

SYBASE®

Installation Guide

**Software Developer's Kit and
Open Server™**

15.5

[Microsoft Windows]

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About This Book

Audience

This book is for system administrators or the persons responsible for installing the Software Developer's Kit (SDK) or Open Server™.

How to use this book

This book contains these chapters:

- Chapter 1, "Before You Begin," contains pre-installation information and tasks.
- Chapter 2, "Installing SDK and Open Server," describes how to install SDK and Open Server.
- Chapter 3, "Post-Installation Tasks," provides information about the tasks you must perform after installing the component software for SDK and Open Server.

Related documents

You can see these books for more information:

- The *Open Server Release Bulletin for Microsoft Windows* contains important last-minute information about Open Server.
- The *Software Developer's Kit Release Bulletin for Microsoft Windows* contains important last-minute information about Open Client™ and SDK.
- The *jConnect for JDBC Release Bulletin* versions 6.05 and 7.0 contains important last-minute information about jConnect™.
- The *Open Client and Open Server Configuration Guide for Microsoft Windows* contains information about configuring your system to run Open Client and Open Server.
- The *Open Client Client-Library/C Reference Manual* contains reference information for Open Client Client-Library.
- The *Open Client Client-Library/C Programmers Guide* contains information on how to design and implement Client-Library applications.
- The *Open Server Server-Library/C Reference Manual* contains reference information for Open Server Server-Library.

-
- The *Open Client and Open Server Common Libraries Reference Manual* contains reference information for CS-Library, which is a collection of utility routines that are useful in both Client-Library and Server-Library applications.
 - The *Open Client and Open Server Programmers Supplement for Microsoft Windows* contains platform-specific information for programmers using Open Client and Open Server. This document includes information about:
 - Compiling and linking an application
 - The sample programs that are included with Open Client and Open Server
 - Routines that have platform-specific behaviors
 - The *jConnect for JDBC Installation Guide* version 6.05 contains installation instructions for jConnect for JDBC™.
 - The *jConnect for JDBC Programmers Reference* describes the jConnect for JDBC product and explains how to access data stored in relational database management systems.
 - The *Adaptive Server Enterprise ADO.NET Data Provider Users Guide* provides information on how to access data in Adaptive Server® using any language supported by .NET, such as C#, Visual Basic .NET, C++ with managed extension, and J#.
 - The *Adaptive Server Enterprise ODBC Driver by Sybase Users Guide* for Windows and Linux, provides information on how to access data from Adaptive Server on Microsoft Windows, Linux, and Apple Mac OS X platforms, using the Open Database Connectivity (ODBC) Driver.
 - The *Adaptive Server Enterprise OLE DB Provider by Sybase Users Guide for Microsoft Windows* provides information on how to access data from Adaptive Server on Microsoft Windows platforms, using the Adaptive Server OLE DB Provider.

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/>.

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 Partner Certification Report.
- 3 In the Partner Certification Report filter select a product, platform, and timeframe and then click Go.
- 4 Click a Partner 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 Base Product; or select the platform and product under Search by Platform.
- 3 Select Search to display the availability and certification report for the selection.

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

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.

Conventions

Table 1: Syntax conventions

Key	Definition
command	Command names, command option names, utility names, utility flags, and other keywords are in sans serif font.
<i>variable</i>	Variables, or words that stand for values that you fill in, are in <i>italics</i> .
{ }	Curly braces indicate that you choose at least one of the enclosed options. Do not include the braces in the command.
[]	Brackets mean choosing one or more of the enclosed items is optional. Do not include the braces in the command.
()	Parentheses are to be typed as part of the command.

Key	Definition
	The vertical bar means you can select only one of the options shown.
,	The comma means you can choose as many of the options shown as you like, separating your choices with commas to be typed as part of the command.

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.

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.

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.

If you need help

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 cannot resolve a problem using the manuals or online help, please have the designated person contact Sybase Technical Support or the Sybase subsidiary in your area.



Before You Begin

This chapter provides information about system requirements and the tasks you must perform before you install SDK and Open Server.

Topic	Page
SDK and Open Server components	1
System requirements for SDK and Open Server	7
Preinstallation tasks for SDK and Open Server	14

SDK and Open Server components

This section summarizes the components included in the SDK and Open Server products.

SDK components

SDK is a set of libraries and utilities for developing client applications. It includes these components:

- Open Client – a set of APIs used to develop and deploy C-language applications that access Adaptive Server data. Included on the installation medium are:
 - Drivers for integrating Client-Library and Open Server applications with directory and security services
 - Sample programs for Client-Library and DB-Library™
- Open Client Embedded SQL™/C – the precompiler that allows you to embed Transact-SQL® statements into C-language applications. The installation medium also includes sample programs for Embedded SQL/C.

- Open Client Embedded SQL/COBOL – the precompiler that allows you to embed Transact-SQL statements into COBOL-language applications. The installation medium also includes sample programs for Embedded SQL/COBOL.
- Language modules – provide system messages and datetime formats to help you localize your applications. Default installation includes these character sets:

ASCII, for use with unspecified 8-bit data (ascii_8)	BIG 5, Traditional Chinese with Hong Kong Supplementary Character Set (big5hk)
BIG 5, Traditional Chinese (big5)	Microsoft Windows Code Page 1250, 1251, 1252, 1253, 1254, 1255, 1256, 1257, 1258, 866 (cp1250, cp1251, cp1252, cp1253, cp1254, cp1255, cp1256, cp1257, cp1258, cp866)
IBM Code Page 852, 855, 857, 860, 864, 869, 874, 950 (cp437, cp850, cp852, cp855, cp857, cp860, cp864, cp869, cp874, cp950)	Variant of Code Page 850 (cp858), IBM Code Page 932 for JIS-X0201 and JIS-X0208 (cp932)
Code Page 437, 850 (cp437, cp850)	
CP936, Simplified Chinese (cp936)	PC (MS) Korean (cp949)
DEC Kanji Code for JIS-X0208 (deckanji)	Extended UNIX Code for CNS-11643 (euccns)
Extended UNIX Code for GB2312-80 (eucgb)	Extended UNIX Code for JIS-X0201 and JIS-X0208 (eucjis)
Extended UNIX Code for KSC-5601 (eucksc)	P.R.C standard GB 18030-2000 (gb18030)
HP Greek (greek8)	ISO_8859-15 Latin9, Western Europe (iso15)
ISO_8859-2 Latin2, Eastern Europe (iso88592)	ISO_8859-5 Cyrillic (iso88595)
ISO_8859-6 Arabic, ASMO-708 (iso88596)	ISO_8859-7 Greek, ELOT_928 (iso88597)
ISO_8859-8 Hebrew (iso88598)	ISO_8859-9 Latin5, Turkish (iso88599)
ISO 8859-1 (iso_1)	KOI-8 Cyrillic 8-bit (koi8)
Kazakhstan, Cyrillic (kz1048)	Macintosh Western European locales (mac)
Macintosh Cyrillic (mac_cyr)	Macintosh, Eastern European (mac_ee)
Macintosh with EURO support for Western European locales (mac_euro)	Macintosh, Greek (macgrk2)

Macintosh, Turkish (macturk)	Hewlett-Packard Roman 8 and Roman 9 (roman8, roman9)
IBM/Microsoft Code for JIS-X0201 and JIS-X0208 (sjis)	Thailand Industrial Standard (tis620)
HP Turkish, 8-bit (turkish8)	Unicode UTF-8 encoding (utf8)

Additional language modules:

- Chinese
- French
- German
- Japanese
- Korean
- Polish
- Portuguese
- Spanish
- Thai

Note SDK and Open Server support the same character sets as Adaptive Server.

- Adaptive Server® Enterprise ODBC Driver, version 15.5.
- Adaptive Server Enterprise OLE DB Provider, version 15.5.
- Adaptive Server Enterprise ADO.NET Data Provider versions 1.155 and 2.155 – allow you to access data in Adaptive Server using any language supported by .NET, such as C#, Visual Basic.NET, C++ with managed extensions, and J#.
- jConnect for JDBC 6.05 and 7.0 – the JAVA implementation of the Java JDBC standard, which provides Java developers with native database access in multitier and heterogeneous environments. For jConnect hardware and software requirements as well as installation instructions, see the *jConnect for JDBC Installation Guide* version 6.05.
- Extended Architecture (XA) Interface Library for Adaptive Server Distributed Transaction Manager. Also included are sample programs for XA.

Table 1-1 lists libraries and utilities included with SDK.

Table 1-1: SDK component libraries and utilities for Windows platforms

	Open Client	Embedded SQL/C	Embedded SQL/COBOL
<i>Libraries</i>			
Client-Library	x	x	x
CS-Library	x	x	x
DB-Library	x	n/a	n/a
Bulk-Library	x	n/a	n/a
XA-Library	x	n/a	n/a
Net-Library	x	n/a	n/a
Common-Library	x	n/a	n/a
LDAP	x	n/a	n/a
SSL	x	n/a	n/a
Kerberos	x	n/a	n/a
DCE	x	n/a	n/a
<i>Utilities</i>			
bcp, defncopy, dsedit, ocscfg, isql, certauth, certpk12, certreq, extrjava, instjava, pwdcrypt	x	n/a	n/a
cpre	n/a	x	n/a
cobpre	n/a	n/a	x

LEGEND: x = available; n/a = not available on this component.

Open Server components

Open Server is a set of APIs and supporting tools you can use to create custom servers that will respond to client requests submitted through Open Client or jConnect routines. Open Server includes these components:

- Open Server – a set of APIs and supporting tools. Included on the installation medium are:
 - Drivers for integrating Client-Library and Open Server applications with directory and security services
 - Sample programs for Server-Library and Client-Library
- Open Client – a set of APIs used to develop and deploy C-language applications that access Adaptive Server data. Included on the installation medium are:

- Drivers for integrating Client-Library and Open Server applications with directory and security services
- Sample programs for Client-Library and DB-Library
- Language modules – provide system messages and datetime formats to help you localize your applications. Default installation includes these character sets:

ASCII, for use with unspecified 8-bit data (ascii_8)	BIG 5, Traditional Chinese with Hong Kong Supplementary Character Set (big5hk)
BIG 5, Traditional Chinese (big5)	Microsoft Windows Code Page 1250, 1251, 1252, 1253, 1254, 1255, 1256, 1257, 1258, 866 (cp1250, cp1251, cp1252, cp1253, cp1254, cp1255, cp1256, cp1257, cp1258, cp866)
IBM Code Page 852, 855, 857, 860, 864, 869, 874, 950 (cp437, cp850, cp852, cp855, cp857, cp860, cp864, cp869, cp874, cp950)	Variant of Code Page 850 (cp858), IBM Code Page 932 for JIS-X0201 and JIS-X0208 (cp932)
Code Page 437, 850 (cp437, cp850)	
CP936, Simplified Chinese (cp936)	PC (MS) Korean (cp949)
DEC Kanji Code for JIS-X0208 (deckanji)	Extended UNIX Code for CNS-11643 (euccns)
Extended UNIX Code for GB2312-80 (eucgb)	Extended UNIX Code for JIS-X0201 and JIS-X0208 (eucjis)
Extended UNIX Code for KSC-5601 (eucksc)	P.R.C standard GB 18030-2000 (gb18030)
HP Greek (greek8)	ISO_8859-15 Latin9, Western Europe (iso15)
ISO_8859-2 Latin2, Eastern Europe (iso88592)	ISO_8859-5 Cyrillic (iso88595)
ISO_8859-6 Arabic, ASMO-708 (iso88596)	ISO_8859-7 Greek, ELOT_928 (iso88597)
ISO_8859-8 Hebrew (iso88598)	ISO_8859-9 Latin5, Turkish (iso88599)
ISO 8859-1 (iso_1)	KOI-8 Cyrillic 8-bit (koi8)
Kazakhstan, Cyrillic (kz1048)	Macintosh Western European locales (mac)
Macintosh Cyrillic (mac_cyr)	Macintosh, Eastern European (mac_ee)
Macintosh with EURO support for Western European locales (mac_euro)	Macintosh, Greek (macgrk2)

Macintosh, Turkish (macturk)	Hewlett-Packard Roman 8 and Roman 9 (roman8, roman9)
IBM/Microsoft Code for JIS-X0201 and JIS-X0208 (sjis)	Thailand Industrial Standard (tis620)
HP Turkish, 8-bit (turkish8)	Unicode UTF-8 encoding (utf8)

Additional language modules:

- Chinese
- French
- German
- Japanese
- Korean
- Polish
- Portuguese
- Spanish
- Thai

Table 1-2 lists libraries and utilities included with Open Server.

