



SQL Anywhere® 10 Context-Sensitive Help

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Contents

About This Manual	vii
SQL Anywhere documentation	viii
Documentation conventions	xi
Finding out more and providing feedback	xv
Connect Dialog Help	1
Introduction to the Connect dialog	2
Connect dialog: Identification tab (SQL Anywhere)	3
Connect dialog: Identification tab (MobiLink and QAnywhere)	5
Connect dialog: Identification tab (UltraLite)	7
Connect dialog: Database tab (SQL Anywhere)	8
Connect dialog: Advanced tab (SQL Anywhere)	10
Connect dialog: Advanced tab (MobiLink and QAnywhere)	11
Connect dialog: Advanced tab (UltraLite)	12
ODBC Configuration Dialog Help	13
SQL Anywhere ODBC driver	14
Configuration for iAnywhere Driver for Oracle dialog	23
SQL Anywhere Plug-in Help	25
Introduction to SQL Anywhere property sheets	26
Introduction to dialog boxes	106
Debugger help	134
Index Consultant	136
UltraLite projects	137
UltraLite statements	138
Publications	139
Articles	140
Subscriptions	141
Connect dialog tools	142

Indexes folder	143
Table edit undo	144
Database search	145
MobiLink Plug-in Admin Mode Help	147
Introduction to MobiLink Plug-in Admin mode help	148
MobiLink property sheets	149
MobiLink Server Log File Viewer: Messages tab	162
MobiLink Server Log File Viewer: Summaries tab	164
MobiLink Server Log File Viewer: Synchronizations tab	165
MobiLink Plug-in Model Mode Help	167
MobiLink Model mode wizards	168
Create New Remote Tables dialog	208
MobiLink Model mode	209
QAnywhere Plug-in Help	219
QAnywhere plug-in property sheets	220
QAnywhere dialog boxes	231
UltraLite Plug-in Help	239
Introduction to UltraLite Plug-in property sheets	240
Introduction to dialog boxes	249
Interactive SQL Help	253
Introduction to Interactive SQL	254
Introduction to Interactive SQL dialogs	256
MobiLink Monitor Help	271
Connect to MobiLink Server dialog	272
Edit Watch dialog	275

Go To dialog	276
New Watch dialog	277
Export to Database dialog	278
Options dialog: General tab	279
Options dialog: Table tab	281
Options dialog: Graph tab	282
Options dialog: Chart Layout tab	284
Options dialog: Chart Colors tab	285
Options dialog: Overview tab	286
Sample property sheet: Sample tab	287
Sample property sheet: Range tab	288
Session property sheet: General tab	289
Session property sheet: Statistics tab	290
Synchronization property sheet: General tab	291
Synchronization property sheet: Upload tab	292
Synchronization property sheet: Download tab	293
Synchronization property sheet: Synchronization tab	294
Watch Manager dialog	295
Query Editor Help	297
Introduction to the Query Editor	298
Tables tab	300
Joins tab	302
Columns tab	304
INTO tab	305
WHERE tab	306
GROUP BY tab	307
HAVING tab	309
ORDER BY tab	310
Expression Editor	311
Results pane	313
SQL pane	314
SQL Anywhere Console Utility Help	315

Using the SQL Anywhere Console utility	316
Console options	317
Connection Viewer	318
Message Viewer	319
Property Viewer	320
Check For Updates	321
SQL Language Links	323
SQL syntax help	324
Index	333

About This Manual

Subject

This manual provides context-sensitive help for the Connect dialog, the Query Editor, the MobiLink Monitor, the SQL Anywhere Console utility, the Index Consultant, and Interactive SQL.

It also contains context-sensitive help for all the property sheets and dialog boxes that are available for the SQL Anywhere, MobiLink, UltraLite, and QAnywhere plug-ins for Sybase Central.

Audience

This manual is for all users of SQL Anywhere.

SQL Anywhere documentation

This book is part of the SQL Anywhere documentation set. This section describes the books in the documentation set and how you can use them.

The SQL Anywhere documentation

The complete SQL Anywhere documentation is available in two forms: an online form that combines all books, and as separate PDF files for each book. Both forms of the documentation contain identical information and consist of the following books:

- ◆ **SQL Anywhere 10 - Introduction** This book introduces SQL Anywhere 10—a product that provides data management and data exchange technologies, enabling the rapid development of database-powered applications for server, desktop, mobile, and remote office environments.
- ◆ **SQL Anywhere 10 - Changes and Upgrading** This book describes new features in SQL Anywhere 10 and in previous versions of the software, as well as upgrade instructions.
- ◆ **SQL Anywhere Server - Database Administration** This book covers material related to running, managing, and configuring SQL Anywhere databases. It describes database connections, the database server, database files, backup procedures, security, high availability, and replication with Replication Server, as well as administration utilities and options.
- ◆ **SQL Anywhere Server - SQL Usage** This book describes how to design and create databases; how to import, export, and modify data; how to retrieve data; and how to build stored procedures and triggers.
- ◆ **SQL Anywhere Server - SQL Reference** This book provides a complete reference for the SQL language used by SQL Anywhere. It also describes the SQL Anywhere system views and procedures.
- ◆ **SQL Anywhere Server - Programming** This book describes how to build and deploy database applications using the C, C++, and Java programming languages, as well as Visual Studio .NET. Users of tools such as Visual Basic and PowerBuilder can use the programming interfaces provided by these tools.
- ◆ **SQL Anywhere 10 - Error Messages** This book provides a complete listing of SQL Anywhere error messages together with diagnostic information.
- ◆ **MobiLink - Getting Started** This manual introduces MobiLink, a session-based relational-database synchronization system. MobiLink technology allows two-way replication and is well suited to mobile computing environments.
- ◆ **MobiLink - Server Administration** This manual describes how to set up and administer MobiLink server-side utilities and functionality.
- ◆ **MobiLink - Client Administration** This manual describes how to set up, configure, and synchronize MobiLink clients. MobiLink clients can be SQL Anywhere or UltraLite databases.
- ◆ **MobiLink - Server-Initiated Synchronization** This manual describes MobiLink server-initiated synchronization, a feature of MobiLink that allows you to initiate synchronization or other remote actions from the consolidated database.

- ◆ **QAnywhere** This manual describes QAnywhere, which is a messaging platform for mobile and wireless clients as well as traditional desktop and laptop clients.
- ◆ **SQL Remote** This book describes the SQL Remote data replication system for mobile computing, which enables sharing of data between a SQL Anywhere consolidated database and many SQL Anywhere remote databases using an indirect link such as email or file transfer.
- ◆ **SQL Anywhere 10 - Context-Sensitive Help** This manual contains the context-sensitive help for the Connect dialog, the Query Editor, the MobiLink Monitor, MobiLink Model mode, the SQL Anywhere Console utility, the Index Consultant, and Interactive SQL.
- ◆ **UltraLite - Database Management and Reference** This manual introduces the UltraLite database system for small devices.
- ◆ **UltraLite - AppForge Programming** This manual describes UltraLite for AppForge. With UltraLite for AppForge you can develop and deploy database applications to handheld, mobile, or embedded devices, running Palm OS, Symbian OS, or Windows CE.
- ◆ **UltraLite - .NET Programming** This manual describes UltraLite.NET. With UltraLite.NET you can develop and deploy database applications to computers, or handheld, mobile, or embedded devices.
- ◆ **UltraLite - M-Business Anywhere Programming** This manual describes UltraLite for M-Business Anywhere. With UltraLite for M-Business Anywhere you can develop and deploy web-based database applications to handheld, mobile, or embedded devices, running Palm OS, Windows CE, or Windows XP.
- ◆ **UltraLite - C and C++ Programming** This manual describes UltraLite C and C++ programming interfaces. With UltraLite, you can develop and deploy database applications to handheld, mobile, or embedded devices.

Documentation formats

SQL Anywhere provides documentation in the following formats:

- ◆ **Online documentation** The online documentation contains the complete SQL Anywhere documentation, including the books and the context-sensitive help for SQL Anywhere tools. The online documentation is updated with each maintenance release of the product, and is the most complete and up-to-date source of documentation.

To access the online documentation on Windows operating systems, choose Start ► Programs ► SQL Anywhere 10 ► Online Books. You can navigate the online documentation using the HTML Help table of contents, index, and search facility in the left pane, as well as using the links and menus in the right pane.

To access the online documentation on Unix operating systems, see the HTML documentation under your SQL Anywhere installation or on your installation CD.

- ◆ **PDF files** The complete set of SQL Anywhere books is provided as a set of Adobe Portable Document Format (pdf) files, viewable with Adobe Reader.

On Windows, the PDF books are accessible from the online documentation via the PDF link at the top of each page, or from the Windows Start menu (Start ► Programs ► SQL Anywhere 10 ► Online Books - PDF Format).

On Unix, the PDF books are available on your installation CD.

Documentation conventions

This section lists the typographic and graphical conventions used in this documentation.

Syntax conventions

The following conventions are used in the SQL syntax descriptions:

- ◆ **Keywords** All SQL keywords appear in uppercase, like the words ALTER TABLE in the following example:

```
ALTER TABLE [ owner.]table-name
```

- ◆ **Placeholders** Items that must be replaced with appropriate identifiers or expressions are shown like the words *owner* and *table-name* in the following example:

```
ALTER TABLE [ owner.]table-name
```

- ◆ **Repeating items** Lists of repeating items are shown with an element of the list followed by an ellipsis (three dots), like *column-constraint* in the following example:

```
ADD column-definition [ column-constraint, ... ]
```

One or more list elements are allowed. In this example, if more than one is specified, they must be separated by commas.

- ◆ **Optional portions** Optional portions of a statement are enclosed by square brackets.

```
RELEASE SAVEPOINT [ savepoint-name ]
```

These square brackets indicate that the *savepoint-name* is optional. The square brackets should not be typed.

- ◆ **Options** When none or only one of a list of items can be chosen, vertical bars separate the items and the list is enclosed in square brackets.

```
[ ASC | DESC ]
```

For example, you can choose one of ASC, DESC, or neither. The square brackets should not be typed.

- ◆ **Alternatives** When precisely one of the options must be chosen, the alternatives are enclosed in curly braces and a bar is used to separate the options.

```
[ QUOTES { ON | OFF } ]
```

If the QUOTES option is used, one of ON or OFF must be provided. The brackets and braces should not be typed.

Operating system conventions

- ◆ **Windows** The Microsoft Windows family of operating systems for desktop and laptop computers. The Windows family includes Windows Vista and Windows XP.

- ◆ **Windows CE** Platforms built from the Microsoft Windows CE modular operating system, including the Windows Mobile and Windows Embedded CE platforms.

Windows Mobile is built on Windows CE. It provides a Windows user interface and additional functionality, such as small versions of applications like Word and Excel. Windows Mobile is most commonly seen on mobile devices.

Limitations or variations in SQL Anywhere are commonly based on the underlying operating system (Windows CE), and seldom on the particular variant used (Windows Mobile).

- ◆ **Unix** Unless specified, Unix refers to both Linux and Unix platforms.

File name conventions

The documentation generally adopts Windows conventions when describing operating system dependent tasks and features such as paths and file names. In most cases, there is a simple transformation to the syntax used on other operating systems.

- ◆ **Directories and path names** The documentation typically lists directory paths using Windows conventions, including colons for drives and backslashes as a directory separator. For example,

```
MobiLink\redirector
```

On Unix, Linux, and Mac OS X, you should use forward slashes instead. For example,

```
MobiLink/redirector
```

If SQL Anywhere is used in a multi-platform environment you must be aware of path name differences between platforms.

- ◆ **Executable files** The documentation shows executable file names using Windows conventions, with the suffix *.exe*. On Unix, Linux, and Mac OS X, executable file names have no suffix. On NetWare, executable file names use the suffix *.nlm*.

For example, on Windows, the network database server is *dbsrv10.exe*. On Unix, Linux, and Mac OS X, it is *dbsrv10*. On NetWare, it is *dbsrv10.nlm*.

- ◆ **install-dir** The installation process allows you to choose where to install SQL Anywhere, and the documentation refers to this location using the convention *install-dir*.

After installation is complete, the environment variable `SQLANY10` specifies the location of the installation directory containing the SQL Anywhere components (*install-dir*). `SQLANYSH10` specifies the location of the directory containing components shared by SQL Anywhere with other Sybase applications.

For more information on the default location of *install-dir*, by operating system, see [“SQLANY10 environment variable” \[SQL Anywhere Server - Database Administration\]](#).

- ◆ **samples-dir** The installation process allows you to choose where to install the samples that are included with SQL Anywhere, and the documentation refers to this location using the convention *samples-dir*.

After installation is complete, the environment variable `SQLANYXSAMP10` specifies the location of the directory containing the samples (*samples-dir*). From the Windows Start menu, choosing Programs ► SQL Anywhere 10 ► Sample Applications and Projects opens a Windows Explorer window in this directory.

For more information on the default location of *samples-dir*, by operating system, see “[Samples directory](#)” [*SQL Anywhere Server - Database Administration*].

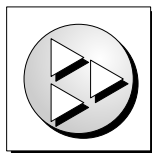
- ◆ **Environment variables** The documentation refers to setting environment variables. On Windows, environment variables are referred to using the syntax `%envvar%`. On Unix, Linux, and Mac OS X, environment variables are referred to using the syntax `$envvar` or `${envvar}`.

Unix, Linux, and Mac OS X environment variables are stored in shell and login startup files, such as `.cshrc` or `.tcshrc`.

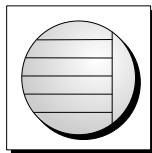
Graphic icons

The following icons are used in this documentation.

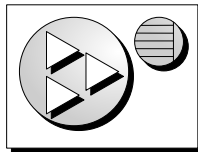
- ◆ A client application.



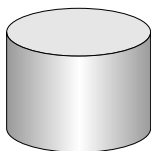
- ◆ A database server, such as SQL Anywhere.



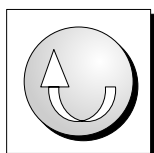
- ◆ An UltraLite application.



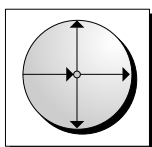
- ◆ A database. In some high-level diagrams, the icon may be used to represent both the database and the database server that manages it.



- ◆ Replication or synchronization middleware. These assist in sharing data among databases. Examples are the MobiLink server and the SQL Remote Message Agent.



- ◆ A Sybase Replication Server



- ◆ A programming interface.



Finding out more and providing feedback

Finding out more

Additional information and resources, including a code exchange, are available at the iAnywhere Developer Network at <http://www.ianywhere.com/developer/>.

If you have questions or need help, you can post messages to the Sybase iAnywhere newsgroups listed below.

When you write to one of these newsgroups, always provide detailed information about your problem, including the build number of your version of SQL Anywhere. You can find this information by entering **dbeng10 -v** at a command prompt.

The newsgroups are located on the *forums.sybase.com* news server. The newsgroups include the following:

- ◆ [sybase.public.sqlanywhere.general](#)
- ◆ [sybase.public.sqlanywhere.linux](#)
- ◆ [sybase.public.sqlanywhere.mobilink](#)
- ◆ [sybase.public.sqlanywhere.product_futures_discussion](#)
- ◆ [sybase.public.sqlanywhere.replication](#)
- ◆ [sybase.public.sqlanywhere.ultralite](#)
- ◆ [ianywhere.public.sqlanywhere.qanywhere](#)

Newsgroup disclaimer

iAnywhere Solutions has no obligation to provide solutions, information, or ideas on its newsgroups, nor is iAnywhere Solutions obliged to provide anything other than a systems operator to monitor the service and ensure its operation and availability.

iAnywhere Technical Advisors as well as other staff assist on the newsgroup service when they have time available. They offer their help on a volunteer basis and may not be available on a regular basis to provide solutions and information. Their ability to help is based on their workload.

Feedback

We would like to receive your opinions, suggestions, and feedback on this documentation.

You can email comments and suggestions to the SQL Anywhere documentation team at iasdoc@ianywhere.com. Although we do not reply to emails sent to that address, we read all suggestions with interest.

In addition, you can provide feedback on the documentation and the software through the newsgroups listed above.

CHAPTER 1

Connect Dialog Help

Contents

Introduction to the Connect dialog	2
Connect dialog: Identification tab (SQL Anywhere)	3
Connect dialog: Identification tab (MobiLink and QAnywhere)	5
Connect dialog: Identification tab (UltraLite)	7
Connect dialog: Database tab (SQL Anywhere)	8
Connect dialog: Advanced tab (SQL Anywhere)	10
Connect dialog: Advanced tab (MobiLink and QAnywhere)	11
Connect dialog: Advanced tab (UltraLite)	12

Introduction to the Connect dialog

The Connect dialog is used by Sybase Central, Interactive SQL, and the SQL Anywhere Console utility (dbconsole).

The settings in this dialog are preserved for the current Sybase Central, Interactive SQL, or SQL Anywhere Console session only. You can preserve connection settings in Sybase Central using Connection Profiles. See [“Using connection profiles”](#) [*SQL Anywhere Server - Database Administration*].

Connect dialog: Identification tab (SQL Anywhere)

The Identification tab of the Connect dialog has the following components:

Supply user ID and password Select this option to specify a user ID and password for the connection.

- ◆ **User ID** Type a user ID for the connection. The default user ID for SQL Anywhere databases is **DBA**. The user ID you supply must have permissions on a database to connect.

See “[Userid connection parameter \[UID\]](#)” [*SQL Anywhere Server - Database Administration*].

- ◆ **Password** Type a password for the connection. The default password for SQL Anywhere databases is **sql** when you connect with the default user, **DBA**. The password must be the correct password for the user ID you supply. Passwords are case sensitive.

See “[Password connection parameter \[PWD\]](#)” [*SQL Anywhere Server - Database Administration*].

Use integrated login Select this option to connect to the database using an integrated login on Windows.

If you select this option, your database user ID and password do not need to be specified: instead, your Windows user ID and password are supplied to the SQL Anywhere integrated login mechanism.

To use integrated logins, you must have been granted integrated login permission on the database and the database server must be set up to accept integrated logins.

See:

- ◆ “[Using integrated logins](#)” [*SQL Anywhere Server - Database Administration*]
- ◆ “[Integrated connection parameter \[INT\]](#)” [*SQL Anywhere Server - Database Administration*]

None Select this option if you are not using an ODBC data source for the connection.

ODBC Data Source name Select this option to choose a data source (a stored set of connection parameters) for connecting to your database. This field is equivalent to the DSN connection parameter, which references a data source in the registry. You can view a list of data sources by clicking Browse.

You can also select a recently used ODBC data source from the dropdown list.

See:

- ◆ “[DataSourceName connection parameter \[DSN\]](#)” [*SQL Anywhere Server - Database Administration*]
- ◆ “[Working with ODBC data sources](#)” [*SQL Anywhere Server - Database Administration*]

- ◆ **Open the ODBC Data Source Administrator button** Click the Open the ODBC Data Source Administrator button to open the ODBC Administrator dialog where you can select an ODBC data source from the list of available data sources. If you want to select a data source, select it from the list and then click OK.

You may also choose to create a new data source or configure an existing data source to use for the connection.

For information about using the ODBC Administrator dialog, see [“Working with ODBC data sources” \[SQL Anywhere Server - Database Administration\]](#).

Tip

ODBC data sources allow you to store connection information. If you have connection information stored in an ODBC data source, do not repeat this information in the Connect dialog. For example, if the ODBC data source already contains a user ID, then do not supply the user ID in the User ID field of the Connect dialog.

Note

Any information you enter in the Connect dialog, such as the user ID or database name, takes precedence over the parameters stored in an ODBC data source or an ODBC data source file.

ODBC Data Source file Select this option to choose a data source file for the connection. You can search for the file by clicking Browse. The ODBC data source file is often used for Unix systems.

You can also select a recently used ODBC Data Source File from the dropdown list.

File data sources hold the same information as ODBC data sources stored in the registry.

See [“FileDataSourceName connection parameter \[FILEDSN\]” \[SQL Anywhere Server - Database Administration\]](#).

Tools The following utilities are available from the Tools button:

- ◆ **Test connection** This tool is only available when you are connecting to a SQL Anywhere database. Tests whether the information provided results in a proper connection.

Click Show Details to see debugging information about how the connection parameters are used to find the database server.

- ◆ **Setup Windows CE proxy port** This tool is only available if you have ActiveSync installed and are connecting to a SQL Anywhere or UltraLite database. Helps you setup a TCP/IP port redirector for connecting to Windows CE databases (if Windows CE services are installed).

See [“Working with ODBC data sources” \[SQL Anywhere Server - Database Administration\]](#).

See also

- ◆ [“Simple connection examples” \[SQL Anywhere Server - Database Administration\]](#)
- ◆ [“Troubleshooting connections” \[SQL Anywhere Server - Database Administration\]](#)
- ◆ [“Troubleshooting server startup” \[SQL Anywhere Server - Database Administration\]](#)
- ◆ [“Troubleshooting network communications” \[SQL Anywhere Server - Database Administration\]](#)

Connect dialog: Identification tab (MobiLink and QAnywhere)

The Identification tab of the Connect dialog for connecting to the MobiLink and QAnywhere plug-ins in Sybase Central has the following components:

User ID Type a user ID for the database connection. The user ID you supply must have permissions on a database to connect.

See “[Userid connection parameter \[UID\]](#)” [*SQL Anywhere Server - Database Administration*].

Password Type a password for the connection. This must be the correct password for the user ID you supply. Passwords are case sensitive.

See “[Password connection parameter \[PWD\]](#)” [*SQL Anywhere Server - Database Administration*].

ODBC Data Source name Select this option to choose a data source (a stored set of connection parameters) for connecting to your database. This field is equivalent to the DSN connection parameter, which references a data source in the registry. You can view a list of data sources by clicking Browse.

You can also select a recently used ODBC data source from the dropdown list.

See “[DataSourceName connection parameter \[DSN\]](#)” [*SQL Anywhere Server - Database Administration*].

♦ **Open the ODBC Data Source Administrator button** Click the Open the ODBC Data Source Administrator button to open the ODBC Administrator dialog where you can select an ODBC data source from the list of available data sources. If you want to select a data source, select it from the list and then click OK.

You may also choose to create a new data source or configure an existing data source to use for the connection.

For information about using the ODBC Administrator dialog, see “[Working with ODBC data sources](#)” [*SQL Anywhere Server - Database Administration*].

Tip

ODBC data sources allow you to store connection information. If you have connection information stored in an ODBC data source, do not repeat this information in the Connect dialog. For example, if the ODBC data source already contains a user ID, then do not supply the user ID in the User ID field of the Connect dialog.

Note

Any information you enter in the Connect dialog, such as the user ID or database name, takes precedence over the parameters stored in an ODBC data source or an ODBC data source file.

ODBC Data Source file Select this option to choose a data source file for the connection. You can search for the file by clicking Browse. The ODBC data source file is often used for Unix systems.

You can also select a recently used ODBC data source file from the dropdown list.

File data sources hold the same information as ODBC data sources stored in the registry.

For more information about file DSN connection parameter, see “[FileDataSourceName connection parameter \[FILEDSN\]](#)” [*SQL Anywhere Server - Database Administration*].

Tools The following utilities are available from the Tools button:

- ◆ **Test connection** This tool is only available when you are connecting to a SQL Anywhere database. Tests whether the information provided results in a proper connection.

Click Show Details to see debugging information about how the connection parameters are used to find the database server.

- ◆ **Setup Windows CE proxy port** This tool is only available if you have ActiveSync installed and are connecting to a SQL Anywhere or UltraLite database. Helps you setup a TCP/IP port redirector for connecting to Windows CE databases (if Windows CE services are installed).

See “[Working with ODBC data sources](#)” [*SQL Anywhere Server - Database Administration*].

Connection type dropdown list Choose Generic ODBC Database from the list when connecting to a database other than SQL Anywhere or UltraLite (for example, Microsoft SQL Server, DB2, or Oracle).

Connect dialog: Identification tab (UltraLite)

The Identification tab of the Connect dialog for connecting to an UltraLite database has the following components:

User ID Type a user ID for the database connection. The user ID you supply must have permissions on a database to connect.

See “UltraLite UID connection parameter” [*UltraLite - Database Management and Reference*].

Password Type a password for the connection. This must be the correct password for the user ID you supply. Passwords are case sensitive.

See “UltraLite PWD connection parameter” [*UltraLite - Database Management and Reference*].

Database file Specify the database file. Type the full path and name of the database file, for example, **C:\myuldb.db**.

You can also select a recently-used database file from the dropdown list or click Browse to search for the database file.

For more information about database file connection parameters, see:

- ◆ “UltraLite DBF connection parameter” [*UltraLite - Database Management and Reference*]
- ◆ “UltraLite CE_FILE connection parameter” [*UltraLite - Database Management and Reference*]
- ◆ “UltraLite PALM_FILE connection parameter” [*UltraLite - Database Management and Reference*]
- ◆ “UltraLite NT_FILE connection parameter” [*UltraLite - Database Management and Reference*]
- ◆ “UltraLite SYMBIAN_FILE connection parameter” [*UltraLite - Database Management and Reference*]

- ◆ **Encryption key** If the database file is encrypted, you must supply a key to UltraLite every time UltraLite starts the database.

For more information about encryption keys, see “UltraLite DBKEY connection parameter” [*UltraLite - Database Management and Reference*].

The Encryption key field is enabled only after you fill in the Database File field.

Tools The Tools button is not available for the UltraLite plug-in.

Connect dialog: Database tab (SQL Anywhere)

The Database tab of the Connect dialog has the following components:

Server name Type the name of the SQL Anywhere personal server or network server. For example, **demo**. You need to supply a server name if you want to connect to a network server. You can omit the server name if you want to connect to the default personal server.

You can select a recently-used server name from the dropdown list or click Find to search for a server. When you click Find, a dialog appears listing running local personal servers and network servers. To choose a server from this dialog, select a server from the list and then click OK. The server name appears on the Database tab in the Server Name field.

See [“Naming the server and the databases” \[SQL Anywhere Server - Database Administration\]](#).

The server name connection parameter is a synonym for the EngineName (ENG) connection parameter. See [“EngineName connection parameter \[ENG\]” \[SQL Anywhere Server - Database Administration\]](#).

Start line The start line is a command to start a personal database server or a network server on your computer. Enter a start line only if you want to connect to a local database server that is not currently running and if you want to set your own start parameters. You must enter the full path of the server; for example to start the personal database server, enter **c:\Program Files\SQL Anywhere 10\win32\dbeng10.exe**. Alternatively, you can select a recently used start line from the dropdown list.

See [“StartLine connection parameter \[START\]” \[SQL Anywhere Server - Database Administration\]](#).

You can also include options in the Start Line field. The start line and options are used when you want to:

- ◆ Employ any advanced server features.
- ◆ Control protocol options.
- ◆ Provide diagnostic or troubleshooting messages.
- ◆ Set permissions.
- ◆ Set database parameters (including encryption).

For more information about options you can specify in the Start Line field, see:

- ◆ [“Some common options” \[SQL Anywhere Server - Database Administration\]](#)
- ◆ [“The SQL Anywhere database server” \[SQL Anywhere Server - Database Administration\]](#)

Search network for database servers Select this option if you want to connect to a server that is running on a computer other than your local computer. You should clear this option if you want to connect to a database server on your local computer. Selecting this option adds the LINKS=ALL connection parameter to the connection string.

Database name Each database running on a server is identified by a database name. Type the name of the database you are connecting to.

You need a database name only if there is more than one database running on the server. If the database is not already running on the server, you should specify the database file instead.

You can also select a recently-used database name from the dropdown list or click Browse to locate the database file.

For more information about the database name, see:

- ◆ [“Naming the server and the databases” \[SQL Anywhere Server - Database Administration\]](#)
- ◆ [“DatabaseName connection parameter \[DBN\]” \[SQL Anywhere Server - Database Administration\]](#)

Database file Specify the database file when the database you want to connect to is not currently running on a server. It is recommended that you type the full path and name of the database file, for example, **C:\sample.db**. Otherwise, the path of the file is relative to the working directory of the server.

You can also select a recently-used database file from the dropdown list or click Browse to search for the database file.

Note

If you specify both the database name and database file when trying to connect to a database that is already running, the database file is ignored.

See [“DatabaseFile connection parameter \[DBF\]” \[SQL Anywhere Server - Database Administration\]](#).

- ◆ **Encryption key** If the database file is encrypted, you must supply a key to the database server every time the database server starts the database.

For more information about encryption keys, see [“DatabaseKey connection parameter \[DBKEY\]” \[SQL Anywhere Server - Database Administration\]](#).

The Encryption key field is enabled only after you fill in the Database File field. You can also supply encryption options in the Start Line field.

Start database automatically Select this option to start the database specified in the Database File field before you connect to it.

You should clear the Start Database Automatically option if you want to ensure that you connect only to a running database.

See [“AutoStart connection parameter \[ASTART\]” \[SQL Anywhere Server - Database Administration\]](#).

Stop database after last disconnect Select this option to automatically shut down the database after the last user disconnects.

See [“AutoStop connection parameter \[ASTOP\]” \[SQL Anywhere Server - Database Administration\]](#).

See also

- ◆ [“Simple connection examples” \[SQL Anywhere Server - Database Administration\]](#)
- ◆ [“Troubleshooting connections” \[SQL Anywhere Server - Database Administration\]](#)
- ◆ [“Troubleshooting server startup” \[SQL Anywhere Server - Database Administration\]](#)
- ◆ [“Troubleshooting network communications” \[SQL Anywhere Server - Database Administration\]](#)

Connect dialog: Advanced tab (SQL Anywhere)

The Advanced tab of the Connect dialog has the following components:

Connection name This field only appears when you open the Connect dialog from Interactive SQL and are connecting to a SQL Anywhere database. Type a name to identify the connection. If specified, the name appears in the title bar in Interactive SQL.

Enter connection parameters, one per line, in the form "name=value" Enter additional connection parameters in this field, entering one connection parameter per line. The following connection parameters log debugging information regarding connections:

```
LOG=connection.log
```

When you enter the connection parameters one per line, a semicolon is not required between the parameters.

Parameters set in this field are superseded by parameters set throughout the rest of this dialog. For example, if you enter the user ID DBA on the Identification tab, and set the connection parameter "UID=bsmith" in this field, a connection with the user ID DBA is attempted.

For more information about connection parameters, see:

- ◆ [“Connection parameters” \[SQL Anywhere Server - Database Administration\]](#)
- ◆ [“How connection parameters work” \[SQL Anywhere Server - Database Administration\]](#)

See also

- ◆ [“Simple connection examples” \[SQL Anywhere Server - Database Administration\]](#)
- ◆ [“Troubleshooting connections” \[SQL Anywhere Server - Database Administration\]](#)
- ◆ [“Troubleshooting server startup” \[SQL Anywhere Server - Database Administration\]](#)
- ◆ [“Troubleshooting network communications” \[SQL Anywhere Server - Database Administration\]](#)

Connect dialog: Advanced tab (MobiLink and QAnywhere)

Enter connection parameters, one per line, in the form "name=value" Type any additional connection parameters in this field, entering one connection parameter per line. The following connection parameters log debugging information regarding connections:

```
LOG=connection.log
```

When you enter the connection parameters one per line, a semicolon is not required between the parameters.

Parameters set in this field take precedence over parameters set throughout the rest of this dialog. For example, if you enter the user ID DBA on the Identification tab, and set the connection parameter "UID=bsmith" in this field, a connection with the user ID bsmith is attempted.

For more information about connection parameters, see:

- ◆ [“Connection parameters” \[SQL Anywhere Server - Database Administration\]](#)
- ◆ [“How connection parameters work” \[SQL Anywhere Server - Database Administration\]](#)

See also

- ◆ [“Simple connection examples” \[SQL Anywhere Server - Database Administration\]](#)
- ◆ [“Troubleshooting connections” \[SQL Anywhere Server - Database Administration\]](#)
- ◆ [“Troubleshooting server startup” \[SQL Anywhere Server - Database Administration\]](#)
- ◆ [“Troubleshooting network communications” \[SQL Anywhere Server - Database Administration\]](#)

Connection type dropdown list Choose Generic ODBC Database from the list when connecting to a database other than SQL Anywhere or UltraLite (for example, Microsoft SQL Server, DB2 or Oracle).

Connect dialog: Advanced tab (UltraLite)

The Advanced tab of the Connect dialog has the following components:

Enter connection parameters, one per line, in the form "name=value" Enter additional connection parameters in this field, entering one connection parameter per line. When you enter the connection parameters one per line, a semicolon is not required between the parameters. The following example sets the database name:

```
DBN=the test version
```

Parameters set in this field take precedence over parameters set throughout the rest of this dialog. For example, if you enter the user ID DBA on the Identification tab, and set the connection parameter "UID=bsmith" in this field, a connection with the user ID bsmith is attempted.

For more information about connection parameters, see:

- ◆ [“Supplying UltraLite connection parameters”](#) [*UltraLite - Database Management and Reference*]
- ◆ [“Connecting to an UltraLite Database”](#) [*UltraLite - Database Management and Reference*]

See also

- ◆ [“Storing UltraLite parameters with the ULSQLCONNECT environment variable”](#) [*UltraLite - Database Management and Reference*]
- ◆ [“Assembling parameters into UltraLite connection strings”](#) [*UltraLite - Database Management and Reference*]
- ◆ [“Connection parameter tips”](#) [*SQL Anywhere Server - Database Administration*]

CHAPTER 2

ODBC Configuration Dialog Help

Contents

SQL Anywhere ODBC driver 14
Configuration for iAnywhere Driver for Oracle dialog 23

SQL Anywhere ODBC driver

The following sections provide information about the dialogs related to SQL Anywhere ODBC driver configuration and TLS Encryption Options.

Using the ODBC Configuration dialog

You connect to an ODBC database using an ODBC data source. The ODBC Configuration dialog allows you to save a set of SQL Anywhere connection parameters as an ODBC data source. Once you have a data source, your connection string can simply name the data source to use.

```
DSN=my data source
```

For SQL Anywhere, the use of ODBC data sources goes beyond Windows applications using the ODBC interface:

- ◆ SQL Anywhere client applications on Unix can use ODBC data sources, as well as those on Windows operating systems.
- ◆ SQL Anywhere client applications using the OLE DB, ADO.NET, or embedded SQL interfaces can use ODBC data sources, as well as ODBC applications.
- ◆ Interactive SQL and Sybase Central can use ODBC data sources.

ODBC Configuration dialog: ODBC tab

This tab appears only when you are creating or modifying ODBC data sources.

The ODBC tab of the ODBC Configuration dialog has the following components:

Data source name Type a name to identify this ODBC data source. You can use any descriptive name for the data source (spaces are allowed) but it is recommended that you keep the name short, as you may need to enter it in connection strings.

See “[DataSourceName connection parameter \[DSN\]](#)” [*SQL Anywhere Server - Database Administration*].

Description You can provide a description of the data source. This description may help you or your end users to identify this data source from among their list of available data sources. This is an optional field.

Isolation level Type a numerical value to specify the initial isolation level for this data source:

- ◆ **0** This is also called the read uncommitted isolation level. This is the default isolation level. It provides the maximum level of concurrency, but dirty reads, non-repeatable reads, and phantom rows may be observed in result sets.
- ◆ **1** This is also called the read committed level. This provides less concurrency than level 0, but eliminates some of the inconsistencies in result sets at level 0. Non-repeatable rows and phantom rows may occur, but dirty reads are prevented.

- ◆ **2** This is also called the repeatable read level. Phantom rows may occur. Dirty reads and non-repeatable rows are prevented.
- ◆ **3** This is also called the serializable level. This provides the least concurrency, and is the strictest isolation level. Dirty reads, non-repeatable reads, and phantom rows are prevented.
- ◆ **snapshot** This isolation level uses a snapshot of committed data from the time when the first row is read, inserted, updated, or deleted by the transaction.
- ◆ **statement-snapshot** This isolation level uses a snapshot of committed data from the time when the first row is read by the statement. Each statement within the transaction sees a snapshot of data from a different time.
- ◆ **readonly-statement-snapshot** For read-only statements, this isolation level uses a snapshot of committed data from the time when the first row is read. Each statement within the transaction sees a snapshot of data from a different time. For INSERT, UPDATE, and DELETE statements, use the isolation level specified by the `updatable_statement_isolation` option (can be one of 0 (the default), 1, 2, or 3).

See “[Choosing isolation levels](#)” [*SQL Anywhere Server - SQL Usage*].

Microsoft applications (Keys in SQLStatistics) Select this option if you want the `SQLStatistics` function to return foreign keys. The ODBC specification states that `SQLStatistics` should not return primary and foreign keys; however, some Microsoft applications (such as Visual Basic and Access) assume that primary and foreign keys are returned by `SQLStatistics`.

Delphi applications Select this option if you use the Borland Delphi application development tool to create applications that produce your data source.

When this option is selected, one bookmark value is assigned to each row instead of the two that are otherwise assigned (one for fetching forward and a different one for fetching backward).

Delphi cannot handle multiple bookmark values for a row. If the option is cleared, scrollable cursor performance can suffer since scrolling must always take place from the beginning of the cursor to the row requested in order to get the correct bookmark value.

Suppress fetch warnings Select this option if you want to suppress warning messages that are returned from the database server on a fetch.

Versions 8.0 and later of the database server return a wider range of fetch warnings than earlier versions of the software. For applications that are deployed with an earlier version of the software, you can select this option to ensure that fetch warnings are handled properly.

Prevent driver not capable errors The SQL Anywhere ODBC driver returns a `Driver not capable` error because it does not support qualifiers. Some ODBC applications do not handle this error properly. Select this option to prevent this error code from being returned, allowing these applications to work.

Delay AutoCommit until statement close Select this option to delay the commit operation until a statement closes.

Describe Cursor Behavior Choose how often you want a cursor to be redescrbed when a procedure is executed. The default setting is `If Required`.

- ◆ **Never** Select this option if you know that your cursors do not have to be redescrbed. Redescrbing cursors is expensive and can decrease performance.
- ◆ **If required** When you select this option, the ODBC driver determines whether a cursor must be redescrbed. The presence of a RESULT clause in your procedure prevents ODBC applications from redescrbing the result set after a cursor is opened. This is the default.
- ◆ **Always** The cursor is redescrbed each time it is opened. If you use Transact-SQL procedures or procedures that return multiple result sets, you must redescrbe the cursor each time it is opened.

Translator The translator converts characters between ANSI and OEM code pages. Most databases do not require a translator because the ODBC Driver Manager automatically performs a conversion between the client's character set and the database's character set. If your database uses an ANSI code page (the default) do not select a translator.

If you require a translator, click Select and choose the translator from the list of installed translators.

- ◆ **Select Translator** Click Select Translator to choose the ODBC translator you require from a list of installed translators.

Test Connection Tests whether the information provided results in a proper connection. In order for the test to work, a user ID and password must be specified on the Login tab.

ODBC Configuration dialog: Login tab

The Login tab of the ODBC Configuration dialog Login tab has the following components:

Use integrated login Select this option to connect using an integrated login.

If you select this option, the user ID and password do not need to be specified: instead, your operating system user ID and password are supplied to the SQL Anywhere integrated login mechanism.

To use integrated logins, users must have been granted integrated login permission and the database you are connecting to must also be set up to accept integrated logins. Only users with DBA access may administer integrated login permissions.

For more information, see [“Using integrated logins” \[SQL Anywhere Server - Database Administration\]](#).

Supply user ID and password Select this option if you want to specify the user ID and password for the connection.

- ◆ **User ID** Type a user ID for the connection. The user ID you supply must have permissions on a database in order to connect.
- ◆ **Password** Type a password for the connection. The password must be the correct password for the user ID you supply. The password is case sensitive.
- ◆ **Encrypt password** Select this option if you want the password to be stored in encrypted form in the profile.

This option only appears when creating ODBC data sources. It does not appear when you access this dialog using the dbmlsync utility.

For more information, see [“EncryptedPassword connection parameter \[ENP\]” \[SQL Anywhere Server - Database Administration\]](#).

It is recommended that you do not include the password in the data source as it is a significant security risk.

Data source name This option only appears when you open this dialog using the dbmlsync utility. Select this option to choose a data source (a stored set of connection parameters) for connecting to your database. This field is equivalent to the DSN connection parameter, which references a data source in the registry. You can view a list of data sources by clicking Browse.

Data source file This option only appears when you open this dialog using the dbmlsync utility. Select this option to choose a data source file for the connection. You can search for the file by clicking Browse. The ODBC data source file is often used for Unix systems. You can click Browse to locate an ODBC data source.

ODBC Configuration dialog: Database tab

The Database tab of the ODBC Configuration dialog has the following components:

Server name Type the name of the SQL Anywhere personal server or network server. For example, **demo**. You need to supply a server name if you want to connect to a network server.

Do not enter a Server Name if you want to connect to the default local personal server or if you want to start a database server from a database file on your local computer. If you do not have a default personal server and you omit the server name, the connection fails.

For more information about the server name, see [“Naming the server and the databases” \[SQL Anywhere Server - Database Administration\]](#).

For more information, see [“EngineName connection parameter \[ENG\]” \[SQL Anywhere Server - Database Administration\]](#).

Start line The start line is a command to start a personal database server or a network server on your computer. Enter a start line only if you want to connect to a local database server that is not currently running and if you want to set your own start parameters. You must enter the full path of the server, for example to start the personal database server enter, **c:\Program Files\SQL Anywhere 10\win32\dbeng10.exe**.

You can also include options in the Start Line field. The start line and options are used when you want to:

- ◆ Employ any advanced server features.
- ◆ Control protocol options.
- ◆ Provide diagnostic or troubleshooting messages.
- ◆ Set permissions.
- ◆ Set database parameters (including encryption).

For more information about options you can specify in the Start Line field, see [“Some common options” \[SQL Anywhere Server - Database Administration\]](#) and [“The SQL Anywhere database server” \[SQL Anywhere Server - Database Administration\]](#).

For more information, see [“StartLine connection parameter \[START\]” \[SQL Anywhere Server - Database Administration\]](#).

Database name Each database running on a server is identified by a database name. Type the name of the database you are connecting to.

For more information about the database name, see [“Naming the server and the databases” \[SQL Anywhere Server - Database Administration\]](#) and [“DatabaseName connection parameter \[DBN\]” \[SQL Anywhere Server - Database Administration\]](#).

Database file Specify the database file when the database you want to connect to is not currently running on a server. It is recommended that you type the full path and name of the database file, for example, **C:\sample.db**. Otherwise, the path of the file is relative to the working directory of the server. This option is only necessary for starting a database that is not already running. You can click Browse to select the database file from the file directory.

For more information, see [“DatabaseFile connection parameter \[DBF\]” \[SQL Anywhere Server - Database Administration\]](#).

Encryption key If the database file is encrypted, you must supply a key to the database server every time the database server starts the database.

For more information about encryption keys, see [“DatabaseKey connection parameter \[DBKEY\]” \[SQL Anywhere Server - Database Administration\]](#).

Start database automatically Select this option to start the database specified in the Database File field before you connect to it.

You should clear the Start Database Automatically option if you want to ensure that you connect only to a running database.

Stop database after last disconnect Select this option to automatically shut down the database after the last user disconnects.

For more information, see [“AutoStop connection parameter \[ASTOP\]” \[SQL Anywhere Server - Database Administration\]](#).

ODBC Configuration dialog: Network tab

The Network tab of the ODBC Configuration dialog has the following components:

TCP/IP If you want to use ECC_TLS (formerly Certicom) or RSA_TLS strong encryption for network packets, you must select the TCP/IP protocol to access the network database server. In the adjacent field, you may enter communication parameters that establish and tune the connection from your client application to a database.

For example, to look on the computer server1 on port 4436 for a database server, you would enter **HOST=server1;PORT=4436**.

Contact your network administrator if you are unsure which protocol to use.

SPX You can select the SPX protocol to connect to databases on Novell NetWare networks. NetWare also supports the TCP/IP protocol. In the adjacent field, you may type communication parameters that establish and tune the connection from your client application to a database.

For example, you could enter the following communication parameters for an SPX connection **HOST=0:0:0:0:1/4:236:121:215;PORT=2369**.

Contact your network administrator if you are unsure which protocol to use.

Shared memory The shared memory protocol is used for communication between a client and server running under the same operating system on the same computer.

Contact your network administrator if you are unsure which protocol to use.

For more information, see [“CommLinks connection parameter \[LINKS\]”](#) [*SQL Anywhere Server - Database Administration*], and [“Network protocol options”](#) [*SQL Anywhere Server - Database Administration*].

Liveness timeout A liveness packet is sent across a client/server to confirm that a connection is intact. If the client runs for the liveness timeout period without detecting a liveness packet, the communication is severed. This parameter only works with network server and TCP/IP or IPX communication protocols.

The default liveness timeout is 120 seconds.

For more information, see [“LivenessTimeout connection parameter \[LTO\]”](#) [*SQL Anywhere Server - Database Administration*].

Idle timeout Set the amount of client idle time before the connection is terminated. If a client runs for the idle timeout period without submitting a request, the connection is severed.

The default client idle time is 240 minutes.

For more information, see [“Idle connection parameter”](#) [*SQL Anywhere Server - Database Administration*].

Buffer size Set the maximum size of communication packets, in bytes. You should set the buffer size to be smaller than that allowed by your network because the network software may add information to each buffer before sending it over the network.

The default buffer size is 1460 bytes.

For more information, see [“CommBufferSize connection parameter \[CBSIZE\]”](#) [*SQL Anywhere Server - Database Administration*].

Compress network packets Select this option to turn on compression for the connection. Using compression for a connection can significantly improve SQL Anywhere performance under some circumstances.

For more information, see [“Compress connection parameter \[COMP\]”](#) [*SQL Anywhere Server - Database Administration*].

Select the method for encryption of network packets Allows the encryption of packets transmitted from the client computer over the network.

Separately licensed component required

ECC encryption and FIPS-certified encryption require a separate license. All strong encryption technologies are subject to export regulations.

See “[Separately licensed components](#)” [*SQL Anywhere 10 - Introduction*].

- ◆ **None** Communication packets transmitted from the client are not encrypted. This is the default setting.
- ◆ **Simple** Communication packets transmitted from the client are encrypted with Simple encryption. Simple encryption is supported on all platforms, as well as on previous versions of SQL Anywhere. Simple encryption is not as strong as ECC_TLS or RSA_TLS encryption.
- ◆ **TLS** Select this option to use ECC_TLS (formerly Certicom) or RSA_TLS encryption. ECC_TLS and RSA_TLS encryption protect the confidentiality and integrity of network packets as they pass between the client and the server. They are only available over the TCP/IP protocol.

In the adjacent field you must supply a trusted certificate value. You can also click Edit to supply this value.

- ◆ **Edit** Click Edit to supply encryption values for trusted certificates, certificate company, certificate unit, and certificate name in the “[TLS Encryption Options dialog](#)” on page 21.

For more information, see “[Encryption connection parameter \[ENC\]](#)” [*SQL Anywhere Server - Database Administration*] and “[FIPS-approved encryption technology](#)” [*SQL Anywhere Server - Database Administration*].

See also

- ◆ “[TLS Encryption Options dialog](#)” on page 21

ODBC Configuration dialog: Advanced tab

The Advanced tab of the ODBC Configuration dialog has the following components:

Connection name Type a name to identify the connection. This field is optional.

Character set Type a character set name. By default, the client's ANSI character set is used, for example cp1252 for English systems. You can also supply an OEM character set instead of an ANSI character set.

Allow multiple record fetching Select this option to retrieve multiple records at one time, instead of individually, for improved performance.

Display debugging information in a log file Select this option to record diagnostic information on communications links in the log file.

- ◆ **Log file** Type the name of the log file where you want to save the debugging information.

Additional connection parameters Type any additional connection parameters in this field in a semicolon separated list. For example,

```
LOG=connection.log
```

Parameters set in this field are superseded by parameters set throughout the rest of this dialog. For example, if you enter the user ID DBA on the Identification tab, and set the connection parameter "UID=bsmith" in this field, a connection with the user ID DBA is attempted.

For more information about connection parameters, see [“Connection parameters” \[SQL Anywhere Server - Database Administration\]](#) and [“How connection parameters work” \[SQL Anywhere Server - Database Administration\]](#).

TLS Encryption Options dialog

This dialog displays fields for the client's Certicom encryption settings.

The TLS Encryption Options dialog has the following components:

Trusted certificates Type the name of the certificate file the client uses to authenticate the server. You can also click Browse to select the trusted certificate from the file directory. This is a required field.

Certificate company Type the name of the certificate authority or organization that issued the certificate. The server's and the client's values must match. This is an optional field.

Certificate unit Type the certificate unit. This is also called the organizational unit. The server's and the client's values must match. This is an optional field.

Certificate name Type the certificate's common name. The server's and the client's values must match. This is an optional field.

TLS type Select the transport layer security type, either RSA or ECC.

FIPS compliant Select whether FIPS-approved RSA encryption is required.

ODBC Configuration dialog: DBMLSync tab

This tab provides options for the dbmlsync SQL Anywhere client synchronization utility.

The DBMLSync tab of the ODBC Configuration dialog has the following components:

Publication Type the name of the publication that is to be synchronized.

If there is only one publication in your database, you do not need to enter anything in this field.

ML password Type the MobiLink password for user authentication. If you have not entered a password, you must enter one here. If you are being prompted for a password, this is likely the only field you need to complete. The password is case sensitive.

Change password Select this option to change the MobiLink password when synchronization occurs. Unless you are changing the MobiLink password, leave the checkbox blank.

- ◆ **New** When changing the MobiLink password, type the new password. Unless you are changing the MobiLink password, leave this field blank.
- ◆ **Verify** When changing the MobiLink password, type the new password again for verification. Unless you are changing the MobiLink password, leave this field blank.

Extended option Supply extended options to customize synchronization. You can supply schedule specifications and other extended options. For a list of available extended options, click the Extended Option Help button. This field is optional.

Site script Type the name of the script to be executed after synchronization. This field is optional. You can click Browse to locate the site script.

Retry on remote progress If the consolidated and client databases have different information about the last synchronization, you can select this option to retry the upload operation.

By default, uploads continue from the offset recorded by the consolidated database. If you select Retry on Remote Progress, the upload continues from the offset recorded in the client database as long as the offset recorded in the consolidated database is ahead of that at the client database.

If, in addition, you select Remote is Ahead, the upload is retried starting from the offset recorded in the client database even if the offset recorded in the client database is ahead of that recorded in the consolidated database. *This option should be used with care.* If the offset mismatch is the result of a restore of the consolidated database, changes that happened in the client database in the gap between the two recorded offsets are lost. The Remote is Ahead option may be useful when the client database transaction log has been truncated after the last successful synchronization.

- ◆ **Remote is behind** Select Remote is Behind to retry the upload from the consolidated database's offset as long as the consolidated database's offset is ahead of that at the client database. This option is only enabled when you select Retry on Remote Progress. This is the default setting.
- ◆ **Remote is ahead** Select Remote is Ahead to retry the upload from the offset recorded in the client database even if the client's offset is ahead of that recorded at the consolidated database. This option is only enabled when you select Retry on Remote Progress. *This option should be used with care.*

This option may be useful when you do not want to upload changes between the last successful synchronization and the recreation.

Verbose operation Select this option to record debugging and other diagnostic information in a log file. This field is optional.

Drop conflicting connections Synchronization requires access to all rows on the tables to be synchronized. Select this option to force connections with locks on these tables to be dropped. This field is optional.

Cmdline help Each of the options on the DBMLSync tab has an equivalent command line option. Click Cmdline Help to view a list of options and their description.

Extended option help Click Extended Option Help to view a list of the names, default values, and descriptions of available extended options. You can also supply these options in the Extended Option field to customize synchronization.

Configuration for iAnywhere Driver for Oracle dialog

This dialog lets you set configuration information for the ODBC driver for Oracle, which is called iAnywhere Solutions 10 - Oracle.

The Configuration for iAnywhere driver for Oracle dialog has the following components:

Data source name Enter a name to identify your data source.

User ID The default logon ID that the application uses to connect to your Oracle database. A logon ID is required only if security is enabled on your database. If so, contact your system administrator to get your logon ID.

Password The password that the application uses to connect to your Oracle database.

SID The Oracle System Identifier that refers to the instance of Oracle running on the server. This item is required when connecting to servers that support more than one instance of an Oracle database. The SID is stored in *network/admin/tnsnames.ora* under your Oracle installation directory.

Procedures Returns Results You should select this field if your procedures can return results. The default is that procedures do not return results (not selected). If your *download_cursor* or *download_delete_cursor* scripts are stored procedure invocations, set this to yes.

Array Size The size, in bytes, of the byte array used to pre-fetch rows, on a per-statement basis. The default is 60000. Increasing this value can significantly improve fetch performance (such as during MobiLink server downloads) at the cost of extra memory allocation.

Test Connection Tests whether the information provided results in a proper connection. In order for the test to work, a user ID and password must be specified.

For updated information about the Oracle driver, see http://www.ianywhere.com/developer/technotes/odbc_mobilink.html.

CHAPTER 3

SQL Anywhere Plug-in Help

Contents

Introduction to SQL Anywhere property sheets	26
Introduction to dialog boxes	106
Debugger help	134
Index Consultant	136
UltraLite projects	137
UltraLite statements	138
Publications	139
Articles	140
Subscriptions	141
Connect dialog tools	142
Indexes folder	143
Table edit undo	144
Database search	145

Introduction to SQL Anywhere property sheets

The SQL Anywhere plug-in provides a number of property sheets that let you configure object properties.

Each property sheet becomes available on the File menu when you select an object, and is also available in a popup menu when you right-click an object. The following sections contain detailed descriptions of each property sheet in the SQL Anywhere plug-in.

Article property sheet: General tab

The General tab of the Article property sheet has the following components.

Name Shows the name of the table and owner used for the article.

Type Shows the type of the object.

Publication Shows the publication the article belongs to. The name of the publication's owner appears in parentheses.

See also

- ◆ [“Table property sheet: General tab” on page 94](#)
- ◆ [“Publication design” \[SQL Remote\]](#)
- ◆ [“CREATE PUBLICATION statement \[MobiLink\] \[SQL Remote\]” \[SQL Anywhere Server - SQL Reference\]](#)

Article property sheet: Columns tab

The Columns tab of the Article property sheet has the following components:

All columns Select this option to include all the columns of the table in the article.

Selected columns Select this option if you want the article to contain only some of the columns from the table. Selecting this option enables the checkboxes beside the column names in the Selected Columns list. The list includes all the columns of the table the article is based on.

When you choose this option, you must include at least one column in the article. To include a column in the article, select the checkbox beside the column name so that a checkmark appears. You can click Select All to include all the columns in the list in the article.

- ◆ **Select All** Select this option to include all the columns of the table in the article.
- ◆ **Clear All** Select this option clear all the checkboxes in the Selected Columns list.

See also

- ◆ [“Publication design” \[SQL Remote\]](#)
- ◆ [“CREATE PUBLICATION statement \[MobiLink\] \[SQL Remote\]” \[SQL Anywhere Server - SQL Reference\]](#)

Article property sheet: WHERE Clause tab

Articles defined for MobiLink and SQL Remote publications can use a WHERE clause to define a subset of rows of a table to be included in an article. UltraLite applications can use row subsets by supplying a WHERE clause, with one exception: articles in UltraLite publications governing HotSync synchronization cannot use a WHERE clause.

The WHERE Clause tab only appears if the publication that contains the articles has a type of log scan.

The WHERE Clause tab of the Article property sheet has the following components:

This article has the following WHERE clause You can edit the WHERE clause in the window to restrict the table rows that are included in the article.

For example, to include only the rows that contain a salary of more than \$50000, type:

```
WHERE Salary > 50000
```

See also

- ◆ [“CREATE PUBLICATION statement \[MobiLink\] \[SQL Remote\]” \[SQL Anywhere Server - SQL Reference\]](#)
- ◆ [“Publication design” \[SQL Remote\]](#)
- ◆ [“The WHERE clause: specifying rows” \[SQL Anywhere Server - SQL Usage\]](#)

Article property sheet: SUBSCRIBE BY Restriction tab

This tab only applies to SQL Remote.

The SUBSCRIBE BY Restriction tab of the Article property sheet has the following components:

None Configures the article to avoid using SUBSCRIBE BY columns or clauses to partition rows.

Column Configures the article to partition rows from the table based on a column (SUBSCRIBE BY columns). Once you select this option, you must choose a column from the dropdown list.

Expression Sets the article to partition rows from the table based on an expression entered in the field below.

See also

- ◆ [“Publication design” \[SQL Remote\]](#)
- ◆ [“CREATE PUBLICATION statement \[MobiLink\] \[SQL Remote\]” \[SQL Anywhere Server - SQL Reference\]](#)

Check Constraint property sheet: General tab

The General tab of the Check Constraint property sheet has the following components:

Name Shows the name of the selected check constraint. You can edit the check constraint name in this field.

Type Shows the type of object.

Table Shows the table the check constraint belongs to.

Column Shows the column the check constraint applies to. This information appears only for column check constraints, not for table constraints.

See also

- ◆ “Choosing constraints” [[SQL Anywhere Server - SQL Usage](#)]
- ◆ “Using CHECK constraints on tables” [[SQL Anywhere Server - SQL Usage](#)]
- ◆ “Using CHECK constraints on columns” [[SQL Anywhere Server - SQL Usage](#)]

Check Constraint property sheet: Definition tab

The Definition tab of the Check Constraint property sheet has the following components:

This check constraint has the following definition Provides a place for you to type the check constraint. A column check constraint is used to ensure that no inappropriate values are entered into any column of the specified type, while a table check constraint ensures that no row in a table violates the constraint.

Column check constraint example

You can enforce a particular formatting requirement. For example, if a table has a column for phone numbers you may want to ensure that users enter them all in the same manner. For North American phone numbers, you could use a constraint such as:

```
ALTER TABLE Customers
ALTER Phone
CHECK ( Phone LIKE '(____) ____-____' );
```

Once this CHECK condition is in place, if you attempt to set a Phone value to 9835, for example, the change is not allowed.

Table check constraint example

For example, you can add a constraint on the Employees table to ensure that the TerminationDate is always later than, or equal to, the StartDate:

```
ALTER TABLE Employees
ADD CONSTRAINT valid_term_date
CHECK(TerminationDate >= StartDate);
```

See also

- ◆ “Choosing constraints” [[SQL Anywhere Server - SQL Usage](#)]
- ◆ “Using CHECK constraints on columns” [[SQL Anywhere Server - SQL Usage](#)]
- ◆ “Using CHECK constraints on tables” [[SQL Anywhere Server - SQL Usage](#)]

Column property sheet: General tab

This Column property sheet displays information about columns that belong to a table.

The General tab of the Column property sheet has the following components:

Name Shows the name of the column. You can edit the column name in this field.

Type Shows the object's type.

Table Shows the name of the table the column belongs to, as well as the table's owner.

Comment Provides a place for you to type a text description of the column. For example, you could use this area to describe the column's purpose in the system.

See also

- ◆ [“Working with tables” \[SQL Anywhere Server - SQL Usage\]](#)

Column property sheet: Data Type tab

The Data Type tab of the Column property sheet has the following components:

Built-in type This option enables you to choose a built-in data type for the column from the dropdown list. Integers, character strings, and dates are examples of built-in data types. For some of these types, you can specify size and/or scale:

- ◆ **Size** Specifies the length of string columns, or the total number of digits to the left and right of the decimal point in the result of any decimal arithmetic for numeric columns. For numeric columns, the size is also called the precision value.

See [“precision option \[database\]” \[SQL Anywhere Server - Database Administration\]](#).

- ◆ **Scale** Specifies the minimum number of digits after the decimal point when an arithmetic result is truncated to the maximum precision value.

See [“SQL Data Types” \[SQL Anywhere Server - SQL Reference\]](#).

Domain Select this option to choose a domain from the dropdown list. A domain is a named combination of built-in data types, default value, check condition, and nullability.

Java class Select this option to choose a Java class for the column from the dropdown list. This option is only shown for version 8.0.x databases.

Compress values Select this option to compress column values. Note that if a column is compressed, database server activities such as indexing, data comparisons, and statistics generation may be slightly slower if they involve the compressed column because the values must be compressed when written, and decompressed when read.

See [“Choosing whether to compress columns” \[SQL Anywhere Server - SQL Usage\]](#).

Maintain BLOB indexes for large values Select this option to maintain BLOB indexes for large values. Only character, binary, and bit types support this option.

See [“CREATE TABLE statement” \[SQL Anywhere Server - SQL Reference\]](#).

See also

- ◆ [“Choosing data types for columns” \[SQL Anywhere Server - SQL Usage\]](#)
- ◆ [“Using domains” \[SQL Anywhere Server - SQL Usage\]](#)
- ◆ [“Ensuring Data Integrity” \[SQL Anywhere Server - SQL Usage\]](#)
- ◆ [“Tutorial: Using Java in the Database” \[SQL Anywhere Server - Programming\]](#)
- ◆ [“Working with tables” \[SQL Anywhere Server - SQL Usage\]](#)

Column property sheet: Value tab

The Value tab of the Column property sheet has the following components:

No default or computed value Select this option if the column has no default or computed value.

Default value Select this option if the column has a default value. If the column is based on a domain, this setting inherits the domain's default value (if any), but the value can be overridden for the column. Choosing the Default Value option enables the User-defined and System-defined options.

- ◆ **User-defined** Type a custom value (string, number, or other expression) for the default value. If you have based the column on a domain, you can retain the domain's default value (if any) or override it for the column.
 - ◆ **Literal string** Specify whether or not the default value for the column should be treated as a literal string. This option is selected by default for character columns and domains with a character base type. When you select this option, the default text does not need to be enclosed in single quotes, and you do not need to escape embedded single quotes or backslashes in the string.

When you clear this option, the automatic quoting and escaping behavior is turned off and the specified default value text is passed as is to the server.
- ◆ **System-defined** Select a pre-defined value (for example, current date) for the default value. You must select a value from the dropdown list. If you have based the column on a domain, you can retain the domain's default value (if any) or override it for the column.
- ◆ **Partition size** When you select global autoincrement for the system-defined value, you can also supply a partition size.

Global autoincrement assigns each new row a value of one greater than the previous highest value in the column. The partition size restricts the maximum value that global autoincrement can use. You can enter any positive integer for the partition size. Generally, you should select a value so that the supply of numbers is rarely, if ever, exhausted.

See:

- ◆ [“The AUTOINCREMENT default” \[SQL Anywhere Server - SQL Usage\]](#)
- ◆ [“CREATE TABLE statement” \[SQL Anywhere Server - SQL Reference\]](#)

Computed value Select this option to define a computed value for the column. A computed column derives its values from calculations of values in other columns. Type an expression in the text box to describe the relationship between the other columns and the value that appears in the computed column.

For more information about computed values, see:

- ◆ [“ALTER TABLE statement” \[SQL Anywhere Server - SQL Reference\]](#)
- ◆ [“Subqueries in expressions” \[SQL Anywhere Server - SQL Reference\]](#)

See also

- ◆ [“SQL Functions” \[SQL Anywhere Server - SQL Reference\]](#)
- ◆ [“Using column defaults” \[SQL Anywhere Server - SQL Usage\]](#)
- ◆ [“Working with computed columns” \[SQL Anywhere Server - SQL Usage\]](#)

Column property sheet: Constraints tab

The Constraints tab of the Column property sheet has the following components:

Values can be null Select this option if values in the column can be NULL. If the column is based on a domain, you can retain the domain's nullability or override it for the column.

Values cannot be null Select this option to allow duplicate values, but not allow NULL values in this column.

Values cannot be null and must be unique Select this option if values in the column cannot be NULL and must be unique.

See also

- ◆ [“Choosing constraints” \[SQL Anywhere Server - SQL Usage\]](#)
- ◆ [“Ensuring Data Integrity” \[SQL Anywhere Server - SQL Usage\]](#)

Column property sheet (View): General tab

This Column property sheet displays information about columns that belong to a view.

The General tab of the Column property sheet has the following components:

Name Shows the name of the selected column.

Type Shows the type of object.

View Shows the name of the view the column belongs to, with the name of the view's owner in parentheses.

Data type Shows the data type of the selected column.

Allows null Shows whether the selected column allows NULL values.

Comment Provides a place for you to type a text description of the column.

See also

- ◆ [“SQL Data Types” \[SQL Anywhere Server - SQL Reference\]](#)
- ◆ [“Choosing constraints” \[SQL Anywhere Server - SQL Usage\]](#)

Connected User property sheet: General tab

The General tab of the Connected User property sheet has the following components:

Connection ID Shows the connection ID for the user.

When a user connects to a database, the database server assigns the connection a unique connection ID. For each new connection to the database server, the server increments the connection ID value by 1.

Type Shows the type of object.

User Shows the database user ID.

Connection name Shows the connection name for the database the user is connected to. Naming your connections makes it easy to distinguish between multiple connections to the same database, or multiple connections to the same or different database server.

Communication link Shows the type of communications link used by the user's connection. If the connection is between a SQL Anywhere client and network database server, the link type represents the network protocol being used.

Node address Shows the communications port ID used by the user's connection.

Last request type Shows the type of the last request.

Last request time Shows the time at which the last request for the connection started.

Blocked on connection Shows whether the connection is blocked. If the current connection is not blocked, this field is blank. If it is blocked, the connection number on which the connection is blocked because of a locking conflict is shown.

See also

- ◆ [“Managing connected users” \[SQL Anywhere Server - Database Administration\]](#)
- ◆ [“Connection-level properties” \[SQL Anywhere Server - Database Administration\]](#)

Connected User property sheet: Extended Information tab

The Extended Information tab of the Connected User property sheet has the following components:

Connected user properties list Lists the name and value of the properties for the connected user. Click Refresh to update the values. You can also press F5 to refresh the values.

- ◆ **Refresh** Click Refresh to update the values in the Connected user properties list.

Description Describes the selected property.

See also

- ◆ [“Managing connected users” \[SQL Anywhere Server - Database Administration\]](#)
- ◆ [“Connection-level properties” \[SQL Anywhere Server - Database Administration\]](#)

Consolidated User property sheet: General tab

The General tab of the Consolidated User property sheet has the following components:

Name Shows the name of the consolidated user.

Type Shows the type of object.

Allowed to connect Select this option to allow the consolidated user to connect to the database. If the consolidated user is not allowed to connect, the password (if one was supplied) is removed from the account. If you later change the consolidated user to allow them to connect, you must supply a new password. Clearing this option disables the Password and Confirm Password options.

Users are almost always allowed to connect to the database.

◆ **Password** Type the password for the consolidated user. Passwords are case sensitive.

◆ **Confirm password** Confirm the password that you typed in the Password text box by entering it again. The contents of the two fields must match exactly. Passwords are case sensitive.

Comment Provides a place for you to type a text description of the consolidated user. For example, you could use this area to describe the consolidated user's purpose in the system.

See also

- ◆ [“GRANT CONSOLIDATE statement \[SQL Remote\]” \[SQL Anywhere Server - SQL Reference\]](#)
- ◆ [“Granting and revoking remote permissions” \[SQL Anywhere Server - Database Administration\]](#)
- ◆ [“Managing User IDs and Permissions” \[SQL Anywhere Server - Database Administration\]](#)

Consolidated User property sheet: Authorities tab

The Authorities tab of the Consolidated User property sheet has the following components:

DBA Select this option to grant DBA authority to the consolidated user; a user with DBA authority can fully administer the database.

Resource Select this option to grant resource authority to the consolidated user; a user with resource authority can create database objects.

Remote DBA Select this option to grant Remote DBA authority to the consolidated user. The MobiLink client utility, dbmlsync, requires Remote DBA authority. The SQL Remote Message Agent should also be run using a user ID with Remote DBA authority to ensure that actions can be performed without creating security loopholes.

Backup Select this option to grant backup authority to the consolidated user.

Validate Select this option to grant validate authority to the consolidated user; a user with validate authority can perform the operations executed by the different VALIDATE statements, such as database, table, index, and checksum validation.

See also

- ◆ [“DBA authority overview” \[SQL Anywhere Server - Database Administration\]](#)

- ◆ “RESOURCE authority overview” [[SQL Anywhere Server - Database Administration](#)]
- ◆ “GRANT REMOTE DBA statement [MobiLink] [SQL Remote]” [[SQL Anywhere Server - SQL Reference](#)]
- ◆ “BACKUP authority overview” [[SQL Anywhere Server - Database Administration](#)]
- ◆ “VALIDATE authority overview” [[SQL Anywhere Server - Database Administration](#)]

Consolidated User property sheet: Permissions tab

The Permissions tab of the Consolidated User property sheet has the following components:

Permissions list Shows all tables the consolidated user has permissions on, as well as the user who owns each table. You can click the fields beside each user to grant or revoke permissions; double-clicking (so that a checkmark and two + signs appear) gives the user grant options for the permission.

Show Select the type of object that appears in the Permissions list:

- ◆ **Tables** Displays all tables the consolidated user has permissions on.
- ◆ **Views** Displays all views the consolidated user has permissions on.
- ◆ **Procedures & functions** Displays all procedures and functions the consolidated user has permissions on. You can only grant Execute permissions for procedures and functions.

See also

- ◆ “Managing User IDs and Permissions” [[SQL Anywhere Server - Database Administration](#)]
- ◆ “Granting permissions on tables” [[SQL Anywhere Server - Database Administration](#)]
- ◆ “Granting permissions on views” [[SQL Anywhere Server - Database Administration](#)]
- ◆ “Granting permissions on procedures” [[SQL Anywhere Server - Database Administration](#)]

Consolidated User property sheet: SQL Remote tab

The SQL Remote tab of the Consolidated User property sheet has the following components:

Message type Lets you select a message type for communicating with the publisher.

Address Provides a place for you to type the remote address of the consolidated user. The address is a string, according to the specified message type, to which the replication messages should be sent for the user.

