

# **GURU<sup>®</sup> ODBC Driver**

**32-bit ODBC Driver for GURU**

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## Description

The **GURU ODBC Driver** is a 32-bit ODBC driver that allows access to tables (.ITB data files) built for GURU, KnowledgeMan, and Object/1. With the GURU ODBC Driver, other Windows programs that support ODBC data sources (such as Crystal Reports and Microsoft Access) can access these tables and import them in reports, spreadsheets, word processing documents, and other functions.

## Environment

The **GURU ODBC Driver** can be used under the Windows 95 and the Windows NT operating systems. It can be used from any application that supports 32-bit ODBC access.

## Packing List

The **GURU ODBC Driver** is delivered as a main driver dynamic-link library (DLL) file, support DLLs, and accompanying documentation.

The following files are installed in the Windows SYSTEM directory (\WINDOWS\SYSTEM) for Windows 95, or in the SYSTEM32 directory under Windows NT. The Microsoft files may already be present on the system:

<i>File Name</i>	<i>Description</i>
go32.dll	GURU ODBC Driver DLL
go32cfg.dll	GURU ODBC Setup and Configuration DLL
simspy32.dll	Support DLL for debugging
ctl3d32.dll	(Microsoft) 3-D control DLL
odbc32.dll	(Microsoft) ODBC driver manager DLL
odbccr32.dll	(Microsoft) ODBC cursor DLL
odbcinst.hlp	(Microsoft) help for installation DLL
odbcad32.exe	(Microsoft) ODBC v3.0 administrator
odbccp32.dll	(Microsoft) ODBC control panel components
odbccp32.cpl	
ds16gt.dll	(Microsoft) Generic thunk DLLs (16 & 32-bit)
ds32gt.dll	
odbc16gt.dll	(Microsoft) ODBC generic thunk DLLs (16 & 32-bit)
odbc32gt.dll	
msvcrt.dll	(Microsoft) Visual C++ runtime libraries
msvcrt20.dll	
odbcint.dll	(Microsoft) ODBC support DLL
odbcad32.ico	(Microsoft) ODBC administrator icon

## Installation

### Step 1: Install the Driver

Insert the first diskette of the GURU ODBC Driver distribution into the computer's diskette drive and start the SETUP program. For example, under Windows 95 or Window NT 4.0, choose the **Run...** command from the **Start** menu and enter the command:

A : SETUP

The GURU ODBC Driver Setup program screen appears, as shown below:



Figure 1. GURU ODBC Driver Setup Program

Follow the instructions and prompts in the installation program. Choose **Next** or **OK** to accept the default choices for most of the installation screens. Click **OK** to place the ODBC Administrator in the ODBC Program Group. If desired, choose not to reboot the system when prompted. Press the **Finish** button to complete the installation at the last screen.