Table 1-2: Open Server libraries and utilities for Windows platforms

<i>Libraries</i>	<ul style="list-style-type: none">• Server-Library• Client-Library• CS-Library• Bulk-Library• Net-Library• Common-Library• LDAP• SSL• Kerberos
<i>Utilities</i>	<ul style="list-style-type: none">• bcp• defncopy• dsedit• ocscfg• isql• certauth• certpk12• certreq• pwddcrypt

System requirements for SDK and Open Server

This section contains:

- Hardware and software requirements
- Disk space requirements
- Compiler requirements

Hardware and software requirements

Table 1-3 shows the system hardware and software requirements for SDK and Open Server.

Table 1-3: System requirements for SDK and Open Server

Hardware	Operating system	Supported protocols
<ul style="list-style-type: none"> Microsoft Windows x86 32-bit 	<ul style="list-style-type: none"> Microsoft Windows 2000 Service Pack 4.0 or later Microsoft Windows 2003 Service Pack 1.0 or later Microsoft Windows XP Service Pack 1.0 or later 	All: <ul style="list-style-type: none"> TCP/IP IPX/SPX Microsoft Named Pipes
<ul style="list-style-type: none"> Microsoft Windows x86-64 64-bit 	<ul style="list-style-type: none"> Microsoft Windows 2003 Service Pack 1.0 or later 	All: <ul style="list-style-type: none"> TCP/IP IPX/SPX Microsoft Named Pipes

Note Only Open Server, E/SQL, Client-Library, and DB-Library support Microsoft Named Pipes.

On Microsoft Windows 2000 x86, Microsoft Windows 2003 x86, Microsoft Windows XP x86, Microsoft Windows 2008, and Microsoft Windows Vista x86 systems, the ODBC drivers are 32-bit. All required network software that your database system vendors supply must be 32-bit compliant.

On Microsoft Windows 2003 x86-64, Microsoft Windows XP x86-64, Microsoft Windows Vista x86-64, and Microsoft Windows 2008 x86-64, both 64-bit and 32-bit ODBC and OLE DB drivers are installed. All required network software that your database system vendors supply must be 64-bit compliant.

Note For the most current information about certified platforms, see “Sybase certifications on the Web” on page vii.

Table 1-4 shows the system requirements for ODBC and OLE DB.

Table 1-4: System requirements for ODBC and OLE DB

<i>Hardware</i>	<ul style="list-style-type: none"> • For Microsoft Windows x86 32-bit: PC with 486 or greater Intel processor • For Microsoft Windows X86-64 64-bit: PC with x64 architecture
<i>Operating system</i>	<ul style="list-style-type: none"> • Microsoft Windows 2000 x86 Service Pack 4.0 or later • Microsoft Windows 2003 x86 Service Pack 1.0 or later • Microsoft Windows XP x86 Service Pack 1.0 or later • Microsoft Windows 2003 x86-64 Service Pack 1.0 or later • Microsoft Windows 2008 x86-64 Service Pack 1.0 or later • Microsoft Windows Vista x86-64 Service Pack 1.0 or later
<i>Web browser</i>	Internet Explorer 4.0 or later
<i>Other components</i>	Microsoft Data Access Components (MDAC)*

*MDAC is part of the Microsoft Windows operating system that Microsoft frequently updates. Download the most recent version from the Microsoft web site at <http://www.microsoft.com>.

Table 1-5 identifies the requirements for the Adaptive Server ADO.NET Data Provider.

Table 1-5: System requirements for Adaptive Server ADO.NET Data Provider

<i>Hardware</i>	<ul style="list-style-type: none">• For Microsoft Windows x86 32-bit: PC with 90MHz Intel Pentium processor• For Microsoft Windows x86-64 64-bit: PC with x64 architecture
<i>Operating system</i>	<ul style="list-style-type: none">• Microsoft Windows 2000 x86 Service Pack 4.0 or later• Microsoft Windows 2003 x86 Service Pack 1.0 or later• Microsoft Windows 2008 x86 Service Pack 1.0 or later• Microsoft Windows Vista x86 Service Pack 1.0 or later• Microsoft Windows XP x86 Service Pack 1.0 or later• Microsoft Windows 2003 x86-64 Service Pack 1.0 or later <p>Note Only Microsoft Windows 2000 x86 32-bit and Microsoft Windows XP x86 32-bit platforms are supported for development.</p>
<i>Other components</i>	<ul style="list-style-type: none">• Microsoft Windows .NET 2.0, 3.0, or 3.5 is required for 2.155 version of ADO.NET• Microsoft .NET Framework v1.1 is required for the 1.155 version of ADO.NET <p>Install this before installing the Adaptive Server ADO.NET Data Provider included with the SDK.</p>

Development

- Microsoft .NET Framework SDK 1.1
- Microsoft Visual Studio .NET 2003
- Microsoft .NET Framework SDK 2.0, 3.0 and 3.5 are supported for ADO.NET 2.155
- Microsoft Visual Studio .NET 2005 and 2008 are supported for ADO.NET 2.155
- A Microsoft .NET language compiler, such as C#

Note If Microsoft Visual Studio .NET 2003 is installed, it will install the Microsoft .NET Framework SDK v1.1.

