Setting Up ALERE with Client/Server Data

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ALERE can use either LAN (VFP) or Client/Server (SQL Server) data tables. The desired database type must be specified at the time that a new ALERE company is created. If you have an existing company that uses LAN tables, the data can be converted to client/server tables by adding a new, empty CS company and importing the LAN data with the built-in data conversion program (LanToCS). It is important to note that client/server manufacturing data can only be linked to client/server accounting data, should you have multiple manufacturing companies.

Adding a New Client/Server Company

1. Click the New button on the Open Company screen.
2. Enter the company name, set the Database Type to "Client/Server".
   Select the connection type. If "Server" is selected (recommended), then enter the name of the database server. If "DSN" is selected, enter the name of a valid DSN that has been set up in the Windows 32-bit ODBC Administrator. In the User ID and Password fields, enter a valid SQL Server login. Enter the name of the SQL Server database to create and select the type of Accounting link. If any accounting or manufacturing data is to be imported from an existing company, make the appropriate selections and specify the location of the source data. Click the Continue button.

3. If prompted to verify that you are connecting with an administrative login, click Continue.
4. If prompted for a data source, select the DSN specified in step 2 and click OK.
5. Creating a new database requires using a SQL Server login that is a member of either the **sysadmin** or **dbcreator** role. This level of access is required to create the application role described in step 10. If the current login does not have these privileges, uncheck the "Use Trusted Connection" box and enter a different login. Click OK.
6. When prompted to create blank tables in the new database, click OK.
7. If you are creating a database for an additional manufacturing company, go into the SQL Server Management Studio and assign permissions to the Guest account in the new database. This is necessary in order for the separate accounting and manufacturing databases to communicate. In the database, go to Security\Users\guest. Right-click "guest" and select "Properties". Click on "Securables" and then click the "Search…" button. Select "All objects of the types…" and click "OK".
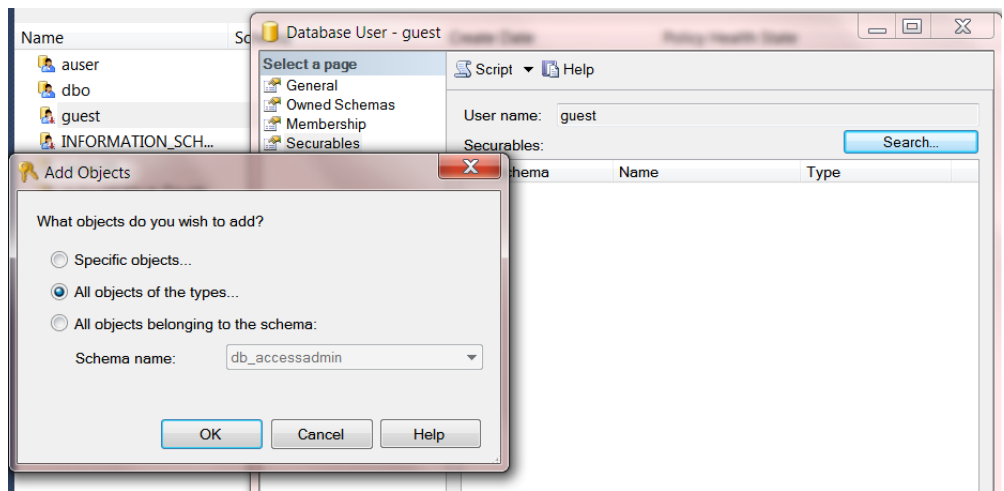
Check the box next to "Databases" and click "OK".
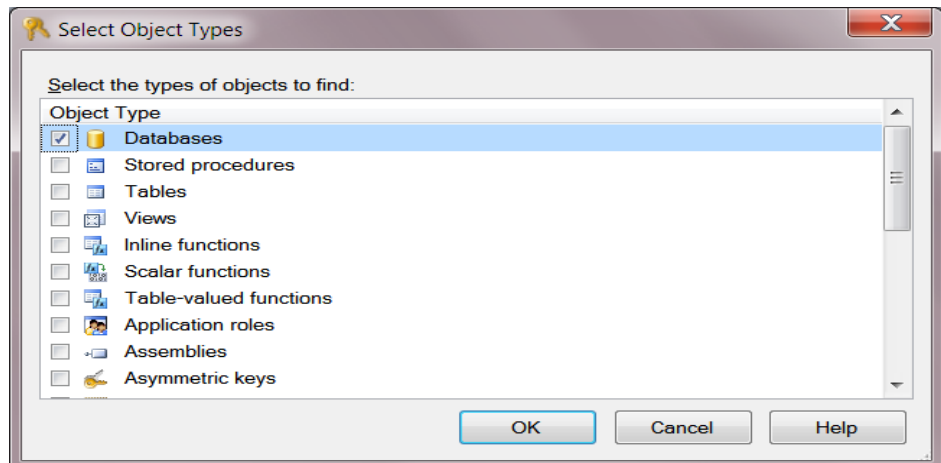
In the list at the bottom of the screen, check the box in the "Grant" column next to the following permissions: Connect, Delete, Execute, Insert, Select, Update. Click "OK" to save permissions.