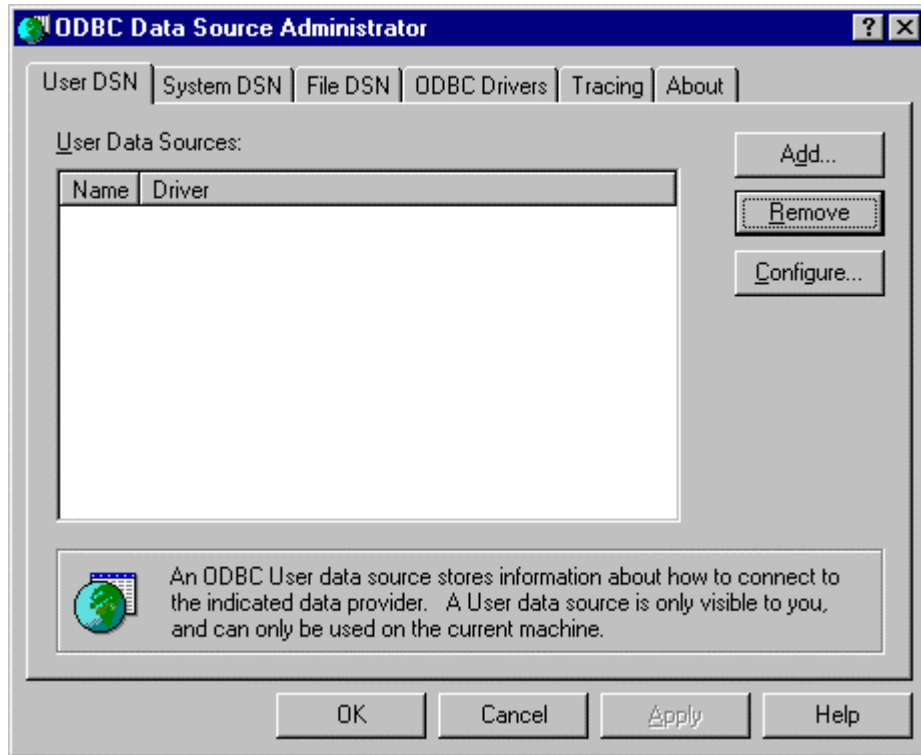
## **Step 2:** Create Data Sources

ODBC applications view data as *data sources*. A data source is a collection of logically related data associated with an ODBC Driver. A GURU ODBC data source is simply a collection of one or more tables (.ITB files) and their associated indexes in a directory. There may be more than one data source depending on how existing data is structured. All the tables and indexes associated with one application are in one data source. If the tables for an application are already in a single directory, use that directory to create the data source. If they are not in a single directory, create a directory and move all the tables to be accessed for this application to that directory.

For example, suppose that there is a payroll application with the tables EMPINFO.ITB, DEPTINFO.ITB, and QTRSAL.ITB. All of these files are in the directory C:\PAYROLL\DATA. Set up a "Payroll" data source to view these as a single logical data source.

To create a data source, use the ODBC Administrator program (ODBCAD32.EXE). By default, the GURU ODBC Driver installation inserts this program in the ODBC Program Group in the Windows Start menu, so the easiest way to start the ODBC Administrator is to choose **Start/Programs/ODBC/ODBC Administrator**. An alternative method is to click on the ODBC icon in the Windows Control Panel.

When starting the ODBC Administrator program, the ODBC Data Source Administrator dialog appears, as shown:



**Figure 2. ODBC Data Source Administrator Dialog**

The default tab, labeled **User DSN** for User Data Sources, is the correct tab to use for the GURU ODBC Driver (System Data Sources are not supported with this release of the GURU ODBC Driver). To create a data source, click on the **Add** button.

The Create New Data Source dialog appears, as shown:

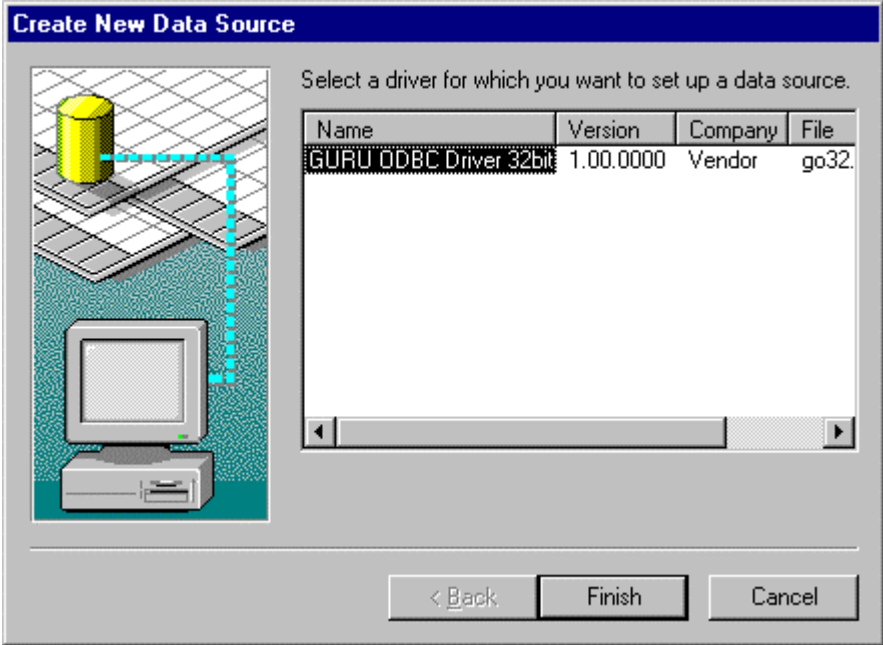
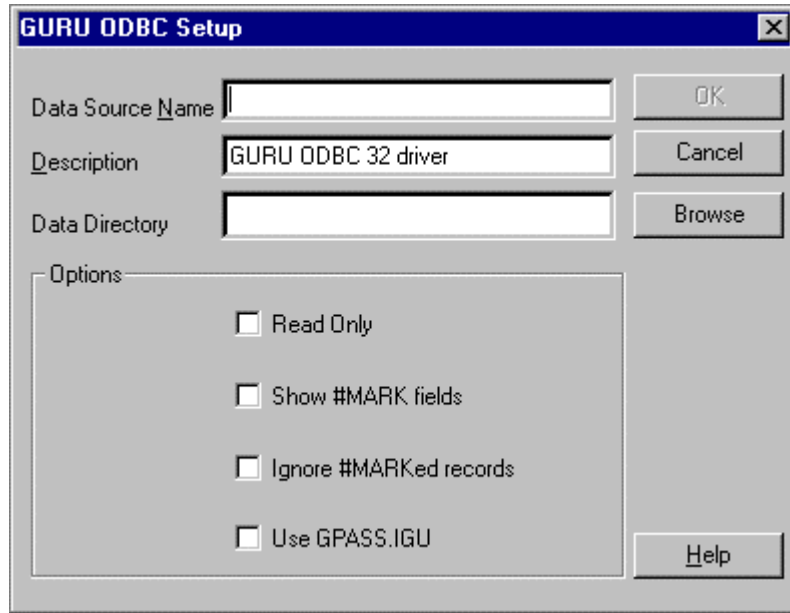


Figure 3. Create New Data Source Dialog

In this example, only the GURU ODBC Driver is available, so it is automatically selected. If other ODBC drivers are installed on the system, select the GURU ODBC Driver from the list, then press the **Finish** button to go to the next step.

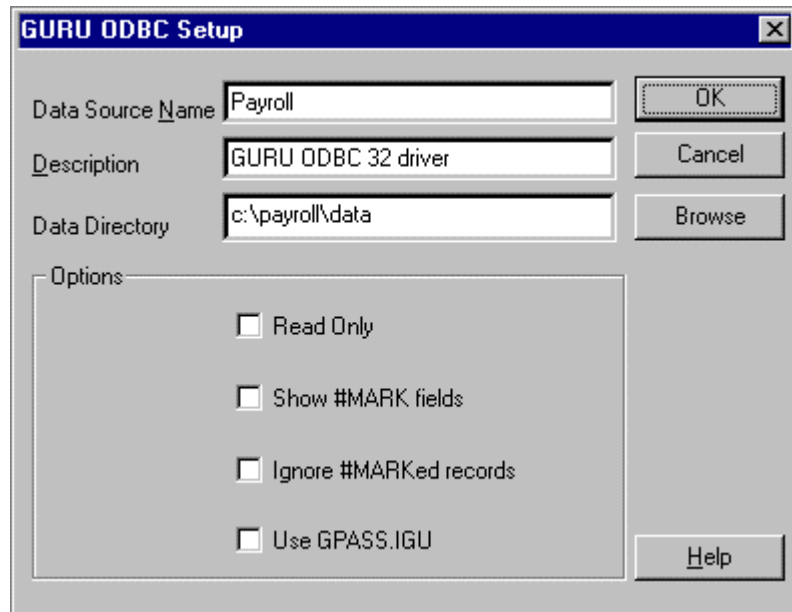
Now the GURU ODBC Setup dialog appears, as shown:



**Figure 4. GURU ODBC Setup Dialog**

The GURU ODBC Setup is the setup dialog specific to the GURU ODBC Driver. The required fields are the Data Source Name and the Data Directory. The options may be left alone (unchecked) for most data sources.

