — in this case, upgrade both SDK and Open Server to 15.0.

### 6.3 SDK and Open Server compatibility

For SDK and Open Server compatibility, the header files included in an application must be the same version level as the library with which the application is linked.

### 6.4 DB-Library compatibility with Client-Library

Following are DB-Library compatibility issues:

- Support for new features in Open Client or Adaptive Server have been made primarily to the Client-Library API. This includes support for LDAP, SSL, HA Failover, bulk copies into DOL tables, and so on. For this reason, Sybase strongly recommends creating all new applications with the Client-Library API. Older applications written in DB-Library that can be run against Adaptive Server servers offering new technology may also need to be migrated to Client-Library.
- Support for new features are not added to this DB-Library.
- Minimal features are added to this version of DB-Library. To know more about these features, see *New Features Open Server and SDK 15.0 for Microsoft Windows, Linux, and UNIX*.
- Although it is possible for DB-Library and Client-Library calls to exist in the same application, Sybase does not test or certify combining the two different APIs. If you must use the two APIs together, make sure the libraries are not only at the same major release level but also at the same ESD level.

For help on converting a DB-Library application to a Client-Library application, refer to the Open Client *Client-Library Migration Guide*.

## 7. Programming issues

This section describes programming issues relevant to Open Client and Embedded SQL.

## 7.1 General issues

This section describes programming issues for all Open Client products.

### 7.1.1 Upgrading to a new release

For statically and dynamically linked Open Client applications (dblib, ctlib, and esql), Sybase recommends the following:

- For statically linked applications, you must do a complete rebuild of the applications with the new version of software. You must recompile and relink the applications with the new header files and libraries.
- For dynamically linked applications, Sybase recommends a recompile and relink with the SDK libraries that have changed to include “syb” in library names.

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**Note** If you have made any changes to the application files, a recompile is mandatory.

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Be certain that the runtime libraries are for the same major release as the version used to build the application.

## 7.2 Client-Library issues

This section describes programming issues of Client-Library version 15.0.

### 7.2.1 ct\_poll

Do not call `ct_poll` from within any Client-Library callback function or from within any other function that can execute at the system-interrupt level. Calling `ct_poll` at the system-interrupt level corrupts Open Client and Open Server internal resources and causes recursion in the application.

### 7.2.2 Asynchronous operations

To properly exit Client-Library, wait until all asynchronous operations are complete, then call `ct_exit`. If an asynchronous operation is in progress when `ct_exit` is called, the routine returns `CS_FAIL` and does not exit Client-Library properly, even when `CS_FORCE_EXIT` is used.

Client-Library fully supports asynchronous operations on your UNIX platform. For more information, see “Asynchronous Programming” in the Open Client *Client-Library/C Reference Manual*.

### 7.2.3 Registered procedure notifications

The CS\_ASYNC\_NOTIFS connection property controls how a Client-Library application receives registered procedure notifications from an Open Server application.

Currently, the Open Server application sends a notification to the client as one or more Tabular Data Stream™ (TDS) packets. However, the client application does not learn of the notification until Client-Library reads the notification packets from the connection and invokes the application's notification callback.

You must set CS\_ASYNC\_NOTIFS to CS\_TRUE for ct\_poll to trigger the application's notification callback on a connection that is otherwise idle. In other words, unless your application is actively sending commands and reading results on the connection, your application does not receive notifications when CS\_ASYNC\_NOTIFS is CS\_FALSE (the default).

### 7.2.4 Security sample programs

The secsrv\_krb Server-Library and secct\_krb Client-Library sample programs illustrate Open Client and Open Server applications that use CyberSafe security mechanisms.

To run these sample programs, verify that CyberSafe is installed and configured. Then, set the SYBPLATFORM environment variable to “nthread\_rs6000”.

## 7.3 Embedded SQL issues

This section describes programming issues specific to:

- Embedded SQL/C version 15.0 and later
- Embedded SQL/COBOL version 15.0 and later

### 7.3.1 Sharing Embedded SQL/C objects among multiple threads

By default, Embedded SQL/C connections, cursors, and dynamic statements cannot be shared by multiple threads. The namespace for each of these object types is limited to the currently executing thread; one thread cannot refer to objects that were created by another thread. Objects can be shared by setting the macro `CONNECTIONS_ARE_SHARED_ACROSS_THREADS` to 1 by using the `-D` compiler option when compiling the `sybeseql.c` module.

---

**Warning!** If Embedded SQL/C objects are shared by multiple threads, the application programmer must add thread serialization code to ensure that objects associated with a single connection are not used simultaneously by multiple threads.

---

Normally, Dynamic descriptors can be shared by multiple threads. To give each thread its own namespace for dynamic descriptors, when compiling the `sybeseql.c` module, use the `-D` compiler option to set the macro `DESCRIPTOR_SCOPE_IS_THREAD` to 1 .

### 7.3.2 Precompiler `-p` option

Applications that rely on inserting empty strings instead of NULL strings when the host string variable is empty does not work if the `-p` option is turned “on.” The persistent bind implementation prevents Embedded SQL from circumventing Client-Library protocol (which inserts NULL strings).

### 7.3.3 Error or warning prevents with *select into* statements

You can retrieve multiple rows with a single *select into* statement by using arrays as output host variables. If no errors or warnings occur, all selected rows are returned up to the limit of the length of the arrays. However, if a truncation, conversion warning, or error occurs, rows are returned only up to and including the row where the error or warning occurred. To ensure receiving all rows, use a cursor and continue fetching until there are no more rows.

