

SQLBase

Starter Guide

20-2905-1004



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SQLBase Starter Guide
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Preface

This book contains instructions for installing and configuring Centura SQLBase 7. Topics include:

- Pre-installation information
- Installing SQLBase
- Configuring your server and clients
- Starting the server
- Testing the client/server connection using SQLTalk or a SQL/API application

Who should read this manual

The *SQLBase Starter Guide* is intended for:

- **Application Developers** building client applications that access databases using frontend products like SQLTalk, SQLWindows, and the SQL/API.
- **Database Administrators (DBAs)** performing day-to-day operation and maintenance of the database.
- **System Administrators** maintaining and configuring the operating system, such as configuring the physical and logical devices on NetWare used to install SQLBase. This includes maintaining operating system access security.
- **Network Administrators** maintaining and configuring the network. This includes the network access security, logical and physical network address assignment, and network resources allocations.

What is in this manual

This manual is organized by task into the following chapters. There is also an index at the end of the manual.

1	<i>Introducing SQLBase 7</i>	What's new in SQLBase 7, platforms, SQLBase packages, what's in the box
2	<i>Preparing to Install SQLBase</i>	Automatically converting SQLBase databases from 6.1.x to 7, moving SQLBase 6.0.x and earlier databases to 7.0, SQL.INI file, Centura Books Online, SQLConsole, Quest/Web
3	<i>Installing and Configuring SQLBase Desktop</i>	Pre-installation considerations, installation procedures, Connectivity Administrator, SQL.INI file, running SQLBase as a service, starting and stopping the server, uninstalling SQLBase
4	<i>Installing and Configuring SQLBase Server - Windows 95 & Windows NT</i>	Pre-installation considerations, installation procedures, Connectivity Administrator, SQL.INI file, running SQLBase as a service, starting and stopping the server, uninstalling SQLBase
5	<i>Installing and Configuring SQLBase Server - NetWare</i>	Pre-installation considerations, installation procedures, SQL.INI file, NetWare NDS configurations, starting and stopping the server, uninstalling SQLBase
6	<i>Installing and Configuring SQLBase 32-bit Clients</i>	Pre-installation considerations, installation procedures, Connectivity Administrator, SQL.INI file, uninstalling SQLBase clients
7	<i>Installing and Configuring SQLBase 16-bit Clients</i>	Pre-installation considerations, installation procedures, Connectivity Administrator, SQL.INI file, uninstalling SQLBase clients

8	What now?	Testing your installation with SQLTalk, National Language Support, loading database files into SQLBase
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Notation conventions

The table below shows the notation conventions that this manual uses.

Notation	Explanation
User	The end-user of applications that you write
bold type	Menu items, push buttons, and field names. Things that you select. Keyboard keys that you press.
Courier 9	Code example
sql.ini MAPDLL.EXE	Program names and file names
Warning:	Precaution
Important:	Vital information
Note:	Supplemental information
Alt+I	A plus sign between key names means to press and hold down the first key while you press the second key

Other helpful resources



Centura Books Online. The Centura document suite is available online. This document collection lets you perform full-text indexed searches across the entire document suite, navigate the table of contents using the expandable/collapsible browser, or print any chapter. Open the collection by selecting the Centura Books Online icon from the **Start** menu or by double-clicking on the launcher icon in the program group.

Online Help. This is an extensive context-sensitive online help system. The online help offers a quick way to find information on topics including menu items, functions, messages, and objects.

World Wide Web. Centura Software's World Wide Web site contains information about Centura Software Corporation's partners, products, sales, support, training, and users. The URL is <http://www.centurasoft.com>.

To access Centura technical services on the Web, go to <http://www.centurasoft.com/support>. This section of our Web site is a valuable resource for customers with technical support issues, and addresses a variety of topics and services, including

technical support case status, commonly asked questions, access to Centura's Online Newsgroups, links to Shareware tools, product bulletins, white papers, and downloadable product updates.

For information on training, including course descriptions, class schedules, and Certified Training Partners, go to <http://www.centurasoft.com/training>.

SQLBase Documentation Set.

- *SQLBase Database Administrator's Guide*
This book contains information for DBAs creating and maintaining SQLBase databases.
- *SQLBase SQL Language Reference*
This book describes the SQL commands that you can execute in applications such as SQLTalk.
- *SQLBase SQLTalk Command Reference*
This book describes the SQLTalk interface and commands.
- *SQLTalk Help System*
This online documentation provides SQLBase users with a context-sensitive help system.
- *SQLBase SQL Application Programming Interface Reference*
This book is for application developers using Centura's SQL/API to write programs that access SQLBase databases.
- *SQLBase Advanced Topics Guide*
This book includes sections on database design, SQLBase internals, and performance.
- *SQLConsole Guide*
This book describes how to use SQLConsole, an online database monitoring and maintenance tool. SQLConsole also has an extensive on-line help facility.
- *Querying and Publishing on the Web*
This book contains user information and tutorials for Centura net.db (formerly Quest/Web).

Send comments to...

Anyone reading this manual can contribute to it. If you have any comments or suggestions, please send them to:

Technical Publications Department
Centura Software Corporation
975 Island Drive
Redwood Shores, CA 94065

or send email, with comments or suggestions to:

techpubs@centurasoft.com

Chapter 1

Introducing SQLBase 7

This chapter offers a general discussion of the new features of SQLBase 7. Additionally, it describes the two SQLBase packages, SQLBase Server and SQLBase Desktop, and their respective components. Use this chapter as a guide to determine the SQLBase components you want to install.

What's new in SQLBase 7

SQLBase 7 offers a number of new features, including:

- **External Functions** that extend the native functionality of a database. This feature allows you to integrate functionality created using various commonly available development environments into normal database operations. Once declared within the database, external functions can be called from regular stored procedures, triggers, or even direct from client applications.
- **Multiple Independent Connections** that allow support for multiple transactions within one application.
- **NDS (NetWare Directory Service) support** for SQLBase Server on NetWare 4.x to advertise SQLBase servers and databases on a global, rather than a local network.
- **Windows NT Service** support for running SQLBase for Windows NT as an NT service.
- **SQLBase Server Monitor** lets you obtain the status of SQLBase Server while it is running.
- **Connectivity Administrator** allows you to configure your database server, including network protocols.
- **ODBC 3 Driver** lets you build applications with any ODBC-compliant application development tool, such as Microsoft Visual Basic, or Centura Team Developer.

SQLBase Platforms

SQLBase is available on these platforms:

- NetWare, both 3.1.2 and 4.1.x
- Microsoft Windows 3.1 and Windows for Workgroups 3.11
- Windows NT 4.0 or later
- Windows 95

SQLBase supports multiple users with remote communication through a network as well as local communication.

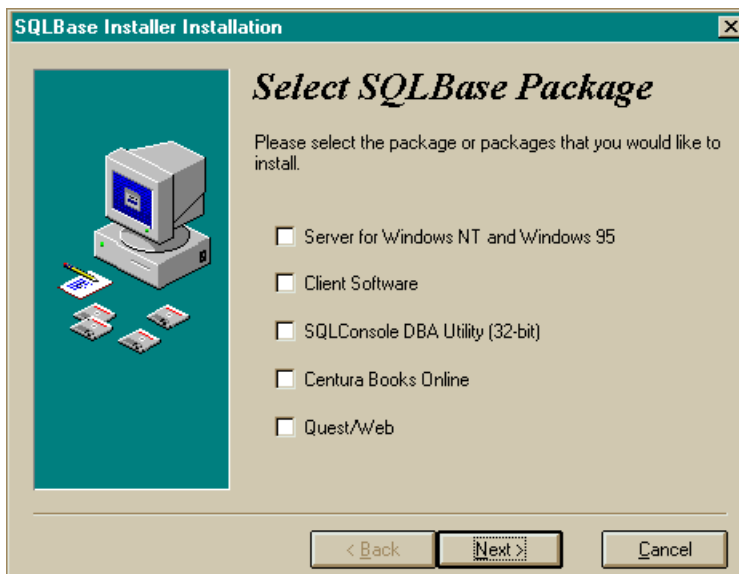
SQLBase packages

Centura offers two SQLBase packages: SQLBase Server and SQLBase Desktop. This section describes each of these packages and their components.

SQLBase Server package

SQLBase Server is a multi-user database server that runs on Windows 95, Windows NT, and NetWare 3.1.2 and 4.1. SQLBase is licensed based on concurrent user connections and comes in the following user bands: 5-, 10-, 25-, 50- and unlimited users.

The **Select SQLBase Package** dialog displays during Windows 95 and Windows NT installation, and allows you to select the SQLBase components you want to install. Using this dialog, you can install both client and server components during the same installation.



Note: Setup for SQLBase for NetWare does not display a **Select SQLBase Package** dialog. For information about SQLBase Server for NetWare, read *About SQLBase Server for NetWare* on page 1-6.

The following table describes the installation options in the SQLBase Server package:

Component option	Description	Read...
Server for Windows NT and Windows 95	<p>Select this option to install the SQLBase Server for Windows 95 and Windows NT.</p> <p>SQLBase Server is a 32-bit, multi-user database server program that can communicate both with local and remote client applications.</p> <p>Selecting this option also installs the Connectivity Administrator and SQLBase Server Monitor (SSM).</p>	<p><i>Chapter 4: Installing and Configuring SQLBase Server - Windows 95 and NT</i></p>
Client Software	<p>Select this option to install the following components:</p> <ul style="list-style-type: none"> • Connectivity Administrator <p>A tool for editing your SQL.INI file. (32 bit clients and servers only)</p> • SQLTalk <p>A front-end interface for SQL. You can run SQLTalk from Windows (16 bit), Windows 95, Windows NT, and NetWare.</p> • SQL/API <p>The application programming interface. Included with the SQL/API is sample source code you can use to learn how to utilize the SQL/API.</p> • Communication libraries <p>Front-end programs communicate with the server through support programs called communication libraries.</p> • DBError <p>A utility for looking up SQLBase error messages. Provides the error text, reason for the error, and suggested solutions. This is typically used during the application development process.</p> • SQLTrace <p>SQL/API trace and debugging utility. (16 bit only)</p> 	<p><i>Chapter 6: Installing and Configuring SQLBase 32-bit Clients</i></p> <p><i>Chapter 7: Installing and Configuring SQLBase 16-bit Clients</i></p>

Component option	Description	Read...
Client Software <i>(Continued)</i>	<ul style="list-style-type: none"> • SQLReplay Allows for the SQL/API activity generated by an application to be replayed against a database server without need of the application. (16 bit only) • Release notes and certification description Client software must be installed before a client application can access a SQLBase Server.	
SQLConsole DBA utility (32 bit)	SQLConsole is a database administration and monitoring tool for SQLBase Servers and databases. From a single Windows desktop, SQLConsole lets you perform administrative tasks for a local SQLBase server and all the SQLBase servers on a network.	<i>SQLConsole User's Guide.</i> This book is available in Centura Books Online.
Centura Books Online	Select this option to install a shortcut to the Centura Online Book collection.	<i>Chapter 2: Preparing to install SQLBase</i>
Quest/Web	Quest/Web lets you query, publish, and update database information on the World Wide Web. Select this option to install a 1-user evaluation copy.	<i>Chapter 2: Preparing to install SQLBase</i> <i>Querying and Publishing on the Web.</i> This book contains detailed instructions for installing Quest/Web and is available in: <ul style="list-style-type: none"> • Centura Books Online, • PDF format downloadable from the Centura Web site, and • HTML format viewable on our Web site. The URL is: http://www.centurasoft.com Note: Quest/Web has been renamed Centura net.db as of release 1.1. Please use the Centura net.db name when looking for information on the Centura Web site.

About SQLBase Server for NetWare

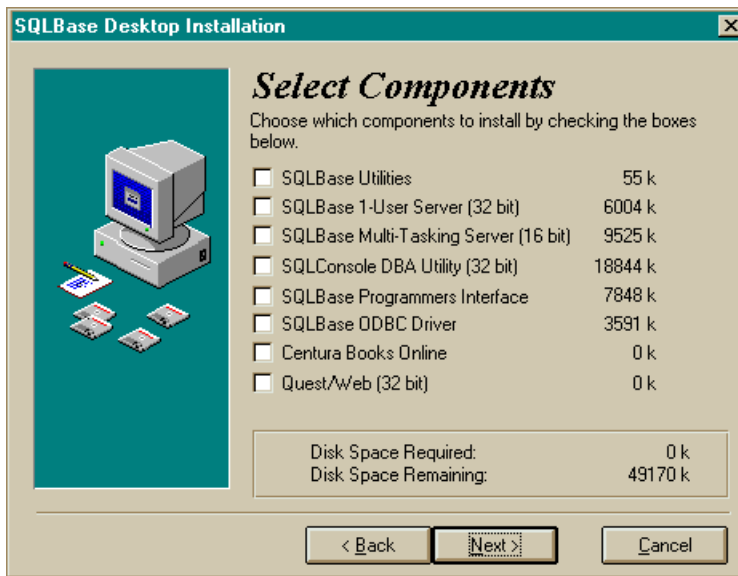
SQLBase Server for NetWare is a NetWare Loadable Module (NLM). An NLM is a program that you can load into NetWare server memory while the NetWare server is running. When loaded, an NLM is part of the NetWare operating system. When unloaded, an NLM releases the memory and resources that were allocated to it.