For this example, enter the data source name. The data source name can be any name typed in; select something to easily remember this particular data source and distinguish it from other data sources, as shown below:



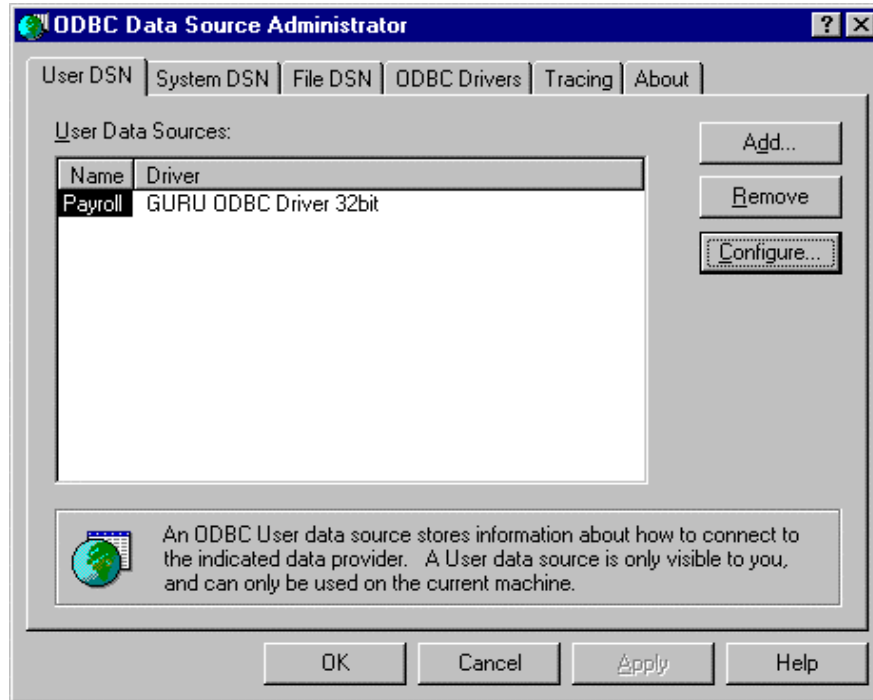
**Figure 5. GURU ODBC Setup Dialog with Payroll Data Source**

For the Data Directory field, do one of the following:

- ◆ In the Data Directory entry box, type in the full path name of the directory where the .ITB data files for this data source are located.
- ◆ Alternatively, click on the **Browse** button to interactively locate the proper directory. In the tree that appears in the Browse dialog, click on the proper top-level directory to open the subdirectories beneath. Repeat this process until the subdirectory containing the .ITB data files is shown. Click on that subdirectory and press **OK** to finish. The Data Directory entry box is filled with the proper path name for the chosen directory.

Click **OK** to finish once the directory and data source name have been entered.

Once the Payroll data source has been created, it appears as one of the user data sources in the **User DSN** tab of the ODBC Data Source Administrator dialog, with the GURU ODBC Driver as the associated driver:



**Figure 6. ODBC Data Source Administrator with Payroll Data Source**

This step completes the setup of the data source in the ODBC Administrator. Click **OK** to exit.

**Step 3:** Create a Table Information file (TBLINFO.DAT)

For each GURU ODBC Data Source there exists a text file named TBLINFO.DAT in the database directory containing the .ITB data files. This file lists, one per line, each of the tables for this data source and, optionally, any associated index files. Index files belong to the most recently listed table. Make certain to put the appropriate .ITB and .IND extensions on the files, as the extensions are used by the driver to determine the type of file listed by each line.