8. In ALERE, enter the company default information. If linking a stand-alone manufacturing company to accounting, select either "TIW ALERE CS" or "AccountMate SQL" for the Accounting System.

On the Manufacturing tab, enter the specific settings to link to the accounting system, such as accounting version, company ID, accounts and locations. Both ALERE and AccountMate require database connection information similar to what is required for the ALERE Manufacturing database on the Company tab. If you have only one manufacturing company linked to ALERE Accounting, the database connection information will be the same on both tabs. For AccountMate, My Company ID should be set to the AccountMate company ID. Remote Database should be set to the AccountMate company database. When finished entering the company default information, click Save and then Exit the screen.

Connecting ALERE Manufacturing CS to ALERE Accounting CS

Connecting ALERE Manufacturing CS to AccountMate SQL

9.   Run the TIW File Update on the company when prompted.
10. An Application Role will be created in the new database. This role will have all of the privileges necessary to run ALERE. Therefore, there will be no need to assign individual user privileges. Additional access may be granted to individual users, although it is not required by ALERE.

Connecting to an Existing Client/Server Company

1. Be sure that your SQL Server user ID has the proper access privileges set up for the database in SQL Server.
2. Click the New button on the Open Company screen.
3. Enter the company name, set the Database Type to "Client/Server".
   Select the connection type. If "Server" is selected (recommended), then enter the name of the database server. If "DSN" is selected, enter the name of a valid DSN that has been set up in the Windows 32-bit ODBC Administrator. In the User ID and Password fields, enter a valid SQL Server login. Enter the name of the SQL Server database to connect to and select the type of Accounting link. Click the Continue button.
4. If prompted to verify that you are connecting with an administrative login, click Continue.
5. If prompted for a data source, select the DSN specified in step 3 and click OK.
6. Leave the "Use Trusted Connection" box checked and click OK.
7. Enter the Company Default information, click Save and then Exit.
8. Run the TIW File Update, if necessary, and then click Exit to continue.

Converting LAN data to Client/Server

If you need to convert a LAN (VFP) company to Client/Server (SQL Server) without the built-in company import utility, follow these steps.

1. Run ALERE and select the new (empty) client/server company.
2. From the menu, select File > Developer Tools > Developer Portal.
3. For accounting data only, execute the following command:
   DO LanToCS