For information about what address to use with a specific message type, see “Using message types” [[SQL Remote](#)].

Send frequency Select one of the following options to set the frequency with which messages are sent.

- ◆ **Send then close** Sets the replication frequency so that the publisher's agent runs once, sends all pending messages to the consolidated user, and then shuts down. This means that the agent must be restarted each time the publisher wants to send messages.

In most replication setups, this option is not used for sending publications from the consolidated publisher to the consolidated user.

- ◆ **Send every** Sets the replication frequency so that the publisher's agent runs continuously, sending messages to the consolidated user at the given periodic interval.
- ◆ **Send daily at** Sets the replication frequency so that the publisher's agent runs continuously, sending messages to the consolidated user each day at the specified time.

See also

- ◆ “Selecting a send frequency” [[SQL Remote](#)]
- ◆ “GRANT REMOTE statement [SQL Remote]” [[SQL Anywhere Server - SQL Reference](#)]
- ◆ “GRANT CONSOLIDATE statement [SQL Remote]” [[SQL Anywhere Server - SQL Reference](#)]

Database property sheet: General tab

Database properties listed on this tab cannot be changed without rebuilding the database.

See “Rebuilding databases” [[SQL Anywhere Server - SQL Usage](#)].

The General tab of the Database property sheet has the following components:

Name Shows the name of the database.

Type Shows the type of object.

ID Shows a unique number assigned by the database server to each database that is started on it. The number makes it possible to distinguish between databases running on the same server.

Capability ID Shows the capability bits enabled for the database.

Java location Shows the location of the *java.exe* file for the external Java VM used by the database.

See “Choosing a Java VM” [[SQL Anywhere Server - Programming](#)].

Java main user ID Shows which database user ID should be used for the main Java connection.

Java JDK version Shows the version of the JDK supported by the database at the time of installation. If Java is not supported in the database, None appears. This only applies to 9.0.2 and earlier databases.

Page size Shows the page size of the database in bytes.

Database file Shows the root database file for the database.

Log file Shows the name and location of the transaction log file for the database.

Mirror log file Shows the name and location of the transaction log mirror file for the database.

User Shows the user ID of the user connected to the database.

Connection ID Shows the connection ID for the database's connection from Sybase Central.

Connection name Shows the connection name for the user connected to this database. Naming your connections makes it easy to distinguish between multiple connections to the same database, or multiple connections to the same or different database server.

Communication link Shows the type of communications link used by the user's connection. If the connection is between a SQL Anywhere client and a network database server, the link type represents the network protocol being used.

Total connections Shows the total number of current connections to the database from all users, including the Sybase Central connection.

See also

- ◆ [“Database-level properties” \[SQL Anywhere Server - Database Administration\]](#)
- ◆ [“Working with databases” \[SQL Anywhere Server - SQL Usage\]](#)

Database property sheet: Settings tab

Database properties listed on this tab cannot be changed without rebuilding the database.

See [“Rebuilding databases” \[SQL Anywhere Server - SQL Usage\]](#).

The Settings tab of the Database property sheet has the following components:

Encryption type Shows whether or not the database is encrypted, and the type of encryption, which is either Simple, AES, or AES_FIPS. If encryption is not supported in the database, None appears.

For information about the types of encryption supported by SQL Anywhere, see [“Encrypting a database” \[SQL Anywhere Server - Database Administration\]](#).

Encryption scope Shows the level of encryption specified. The possible values are None, Table, or Database. If the setting is Table, you can mark specific tables for encryption. If the setting is Database then the entire database is encrypted.

Case sensitive Shows the status of the case sensitivity feature. Returns On if the database is case sensitive. Otherwise, it returns Off. In case sensitive databases, data comparisons are case sensitive. This setting does not affect the case sensitivity of identifiers. Passwords are always case sensitive. This property applies to version 10 and earlier databases. See [“Case sensitivity” \[SQL Anywhere Server - SQL Usage\]](#).

Ignore trailing blanks Shows whether the database ignores trailing blanks in comparisons.

Collation sequence Shows the collation algorithm for the database. SQL Anywhere supports two collation algorithms: the SQL Anywhere Collation Algorithm (SACA), and the Unicode Collation Algorithm (UCA). SACA provides fast, compact, and reasonable sorting at the expense of linguistic correctness. UCA provides linguistic correctness, but with a small expense in storage requirements and execution time. This property applies to pre-version 10 databases. See [“Understanding collations” \[SQL Anywhere Server - Database Administration\]](#).

Character set encoding The character set that is used for the database. This property applies to pre-version 10 databases.

CHAR collation sequence The collation that is used for CHAR data.

See “Collations in a SQL Anywhere database” [[SQL Anywhere Server - Database Administration](#)].

CHAR character set encoding The character set that is used for CHAR data.

CHAR case sensitivity Shows the case sensitivity setting for the CHAR collation. Possible values are: Ignore, Respect, UpperFirst, and LowerFirst. For a description of these values, see “[Collation tailoring options](#)” [[SQL Anywhere Server - SQL Reference](#)]

NCHAR collation sequence The collation used for NCHAR data. This value is either UCA or UTF8BIN.

NCHAR character set encoding The character set that is used for NCHAR data. This is always UTF-8.

NCHAR case sensitivity Shows the case sensitivity setting for the NCHAR collation. Possible values are: Ignore, Respect, UpperFirst, and LowerFirst. For a description of these values, see “[Collation tailoring options](#)” [[SQL Anywhere Server - SQL Reference](#)]

Checkpoint urgency Shows the time that has elapsed since the last checkpoint, as a percentage of the checkpoint time setting of the database. Click Refresh or press F5 to update the Checkpoint urgency value.

Recovery urgency Shows an estimate of the amount of time required to recover the database. Click Refresh or press F5 to update the Recovery urgency value.

◆ **Refresh** Click Refresh to update the checkpoint urgency and recovery urgency values.

Collect information for deadlocks that occur on this database Select this option to record information about deadlocks that occur in this database. To view the collected deadlock information, select the database in the tree view in the left pane, and then select the Deadlocks tab in the right pane. See “[Viewing deadlocks from Sybase Central](#)” [[SQL Anywhere Server - SQL Usage](#)].

◆ **Include SQL statement information for deadlocked connections** Select this option to record the SQL statement information for deadlocks that occur on this database. This option is only available if Collect Information for Deadlocks That Occur on This Database is selected.

Clear deadlock information now Click Clear Deadlock Information Now to clear the deadlock information right away.

See also

- ◆ “[Collation tailoring options](#)” [[SQL Anywhere Server - SQL Reference](#)]
- ◆ “[Working with databases](#)” [[SQL Anywhere Server - SQL Usage](#)]
- ◆ “[Database-level properties](#)” [[SQL Anywhere Server - Database Administration](#)]
- ◆ “[Understanding character sets](#)” [[SQL Anywhere Server - Database Administration](#)]
- ◆ “[Understanding collations](#)” [[SQL Anywhere Server - Database Administration](#)]
- ◆ “[Deadlock](#)” [[SQL Anywhere Server - SQL Usage](#)]

Database property sheet: Extended Information tab

The Extended Information tab of the Database property sheet has the following components:

Database properties list Lists the name and value of the properties for the database. Click Refresh to update the values. You can also press F5 to refresh the values.

- ◆ **Refresh** Click Refresh to update the values in the Database Properties list.

Description Describes the selected property.

See also

- ◆ [“Working with databases” \[SQL Anywhere Server - SQL Usage\]](#)
- ◆ [“Database-level properties” \[SQL Anywhere Server - Database Administration\]](#)

Database property sheet: SQL Remote tab

The SQL Remote tab of the Database property sheet has the following components:

This database has a publisher Select this option to supply the name of the database's publisher. Selecting this option enables the Publisher field below.

- ◆ **Publisher** Shows the name of the publisher for the database. You can click Change to select a publisher in the Set Publisher dialog.

This remote database has a corresponding consolidated database Select this option if the database is acting as a remote database.

- ◆ **Consolidated user** Click Change to select the consolidated user from the list of available candidates in the Set Consolidated User dialog.
- ◆ **Message type** Select the message type for communicating with the publisher from the dropdown list.

For information about the message types supported by SQL Remote, see [“Using message types” \[SQL Remote\]](#).

- ◆ **Address** Provides a place for you to type the remote address of the consolidated user. The address is a string, according to the specified message type, to which the replication messages should be sent for the user.

Send frequency Select one of the following options for the send frequency:

- ◆ **Send then close** Sets the replication frequency so that the Message Agent runs once, sends all pending messages, and then shuts down. The Message Agent must be restarted each time the publisher wants to send messages. This option is only useful when you are running the Message Agent at a remote site.

In most replication setups, this option is not used for sending publications from the consolidated publisher to the remote group.

- ◆ **Send every** Select this option to set the replication frequency so that the Message Agent runs continuously, sending messages to this consolidated user at the given periodic interval. This option is useful at both consolidated and remote sites.
- ◆ **Send daily at** Select this option to set the replication frequency so that the Message Agent runs continuously, sending messages each day at the given time.

Subscribers Shows the number of remote users subscribing to publications in the database.

Subscriptions Shows the number of subscriptions to publications in the database.

Started subscriptions Shows the number of subscriptions in the database that have been started.

See also

- ◆ [“SQL Remote Publications and subscriptions” \[SQL Remote\]](#)
- ◆ [Set Publisher dialog](#)
- ◆ [Set Consolidated User dialog](#)

Database property sheet: Profiling Settings tab

The Profiling Settings tab of the Database property sheet has the following components:

Capture and view profiling information in this database for Select this option if you want SQL Anywhere to monitor the execution times of stored procedures, functions, events, and triggers. You can use database profiling information to determine which procedures can be fine-tuned to increase performance within your database. Profiling information appears on the Profile tab in Sybase Central.

Selecting this option activates the following options:

- ◆ **All connections** Select this option to enable profiling on all connections.
- ◆ **Connections with the following user ID** Select this option and choose a user ID from the dropdown list to specify a particular user ID to capture profiling information for.
- ◆ **Clear Now** Select this option to delete all the collected profiling data for the database and turn off profiling for the database. This button is only enabled when profiling is turned on for the database.

View profiling information from the following profiling log file Select this option to view profiling information from a log file. Specify the name and location of the profiling log file (a file with an extension of *.plg*) or click Browse and navigate to the file. This option is only enabled when profiling is turned off for the database.

Use the profiling information in the following profiling log file as a baseline for comparison Select this option to specify a second profiling log file to use as a baseline for comparison to profiling information being collected, or to the profiling log file selected in the previous option. This option is only enabled if Capture and View Profiling Information in This Database For or View Profiling Information From the Following Profiling Log File is selected.

Save the profiling information currently in the database to the following profiling log file Select this option to save the current profiling information in the database to a profiling log file. Specify the file name and location, with an extension of *.plg* or click Browse and navigate to the file.

Reset Now Deletes all the collected profiling data for the database. If profiling is turned on, the database immediately starts collecting new profiling information about procedures, functions, events, and triggers.

See also

- ◆ [“Procedure profiling using system procedures” \[SQL Anywhere Server - SQL Usage\]](#)

Dbospace property sheet: General tab

The General tab of the Dbospace property sheet has the following components:

Name Shows the name of the dbospace.

Type Shows the type of object.

File Shows the name of the database file that the dbospace points to. For new spaces, you can supply a new file name. You can also click Browse to locate the file.

Pre-allocate Space Now Displays the Pre-allocate Space for Dbospace dialog, which lets you pre-allocate storage in the dbospace by adding pages to it. Adding pages may improve performance for bulk-loading operations.

See also

- ◆ [“Pre-allocating space for database files” \[SQL Anywhere Server - Database Administration\]](#)

Directory Access Server property sheet: General tab

A directory access server is a remote server that gives you access to the local file structure of the computer running the database server. You use proxy tables to access any subdirectories on the computer.

The General tab of the Directory Access Server property sheet has the following components:

Name Shows the name of the directory access server.

Type Shows the type of object.

Root directory Shows the path for the root directory of this directory access server. When you create proxy tables for this directory access server, they are relative to this root directory.

Subdirectories Shows the number of levels of subdirectories that are accessible to this directory access server.

File modification Shows whether file modification is enabled for this directory access server.

See also

- ◆ [“Using directory access servers” \[SQL Anywhere Server - SQL Usage\]](#)
- ◆ [“Creating directory access servers” \[SQL Anywhere Server - SQL Usage\]](#)
- ◆ [“Deleting directory access servers” \[SQL Anywhere Server - SQL Usage\]](#)
- ◆ [“Basic concepts to access remote data” \[SQL Anywhere Server - SQL Usage\]](#)
- ◆ [“Working with remote servers” \[SQL Anywhere Server - SQL Usage\]](#)

Domain property sheet: General tab

The General tab of the Domain property sheet has the following components:

Name Shows the name of the domain.

Type Shows the type of object.

Creator Shows the database user who created and owns the domain.

Base type Shows the pre-defined data type of the domain. If the data type has a format, it is listed after the type's name.

Allows null Shows whether columns based on the domain allow NULLs.

Default value Shows the default value of the domain. If the domain does not have a default value, nothing appears. Columns based on the domain inherit the default value, but you can subsequently override it.

See also

- ◆ [“Domains” \[SQL Anywhere Server - SQL Reference\]](#)

Domain property sheet: Check Constraint tab

The Check Constraint tab of the Domain property sheet has the following components:

This domain has the following check constraint Lets you view the check constraint that applies to the domain. This is defined when the domain is created.

For example, to check whether an employee's start date falls in a particular range, type:

```
CHECK ( StartDate BETWEEN '1983/06/27'  
        AND CURRENT DATE )
```

See [“Using CHECK constraints on columns” \[SQL Anywhere Server - SQL Usage\]](#).

See also

- ◆ [“Using domains” \[SQL Anywhere Server - SQL Usage\]](#)
- ◆ [“Choosing constraints” \[SQL Anywhere Server - SQL Usage\]](#)

Event property sheet: General tab

The General tab of the Event property sheet has the following components:

Name Shows the name of the event.

Type Shows the type of object.

Creator Shows the database user who created and owns the event.

Enabled Select this option to execute the event when the scheduled time or trigger condition occurs.

You must enable the event to trigger it manually from Sybase Central.

Location Shows which of the following locations the event executes at:

- ◆ **All databases** Executes the event at all remote locations

- ◆ **Consolidated database** For databases involved in SQL Remote replication, this executes the event at the consolidated database only, and not at any of the remote locations.
- ◆ **Remote database** For databases involved in SQL Remote replication, this executes the event at a remote database only, and not at the consolidated database.

Next scheduled time Shows the date and time of the next scheduled event, if the event is scheduled.

Comment Provides a place for you to type a text description of the event. For example, you could use this area to describe the event's purpose in the system.

See also

- ◆ [“CREATE EVENT statement” \[SQL Anywhere Server - SQL Reference\]](#)
- ◆ [“Automating Tasks Using Schedules and Events” \[SQL Anywhere Server - Database Administration\]](#)
- ◆ [“Trigger Event dialog” on page 127](#)

Event property sheet: Conditions tab

The Conditions tab of the Event property sheet has the following components:

The event is triggered when the following system event occurs Executes the event when a circumstance or condition is met.

- ◆ **System event** Select a system event that must occur to trigger the event.

See [“Understanding system events” \[SQL Anywhere Server - Database Administration\]](#).

- ◆ **And the following trigger conditions are true** Set trigger conditions that must be satisfied, in addition to the system event, which trigger the event.

See [“Defining trigger conditions for events” \[SQL Anywhere Server - Database Administration\]](#).

- ◆ **New** Displays the Create Trigger Condition dialog, which lets you create a new trigger condition for the event.
- ◆ **Edit** Displays the Edit Trigger Condition dialog, which lets you change an existing trigger condition.
- ◆ **Delete** Removes the trigger condition from the list so that the event no longer executes based on that trigger condition.

See also

- ◆ [“CREATE EVENT statement” \[SQL Anywhere Server - SQL Reference\]](#)
- ◆ [“Automating Tasks Using Schedules and Events” \[SQL Anywhere Server - Database Administration\]](#)

External Login property sheet: General tab

The General tab of the External Login property sheet has the following components:

Name Shows the name of the remote server and database user if the external login is for a remote server. Shows the name of the directory access server and database if the external login is for a directory access server.

Type Shows the type of object.

Remote server Shows the name of the remote server to which the external login applies. This is only shown if the external login applies to a remote server.

Directory access server Shows the name of the directory access server the external login is used to communicate with. This field only appears if the external login applies to a directory access server.

User Shows the name of the database user the external login is for.

Login name Shows the login name on the remote server. This only applies to external logins to remote servers.

See also

- ◆ [“Working with external logins” \[SQL Anywhere Server - SQL Usage\]](#)
- ◆ [“CREATE EXTERNLOGIN statement” \[SQL Anywhere Server - SQL Reference\]](#)
- ◆ [“Using directory access servers” \[SQL Anywhere Server - SQL Usage\]](#)

Foreign Key property sheet: General tab

The General tab of the Foreign Key property sheet has the following components:

Name Shows the name of the foreign key. You can edit the name of the foreign key in this field.

Type Shows the type of object.

Unique Shows whether or not the foreign key is unique.

Foreign table Shows the name and owner of the table to which the foreign key applies.

Foreign index Shows the name of the index used to enforce the foreign key.

Primary constraint Shows the name of the primary key or unique constraint that the foreign key references.

Primary constraint type Shows the type of constraint the foreign key references. This can only be a primary key or a unique constraint.

Primary table Shows the table containing the primary key or unique constraint in this foreign key relationship.

Primary index Shows the name of the index used to maintain the primary key or unique constraint.

Allows null Determines whether the foreign key columns allow NULL values. To use this option, the foreign key columns must all have Allow Nulls set to Yes.

Match type Shows the match type selected for the foreign key. The match type determines what is considered a match when using a multi-column foreign key where Null values are allowed. This is only applicable if the foreign key allows Null.

The possible match types are listed below.

- ◆ **Simple** A match occurs for a row in the referencing table if at least one column in the key is NULL, or all the column values match the corresponding column values present in a row of the referenced table.
- ◆ **Full** A match occurs for a row in the referencing table if all column values in the key are NULL, or if all of the column values match the values present in a row of the referenced table.
- ◆ **n/a** Not applicable. The foreign key does not allow Nulls.

Update action Uses one of the following settings to define the behavior of the table when a user tries to update values in the foreign key.

- ◆ **Not permitted** Prevents updates of the associated primary table's primary key value if there are no corresponding foreign keys.
- ◆ **Cascade** Updates the foreign key to match a new value for the associated primary key.
- ◆ **Set to null** Sets all the foreign key values that correspond to the updated primary key of the associated primary table to NULL.

To use this option, the foreign key columns must all have Allow Nulls set to Yes.

- ◆ **Set Default** Sets foreign key values that match the updated or deleted primary key value to values specified in the DEFAULT clause of each foreign key column. To use this option, the foreign key columns must all have default values.

Delete action Uses one of the following settings to define the behavior of the table when a user tries to delete data.

- ◆ **Not permitted** Prevents deletion of the associated primary table's primary key value if there are no corresponding foreign keys in the table.
- ◆ **Cascade** Deletes the rows from the table that match the deleted primary key of the associated primary table.
- ◆ **Set values to NULL** Sets all the foreign key values in the table that correspond to the deleted primary key of the associated primary table to NULL.

To use this option, the foreign key columns must all have Allow Nulls set to Yes.

- ◆ **Set Default** Sets foreign key values that match the updated or deleted primary key value to values specified in the DEFAULT clause of each foreign key column. To use this option, the foreign key columns must all have default values.

Check on commit Forces the database to wait for a COMMIT before checking the integrity of the foreign key, overriding the setting of the wait_for_commit database option. To change this setting, click Change.

For more information on this option, see [“wait_for_commit option \[database\]” \[SQL Anywhere Server - Database Administration\]](#).

Change Opens the Change Settings dialog where you can change the settings for this primary key.

Comment Provides a place for you to type a text description of the foreign key. For example, you could use this area to describe the foreign key's purpose in the system.

See also

- ◆ “Managing foreign keys” [[SQL Anywhere Server - SQL Usage](#)]
- ◆ “Ensuring Data Integrity” [[SQL Anywhere Server - SQL Usage](#)]
- ◆ “Set Clustered Index dialog” on page 124
- ◆ “Change Settings dialog” on page 107

Foreign Key property sheet: Columns tab

The Columns tab of the Foreign Key property sheet has the following components:

Columns list Shows the column in the foreign and primary tables.

- ◆ **Details** Displays the Details dialog, which shows a summary of the properties of the selected foreign or primary column.

See also

- ◆ “Managing foreign keys” [[SQL Anywhere Server - SQL Usage](#)]

Function property sheet: General tab

In most cases, the term procedure refers to both user-defined procedures *and* user-defined functions.

The General tab of the Function property sheet has the following components:

Name Shows the name of the function.

Type Shows the type of object.

Owner Shows the name of the database user who owns the function.

Dialect Shows the SQL dialect in which the code was last saved. The dialect is either Watcom-SQL or Transact-SQL.

Comment Provides a place for you to type a description of the function. For example, you could use this area to describe the function's purpose in the system.

See also

- ◆ “Function types” [[SQL Anywhere Server - SQL Reference](#)]
- ◆ “CREATE FUNCTION statement” [[SQL Anywhere Server - SQL Reference](#)]

Function property sheet: Parameters tab

The Parameters tab of the Function property sheet has the following components:

Parameters list Displays the name, ID, data type, parameter type, and mode of the function's parameters. The mode has one of the following values:

- ◆ **In** The parameter is an expression that provides a value to the function.
- ◆ **Out** The parameter is a variable that could be given a value by the function.
- ◆ **In/out** The parameter is a variable that provides a value to the function, and could be given a new value by the function.

See also

- ◆ [“Declaring parameters for procedures” \[SQL Anywhere Server - SQL Usage\]](#)
- ◆ [“Using Procedures, Triggers, and Batches” \[SQL Anywhere Server - SQL Usage\]](#)
- ◆ [“CREATE FUNCTION statement” \[SQL Anywhere Server - SQL Reference\]](#)

Function property sheet: Permissions tab

The Permissions tab of the Function property sheet has the following components:

Users list Lists the users who have permissions on the function. If you want to add users to the list, click Grant. To remove permissions from a user, select the user and click Revoke. You can select multiple users by holding Shift while you click.

Click the Execute field beside each user to grant or revoke permissions.

- ◆ **Grant** Displays the Grant Permissions dialog, which lets you grant permissions for the function to other users or groups.
- ◆ **Revoke** Revokes permissions for the function from the user or group and removes them from the Users list.

See also

- ◆ [“Granting permissions on procedures” \[SQL Anywhere Server - Database Administration\]](#)
- ◆ [Grant Permissions dialog](#)

Group property sheet: General tab

The General tab of the Group property sheet has the following components:

Name Shows the name of the group.

Type Shows the type of object.

Allowed to connect Select this option to allow the group to connect to the database. If the group is not allowed to connect, the password (if one was supplied) is removed from the account. If you later change the group to allow them to connect, you must supply a new password. Clearing this option disables the Password and Confirm Password options.

Users are almost always allowed to connect. For a group, however, turning this option off prevents anyone from connecting to the database using the group account.

- ◆ **Password** Type the password for the group. Passwords are case sensitive.
- ◆ **Confirm password** Confirm the password that you typed in the Password text box by entering it again. The contents of the two fields must match exactly. Passwords are case sensitive.

Comment Provides a place for you to type a text description of the group. For example, you could use this area to describe the group's purpose in the system.

See also

- ◆ “Creating groups” [[SQL Anywhere Server - Database Administration](#)]
- ◆ “Managing User IDs and Permissions” [[SQL Anywhere Server - Database Administration](#)]

Group property sheet: Authorities tab

The Authorities tab of the Group property sheet has the following components:

DBA Grants DBA authority to the group; a group with DBA authority can fully administer the database.

Resource Grants resource authority to the group; a group with resource authority can create database objects.

Remote DBA Grants Remote DBA authority to the group. The MobiLink client utility, dbmlsync, requires Remote DBA authority. A user ID with this type of authority should run the SQL Remote Message Agent to ensure that actions can be performed without creating security loopholes.

Backup Select this option to grant backup authority to the group.

Validate Select this option to grant validate authority to the group; a group with validate authority can perform the operations executed by the different VALIDATE statements, such as database, table, index, and checksum validation.

See also

- ◆ “Permissions of groups” [[SQL Anywhere Server - Database Administration](#)]
- ◆ “DBA authority overview” [[SQL Anywhere Server - Database Administration](#)]
- ◆ “RESOURCE authority overview” [[SQL Anywhere Server - Database Administration](#)]
- ◆ “GRANT REMOTE DBA statement [MobiLink] [SQL Remote]” [[SQL Anywhere Server - SQL Reference](#)]
- ◆ “BACKUP authority overview” [[SQL Anywhere Server - Database Administration](#)]
- ◆ “VALIDATE authority overview” [[SQL Anywhere Server - Database Administration](#)]

Group property sheet: Permissions tab

The Permissions tab of the Group property sheet has the following components:

Permissions list Shows all the tables the group has permissions on, as well as the user who owns each table. You can click the fields beside each group to grant or revoke permissions; double-clicking (so that a checkmark and two + signs appear) gives the group grant options for the permission.

Show Select what type of object appears in the Permissions list:

- ◆ **Tables** All tables the group has permissions on.
- ◆ **Views** All views that the group has permissions on.
- ◆ **Procedures & functions** All procedures and functions the group has permissions on. You can only grant Execute permissions for procedures and functions.

See also

- ◆ [“Permissions of groups” \[SQL Anywhere Server - Database Administration\]](#)
- ◆ [“Managing groups” \[SQL Anywhere Server - Database Administration\]](#)
- ◆ [“Table and views permissions overview” \[SQL Anywhere Server - Database Administration\]](#)
- ◆ [“Creating groups” \[SQL Anywhere Server - Database Administration\]](#)

Index property sheet: General tab

The General tab of the Index property sheet has the following components:

Name Shows the name of the index. You can edit the name of the index in this field.

Type Shows the type of object. The object type can be foreign key index, primary key index, unique constraint index, or index.

Unique Shows whether values in the index must be unique. The unique value is set when you create a new index.

Table Shows the name and owner of the table with which the index is associated. This only appears if the index is on a table.

Materialized view Shows the name and owner of the materialized view with which the index is associated. This only appears if the index is on a materialized view.

Dbospace Shows the database file, or dbospace, where the index is located. This only applies to indexes on base tables and materialized views.

Clustered Shows whether this index is a clustered index. Clustered indexes are supported for SQL Anywhere databases that are version 8.0.2 and higher.

Clustered indexes in SQL Anywhere store the table rows in approximately the same order as they appear in the corresponding index. Using a clustered index can lead to performance benefits by reducing the number of times each page needs to be read into memory. Only one index on a table can be a clustered index.

For more information about clustered indexes, see [“Using clustered indexes” \[SQL Anywhere Server - SQL Usage\]](#).

- ◆ **Set Clustered Index Now** Opens the Set Clustered Index dialog where you can specify that this index is a clustered index.

Index type Shows the store type of index the table has. The possible values are compressed B-tree or hash B-tree.

Comment Provides a place for you to type a text description of the index. For example, you could use this area to describe the index's purpose in the system.

See also

- ◆ [“Indexes” \[SQL Anywhere Server - SQL Usage\]](#)
- ◆ [“CREATE INDEX statement” \[SQL Anywhere Server - SQL Reference\]](#)

Index property sheet: Columns tab

The Columns tab of the Index property sheet has the following components:

Columns list Shows all the columns in the index, as well as their order, either ascending or descending. You set the order when you create a new index.

The columns are sorted by their sequence, which is a unique number starting at 0. The order of the numbers determines the relative position of the columns in the index.

- ◆ **Details** Displays the Column Details dialog, which shows a summary of the properties of the selected column.

See also

- ◆ [“Indexes” \[SQL Anywhere Server - SQL Usage\]](#)
- ◆ [“Working with indexes” \[SQL Anywhere Server - SQL Usage\]](#)
- ◆ [“CREATE INDEX statement” \[SQL Anywhere Server - SQL Reference\]](#)

JAR File property sheet: General tab

The General tab of the JAR File property sheet has the following components:

Name Shows the name of the JAR file.

Type Shows the type of object.

Creator Shows the database user who created and owns the JAR file.

Date created Shows the date the JAR file was created.

Date modified Shows the date the JAR file was last modified.

Comment Provides a place for you to type a text description of the JAR file. For example, you could use this area to describe the JAR file's purpose in the system.

Update Now Displays the Update JAR File dialog, which lets you update the JAR file.

See “Updating classes and JAR files” [[SQL Anywhere Server - Programming](#)].

See also

- ◆ “Installing a JAR” [[SQL Anywhere Server - Programming](#)]

Java Class property sheet: General tab

The General tab of the Java Class property sheet has the following components:

Name Shows the name of the Java class.

Type Shows the type of object.

Creator Shows the database user who created and owns the Java class.

JAR file Shows the name of the JAR file containing the Java class. Java classes do not have to be contained in a JAR file.

Date created Shows the date the Java class was created.

Date modified Shows the date the Java class was last modified.

Comment Provides a place for you to type a text description of the Java class. For example, you could use this area to describe the Java Class's purpose in the system.

Update Now Displays the Update Java Class dialog, which lets you update the Java class.

See “Updating classes and JAR files” [[SQL Anywhere Server - Programming](#)].

See also

- ◆ “Installing Java classes into a database” [[SQL Anywhere Server - Programming](#)]

Login Mapping property sheet: General tab

The General tab of the Login Mapping property sheet has the following components:

Name Shows the name of the integrated login.

Type Shows the type of object.

Database user Shows the database user the integrated login is for.

Comment Provides a place for you to type a text description of the integrated login. For example, you could use this area to describe the integrated login's purpose in the system.

See also

- ◆ “Using integrated logins” [[SQL Anywhere Server - Database Administration](#)]
- ◆ “GRANT statement” [[SQL Anywhere Server - SQL Reference](#)]

Maintenance Plan Report property sheet: General tab

The General tab of the Maintenance Plan Report property sheet has the following components:

Name Shows the name of the maintenance plan.

Type Shows the type of report.

Start time Shows the date and time that the maintenance plan started running.

Finish time Shows the date and time that the maintenance plan finished running.

Duration Shows the amount of time that the maintenance plan ran for.

Successful Shows whether or not the maintenance plan ran successfully.

Details Shows the text of the entire maintenance plan.

See also

- ◆ “Creating a maintenance plan” [[SQL Anywhere Server - Database Administration](#)]

Message Type property sheet: General tab

The General tab of the Message Type property sheet has the following components:

Name Shows the name of the message type.

Type Shows the type of object.

Publisher address Provides a place for you to type the address of the publisher. Each remote database sends a replication message back to the consolidated database at the address.

Comment Provides a place for you to type a text description of the message type. For example, you could use this area to describe the message type's purpose in the system.

See also

- ◆ “Using message types” [[SQL Remote](#)]

Message Type property sheet: SQL Remote Users tab

The SQL Remote Users tab of the Message Type property sheet has the following components:

Remote Users list Lists all the remote users that are currently using the message type by name, address, and comment.

Properties Displays the property sheet for the remote user selected in the Remote Users list.

See also

- ◆ “Using message types” [[SQL Remote](#)]

MobiLink User property sheet: General tab

The General tab of the MobiLink User property sheet has the following components:

Name Shows the name of the MobiLink user.

Type Shows the type of object.

See also

- ◆ [“Introduction to MobiLink users” \[MobiLink - Client Administration\]](#)

MobiLink User property sheet: Connection tab

The Connection tab of the MobiLink User property sheet has the following components:

Protocol Choose the communication protocol to use for synchronization. TCP/IP is used by default.

The settings you can specify on the Connection tab depend on the communication protocol you are using. Any additional parameters, such as `buffer_size`, can be set in the Advanced field.

For a complete list of parameters supported by each protocol, see:

- ◆ [“CREATE SYNCHRONIZATION USER statement \[MobiLink\]” \[SQL Anywhere Server - SQL Reference\]](#)
- ◆ [“CommunicationType \(ctp\) extended option” \[MobiLink - Client Administration\]](#)
- ◆ **TCP/IP** Select this option to use the TCP/IP protocol for synchronization. For versions 8.0.x and 9.0.x, choosing TCP/IP and then Enable Certicom security is equivalent to choosing TLS.
- ◆ **TLS** Select this option to use TLS (transport-layer security) for synchronization. TLS supports both elliptic-curve cryptography (formerly Certicom) and RSA encryption. This option is only available for version 10 and later.
- ◆ **HTTP** Select this option to use the HTTP protocol for synchronization.
- ◆ **HTTPS** Select this option to use the HTTPS protocol for synchronization. HTTPS supports both elliptic-curve cryptography (formerly Certicom) and RSA encryption.
- ◆ **HTTPS FIPS** Select this option to use the HTTPS protocol for synchronization with FIPS-approved algorithms for encryption. This option is only available for version 8.0.x and 9.0.x. For version 10, this is equivalent to selecting the HTTPS protocol and then selecting the FIPS-approved option for Security.
- ◆ **ActiveSync** Select this option to use ActiveSync to exchange data with the MobiLink provider for ActiveSync, which resides on the desktop computer. The ActiveSync parameters describe the communications between the MobiLink provider for ActiveSync and the MobiLink server. This option is only available for versions 8.0.x and 9.0.x.

See [“ActiveSync provider installation utility \[mlasinst\]” \[MobiLink - Client Administration\]](#).

Host The IP number or host name of the computer on which the MobiLink server is running. The default value is localhost. You can use **localhost** if the MobiLink server is running on the same computer as the client.

For Windows CE, the default value is the value of *ipaddr* in the registry folder *Comm\Tcpip\Hosts\ppp_peer*. This allows a Windows CE device to connect to a MobiLink server executing on the desktop computer where the Windows CE device's cradle is connected.

For the Palm Computing Platform, the default value of localhost refers to the device. It is recommended that you specify an explicit host name or IP address.

◆ **Port** The MobiLink server communicates over a specific port. The default port number is **2439** for TCP/IP, **80** for HTTP, and **443** for HTTPS. If you choose a different value, you must configure your MobiLink server to listen on the port you specify.

Proxy host Type the host name or IP address of the proxy server. The default value is **localhost**. This option is only available for HTTP and HTTPS synchronization.

◆ **Proxy port** Type the port number of the proxy server. The default value is **80** for HTTP and **443** for HTTPS. This option is only available for HTTP and HTTPS synchronization.

URL suffix Type the suffix to add to the URL on the first line of each HTTP request. The default value is **MobiLink**. This option is only available for HTTP and HTTPS synchronization.

When synchronizing through a proxy server, the suffix may be necessary in order to find the MobiLink server.

◆ **HTTP Version** Type the value specifying the version of HTTP to use for synchronization. You have a choice of 1.0 or 1.1. The default value is **1.1**.

Automatic connection The following options allow MobiLink clients running on Windows or Windows CE to connect through dial-up network connections.

When used with scheduling, your remote device can synchronize unattended. When used without scheduling, you can run dbmlsync without manually dialing a connection.

See “[Scheduling synchronization](#)” [*MobiLink - Client Administration*].

◆ **Network name** Specify the network name so that you can use the MobiLink auto-dial feature. This allows you to connect from Windows or Windows CE without dialing manually. The name should be the network name that you have specified in the dropdown list in Settings ► Connections ► Connections (Windows CE) or Network Connections (Windows).

◆ **Network connect timeout** When you specify a network name, you can optionally specify a timeout after which the dial-up fails. This feature applies only to Windows CE. (On Windows, you can control this feature by configuring the connection profile.) The default is **120** seconds.

◆ **Leave open** When you supply a network name, you can optionally specify whether the connection should be left open (1) or closed (0) after synchronization finishes. By default, the connection is closed.

Security These options allow you to use a cipher suite to encrypt all communication through this connection. You can provide information about the certificate used to authenticate the server in the fields below for both the elliptic-curve cryptography and RSA ciphers.

Enable Certicom security Select this option to encrypt all communication through this connection. You can use the elliptic-curve cryptography (ECC) or RSA cipher. By default, elliptic curves are used. This option is only available for versions 8.0.x and 9.0.x. Choosing this option with the TCP/IP protocol is equivalent to choosing the TLS protocol in version 10.

Separately licensed component required

ECC encryption and FIPS-certified encryption require a separate license. All strong encryption technologies are subject to export regulations. See “Separately licensed components” [[SQL Anywhere 10 - Introduction](#)].

See “Transport-Layer Security” [[SQL Anywhere Server - Database Administration](#)].

- ◆ **Elliptic curves** Uses the elliptic-curve cipher to encrypt connections. You can use this cipher to encrypt TLS over TCP/IP and HTTPS connections with version 10 databases, and TCP/IP connections with version 8.0.x and 9.0.x databases. This was formerly called Certicom encryption.
- ◆ **RSA** Uses the RSA cipher to encrypt communications. You can use this cipher to encrypt TLS over TCP/IP and HTTPS connections with version 10 databases, and TCP/IP connections with version 8 and 9 databases. This cipher is selected automatically with version 8.0.x and 9.0.x databases when you choose HTTPS.
- ◆ **FIPS-approved** Uses the FIPS-approved RSA cipher to encrypt communications. You can use this cipher to encrypt TLS over TCP/IP and HTTPS connections with version 10 databases, and TCP/IP connections with version 9.0.x databases. This cipher is selected automatically with version 9 databases when you choose HTTPS FIPS. This cipher is not supported for version 8.0.x databases.
 - ◆ **Certificate company** Type the name of the certificate authority or organization that issued the certificate. The server's and the client's values must match.
 - ◆ **Certificate unit** Type the certificate unit. This is also called the organizational unit. The server's and the client's values must match.
 - ◆ **Certificate name** Type the certificate's common name. The server's and the client's values must match.
 - ◆ **Trusted certificates** Type the name of the certificate file the client uses to authenticate the server.

Advanced Type any additional connection parameters in this field, entering them in the form *parameter=value*, with multiple parameters separated by semicolons. For example, to set the maximum body size for a fixed content length message, and to instruct the client to attempt to use the same TCP/IP connection for all HTTP requests in a synchronization, you would enter the following in the Advanced field:

```
buffer_size=58000;persistent=TRUE
```

For a complete list of connection parameters you can enter in this field, see “[CREATE SYNCHRONIZATION USER statement \[MobiLink\]](#)” [[SQL Anywhere Server - SQL Reference](#)].

Note

You can set connection parameters for synchronization in several ways.

For information about how dbmlsync resolves conflicting options, see [“Priority order” \[MobiLink - Client Administration\]](#).

If a field is blank on the Connection tab of the MobiLink User property sheet, the MobiLink user may be inheriting the connection parameter setting from the synchronization subscription. You should only supply connection parameters on the Connection tab of the MobiLink User property sheet if you want to override the publication's settings.

See also

- ◆ [“CREATE SYNCHRONIZATION USER statement \[MobiLink\]” \[SQL Anywhere Server - SQL Reference\]](#)
- ◆ [“MobiLink SQL Anywhere Client Extended Options” \[MobiLink - Client Administration\]](#)
- ◆ [“-eu option” \[MobiLink - Client Administration\]](#)
- ◆ [“CommunicationAddress \(adr\) extended option” \[MobiLink - Client Administration\]](#)

MobiLink User property sheet: Extended Options tab

The Extended Options tab of the MobiLink User property sheet has the following components:

This MobiLink user has the following extended options Lists the extended options and the values set for the MobiLink user. Click the Value field beside the option name to set the value for the MobiLink user.

The table below lists all the available extended options for synchronization.

For more information about these options, see [“MobiLink SQL Anywhere Client Extended Options” \[MobiLink - Client Administration\]](#).

Extended option	Default	Description
“ConflictRetries (cr) extended option” [MobiLink - Client Administration]	-1 (continue indefinitely)	Specifies the number of retries if the download fails because of conflicts.
“ContinueDownload (cd) extended option” [MobiLink - Client Administration]	OFF	Specifies restartable downloads.
“DisablePolling (p) extended option” [MobiLink - Client Administration]	OFF	Disables automatic logscan polling.
“DownloadBufferSize (dbs) extended option” [MobiLink - Client Administration]	32 K on Windows CE, 1 M on all other operating systems.	Specifies the size of the download buffer. By default, units of bytes are used. You can use the suffix k or m to specify units of kilobytes or megabytes, respectively.

Extended option	Default	Description
“DownloadOnly (ds) extended option” [<i>MobiLink - Client Administration</i>]	OFF	Specifies that synchronization should be download-only.
“DownloadReadSize (drs) extended option” [<i>MobiLink - Client Administration</i>]	32 K	For restartable downloads, specifies the maximum amount of data that may need to be resent after a communications failure.
“ErrorLogSendLimit (el) extended option” [<i>MobiLink - Client Administration</i>]	32 K	Specifies how much of the remote log file dbmlsync should send to the MobiLink server when synchronization occurs. By default, units of bytes are used. You can use the suffix k or m to specify units of kilobytes or megabytes, respectively. If you don't want to send any dbmlsync output log messages, a zero value should be set for this extended option.
“FireTriggers (ft) extended option” [<i>MobiLink - Client Administration</i>]	ON	Specifies that triggers should be fired on the remote database when the download is applied.
“HoverRescanThreshold (hrt) extended option” [<i>MobiLink - Client Administration</i>]	1 M	When you are using scheduling, this limits the amount of discarded memory that is allowed to accumulate before a rescan is performed. By default, units of bytes are used. You can use the suffix k or m to specify units of kilobytes or megabytes, respectively.
“IgnoreHookErrors (eh) extended option” [<i>MobiLink - Client Administration</i>]	OFF	Specifies that errors that occur in hook functions should be ignored.
“IgnoreScheduling (isc) extended option” [<i>MobiLink - Client Administration</i>]	OFF	Specifies that scheduling settings should be ignored.
“Increment (inc) extended option” [<i>MobiLink - Client Administration</i>]	(infinite)	Controls the size of incremental uploads. By default, units of bytes are used. You can use the suffix k or m to specify units of kilobytes or megabytes, respectively.
“LockTables (lt) extended option” [<i>MobiLink - Client Administration</i>]	ON	Specifies that articles (tables or parts of tables in the publications being synchronized) should be locked before synchronizing.

Extended option	Default	Description
“Memory (mem) extended option” [<i>MobiLink - Client Administration</i>]	1 M	Specifies a cache size. By default, units of bytes are used. You can use the suffix k or m to specify units of kilobytes or megabytes, respectively.
“MirrorLogDirectory (mld) extended option” [<i>MobiLink - Client Administration</i>]	(none)	Specifies the location of old mirror log files so that they can be deleted.
“MobiLinkPwd (mp) extended option” [<i>MobiLink - Client Administration</i>]	NULL	Specifies the MobiLink password. Passwords are case sensitive.
“NewMobiLinkPwd (mn) extended option” [<i>MobiLink - Client Administration</i>]	NULL	Specifies a new MobiLink password. Passwords are case sensitive.
“NoSyncOnStartup (nss) extended option” [<i>MobiLink - Client Administration</i>]	NULL	Prevents dbmlsync from synchronizing on startup when a scheduling option would otherwise cause that to happen.
“OfflineDirectory (dir) extended option” [<i>MobiLink - Client Administration</i>]	(none)	Specifies the path containing offline transaction logs.
“PollingPeriod (pp) extended option” [<i>MobiLink - Client Administration</i>]	1 minute	Specifies the logscan polling period. By default, units of minutes are used. You can use the suffix s, m, h, or d to specify units of seconds, minutes, hours, or days, respectively.
“Schedule (sch) extended option” [<i>MobiLink - Client Administration</i>]	No schedule	Specifies a schedule for synchronization.
“ScriptVersion (sv) extended option” [<i>MobiLink - Client Administration</i>]	DEFAULT	Specifies a script version.
“SendColumnNames (scn) extended option” [<i>MobiLink - Client Administration</i>]	OFF	Specifies that column names should be sent in the upload.
“SendDownloadACK (sa) extended option” [<i>MobiLink - Client Administration</i>]	OFF	Specifies that a download acknowledgment should be sent from the client to the server.
“SendTriggers (st) extended option” [<i>MobiLink - Client Administration</i>]	OFF	Specifies that trigger actions should be sent on upload.

Extended option	Default	Description
“TableOrder (tor) extended option” [<i>MobiLink - Client Administration</i>]	(none)	Specifies the order of tables in the upload stream.
“TableOrderChecking (toc) extended option” [<i>MobiLink - Client Administration</i>]	ON	Specifies whether dbmlsync should check that no table is uploaded before another table on which it has a foreign key. Use this option when you specify TableOrder.
“UploadOnly (uo) extended option” [<i>MobiLink - Client Administration</i>]	OFF	Specifies that synchronization should only include an upload.
“Verbose (v) extended option” [<i>MobiLink - Client Administration</i>]	OFF	Specifies full verbosity. This option is identical to dbmlsync -v+.
“VerboseHooks (vs) extended option” [<i>MobiLink - Client Administration</i>]	OFF	Specifies that messages related to hook scripts should be logged. This option is identical to dbmlsync -vs.
“VerboseMin (vm) extended option” [<i>MobiLink - Client Administration</i>]	OFF	Specifies that a small amount of information should be logged. This option is identical to dbmlsync -v.
“VerboseOptions (vo) extended option” [<i>MobiLink - Client Administration</i>]	OFF	Specifies that information should be logged about the command line options (including extended options) that you have specified. This option is identical to dbmlsync -vo.
“VerboseRowCounts (vn) extended option” [<i>MobiLink - Client Administration</i>]	OFF	Specifies that the number of rows that are uploaded and downloaded should be logged. This option is identical to dbmlsync -vn.
“VerboseRowValues (vr) extended option” [<i>MobiLink - Client Administration</i>]	OFF	Specifies that the values of rows that are uploaded and downloaded should be logged. This option is identical to dbmlsync -vr.
“VerboseUpload (vu) extended option” [<i>MobiLink - Client Administration</i>]	OFF	Specifies that information about the upload stream should be logged. This option is identical to dbmlsync -vu.

Note

You can set connection parameters for synchronization in several ways.

For information about how dbmlsync resolves conflicting options, see [“Priority order” \[MobiLink - Client Administration\]](#).

Parameter property sheet: General tab

The General tab of the Parameter property sheet has the following components:

Name Shows the name of the selected parameter.

Type Shows the type of object.

Procedure Shows the name of the procedure the parameter belongs to, with the name of the procedure's owner in parentheses.

Data type Shows the data type of the parameter.

For a list of valid data types, see [“SQL Data Types” \[SQL Anywhere Server - SQL Reference\]](#).

Parameter type Shows the type of parameter. The parameter has one of the following types:

- ◆ **Variable** A normal procedure parameter.
- ◆ **Result** A column in a result set returned by the procedure.
- ◆ **Return** The return value. This parameter type only applies to functions.
- ◆ **SQLSTATE** The special SQLSTATE output parameter. This parameter is an OUT parameter that outputs the SQLSTATE value when the procedure ends.

For more information about the SQLSTATE parameter, see [“CREATE PROCEDURE statement” \[SQL Anywhere Server - SQL Reference\]](#).

- ◆ **SQLCODE** The special SQLCODE output parameter. This parameter is an OUT parameter that outputs the SQLCODE value when the procedure ends.

For more information about the SQLCODE parameter, see [“CREATE PROCEDURE statement” \[SQL Anywhere Server - SQL Reference\]](#).

Mode Shows the mode of the parameter. The mode has one of the following values:

- ◆ **In** The parameter is an expression that provides a value to the function.
- ◆ **Out** The parameter is a variable that could be given a value by the function.
- ◆ **In/out** The parameter is a variable that provides a value to the function, and could be given a new value by the function.

See also

- ◆ [“CREATE FUNCTION statement” \[SQL Anywhere Server - SQL Reference\]](#)
- ◆ [“CREATE PROCEDURE statement” \[SQL Anywhere Server - SQL Reference\]](#)

Primary Key property sheet: General tab

The General tab of the Primary Key property sheet has the following components:

Name Shows the name of the primary key. You can edit the primary key name in this field.

Type Shows the type of object.

Table Shows the name and owner of the table to which the primary key applies.

Index Shows the name of the index used to enforce the primary key constraint.

Comment Provides a place for you to type a description of the primary key.

See also

- ◆ [“CREATE TABLE statement” \[SQL Anywhere Server - SQL Reference\]](#)
- ◆ [“Managing primary keys \(Sybase Central\)” \[SQL Anywhere Server - SQL Usage\]](#)

Primary Key property sheet: Columns tab

The Columns tab of the Primary Key property sheet has the following components:

Name Shows the name of the column.

ID Shows the ID of each column.

Data type Shows the data type of the selected columns.

Comment Shows comments, if any, associated with the selected columns.

Details Displays the Column Details dialog, which shows a summary of the properties for the selected column.

Procedure property sheet: General tab

The General tab of the Procedure property sheet has the following components:

Name Shows the name of the procedure.

Type Shows the type of object.

Owner Shows the name of the database user who owns the procedure.

Dialect Shows the SQL dialect in which the code was last saved. The dialect is either Watcom-SQL or Transact-SQL.

Comment Provides a place for you to type a description of the procedure. For example, you could use this area to describe the procedure's purpose in the system.

See also

- ◆ [“CREATE PROCEDURE statement” \[SQL Anywhere Server - SQL Reference\]](#)

Procedure property sheet: Parameters tab

The Parameters tab of the Procedure property sheet has the following components:

Parameters list Displays the name, ID, data type, parameter type, and mode of the procedure's parameters. The mode has one of the following values:

- ◆ **In** The parameter is an expression that provides a value to the procedure.
- ◆ **Out** The parameter is a variable that could be given a value by the procedure.
- ◆ **In/out** The parameter is a variable that provides a value to the procedure, and could be given a new value by the procedure.

See also

- ◆ [“Declaring parameters for procedures” \[SQL Anywhere Server - SQL Usage\]](#)
- ◆ [“Using Procedures, Triggers, and Batches” \[SQL Anywhere Server - SQL Usage\]](#)
- ◆ [“CREATE PROCEDURE statement” \[SQL Anywhere Server - SQL Reference\]](#)

Procedure property sheet: Permissions tab

The Permissions tab of the Procedure property sheet has the following components:

Users list Lists the users who have permissions on the procedure. If you want to add users to the list, click Grant. To remove permissions from a user, select the user and then click Revoke. You can select multiple users by holding Shift while you click.

Click the Execute field beside each user to grant or revoke permissions.

- ◆ **Grant** Displays the Grant Permission dialog, which lets you grant permissions for the procedure to other users or groups.
- ◆ **Revoke** Revokes permissions for the procedure from the user or group and removes them from the Users list.

See also

- ◆ [“Granting permissions on procedures” \[SQL Anywhere Server - Database Administration\]](#)
- ◆ [“CREATE PROCEDURE statement” \[SQL Anywhere Server - SQL Reference\]](#)

Proxy Table property sheet: General tab

The General tab of the Proxy Table property sheet has the following components:

Name Shows the name of the proxy table. You cannot change the name of the proxy table.

Type Shows the type of object.

Owner Shows the name of the database user who owns the proxy table.

Remote location Shows the name of the remote server that contains the remote table, the remote database, the remote database user who owns the remote tables, and the name of the remote table the proxy table is based on. This only applies if the proxy table is for a remote server.

Directory access server Shows the name of the directory access server that the proxy table is based on. This only applies if the proxy table is for a directory access server.

Subdirectory Shows a subdirectory of the directory access server's root directory. When you execute a query against the proxy table, only files and directories within this subdirectory appear.

Comment Provides a place for you to type a text description of the proxy table. For example, you could use this area to describe the proxy table's purpose in the system.

See also

- ◆ [“Working with proxy tables” \[SQL Anywhere Server - SQL Usage\]](#)
- ◆ [“CREATE EXISTING TABLE statement” \[SQL Anywhere Server - SQL Reference\]](#)

Proxy Table property sheet: Columns tab

The Columns tab of the Proxy Table property sheet has the following components:

Columns list Lists all the columns in the proxy table, as well as their type and comments. You can double-click a column to open the Column Details dialog.

Details Displays the Column Details dialog, which shows a summary of the properties for the selected column.

See also

- ◆ [“Working with proxy tables” \[SQL Anywhere Server - SQL Usage\]](#)

Proxy Table property sheet: Permissions tab

The Permissions tab of the Proxy Table property sheet has the following components:

Users list Lists the users who have permissions on the proxy table. If you want to add users to the list, click Grant. To remove permissions from a user, select the user and click Revoke. You can select multiple users by holding Shift while you click.

To grant or revoke permissions, click the fields beside each user. Double-clicking (so that a check mark and two + signs appear) gives the user grant options.

- ◆ **Grant** Displays the Grant Permission dialog, which lets you grant permissions for the proxy table to other users or groups.
- ◆ **Revoke** Revokes permissions for the proxy table from the user or group and removes them from the Users list.

Select You must select a user from the Users list to enable this option. Shows whether the Select permissions for the user apply to all columns or a subset of columns. Click Change to open the Column Permissions dialog where you can grant Select permissions for a subset of columns.

Update You must select a user from the Users list to enable this option. Shows whether the user's Update permissions apply to all columns or a subset of columns. Click Change to open the Column Permissions dialog where you can grant Update permissions for a subset of columns.

References You must select a user from the Users list to enable this option. Shows whether the Reference permissions for the user apply to all columns or a subset of columns. Click Change to open the Column Permissions dialog where you can grant Reference permissions for a subset of columns.

See also

- ◆ [“Working with proxy tables” \[SQL Anywhere Server - SQL Usage\]](#)

Proxy Table property sheet: Miscellaneous tab

The Miscellaneous tab of the Proxy Table property sheet has the following components:

Maximum table width Shows the number of bytes required for each row in the proxy table. The number is calculated from the length of the string columns, the precision of numeric columns, and the number of bytes of storage for all other data types. If the proxy table includes long binary or long VARCHAR columns, their arbitrary widths are not included, so the row width can only be approximated.

Number of rows Shows the approximate number of rows in the table. This option is not available for proxy tables.

- ◆ **Calculate** Determines an accurate row count for the table. This button is not enabled for proxy tables.

See also

- ◆ [“Working with proxy tables” \[SQL Anywhere Server - SQL Usage\]](#)

Publication property sheet: General tab

The General tab of the Publication property has the following components:

Name Shows the name of the publication. You can change the publication's name in this field.

Type Shows the type of object.

Owner Shows the name of the database user who owns the publication.

Synchronization type Shows the type of publication. The type can be one of the following:

- ◆ **Log scan** Standard publication that is compatible with MobiLink and SQL Remote.
- ◆ **Scripted upload** Publication that uses stored procedures to define the upload. This type of publication is compatible only with MobiLink.

- ◆ **Download only** Publication that only downloads data to remote databases, and never uploads data. Download-only publications do not use a transaction log on the client. This type of publication is compatible only with MobiLink.

Comment Provides a place for you to type a text description of the publication. For example, you could use this area to describe the publication's purpose in the system.

See also

- ◆ [“CREATE PUBLICATION statement \[MobiLink\] \[SQL Remote\]” \[SQL Anywhere Server - SQL Reference\]](#)

Publication property sheet: Tables tab

The Tables tab lets you select tables and add them to the list of articles that are included in the client database.

The Tables tab of the Publication property sheet has the following components:

Available Tables list Lists all the base tables in the database you are currently connected to. To add a table to the Selected Tables list, select the table in the Available Tables list, then click Add.

Selected Tables list Lists all the tables that are included in the publication for the client database. If you want to remove a table from the Selected Tables list, select the table, then click Remove.

- ◆ **Add** Adds the table selected in the Available Tables list to the Selected Tables list so the table is included in the publication.
- ◆ **Remove** Removes the selected table from the Selected Tables list so the table is not included in the publication.

Publication property sheet: Columns tab

The Columns tab lets you select columns from tables and add them to the list of articles that are included in the client database.

The Columns tab of the Publication property sheet has the following components:

Available columns list Lists the tables and their columns selected on the Tables tab. Expand a table in the list to display its columns. To add columns to the Selected Columns list, select the columns in the Available Columns list, and then click Add.

Selected columns list Lists all the columns that are included in the publication. If you want to remove columns from the Selected Columns list, select the columns, and then click Remove.

- ◆ **Add** Adds the columns selected in the Available Columns list to the Selected Columns list so it is included in the publication.
- ◆ **Remove** Removes the columns from the Selected Columns list so they are not included in the publication.

Publication property sheet: WHERE Clauses tab

Articles defined for MobiLink and SQL Remote publications can use a WHERE clause to define a subset of rows of a table to be included in an article. UltraLite applications can use row subsets by supplying a WHERE clause, with one exception: articles in UltraLite publications governing HotSync synchronization cannot use a WHERE clause.

The WHERE Clauses tab lets you supply a WHERE clause to restrict the rows that are included in the client database.

The WHERE Clauses tab is only shown if the publication that contains the articles has a type of log scan.

The WHERE Clauses tab of the Publication property sheet has the following components:

Articles list Select an article from the list of articles included in the publication.

The selected article has the following WHERE clause In the text box, type the WHERE clause for the table to restrict the rows that are included in the article.

The following example creates a single-article publication that includes all sales order information for sales rep number 856.

```
CREATE PUBLICATION pub_orders_samuel_singer
( TABLE SalesOrders
  WHERE SalesRepresentative = 856 )
```

See “Publishing only some rows using a WHERE clause” [[SQL Remote](#)].

See also

- ◆ “The WHERE clause: specifying rows” [[SQL Anywhere Server - SQL Usage](#)]
- ◆ “Publishing only some rows using a WHERE clause” [[SQL Remote](#)]

Publication property sheet: SUBSCRIBE BY Restrictions tab

This tab only applies to SQL Remote publications and is only shown if the publication has a synchronization type of log scan.

The SUBSCRIBE BY Restrictions tab lets you define a subset of rows of a table for inclusion in the article.

The SUBSCRIBE BY Restrictions tab of the Publication property sheet has the following components:

Articles list Select an article from the list of articles included in the publication.

This article has the following SUBSCRIBE BY restriction You can choose one of the following options for the SUBSCRIBE BY restriction for the article:

- ◆ **None** Select this option if the article does not have a SUBSCRIBE BY restriction.
- ◆ **Column** Sets the article to partition rows from the table based on a column (SUBSCRIBE BY columns). Once you select this option, you must select a column from the dropdown list.
- ◆ **Expression** Sets the article to partition rows from the table based on an expression entered in the field below.

See also

- ◆ [“Publishing only some rows using a subscription expression” \[SQL Remote\]](#)

Publication property sheet: Upload Procedure tab

This property sheet only applies to scripted upload publications.

The Upload Procedure tab of the Publication property sheet has the following components:

Articles list Select an article from the list of articles included in the publication.

Upload procedure lists You can associate up to three procedures with one article: one for inserts, one for updates, and one for deletes. Click the INSERT, UPDATE, and DELETE tabs to specify these procedures for the selected article.

Upload rows using this procedure Select this option and then select a procedure from the dropdown list to specify a procedure to use to upload the selected rows. The selected procedure appears in the text box below, where it can be edited. Clear this option if you do not want to define a procedure.

- ◆ **Create New Procedure Now** Click the Create New Procedure Now icon to create a new procedure for upload scripts. The Create Procedure wizard appears.
- ◆ **Save Procedure Now** Click the Save Procedure Now icon to save changes that you have made to the selected procedure.
- ◆ **Revert Procedure Now** Click the Revert Procedure Now icon to abandon changes you have made to the selected procedure since it was last saved.

Publication property sheet: Connection tab

This tab only applies to MobiLink.

The Connection tab of the Publication property sheet has the following components:

Protocol Choose the communication protocol to use for synchronization. TCP/IP is used by default.

The settings you can specify on the Connection tab depend on the communication protocol you are using. Any additional parameters, such as `buffer_size`, can be set in the Advanced field.

For a complete list of parameters supported by each protocol, see:

- ◆ [“CREATE SYNCHRONIZATION USER statement \[MobiLink\]” \[SQL Anywhere Server - SQL Reference\]](#)
- ◆ [“CommunicationType \(ctp\) extended option” \[MobiLink - Client Administration\]](#)
- ◆ **TCP/IP** Select this option to use the TCP/IP protocol for synchronization. For versions 8.0.x and 9.0.x, choosing TCP/IP and then Enable Certicom security is equivalent to choosing TLS.

- ◆ **TLS** Select this option to use TLS (transport-layer security) for synchronization. TLS supports both elliptic-curve cryptography (ECC) and RSA encryption. This option is only available for version 10 and later.
- ◆ **HTTP** Select this option to use the HTTP protocol for synchronization.
- ◆ **HTTPS** Select this option to use the HTTPS protocol for synchronization. HTTPS supports both elliptic-curve cryptography (ECC) and RSA encryption.
- ◆ **HTTPS FIPS** Select this option to use the HTTPS protocol for synchronization with FIPS-approved algorithms for encryption. This option is only available for version 8.0.x and 9.0.x. For version 10, this is equivalent to selecting the HTTPS protocol and then selecting the FIPS-approved option for Security.
- ◆ **ActiveSync** Select this option to use ActiveSync to exchange data with the MobiLink provider for ActiveSync, which resides on the desktop computer. The ActiveSync parameters describe the communications between the MobiLink provider for ActiveSync and the MobiLink server. This option is only available for versions 8.0.x and 9.0.x.

See “[ActiveSync provider installation utility \[mlasinst\]](#)” [*MobiLink - Client Administration*].

Host The IP number or host name of the computer on which the MobiLink server is running. The default value is `localhost`. You can use `localhost` if the MobiLink server is running on the same computer as the client.

For Windows CE, the default value is the value of `ipaddr` in the registry folder `Comm\Tcpip\Hosts\ppp_peer`. This allows a Windows CE device to connect to a MobiLink server executing on the desktop computer where the Windows CE device's cradle is connected.

For the Palm Computing Platform, the default value of `localhost` refers to the device. It is recommended that you specify an explicit host name or IP address.

- ◆ **Port** The MobiLink server communicates over a specific port. The default port number is **2439** for TCP/IP, **80** for HTTP, and **443** for HTTPS. If you choose a different value, you must configure your MobiLink server to listen on the port you specify.

Proxy host Type the host name or IP address of the proxy server. The default value is `localhost`. This option is only available for HTTP and HTTPS synchronization.

- ◆ **Proxy port** Type the port number of the proxy server. The default value is **80** for HTTP and **443** for HTTPS. This option is only available for HTTP and HTTPS synchronization.

URL suffix Type the suffix to add to the URL on the first line of each HTTP request. The default value is `MobiLink`. This option is only available for HTTP and HTTPS synchronization.

When synchronizing through a proxy server, the suffix may be necessary in order to find the MobiLink server.

- ◆ **HTTP Version** Type the value specifying the version of HTTP to use for synchronization. You have a choice of 1.0 or 1.1. The default value is **1.1**.

Automatic connection The following options allow MobiLink clients running on Windows or Windows CE to connect through dial-up network connections.

When used with scheduling, your remote device can synchronize unattended. When used without scheduling, you can run dbmlsync without manually dialing a connection.

See “[Scheduling synchronization](#)” [*MobiLink - Client Administration*].

- ◆ **Network name** Specify the network name so that you can use the MobiLink auto-dial feature. This allows you to connect from Windows or Windows CE without dialing manually. The name should be the network name that you have specified in the dropdown list in Settings ► Connections ► Connections (Windows CE) or Network Connections (Windows).
- ◆ **Network connect timeout** When you specify a network name, you can optionally specify a timeout after which the dial-up fails. This feature applies only to Windows CE. (On Windows, you can control this feature by configuring the connection profile.) The default is **120** seconds.
- ◆ **Leave open** When you supply a network name, you can optionally specify whether the connection should be left open (1) or closed (0) after synchronization finishes. By default, the connection is closed.

Security These options allow you to use a cipher suite to encrypt all communication through this connection. You can provide information about the certificate used to authenticate the server in the fields below for both the elliptic-curve and RSA ciphers.

Enable Certicom security Select this option to encrypt all communication through this connection. You can use the elliptic-curve or RSA cipher. By default, elliptic curves are used. This option is only available for versions 8.0.x and 9.0.x. Choosing this option with the TCP/IP protocol is equivalent to choosing the TLS protocol in version 10.

Separately licensed component required

ECC encryption and FIPS-certified encryption require a separate license. All strong encryption technologies are subject to export regulations.

See “[Separately licensed components](#)” [*SQL Anywhere 10 - Introduction*].

For more information about security, see “[Transport-Layer Security](#)” [*SQL Anywhere Server - Database Administration*].

- ◆ **Elliptic curves** Uses the elliptic-curve cipher to encrypt connections. You can use this cipher to encrypt TLS over TCP/IP and HTTPS connections with version 10 databases, and TCP/IP connections with version 8 and 9 databases. This was formerly called Certicom encryption.
- ◆ **RSA** Uses the RSA cipher to encrypt communications. You can use this cipher to encrypt TLS over TCP/IP and HTTPS connections with version 10 databases, and TCP/IP connections with version 8 and 9 databases. This cipher is selected automatically with version 8 and 9 databases when you choose HTTPS.
- ◆ **FIPS-approved** Uses the FIPS-approved RSA cipher to encrypt communications. You can use this cipher to encrypt TLS over TCP/IP and HTTPS connections with version 10 databases, and TCP/IP connections with version 9 databases. This cipher is selected automatically with version 9 databases when you choose HTTPS FIPS. This cipher is not supported for version 8 databases.

- ◆ **Certificate company** Type the name of the certificate authority or organization that issued the certificate. The server's and the client's values must match.
- ◆ **Certificate unit** Type the certificate unit. This is also called the organizational unit. The server's and the client's values must match.
- ◆ **Certificate name** Type the certificate's common name. The server's and the client's values must match.
- ◆ **Trusted certificates** Type the name of the certificate file the client uses to authenticate the server.

Advanced Type any additional connection parameters in this field, entering them in the form *parameter=value*, with multiple parameters separated by semicolons. For example, to set the maximum body size for a fixed content length message, and to instruct the client to attempt to use the same TCP/IP connection for all HTTP requests in a synchronization, you would enter the following in the Advanced field:

```
buffer_size=58000;persistent=TRUE
```

For a complete list of connection parameters you can enter in this field, see [“CREATE SYNCHRONIZATION USER statement \[MobiLink\]” \[SQL Anywhere Server - SQL Reference\]](#).

Note

You can set connection parameters for synchronization in several ways.

For information about how dbmlsync resolves conflicting options, see [“Priority order” \[MobiLink - Client Administration\]](#).

If a field is blank on the Connection tab of the MobiLink User property sheet, the MobiLink user may be inheriting the connection parameter setting from the synchronization subscription. You should only supply connection parameters on the Connection tab of the MobiLink User property sheet if you want to override the publication's settings.

See also

- ◆ [“CREATE SYNCHRONIZATION USER statement \[MobiLink\]” \[SQL Anywhere Server - SQL Reference\]](#)
- ◆ [“CREATE PUBLICATION statement \[MobiLink\] \[SQL Remote\]” \[SQL Anywhere Server - SQL Reference\]](#)
- ◆ [“ALTER PUBLICATION statement \[MobiLink\] \[SQL Remote\]” \[SQL Anywhere Server - SQL Reference\]](#)
- ◆ [“-x option” \[MobiLink - Client Administration\]](#)
- ◆ [“CommunicationAddress \(adr\) extended option” \[MobiLink - Client Administration\]](#)

Publication property sheet: Extended Options tab

This tab only applies to MobiLink.

The Extended Options tab of the Publication property sheet has the following components:

This publication has the following MobiLink extended options Lists the extended options and values set for the publication. Click the Value field beside the option name to set the value for the publication.

The table below lists all the available extended options for synchronization.

For more information about these options, see “[MobiLink SQL Anywhere Client Extended Options](#)” [*MobiLink - Client Administration*].

Extended option	Default	Description
“ConflictRetries (cr) extended option” [<i>MobiLink - Client Administration</i>]	-1 (continue indefinitely)	Specifies the number of retries if the download fails because of conflicts.
“ContinueDownload (cd) extended option” [<i>MobiLink - Client Administration</i>]	OFF	Specifies restartable downloads.
“DisablePolling (p) extended option” [<i>MobiLink - Client Administration</i>]	OFF	Disables automatic logscan polling.
“DownloadBufferSize (dbs) extended option” [<i>MobiLink - Client Administration</i>]	32 K on Windows CE, 1 M on all other operating systems.	Specifies the size of the download buffer. By default, units of bytes are used. You can use the suffix k or m to specify units of kilobytes or megabytes, respectively.
“DownloadOnly (ds) extended option” [<i>MobiLink - Client Administration</i>]	OFF	Specifies that synchronization should be download-only.
“DownloadReadSize (drs) extended option” [<i>MobiLink - Client Administration</i>]	32 K	For restartable downloads, specifies the maximum amount of data that may need to be resent after a communications failure.
“ErrorLogSendLimit (el) extended option” [<i>MobiLink - Client Administration</i>]	32 K	Specifies how much of the remote log file dbmlsync should send to the server when synchronization occurs. By default, units of bytes are used. You can use the suffix k or m to specify units of kilobytes or megabytes, respectively. If you don't want to send any dbmlsync output log messages, a zero value should be set for this extended option.
“FireTriggers (ft) extended option” [<i>MobiLink - Client Administration</i>]	ON	Specifies that triggers should be fired on the remote database when the download is applied.