Centura provides two versions of the SQLBase Server for NetWare:

- SQLBase Server for NetWare 4.1.x, running under the NetWare 4.1.x operating system and supporting the NetWare Directory Services (NDS).
- SQLBase Server for NetWare 3.1.2, supporting the NetWare Bindery database.

SQLBase Desktop package

SQLBase Desktop is a single-user database server that runs on Windows 3.x, Windows 95, and Windows NT. It is licensed by machine, and comes in the following machine packs: 1-, 5-, and 25-machine packs.



The following table describes the installation options in the SQLBase Desktop package:

Component option	Description	Read...
SQLBase Utilities	Select this option to install : <ul style="list-style-type: none"> • DBError A utility for looking up SQLBase error messages. Provides the error text, reason for the error, and suggested solutions. This is typically used during the application development process. 	
SQLBase 1-User Server (32 bit)	Select this option to install SQLBase Server 1-user and the associated client software. SQLBase Server is a 32-bit database server program that runs under the Microsoft Windows 95 and Windows NT operating system. It can communicate both with local and remote client applications. <p>Client software includes:</p> <ul style="list-style-type: none"> • Connectivity Administrator A tool for editing your SQL.INI file. • SQLBase Server Monitor (SSM) A tool that allows you to obtain the status of SQLBase Server while it is running and provides a live report of all active SQLBase databases. • SQLTalk A front-end interface for SQL. You can run SQLTalk from Windows (16 bit), Windows 95, Windows NT, and NetWare. • SQL/API The application programming interface. Included with the SQL/API is sample source code you can run to learn how the SQL/API handles certain SQLBase features. • Communication libraries Front-end programs communicate with the server through support programs called communication libraries. 	<i>Chapter 4: Installing and Configuring SQLBase 32-bit Clients</i>

Component option	Description	Read...
SQLBase 1-User Server (32 bit) <i>(Continued)</i>	<ul style="list-style-type: none"> • Release notes and certification description Client software must be installed before a client application can access a SQLBase Server.	
SQLBase Multi-Tasking Server (16 bit)	Select this option to install the SQLBase Server multi-tasking server for Windows (16 bit) and associated client software. Client software includes: <ul style="list-style-type: none"> • SQLTalk A front-end interface for SQL. You can run SQLTalk from Windows (16 bit), Windows 95, Windows NT, and NetWare. • SQL/API The application programming interface. Included with the SQL/API is sample source code you can run to learn how the SQL/API handles certain SQLBase features. • Communication libraries Front-end programs communicate with the server through support programs called communication libraries. • SQLTrace SQL/API trace and debugging utility. • SQLReplay Allows for the SQL/API activity generated by an application to be replayed against a database server without need of the application. • Release notes and certification description Client software must be installed before a client application can access a SQLBase Server.	<i>Chapter 5: Installing and Configuring SQLBase 16-bit Clients</i>

Component option	Description	Read...
SQLConsole DBA Utility	SQLConsole is a database administration and monitoring tool for SQLBase servers and databases. From a single Windows desktop, SQLConsole lets you perform administrative tasks for a local SQLBase server and all the SQLBase servers on a network.	<i>SQLConsole User's Guide</i> . This book is available in Centura Books Online.
SQLBase Programmers Interface	Select this option to install the SQL/API software and SQLBase ++. The SQL/API is a language interface that lets you develop a client application that uses SQL. You embed SQL/API functions within your C program, which allows you to use SQL without giving up the power and flexibility of either programming language. You can create and run SQL/API applications on any of the server platforms.	<i>SQLBase SQL Application Programming Interface Reference</i> . This book is available in Centura Books Online.
SQLBase ODBC Driver	Select this option to install an industry-standard ODBC 3.0 driver that fully supports multi-threaded applications.	<i>ODBC Online Help System</i>
Centura Books Online	Select this option to install a shortcut to the Centura Online Book collection.	<i>Chapter 2: Preparing to install SQLBase</i>
Quest/Web (32 bit)	Quest/Web lets you query, publish, and update database information on the World Wide Web. Select this option to install a 1-user evaluation copy.	<i>Chapter 2: Preparing to install SQLBase</i> <i>Querying and Publishing on the Web</i> . This book contains detailed instructions for installing Quest/Web and is available in: <ul style="list-style-type: none"> • Centura Books Online, • PDF format downloadable from the Centura Web site, and • HTML format viewable on our Web site. The URL is: http://www.centurasoft.com Note: Quest/Web has been renamed Centura net.db as of release 1.1. Please use the Centura net.db name when looking for information on the Centura Web site.

Chapter 2

Preparing to install SQLBase

This chapter contains a discussion of the issues you need to address prior to installing SQLBase. Topics include:

- Automatically converting SQLBase databases from 6.1.x format to 7 format
- Moving SQLBase 6.0.x and earlier databases to SQLBase 7
- SQL.INI file
- Centura Books Online
- SQLConsole
- Quest/Web

Release Notes

Please read the release notes prior to installing your SQLBase software.

Automatically converting SQLBase databases from 6.1.x format to 7.0 format

Before you can use an existing SQLBase 6.1.x database with a SQLBase 7 server, it must be converted to the SQLBase 7 format. The conversion occurs automatically when you connect to the database from the SQLBase 7 server using a client application.

Follow these steps to automatically format existing SQLBase 6.1.x databases:

1. Use the UNLOAD command to create a backup copy of your 6.1.x database. For information on UNLOAD, read the *SQLBase SQL Language Reference* book supplied with the earlier version.

Note: You cannot perform an automatic conversion on databases that need recovery.

2. Shut down the SQLBase 6.1.x server.
3. Install and start the SQLBase 7 Server.
4. Connect to the database with SQLBase 7.

For installation, starting, and stopping instructions, read the chapter in this book that pertains to your specific platform. For instructions on loading databases to SQLBase 7, read *Loading database files into SQLBase* on page 8-4.

Moving SQLBase 6.0.x and earlier databases to SQLBase 7.0

Before you can use an existing SQLBase 6.0.x or earlier database with a SQLBase 7 Server, you must first unload the database using your existing SQLBase Server. Use the SQL UNLOAD Command. For information on UNLOAD, read the *SQLBase SQL Language Reference* book supplied with the earlier version.

Follow these steps to automatically format existing SQLBase 6.1.x databases:

1. Use the UNLOAD command to create a backup copy of your 6.1.x database. For information on UNLOAD, read the *SQLBase SQL Language Reference* book supplied with the earlier version.
2. Shut down the SQLBase 6.1.x server.

3. Install and start the SQLBase 7 Server.
4. Create the database and load the file created in Step 1.
5. Connect to the database with SQLBase 7.

For instructions on loading databases to SQLBase 7, read *Loading database files into SQLBase* on page 8-4.

What is the SQL.INI file?

Centura client and server products each read their local SQL.INI file at program start-up. The SQL.INI file is a common file containing software configuration settings. Each client and server machine must have a SQL.INI file.

To edit the SQL.INI file, use the Centura Connectivity Administrator if you are running Windows 95 or Windows NT 4.0 or later, or use your preferred plain text editor, such as Windows Notepad.

Ideally, there should only be one SQL.INI file on a machine. If you find that you have multiple copies, consolidate the information into one copy and delete the others.

If the installation program finds an existing SQL.INI file, it updates the existing SQL.INI by making the following changes:

- Sets the default communication dynamic link library (dll) for 32-bit clients (Windows NT and Windows 95) to Anonymous Pipes.
- Sets the default server name to *server1*.
- Adds a specific comdll entry and keywords for each installed communication DLL. Each entry will initially be disabled; you must manually enable (uncomment) the appropriate entry, or use the Connectivity Administrator.

Centura Books Online

The Centura Books Online collection was created using Adobe Acrobat 3.0 and lets you perform full-text indexed searches across the entire document suite, navigate the table of contents using the expandable/collapsible browser, or print any chapter.

Open the collection by selecting the Centura Books Online icon from the **Start** menu or by double-clicking on the launcher icon in the program group.

Setup gives you the option of installing Acrobat Reader 3.0.

To copy the online book collection to your machine, copy the contents of the Books directory from the SQLBase CD. You must copy all of the folders recursively in this directory to obtain the files necessary for performing full-text indexed searches.

SQLConsole

SQLConsole is included on the SQLBase 7 CD. SQLConsole is a graphical database administration and monitoring tool for SQLBase servers and databases. From a single Windows desktop, SQLConsole lets you easily perform administrative tasks for a local SQLBase server and all the SQLBase servers on a network.

For more information on installing and using SQLConsole, read *SQLBase SQLConsole Guide*.

Quest/Web

An evaluation copy of Quest/Web is included on the SQLBase 7 CD. Please note that as of release 1.1.1 Quest/Web is now named Centura net. db.

Centura net.db from Centura Software Corporation lets you effortlessly query, publish, and update database information on the World Wide Web without the need to do any programming. In its simplest form, Centura net.db provides read-only access to data stored in a relational database, including images, charts, and data. In its most advanced form, Centura net.db is a Web-enabled application that allows you to create interactive Web pages where you can query, view, create, update, and graph data via a Web browser.

For information on installing and using Quest/Web, read *Querying and Publishing on the Web*.

Chapter 3

Installing and Configuring SQLBase Desktop

This chapter provides step-by-step instructions for installing SQLBase Desktop. Topics include:

- Pre-installation considerations
- Installation procedures
- Connectivity Administrator
- SQL.INI file
- Starting and stopping the server
- Uninstalling SQLBase

Pre-installation considerations

Software and hardware requirements

Before you install SQLBase Server, please note the following software and hardware requirements.

- Windows 95 or Windows NT or Windows 3.x or Windows for Workgroups 3.11
- 8 MB minimum RAM
- 10 MB server disk space
- 1.4 MB minimum disk space per database

Upgrading from a previous version

To upgrade your SQLBase software:

1. Make a copy of your current SQL.INI file for future reference.
2. Unload your old database files with your current version of SQLBase client software if you are upgrading from SQLBase 5.x or SQLBase 6.0.x.

Read the *SQLTalk Language Reference* or the *SQLConsole Guide* for more information on the UNLOAD command.

3. Shut down your current SQLBase Server.
4. Uninstall and completely remove the existing version of SQLBase (except for the database files) if:
 - You are installing SQLBase in the same directory as the existing version.
 - You have a beta release of SQLBase installed.

For information on uninstalling, read the documentation specific to the version you are removing.

5. Install the SQLBase server software. For installation instructions, read *Installing* on page 3-4.
6. Create or install your databases. If you are upgrading from SQLBase 6.1.x you can install your databases and they are automatically converted. If you are upgrading from SQLBase 6.0.x you must do a CREATE then LOAD. For instructions, read *Release Notes* on page 2-2 and *Moving SQLBase 6.0.x and earlier databases to SQLBase 7.0* on page 2-2.
7. If you upgraded from SQLBase version 5.x or 6.0.x, create your database then use the LOAD command to load your old database to a current SQLBase database. If you upgraded from version 6.1.x, your database will be automatically converted

when you connect to it with SQLBase 7. Read the *SQLTalk Language Reference* or the *SQLConsole Guide* for more information on the LOAD command.

Maintaining multiple installations

Note: This section applies only if you are installing SQLBase 1-User Server.

When SQLBase Server starts, it checks the registry to obtain configuration and file path information. To allow for two independent installations of SQLBase, there are two different registry locations:

```
HKEY_LOCAL_MACHINE\SOFTWARE\Centura\SQLBase\1
```

```
HKEY_LOCAL_MACHINE\SOFTWARE\Centura\SQLBase\2
```

At any given time, only one of these locations can be active, as indicated by a key “Active” with a value of 1. SQLBase searches . . . \SQLBase\1 for a value of 1, and if not present, searches . . . \SQLBase\2. SQLBase then takes its configuration information from the active server.

If neither entry is marked as Active, SQLBase will be unable to start, and the following occurs:

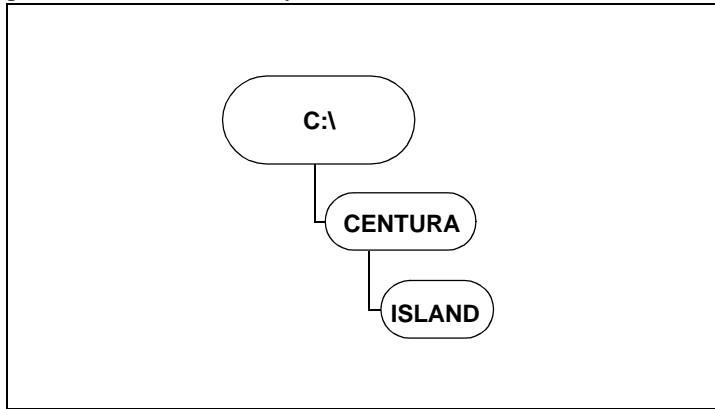
- If set to run as a service, this results in an error message from the NT Service Manager.
- If running as an application program, it results in an error message from SQLBase. Typically, this error will state that a configuration file, such as message.sql or SQL.INI, cannot be located or processed.