   For both accounting and manufacturing data, execute the following command:
   DO LanToCS WITH .F., "B"
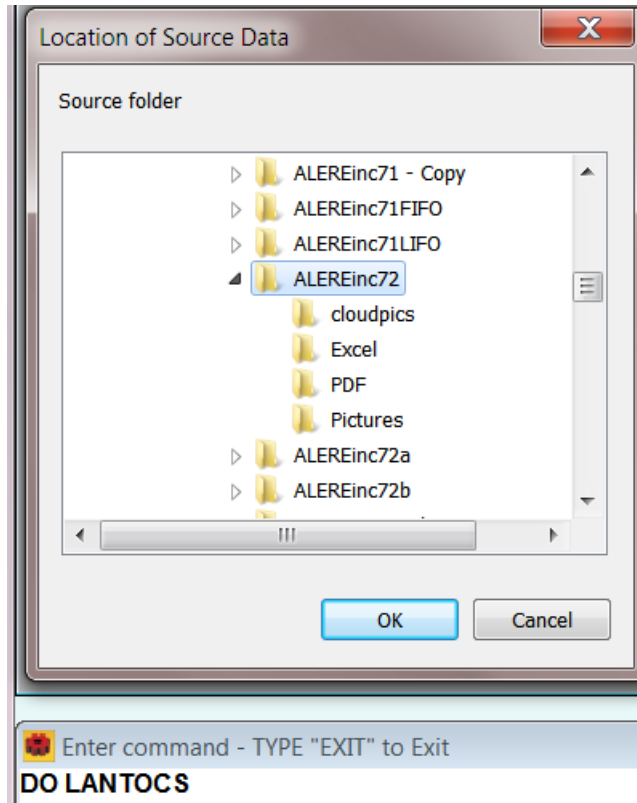
4. When the Location of Source Data dialog pops up, select the directory containing the LAN company (VFP) files. Note that non-TIW tables defined in WsData will also be converted. If any errors occur in the conversion process, they will be logged in a file called "LanToCS.log" in the ALERE SysFiles folder.

5. When the conversion is finished, enter the EXIT command to leave Developer Portal.

Granting Database Access in SQL Server

When creating a new client/server company in ALERE, the specified user ID is given database owner privileges which are required to create the database, tables, indexes and other objects that define the company. Each SQL Server user who will be running ALERE must be granted access to the company database. If other user IDs need external access to the company database, they will need to be granted access to it by a system administrator.

Follow these steps to grant database access to a user:

1. Run SQL Server Management Studio from the Windows Start menu.
2. Log in to the SQL Server with an administrator level user ID.
3. In the Object Explorer window, open the Security folder under the appropriate SQL Server name (if more than one).
4. Under the Security folder, open the Logins folder to display a list of the currently defined user logins on the SQL Server.
5. Make sure that each potential ALERE user has a SQL Server login. Logins are typically set up to be the same as the user's Windows login. If a user login is missing, right-click the Logins folder and select 'New Login...' from the menu. Fill in the Login Name and proceed to step 7.
6. In the list of logins, right-click the user requiring database access. Select Properties from the right-click menu.
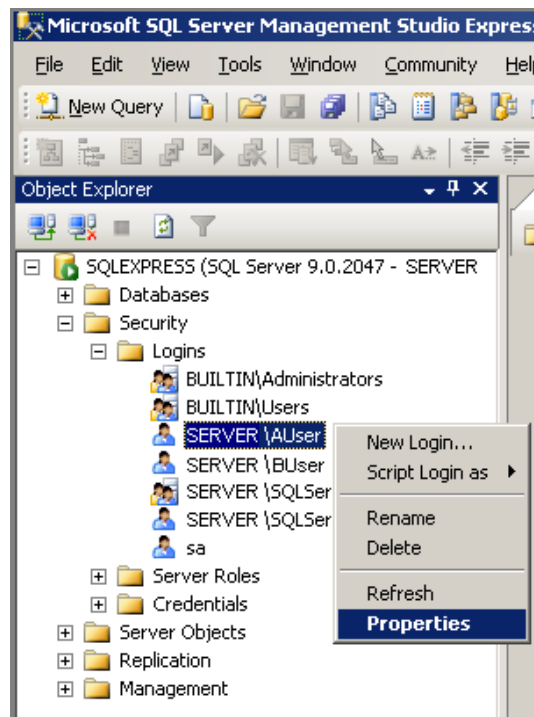
7. There is a list in the upper left corner of the Login Properties screen with the heading 'Select a page'. Click on 'User Mapping' in this list.
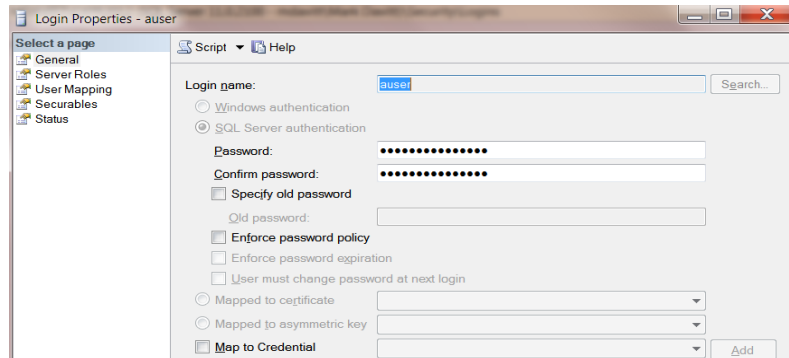
8. In the upper right of the screen there will be a grid that lists all of the databases on the server. Check the box in the Map column next to the ALERE company database(s) that the user will need to access.
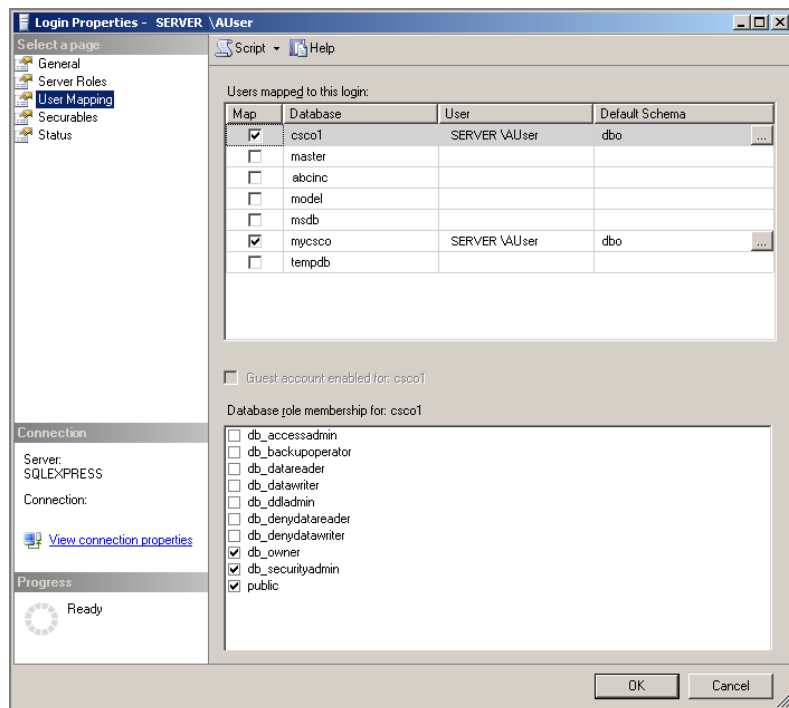
9. In the bottom right of the screen there will be a list of database roles. Users logging into ALERE need at least **db_securityadmin** selected. Users who will run the TIW File Update utility will need **db_owner** selected.