Extended option	Default	Description
“HoverRescanThreshold (hrt) extended option” [<i>MobiLink - Client Administration</i>]	1 M	When you are using scheduling, this limits the amount of discarded memory that is allowed to accumulate before a rescan is performed. By default, units of bytes are used. You can use the suffix k or m to specify units of kilobytes or megabytes, respectively.
“IgnoreHookErrors (eh) extended option” [<i>MobiLink - Client Administration</i>]	OFF	Specifies that errors that occur in hook functions should be ignored.
“IgnoreScheduling (isc) extended option” [<i>MobiLink - Client Administration</i>]	OFF	Specifies that scheduling settings should be ignored.
“Increment (inc) extended option” [<i>MobiLink - Client Administration</i>]	(infinite)	Controls the size of incremental uploads. By default, units of bytes are used. You can use the suffix k or m to specify units of kilobytes or megabytes, respectively.
“LockTables (lt) extended option” [<i>MobiLink - Client Administration</i>]	ON	Specifies that articles (tables or parts of tables in the publications being synchronized) should be locked before synchronizing.
“Memory (mem) extended option” [<i>MobiLink - Client Administration</i>]	1 M	Specifies a cache size. By default, units of bytes are used. You can use the suffix k or m to specify units of kilobytes or megabytes, respectively.
“MirrorLogDirectory (mld) extended option” [<i>MobiLink - Client Administration</i>]	(none)	Specifies the location of old mirror log files so that they can be deleted.
“MobiLinkPwd (mp) extended option” [<i>MobiLink - Client Administration</i>]	NULL	Specifies the MobiLink password. Passwords are case sensitive.
“NewMobiLinkPwd (mn) extended option” [<i>MobiLink - Client Administration</i>]	NULL	Specifies a new MobiLink password. Passwords are case sensitive.
“NoSyncOnStartup (nss) extended option” [<i>MobiLink - Client Administration</i>]	NULL	Prevents dbmlsync from synchronizing on startup when a scheduling option would otherwise cause that to happen.

Extended option	Default	Description
“PollingPeriod (pp) extended option” [<i>MobiLink - Client Administration</i>]	1 minute	Specifies the logscan polling period. By default, units of minutes are used. You can use the suffix s, m, h, or d to specify units of seconds, minutes, hours, or days, respectively.
“Schedule (sch) extended option” [<i>MobiLink - Client Administration</i>]	No schedule	Specifies a schedule for synchronization.
“ScriptVersion (sv) extended option” [<i>MobiLink - Client Administration</i>]	DEFAULT	Specifies a script version.
“SendColumnNames (scn) extended option” [<i>MobiLink - Client Administration</i>]	OFF	Specifies that column names should be sent in the upload.
“SendDownloadACK (sa) extended option” [<i>MobiLink - Client Administration</i>]	OFF	Specifies that a download acknowledgment should be sent from the client to the server.
“SendTriggers (st) extended option” [<i>MobiLink - Client Administration</i>]	OFF	Specifies that trigger actions should be sent on upload.
“TableOrder (tor) extended option” [<i>MobiLink - Client Administration</i>]	(none)	Specifies the order of tables in the upload stream.
“UploadOnly (uo) extended option” [<i>MobiLink - Client Administration</i>]	OFF	Specifies that synchronization should only include an upload.
“Verbose (v) extended option” [<i>MobiLink - Client Administration</i>]	OFF	Specifies full verbosity. This option is identical to dbmlsync -v+.
“VerboseHooks (vs) extended option” [<i>MobiLink - Client Administration</i>]	OFF	Specifies that messages related to hook scripts should be logged. This option is identical to dbmlsync -vs.
“VerboseMin (vm) extended option” [<i>MobiLink - Client Administration</i>]	OFF	Specifies that a small amount of information should be logged. This option is identical to dbmlsync -v.
“VerboseOptions (vo) extended option” [<i>MobiLink - Client Administration</i>]	OFF	Specifies that information should be logged about the command line options (including extended options) that you have specified. This option is identical to dbmlsync -vo.

Extended option	Default	Description
“VerboseRowCounts (vn) extended option” [<i>MobiLink - Client Administration</i>]	OFF	Specifies that the number of rows that are uploaded and downloaded should be logged. This option is identical to dbmlsync -vn.
“VerboseRowValues (vr) extended option” [<i>MobiLink - Client Administration</i>]	OFF	Specifies that the values of rows that are uploaded and downloaded should be logged. This option is identical to dbmlsync -vr.
“VerboseUpload (vu) extended option” [<i>MobiLink - Client Administration</i>]	OFF	Specifies that information about the upload stream should be logged. This option is identical to dbmlsync -vu.

Note

You can set connection parameters for synchronization in several ways.

For information about how dbmlsync resolves conflicting options, see “*Priority order*” [*MobiLink - Client Administration*].

Publisher property sheet: General tab

The General tab of the Publisher property sheet has the following components:

Name Shows the name of the publisher.

Type Shows the type of object.

Allowed to connect Select this option to allow the publisher to connect to the database. If the publisher is not allowed to connect, the password (if one was supplied) is removed from the account. If you later change the publisher to allow them to connect, you must supply a new password. Clearing this option disables the Password and Confirm Password options.

Users are almost always allowed to connect.

◆ **Password** Type the password for the publisher. Passwords are case sensitive.

◆ **Confirm password** Confirm the password that you typed in the Password text box by entering it again. The contents of the two fields must match exactly. Passwords are case sensitive.

Comment Provides a place for you to type a text description of the publisher. For example, you could use this area to describe the publisher's purpose in the system.

See also

- ◆ “Granting and revoking remote permissions” [*SQL Anywhere Server - Database Administration*]
- ◆ “Managing User IDs and Permissions” [*SQL Anywhere Server - Database Administration*]

Publisher property sheet: Authorities tab

The Authorities tab of the Publisher property sheet has the following components:

DBA Select this option to grant DBA authority to the publisher; a user with DBA authority can fully administer the database.

Resource Select this option to grant resource authority to the publisher; a user with resource authority can create database objects.

Remote DBA Select this option to grant Remote DBA authority to the publisher. The MobiLink client utility, dbmlsync, requires Remote DBA authority. The SQL Remote Message Agent should also be run using a user ID with this type of authority to ensure that actions can be performed without creating security loopholes.

Backup Select this option to grant backup authority to the publisher.

Validate Select this option to grant validate authority to the publisher; a user with validate authority can perform the operations executed by the different VALIDATE statements, such as database, table, index, and checksum validation.

See also

- ◆ [“Granting and revoking remote permissions” \[SQL Anywhere Server - Database Administration\]](#)
- ◆ [“Managing User IDs and Permissions” \[SQL Anywhere Server - Database Administration\]](#)
- ◆ [“DBA authority overview” \[SQL Anywhere Server - Database Administration\]](#)
- ◆ [“RESOURCE authority overview” \[SQL Anywhere Server - Database Administration\]](#)
- ◆ [“GRANT REMOTE DBA statement \[MobiLink\] \[SQL Remote\]” \[SQL Anywhere Server - SQL Reference\]](#)
- ◆ [“BACKUP authority overview” \[SQL Anywhere Server - Database Administration\]](#)
- ◆ [“VALIDATE authority overview” \[SQL Anywhere Server - Database Administration\]](#)

Publisher property sheet: Permissions tab

The Permissions tab of the Publisher property sheet has the following components:

Permissions list Shows all tables the publisher has permissions on, as well as the user who owns each table. You can click the fields beside each user to grant or revoke permissions; double-clicking (so that a checkmark and two + signs appear) gives the user grant options for the permission.

Show Select what type of object appears in the Permissions list:

- ◆ **Tables** All tables the publisher has permissions on.
- ◆ **Views** All views the publisher has permissions on.
- ◆ **Procedures & functions** Displays all procedures and functions the publisher has permissions on. You can only grant Execute permissions for procedures and functions.

See also

- ◆ [“Granting and revoking remote permissions” \[SQL Anywhere Server - Database Administration\]](#)

Remote Procedure property sheet: General tab

The General tab of the Remote Procedure property sheet has the following components:

Name Shows the name of the remote procedure.

Type Shows the type of object.

Owner Shows the name of the database user who owns the remote procedure.

Dialect Shows the SQL dialect in which the code was last saved. The dialect is either Watcom-SQL or Transact-SQL.

Remote server Shows the name of the remote database containing the procedure.

Comment Provides a place for you to type a description of the remote procedure. For example, you could use this area to describe the remote procedure's purpose in the system.

Remote Procedure property sheet: Parameters tab

The Parameters tab of the Remote Procedure property sheet has the following components:

Parameters list Displays the name, data type, parameter type, and mode of the remote procedure's parameters. The mode has one of the following values:

- ◆ **In** The parameter is an expression that provides a value to the procedure.
- ◆ **Out** The parameter is a variable that could be given a value by the procedure.
- ◆ **In/out** The parameter is a variable that provides a value to the procedure, and could be given a new value by the remote procedure.

See also

- ◆ [“Using Procedures, Triggers, and Batches” \[SQL Anywhere Server - SQL Usage\]](#)
- ◆ [“CREATE PROCEDURE statement” \[SQL Anywhere Server - SQL Reference\]](#)
- ◆ [“Declaring parameters for procedures” \[SQL Anywhere Server - SQL Usage\]](#)

Remote Procedure property sheet: Permissions tab

The Permissions tab of the Remote Procedure property sheet has the following components:

Users list Lists the users who have permissions on the remote procedure. If you want to add users to the list, click Grant. To remove permissions from a user, select the user and click Revoke. You can select multiple users by holding Shift while you click.

Click the Execute field beside each user to grant or revoke permissions.

- ◆ **Grant** Displays the Grant Permission dialog, which lets you grant permissions for the remote procedure to other users or groups.

- ◆ **Revoke** Revokes permissions for the remote procedure from the user or group and removes them from the Users list.

See also

- ◆ [“Granting permissions on procedures” \[SQL Anywhere Server - Database Administration\]](#)

Remote Server property sheet: General tab

The General tab of the Remote Server property sheet has the following components:

Name Shows the name of the remote server.

Type Shows the type of object.

Read-only Shows whether or not the remote server is read-only.

Server type Shows the class or software platform of the database server. You can choose a different software platform from the dropdown list.

The server type that you choose restricts the types of connection you can choose from. For example, if you choose Generic Server from the Server Type dropdown list, you can only connect using ODBC.

Connection type Lets you choose between the ODBC and JDBC connection protocols.

- ◆ **Open database connectivity (ODBC)** Select this option to use the ODBC connection protocol. You can use ODBC with any of the servers listed in the Server Type dropdown list.
- ◆ **Java database connectivity (JDBC)** Select this option to use the JDBC connection protocol. You can use JDBC with the following server types: Sybase SQL Anywhere and Sybase Adaptive Server Enterprise. If your database is not Java-enabled, the Java Database Connectivity (JDBC) option is not enabled.

For more information about ODBC and JDBC connection protocols, see:

- ◆ [“Introduction to JDBC” \[SQL Anywhere Server - Programming\]](#)
- ◆ [“Creating remote servers using Sybase Central” \[SQL Anywhere Server - SQL Usage\]](#)

Connection information Lets you specify startup connection parameters, such as the name and address of the server.

For ODBC data sources, type the name of the data source. For JDBC access, type a computer name or IP address and a port number in the form *hostname:portnumber*.

Test Connection Click this button to test whether the information provided in the remote server definition results in a proper connection.

See also

- ◆ [“CREATE SERVER statement” \[SQL Anywhere Server - SQL Reference\]](#)
- ◆ [“Working with remote servers” \[SQL Anywhere Server - SQL Usage\]](#)

Remote User property sheet: General tab

The General tab of the Remote User property sheet has the following components:

Name Shows the name of the remote user.

Type Shows the type of object.

Allowed to connect Select this option to allow the remote user to connect to the database. If the remote user is not allowed to connect, the password (if one was supplied) is removed from the account. If you later change the remote user to allow them to connect, you must supply a new password. Clearing this option disables the Password and Confirm Password options.

Users are almost always allowed to connect.

◆ **Password** Type the password for the remote user. Passwords are case sensitive.

◆ **Confirm password** Confirm the password that you typed in the Password text box by entering it again. The contents of the two fields must match exactly. Passwords are case sensitive.

Comment Provides a place for you to type a text description of the remote user. For example, you could use this area to describe the remote user's purpose in the system.

See also

- ◆ [“Granting and revoking remote permissions”](#) [*SQL Anywhere Server - Database Administration*]
- ◆ [“Managing User IDs and Permissions”](#) [*SQL Anywhere Server - Database Administration*]

Remote User property sheet: Authorities tab

The Authorities tab of the Remote User property sheet has the following components:

DBA Select this option to grant DBA authority to the remote user; a user with DBA authority can fully administer the database.

Resource Select this option to grant resource authority to the remote user; a user with resource authority can create database objects.

Remote DBA Select this option to grant Remote DBA authority to the remote user. The MobiLink client utility, dbmlsync, requires Remote DBA authority. The SQL Remote Message Agent should also be run using a user ID with this type of authority to ensure that actions can be performed without creating security loopholes.

Backup Select this option to grant backup authority to the remote user.

Validate Select this option to grant validate authority to the remote user; a user with validate authority can perform the operations executed by the different VALIDATE statements, such as database, table, index, and checksum validation.

See also

- ◆ [“Granting and revoking remote permissions”](#) [*SQL Anywhere Server - Database Administration*]
- ◆ [“Managing User IDs and Permissions”](#) [*SQL Anywhere Server - Database Administration*]

- ◆ “DBA authority overview” [[SQL Anywhere Server - Database Administration](#)]
- ◆ “RESOURCE authority overview” [[SQL Anywhere Server - Database Administration](#)]
- ◆ “GRANT REMOTE DBA statement [MobiLink] [SQL Remote]” [[SQL Anywhere Server - SQL Reference](#)]
- ◆ “BACKUP authority overview” [[SQL Anywhere Server - Database Administration](#)]
- ◆ “VALIDATE authority overview” [[SQL Anywhere Server - Database Administration](#)]

Remote User property sheet: Permissions tab

The Permissions tab of the Remote User property sheet has the following components:

Permissions list Shows all tables the remote user has permissions on, as well as the user who owns each table. You can click the fields for each table to grant or revoke permissions; double-clicking (so that a checkmark and two + signs appear) gives the user grant options for the permission.

Show Select what type of object appears in the Permissions list:

- ◆ **Tables** All tables the remote user has permissions on.
- ◆ **Views** All views the remote user has permissions on.
- ◆ **Procedures & functions** All procedures and functions the remote user has permissions on. You can only grant Execute permissions for procedures and functions.

See also

- ◆ “Granting and revoking remote permissions” [[SQL Anywhere Server - Database Administration](#)]

Remote User property sheet: SQL Remote tab

The SQL Remote tab of the Remote User property sheet has the following components:

Message type Lets you select a message type for communicating with the publisher.

Address Provides a place for you to type the remote address of the remote user. The address is a string, according to the specified message type, to which the replication messages should be sent for the user.

For information about what address to use with a specific message type, see “Using message types” [[SQL Remote](#)].

- ◆ **Send then close** Sets the replication frequency so that the publisher's agent runs once, sends all pending messages to the remote group, and then shuts down. This means that the agent must be restarted each time the publisher wants to send messages.

In most replication setups, this option is not used for sending publications from the consolidated publisher to the remote group.

- ◆ **Send every** Sets the replication frequency so that the publisher's agent runs continuously, sending messages to the remote group at the specified periodic interval.

- ◆ **Send daily at** Sets the replication frequency so that the publisher's agent runs continuously, sending messages to the remote group each day at the specified time.

See also

- ◆ [“Granting and revoking remote permissions” \[SQL Anywhere Server - Database Administration\]](#)
- ◆ [“CREATE SUBSCRIPTION statement \[SQL Remote\]” \[SQL Anywhere Server - SQL Reference\]](#)

Schedule property sheet: General tab

The General tab of the Schedule property sheet has the following components:

Name Shows the name of the selected event schedule.

Type Shows the type of object.

Event Shows the name of the event the schedule is for.

Start time Select one of the following options to specify when the event occurs.

- ◆ **At** Select this option to specify a specific scheduled time for each day the event is scheduled. If a Start Date is specified, the Start Time refers to that date. If you do not specify a Start Date, the Start Time is on the current day (unless that time has passed) and each subsequent day.
- ◆ **Between** A range of time during which the selected event is to occur. For example, the event may be scheduled to occur between 11 A.M. and 12 P.M. If you specify a Start Date, the scheduled times do not occur until that date.

Start date The date on which the scheduled event starts occurring. The current date is the default. You can type the date in the text box or select the month, day, and year from the lists.

If the event is a non-recurring scheduled event, the start time must be in the future. An attempt to create a non-recurring scheduled event with a start time that has already passed generates an error.

See also

- ◆ [“CREATE EVENT statement” \[SQL Anywhere Server - SQL Reference\]](#)
- ◆ [“Automating Tasks Using Schedules and Events” \[SQL Anywhere Server - Database Administration\]](#)

Schedule property sheet: Recurrence tab

All the settings on this tab are optional.

The Recurrence tab of the Schedule property sheet has the following components:

Repeat every Select the interval between successive scheduled events. Selecting this option adds a SCHEDULE EVERY clause to the event definition.

Scheduled event times are calculated when the schedules are created, and again when the event handler completes execution. See [“CREATE EVENT statement” \[SQL Anywhere Server - SQL Reference\]](#).

Trigger on the following Select this option and then choose either the Days of the Week or the Days of the Month options. Selecting this option adds a SCHEDULE ON clause to the event definition.

- ◆ **Days of the week** Select the day(s) of the week on which the selected event occurs by selecting the checkbox beside the desired day.
- ◆ **Days of the month** Select the day(s) of the month on which the selected event occurs by selecting the checkbox beside the desired day.

See also

- ◆ [“Defining schedules” \[SQL Anywhere Server - Database Administration\]](#)
- ◆ [“Automating Tasks Using Schedules and Events” \[SQL Anywhere Server - Database Administration\]](#)
- ◆ [“CREATE EVENT statement” \[SQL Anywhere Server - SQL Reference\]](#)

Server property sheet: General tab

The General tab of the Server property sheet has the following components:

Name Shows the name of the database server.

Type Shows the type of object.

Product Shows the database server's product type; for example, the product could be SQL Anywhere or Adaptive Server Anywhere.

Version Shows the version number of the database server.

Computer Shows the name of the computer on which the database server is running.

Operating system Shows the operating system that the database server is currently running on.

Operating system version Shows the operating system version that the database server is currently running on.

See also

- ◆ [“Server-level properties” \[SQL Anywhere Server - Database Administration\]](#)

Server property sheet: Extended Information tab

The Extended Information tab of the Server property sheet has the following components:

Database server properties list An extended list of server properties and their values. Click Refresh to update the values. You can also press F5 to refresh the database server property values.

Refresh Click Refresh to update the values in the Server Properties list.

Description When you select a property from the list, a description of the property appears in the Description window.

See also

- ◆ “Server-level properties” [[SQL Anywhere Server - Database Administration](#)]

Server property sheet: Options tab

The database server options on this tab correspond to options that can be reset while the database server is running.

See “sa_server_option system procedure” [[SQL Anywhere Server - SQL Reference](#)].

The Options tab of the Server property sheet has the following components:

Current time Displays the current time. Click Refresh to update the Current Time. You can also press F5 to update the current time.

Quitting time Lets you specify a time when the database server is to shut down. Use the same format as the current time, which is as follows:

YYYY-MM-DD HH:NN:SS

Disable new connections Select this option to prevent other users from connecting to the database. The may be useful for some maintenance operations.

Remember the last statement executed on each connection Select this option to remember the last statement executed on each connection.

See also

- ◆ “Server-level properties” [[SQL Anywhere Server - Database Administration](#)]

Server property sheet: Request Logging tab

The Request Logging tab of the Server property sheet has the following components:

Enable request logging Select this option to record requests that the server processes to the log file. This option is primarily for troubleshooting purposes. Note that for SQL Anywhere 10.0.0 and later databases, the new database tracing feature provides a more complete log of database requests. Selecting Enable Request Logging enables the options below.

See “Tracing session data” [[SQL Anywhere Server - SQL Usage](#)].

- ◆ **All connections to this server** Records requests from all connections to the current database server to the log file.
- ◆ **All connections to the following database** Records requests from all connections to the specified database to the log file.
- ◆ **The following connection** Records only requests from the specified connection to the log file.
- ◆ **Log all requests** Records all requests that the database server processes to the log file.
- ◆ **Log only the following requests** Select this option to specify the types of requests you want logged:

- ◆ **SQL** Log SQL statement requests.
- ◆ **Procedures and functions** Log procedure and function calls.
- ◆ **Query plans** Log query plans.
- ◆ **Include host variables** Include host variables in the log.
- ◆ **Triggers** Log trigger calls.
- ◆ **Connections blocked from proceeding** Log any connections that are blocked from proceeding.

For a list of the SQL statements that are logged when you log only SQL requests, see “[sa_server_option system procedure](#)” [*SQL Anywhere Server - SQL Reference*].

- ◆ **Log file name** When you select Enable Request Logging, you must provide a log file name. You can also click Browse to locate the file.
 - ◆ **Overwrite the request log file if it already exists** Select this option to overwrite an existing request log file.
 - ◆ **Maximum log file size** The maximum size, in kilobytes, of the request log file.
 - ◆ **Maximum number of log files** The maximum number of log files to retain. Each file has an extension with a number appended to it.

See also

- ◆ “Server-level properties” [*SQL Anywhere Server - Database Administration*]
- ◆ “-zr server option” [*SQL Anywhere Server - Database Administration*]
- ◆ “-zl server option” [*SQL Anywhere Server - Database Administration*]
- ◆ “Request logging” [*SQL Anywhere Server - SQL Usage*]

Service property sheet: General tab

The General tab of the Service property sheet has the following components:

Name Shows the name of the service. A service runs a database server or other application with a set of options.

Type Shows the type of object.

Service type Shows the type of service: Network, Standalone, DBRemote, or MobiLink.

Status Shows whether service is started or stopped.

For more information about the service status, see “[Starting and stopping services](#)” [*SQL Anywhere Server - Database Administration*].

Startup type You can select one of the following startup options for the service. The startup option is applied the next time you start Windows:

- ◆ **Automatic** Select this option to start the service automatically whenever the operating system starts.
- ◆ **Manual** Select this option to start the service manually. Only a user with Administrator permissions can start the service if it requires manual startup.

For information about Administrator permissions, see your Windows documentation.

- ◆ **Disabled** Select this option to disable the service so it does not start.

See also

- ◆ [“CREATE SERVICE statement” \[SQL Anywhere Server - SQL Reference\]](#)
- ◆ [“Managing Windows services” \[SQL Anywhere Server - Database Administration\]](#)
- ◆ [“Understanding Windows services” \[SQL Anywhere Server - Database Administration\]](#)

Service property sheet: Configuration tab

The Configuration tab of the Service property sheet has the following components:

File name Provides a place for you to type the path of the executable file. For example, `c:\Program Files\SQL Anywhere 10\win32\dbeng10.exe`.

You can also click Browse to search for a file.

Parameters Type additional parameters (file names and options) for the executable file in the text box. You can use the same options for a service that you use for the executable.

For example to start a SQL Remote Message Agent service, connecting to the SQL Anywhere sample database as user DBA, enter the following:

```
-c "UID=DBA;PWD=sql;DBN=demo"
```

See also

- ◆ [“Service utility \(dbsvc\) for Windows” \[SQL Anywhere Server - Database Administration\]](#)
- ◆ [“The SQL Anywhere database server” \[SQL Anywhere Server - Database Administration\]](#)

Service property sheet: Account tab

The Account tab of the Service property sheet has the following components:

Local system account Select this option to run the service under your system's local account.

- ◆ **Allow service to interact with desktop** This option is only available when you select Local System Account. Select this option if you want to display the Server Messages window by clicking an icon on your desktop. This option is not available for Windows Vista.

Other account Select this option to run the service under an account other than the local account. You can choose a user ID from the dropdown list or type a user ID. Selecting this option enables the Password and Confirm Password fields.

- ◆ **Password** When you select Other Account, you must supply the appropriate password for the user ID. You must confirm the password in the Confirm Password text box.
- ◆ **Confirm password** Confirm the password that you typed in the Password text box by entering it again. The contents of the two fields must match exactly. Passwords are case sensitive.

See also

- ◆ [“Managing Windows services” \[SQL Anywhere Server - Database Administration\]](#)
- ◆ [“Service utility \(dbsvc\) for Windows” \[SQL Anywhere Server - Database Administration\]](#)

Service property sheet: Dependencies tab

The Dependencies tab of the Service property sheet has the following components:

The service belongs to a service group Select this option if you want to assign the service to be a member of a service group.

- ◆ **Service group** Lets you specify which service group the service belongs to. To change which service group the service belongs to, click Change. The Set Service Group dialog appears, which lets you specify a service group for the service.

Services list Lists all the services and service groups that must be started before the service. The list also shows the type of service or service group.

To add services or service groups to this list, click Add Services or Add Service Groups, respectively. If you want to remove a service or service group from the Services list, select the service or service group, and then click Remove. You can select multiple services or service groups by holding Shift while you click.

- ◆ **Add Services** Displays the Add Service Dependencies dialog, which lets you view all services and select the ones you want to add to the Services list.
- ◆ **Add Service Groups** Displays the Add Service Group Dependencies dialog, which lets you select the service groups that you want to add to the Services list.
- ◆ **Remove** Removes the service or service group from the Services list. The group or service is no longer required to start before the service.

See also

- ◆ [“Service dependencies” \[SQL Anywhere Server - Database Administration\]](#)
- ◆ [“Managing Windows services” \[SQL Anywhere Server - Database Administration\]](#)
- ◆ [“Running more than one service” \[SQL Anywhere Server - Database Administration\]](#)

Service property sheet: Polling tab

Settings on this tab apply to all services, not just the currently selected service.

The Polling tab of the Service property sheet has the following components:

Enable polling Select this option if you want Sybase Central to poll the services for changes to their states (started or stopped).

- ◆ **Poll every** When you select Enable Polling, you must specify how often Sybase Central polls the service to check for status changes. The default interval is 10 seconds. The polling time you set in the window remains in effect for subsequent sessions until you change it explicitly.

See also

- ◆ [“Setting the service polling frequency” \[SQL Anywhere Server - Database Administration\]](#)
- ◆ [“Managing Windows services” \[SQL Anywhere Server - Database Administration\]](#)

SQL Remote Subscription property sheet: General tab

The General tab of the SQL Remote Subscription property sheet has the following components:

Name Shows the publication name with owner and the SQL remote user who subscribed to the publication.

Type Shows the type of object.

Publication Shows the publication the SQL Remote user is subscribed to.

Subscriber Shows the SQL Remote user who is subscribed to the publication.

Subscription value Shows the subscription value for the SQL Remote subscription. The subscription value is a string that is compared to the subscription expression of the publication. The subscriber receives all rows for which the subscription expression matches the subscription value.

SQL Remote Subscription property sheet: Advanced tab

The Advanced tab of the SQL Remote Subscription property sheet has the following components:

Status Shows whether the subscription is started or stopped.

Start subscription Click Start Now to manually start subscriptions. However, it is recommended that you let the Extraction utility(dbxtract) start subscriptions automatically. See [“Extraction utility” \[SQL Remote\]](#).

Stop subscription Click Stop Now to stop a subscription that has been started.

Synchronize subscription Click Synchronize Now to synchronize subscriptions manually. However, it is recommended that you let the Extraction utility (dbxtract) synchronize subscriptions automatically. See [“Extraction utility” \[SQL Remote\]](#).

See also

- ◆ [“START SUBSCRIPTION statement \[SQL Remote\]” \[SQL Anywhere Server - SQL Reference\]](#)
- ◆ [“STOP SUBSCRIPTION statement \[SQL Remote\]” \[SQL Anywhere Server - SQL Reference\]](#)
- ◆ [“Extraction utility” \[SQL Remote\]](#)
- ◆ [“Using the Extraction utility \(dbxtract\)” \[SQL Remote\]](#)

Statistic property sheet: General tab

The General tab of the Statistic property sheet has the following components:

Name Shows the name of the statistic.

Type Shows the type of object.

Description Provides a brief explanation of the statistic.

Graph this statistic in the Performance Monitor Select this option to add the statistic to the Performance Monitor. Clear this option to remove the statistic from the Performance Monitor.

See also

- ◆ [“Monitoring and Improving Performance” \[SQL Anywhere Server - SQL Usage\]](#)

Synchronization Subscription property sheet: General tab

The General tab of the Synchronization Subscription property sheet has the following components:

Name Shows the publication name with owner, and the MobiLink user who is subscribed to the publication.

Type Shows the type of object.

Publication Shows the publication the MobiLink user is subscribed to.

Subscriber Shows the MobiLink user who is subscribed to the publication.

Last download time Shows the time of the last download.

Last upload time Shows the time of the last upload.

Generation number Shows the generation number for the synchronization subscription.

Generation numbers provide a mechanism for forcing remote databases to upload data before applying any more download files. A separate generation number is automatically maintained for each synchronization subscription on the database.

See [“MobiLink generation numbers” \[MobiLink - Server Administration\]](#).

See also

- ◆ [“CREATE SYNCHRONIZATION SUBSCRIPTION statement \[MobiLink\]” \[SQL Anywhere Server - SQL Reference\]](#)
- ◆ [“SQL Remote Publications and subscriptions” \[SQL Remote\]](#)

Synchronization Subscription property sheet: Connection tab

The Connection tab of the Synchronization Subscription property sheet has the following components:

Protocol Choose the communication protocol to use for synchronization. TCP/IP is used by default.

The settings you can specify on the Connection tab depend on the communication protocol you are using. Any additional parameters, such as `buffer_size`, can be set in the Advanced field.

For a complete list of parameters supported by each protocol, see:

- ◆ [“CREATE SYNCHRONIZATION USER statement \[MobiLink\]” \[SQL Anywhere Server - SQL Reference\]](#)
- ◆ [“CommunicationType \(ctp\) extended option” \[MobiLink - Client Administration\]](#)
- ◆ **TCP/IP** Select this option to use the TCP/IP protocol for synchronization. For versions 8.0.x and 9.0.x, choosing TCP/IP and then Enable Certicom security is equivalent to choosing TLS.
- ◆ **TLS** Select this option to use TLS (transport-layer security) for synchronization. TLS supports both elliptic-curve cryptography (ECC) and RSA encryption. This option is only available for version 10 and later.
- ◆ **HTTP** Select this option to use the HTTP protocol for synchronization.
- ◆ **HTTPS** Select this option to use the HTTPS protocol for synchronization. HTTPS supports both elliptic-curve cryptography (ECC) and RSA encryption.
- ◆ **HTTPS FIPS** Select this option to use the HTTPS protocol for synchronization with FIPS-approved algorithms for encryption. This option is only available for version 8.0.x and 9.0.x. For version 10, this is equivalent to selecting the HTTPS protocol and then selecting the FIPS-approved option for Security.
- ◆ **ActiveSync** Select this option to use ActiveSync to exchange data with the MobiLink provider for ActiveSync, which resides on the desktop computer. The ActiveSync parameters describe the communications between the MobiLink provider for ActiveSync and the MobiLink server. This option is only available for versions 8.0.x and 9.0.x.

See [“ActiveSync provider installation utility \[mlasinst\]” \[MobiLink - Client Administration\]](#).

Host The IP number or host name of the computer on which the MobiLink server is running. The default value is `localhost`. You can use `localhost` if the MobiLink server is running on the same computer as the client.

For Windows CE, the default value is the value of `ipaddr` in the registry folder `Comm\Tcpip\Hosts\ppp_peer`. This allows a Windows CE device to connect to a MobiLink server executing on the desktop computer where the Windows CE device's cradle is connected.

For the Palm Computing Platform, the default value of `localhost` refers to the device. It is recommended that you specify an explicit host name or IP address.

◆ **Port** The MobiLink server communicates over a specific port. The default port number is **2439** for TCP/IP, **80** for HTTP, and **443** for HTTPS. If you choose a different value, you must configure your MobiLink server to listen on the port you specify.

Proxy host Type the host name or IP address of the proxy server. The default value is `localhost`. This option is only available for HTTP and HTTPS synchronization.

- ◆ **Proxy port** Type the port number of the proxy server. The default value is **80** for HTTP and **443** for HTTPS. This option is only available for HTTP and HTTPS synchronization.

URL suffix Type the suffix to add to the URL on the first line of each HTTP request. The default value is **MobiLink**. This option is only available for HTTP and HTTPS synchronization.

When synchronizing through a proxy server, the suffix may be necessary in order to find the MobiLink server.

- ◆ **HTTP Version** Type the value specifying the version of HTTP to use for synchronization. You have a choice of 1.0 or 1.1. The default value is **1.1**.

Automatic connection The following options allow MobiLink clients running on Windows or Windows CE to connect through dial-up network connections.

When used with scheduling, your remote device can synchronize unattended. When used without scheduling, you can run dbmlsync without manually dialing a connection.

See “[Scheduling synchronization](#)” [*MobiLink - Client Administration*].

- ◆ **Network name** Specify the network name so that you can use the MobiLink auto-dial feature. This allows you to connect without dialing manually. The name should be the network name that you have specified in the dropdown list in Settings ► Connections ► Connections (Windows CE) or Network Connections (Windows).
- ◆ **Network connect timeout** When you specify a network name, you can optionally specify a timeout after which the dial-up fails. This feature applies only to Windows CE. (On Windows, you can control this feature by configuring the connection profile.) The default is **120** seconds.
- ◆ **Leave open** When you supply a network name, you can optionally specify whether the connection should be left open (1) or closed (0) after synchronization finishes. By default, the connection is closed.

Security These options allow you to use a cipher suite to encrypt all communication through this connection. You can provide information about the certificate used to authenticate the server in the fields below for both the elliptic-curve and RSA ciphers.

Enable Certicom security Select this option to encrypt all communication through this connection. You can use the elliptic-curve or RSA cipher. By default, elliptic curves are used. This option is only available for versions 8.0.x and 9.0.x. Choosing this option with the TCP/IP protocol is equivalent to choosing the TLS protocol in version 10.

Separately licensed component required

ECC encryption and FIPS-certified encryption require a separate license. All strong encryption technologies are subject to export regulations.

See “[Separately licensed components](#)” [*SQL Anywhere 10 - Introduction*].

For more information about security, see “[Transport-Layer Security](#)” [*SQL Anywhere Server - Database Administration*].

- ◆ **Elliptic curves** Uses the elliptic-curve cipher to encrypt communications. You can use this cipher to encrypt TLS over TCP/IP and HTTPS connections with version 10 databases, and TCP/IP connections with version 8 and 9 databases. This was formerly called Certicom encryption.
- ◆ **RSA** Uses the RSA cipher to encrypt communications. You can use this cipher to encrypt TLS over TCP/IP and HTTPS connections with version 10 databases, and TCP/IP connections with version 8 and 9 databases. This cipher is selected automatically with version 8 and 9 databases when you choose HTTPS.
- ◆ **FIPS-approved** Uses the FIPS-approved RSA cipher to encrypt communications. You can use this cipher to encrypt TLS over TCP/IP and HTTPS connections with version 10 databases, and TCP/IP connections with version 9 databases. This cipher is selected automatically with version 9 databases when you choose HTTPS FIPS. This cipher is not supported for version 8 databases.
- ◆ **Certificate company** Type the name of the certificate authority or organization that issued the certificate. The server's and the client's values must match.
- ◆ **Certificate unit** Type the certificate unit. This is also called the organizational unit. The server's and the client's values must match.
- ◆ **Certificate name** Type the certificate's common name. The server's and the client's values must match.
- ◆ **Trusted certificates** Type the name of the certificate file the client uses to authenticate the server.

Advanced Type any additional connection parameters in this field, entering them in the form *parameter=value*, with multiple parameters separated by semicolons. For example, to set the maximum body size for a fixed content length message, and to instruct the client to attempt to use the same TCP/IP connection for all HTTP requests in a synchronization, you would enter the following in the Advanced field:

```
buffer_size=58000;persistent=TRUE
```

For a complete list of connection parameters you can enter in this field, see [“CREATE SYNCHRONIZATION USER statement \[MobiLink\]” \[SQL Anywhere Server - SQL Reference\]](#).

Note

You can set connection parameters for synchronization in several ways.

For information about how dbmlsync resolves conflicting options, see [“Priority order” \[MobiLink - Client Administration\]](#).

See also

- ◆ [“CREATE SYNCHRONIZATION USER statement \[MobiLink\]” \[SQL Anywhere Server - SQL Reference\]](#)
- ◆ [“-x option” \[MobiLink - Client Administration\]](#)
- ◆ [“CommunicationAddress \(adr\) extended option” \[MobiLink - Client Administration\]](#)

Synchronization Subscription property sheet: Extended Options tab

The Extended Options tab of the Synchronization Subscription property sheet has the following components:

Extended options list Lists the extended options and the values set for the MobiLink user. Click the Value field beside the option name to set the value for the MobiLink user.

The table below lists all the available extended options for synchronization.

For more information about these options, see [“MobiLink SQL Anywhere Client Extended Options”](#) [*MobiLink - Client Administration*].

Extended option	Default	Description
“ConflictRetries (cr) extended option” [<i>MobiLink - Client Administration</i>]	-1 (continue indefinitely)	Specifies the number of retries if the download fails because of conflicts.
“ContinueDownload (cd) extended option” [<i>MobiLink - Client Administration</i>]	OFF	Specifies restartable downloads.
“DisablePolling (p) extended option” [<i>MobiLink - Client Administration</i>]	OFF	Disables automatic logscan polling.
“DownloadBufferSize (dbs) extended option” [<i>MobiLink - Client Administration</i>]	32 K on Windows CE, 1 M on all other operating systems.	Specifies the size of the download buffer. By default, units of bytes are used. You can use the suffix k or m to specify units of kilobytes or megabytes, respectively.
“DownloadOnly (ds) extended option” [<i>MobiLink - Client Administration</i>]	OFF	Specifies that synchronization should be download-only.
“DownloadReadSize (drs) extended option” [<i>MobiLink - Client Administration</i>]	32 K	For restartable downloads, specifies the maximum amount of data that may need to be resent after a communications failure.
“ErrorLogSendLimit (el) extended option” [<i>MobiLink - Client Administration</i>]	32 K	Specifies how much of the remote log file dbmlsync should send to the server when synchronization occurs. By default, units of bytes are used. You can use the suffix k or m to specify units of kilobytes or megabytes, respectively. If you don't want to send any dbmlsync output log messages, a zero value should be set for this extended option.
“FireTriggers (ft) extended option” [<i>MobiLink - Client Administration</i>]	ON	Specifies that triggers should be fired on the remote database when the download is applied.

Extended option	Default	Description
“HoverRescanThreshold (hrt) extended option” [<i>MobiLink - Client Administration</i>]	1 M	When you are using scheduling, this limits the amount of discarded memory that is allowed to accumulate before a rescan is performed. By default, units of bytes are used. You can use the suffix k or m to specify units of kilobytes or megabytes, respectively.
“IgnoreHookErrors (eh) extended option” [<i>MobiLink - Client Administration</i>]	OFF	Specifies that errors that occur in hook functions should be ignored.
“IgnoreScheduling (isc) extended option” [<i>MobiLink - Client Administration</i>]	OFF	Specifies that scheduling settings should be ignored.
“Increment (inc) extended option” [<i>MobiLink - Client Administration</i>]	(infinite)	Controls the size of incremental uploads. By default, units of bytes are used. You can use the suffix k or m to specify units of kilobytes or megabytes, respectively.
“LockTables (lt) extended option” [<i>MobiLink - Client Administration</i>]	ON	Specifies that articles (tables or parts of tables in the publications being synchronized) should be locked before synchronizing.
“Memory (mem) extended option” [<i>MobiLink - Client Administration</i>]	1 M	Specifies a cache size. By default, units of bytes are used. You can use the suffix k or m to specify units of kilobytes or megabytes, respectively.
“MirrorLogDirectory (mld) extended option” [<i>MobiLink - Client Administration</i>]	(none)	Specifies the location of old mirror log files so that they can be deleted.
“MobiLinkPwd (mp) extended option” [<i>MobiLink - Client Administration</i>]	NULL	Specifies the MobiLink password. Passwords are case sensitive.
“NewMobiLinkPwd (mn) extended option” [<i>MobiLink - Client Administration</i>]	NULL	Specifies a new MobiLink password. Passwords are case sensitive.
“NoSyncOnStartup (nss) extended option” [<i>MobiLink - Client Administration</i>]	NULL	Prevents dbmlsync from synchronizing on startup when a scheduling option would otherwise cause that to happen.
“OfflineDirectory (dir) extended option” [<i>MobiLink - Client Administration</i>]	(none)	Specifies the path containing offline transaction logs.

Extended option	Default	Description
“PollingPeriod (pp) extended option” [<i>MobiLink - Client Administration</i>]	1 minute	Specifies the logscan polling period. By default, units of minutes are used. You can use the suffix s, m, h, or d to specify units of seconds, minutes, hours, or days, respectively.
“Schedule (sch) extended option” [<i>MobiLink - Client Administration</i>]	No schedule	Specifies a schedule for synchronization.
“ScriptVersion (sv) extended option” [<i>MobiLink - Client Administration</i>]	DEFAULT	Specifies a script version.
“SendColumnNames (scn) extended option” [<i>MobiLink - Client Administration</i>]	OFF	Specifies that column names should be sent in the upload.
“SendDownloadACK (sa) extended option” [<i>MobiLink - Client Administration</i>]	OFF	Specifies that a download acknowledgment should be sent from the client to the server.
“SendTriggers (st) extended option” [<i>MobiLink - Client Administration</i>]	OFF	Specifies that trigger actions should be sent on upload.
“TableOrder (tor) extended option” [<i>MobiLink - Client Administration</i>]	(none)	Specifies the order of tables in the upload stream.
“TableOrderChecking (toc) extended option” [<i>MobiLink - Client Administration</i>]	ON	Specifies whether dbmlsync should check that no table is uploaded before another table on which it has a foreign key. Use this option when you specify TableOrder.
“UploadOnly (uo) extended option” [<i>MobiLink - Client Administration</i>]	OFF	Specifies that synchronization should only include an upload.
“Verbose (v) extended option” [<i>MobiLink - Client Administration</i>]	OFF	Specifies full verbosity. This option is identical to dbmlsync -v+.
“VerboseHooks (vs) extended option” [<i>MobiLink - Client Administration</i>]	OFF	Specifies that messages related to hook scripts should be logged. This option is identical to dbmlsync -vs.
“VerboseMin (vm) extended option” [<i>MobiLink - Client Administration</i>]	OFF	Specifies that a small amount of information should be logged. This option is identical to dbmlsync -v.

Extended option	Default	Description
“VerboseOptions (vo) extended option” [MobiLink - Client Administration]	OFF	Specifies that information should be logged about the command line options (including extended options) that you have specified. This option is identical to dbmlsync -vo.
“VerboseRowCounts (vn) extended option” [MobiLink - Client Administration]	OFF	Specifies that the number of rows that are uploaded and downloaded should be logged. This option is identical to dbmlsync -vn.
“VerboseRowValues (vr) extended option” [MobiLink - Client Administration]	OFF	Specifies that the values of rows that are uploaded and downloaded should be logged. This option is identical to dbmlsync -vr.
“VerboseUpload (vu) extended option” [MobiLink - Client Administration]	OFF	Specifies that information about the upload stream should be logged. This option is identical to dbmlsync -vu.

Note

You can set connection parameters for synchronization in several ways.

For information about how dbmlsync resolves conflicting options, see “[Priority order](#)” [[MobiLink - Client Administration](#)].

System Trigger property sheet: General tab

The General tab of the System Trigger property sheet has the following components:

Name Shows the name of the foreign key constraint to which the system trigger applies.

Type Shows the type of object.

Foreign table Shows the table containing the foreign key.

Primary table Shows the table containing the primary key or unique constraint in the foreign key relationship.

Event Shows which kind of event, Update Columns or Delete, causes the system trigger to execute.

Timing Shows whether the trigger executes before or after the event.

Action Shows which of the available referential integrity actions is used for updates and deletes of the primary key:

◆ **Set null** Sets all foreign keys that reference the modified primary key to NULL.

- ◆ **Set default** Sets all foreign keys that reference the modified primary key to the default value for that column (as specified in the table definition).
- ◆ **Cascade** When used with ON UPDATE, this action updates all foreign keys that reference the updated primary key to the new value. When used with ON DELETE, this action deletes all rows containing foreign keys that reference the deleted primary key.

See also

- ◆ [“Referential integrity actions” \[SQL Anywhere Server - SQL Usage\]](#)

Table property sheet: General tab

The General tab of the Table property sheet has the following components:

Name Shows the name of the table. You can change the name of the table in this field.

Type Shows the type of object.

Owner Shows the database user who owns the table.

Dbospace Shows the database file (or dbospace) where the table is located. This only applies to base tables.

Commit action This option only appears when the table was created as a global temporary table. Shows whether the rows of the table are deleted or preserved when a COMMIT is executed. If there is no commit action, it shows None (non-transactional).

Shared This control only appears when the table was created as a global temporary table. Shows whether the table is shared across all connections.

Comment Provides a place for you to type a text description of the table. For example, you could use this area to describe the table's purpose in the system.

See also

- ◆ [“Working with tables” \[SQL Anywhere Server - SQL Usage\]](#)
- ◆ [“CREATE TABLE statement” \[SQL Anywhere Server - SQL Reference\]](#)

Table property sheet: Columns tab

The Columns tab of the Table property sheet has the following components:

Columns list Lists all the columns of the table, as well as their ID, data type, and comments.

Details Displays the Column Details dialog, which shows a summary of the properties for the column.

See also

- ◆ [“Managing primary keys \(Sybase Central\)” \[SQL Anywhere Server - SQL Usage\]](#)
- ◆ [“Working with tables” \[SQL Anywhere Server - SQL Usage\]](#)

Table property sheet: Permissions tab

The Permissions tab of the Table property sheet has the following components:

Permissions list Lists the users who have permissions on the table. If you want to add users to the list, click Grant. To remove a user from the list, select the user, then click revoke. You can select multiple users by holding Shift while you click.

To grant or revoke permissions, click the fields beside each user. Double-clicking (so that a check mark and two + signs appear) gives the user grant options.

◆ **Grant** Displays the Grant Permission dialog, which lets you grant permissions on the table to other users.

◆ **Revoke** Revokes permissions from the users and removes them from the Permissions list.

Select Shows whether the Select permissions for the user applies to all columns or a subset of columns. Click Change to grant Select permissions for a subset of columns.

Update Shows whether the Update permissions for the user applies to all columns or a subset of columns. Click Change to grant Update permissions for a subset of columns.

References Shows whether the Reference permissions for the user applies to all columns or a subset of columns. Click Change to grant Reference permissions for a subset of columns.

◆ **Change** Click Change to grant Select, Update, or Reference permissions for a subset of columns.

See also

- ◆ “Table and views permissions overview” [[SQL Anywhere Server - Database Administration](#)]
- ◆ “Working with tables” [[SQL Anywhere Server - SQL Usage](#)]

Table property sheet: Miscellaneous tab

The Miscellaneous tab of the Table property sheet has the following components:

Maximum table width Shows the number of bytes required for each row in the table. The number is calculated from the length of the string columns, the precision of numeric columns, and the number of bytes of storage for all other data types. If the table includes LONG BINARY, or LONG VARCHAR columns, their arbitrary widths are not included, so the row width can only be approximated.

Number of rows Shows the approximate number of rows in the table. To update this value, click Calculate.

◆ **Calculate** Calculates the number of rows in the table.

Free space Specifies the amount of free space you want to reserve for each table page. The free space is used if rows increase in size when the data is updated. If there is no free space in a table page, every increase in the size of a row on that page requires the row to be split across multiple table pages, causing row fragmentation and possible performance degradation.

- ◆ **Default** Choose this option to reserve the default amount of free space in each page. By default, 200 bytes are reserved in each page. This only applies to base tables.
- ◆ **Percentage** Choose this option to specify an integer between 0 and 100. The former specifies that no free space is to be left on each page—each page is to be fully packed. A high value causes each row to be inserted into a page by itself.

See “ALTER TABLE statement” [[SQL Anywhere Server - SQL Reference](#)].

Table is replicating data Select this option to include the table as part of a replication primary site. This only applies to base tables.

Table data is encrypted Select this option to encrypt this table's data, when the database is created with table encryption scope. This only applies to base tables.

For more information about replication primary sites, see “Primary site components” [[SQL Anywhere Server - Database Administration](#)].

See also

- ◆ “Working with tables” [[SQL Anywhere Server - SQL Usage](#)]

Table property sheet: Check Constraint tab

This tab only appears for databases created with version 8.0.x of SQL Anywhere.

The Check Constraint tab of the Table property sheet has the following components:

Check constraint Lets you define conditions on a column or set of columns to make up the check constraint of the table. The check constraint restricts the values that can be entered in the column(s).

For example, to check that an employee's start date falls in a particular range, type:

```
CHECK ( StartDate BETWEEN '1983/06/27'  
        AND CURRENT DATE )
```

See “Using CHECK constraints on columns” [[SQL Anywhere Server - SQL Usage](#)].

Trigger property sheet: General tab

The General tab of the Trigger property sheet has the following components:

Name Shows the name of the trigger.

Type Shows the type of object.

Table Shows the table the trigger is associated with.

View Shows the view the trigger is associated with.

Dialect Shows the SQL dialect in which the code was last saved, either Watcom-SQL or Transact-SQL.

Events Shows which kind of event, Insert, Delete, Update, or Update Columns, causes the trigger to execute.

Timing Shows whether the trigger executes before, after, or instead of the event. Row-level triggers can also have SQL Remote conflict timing, which executes before UPDATE or UPDATE OF column-list events.

Level Shows whether the trigger is a row-level trigger or a statement-level trigger.

Order Shows a number that determines the order in which these triggers fire, for triggers in the table that execute for the same kind of event with the same timing. The order can not be set for an INSTEAD OF trigger. If Timing is set to INSTEAD OF, this property does not appear.

Comment Provides a place for you to type a text description of the trigger. For example, you could use this area to describe the trigger's purpose in the system.

See also

- ◆ [“Procedure and trigger overview” \[SQL Anywhere Server - SQL Usage\]](#)
- ◆ [“Using Procedures, Triggers, and Batches” \[SQL Anywhere Server - SQL Usage\]](#)
- ◆ [“CREATE TRIGGER statement” \[SQL Anywhere Server - SQL Reference\]](#)
- ◆ [“INSTEAD OF triggers” \[SQL Anywhere Server - SQL Usage\]](#)

UltraLite Project property sheet: General tab

This property sheet is only available if you are connected to a version 9.0.2 or earlier database.

The General tab of the UltraLite Project property sheet has the following components:

Name Shows the name of the UltraLite project.

Type Shows the type of object.

UltraLite Statement property sheet: General tab

This property sheet is only available if you are connected to a version 9.0.2 or earlier database.

The General tab of the UltraLite Statement property sheet has the following components:

Name Shows the name of the UltraLite statement.

Type Shows the type of object.

Project Shows the name of the UltraLite project this UltraLite statement belongs to.

Code segment You only need to provide a segment name if you are developing a multi-segment application for the Palm Computing Platform and you want to override the UltraLite default assignment.

When building applications for the Palm Computing Platform, you must supply a code segment name to indicate where the UltraLite statement is stored. You can select a segment name from the dropdown list or supply a new segment name. If you leave the field blank, the UltraLite statement is saved in the default segment, ULSEGDEF.

The code segment name is a string and must be 8 characters or less in length, must start with a letter, and cannot contain spaces. You can use alphanumeric characters and underscores in the code segment name.

For more information about code segments, see “Creating and Configuring UltraLite Databases” [*UltraLite - Database Management and Reference*].

UltraLite Statement property sheet: SQL Statement

This property sheet is only available if you are connected to a version 9.0.2 or earlier database.

The SQL Statement tab of the UltraLite Statement property sheet has the following components:

This UltraLite statement contains the following SQL statement Shows the UltraLite statement. You can edit the SQL statement in this window.

Unique Constraint property sheet: General tab

The General tab of the Unique Constraint property sheet has the following components:

Name Shows the name of the unique constraint. You can change the name of the unique constraint in this field.

Type Shows the type of object.

Table Shows the name and owner of the table to which the unique constraint applies.

Index Shows the name of the index used to enforce the unique constraint.

Comment Provides a place for you to type a description of the unique constraint.

See also

- ◆ “CREATE TABLE statement” [*SQL Anywhere Server - SQL Reference*]

Unique Constraint property sheet: Columns tab

The Columns tab of the Unique Constraint property sheet has the following components:

Name Show the name of the column.

ID Shows the ID of each column.

Data type Shows the data type of the selected columns.

Comment Shows comments, if any, associated with the selected columns.

Details Displays the Column Details dialog, which shows a summary of the properties for the selected column.

See also

- ◆ “CREATE TABLE statement” [*SQL Anywhere Server - SQL Reference*]

User property sheet: General tab

The General tab of the User property sheet has the following components:

Name Shows the name of the user.

Type Shows the type of object.

Allowed to connect Select this option to allow the user to connect to the database. If the user is not allowed to connect, the password (if one was supplied) is removed from the account. If you later change the user to allow them to connect, you must supply a new password. Clearing this option disables the Password and Confirm Password options.

Users are almost always allowed to connect.

◆ **Password** Type the password for the user. Passwords are case sensitive.

◆ **Confirm password** Confirm the password that you typed in the Password text box by entering it again. The contents of the two fields must match exactly. Passwords are case sensitive.

Comment Provides a place for you to type a text description of the user. For example, you could use this area to describe the remote user's purpose in the system.

See also

- ◆ [“GRANT statement” \[SQL Anywhere Server - SQL Reference\]](#)
- ◆ [“Granting and revoking remote permissions” \[SQL Anywhere Server - Database Administration\]](#)
- ◆ [“Managing User IDs and Permissions” \[SQL Anywhere Server - Database Administration\]](#)

User property sheet: Authorities tab

The Authorities tab of the User property sheet has the following components:

DBA Select this option to grant DBA authority to the user; a user with DBA authority can fully administer the database.

Resource Select this option to grant resource authority to the user; a user with resource authority can create database objects.

Remote DBA Select this option to grant Remote DBA authority to the user. The MobiLink client utility, dbmlsync, requires Remote DBA authority. The SQL Remote Message Agent should also be run using a user ID with this type of authority to ensure that actions can be performed without creating security loopholes.

Backup Select this option to grant backup authority to the user.

Validate Select this option to grant validate authority to the user; a user with validate authority can perform the operations executed by the different VALIDATE statements, such as database, table, index, and checksum validation.

See also

- ◆ [“Granting DBA and RESOURCE authority” \[SQL Anywhere Server - Database Administration\]](#)
- ◆ [“Managing User IDs and Permissions” \[SQL Anywhere Server - Database Administration\]](#)

- ◆ “GRANT statement” [[SQL Anywhere Server - SQL Reference](#)]
- ◆ “DBA authority overview” [[SQL Anywhere Server - Database Administration](#)]
- ◆ “RESOURCE authority overview” [[SQL Anywhere Server - Database Administration](#)]
- ◆ “GRANT REMOTE DBA statement [MobiLink] [SQL Remote]” [[SQL Anywhere Server - SQL Reference](#)]
- ◆ “BACKUP authority overview” [[SQL Anywhere Server - Database Administration](#)]
- ◆ “VALIDATE authority overview” [[SQL Anywhere Server - Database Administration](#)]

User property sheet: Permissions tab

The Permissions tab of the User property sheet has the following components:

Permissions list Shows all tables the user has permissions on, as well as the user who owns each table. You can click the fields for each table to grant or revoke permissions; double-clicking (so that a checkmark and two + signs appear) gives the user grant options for the permission.

Show Select what type of object appears in the Permissions list:

- ◆ **Tables** All tables the user has permissions on.
- ◆ **Views** All views the user has permissions on.
- ◆ **Procedures & functions** All procedures and functions the user has permissions on. You can only grant Execute permissions for procedures and functions.

See also

- ◆ “Granting permissions on tables” [[SQL Anywhere Server - Database Administration](#)]
- ◆ “Granting permissions on views” [[SQL Anywhere Server - Database Administration](#)]
- ◆ “Granting users the right to grant permissions” [[SQL Anywhere Server - Database Administration](#)]
- ◆ “Granting and revoking remote permissions” [[SQL Anywhere Server - Database Administration](#)]

View property sheet: General tab

The General tab of the View property sheet has the following components:

Name Shows the name of the view.

Type Shows the type of object.

Owner Shows the database user who owns the object.

Dbospace Shows the database file (or dbospace) where the materialized view is located. This only applies to materialized views.

Status Shows the status of the object. Values include the following:

- ◆ **Valid** The object is available for use by the database server. This status is synonymous with ENABLED. That is, if you ENABLE an object, the status changes to VALID. See “[View status](#)” [[SQL Anywhere Server - SQL Usage](#)].

- ◆ **Invalid** An attempt to recompile the object after an internal operation has failed, for example, after a schema-altering modification to an object on which it depends. The database server continues to try to recompile the object whenever it is referenced in a statement. See [“View status” \[SQL Anywhere Server - SQL Usage\]](#).
- ◆ **Disabled** The object has been explicitly disabled by the user, for example using an ALTER TABLE ... DISABLE VIEW DEPENDENCIES statement. See [“View status” \[SQL Anywhere Server - SQL Usage\]](#).

Recompile and Enable Now Click to recompile and enable the view, making it available for use by the database.

Before you enable a view, you must re-enable any other views that it references (if they are disabled). See [“Enabling and disabling views” \[SQL Anywhere Server - SQL Usage\]](#), or [“Enabling and disabling materialized views” \[SQL Anywhere Server - SQL Usage\]](#).

Disable Now Click to disable the view. The database server keeps the definition of the view in the database, but makes the view unusable.

Disabling a view can affect queries that explicitly reference it, as well as other views that reference it, directly or indirectly; see [“Enabling and disabling views” \[SQL Anywhere Server - SQL Usage\]](#), or [“Enabling and disabling materialized views” \[SQL Anywhere Server - SQL Usage\]](#).

Used in optimization Select this option to indicate whether the materialized view can be used during query optimization. This applies to materialized views only.

Last refresh time Shows the date and time that the view was last refreshed. This applies to materialized views only.

Known stale time Shows the time at which the view became known as stale. This value corresponds to the time at which a change was detected in one of the underlying base tables. This applies to materialized views only.

Comment Provides a place for you to type a description of the view. For example, you could use this area to describe the view's purpose in the system.

See also

- ◆ [“CREATE VIEW statement” \[SQL Anywhere Server - SQL Reference\]](#)
- ◆ [“Creating views” \[SQL Anywhere Server - SQL Usage\]](#)
- ◆ [“Working with views” \[SQL Anywhere Server - SQL Usage\]](#)
- ◆ [“Working with materialized views” \[SQL Anywhere Server - SQL Usage\]](#)
- ◆ [“CREATE MATERIALIZED VIEW statement” \[SQL Anywhere Server - SQL Reference\]](#)

View property sheet: Columns tab

The Columns tab of the View property sheet has the following components:

Columns list Lists the columns included in the view.

See also

- ◆ [“Working with views” \[SQL Anywhere Server - SQL Usage\]](#)

View property sheet: Permissions tab

The Permissions tab of the View property sheet has the following components:

Permissions list Lists the users who have permissions on the view. If you want to add users to the list, click Grant. To remove a user from the list, select the user, and then click revoke. You can select multiple users by holding Shift while you click.

To grant or revoke permissions for a specific user, click the fields beside each user. Double-clicking (so that a check mark and two + signs appear) gives the user grant options.

- ◆ **Grant** Displays the Grant Permission dialog, which lets you grant permissions on the table to other users.
- ◆ **Revoke** Revokes permissions from the users and removes them from the Permissions list.

See also

- ◆ [“Granting permissions on views” \[SQL Anywhere Server - Database Administration\]](#)
- ◆ [“Working with views” \[SQL Anywhere Server - SQL Usage\]](#)

View property sheet: Miscellaneous tab

This tab only applies to materialized views.

The Miscellaneous tab of the View property sheet has the following components:

Maximum view width The number of bytes required for each row in the view.

Number of rows Shows the approximate number of rows in the view. To update this value, click Calculate.

- ◆ **Calculate** Calculates the number of rows in the view.

Free space Specifies the amount of free space you want to reserve for each view page. The free space is used if rows increase in size when the data is updated. If there is no free space in a view page, every increase in the size of a row on that page requires the row to be split across multiple view pages, causing row fragmentation and possible performance degradation.

See [“ALTER VIEW statement” \[SQL Anywhere Server - SQL Reference\]](#).

- ◆ **Default** Choose this option to reserve 200 bytes in each page.
- ◆ **Percentage** Choose this option to specify an integer between 0 and 100. The former specifies that no free space is to be left on each page—each page is to be fully packed. A high value causes each row to be inserted into a page by itself.

View data is encrypted When the database is created with table encryption scope, you can select this option to encrypt this materialized view's data.

See also

- ◆ [“Working with views” \[SQL Anywhere Server - SQL Usage\]](#)

Web Service property sheet: General tab

The General tab of the Web Service property sheet has the following components:

Name Shows the name of the selected web service.

Type Shows the type of object.

Service type Shows whether the selected web service is a RAW, XML, HTML, SOAP, or DISH web service. You can change the service type by selecting a different type from the dropdown list.

Format This field applies only to SOAP and DISH services.

Generates output formats compatible with various types of SOAP clients, such as .NET or Java JAX-RPC. If a SOAP service's format is not specified, the format is inherited from the service's DISH service declaration. If the DISH service does not declare a format, it defaults to DNET, which is compatible with .NET clients. A SOAP service that does not declare a format can be used with different types of SOAP clients by defining multiple DISH services, each with a different format type.

Data type This field only applies to SOAP services. The possible values are:

- ◆ **OFF** No data typing of inputs and outputs. This is the default.
- ◆ **ON** Supports data typing for input parameters and result set responses.
- ◆ **IN** Supports data typing of input parameters only.
- ◆ **OUT** Provides data type information for result set responses of all SOAP service formats.

Service name prefix This field applies only to DISH services. Only SOAP services whose names begin with this prefix are handled by the DISH service.

Authorization required Indicates whether users must authenticate in order to use this web service.

Select this option to indicate that authorization is required. When authorization is required, all users connecting to this service must provide a user name and password. If a checkmark appears beside the User field, you must authenticate as the specified user in order to use this web service. However, if a checkmark does not appear beside the User field and authentication is required, then you can authenticate with any database user in order to use this web service.

If authorization is not required, you must select a user from the dropdown list below. All requests are run using the account and permissions of the user specified in the User field.

User Shows which user's account is used to execute service requests. If the service does not require authorization, you must select a user from the dropdown list. All requests are run using the account and permissions of this user.

Security required Shows whether unsecure connections are accepted. Select this option to indicate that the web service requires security. If the web service requires security, then only HTTPS connections are accepted. If this option is cleared, then both HTTP and HTTPS connections are accepted.

URL path Specifies whether URI paths are accepted, and if so, how they are processed.

For more information about URLs and URIs, see:

- ◆ [“Understanding how URLs are interpreted”](#) [*SQL Anywhere Server - Programming*]
- ◆ [“Creating web service client functions and procedures”](#) [*SQL Anywhere Server - Programming*]

- ◆ **Off** Select this option if the remainder of the URI path is not permitted. If the service name ends with a forward slash (/), select Off. For example, if Off is selected and you have the URL path `http://<host-name>/<service-name>/aaa/bbb/ccc`, only `http://<host-name>/<service-name>` is permitted. The remainder of the URI path, `/<aaa/bbb/ccc` is not permitted.

- ◆ **On** Select this option if the remainder of the URI path is permitted and is set as a single parameter. For example, in the URL path `http://<host-name>/<service-name>/aaa/bbb/ccc`, the remainder of the URI path is `/aaa/bbb/ccc`. It is treated as a single parameter.

- ◆ **Elements** Select this option if the remainder of the URL path is permitted and is set as multiple parameters. For example, in the URL path `http://<host-name>/<service-name>/aaa/bbb/ccc`, each element of the path is treated as a separate parameter. For example, `url1=aaa`, `url2=bbb`, `url3=ccc`, and so on.

Comment Provides a place for you to type a description of the web service. For example, you could use this area to describe the web service's purpose in the system.

See also

- ◆ [“SQL Anywhere Web Services”](#) [*SQL Anywhere Server - Programming*]
- ◆ [“CREATE SERVICE statement”](#) [*SQL Anywhere Server - SQL Reference*]

Web Service property sheet: SQL Statement tab

The SQL Statement tab of the Web Service property sheet has the following components:

This web service has the following SQL statement Shows the SQL statement for the web service (if one has been specified). Selecting this option enables the text box below where you can enter the SQL statement for the web service.

The statement is the command, usually a stored procedure, that is called when someone accesses the service. If you define a statement, this is the only statement that can be run through this service. Services without statements are a serious security risk as they permit web clients to execute arbitrary commands. When creating such services, you must enable authorization, which forces all clients to provide a valid user name and password. Even so, only services that define statements should be run in a production system.

The SQL statement is required for SOAP services. It is optional for RAW, XML, and HTML services, and is not applicable to DISH services.

See also

- ◆ “Creating web services” [*SQL Anywhere Server - Programming*]
- ◆ “CREATE SERVICE statement” [*SQL Anywhere Server - SQL Reference*]

Introduction to dialog boxes

You can find most of the configurable settings in the SQL Anywhere plug-in in dialog boxes, which can be accessed either through the File menu or the Tools menu. If you have different plug-ins installed in Sybase Central, each plug-in may provide different menu items.

The File menu contains commands related to the objects that appear in the main Sybase Central window. These menu items change depending on which object you select. For example, if you select a table, the File menu shows commands and options related to tables. Likewise, if you select a column, the File menu changes to show column options. You can also access all these menu items in popup menus when you right-click an object.

The Tools menu contains commands related to connecting, disconnecting, plug-ins, and Sybase Central options. These menu items always remain visible, regardless of the objects you select in the main window.

You can also configure settings in SQL Anywhere using property sheets. These property sheets appear on the File menu (or the popup menu) when you select an object that has configurable properties.

See [“Introduction to SQL Anywhere property sheets”](#) on page 26.

Add Service Dependencies dialog

The Add Service Dependencies dialog has the following components:

Choose one or more services from the list of candidates Lists all the services on your system. Select a service from this list and then click OK to add it to the list of services and service groups on the Dependencies tab of the Service property sheet.

You can select multiple services by holding Shift while you click. Double-clicking a service adds the selected service to the list on the Dependencies tab and closes the dialog.

See also

- ◆ [“Service dependencies”](#) [*SQL Anywhere Server - Database Administration*]
- ◆ [“Running more than one service”](#) [*SQL Anywhere Server - Database Administration*]

Add Service Group Dependencies dialog

The Add Service Group Dependencies dialog has the following components:

Choose one or more service groups from the list of candidates Lists all the service groups on your system. Select a service group from this list and then click OK to add it to the list of services and service groups on the Dependencies tab of the Service property sheet.

You can select multiple service groups by holding Shift while you click. Double-clicking adds the selected service group to the list on the Dependencies tab and closes the dialog.

See also

- ◆ [“Service groups overview”](#) [*SQL Anywhere Server - Database Administration*]

- ◆ [“Running more than one service” \[SQL Anywhere Server - Database Administration\]](#)

Add Tracing Level dialog

The Add Tracing Level dialog has the following components:

Scope Choose an option from the dropdown list to specify the scope of the tracing. An additional dropdown list may appear, depending on the scope you choose. For example, if you choose Origin, an Origin dropdown list appears where you choose either External or Internal.

Tracing type Choose an option from the dropdown list to specify the type of tracing. The tracing types available vary depending on the Scope chosen.

Condition Choose an option from the dropdown list to specify a condition. The conditions available vary depending on the Tracing Type chosen.

Value (milliseconds) Type a value in milliseconds for the selected condition. This option is only available if a condition is selected.

See also

- ◆ [“Changing tracing configuration settings” \[SQL Anywhere Server - SQL Usage\]](#)
- ◆ [“Advanced application profiling using diagnostic tracing” \[SQL Anywhere Server - SQL Usage\]](#)

Change Settings dialog

This dialog allows you to change the foreign key settings for check on commit, whether NULL values are allowed, and update and delete behavior.

The Change Settings dialog has the following components:

Allow null values Determines whether the foreign key columns allow NULL values. To use this option, the foreign key columns must all have Allow Nulls set to Yes.

◆ **Simple** Select this option to have a match occur for a row in the referencing table if at least one column in the key is NULL, or all the column values match the corresponding column values present in a row of the referenced table. This option is only available if Allow Null Values is selected.

◆ **Full** Select this option to have a match occur for a row in the referencing table if all column values in the key are NULL, or if all of the column values match the values present in a row of the referenced table. This option is only available if Allow Null Values is selected.

Update action Uses one of the following settings to define the behavior of the table when a user tries to update data:

- ◆ **Not permitted** Prevents updates of the associated primary table's primary key value if there are no corresponding foreign keys.
- ◆ **Cascade values** Updates the foreign key to match a new value for the associated primary key.

- ◆ **Set values to null** Sets all the foreign key values that correspond to the updated primary key of the associated primary table to NULL.
- ◆ **Set values to default** Sets foreign key values that match the updated or deleted primary key value to values specified in the DEFAULT clause of each foreign key column. To use this option, the foreign key columns must all have default values.

Delete action Uses one of the following settings to define the behavior of the table when a user tries to delete data:

- ◆ **Not permitted** Prevents deletion of the associated primary table's primary key value if there are no corresponding foreign keys in the table.
- ◆ **Cascade values** Deletes the rows from the table that match the deleted primary key of the associated primary table.
- ◆ **Set values to null** Sets all the foreign key values in the table that correspond to the deleted primary key of the associated primary table to NULL. To use this option, the foreign key columns must all have Allow Nulls set to Yes.
- ◆ **Set values to default** Sets foreign key values that match the updated or deleted primary key value to values specified in the DEFAULT clause of each foreign key column. To use this option, the foreign key columns must all have default values.