Centura recommends using SQLBase Server Monitor (SSM) to switch between the two installations. When running SQLBase on Windows NT as a service, SSM updates the NT Service Manager registry setting to reflect the active installation. Although you can change the status of the server using the registry, it is not recommended when running on NT with SQLBase as a service because of the changes to the NT Service Manager settings. Since this cannot be updated manually using the registry editor, the NT Service Manager will run its executable instance of SQLBase, while obtaining the configuration files from the other “Active” installation.

For information on the SQLBase Server Monitor (SSM) tool., read *Chapter 13, Running SQLBase as an NT Service* in the *Database Administrator's Guide*.

Directory organization

The default installation directory for SQLBase software is CENTURA. If you elect to install to another directory, be sure to *always* install future Centura server software products into that directory.



Default installation directory structure for SQLBase 7

Installing

This section describes how to install SQLBase Desktop software using the *setup.exe* installation program. This installation program creates directories on your hard disk (if they do not already exist) and copies files from the installation media to your disk. The files are in compressed format on the installation media.

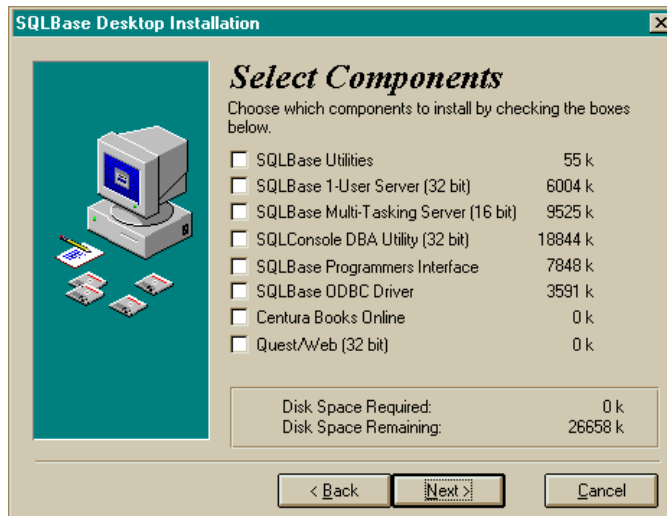
Centura recommends that you do not install SQLBase over a network to a remote machine, since the installer updates the registry on the machine on which it is being run. If you install a SQLBase server over a network to a remote machine, the registry settings for the target machine will not be correctly modified.

If you have a multi-boot machine, install SQLBase separately under each operating system. Separate installation ensures the proper registry entries and file locations are used.

Note: Prior to installing SQLBase, make sure that you do not have a SQLBase Server running (active) on your machine. If so, you must stop the server before installing SQLBase 7. Read *Starting and stopping the server* on page 3-10, for instructions on gracefully shutting down the server.

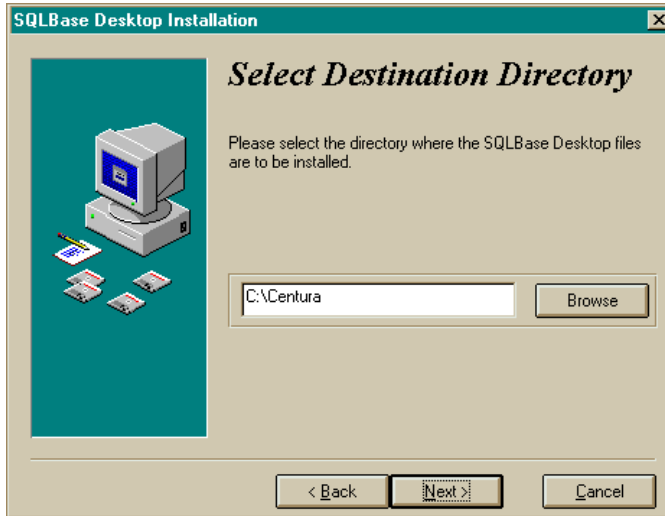
Installing SQLBase

1. The CD autostarts unless you have disabled this feature on your PC. If disabled, run the program *setup.exe* contained in the root of your CD ROM.
2. The **Welcome** dialog displays informational messages. Click **Next**.
3. Enter your user name, company, and license in the **User Information** dialog. The license information is located on the Certificate of Authenticity shipped with the SQLBase media. Click **Next**. The **Ready to Install!** dialog appears. Click **Next**.
4. The **Display License** dialog appears. Click **Yes** to indicate acceptance of the license agreement. If you click **No**, a dialog appears asking if you want to abort this installation.
5. The **Select Components** dialog appears. Use this dialog to select the SQLBase components you want to install. Select **SQLBase 1-User Server (32 bit)** or **SQLBase Multi-tasking Server (16 bit)**. Click **Next**. For a detailed description of the components, read *SQLBase packages* on page 1-3.

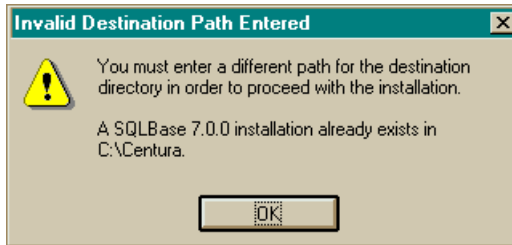


Note: Pressing **Cancel** during the installation process displays a dialog asking if you want to abort the installation. Click **Yes**, to abort. Click **No**, to continue installing SQLBase.

- Use the **Select Destination Directory** dialog to enter the path where you want to install the software. You can change the default directory at this time. The default directory is C:\Centura. Click **Next** after you are select the directory.



If you have an existing installation of SQLBase in the directory to which you are trying to install SQLBase 7, the installer displays the following warning message:



Click **OK** to return to the **Select Destination Directory** and select a different directory for this installation. Click **Next**.

- The **Select Program Group** dialog allows you to specify the program group to which you want to add the SQLBase icons. The **Ready to Install!** dialog appears.

Click **Next** if you are ready to install SQLBase. Click **Back** if you want to go back to the previous screens and change your selections.

The installation program displays a progress indicator that informs you of the files being copied from the installation media to your hard drive.

Note: Depending upon the packages you choose to install, the installer may prompt you for more responses before completing, e.g., Books Online.

8. The **Installation Complete** dialog displays after all of the files have been successfully copied to your machine. Click **Finish**. You should save the installation media in a safe place.
9. The installer displays the **Thank You for Installing SQLBase** dialog containing information specific to this release, including a description of the components. Click **OK**.
10. The final **Install** dialog prompts you to restart your system to complete the installation process. Click **OK** to restart. Click **Cancel** to return to Windows without restarting your system. For Windows 95, the restart updates the directory paths. For Windows NT, the restart is necessary to invoke the NT service feature.

Configuring SQLBase

This section describes how to configure SQLBase after installation. Topics include:

- Configuring SQLBase to work with clients
 - SQL.INI file configuration settings
-

Note: SQLBase for Windows runs in Windows Enhanced mode. If you are in Windows Standard mode, SQLBase disallows initialization.

Connectivity Administrator

Note: This section applies only if you are installing SQLBase 1-User Server. If you are installing the SQLBase Multi-tasking Server (16 bit), you must edit your SQL.INI file manually. For information, read *SQL.INI file configuration settings* on page 3-9.

The Connectivity Administrator lets you edit your SQL.INI file, adding databases and routers. Using this tool, you can set the configuration for SQLBase Server, including:

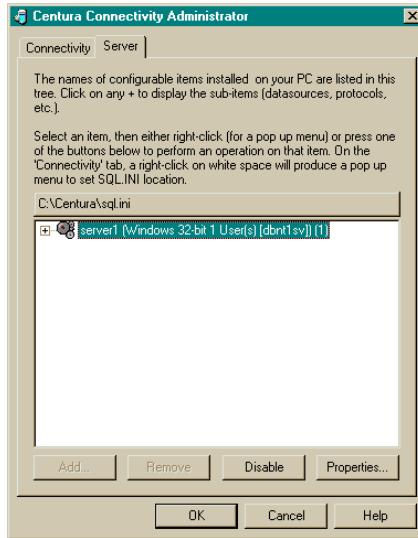
- Setting the options for a SQLBase server
- Enabling and disabling communication protocols
- Adding or removing a database name
- Viewing a list of database names

The Connectivity Administrator detects all relevant software installed on your computer, including network protocols and configurations. The automated configuration also sets simple and advanced parameters of the database server.

Note: You can configure connectivity for both your client and server during the same Connectivity Administrator session if they are on the same machine.

Using the Connectivity Administrator

1. Select **Programs, Centura, Connectivity Administrator** from the **Start** menu.



2. Click the **Server** tab to show the installed server.
3. Click the + symbol next to the server name to display listening protocols and databases.

The following actions are available when using the Connectivity Administrator.

- Left-click to select an item
- Double-click to change properties
- Right-click to display a menu of connectivity functions

For detailed information about the Connectivity Administrator, read the online help that is provided with this tool.

SQL.INI file configuration settings

Centura products read the SQL.INI file at program start-up. The SQL.INI file is the common file containing software configuration settings. Each client and server machine must have a SQL.INI file.

How SQLBase finds SQL.INI

When SQLBase starts, it checks the SQLBase registry key to obtain the location of the SQL.INI file. The registry locations used by SQLBase are:

```
HKEY_LOCAL_MACHINE\SOFTWARE\Centura\SQLBase\1
```

```
HKEY_LOCAL_MACHINE\SOFTWARE\Centura\SQLBase\2
```

Although there can be two registry entries for SQLBase, only one of these entries is active at any given time. For information, read *Maintaining multiple installations* on page 3-3. You can change the status of your servers using the SQLBase Server Monitor (SSM) tool. For information, read *Chapter 13, Running SQLBase as an NT Service* in the *Database Administrator's Guide*.

Running SQLBase Server as an NT service

Note: In order to install SQLBase Server for Windows NT as a service, you must have Administrator privileges.

Running SQLBase Server for Windows NT as a service is supported on the Windows NT 4.0 operating system platforms, including the server and workstation versions of Windows NT.

SQLBase Server for Windows NT always installs as a service program, but with SQLBase disabled as a service. During installation, SQLBase is set to run as a system account and to interact with the desktop.

Only one instance of SQLBase Server can be run on an NT machine at any given time, regardless of whether it is being run as a service program or an application program. You can use the SQLBase Server Monitor (SSM) to start and stop SQLBase as an NT service. For information, read *Chapter 13, Running SQLBase as an NT Service* in the *Database Administrator's Guide*.

For more information on running SQLBase Server for Windows NT as a service, read *Chapter 13, Running SQLBase Server as an NT Service* in the *Database Administrator's Guide*.

Starting and stopping the server

Windows 95

This section describes how to start and stop the SQLBase Server for Windows 95. You must start the database server before clients can access a database, with the exception of the Anonymous Pipes protocol. When this protocol is used, SQLBase will be started automatically when an application attempts to connect to a database on the same machine.

Starting

To start the server, select **Programs, Centura, and SQLBase 7.0 1-User Server** from the **Start** menu. This item changes depending upon your installation directory and the server installed.

Stopping

It is recommended that you disconnect all applications prior to stopping SQLBase. If however, applications are still connected when you stop the server, SQLBase automatically performs recovery on these databases during the next connection. If RECOVERY is set to off, SQLBase will be unable to recover the affected database.

To stop SQLBase Server, do one of the following:

For Windows 95 and Windows NT

- Select **File, Exit** from the SQLBase menu bar.
- Click the **Close** box on the SQLBase Server window.
- Programmatically shut down the server using either SQLTalk or using the SQLBase API. For information on the SQLBase API, read the *SQLBase SQL Application Programming Interface Reference*.

For Windows 3.x

- Click the **Close** box on the SQLBase Server window.
- Programmatically shut down the server using either SQLTalk or using the SQLBase API. For information on the SQLBase API, read the *SQLBase SQL Application Programming Interface Reference*.

Windows NT

This section describes how to start and stop the SQLBase Server for Windows NT. You must start the database server before clients can access a database, with the exception of Anonymous Pipes. When this protocol is used, SQLBase will be started automatically when an application attempts to connect to a database on the same machine.

Starting

By default, the setup installs SQLBase as an application. If you choose to run SQLBase Server as a Windows NT service, you should use SQLBase Server Monitor or the Windows NT Service Manager to make sure SQLBase is enabled to run as a service.

You can also manually start SQLBase as a service using either SQLBase Server Monitor or the NT Service Manager.