10. Click the OK button to save the settings.

11. Repeat steps 6 through 9 for each user requiring database access.

12. Exit SQL Server Management Studio.

Microsoft SQL Server Express Edition

Microsoft SQL Server Express Edition is the free, redistributable version of SQL Server that is ideal for client applications requiring an embedded database, new developers learning how to build data-driven applications, and Web sites serving up to 25 concurrent users.

SQL Server Express is a database engine provided by Microsoft that is based on the core SQL Server technology and supports single- and dual-processor desktop computers. In other words, it is a scaled down copy of SQL Server. SQL Server Express was introduced to provide application developers a database engine that is more powerful than the Jet engine and at the same time expandable to SQL Server.

The common technology base shared between SQL Server and SQL Server Express enables developers to build applications that can scale seamlessly from desktop solutions to multiprocessor enterprise clusters. Because it is fully compatible with SQL Server, ALERE is able to easily target both SQL Server and SQL Server Express database objects with the same application code base. This allows VARs to run the same ALERE product on both a laptop computer for demonstrations using SQL Server Express and on a full SQL Server system using SQL Server.

Downloading SQL Server Express

SQL Server Express can be downloaded from the following location:

http://www.microsoft.com/downloads/

Installing SQL Server Express

Before installing SQL Server Express, it is recommended that you review the Installation Requirements and Readme documents that are provided on the Microsoft website for this product.

The setup file for SQL Server Express can be downloaded to your computer and then run, or the installation can be started from the web page listed above. A graphical interface will guide you through the setup process.