Installing data access components from Microsoft

Before you can install the Adaptive Server ODBC Driver or the Adaptive Server OLE DB Provider, you must meet the system requirements for Windows as shown in Table 1-4. Install the Microsoft components and Sybase products in these order:

- 1 MDAC
- 2 Adaptive Server ODBC Driver or Adaptive Server OLE DB Provider

Note Versions of Microsoft platforms that include Internet Explorer version 5.0 or certain service packs automatically install MDAC.

Disk space requirements

The required installation disk space varies from 150MB to 350MB, and depends on:

- Product being installed – SDK or Open Server
- Type of installation – typical, full, or custom

Table 1-6 shows the approximate disk space required for the components of SDK and Open Server.

Table 1-6: Disk space requirements for Microsoft Windows 2000, Microsoft Windows 2003, and Microsoft Windows XP

Component and version	Disk space required
Additional Connectivity Language Modules	6MB
Open Client 15.5	140MB
Open Server 15.5	144MB
Embedded SQL/C 15.5	3MB
Embedded SQL/COBOL 15.5	4MB
jConnect for JDBC version 6.05	18MB
	Note You can install jConnect as a separate product.
jConnect for JDBC version 7.0	12MB
Adaptive Server ODBC Driver	21MB
	Note To run ODBC, Microsoft Windows requires MDAC, which needs an additional 5MB.
Adaptive Server OLE DB Data Provider	21MB
	Note To run OLE DB, Microsoft Windows requires MDAC, which needs an additional 15MB.
Adaptive Server ADO.NET Data Provider	17MB
	Note The Microsoft .NET Framework requires an additional 150MB.

Note If you install *mdac_typ.exe*, an additional 12MB is required for client systems, and 32MB is recommended for server systems.

For a full installation, the total space required is approximately:

- For SDK – 239MB
- For Open Server – 149MB

Disk space required for the installation

To ensure that there is sufficient disk space for the installation, a Pre-Installation Summary window displays every component that is to be installed and the total disk space required for all the selected components. If you continue without sufficient disk space, a warning appears, displaying the space-required, and the space-available information in the target directory. The warning also displays the minimum space that you need to free up to proceed with the installation, otherwise, you can cancel the installation.

Note When you run the installer without sufficient disk space, you may encounter an error message, instructing you to select an alternate location for the installation.

Compiler requirements

SDK and Open Server Sybase has tested and certified these compilers and linkers for use with SDK and Open Server products:

- Microsoft Windows 64-Bit C/C++ Optimizing Compiler, version 14.00.50727.42
- Microsoft Visual Studio 2005 32-Bit C/C++ Optimizing Compiler, version 14.00.50727.42
- Microsoft Visual Studio 2005 32-Bit Executable Linker, version 8.00.50727.42
- Micro Focus Net Express COBOL Compiler version 5.1

Adaptive Server
ADO.NET

The Adaptive Server ADO.NET Data Provider version 1.155 is certified with the .NET language compilers included in the Microsoft .NET Framework version 1.1.4322. Adaptive Server ADO.NET Provider version 2.155 is certified with the .NET language compilers included in the Microsoft .NET Framework version 2.0.50727 or later, which are:

- Microsoft Visual C/C++ .NET Compiler version 13.10.3077
- Microsoft Visual C# .NET Compiler version 7.10.6001.4
- Microsoft Visual Basic .NET Compiler version 7.10.6001.4
- Microsoft Visual J# .NET Compiler version 7.10.3077.0
- Microsoft Script .NET Compiler version 7.10.3052

Adaptive Server
ODBC and OLE DB

If you plan to use the ADO.NET Data Provider from managed C++ code, then the C++ compiler version required is Microsoft 32-bit C/C++ Optimizing Compiler version 13.10.3077.

If you plan to use the ODBC Driver or the OLE DB Provider, then the C++ compiler required is Microsoft 32-bit C/C++ Optimizing Compiler version 13.10.3077.

Preinstallation tasks for SDK and Open Server

These instructions do not apply to the SDK product that was provided with the Adaptive Server Suite CD.

Note Each purchase of the Adaptive Server Suite includes the SDK product, the installation instructions for which can be found in the *Adaptive Server Enterprise Installation Guide*.

Warning! Installing SDK 15.5 or Open Server 15.5 on the same machine that contains an Adaptive Server version earlier than 15.5 prevents the earlier version of the server from starting, and Sybase recommends that you do not do so. However, if you require these products on the same machine, see the instructions in “Installing SDK or Open Server 15.5 on the same machine as a pre-15.5 Adaptive Server” on page 19.

❖ Preparing for installation

- 1 Read the *SDK Release Bulletin for Microsoft Windows* or the *Open Server Release Bulletin for Microsoft Windows* version 15.5 for the latest information on the products you are installing.

Your Sybase product shipment includes printed release bulletins; they are also available from the Sybase Web site at <http://www.sybase.com/support/techdocs>.

- 2 Create a “sybase” account on your system to perform all installation tasks. The system administrator usually sets up this account, as doing so requires “administrator” privileges.
- 3 Log in to the machine as the “sybase” user.

You should maintain consistent ownership and privileges for all files and directories. A single user—the Sybase system administrator with read, write, and execute permissions—should perform all unload, installation, upgrade, and setup tasks.

Warning! Be sure your permissions have been set before starting the installation. The installer does not check for permissions. If you do not have permission, the installer continues to log exceptions in the log file.

The “sybase” user must have read, write, and execute privileges to update the Windows registry from the top (or root) of the disk partition or operating system directory down to the specific physical device or operating system files.

- 4 Identify or create a directory location for the Sybase installation directory, where you unload the SDK and Open Server products.
- 5 Verify that the location for the Sybase installation has sufficient space to unload the software. See “Disk space requirements” on page 11.

When you have reviewed and verified the installation requirements and have completed the pre-installation tasks, you are ready to install SDK and Open Server.

Note During installation, if a window does not present a complete view, you can correct the problem by minimizing, then maximizing the window.

Installing SDK and Open Server

This chapter describes how to install, uninstall, and downgrade SDK and Open Server software.