For more information on running SQLBase Server as a service program, read Chapter 13 of the *Database Administrator's Guide*.

To start SQLBase as an application on NT, select **Programs, Centura, and SQLBase 7.0 1-User Server** from the **Start** menu. This item changes depending upon your installation directory and the server installed.

Stopping

It is recommended that you disconnect all users prior to stopping SQLBase. If however, users are still connected when you stop the server, SQLBase automatically performs recovery on these databases during the next connection. If RECOVERY is set to off, SQLBase will be unable to recover the affected database.

SQLBase as a Windows NT service

SQLBase can be stopped by using either SQLBase Server Monitor or the NT Service Manager.

SQLBase as an application

To stop SQLBase Server, do one of the following:

- Select **File, Exit** from the SQLBase menu bar.
- Close the SQLBase Server window.
- Select **File, Exit** from the SQLBase menu bar.
- Close the SQLBase Server window.
- Programmatically shut down the server using either SQLTalk or using the SQLBase API. For information on the SQLBase API, read the *SQLBase SQL Application Programming Interface Reference*.

Uninstalling SQLBase

To remove the SQLBase software from your computer, use the **Add/Remove Programs** applet in the systems Control Panel.

Chapter 4

Installing and Configuring SQLBase Server - Windows 95 & Windows NT

This chapter provides step-by-step instructions for installing SQLBase Server on Windows 95 and Windows NT. Topics include:

- Pre-installation considerations
- Installation procedures
- Connectivity Administrator
- SQL.INI file
- Running SQLBase as an NT service
- Starting and stopping the server
- Uninstalling SQLBase

Pre-installation considerations

Software and hardware requirements

Before you install SQLBase Server, please note the following software and hardware requirements.

- Windows 95 or Windows NT
- 8 MB minimum RAM
- 10 MB server disk space
- 1.4 MB minimum disk space per database

Upgrading from a previous version

To upgrade your SQLBase software:

1. Make a copy of your current SQL.INI file for future reference.
2. Unload your old database files with your current version of SQLBase client software if you are upgrading from SQLBase 5.x or SQLBase 6.0.x.

Read the *SQLTalk Language Reference* for more information on the UNLOAD command.

3. Shut down your current SQLBase Server.
4. Uninstall and completely remove the existing version of SQLBase (except for the database files) if:
 - You are installing SQLBase in the same directory as the existing version.
 - You have a beta release of SQLBase installed.

For information on uninstalling, read the documentation specific to the version you are removing.

5. Install the SQLBase server software. For installation instructions, read *Installing* on page 4-4.
6. Create or install your databases. If you are upgrading from SQLBase 6.1.x you can install your databases and they are automatically converted. If you are upgrading from SQLBase 6.0.x you must do a CREATE then LOAD. For instructions, read *Release Notes* on page 2-2 and *Moving SQLBase 6.0.x and earlier databases to SQLBase 7.0* on page 2-2.
7. If you upgraded from SQLBase version 5.x or 6.0.x, create your database then use the LOAD command to load your old database to a current SQLBase database. If you upgraded from version 6.1.x, your database will be automatically converted

when you connect to it with SQLBase 7. Read the *SQLTalk Language Reference* or the *SQLConsole Guide* for more information on the LOAD command.

Maintaining multiple installations

When SQLBase Server starts, it checks the registry to obtain configuration and file path information. To allow for two independent installations of SQLBase, there are two different registry locations:

```
HKEY_LOCAL_MACHINE\SOFTWARE\Centura\SQLBase\1  
HKEY_LOCAL_MACHINE\SOFTWARE\Centura\SQLBase\2
```

At any given time, only one of these locations can be active, as indicated by a key “Active” with a value of 1. SQLBase searches . . . \SQLBase\1 for a value of 1, and if not present, searches . . . \SQLBase\2. SQLBase then takes its configuration information from the active server.

If neither entry is marked as Active, SQLBase will be unable to start, and the following occurs:

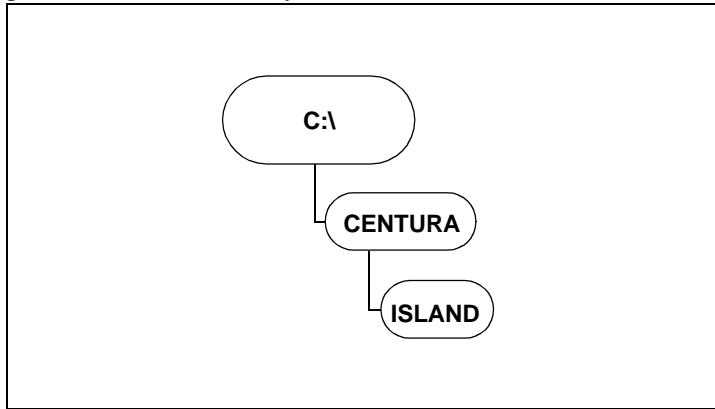
- If set to run as a service, this results in an error message from the NT Service Manager.
- If running as an application program, it results in an error message from SQLBase. Typically, this error will state that a configuration file, such as message.sql or SQL.INI, cannot be located or processed.

Centura recommends using SQLBase Server Monitor (SSM) to switch between the two installations. When running SQLBase on Windows NT as a service, SSM updates the NT Service Manager registry setting to reflect the active installation. Although you can change the status of the server using the registry, it is not recommended when running on NT with SQLBase as a service because of the changes to the NT Service Manager settings. Since this cannot be updated manually using the registry editor, the NT Service Manager will run its executable instance of SQLBase, while obtaining the configuration files from the other “Active” installation.

For information on the SQLBase Server Monitor (SSM) tool., read *Chapter 13, Running SQLBase as an NT Service* in the *Database Administrator's Guide*.

Directory organization

The default installation directory for SQLBase software is CENTURA. If you elect to install to another directory, be sure to *always* install future Centura server software products into that directory.



Default installation directory structure for SQLBase 7

Installing

This section describes how to install SQLBase Server software for Windows 95 and Windows NT using the *setup.exe* installation program. This installation program creates directories on your hard disk (if they do not already exist) and copies files from the installation media to your disk. The files are in compressed format on the installation media.

Centura recommends that you do not install SQLBase over a network to a remote machine, since the installer updates the registry on the machine on which it is being run. If you install SQLBase Server over a network to a remote machine, the registry settings for the target machine will not be correctly modified.

If you have a multi-boot machine, install SQLBase separately under each operating system. Separate installation ensures the proper registry entries and file locations are used.

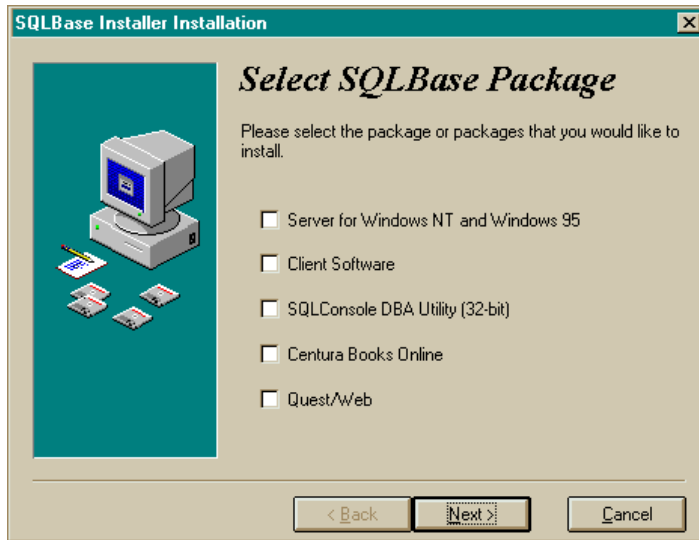
Note: Prior to installing SQLBase, make sure that you do not have a SQLBase Server running (active) on your machine. If so, you must stop the server before installing SQLBase 7. Read *Starting and stopping the server* on page 4-10, for instructions on gracefully shutting down the server.

Note: In order to install SQLBase Server for Windows NT as a service, you must have Administrator privileges.

Installing SQLBase software

1. The CD autostarts unless you have disabled this feature on your PC. If disabled, run the program *setup.exe* contained in the root of your CD ROM.

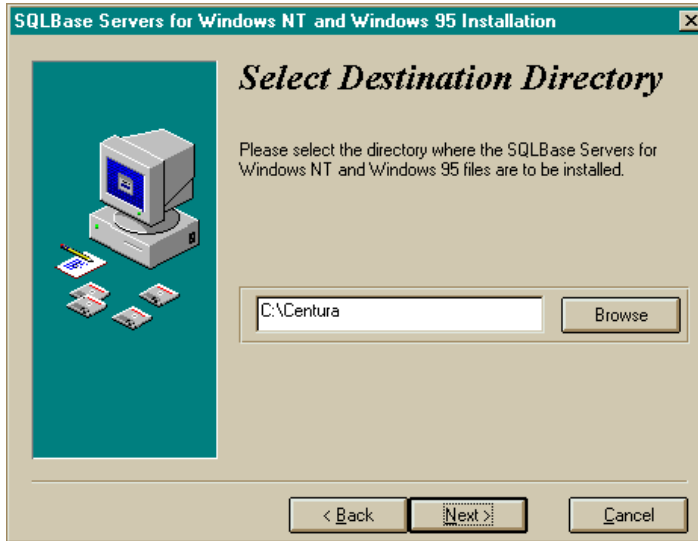
The **Select SQLBase Package** dialog appears. Use this dialog to select the SQLBase components you want to install. Select **Server for Windows NT and Windows 95**. Click **Next**. For a detailed description of the components, read *SQLBase packages* on page 1-3.



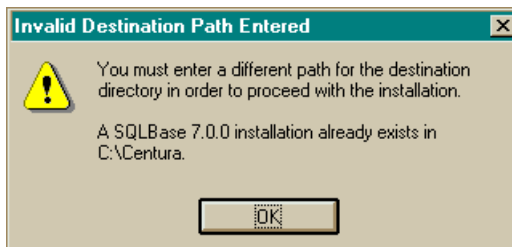
Note: Pressing **Cancel** during the installation process displays a dialog asking if you want to abort the installation. Click **Yes**, to abort. Click **No**, to continue installing SQLBase.

2. Enter your user name, company, and license in the **User Information** dialog. The license information is located on the Certificate of Authenticity shipped with the SQLBase media. Click **Next**. The **Ready to Install!** dialog appears. Click **Next**.
3. The **Welcome** dialog displays informational messages. Click **Next**.
4. The **Display License** dialog appears. Click **Yes** to indicate acceptance of the license agreement. If you click **No**, a dialog appears asking if you want to abort this installation.

5. The **SQLBase Server** dialog appears. Note that you cannot have a SQLBase Server running on your system during this installation process. Click **Next**.
6. Use the **Select Destination Directory** dialog to enter the path where you want to install the software. You can change the default directory at this time. The default directory is C:\Centura. Click **Next** after you are select the directory.



If you have an existing installation of SQLBase in the directory to which you are trying to install SQLBase 7, the installer displays the following warning message:



Click **OK** to return to the **Select Destination Directory** and select a different directory for this installation. Click **Next**.

7. The **Select Program Group** dialog allows you to specify the program group to which you want to add the SQLBase icons. The **Ready to Install!** dialog appears. Click **Next** if you are ready to install SQLBase. Click **Back** if you want to go back to the previous screens and change your selections.

The installation program displays a progress indicator that informs you of the files being copied from the installation media to your hard drive.

Note: Depending upon the packages you choose to install, the installer may prompt you for more responses before completing, e.g., Books Online.

8. The **Installation Complete** dialog displays after all of the files have been successfully copied to your machine. Click **Finish**. You should save the installation media in a safe place.
9. The installer displays the **Thank You for Installing SQLBase** dialog containing information specific to this release, including a description of the components. Click **OK**.
10. The final **Install** dialog prompts you to restart your system to complete the installation process. Click **OK** to restart. Click **Cancel** to return to Windows without restarting your system. For Windows 95, the restart updates the directory paths. For Windows NT, the restart is necessary to invoke the NT service feature.

Configuring SQLBase

This section describes how to configure SQLBase after installation. Topics include:

- Configuring SQLBase to work with clients
- SQL.INI file configuration settings

Connectivity Administrator

The Connectivity Administrator lets you edit your SQL.INI file, adding databases and routers. Using this tool, you can set the configuration for SQLBase Server, including:

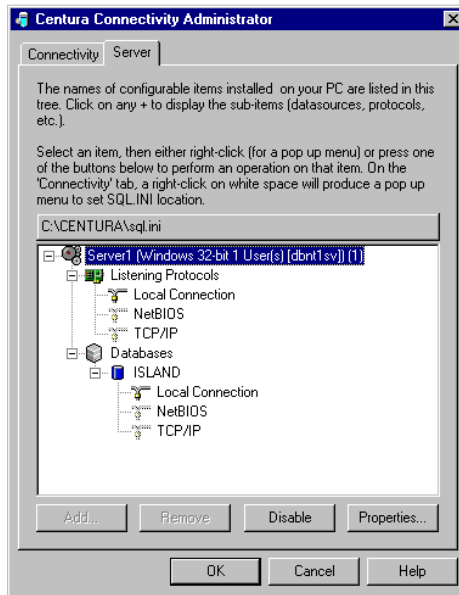
- Setting the options for a SQLBase server
- Enabling and disabling communication protocols
- Adding or removing a database name
- Viewing a list of database names

The Connectivity Administrator detects all relevant software installed on your computer, including network protocols and configurations. The automated configuration also sets simple and advanced parameters of the database server.