SQL Server Tools

Microsoft SQL Server includes many graphical and command prompt utilities that allow users, programmers, and administrators to design and test queries for retrieving data; copy, import, export, and transform data; and provide diagnostic information. The most useful is the SQL Server Management Studio. In addition to this utility, TIW provides an external command utility (SqlCmdEx) that allows users to execute many standard VFP SQL statements on SQL Server data.

Note: Microsoft provides SQL Server Management Studio as a free download in addition to SQL Server Express.
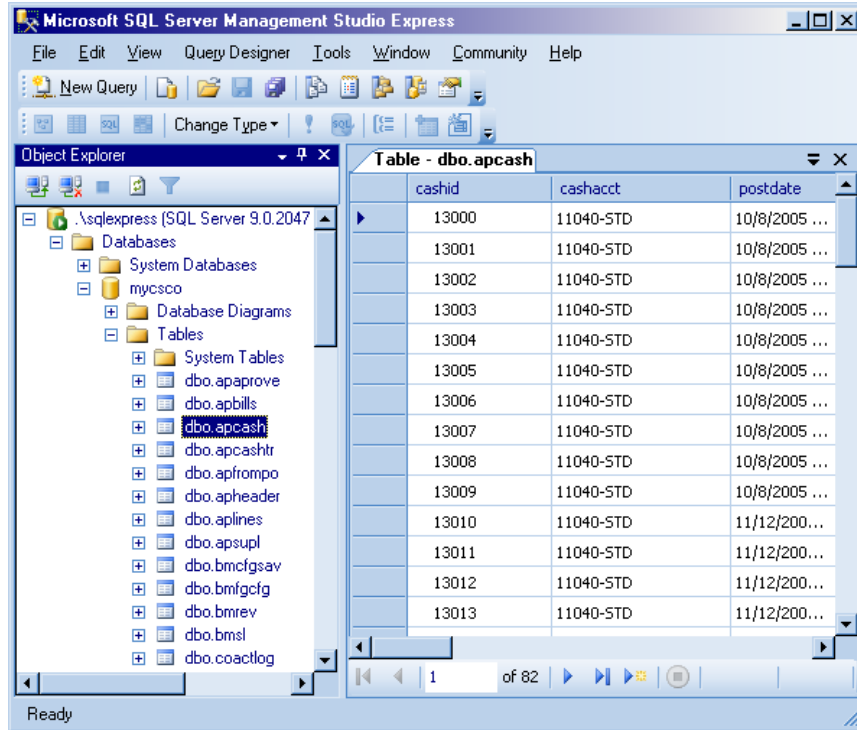
SQL Server Management Studio

SQL Server Management Studio is a graphical tool that allows the user to:

- Create queries and other SQL scripts and execute them against SQL Server databases. (Query Designer)
- Quickly copy existing database objects. (Object Explorer scripting feature)
- Locate objects within databases (object search feature), or view and work with objects. (Object Explorer)
- Quickly insert, update, or delete rows in a table. (Open Table window)
- Configure all SQL Server options for each registered server.
- Create and administer all SQL Server databases, objects, logins, users, and permissions in each registered server.
- Define and execute all SQL Server administrative tasks on each registered server.
- Design and test SQL statements, batches, and scripts interactively .

You can run SQL Server Management Studio directly from the Windows **Start** menu.