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Using SDK or Open Server installer

This section describes how to install SDK or Open Server components. These procedures assume that:

- The target computer meets the requirements outlined in “System requirements for SDK and Open Server” on page 7.
- You have completed the list of tasks for SDK and Open Server in “Preinstallation tasks for SDK and Open Server” on page 14.

The installation program creates the target directory (if necessary) and unloads all the selected components into that directory.

The options for installing Sybase components from the distribution media using the installation program include:

- 1 GUI (graphical user interface) mode – install the components using the SDK or Open Server installer interface.
- 2 Console mode – install components in a command-line environment.

- 3 Response file – record or create a response file. Using a response file, you can install SDK or Open Server in silent mode. Silent installation lets you install the product without interaction required on your part. This is convenient if you are performing identical installations on multiple machines.

Each of these options is described in the following sections.

Note If you encounter problems during installation, check the installation log file to see a record of the installation process. The file is located in `%SYBASE%\log\<product_name>.log`, where `%SYBASE%` is the SDK or Open Server installation directory.

Installing SDK or Open Server

Although you can verify product installation at the end of this process, you must also perform additional configuration procedures before you can use the products. See “Configuring the components” on page 29.

Warning! The installation program exits without warning if any Sybase executables or DLLs are loaded into memory and the installation program tries to overwrite any of the files that are in use. If this occurs, close any Sybase products that are running and restart the installation.

The installation program automatically sets all of the environments variables it needs, such as `PATH`, as part of the installation. It also unloads the `.bat` files that contain the environment variables that you can change manually.

Note Back up your system in case you need to revert to your current installation.

Installing SDK or Open Server 15.5 on the same machine as a pre-15.5 Adaptive Server

Run Adaptive Server as a server or service to install SDK or Open Server 15.5 in a different directory but on the same machine as a pre-15.5 Adaptive Server installation, and to prevent the previous version from being affected.

Starting Adaptive Servers

You can start Adaptive Server and associated servers manually or automatically after each restart.

❖ Manually starting Adaptive Server and associated servers

- 1 Disable automatic start-up of Adaptive Server and associated servers. To do this, select Services from the Control Panel (see the Microsoft Windows documentation on how to access this), and change the Startup property for the servers from Automatic to Disabled.
- 2 Save the current values of SYBASE, SYBASE_OCS, INCLUDE, and PATH in a text file.
- 3 Complete the SDK or Open Server installation as documented in the following installation sections.
- 4 In the Control Panel, select System. Open the Advanced tab and click Environment Variables. Edit the value for the environment variables SYBASE, SYBASE_OCS, INCLUDE, and PATH with the values saved in the text file (step 2).
- 5 Manually start the servers:
 - Open a command prompt and change to the pre-15.0 ASE SYBASE directory.
 - Execute the *SYBASE.BAT* file.
 - Start each server by using:

```
startserver -f RUNfile
```

where *RUNfile* is the batch file associated with each server.

❖ Starting Adaptive Server and associated servers automatically as services

- 1 Disable automatic start-up of Adaptive Server and associated servers. To do this, select Services from the Control Panel, and change the Startup property of the servers from Automatic to Disabled.

- 2 Save the current value of SYBASE, SYBASE_OCS, INCLUDE, and PATH in a text file.
- 3 Complete the SDK or Open Server installation as documented in the following installation sections.
- 4 In the Control Panel, select System. Open the Advanced tab and click Environment Variables. Change the values of the environment variables SYBASE, SYBASE_OCS, INCLUDE, and PATH to the values saved in the text file (see Step 2).
- 5 Start the servers automatically as services. Click Services in the Control Panel and change the Startup property of the servers from Disabled to Automatic.

Installing SDK or Open Server 15.5 into a version 15.0 directory

SDK/Open Server 15.5 is a shelf replacement for the 15.0 version so when you install SDK or Open Server 15.5 in to an existing SDK or Open Server 15.0 directory, the 15.5 files overwrite the 15.0 files. No other migration procedures are required.

Installing in GUI mode

Sybase recommends that you use the GUI mode for installing SDK or Open Server.

❖ Installing in GUI mode

- 1 Insert the SDK or Open Server CD in the CD drive. To install both products, repeat this procedure using the appropriate CD, after you install the first product.

The installer should start automatically. If it does not, select Start | Run, and enter the following, where *x*: is your CD drive:

```
x:\setup.exe
```

If the installer does not have sufficient temporary space to run, set the environment variable TMP to *directory_name* before running it again, where *directory_name* is the name of the temporary directory to which the installation program writes the temporary installation files.

Note When specifying the *directory_name*, include its full path.

- 2 In the Introduction window, click Next to proceed with the installation.
- 3 Read the License and Copyright Agreement. Select the geographic location from where you are installing to display the agreement appropriate to your region. Select “I agree to the terms of the Sybase license for the install location specified.” and click Next.

You must agree to the license and copyright agreement before you can continue.

- 4 In the Choose Install Folder window, click Next to accept the default directory for the installation, or click Choose to browse through the directory and select a location for the installation. One of these occurs:

- If the installation directory you chose does not exist, the installer prompts:

```
The directory <directory_name> does not exist. Do
you want to create it?
```

Click Yes.

- If the installation directory exists, the installer prompts:

```
Warning: You have chosen to install into an
existing directory. If you proceed with this
installation, any older versions of the products
you choose to install that are detected in this
directory will be replaced.
```

If you continue and the older products were not installed with SDK or Open Server installer (for example, if you installed a version of Adaptive Server earlier than 15.5), the installer overwrites the common files.

If you are prompted to overwrite any DLLs, which you can encounter only when DLLs being installed are older than existing DLLs, select Yes to all to avoid having mix DLL versions. The installer checks only for the date of files, and not the actual version.

- 5 Select one of the three types of installation:

- Typical (default) – installs the SDK or Open Server components considered to be useful for most customers. In this type of installation, only the U.S. English language module and its supported character sets are installed.

The components to be installed and the total disk space required are displayed prior to installation. See “SDK and Open Server components” on page 1.