Check only on a commit Forces the database to wait for a COMMIT before checking the integrity of the foreign key, overriding the setting of the wait_for_commit database option.

See also

- ◆ [“Foreign Key property sheet: General tab” on page 43](#)
- ◆ [“Managing foreign keys” \[SQL Anywhere Server - SQL Usage\]](#)
- ◆ [“Ensuring Data Integrity” \[SQL Anywhere Server - SQL Usage\]](#)
- ◆ [“wait_for_commit option \[database\]” \[SQL Anywhere Server - Database Administration\]](#)

Change Tracing Level dialog

The Change Tracing Level dialog has the following components:

Level list Shows a list of the tracing levels for the database. The scope, name, level, condition, and value are displayed for each level.

Enabled Place a checkmark in the checkbox beside a level to enable it. If a checkmark is removed, the level is not enabled.

- ◆ **New** Displays the Add Tracing Level dialog, which lets you create a new tracing level.
- ◆ **Delete** Removes the selected tracing level. This is only available if a level is selected.
- ◆ **Refresh** Refreshes the list of tracing levels. This is only available if the Enabled option is changed for one or more levels.

See also

- ◆ [“Changing tracing settings while a tracing session is in progress” \[SQL Anywhere Server - SQL Usage\]](#)
- ◆ [“Advanced application profiling using diagnostic tracing” \[SQL Anywhere Server - SQL Usage\]](#)

Change User to Consolidated User dialog

The Change User to Consolidated User dialog has the following components:

User Shows the name of the selected user.

Message type Select a message type for communicating with the publisher.

Address Type the destination for replication messages. Publishers and consolidated users each have their own address. The address must be valid for the Message Type you select.

Send frequency Select one of the following values to specify how often the Message Agent should run.

- ◆ **Send then close** Select this option to set the replication frequency so that the Message Agent runs once, sends all pending messages to this consolidated user, and then shuts down. The Message Agent must be restarted each time the publisher wants to send messages. This option is only useful when you are running the message agent at a remote site.
- ◆ **Send every** Select this option to set the replication frequency so that the Message Agent runs continuously, sending messages to this consolidated user at the given periodic interval. This option is useful at both consolidated and remote sites.
- ◆ **Send daily at** Select this option to set the replication frequency so that the Message Agent runs continuously, sending messages to this consolidated user each day at the given time. This option is particularly useful at remote sites.

See also

- ◆ [“GRANT CONSOLIDATE statement \[SQL Remote\]” \[SQL Anywhere Server - SQL Reference\]](#)
- ◆ [“Working with message types” \[SQL Remote\]](#)
- ◆ [“Granting and revoking remote permissions” \[SQL Anywhere Server - Database Administration\]](#)
- ◆ [“Managing SQL Remote permissions” \[SQL Remote\]](#)

Change User to Remote User dialog

The Change User to Remote User dialog has the following components:

User Shows the name of the selected user.

Message type Select a message type for communicating with the publisher.

Address Type the destination for replication messages. Publishers and remote users each have their own address. The address must be valid for the Message Type you select.

Send frequency Select one of the following values to specify how often the Message Agent should run.

- ◆ **Send then close** Select this option to set the replication frequency so that the publisher's agent runs once, sends all pending messages to this remote user, and then shuts down. The agent must be restarted each time the publisher wants to send messages. This option is only useful when you are running the message agent at a remote site.
- ◆ **Send every** Select this option to set the replication frequency so that the publisher's agent runs continuously, sending messages to this remote user at the given periodic interval. This option is useful at both consolidated and remote sites.
- ◆ **Send daily at** Select this option to set the replication frequency so that the publisher's agent runs continuously, sending messages to this remote user each day at the given time. This option is particularly useful at remote sites.

See also

- ◆ [“GRANT REMOTE statement \[SQL Remote\]” \[SQL Anywhere Server - SQL Reference\]](#)
- ◆ [“Working with message types” \[SQL Remote\]](#)
- ◆ [“Granting and revoking remote permissions” \[SQL Anywhere Server - Database Administration\]](#)
- ◆ [“Managing SQL Remote permissions” \[SQL Remote\]](#)

Column Permissions dialog

The Column Permissions dialog has the following components:

This user has the following column permissions Lists columns and type of permissions the selected user has on each column in the table. You can click in the fields beside each column to grant or revoke permissions; double-clicking (so that a checkmark and two + signs appear) gives the user grant options for the permission.

Details Displays the Column Details dialog for the selected column. The Column Details dialog shows the name, type, primary key, unique constraints, whether NULLs are allowed, and comment for the selected column.

See also

- ◆ [“Granting permissions on tables” \[SQL Anywhere Server - Database Administration\]](#)

Connection Details dialog

The Connection Details dialog has the following components:

Connection ID Shows the connection ID for the selected blocked connection.

Connection name Shows the name of the connection.

User Shows the user ID for the connection.

Communication link Shows the type of communication link.

Node address Shows the node address for the client in a client/server connection.

Application information Shows the application information.

Connect time Shows the start time of the connection.

Disconnect time Shows the time the connection was disconnected.

See also

- ◆ [“Deadlock” \[SQL Anywhere Server - SQL Usage\]](#)
- ◆ [“sa_conn_info system procedure” \[SQL Anywhere Server - SQL Reference\]](#)

Consolidated User Options dialog

Note

When you change options settings, some of the settings take effect immediately, while for others to take effect you must restart the database.

The Consolidated User Options dialog has the following components:

Consolidated user Displays the name of the selected consolidated user.

Show Provides a list of option types. For example, if you choose Database Options, only database-related options appear in the Options list.

Options list Shows the option settings and default values based on the type of options selected in the Show list. Once you select an option, you can use the buttons at the side of the dialog.

- ◆ **New** This button is not enabled when you are setting consolidated user options. You must open the Database Options dialog to add new options. For instructions about how to open the Database Options dialog, see [“Setting database options” \[SQL Anywhere Server - SQL Usage\]](#).
- ◆ **Remove Now** This button is not enabled when you are setting consolidated user options. You must open the Database Options dialog to remove options. For instructions about how to open the Database Options dialog, see [“Setting database options” \[SQL Anywhere Server - SQL Usage\]](#).
- ◆ **Set Temporary Now** To change an option setting for the consolidated user temporarily, select an option from the Options list, type the desired setting in the Value field, then click Set Temporary Now.

Temporary values only last for the current Sybase Central session.

- ◆ **Set Permanent Now** To change a setting for the consolidated user permanently, select an option from the Options list, type the desired setting in the Value field, then click Set Permanent Now.

Permanent values last between sessions until they are explicitly changed again.

Value Select an option in the Options list and type the desired setting in the Value field. You can make the setting temporary or permanent by clicking Set Temporary Now and Set Permanent Now respectively. An option value cannot be set for an individual user ID unless there is already a PUBLIC group setting for that option.

See “Alphabetical list of options” [[SQL Anywhere Server - Database Administration](#)].

See also

- ◆ “SET OPTION statement” [[SQL Anywhere Server - SQL Reference](#)]
- ◆ “Working with databases” [[SQL Anywhere Server - SQL Usage](#)]
- ◆ “Managing User IDs and Permissions” [[SQL Anywhere Server - Database Administration](#)]

Create Trigger Condition dialog

The Create Trigger Condition dialog has the following components:

Condition Select a preset trigger condition from the list. When this condition and the value (specified below) are satisfied, the selected event is triggered.

Operator Select an operator from the list. The comparison operator compares the condition and value in the trigger condition.

Value Enter a value for the condition. When this value and the condition (specified above) are satisfied, the selected event is triggered.

See also

- ◆ “Defining trigger conditions for events” [[SQL Anywhere Server - Database Administration](#)]

Database Options dialog

Any options you set in this dialog are set for the PUBLIC group. Changing the value of an option for the PUBLIC group sets the value of the option for all users who have not set their own value. An option value cannot be set for an individual user ID unless there is already a PUBLIC group setting for that option.

Note

When you change options, some of the settings take effect immediately, while for others to take effect, you must restart the database.

The Database Options dialog has the following components:

Database Displays the name of the selected database.

Show Provides a list of option types. For example, if you choose Database Options, only database-related options appear in the Options list.

Options list Shows the option settings and default values based on the type of options selected in the Show list. Once you select an option, you can use the buttons at the side of the dialog.

- ◆ **New** Displays the Create Public Option dialog. In this dialog, you can define new options and set their values.
- ◆ **Remove Now** Removes the selected option from the list.

- ◆ **Set Temporary Now** To change an option setting for the database temporarily, select an option from the Options list, type the desired setting in the Value field, then click Set Temporary Now.

Temporary values only last for the current Sybase Central session.

- ◆ **Set Permanent Now** To change an option setting for the database permanently, select an option from the Options list, type the desired setting in the Value field, then click Set Permanent Now.

Permanent values last between sessions until they are explicitly changed again.

Value Select an option in the Options list and type the desired setting in the Value field. You can make the setting temporary or permanent by clicking Set Temporary Now and Set Permanent Now respectively.

See “[Alphabetical list of options](#)” [*SQL Anywhere Server - Database Administration*].

See also

- ◆ “[SET OPTION statement](#)” [*SQL Anywhere Server - SQL Reference*]
- ◆ “[Working with databases](#)” [*SQL Anywhere Server - SQL Usage*]
- ◆ “[Managing User IDs and Permissions](#)” [*SQL Anywhere Server - Database Administration*]

Edit Trigger Condition dialog

The Edit Trigger Condition dialog has the following components:

Condition Select a preset trigger condition from the list. When this condition and the value (specified below) are satisfied, the selected event is triggered.

Operator Select an operator from the list. The comparison operator compares the condition and value in the trigger condition.

Value Enter a value for the condition. When this value and the condition (specified above) are satisfied, the selected event is triggered.

See also

- ◆ “[Defining trigger conditions for events](#)” [*SQL Anywhere Server - Database Administration*]

Filter Objects by Owner dialog

The Filter Objects by Owner dialog has the following components:

Database Displays the name of the selected database.

Select the users and groups whose objects you want to view Lists the names and comments for all the users and groups connected to the database. Select the checkbox beside a user or group if you want their objects to appear.

The user SYS owns system tables.

Select All Click Select All to view objects belonging to all users in the Users list.

Clear All Click Clear All to clear all the checkboxes in the Users list.

Restore Defaults Click Restore Defaults to return the list of users on this tab to their default values (selected or cleared).

See also

- ◆ [“Working with databases” \[SQL Anywhere Server - SQL Usage\]](#)
- ◆ [“Displaying system objects in a database” \[SQL Anywhere Server - SQL Usage\]](#)

Grant Permissions dialog

The Grant Permissions dialog has the following components:

Choose one or more users or groups from the list of candidates Lists the users or groups you can grant permissions to. Select a user and then click OK to grant permissions on the selected table, procedure, function, or view to the user or group. Double-clicking a user or group grants them permission on the selected database object and closes the dialog.

You can grant permissions to multiple users by holding the Shift key while you click the users' or groups' names.

See also

- ◆ [“Granting permissions on tables” \[SQL Anywhere Server - Database Administration\]](#)
- ◆ [“GRANT statement” \[SQL Anywhere Server - SQL Reference\]](#)

Graphical Plan dialog

The Graphical Plan dialog has the following components:

Recorded graphical plan Shows a graphical representation of the selected query plan that was considered by the optimizer. Click an object inside the graphical plan to see the details.

Details Shows detailed information for the selected object.

See also

- ◆ [“Graphical plans” \[SQL Anywhere Server - SQL Usage\]](#)

Group Options dialog

Note

When you change options, some of the settings take effect immediately, while for others you must restart the database before they take effect.

The Group Options dialog has the following components:

Group Displays the name of the selected group.

Show Provides a list of option types. For example, if you choose Database Options, only database-related options appear in the Options list.

Options list Shows the option settings and their default values based on the type of options selected in the Show list. Once you select an option, you can use the buttons at the side of the dialog.

- ◆ **New** This button is not enabled when you are setting group options. You must open the Database Options dialog to add new options to the Options list. For instructions about how to open the Database Options dialog, see [“Setting database options” \[SQL Anywhere Server - SQL Usage\]](#).
- ◆ **Remove Now** This button is not enabled when you are setting group options. You must open the Database Options dialog to remove options from the Options list. For instructions about how to open the Database Options dialog, see [“Setting database options” \[SQL Anywhere Server - SQL Usage\]](#).
- ◆ **Set Temporary Now** To change an option setting for a group temporarily, select an option from the Options list, type the desired setting in the Value field, then click Set Temporary Now.

Temporary values only last for the current Sybase Central session.

- ◆ **Set Permanent Now** To change an option setting for a group permanently, select an option from the Options list, type the desired setting in the Value field, then click Set Permanent Now.

Permanent values last between sessions until they are explicitly changed again.

Value Select an option in the Options list and type the desired setting in the Value field. You can make the setting temporary or permanent by clicking Set Temporary Now and Set Permanent Now respectively. An option value cannot be set for a group unless there is already a PUBLIC group setting for that option.

See [“Alphabetical list of options” \[SQL Anywhere Server - Database Administration\]](#).

See also

- ◆ [“SET OPTION statement” \[SQL Anywhere Server - SQL Reference\]](#)
- ◆ [“Working with databases” \[SQL Anywhere Server - SQL Usage\]](#)
- ◆ [“Managing User IDs and Permissions” \[SQL Anywhere Server - Database Administration\]](#)

New Members dialog

The New Members dialog has the following components:

Choose one or more users and groups from the list of candidates Lists the names and comments for all the users and groups in the database that can be added to the selected group.

New Memberships dialog

The New Memberships dialog has the following components:

Choose one or more groups from the list of candidates Lists the names and comments for all the groups in the database to which the selected user or group can be added.

Open Analysis or Connect to Tracing Database dialog

The Open Analysis or Connect to Tracing Database dialog has the following components:

In an analysis created with the Application Profiling wizard Select this option to indicate that the profiling information is contained in an analysis file.

- ◆ **Analysis file name** Select an analysis file from the dropdown list, or click Browse and navigate to the desired file. This option is only available if In an Analysis File is selected.
- ◆ **Description** Displays the description associated with the selected analysis file. This option only appears if In an Analysis File is selected.
- ◆ **User name** The user name required to log in to the database being profiled.
- ◆ **Password** The password required to log in to the database being profiled.

In a tracing database Select this option to indicate that the profiling information is contained in a tracing database.

See also

- ◆ [“Application profiling” \[SQL Anywhere Server - SQL Usage\]](#)

Options dialog: Check for Updates tab

You can configure whether SQL Anywhere should check for software updates and how often it should do so. Checking for updates is done when you open Interactive SQL, Sybase Central, or the SQL Anywhere Console utility.

You can check for updates any time from the Start menu by choosing Programs ► SQL Anywhere 10 ► Check For Updates and from the Sybase Central, Interactive SQL, and SQL Anywhere Console utility Help menus.

The Check For Updates tab of the Options dialog in Sybase Central has the following components:

When to check for updates Choose one of the following options to specify how often SQL Anywhere should check for updates. By default, Never is selected.

- ◆ **On application startup** Select this option if you want SQL Anywhere to check for updates each time Interactive SQL, Sybase Central, or the Console utility is started.
- ◆ **Daily** Select this option if you want SQL Anywhere to check for updates the first time either Interactive SQL, Sybase Central, or the Console utility is started each day.
- ◆ **Weekly** Select this option if you want SQL Anywhere to check for updates the first time either Interactive SQL, Sybase Central, or the SQL Anywhere Console utility is started each week.

- ◆ **Monthly** Select this option if you want SQL Anywhere to check for updates the first time either Interactive SQL, Sybase Central, or the SQL Anywhere Console utility is started each month.
- ◆ **Never** Select this option if you do not want SQL Anywhere to check for updates. This is the default setting.

What to check for Choose any combination of the following options to specify what types of updates SQL Anywhere should check for. By default, all of the following options are selected:

- ◆ **Express Bug Fix** Select this option if you want SQL Anywhere to check for Express Bug Fixes.

An express bug fix is a subset of the software with one or more bug fixes. The bug fixes are listed in the release notes for the update. Bug fix updates may only be applied to installed software with the same version number. Some testing has been performed on the software, but the software has not undergone full testing. You should not distribute these files with your application unless you have verified the suitability of the software yourself.

- ◆ **Maintenance Release** Select this option if you want SQL Anywhere to check for maintenance releases of the software.

A maintenance release is a complete set of software that upgrades installed software from an older version with the same major version number (version number format is *major.minor.patch.build*). Bug fixes and other changes are listed in the release notes for the upgrade.

- ◆ **Other Information** Select this option to check for other information, such as new product releases or upcoming events.

Options dialog: Logging tab

The Logging tab of the Options dialog has the following components:

Enable logging Select this option to enable logging for a database.

- ◆ **Add date and time to output** Select this option to include the date and time of each SQL statement occurrence in the log window or file.

Wrap text Specify the length of each line in the Server Messages and Executed SQL pane or log file. Each line wraps automatically to the next line after the number of characters that you specify. By default, there are 80 characters per line.

Save Click Save to save the logging information to a file.

Clear Clears the contents of the selected tab in the Server Messages and Executed SQL pane.

Plug-in Preferences dialog: General tab

The General tab of the Plug-in Preferences dialog has the following components:

Settings The preferences on the General tab govern how SQL Anywhere responds when you perform specific tasks in Sybase Central:

- ◆ **Warn when connecting with user ID without DBA authority** Select this preference if you want to be warned when you are connecting with a user ID that does not have DBA authority. You must log in with DBA authority to enable all plug-in functionality.
- ◆ **Warn when including a column with an approximate data type in an index** Select this preference if you want to be warned when a column with an approximate data type is included in an index. It is recommended that you do not use approximate data types such as FLOAT and DOUBLE for primary keys or for columns with unique constraints. Approximate numeric data types are subject to rounding errors after arithmetic operations.
- ◆ **Inform when a breakpoint is hit while debugging** Select this preference if you want to be notified when a breakpoint is hit when you are working in Debug mode.
- ◆ **Inform when a statement is canceled while debugging** Select this option if you want to be notified when a statement is canceled when you are working in Debug mode.
- ◆ **Confirm adding user to group via clipboard and drag-and-drop operations** Sybase Central allows you to use drag-and-drop operations and copy and paste operations to add users and groups.

Select this preference if you want Sybase Central to prompt you before a user or group is added by dragging and dropping or by copying and pasting.

- ◆ **Confirm granting of permissions via clipboard and drag-and-drop operations** Sybase Central allows you to use drag-and-drop operations and copy and paste operations to grant permissions on tables, views, procedures, and functions to users or groups.

Select this preference if you want Sybase Central to prompt you before permissions are granted to a user or group by dragging or copying and pasting them to a table, view, procedure, or function.

- ◆ **Confirm creation of SQL Remote subscriptions via clipboard and drag-and-drop operations** Sybase Central allows you to use drag-and-drop operations and copy and paste operations to create SQL Remote subscriptions for remote users and consolidated users.

Select this preference if you want Sybase Central to prompt you before you subscribe a remote user or consolidated user to a publication by dragging or copying and pasting the user to a publication.

- ◆ **Confirm creation of MobiLink synchronization subscriptions via clipboard and drag-and-drop operations** Sybase Central allows you to use drag-and-drop operations and copy and paste operations to create synchronization subscriptions for MobiLink users.

Select this preference if you want Sybase Central to prompt you before you subscribe a MobiLink user to a publication by dragging or copying and pasting the MobiLink user to a publication.

- ◆ **Confirm deletions when editing table data** Select this preference if you want SQL Anywhere to prompt you before table data is deleted on the Data tab in Sybase Central.
- ◆ **Confirm updates when editing table data** Select this preference if you want SQL Anywhere to prompt you before table data is updated on the Data tab in Sybase Central.
- ◆ **Confirm implicit updates when editing table data** Select this preference if you want SQL Anywhere to prompt you before implicit updates are made in Sybase Central. Implicit updates are made

when you are editing a row on the Data tab and then click anywhere else in Sybase Central outside the row you are currently editing.

- ◆ **Confirm cancellations when editing table data** Select this preference if you want Sybase Central to prompt you when you cancel changes to table data on the Data tab in Sybase Central.
- ◆ **Show an information dialog when a maintenance plan is started** Select this preference if you want Sybase Central to show an information dialog when you start a maintenance plan by selecting it and choosing Run Now from the menu.
- ◆ **Show a warning dialog when modifying or deleting an event associated with a maintenance plan** Select this preference if you want Sybase Central to show a warning dialog when you modify or delete an event associated with a maintenance plan.

Restore Defaults Click Restore Defaults to return the preferences on this tab to their default values (selected or cleared). By default, all the preferences on this tab are selected.

Plug-in Preferences dialog: Utilities tab

The Utilities tab of the Plug-in Preferences dialog has the following components:

Settings The preferences on the Utilities tab govern whether wizard introduction pages appear and whether wizard message windows close when the wizard is finished:

- ◆ **Show Create Database wizard introduction page** Select this preference if you want the Create Database wizard introduction page to appear when you open the wizard.
- ◆ **Show Upgrade Database wizard introduction page** Select this preference if you want the Upgrade Database wizard introduction page to appear when you open the wizard.
- ◆ **Show Backup Database wizard introduction page** Select this preference if you want the Backup Database wizard introduction page to appear when you open the wizard.
- ◆ **Show Restore Database wizard introduction page** Select this preference if you want the Restore Database wizard introduction page to appear when you open the wizard.
- ◆ **Show Create Backup Images wizard introduction page** Select this preference if you want the Create Image Backup wizard introduction page to appear when you open the wizard.
- ◆ **Show Unload Database wizard introduction page** Select this preference if you want the Unload Database wizard introduction page to appear when you open the wizard.
- ◆ **Show Extract Database wizard introduction page** Select this preference if you want the Extract Database wizard introduction page to appear when you open the wizard.
- ◆ **Show Validate Database wizard introduction page** Select this preference if you want the Validate Database wizard introduction page to appear when you open the wizard.
- ◆ **Show Compress Database wizard introduction page** Select this preference if you want the Compress Database wizard introduction page to appear when you open the wizard.

- ◆ **Show Uncompress Database wizard introduction page** Select this preference if you want the Uncompress Database wizard introduction page to appear when you open the wizard.
- ◆ **Show Create Write File wizard introduction page** Select this preference if you want the Create Write File wizard introduction page to appear when you open the wizard.
- ◆ **Show Translate Log File wizard introduction page** Select this preference if you want the Translate Log File wizard introduction page to appear when you open the wizard.
- ◆ **Show Change Log File Settings wizard introduction page** Select this preference if you want the Change Log File Settings wizard introduction page to appear when you open the wizard.
- ◆ **Show Erase Database wizard introduction page** Select this preference if you want the Erase Database wizard introduction page to appear when you open the wizard.
- ◆ **Show Migrate Database wizard introduction page** Select this preference if you want the Migrate Database wizard introduction page to appear when you open the wizard.
- ◆ **Show Index Consultant introduction page** Select this preference if you want the Index Consultant introduction page to appear when you open the Index Consultant.
- ◆ **Close wizard messages window when completed** Select this preference if you want the wizard messages window to close after it is finished. By default, this preference is not selected.
- ◆ **Show Application Profiling wizard introduction page** Select this preference if you want the Application Profiling wizard introduction page to appear when you open the wizard.
- ◆ **Show Application Profiling wizard** Select this preference if you want the Application Profiling wizard to appear.
- ◆ **Show Tracing wizard introduction page** Select this preference if you want the Tracing wizard introduction page to appear when you open the wizard.
- ◆ **Warn when upgrading a database created by version 9.0.2 or earlier software** Select this preference if you want to be warned when upgrading a database that was created using software that was version 9.0.2 or earlier. To create a version 10 database, you must use the Unload Database wizard.
- ◆ **Warn when unloading a running database when the database file name is specified** This preference applies only to the Unload Database wizard. If the database you want to unload is already running, and you start the Unload Database wizard, the SQL Anywhere database server automatically stops the database before proceeding with the unload. Select this preference if you want to receive a warning before the database is stopped.

See [“Using the Unload Database wizard” \[SQL Anywhere Server - SQL Usage\]](#).

Restore Defaults Click Restore Defaults to return the preferences on this tab to their default values (selected or cleared). By default, all preferences on this tab except Close Wizard Messages Window When Completed are selected.

Plug-in Preferences dialog: Table Data tab

The Table tab of the Plug-in Preferences dialog has the following components:

Which font do you want to use to show table data? Select one of the following options to specify the font that is used for table data on the Data tab when viewing table data in Sybase Central:

- ◆ **System** Select this option to use the computer's normal text font. This is the default setting.
- ◆ **Editor** Select this option to use the same font as the Code Editor.
See “Using the Code Editor” [[SQL Anywhere Server - Database Administration](#)].
- ◆ **Custom** Select this option to specify the font, font style, and point size you want to use. Click Browse to select the desired settings in the Font dialog.

Pre-allocate Space for Dbspace dialog

The Pre-allocate Space for Dbspace dialog has the following components:

How much space would you like to pre-allocate for the dbspace? Enter the amount of space you want to pre-allocate to the dbspace. Pre-allocating disk space for the dbspace extends the size of the corresponding database file by the amount of space you specify.

You cannot change the *page size* of a database because the page size is fixed when the database is created.

See also

- ◆ “ALTER DBSPACE statement” [[SQL Anywhere Server - SQL Reference](#)]
- ◆ “Pre-allocating space for database files” [[SQL Anywhere Server - Database Administration](#)]

Publisher Options dialog

Note

When you change options settings, some of the settings take effect immediately, while for others to take effect you must restart the database.

The Publisher Options dialog has the following components:

Publisher Displays the name of the publisher.

Show Provides a list of option types. For example, if you choose Database Options, only database-related options appear in the Options list.

Options list Shows the option settings and default values based on the type of options selected in the Show list. Once you select an option, you can use the buttons at the side of the dialog:

- ◆ **New** This button is not enabled when you are setting publisher options. You must open the Database Options dialog to add new options.
- ◆ **Remove Now** This button is not enabled when you are setting publisher options. You must open the Database Options dialog to remove options.

- ◆ **Set Temporary Now** To change an option setting for the publisher temporarily, select an option from the Options list, type the desired setting in the Value field, then click Set Temporary Now.

Temporary values only last for the current Sybase Central session.

- ◆ **Set Permanent Now** To change a setting for the publisher permanently, select an option from the Options list, type the desired setting in the Value field, then click Set Permanent Now.

Permanent values last between sessions until they are explicitly changed again.

Value Select an option in the Options list and type the desired setting in the Value field. You can make the setting temporary or permanent by clicking Set Temporary Now and Set Permanent Now respectively. An option value cannot be set for an individual user ID unless there is already a PUBLIC group setting for that option.

See “[Alphabetical list of options](#)” [[SQL Anywhere Server - Database Administration](#)].

See also

- ◆ “[SET OPTION statement](#)” [[SQL Anywhere Server - SQL Reference](#)]
- ◆ “[Working with databases](#)” [[SQL Anywhere Server - SQL Usage](#)]
- ◆ “[Managing User IDs and Permissions](#)” [[SQL Anywhere Server - Database Administration](#)]

Query Rewrite Optimization History dialog

The Query Rewrite Optimization History dialog has the following components:

History Shows detailed information about each type of rewrite optimization that was applied to the SQL statement, and the resulting changes to the SQL text.

See also

- ◆ “[Query Optimization and Execution](#)” [[SQL Anywhere Server - SQL Usage](#)]

Recommendation dialog

The Recommendation dialog has the following components:

Description Shows a description of the application profiling recommendation.

Details (or SQL Script) Provides more details related to the selected recommendation.

- ◆ **Up arrow** Click the up arrow to view the content for the previous recommendation.
- ◆ **Down arrow** Click the down arrow to view the content for the next recommendation.

Save Allows you to save the selected recommendation to file.

Delete Deletes the selected recommendation.

See also

- ◆ [“Application profiling” \[SQL Anywhere Server - SQL Usage\]](#)
- ◆ [“Analyzing diagnostic tracing information” \[SQL Anywhere Server - SQL Usage\]](#)

Remote User Options dialog**Note**

When you change options settings, some of the settings take effect immediately, while for others to take effect you must restart the database.

The Remote User Options dialog has the following components:

Remote User Displays the name of the selected remote user.

Show Provides a list of option types. For example, if you choose Database Options, only database-related options appear in the Options list.

Options list Shows the option settings and default values based on the type of options selected in the Show list. Once you select an option, you can use the buttons at the side of the dialog.

- ◆ **New** This button is not enabled when you are setting remote user options. You must open the Database Options dialog to add new options. For instructions about how to open the Database Options dialog, see [“Setting database options” \[SQL Anywhere Server - SQL Usage\]](#).
- ◆ **Remove Now** This button is not enabled when you are setting remote user options. You must open the Database Options dialog to remove options. For instructions about how to open the Database Options dialog, see [“Setting database options” \[SQL Anywhere Server - SQL Usage\]](#).
- ◆ **Set Temporary Now** To change an option setting for the remote user temporarily, select an option from the Options list, type the desired setting in the Value field, then click Set Temporary Now.

Temporary values only last for the current Sybase Central session.

- ◆ **Set Permanent Now** To change a setting for the remote user permanently, select an option from the Options list, type the desired setting in the Value field, then click Set Permanent Now.

Permanent values last between sessions until they are explicitly changed again.

Value Select an option in the Options list and type the desired setting in the Value field. You can make the setting temporary or permanent by clicking Set Temporary Now and Set Permanent Now respectively. An option value cannot be set for an individual user ID unless there is already a PUBLIC group setting for that option.

See [“Alphabetical list of options” \[SQL Anywhere Server - Database Administration\]](#).

See also

- ◆ [“SET OPTION statement” \[SQL Anywhere Server - SQL Reference\]](#)
- ◆ [“Working with databases” \[SQL Anywhere Server - SQL Usage\]](#)

- ◆ [“Managing User IDs and Permissions” \[SQL Anywhere Server - Database Administration\]](#)

Set Consolidated User dialog

The Set Consolidated User dialog has the following components:

Choose the new consolidated user from the list of candidates Lists the users from which you can select the consolidated user for the database. Select a user and then click OK to grant CONSOLIDATED permissions to the selected user. Double-clicking a user grants that user CONSOLIDATE permissions and closes the dialog.

You can only select one consolidated user for the database. The name of the consolidated user appears on the SQL Remote tab of the Database property sheet.

See also

- ◆ [“GRANT CONSOLIDATE statement \[SQL Remote\]” \[SQL Anywhere Server - SQL Reference\]](#)
- ◆ [“Managing SQL Remote permissions” \[SQL Remote\]](#)

Set Clustered Index dialog

Clustered indexes are supported for SQL Anywhere databases that are version 8.0.2 and higher.

The Set Clustered Index dialog has the following components:

Table Shows the name of the table for which you are specifying a clustered index.

Specify an index on this table to be clustered Select this option to enable the list of indexes below where you specify which index is to be clustered.

Indexes list Shows all the indexes for the table. Select an index from the list and then click OK to specify a clustered index. Note that only one index on a table can be a clustered index.

See also

- ◆ [“Using clustered indexes” \[SQL Anywhere Server - SQL Usage\]](#)
- ◆ [“CREATE INDEX statement” \[SQL Anywhere Server - SQL Reference\]](#)

Set Publisher dialog

The Set Publisher dialog has the following components:

Choose the new publisher from the list of candidates Lists the users you can select the publisher from. Select a user and then click OK to grant PUBLISH permissions to the selected user. Double-clicking a user grants that user PUBLISH permissions and closes the dialog.

You can only select one publisher for the database.

See also

- ◆ [“GRANT PUBLISH statement \[SQL Remote\]” \[SQL Anywhere Server - SQL Reference\]](#)
- ◆ [“Managing SQL Remote permissions” \[SQL Remote\]](#)

Set Service Group dialog

The Set Service Group dialog has the following components:

New service group Select this option to create a new service group to assign the selected service to:

- ◆ **Service group name** Type the name of the new service group when you select New Service Group above.

Existing service group Select this option if you want to assign the selected service to be a member of an existing service group.

- ◆ **Service groups list** Lists all the existing service groups. The list is enabled when you select the Existing Service Group option. To assign the selected service to a service group, select an existing service group from the list and click OK. Double-clicking a service group assigns the service to that service group and closes the dialog.

See also

- ◆ [“Running more than one service” \[SQL Anywhere Server - Database Administration\]](#)

SQL Statement Details dialog

The SQL Statement Details dialog has a SQL Statement Details pane and a Query Information pane. Note that the fields displayed vary with the SQL statement selected, so you may not see all the fields that are described below.

SQL statement details The following information is provided for the SQL statement:

- ◆ **Request ID** Shows the request ID.
- ◆ **SQL statement** Shows the full text of the selected SQL statement. Note that the text displayed for the statement may not match the original text. If this statement was captured after it was parsed by the database server (either because it is part of a compiled database object, such as a stored procedure or trigger, or because it was only selected for inclusion in the trace because it satisfied a sampling or cost condition), it may appear different than it was originally written. In particular, queries over views may appear drastically different, since the view definitions are often flattened into the queries (expanded inline).
- ◆ **Host/internal variables** Shows host variables, internal variables, and their values for the selected SQL statement.
- ◆ **Start time** Shows the statement start time.
- ◆ **Duration** Shows the duration of the statement, which is the time the database server spent actually processing the request.

- ◆ **Cursor close time** Shows the cursor close time.
- ◆ **Connection ID** Shows the connection ID for the selected statement.
- ◆ **User** Shows the user ID for the selected statement.
- ◆ **SQL error code** Shows the numerical SQL error code associated with the error.
- ◆ **Procedure/Trigger** Shows the stored procedure or trigger related to the selected statement.
- ◆ **Procedure/Trigger line number** Shows the line number of the applicable procedure or trigger.

Query information The following query information is provided for the SQL statement:

- ◆ **Isolation level** Shows the isolation level for the selected statement.
- ◆ **Forward fetches** Shows the number of forward fetches for the selected statement.
- ◆ **Reverse fetches** Shows the number of reverse fetches for the statement.
- ◆ **Absolute fetches** Shows the number of absolute fetches for the statement.
- ◆ **First fetch time** Shows the first fetch time for the selected database.
- ◆ **Used optimizer bypass** Shows whether or not the optimizer bypass was used.
- ◆ **Actual text plan** Shows the actual text plan.
- ◆ **Plan at execution time** Shows the plan at execution time. Click an objects to display the details for that object. Click Advanced Details to display more detailed information.

See also

- ◆ [“Analyzing diagnostic tracing information” \[SQL Anywhere Server - SQL Usage\]](#)
- ◆ [“Text plans” \[SQL Anywhere Server - SQL Usage\]](#)

SQL Viewer Options dialog

The SQL Viewer Options dialog has the following components:

Enable logging Select this option to enable logging for a database.

- ◆ **Add date and time to output** Select this option to include the date and time of each SQL statement occurrence in the Log Viewer or file.

Wrap text Specify the length of each line in the Server Messages and Executed SQL pane or log file. Each line wraps automatically to the next line after the number of characters that you specify. By default, there are 80 characters per line.

Save Click Save to save the logging information to a file.

Clear Clears the contents of the selected tab in the Server Messages and Executed SQL pane.

Start Database dialog

The Start Database dialog has the following components:

Server Shows the name of the selected database server on which the database will be started.

Database file Type the full path and name of the SQL Anywhere database file on the server computer. For example, type something like C:\databases\mydatabase.db.

You can also click Browse to locate the file.

Encryption key Enter the encryption key to start the database. You must supply the encryption key to start a database that is strongly encrypted. This field is only applicable for strongly encrypted databases.

See:

- ◆ “Encrypting a database” [[SQL Anywhere Server - Database Administration](#)]
- ◆ “Initialization utility (dbinit)” [[SQL Anywhere Server - Database Administration](#)]

Database name Type a name for the database you are connecting to. You can use a database name to provide a more meaningful name than the file name for users of client applications. Since more than one database can run on a database server at one time, supplying a database name lets you distinguish between databases running on the same database server. The name you supply identifies the database until it is stopped.

The database name is optional. If you don't supply a database name, the default database name is the root of the database file name (the file name without the *.db* extension). For example, if you have a database called *sample.db*, the default database name is *sample*.

Stop database after last disconnect Select this option to stop the database when the last connection to it closes.

This option is different from the `-ga` server option, which automatically stops the database server.

See also

- ◆ “Running the Database Server” [[SQL Anywhere Server - Database Administration](#)]
- ◆ “Working with databases” [[SQL Anywhere Server - SQL Usage](#)]

Trigger Event dialog

The Trigger Event dialog has the following components:

Event Displays the name and owner of the event.

Parameters Type any event parameters in this field in the form **name=value,name=value...**

If the event does not require any parameters, click OK to trigger the event.

This dialog allows you to explicitly supply parameters in order to simulate a context for the event handler. You can use this dialog to test trigger conditions such as disk space restrictions (when a disk fills beyond a specified percentage) or other trigger conditions that are required to trigger an event handler.

For example, you can have an event that takes different actions depending which user ID is connected to the database: calling the event parameter ('User') in the event handler does this. To simulate triggering this event for the user P_Chin, type the following in the Parameters text box:

```
"User"='P_Chin'
```

The word User must be contained in double quotes because it is a reserved word in SQL.

See also

- ◆ “TRIGGER EVENT statement” [[SQL Anywhere Server - SQL Reference](#)]
- ◆ “EVENT_CONDITION function [System]” [[SQL Anywhere Server - SQL Reference](#)]
- ◆ “CREATE EVENT statement” [[SQL Anywhere Server - SQL Reference](#)]
- ◆ “Automating Tasks Using Schedules and Events” [[SQL Anywhere Server - Database Administration](#)]

Unload Data dialog

The Unload Data dialog has the following components:

Save the data files on the server computer using UNLOAD statements Select this option to export data to files on the server computer. Selecting this option places an exclusive lock on the whole table while you are unloading it. UNLOAD statements provide better performance than OUTPUT statements. In the file, the data is exported with one row per line, values are separated by a comma delimiter, and strings are enclosed in single quotes. The Browse button is disabled if you select this option and the database is not running on the local computer.

Save the data files on the local computer using OUTPUT statements Select this option to export data files on the local computer. In the file, the data is exported with one row per line, values are separated by a comma delimiter, and strings are enclosed in single quotes

Save the data files in the following directory Type the directory where you want the data saved. If you choose to save the data files on the server computer, relative file names specify files relative to the database server's starting directory. You can click Browse to locate the directory where you want to save the files.

Order data by primary key Select this option to order the exported data in order by primary key values to make reloading quicker.

Save the reload file to the following file on the local computer Type a name and location for the *reload.sql* file that is used to reload the data.

Use LOAD statements to reload the data from the server computer Select this option to use LOAD statements to reload the data. LOAD statements provide better performance than INPUT statements. Choose this option if the file names referenced in the *reload.sql* file are relative to the server computer.

See “[Using the LOAD TABLE statement to import data](#)” [[SQL Anywhere Server - SQL Usage](#)].

Use INPUT statements to reload the data from the local computer Select this option to use INPUT statements to reload the data. Choose this option if the file names referenced in the *reload.sql* file are relative to the local computer.

See also

- ◆ [“UNLOAD TABLE statement” \[SQL Anywhere Server - SQL Reference\]](#)
- ◆ [“OUTPUT statement \[Interactive SQL\]” \[SQL Anywhere Server - SQL Reference\]](#)
- ◆ [“LOAD TABLE statement” \[SQL Anywhere Server - SQL Reference\]](#)
- ◆ [“INPUT statement \[Interactive SQL\]” \[SQL Anywhere Server - SQL Reference\]](#)

Update JAR File dialog

The Update JAR file dialog has the following components:

Where is the updated JAR file located? In the text box, type the path of the JAR file that you want to update. If you don't know the path, you can click the Browse button to search for the file. For example, *C:\my JAR files\Silver.jar*.

Install all classes Select this option if you want to install all the classes in this JAR file.

Install selected classes Select this option to identify specific classes to install from the selected JAR file. Separate each class with a comma. You can click Select to view a list of classes in the selected JAR file.

- ◆ **Select All** Installs all the classes in the JAR file list.
- ◆ **Clear All** Clears all the classes in the JAR file list so they are not installed.

See also

- ◆ [“Tutorial: Using Java in the Database” \[SQL Anywhere Server - Programming\]](#)

Update Java Class dialog

The Update Java Class dialog has the following components:

Where is the updated Java Class file located? Type the complete path of the Java class that you want to update. For example, *C:\my classes\Utility.class*.

Alternatively, you can click Browse to search for the Java class.

See also

- ◆ [“Tutorial: Using Java in the Database” \[SQL Anywhere Server - Programming\]](#)
- ◆ [“Updating classes and JAR files” \[SQL Anywhere Server - Programming\]](#)

User Options dialog

Note

When you change options settings, some of the settings take effect immediately, while for others to take effect you must restart the database.

The User Options dialog has the following components:

User Displays the name of the selected user.

Show Provides a list of option types. For example, if you choose Database Options, only database-related options appear in the Options list.

Options list Shows the option settings and default values based on the type of options selected in the Show list. Once you select an option, you can use the buttons at the side of the dialog.

- ◆ **New** This button is not enabled when you are setting user options. You must open the Database Options dialog to add new options. For instructions about how to open the Database Options dialog, see [“Setting database options” \[SQL Anywhere Server - SQL Usage\]](#).
- ◆ **Remove Now** This button is not enabled when you are setting user options. You must open the Database Options dialog to remove options. For instructions about how to open the Database Options dialog, see [“Setting database options” \[SQL Anywhere Server - SQL Usage\]](#).
- ◆ **Set Temporary Now** To change an option setting for a user temporarily, select an option from the Options list, type the desired setting in the Value field, then click Set Temporary Now.

Temporary values only last for the current Sybase Central session.

- ◆ **Set Permanent Now** To change a setting for a user permanently, select an option from the Options list, type the desired setting in the Value field, then click Set Permanent Now.

Permanent values last between sessions until they are explicitly changed again.

Value Select an option in the Options list and type the desired setting in the Value field. You can make the setting temporary or permanent by clicking Set Temporary Now and Set Permanent Now respectively. An option value cannot be set for an individual user ID unless there is already a PUBLIC group setting for that option.

See [“Alphabetical list of options” \[SQL Anywhere Server - Database Administration\]](#).

See also

- ◆ [“SET OPTION statement” \[SQL Anywhere Server - SQL Reference\]](#)
- ◆ [“Working with databases” \[SQL Anywhere Server - SQL Usage\]](#)
- ◆ [“Managing User IDs and Permissions” \[SQL Anywhere Server - Database Administration\]](#)

Windows CE Message Types for SQL Remote dialog

The Windows CE Message Types for SQL Remote dialog has the following components:

Your Windows CE device has the following message types This window lists the available message types for your Windows CE device. To select a message type for SQL Remote replication, select a message type from the list and click OK.

- ◆ The supported message types are FILE, FTP, and SMTP.

The selected message type has the following parameters This window lists the name and value for each parameter for the selected message type.

- ◆ **Name** Lists the parameter names for the selected message type.
- ◆ **Value** Shows the value for the parameter for the selected message type. You can change the value by clicking in the field and typing a different value.

The following tables list the parameters for each supported SQL Remote message type.

FILE message control parameters

Name	Values	Default	Description
Directory	String	' '	Set to the directory under which the messages are stored. The setting is an alternative to the SQL-REMOTE environment variable. See “SQLREMOTE environment variable” [SQL Anywhere Server - Database Administration] .
Debug	YES, NO	NO	When set to YES, all file system calls made by the FILE link are displayed.
Unlink_Delay	Integer	Pause for 1 second after first failed attempt, 2 seconds after second failed attempt, and so on.	Set to the number of seconds to wait before attempting to delete a file if the previous attempt to delete the file failed.

See [“The file message system” \[SQL Remote\]](#).

FTP message control parameters

Name	Values	Default	Description
Host	String	' '	The host name or IP address of the computer where the messages are stored.
User	String	' '	The user name for accessing the ftp host.
Password	String	' '	The password for accessing the ftp host.
Root_Directory	String	' '	The root directory within the ftp host site under which the messages are stored.
Port	String	' '	The IP port number used for the ftp connection. This is usually not required.
Debug	YES, NO	NO	This parameter controls whether debugging output appears.

Name	Values	Default	Description
Active_Mode	YES, NO	NO	<p>This parameter controls whether the client or the server initiates all data transfer connections.</p> <p>When this parameter is set to NO, (Passive mode) the client initiates all data transfer connections, in this case the message link.</p> <p>When this parameter is set to YES (Active mode) the server initiates all data connections.</p> <p>If your FTP server is sitting behind an incorrectly configured firewall you may not be able to use the default passive transfer mode.</p> <p>For more information about this parameter, see “Troubleshooting ftp problems” [SQL Remote].</p>

See [“The ftp message system” \[SQL Remote\]](#).

SMTP message control parameters

Name	Values	Default	Description
Local_Host	String	''	The name of the local computer. The local host name is required to initiate a session with any SMTP server. In most network environments, the local host name can be determined automatically and you do not need to supply this value.
TOP_Supported	YES, NO	YES	<p>SQL Remote uses a POP3 command called TOP when enumerating incoming messages. The TOP command may not be supported by all POP servers.</p> <p>Set this value to NO to use the RETR command, which is less efficient but works with all POP servers.</p>
Smtplib_Host	String	''	The name of the computer on which the SMTP server is running. It corresponds to the SMTP host field in the SMTP/POP3 login dialog.
Pop3_Host	String	''	The name of the computer on which the POP host is running. It corresponds to the POP3 host field in the SMTP/POP3 login dialog.
Pop3_Userid	String	''	The POP user ID corresponds to the user ID field in the SMTP/POP3 login dialog.

Name	Values	Default	Description
Pop3_password	String	' '	The POP password corresponds to the password field in the SMTP/POP3 login dialog.
Debug	YES, NO	NO	This parameter controls whether debugging information appears. When set to YES, SMTP and POP3 commands and responses appear.

See “The SMTP message system” [[SQL Remote](#)].

See also

- ◆ “Working with message types” [[SQL Remote](#)]
- ◆ “Using message types” [[SQL Remote](#)]

Debugger help

The following sections describe the dialogs available in the SQL Anywhere debugger.

For more information about using the debugger, see “[Debugging Procedures, Functions, Triggers, and Events](#)” [*SQL Anywhere Server - SQL Usage*].

Debugger Add Watch dialog

Enter a SQL expression (for stored procedures) or Java expression (for Java classes) to watch. The expression appears in the Watch window when Sybase Central is running a Debug task.

For example, to track the SQLSTATE value when debugging stored procedures, just enter SQLSTATE.

See also

- ◆ “[Expressions](#)” [*SQL Anywhere Server - SQL Reference*]

Debugger Breakpoints dialog

The Debugger Breakpoints dialog has the following components:

All breakpoints A list of all breakpoints in the current database. The following is a description of the columns:

- ◆ **Procedure** The stored procedure to which the breakpoint applies.
- ◆ **Context** The line of source code that contains the breakpoint.
- ◆ **Condition** The condition that must be true in order for the breakpoint to interrupt execution.
- ◆ **Count** The number of times the breakpoint is skipped before it interrupts execution. A value of 0 means that the breakpoint always stops execution.
- ◆ **Database** The database to which the breakpoint applies.
- ◆ **Server** The database server to which the breakpoint applies.

Close Close the Breakpoints dialog.

Edit Edit the currently selected breakpoint. For example, you can set or modify a condition that must be satisfied before the breakpoint interrupts execution.

View Code Close the Breakpoints dialog and show code for the selected breakpoint.

Enable Enable the selected breakpoint, so that it interrupts execution. The breakpoint is shown as a red circle in the code window.

Disable Disable the selected breakpoint, so that it does not interrupt execution. The breakpoint is shown as a gray circle in the code window.

Remove Delete the selected breakpoint from the list.

New Create a new breakpoint.

See also

- ◆ [“Working with breakpoints” \[SQL Anywhere Server - SQL Usage\]](#)

Debugger Edit or Add Breakpoint dialog

The Debugger Edit and Add Breakpoint dialogs have the following components:

Server The database server to which the breakpoint applies.

Database The database to which the breakpoint applies.

Procedure For SQL procedures, the stored procedure to which the breakpoint applies.

Class For Java classes, the class to which the breakpoint applies.

Condition A condition that must evaluate to true for the breakpoint to interrupt execution.

The condition does not have to depend only on variables within the procedure. For example, you can set a breakpoint to apply to a connection made by a specified user, you can enter the following condition:

```
CURRENT USER = 'user-name'
```

See [“Search conditions” \[SQL Anywhere Server - SQL Reference\]](#).

Count The number of times the breakpoint is skipped before it interrupts execution. A value of 0 means that the breakpoint always stops execution.

Enable this breakpoint Select this option for the breakpoint to interrupt execution.

See also

- ◆ [“Editing breakpoint conditions” \[SQL Anywhere Server - SQL Usage\]](#)

Debugger Java Source Path dialog

The Debugger Java Source Path dialog has the following components:

List of folders A list of folders or individual files where the debugger looks for Java source.

Browse Folder Locate a folder to add to the list.

Browse File Locate an individual file to add to the list.

See also

- ◆ [“Creating a class” \[SQL Anywhere Server - Programming\]](#)

Index Consultant

The Index Consultant guides you in the proper selection of indexes for your database. It guides you through the process of selecting indexes for a single query or for a set of database requests (called a **workload**). It creates many different sets of virtual indexes. For each set, the Index Consultant optimizes queries and other requests as if those virtual indexes were present. The Index Consultant then gathers the results of these explorations into a set of recommendations.

See also

- ◆ [“Index Consultant” \[SQL Anywhere Server - SQL Usage\]](#)
- ◆ [“Understanding Index Consultant recommendations” \[SQL Anywhere Server - SQL Usage\]](#)
- ◆ [“Implementing Index Consultant recommendations” \[SQL Anywhere Server - SQL Usage\]](#)

UltraLite projects

In version 9.0.2 and earlier, you can assign SQL statements in a reference database to an UltraLite project. By grouping them this way, you can develop multiple static UltraLite applications using the same reference database.

When the UltraLite generator runs against a reference database to generate the database source code files, it takes a project name as an argument and generates the code for the SQL statements in that project. If you are using embedded SQL, the SQL preprocessor defines the UltraLite project for you and you do not need to create it explicitly.

UltraLite statements

In version 9.0.2 and earlier, you define the data access requests available to an UltraLite application by adding a set of SQL statements to the UltraLite project for that application in your reference database. The UltraLite generator then creates the code for a database engine that can execute the set of SQL statements.

In the Static C++ API, you can also use publications to define data access methods. If you are using embedded SQL, the SQL preprocessor adds the SQL statements in your embedded SQL source files to the reference database for you.

Publications

A publication is a database object that identifies the data that is to be synchronized. A publication consists of articles, which are subsets of a table's columns, rows, or both. Each publication can contain one or more entire tables, or partial tables consisting of selected rows and columns. In a single publication, no table can be included in more than one article.

In MobiLink, publications exist only on the clients. A publication consists of articles. MobiLink users can synchronize a publication by creating a synchronization subscription to it. SQL Remote users can receive a publication by subscribing to it.

See also

- ◆ MobiLink SQL Anywhere clients: [“Publishing data”](#) [*MobiLink - Client Administration*]
- ◆ MobiLink UltraLite clients: [“Publications in UltraLite”](#) [*MobiLink - Client Administration*]
- ◆ SQL Remote: [“Publishing data”](#) [*SQL Remote*]

Articles

In MobiLink or SQL Remote, an article represents a whole table, or a subset of the columns and rows in a table. Articles are grouped together in a publication.

See also

- ◆ MobiLink SQL Anywhere clients: [“Altering existing publications”](#) [*MobiLink - Client Administration*]
- ◆ MobiLink UltraLite clients: [“Publications in UltraLite”](#) [*MobiLink - Client Administration*]
- ◆ SQL Remote: [“Publishing data”](#) [*SQL Remote*]

Subscriptions

In MobiLink, a **synchronization subscription** links a particular MobiLink user with a publication. It can also contain other information needed for synchronization. For example, you can specify the address of the MobiLink server and any desired options for a synchronization subscription. Values for a specific synchronization subscription override those set for MobiLink users. Synchronization subscriptions are required only in MobiLink SQL Anywhere remote databases. Server logic is implemented through synchronization scripts, stored in the MobiLink system tables in the consolidated database.

In SQL Remote, data is organized into publications for replication. To receive SQL Remote messages, a **subscription** must be created for a user ID with REMOTE permissions. Publications and subscriptions are two-way relationships in SQL Remote. If you create a subscription for a remote user to a publication on a consolidated database, you should also create a subscription for the consolidated database on the remote database. The Extraction utility carries this out automatically.

See also

- ◆ [MobiLink: “Creating synchronization subscriptions”](#) [*MobiLink - Client Administration*]
- ◆ [SQL Remote: “SQL Remote Publications and subscriptions”](#) [*SQL Remote*]

Connect dialog tools

Tools The following utilities are available from the Tools button on the Connect dialog:

- ◆ **Test connection** This tool is only available when you are connecting to a SQL Anywhere database. Tests whether the information provided results in a proper connection.

Click Show Details to see debugging information about how the connection parameters are used to find the database server.

- ◆ **Setup Windows CE proxy port** This tool is only available if you have ActiveSync installed and are connecting to a SQL Anywhere or UltraLite database. It helps you setup a TCP/IP port redirector for connecting to Windows CE databases (if Windows CE services are installed).

See also

- ◆ [“Connect Dialog Help” on page 1](#)
- ◆ [“Working with the Connect dialog” \[*SQL Anywhere Server - Database Administration*\]](#)

Indexes folder

The Indexes folder provides a way for you to view all the indexes in a database. Once you have connected to a database, click the Indexes folder to display all the indexes.

The following information is displayed for each entry, and can be used to sort the list:

- ◆ **Index name** Shows the name of the index.
- ◆ **Object name** Shows the name of the object with which the index is associated.
- ◆ **Object owner** Shows the name of the owner of the object with which the index is associated.
- ◆ **Index type** Shows the type of index. The type can be foreign key index, primary key index, unique constraint index, or index.
- ◆ **Unique** Shows whether values in the index must be unique. The unique value is set when you create a new index.
- ◆ **Columns** Shows all the columns in the index.

See also

- ◆ [“Index property sheet: General tab” on page 48](#)
- ◆ [“Creating indexes” \[SQL Anywhere Server - SQL Usage\]](#)

Table edit undo

When editing tables in Sybase Central, you can undo your changes on a row by row basis.

Rows that have been edited are marked with a pencil icon to the left of the row. To undo the changes to any row that has been edited, click to select the row you want to undo, and choose Edit ► Undo. The changes to the selected row are undone and the pencil icon is removed. You can continue to undo changes to any other rows that are marked with the pencil icon.

See also

- ◆ [“Sybase Central” \[SQL Anywhere Server - Database Administration\]](#)
- ◆ [“Table property sheet: General tab” on page 94](#)

Database search

The Search feature in Sybase Central allows you to search a database for a specified object name, or to search for a string within the SQL of a database object.

The Search pane has the following components:

Find what Enter the object name or SQL string you want to search for, or choose an item from the dropdown list.

Look in Choose an item from the dropdown list to narrow your search.

Match case Select this option to find only text that exactly matches the text in the Find what box, including matching upper and lower case.

Find whole words only Select this option to match one or more whole words. For example, if you select this option and search for the word `serve`, the search will not find the word `serve` within the word `server`.

Search in SQL Select this option to search SQL statements for the specified string.

Search dynamic properties (connections, statistics, locks) Select this option to include dynamic properties in the search.

Search Click Search to find the object or string specified in Find What.

Results list Shows the name, object type, and context for each item that is found.

CHAPTER 4

MobiLink Plug-in Admin Mode Help

Contents

Introduction to MobiLink Plug-in Admin mode help 148

MobiLink property sheets 149

MobiLink Server Log File Viewer: Messages tab 162

MobiLink Server Log File Viewer: Summaries tab 164

MobiLink Server Log File Viewer: Synchronizations tab 165

Introduction to MobiLink Plug-in Admin mode help

When you work in Admin mode, you are connected to your consolidated or remote database and working live. In Model mode, by contrast, you are in a disconnected state, making changes to an XML file that you later deploy.

Admin mode allows you to use a graphical interface to perform the tasks that might otherwise be done in Model mode, programmatically, or with system procedures or SQL statements. Sybase Central provides property sheets that let you configure object properties and wizards that walk you through the steps for performing common administrative tasks.

Caution

When you make changes outside of Model mode, you cannot reverse-engineer them into the model.

See also

- ◆ [“MobiLink property sheets” on page 149](#)
- ◆ [“MobiLink Plug-in Model Mode Help” on page 167](#)
- ◆ [“MobiLink Server System Procedures” \[*MobiLink - Server Administration*\]](#)
- ◆ [“MobiLink SQL Statements” \[*MobiLink - Client Administration*\]](#)

MobiLink property sheets

This section contains detailed descriptions of each MobiLink property sheet where you can view and configure an object's properties. When you are connected to MobiLink, each property sheet becomes available in the Sybase Central File menu when you select an object, or in a popup menu when you right-click an object.

Carrier property sheet: General tab

Properties are read at startup. When you change properties, you must shut down and restart the MobiLink server for them to take effect.

The General tab of the Carrier property sheet has the following components:

Name Shows the name of the carrier. You can change the name of the carrier in this field.

Type Shows the type of object.

Enabled Select this option to use this carrier. You can define and use multiple carrier mappings.

See [“enable property” \[MobiLink - Server-Initiated Synchronization\]](#).

Description Provides a place for you to type a text description of this carrier.

See also

- ◆ [“Setting properties” \[MobiLink - Server-Initiated Synchronization\]](#)
- ◆ [“Configuring gateways and carriers” \[MobiLink - Server-Initiated Synchronization\]](#)

Carrier property sheet: Miscellaneous tab

The Miscellaneous tab of the Carrier property sheet has the following components:

Network provider id Shows the ID of the selected network provider.

SMTP Specify additional SMTP information.

◆ **User prefix** Type a user prefix.

◆ **Domain** Type the domain name of the carrier.

See also

- ◆ [“Carrier properties” \[MobiLink - Server-Initiated Synchronization\]](#)

Column property sheet: General tab

This Column property sheet displays information about columns that belong to a table.

The General tab of the Column property sheet has the following components:

Name The name of the column. You can edit the column name in this field.

Type Shows the object's type.

Table Shows the name of the table the column belongs to, as well as the table's owner.

Data type Shows the object's data type.

Allows null Shows whether nulls are allowed.

Default value Shows the default column value, if applicable.

Comment Provides a place for you to type a text description of the column. For example, you could use this area to describe the column's purpose in the system.

Connection Script property sheet: General tab

The Connection Script property sheet allows you to view information about the selected connection script. Connection scripts control high-level events that are not associated with a particular table. Use these events to perform global tasks that are required during every synchronization.

The General tab of the Connection Script property sheet has the following components:

Name Shows the name of the selected script version. A script version name is a string. You can edit the version name in the text box.

Type Shows the type of the selected object. In this case, the object type is a Connection Script.

Script ID Shows an integer that uniquely identifies the selected connection script.

Version Shows a string that identifies the version name.

Version ID Shows an integer that uniquely identifies the selected version.

Language Shows the script language.

Deployed Shows whether or not the script has been deployed.

Shared versions Shows any shared versions.

See also

- ◆ [“Connection scripts” \[MobiLink - Server Administration\]](#)
- ◆ [“Script versions” \[MobiLink - Server Administration\]](#)

Database property sheet: General tab

The General tab of the Database property sheet has the following components:

Name Shows the name of the selected database.

Type Shows the type of database.

Product Shows the name of the product, for example, SQL Anywhere.

Version Shows the version number of the selected database.

User Shows the name of the MobiLink user.

Gateway property sheet: General tab

The General tab of the Gateway property sheet has the following components:

Name Shows the name of the gateway.

Type Shows the type of object.

Enabled Select this option to use this gateway.

See “enable property” [[MobiLink - Server-Initiated Synchronization](#)].

Description Provides a place for you to type a text description of the gateway.

See also

- ◆ “Gateway properties” [[MobiLink - Server-Initiated Synchronization](#)]

Gateway property sheet: Server tab

The Server tab of the Gateway property sheet has the following components:

Server Specify the following server information for the gateway:

- ◆ **Host** Type the name of the computer on which the SMTP server is running.
- ◆ **This server requires authentication** Select this option if the selected server requires authentication. Selecting this activates the User and Password options.
 - ◆ **User** Type the user ID used for SMTP authentication.
 - ◆ **Password** Type the password used for SMTP authentication.

Headers Specify the following header information:

- ◆ **From** This is the sender address of the emails (SMTP requests). The default is anonymous.

See also

- ◆ “SMTP gateway properties” [[MobiLink - Server-Initiated Synchronization](#)]
- ◆ “smtp_gateway property” [[MobiLink - Server-Initiated Synchronization](#)]
- ◆ “sender property” [[MobiLink - Server-Initiated Synchronization](#)]

Gateway property sheet: Ports tab

The Ports tab of the Gateway property sheet has the following components:

Destination port Specify the destination (listener) port on the remote device.

- ◆ **Use the default port (5001)** Select this to use the default port.
- ◆ **Use this port** Select this and specify the port to be used.

Origin port Specify the origin (sender) port.

- ◆ **Use a system-assigned port** Select this to have the system assign a port the packet is sent from.
- ◆ **Use this port** Select this and specify the port to use to send out the packet.

Network address Specify the network address of the sender.

- ◆ **Use the default network address** Select this to use the default network address.
- ◆ **Use this network address** Select this and specify the IP address of the sender.

See also

- ◆ “Gateways and carriers” [*MobiLink - Server-Initiated Synchronization*]
- ◆ “UDP gateway properties” [*MobiLink - Server-Initiated Synchronization*]

Gateway property sheet: Gateways tab

The Gateways tab of the Gateway property sheet has the following components:

This device tracker gateway uses the following gateways Select one of the following options to specify the gateways that are used for device tracking:

- ◆ **SYNC gateway** Select SYNC gateway, and then choose the gateway used by the device tracker from the dropdown list. The default is Default-SYNC.
- ◆ **UDP gateway** Select UDP gateway, and then choose the gateway used by the device tracker from the dropdown list. The default is Default-UDP.
- ◆ **SMTP gateway** Select SMTP gateway, and then choose the gateway used by the device tracker from the dropdown list. The default is Default-SMTP.

See also

- ◆ “Device tracking” [*MobiLink - Server-Initiated Synchronization*]
- ◆ “SYNC gateway properties” [*MobiLink - Server-Initiated Synchronization*]
- ◆ “UDP gateway properties” [*MobiLink - Server-Initiated Synchronization*]
- ◆ “SMTP gateway properties” [*MobiLink - Server-Initiated Synchronization*]

Gateway property sheet: Device Tracker Delivery tab

The Device Tracker Delivery tab of the Gateway property sheet has the following components:

Confirm message delivery Select this option if you want the Listener to initiate synchronization when it receives a message to confirm with the consolidated database that the message was received. The Listener must be started with the -x option in order to provide connection information. This option is turned on by default.

See also

- ◆ “Gateways and carriers” [[MobiLink - Server-Initiated Synchronization](#)]

Gateway property sheet: SMTP Gateway Delivery tab

The SMTP Gateway Delivery tab of the Gateway property sheet has the following components:

Client version You can provide information about the version of the client using this gateway.

- ◆ **This gateway only supports 9.0.1 and higher clients** Select this option if all Listeners are SQL Anywhere version 9.0.1 or later clients. This is the default setting.

- ◆ **Confirm message delivery** Select this option to confirm message delivery. This setting has an effect only when sending directly through this gateway.

See “confirm_delivery property” [[MobiLink - Server-Initiated Synchronization](#)].

- ◆ **This gateway only supports 9.0.0 clients** Select this option if all Listeners are SQL Anywhere version 9.0.0 clients.

Confirmation timeout You must provide the amount of time before a confirmation should time out. The default confirmation timeout is 10 minutes.

See “confirm_timeout property” [[MobiLink - Server-Initiated Synchronization](#)].

- ◆ **Timeout after** Select a timeout interval for confirmations from the dropdown list.
- ◆ **Use the following timeout interval** Specify a timeout interval for confirmation in minutes and seconds.

See also

- ◆ “Gateways and carriers” [[MobiLink - Server-Initiated Synchronization](#)]

Gateway property sheet: SYNC Gateway Delivery tab

The SYNC Gateway Delivery tab of the Gateway property sheet has the following components:

Confirm message delivery Select this option to confirm message delivery. This setting has an effect only when sending directly through this gateway.

Confirm action Select this option to flag the Listener to reply with a confirmation after the action is performed on the remote device.

Confirmation timeout You must provide the amount of time before a confirmation should time out. The default confirmation timeout is 1 minute.

See “confirm_timeout property” [*MobiLink - Server-Initiated Synchronization*].

- ◆ **Timeout after** Select a timeout interval for confirmations from the dropdown list.
- ◆ **Use the following timeout interval** Specify a timeout interval for confirmation in minutes and seconds.

See also

- ◆ “Gateways and carriers” [*MobiLink - Server-Initiated Synchronization*]

Gateway property sheet: UDP Gateway Delivery tab

The UDP Gateway Delivery tab of the Gateway property sheet has the following components:

Client version You can provide information about the version of the client using this gateway.

- ◆ **This gateway only supports 9.0.1 and higher clients** Select this option if all Listeners are SQL Anywhere version 9.0.1 or later clients. This is the default setting.
- ◆ **Confirm message delivery** Select this option to confirm message delivery. This setting has an effect only when sending directly through this gateway.

See “confirm_delivery property” [*MobiLink - Server-Initiated Synchronization*].

- ◆ **This gateway only supports 9.0.0 clients** Select this option if all Listeners are SQL Anywhere version 9.0.0 clients.

Confirmation timeout You must provide the amount of time before a confirmation should time out. The default confirmation timeout is 1 minute.

See “confirm_timeout property” [*MobiLink - Server-Initiated Synchronization*].

- ◆ **Timeout after** Select a timeout interval for confirmations from the dropdown list.
- ◆ **Use the following timeout interval** Specify a timeout interval for confirmation in minutes and seconds.

See also

- ◆ “Gateways and carriers” [*MobiLink - Server-Initiated Synchronization*]

Global Notification property sheet: General tab

Properties are read at startup. When you change properties, you must shut down and restart the MobiLink server for them to take effect.

The General tab of the Global Notification property sheet has the following components:

Verbosity Specify the level of verbosity for all Notifiers, gateways, and carriers. You must choose one of the following levels:

- ◆ **No tracing (level 0)** Do not use tracing. This is the default setting.
- ◆ **Startup and shutdown tracing (level 1)** Use a startup, shutdown, and property trace.
- ◆ **Notifications tracing (level 2)** Display notification messages.
- ◆ **Full tracing (level 3)** Use a full-level trace.

See also

- ◆ “verbosity property” [[MobiLink - Server-Initiated Synchronization](#)]

Notifier property sheet: General tab

Properties are read at startup. When you change properties, you must shut down and restart the MobiLink server for them to take effect.

The General tab of the Notifier property sheet has the following components:

Name Shows the name of the Notifier. You can change the name of the Notifier in this field.

Type Shows the type of object.

Enabled Select this option to enable the Notifier.

See “enable property” [[MobiLink - Server-Initiated Synchronization](#)].

Note

The QAnyNotifier_client notifier will always be enabled when MobiLink is started with the -m command line option. See “-m option” [[MobiLink - Server Administration](#)].

Display control window when running Select this option if you want the Notifier dialog to be open on the computer where the Notifier is running. This user interface allows users to temporarily change the polling interval, or poll immediately. It can also be used to shut down the Notifier without shutting down the MobiLink server. (Once stopped, the Notifier can only be restarted by shutting down and restarting the MobiLink server.) This option is selected by default.

See “gui property” [[MobiLink - Server-Initiated Synchronization](#)].

Share the database connection with other notifiers Select this option if you want the database connection to be shared with other notifiers.

Description Provides a place for you to type a description of the Notifier.

See also

- ◆ “MobiLink Notification Properties” [[MobiLink - Server-Initiated Synchronization](#)]

Notifier property sheet: Connection tab

Properties are read at startup. When you change properties, you must shut down and restart the MobiLink server for them to take effect.

The Connection tab of the Notifier property sheet has the following components:

Isolation Level Specify an isolation level for the connection. The default isolation level is Read Committed (Level 1). You must choose one of the following:

- ◆ Read uncommitted (level 0)
- ◆ Read committed (level 1)
- ◆ Repeatable read (level 2)
- ◆ Serializable (level 3)

See:

- ◆ [“isolation property”](#) [*MobiLink - Server-Initiated Synchronization*]
- ◆ [“Isolation levels and consistency”](#) [*SQL Anywhere Server - SQL Usage*]

Connection String Specify a JDBC connection string to override the default connection behavior. This is an optional value.

By default, the Notifier uses `ianywhere.ml.script.ServerContext` to connect to the consolidated database. This means that it uses the connection string that was specified in the current `mlsrv10` session's command line.

You can specify a connection string to connect to any database, including the consolidated database. It may be useful to connect to another database when you want notification logic and data to be separate from your synchronization data.

See [“connect_string property”](#) [*MobiLink - Server-Initiated Synchronization*].

See also

- ◆ [“MobiLink Notification Properties”](#) [*MobiLink - Server-Initiated Synchronization*]

Notifier property sheet: Polling tab

Properties are read at startup. When you change properties, you must shut down and restart the MobiLink server for them to take effect.

The Polling tab of the Notifier property sheet has the following components:

Poll every Select a polling interval from the dropdown list. The default is 30 seconds.

Use the following polling interval Specify a polling interval for the Notifier.

See [“poll_every property”](#) [*MobiLink - Server-Initiated Synchronization*].