Example of the Object Explorer's "Edit" feature

Example of using the SQL Server Management Studio to run a query
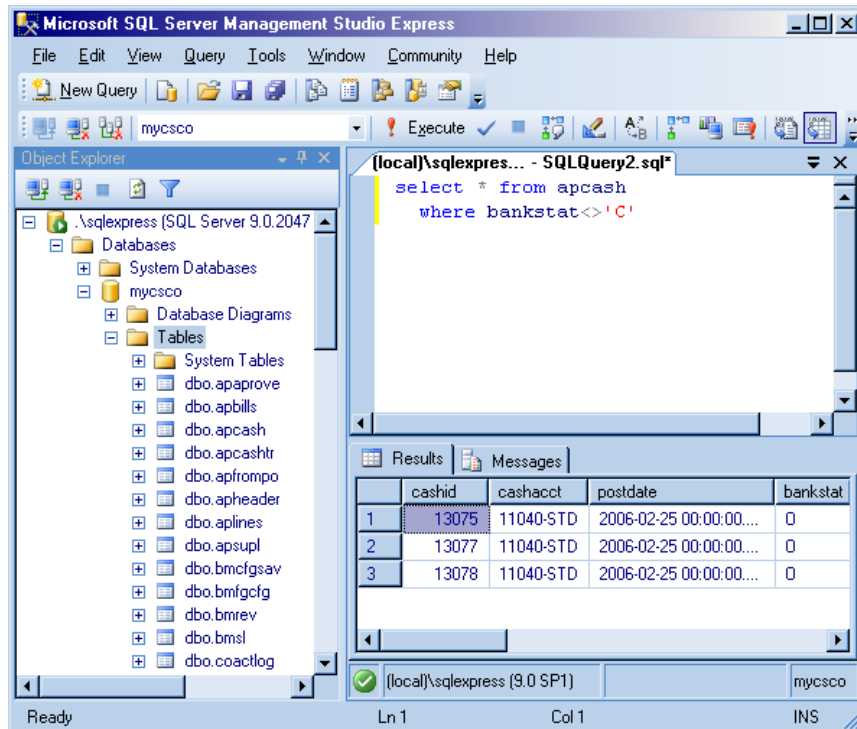
SqlCmdEx Utility

TIW provides an external command utility called SqlCmdEx with the Developers Kit. This utility allows the user to directly view the SQL Server database using standard VFP SQL Syntax. Whereas the SQL Server Management Studio requires the user to employ Microsoft SQL Server compliant commands, the SqlCmdEx program accepts standard VFP SQL commands. Therefore, it is NOT necessary to know the Microsoft SQL Server syntax when using this utility.

The SqlCmdEx executable file must be located in the ALERE program directory in order to function correctly. Before running the utility for the first time, it is necessary to set up a DSN in the Windows 32-bit ODBC Administrator. (See *Adding the TIWSQL Data Source to ODBC* section.) To run the utility, set up a shortcut or double click the file SqlCmdEx.exe in Windows Explorer. It is **NOT** designed to run inside of ALERE (i.e. in Developer Portal).

The combo box located at the top of the screen on the SQL tab contains a list of the available SQL Server company databases. Select the database that you wish to manipulate. Enter the standard VFP SQL command in the area below the combo box and press the execute button when you are ready to run it. The statement will be executed and the other tabs of the utility will be updated.

The translation tab contains the translation of the last executed SQL command entered on the SQL tab in valid SQL Server syntax. The history tab shows the SQL commands entered on the SQL tab since starting the utility. Finally, the message tab contains any error messages from the last SQL command executed or shows that the command was executed successfully, which indicates that there were no errors.

If you simply want to browse the records in a table, click the "Browse" button. You will be presented with a list of available tables in the selected database. Select the desired table and press Enter to open a read-only browse window.

**Example of using the SQLCmdEx Utility to select items from the inventory table**
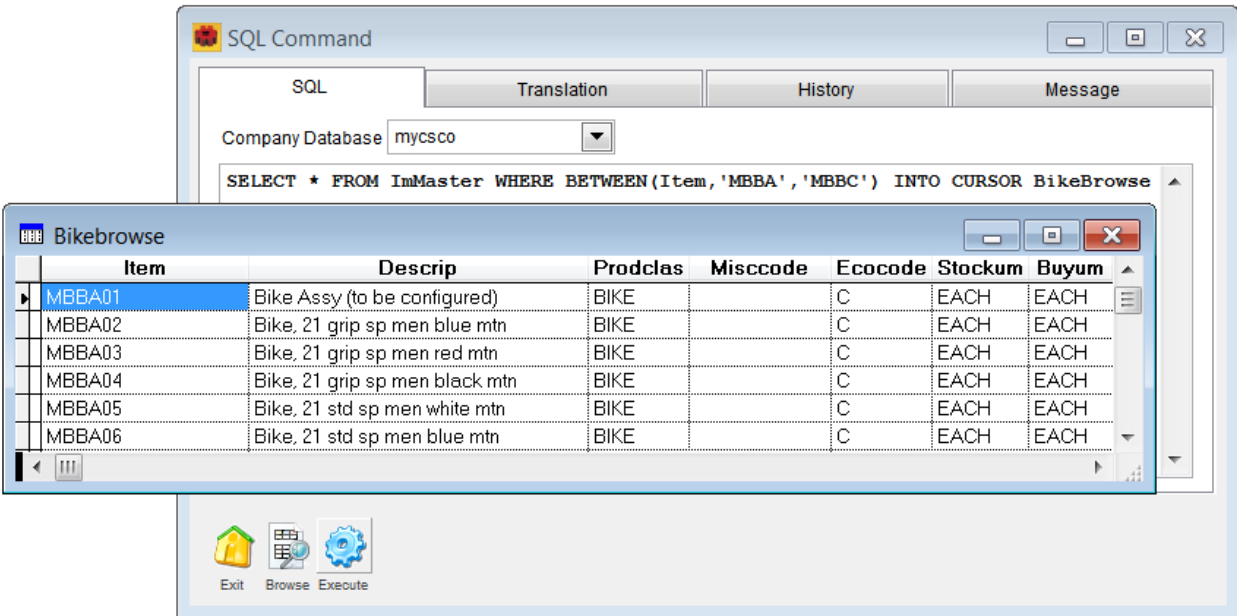