- Full – installs every SDK or Open Server component, including all the supported language modules from the CD.

The components to be installed and the total disk space required are displayed prior to installation. For a list of language modules you can install, see “SDK and Open Server components” on page 1.

- Custom – allows you to select the components or product features for SDK or Open Server to install. The next window that appears allows you to select the components to install.

Note Some components are automatically installed if they are required to run other selected components.

After you have selected the installation type, click Next.

The Pre-Installation Summary window displays the product features or components to be installed and the total disk space required for all the selected features.

- 6 Verify that you have selected the correct installation type, and that you have enough disk space to complete the process. Click Install.

If you do not have sufficient available hard disk space for the components you are installing, you see an error that stops the installation.

The installation program unloads all the components from the CD and displays a progress indicator.

Installing in console mode

To run the installer without the graphical user interface (GUI), launch it in console mode. If the installer launches automatically, click Cancel to cancel the GUI installation, then launch the setup program from a terminal or console.

❖ Installing in console mode

The steps for installing components in console mode are the same as those described in “Installing in GUI mode” on page 20, except that you run the installation program from the command line using the command, and you enter text to select the installation options:

- 1 At the command line, enter:

```
setupConsole.exe -i console
```

The installation program starts.

- 2 The flow of the installation is identical to a GUI installation, except that the display is written to a terminal window and responses are entered using the keyboard. Follow the remaining prompts to install either Software Developer’s Kit or Open Server software.

For a complete list of command line options, see Table 2-1 on page 27.

Installing using a response file

To perform a silent, or “unattended” installation, run the installer and provide a response file that contains your preferred installation configuration.

Creating a response file

To create a response file when installing in GUI or console mode, specify the `-r` command line argument. The `-r` argument records your responses to the installation wizard’s prompts and creates a response file when the installation wizard exits. The response file is a text file that you can edit to change any responses prior to using it in any subsequent installations.

To generate the response file during GUI installation, run:

```
setupConsole.exe -r responseFileName
```

where *responseFileName* is the absolute path of the file name you choose for the response file, for example:

```
C:\SDK\ResponseFile.txt
```

Note The directory path you specified must already exist.

Installing in silent mode

A silent or unattended installation does not involve user interaction; all installation configuration information is taken from the response file. This is useful when you want multiple identical installations or a fully automated installation process.

To install in silent mode, run:

```
setupConsole.exe -f responseFileName -i silent  
-DAGREE_TO_SYBASE_LICENSE=true
```

where *responseFileName* is the absolute path of the file name containing the installation options you chose.

Note You must agree to the Sybase License Agreement when installing in silent mode. You can either:

- Include the option `-DAGREE_TO_SYBASE_LICENSE=true` in the command line argument.
- Edit the response file to include the property
`AGREE_TO_SYBASE_LICENSE=true`

Except for the absence of the GUI screens, all actions of the installer are the same, and the result of an installation in silent mode is exactly the same as one done in GUI mode with the same responses.

Warning! Sybase recommends that you use the `setupConsole.exe` executable, which runs in the foreground when you are running a silent installation. The normal `setup.exe` executable runs in the background, giving you the impression that the installation has terminated, and results in additional installation attempts using the silent installation. Multiple installations at the same time may corrupt the Windows Registry and lead to a failure to restart the operating system.

Uninstalling SDK or Open Server

The installer includes an uninstall feature that removes the Sybase components you have installed.

Before uninstalling consider:

- If two or more Sybase products install the shared components in the same directory, the uninstaller does not remove the shared components until all the Sybase products are uninstalled.

Warning! Do not uninstall Open Server and SDK products from a directory that contains other Sybase products that have been installed using an installation program other than the SDK or Open Server installer. By doing so, you may remove the components shared by Sybase products and affect their operation.

- The uninstall feature removes only those files that were loaded from the installation CD. Some Sybase files, such as log and configuration files, are left intact for administrative purposes. If all products are uninstalled from the directory and you do not need the remaining configuration files, you can manually delete the directory.

Uninstallation procedures

You can invoke the uninstall procedure using either the GUI or the console method.

Before uninstalling Sybase software, shut down all Sybase applications and processes. Log in to your machine using an account with “administrator” privileges, then shut down all other processes for the components you are uninstalling.

❖ Uninstalling in GUI mode

- 1 Select Start | Control Panel | Add/Remove Programs.
- 2 Select the product you want to remove.
- 3 Click Change/Remove to remove the software.

Or, to uninstall from the command line, enter this command for SDK:

```
%SYBASE%\sybuninstall\SDKSuite\uninstall.exe
```

Or this one for Open Server:

```
%SYBASE%\sybuninstall\OpenServerSuite\uninstall.exe
```

The Uninstall wizard window appears.

- 4 Click Next.

The Uninstall Options window appears.

- 5 Select any of these options:
 - Complete Uninstall – completely remove all features and components of SDK or Open Server. The files and folders created after the installation are not affected.
 - Uninstall Specific Features – uninstall specific features of SDK or Open Server.

If you select this option, the Choose Product Features window appears and you can select the features to uninstall.
- 6 Click Next. The Uninstall Complete window appears, listing the items that cannot be removed.

Note If there are no other products installed in the directory and it contains files that were not installed by the installer, a window appears asking if you want to delete these files.

- 7 Click Done.

❖ Uninstalling in console mode

- 1 Go to the `%SYBASE%` directory, and at the DOS window prompt, enter one of the following commands.

For SDK:

```
%SYBASE%\sybuninstall\SDKSuite\uninstall.exe  
-i console
```

For Open Server:

```
%SYBASE%\sybuninstall\OpenServerSuite\uninstall.exe  
-i console
```

The uninstall program starts.

- 2 The flow of the uninstall program is identical to a regular GUI uninstall, except that the display is written to a terminal window and responses are entered using the keyboard. Follow the remaining prompts to uninstall either the Software Developer's Kit or Open Server software.

For a complete list of command line options, see Table 2-1 on page 27.