See also

- ◆ “MobiLink Notification Properties” [[MobiLink - Server-Initiated Synchronization](#)]

Notifier property sheet: Events tab

The Events tab of the Notifier property sheet has the following components:

Events list Shows the name and SQL statement associated with each notifier event. Select an event to display the SQL Statement in the pane below.

SQL Statement Shows the selected SQL statement. Make any necessary changes to the SQL statement and then click Apply to save the changes.

See also

- ◆ “Notifier properties” [[MobiLink - Server-Initiated Synchronization](#)]
- ◆ “Notifier events” [[MobiLink - Server-Initiated Synchronization](#)]

Plug-in Preferences property sheet: general tab

The General tab of the MobiLink Plug-in Preferences property sheet has the following components:

Settings Specify one or more of the following preferences to determine the settings for the MobiLink Plug-in.

- ◆ **Show Create Synchronization Model wizard Primary Key Requirements page** Select this preference if you want the Create Synchronization Model wizard Primary Key Requirements page to appear when you open the wizard.
- ◆ **Automatically close message dialogs after operations complete** Select this preference if you want message dialogs to close automatically when an operation completes.
- ◆ **Warn when overwriting a script that was deployed as part of a synchronization model** Select this preference when you want to be warned that a script that was deployed as part of a synchronization mode is going to be over-written.
- ◆ **Warn when excluding a remote column from synchronization** Select this preference when you want to be warned when a remote column is excluded from synchronization.

Restore Defaults Click Restore Defaults to return the preferences on this tab to their default values (selected or cleared). By default, all preferences on this tab except Automatically Close Message Dialogs After Operations Complete are selected.

Remote Database property sheet: General tab

The General tab of the Remote Database property sheet has the following components:

Name Shows the name of the remote database.

Type Shows the type of object.

See also

- ◆ [“Creating a remote database” \[MobiLink - Client Administration\]](#)
- ◆ [“Remote IDs” \[MobiLink - Client Administration\]](#)

Synchronization Model property sheet: General tab

The General tab of the Synchronization Model property sheet has the following components:

Name Shows the name of the synchronization model.

Type Shows the type of object.

File Shows the name and location of the synchronization model file.

Publication name Shows the name of the publication.

Script version Shows the name of the script version used for synchronization.

Description Provides a place for you to type a description of the synchronization model.

See also

- ◆ [“The synchronization process” \[MobiLink - Getting Started\]](#)

Synchronized Table property sheet: General tab

The General tab of the Synchronized Table property sheet has the following components:

Name Shows the name of the synchronized table.

Type Shows the type of object.

ID Shows an integer that uniquely identifies the synchronized table.

See also

- ◆ [“Create Synchronization Model wizard: Table Synchronization Mapping page” on page 173](#)

Subscription property sheet: General tab

The General tab of the Subscription property sheet has the following components:

Name Shows the name of the publication.

Type Shows the type of object.

Remote ID Shows the remote ID that uniquely identifies a database. This column references the rid column of the ml_database table.

User Shows the name of the MobiLink user associated with the remote database.

Subscription ID Shows the subscription_id column value from the ml_subscription table. This value, together with the remote database ID, makes up the primary key for the ml_subscription table.

Progress Shows the point to which all operations for the subscription have been uploaded and acknowledged.

Last upload time Shows the time at the consolidated database when the remote's last successful upload was committed.

Last download time Shows the timestamp value indicating when the MobiLink user last downloaded data.

See also

- ◆ “Creating synchronization subscriptions” [*MobiLink - Client Administration*]
- ◆ “Remote IDs” [*MobiLink - Client Administration*]
- ◆ “Automatic validation” [*MobiLink - Server Administration*]
- ◆ “Progress offsets” [*MobiLink - Client Administration*]

Table property sheet: General tab

The General tab of the Table property sheet has the following components:

Name Shows the name of the table.

Type Shows the type of object.

Owner Shows the database user who created and owns the table.

Comment Provides a place for you to type a text description of the table. For example, you could use this area to describe the table's purpose in the system.

See also

- ◆ “MobiLink Consolidated Databases” [*MobiLink - Server Administration*]

Table Script property sheet: General tab

The General tab of the Table Script property sheet has the following components:

Name Shows the name of the table script.

Type Shows the type of object.

Script ID Show an integer that uniquely identifies the selected table script.

Version Shows the name of the version that the table script belongs to.

Version ID Shows an integer that uniquely identifies the version that the table script belongs to.

Synchronized table Shows the name of the synchronized table that the table script belongs to.

Language Shows the language that the table script is written in.

Deployed Shows whether or not the script has been deployed.

Shared versions Shows any shared versions.

See also

- ◆ [“Adding and deleting scripts”](#) [*MobiLink - Server Administration*]

User property sheet: General tab

The General tab of the User property sheet has the following components:

Name Shows the name of the user.

Type Shows the type of object.

ID Shows an integer that uniquely identifies the user.

This user has a password Select this option to set a password for the user. Clearing this option disables the Password and Confirm Password options.

- ◆ **Password** Type the password for the user. Passwords are case sensitive.
- ◆ **Confirm password** Confirm the password that you typed in the Password text box by entering it again. The contents of the two fields must match exactly. Passwords are case sensitive.

See also

- ◆ [“Introduction to MobiLink users”](#) [*MobiLink - Client Administration*]
- ◆ [“Creating and registering MobiLink users”](#) [*MobiLink - Client Administration*]
- ◆ [“Providing initial passwords for users”](#) [*MobiLink - Client Administration*]

Version property sheet: General tab

The Version property sheet allows you to view information about the selected script version. Script versions allow you to organize your scripts into sets, which are run under different circumstances. By specifying a particular version, MobiLink clients can select which set of synchronization scripts will be used to process the upload stream and prepare the download stream.

The General tab of the Version property sheet has the following components:

Name Shows the name of the selected script version. A script version name is a string. You can edit the version name in the text box.

Type Shows the type of the selected object. In this case, the object type is a Version.

ID Shows an integer that uniquely identifies the selected version.

Description Provides a place for you to type a text description of the version. For example, you could use this area to describe the version's purpose in the system.

See also

- ◆ “Script versions” [[MobiLink - Server Administration](#)]

MobiLink Server Log File Viewer: Messages tab

MobiLink Server Log File Viewer reads a MobiLink server log file and displays the messages grouped by synchronization.

The Messages tab of the MobiLink Server Log File Viewer has the following components:

Filter Specify one or more of the following options to filter the messages in the Messages pane below. For example, to restrict the list of messages to synchronizations that involve a particular remote ID, select the Remote ID option, enter a valid remote ID, and then click Apply.

Click Apply to refresh the Messages tab.

- ◆ **Show errors** Select this option to show synchronization error messages in the Messages pane.
- ◆ **Show warnings** Select this option to show synchronization warning messages in the Messages pane.
- ◆ **Show information** Select this option to show synchronization information messages in the Messages pane.
- ◆ **Start at** Select and specify a date and time. Use the following format to specify the date and time:

YYYY-MM-DD HH:NN:SS

This option displays only messages at or after the specified time.

If you select both Start At and End At times, then messages that were timestamped between the two times appear.

- ◆ **End at** Select and specify a date and time. Use the following format to specify the date and time:

MM-DD HH:NN:SS

This option includes only those messages at or before the specified time.

If you select both Start At and End At times, then synchronizations that contain messages that were timestamped between the two times appear.

- ◆ **Containing** You can limit the results to those that include a given string by entering it in this field. The filtering is case-sensitive and no wild cards are supported.
- ◆ **Remote ID** Filters the messages by the specified remote ID.
- ◆ **User name** Filters the messages by the specified user name.

Apply Click to apply the specified message filters.

Messages pane Shows the filtered messages. The table shows the following message information:

- ◆ **Flag column** This column has no title. Shows icons for messages that contain warnings or errors.
- ◆ **Timestamp column** Shows the date and time the synchronization started.
- ◆ **ID column** Shows the remote user ID.

- ◆ **Message column** Shows the messages.

MobiLink Server Log File Viewer: Summaries tab

The Summaries tab of the MobiLink Server Log File Viewer dialog shows summarized information about the entire log file, regardless of the filters applied on the other tabs.

For example, this tab shows the number of synchronizations, the average synchronization times, and the numbers of errors for each user.

The Summaries tab has the following components:

Files table

Name Shows the name of the log file(s).

Date Shows the date the log file was last modified.

Summaries table

Statistic Shows summarized statistics, such as the number of synchronizations, number of users, and the maximum number of simultaneous synchronizations

Value Shows the number of instances for each statistic.

User Statistics table

The User Statistics table summarizes the synchronization information by user. The table contains the following columns:

User Name Shows the name of the user(s).

Syncs Shows the number of synchronizations attempted.

Avg Sync Time Shows the average synchronization time in seconds.

Errors Shows the number of synchronizations that contain errors.

%Errors Shows the percentage of synchronizations that contain errors.

MobiLink Server Log File Viewer: Synchronizations tab

The Synchronizations tab of the MobiLink Server Log File Viewer reads a MobiLink server log file and displays the messages grouped by synchronization.

The Synchronizations tab of the MobiLink Log File Viewer has the following components:

Filter Specify one or more of the following options to filter the synchronization information that appears in the Synchronizations and Details panes. For example, you can restrict the list of synchronizations to those that involve a particular remote ID or user name, or to those that contain error messages.

Click Apply to refresh the Synchronizations and Details panes.

- ◆ **Show errors** Select this option to show synchronizations that contain error messages.
- ◆ **Show warnings** Select this option to show synchronizations that contain warning messages.
- ◆ **Show information** Select this option to show the information messages associated with the synchronizations.
- ◆ **Start at** Select and specify a date and time. Use the following format to specify the date and time:

YYYY-MM-DD HH:NN:SS

This option displays only those synchronizations that have messages at or after the specified time.

If you select both Start At and End At times, then synchronizations that contain messages that were timestamped between the two times appear.

- ◆ **End at** Select and specify a date and time. Use the following format to specify the date and time:

YYYY-MM-DD HH:NN:SS

This option includes only those synchronizations that have messages at or before the specified time.

If you select both Start At and End At times, then synchronizations that contain messages that were timestamped between the two times appear.

- ◆ **Containing** You can limit the results to those that include a given string by entering it in this field. The filtering is case-sensitive and no wild cards are supported.
- ◆ **Remote ID** Filters the messages by the specified remote ID.
- ◆ **User name** Filters the messages by the specified user.

Apply Click to apply the specified message filters.

Synchronizations pane

Shows the filtered synchronizations.

Details pane

Shows detailed information about the selected synchronization.

CHAPTER 5

MobiLink Plug-in Model Mode Help

Contents

MobiLink Model mode wizards	168
Create New Remote Tables dialog	208
MobiLink Model mode	209

MobiLink Model mode wizards

The wizards available in MobiLink Model mode walk you through the steps for creating a synchronization model, updating a schema, and deploying a synchronization model, making these complicated tasks much easier to perform.

Create Synchronization Model wizard: Welcome page

This page has the following components:

What do you want to name the new synchronization model? Type the name you want to use to identify the synchronization model. The specified name must be unique. This name is used for the model file and as the default name for deployment files and directories.

Which folder do you want to use for the new synchronization model file? Specify the name and location of the folder to use for the new synchronization model, or click Browse to select a folder.

See also

- ◆ [“Creating models”](#) [*MobiLink - Getting Started*]
- ◆ [“Introduction to MobiLink models”](#) [*MobiLink - Getting Started*]
- ◆ [“Parts of the synchronization system”](#) [*MobiLink - Getting Started*]

Create Synchronization Model wizard: Primary Key Requirements page

In a synchronization system, the primary key is the only way to identify the same row in different databases (remote and consolidated) and the only way to detect conflicts. Therefore, MobiLink applications must adhere to the following rules:

- ◆ Every remote table that is to be synchronized must have a primary key.
- ◆ Never update the values of primary keys.
- ◆ Primary keys must be unique across all synchronized databases.

The Primary Key page of the Create Synchronization Model wizard reminds you that your applications and databases need to meet the primary key requirements for MobiLink synchronization. You cannot continue to the next page of the Create Synchronization Model wizard unless the three primary key conditions are selected.

For more information about primary key requirements, see [“Maintaining unique primary keys”](#) [*MobiLink - Server Administration*].

This page has the following components:

All my tables have primary keys Select this condition to confirm that all of your remote tables have primary keys.

My applications do not update primary keys Select this condition to confirm that your applications do not update primary keys.

I have ensured that new rows have unique primary keys Select this condition to confirm that you have ensured that new rows have unique primary keys.

Do not show this Primary Key Requirements page again Select this option if you do not want this Primary Key Requirements page to appear again. This option can also be changed from the Plug-in Preferences page of the MobiLink plug-in in Sybase Central.

See also

- ◆ [“MobiLink and primary keys”](#) [*MobiLink - Server Administration*]

Create Synchronization Model wizard: Consolidated Database Schema page

This page has the following components:

Choose a consolidated database Click this button to choose a consolidated database that provides the schema information for the synchronization model. The Connect dialog appears. Specify the necessary connection information for the consolidated database.

Note

If the specified database is not set up as a MobiLink consolidated database, you are prompted to install MobiLink system setup.

The MobiLink setup script adds MobiLink system tables, stored procedures, triggers, and views to your database. These tables and procedures are required for MobiLink synchronization.

- ◆ Click Yes to immediately install the MobiLink system setup scripts to the consolidated database.

For example, click Yes if you intend to deploy the synchronization model to the specified consolidated database.

The database user who runs the setup script has permission to update the MobiLink system tables, which is required to start the MobiLink server and to configure MobiLink. See [“Required permissions” \[MobiLink - Server Administration\]](#).

- ◆ Click No to not install the MobiLink setup scripts to the specified consolidated database.

For example, click No:

- ◆ If you only intend to use the specified consolidated database to obtain a schema and you have no intention of deploying to it.
- ◆ If you intend to deploy the synchronization model to the specified consolidated database, but prefer to do so with the Deploy Synchronization Model wizard.
- ◆ If you prefer to run the setup scripts yourself after you deploy.

With the exception of the installation of the MobiLink system setup, no other changes are made to the consolidated database until you deploy your model.

See [“Setting up a consolidated database” \[MobiLink - Server Administration\]](#).

The connection to the specified consolidated database is closed if you choose a different consolidated database, or when you exit the wizard.

The following fields are all blank until you specify a consolidated database, and then they are updated to show the information for the selected consolidated database:

Name Shows the ODBC data source name of the consolidated database.

User Shows the user name of the database user connected to the consolidated database.

Product Shows the type of consolidated database. For example, SQL Anywhere.

Version Shows the version of the consolidated database.

See also

- ◆ [“MobiLink Consolidated Databases” \[MobiLink - Server Administration\]](#)

Create Synchronization Model wizard: Remote Database Schema page

The Remote Database Schema page of the Create Synchronization Model wizard lets you specify the remote database schema. You can either connect to an existing remote database to obtain the remote schema or you can create a new remote database schema based on the consolidated database schema.

This page has the following components:

Do you have an existing remote database? Specify whether you have an existing remote database to use:

- ◆ **No, create a new remote database schema** Choose this option if you want to base the schema of the remote database on the consolidated database. If you select this option, you must later pick tables from the consolidated database to use to create the remote database schema.
- ◆ **Yes, use an existing remote database** Choose this option to connect to an existing SQL Anywhere or UltraLite remote database to obtain a remote database schema for the model.

For example, choose Yes:

- ◆ If you already have a remote database, especially if its schema is not a subset of the consolidated database schema.
- ◆ If your consolidated and remote columns need to have different types. For example, if you need to map an NCHAR column on the consolidated to a CHAR column on an UltraLite remote.
- ◆ If your remote tables need to have different owners from the tables on the consolidated database. For a new SQL Anywhere remote database, the owner of the remote tables is the same as the owner of the corresponding consolidated database tables. If you want a different owner, you should use an existing SQL Anywhere remote database with your desired table ownership. (UltraLite databases do not have owners.)

Tip:

If you need to change the schema of an existing remote database, make the changes to the database outside of the model, and then run the Update Schema wizard to update the model.

- ◆ **Choose a remote database** Click this button to choose the existing remote database you want to provide the schema information for the remote database.

The Connect dialog appears.

Specify the necessary information to connect to the remote database.

The following fields are all blank until you specify a consolidated database, and then they are updated to show the information for the selected consolidated database:

- ◆ **Name** Shows the name of the remote database.
- ◆ **User** Shows the user name of the user connected to the remote database.
- ◆ **Product** Shows the type of the remote database, SQL Anywhere or UltraLite.

- ◆ **Version** Shows the product version.

See also

- ◆ [“SQL Anywhere Clients” \[MobiLink - Client Administration\]](#)
- ◆ [“UltraLite Clients” \[MobiLink - Client Administration\]](#)

Create Synchronization Model wizard: New Remote Database Schema page

This page allows you to choose the consolidated database tables that are used to create the remote database schema. Selected tables from the consolidated database are created in the remote database, and synchronization is set up between the matching consolidated and remote tables. You can modify the table and column mappings after the wizard completes.

This page has the following components:

Tables list Lists all the tables, including table name and owner, in the consolidated database that you are currently connected to. System tables and MobiLink system tables are excluded from the list.

Select All Click Select All to select all the tables in the list to be included in the remote database schema.

Clear All Click Clear All to clear all the checkboxes in the Tables list.

Owner Choose a specific user from the dropdown list.

Select Owner Click Select Owner to select all the tables owned by the user specified in the Owner dropdown list.

See also

- ◆ [“How remote tables relate to consolidated tables” \[MobiLink - Server Administration\]](#)

Create Synchronization Model wizard: Existing Remote Database page

The Existing Remote Database page of the Create Synchronization Model wizard allows you to choose the remote database tables that you want to synchronize.

This page has the following components:

Tables list Lists all the tables, including table name and owner, in the remote database that you are currently connected to. System tables and MobiLink system tables are excluded from the list.

Select All Click Select All to select all the tables in the list to be included in synchronization.

Clear All Click Clear All to clear all the checkboxes in the Tables list.

Owner Choose a specific user from the dropdown list to scroll the list to that owner. You can then use the Select Owner button to select tables owned by the selected user.

Select Owner Click Select Owner to select all the tables owned by the user specified in the Owner dropdown list.

See also

- ◆ [“How remote tables relate to consolidated tables” \[MobiLink - Server Administration\]](#)
- ◆ [“MobiLink Data Mappings Between Remote and Consolidated Databases” \[MobiLink - Server Administration\]](#)

Create Synchronization Model wizard: Table Synchronization Mapping page

This page allows you to specify the table mappings between the chosen remote and consolidated tables in the model. This page applies when the remote database schema in the synchronization model is based on an existing remote database.

This page shows the mappings between the remote tables and the available tables in the consolidated database. The Mappings Direction column shows whether the mapping should be bi-directional, upload-only, download-only, or not synchronized.

The table has the following components:

Remote Table column Lists the chosen remote database tables.

Mapping Direction column Shows the direction of synchronization between the remote table and the chosen consolidated table. The direction can be Bi-Directional, Download to Remote Only, Upload to Consolidated Only, or Not Synchronized. The default is Bi-Directional. To change the direction, choose a new direction from the dropdown list.

Consolidated Table column Shows the consolidated database tables that the wizard is trying to map to the tables in the Remote Table column.

Note

Default table mappings are made on a best effort basis. Mappings may not be found for all tables, and of the tables that are mapped, the mappings may not be what you intended, so you should verify all tables mappings before proceeding.

To change the consolidated table, choose a consolidated table from the dropdown list.

You cannot proceed until all tables are mapped.

Create Synchronization Model wizard: Download Type page

This page has the following components:

Which type of download do you want to use by default? Select one of the following options:

- ◆ **Timestamp-based download** Select this option to use timestamp-based download as the default. Only rows that have been changed since the last synchronization are downloaded.

See [“Timestamp-based downloads” \[MobiLink - Server Administration\]](#).

- ◆ **Snapshot download** Select this option to use snapshot download as the default. All rows will be downloaded even if they have not changed since the last synchronization.

See “[Snapshot synchronization](#)” [[MobiLink - Server Administration](#)].

- ◆ **Custom download logic** Select this option if you want to write your own download_cursor and download_delete_cursor scripts instead of having them generated for you.

See:

- ◆ “[Writing Synchronization Scripts](#)” [[MobiLink - Server Administration](#)]
- ◆ “[Writing download_cursor scripts](#)” [[MobiLink - Server Administration](#)]
- ◆ “[Writing download_delete_cursor scripts](#)” [[MobiLink - Server Administration](#)]

Regardless of whether you choose to use generated scripts or to write your own, you can edit them after the wizard finishes.

See also

- ◆ “[Handling deletes](#)” [[MobiLink - Server Administration](#)]
- ◆ “[download_cursor table event](#)” [[MobiLink - Server Administration](#)]
- ◆ “[download_delete_cursor table event](#)” [[MobiLink - Server Administration](#)]

Create Synchronization Model wizard: Timestamp Download Options page

Timestamp-based downloads require a timestamp column for each synchronized table in the consolidated database to track when changes are made to rows.

Caution

The timestamp column records the last time synchronization changes were made in the consolidated database. This column resides on the consolidated database, and it should never be synchronized or changed by another process.

This page allows you to specify the name of the timestamp column, as well as whether the column should be added to synchronized tables or whether shadow tables should be created to hold the timestamp.

This page has the following components:

Timestamp column name Shows the name of the timestamp column.

Use timestamp column in synchronized tables Select this option to add timestamp columns to your synchronized tables on the consolidated database. Choose this option if you are willing to change the consolidated table definition. When you deploy the model, a timestamp column is added to each synchronized table in the consolidated database if it does not already exist.

If you try to redeploy this model to the consolidated database, you are prompted to update the consolidated schema in the model.

Use shadow tables to hold timestamp columns Select this option if you want to create a shadow table for each synchronized consolidated database table. Choose this option if you don't want to modify the

schema of the synchronized consolidated database by adding timestamp columns. The shadow tables have two columns, one holding the primary key for the table, and the other holding the timestamp. Shadow tables are created with the same owner as the base table.

See also

- ◆ [“Writing download_delete_cursor scripts”](#) [*MobiLink - Server Administration*]
- ◆ [“Timestamp-based downloads”](#) [*MobiLink - Server Administration*]
- ◆ [“How download timestamps are generated and used”](#) [*MobiLink - Server Administration*]

Create Synchronization Model wizard: Download Deletes page

This page allows you to specify whether you want deletes to be downloaded from the consolidated database.

This page has the following components:

Do you want data deleted on the consolidated database to be deleted from the remote database? Choose one of the following options:

- ◆ **Yes** Select Yes if you want to download deletes from the consolidated database.
- ◆ **No** Select No if you do not want to download deletes from the consolidated database.

If you have chosen snapshot download, then there are no other options; all rows in the remote database are deleted before the snapshot is downloaded. For timestamp-based downloads, you have the following options:

Use shadow tables to record deletions Choose this option if you want to use shadow tables to track deletes in the consolidated database. Each time a row is deleted in the consolidated database, a row is added to the corresponding shadow table. Shadow tables are created with the same owner as the base table.

- ◆ **Timestamp column name** Shows the name of the timestamp column. The default is last_modified.

Use logical deletes Select this option if you want to use logical deletes instead of actually deleting rows. Specify how the one-character column indicates if a row has been deleted.

- ◆ **Column name** Specifies the name of the column that is used to indicate if a row has been deleted. A single character column is added if a column of this name is already present.
- ◆ **Value if row deleted** Specifies the value of the column if the row has been deleted. The default is Y. Only single character values are allowed.
- ◆ **Value if row not deleted** Specifies the value of the column if the row has not been deleted. The default is N. Only single character values are allowed.

See also

- ◆ [“Handling deletes”](#) [*MobiLink - Server Administration*]
- ◆ [“Writing download_delete_cursor scripts”](#) [*MobiLink - Server Administration*]

Create Synchronization Model wizard: Download Subset page

Each MobiLink remote database can contain a subset of the data in the consolidated database. This page allows you to configure those subsets.

This page has the following components:

Do you want all remote databases to download the same data? Choose one of the options below to specify whether all remote databases download the same data:

- ◆ **Yes** Choose this option if you want all remote databases to download the same data.

Tip

If you want to subset the data by some tables and not others, you may want to enable subsetting for all tables by choosing this option. After the wizard finishes, you can disable subsetting for the non-subset tables. This is easier than enabling subsetting for several tables later.

- ◆ **No** Choose this option if you do not want all remote databases to download the same data. If you select this option the following options are enabled:
 - ◆ **By synchronization user** Choose this option to partition data by MobiLink user name, which downloads different data to different registered MobiLink users.
 - ◆ **By remote ID** Choose this option to partition data by remote ID, which downloads different data to different remote databases.
 - ◆ **By using a SQL expression in the download cursor's WHERE clause** Choose this option to use a SQL expression that determines which rows are downloaded. Each synchronization will only download rows where your SQL expression is true.

See also

- ◆ [“Partitioning rows among remote databases” \[MobiLink - Server Administration\]](#)

Create Synchronization Model wizard: Download Subset by Synchronization User page

This page allows you to specify the information required to subset data by MobiLink user name. To use this option the MobiLink user names must be on your consolidated database. You choose your MobiLink user names when you deploy, so you can choose names that match existing values on your consolidated database. (The column you use for MobiLink user names must be of a type that can hold the values you are using for the user name.) If the MobiLink user names are in a different table from the one you are subsetting, you must join to that table. For example, you can join columns containing first names and last names.

This page has the following components:

Use a column in each downloaded table For downloaded tables that include the specified column, each row is downloaded by only one MobiLink user. For tables that are also uploaded, you must either synchronize the column or define a default value for it.

- ◆ **Column name** Choose a column name from the dropdown list. The dropdown list contains all the columns from the synchronized consolidated tables.

Use a column in a joined relationship table If the MobiLink user names are in a different table from the one you are subsetting, you must join to that table. For an example of when to use this option, see the example below. Specify the following information for the join:

- ◆ **Table to join** Choose a table from the dropdown list. This table is joined to each synchronized table that has the column specified below.
- ◆ **Column to match** Choose a column from the dropdown list.
- ◆ **Choose the columns for joining each downloaded table T with the relationship table in the following join condition** Choose a column from each dropdown list to specify how the tables are to be joined.

Example

The ULOrder table in CustDB can be shared between users. By default, orders are assigned to the employee who created them. But there are times when another employee needs to see orders created by someone else. For example, a manager may need to see all the orders created by employees in their department. The CustDB database has a provision for this via the ULEmpCust table. It allows you to assign customers to employees. They download all orders for that employee customer relationship.

To configure synchronization for this scenario select the Use a Column in a Joined Relationship Table option and set the following options on this wizard page:

Option	Value
Table to Join	ULEmpCust
Column to Match	emp_id
T dropdown list (for the ULOrder table)	emp_id (integer)
DBA.ULEmpCust table	emp_id (integer)

The following download_cursor script is generated based on these settings:

```
SELECT "DBA"."ULOrder"."order_id",
       "DBA"."ULOrder"."cust_id",
       "DBA"."ULOrder"."prod_id",
       "DBA"."ULOrder"."emp_id",
       "DBA"."ULOrder"."disc",
       "DBA"."ULOrder"."quant",
       "DBA"."ULOrder"."notes",
       "DBA"."ULOrder"."status"
FROM "DBA"."ULOrder", "DBA"."ULEmpCust"
WHERE "DBA"."ULOrder"."last_modified" >= {ml s.last_table_download}
AND "DBA"."ULOrder"."emp_id" = "DBA"."ULEmpCust"."emp_id"
AND "DBA"."ULEmpCust"."emp_id" = {ml s.username}
```

This example uses timestamp-based download.

You can view and modify this script, after the Create Synchronization wizard finishes, in the Model mode Events tab. See [“Modifying scripts in a model”](#) [*MobiLink - Getting Started*].

See also

- ◆ [“Introduction to MobiLink users”](#) [*MobiLink - Client Administration*]
- ◆ [“Joins: Retrieving Data from Several Tables”](#) [*SQL Anywhere Server - SQL Usage*]
- ◆ [“Using remote IDs and MobiLink user names in scripts”](#) [*MobiLink - Client Administration*]

Create Synchronization Model wizard: Download Subset by Remote ID page

This page allows you to specify the information required to subset data by remote ID. To use this option the remote IDs must be on your consolidated database. Remote IDs are created as GUIDs by default, but you can set IDs that match existing values on your consolidated database. (The column you use for remote IDs must be of a type that can hold the values you are using for the remote IDs.) If the remote IDs are in a different table from the one you are subsetting, you must join to that table.

This page has the following components:

Use a column in each downloaded table For downloaded tables that include the specified column, each row is downloaded by only one remote ID. For tables that are also uploaded, you must either synchronize the column or define a default value for it.

- ◆ **Column name** Choose a column name from the dropdown list. The dropdown list contains all columns from all synchronized consolidated tables.

Use a column in a joined relationship table If the Remote IDs are in a different table from the one you are subsetting, you must join to that table. Specify the following information for the join:

- ◆ **Table to join** Choose a table from the dropdown list.
- ◆ **Column to match** Choose a column from the dropdown list.
- ◆ **Choose the columns for joining each downloaded table T with the relationship table in the following join condition** Choose a column from each dropdown list to specify how the tables are to be joined.

See also

- ◆ [“Remote IDs”](#) [*MobiLink - Client Administration*]
- ◆ [“Partitioning rows among remote databases”](#) [*MobiLink - Server Administration*]
- ◆ [“Using remote IDs and MobiLink user names in scripts”](#) [*MobiLink - Client Administration*]

Create Synchronization Model wizard: Download Subset by SQL Expression page

This page allows you to specify the information required to construct a SQL Expression script. This SQL expression is the same as is used in download_cursor scripts. It is partly generated for you. For an example of how to use this option, see the example below.

This page has the following components:

Tables to add to the download cursor's FROM clause Type the table name(s) if your download_cursor requires a join to other tables. If the join requires multiple tables, separate them with commas. See [“Writing download_cursor scripts” \[MobiLink - Server Administration\]](#).

SQL expression to use in the download cursor's WHERE clause Type a SQL expression to be used in the download cursor WHERE clause. You do not have to write a complete download_cursor. You only need to add extra information to identify the join and other restrictions on the download subset. See [“Writing download_cursor scripts” \[MobiLink - Server Administration\]](#).

Example

Assume you want to subset the download of a table called Customer by MobiLink user and you also want to only download rows where active=1. The MobiLink user names do not exist in the table you are subsetting, so you need to create a join to a table called SalesRep, which contains the user names. This example assumes timestamp-based download.

To configure synchronization for this scenario, type the following into Tables to Add to the Download Cursor's FROM Clause:

```
SalesRep
```

Type the following into SQL Expression to Use in the Download Cursor's WHERE Clause:

```
SalesRep.ml_username = {ml s.username}
AND Customer.active = 1
AND Customer.cust_id = SalesRep.cust_id
```

The following download_cursor script is generated based on these settings:

```
SELECT "DBA"."Customer"."cust_id",
       "DBA"."Customer"."cust_name"
FROM "DBA"."Customer", SalesRep
WHERE "DBA"."Customer"."last_modified" >= {ml s.last_table_download}
      AND SalesRep.ml_username = {ml s.username}
      AND Customer.active = 1
      AND Customer.cust_id = SalesRep.cust_id
```

The final line of the WHERE clause creates a key join of Customer to SalesRep.

You can view and modify this script, after the Create Synchronization wizard finishes, in the Model mode Events tab. See [“Modifying scripts in a model” \[MobiLink - Getting Started\]](#).

See also

- ◆ [“Introduction to MobiLink users” \[MobiLink - Client Administration\]](#)
- ◆ [“Remote IDs” \[MobiLink - Client Administration\]](#)
- ◆ [“Partitioning rows among remote databases” \[MobiLink - Server Administration\]](#)
- ◆ [“Using remote IDs and MobiLink user names in scripts” \[MobiLink - Client Administration\]](#)
- ◆ [“Using last download times in scripts” \[MobiLink - Server Administration\]](#)
- ◆ [“Writing download_cursor scripts” \[MobiLink - Server Administration\]](#)

Create Synchronization Model wizard: Upload Conflict Detection page

A conflict occurs when a row has been updated on both the remote and consolidated databases since the last synchronization. This page allows you to set the level of conflict detection used.

This page has the following components:

No conflict detection Select this option if you do not want any conflict detection. Uploaded updates are applied without checking for conflicts. This avoids having to fetch current row values from the consolidated database, so the synchronization of updates may be faster.

Row-based conflict detection Select this option to use row-based conflict detection on upload. A conflict is detected if the row has been updated by both the remote and consolidated databases since the last synchronization. See:

- ◆ [“upload_fetch table event” \[MobiLink - Server Administration\]](#)
- ◆ [“upload_update table event” \[MobiLink - Server Administration\]](#)

Column-based conflict detection Select this option to use column-based conflict detection. A conflict is detected if the same column has been updated for the row in both the remote and consolidated databases. See [“upload_fetch_column_conflict table event” \[MobiLink - Server Administration\]](#).

See also

- ◆ [“Handling conflicts” \[MobiLink - Server Administration\]](#)

Create Synchronization Model wizard: Upload Conflict Resolution page

This page allows you to set the method of resolution for detected conflicts.

This page has the following components:

Consolidated database wins Select this option to reject all uploaded updates from the remote database that conflict with the consolidated database.

Remote database wins Select this option to accept all uploaded updates from the remote database, even if they conflict with the consolidated database. You should only use this option with column-based conflict detection. Otherwise, it is the same as not using conflict detection.

Newer wins, using a timestamp column that you maintain Select this option to use a timestamp column to determine which changes should be accepted. This option applies only to tables that have a timestamp column.

- ◆ **Timestamp column** Choose the timestamp column from the dropdown list.

This timestamp column must exist and its value must be maintained in both the remote and consolidated database tables. This option may require you to change your applications or use triggers to maintain the value.

Caution

Do not choose the same column that is used by timestamp-based downloads. That column records the last time rows were changed on the consolidated database, and it should not be synchronized.

Custom conflict resolution Select this option to use your own resolve_conflicts script. You can write the script in the Model mode Events tab after this wizard finishes. See “Resolving conflicts with resolve_conflict scripts” [*MobiLink - Server Administration*].

See also

- ◆ “Resolving conflicts” [*MobiLink - Server Administration*]
- ◆ “How download timestamps are generated and used” [*MobiLink - Server Administration*]
- ◆ “Timestamp-based downloads” [*MobiLink - Server Administration*]

Create Synchronization Model wizard: Publication, Script Version, and Description page

This page allows you to specify names for the publication and script version, as well as specify a description.

This page has the following components:

What do you want to name the publication? Type a name for the publication. The default publication name is the model name. See “CREATE PUBLICATION statement [*MobiLink*] [SQL Remote]” [*SQL Anywhere Server - SQL Reference*].

What do you want to name the script version? Type a name for the script version. The default script name is the model name. You cannot use the following names for script versions: ml_sis_1 or ml_qa_1. These names are used internally by MobiLink. See “Script versions” [*MobiLink - Server Administration*].

Caution

It is strongly recommended that your script version names do not start with ml_. Script versions starting with ml_ are reserved for internal use.

You can include a description for this synchronization model Optionally, you can provide a description to associate with this synchronization model.

Create Synchronization Model wizard: Completing the Create Synchronization Model Wizard page

This page provides a summary of the name and location of the new synchronization model, based on the information you specified. It also indicates whether or not you need to make further changes before deploying the model.

To complete the wizard and create the new synchronization model, review the information and then click Finish.

When you click Finish, the model you just created opens in Model mode. At the same time, your connection to the consolidated database is closed. You are now working offline and you can make changes to the Model. No changes are made outside the model until you deploy the model: the consolidated database does not change and the remote database is not created or changed until that time. See “[Model mode](#)” [[MobiLink - Getting Started](#)].

To make changes before creating the synchronization model, click Back.

Deploy Synchronization Model wizard: Welcome page

This page has the following components:

Deploy immediately using last deployment settings Select this option to deploy the synchronization model immediately, using the last deployment settings that were used. This option is only available if you have previously deployed a synchronization model.

Run this wizard initialized with last deployment settings Select this option to run the Deploy Synchronization Model wizard initialized with the last deployment settings. This option is only available if you have previously deployed a synchronization model.

Specify the deployment details for one or more of the following Choose one or more of the following options:

- ◆ **Consolidated database** Choose this option to specify deployment details for the consolidated database.
- ◆ **Remote database and synchronization client** Choose this option to specify deployment details for the remote database and synchronization client.
- ◆ **MobiLink server** Choose this option to specify deployment details for the MobiLink server.

See also

- ◆ “[Deploying models](#)” [[MobiLink - Getting Started](#)]

Deploy Synchronization Model wizard: Consolidated Database Deployment Destination page

This page allows you to specify whether you want to deploy the consolidated database synchronization model to a file, to be run later, or directly to a database.

This page has the following components:

Save changes to the following SQL file (and create a command file in the same folder) Choose this option to specify a file where the synchronization model is saved. Type the file name and location, or click Browse to select the file. Note that if there is a file with the same name as this model, it is overwritten when this model is deployed.

Connect to the database to directly apply the changes Choose this option to deploy the synchronization model directly to a consolidated database.

Choose a consolidated database Click to choose the consolidated database that you want the synchronization model deployed to. The Connect dialog appears. Specify the connection information for the consolidated database.

Note

If your deployment creates shadow tables, you must connect to the consolidated database as either the owner of the base tables for which shadow tables will be created, or as an administrator.

See also

- ◆ “Deploying models” [[MobiLink - Getting Started](#)]

Deploy Synchronization Model wizard: Remote Database Deployment page

This page allows you to choose the type of remote database that the synchronization model is deployed to.

This page has the following components:

New SQL Anywhere database Choose this option to create a new SQL Anywhere database using the remote schema from the synchronization model, and default database creation options. See “[Creating a database](#)” [[SQL Anywhere Server - SQL Usage](#)].

New UltraLite database Choose this option to create a new UltraLite database using the remote schema from the synchronization model, and default database creation options. See “[Creating UltraLite databases](#)” [[UltraLite - Database Management and Reference](#)].

Existing SQL Anywhere or UltraLite database Choose this option to deploy the synchronization model to an existing SQL Anywhere or UltraLite remote database.

See also

- ◆ “Deploying models” [[MobiLink - Getting Started](#)]
- ◆ “Deploying remote databases” [[MobiLink - Client Administration](#)]

Deploy Synchronization Model wizard: New SQL Anywhere Remote Database page

This page allows you to specify whether you want to make a command file and SQL file that you can run later to create the SQL Anywhere remote database or create the new SQL Anywhere remote database immediately.

This page has the following components:

Make a command file and a SQL file with commands to create the database Select this option to create a SQL file and command file that can be run later to create the remote database.

- ◆ **SQL file** Type the name and location of the SQL file or click Browse to select the file. The command file is created in the same location.

Create a remote SQL Anywhere database Select this option to create a remote SQL Anywhere database, in the specified location, with the default database creation options.

◆ **SQL Anywhere database file** Type the name and location of the main SQL Anywhere database file for the remote database, or click Browse to select the file. A transaction log file is created in the same location.

See also

- ◆ [“Deploying models” \[MobiLink - Getting Started\]](#)
- ◆ [“Creating a remote database” \[MobiLink - Client Administration\]](#)

Deploy Synchronization Model wizard: New UltraLite Remote Database page

This page allows you to specify whether you want to make a command file and SQL file that you can run later to create the UltraLite remote database or create the new UltraLite remote database immediately.

This page has the following components:

Make a command file and a SQL file with commands to create the database Select this option to create a SQL file and command file that can be run later to create the remote database.

◆ **SQL file** Type the name and location of the SQL file, or click Browse to select the file. The command file is created in the same location.

Create a remote UltraLite database Select this option to create a remote UltraLite database, in the specified location, with the default database creation options.

◆ **UltraLite database file** Type the name and location of the main UltraLite database file for the remote database, or click Browse to select the file.

See also

- ◆ [“Deploying models” \[MobiLink - Getting Started\]](#)
- ◆ [“Creating a remote database” \[MobiLink - Client Administration\]](#)

Deploy Synchronization Model wizard: Existing Remote Database page

This page allows you to specify whether you want to deploy the synchronization model to a command file and SQL file that you can run later to update the remote database or connect to the remote database and update it immediately.

This page has the following components:

Save changes to the following SQL file (and create a command file in the same folder) Select this option to specify the name and location of the SQL file, or click Browse to select the file. The command file is created in the same location.

◆ **Include SQL commands to create the remote schema** Select this option to include SQL commands to create the remote schema. This option allows you to overwrite existing schema. If you

deploy using this option, then tables in the existing remote database that have the same names as those in the model will be dropped and recreated. This option only applies if you are not connecting to the remote database to directly apply the changes.

- ◆ **Remote database type** Choose SQL Anywhere or UltraLite from the dropdown list to specify the remote database type.

Connect to the remote database to directly apply the changes Select this option to deploy the synchronization model directly to a remote database. The existing database schema must match the remote database schema in the model.

Choose a remote database Click to choose the remote database that you want the synchronization model deployed to. The Connect dialog appears. Specify the connection information for connect to the remote database.

See also

- ◆ “Deploying models” [[MobiLink - Getting Started](#)]

Deploy Synchronization Model wizard: MobiLink User page

This page allows you to specify a MobiLink user name and password to be used by the MobiLink client when connecting to the MobiLink server. The user name and password do not need to match any database account.

This page has the following components:

What user name do you want to use for connecting to the MobiLink server? Type the MobiLink user name you want to use to connect the MobiLink client to the MobiLink server. See “[Introduction to MobiLink users](#)” [[MobiLink - Client Administration](#)].

What password do you want to use? Type the password for the user name you specified. See “[Introduction to MobiLink users](#)” [[MobiLink - Client Administration](#)].

Register this user in the consolidated database for MobiLink authentication Select this option if you want the specified MobiLink user to be registered for the MobiLink server at the consolidated database. See “[MobiLink user authentication utility \[mluser\]](#)” [[MobiLink - Server Administration](#)].

See also

- ◆ “Deploying models” [[MobiLink - Getting Started](#)]
- ◆ “Creating and registering MobiLink users” [[MobiLink - Client Administration](#)]

Deploy Synchronization Model wizard: Synchronization Stream Parameters page

This page allows you to specify the communication stream to use between the MobiLink client and server.

This page has the following components:

TCP/IP Select this option and specify a port to use TCP/IP for communications between the MobiLink client and server. This is the default, and is recommended for the best performance.

◆ **Port** Type the socket port number on which the MobiLink server should listen. The default port is 2439.

TLS Select this option and specify a port to use TCP/IP with transport-layer security for communications between the MobiLink client and server.

◆ **Port** Type the socket port number on which the MobiLink server should listen. The default port is 2439.

HTTP Select this option and specify a port to use the standard web protocol for communications between the MobiLink client and server.

◆ **Port** Type the socket port number the MobiLink server should listen on. The default port is 80.

HTTPS Select this option and specify a port to use a variant of HTTP that handles secure transactions. The HTTPS protocol implements HTTP over SSL/TLS using RSA or ECC encryption.

◆ **Port** Type the socket port number on which the MobiLink server should listen. The default port is 443.

Separately licensed component required

ECC encryption and FIPS-certified encryption require a separate license. All strong encryption technologies are subject to export regulations.

See [“Separately licensed components” \[SQL Anywhere 10 - Introduction\]](#).

See also

- ◆ [“Deploying models” \[MobiLink - Getting Started\]](#)
- ◆ [“-x option” \[MobiLink - Server Administration\]](#)

Deploy Synchronization Model wizard: Secure Stream Encryption Type page

This page allows you to choose the type of encryption to use for the secure synchronization stream.

This page has the following components:

RSA Select this option to use RSA encryption.

◆ **Use a FIPS 140-2 certified implementation of RSA** Select this option to use a Federal Information Processing Standard (FIPS) 140-2 certified security algorithm for encryption.

Elliptic Curve Cryptography (ECC) Select this option to use Elliptic Curve Cryptography (ECC) for encryption.

Separately licensed component required

ECC encryption and FIPS-certified encryption require a separate license. All strong encryption technologies are subject to export regulations.

See “Separately licensed components” [*SQL Anywhere 10 - Introduction*].

See also

- ◆ “Deploying models” [*MobiLink - Getting Started*]
- ◆ “tls_type” [*MobiLink - Client Administration*]

Deploy Synchronization Model wizard: Client Stream Parameters page

This page allows you to choose communication stream parameters that apply only to the MobiLink client.

This page has the following components:

Host Type the host name or IP address of the MobiLink server computer.

Additional client stream parameters If necessary, type additional client stream parameters, separated by semicolons, in the form (option=value;...). See “MobiLink Client Network Protocol Options” [*MobiLink - Client Administration*].

The following table lists the options you can specify.

- ◆ **TCP/IP protocol options** If you specify the tcpip protocol, you can optionally specify the following protocol options:

TCP/IP protocol option	For more information, see...
buffer_size =bytes	“buffer_size” [<i>MobiLink - Client Administration</i>]
client_port =nnnnn[-mmmmm]	“client_port” [<i>MobiLink - Client Administration</i>]
compression = {zlib none }	“compression” [<i>MobiLink - Client Administration</i>]
host =hostname	“host” [<i>MobiLink - Client Administration</i>]
network_leave_open ={off on }	“network_leave_open” [<i>MobiLink - Client Administration</i>]
network_name =name	“network_name” [<i>MobiLink - Client Administration</i>]
port =portnumber	“port” [<i>MobiLink - Client Administration</i>]
timeout =seconds	“timeout” [<i>MobiLink - Client Administration</i>]
zlib_download_window_size =window-bits	“zlib_download_window_size” [<i>MobiLink - Client Administration</i>]
zlib_upload_window_size =window-bits	“zlib_upload_window_size” [<i>MobiLink - Client Administration</i>]

- ◆ **TLS protocol** If you specify the `tls` protocol, which is TCP/IP with TLS security, you can optionally specify the following protocol options:

TLS protocol option	For more information, see...
<code>buffer_size=bytes</code>	"buffer_size" [MobiLink - Client Administration]
<code>certificate_company=company_name</code>	"certificate_company" [MobiLink - Client Administration]
<code>certificate_name=name</code>	"certificate_name" [MobiLink - Client Administration]
<code>certificate_unit=company_unit</code>	"certificate_unit" [MobiLink - Client Administration]
<code>client_port=nnnnn[-mmmmm]</code>	"client_port" [MobiLink - Client Administration]
<code>compression={zlib none}</code>	"compression" [MobiLink - Client Administration]
<code>host=hostname</code>	"host" [MobiLink - Client Administration]
<code>fips={y n}</code>	"fips" [MobiLink - Client Administration]
<code>network_leave_open={off on}</code>	"network_leave_open" [MobiLink - Client Administration]
<code>network_name=name</code>	"network_name" [MobiLink - Client Administration]
<code>port=portnumber</code>	"port" [MobiLink - Client Administration]
<code>timeout=seconds</code>	"timeout" [MobiLink - Client Administration]
<code>tls_type={rsa ecc}</code>	"tls_type" [MobiLink - Client Administration]
<code>zlib_download_window_size=window-bits</code>	"zlib_download_window_size" [MobiLink - Client Administration]
<code>zlib_upload_window_size=window-bits</code>	"zlib_upload_window_size" [MobiLink - Client Administration]

- ◆ **HTTP protocol** If you specify the `http` protocol, you can optionally specify the following protocol options:

HTTP protocol option	For more information, see...
<code>buffer_size=number</code>	"buffer_size" [MobiLink - Client Administration]
<code>client_port=nnnnn[-mmmmm]</code>	"client_port" [MobiLink - Client Administration]
<code>compression={zlib none}</code>	"compression" [MobiLink - Client Administration]
<code>custom_header=header</code>	"custom_header" [MobiLink - Client Administration]
<code>http_password=password</code>	"http_password" [MobiLink - Client Administration]

HTTP protocol option	For more information, see...
<code>http_proxy_password=password</code>	“http_proxy_password” [<i>MobiLink - Client Administration</i>]
<code>http_proxy_userid=userid</code>	“http_proxy_userid” [<i>MobiLink - Client Administration</i>]
<code>http_userid=userid</code>	“http_userid” [<i>MobiLink - Client Administration</i>]
<code>host=hostname</code>	“host” [<i>MobiLink - Client Administration</i>]
<code>network_leave_open={off on}</code>	“network_leave_open” [<i>MobiLink - Client Administration</i>]
<code>network_name=name</code>	“network_name” [<i>MobiLink - Client Administration</i>]
<code>persistent={off on}</code>	“persistent” [<i>MobiLink - Client Administration</i>]
<code>port=portnumber</code>	“port” [<i>MobiLink - Client Administration</i>]
<code>proxy_host=proxy-hostname-or-ip</code>	“proxy_host” [<i>MobiLink - Client Administration</i>]
<code>proxy_port=proxy-portnumber</code>	“proxy_port” [<i>MobiLink - Client Administration</i>]
<code>set_cookie=cookie-name=cookie-value</code>	“set_cookie” [<i>MobiLink - Client Administration</i>]
<code>timeout=seconds</code>	“timeout” [<i>MobiLink - Client Administration</i>]
<code>trusted_certificates=filename</code>	“trusted_certificates” [<i>MobiLink - Client Administration</i>]
<code>url_suffix=suffix</code>	“url_suffix” [<i>MobiLink - Client Administration</i>]
<code>version=HTTP-version-number</code>	“version” [<i>MobiLink - Client Administration</i>]
<code>zlib_download_window_size=window-bits</code>	“zlib_download_window_size” [<i>MobiLink - Client Administration</i>]
<code>zlib_upload_window_size=window-bits</code>	“zlib_upload_window_size” [<i>MobiLink - Client Administration</i>]

- ◆ **HTTPS protocol** The HTTPS protocol uses RSA encryption.

Separately licensed component required

ECC encryption and FIPS-certified encryption require a separate license. All strong encryption technologies are subject to export regulations.

See [“Separately licensed components”](#) [*SQL Anywhere 10 - Introduction*].

If you specify the HTTPS protocol, you can optionally specify the following protocol options:

HTTPS protocol option	For more information, see...
buffer_size = <i>number</i>	“buffer_size” [<i>MobiLink - Client Administration</i>]
certificate_company = <i>company_name</i>	“certificate_company” [<i>MobiLink - Client Administration</i>]
certificate_name = <i>name</i>	“certificate_name” [<i>MobiLink - Client Administration</i>]
certificate_unit = <i>company_unit</i>	“certificate_unit” [<i>MobiLink - Client Administration</i>]
client_port = <i>nnnnn</i> [- <i>mmmmm</i>]	“client_port” [<i>MobiLink - Client Administration</i>]
compression ={ <i>zlib</i> <i>none</i> }	“compression” [<i>MobiLink - Client Administration</i>]
custom_header = <i>header</i>	“custom_header” [<i>MobiLink - Client Administration</i>]
fips ={ <i>y</i> <i>n</i> }	“fips” [<i>MobiLink - Client Administration</i>]
host = <i>hostname</i>	“host” [<i>MobiLink - Client Administration</i>]
http_password = <i>password</i>	“http_password” [<i>MobiLink - Client Administration</i>]
http_proxy_password = <i>password</i>	“http_proxy_password” [<i>MobiLink - Client Administration</i>]
http_proxy_userid = <i>userid</i>	“http_proxy_userid” [<i>MobiLink - Client Administration</i>]
http_userid = <i>userid</i>	“http_userid” [<i>MobiLink - Client Administration</i>]
network_leave_open ={ <i>off</i> <i>on</i> }	“network_leave_open” [<i>MobiLink - Client Administration</i>]
network_name = <i>name</i>	“network_name” [<i>MobiLink - Client Administration</i>]
persistent ={ <i>off</i> <i>on</i> }	“persistent” [<i>MobiLink - Client Administration</i>]
port = <i>portnumber</i>	“port” [<i>MobiLink - Client Administration</i>]
proxy_host = <i>proxy-hostname-or-ip</i>	“proxy_host” [<i>MobiLink - Client Administration</i>]

HTTPS protocol option	For more information, see...
<code>proxy_port=proxy-portnumber</code>	<code>"proxy_port"</code> [<i>MobiLink - Client Administration</i>]
<code>set_cookie=cookie-name=cookie-value</code>	<code>"set_cookie"</code> [<i>MobiLink - Client Administration</i>]
<code>timeout=seconds</code>	<code>"timeout"</code> [<i>MobiLink - Client Administration</i>]
<code>tls_type={rsa ecc}</code>	<code>"tls_type"</code> [<i>MobiLink - Client Administration</i>]
<code>trusted_certificates=filename</code>	<code>"trusted_certificates"</code> [<i>MobiLink - Client Administration</i>]
<code>url_suffix=suffix</code>	<code>"url_suffix"</code> [<i>MobiLink - Client Administration</i>]
<code>version=HTTP-version-number</code>	<code>"version"</code> [<i>MobiLink - Client Administration</i>]
<code>zlib_download_window_size=window-size</code>	<code>"zlib_download_window_size"</code> [<i>MobiLink - Client Administration</i>]
<code>zlib_upload_window_size=window-bits</code>	<code>"zlib_upload_window_size"</code> [<i>MobiLink - Client Administration</i>]

See also

- ◆ ["MobiLink Client Network Protocol Options"](#) [*MobiLink - Client Administration*]
- ◆ ["Deploying models"](#) [*MobiLink - Getting Started*]

Deploy Synchronization Model wizard: MobiLink Server Stream Parameters page

This page allows you to choose communication stream parameters that apply only to the MobiLink server.

This page has the following components:

Additional server stream options If necessary, type additional server stream options, separated by semicolons, in the form (option=value;...). See ["-x option"](#) [*MobiLink - Server Administration*].

The following table lists the options you can specify.

- ◆ **TCP/IP options** If you specify the tcpip protocol, you can optionally specify the following protocol options:

TCP/IP protocol option	Description
host= <i>hostname</i>	The host name or IP number on which the MobiLink server should listen. The default value is localhost .
ignore= <i>hostname</i>	A host name or IP number that is ignored by the MobiLink server if it makes a connection. This option allows you to ignore requests from load balancers at the lowest possible level, preventing excessive output in the MobiLink server log and MobiLink Monitor output files. You can specify multiple hosts to ignore; for example <code>-x tcpip(ignore=lbl; ignore=123.45.67.89)</code> . If you specify multiple instances of <code>-x</code> on a command line, the host is ignored on all instances; for example, if you specify <code>-x tcpip(ignore=1.1.1.1) -x http</code> , then connections for 1.1.1.1 are ignored on both the TCP/IP and the HTTP streams. However, this does not affect connections via the <code>-xo</code> option.
port= <i>portnumber</i>	The socket port number on which the MobiLink server should listen. The default port is 2439 , which is the IANA registered port number for the MobiLink server.

- ◆ **Options for TCP/IP with transport-layer security** If you specify the `tls` protocol, which is TCP/IP with transport-layer security, you can optionally specify the following protocol options:

TLS protocol options	Description
fips={yes no}	If you specify the TLS protocol with <code>tls_type=rsa</code> , you can specify <code>fips=yes</code> to accept connections using the TCP/IP protocol and FIPS-approved algorithms for encryption. FIPS connections use separate FIPS 140-2 certified software. Servers using RSA encryption without FIPS are compatible with clients using RSA with FIPS, and servers using RSA with FIPS are compatible with clients using RSA without FIPS.
host= <i>hostname</i>	The host name or IP number on which the MobiLink server should listen. The default value is localhost .
ignore= <i>hostname</i>	A host name or IP number that will be ignored by the MobiLink server if it makes a connection. This option allows you to ignore requests from load balancers at the lowest possible level, preventing excessive output in the MobiLink server log and MobiLink Monitor output files. You can specify multiple hosts to ignore; for example <code>-x tcpip(ignore=lbl; ignore=123.45.67.89)</code> .
port= <i>portnumber</i>	The socket port number on which the MobiLink server should listen. The default port is 2439 , which is the IANA registered port number for the MobiLink server.

TLS protocol options	Description
tls_type={rsa ecc}	<p>If you specify the TCP/IP protocol as <code>tls</code>, you can specify either elliptic-curve cryptography (<code>ecc</code>) or RSA encryption (<code>rsa</code>). For backward compatibility, <code>ecc</code> can also be specified as <code>certicom</code>. The default <code>tls_type</code> is <code>rsa</code>.</p> <p>When you use TLS, you must specify a certificate and certificate password:</p> <ul style="list-style-type: none"> ◆ certificate=certificate_file Specify the path and file name of the certificate that is to be used for server authentication. ◆ certificate_password=password Specify the password for the certificate. <p>See “Starting the MobiLink server with transport-layer security” [<i>SQL Anywhere Server - Database Administration</i>].</p>

- ◆ **HTTP options** If you specify the `http` protocol, you can optionally specify the following protocol options:

HTTP options	Description
buffer_size=number	The maximum body size for an HTTP message sent from MobiLink server, in bytes. Changing the option will decrease or increase the amount of memory allocated for sending HTTP messages. The default is 65535 bytes.
host=hostname	The host name or IP number on which the MobiLink server should listen. The default value is localhost .
port=portnumber	The socket port number on which the MobiLink server should listen. The port number must match the port the MobiLink server is setup to monitor. The default port is 80 .
version=http-version	The MobiLink server automatically detects the HTTP version used by a client. This parameter is a string specifying the default version of HTTP to use in case the server cannot detect the method used by the client. You have a choice of 1.0 or 1.1 . The default value is 1.1 .

- ◆ **HTTPS options** The HTTPS protocol uses RSA or ECC digital certificates for transport-layer security. If you specify FIPS encryption, the protocol uses separate FIPS 140-2 certified software that is compatible with `https`.

For more information, see “Starting the MobiLink server with transport-layer security” [*SQL Anywhere Server - Database Administration*].

If you specify the `https` protocol, you can optionally specify the following protocol options:

HTTPS options	Description
buffer_size=number	The maximum body size for an HTTPS message sent from MobiLink server, in bytes. Changing the option will decrease or increase the amount of memory allocated for sending HTTPS messages. The default is 65535 bytes.

HTTPS options	Description
certificate=server-certificate	The path and file name of the certificate that is to be used for server authentication. For HTTPS, this must be an RSA certificate.
certificate_password=password	An optional parameter that specifies a password for the certificate. See “ Transport-Layer Security ” [<i>SQL Anywhere Server - Database Administration</i>].
fips={ yes no }	You can specify fips=yes to accept connections using the HTTPS protocol and FIPS-approved algorithms for encryption. FIPS connections use separate FIPS 140-2 certified software. Servers using RSA encryption without FIPS are compatible with clients using RSA with FIPS, and servers using RSA with FIPS are compatible with clients using RSA without FIPS.
host=hostname	The host name or IP number on which the MobiLink server should listen. The default value is localhost .
port=portnumber	The socket port number on which the MobiLink server should listen. The port number must match the port the MobiLink server is set up to monitor. The default port is 443 .
tls_type={ rsa ecc }	If you specify the TCP/IP protocol as tls , you can specify either elliptic-curve cryptography (ecc) or RSA encryption (rsa). For backward compatibility, ecc can also be specified as certicom . The default tls_type is rsa . When you use transport-layer security, you must specify a certificate and certificate password: ◆ certificate=certificate_file Specify the path and file name of the certificate that is to be used for server authentication. ◆ certificate_password=password Specify the password for the certificate. See “ Starting the MobiLink server with transport-layer security ” [<i>SQL Anywhere Server - Database Administration</i>].
version=http-version	The MobiLink server automatically detects the HTTP version used by a client. This parameter is a string specifying the default version of HTTP to use in case the server cannot detect the method used by the client. You have a choice of 1.0 or 1.1 . The default value is 1.1 .

See also

- ◆ “-x option” [*MobiLink - Server Administration*]
- ◆ “Deploying models” [*MobiLink - Getting Started*]
- ◆ “MobiLink Server Options” [*MobiLink - Server Administration*]

Deploy Synchronization Model wizard: Secure Stream Server Certificate page

This page allows you to specify a certificate file to use for the encrypted synchronization stream.

This page has the following components:

Identity certificate file Type the name of the certificate file the client uses to authenticate the server, or click Browse to select the file. See “[certificate_name](#)” [*MobiLink - Client Administration*].

See also

- ◆ “[Deploying models](#)” [*MobiLink - Getting Started*]
- ◆ “[Encrypting SQL Anywhere client/server communications](#)” [*SQL Anywhere Server - Database Administration*]

Deploy Synchronization Model wizard: Secure Stream Client Parameters page

This page allows you to choose the client security options for the encrypted synchronization stream.

This page has the following components:

The client computer's certificate store Choose this option to use the certificate store on the client computer.

The trusted root certificates file specified below Choose this option to specify a file containing a list of trusted root certificates.

- ◆ **Trusted root certificate file** Type the name and location of the trusted root certificate file, or click Browse to select the file. See “[trusted_certificates](#)” [*MobiLink - Client Administration*]

Certificate company If necessary, specify a certificate company. If a certificate company is specified, server certificates are only accepted when the Organization field on the certificate matches this value. See “[certificate_company](#)” [*MobiLink - Client Administration*].

Certificate unit If necessary, specify a certificate unit. If a certificate unit is specified, server certificates are only accepted when the Organization Unit field on the certificate matches this value. See “[certificate_unit](#)” [*MobiLink - Client Administration*].

Certificate name If necessary, specify a certificate name. If certificate name is specified, server certificates are only accepted when the Common Name field on the certificate matches this value. See “[certificate_name](#)” [*MobiLink - Client Administration*].

See also

- ◆ “[Deploying models](#)” [*MobiLink - Getting Started*]
- ◆ “[Verifying certificate fields](#)” [*SQL Anywhere Server - Database Administration*]

Deploy Synchronization Model wizard: Verbosity for MobiLink Server page

This page allows you to set the level of verbosity for the MobiLink server, which determines how much information is reported by the MobiLink server.

This page has the following components:

No information per synchronization except warnings and errors Select this option if you want only warnings and errors to be reported in the MobiLink server window and error log for each synchronization. This is the default.

Minimum per synchronization information (-v) Select this option if you want the minimum amount of information to be reported in the MobiLink server window and error log for each synchronization. See “-v option” [[MobiLink - Server Administration](#)].

Typical debug verbosity (-vcnrs) Select this option if you want the typical amount of information for debugging to be reported in the MobiLink server window and error log for each synchronization. The following information appears:

- ◆ The content of each synchronization script when it is invoked.
- ◆ Row-count summaries.
- ◆ The column values of each row uploaded or downloaded.
- ◆ The name of each synchronization script as it is invoked.

See “-v option” [[MobiLink - Server Administration](#)].

Maximal verbosity (-v+) Select this option to turn on all logging options that increase verbosity. See “-v option” [[MobiLink - Server Administration](#)].

Save message log to the following file (using -ot option) Select this option to save the output messages to the specified file. Before the messages are appended to it, the file's contents are deleted. Otherwise the output messages are sent to the screen.

See also

- ◆ “Deploying models” [[MobiLink - Getting Started](#)]
- ◆ “Use minimum logging verbosity” [[MobiLink - Server Administration](#)]

Deploy Synchronization Model wizard: Options for MobiLink Server page

This page allows you to set options for the MobiLink server.

This page has the following components:

What name do you want to give the MobiLink server? Type the name of the MobiLink server.

Additional MobiLink server command-line options Type any additional MobiLink server options. See “MobiLink Server Options” [[MobiLink - Server Administration](#)].

The following table lists the options you can specify.

Option	Description
@data	Read in options from the specified environment variable or configuration file. See “@data option” [MobiLink - Server Administration].

Option	Description
-a	Disable automatic reconnection upon synchronization error. See “-a option” [MobiLink - Server Administration].
-b	Trim blank padding of strings. See “-b option” [MobiLink - Server Administration].
-bn size	Specify the maximum number of bytes to consider when comparing BLOBs for conflict detection. See “-bn option” [MobiLink - Server Administration].
-c "keyword=value; ..."	Supply ODBC database connection parameters for your consolidated database. See “-c option” [MobiLink - Server Administration].
-cm size	Specify the server memory cache size. See “-cm option” [MobiLink - Server Administration].
-cn connections	Set the maximum number of simultaneous connections with the consolidated database server. See “-cn option” [MobiLink - Server Administration].
-cr count	Set the maximum number of database connection retries. See “-cr option” [MobiLink - Server Administration].
-ct connection-timeout	Set the length of time a connection may be unused before it is timed out. See “-ct option” [MobiLink - Server Administration].
-dl	Display all log messages on the console. See “-dl option” [MobiLink - Server Administration].
-ds size	Specify the maximum amount of data that can be stored for use in all restartable downloads. See “-ds option” [MobiLink - Server Administration].
-dsd	Disable snapshot isolation, which is the default download isolation level for SQL Anywhere and Microsoft SQL Server consolidated databases. See “-dsd option” [MobiLink - Server Administration].
-dt	Detect transactions only within the current database. See “-dt option” [MobiLink - Server Administration].
-e filename	Store remote error logs sent into the named file. See “-e option” [MobiLink - Server Administration].
-esu	Use snapshot isolation for uploads. See “-esu option” [MobiLink - Server Administration].
-et filename	Store remote error logs sent into the named file, but delete the contents first if the file exists. See “-et option” [MobiLink - Server Administration].

Option	Description
-f	Assume synchronization scripts do not change. See “-f option” [<i>MobiLink - Server Administration</i>].
-fips	Forces all secure MobiLink streams to be FIPS-compliant. See “-fips option” [<i>MobiLink - Server Administration</i>].
-fr	If table data scripts are missing, synchronization will not abort, but just issue a warning. See “-fr option” [<i>MobiLink - Server Administration</i>].
-ftr path	Creates a location for files that are to be used by the mlfile-transfer utility. See “-ftr option” [<i>MobiLink - Server Administration</i>].
-m [filename]	Enables QAnywhere messaging. See “-m option” [<i>MobiLink - Server Administration</i>].
-nc connections	Sets maximum number of concurrent connections. See “-nc option” [<i>MobiLink - Server Administration</i>].
-notifier	Starts a Notifier for server-initiated synchronization. See “-notifier option” [<i>MobiLink - Server Administration</i>].
-o logfile	Log messages to a file. See “-o option” [<i>MobiLink - Server Administration</i>].
-on size	Set maximum size for log file. See “-on option” [<i>MobiLink - Server Administration</i>].
-oq	Prevent the popup dialog on startup error. See “-oq option” [<i>MobiLink - Server Administration</i>].
-os size	Maximum size of output file. See “-os option” [<i>MobiLink - Server Administration</i>].
-ot logfile	Log messages to a file, but delete its contents first. See “-ot option” [<i>MobiLink - Server Administration</i>].
-q	Minimize the synchronization server window. See “-q option” [<i>MobiLink - Server Administration</i>].
-r retries	Retry deadlocked uploads at most this many times. See “-r option” [<i>MobiLink - Server Administration</i>].
-rd delay	Set maximum delay, in seconds, before retrying a deadlocked transaction. See “-rd option” [<i>MobiLink - Server Administration</i>].
-s count	Specify the maximum number of rows to be fetched or sent at once. See “-s option” [<i>MobiLink - Server Administration</i>].

Option	Description
-sl <i>dnet script-options</i>	Set the .NET CLR options and force loading of the virtual machine on startup. See “-sl dnet option” [<i>MobiLink - Server Administration</i>].
-sl <i>java script-options</i>	Set the Java virtual machine options and force loading of the virtual machine on startup. See “-sl java option” [<i>MobiLink - Server Administration</i>].
-sm <i>number</i>	Set the maximum number of synchronizations that can be actively worked on. See “-sm option” [<i>MobiLink - Server Administration</i>].
-ud	On UNIX platforms, run as a daemon. See “-ud option” [<i>MobiLink - Server Administration</i>].
-ux	Opens the console. See “-ux option” [<i>MobiLink - Server Administration</i>].
-v [<i>levels</i>]	Controls the type of messages written to the log file. See “-v option” [<i>MobiLink - Server Administration</i>].
-w <i>count</i>	Set the number of database worker threads. See “-w option” [<i>MobiLink - Server Administration</i>].
-wu <i>count</i>	Set the maximum number of database worker threads permitted to process uploads concurrently. See “-wu option” [<i>MobiLink - Server Administration</i>].
-x <i>protocol</i> [(<i>network-parameters</i>)]	Specify the communications protocol. Optionally, specify network parameters in form <i>parameter=value</i> , with multiple parameters separated by semicolons. See “-x option” [<i>MobiLink - Server Administration</i>].
-xo <i>protocol</i> [(<i>network-parameters</i>)]	For version 8 and 9 clients, specify the communications protocol. Optionally, specify network parameters in form <i>parameter=value</i> , with multiple parameters separated by semicolons. See “-xo option” [<i>MobiLink - Server Administration</i>].
-zp	In the event of a timestamp conflict between the consolidated and remote database, this option allows timestamp values with a precision higher than the lowest-precision to be used for conflict detection purposes. See “-zp option” [<i>MobiLink - Server Administration</i>].
-zs <i>name</i>	Specify a server name. See “-zs option” [<i>MobiLink - Server Administration</i>].
-zt <i>number</i>	Specify the maximum number of processors used to run the MobiLink server. See “-zt option” [<i>MobiLink - Server Administration</i>].

Option	Description
-zu { + - }	Controls the automatic addition of users when the <code>authenticate_user</code> script is undefined. See “ -zu option ” [<i>MobiLink - Server Administration</i>].
-zus	Causes MobiLink to invoke upload scripts for tables for which there is no upload. See “ -zus option ” [<i>MobiLink - Server Administration</i>].
-zw 1,...5	Controls which levels of warning message to display. See “ -zw option ” [<i>MobiLink - Server Administration</i>].
-zwd code	Disables specific warning codes. See “ -zwd option ” [<i>MobiLink - Server Administration</i>].
-zwe code	Enables specific warning codes. See “ -zwe option ” [<i>MobiLink - Server Administration</i>].