Adding the *TIWSQL* Data Source to ODBC

1. In Windows Control Panel or Administrative Tools run Data Sources (ODBC).
    Note: if running a 64-bit version of Windows the Data Source must be set up
    with the 32-bit ODBC Administrator application (ODBCAD32.EXE) which can
    be found in the Windows\SysWow64 folder.
2. Click the System DSN tab on the ODBC Data Source Administrator screen then
    click the Add button.
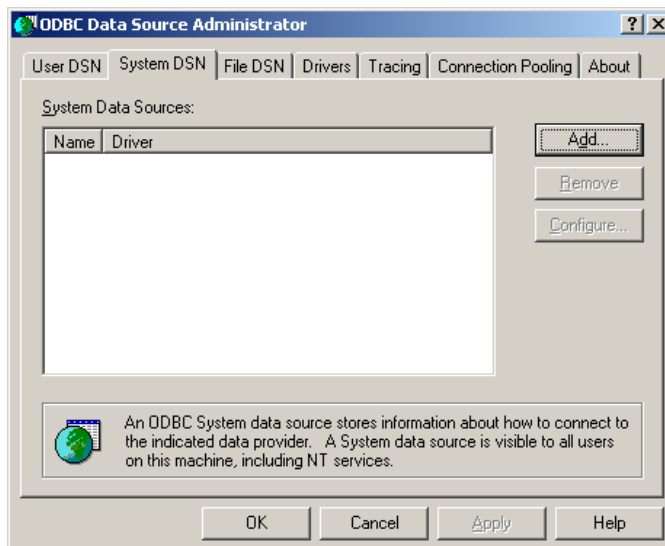
3. Select the "SQL Server" driver from the list and click the Finish button.
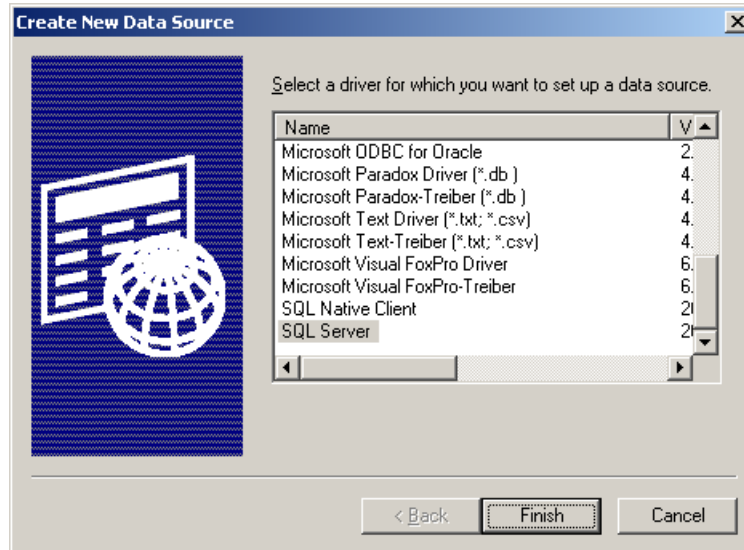
4. On the first screen of the DSN Configuration wizard enter "TIWSQL" in the Name field, "TIW SQL Server" in the Description field, and enter the name of the SQL Server that will contain ALERE data in the Server field. (Note that the default server name for an SQL Server Express installation is "SQLEXPRESS".) Click Next.
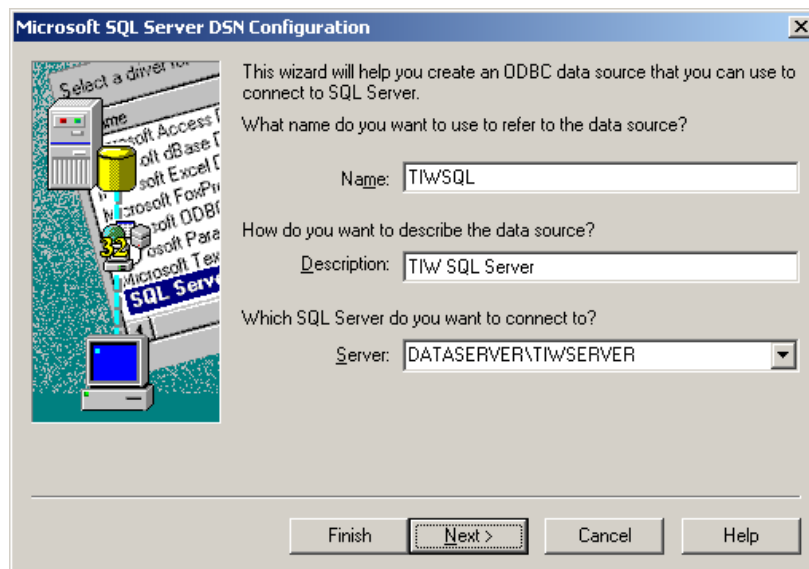
5. The second screen of the wizard asks you to specify how you will connect to the SQL Server. If your SQL Server login has been linked to a Windows Server login, you can choose the first option which will allow you to connect to the server without entering another login. If you choose to connect with SQL Server authentication, you will be required to enter a