Downgrading SDK or Open Server

To downgrade SDK or Open Server 15.5 to an earlier software version:

- 1 Uninstall version 15.5. You cannot install the earlier software version into the existing version 15.5 directory.
- 2 Install the earlier software version. The earlier software installation does not contain ESDs, so you must install them separately.

Command line options

Table 2-1 lists the command line options you can use when running an installer or uninstaller.

Table 2-1: Command line options

Option	Purpose
-i console	Use the console interface mode, where messages during installation are displayed on the Java console and the wizard is run in console mode.
-D	Passes custom variables and properties. For example, to override the default installation directory when you run the installer, enter: <pre><install_launcher_dir> -DUSER_INSTALL_DIR=E:\Sybase</pre>
-i silent	Install or uninstall the product in silent mode, where the installation/uninstallation is performed with no user interaction and the installation is "silent."
-i swing	Install or uninstall the product in GUI mode.
-r	Generates a response files and a reference.
-f	References response files.
-l	Sets the installer's locales.
-\?	Displays the installer help.

Note When using the command line option, specify the full path, including the file name for the *responseFileName*.

This chapter describes the tasks you perform after installation is complete, including configuration of Open Client, Open Server, and jConnect for JDBC.

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Setting environment variables

During installation, the installer automatically unloads the `%SYBASE%\SYBASE.bat` file that contains the environment variables. Modify the component's RUN environment using the variables in the `SYBASE.bat` file.

Configuring the components

Information about how to connect and configure the Open Client and Open Server components:

- Configure each Open Client or Open Server component following the instructions in the *Open Client and Open Server Configuration Guide for Microsoft Windows*.
- To configure and use the Adaptive Server ADO.NET Data Provider, see Chapter 1, "Understanding and Deploying the ASE ADO.NET Data Provider," in the *Adaptive Server Enterprise ADO.NET Data Provider Users Guide*.

- To connect, configure, and use the Adaptive Server ODBC driver on Windows and Linux platforms, see Chapter 2, “Connecting to a Database,” in the *Adaptive Server Enterprise ODBC Driver by Sybase Users Guide* for your platform.
- To connect and use the OLE DB Provider to access data from Adaptive Server on Microsoft Windows platforms, see Chapter 2, “Connecting to a Database,” in the *Adaptive Server Enterprise OLE DB Provider by Sybase Users Guide for Microsoft Windows*.
- For jConnect for JDBC 6.0.5, see the *jConnect for JDBC Installation Guide* version 6.0.5. For jConnect for JDBC 7.0, see “jConnect for JDBC post-installation tasks” section.

jConnect for JDBC post-installation tasks

jConnect for JDBC 7.0 has these post-installation tasks.

Setting JDBC_HOME

JDBC_HOME represents the directory in which you install jConnect. For example:

If your installation directory is *C:\Sybase*, set the JDBC_HOME to:

```
C:\Sybase\jConnect-7_0
```

Setting the CLASSPATH

CLASSPATH is the location of the jConnect runtime classes and the *jar* files for JDK 1.6 or later. This section describes what you need in your CLASSPATH depending on which versions of JDK and jConnect you are using.

Using jConnect 7.0 with JDK 1.6.x and later

To use jConnect 7.0 with JDK versions 1.6 and later, add the following path to the CLASSPATH environment variable:

```
%JDBC_HOME%\classes\jconn4.jar
```


Running samples or
TDS-tunnelling servlet

To run the samples or the TDS-tunnelling servlet, add the following to the CLASSPATH environment variable:

```
%JDBC_HOME%\classes\jconn4.jar;%JDBC_HOME%\classes
```

Note Sybase requires that you run JDK 1.6 or later with jConnect 7.0.

In addition, the CLASSPATH should include the location of any application classes you have defined.

CLASSPATH
restriction using
Firefox

If you use Firefox, some restrictions may apply to the way you set your CLASSPATH environment variable.

The Java VM security manager will not allow a version of jConnect installed in your local file system to create a connection to a server, even if the server is your local system. This can create a problem if you use Firefox to run an applet that uses jConnect.

When Firefox needs to load jConnect to create a connection to a server, it looks for a CLASSPATH defined in its environment to find the jConnect classes. If it finds a CLASSPATH that you have defined to point to your local jConnect installation, it loads jConnect directly from the local file system—rather than from the server—and tries to create a connection. This generates a security error and the connection fails.

Do not set the CLASSPATH to the local jConnect directory if you are using Firefox to run jConnect applets.

Installing stored procedures

For jConnect to function properly, you must install stored procedures and tables on the Adaptive Server Enterprise or Adaptive Server® Anywhere database to which your application will be connecting. jConnect provides the these scripts to install the required stored procedures and tables:

- *sql_server12.5.sql* – installs stored procedures on Adaptive Server Enterprise versions 12.5.x. or later.
- *sql_server15.0.sql* – installs stored procedures for Adaptive Server Enterprise 15.x or later.

- *sql_asa.sql* – installs stored procedures on SQL Anywhere® and Adaptive Server Anywhere databases.

Note If you use Adaptive Server 12.5.3 or later, or ASA 9.0.2 or later, the scripts come pre-installed on the server. You need to install these scripts only if you have a later version of the driver than the one that shipped with Adaptive Server. In addition, for backward compatibility, *sql_server.sql* and *sql_server12.sql* are included on Adaptive Server 11.9.2 and 12.0 respectively, although these versions are no longer supported.

❖ **Running stored-procedure installation scripts**

- 1 Verify that your JAVA_HOME, JDBC_HOME, and CLASSPATH environment variables are set.
- 2 Use the IsqlApp sample application. For more information on IsqlApp, see “Installing stored procedures on Adaptive Server database”.