The driver setup automatically creates a TBLINFO.DAT file in the data source directory listing all the .ITB data files found in that directory. For this example, the driver setup has created a TBLINFO.DAT file in C:\PAYROLL\DATA which lists the following files:

```
empinfo.itb
deptinfo.itb
qtrsal.itb
```

This example has no indexes; if index files exist, add them by editing the TBLINFO.DAT file, placing each one following the .ITB file with which that index is associated, as shown below:

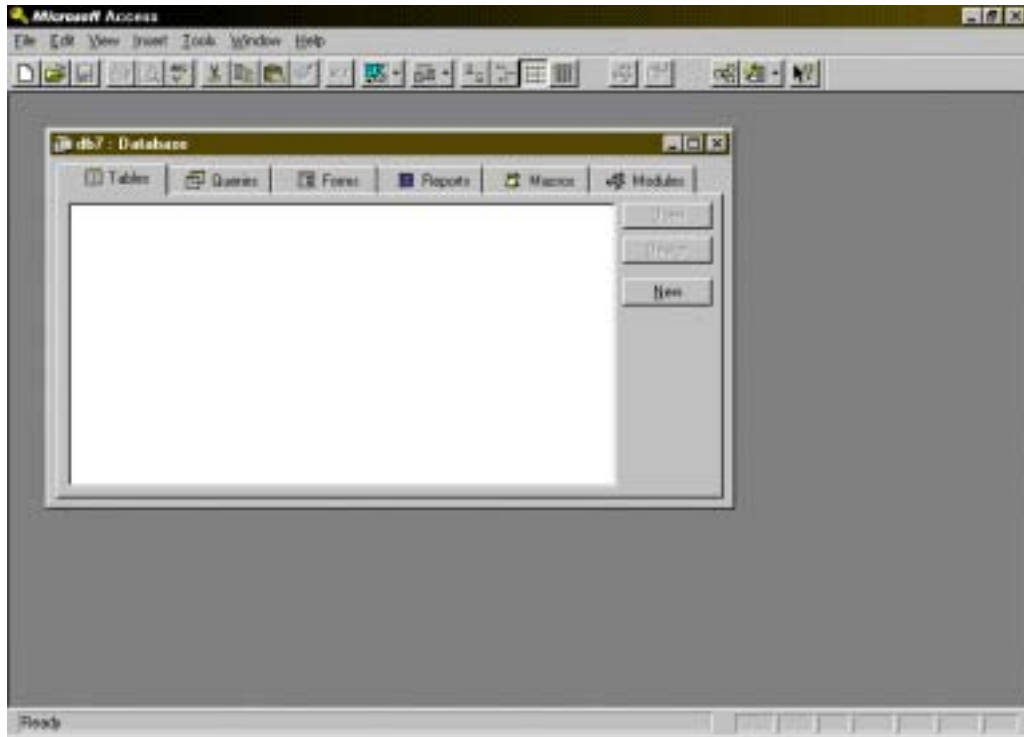
```
empinfo.itb
emp.ind
deptinfo.itb
dept.ind
```

The driver setup preserves changes made to the TBLINFO.DAT file if the data source is later modified through the setup dialog.

## Using The Driver

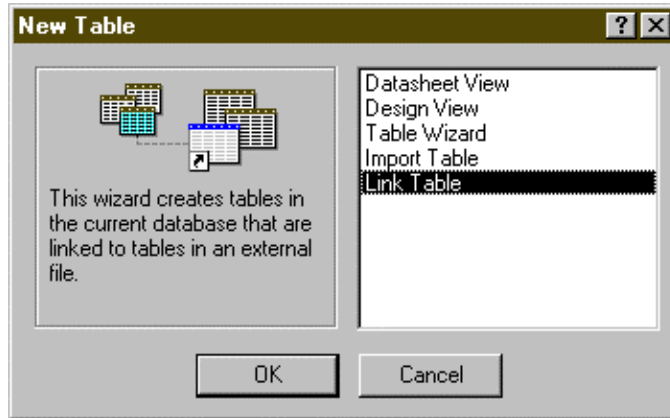
At this point, the example data source is ready to use. Start an application capable of using ODBC drivers, and use it to open an ODBC data source. The new data source just created is among the list of available data sources.