Note: You can configure connectivity for both your client and server during the same Connectivity Administrator session if they are on the same machine.

Using the Connectivity Administrator

1. Select **Programs, Centura, Connectivity Administrator** from the **Start** menu.



2. Click the **Server** tab to show the installed server.
3. Click the + symbol next to the server name to display listening protocols and databases.

The following actions are available when using the Connectivity Administrator.

- Left-click to select an item
- Double-click to change properties
- Right-click to display a menu of connectivity functions

For detailed information about the Connectivity Administrator, read the online help that is provided with this tool.

SQL.INI file configuration settings

Note: Centura recommends that you configure SQLBase using the Centura Connectivity Administrator. This section is provided as a guide for manually editing the SQL.INI file.

Centura products read the SQL.INI file at program start-up. The SQL.INI file is the common file containing software configuration settings. Each client and server machine must have a SQL.INI file.

How SQLBase finds SQL.INI

When SQLBase starts, it checks the SQLBase registry key to obtain the location of the SQL.INI file. The registry locations used by SQLBase are:

```
HKEY_LOCAL_MACHINE\SOFTWARE\Centura\SQLBase\1
```

```
HKEY_LOCAL_MACHINE\SOFTWARE\Centura\SQLBase\2
```

Although there can be two registry entries for SQLBase, only one of these entries is active at any given time. *Maintaining multiple installations* on page 4-3. You can change the status of your servers using the SQLBase Server Monitor (SSM) tool. For information, read *Chapter 13, Running SQLBase as an NT Service* in the *Database Administrator's Guide*.

Running SQLBase Server as an NT service

Note: In order to install SQLBase Server for Windows NT as a service, you must have Administrator privileges.

Running SQLBase Server for Windows NT as a service is supported on the Windows NT 4.0 operating system platforms, including the server and workstation versions of Windows NT.

SQLBase Server for Windows NT always installs as a service program, but with SQLBase disabled as a service. During installation, SQLBase is set to run as a system account and to interact with the desktop.

Only one instance of SQLBase Server can be run on an NT machine at any given time, regardless of whether it is being run as a service program or an application program. You can use the SQLBase Server Monitor (SSM) to start and stop SQLBase as an NT service. For information, read *Chapter 13, Running SQLBase as an NT Service* in the *Database Administrator's Guide*.

For more information on running SQLBase Server for Windows NT as a service, read *Chapter 13, Running SQLBase Server as an NT Service* in the *Database Administrator's Guide*.

Starting and stopping the server

Windows 95

This section describes how to start and stop the SQLBase Server for Windows 95. You must start the database server before clients can access a database, with the exception of the Anonymous Pipes protocol. When this protocol is used, SQLBase will be started automatically when an application attempts to connect to a database on the same machine.

Starting

To start the server, select **Programs, Centura, and SQLBase 7.0 1-User Server** from the **Start** menu. This item changes depending upon your installation directory and the server installed.

Stopping

It is recommended that you disconnect all users prior to stopping SQLBase. If however, users are still connected when you stop the server, SQLBase automatically performs recovery on these databases during the next connection. If RECOVERY is set to off, SQLBase will be unable to recover the affected database.

To stop SQLBase Server, do one of the following:

- Select **File, Exit** from the SQLBase menu bar.
- Close the SQLBase Server window.
- Programmatically shut down the server using either SQLTalk or using the SQLBase API. For information on the SQLBase API, read the *SQLBase SQL Application Programming Interface Reference*.

Windows NT

This section describes how to start and stop the SQLBase Server for Windows NT. You must start the database server before clients can access a database, with the exception of Anonymous Pipes. When this protocol is used, SQLBase will be started automatically when an application attempts to connect to a database on the same machine.

Starting

By default, the setup installs SQLBase as an application. If you choose to run SQLBase Server as a Windows NT service, you should use SQLBase Server Monitor or the Windows NT Service Manager to make sure SQLBase is enabled to run as a service.

You can also manually start SQLBase as a service using either SQLBase Server Monitor or the NT Service Manager.

For more information on running SQLBase Server as a service program, read Chapter 13 of the *Database Administrator's Guide*.

To start SQLBase as an application on NT, select **Programs, Centura, and SQLBase 7.0 1-User Server** from the **Start** menu. This item changes depending upon your installation directory and the server installed.

Stopping

It is recommended that you disconnect all users prior to stopping SQLBase. If however, users are still connected when you stop the server, SQLBase automatically performs recovery on these databases during the next connection. If RECOVERY is set to off, SQLBase will be unable to recover the affected database.

SQLBase as a Windows NT service

SQLBase can be stopped by using either SQLBase Server Monitor or the NT Service Manager.

SQLBase as an application

To stop SQLBase Server, do one of the following:

- Select **File, Exit** from the SQLBase menu bar.
- Close the SQLBase Server window.
- Select **File, Exit** from the SQLBase menu bar.
- Close the SQLBase Server window.
- Programmatically shut down the server using either SQLTalk or using the SQLBase API. For information on the SQLBase API, read the *SQLBase SQL Application Programming Interface Reference*.

Uninstalling SQLBase

To remove the SQLBase software from your computer, use the **Add/Remove Programs** applet in the systems Control Panel.

Chapter 5

Installing and Configuring SQLBase Server - NetWare

This chapter provides step-by-step instructions for installing SQLBase Server for NetWare, a 32-bit multi-user database server that runs under the Novell NetWare operating system. Topics include:

- Pre-installation considerations
- Installation procedures
- SQL.INI file
- Starting and stopping the server
- Uninstalling SQLBase

Pre-installation considerations

Software and hardware requirements

Before you install SQLBase Server, please note the following software and hardware requirements.

- NetWare 3.1.2
- NetWare 4.1.x
- 12 MB minimum RAM
- 8 MB minimum server disk space
- 1.4 MB minimum disk space per database

Upgrading from a previous version

To upgrade your SQLBase software:

1. Make a copy of your current SQL.INI file for future reference.
2. Unload your old database files with your current version of SQLBase if you are upgrading from SQLBase 5.x or SQLBase 6.0.x.

Read the *SQLTalk Language Reference* for more information on the UNLOAD command.

3. Shut down your current SQLBase Server and unload its dependent NLMs in the reverse order that they were loaded.
4. Uninstall, and completely remove, the existing version of SQLBase (except for database files) if:
 - You are installing SQLBase in the same directory as the existing version.
 - You have a beta release of SQLBase installed.

For information on uninstalling, read the documentation specific to the version you are removing.

5. Install the SQLBase server software. For installation instructions, read *Installing* on page 5-4.
6. Create or install your databases. If you are upgrading from SQLBase 6.1.x you can install your databases and they are automatically converted. If you are upgrading from SQLBase 6.0.x you must do a CREATE then LOAD. For instructions, read *Release Notes* on page 2-2 and *Moving SQLBase 6.0.x and earlier databases to SQLBase 7.0* on page 2-2.

7. If you upgraded from SQLBase version 5.x or 6.0.x use the LOAD command to load your old database to a current SQLBase database. If you upgraded from version 6.1.x, your database will be automatically converted when you connect to it with a 7.x server. Read the *SQLTalk Language Reference* for more information on the LOAD command.

Directory organization

NetWare servers logically divide disk space into areas called volumes. A volume is the highest-level directory structure on a NetWare server, and contains one or more directories. Centura recommends that you store the SQLBase software in three separate volumes, one each for:

- SQLBase executables and dependent files
For example, `n1m:\sqlbase`
- All databases
For example, `db:\sqlbase`
- All log files
For example, `log:\sqlbase`

NetWare Directory Service (NDS)

SQLBase Server 7 for NetWare 4.1.1 supports NetWare Directory Services (NDS). With NDS, you can advertise SQLBase servers and databases on the network, providing global access to all network resources.

For information on SQLBase and NDS, read Chapter 12, *SQLBase and NetWare Directory Services (NDS)* in the *Database Administrator's Guide*.

For details and background on the NetWare Directory Service, read Novell's *NetWare Directory Services Technical Reference Document*.

Client user accounts

For installation purposes, you must have sufficient privileges for the destination NetWare server to map a drive, create directories and copy files.

Client users do not need a NetWare account for the server on which SQLBase is running in order to connect to it. However, if you wish them to be able to use IPX/SPX, they must have a NetWare account for a server on the same network.

Installing

This section describes how to install SQLBase Server software for NetWare using the *setup.exe* installation program. This installation program creates directories on a remote NetWare file server, although installation is done on a Win 32 client PC.

Prior to installing SQLBase, make sure that you do not have a SQLBase Server running (active) on the target machine. Refer to the documentation for the specific version of SQLBase you are running.

Note: SQLBase files are stored in a compressed format on the installation media.

Map a logical drive

1. Map a logical drive to the target volume and directory where you are installing SQLBase. For example:

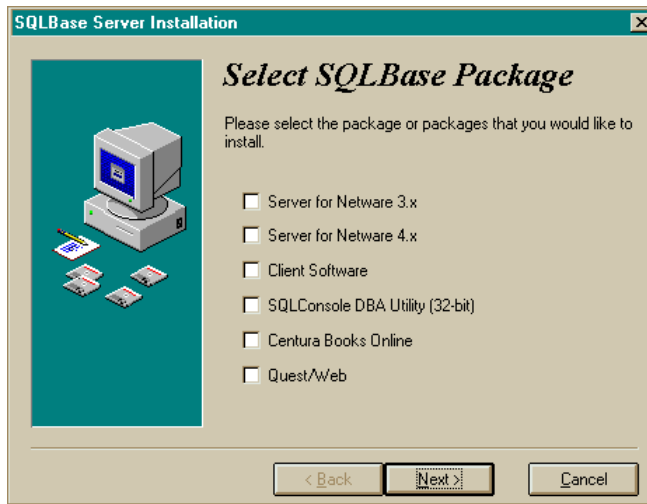
```
map k:=nlm:\sqlbase
```

The Setup program prompts you for this logical drive.

Installing SQLBase software

1. The CD autostarts unless you have disabled this feature on your PC. If disabled, run the program *setup.exe* contained in the root of your CD ROM.

The **Select SQLBase Package** dialog appears. Use this dialog to select the SQLBase components you want to install. Select **Server for NetWare 3.x** or **Server for NetWare 4.x**. Click **Next**. For a detailed description of the components, read *SQLBase packages* on page 1-3.

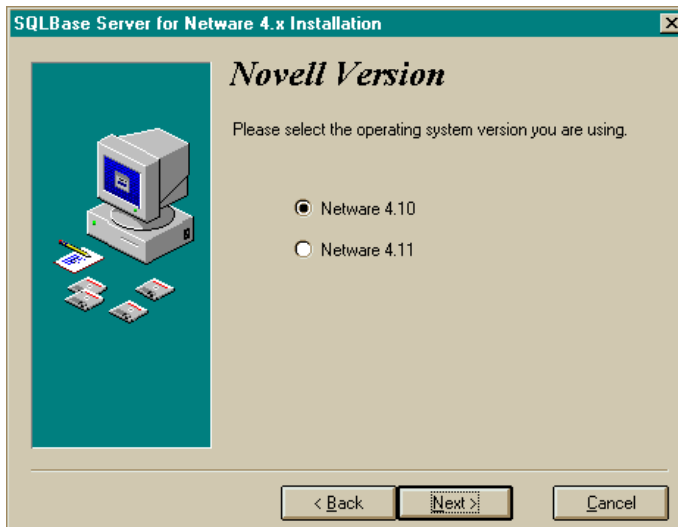


Note: Clicking **Cancel** during the installation process displays a dialog asking if you want to abort the installation. Click **Yes**, to abort the installation. Click **No**, to continue installing SQLBase.

2. Enter your user name, company, and license in the **User Information** dialog and click **Next**. The **Ready to Install!** dialog appears. Click **Next**.
3. The **Welcome** dialog displays informational messages. Click **Next**.
4. The **Display License** dialog appears. Click **Yes** to indicate acceptance of the license agreement. If you click **No**, a dialog appears asking if you want to abort this installation.