Where do you want to save the command file that will be generated for starting the MobiLink server? Type the location where you want the command file saved, or click Browse to select the file.

See also

- ◆ “[Deploying models](#)” [*MobiLink - Getting Started*]

Deploy Synchronization Model wizard: Verbosity for SQL Anywhere Remote Synchronization Client page

This page allows you to set the level of verbosity for the remote SQL Anywhere synchronization client, which determines how much information is reported by the synchronization client.

This page has the following components:

Minimum synchronization progress information Select this option if you want the minimum amount of information to be reported in the MobiLink server window and error log for each synchronization.

Medium verbosity (-v) Select this option if you want a small amount of information to be reported in the MobiLink server window and error log for each synchronization. See “[-v option](#)” [*MobiLink - Client Administration*].

Debug verbosity (-v+) Select this option if you want the typical amount of information for debugging to be reported in the MobiLink server window and error log for each synchronization. This turns on all logging options except for `c` (expose the connect string in the log) and `p` (expose the password in the log).

See “[-v option](#)” [*MobiLink - Client Administration*].

Save message log to the following file (using -ot option) Select this option and type the location where you want the message log file saved, or click Browse to select the file.

See “[-ot option](#)” [*MobiLink - Client Administration*].

See also

- ◆ “Deploying models” [*MobiLink - Getting Started*]

Deploy Synchronization Model wizard: Advanced Options for SQL Anywhere Remote Synchronization Client page

This page allows you to specify additional synchronization options for the remote synchronization client.

This page has the following components:

Extended options table Lists the available extended options for the SQL Anywhere remote synchronization client.

- ◆ **Name** Shows the name of the extended option. See “MobiLink SQL Anywhere Client Extended Options” [*MobiLink - Client Administration*].
- ◆ **Value** Depending on the extended option you choose, either type a value for the option in this field, or choose On or Off from the dropdown list. See “MobiLink SQL Anywhere Client Extended Options” [*MobiLink - Client Administration*].

If you want to specify additional command-line options for the synchronization client (dbmsync), type them below Type any additional command-line options for dbmsync. See “dbmsync syntax” [*MobiLink - Client Administration*].

Where do you want to save the command file that will be generated for starting dbmsync? Type the location where you want the command file saved, or click Browse to select the file.

See also

- ◆ “Deploying models” [*MobiLink - Getting Started*]
- ◆ “Using dbmsync extended options” [*MobiLink - Client Administration*]
- ◆ “Customizing dbmsync synchronization” [*MobiLink - Client Administration*]

Deploy Synchronization Model wizard: Advanced Options for UltraLite Remote Synchronization Client

This page allows you to choose advanced options for the UltraLite synchronization testing utility (ulsync).

This page has the following components:

If you want to specify additional command-line options for ulsync, type them below Type any additional command-line options for ulsync. See “UltraLite Synchronization utility (ulsync)” [*UltraLite - Database Management and Reference*].

The following table lists the options you can specify.

Option	Description
-a <i>authenticate-parameters</i>	Set any values required by your MobiLink server <i>authenticate_parameters</i> script. These may be a user name and password, for example. You can repeat this option to a maximum of 20 times, if required.
-c " <i>connection-string</i> "	Required. Connect to the database as identified in the DBF or file_name parameter of your <i>connection-string</i> . If you do not specify both a user ID and a password, the default UID of DBA and PWD of sql are assumed.
-e <i>sync-parms</i>	Set a single extended synchronization option. You can set multiple extended synchronization options with multiple -e options. The keywords are case insensitive. Note that you must always set Username and Version. For example: -e Username=MyName -e Version=MyNum See “ Extended synchronization parameters ” [UltraLite - Database Management and Reference].
-k <i>stream-type</i>	Specify the synchronization stream, which can be encrypted or unencrypted. The <i>stream-type</i> must be one of <i>tcpip</i> , <i>tls</i> , <i>http</i> , or <i>https</i> . The default stream is <i>tcpip</i> . For Palm OS, you must store the RSA certificate in the UltraLite database when it is created. For all other systems, you can specify the certificate file either with the -x trusted certificate=path option, or as an unnamed file with a certificate lookup mechanism that is part of the encryption code.
-n	Do not carry out synchronization. Use this option with -r to see previous synchronization results.
-or	Synchronize the database in read-only mode. UltraLite makes a copy of the original file, and then use the copy to test your scripts without altering the database. Changes to the copied file are discarded upon completion. If you are connecting directly from the desktop to a database already deployed to a CE device, the parameter is not supported.
-r	Display last synchronization results.
-q	Run in quiet mode—do not print messages.
-v	Display synchronization progress messages.
-x <i>netopt-string</i>	A semicolon-separated list of synchronization network protocol options (also known as stream parameters) and their respective values. See “ Network protocol options for UltraLite synchronization streams ” [MobiLink - Client Administration]. The default value is host=localhost .

Where do you want to save the command file that will be generated for starting ulsync? Type the location where you want the command file saved, or click Browse to select the file.

See also

- ◆ “Deploying models” [[MobiLink - Getting Started](#)]

Deploy Synchronization Model wizard: Server Initiated Synchronization Listener page

This page allows you to choose options for the Listener used on the remote computer in server-initiated synchronization. See “Listeners” [[MobiLink - Server-Initiated Synchronization](#)].

To choose Notifier settings, open your model in Sybase Central, and then click the Notification tab in the right pane. See “Setting up server-initiated synchronization in Model mode” [[MobiLink - Getting Started](#)].

This page has the following components:

Remote database file name Type the name of the remote database file. The Listener needs this information to obtain the remote ID. The Listener needs to be started in the same folder as the remote database file, or else you need to edit the Listener option file. See “Listener syntax” [[MobiLink - Server-Initiated Synchronization](#)].

Run SQL Anywhere MobiLink client (dbmlsync) Choose this option to run the SQL Anywhere MobiLink client (dbmlsync). See “MobiLink SQL Anywhere Client Utility [dbmlsync]” [[MobiLink - Client Administration](#)].

Post a Windows message to a window class Choose this option to post a Windows message to a window class.

- ◆ **Windows message** Type the message contents or the ID of the Windows message, if one exists. See the post command in “Listener syntax” [[MobiLink - Server-Initiated Synchronization](#)].
- ◆ **Window class name** Type the window class name. See “-wc option” [[MobiLink - Client Administration](#)].

Additional Listener (dbsln) command-line options Type any additional Listener command-line options. See “Listener syntax” [[MobiLink - Server-Initiated Synchronization](#)].

Where do you want to save the command file that will be generated for starting dbsln? Type the location where you want the command file saved, or click Browse to select the file. Note that a Listener option file, *dbsln.txt*, is created in the same folder as the command file.

See also

- ◆ “Listener Utility” [[MobiLink - Server-Initiated Synchronization](#)]
- ◆ “Listener syntax” [[MobiLink - Server-Initiated Synchronization](#)]
- ◆ “Deploying models” [[MobiLink - Getting Started](#)]
- ◆ “Message handlers” [[MobiLink - Server-Initiated Synchronization](#)]
- ◆ “Storing Listener options” [[MobiLink - Server-Initiated Synchronization](#)]

Deploy Synchronization Model wizard: Completing the Deploy Wizard page

The Completing the Deploy Wizard page of the Deploy Synchronization Model wizard confirms that you have completed the wizard.

To create the deployment files or write the changes to the databases you have selected, click Finish. If there is a file with the same name as this model, it is overwritten.

To make changes before deploying the synchronization model, click Back.

Next step

- ◆ [“Synchronizing a deployed model” \[MobiLink - Getting Started\]](#)

Update Schema wizard: Welcome page

This page allows you to update the consolidated and remote database schemas in your synchronization model by comparing the schema(s) in the model with the schemas of the database(s).

This page has the following components:

Which schema do you want to update? Choose one of the following to update your schema:

- ◆ **The consolidated database schema** Choose this option to update the consolidated database schema in the model with the schema from consolidated database.
- ◆ **The remote database schema** Choose this option to update the remote database schema in the model with the schema from the existing remote database.
- ◆ **Both the consolidated and remote database schemas** Choose this option to update both the consolidated database and the remote database schemas in the model with the schemas from the consolidated and existing remote database.

See also

- ◆ [“MobiLink Data Mappings Between Remote and Consolidated Databases” \[MobiLink - Server Administration\]](#)

Update Schema wizard: Consolidated Database Schema page

You must connect to the database that will be the consolidated database in your MobiLink application so the wizard can obtain schema information for it.

This page has the following components:

Choose a consolidated database Click to choose a consolidated database to provide the schema information for the consolidated database in the synchronization model.

The Connect dialog appears. Specify the connection information for the consolidated database.

For more information, see [“Connect dialog: Identification tab \(MobiLink and QAnywhere\)” on page 5](#), and [“Connect dialog: Advanced tab \(MobiLink and QAnywhere\)” on page 11](#).

Note

If the specified database is not set up as a MobiLink consolidated database, you are prompted to install MobiLink system setup.

- ◆ Click Yes to immediately install the MobiLink system setup scripts to the consolidated database.

For example, click Yes if you intend to deploy the synchronization model to the specified consolidated database.

- ◆ Click No to not install the MobiLink setup scripts to the specified consolidated database.

For example, click No:

- ◆ If you only intend to use the specified consolidated database to obtain a schema and you have no intention of deploying to it.
- ◆ If you intend to deploy the synchronization model to the specified consolidated database, but prefer to do so with the Deploy Synchronization Model wizard.
- ◆ If you prefer to run the setup scripts yourself after you deploy.

With the exception of the installation of the MobiLink system setup, no other changes are made to the consolidated database until you deploy your model.

See “[Setting up a consolidated database](#)” [*MobiLink - Server Administration*].

The following fields are blank until you specify a consolidated database, and then they are updated to show the information for the specified consolidated database.

Name Shows the name of the consolidated database.

User Shows the user ID of the user connected to the consolidated database.

Product Shows the name of the product the consolidated database is from. For example, SQL Anywhere.

Version Shows the version of the product being used.

Update Schema wizard: Remote Database Schema page

This page allows you to choose the location used to obtain the remote database schema.

This page has the following components:

How do you want to update the remote schema in your synchronization model? Choose one of the following to specify how to update the remote schema:

- ◆ **From the consolidated database schema** Select this option if you want to choose tables from the consolidated database to use to update the remote database schema.
- ◆ **From an existing remote database** Select this option to connect to an existing SQL Anywhere or UltraLite remote database to update the remote schema.

- ◆ **Choose a remote database** Click this button to choose a remote database to provide the schema information for the synchronization model. The Connect dialog appears. Specify the connection information for the remote database.

See:

- ◆ [“Connect dialog: Identification tab \(SQL Anywhere\)” on page 3](#)
- ◆ [“Connect dialog: Database tab \(SQL Anywhere\)” on page 8](#)
- ◆ [“Connect dialog: Advanced tab \(SQL Anywhere\)” on page 10](#)
- ◆ **Name** Shows the name of the remote database.
- ◆ **User** Shows the user ID of the user connected to the remote database.
- ◆ **Product** Shows the name of product the remote database is from. For example, SQL Anywhere.
- ◆ **Version** Shows the version of the product being used.

Update Schema wizard: New Remote Database Schema page

This page allows you to choose the consolidated database tables that are used to update the remote database schema. After this wizard finishes, use the Mappings tab in Model mode to set up synchronization between the matching consolidated and remote tables. See [“How remote tables relate to consolidated tables” \[MobiLink - Server Administration\]](#).

This page has the following components:

Tables list Lists all the tables, including the table name and owner, in the consolidated database that you are currently connected to.

Select All Click Select All to include all the tables in the list in the remote database schema.

Clear Click Clear All to clear all the checkboxes in the Tables list.

Owner Choose a specific user from the dropdown list, and then use the Select Owner button to select tables owned by the selected user.

Select Owner Click Select Owner to select all the tables owned by the user specified in the Owner dropdown list.

See also

- ◆ [“MobiLink Data Mappings Between Remote and Consolidated Databases” \[MobiLink - Server Administration\]](#)

Update Schema wizard: Completing the Update Schema wizard page

This page provides a summary of the detected schema changes.

The Update Schema wizard compares the schema(s) currently in the synchronization model with the specified database(s) and changes the synchronization model to match the schema of the specified database(s).

To complete the wizard and update the synchronization model schema, review the information and then click Finish.

Unlike the Create New Remote Tables dialog, which adds remote tables to the model, the Update Schema wizard does not map the tables. You must create table mappings using the Mappings tab. See [“Modifying the remote database that your model will create” \[MobiLink - Getting Started\]](#).

Create New Remote Tables dialog

The Create New Remote Tables dialog allows you to create new tables and corresponding table mappings for a remote schema by selecting from unsynchronized tables in the consolidated schema.

This page has the following components:

Choose one or more consolidated tables from the list of candidates The list of candidates table shows the consolidated tables that are not currently included in the remote schema. Select one or more of these tables to add them to the remote schema. The new remote tables have the same names and the same sets of columns as the corresponding consolidated tables, and the mappings between the remote and consolidated tables are created automatically.

MobiLink Model mode

Model mode allows you to customize the options you chose in the Create Synchronization wizard. For example, from Model mode you can customize one table to be download-only and another to be upload-only.

When you are working in Model mode, you are offline. Changes you make are made to the model file. When you deploy, you can choose whether to apply changes to your consolidated database immediately or create files that you can run later to make the changes.

Model mode includes the following tabs:

- ◆ **Mappings** The Mappings tab contains two panes: the Table Mappings pane and the Details pane. For descriptions of the options in this tab, see [“Mappings: Table Mappings” on page 209](#).
- ◆ **Events** The Events tab allows you to view or modify the synchronization scripts. For descriptions of the options in this tab, see [“Events tab” on page 215](#).
- ◆ **Authentication** The Authentication tab allows you to view or modify the MobiLink authentication method you want to use for the model. For descriptions of the options in this tab, see [“Authentication tab” on page 216](#).
- ◆ **Notification** The Notification tab allows you to view or modify the model's server-initiated synchronization settings. For descriptions of the options in this tab, see [“Notification tab” on page 216](#).

See also

- ◆ [“Modifying table and column mappings” \[MobiLink - Getting Started\]](#)
- ◆ [“Modifying the remote database that your model will create” \[MobiLink - Getting Started\]](#)
- ◆ [“Modifying the download type” \[MobiLink - Getting Started\]](#)
- ◆ [“Modifying how deletes are handled” \[MobiLink - Getting Started\]](#)
- ◆ [“Modifying the download subset” \[MobiLink - Getting Started\]](#)
- ◆ [“Modifying conflict detection and resolution” \[MobiLink - Getting Started\]](#)
- ◆ [“Modifying scripts in a model” \[MobiLink - Getting Started\]](#)
- ◆ [“Authenticating to external servers in Model mode” \[MobiLink - Getting Started\]](#)
- ◆ [“Setting up server-initiated synchronization in Model mode” \[MobiLink - Getting Started\]](#)
- ◆ [“Updating schemas in Model mode” \[MobiLink - Getting Started\]](#)

Mappings tab

The Mappings tab contains two panes: the Table Mappings pane and the Details pane. When you select a table mapping row in the Table Mappings pane, information about it appears in the Details pane.

Mappings: Table Mappings

The Table Mappings pane contains one row for each remote table. A remote table is mapped if a consolidated database is selected and the mapping direction is either Bi-directional, Upload to Consolidated Only, or Download to Remote Only.

The values in the columns show the values you chose in the Create Synchronization Model wizard, or the wizard's defaults if you did not make a choice. You can modify these values on a table-by-table basis by editing this table.

The Table Mappings pane contains the following columns.

Ordinal column This column has no title. It numbers the gridlines in the table. If you change the sorting of the tables (by clicking column headings), the grid numbers do not change with the reorder. Icons appear in this column if a remote table has been added, marked for delete, or modified.

Status column This column notifies you if there is an error, warning, or informational message for the table mapping. If an icon appears in this column, select the table mapping, and then open the Status tab in the Details pane to see the content of the message.

Remote Table column This is the remote table that you are synchronizing in the remote database. The name of the remote table owner is included in parentheses.

You can mark a remote table for deletion by right-clicking the row in the Table Mappings pane and choosing Delete. The remote table is deleted when you save the model. Deleting a remote table means that it is not created when you deploy to a new remote database. See [“Modifying how deletes are handled” \[MobiLink - Getting Started\]](#).

You can add a remote table using the Create New Remote Tables dialog. See [“Modifying the remote database that your model will create” \[MobiLink - Getting Started\]](#).

Mapping Direction column The direction of synchronization. The direction can be Not Synchronized, Bi-directional, Download to Remote Only, or Upload to Consolidated Only.

If the table mapping direction is Not Synchronized, then the table is still part of the remote database schema. When the model is deployed, the table is created on the remote, but no information will be synchronized to it. See [“Modifying table and column mappings” \[MobiLink - Getting Started\]](#).

If you don't want the table to be created on the remote, delete it from the model. See [“Modifying how deletes are handled” \[MobiLink - Getting Started\]](#).

See [“Upload-only and download-only synchronizations” \[MobiLink - Server Administration\]](#).

Consolidated Table column This is the consolidated table that will be synchronized with the corresponding remote table. Synchronization occurs between these tables and the tables in the Remote Table column. You can change the consolidated table by clicking the column and choosing a different table from the list of consolidated tables.

Look at the Column Mappings tab in the Details pane to check how the remote columns are mapped to the consolidated columns for the selected table mapping.

Download Type column You can view and modify the implementation in the Download Type tab in the Details pane. Your options in this column are:

- ◆ **Timestamp** Data is downloaded only if it changed since the last download. When using timestamp-based downloads, each consolidated table must have a timestamp column to track when changes are made to rows. This can be done by adding a column to the consolidated database tables or by creating shadow tables. Shadow tables are created with the same owner as the base table. When you choose Timestamp,

the necessary objects are generated for you. See “[Timestamp-based downloads](#)” [*MobiLink - Server Administration*].

- ◆ **Snapshot** All data in the consolidated table is downloaded in every synchronization, even if it has already been downloaded. See “[Snapshot synchronization](#)” [*MobiLink - Server Administration*].
- ◆ **Custom** Write your own `download_cursor` and `download_delete_cursor` scripts instead of having them generated automatically. You can do this on the Events tab. See “[Writing download_cursor scripts](#)” [*MobiLink - Server Administration*], and “[Writing download_delete_cursor scripts](#)” [*MobiLink - Server Administration*].

Download Deletes column If this checkbox is selected, data that is deleted on the consolidated database is deleted on the remote databases.

If you are using timestamp-based synchronization and this column is selected, the deletions on the consolidated database need to be recorded. There are two ways of doing this: using shadow tables (the default), or using logical deletes. Open the Download Deletes tab in the Details pane to view and modify the implementation.

If you are using snapshot downloads and this column is selected, all existing rows in the remote database are deleted before the downloaded rows are added.

This option cannot be selected if the download type is Custom. In that case, you must write your own `download_delete_cursor` script. You can do this on the Events tab in the Details pane.

Download Subset column Your options in this column are:

- ◆ **None** Download the same data to each remote database.
- ◆ **User** Each synchronization user (also known as a MobiLink user) only downloads rows where the user name matches a column from the same table or a directly joined table. You can view or modify the implementation on the Download Subset tab in the Details pane.
- ◆ **Remote** Each remote database only downloads rows where the remote ID matches a column from the same table or a directly joined table. You can view or modify the implementation on the Download Subset tab in the Details pane.
- ◆ **Custom** Each synchronization only downloads rows when a SQL expression in the download cursor WHERE clause is true. This option is useful when you need multiple joins or particular business logic in your download cursor WHERE clause. You can view or modify this expression on the Download Subset tab in the Details pane.

Conflict Detection column Your options in this column are:

- ◆ **None** Always apply uploaded updates without checking for conflicts. This option results in the best performance.
- ◆ **Row-based** A conflict is detected if the row has been updated on both the remote and the consolidated database since the last synchronization.

- ◆ **Column-based** A conflict is detected only if the same column has been updated for the row in both the remote and consolidated databases. Otherwise, only the uploaded column updates are applied. If a table has BLOB columns, row-based conflict detection is used instead.

See “Detecting conflicts” [[MobiLink - Server Administration](#)].

Conflict Resolution column Your options in this column are:

- ◆ **Consolidated** First in wins. Uploaded updates are rejected if they conflict.
- ◆ **Remote** Last in wins. Uploaded updates are always applied. Only use this option with column-based detection; otherwise, disable conflict detection for the same result with better performance.
- ◆ **Timestamp** The newer change wins, using a timestamp column that you maintain. This timestamp column records the last time that the row was changed. It should exist in both the remote and consolidated tables and be included in the synchronization. To work, your remote and consolidated databases must use the same time zone (preferably UTC) and their clocks must be synchronized.
- ◆ **Custom** Write your own resolve_conflict scripts instead of having them generated automatically. You can do this on the Events tab.

See “Resolving conflicts” [[MobiLink - Server Administration](#)].

Mappings: Details

When you select a table mapping row in the Table Mappings pane, information about the table appear in the Details pane. The Details pane has the following tabs:

Column Mappings tab

The Column Mappings tab shows the mapped columns.

You can mark a column mapping for deletion by selecting a row in the Column Mappings tab and choosing Edit ► Delete. The column mapping is deleted when you save the model. Deleting a column mapping means the column will not be created in the remote database when the model is deployed.

The Column Mappings tab shows the following information for the selected table mapping:

- ◆ **Remote column name** The name of the column in the remote database table.
- ◆ **R# (Remote column number)** This column indicates the order in which columns are returned by a SELECT * FROM *tablename* command.
- ◆ **Remote column data type** The data type.
- ◆ **Mapping direction** The mapping direction of the column.

A column's mapping direction is dependent upon the mapping direction of the table to which it belongs. A column can either have the same mapping as its table or not be synchronized. For example, if the table has a Bi-Directional table mapping, the table's columns can either be Bi-Directional or Not Synchronized.

If the column mapping direction is Not Synchronized, the column is part of the remote database schema. When the model is deployed, the column is created on the remote, but no information is synchronized to it.

If you don't want the column to be created on the remote, delete it from the model. You cannot delete primary key columns. See [“Modifying how deletes are handled” \[MobiLink - Getting Started\]](#).

- ◆ **Consolidated column name** The name of the column in the consolidated database table.

Note

If your remote database existed before you created your synchronization model, the information in this column represents a best guess that you should check.

- ◆ **C# (Consolidated column number)** This column indicates the order in which columns are returned by a `SELECT * FROM tablename` command.
- ◆ **Consolidated column data type** The data type.

Download Type tab

The Download Type tab shows the following information for the selected table:

- ◆ **Timestamp column name** Specify the name of the column to be used for timestamp-based downloads.
- ◆ **Use timestamp columns in synchronized table** Select this option to add a timestamp column to each synchronized table if the timestamp column does not already exist.
- ◆ **Use shadow tables to hold timestamp columns** Select this option to create a shadow table for each synchronized consolidated database table. Shadow tables are created with the same owner as the base table.

See [“Modifying the download type” \[MobiLink - Getting Started\]](#).

Download Deletes tab

The Download Deletes tab applies if the download type is Timestamp. That is, in the Table Mappings pane, the Download Type is set to Timestamp and the Download Deletes column is selected. See [“Mappings: Table Mappings” on page 209](#).

This tab allows you to view and modify the way that the deletions on the consolidated database are recorded for timestamp-based synchronization. The Download Deletes tab shows the following information for the selected table:

- ◆ **Use shadow tables to record deletions** Select this option if you want to use shadow tables to track deletes in the consolidated database.

Shadow tables are created for each synchronized table in the model. Each shadow table has two columns: one that holds the primary key for the table, and another that holds the timestamp. Shadow tables are created with the same owner as the base table.

- ◆ **Timestamp column name** Specifies the name of the Timestamp column. The default Timestamp column name is last_modified.
- ◆ **Use logical deletes** Select this option if you want to use logical deletes in the consolidated database to help with download deletes. Logical deletes use a status column to keep track of whether rows are valid. The following options specify how the status column tracks deletes:
 - ◆ **Column name** Specifies the name of the column that is used to indicate if a row has been deleted. This column is added if it is not already present. The default name is deleted.
 - ◆ **Value if row deleted** Specifies the value that is generated when a row is deleted. The default is Y.
 - ◆ **Value if row not deleted** Specifies the value that is generated when a row is not deleted. The default is N.

See:

- ◆ [“Modifying how deletes are handled” \[MobiLink - Getting Started\]](#)
- ◆ [“Handling deletes” \[MobiLink - Server Administration\]](#)
- ◆ [“Writing download_delete_cursor scripts” \[MobiLink - Server Administration\]](#)

Download Subset tab

The Download Subset tab applies if you subset data by user, remote ID, or by a custom subset. The Download Subset tab shows the following information for the selected table:

- ◆ **Use a column in each downloaded table** Select this option to use a column in each downloaded table. To use this option, you must have a table on your consolidated database that contains MobiLink user names, or tables that you can join to create MobiLink user names. You choose your MobiLink user names when you deploy, so you can choose names that match existing values on your consolidated database. (The column you use for MobiLink user names must be of a type that can hold the values you are using for the user name.)
 - ◆ **Column name** Specify a column containing the MobiLink user name or remote ID.
 - ◆ **Use a column in a joined relationship table** Select this option and identify the MobiLink user name or remote ID with a join. You can specify:
 - ◆ **Table to join** Specify a column from the consolidated table
 - ◆ **Column to match** Specify a column from the chosen table to join.
 - ◆ **Join condition** Create a join condition by choosing a column from the table chosen in the Table Mappings pane and choosing a column from the table specified in the Table to Join field above.
- See [“Remote IDs” \[MobiLink - Client Administration\]](#), and [“Introduction to MobiLink users” \[MobiLink - Client Administration\]](#).
- ◆ **Custom** If you chose to create a custom subset, the Download Subset tab allows you to specify tables and an expression. Multiple tables must be separated by commas.
 - ◆ **Tables to add to the download cursor's FROM clause** Type the table names.

- ◆ **SQL Expression to use in the download cursor's WHERE clause** Type the SQL Expression.

See “Writing download_cursor scripts” [*MobiLink - Server Administration*], and “Modifying the download subset” [*MobiLink - Getting Started*].

Conflict Resolution tab

The Conflict Resolution tab applies if you chose to resolve conflicts based on a timestamp.

- ◆ **Timestamp column** Enter the timestamp column here.

Status tab

The Status tab shows any informational, warning, or error messages for the table mapping that is selected in the Table Mappings pane.

Events tab

The Events tab allows you to view and modify the scripts that were generated by the Create Synchronization Model wizard and Model mode. It also allows you to create new scripts.

The Events tab shows all the event scripts for the synchronization model. Use the following options to navigate the events listing:

- ◆ **Group** Shows the name of the group associated with the displayed events. Choose a group from the dropdown list to scroll the editor to that group's events. The dropdown list contains one event group for all connection events, and one event group for each remote table's events.
- ◆ **Event** Shows the event name. Choose an event name from the dropdown list to scroll the editor to the specified event. Bolding indicates that the event has a script associated with it. If you select an event that is not bolded, then a new script will be added to the editor.
- ◆ **Type** Shows whether the script is generated, overridden, or user-defined.
 - ◆ **Generated scripts** Generated scripts are automatically created and maintained as a result of the selections you make in the Create Synchronization Model wizard and in Model mode.

You can edit and even delete the contents of a generated script. When you make changes to a generated script, its type changes to Overriden.
 - ◆ **Overriden scripts** Overriden scripts are scripts that have been manually changed.

When you change a generated script, the script is fully under your control; it is not changed automatically when something is changed in Model mode. For example, if you change the download_delete_cursor script for a table and then clear Download Deletes in Model mode, your customized download_delete_cursor script is not affected. However, its type will be changed to User-Defined.

You can restore an overriden script back to its generated-script state by placing the cursor anywhere within the script and choosing File ► Restore *scriptname* Script. You can restore multiple overriden scripts at once by selecting the scripts in the editor and choosing File ► Restore Selected Scripts.

- ◆ **User-defined scripts** User-defined scripts are scripts that you create for events for which there are no generated script.

User-defined scripts are not changed automatically when something is changed in Model mode. For example, if you create a `download_delete_cursor` script for a table and then select Download Deletes in Model mode, your customized `download_delete_cursor` script is not affected. However, its type changes to Overriden.

You can remove a user-defined script by placing the cursor anywhere within the script and choosing File ► Remove *scriptname* Script. You can restore multiple User-defined scripts at once by selecting the scripts in the editor and choosing File ► Restore Selected Scripts.

- ◆ **Language** Shows the language the event script is written in. Languages supported are SQL, JAVA, and .NET; all generated scripts are SQL scripts.

See also

- ◆ [“Modifying scripts in a model” \[MobiLink - Getting Started\]](#)

Authentication tab

The Authentication tab shows the following information for the synchronization model:

- ◆ **Enable custom authentication for this synchronization model** Select this option to enable synchronization authentication via an external server.
- ◆ **Type** Select the type of external server.
- ◆ **Host** Type the name of the host server.
- ◆ **Port** Type the port number.
- ◆ **URL** Type the URL for the server. This option applies only to LDAP servers.

See also

[“Authenticating to external servers in Model mode” \[MobiLink - Getting Started\]](#)

[“Authenticating to external servers” \[MobiLink - Client Administration\]](#)

Notification tab

The Notification tab shows the following information for the synchronization model:

- ◆ **Enable server-initiated synchronization** Select this option to initiate synchronization by polling the consolidated database based on the download-cursor for a table.
- ◆ **Download cursor** Select the table.
- ◆ **Polling interval** Specify how often you want to poll the server.
 - ◆ **Poll every:** Select a predefined polling interval. The default is 30 seconds.

- ◆ **Use the following polling interval** Specify the polling interval.
- ◆ **Isolation level** Select one of the following isolation levels (The default is Read Uncommitted):
 - ◆ Read uncommitted (level 0)
 - ◆ Read committed (level 1)
 - ◆ Repeatable read (level 2)
 - ◆ Serializable (level 3)

See also

- ◆ [“Setting up server-initiated synchronization in Model mode”](#) [*MobiLink - Getting Started*]

CHAPTER 6

QAnywhere Plug-in Help

Contents

QAnywhere plug-in property sheets 220
QAnywhere dialog boxes 231

QAnywhere plug-in property sheets

The QAnywhere plug-in provides a number of property sheets that let you configure object properties.

The following sections contain detailed descriptions of each property sheet in the QAnywhere plug-in. Each one becomes available in the File menu when you select an object, and is also available in a popup menu when you right-click an object.

Client property sheet: Properties tab

The Properties tab of the Client property sheet has the following components:

Property name Enter a property name and then click Apply to filter the properties shown in the list below.

Show system properties Indicates whether system properties are shown. Place a checkmark in the box to indicate that the system properties are shown. If the checkbox is cleared, then system properties do not appear.

Properties list Lists the name and value of the properties for the message store.

- ◆ **New** To add a new property, click New and enter the name and value.
- ◆ **Edit** To edit the value of an existing property, select the property from the list and then click Edit, then enter the new value.
- ◆ **Delete** To delete a property, select the property from the list, click Delete, and then confirm the deletion.

See also

- ◆ “Deploying QAnywhere applications” [*MobiLink - Server Administration*]
- ◆ “Writing QAnywhere Client Applications” [*QAnywhere*]

Client property sheet: Transmission Rules tab

Client transmission rules govern the behavior of messages going from the client to the server.

See “Client transmission rules” [*QAnywhere*].

The Transmission Rules tab of the Client property sheet has the following components:

Use the default transmission rules Shows whether the default transmission rules are used.

Customize the transmission rules Shows whether customized transmission rules are used.

Transmission rules list Lists the schedule and condition for customized transmission rules.

- ◆ **New** To add a new transmission rule, click New. The Rule Editor dialog appears. This is only available if Customize the Transmission Rules is selected.

- ◆ **Edit** To edit an existing transmission rule, select the rule from the list and then click Edit. The Rule Editor dialog appears. This is only available if Customize the Transmission Rules is selected and there is at least one transmission rule selected.
- ◆ **Delete** To delete an existing rule, select the rule from the list and then click Delete, then confirm the deletion.

See also

- ◆ [“Message transmission rules” \[QAnywhere\]](#)
- ◆ [“Rule syntax” \[QAnywhere\]](#)

Client Store property sheet: General tab

The General tab of the Client Store property sheet has the following components:

- Type** Shows the type of object.
- Product** Shows the name of the database application.
- Version** Shows the version of the database application.
- Client ID** Shows the client ID.
- Computer** Shows the name of the computer.

Client Store property sheet: Properties tab

The Properties tab of the Client Store property sheet has the following components:

- Property name** Enter a property name and then click Apply to filter the client message store properties shown in the list below. You can also type the first few characters of a property name and then click Apply to display all properties that begin with that prefix.
- Show system properties** Indicates whether system properties are shown. Place a checkmark in the box to indicate that the system properties are shown. If the checkbox is cleared, then system properties do not appear.
- Properties list** Lists the name and value of the properties for the message store.
 - ◆ **New** To add a new property, click New and enter the property name and value.
 - ◆ **Edit** To edit the value of an existing property, select the property from the list and then click Edit, then enter the new value.
 - ◆ **Delete** To delete a property, select the property from the list, click Delete, and then confirm the deletion.

Connector property sheet: General tab

The General tab of the Connector property sheet has the following components:

Name Shows the name of the connector. This is the value of the `ianywhere.connector.address` property. See [“QAnywhere message addresses” \[QAnywhere\]](#).

Type Shows the type of the connector. See:

- ◆ [“Setting up JMS connectors” \[QAnywhere\]](#)
- ◆ [“Setting up web service connectors” \[QAnywhere\]](#)

Startup type Choose a startup type from the dropdown list. The default is automatic.

Dead outgoing message address Shows the address that a message is sent to when it cannot be processed. This sets the `ianywhere.connector.outgoing.deadMessageAddress` property.

State Shows the current state, if known. Click one of the following to change the state:

- ◆ Start
- ◆ Stop
- ◆ Pause
- ◆ Resume

Logging level Move the slider from top (high) to bottom (low) to set the error logging level. This sets the `ianywhere.connector.logLevel` property.

Compression level Click Enable compression and move the slider from left (low) to right (high) to set the level of compression. This sets the `ianywhere.connector.compressionLevel` property.

See also

- ◆ [“Opening connectors” \[QAnywhere\]](#)
- ◆ [“Closing connectors” \[QAnywhere\]](#)

Connector property sheet: JMS tab

The JMS tab of the Connector property sheet has the following components:

Receiver destination Enter the queue name used by the connector to listen for messages from JMS targeted for QAnywhere clients. This sets the `xjms.receiveDestination` property.

JNDI factory Shows the factory name used to access the external JMS JNDI name service. You can edit the name in this field. This sets the `xjms.jndi.factory` property.

URL Shows the URL to access the JMS JNDI name service. You can edit the URL in this field. This sets the `xjms.jndi.url` property.

User name Shows the authentication name to connect to the external JMS JNDI name service. You can edit the user name in this field. This sets the `xjms.jndi.authName` property.

Password Shows the authentication password to connect to the external JMS JNDI name service. You can edit the password in this field. This sets the `xjms.jndi.password.e` property.

Queue factory Shows the external JMS provider queue factory name. You can edit the queue factory name in this field. This sets the `xjms.queueFactory` property.

User name Shows the user ID used to connect to the external JMS queue connection. You can edit the user name in this field. This sets the `xjms.queueConnectionAuthName` property.

Password Shows the password to connect to the external JMS queue connection. You can edit the password in this field. This sets the `xjms.queueConnectionPassword.e` property.

Topic factory Shows the external JMS provider topic factory name. You can edit the topic factory name in this field. This sets the `xjms.topicFactory` property.

User name Shows the user name used to connect to the external JMS topic connection. You can edit the user name in this field. This sets the `xjms.topicConnectionAuthName` property.

Password Shows the password to connect to the external JMS topic connection. You can edit the password in this field. This sets the `xjms.topicConnectionPassword.e` property.

Dead message destination Shows the address that a message is sent to when it cannot be processed. Enter the queue name to be used for dead messages.

See also

- ◆ [“Introduction to JMS connectors” \[QAnywhere\]](#)
- ◆ [“JMS connector properties” \[QAnywhere\]](#)
- ◆ [“Configuring multiple connectors” \[QAnywhere\]](#)

Connector property sheet: Web Service tab

The connector listens for QAnywhere messages sent to a particular address, and makes web service calls when messages arrive. Web service responses are sent back to the originating client as QAnywhere messages. All messages sent to the web services connector should be created using the proxy classes generated by the QAnywhere WSDL compiler.

The Web Service tab of the Connector property sheet has the following components:

URL Shows the URL that the web service is located at. For example, `http://localhost:8080/qanyserv/F2C`.

Socket timeout (ms) Shows the timeout in milliseconds for socket connects, reads, and writes. Specify 0 or do not specify a timeout value to wait indefinitely. This sets the `webservice.socket.timeout` property.

HTTP user name Shows the user name if the web service requires HTTP authentication. This sets the `webservice.http.authName` property.

HTTP password Shows the password if the web service requires HTTP authentication. This sets the `webservice.http.password.e` property.

Proxy host Shows the host name if the web service must be accessed through an HTTP proxy. If you specify this property, you must also specify the Proxy port property. This sets the `webservice.http.proxy.host` property.

Proxy port Shows the port to connect to on the proxy server. If you specify this property, you must specify the Proxy host property. This sets the `webservice.http.proxy.port` property.

Proxy user name Show the proxy user name to use if the proxy requires authentication. If you specify this property, you must also specify the Proxy password property. This sets the `webservice.http.proxy.authName` property.

Proxy password Shows the proxy password to use if the proxy requires authentication. If you specify this property, you must also specify the Proxy user name property.

Use FIPS Select this option to use FIPS algorithms for HTTPS connections. If you select this option, the URL should specify `https`. This option is not selected by default.

Separately licensed component required

ECC encryption and FIPS-certified encryption require a separate license. All strong encryption technologies are subject to export regulations.

See “Separately licensed components” [[SQL Anywhere 10 - Introduction](#)].

Trusted certificates If Use FIPS is selected, specify a file containing a list of root certificates used for secure synchronization. This sets the `trusted_certificates` option.

See “`trusted_certificates`” [[MobiLink - Client Administration](#)].

Certificate company Shows the certificate company. If specified, the application only accepts server certificates when the Organization field on the certificate matches this value. This sets the `certificate_company` option.

See “`certificate_company`” [[MobiLink - Client Administration](#)].

Certificate unit Shows the certificate unit. If specified, the application only accepts server certificates when the Organization Unit field on the certificate matches this value. This sets the `certificate_unit` option.

See “`certificate_unit`” [[MobiLink - Client Administration](#)].

Certificate name Shows the certificate name. If specified, the application only accepts server certificates when the Common Name field on the certificate matches this value. This sets the `certificate_name` option.

See “`certificate_name`” [[MobiLink - Client Administration](#)].

See also

- ◆ “Setting up mobile web services” [[QAnywhere](#)]
- ◆ “Compiling and running mobile web service applications” [[QAnywhere](#)]

Connector property sheet: Transmission Rules tab

The Transmission Rules tab of the Connector property sheet has the following components:

Use the default transmission rules Shows whether the default transmission rules are used.

Customize the transmission rules Shows whether customized transmission rules are used.

Transmission rules list Shows the customized transmission rules.

- ◆ **New** To add a new transmission rule, click New. The Rule Editor dialog appears. This is only available if Customize the Transmission Rules is selected.
- ◆ **Edit** To edit an existing transmission rule, select the rule from the list and then click Edit. The Rule Editor dialog appears. This is only available if Customize the Transmission Rules is selected and at least one transmission rule is selected.
- ◆ **Delete** To delete an existing rule, select the rule from the list and then click Delete, then confirm the deletion.

See also

- ◆ [“Message transmission rules” \[QAnywhere\]](#)

Connector property sheet: Properties tab

The Properties tab of the Connector property sheet has the following components:

Properties list Shows the previously-defined properties.

- ◆ **New** To add a new property, click New and enter the name and value.
- ◆ **Edit** To edit the value of an existing property, select the property from the list and then click Edit, then enter the new value.
- ◆ **Delete** To delete a property, select the property from the list, click Delete, and then confirm the deletion.

See also

- ◆ [“Addressing QAnywhere messages meant for JMS” \[QAnywhere\]](#)
- ◆ [“JMS connector properties” \[QAnywhere\]](#)

Destination Aliases property sheet: Members tab

The Members tab of the Client property sheet has the following components:

Name Shows the name of the object.

Members of Shows a list of members, including the destination client, destination queue, and delivery condition information, for the selected destination alias.

- ◆ **New** To add a new member, click New. The New Member dialog appears.
- ◆ **Edit** To edit an existing member, choose a member from the list and then click Edit. The Edit Member dialog appears.
- ◆ **Delete** To delete a member, choose a member from the list and then click Delete, then confirm the deletion.

Message property sheet: General tab

The General tab of the Message property sheet has the following components:

Originator Shows the client name of the message source.

Destination Shows the client and name of the message destination.

Creation date Shows the date the message was created.

Priority Shows the priority level assigned to the message.

Status Shows the status of the message.

Expiry date Shows the expiration date of the message, if applicable.

ID Shows the ID of the message.

Sequence # Shows the sequence number of the message.

Properties Shows a list of the properties.

Show system properties Indicates whether system properties are shown. Select this option to indicate that the system properties are shown. If the checkbox is cleared, then system properties no not appear.

See also

- ◆ [“QAnywhere Properties” \[QAnywhere\]](#)
- ◆ [“Message properties” \[QAnywhere\]](#)
- ◆ [“Managing message properties” \[QAnywhere\]](#)

Message property sheet: Content tab

The Content tab of the Message property sheet has the following components:

Content Shows the content of the selected message.

See also

- ◆ [“Message properties” \[QAnywhere\]](#)

Message property sheet: History tab

The History tab of the Message property sheet has the following components:

History Shows the history for the selected message.

See also

- ◆ [“ml_qa_status_history” \[MobiLink - Server Administration\]](#)

Server Store property sheet: General tab

The General tab of the Server Store property sheet has the following components:

Name Shows the name of the server store.

Type Shows the type of object.

Product Shows the name of the database application.

Version Shows the version of the database application.

Computer Shows the name of the computer.

See also

- ◆ [“Setting up the server message store” \[QAnywhere\]](#)
- ◆ [“Introduction to server management requests” \[QAnywhere\]](#)

Server Store property sheet: Server Properties tab

The Server Properties tab of the Server Store property sheet has the following components:

Rules evaluation period (ms) Sets the time in milliseconds between evaluations of rules, including message transmission and persistence rules. Since, typically, rules are evaluated dynamically as messages are transmitted to the server store, the rule evaluation period is only for rules that are timing-sensitive. The default value is 60000 (one minute).

This corresponds to the `ianywhere.qa.server.autoRulesEvaluationPeriod` server property.

Schedule date format Sets the date format used for server-side transmission rules. By default, the date format is `yyyy-MM-dd`.

Schedule time format Sets the time format used for server-side transmission rules. By default, the time format is `HH:mm:ss`.

This corresponds to the `ianywhere.qa.server.scheduleTimeFormat` server property.

Management request address Sets the agent portion of the address to which to send server management requests. If this property is not set, this value is `ianywhere.server`.

Server password Click to set the password for authenticating server management requests. If this property is not set, the password is `QAnywhere`.

This corresponds to the `ianywhere.qa.server.password.e` server property.

Logging level Sets the logging level of the messaging. Move the slider from top (high) to bottom (low) to set the error logging level.

- ◆ **(low)** Indicates that only message errors are logged. This corresponds to a value of 1 for the `ianywhere.qa.server.logLevel` server property.
- ◆ - Additionally causes warnings to be logged. This corresponds to a value of 2 for the `ianywhere.qa.server.logLevel` server property. This is the default.

- ◆ - Additionally causes informational messages to be logged. This corresponds to a value of 3 for the `ianywhere.qa.server.logLevel` server property.
- ◆ **(high)** Additionally causes more verbose informational messages to be logged, including details about each QAnywhere message that is transmitted by the MobiLink server. This corresponds to a value of 4 for the `ianywhere.qa.server.logLevel` server property.

Compression level Configures the amount of compression applied to each message received by a QAnywhere connector. Click Enable Compression and move the slider from left (low) to right (high) to set the level of compression. The compression is an integer between 0 and 9, with 0 being no compression and 9 being the most compression. The default is 0.

This corresponds to the `ianywhere.qa.compressionLevel` server property. See “[Server properties](#)” [[QAnywhere](#)].

Restore Defaults Click Restore Defaults to return the preferences on this tab to their default values.

See also

- ◆ “[Server properties](#)” [[QAnywhere](#)]
- ◆ “[Setting server properties with Sybase Central](#)” [[QAnywhere](#)]

Server Store property sheet: Client Properties tab

The Client Properties tab of the Server Store property sheet has the following components:

Client Choose a Client from the dropdown list and then click Apply to display only the properties for the selected client.

Property name Type the name of a specific property and then click Apply to display only the named property. You can also type the first few characters of a property name and then click Apply to display all properties that begin with that prefix.

Show system properties Indicates whether system properties are shown. Place a checkmark in the box to indicate that the system properties are shown. If the checkbox is cleared, then system properties do not appear.

- ◆ **Apply** Applies the options selected for the client, property name, and system properties and displays the applicable properties in the Properties list.
- ◆ **Reset** Resets the filtering criteria.

Properties list Lists the client, name, and value for the server store properties.

- ◆ **New** To add a new property, click New and enter the name and value.
- ◆ **Edit** To edit the value of an existing property, select the property from the list and click Edit, then enter the new value.
- ◆ **Delete** To delete a property, select the property from the list, click Delete, and then confirm the deletion.

Server Store property sheet: Transmission Rules tab

Server transmission rules govern the behavior of messages going from the server to the client. Server transmission rules are handled by the MobiLink server. They apply both when you are using push notifications and when you are not using notifications.

The Transmission Rules tab of the Server Store property sheet has the following components:

Customize the default transmission rules Shows whether customized transmission rules are used.

Transmission rules list Lists customized transmission rules for the server store. You can add new rules, and edit and delete existing rules.

- ◆ **New** To add a new transmission rule, click New. The Rule Editor dialog appears. This is only available if Customize the Default Transmission Rules is selected.
- ◆ **Edit** To edit an existing transmission rule, select the rule from the list and then click Edit. The Rule Editor dialog appears. This is only available if Customize the Default Transmission Rules is selected and there is at least one transmission rule selected.
- ◆ **Delete** To delete an existing rule, select the rule from the list, click Delete, and then confirm the deletion.

See also

- ◆ [“Server transmission rules” \[QAnywhere\]](#)

Server Store property sheet: Deletion Rules tab

By default, messages are deleted from the client message store when the status of the message is determined to be received, expired, cancelled, or undeliverable, and the final state has been transmitted back to the message originator. You may want to keep messages longer for purposes such as auditing. Server-side delete rules apply to all messages in the server message store.

The Deletion Rules tab of the Server Store property sheet has the following components:

Customize the default deletion rules Shows whether custom deletion rules are enabled. Select this option to enable custom deletion rules. If the checkbox is cleared, then custom deletion rules cannot be used.

Deletion rules list Lists customized deletion rules for the server store. You can add new rules, and edit and delete existing rules.

- ◆ **New** To add a new deletion rule, click New. The Rule Editor dialog appears. This is only available if Customize the Default Deletion Rules is selected.
- ◆ **Edit** To edit an eliciting deletion rule, choose a rule from the list and then click Edit. The Rule Editor dialog appears. This is only available if Customize the Default Deletion Rules is selected and there is at least one deletion rule selected.
- ◆ **Delete** To delete a deletion rule, choose a rule from the list, click Delete, and then confirm the deletion.

See also

- ◆ [“Server delete rules” \[QAnywhere\]](#)

QAnywhere dialog boxes

Most of the configurable settings in the QAnywhere plug-in are in dialog boxes, which can be accessed either from the File menu or the Tools menu. If you have different plug-ins installed in Sybase Central, each plug-in may provide different menu items.

The File menu contains commands related to the objects that appear in the main Sybase Central window. These menu items change depending on which object you select. For example, if you select Agent Files, the File menu shows commands and options related to agent files. You can also access all these menu items in popup menus when you right-click an object.

You can configure an object's settings in QAnywhere using property sheets. These property sheets appear in the File menu (or the popup menu) when you select an object that has configurable properties.

The Tools menu contains commands related to connecting, disconnecting, plug-in management, and Sybase Central options. These menu items always remain visible, regardless of the objects you select in the main window.

See [“QAnywhere plug-in property sheets”](#) on page 220.

Agent Configuration dialog: General tab

The General tab of the Agent Configuration dialog has the following components:

Client message store ID Enter the unique ID that identifies the client message store. The client message store ID is a MobiLink remote ID.

See [“-id option”](#) [*QAnywhere*].

Agent window should be Choose whether the Agent window should be visible, hidden, or minimized. The default is Visible.

Incremental upload size Type a value, in kilobytes, that determines the size of each upload part. When this option is specified, uploads are sent to MobiLink in one or more parts. When the option is not set, uploads are sent as a single unit. The value of this option specifies, very approximately, the size of each upload part. You cannot use the Increment extended option with scripted upload or transactional upload.

See [“Increment \(inc\) extended option”](#) [*MobiLink - Client Administration*].

Limit incremental downloads to the following size: Select and type a value, in kilobytes, that determines the size of each download part. When this option is specified, downloads are sent to the server in one or more parts. When the option is not set, downloads are sent as a single unit. The value of this option specifies, very approximately, the size of each download part.

See [“-idl option”](#) [*QAnywhere*].

Policy Select the policy type used to determine when to send and receive messages. This corresponds to the qaagent -policy option.

See [“-policy option”](#) [*QAnywhere*].

The policy can be one of the following values:

- ◆ **Automatic** Select this option to receive messages when a push notification is received.
- ◆ **Scheduled** Select this option to send and receive messages at a specified interval. The default is 10 seconds.
- ◆ **On demand** Select this option to send messages only when the QAnywhere client application makes the appropriate method call.
- ◆ **Custom** Select this option and specify a file name and location to use a client transmission rules file to determine when messages are sent and received.
 - ◆ **Rules file** Specify the name of the rules file you want to use, or click Browse to locate the file.
 - ◆ **Edit Rules** The Rules dialog appears where you can edit the selected rules file. This button is only available if a rules file is specified.
 - ◆ **New Rules** The Rules dialog appears where you can create a new rules file.

See also

- ◆ [“QAnywhere Agent” \[QAnywhere\]](#)

Agent Configuration dialog: Message Store tab

The Message Store tab of the Agent Configuration dialog has the following components:

User ID Type a database user ID to connect to the client message store. The default is ml_qa_user.

Password Type the password for the database user ID. The default is qanywhere.

ODBC data source Type the name of the ODBC data source, or click Browse to locate it.

Database file Type the name of the database file to connect to, or click Browse to locate the database file.

Encryption key If the client message store is encrypted using strong encryption, specify the encryption key required to access the database.

Database name You can connect to the client message store by specifying a database name rather than a database file, if the client message store is already running.

Server name Type the name of the server, if you want to use a database server that is already running.

Other Type any additional connection information.

Test connection Click Test Connection to test the connection information you entered. The Test Connection dialog appears.

See also

- ◆ [“-c option” \[QAnywhere\]](#)
- ◆ [“Running the QAnywhere Agent” \[QAnywhere\]](#)
- ◆ [“QAnywhere Agent” \[QAnywhere\]](#)

Agent Configuration dialog: Server tab

The Server tab of the Agent Configuration dialog has the following components:

Servers

Servers list Lists the MobiLink servers the Agent will exchange messages with.

- ◆ **Use the following servers** See “-x option” [*QAnywhere*].
- ◆ **New** To add another server, click New. The MobiLink Server Properties dialog appears.
- ◆ **Edit** To edit the properties for an existing server, select the server from the list and then click Edit. The MobiLink Server Properties dialog appears.
- ◆ **Delete** To delete a server, select it from the list, and then click Delete.
- ◆ **Up arrow** Click the Up Arrow to move the selected server up in the list. The Agent tries to use the first server in the list. If it is unavailable, it tries the second server in the list, and so on, until it is successful.
- ◆ **Down arrow** Click the Down Arrow to move the selected server down in the list. The Agent tries to use the first server in the list. If it is unavailable, it tries the second server in the list, and so on, until it is successful.
- ◆ **Failover retry count** Type the number of times that the QAnywhere Agent should retry the connection to the primary MobiLink server before trying an alternate server.
- ◆ **Failover delay** Type the delay, in seconds, between attempts to retry the primary server before attempting to use an alternate server.
- ◆ **Servers are listed in the message store** Select to specify the network protocol and the protocol options for communication with the MobiLink server. See “-xd option” [*QAnywhere*].

Identification

User name Type the user name used to access the server.

Password Type the server password.

Options

Use persistent connection for transferring messages Show whether a persistent connection is used for transferring messages. select this option to enable a persistent connection. If the checkbox is cleared, then a persistent connection is not used.

See “-pc option” [*QAnywhere*].

Listen for push notification from servers Select this option to receive push notifications. If this option is selected, the following additional options are available:

- ◆ **Listen on port** Type the port on which the Listener listens for push notifications. The default is 5001.
See “-lp option” [*QAnywhere*].
- ◆ **Use a persistent connection for push notifications** Select this option if your MobiLink server is behind a firewall that blocks outgoing UDP packets. This is only available if Listen on Port is selected.

See “-push option” [[QAnywhere](#)].

See also

- ◆ “Running the QAnywhere Agent” [[QAnywhere](#)]
- ◆ “qaagent syntax” [[QAnywhere](#)]

Agent Configuration dialog: Logging tab

The Logging tab of the Agent Configuration dialog has the following components:

Enable Agent logging Select this option to enable Agent logging. If the checkbox is cleared, Agent logging is not enabled. All additional options on the Logging tab are only available if Enable Agent Logging is selected.

◆ **Log these events** Select one or more of the following events to log. If a checkbox is cleared, that event is not logged. A high level of verbosity may affect performance and should normally be used in the development phase only.

- ◆ Message transfers
- ◆ Push notifications
- ◆ Rule executions
- ◆ Synchronization client
- ◆ Network status changes
- ◆ Listener events

See “-v option” [[QAnywhere](#)].

Log to Type the path and name of the file used to store the logged information, or click Browse to navigate to the file and then click Open. If the file already exists, new log information is appended to the end of the file.

See “-o option” [[QAnywhere](#)].

Erase contents of file on startup Select this option if you want the contents of the log file to be erased on startup. If the checkbox is cleared, the contents of the file are not erased on startup.

See “-ot option” [[QAnywhere](#)].

Grow log file indefinitely Select this option if you do not want to limit the size of the log file.

Limit size of log file Select this option to limit the size of the log file to a predefined size.

◆ **Start a new log file when size reaches** Type the size the log file can reach, in kilobytes, before a new log file is started. The default is 64 KB. This option is only available if you selected Limit Size of Log File.

◆ **Keep one old log file** Select this option to keep only one old log file. The most recent log file is kept.

See “-on option” [[QAnywhere](#)].

- ◆ **Keep all old log files** Select this option to keep all old log files.

See “-os option” [*QAnywhere*].

See also

- ◆ “-o option” [*QAnywhere*]
- ◆ “-ot option” [*QAnywhere*]
- ◆ “-v option” [*QAnywhere*]

Member dialog

The Member dialog has the following components:

Address The components in the Address pane allow you to specify the necessary address information for the new member.

- ◆ **Client name** Type the name of the client.
- ◆ **To which queue should this message be sent?** Select one of the following options to determine which queue the message is sent to:
 - ◆ **The one specified in the original message** Select this option to use the queue that was specified in the original message.
 - ◆ **This queue** Select this option and type the name of the queue to be used.

Condition Shows any conditions defined for the member.

- ◆ **Message variables** Choose a message variable from the list to add it to the Condition pane.
- ◆ **Status constants** Choose a status constant from the list to add it to the Condition pane.

See also

- ◆ “QAMessage members” [*QAnywhere*]

MobiLink dialog

The MobiLink dialog has the following components:

Network The following network options are available:

- ◆ **Host** Type the name of the host where the MobiLink server is running.
- ◆ **Port** Type the port number of the host where the MobiLink server is running.

Protocol parameters The following protocol parameters are available:

- ◆ **Protocol** Choose a network protocol from the dropdown list. You can choose one of:

- ◆ TCP/IP
- ◆ HTTP
- ◆ HTTPS
- ◆ TLS

If you choose HTTPS or TLS for the protocol, the following additional options are available:

- ◆ **Cipher** Select either RSA or ECC.
 - ◆ **Use FIPS-compliant algorithms** If you select RSA, the Use FIPS-compliant Algorithms option is available. Select this option to enable FIPS-compliant algorithms. If the checkbox is cleared, then FIPS-compliant algorithms are not used.
- ◆ **Certificate file** Type the name and location of the certificate file to be used, or click Browse, select the certificate file, and then click Open.
- ◆ **Additional security parameters** Type one or more additional security parameters. For multiple parameters, use semicolons as separators.

Rule dialog: Deletion Rules tab

The Deletion Rules tab of the Rule dialog has the following components:

Rules Shows the schedule type and condition of existing deletion rules.

- ◆ **New** To add a new deletion rule, click New. The Rule Editor dialog appears.
- ◆ **Edit** To edit an existing deletion rule, choose a rule from the list and then click Edit. The Rule Editor dialog appears.
- ◆ **Delete** To delete a deletion rule, choose a rule from the list, click Delete, and then confirm the deletion.

See also

- ◆ [“Message delete rules” \[QAnywhere\]](#)

Rule dialog: Transmission Rules tab

The Transmission Rules tab of the Rule dialog has the following components:

Rules Shows the schedule type and condition of existing transmission rules.

- ◆ **New** To add a new transmission rule, click New. The Rule Editor dialog appears.
- ◆ **Edit** To edit an existing transmission rule, choose a rule from the list and then click Edit. The Rule Editor dialog appears.
- ◆ **Delete** To delete a transmission rule, choose a rule from the list, click Delete, and then confirm the deletion.

See also

- ◆ “Message transmission rules” [[QAnywhere](#)]

Rule Editor dialog

The Rule Editor dialog has the following components:

Condition Either edit a condition from the list or use the buttons below the condition list to add new conditions. When the scheduled time occurs, the condition is applied to each message. If the message satisfies the condition, then the message is transmitted.

- ◆ **Message Variables** Choose one of the predefined message variables from the list. The message variable is inserted in the conditions list. See “[Variables defined by the rule engine](#)” [[QAnywhere](#)].
- ◆ **Constants** Choose one of the predefined constants from the list. The constant is inserted in the conditions list.

Schedule type Choose one of the following options to specify the schedule policy used to determine when message transmission should occur. By default, Automatic is selected.

- ◆ **Automatic** The automatic policy attempts to keep the client and server message stores as up-to-date as possible. See “[Automatic policy](#)” [[QAnywhere](#)].
- ◆ **Custom** A custom policy allows you to define when message transmission occurs and which messages to send in the message transmission. The custom policy is defined by a set of rules stored in a file. Click Edit and then specify when message transmission is to occur, then click OK. See “[Custom policy](#)” [[QAnywhere](#)].

See also

- ◆ “[QAnywhere Transmission and Delete Rules](#)” [[QAnywhere](#)]
- ◆ “[-policy option](#)” [[QAnywhere](#)]
- ◆ “[Determining when message transmission should occur on the client](#)” [[QAnywhere](#)]

CHAPTER 7

UltraLite Plug-in Help

Contents

Introduction to UltraLite Plug-in property sheets 240
Introduction to dialog boxes 249

Introduction to UltraLite Plug-in property sheets

The UltraLite plug-in provides a number of property sheets that let you configure object properties.

The following sections contain detailed descriptions of each property sheet in the UltraLite plug-in. Each one becomes available on the File menu when you select an object, and is also available in a popup menu when you right-click an object.

Article property sheet: General tab

The General tab of the Article property sheet has the following components:

Name Shows the name of the table included in the article.

Type Shows the type of the object.

Publication Shows the publication the article belongs to.

See also

- ◆ [“Working with UltraLite publications” \[UltraLite - Database Management and Reference\]](#)

Article property sheet: Where Clause tab

UltraLite applications can use row subsets by supplying a WHERE clause, with one exception: articles in UltraLite publications governing HotSync synchronization cannot use a WHERE clause.

The WHERE Clause tab of the Article property sheet has the following components:

This article has the following WHERE clause You can edit the WHERE clause in the text box to restrict the table rows that are included in the article. You do not need to include the keyword WHERE.

For example, to include only the rows that contain a salary of more than \$50000, type:

```
Salary > 50000
```

See also

- ◆ [“Working with UltraLite publications” \[UltraLite - Database Management and Reference\]](#)

Column property sheet: General tab

This Column property sheet displays information about columns that belong to a table.

The General tab of the Column property sheet has the following components:

Name Shows the name of the column. You can change the column name in the text box.

Type Shows the type of object.

Table Shows the name of the table the column belongs to.

See also

- ◆ [“Working with UltraLite tables and columns”](#) [*UltraLite - Database Management and Reference*]
- ◆ [“Adding a column to an UltraLite table”](#) [*UltraLite - Database Management and Reference*]

Column property sheet: Data Type tab

The Data Type tab of the Column property sheet has the following components:

Built-in type This option, which is always selected, enables you to choose a predefined data type for the column from the dropdown list. Integers, character strings, and dates are examples of predefined data types. For some of these types, you can specify size and/or scale.

Note that in UltraLite, the built-in type VARCHAR is the equivalent of both CHAR and VARCHAR in SQL Anywhere.

- ◆ **Size** Specifies the length of string columns, or the total number of digits to the left and right of the decimal point in the result of any decimal arithmetic for numeric columns. For numeric columns, the size is also called the precision value.

For more information about the precision value, see [“UltraLite precision property”](#) [*UltraLite - Database Management and Reference*].

- ◆ **Scale** Specifies the minimum number of digits after the decimal point when an arithmetic result is truncated to the maximum precision value.

See [“Data types in UltraLite”](#) [*UltraLite - Database Management and Reference*].

See also

- ◆ [“Working with UltraLite tables and columns”](#) [*UltraLite - Database Management and Reference*]
- ◆ [“Adding a column to an UltraLite table”](#) [*UltraLite - Database Management and Reference*]

Column property sheet: Value tab

The Value tab of the Column property sheet has the following components:

No default value Select this option if the column does not require a default value.

Default value Select this option if the column does require a default value. Choosing the Default value option enables the User-defined and System-defined options.

- ◆ **User-defined** Type a custom value (string, number, or other expression) for the default value.
 - ◆ **Literal string** Specify whether or not the default value for the column should be treated as a literal string. This option is selected by default for character columns and domains with a character base type. When you select this option, the default text does not need to be enclosed in single quotes, and you do not need to escape embedded single quotes or backslashes in the string.

When you clear this option, the automatic quoting and escaping behavior is turned off and the specified default value text is passed as is UltraLite.

- ◆ **System-defined** Lets you select a pre-defined value (for example, autoincrement) for the default value. You must select a value from the dropdown list. If you have based the column on a domain, you can retain the domain's default value (if any) or override it for the column.
- ◆ **Partition size** When you select global autoincrement for the system-defined value, you can also supply a partition size.

Global autoincrement assigns each new row a value of one greater than the previous highest value in the column. The partition size restricts the maximum value that global autoincrement can use. You can enter any positive integer for the partition size. Generally, you should select a value so that the supply of numbers is rarely, if ever, exhausted.

See:

- ◆ [“Using GLOBAL AUTOINCREMENT in UltraLite” \[MobiLink - Client Administration\]](#)
- ◆ [“UltraLite CREATE TABLE statement” \[UltraLite - Database Management and Reference\]](#)

See also

- ◆ [“Working with UltraLite tables and columns” \[UltraLite - Database Management and Reference\]](#)
- ◆ [“Adding a column to an UltraLite table” \[UltraLite - Database Management and Reference\]](#)

Database property sheet: General tab

The General tab of the Database property sheet has the following components:

Database properties listed on this tab cannot be changed without recreating the database.

For information about rebuilding a database, see [“Creating UltraLite databases” \[UltraLite - Database Management and Reference\]](#).

Name Shows the name of the database.

Type Shows the type of object.

Database file Shows the root database file for the database.

Page size Shows the page size of the database in bytes.

User Shows the user ID of the user connected to the database.

Connection name Shows the connection name for the user connected to this database.

Encryption type Shows whether or not the database is encrypted, and the type of encryption: Simple, AES, AES FIPS. If encryption is not enabled in the database, None appears.

Case sensitive Shows whether or not the database is case sensitive. This property applies to the data in the database, but not to table names, column names, and other identifiers. Passwords are always case sensitive.

Collation Shows the type of collation used for the database.

Character set Shows the character set used for the database.

See also

- ◆ “Creating UltraLite databases” [[UltraLite - Database Management and Reference](#)]
- ◆ “UltraLite Database Settings Reference” [[UltraLite - Database Management and Reference](#)]

Database property sheet: Extended Information tab

The Extended Information tab of the Database property sheet has the following components:

Database properties list Lists the name and value of the properties for the database. Click Refresh to update the values. You can also press F5 to refresh the values.

- ◆ **Refresh** Click Refresh to update the values in the Database Properties list.

Description Describes the selected property.

See also

- ◆ “Creating UltraLite databases” [[UltraLite - Database Management and Reference](#)]
- ◆ “UltraLite Database Settings Reference” [[UltraLite - Database Management and Reference](#)]

Foreign Key property sheet: General tab

The General tab of the Foreign Key property sheet has the following components:

Name Shows the name of the foreign key. You can edit the name of the foreign key in this field.

Type Shows the type of object.

Foreign table Shows the name of the table to which the foreign key applies.

Primary constraint Shows the name of the primary key or unique constraint that the foreign key references.

Primary constraint type Show the type of constraint the foreign key references. This can only be a primary key or a unique constraint.

Primary table Shows the table containing the primary key or unique constraint in this foreign key relationship.

Allows null Determines whether the foreign key columns allow NULL values. To use this option, the foreign key columns must all have Allow Nulls set to Yes.

Check on commit Forces the database to wait for a COMMIT before checking the integrity of the foreign key, overriding the setting of the wait_for_commit database option.

Maximum hash size Shows an integer value for the maximum hash size in the range [0,32]. The default maximum hash size is the value of the database property maximum hash size when the database was created, which has a default of 4.

See “UltraLite max_hash_size property” [*UltraLite - Database Management and Reference*].

See also

- ◆ “Working with UltraLite indexes” [*UltraLite - Database Management and Reference*]
- ◆ “sysindex system table” [*UltraLite - Database Management and Reference*]
- ◆ “sysixcol system table” [*UltraLite - Database Management and Reference*]
- ◆ “Working with UltraLite tables and columns” [*UltraLite - Database Management and Reference*]

Foreign Key property sheet: Columns tab

The Columns tab of the Foreign Key property sheet has the following components:

Columns list Shows the column in the foreign and primary tables.

- ◆ **Details** Displays the Column Details dialog, which shows a summary of the properties of the selected column.

See also

- ◆ “Working with UltraLite indexes” [*UltraLite - Database Management and Reference*]
- ◆ “Working with UltraLite tables and columns” [*UltraLite - Database Management and Reference*]

Index property sheet: General tab

The General tab of the Index property sheet has the following components:

Name Shows the name of the index. You can edit the name of the index in this field.

Type Shows the type of object. The object type can be foreign key index, primary key index, unique constraint index, or index.

Unique Shows whether values in the index must be unique. The unique value is set when you create a new index.

Table Shows the name and owner of the table with which the index is associated. This is only displayed if the index is on a table.

Maximum hash size Shows an integer value for the maximum hash size in the range [0,32]. The default maximum hash size is the value of the database property maximum hash size when the database was created, which has a default of 4.

See also

- ◆ “Working with UltraLite indexes” [*UltraLite - Database Management and Reference*]
- ◆ “Adding UltraLite indexes” [*UltraLite - Database Management and Reference*]

Index property sheet: Columns tab

The Columns tab of the Index property sheet has the following components:

Columns list Shows all the columns in the index, as well as their data type, sequence and order (either ascending or descending). You set the order when you create a new index.

The columns are sorted by their sequence, which is a unique number starting at 0. The order of the numbers determines the relative position of the columns in the index.

- ◆ **Details** Displays the Column Details dialog, which shows a summary of the properties of the selected column.

See also

- ◆ [“Working with UltraLite indexes” \[UltraLite - Database Management and Reference\]](#)

Primary Key or Unique Constraint property sheet: General tab

The General tab of the Primary Key or Unique Constraint property sheet has the following components:

Name Shows the name of the primary key or unique constraint. You can edit the name of the unique constraint (but not the primary key) in this field.

Type Shows the type of object.

Table Shows the name of the table to which the primary key or unique constraint applies.

Maximum hash size Shows an integer value for the maximum hash size in the range [0,32]. The default maximum hash size is the value of the database property maximum hash size when the database was created, which has a default of 4.

See also

- ◆ [“UltraLite CREATE TABLE statement” \[UltraLite - Database Management and Reference\]](#)
- ◆ [“Working with UltraLite indexes” \[UltraLite - Database Management and Reference\]](#)

Primary Key or Unique Constraint property sheet: Columns tab

The Columns tab of the Primary Key or Unique Constraint property sheet has the following components:

Columns list Shows all the columns in the primary key or unique constraint, as well as their data type, sequence and order (either ascending or descending). You set the order when you create a new index.

The columns are sorted by their sequence, which is a unique number starting at 0. The order of the numbers determines the relative position of the columns in the index.

- ◆ **Details** Displays the Column Details dialog, which shows a summary of the properties of the selected column.