For example, in Microsoft Access v7.0, a database with tables linked to the ODBC data source can be created. To do so, create a new Microsoft Access database, then in the Tables tab of the Database window, click on the New button:



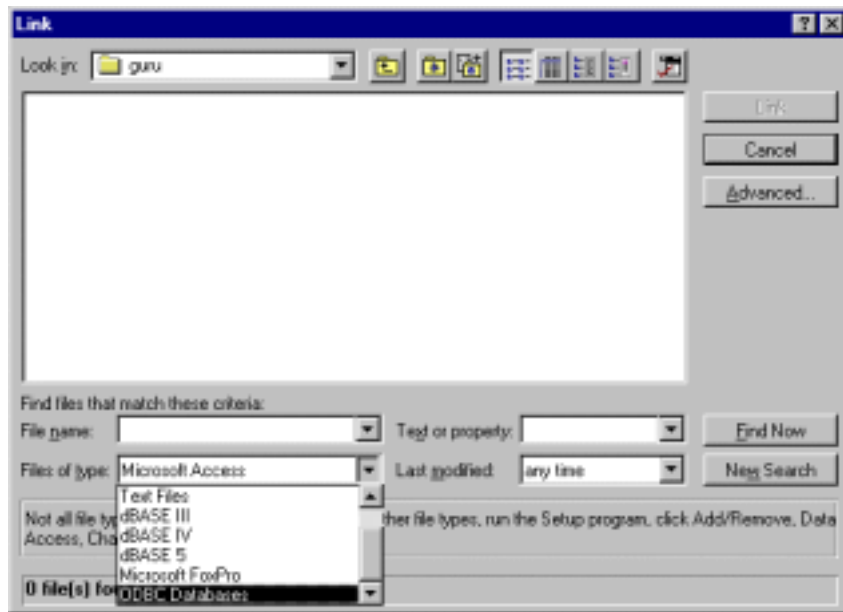
**Figure 7. Microsoft Access Database before Linking GURU ODBC Tables**

Clicking the **New** button brings up the New Table dialog, as shown below.



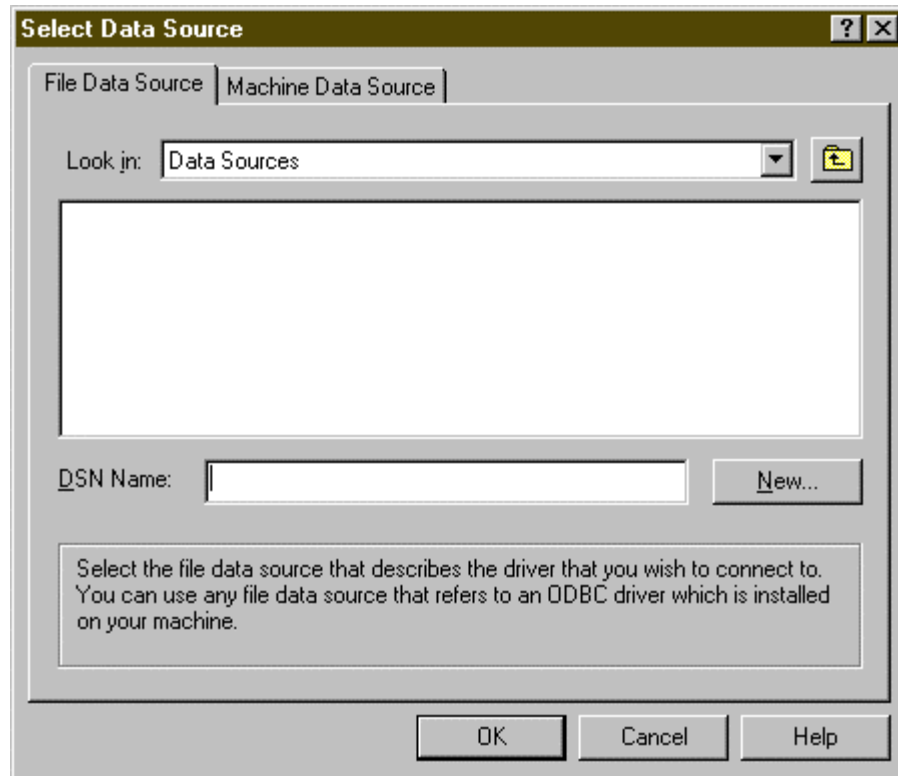
**Figure 8. Link Table choice in New Table dialog**