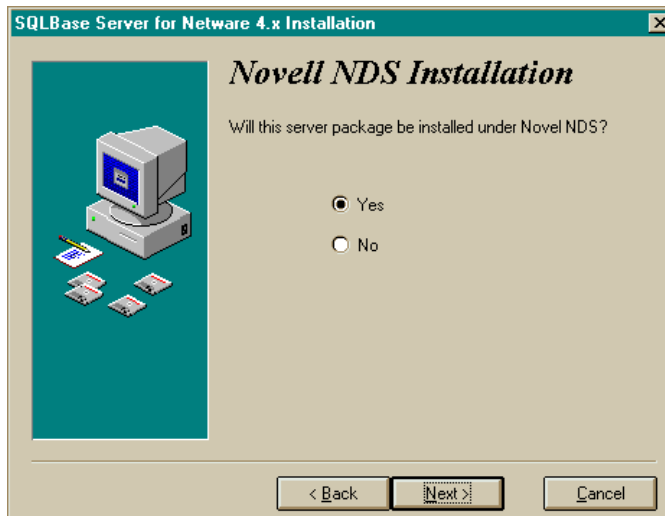
If you are installing NetWare 3.x, skip to step seven.

5. If you are installing NetWare for 4.x., the **Novell Version** dialog appears. Select the operating system version you want to install.



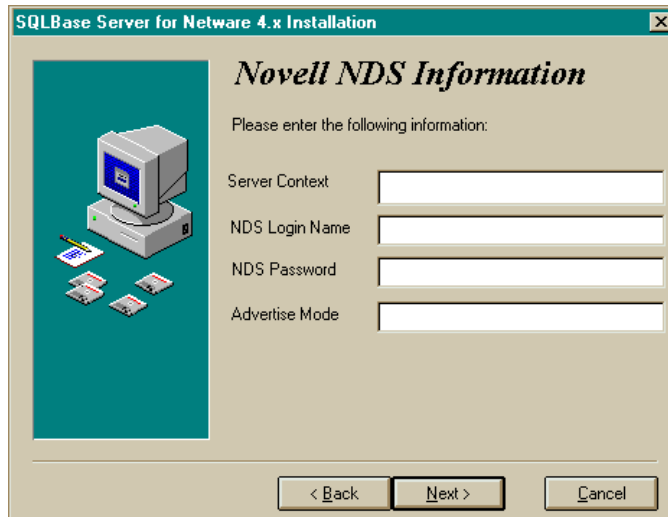
If you are installing NetWare 4.1.0, skip to step seven.

6. The **Novell NDS Installation** dialog appears if you are installing NetWare 4.1.1. This screen gives you the option of installing client support for NetWare Directory Services (NDS).



If you choose No, the **Select Destination Directory** dialog appears.

If you choose **Yes**, the **Novell NDS Information** dialog displays. Click **Next** after entering the appropriate information. For help completing this screen, refer to the Novell documentation.



7. Enter root path where you want to install the software in the **Select Destination Directory** dialog. You can change the default directory at this time. If you have an existing installation of SQLBase in the directory in which you are trying to install SQLBase 7, the installer displays a warning message asking you to specify a different directory. Since the default directory is `C:\Centura`, you should change the drive and directory to the mapped location where you want to install SQLBase runtime components. For example:

`K:\Centura`



Click **Next** when you are done specifying the directory.

8. The **Select Program Group** dialog allows you to specify the program group to which you want to add the SQLBase icons. This adds a menu item for release notes to the machine from which you are installing. Click **Next**.

The **Ready to Install** dialog appears. Click **Next** if you are ready to install SQLBase. Click **Back** if you want to go back to the previous screens and change your selections.

The installation program displays a progress indicator and displays the file names as they are being copied from the installation media to the target machine.

Note: Depending upon the packages you choose to install, the installer may prompt you for more responses before completing, e.g., Books Online.

9. The **Installation Completed** dialog displays after all of the files have been successfully copied. You should save the installation media in a safe place. Next, the installer displays a window containing information specific to this release, including a description of the components.

Configuring SQLBase

This section describes how to configure SQLBase after installation.

Note: You should specify the path for the different volumes and directories in SQL.INI using the *dbdir* and *logdir* keywords. Read the *Configuration* chapter in the *Database Administrator's Guide* for more information.

SQL.INI file configuration settings

Centura products read the SQL.INI file at program start-up. The SQL.INI file is the common file containing software configuration settings. Each client and server machine must have a SQL.INI file.

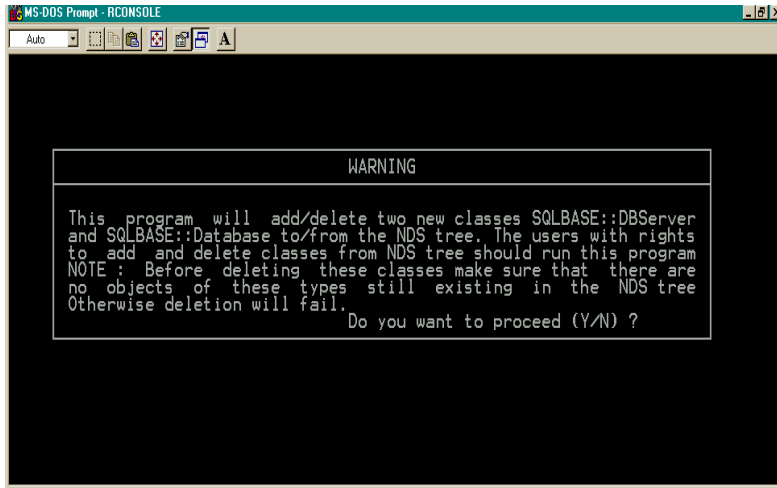
How SQLBase finds SQL.INI

When SQLBase Server starts, it looks for the SQL.INI file in the same directory as the executable.

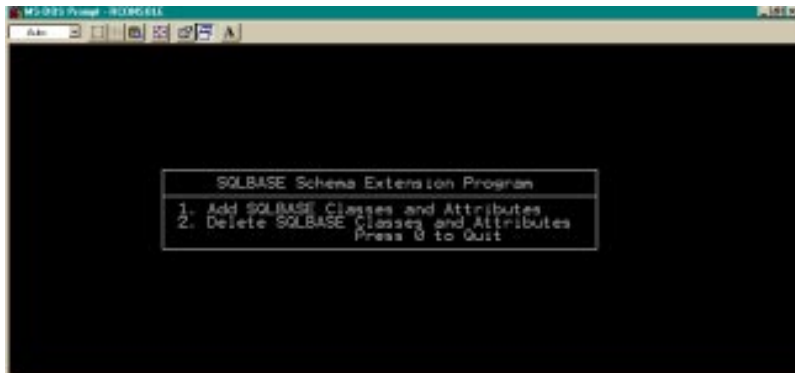
NetWare NDS configurations

After you install SQLBase, and before you load the server, you must load NDSSCHMA.NLM. This NLM allows you to add or delete extensions to the NDS tree. Prior to installing SQLBase, you must add the classes to the NDS tree that SQLBase needs to run. You must have a NetWare account and privileges on the NDS tree you are modifying. Note that you only need to add these objects once. You can also use the NDSSCHMA.NLM to delete the classes from the NDS tree when uninstalling SQLBase.

1. Load NDSSCHMA.NLM. The **Warning** dialog appears:

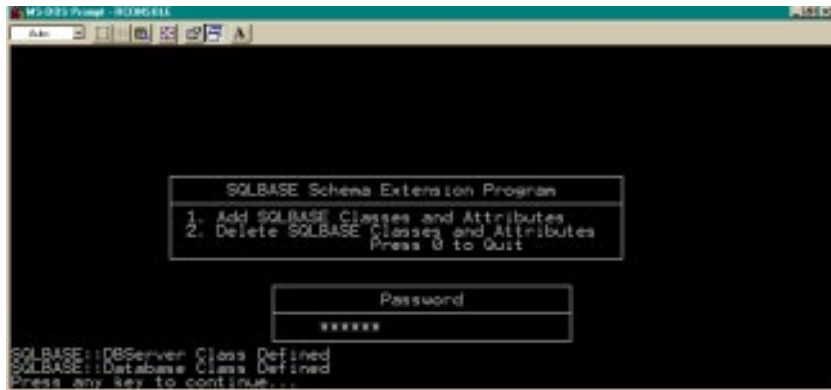


2. Type Y. The **SQLBase Schema Extension Program** screen appears. Type 1 to add the SQLBase classes.:



The NDS Login ID appears. You must have sufficient privileges on the NDS tree you are modifying. Type in your login ID and press **Enter**. The NLM prompts you for a password and press **Enter**.

A message appears confirming that the SQLBase classes have been defined.



Starting and stopping the server

This section describes how to start and stop the SQLBase Server for NetWare, both the 3.1.x and 4.1.x versions. You must start the database server before clients can access a database.

Starting

SQLBase Server for NetWare is a NetWare Loadable Module (NLM) that runs on a Novell NetWare server operating system. An NLM is a program that you can load into or unload from server memory while the server is running. When loaded, an NLM is part of the NetWare operating system. When unloaded, an NLM releases the memory and resources that were allocated for it.

To setup the SQLBase Server for NetWare, perform the following steps:

1. Ensure that the *clib.nlm* and *mathlib.nlm* files are loaded. These files are Novell NLMs that contain C functions called by the SQLBase Server. You can either load these manually from the command line, or edit the NetWare server's *autoexec.ncf* file to include them.

```
load clib
```

```
load mathlib
```

The *autoexec.ncf* file is a batch file that executes after the NetWare operating system boots. This file names the server and assigns it an internal network number, specifies settings for network boards, and loads LAN drivers.

2. Load the appropriate NLMs in this order:

Protocol	NetWare 3.1	NetWare 4.1.0	NetWare 1.1.1 (NDS)	NetWare 1.1.1 (Bindery)
TCP/IP				
Novell NLMs	dsapi	dsapi	dsapi	dsapi
SQLBase NLMs	dfd dll tlidll exfmgrnw dbnservr	dfd dll tlidll exfmgrnw dbnwsrvr	dfd dll tlidlls exfmgrnw dbnwsrvr	dfd dll tlidll exfmgrnw dbnwsrvr
IPX/SPX				
Novell NLMs	spxs	dsapi	dsapi spxs	dsapi spxs
SQLBase NLMs	dfd dll tlispx exfmgrnw dbnservr	dfd dll spxdll40 exfmgrnw dbnwsrvr	dfd tlispxds exfmgrnw dbnwsrvr	dfd dll tlispx exfmgrnw dbnwsrvr

3. Specify the appropriate client communication modules in the SQL.INI file:

Protocol	Windows 3.11	Windows 95 and NT
TCP/IP	<i>sqlwsock.dll</i>	<i>sqlws32.dll</i>
IPX/SPX	<i>sqlspxw4.dll</i>	<i>sqlwsspx.dll</i> (Microsoft Client Service for NetWare) <i>sqlspx32.dll</i> (Novell NetWare Client 32)

If you want to start the SQLBase Server every time the NetWare server boots, add lines to the *autoexec.ncf* file. This file loads the appropriate NLMs described above. If you do not want to start the SQLBase Server every time the NetWare server boots, you can create a *sqlbase.ncf* file to load the appropriate files.

The database server is removed from memory when the computer is switched off or rebooted. You must start the database server after each startup or reboot.

Stopping

It is recommended that you disconnect all users prior to stopping SQLBase. If however, users are still connected when you stop the server, SQLBase automatically performs recovery on these databases during the next connection. If RECOVERY is set to off, SQLBase will be unable to recover.

1. Press the **Esc** key.
2. If there are users connected to the server, a dialog box appears asking you to confirm that you want to stop the server. Press **Y** to bring the server down.

After stopping SQLBase, the server unloads itself. You should unload the support NLMs to free resources.

Be sure to unload the same files you loaded in the reverse order in which they were loaded. For example, if you loaded the TLI-TCP/IP file *tlidll* instead of *tlispx* or *spxdll40*, specify *tlidll* in the unload command.

Note: Never unload the SQLBase NLM before gracefully shutting it down. Once loaded, the SQLBase NLM becomes a NetWare resource and must be closed before it can be unloaded. NetWare can crash if you unload SQLBase *before* pressing the **Esc** key.

Uninstalling SQLBase

To remove the SQLBase software from your computer, use the **Add/Remove Programs** applet in the systems Control Panel.

Note: This only works correctly if the same drive is mapped during the uninstall as was mapped during the install. Otherwise, the files on the NetWare volume should be deleted manually.

Chapter 6

Installing and Configuring SQLBase 32-bit Clients

This chapter provides step-by-step instructions for installing SQLBase 32 bit clients on Windows 95 and Windows NT. Topics include:

- Pre-installation considerations
- Installation procedures
- Connectivity Administrator
- SQL.INI file
- Uninstalling SQLBase clients

Pre-installation considerations

Software and hardware requirements

Before you install SQLBase client software, please note the following software and hardware requirements.