SQL Server login each time you establish a new connection to the SQL Server. Click the Client Configuration button to specify which network library will be used to communicate with the server. This setting will depend on your network environment. Click Next.
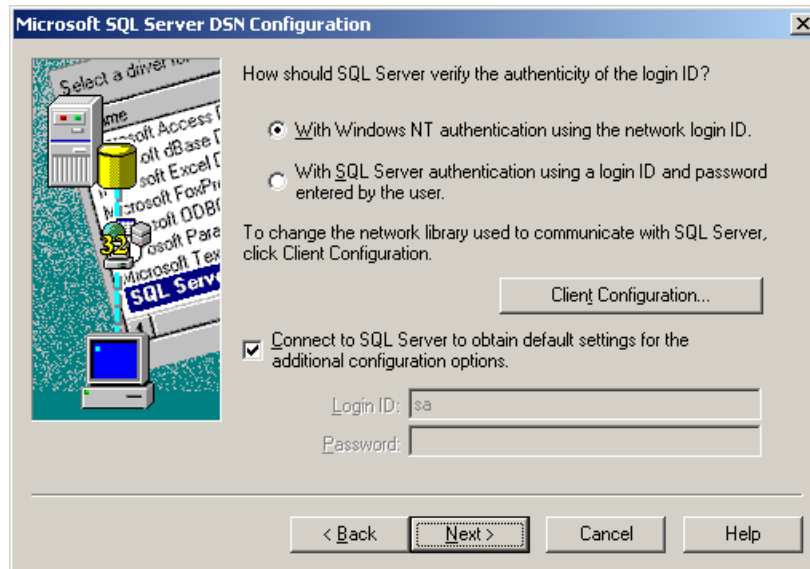
6. The third screen of the wizard contains options for your connection. Make sure the "Use ANSI quoted identifiers" and "Use ANSI nulls, paddings and warnings" options are selected. The remaining options are not required for ALERE. Click Next.
7. The fourth screen of the wizard contains another set of options for the connection. The only option required to be checked for ALERE is "Perform translation for character data." The remaining options can be selected but are not required. Click Finish.
8. Click Test Data Source to make sure the connection is functional. If the test is successful, click OK. If the test is unsuccessful, check the server name, login options and client configuration options. Consult a network or database administrator if necessary.