See also

- ◆ [“UltraLite CREATE TABLE statement” \[UltraLite - Database Management and Reference\]](#)
- ◆ [“Working with UltraLite indexes” \[UltraLite - Database Management and Reference\]](#)

Publication property sheet: General tab

The General tab of the Publication property has the following components:

Name Shows the name of the publication. You can change the publication's name in the text box.

Type Shows the type of object.

See also

- ◆ [“Working with UltraLite publications” \[UltraLite - Database Management and Reference\]](#)
- ◆ [“UltraLite CREATE PUBLICATION statement” \[UltraLite - Database Management and Reference\]](#)
- ◆ [“UltraLite ALTER PUBLICATION statement” \[UltraLite - Database Management and Reference\]](#)
- ◆ [“UltraLite DROP PUBLICATION statement” \[UltraLite - Database Management and Reference\]](#)

Publication property sheet: Articles tab

The Articles tab of the Publication property sheet has the following components:

- ◆ **Tables tab** The Tables tab lets you select tables to synchronize.
- ◆ **WHERE Clauses tab** The WHERE Clauses tab lets you type a WHERE clause to restrict the rows included in the selected table.

UltraLite applications can use row subsets by supplying a WHERE clause, with one exception: articles in UltraLite publications governing HotSync synchronization cannot use a WHERE clause.

Each tab is described in detail below.

Tables tab

The Tables tab lets you select tables and add them to the list of articles that are included in the client database.

Available tables list Lists all the user tables in the database you are currently connected to.

Selected tables list Lists all the tables that are included in the publication synchronization.

- ◆ **Add** Adds the selected table in the Available Tables list to the Selected Tables list so the table is included in the publication.
- ◆ **Remove** Removes the selected table from the Selected Tables list so the table is not included in the publication.

WHERE Clauses tab

UltraLite applications can use row subsets by supplying a WHERE clause, with one exception: articles in UltraLite publications governing HotSync synchronization cannot use a WHERE clause.

The WHERE Clauses tab lets you supply a WHERE clause to restrict the rows that are included in the client database.

Articles list Select a table from the list of tables included in the publication.

The selected article has the following WHERE clause In the text box, type the WHERE clause for the table to restrict the rows that are included in the article.

See [“Publishing only some rows using a WHERE clause” \[SQL Remote\]](#).

See also

- ◆ [“Working with UltraLite publications” \[UltraLite - Database Management and Reference\]](#)
- ◆ [“UltraLite CREATE PUBLICATION statement” \[UltraLite - Database Management and Reference\]](#)
- ◆ [“UltraLite ALTER PUBLICATION statement” \[UltraLite - Database Management and Reference\]](#)
- ◆ [“UltraLite DROP PUBLICATION statement” \[UltraLite - Database Management and Reference\]](#)

Table property sheet: General tab

The General tab of the Table property sheet has the following components:

Name Shows the name of the table. You can change the table's name in the text box.

Type Shows the type of object.

Synchronization type The following options are available:

- ◆ **Normal** Select this option to use normal synchronization. Only changed rows are synchronized.
- ◆ **Always** Select this option if you want synchronization to run continuously. All rows are synchronized. Tables marked as Always have the **allsync** suffix added to their names. See [“Using allsync and nosync suffixes” \[UltraLite - Database Management and Reference\]](#).
- ◆ **Never** Select this option if you do not want synchronization to run at all. Tables marked as Never have the **nosync** suffix added to their names. See [“Using allsync and nosync suffixes” \[UltraLite - Database Management and Reference\]](#).

Primary Key The Primary Key pane has the following components:

- ◆ **Name** Shows the name of the primary key for the selected table.
- ◆ **Set Primary Key Now** Opens the Primary Key wizard where you can specify or change the primary key for the selected table.
- ◆ **Columns** Shows the primary key columns for the table.

See also

- ◆ [“Working with UltraLite tables and columns” \[UltraLite - Database Management and Reference\]](#)
- ◆ [“Creating UltraLite tables” \[UltraLite - Database Management and Reference\]](#)

Table property sheet: Columns tab

The Columns tab of the Table property sheet has the following components:

Columns list Lists all the columns of the table, as well as their type.

Details Displays the Column Details dialog, which shows a summary of the properties for the column.

See also

- ◆ [“Working with UltraLite tables and columns” \[UltraLite - Database Management and Reference\]](#)

User property sheet: General tab

The General tab of the User property sheet has the following components:

Name Shows the name of the user.

Type Shows the type of object.

Password Type the password for the user. Passwords are case sensitive.

Confirm password Confirm the password that you typed in the Password text box by entering it again. The contents of the two fields must match exactly. Passwords are case sensitive.

See also

- ◆ [“Working with UltraLite users” \[UltraLite - Database Management and Reference\]](#)
- ◆ [“Adding a new UltraLite user” \[UltraLite - Database Management and Reference\]](#)
- ◆ [“Deleting an existing UltraLite user” \[UltraLite - Database Management and Reference\]](#)

Introduction to dialog boxes

You can find most of the configurable settings in the UltraLite plug-in in dialog boxes, which can be accessed either through the File menu or the Tools menu. Note that the different Sybase Central plug-ins may provide different menu items.

The File menu contains commands related to the objects that appear in the main Sybase Central window. These menu items change depending on which object you select. For example, if you select a table, the File menu shows commands and options related to tables. Likewise, if you select a column, the File menu changes to show column options. You can also access all these menu items in popup menus when you right-click an object.

The Tools menu contains commands related to connecting, disconnecting, plug-ins, and Sybase Central options. These menu items always remain visible, regardless of the objects you select in the main window.

You can also configure settings in UltraLite using property sheets. These property sheets appear in the File menu (or the popup menu) when you select an object that has configurable properties.

For descriptions of these property sheets, see [“Introduction to UltraLite Plug-in property sheets”](#) on page 240.

Database Options dialog

The Database Options dialog has the following components:

Database Displays the name of the selected database.

Options list Shows the option settings and default values for the database. Once you select an option, you can use the buttons at the side of the dialog.

- ◆ **Set Now** To change an option setting for the database, select an option from the Options list, type the desired setting in the Value field, then click Set Now.
- ◆ **Reset Now** To reset any value you have changed, select an option from the Options list and click Reset Now. The value is reset to its default value.

Value Select an option in the Options list and type the desired setting in the Value field.

See also

- ◆ [“Working with UltraLite Databases”](#) [*UltraLite - Database Management and Reference*]
- ◆ [“UltraLite Database Settings Reference”](#) [*UltraLite - Database Management and Reference*]
- ◆ [“UltraLite UID connection parameter”](#) [*UltraLite - Database Management and Reference*]
- ◆ [“UltraLite PWD connection parameter”](#) [*UltraLite - Database Management and Reference*]

Plug-in Preferences dialog: General tab

The General tab of the Plug-in Preferences dialog has the following components:

Settings The preferences on the General tab govern how UltraLite responds when you perform specific tasks in Sybase Central. Choose one or more of the following settings:

- ◆ **Confirm deletions when editing table data** Select this preference if you want UltraLite to prompt you before table data is deleted on the Data tab in Sybase Central.
- ◆ **Confirm updates when editing table data** Select this preference if you want UltraLite to prompt you before table data is updated on the Data tab in Sybase Central.
- ◆ **Confirm implicit updates when editing table data** Select this preference if you want UltraLite to prompt you before implicit updates are made in Sybase Central. Implicit updates are made when you are editing a row on the Data tab and then click anywhere else in Sybase Central outside the row you are currently editing.
- ◆ **Confirm cancellations when editing table data** Select this preference if you want Sybase Central to prompt you when you cancel changes to table data on the Data tab in Sybase Central.

Restore Defaults Click Restore Defaults to return the preferences on this tab to their default values (selected or cleared). By default, all the preferences on this tab are selected.

Plug-in Preferences dialog: Utilities tab

The Utilities tab of the Plug-in Preferences dialog has the following components:

Settings The preferences on the Utilities tab govern whether wizard introduction pages appear and whether wizard message windows close when the wizard is finished. Choose one or more of the following settings:

- ◆ **Show Create Database wizard introduction page** Select this preference if you want the Create Database wizard introduction page to appear when you open the wizard.
- ◆ **Show Erase Database wizard introduction page** Select this preference if you want the Erase Database wizard introduction page to appear when you open the wizard.
- ◆ **Show Extract Database wizard introduction page** Select this preference if you want the Extract Database wizard introduction page to appear when you open the wizard.
- ◆ **Show Load Database wizard introduction page** Select this preference if you want the Load Database wizard introduction page to appear when you open the wizard.
- ◆ **Show Migrate C++ API wizard introduction page** Select this preference if you want the Migrate C++ API wizard introduction page to appear when you open the wizard.
- ◆ **Show Synchronize Database wizard introduction page** Select this preference if you want the Synchronize Database wizard introduction page to appear when you open the wizard.
- ◆ **Show Unload Database wizard introduction page** Select this preference if you want the Unload Database wizard introduction page to appear when you open the wizard.
- ◆ **Show Upgrade Database wizard introduction page** Select this preference if you want the Upgrade Database wizard introduction page to appear when you open the wizard.

- ◆ **Close wizard messages window when completed** Select this preference if you want the wizard messages window to close after it is finished. By default, this preference is not selected.

Restore Defaults Click Restore Defaults to return the preferences on this tab to their default values (selected or cleared). By default, all preferences on this tab except Close Wizard Messages Window When Completed are selected.

Plug-in Preferences dialog: Table Data tab

The Table Data tab of the Plug-in Preferences dialog has the following components:

Which font do you want to use to show table data? Select one of the following options to specify the font that is used for table data on the Data tab when viewing table data in Sybase Central:

- ◆ **System** Select this option to use the computer's normal text font. This is the default setting.
- ◆ **Editor** Select this option to use the same font as the Code Editor.

For more information about the Code Editor, see [“Format tab” on page 265](#).

- ◆ **Custom** Select this option to specify the font, font style, and point size you want to use. Click Browse to select the desired settings in the Font dialog.

CHAPTER 8

Interactive SQL Help

Contents

Introduction to Interactive SQL 254
Introduction to Interactive SQL dialogs 256

Introduction to Interactive SQL

The following table provides a guide to where you can look for information about how to run and use Interactive SQL.

If you want to know...	Then see...
How to start Interactive SQL	“Starting Interactive SQL” [<i>SQL Anywhere Server - Database Administration</i>]
How to connect to a database	“Tutorial: Using the Sample Database” [<i>SQL Anywhere Server - Database Administration</i>]
How to use the Interactive SQL toolbar	“Interactive SQL main window description” [<i>SQL Anywhere Server - Database Administration</i>]
How to open a new Interactive SQL window	“Opening multiple windows” [<i>SQL Anywhere Server - Database Administration</i>]
Where to find information about keyboard shortcuts	“Interactive SQL keyboard shortcuts” [<i>SQL Anywhere Server - Database Administration</i>]
How to display data	“Executing SQL statements from Interactive SQL” [<i>SQL Anywhere Server - Database Administration</i>]
How to execute SQL commands in Interactive SQL	“Executing SQL statements from Interactive SQL” [<i>SQL Anywhere Server - Database Administration</i>]
Where to find more detailed information on selecting data	“Queries: Selecting Data from a Table” [<i>SQL Anywhere Server - SQL Usage</i>]
Where to find information about using the Query Editor to build SELECT statements	“Introduction to the Query Editor” on page 298
Where to find more information on loading and unloading data	“Transferring data into and out of databases” [<i>SQL Anywhere Server - SQL Usage</i>]
How to set Interactive SQL options	“Options dialog: General tab” on page 259
How to automate common tasks	“Using SQL command files” [<i>SQL Anywhere Server - SQL Usage</i>]
How to use JDBC escape syntax	“Using JDBC escape syntax” [<i>SQL Anywhere Server - Programming</i>]
How to print from Interactive SQL	“Printing SQL statements” [<i>SQL Anywhere Server - Database Administration</i>]
How to print the graphical plan from Interactive SQL	“Graphical plans” [<i>SQL Anywhere Server - SQL Usage</i>]

If you want to know...	Then see...
How to analyze queries using the Index Consultant	“Using the Index Consultant” [<i>SQL Anywhere Server - SQL Usage</i>]
What the syntax is for SQL data types, language elements, functions, and statements	“SQL syntax help” on page 324

Introduction to Interactive SQL dialogs

You can access all the dialogs in Interactive SQL through the Tools and Data menus. With these dialogs, you can configure Interactive SQL settings, search for table and procedure names to insert into your queries, edit your queries, and export a results set.

The Tools menu contains the following dialogs:

Lookup Table Name The Lookup Table Name dialog lets you browse table and column names and insert them into the SQL Statements pane. See [“Lookup Table Name dialog” on page 258](#).

Lookup Procedure Name The Lookup Procedure Name dialog lets you browse procedure names and insert them into the SQL Statements pane. See [Lookup Procedure Name dialog](#).

Edit Query The Query Editor provides a graphical way to create and edit SELECT statements in Interactive SQL. See [“Introduction to the Query Editor” on page 298](#).

Index Consultant The Index Consultant guides you in the proper selection of indexes. You can use the Index Consultant to analyze the benefits of indexes for an individual query. See [“Using the Index Consultant” \[SQL Anywhere Server - SQL Usage\]](#).

Options The Options dialog sets options for commands, appearance, importing and exporting data, and messages in Interactive SQL. See [“Options dialog: General tab” on page 259](#).

The Data menu contains the following dialogs:

Export The Export dialog allows you to set options when exporting a result set to a file in Interactive SQL. See [“Export dialog” on page 256](#).

Import The Import dialog allows you to choose a file to import into Interactive SQL, and then you can configure the import settings using the Import wizard.

Export dialog

File name Type the name of the file you are exporting the result set to. Alternatively, you can click Browse to locate a file.

Format Select one of the following output formats:

- ◆ **ASCII** The output is an ASCII format file with one row per line in the file. All values are separated by commas, and strings are enclosed in apostrophes (single quotes).

Three other special sequences are also used. The two characters `\n` represent a newline character, `\\` represents a single `\`, and the sequence `\xDD` represents the character with hexadecimal code `DD`. This is the default output format.

- ◆ **dBase II** The output is a dBASE II format file with the column definitions at the top of the file. Note that a maximum of 32 columns can be output. Column names are truncated to 11 characters, and each row of data in each column is truncated to 255 characters.

- ◆ **dBase III** The output is a dBASE III format file with the column definitions at the top of the file. Note that a maximum of 128 columns can be output. Column names are truncated to 11 characters, and each row of data in each column is truncated to 255 characters.
- ◆ **Excel** The output is an Excel 2.1 worksheet. The first row of the worksheet contains column labels (or names if there are no labels defined). Subsequent worksheet rows contain the actual table data.
- ◆ **Fixed** The output is fixed format with each column having a fixed width. No column headings are output in this format. The width for each column is computed from the data type for the column, and is large enough to hold any value of that data type. The exception is that LONG VARCHAR and LONG BINARY data defaults to 32 KB.
- ◆ **FoxPro** The output is a FoxPro format file with column definitions at the top of the file. Note that a maximum of 128 columns can be output. Column names are truncated to 11 characters. Column names are truncated to 11 characters, and each row of data in each column is truncated to 255 characters.
- ◆ **HTML** The output is in the Hyper Text Markup Language format.
- ◆ **Lotus 1-2-3** The output is a Lotus WKS format worksheet. Column names will be put as the first row in the worksheet. Note that there are certain restrictions on the maximum size of Lotus WKS format worksheets that other software (such as Lotus 1-2-3) can load. There is no limit to the size of file Interactive SQL can produce.
- ◆ **SQL Statements** The output is an Interactive SQL INPUT statement required to recreate the information in the table.
- ◆ **XML** The output is an XML file encoded in UTF-8 and containing an embedded DTD. Binary values are encoded in CDATA blocks with the binary data rendered as 2-hex-digit strings. The INPUT statement does not accept XML as a file format.

Encoding Specify the code page that is used to write the file. You can only specify this option if you have selected the **ASCII** format. You can specify the encoding to be used, or if you select (Default), the default encoding for the computer Interactive SQL is running on is used.

Escape text data When you select this option, characters following the escape character are recognized and interpreted as special characters by the database server. The default escape character is the backslash (\). New line characters can be included as the combination \n, other characters can be included in data as hexadecimal ASCII codes, such as \x09 for the tab character. A sequence of two backslash characters (\\) is interpreted as a single backslash. A backslash followed by any character other than n, x, X or \ is interpreted as two separate characters. For example, \q inserts a backslash and the letter q.

- ◆ **Escape character** You can specify the escape character for characters stored as hexadecimal codes. The default escape character is the backslash (\).

See also

- ◆ [“OUTPUT statement \[Interactive SQL\]” \[SQL Anywhere Server - SQL Reference\]](#)

Lookup Procedure Name dialog

The Lookup Procedure Name dialog allows you to look up the names of procedures stored in the database. Once you find the procedure you are looking for, you can insert it into the SQL Statements pane at your current cursor position.

The Lookup Procedure Name dialog has the following components:

Type the first few characters of the procedure you're looking for Type the first few characters of the procedure name in the text box to restrict the list of procedures to only those that start with the text you enter.

Click the procedure you want, then click OK Select the procedure from the list. Click OK to insert the procedure name into the SQL Statements pane at your current cursor position.

Show owner names Select this option if you want to prefix each procedure name in the list with the name of the database user who owns the procedure.

Show system objects Select this option if you want the system-supplied stored procedures to appear in the list.

Tip

You can use the SQL wildcard characters % (percent sign) and _ (underscore) to help narrow your search. % matches any string of zero or more characters, while _ matches any one character.

For example, to list all the procedures that contain the word profile, type **%profile%**.

If you want to search for a percent sign or underscore within a procedure name, you must prefix the percent sign or underscore with a ~ (tilde).

Lookup Table Name dialog

The Lookup Table Name dialog allows you to look up the names of tables and columns stored in the database that you are currently connected to. Once you find the table or column name you are looking for, you can insert it into the SQL Statements pane at your current cursor position.

The Lookup Table Name dialog has the following components:

Type the first few characters of the table you're looking for Type the first few characters of the table name in the text box to restrict the list of tables to only those that start with the text you enter.

Click the table you want, then click OK or Show Columns Select the desired table from the list and then click OK to insert the table name into the SQL Statements pane.

You can use the following options to restrict the tables that appear in the list. If you know what type of table you are looking for, select only that type to restrict the list. You can select any or all of the table types listed below, and you can also choose to show the names of the table owner in the list.

- ◆ **Show tables** All permanent, non-system tables owned by any owner. Temporary tables do not appear in the list of tables.
- ◆ **Show system tables** All system tables.

- ◆ **Show views** All views.
- ◆ **Show owner names** Select this option to include table owners in the list.

Show Columns Once you select a table from the list, click Show Columns to see a list of all of the columns in the selected table. In the Select Column dialog, click OK to enter the selected column name into the SQL Statements pane at your current cursor position.

Tip

You can use the SQL wildcard characters % (percent sign) and _ (underscore) to help narrow your search. % matches any string of zero or more characters, while _ matches any one character. For example, to list all the procedures that contain the word profile, type **%profile%**. If you want to search for a percent sign or underscore within a procedure name, you must prefix the percent sign or underscore with a ~ (tilde).

Options dialog: General tab

The General tab of the Options dialog in Interactive SQL has the following components:

Commit The following options let you select when to commit changes to the database. You can also commit manually by entering an explicit COMMIT statement whenever appropriate.

- ◆ **After each command** Select this option to commit changes to the database after each SQL statement is executed.
- ◆ **On exit** Select this option to commit changes to the database when you exit your Interactive SQL session. This is the default setting.

See “[auto_commit option \[Interactive SQL\]](#)” [*SQL Anywhere Server - Database Administration*].

Command files The following options control Interactive SQL's behavior when running command files.

- ◆ **When an error occurs** Select an option to control how Interactive SQL responds when it encounters an error while executing statements. Depending on the option you choose, Interactive SQL can continue executing, stop executing, or shut down. The default setting is Prompt.

For more information about configuring how Interactive SQL responds to errors while executing statements from a command file, see “[on_error option \[Interactive SQL\]](#)” [*SQL Anywhere Server - Database Administration*].

- ◆ **Echo command files to log** If you select this option, Interactive SQL logs SQL statements that are executed to the log file.

By default, command files are copied to the log.

See “[echo option \[Interactive SQL\]](#)” [*SQL Anywhere Server - Database Administration*].

Folders Select one of the following options to specify which directory Interactive SQL uses first when browsing for files.

- ◆ **Last folder used** If you select this option, the initial browser directory is the one where you last used the file browser. This is the default setting.
- ◆ **Current folder** If you select this option, the initial directory used by the browser is the current folder, as defined by the operating system.

Fast Launcher The fast launcher is designed to reduce Interactive SQL's startup time. When the fast launcher is turned on, the fast launcher process (*dbisqlg.exe* for Interactive SQL) starts when you log in. The fast launcher is only available on Windows.

Note that the fast launcher process requires a significant amount of memory, and the impact on application startup time depends on your system configuration.

- ◆ **Enable fast launcher** Select this option to turn on the fast launcher. The fast launcher is turned on by default. If you want to turn the fast launcher off, clear this checkbox. You must log out and log in again for these settings to take effect.
- ◆ **Configure** Opens the Interactive SQL Fast Launcher Configuration dialog where you can configure the TCP/IP port used by the fast launcher and set the inactivity timer.

The fast launcher uses a TCP/IP port on your computer. If another program is already using this port, you can change the port number used by the fast launcher in this dialog.

When the fast launcher is not used for the amount of time specified in the inactivity timer, it shuts down, which frees up memory for other applications. By default, the inactivity timer is set to never shut down.

File Association On Windows, you can make Interactive SQL the default editor for *.sql* files.

- ◆ **Make Interactive SQL the default editor for .SQL and plan files** Select this option to make Interactive SQL the default editor for *.sql* and graphical plan files on Windows. SQL Anywhere graphical plan files have the extension *.saplan*.

If you select this option, Windows uses Interactive SQL to automatically open the file when you double-click it. Note that Interactive SQL does not run the file automatically.

See also

- ◆ [“SET OPTION statement \[Interactive SQL\]” \[SQL Anywhere Server - SQL Reference\]](#)
- ◆ [“Using the fast launchers” \[SQL Anywhere Server - Database Administration\]](#)

Options dialog: Results tab

The Results tab of the Options dialog in Interactive SQL has the following components:

Display null values as Specify how you want nulls to appear in table columns. You can use any string for this value. The default value is (NULL). If this field is blank, null values appear as an empty string.

See [“nulls option \[Interactive SQL\]” \[SQL Anywhere Server - Database Administration\]](#).

Maximum number of rows to display Specify the maximum number of rows that appear in the Results pane. The default is 500.

See “[isql_maximum_displayed_rows option \[Interactive SQL\]](#)” [*SQL Anywhere Server - Database Administration*].

Truncation length Specify the number of characters that are displayed in each column in the Results pane. If you enter a value of 0, the columns are not truncated. The default is 256.

See “[truncation_length option \[Interactive SQL\]](#)” [*SQL Anywhere Server - Database Administration*].

Show multiple result sets Select this option if you want Interactive SQL to display multiple result sets in the Results pane when you execute a procedure that returns multiple SELECT statements. When running in windowed mode, each result set appears on a separate tab in the Results pane. The setting of this option also applies to Interactive SQL when running in command prompt mode. By default, Interactive SQL does not display multiple result sets.

Show row number Select this option if you want row numbers to appear beside your results in the Results pane. This option is on by default.

Automatically refetch results Select this option if you want Interactive SQL to automatically regenerate the result set after you execute an INSERT, UPDATE, or DELETE statement. By default, Interactive SQL refetches result sets.

See “[auto_refetch option \[Interactive SQL\]](#)” [*SQL Anywhere Server - Database Administration*].

Console Mode The following options let you specify which result set(s) are printed when a *.sql* file is run. This option has no effect when running in windowed mode.

◆ **The last one** Prints the result set from the last statement.

◆ **None** Does not print any result sets.

See “[isql_print_result_set option \[Interactive SQL\]](#)” [*SQL Anywhere Server - Database Administration*].

◆ **All of them** Prints result sets for each statement that returns a result set. You must select Show Multiple Result Sets to enable this option.

Font Select one of the following options to specify the font that is used for table data in the Interactive SQL Results pane.

◆ **System font** Select this option to use the computer's normal text font. This is the default setting.

◆ **Editor font** Select this option to use the same font as the Code Editor.

For more information about the SQL Statement Pane, see “[Format tab](#)” on page 265.

◆ **Custom font** Select this option to specify the font, font style, and point size you want to use. Click Browse to select the desired settings in the Font dialog.

See also

◆ “[SET OPTION statement \[Interactive SQL\]](#)” [*SQL Anywhere Server - SQL Reference*]

Options dialog: Import/Export tab

The Import/Export tab of the Options dialog in Interactive SQL has the following components:

Default export format To choose a format for exporting files, select a file format from the dropdown list. By default, the export format is ASCII. This format is used only if you do not specify a **FORMAT** clause in at **OUTPUT** statement. See “[OUTPUT statement \[Interactive SQL\]](#)” [[SQL Anywhere Server - SQL Reference](#)].

Default import format To choose a format for importing files, select a file format from the dropdown list. By default, the import format is ASCII. This format is used only if you do not specify a **FORMAT** clause in at **INPUT** statement. See “[INPUT statement \[Interactive SQL\]](#)” [[SQL Anywhere Server - SQL Reference](#)].

ASCII Options Specify the default symbols used for the field separator, quote string, and escape character when you import or export data in ASCII format.

- ◆ **Default field separator** The symbol used to separate values in ASCII files. The default value is a comma (,).
- ◆ **Default quote string** The symbol used to enclose strings in ASCII files. The default value is a single quote (').
- ◆ **Default escape character** The symbol used in place of unprintable characters in ASCII files. The escape character must be one, single-byte character. The default value is a backslash (\).
- ◆ **Default encoding** The encoding used when importing and exporting files. If you change this value, it is only changed for the current Interactive SQL session. When you start a new Interactive SQL session, it is restored to its default value. The default value is **(Default)**. If you select **(Default)**, the encoding is determined as follows:
 - ◆ the code page specified in the **ENCODING** clause of the **INPUT**, **OUTPUT**, or **READ** statement
 - ◆ the code page specified with the **-codepage** command line option when Interactive SQL was started
 - ◆ the default code page for the computer Interactive SQL is running on

See also

- ◆ “[Importing and Exporting Data](#)” [[SQL Anywhere Server - SQL Usage](#)]
- ◆ “[SET OPTION statement \[Interactive SQL\]](#)” [[SQL Anywhere Server - SQL Reference](#)]

Options dialog: Messages tab

The Messages tab of the Options dialog in Interactive SQL has the following components:

Measure execution time for SQL statements Select this option if you want Interactive SQL to measure the time it takes for a statement to execute. The time appears on the Messages tab. By default, this option is selected.

Show separate Messages pane Select this option if you want information from the database server, such as execution time, to appear in the Messages pane between the SQL Statements and Results panes rather

than on the Messages tab in the Results pane. By default, database server information appears on the Messages tab in the Results pane.

Default number of lines in Messages pane Type the number of lines you want returned in the Messages pane. The default number is 7. This value is used only if Show Separate Messages Pane is selected. If you select Show Separate Messages Pane, the number is also the height (in lines) of the Messages pane.

See also

- ◆ [“SET OPTION statement \[Interactive SQL\]” \[SQL Anywhere Server - SQL Reference\]](#)

Options dialog: Plan tab

The Plan tab of the Options dialog in Interactive SQL has the following components:

Plan These options allow you to select the level of detail Interactive SQL provides about the way your query is optimized. Plan information appears on the Plan tab in the Results pane.

- ◆ **Graphical plan** The execution plan is displayed as a tree diagram in the Plan tab. You can click a node in the plan diagram to see details about that part of the query. This plan is the default.
- ◆ **Graphical plan with root statistics** The execution plan is displayed as a tree diagram in the Plan tab, and you can click a node to see details about that part of the query. Statistics are also displayed in the root node which indicate the resources used during execution of the entire query.
- ◆ **Graphical plan with full statistics** The execution plan is displayed as a tree diagram in the Plan tab, and you can click a node to see details about that part of the query. Statistics are also displayed which indicate the resources used during execution by the part of the query that is selected.
- ◆ **Short plan** Basic information about an execution plan appears in one line on the Plan tab in the Results pane. This line lists the table(s) accessed and whether the rows are to be read sequentially or accessed through an index.
- ◆ **Long plan** Detailed information about an execution plan appears in multiple lines on the Plan tab.

For more information about the different types of execution plans, see [“Accessing the execution plan in Interactive SQL” \[SQL Anywhere Server - SQL Usage\]](#).

Assume read-only cursor Select this option if you want the query optimizer to treat the query as if it had been executed for a read-only cursor. By default, this option is not selected, indicating that the optimizer should get the plan for a read-write cursor.

See [“PLAN function \[Miscellaneous\]” \[SQL Anywhere Server - SQL Reference\]](#).

Assume cursor is You can obtain a plan based on the type of cursor you specify. The query optimizer can assume the cursor is Asensitive, Insensitive, Sensitive, or Keyset-driven. The default is Asensitive.

See:

- ◆ [“PLAN function \[Miscellaneous\]” \[SQL Anywhere Server - SQL Reference\]](#)
- ◆ [“Asensitive cursors” \[SQL Anywhere Server - Programming\]](#)

- ◆ “Insensitive cursors” [[SQL Anywhere Server - Programming](#)]
- ◆ “Sensitive cursors” [[SQL Anywhere Server - Programming](#)]
- ◆ “Value-sensitive cursors” [[SQL Anywhere Server - Programming](#)]

See also

- ◆ “Accessing the execution plan in Interactive SQL” [[SQL Anywhere Server - SQL Usage](#)]
- ◆ “Reading execution plans” [[SQL Anywhere Server - SQL Usage](#)]

Options dialog: Source Control tab

The Source Control tab of the Options dialog in Interactive SQL has the following components:

Enable source control integration Select this option if you want Interactive SQL to integrate with the source control system on your computer when you work with files.

◆ **Your current source control system** Select this option to use your current source control system. This option is only available on Windows platforms and only if you have an SCC-compliant source control program installed.

◆ **Custom source control system** Select this option to use command line programs for source control. Click Configure to see and edit the command line actions.

◆ **Configure** Displays the Custom Source Control Options dialog where you can view and edit command line actions.

◆ **Automatically check out files when editor contents are modified** Select this option if you want source files to be automatically checked out of the source control program when editor contents are modified.

Options dialog: Editor tab

This tab allows you to configure the appearance of text typed in the SQL Statements pane. Note that any settings you specify on this tab also apply to the SQL Statements Pane when it is used in Sybase Central.

Editor tab

The Editor tab has the following components:

Vertical scroll bar Shows or hides a vertical scroll bar when the window is too small to contain all the text.

Horizontal scroll bar Shows or hides a horizontal scroll bar when the window is too small to contain all the text.

Tabs tab

The Tabs tab has the following components:

Tab size Lets you set the tab size (in number of spaces).

Indent size Lets you set the size of indents (in number of spaces).

Insert spaces Inserts n spaces when you press Tab instead of inserting one tab character. The value for n will be between one and the number of indent size spaces, depending on how many spaces are required to move the cursor forward to the next tab stop.

Keep tabs Inserts a tab character into the document and moves the cursor forward to the next tab stop when you press Tab.

Auto indent Lets you set the auto indent feature. You have the following options:

- ◆ **None** disables the feature.
- ◆ **Default** uses the tab and indent sizes that are set.
- ◆ **Smart** uses previous lines of code as a guideline for indenting open and closing braces.
 - ◆ **Indent opening brace** Select this option if you want opening braces to be indented. This option is enabled when the Smart option is selected.
 - ◆ **Indent closing brace** Select this option if you want closing braces to be indented. This option is enabled when the Smart option is selected.

Sample The Sample field shows an example of how code is formatted based on the options you choose for indenting opening and closing braces.

Format tab

The Format tab has the following components:

Text Highlighting Lets you specify the color and style of different types of text in the main editing window. Choose a type of text and then set the foreground, background, and style for that text type.

- ◆ **Foreground** Foreground refers to the color of the text.
- ◆ **Background** Background refers to the color of the screen behind the text.
- ◆ **Style** Lets you specify the type of formatting for a text type. You have the following choices:
 - ◆ Plain
 - ◆ Italic
 - ◆ Bold
 - ◆ Italic and Bold

Font Lets you specify the font that appears in the SQL Statements pane.

Font size Lets you specify the font point size of the text that appears in the SQL Statements pane.

Caret color Lets you specify the color of the blinking on-screen cursor indicator.

Sample Shows an updated sample of the text with the settings you configure above.

Reset All Returns all settings to their default values.

Print tab

The Print tab has the following components:

Header Lets you specify what information appears in the header, as well as how it is formatted, when you print the contents of the SQL Statements pane. The header text is left aligned by default. Click the > button for a list of available options.

Footer Lets you specify what information appears in the footer, as well as how it is formatted, when you print the contents of the SQL Statements pane. The footer text is left aligned by default. Click the > button for a list of available options.

◆ **> button** Clicking the > button lets you choose from the following options for the header or footer:

- ◆ File Name
- ◆ File Time
- ◆ File Date
- ◆ Page Number
- ◆ Page Count
- ◆ Current Time
- ◆ Current Date
- ◆ Left Align
- ◆ Center
- ◆ Right Align

The items that you select do not all need to have the same alignment. For example, you can choose to left align the file name and right align the date in the header. By default, all text in both the header and the footer is left aligned. You must specify the alignment before the type of text. For example, if you want the file name to be centered in the header, type **&C&F** in the Header field, or click the > button and select the Center option and then click the > button again and select the Filename option.

In addition to specifying these options, you can type text that you want to appear in the header and footer fields. For example, if you type **Page &P of &p** in the Footer field, **Page 1 of 1** appears in the footer of the printed document.

Font size Lets you select the font point size for the printed text.

Text Completion tab

The Text Completion tab has the following components:

What objects do you want in the list? Select the objects you want to appear in the text completion window. By default, the names of all database objects appear in the text completion list.

- ◆ **Tables and views** Select this option if you want tables and views to appear in the text completion list.
- ◆ **Columns** Select this option if you want columns to appear in the text completion list.
- ◆ **Stored procedures** Select this option if you want stored procedures to appear in the text completion list.
- ◆ **SQL functions** Select this option if you want built-in SQL functions to appear in the text completion list.

Show system objects Select this option if you want system objects to appear in the text completion list.

Show owner names This option controls whether an object's owner is displayed in the list of objects. It does not control whether the owner name appears in the completed text.

Show tool tips Select this option if you want tool tips to appear in the text completion window.

Quote identifiers Select this option if you want identifiers to be enclosed in double quotes. Identifiers must be enclosed in double quotes if any of the following conditions are true:

- ◆ The identifier contains spaces.
- ◆ The first character of the identifier is not an alphabetic character.
- ◆ The identifier contains a reserved word.
- ◆ The identifier contains characters other than alphabetic characters and digits.

See “[Identifiers](#)” [[SQL Anywhere Server - SQL Reference](#)].

Automatically complete text Select this option if you want identifier names to be completed automatically, so long as there is only one match. If multiple identifiers match the text you type, a list appears where you can choose the identifier you want.

See also

- ◆ “[Using text completion](#)” [[SQL Anywhere Server - Database Administration](#)]
- ◆ “[Text completion keyboard shortcuts](#)” [[SQL Anywhere Server - Database Administration](#)]

Options dialog: Query Editor tab

This tab allows you to configure settings for the Query Editor.

The Query Editor tab of the Interactive SQL Options dialog has the following components:

Fully qualify table and column names Select this option if you want table and column names to be fully qualified with their owner names when constructing queries in the Query Editor.

For information about qualifying table and column names, see [“SQL queries” \[SQL Anywhere Server - SQL Usage\]](#).

Quote names Select this option if you want the names of identifiers to be enclosed in double quotes when constructing queries in the Query Editor.

For information about quoting identifiers, see [“Identifiers” \[SQL Anywhere Server - SQL Reference\]](#).

Get list of tables on startup Select this option if you want the Query Editor to populate its list of tables as soon as it opens. This option is selected by default. If you are connected to a database with a large number of tables or have a slow communications link, you may want to turn this option off so the Query Editor opens more quickly.

Options dialog: Check for Updates tab

You can configure whether SQL Anywhere should check for software updates and how often it should do so. Checking for updates is done when you open Interactive SQL, Sybase Central, or the SQL Anywhere Console utility.

You can check for updates any time from the Start menu by choosing Programs ► SQL Anywhere 10 ► Check For Updates and from the Sybase Central, Interactive SQL, and SQL Anywhere Console utility Help menus.

The Check For Updates tab of the Options dialog has the following components:

When to check for updates Choose one of the following options to specify how often SQL Anywhere should check for updates. By default, Never is selected.

- ◆ **On application startup** Select this option if you want SQL Anywhere to check for updates each time Interactive SQL, Sybase Central, or the Console utility is started.
- ◆ **Daily** Select this option if you want SQL Anywhere to check for updates the first time either Interactive SQL, Sybase Central, or the Console utility is started each day.
- ◆ **Weekly** Select this option if you want SQL Anywhere to check for updates the first time either Interactive SQL, Sybase Central, or the SQL Anywhere Console utility is started each week.
- ◆ **Monthly** Select this option if you want SQL Anywhere to check for updates the first time either Interactive SQL, Sybase Central, or the SQL Anywhere Console utility is started each month.
- ◆ **Never** Select this option if you do not want SQL Anywhere to check for updates. This is the default setting.

What to check for Choose any combination of the following options to specify what types of updates SQL Anywhere should check for. By default, all of the following options are selected.

- ◆ **Express Bug Fix** Select this option if you want SQL Anywhere to check for Express Bug Fixes.

An express bug fix is a subset of the software with one or more bug fixes. The bug fixes are listed in the release notes for the update. Bug fix updates may only be applied to installed software with the same version number. Some testing has been performed on the software, but the software has not undergone full testing. You should not distribute these files with your application unless you have verified the suitability of the software yourself.

- ◆ **Maintenance Release** Select this option if you want SQL Anywhere to check for maintenance releases of the software.

A maintenance release is a complete set of software that upgrades installed software from an older version with the same major version number (version number format is *major.minor.patch.build*). Bug fixes and other changes are listed in the release notes for the upgrade.

- ◆ **Other Information** Select this option to check for other information, such as new product releases or upcoming events.

MobiLink Monitor Help

Contents

Connect to MobiLink Server dialog	272
Edit Watch dialog	275
Go To dialog	276
New Watch dialog	277
Export to Database dialog	278
Options dialog: General tab	279
Options dialog: Table tab	281
Options dialog: Graph tab	282
Options dialog: Chart Layout tab	284
Options dialog: Chart Colors tab	285
Options dialog: Overview tab	286
Sample property sheet: Sample tab	287
Sample property sheet: Range tab	288
Session property sheet: General tab	289
Session property sheet: Statistics tab	290
Synchronization property sheet: General tab	291
Synchronization property sheet: Upload tab	292
Synchronization property sheet: Download tab	293
Synchronization property sheet: Synchronization tab	294
Watch Manager dialog	295

Connect to MobiLink Server dialog

This dialog lets you connect to a running MobiLink server. A Monitor connection is like a synchronization connection to the MobiLink server in that most of the parameters are the same. You must use parameters that are compatible with the MobiLink server's settings. For all MobiLink Monitor sessions, the script version is set to **for_MLMonitor_only**.

The Connect to MobiLink Server dialog has the following components:

User Type the name of the MobiLink user for the connection. If you started the MobiLink server with `-zu+`, then it doesn't matter what user ID you supply.

Password Type a password for the connection. This must be the correct password for the MobiLink user you specify. Leave this field blank if the MobiLink user does not have a password.

Host The network name or IP address of the computer on which the MobiLink server is running. By default, it is the computer where the Monitor is running. You can use **localhost** if the MobiLink server is running on the same computer as the Monitor.

Protocol Select the communications stream protocol to be used for the connection. This protocol and port should be set to the same protocol and port as the MobiLink server is using for synchronization requests.

- ◆ **HTTP** Select this option to connect via HTTP. By default, HTTP version **1.1** is used.
 - ◆ **Port** The MobiLink server communicates over a specific port. By default, the port number is 80 for HTTP. If you choose a value other than this, you must configure your MobiLink server to listen on the port you specify.
- ◆ **HTTPS** Select this option to connect via HTTPS. The HTTPS communication stream uses RSA security.
 - ◆ **Port** The MobiLink server communicates over a specific port. By default, the port number is 443 for HTTPS. If you choose a value other than this, you must configure your MobiLink server to listen on the port you specify.
 - ◆ **Encryption** Choose the same type of encryption that the MobiLink server is using. For HTTPS, this is usually RSA encryption.

The following options are available for encryption:

- ◆ **ECC** Elliptic-curve cryptography (ECC) requires a separate license.
- ◆ **RSA** RSA encryption is provided free with SQL Anywhere.
- ◆ **RSA (FIPS 140-2 certified)** Federal Information Processing Standard (FIPS) 140-2 specifies requirements for security algorithms. FIPS 140-2 is granted by the American and Canadian governments through the National Institute of Standards and Testing (NIST) and the Canadian Communication Security Establishment (CSE). FIPS technology requires a separate license.

To use HTTPS, you must have MobiLink client-side data stream encryption installed on the computer running the MobiLink Monitor. The MobiLink Monitor trusts all certificates, so when you use HTTPS, you do not specify any certificate-related parameters in the Additional Protocol Options field.

Separately licensed component required

ECC encryption and FIPS-certified encryption require a separate license. All strong encryption technologies are subject to export regulations.

See “Separately licensed components” [[SQL Anywhere 10 - Introduction](#)].

For more information about security, see “Encrypting MobiLink client/server communications” [[SQL Anywhere Server - Database Administration](#)].

- ◆ **TCP/IP** Select this option to connect via TCP/IP.
 - ◆ **Port** The MobiLink server communicates over a specific port. By default, the port number is 2439 for TCP/IP. If you choose a value other than this, you must configure your MobiLink server to listen on the port you specify.
- ◆ **TLS (TCP/IP with transport layer security)** Select this option to connect via TCP/IP with transport layer security.
 - ◆ **Port** The MobiLink server communicates over a specific port. By default, the port number is 2439 for TLS (TCP/IP with transport layer security). If you choose a value other than this, you must configure your MobiLink server to listen on the port you specify.
 - ◆ **Encryption** Choose the same type of encryption that the MobiLink server is using. For HTTPS, this is usually RSA encryption.

The following options are available for encryption:

- ◆ **ECC** Elliptic-curve cryptography (ECC) requires a separate license.
- ◆ **RSA** RSA encryption is provided free with SQL Anywhere.
- ◆ **RSA (FIPS 140-2 certified)** Federal Information Processing Standard (FIPS) 140-2 specifies requirements for security algorithms. FIPS 140-2 is granted by the American and Canadian governments through the National Institute of Standards and Testing (NIST) and the Canadian Communication Security Establishment (CSE). FIPS technology requires a separate license.

Additional protocol options Specify optional network parameters in this field. The allowed values depend on the connection stream type.

The following table lists the parameters you can specify. These parameters are supported by all connection streams (TCP/IP, HTTP, and HTTPS), except where noted otherwise.

Parameter	Description
<code>buffer_size=number</code>	HTTP and HTTPS only. The maximum body size for a fixed content length message, in bytes. Changing the option increases or decreases the amount of memory allocated for sending content. The default is 65535.

Parameter	Description
client_port = <i>nnnnn</i> client_port = <i>nnnnn-mmmmm</i>	A range of client ports for communication. If only one value is specified, the end of the range is 100 greater than the initial value, for a total of 101 ports. The option can be useful for clients inside a firewall communicating with a MobiLink server outside the firewall.
persistent ={ 0 1 }	HTTP and HTTPS only. 1 (True) means that the client attempts to use the same TCP/IP connection for all HTTP requests in a synchronization. A setting of 0 (False) is more compatible with intermediate agents. The default is 0. Note: You should only set persistent to 1 if you are connecting directly to a MobiLink server. If you are connecting through an intermediate agent such as a proxy or redirector, a persistent connection may cause problems.
proxy_host = <i>proxy_hostname</i>	HTTP and HTTPS only. The host name of the proxy server.
proxy_port = <i>proxy_portnumber</i>	HTTP and HTTPS only. The port number of the proxy server. The default value is 80.
url_suffix = <i>suffix</i>	HTTP and HTTPS only. The suffix to add to the URL on the first line of each HTTP request. When synchronizing through a proxy server or the MobiLink redirector, the suffix may be necessary in order to find the MobiLink server. The default value is MobiLink .
version = <i>versionnumber</i>	HTTP and HTTPS only. A string specifying the version of HTTP to use. You have a choice of 1.0 or 1.1 . The default value is 1.1 .

For more information about these network parameters, see [“MobiLink Client Network Protocol Options” \[MobiLink - Client Administration\]](#).

See also

- ◆ [“Starting the MobiLink Monitor” \[MobiLink - Server Administration\]](#)

Edit Watch dialog

The Edit Watch dialog has the following components:

Name The name of the watch. You cannot change the name of a predefined watch (Active, Completed, or Failed).

Conditions list You must specify a property, comparison operator, and value to identify synchronizations that the Monitor should track. You can specify as many conditions as you require. Once you select a property, an operator, and a value, click Add to add the condition to the watch.

You cannot edit the values that appear in the Conditions list. To change a watch condition, select the condition from the Conditions list and click Remove. Then, add a new condition with the desired settings.

◆ **Property** Select the property you want the Monitor to track from the dropdown list.

For a complete list of properties that are available in the MobiLink Monitor, see [“MobiLink statistical properties”](#) [*MobiLink - Server Administration*].

◆ **Operator** Select a comparison operator. The list of available operators depends on the property you select.

◆ **Value** Enter the value to which the property is compared.

◆ **Add** Click to add the selected conditions, as set in the Property, Operator, and Value fields, to the watch. This is disabled for System watches.

◆ **Remove** Click to remove the selected condition from the watch. This is disabled for System watches.

Synchronization display These options let you specify a pattern and color to identify the watch in the Chart and Overview panes.

◆ **Chart pattern** Select a pattern for the watch in the Chart pane.

◆ **Overview color** Select a color for the watch in the Overview pane.

See also

◆ [“Customizing your statistics”](#) [*MobiLink - Server Administration*]

Go To dialog

The Go To dialog has the following components:

Start date & time The Go To dialog takes you to the specified date and time in the Chart pane of the Monitor. Type the start date and time of the data that you want to view. If you change this setting, you must specify the year, month, and day.

Chart range Lets you specify the duration of time that appears in the Chart pane. The chart range can be specified in milliseconds, seconds, minutes, hours, or days by selecting one of these options from the dropdown list. The chart range determines the granularity of the data: a smaller length of time means that more detail is visible.

See also

- ◆ [“Chart pane”](#) [*MobiLink - Server Administration*]

New Watch dialog

The New Watch dialog has the following components:

Name Type a name for the watch.

Conditions You must specify a property, comparison operator, and value to identify synchronizations the Monitor should track. You can specify as many conditions as you require. Once you select a property, an operator, and a value, click Add to add the condition to the new watch.

You cannot edit the values that appear in the Conditions list. To change a watch condition, select the condition from the Conditions list and click Remove. Then, add a new condition with the desired settings.

◆ **Property** Select the property you want the Monitor to track.

For a complete list of properties that are available, see [“MobiLink statistical properties”](#) [*MobiLink - Server Administration*].

◆ **Operator** Select a comparison operator. The list of available operators depends on the property you select.

◆ **Value** Enter a value for the specified property.

◆ **Add** Click to add the selected conditions, as set in the Property, Operator, and Value fields, to the watch. This is disabled for System watches.

◆ **Remove** Click to remove the selected condition from the watch. This is disabled for System watches.

Synchronization display These options let you select a pattern and color to identify the watch in the Chart and Overview panes.

◆ **Chart pattern** Select a pattern for the watch in the Chart pane.

◆ **Overview color** Select a color for the watch in the Overview pane.

See also

◆ [“Customizing your statistics”](#) [*MobiLink - Server Administration*]

Export to Database dialog

You can save MobiLink Monitor data to any consolidated database supported by MobiLink, or to Excel spreadsheets using the Export to Database dialog. You must be disconnected from the MobiLink server when you export data from the Monitor.

Note

The data source must have quoted identifiers enabled because some of the columns are reserved words. The MobiLink Monitor enables quoted identifiers automatically for SQL Anywhere, Adaptive Server Enterprise, and Microsoft SQL Server databases. If quoted identifiers is not enabled, the export fails.

For more information about quoted identifiers, see:

- ◆ [“Character strings and quotation marks” \[SQL Anywhere Server - SQL Usage\]](#)
- ◆ [“quoted_identifier option \[compatibility\]” \[SQL Anywhere Server - Database Administration\]](#)

The Export to Database dialog has the following components:

Master table Type a name for the master table created to hold Monitor data. The table name must be 128 characters or less. If the table does not exist, it is created by the Monitor. For Excel output, the table name identifies the worksheet that is created.

This table contains one row per synchronization, including all the information that can appear in the Monitor's Details Table pane, as well as an `export_time` column that contains the time the export was performed. Its primary key consists of the `export_time` and `sync` columns. By default this table is called `mlm_by_sync`.

Details table Type a name for the details table created to hold Monitor data. The table name must be 128 characters or less. By default this table is called `mlm_by_table`. If the table does not exist, it is created by the Monitor. For Excel output, the table name identifies the worksheet that is created.

This table contains one row per table per synchronization, and has a column for each upload, download, and synchronization statistic that appears on the Synchronization property sheet in the Monitor, as well as an `export_time` column that contains the time the export was performed. The details table has a foreign key relationship to the master table's `export_time` and `sync` columns. The primary key for the details table consists of the `export_time`, `sync`, and `table_name` columns.

Overwrite any existing data Select this option if you want to overwrite data in existing tables. If you do not choose to overwrite the data, new data is appended to existing data.

See also

- ◆ [“Saving Monitor data” \[MobiLink - Server Administration\]](#)
- ◆ [“Synchronization property sheet: General tab” on page 291](#)

Options dialog: General tab

The General tab of the Options dialog has the following components:

Prompt to connect on startup This option controls whether the Connect to MobiLink Server dialog appears when the MobiLink Monitor is started. By default, this option is selected, which means that when the Monitor is started without any command line options, the Connect to MobiLink Server dialog appears. If you do not want the Connect to MobiLink Server dialog to appear when you start the Monitor without command line options, clear the checkbox beside this option.

Max synchronization count This is the maximum number of synchronizations that are kept in the current session. The default maximum synchronization count is 100000. Once the limit is reached, you can choose to replace the oldest synchronizations with new ones by selecting the Replace Old Synchronizations With New Ones option.

Replace old synchronizations with new ones This option controls whether new synchronizations replace the oldest or newest synchronizations in the session when the Monitor reaches the maximum synchronization count for the current session. This option is selected by default, meaning that new synchronizations replace the oldest synchronizations in the session.

Maximum sample time Specify the maximum sample time by entering a value and selecting one of the following measures of times from the dropdown list:

- ◆ s (seconds)
- ◆ m (minutes)
- ◆ h (hours)
- ◆ d (days)

Save automatically when connected to MobiLink server Select this option to save Monitor sessions automatically to a file when the Monitor is connected to a MobiLink server. *The setting for this option takes effect the next time the MobiLink Monitor connects to a synchronization server. It does not change the setting for current connections.* Data from the Monitor session is saved as a binary file (*.mlm*) by default. Selecting this option enables the Output File and Save Every fields. When this option is selected for a connection, the Monitor starts saving session information when it connects to a MobiLink server and stops saving information when it disconnects. The data contained in the output file is overwritten by new data for each time the Monitor connects to a MobiLink server.

- ◆ **Output file** Type the name of the binary file (with the extension *.mlm*) where you want to save the current session automatically. You can also click Browse to locate the file.

If you want to view the data in another tool, such as Microsoft Excel, you must save the data in a comma-separated file (*.csv*) by choosing File ► Save As.

If you supply an extension to the file name, it must be *.mlm* or *.csv*. These are the only file formats the MobiLink Monitor supports.

- ◆ **Save every** Specify how often you want the data saved to the file specified above. By default, the output file is saved every 120 seconds.

Note

To restore the Monitor's default settings, delete the file *.mlMonitorSettings*. This file is stored in your user profiles directory.

Options dialog: Table tab

This tab lets you configure the columns that appear in the Details Table pane. The settings on this tab persist between MobiLink Monitor sessions.

The Table tab of the Options dialog has the following components:

Hidden Columns list Lists all the columns that can appear in the Details Table pane that are not currently visible in the pane. To display a column in the Details Table pane, select the column or columns in the Hidden Columns list and then click the right arrow. The selected column or columns appear in the Visible Columns list.

Visible Columns list Lists all the columns that currently appear in the Details Table pane. To remove a column from the Visible Columns list so that it no longer appears in the Details Table pane, select the column and then click the left arrow. Columns that are added to the Visible Columns list are added to the end of the list.

The order of the columns in the Visible Columns list determines the order of the columns in the Details Table pane. To move a column up the list, select the column and then click the up arrow. To move a column further down the list, select the column and then click the down arrow.

Tip

You can also change the order of the columns by dragging the column headings in the Details Table pane.

Reset Click Reset to restore the list of columns that appear in the Details Table pane to its default settings.

See also

- ◆ “Details Table pane” [[MobiLink - Server Administration](#)]

Options dialog: Graph tab

The Utilization Graph provides a graphical representation of the data in MobiLink Monitor.

The Graph tab of the Options dialog has the following components:

Utilization statistics list Select and clear the properties listed to specify which properties appear in the utilization graph.

- ◆ **Show** Select this option to show the property in the utilization graph. Properties without a checkmark do not appear.
- ◆ **Property** Shows the available properties that you can choose to appear in the utilization graph. Only properties with a checkmark appear in the graph.

The list of properties comes from the MobiLink server or the *.mlm* file, and is saved in *.mlmonitorsettings*. If you delete *.mlmonitorsettings*, the properties have placeholder values (19 through 24).

The possible properties are:

- ◆ **TCP/IP work queue** This queue represents work done by the low-level network layer in the MobiLink server. This layer is responsible for both reading and writing packets from and to the network. The queue is full of read and write requests. It grows when it gets notified of incoming data to read off the network and/or when it is told by the Stream worker to write to the network.

If this queue gets backed up, it is usually due to a backlog of either reads or writes—sometimes both, but usually one or the other. Reads can get backed up if the MobiLink server is using a lot of RAM and memory pages are being swapped in and out a lot. Consider getting more RAM in this case. Writes can get backed up if the network connection between the clients and server is slow. If this queue is the only queue that is backed up, look at the CPU usage. If CPU usage is high, there may be read/memory problems. If CPU usage is low, you may have slow writes. Consider using a faster network.

- ◆ **Stream work queue** This queue represents work done by the high-level network layer in the MobiLink server. This layer is responsible for higher-level network protocol work such as HTTP, encryption, and compression. This queue grows when lots of reads come in from the TCP/IP layer and/or when lots of write requests come in from the Command processor layer. If this queue is the only queue that is backed up, consider removing some network protocols, such as HTTP or compression. If this isn't possible, consider reducing the number of concurrent syncs allowed using the `-sm` option. See “`-sm` option” [[MobiLink - Server Administration](#)].

- ◆ **Heartbeat work queue** This queue represents the layer in the MobiLink server that is responsible for sending pulsed events within the server. This layer is responsible, for example, for triggering the one-per-second pulses of samples to the connected MobiLink Monitors.

It is highly unlikely that this queue gets backed, up so it is not visible by default.

- ◆ **Command processor work queue** This represents work done by the MobiLink server both to interpret internal MobiLink protocol commands and to apply these commands to the consolidated database. This queue grows when lots of requests come in. Request types include synchronization requests, Listener requests, mlfiletransfer requests, and so on. The queue also grows when the

consolidated database is busy working on synchronizations, yet more synchronization requests keep coming in.

If this queue is the only queue that is backed up, look at the CPU usage. If CPU usage is high, the volume of requests may be too high. Consider reducing the number of concurrent syncs allowed, using the `-sm` option. If CPU usage is low, look to improving the performance of the consolidated database. See “`-sm` option” [*MobiLink - Server Administration*].

◆ **Color** For each property, click Color and select a color from the dropdown list that is used to represent the selected property in the utilization graph.

◆ **Scale** Double-click the scale field and type a value to change the scale used for the graph.

The vertical scale on the Utilization Graph always goes from 0 to 100. This represents zero to one hundred percent of the scale. Each value has its own scale. By default, all scales are 5, meaning that values are expected to be in a range of 0 to 20, scaled (by 5) to the range 0 to 100. If a value becomes greater than 20, the scale is automatically adjusted such that the largest value is at 100.

To determine the maximum value in the display, divide the scale into 100. For example, if the TCP/IP work queue scale is 2.381, then the maximum value is $(100 / 2.381) = 42$. The actual maximum isn't usually important. What is important is that values towards the top of the graph are approaching the largest currently-known value for the given property—in other words, the peak load for that property as observed in the current monitoring session.

When the graphs are consistently towards the top of the display and you notice that synchronization throughput is down, you may have a performance problem that needs investigation. Similarly, if one or more values creeps upward over time without diminishing, then there is likely a performance problem. Note that the graphs may often be towards the top of the display with MobiLink server performing well. This indicates that MobiLink server is busy and successfully processing the job.

Selection border Select a color from the dropdown list for the border of the utilization graph. By default, the border is Black.

Grid lines Select a color from the dropdown list for the grid lines. By default, the grid lines are Light Gray.

Graph background Select a color from the dropdown list for the graph background. By default, the graph background is White.

Use antialiasing to smooth graph Antialiasing is a technique used to make graphics look smoother. Selecting this option makes the graph look better, but it may be slower to draw.

See also

◆ “Utilization Graph pane” [*MobiLink - Server Administration*]

Options dialog: Chart Layout tab

This tab lets you configure the appearance and behavior of the Chart pane.

The Chart Layout tab of the Options dialog has the following components:

Minimum synchronization bar height Specifies the minimum display height for synchronization bars. Together with the Vertical Gap Between Synchronization Bars option, this determines the threshold for the Chart pane to have a vertical scroll bar.

The default minimum height of synchronization bars in the Chart pane is 5 pixels.

Vertical gap between synchronization bars Specifies how much relative vertical space should appear between synchronization bars in the Chart pane.

The default gap size between synchronization bars in the Chart pane is 150%.

Show horizontal chart ruler Select this option if you want to see the chart ruler showing the synchronization time. This option is selected by default.

Show vertical chart ruler Select this option if you want to see the chart ruler showing the data grouped by synchronization user. This option is selected by default.

Scroll chart automatically when connected Select this option if you want the chart to scroll automatically when you are connected to a MobiLink server. This option is selected by default.

If you want to see the complete date and time in the Chart pane, hover your cursor over the ruler.

Note

To restore the Monitor's default settings, delete the file *.mlMonitorSettings*. This file is stored in your user profiles directory.

Options dialog: Chart Colors tab

This tab lets you specify the colors used in the Chart pane.

The default color scheme for the Chart pane uses green for uploads, red for downloads, and blue for begin and end phases. A darker shade indicates earlier parts of a phase.

The Chart Colors tab of the Options dialog has the following components:

Sync request By default, the sync request phase is Gold.

Authenticate user By default, the authenticate user phase is Dark Green.

Begin synchronization By default, the begin synchronization phase is Ocean Blue.

Upload By default, the upload phase is Lime Green.

Prepare for download By default, the prepare for download phase is Dark Red.

Download By default, the download phase is Coral.

End synchronization By default, the end synchronization phase is Periwinkle.

Selected sync outline By default, the outline for a selected synchronization is Black.

Sync outline By default, synchronizations are outlined in Gray.

Chart background By default, the background of the Chart pane is White.

Note

To restore the Monitor's default settings, delete the file *.mlMonitorSettings*. This file is stored in your user profiles directory.

Options dialog: Overview tab

The Overview tab of the Options dialog has the following components:

Keep overview window attached to main window Clear this option if you want the Overview pane to be detached from the Chart pane.

Vertical gap between synchronization bars Specifies the relative size of the vertical gap that appears between synchronization bars in the Overview pane. The default size is 25%.

Colors for built-in watches Use the dropdown lists to choose the colors used to identify the components of predefined watches.

- ◆ **Active synchronizations** Select a color to identify synchronizations that are still active. By default, active synchronizations are Light Gray. You can also set the color for active synchronizations in the Edit Watch dialog.
- ◆ **Completed synchronizations** Select a color to identify synchronizations that have completed. By default, completed synchronizations are Light Gray. You can also set the color for completed synchronizations in the Edit Watch dialog.
- ◆ **Failed synchronizations** Select a color to identify failed synchronizations. By default, failed synchronizations are Red. You can also set the color for failed synchronizations in the Edit Watch dialog.

Marquee Select a color for the outline of the Marquee tool. By default, the outline is Black. The Marquee tool is the small box that appears in the Overview pane. You can use the Marquee tool to select the data that appears in the Chart and Utilization Graph panes. See “[Marquee tool](#)” [*MobiLink - Server Administration*].

Overview background Select a background color for the Overview pane. By default, the background is White.

Note

To restore the Monitor's default settings, delete the file *.mlMonitorSettings*. This file is stored in your user profiles directory.

Sample property sheet: Sample tab

The Sample property sheet provides detailed statistics for time intervals. Each time interval is about one second long.

The Sample tab of the Sample property sheet has the following components:

Interval Shows information for the one-second time interval it represents.

- ◆ **Sample** Shows the number of the sample. Samples are numbered by the Monitor to reflect the order in which they were received.
- ◆ **Start time** Shows the start of a sample time period of approximately one second.
- ◆ **End time** Shows the end of a sample time period of approximately one second.

Statistics Shows the following columns:

- ◆ **Color** Shows the color used to represent the property.
- ◆ **Property** Shows the type of property. See “[MobiLink statistical properties](#)” [[MobiLink - Server Administration](#)].
- ◆ **Value** Shows the value of the property.
- ◆ **Limit** Shows the maximum allowed value for the property.

Note

The list of properties is obtained from the MobiLink server or the *.mlm* file that was opened, and it uses the language of the MobiLink server. Some characters may not display properly if the Monitor is using a different language.

Sample property sheet: Range tab

The Range tab shows averages or sums for the entire range of samples that were visible when the property sheet was opened. The Range statistics are not calculated until you click the Calculate button on the Range tab.

The Range tab of the Sample property sheet has the following components:

Interval Shows information for the one-second time interval it represents.

- ◆ **Samples** Shows the range of numbers for the samples. Samples are numbered by the Monitor to reflect the order in which they were received.
- ◆ **Start time** Shows the start of a sample time period for the range of samples.
- ◆ **End time** Shows the end of a sample time period for the range of samples.

Statistics Shows the following columns:

- ◆ **Color** Shows the color used to represent the property.
- ◆ **Property** Shows the type of property.
- ◆ **Value** Shows the average value of the property for the selected range.
- ◆ **Limit** Shows the maximum allowed value for the property.

Note

The list of properties is obtained from the MobiLink server or the *.mlm* file that was opened, and it uses the language of the MobiLink server. Some characters may not display properly if the Monitor is using a different language.

Session property sheet: General tab

The General tab of the Session property sheet has the following components:

Name The name of the file to which the session is saved. You name the session when you save it to a file (this can be done on the General tab of the Options dialog). If the session is not saved to a file, a name does not appear for the session.

Server The name of the server for the current session.

Server Language The language of the server.

Number of synchronizations The total number of synchronizations in the session.

Replaced synchronizations The number of synchronizations that have been replaced because of the maximum synchronization count. You can change the maximum synchronization count on the General tab of the Options dialog.

Monitor session started The date and time when the session started. If you opened a *.csv* file, this is the start time of the first synchronization.

Monitor session ended The date and time when the session ended. If you opened a *.csv* file, this is the end time of the last synchronization.

Monitor session duration The total length of the session. If you have opened a *.csv* file, this is the time between the start of the first synchronization and the end of the last synchronization.

Session property sheet: Statistics tab

The Statistics tab of the Session property sheet has the following components:

Color Shows the color used to represent the property.

Property Shows the type of property.

Value Shows the value of the property.

Limit Shows the maximum allowed value for the property.

Note

The list of properties is obtained from the MobiLink server or the *.mlm* file that was opened, and it uses the language of the MobiLink server. Some characters may not display properly if the Monitor is using a different language.

Synchronization property sheet: General tab

The General tab of the Synchronization property sheet has the following components:

Overall Synchronization Statistics These statistics provide general information about the selected synchronization.

- ◆ **Sync** A unique number assigned to each synchronization within a session by the MobiLink Monitor.
- ◆ **User** The name of MobiLink client.
- ◆ **Version** The name of the synchronization version.
- ◆ **Start time** Date-time (in ISO-8601 extended format) for the start of the synchronization. The format is either `YYYY-MM-DD hh:mm:ss.sss` or `YYYY-MM-DD hh:mm:ss,sss`, depending on your locale setting.

This time may be later than when the synchronization was requested by the client.

- ◆ **End time** Date-time (in ISO-8601 extended format) for the end of the synchronization. The format is either `YYYY-MM-DD hh:mm:ss.sss` or `YYYY-MM-DD hh:mm:ss,sss`, depending on your locale setting.
- ◆ **Active** Yes if the synchronization is in progress, otherwise no.
- ◆ **Completed** Yes if the synchronization completed successfully, otherwise no.

Synchronization Phase Statistics These statistics provide information about each phase of the synchronization.

- ◆ **Sync request** The time between receiving a sync request and starting to authenticate the user.
- ◆ **Authenticate User** The time required to verify that a sync request has the correct format and to authenticate the user.
- ◆ **Begin synchronization** The time required for the `begin_synchronization` event.
- ◆ **Upload** The time required for the uploaded data to be applied to the consolidated database.
- ◆ **Prepare for download** The time required for the `prepare_for_download` event.
- ◆ **Download** The time required for data to be fetched from the consolidated database and downloaded to the remote database.
- ◆ **End synchronization** The time required for the `end_synchronization` event.

See also

- ◆ “MobiLink statistical properties” [[MobiLink - Server Administration](#)]

Synchronization property sheet: Upload tab

The Upload tab of the Synchronization property sheet has the following components:

Statistics for You can choose to view upload statistics for all the tables that were synchronized or for individual tables. If you have opened a *.csv* file, you cannot view statistics for individual tables.

Number of warnings Total number of warnings that occurred for the upload.

Number of errors Total number of errors that occurred for the upload.

Inserted rows Number of row insertions that were uploaded from the synchronization client.

Deleted rows Number of row deletions that were uploaded from the synchronization client.

Updated rows Number of row updates that were uploaded from the synchronization client.

Conflicted inserts Number of uploaded inserts for which conflicts were detected.

Conflicted deletes Number of uploaded deletes for which conflicts were detected.

Conflicted updates Number of uploaded updates for which conflicts were detected.

Ignored inserts Number of uploaded inserts that were ignored.

Ignored deletes Number of uploaded deletes that were ignored.

Ignored updates Number of uploaded updates that were ignored.

Total bytes Total number of bytes uploaded from the synchronization client.

Deadlocks Number of deadlocks in the consolidated database that were detected during the upload.

Total rows Total number of rows uploaded from the synchronization client.

See also

- ◆ [“MobiLink statistical properties” \[MobiLink - Server Administration\]](#)

Synchronization property sheet: Download tab

The Download tab of the Synchronization property sheet has the following components:

Statistics for You can choose to view download statistics for all the tables that were synchronized or for individual tables. If you have opened a *.csv* file, you cannot view statistics for individual tables.

Number of warnings Number of warnings that occurred during the download.

Number of errors Number of errors that occurred during the download.

Rows fetched Number of rows fetched from the consolidated database by the MobiLink server (using *download_cursor* scripts).

Rows for delete Number of row deletions fetched from the consolidated database by the MobiLink server (using *download_delete_cursor* scripts).

Filtered rows Number of fetched rows that were not downloaded to the MobiLink client because they matched rows that the client uploaded.

Total bytes Bytes downloaded to the synchronization client.

Total rows Total number of rows downloaded to the synchronization client.

See also

- ◆ [“MobiLink statistical properties” \[MobiLink - Server Administration\]](#)

Synchronization property sheet: Synchronization tab

The Synchronization tab of the Synchronization property sheet has the following components:

Statistics for You can choose to view synchronization statistics for all the tables that were synchronized or for individual tables. If you have opened a *.csv* file, you cannot view statistics for individual tables.

Number of warnings Total number of warnings that occurred for the synchronization.

Number of errors Total number of errors that occurred for the synchronization.

Deadlocks Total number of deadlocks that occurred for the synchronization.

Number of tables Number of client tables that were involved in the synchronization.

Connection retries Number of times the MobiLink server retried the connection to the consolidated database.

See also

- ◆ [“MobiLink statistical properties” \[MobiLink - Server Administration\]](#)

Watch Manager dialog

The Watch Manager allows you to visibly distinguish synchronizations that meet criteria you specify, such as synchronizations that receive warnings or take a long time.

The Watch Manager dialog has the following components:

Available watches list This pane lists all available watches. There are three predefined watches: Active, Completed, and Failed. When you create a new watch, it is added to this list of watches.

- ◆ **New** Opens the New Watch dialog where you can create a new watch.
- ◆ **Edit** Opens the Edit Watch dialog where you can add or remove watch conditions and configure the synchronization display of the selected watch. You can edit any watch in the Available Watches list. For the predefined watches (Active, Completed, and Failed), you can only change the Chart pattern and overview color.
- ◆ **Delete** Deletes the selected watch from the Available Watches pane.

Current watches list Lists the watches that are active in order of their precedence. These watches can be edited to change the way they appear, and you can deactivate them by removing them from the Current Watches pane.