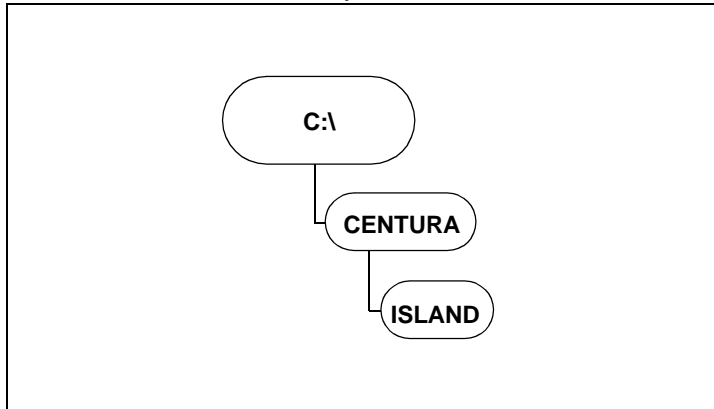
- Windows NT or Windows 95
- 8 MB minimum RAM
- 10 MB disk space

Maintaining multiple installations

Centura does not recommend multiple installations of client software.

Directory organization

The default installation directory for SQLBase software is CENTURA.



Default installation directory structure for SQLBase 7

Installing

This section describes how to install SQLBase client software for Windows 95 and Windows NT using the *setup.exe* installation program. This installation program creates directories on your hard disk (if they do not already exist) and copies files from the installation media to your disk. The files are in compressed format on the installation media.

To perform the installation, you must be using the machine on which you want to install the server software.

If you have a multi-boot machine, install SQLBase separately under each operating system. Separate installations ensures the proper registry entries and file locations are used.

Note: Prior to installing SQLBase, make sure that you do not have SQLBase running on your machine. If so, you must stop it before installing SQLBase 7 client software. Read the relevant section in this manual for instructions on gracefully shutting down the server.

Installation options

The following software is installed when you select the **Windows 32bit Client** option:

- Connectivity Administrator
- SQLTalk
- SQL/API
- Communication libraries

DBError is installed when you select the **SQLBase Utilities** option.

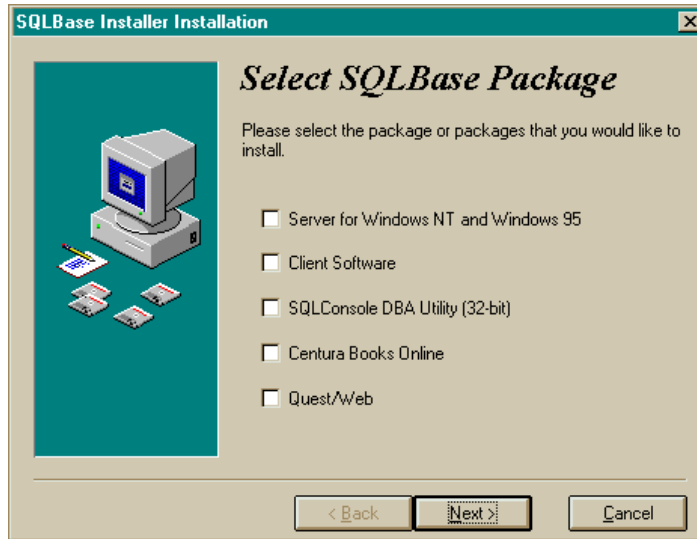
C API and SQLBase ++ are installed when you select the **SQLBase Programmer's Interface** option.

For a description of this software, read *SQLBase Server package* on page 1-3.

Installing SQLBase software

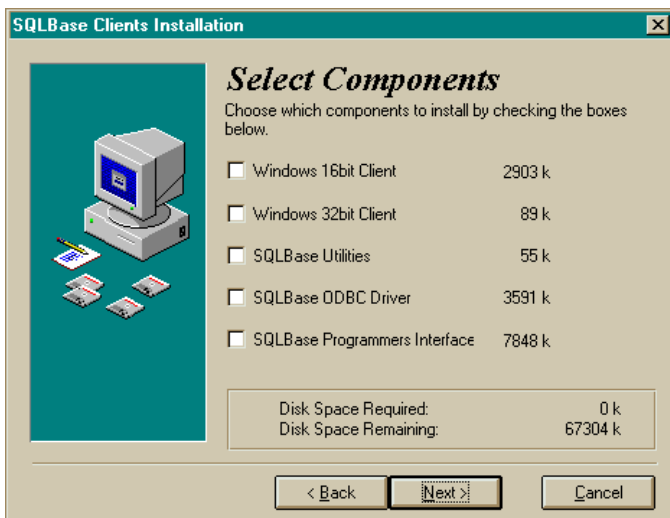
1. The CD autostarts unless you have disabled this feature on your PC. If disabled, run the program *setup.exe* contained in the root of your CD ROM.
2. The **Select SQLBase Package** dialog appears. Use this dialog to select the SQLBase components you want to install. Select **Client Software**. Click **Next**.

For a detailed description of the components, read *SQLBase packages* on page 1-3.

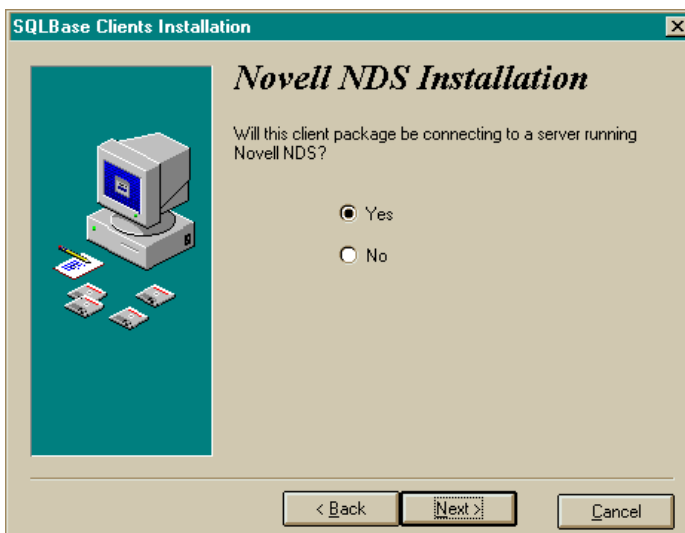


Note: Pressing **Cancel** during the installation process, displays a dialog asking if you want to abort the installation. Click **Yes** to abort. Click **No** to continue installing SQLBase.

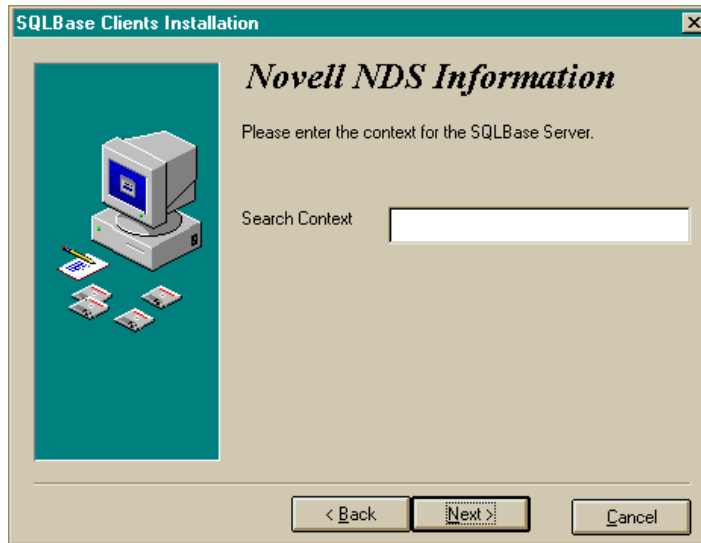
3. Enter your user name, company, and license in the **User Information** dialog and click **Next**. The **Ready to Install** dialog appears. Click **Next**.
4. The **Welcome** dialog displays informational messages. Click **Next**.
5. The **Display License** dialog appears. Click **Yes** to indicate acceptance of the license agreement. If you click **No**, a dialog appears asking if you want to abort this installation.
6. The **Select SQLBase Clients Installation** dialog appears. Use this dialog to select the SQLBase Client components you want to install. Select **Client Software**. Click **Next**. For a detailed description of the components, read *SQLBase packages* on page 1-3.



7. Select **Windows 32bit Client** and any other components you want to install. Click **Next**.
8. The **Novell NDS Installation** dialog gives you the option of installing client support for NetWare Directory Services (NDS). This is a consideration if your client is communicating with a SQLBase Server using NDS.



If you choose No, the **Select Destination Directory** dialog appears. If you choose Yes, the **Novell NDS Information** dialog displays. Use the Search Context field to specify the location of your server in the NDS tree.



9. Use the **Select Destination Directory** dialog to enter the root path where you wish to install the software. You can change the default directory at this time. If you have an existing installation of SQLBase in the directory in which you are trying to install SQLBase 7.0, the installer displays a warning message asking you to specify a different directory.



10. The **Select Program Group** dialog allows you to specify the program group you want to add the SQLBase icons to. The default directory is C:/Centura. Click **Next** when you are done specifying the directory. The **Ready to Install** dialog appears. Click **Next** if you are ready to install SQLBase. Click **Back**, if you want to go back to the previous screens and change your selections.

The installation program displays a progress indicator and displays the files being copied from the installation media to your hard drive.

Note: Depending upon the packages you choose to install, the installer may prompt you for more responses before completing, e.g., Books Online.

11. The **Installation Complete** dialog displays after all of the files have been successfully copied to your machine. You should save the installation media in a safe place. Next, the installer displays a window containing information specific to this release, including a description of the components.
12. The final **Install** dialog prompts you to restart our system to complete the installation process. Click **OK** to restart.

Configuring SQLBase clients

This section describes how to configure SQLBase client after installation. Topics include:

- Configuring clients to work with SQLBase
- SQL.INI file configuration settings

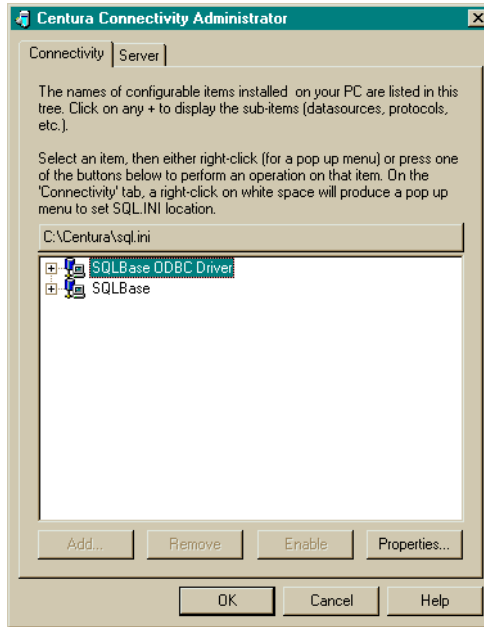
Connectivity Administrator

Use the Connectivity Administrator to edit your SQL.INI file. For client software, use this tool to enable and disable communication protocols. The Connectivity Administrator detects all software installed on your computer, including network protocols and configurations.

Note: You can configure connectivity for both your client and server during the same Connectivity Administrator session. To configure your server, click the **Server** tab.

Using the Connectivity Administrator

1. Select **Programs, Centura, Connectivity Administrator** from the **Start** menu. The Connectivity Administrator screen appears.



Use the **Connectivity** to configure client software.

2. Click the + symbol next to the server name to display listening protocols and databases.

The following actions are available when using the Connectivity Administrator.

- Left-click to select an item
- Double-click to change properties
- Right-click to display a menu of connectivity functions

For detailed information about the Connectivity Administrator, read the online help that is provided with this tool.

SQL.INI file configuration settings

Note: Centura recommends that you configure SQL.INI using the Centura Connectivity Administrator.

Centura products read the SQL.INI file at program start-up. The SQL.INI file is the common file containing software configuration settings. Each client and server machine must have a SQL.INI file. For more information on the SQL.INI file, read Chapter 3, *Configuration (sql.ini)* of the *SQLBase Database Administrator's Guide*.

Uninstalling SQLBase clients

To remove the SQLBase software from your computer, use the **Add/Remove Programs** applet in the systems Control Panel.

Chapter 7

Installing and Configuring SQLBase 16-bit Clients

This chapter provides step-by-step instructions for installing SQLBase 16 bit clients. Topics include:

- Pre-installation considerations
- Installation procedures
- SQL.INI file
- Uninstalling SQLBase clients

Pre-installation considerations

Software and hardware requirements

Before you install SQLBase client software, please note the following software and hardware requirements.

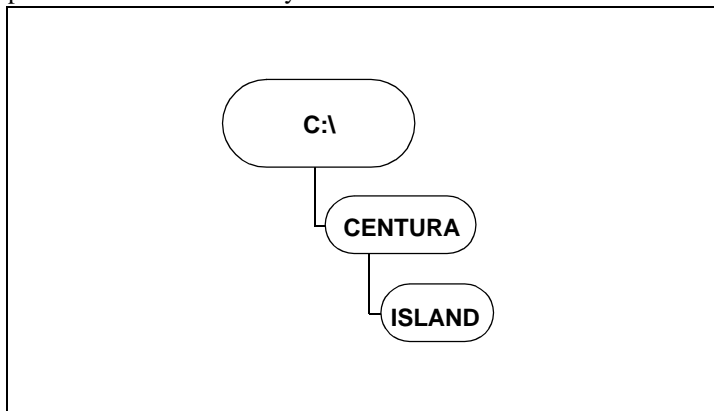
- Windows NT or Windows 95 or Windows 3.1
- 8 MB minimum RAM
- 10 MB disk space

Maintaining multiple installations

Centura does not recommend multiple installations of client software.