### 7.3.4 Embedded SQL/C sample programs

When you enter an incorrect password, sample programs `example1.pc` and `example2.pc` generate incorrect error numbers. You can ignore these numbers.

### 7.3.5 Embedded SQL/COBOL sample programs

The shared library path for compiling the sample programs must include *\$COBDIR/lib* and *\$\$SYBASE/\$SYBASE\_OCS/lib*. The path must also include *\$COBDIR/bin* and *\$\$SYBASE/bin*.

## 8. Utility issues

This section describes issues that concern the standalone utilities.

### 8.1 Utility messages changed

With this release, messages generated by the *bcp*, *defncopy*, and *isql* utilities have changed. If you process these messages with scripts (such as with *awk* or *grep*) that parse specific strings, you may need to change the search patterns of the scripts to accommodate the new messages.

## 9. Technical support

Each Sybase installation that has purchased a support contract has one or more designated people who are authorized to contact Sybase Technical Support. If you have any questions about this installation or if you need assistance during the installation process, ask the designated person to contact Sybase Technical Support or the Sybase subsidiary in your area.

## 10. Other sources of information

Use the Sybase Getting Started CD, the SyBooks™ CD, and the Sybase Product Manuals Web site to learn more about your product:

- The Getting Started CD contains release bulletins and installation guides in PDF format, and may also contain other documents or updated information not included on the SyBooks CD. It is included with your software. To read or print documents on the Getting Started CD, you need Adobe Acrobat Reader, which you can download at no charge from the Adobe Web site using a link provided on the CD.
- The SyBooks CD contains product manuals and is included with your software. The Eclipse-based SyBooks browser allows you to access the manuals in an easy-to-use, HTML-based format.



Some documentation may be provided in PDF format, which you can access through the PDF directory on the SyBooks CD. To read or print the PDF files, you need Adobe Acrobat Reader.

Refer to the *SyBooks Installation Guide* on the Getting Started CD, or the *README.txt* file on the SyBooks CD for instructions on installing and starting SyBooks.

- The Sybase Product Manuals Web site is an online version of the SyBooks CD that you can access using a standard Web browser. In addition to product manuals, you will find links to EBFs/Maintenance, Technical Documents, Case Management, Solved Cases, newsgroups, and the Sybase Developer Network.

To access the Sybase Product Manuals Web site, go to Product Manuals at <http://www.sybase.com/support/manuals/>.

## 10.1 Sybase certifications on the Web

Technical documentation at the Sybase Web site is updated frequently.

### ❖ Finding the latest information on product certifications

- 1 Point your Web browser to Technical Documents at <http://www.sybase.com/support/techdocs>.
- 2 Click Document Types under Technical Documents from the navigation bar on the left. Then, click Certification Report.
- 3 In the Certification Report filter, select Product, Platform, and Timeframe. Then, click Go.
- 4 Click a Certification Report title to display the report.

### ❖ Finding the latest information on component certifications

- 1 Point your Web browser to Availability and Certification Reports at <http://certification.sybase.com/>.
- 2 Either select the product family and product under Search by Product; or select the platform and product under Search by Platform.
- 3 Select Search to display the availability and certification report for the selection.

❖ **Creating a personalized view of the Sybase Web site (including support pages)**

Set up a MySybase profile. MySybase is a free service that allows you to create a personalized view of Sybase Web pages.

- 1 Point your Web browser to Technical Documents at <http://www.sybase.com/support/techdocs/>.
- 2 Click MySybase and create a MySybase profile.

## 10.2 Sybase EBFs and software maintenance

❖ **Finding the latest information on EBFs and software maintenance**

- 1 Point your Web browser to the Sybase Support Page at <http://www.sybase.com/support>.
- 2 Select EBFs/Maintenance. If prompted, enter your MySybase user name and password.
- 3 Select a product.
- 4 Specify a time frame and click Go. A list of EBF/Maintenance releases is displayed.

Padlock icons indicate that you do not have download authorization for certain EBF/Maintenance releases because you are not registered as a Technical Support Contact. If you have not registered, but have valid information provided by your Sybase representative or through your support contract, click Edit Roles to add the “Technical Support Contact” role to your MySybase profile.

- 5 Click the Info icon to display the EBF/Maintenance report, or click the product description to download the software.

## 11. Accessibility features

This document is available in an HTML version that is specialized for accessibility. You can navigate the HTML with an adaptive technology such as a screen reader, or view it with a screen enlarger.

Open Client and Open Server documentation has been tested for compliance with U.S. government Section 508 Accessibility requirements. Documents that comply with Section 508 generally also meet non-U.S. accessibility guidelines, such as the World Wide Web Consortium (W3C) guidelines for Web sites.

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**Note** You might need to configure your accessibility tool for optimal use. Some screen readers pronounce text based on its case; for example, they pronounce ALL UPPERCASE TEXT as initials, and MixedCase Text as words. You might find it helpful to configure your tool to announce syntax conventions. Consult the documentation for your tool.

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For information about how Sybase supports accessibility, see Sybase Accessibility at <http://www.sybase.com/accessibility>. The Sybase Accessibility site includes links to information on Section 508 and W3C standards.