The order of watches in the Current Watches pane is important. Watches that are closer to the top of the list are processed first. You can use the Move Up and Move Down buttons to organize the order of the watches in the Current Watches pane.

- ◆ **Move Up** Moves the selected watch up one position in the list in the Current Watches pane.
- ◆ **Move Down** Moves the selected watch down one position in the list in the Current Watches pane.

Add Adds the watch selected in the Available Watches pane to the list of Current Watches.

Remove Removes the selected watch from the list of Current Watches.

Add All Adds all the available watches to the Current Watches pane.

Remove All Removes all the watches from the Current Watches pane.

See also

- ◆ [“Customizing your statistics” \[MobiLink - Server Administration\]](#)

Query Editor Help

Contents

Introduction to the Query Editor 298

Tables tab 300

Joins tab 302

Columns tab 304

INTO tab 305

WHERE tab 306

GROUP BY tab 307

HAVING tab 309

ORDER BY tab 310

Expression Editor 311

Results pane 313

SQL pane 314

Introduction to the Query Editor

The Query Editor is a tool that helps you build SELECT statements. You can create SQL queries in the Query Editor, or you can import queries and edit them. When you have finished your query, click OK to export it back into Sybase Central or Interactive SQL for processing.

The Query Editor provides a series of tabs that guide you through the components of a SQL query, most of which are optional. The tabs are presented in the order that SQL queries are usually built:

Tab	Description
“Tables tab” on page 300	Use this tab to specify the tables in your query.
“Joins tab” on page 302	Use this tab to specify a join strategy for combining the data in the tables. If you include more than one table in your query, you should specify a join strategy for combining the data in the tables. If you do not specify a join strategy for tables you added in the Tables tab, the Query Editor suggests one; if there is a foreign key relationship between the tables, it generates a join condition based on that relationship, or it suggests a cross product. When you import queries, the Query Editor accepts exactly the join strategy that you have specified (and an unspecified JOIN is not defaulted to KEY JOIN, as it would be otherwise in SQL Anywhere).
“Columns tab” on page 304	Use this tab to specify the columns in your result set. If you do not specify columns, all columns appear.
“INTO tab” on page 305	Use this tab if you want to assign results to variables.
“WHERE tab” on page 306	Use this tab if you want to specify conditions for restricting the rows in your result set.
“GROUP BY tab” on page 307	Use this tab if you want to group rows in the result set.
“HAVING tab” on page 309	Use this tab to restrict the rows in your result set based on group values.
“ORDER BY tab” on page 310	Use this tab if you want to sort the rows.

The Query Editor also contains the following tools:

Dialog	Description
“Expression Editor” on page 311	Use the Expression Editor to build search conditions or define computed columns.
Derived table or subquery dialog	Use this dialog, which is nearly identical to the main Query Editor, to create derived tables and subqueries.

Each component of the Query Editor has context-sensitive online help that describes how to use the tab, and provides links into the SQL Anywhere documentation that explains relevant concepts and usage.

Using the Query Editor

To open the Query Editor, open Interactive SQL, connect to a database, and click Tools ► Edit Query. If you have SQL code selected in Interactive SQL, the selected code is automatically imported into the Query Editor.

When you finish creating a query in the Query Editor, click OK to write the query to the Interactive SQL Statements pane.

You do not need to use SQL code to create queries with the Query Editor. However, you can use SQL with the Query Editor in the following ways:

- ◆ You can create a query in the SQL Statements pane in Interactive SQL, and import it into the Query Editor by highlighting the code before you open the editor.
- ◆ At any time while using the Query Editor, you can click SQL at the bottom of the dialog to see the SQL code for the query you are building. You can directly edit the code, and the fields are automatically updated in the Query Editor user interface.

You can configure the Editor from Interactive SQL or Sybase Central so that the SQL is fully formed, meaning that all table and column names fully qualified and names are quoted. This extra formatting is not normally necessary, but it ensures that the SQL works in all situations. You can also choose to get a list of tables on startup.

Query Editor limitations

The Query Editor builds SQL Anywhere SELECT statements. It is not designed to create views, although you can create them in Interactive SQL and reference them in the Query Editor. Nor was it designed to create update statements or other non-SELECT SQL statements. It creates a single SELECT statement, so it does not build unions or intersects of SELECT statements. In addition, the Query Editor does not support Transact-SQL syntax.

More information

- ◆ For an introduction to selecting data, see [“Queries: Selecting Data from a Table” \[SQL Anywhere Server - SQL Usage\]](#).
- ◆ For reference documentation, see [“SELECT statement” \[SQL Anywhere Server - SQL Reference\]](#).
- ◆ For more information about selecting data, see [“Queries: Selecting Data from a Table” \[SQL Anywhere Server - SQL Usage\]](#).

Tables tab

Use the Tables tab to select the tables, derived tables, and views you want to include in your query. You can create derived tables using the Create a Derived Table button. You cannot create views in the Query Editor, but you can create them in Interactive SQL and reference them in the Query Editor.

Include tables that you want to get data from, and tables that you want to include in joins. If you include more than one table or view in your query, you should use the Joins tab to specify how the tables are to be joined.

Caution

If you are including more than one table in your query, and the tables are large, you should define a join strategy on the Joins tab after adding each table. The processing can become very slow if you do not change the join strategy because the Query Editor sometimes has to default to a cross product and the Query Editor processes your query as you work.

Dialog components

Table pattern To restrict the tables in the Matching Tables box, type the name or partial name of tables. You can use wildcard characters in the pattern. For example, to get only tables starting with SYS, type SYS%.

For more information about using wild cards in the table pattern, see [“LIKE search condition” \[SQL Anywhere Server - SQL Reference\]](#).

Owner pattern To restrict the tables in the Matching Tables box, type the name or partial name of an owner. You can use wildcard characters in the pattern. For example, to get only tables starting with SYS, type SYS%.

For more information about using wild cards in the owner pattern, see [“LIKE search condition” \[SQL Anywhere Server - SQL Reference\]](#).

Table type To restrict the tables in the Matching Tables box, choose a type of table from the dropdown list. For example, you can choose to view only system tables.

Matching tables This lists all the tables in the database that match the criteria above. The default is all tables.

Selected tables To add a table to your query, select a table in the Matching Tables box and click the right arrow. The table appears in the Selected Tables box. To create a derived table for your query, click the middle icon (between the two arrows). If you add more than one table, you should use the Joins tab to specify a join strategy. When you add tables to your query by specifying them in the Selected Tables box, they are joined by default as cross products.

Results Click Results at the bottom of the dialog to see the results of your query, or an error message if the query contains errors.

SQL Click SQL at the bottom of the dialog to see the fully-formed SQL code for your query. You will notice that this SQL looks a little different from the SQL you normally write.

About views and derived tables

You can add views and derived tables to your query, as well as tables.

A view is a SELECT statement that is stored in the database as an object. You cannot create views in the Query Editor, but you can create them in Interactive SQL and enter them as tables in the Query Editor.

You can create derived tables in the Query Editor. Derived tables allow you to nest queries within a FROM clause. With derived tables, you can perform grouping of groups, or you can construct a join with a group, without having to create a view.

More information

- ◆ For more information about the Query Editor, see [“Introduction to the Query Editor”](#) on page 298.
- ◆ For an introduction to specifying tables, see [“The FROM clause: specifying tables”](#) [*SQL Anywhere Server - SQL Usage*].
- ◆ For reference information about specifying tables, see [“FROM clause”](#) [*SQL Anywhere Server - SQL Reference*].
- ◆ For reference information about derived tables, see [“FROM clause”](#) [*SQL Anywhere Server - SQL Reference*].
- ◆ For an introduction to subqueries, see [“Using Subqueries”](#) [*SQL Anywhere Server - SQL Usage*].
- ◆ For more information about subqueries, see [“Subqueries in search conditions”](#) [*SQL Anywhere Server - SQL Reference*].

Joins tab

Use this tab if you have more than one table in your query.

When you include more than one table in a query, the tables must somehow be joined. This tab allows you to define your joins.

Default joins

When you specify tables in the Tables tab, the Query Editor tries to generate a default join condition. It does this for two reasons. First, the Query Editor processes the query as you create it. If there is no default join, the tables create a cross product, and this can result in slow processing. Secondly, the Query Editor suggests a join strategy that might work for you.

If you add tables in the Query Editor Tables tab, the Query Editor checks to see if a foreign key relationship has been created between the tables. If there is one foreign key, it uses it to generate an ON condition. If there is more than one foreign key relationship, it uses the first one it finds. If there are no foreign keys, it does not generate an ON clause and the tables become a cross product.

You can always review your query by clicking the SQL tab, which is located at the bottom of the Query Editor dialog. You can edit your join strategy directly on the SQL tab, or you can use the Joins tab user interface to change it.

For more information about key joins, ON conditions, and cross products, see [“Joins: Retrieving Data from Several Tables” \[SQL Anywhere Server - SQL Usage\]](#).

Tip: All the fields in the Joins tab are resizable. You can also expand the Query Editor by pulling on its edges. You may need to resize the fields and dialog in order to read your table names.

Dialog components

Left table expression Select a table from the dropdown list. Only tables that have been entered in the Tables tab are available. Placing a table on the right or left is significant for outer joins.

Join type Select a join type from the dropdown list.

See [“Joined tables” \[SQL Anywhere Server - SQL Usage\]](#).

Right table expression Select a table from the dropdown list. Only tables that have been entered in the Tables tab are available. Placing a table on the right or left is significant for outer joins.

Condition Double-click to create an ON condition, if desired. The Query Editor inserts the keyword ON. For key joins and natural joins, the ON condition is generated by SQL Anywhere.

For information about ON conditions, see [“Explicit join conditions \(the ON clause\)” \[SQL Anywhere Server - SQL Usage\]](#).

Add/Delete Use to add or delete lines. Click the gray circle to the left of the line to select the line.

You must delete blank lines. This does not affect the tables in your query: to add or delete a table, use the Tables tab.

Results This pane displays the results of your query, or an error message if the query contains errors.

SQL Click SQL at the bottom of the dialog to see the SQL code for your query.

Using the joins tab

When you add more than one table to a query, the Query Editor attempts to create a default join strategy. If it cannot find a foreign key relationship between the tables, the default is a cross product. In most cases, cross products are not desirable.

To add or edit the join strategy, choose a table, a join type, and another table, all from the dropdown lists. Alternatively, click the SQL tab and edit the code directly.

Troubleshooting

If you receive an error message indicating that your join is not correct, click the SQL tab at the bottom of the window to review the SQL code. It may happen that empty quotation marks or extra commas have been inserted in your code, particularly if you have added and deleted lines on the Join tab. For example, the following query produces an error message. You need to delete the empty quotes that appear after *SalesOrders*:

```
FROM ("Customers"  
      JOIN "SalesOrders") ""  
      JOIN "SalesOrderItems"
```

More information

- ◆ For more information about the Query Editor, see [“Introduction to the Query Editor” on page 298](#).
- ◆ For more information about joins, see [“Joins: Retrieving Data from Several Tables” \[SQL Anywhere Server - SQL Usage\]](#).

Columns tab

Use this tab to restrict the columns that appear in your result set. You can specify columns, column aliases, computed columns, or subqueries. You specify subqueries using the Expression Editor.

Dialog components

Available columns This box lists all the tables you have chosen for your query, and the columns in each table.

Selected columns By default, all columns are selected for your query. To delete a column, select it in the Selected Columns box and click the left arrow. To display a column in your result set, select a column or set of columns in the Available Columns box and click the right arrow. Use the up and down arrows to reorder the columns in the Selected Columns box.

If you select the same column more than once, an alias is applied. You can edit the alias name.

DISTINCT Select DISTINCT if you want to eliminate duplicate rows from your result set.

Note: Many statements take significantly longer to execute when DISTINCT is specified, so you should reserve DISTINCT for cases where it is necessary. In addition, DISTINCT treats nulls as duplicates, so when you select DISTINCT, only one null is returned in the results.

Limit rows You can choose to retrieve only the first row of the result set, or only the number of rows that you specify. No matter what you choose, the maximum number of rows that appear in the Query Editor is 25.

Results Click Results at the bottom of the dialog to see the results of your query, or an error message if the query contains errors.

SQL Click SQL at the bottom of the dialog to see the SQL code for your query.

Adding a subquery

To add a subquery in the Query Editor, click the Add a Computed Column button, which is located between the lists of columns. The Expression Editor appears. In the Expression Editor, click the Subquery button, which is located beside the Not button.

More information

- ◆ For more information about the Query Editor, see [“Introduction to the Query Editor”](#) on page 298.
- ◆ For information about selecting columns, see [“The SELECT list: specifying columns”](#) [*SQL Anywhere Server - SQL Usage*].
- ◆ For more information about creating subqueries, see [“Expression Editor”](#) on page 311.

INTO tab

Use this tab if you want to assign results to variables.

Dialog components

Include INTO variables Select this option if you want to edit the variable names in the INTO variables column.

Selected columns This box lists all the columns you have chosen for your query.

INTO variables This is a list of variables to receive the value for each select list item. You can type the variable names directly into the fields.

Results Click Results at the bottom of the dialog to see the results of your query, or an error message if the query contains errors.

SQL Click SQL at the bottom of the dialog to see the SQL code for your query.

About INTO

INTO is used in procedures and triggers only. It specifies where the result set goes. There must be one variable for each column.

More information

- ◆ For more information about the Query Editor, see [“Introduction to the Query Editor”](#) on page 298.

WHERE tab

Use this tab to restrict the rows in your result set.

Dialog components

Criteria Use the Criteria pane to enter your WHERE conditions. You can type directly into this pane, or use the Expression Editor. To edit existing expressions, highlight the expression before you open the Expression Editor. Otherwise, what you create in the Expression Editor is appended to previously existing expressions.

Expression Editor Click the Calculator icon, located in the bottom right of the Criteria pane, to open the Expression Editor and build your WHERE condition.

Results Click Results at the bottom of the dialog to see the results of your query, or an error message if the query contains errors.

SQL Click SQL at the bottom of the dialog to see the SQL code for your query.

More information

- ◆ For more information about the Query Editor, see [“Introduction to the Query Editor”](#) on page 298.
- ◆ For an introduction to search conditions, see [“The WHERE clause: specifying rows”](#) [*SQL Anywhere Server - SQL Usage*].
- ◆ For more information about search conditions, see [“Search conditions”](#) [*SQL Anywhere Server - SQL Reference*].

GROUP BY tab

Use this tab if you want to group rows in the result set.

Dialog components

Available columns This box lists all the tables you have chosen for your query, and the columns in each table.

GROUP BY columns To group by a column, select a column or set of columns in the Available Columns box and click the right arrow. To delete a column, select it in the GROUP BY Columns box and click the left arrow. Use the up and down arrows to scroll through the columns in the GROUP BY Columns box.

Expression Editor Click the Calculator icon, located between the right and left arrows, to open the Expression Editor and build your GROUP BY condition.

CUBE button Click this button to create a CUBE operation query. CUBE adds subtotal rows into the result sets of queries with GROUP BY clauses, providing all possible combinations of the variables specified in the query.

ROLLUP button Click this button to create a ROLLUP operation query. ROLLUP adds subtotal rows into the result sets of queries with GROUP BY clauses.

Set button Click this button to create a concatenated grouping sets operation query. Like ROLLUP and CUBE, this operation adds subtotal rows into the result sets of queries with GROUP BY clauses.

GROUPING SETS Select this option to add GROUPING SETS to a query.

Results Click the Results tab at the bottom of the dialog to see the results of your query, or an error message if the query contains errors.

SQL Click the SQL tab at the bottom of the dialog to see the SQL code for your query.

About GROUP BY conditions

You can group by columns, alias names, or functions. The result of the query contains one row for each distinct set of values in the named columns, aliases, or functions. All null-containing rows are treated as a single set. The resulting rows are often referred to as groups since there is one row in the result for each group of rows from the table list. Aggregate functions can then be applied to these groups to get meaningful results.

When GROUP BY is used, the Columns tab, HAVING tab, and ORDER BY tab must not reference any identifier that is not named in the GROUP BY tab. The exception is that the Columns tab and HAVING tab may contain aggregate functions.

More information

- ◆ For more information about the Query Editor, see [“Introduction to the Query Editor”](#) on page 298.
- ◆ For an introduction to GROUP BY, see [“Applying aggregate functions to grouped data”](#) [*SQL Anywhere Server - SQL Usage*].
- ◆ For more information about GROUP BY, see [“The GROUP BY clause: organizing query results into groups”](#) [*SQL Anywhere Server - SQL Usage*].

- ◆ For more information about ROLLUP, see [“Using ROLLUP” \[SQL Anywhere Server - SQL Usage\]](#).
- ◆ For more information about CUBE, see [“Using CUBE” \[SQL Anywhere Server - SQL Usage\]](#).
- ◆ For more information about GROUPING SETS, see [“GROUP BY GROUPING SETS” \[SQL Anywhere Server - SQL Usage\]](#).

HAVING tab

Use this tab to restrict the rows in your result set based on group values.

Dialog components

Criteria Use the Criteria pane to enter your HAVING conditions. You can type directly into this pane, or use the Expression Editor. To edit existing expressions, highlight the expression before you open the Expression Editor. Otherwise, what you create in the Expression Editor is appended to previously existing expressions.

Expression Editor Click the Calculator icon, located in the bottom right of the Criteria pane, to open the Expression Editor and build your HAVING condition.

Results Click Results at the bottom of the dialog to see the results of your query, or an error message if the query contains errors.

SQL Click SQL at the bottom of the dialog to see the SQL code for your query.

About HAVING conditions

HAVING conditions can only be used if either the statement has a GROUP BY clause or the selected columns in the Columns tab include only aggregate functions. Any column names referenced in the HAVING clause must either be in the GROUP BY clause or be used as a parameter to an aggregate function in the HAVING clause.

More information

- ◆ For more information about the Query Editor, see [“Introduction to the Query Editor” on page 298](#).
- ◆ For an introduction to HAVING, see [“Applying aggregate functions to grouped data” \[SQL Anywhere Server - SQL Usage\]](#).
- ◆ For more information about HAVING, see [“The HAVING clause: selecting groups of data” \[SQL Anywhere Server - SQL Usage\]](#).

ORDER BY tab

Use this tab to sort the rows in your result set.

Dialog components

Available columns This box lists all the tables you have chosen for your query, and the columns in each table. It also lists any computed columns that you defined in the Columns tab.

ORDER BY columns This box stores the columns you have chosen to sort on. To sort on a column, select a column or set of columns in the Available Columns box and click the right arrow. To delete a column, select it in the ORDER BY Columns box and click the left arrow. Use the up and down arrows to specify the order of column evaluation. You can sort on column aliases.

Expression Editor Click the Calculator icon, located between the right and left arrows, to open the Expression Editor and build your ORDER BY condition.

Results Click Results at the bottom of the dialog to see the results of your query, or an error message if the query contains errors.

SQL Click SQL at the bottom of the dialog to see the SQL code for your query.

About ORDER BY conditions

Each item in the ORDER BY list can be labeled as an up arrow for ascending order (the default) or a down arrow for descending order. To change the order from ascending to descending, click the arrow.

The only way to ensure that rows are returned in a particular order is to use ORDER BY. In the absence of an ORDER BY clause, SQL Anywhere returns rows in whatever order is most efficient. This means that the appearance of result sets may vary depending on when you last accessed the row and other factors.

More information

- ◆ For more information about the Query Editor, see [“Introduction to the Query Editor” on page 298](#).
- ◆ For an introduction to ORDER BY, see [“The ORDER BY clause: ordering results” \[SQL Anywhere Server - SQL Usage\]](#).
- ◆ For more information about ORDER BY, see [“The ORDER BY clause: sorting query results” \[SQL Anywhere Server - SQL Usage\]](#) and [“Strategic sorting of query results” \[SQL Anywhere Server - SQL Usage\]](#).

Expression Editor

The Expression Editor helps you create search conditions, computed columns, and subqueries. To edit existing expressions, highlight the expression before you open the Expression Editor. Otherwise, what you create in the Expression Editor is appended to previously existing expressions when you click OK.

Dialog components

Expression This is where you build your expression.

Columns This box lists the columns that are in your query. To insert a column into your expression, double-click it here, or type it directly into the Expression box.

Functions Functions are predefined expressions used to return information about the database. To insert a function into your expression, choose it from the dropdown list.

See “[SQL Functions](#)” [[SQL Anywhere Server - SQL Reference](#)].

Stored Procedures This box lists the stored procedures that you can use.

Numeric keypad The numeric keypad is located in the bottom left section of the dialog. Click a number to insert it into the expression. You can also type numbers from your keyboard.

Comparison operators These arithmetic symbols, such as =, appear in the middle of the bottom section of the dialog. Click a symbol to insert it into the expression. Only a subset of common operators are included here, but you can type others from your keyboard.

See “[Comparison operators](#)” [[SQL Anywhere Server - SQL Reference](#)].

Logical operators Logical operators, such as AND, appear in the right bottom section of the dialog. Click an operator to insert it into the expression. This group is a subset of commonly used logical operators. You can use any logical operator by typing it from your keyboard.

See “[Logical operators](#)” [[SQL Anywhere Server - SQL Reference](#)].

Create a subquery button The subquery button is located with the logical operators. Click it to access a dialog that guides you in creating subqueries.

Adding a subquery

To create a subquery, open the Expression Editor and click the Subquery button (located next to the NOT button). This opens the Subquery dialog, which looks identical to the main Query Editor except that the word Subquery is in the title bar. You create a subquery just as you create a main query.

Editing a subquery

To edit a subquery in the Query Editor, highlight the subquery in the Criteria box, and click the Expression Editor button. Highlight the code in the Expression Editor, and click the Subquery button.

More information

- ◆ For more information about the Query Editor, see “[Introduction to the Query Editor](#)” on page 298.
- ◆ For more information about search conditions, see “[Search conditions](#)” [[SQL Anywhere Server - SQL Reference](#)].

- ◆ For more information about subqueries, see [“Subqueries in search conditions” \[SQL Anywhere Server - SQL Reference\]](#).

Results pane

This pane shows the result set or an error message. By default, you get only the first 25 rows of your result set. To see the entire result set, export your query back to Interactive SQL by clicking OK.

More information

- ◆ For more information about the Query Editor, see [“Introduction to the Query Editor” on page 298](#).
- ◆ For a complete list of error messages, see [SQL Anywhere 10 - Error Messages \[*SQL Anywhere 10 - Error Messages*\]](#).

SQL pane

This pane shows you the SQL code as it is developed. You can directly edit the code, and the fields are automatically updated in the Query Editor user interface.

You will notice that this SQL looks a little different from the SQL you normally write. This SQL is fully formed, meaning that all tables are prefixed with owner name, all strings are enclosed in quotation marks, and so on. This extra formatting is not normally necessary, but it ensures that the SQL works in all situations.

More information

- ◆ See [“Introduction to the Query Editor”](#) on page 298.

SQL Anywhere Console Utility Help

Contents

- Using the SQL Anywhere Console utility 316
- Console options 317
- Connection Viewer 318
- Message Viewer 319
- Property Viewer 320
- Check For Updates 321

Using the SQL Anywhere Console utility

The SQL Anywhere Console utility provides administration and monitoring facilities for database server connections.

The SQL Anywhere Console is available on many supported platforms, see the Administrative Tools table in [SQL Anywhere 10.0.1 Components by Platform](#).

On the platforms that the SQL Anywhere Console is not supported, you can use the connection-level, server-level, and database-level properties to obtain information or you can monitor your server from a computer running an operating system that supports the SQL Anywhere Console (such as Windows, Mac OS X, or Linux).

See “SQL Anywhere Console utility (dbconsole)” [[SQL Anywhere Server - Database Administration](#)].

Console options

You can set the following options for the SQL Anywhere Console utility:

Disable new connections Select this option to prevent other users from connecting to the database. The may be useful for some maintenance operations.

Enable request logging Select this option to record requests that the server processes to the log file. This option is primarily for troubleshooting purposes.

See “-zr server option” [[SQL Anywhere Server - Database Administration](#)].

Remember last statement Select this option to instruct the database server to capture the most recently-prepared SQL statement for each connection to databases on the server. For stored procedure calls, only the outermost procedure call appears, not the statements within the procedure.

See “-zl server option” [[SQL Anywhere Server - Database Administration](#)].

Idle client shutdown time Select this option to disconnect connections that have not submitted a request for the amount of time specified in the adjacent field. By default, this value is 120 seconds.

Quitting time You can type a time when the database server is to shut down. Use the same format as the data_format option setting for the database. You can view the current setting of the date_format option with the following query:

```
SELECT CONNECTION_PROPERTY ( 'date_format' )
```

Current time Displays the current time.

Log messages to file Select this option to log server messages to a file that you specify in the field below. You can click Browse to locate a file to which server messages are logged.

See also

- ◆ “sa_server_option system procedure” [[SQL Anywhere Server - SQL Reference](#)]
- ◆ “Server-level properties” [[SQL Anywhere Server - Database Administration](#)]

Connection Viewer

You can set the following options for the Connection Viewer:

Select which connection properties to display Shows the name and description of all connection properties. Select the connection properties you want to appear by placing a checkmark in the checkbox beside the property name.

See “[Connection-level properties](#)” [*SQL Anywhere Server - Database Administration*].

Refresh rate Type a time to specify how often the values are refreshed for selected properties. By default, values are refreshed every 4 seconds.

Message Viewer

Setting these options configures the Message Viewer in all places it can be viewed, including the Messages Pane in the SQL Anywhere Console utility, and the Server Messages and Executed SQL pane in Sybase Central.

You can set the following options for the Message Viewer:

Messages only Select if you only want messages to appear in the Message Viewer.

Time and messages Select this option if you want the date and time for each message to appear in the Message Viewer.

Refresh rate Type a time to specify how often the values are refreshed for selected properties. By default, values are refreshed every 4 seconds.

Property Viewer

You can set the following options for the Property Viewer:

Database Properties

You can set the following options for database properties:

Select which database properties to display Shows the name and description of all database properties. Select the database properties you want to appear by placing a checkmark in the checkbox beside the property name.

See “[Database-level properties](#)” [*SQL Anywhere Server - Database Administration*].

Refresh rate Type a time to specify how often the values are refreshed for selected properties. By default, values are refreshed every 4 seconds.

Server Properties

You can set the following options for server properties:

Select which server properties to display Shows the name and description of all database server properties. Select the database server properties you want to appear by placing a checkmark in the checkbox beside the property name.

See “[Server-level properties](#)” [*SQL Anywhere Server - Database Administration*].

Refresh rate Type a time to specify how often the values are refreshed for selected properties. By default, values are refreshed every 4 seconds.

Check For Updates

You can configure whether SQL Anywhere should check for software updates and how often it should do so. Checking for updates is done when you open Interactive SQL, Sybase Central, or the SQL Anywhere Console utility.

You can check for updates any time from the Start menu by choosing Programs ► SQL Anywhere 10 ► Check For Updates and from the Sybase Central, Interactive SQL, and SQL Anywhere Console utility Help menus.

The Check For Updates tab of the Options dialog in the SQL Anywhere Console utility has the following components:

When to check for updates Choose one of the following options to specify how often SQL Anywhere should check for updates. By default, Never is selected.

- ◆ **On application startup** Select this option if you want SQL Anywhere to check for updates each time Interactive SQL, Sybase Central, or the Console utility is started.
- ◆ **Daily** Select this option if you want SQL Anywhere to check for updates the first time either Interactive SQL, Sybase Central, or the Console utility is started each day.
- ◆ **Weekly** Select this option if you want SQL Anywhere to check for updates the first time either Interactive SQL, Sybase Central, or the SQL Anywhere Console utility is started each week.
- ◆ **Monthly** Select this option if you want SQL Anywhere to check for updates the first time either Interactive SQL, Sybase Central, or the SQL Anywhere Console utility is started each month.
- ◆ **Never** Select this option if you do not want SQL Anywhere to check for updates. This is the default setting.

What to check for Choose any combination of the following options to specify what types of updates SQL Anywhere should check for. By default, all of the following options are selected.

- ◆ **Express Bug Fix** Select this option if you want SQL Anywhere to check for Express Bug Fixes.

An express bug fix is a subset of the software with one or more bug fixes. The bug fixes are listed in the release notes for the update. Bug fix updates may only be applied to installed software with the same version number. Some testing has been performed on the software, but the software has not undergone full testing. You should not distribute these files with your application unless you have verified the suitability of the software yourself.

- ◆ **Maintenance Release** Select this option if you want SQL Anywhere to check for maintenance releases of the software.

A maintenance release is a complete set of software that upgrades installed software from an older version with the same major version number (version number format is *major.minor.patch.build*). Bug fixes and other changes are listed in the release notes for the upgrade.

- ◆ **Other Information** Select this option to check for other information, such as new product releases or upcoming events.

CHAPTER 12

SQL Language Links

Contents

SQL syntax help	324
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SQL syntax help

The following list provides links into the SQL Anywhere documentation for the following topics: SQL language elements, SQL statements, data types, and functions that are available to users of SQL Anywhere.

SQL data types

- [“Character data types” \[SQL Anywhere Server - SQL Reference\]](#)
- [“Numeric data types” \[SQL Anywhere Server - SQL Reference\]](#)
- [“Money data types” \[SQL Anywhere Server - SQL Reference\]](#)
- [“Bit array data types” \[SQL Anywhere Server - SQL Reference\]](#)
- [“Date and time data types” \[SQL Anywhere Server - SQL Reference\]](#)
- [“Binary data types” \[SQL Anywhere Server - SQL Reference\]](#)
- [“Domains” \[SQL Anywhere Server - SQL Reference\]](#)
- [“Data type conversions” \[SQL Anywhere Server - SQL Reference\]](#)
- [“Java and SQL data type conversion” \[SQL Anywhere Server - SQL Reference\]](#)

SQL functions

- [“Introduction to SQL functions” \[SQL Anywhere Server - SQL Reference\]](#)
- [“Function types” \[SQL Anywhere Server - SQL Reference\]](#)
- [“Alphabetical list of functions” \[SQL Anywhere Server - SQL Reference\]](#)

SQL language elements

- [“Keywords” \[SQL Anywhere Server - SQL Reference\]](#)
- [“Identifiers” \[SQL Anywhere Server - SQL Reference\]](#)
- [“Strings” \[SQL Anywhere Server - SQL Reference\]](#)
- [“Constants” \[SQL Anywhere Server - SQL Reference\]](#)
- [“Operators” \[SQL Anywhere Server - SQL Reference\]](#)
- [“Expressions” \[SQL Anywhere Server - SQL Reference\]](#)
- [“Search conditions” \[SQL Anywhere Server - SQL Reference\]](#)
- [“Special values” \[SQL Anywhere Server - SQL Reference\]](#)
- [“Variables” \[SQL Anywhere Server - SQL Reference\]](#)
- [“Comments” \[SQL Anywhere Server - SQL Reference\]](#)
- [“NULL value” \[SQL Anywhere Server - SQL Reference\]](#)

SQL statements

- “Using the SQL statement reference” [*SQL Anywhere Server - SQL Reference*]
- “ALLOCATE DESCRIPTOR statement [ESQL]” [*SQL Anywhere Server - SQL Reference*]
- “ALTER DATABASE statement” [*SQL Anywhere Server - SQL Reference*]
- “ALTER DBSPACE statement” [*SQL Anywhere Server - SQL Reference*]
- “ALTER DOMAIN statement” [*SQL Anywhere Server - SQL Reference*]
- “ALTER EVENT statement” [*SQL Anywhere Server - SQL Reference*]
- “ALTER FUNCTION statement” [*SQL Anywhere Server - SQL Reference*]
- “ALTER INDEX statement” [*SQL Anywhere Server - SQL Reference*]
- “ALTER MATERIALIZED VIEW statement” [*SQL Anywhere Server - SQL Reference*]
- “ALTER PROCEDURE statement” [*SQL Anywhere Server - SQL Reference*]
- “ALTER PUBLICATION statement [MobiLink] [SQL Remote]” [*SQL Anywhere Server - SQL Reference*]
- “ALTER REMOTE MESSAGE TYPE statement [SQL Remote]” [*SQL Anywhere Server - SQL Reference*]
- “ALTER SERVER statement” [*SQL Anywhere Server - SQL Reference*]
- “ALTER SERVICE statement” [*SQL Anywhere Server - SQL Reference*]
- “ALTER STATISTICS statement” [*SQL Anywhere Server - SQL Reference*]
- “ALTER SYNCHRONIZATION SUBSCRIPTION statement [MobiLink]” [*SQL Anywhere Server - SQL Reference*]
- “ALTER SYNCHRONIZATION USER statement [MobiLink]” [*SQL Anywhere Server - SQL Reference*]
- “ALTER TABLE statement” [*SQL Anywhere Server - SQL Reference*]
- “ALTER TRIGGER statement” [*SQL Anywhere Server - SQL Reference*]
- “ALTER VIEW statement” [*SQL Anywhere Server - SQL Reference*]
- “ATTACH TRACING statement” [*SQL Anywhere Server - SQL Reference*]
- “BACKUP statement” [*SQL Anywhere Server - SQL Reference*]
- “BEGIN statement” [*SQL Anywhere Server - SQL Reference*]
- “BEGIN TRANSACTION statement [T-SQL]” [*SQL Anywhere Server - SQL Reference*]
- “BREAK statement [T-SQL]” [*SQL Anywhere Server - SQL Reference*]
- “CALL statement” [*SQL Anywhere Server - SQL Reference*]
- “CASE statement” [*SQL Anywhere Server - SQL Reference*]

- “CHECKPOINT statement” [[SQL Anywhere Server - SQL Reference](#)]
- “CLEAR statement [Interactive SQL]” [[SQL Anywhere Server - SQL Reference](#)]
- “CLOSE statement [ESQL] [SP]” [[SQL Anywhere Server - SQL Reference](#)]
- “COMMENT statement” [[SQL Anywhere Server - SQL Reference](#)]
- “COMMIT statement” [[SQL Anywhere Server - SQL Reference](#)]
- “CONFIGURE statement [Interactive SQL]” [[SQL Anywhere Server - SQL Reference](#)]
- “CONNECT statement [ESQL] [Interactive SQL]” [[SQL Anywhere Server - SQL Reference](#)]
- “CONTINUE statement [T-SQL]” [[SQL Anywhere Server - SQL Reference](#)]
- “CREATE DATABASE statement” [[SQL Anywhere Server - SQL Reference](#)]
- “CREATE DBSPACE statement” [[SQL Anywhere Server - SQL Reference](#)]
- “CREATE DECRYPTED FILE statement” [[SQL Anywhere Server - SQL Reference](#)]
- “CREATE DOMAIN statement” [[SQL Anywhere Server - SQL Reference](#)]
- “CREATE ENCRYPTED FILE statement” [[SQL Anywhere Server - SQL Reference](#)]
- “CREATE EVENT statement” [[SQL Anywhere Server - SQL Reference](#)]
- “CREATE EXISTING TABLE statement” [[SQL Anywhere Server - SQL Reference](#)]
- “CREATE EXTERNLOGIN statement” [[SQL Anywhere Server - SQL Reference](#)]
- “CREATE FUNCTION statement” [[SQL Anywhere Server - SQL Reference](#)]
- “CREATE INDEX statement” [[SQL Anywhere Server - SQL Reference](#)]
- “CREATE LOCAL TEMPORARY TABLE statement” [[SQL Anywhere Server - SQL Reference](#)]
- “CREATE MATERIALIZED VIEW statement” [[SQL Anywhere Server - SQL Reference](#)]
- “CREATE MESSAGE statement [T-SQL]” [[SQL Anywhere Server - SQL Reference](#)]
- “CREATE PROCEDURE statement” [[SQL Anywhere Server - SQL Reference](#)]
- “CREATE PROCEDURE statement [T-SQL]” [[SQL Anywhere Server - SQL Reference](#)]
- “CREATE PUBLICATION statement [MobiLink] [SQL Remote]” [[SQL Anywhere Server - SQL Reference](#)]
- “CREATE REMOTE MESSAGE TYPE statement [SQL Remote]” [[SQL Anywhere Server - SQL Reference](#)]
- “CREATE SCHEMA statement” [[SQL Anywhere Server - SQL Reference](#)]
- “CREATE SERVER statement” [[SQL Anywhere Server - SQL Reference](#)]
- “CREATE SERVICE statement” [[SQL Anywhere Server - SQL Reference](#)]
- “CREATE STATISTICS statement” [[SQL Anywhere Server - SQL Reference](#)]

“CREATE SUBSCRIPTION statement [SQL Remote]” [*SQL Anywhere Server - SQL Reference*]

“CREATE SYNCHRONIZATION SUBSCRIPTION statement [MobiLink]” [*SQL Anywhere Server - SQL Reference*]

“CREATE SYNCHRONIZATION USER statement [MobiLink]” [*SQL Anywhere Server - SQL Reference*]

“CREATE TABLE statement” [*SQL Anywhere Server - SQL Reference*]

“CREATE TRIGGER statement” [*SQL Anywhere Server - SQL Reference*]

“CREATE TRIGGER statement [T-SQL]” [*SQL Anywhere Server - SQL Reference*]

“CREATE VARIABLE statement” [*SQL Anywhere Server - SQL Reference*]

“CREATE VIEW statement” [*SQL Anywhere Server - SQL Reference*]

“DEALLOCATE statement” [*SQL Anywhere Server - SQL Reference*]

“DEALLOCATE DESCRIPTOR statement [ESQL]” [*SQL Anywhere Server - SQL Reference*]

“Declaration section [ESQL]” [*SQL Anywhere Server - SQL Reference*]

“DECLARE statement” [*SQL Anywhere Server - SQL Reference*]

“DECLARE CURSOR statement [ESQL] [SP]” [*SQL Anywhere Server - SQL Reference*]

“DECLARE CURSOR statement [T-SQL]” [*SQL Anywhere Server - SQL Reference*]

“DECLARE LOCAL TEMPORARY TABLE statement” [*SQL Anywhere Server - SQL Reference*]

“DELETE statement” [*SQL Anywhere Server - SQL Reference*]

“DELETE (positioned) statement [ESQL] [SP]” [*SQL Anywhere Server - SQL Reference*]

“DESCRIBE statement [ESQL]” [*SQL Anywhere Server - SQL Reference*]

“DESCRIBE statement [Interactive SQL]” [*SQL Anywhere Server - SQL Reference*]

“DETACH TRACING statement” [*SQL Anywhere Server - SQL Reference*]

“DISCONNECT statement [ESQL] [Interactive SQL]” [*SQL Anywhere Server - SQL Reference*]

“DROP statement” [*SQL Anywhere Server - SQL Reference*]

“DROP CONNECTION statement” [*SQL Anywhere Server - SQL Reference*]

“DROP DATABASE statement” [*SQL Anywhere Server - SQL Reference*]

“DROP EXTERNLOGIN statement” [*SQL Anywhere Server - SQL Reference*]

“DROP PUBLICATION statement [MobiLink] [SQL Remote]” [*SQL Anywhere Server - SQL Reference*]

“DROP REMOTE MESSAGE TYPE statement [SQL Remote]” [*SQL Anywhere Server - SQL Reference*]

“DROP SERVER statement” [*SQL Anywhere Server - SQL Reference*]

“DROP SERVICE statement” [*SQL Anywhere Server - SQL Reference*]

“DROP STATEMENT statement [ESQL]” [*SQL Anywhere Server - SQL Reference*]

“DROP STATISTICS statement” [*SQL Anywhere Server - SQL Reference*]

“DROP SUBSCRIPTION statement [SQL Remote]” [*SQL Anywhere Server - SQL Reference*]

“DROP SYNCHRONIZATION SUBSCRIPTION statement [MobiLink]” [*SQL Anywhere Server - SQL Reference*]

“DROP SYNCHRONIZATION USER statement [MobiLink]” [*SQL Anywhere Server - SQL Reference*]

“DROP VARIABLE statement” [*SQL Anywhere Server - SQL Reference*]

“EXCEPT statement” [*SQL Anywhere Server - SQL Reference*]

“EXECUTE statement [ESQL]” [*SQL Anywhere Server - SQL Reference*]

“EXECUTE statement [T-SQL]” [*SQL Anywhere Server - SQL Reference*]

“EXECUTE IMMEDIATE statement [SP]” [*SQL Anywhere Server - SQL Reference*]

“EXIT statement [Interactive SQL]” [*SQL Anywhere Server - SQL Reference*]

“EXPLAIN statement [ESQL]” [*SQL Anywhere Server - SQL Reference*]

“FETCH statement [ESQL] [SP]” [*SQL Anywhere Server - SQL Reference*]

“FOR statement” [*SQL Anywhere Server - SQL Reference*]

“FORWARD TO statement” [*SQL Anywhere Server - SQL Reference*]

“FROM clause” [*SQL Anywhere Server - SQL Reference*]

“GET DATA statement [ESQL]” [*SQL Anywhere Server - SQL Reference*]

“GET DESCRIPTOR statement [ESQL]” [*SQL Anywhere Server - SQL Reference*]

“GET OPTION statement [ESQL]” [*SQL Anywhere Server - SQL Reference*]

“GOTO statement [T-SQL]” [*SQL Anywhere Server - SQL Reference*]

“GRANT statement” [*SQL Anywhere Server - SQL Reference*]

“GRANT CONSOLIDATE statement [SQL Remote]” [*SQL Anywhere Server - SQL Reference*]

“GRANT PUBLISH statement [SQL Remote]” [*SQL Anywhere Server - SQL Reference*]

“GRANT REMOTE statement [SQL Remote]” [*SQL Anywhere Server - SQL Reference*]

“GRANT REMOTE DBA statement [MobiLink] [SQL Remote]” [*SQL Anywhere Server - SQL Reference*]

“GROUP BY clause” [*SQL Anywhere Server - SQL Reference*]

“HELP statement [Interactive SQL]” [*SQL Anywhere Server - SQL Reference*]

“IF statement” [*SQL Anywhere Server - SQL Reference*]

“IF statement [T-SQL]” [*SQL Anywhere Server - SQL Reference*]

“INCLUDE statement [ESQL]” [[SQL Anywhere Server - SQL Reference](#)]

“INPUT statement [Interactive SQL]” [[SQL Anywhere Server - SQL Reference](#)]

“INSERT statement” [[SQL Anywhere Server - SQL Reference](#)]

“INSTALL JAVA statement” [[SQL Anywhere Server - SQL Reference](#)]

“INTERSECT statement” [[SQL Anywhere Server - SQL Reference](#)]

“LEAVE statement” [[SQL Anywhere Server - SQL Reference](#)]

“LOAD STATISTICS statement” [[SQL Anywhere Server - SQL Reference](#)]

“LOAD TABLE statement” [[SQL Anywhere Server - SQL Reference](#)]

“LOCK TABLE statement” [[SQL Anywhere Server - SQL Reference](#)]

“LOOP statement” [[SQL Anywhere Server - SQL Reference](#)]

“MESSAGE statement” [[SQL Anywhere Server - SQL Reference](#)]

“OPEN statement [ESQL] [SP]” [[SQL Anywhere Server - SQL Reference](#)]

“OUTPUT statement [Interactive SQL]” [[SQL Anywhere Server - SQL Reference](#)]

“PARAMETERS statement [Interactive SQL]” [[SQL Anywhere Server - SQL Reference](#)]

“PASSTHROUGH statement [SQL Remote]” [[SQL Anywhere Server - SQL Reference](#)]

“PREPARE statement [ESQL]” [[SQL Anywhere Server - SQL Reference](#)]

“PREPARE TO COMMIT statement” [[SQL Anywhere Server - SQL Reference](#)]

“PRINT statement [T-SQL]” [[SQL Anywhere Server - SQL Reference](#)]

“PUT statement [ESQL]” [[SQL Anywhere Server - SQL Reference](#)]

“RAISERROR statement [T-SQL]” [[SQL Anywhere Server - SQL Reference](#)]

“READ statement [Interactive SQL]” [[SQL Anywhere Server - SQL Reference](#)]

“READTEXT statement [T-SQL]” [[SQL Anywhere Server - SQL Reference](#)]

“REFRESH MATERIALIZED VIEW statement” [[SQL Anywhere Server - SQL Reference](#)]

“REFRESH TRACING LEVEL statement” [[SQL Anywhere Server - SQL Reference](#)]

“RELEASE SAVEPOINT statement” [[SQL Anywhere Server - SQL Reference](#)]

“REMOTE RESET statement [SQL Remote]” [[SQL Anywhere Server - SQL Reference](#)]

“REMOVE JAVA statement” [[SQL Anywhere Server - SQL Reference](#)]

“REORGANIZE TABLE statement” [[SQL Anywhere Server - SQL Reference](#)]

“RESIGNAL statement” [[SQL Anywhere Server - SQL Reference](#)]

“RESTORE DATABASE statement” [[SQL Anywhere Server - SQL Reference](#)]

“RESUME statement” [[SQL Anywhere Server - SQL Reference](#)]

“RETURN statement” [[SQL Anywhere Server - SQL Reference](#)]

“REVOKE statement” [[SQL Anywhere Server - SQL Reference](#)]

“REVOKE CONSOLIDATE statement [SQL Remote]” [[SQL Anywhere Server - SQL Reference](#)]

“REVOKE PUBLISH statement [SQL Remote]” [[SQL Anywhere Server - SQL Reference](#)]

“REVOKE REMOTE statement [SQL Remote]” [[SQL Anywhere Server - SQL Reference](#)]

“REVOKE REMOTE DBA statement [SQL Remote]” [[SQL Anywhere Server - SQL Reference](#)]

“ROLLBACK statement” [[SQL Anywhere Server - SQL Reference](#)]

“ROLLBACK TO SAVEPOINT statement” [[SQL Anywhere Server - SQL Reference](#)]

“ROLLBACK TRANSACTION statement [T-SQL]” [[SQL Anywhere Server - SQL Reference](#)]

“ROLLBACK TRIGGER statement” [[SQL Anywhere Server - SQL Reference](#)]

“SAVE TRANSACTION statement [T-SQL]” [[SQL Anywhere Server - SQL Reference](#)]

“SAVEPOINT statement” [[SQL Anywhere Server - SQL Reference](#)]

“SELECT statement” [[SQL Anywhere Server - SQL Reference](#)]

“SET statement” [[SQL Anywhere Server - SQL Reference](#)]

“SET statement [T-SQL]” [[SQL Anywhere Server - SQL Reference](#)]

“SET CONNECTION statement [Interactive SQL] [ESQL]” [[SQL Anywhere Server - SQL Reference](#)]

“SET DESCRIPTOR statement [ESQL]” [[SQL Anywhere Server - SQL Reference](#)]

“SET OPTION statement” [[SQL Anywhere Server - SQL Reference](#)]

“SET OPTION statement [Interactive SQL]” [[SQL Anywhere Server - SQL Reference](#)]

“SET REMOTE OPTION statement [SQL Remote]” [[SQL Anywhere Server - SQL Reference](#)]

“SET SQLCA statement [ESQL]” [[SQL Anywhere Server - SQL Reference](#)]

“SETUSER statement” [[SQL Anywhere Server - SQL Reference](#)]

“SIGNAL statement” [[SQL Anywhere Server - SQL Reference](#)]

“START DATABASE statement” [[SQL Anywhere Server - SQL Reference](#)]

“START ENGINE statement [Interactive SQL]” [[SQL Anywhere Server - SQL Reference](#)]

“START JAVA statement” [[SQL Anywhere Server - SQL Reference](#)]

“START LOGGING statement [Interactive SQL]” [[SQL Anywhere Server - SQL Reference](#)]

“START SUBSCRIPTION statement [SQL Remote]” [[SQL Anywhere Server - SQL Reference](#)]

“START SYNCHRONIZATION DELETE statement [MobiLink]” [*SQL Anywhere Server - SQL Reference*]

“STOP DATABASE statement” [*SQL Anywhere Server - SQL Reference*]

“STOP ENGINE statement” [*SQL Anywhere Server - SQL Reference*]

“STOP JAVA statement” [*SQL Anywhere Server - SQL Reference*]

“STOP LOGGING statement [Interactive SQL]” [*SQL Anywhere Server - SQL Reference*]

“STOP SUBSCRIPTION statement [SQL Remote]” [*SQL Anywhere Server - SQL Reference*]

“STOP SYNCHRONIZATION DELETE statement [MobiLink]” [*SQL Anywhere Server - SQL Reference*]

“SYNCHRONIZE SUBSCRIPTION statement [SQL Remote]” [*SQL Anywhere Server - SQL Reference*]

“SYSTEM statement [Interactive SQL]” [*SQL Anywhere Server - SQL Reference*]

“TRIGGER EVENT statement” [*SQL Anywhere Server - SQL Reference*]

“TRUNCATE TABLE statement” [*SQL Anywhere Server - SQL Reference*]

“UNION statement” [*SQL Anywhere Server - SQL Reference*]

“UNLOAD statement” [*SQL Anywhere Server - SQL Reference*]

“UNLOAD TABLE statement” [*SQL Anywhere Server - SQL Reference*]

“UPDATE statement” [*SQL Anywhere Server - SQL Reference*]

“UPDATE (positioned) statement [ESQL] [SP]” [*SQL Anywhere Server - SQL Reference*]

“UPDATE statement [SQL Remote]” [*SQL Anywhere Server - SQL Reference*]

“VALIDATE statement” [*SQL Anywhere Server - SQL Reference*]

“WAITFOR statement” [*SQL Anywhere Server - SQL Reference*]

“WHENEVER statement [ESQL]” [*SQL Anywhere Server - SQL Reference*]

“WHILE statement [T-SQL]” [*SQL Anywhere Server - SQL Reference*]

“WINDOW clause” [*SQL Anywhere Server - SQL Reference*]

“WRITETEXT statement [T-SQL]” [*SQL Anywhere Server - SQL Reference*]

Index

A

- add service dependencies dialog
 - description, 106
- add service group dependencies dialog
 - description, 106
- add table mappings wizard
 - (see new table mappings wizard)
- add tracing level dialog
 - description, 107
- add watch dialog
 - description, 134
- agent configuration dialog
 - QAnywhere description, 231
- article property sheet
 - about, 26
 - UltraLite, 240
- articles
 - property sheet, 26
 - UltraLite property sheet, 240

B

- breakpoints dialog
 - description, 134
- bugs
 - providing feedback, xv

C

- carrier property sheet
 - description, 149
- change settings dialog
 - description, 107
- change tracing level dialog
 - description, 108
- change user to consolidated user dialog
 - description, 109
- change user to remote user dialog
 - description, 109
- check constraint property sheet
 - about, 27
- check constraints
 - property sheet, 27
- check for updates tab
 - console [dbconsole] utility options dialog, 321

- Interactive SQL options dialog, 268
- client
 - QAnywhere property sheet, 220
- client message stores
 - QAnywhere property sheet, 221
- client property sheets
 - QAnywhere description, 220
- client store property sheet
 - QAnywhere description, 221
- Code Editor
 - configuring appearance, 264
- column permissions dialog
 - description, 110
- column property sheet
 - about, 28
 - MobiLink, 149
 - UltraLite, 240
- column property sheet (view)
 - about, 31
- columns
 - MobiLink property sheet, 149
 - property sheet, 28
 - UltraLite property sheet, 240
- columns (view)
 - property sheet, 31
- configuration for iAnywhere driver for Oracle dialog
 - description, 23
- configuring
 - Interactive SQL, 259
 - SQL Anywhere Console [dbconsole] utility, 317
- connect dialog
 - advanced tab (MobiLink and QAnywhere), 11
 - advanced tab (SQL Anywhere), 10
 - advanced tab (UltraLite), 12
 - database tab (SQL Anywhere), 8
 - description, 2
 - identification tab (MobiLink and QAnywhere), 5
 - identification tab (SQL Anywhere), 3
 - identification tab (UltraLite), 7
- connect to MobiLink server dialog
 - description, 272
- connected user property sheet
 - about, 32
- connected users
 - property sheet, 32
- connection details dialog
 - description, 110
- connection script property sheet

- about, 150
- connection scripts
 - MobiLink property sheet, 150
- connection viewer
 - configuring, 318
- connector property sheet
 - QAnywhere description, 221
- connectors
 - QAnywhere property sheet, 221
- console utility [dbconsole]
 - configuring, 317
 - connect dialog description, 2
 - options dialog, 317
 - setting options, 317
- consolidated user options dialog
 - description, 111
- consolidated user property sheet
 - about, 33
- consolidated users
 - property sheet, 33
- conventions
 - documentation, x
 - file names in documentation, xii
- CREATE EVENT statement
 - schedule property sheet, 79
- create trigger condition dialog
 - description, 112
- CREATE TRIGGER statement
 - create trigger condition dialog, 112
- D**
- database options dialog
 - description, 112
- database property sheet
 - about, 35
 - MobiLink description (ML plug-in), 150
 - UltraLite, 242
- databases
 - property sheet, 35
 - UltraLite property sheet, 242
- dbconsole utility
 - connect dialog description, 2
 - options dialog, 317
- dbspace property sheet
 - about, 40
- dbspaces
 - property sheet, 40
- debugger help
 - about, 134
- developer community
 - newsgroups, xv
- dialog boxes
 - about, 106
 - add service dependencies, 106
 - add service group dependencies, 106
 - add tracing level, 107
 - add watch, 134
 - breakpoints, 134
 - change settings, 107
 - change tracing level, 108
 - change user to consolidated user, 109
 - change user to remote user, 109
 - column permissions, 110
 - configuration for iAnywhere driver for Oracle dialog, 23
 - connect dialog, 2
 - connection details, 110
 - consolidated user options, 111
 - create trigger condition, 112
 - database options, 112
 - debugger, 134
 - edit or add breakpoint, 135
 - edit trigger condition, 113
 - export, 256
 - filter objects by owner, 113
 - grant permissions, 114
 - graphical plan, 114
 - group options, 114
 - Interactive SQL, 256
 - Interactive SQL options, 259
 - Java source, 135
 - lookup procedure name, 258
 - lookup table name, 258
 - MobiLink dialog, 235
 - MobiLink Monitor, 271
 - MobiLink Monitor connect to MobiLink server, 272
 - MobiLink Monitor edit watch, 275
 - MobiLink Monitor export to database, 278
 - MobiLink Monitor go to, 276
 - MobiLink Monitor new watch, 277
 - MobiLink Monitor options, 279
 - MobiLink Monitor sample properties, 288
 - MobiLink Monitor watch manager, 295
 - new members, 115

- new memberships, 115
- open analysis and connect to tracing database, 116
- plug-in preferences, 117
- pre-allocate space for dbspace, 121
- publisher options, 121
- QAnywhere about, 231
- QAnywhere agent configuration, 231
- QAnywhere member, 235
- query rewrite optimization history, 122
- recommendation, 122
- remote user options, 123
- rule editor, 237
- set clustered index, 124
- set consolidated user, 124
- set publisher, 124
- set service group, 125
- SQL Anywhere, 106
- SQL Anywhere Console [dbconsole] utility options, 317
- SQL Anywhere plug-in options, 116
- SQL statement, 125
- SQL viewer options, 126
- start database, 127
- TLS encryption options, 21
- trigger event, 127
- UltraLite, 249
 - UltraLite about, 249
 - UltraLite plug-in preferences, 249
 - UltraLite user options, 249
- unload data, 128
- update JAR file, 129
- update Java class, 129
- user options, 129
 - Windows CE message types for SQL Remote, 130
- directory access server property sheet
 - about, 40
- directory access servers
 - property sheet, 40
- documentation
 - conventions, x
 - SQL Anywhere, viii
- domain property sheet
 - about, 40
- domains
 - property sheet, 40

E

- edit or add breakpoint dialog
 - description, 135
- edit trigger condition dialog
 - description, 113
- edit watch dialog
 - MobiLink Monitor description, 275
- editor tab
 - Interactive SQL options dialog, 264
- event property sheet
 - about, 41
- events
 - property sheet, 41
- export dialog
 - description, 256
- export to database dialog
 - MobiLink Monitor description, 278
- Expression Editor
 - Query Editor, 311
- external login property sheet
 - about, 42
- external logins
 - property sheet, 42

F

- fast launcher
 - setting port number, 260
- feedback
 - documentation, xv
 - providing, xv
- filter objects by owner dialog
 - description, 113
- finding out more and providing feed back
 - technical support, xv
- foreign key property sheet
 - description, 43
 - UltraLite, 243
- foreign keys
 - property sheet, 43
 - UltraLite property sheet, 243
- function property sheet
 - description, 45
- functions
 - property sheet, 45

G

- gateway property sheet

- description, 151
- gateways
 - property sheet, 151
- general tab
 - Interactive SQL options dialog, 259
- getting help
 - technical support, xv
- global notification property sheet
 - description, 154
- go to dialog
 - MobiLink Monitor description, 276
- grant permissions dialog
 - description, 114
- graphical plan dialog
 - description, 114
- group options dialog
 - description, 114
- group property sheet
 - description, 46
- groups
 - property sheet, 46

H

- help
 - technical support, xv

I

- iAnywhere developer community
 - newsgroups, xv
- icons
 - used in manuals, xiii
- import/export tab
 - Interactive SQL options dialog, 262
- Index Consultant
 - description, 136
- index property sheet
 - description, 48
 - UltraLite, 244
- indexes
 - property sheet, 48
 - UltraLite property sheet, 244
- install-dir
 - documentation usage, xii
- integrated login property sheet
 - description, 50
- integrated logins
 - property sheet, 50

- Interactive SQL
 - configuring, 259
 - connect dialog description, 2
 - dialogs, 256
 - export dialog, 256
 - options dialog, 259
 - preferences, 259
 - setting options, 259
 - tools menu, 256
- Interactive SQL help
 - about, 254

J

- JAR file property sheet
 - description, 49
- JAR files
 - property sheet, 49
- Java class property sheet
 - description, 50
- Java classes
 - property sheet, 50
- Java source path dialog
 - description, 135

K

- Kerberos login property sheet
 - description, 50
- Kerberos logins
 - property sheet, 50

L

- login mapping property sheet
 - description, 50
- lookup procedure name dialog
 - description, 258
- lookup table name dialog
 - description, 258

M

- maintenance plan report
 - property sheet, 51
- maintenance plan report property sheet
 - description, 51
- member dialog
 - QAnywhere description, 235
- message property sheet
 - QAnywhere description, 226

- message type property sheet
 - description, 51
- message types
 - property sheet, 51
- message viewer
 - configuring, 319
- messages
 - QAnywhere property sheet, 226
- messages tab
 - Interactive SQL options dialog, 262
- MobiLink admin help
 - about, 148
- MobiLink dialog
 - MobiLink description, 235
- MobiLink model help
 - about, 168
- MobiLink Monitor
 - connect to MobiLink server, 272
- MobiLink Monitor dialog boxes
 - about, 271
- MobiLink Monitor property sheets
 - about, 271
- MobiLink plug-in
 - connect dialog description, 2
- MobiLink plug-in preferences
 - property sheet, 157
- MobiLink plug-in preferences property sheet
 - description, 157
- MobiLink property sheets
 - introduction, 149
- MobiLink user property sheet
 - MobiLink description, 52
- MobiLink users
 - property sheet, 52
- MobiLink wizards
 - MobiLink model mode, 168

N

- new members dialog
 - description, 115
- new memberships dialog
 - description, 115
- new watch dialog
 - MobiLink Monitor description, 277
- newsgroups
 - technical support, xv
- notifier property sheet

- description, 155

O

- ODBC configuration dialog
 - advanced tab, 20
 - database tab, 17
 - DBMLSync tab, 21
 - description, 14
 - login tab, 16
 - network tab, 18
 - ODBC tab, 14
- ODBC data sources
 - ODBC configuration dialog, 14
- online books
 - PDF, viii
- open analysis and connect to tracing database dialog
 - description, 116
- options
 - SQL Anywhere Console [dbconsole] utility, 317
- options dialog
 - configuring Interactive SQL, 259
 - configuring the SQL Anywhere Console [dbconsole] utility, 317
 - configuring the SQL Anywhere plug-in, 116
 - MobiLink Monitor configuring the MobiLink Monitor, 279

P

- parameter property sheet
 - description, 59
- parameters
 - property sheet, 59
- PDF
 - documentation, viii
- plan tab
 - Interactive SQL options dialog, 263
- plug-in preferences dialog
 - description, 117
 - UltraLite, 249
- port number
 - fast launcher, 260
- pre-allocate space for dbspace dialog
 - description, 121
- preferences
 - Interactive SQL, 259
 - SQL Anywhere Console [dbconsole] utility, 317
- primary key property sheet

- description, 60
- UltraLite, 245
- primary keys
 - property sheet, 60
 - UltraLite property sheet, 245
- procedure property sheet
 - description, 60
- procedures
 - property sheet, 60
- projects
 - property sheet, 97
- property sheets
 - articles, 26
 - check constraint, 27
 - columns, 28
 - columns (view), 31
 - connected users, 32
 - consolidated users, 33
 - databases, 35
 - dbspaces, 40
 - directory access server, 40
 - domains, 40
 - events, 41
 - external logins, 42
 - foreign keys, 43
 - functions, 45
 - groups, 46
 - indexes, 48
 - integrated logins, 50
 - introduction, 26
 - JAR files, 49
 - Java classes, 50
 - Kerberos logins, 50
 - login mappings, 50
 - maintenance plan report, 51
 - message types, 51
 - MobiLink carriers, 149
 - MobiLink columns, 149
 - MobiLink connection scripts, 150
 - MobiLink databases, 150
 - MobiLink gateways, 151
 - MobiLink global notifications, 154
 - MobiLink introduction, 149
 - MobiLink Monitor, 271
 - MobiLink Monitor sample, 287
 - MobiLink Monitor session, 289
 - MobiLink Monitor synchronization, 291
 - MobiLink notifier, 155
 - MobiLink plug-in preferences, 157
 - MobiLink remote databases, 157
 - MobiLink subscriptions, 158
 - MobiLink synchronization model, 158
 - MobiLink synchronized tables, 158
 - MobiLink table scripts, 159
 - MobiLink tables, 159
 - MobiLink users, 52, 160
 - MobiLink versions, 160
- parameter properties, 59
- primary key, 60
- procedures, 60
- proxy tables, 61
- publications, 63
- publisher, 73
- QAnywhere, 220
 - QAnywhere client store, 221
 - QAnywhere clients, 220
 - QAnywhere connector, 221
 - QAnywhere introduction, 220
 - QAnywhere message, 226
 - QAnywhere server store, 227
- remote procedures, 75
- remote servers, 76
- remote users, 77
- schedules, 79
- servers, 80
- SQL Anywhere, 26
 - SQL Anywhere services, 82
 - SQL Anywhere users, 99
 - SQL Remote subscription, 85
- statistics, 86
- synchronization subscription, 86
- system triggers, 93
- tables, 94
- triggers, 96
- UltraLite, 240
 - UltraLite articles, 240
 - UltraLite columns, 240
 - UltraLite databases, 242
 - UltraLite foreign keys, 243
 - UltraLite indexes, 244
 - UltraLite introduction, 240
 - UltraLite primary key, 245
 - UltraLite projects, 97
 - UltraLite publications, 246
 - UltraLite statements, 97
 - UltraLite tables, 247

- UltraLite unique constraints, 245
- UltraLite users, 248
- unique constraints, 98
- views, 100
- web services, 103
- property viewer
 - configuring, 320
- proxy table property sheet
 - description, 61
- proxy tables
 - property sheet, 61
- publication property sheet
 - description, 63
 - UltraLite, 246
- publications
 - property sheet, 63
 - UltraLite property sheet, 246
- publisher
 - property sheet, 73
- publisher options dialog
 - description, 121
- publisher property sheet
 - description, 73

Q

- QAnywhere dialog boxes
 - about, 231
- QAnywhere help
 - overview, 220
- Query Editor
 - Columns tab, 304
 - Expression Editor, 311
 - GROUP BY tab, 307
 - HAVING tab, 309
 - help, 298
 - INTO tab, 305
 - introducing, 298
 - Joins tab, 302
 - limitations, 299
 - ORDER BY tab, 310
 - Results pane, 313
 - SQL pane, 314
 - Tables tab, 300
 - Transact-SQL not supported, 299
 - troubleshooting joins, 303
 - unions not supported, 299
 - WHERE tab, 306

- query editor tab
 - Interactive SQL options dialog, 267
- query rewrite optimization history dialog
 - description, 122

R

- recommendation dialog
 - description, 122
- remote database property sheet
 - about, 157
- remote databases
 - MobiLink property sheet, 157
- remote procedure property sheet
 - description, 75
- remote procedures
 - property sheet, 75
- remote server property sheet
 - description, 76
- remote servers
 - property sheet, 76
- remote user options dialog
 - description, 123
- remote user property sheet
 - description, 77
- remote users
 - property sheet, 77
- results
 - exporting from Interactive SQL, 256
- results tab
 - Interactive SQL options dialog, 260
- rule editor dialog
 - description, 237

S

- sample properties dialog
 - MobiLink Monitor range tab, 288
- sample property sheet
 - MobiLink Monitor description, 287
- samples-dir
 - documentation usage, xii
- schedule property sheet
 - description, 79
- schedules
 - property sheet, 79
- server message store
 - QAnywhere property sheet, 227
- server property sheet

- description, 80
 - server store property sheet
 - QAnywhere description, 227
 - servers
 - property sheet, 80
 - service property sheet (SQL Anywhere)
 - description, 82
 - services
 - property sheet (SQL Anywhere), 82
 - session property sheet
 - MobiLink Monitor description, 289
 - set clustered index dialog
 - description, 124
 - set consolidated user dialog
 - description, 124
 - set publisher dialog
 - description, 124
 - set service group dialog
 - description, 125
 - setting options
 - Interactive SQL, 259
 - SQL Anywhere Console [dbconsole] utility, 317
 - software
 - checking for updates, 268
 - SQL Anywhere
 - documentation, viii
 - SQL Anywhere Console utility [dbconsole]
 - configuring, 317
 - connect dialog description, 2
 - dialog descriptions, 316
 - options dialog, 317
 - setting options, 317
 - SQL Anywhere dialog boxes
 - about, 106
 - SQL Anywhere plug-in
 - connect dialog description, 2
 - SQL Anywhere UltraLite help
 - overview, 240
 - SQL language links
 - about, 324
 - SQL Remote subscription property sheet
 - description, 85
 - SQL Remote subscriptions
 - property sheet, 85
 - SQL statement dialog
 - description, 125
 - SQL statements pane
 - configuring appearance, 264
 - SQL viewer options dialog
 - description, 126
 - start database dialog
 - description, 127
 - statistic property sheet
 - description, 86
 - statistics
 - property sheet, 86
 - subscription property sheet
 - about, 158
 - subscriptions
 - MobiLink property sheet, 158
 - support
 - newsgroups, xv
 - Sybase Central
 - connect dialog description, 2
 - dialog descriptions, 106
 - property sheet descriptions, 26
 - QAnywhere dialog descriptions, 231
 - QAnywhere property sheet descriptions, 220
 - UltraLite dialog descriptions, 249
 - UltraLite property sheet descriptions, 240
 - synchronization model property sheet
 - about, 158
 - synchronization models
 - property sheet, 158
 - synchronization property sheet
 - MobiLink Monitor description, 291
 - synchronization subscription property sheet
 - description, 86
 - synchronization subscriptions
 - property sheet, 86
 - synchronized table property sheet
 - description, 158
 - synchronized tables
 - property sheet, 158
 - system triggers
 - property sheet, 93
- ## T
- table property sheet
 - description, 94
 - MobiLink description, 159
 - UltraLite, 247
 - table script property sheet
 - about, 159
 - table scripts

- MobiLink property sheet, 159
- tables
 - MobiLink property sheet, 159
 - property sheet, 94
 - UltraLite property sheet, 247
- technical support
 - newsgroups, xv
- TLS Encryption Options dialog
 - description, 21
- Tools menu
 - Interactive SQL, 256
- Transact-SQL
 - not supported in Query Editor, 299
- trigger conditions
 - create trigger condition dialog, 112
- trigger event dialog
 - description, 127
- trigger property sheet
 - description, 96
- triggers
 - create trigger condition dialog, 112
 - property sheet, 96
- troubleshooting
 - newsgroups, xv
 - Query Editor runs slowly, 300
- typing completion
 - options dialog settings, 267

U

- UltraLite dialog boxes
 - about, 249
- UltraLite plug-in
 - connect dialog description, 2
- UltraLite project property sheet
 - description, 97
- UltraLite projects
 - property sheet, 97
- UltraLite statement property sheet
 - description, 97
- unions
 - not supported in Query Editor, 299
- unique constraint property sheet
 - description, 98
 - UltraLite, 245
- unique constraints
 - property sheet, 98
 - UltraLite property sheet, 245

- unload data dialog
 - description, 128
- update JAR file dialog
 - description, 129
- update Java class dialog
 - description, 129
- user interface
 - dialog boxes, 106
 - property sheets, 26
 - QAnywhere dialog boxes, 231
 - QAnywhere property sheets, 220
 - UltraLite dialog boxes, 249
 - UltraLite property sheets, 240
- user options dialog
 - description, 129
 - UltraLite, 249
- user property sheet
 - MobiLink description, 160
 - MobiLink users, 52
 - remote users, 77
 - SQL Anywhere description, 99
- user property sheet)
 - UltraLite description, 248
- users
 - MobiLink property sheet, 160
 - SQL Anywhere property sheet, 99
 - UltraLite property sheet, 248

V

- version property sheet
 - MobiLink about, 160
- versions
 - MobiLink property sheet, 160
- view property sheet
 - description, 100
- views
 - property sheet, 100

W

- watch manager dialog
 - MobiLink Monitor description, 295
- web services
 - property sheet, 103
- web services property sheet
 - description, 103
- Windows CE message types for SQL Remote dialog
 - description, 130

wizards

 MobiLink Model mode, 168