Directory organization

The default installation directory for SQLBase software is CENTURA. If you elect to install to another directory, be sure to *always* install future Centura server software products into that directory.



Default installation directory structure for SQLBase 7

Installing

This section describes how to install SQLBase 16-bit client software using the *setup.exe* installation program. This installation program creates directories on your hard disk (if they do not already exist) and copies files from the installation media to your disk. The files are in compressed format on the installation media.

Centura recommends that you do not install SQLBase over a network to a remote machine, since the installer updates the registry on the machine on which it is being run.

If you have a multi-boot machine, install SQLBase separately under each operating system. Separate installations ensures the proper registry entries and file locations are used.

Note: Prior to installing SQLBase, make sure that you do not have a SQLBase Server running on your machine. If so, you must stop the server before installing SQLBase 7 client software. Read the relevant section in this documentation for instructions on gracefully shutting down the server.

Installation options

The following software is installed when you select the **Windows 16bit Client** option:

- SQLTalk
- SQLEdit
- SQLTrace
- SQLReplay
- SQL/API
- Communication libraries

DBError is installed when you select the **SQLBase Utilities** option.

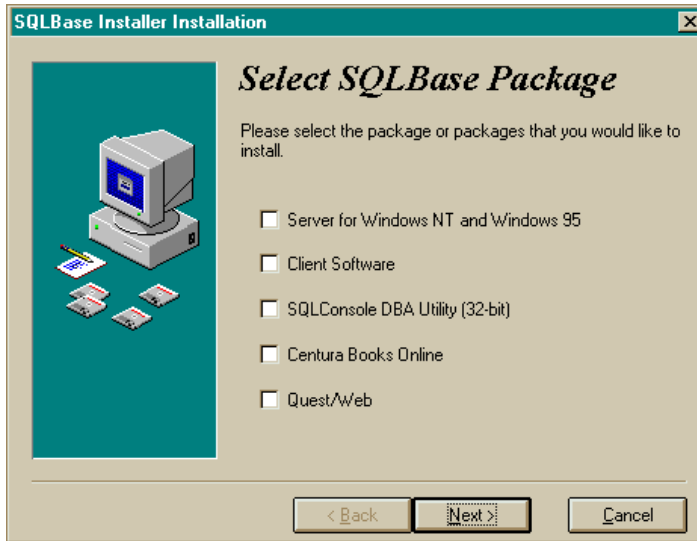
C API and SQLBase ++ are installed when you select the **SQLBase Programmer's Interface** option.

For a description of this software, read *SQLBase Server package* on page 1-3.

Installing SQLBase software

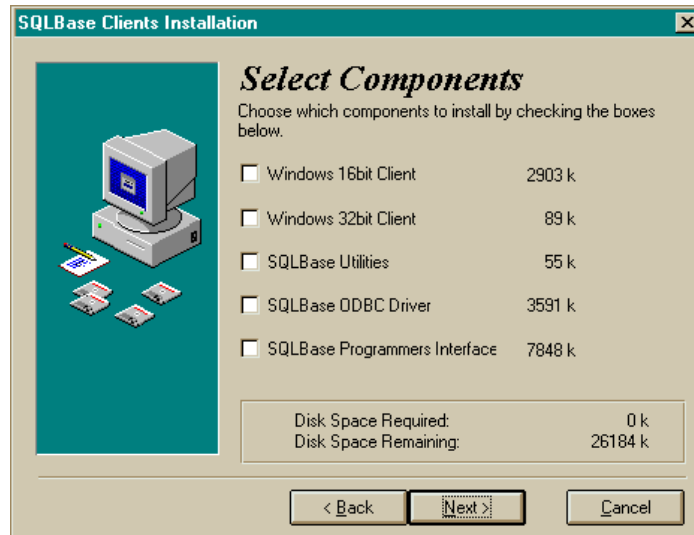
1. The CD autostarts unless you have disabled this feature on your PC. If disabled, run the program *setup.exe* contained in the root of your CD ROM.

- The **Select SQLBase Package** dialog appears. Use this dialog to select the SQLBase components you want to install. Select **Client Software** and any other components you want to install. Click **Next**. For a detailed description of the components, read *SQLBase packages* on page 1-3.

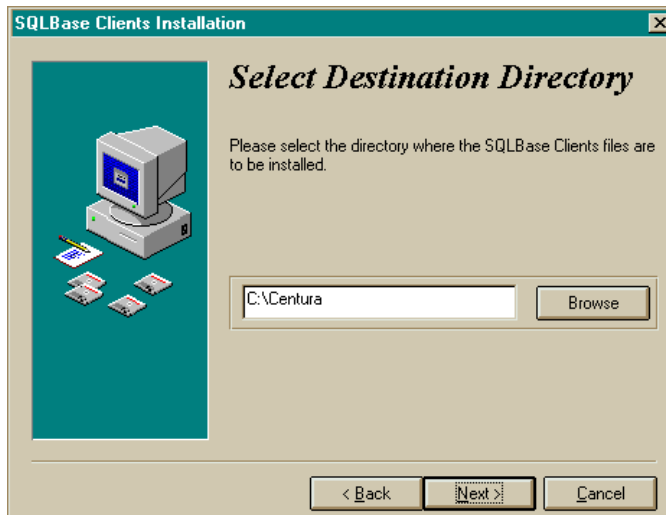


- Enter your user name, company, and license information in the User Information dialog and click **Next**. The **Ready to Install!** dialog appears. Click **Next**.
- The **Welcome** dialog displays informational messages. Click **Next**.
- The **Display License** dialog appears. Click **Yes** to indicate acceptance of the license agreement. If you click **No**, a dialog appears asking if you want to abort this installation.

6. The **Select Components** dialog appears. Select **Windows 16bit Client** and any other components you want to install. Click **Next**.



7. Use the **Select Destination Directory** dialog to enter the root path where you wish to install the software. You can change the default directory at this time. If you have an existing installation of SQLBase in the directory in which you are trying to install SQLBase 7.0, the installer displays a warning message asking you to specify a different directory.



8. The **Select Program Group** dialog allows you to specify the program group you want to add the SQLBase icons to. The default directory is C:\Centura. Click **Next** when you are done specifying the directory. The **Ready to Install** dialog.

The installation program displays a progress indicator and displays the files being copied from the installation media to your hard drive.

Note: Depending upon the packages you choose to install, the installer may prompt you for more responses before completing, e.g., Books Online.

9. The **Installation Completed** dialog displays after all of the files have been successfully copied to your machine. Click **Finish**. You should save the installation media in a safe place.
10. The installer displays the **Thank You for Installing SQLBase** dialog containing information specific to this release, including a description of the components. Click **OK**.
11. The final **Install** dialog prompts you to restart our system to complete the installation process. Click **OK** to restart.

Configuring SQLBase Clients

This section describes how to configure SQLBase after installation. Topics include:

- Configuring clients to work with SQLBase
- SQL.INI file configuration settings

SQL.INI file configuration settings

Centura products read the SQL.INI file at program start-up. The SQL.INI file is the common file containing software configuration settings. Each client and server machine must have a SQL.INI file. For instructions on manually configuring the SQL.INI file, read Chapter 3, *Configuration (sql.ini)* of the *SQLBase Database Administrator's Guide*.

Uninstalling SQLBase clients

To remove the SQLBase software from your computer, use the **Add/Remove Programs** applet in the systems Control Panel.

Chapter 8

What now?

This chapter contains information on testing your configuration using SQLTalk, National Language Support, loading database files to SQLBase Server 7, and the programming interface.

Testing your installation

You can test the connection between your server and client using SQLTalk or SQLConsole.

SQLTalk

Starting the SQLTalk program

Note: You cannot run SQLTalk from the NetWare platform.

To connect to a remote SQLBase client, you must first enable the appropriate communication libraries by setting the correct `comdll` value in the `sql.ini` file. The easiest way to do this is by setting the communications interfaces through the Centura Connectivity Administrator if you are on Windows NT or Windows 95, or your preferred text editor. Read the online help for the Centura Connectivity Administrator for more information.

To start SQLTalk, invoke the SQLTalk icon on the Centura program group.

Using SQLTalk

This section describes how to run SQLTalk.

1. Start the server program on the server machine.

For example, if you are running the SQLBase Server for Windows NT, start the `dbntrsrv.exe` program on the server machine by clicking on its icon.

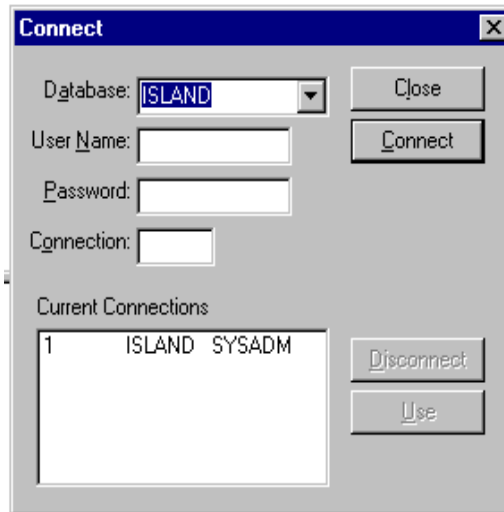
2. Start SQLTalk.

Start SQLTalk on the client machine. For example, on an NT client machine, click on the SQLTalk icon.

3. Select **Connect** from the Session menu.
4. In the dialog box, enter a database name (for example **ISLAND**), and click **Connect**.

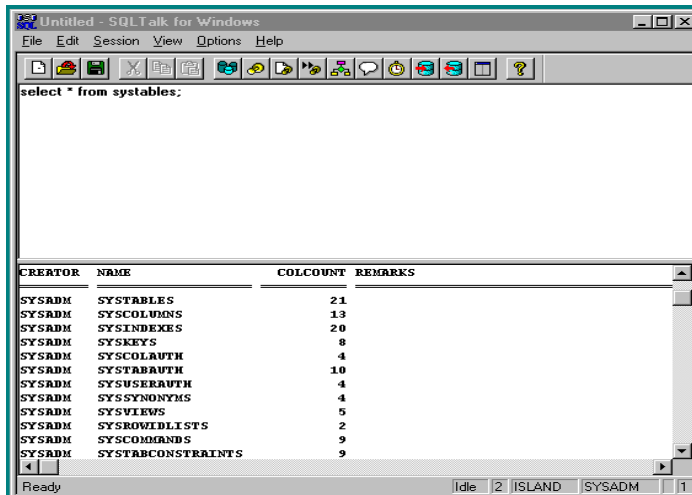
Note: ISLAND is the standard default database that ships with SQLBase 7.

If your network and software components are configured correctly, a connection will be added to the list as shown below.



The Current Connections box displays ISLAND as the database name, which confirms your connection to this database. Click **Close**.

5. Enter SQLTalk commands. You can start entering commands at the cursor in the top pane of the SQLTalk window. For example:



To execute the command that the cursor is currently over, press **Ctrl+Enter**.

You can enter SQL and SQLTalk commands as described in the *SQL Language Reference Manual* and the *SQLTalk Reference Manual*.

Note: You can also connect to a database by entering the following command in a SQLTalk window. For example:

```
CONNECT ISLAND;
```

```
CURSOR 1 CONNECTED TO ISLAND
```

6. End SQLTalk.

When you are ready to end your SQLTalk session, enter this command at the cursor:

```
exit;
```

National Language Support

SQLBase supports English as its standard language, but it also supports many international languages including those spoken in Europe and Asia. Please read Chapter 11, *National Language Support* of the *Database Administrator's Guide* for information on creating databases that support languages other than English.

Loading database files into SQLBase

If you are upgrading from SQLBase 6.x, it is important that you unload your old database files with your old version of SQLBase client then load them to the new SQLBase Server.

You can also load a non-SQLBase database to SQLBase using a common file format, such as .CSV. For information on loading and unloading, read the LOAD and UNLOAD command documentation in the *SQL Language Reference*.

You can improve the performance of the load by performing the following tasks:

1. Run SET RECOVERY OFF before you run LOAD. Be aware that when you set recovery off, SQLBase does not generate log files and this speeds up the load. When you are finished with the load, run SET RECOVERY ON.
2. Run the LOCK DATABASE command to place an exclusive lock on the database. When you are finished with the load, run UNLOCK DATABASE.
3. Use the ON SERVER clause of the LOAD and UNLOAD command. This decreases network traffic by performing the operation on the server machine, if the load file is local to the server.
4. Set the server screen to show the minimal level of process detail (level 0).
5. Defragment your disk.

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