❖ **Installing stored procedures on Adaptive Server database**

- Go to the *%JDBC_HOME%\classes* directory from the DOS prompt window and enter:
 - For Adaptive Server Enterprise version 15.x:

```
java IsqlApp -U sa -P password -S jdbc:sybase:  
Tds:[hostname]:[port] -I %JDBC_HOME%\sp\sql_server15.0.sql -c go
```

- For Adaptive Server Enterprise version 12.5.x:

```
java IsqlApp -U sa -P password -S jdbc:sybase:  
Tds:[hostname]:[port] -I %JDBC_HOME%\sp\sql_server12.5.sql -c go
```

❖ **Installing stored procedures on a SQL Anywhere or Adaptive Server Anywhere database**

- Go to the *%JDBC_HOME%\classes* directory from the DOS prompt window and enter:

```
java IsqlApp -U dba -P password -S jdbc:sybase:  
Tds:[hostname]:[port] -I %JDBC_HOME%\sp\sql_asa.sql -c go
```

Reviewing the installation contents

After completing the jConnect installation, review the contents listed in this section.

Packages

For jConnect version 7.0, the following packages are found inside *jconn4.jar* file for the release build, and *jconn4d.jar* file for the debug build:

- com.sybase.jdbc4.jdbc
- com.sybase.jdbc4.tds
- com.sybase.jdbc4.timedio
- com.sybase.jdbc4.utils
- com.sybase.jdbcx

The jConnect driver, com.sybase.jdbc4.jdbc.SybDriver, is located in the com.sybase.jdbc4.jdbc package.

Directories and files

Table 3-1 lists the directories and files in the *jconnect70.zip*.

Table 3-1: Directories and files in the *jconnect70.zip*

Name	Type	Description
<i>jconnect-7_0</i>	Directory	Contains all of the jConnect version 7.0 files and subdirectories.
<i>classes</i>	Subdirectory	Contains the following jConnect 7.0 components: <ul style="list-style-type: none"> • <i>jconn4.jar</i> file that contains jConnect 7.0 classes • <i>sample2</i> subdirectory with jConnect 7.0 class files for sample applets and applications • <i>gateway2</i> subdirectory for compiled TDS-tunnelling servlet
<i>devclasses</i>	Subdirectory	Contains the <i>jconn4d.jar</i> file that contains the same jConnect 7.0 components as <i>jconn4.jar</i> , but debug mode is turned on.
<i>docs</i>	Subdirectory	Contains the: <ul style="list-style-type: none"> • <i>en</i> subdirectory, which contains the English javadoc documentation • <i>en/progref</i> subdirectory, which contains the <i>jConnect for JDBC Programmers Reference</i> in HTML and PDF format • <i>en/installdocs</i> subdirectory, which contains the <i>jConnect for JDBC Installation Guide</i> in HTML and PDF format
<i>gateway2</i>	Subdirectory	Contains source code for the TDS-tunnelling servlet.
<i>sample2</i>	Subdirectory	Contains source code for sample Java applications.

Name	Type	Description
<i>sp</i>	Subdirectory	Contains isql scripts that install stored procedures for function escapes and DatabaseMetaData methods on a database server. The scripts are: <ul style="list-style-type: none">• <i>sql_asa.sql</i> (Adaptive Server Anywhere)• <i>sql_server15.0.sql</i> (Adaptive Server Enterprise version 15.x)• <i>sql_server12.5.sql</i> (Adaptive Server Enterprise version 12.5.x)
<i>tools</i>	Subdirectory	Contains a perl script (<i>decode-tli</i>) that UNIX or Linux users can apply to parse an <i>interfaces</i> file into a readable format.
<i>netimpct.gif</i>	Graphic file	Contains a jConnect graphic.
<i>index.html</i>	HTML file	Contains links to jConnect documentation and jConnect samples.

JDBC samples and specifications

You can find JDBC samples and specifications in the *jConnect for JDBC Programmers Reference*.

Testing the jConnect installation

After jConnect is installed, run the Version program to test the installation.

Note The Version program connects to a demonstration database that Sybase has made available on the Internet. You must have Internet access to run the Version program successfully, or explicitly run it with [-U *username*] [-P *password*] [-S *servername*] commands to point it to your database.

❖ Testing the installation

- 1 From the DOS prompt for Windows, or at a UNIX, Linux or Mac prompt, change to the *JDBC_HOME* directory.
- 2 Verify that your CLASSPATH variable is set for running the sample programs (see “Setting the CLASSPATH” on page 30 for details) and enter the following text:

```
java sample2.SybSample Version
```

A SybSample window appears. At the top of the window, the Running Sybase Sample text box displays the source code for Version as the program runs. The middle text box (Sample Output) should display version information. For example:

```
Using JDBC driver version 7.0
jConnect (TM) for JDBC(TM)/7.0...
```

- 3 The output could be one of the following:
 - If the previous message appears in the Sample Output text box, you have successfully installed jConnect.
 - If you get the previous message but the source code for Version does not appear in the Running Sybase Sample text box, and the Status text box at the bottom of the window shows the following message, it means that you have successfully installed jConnect but probably did not enter the command to run the Version program from the *sample2* directory under *JDBC_HOME*:


```
java.io.FileNotFoundException: Version.java
```
 - If the SybSample window does not appear and you get the following error message, check your CLASSPATH to verify that it is set correctly:


```
Can't find class sample2.SybSample
```
 - If the SybSample window does not come up, and you get one of the following error messages, make sure that your path includes the *bin* subdirectory of your JDK home directory:


```
"Name specified is not recognized as an internal
or external command"
"Bad command or file name"
```
- 4 When you have verified that your installation was successful, click Close to exit the SybSample window.

Verifying the jConnect version

Go to the `%JDBC_HOME%\classes` directory using the DOS prompt window and enter:

```
java -jar jconn4.jar
```

This command prints a version string like the following:

```
jConnect (TM) for JDBC(TM)/7.00(Build
26464/P/EBF17270/JDK16/Sun Oct 11 7:47:00 2009
```

Here, the version number is 7.0. The 5-digit number following the letters "EBF" indicates the exact version of jConnect. This number increases as subsequent EBFs are released.

Sybase recommends that you check the Sybase download Web site periodically for updated versions of jConnect and download the latest version.

Upgrading jConnect

See “Migrating jConnect Applications” in the *jConnect for JDBC Programmers Reference* for instructions.

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