Choose the **Link Table** option in the New Table dialog to create a live link to the GURU table. This action brings up the Link dialog, shown below:



**Figure 9. Link dialog, Files of type: ODBC Databases**

Choose ODBC Databases in the Files of Type list box.



**Figure 10. Select Data Source dialog**

The Select Data Source dialog appears. Click on the **Machine Data Source** tab.

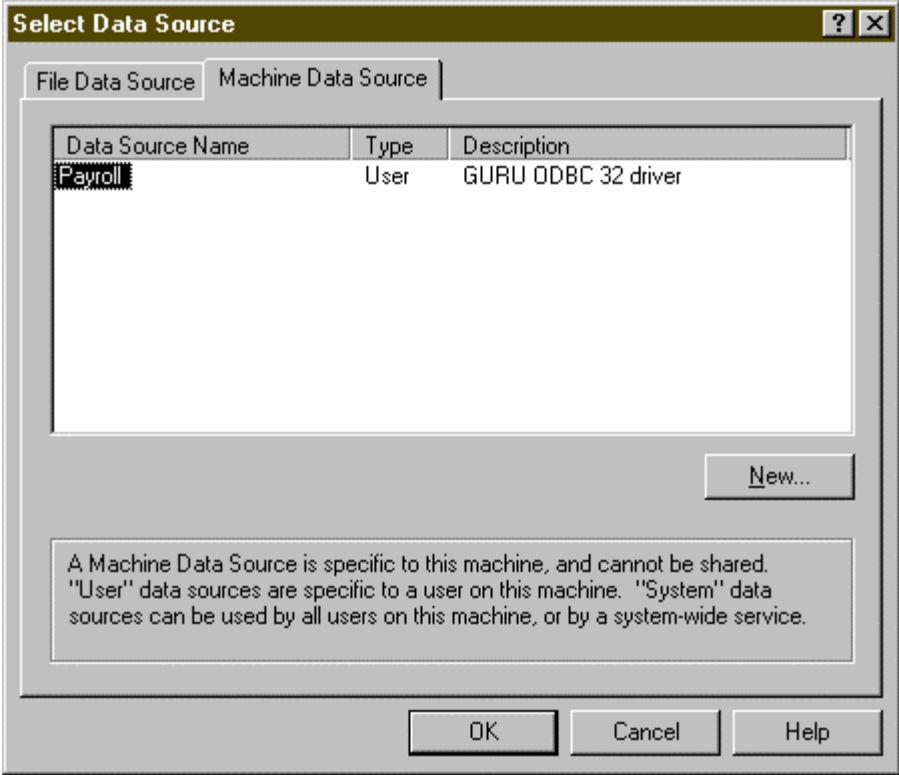


Figure 11. Machine Data Source tab in Select Data Source dialog

The “Payroll” data source appears as one of the Machine Data Sources. Click on the word **Payroll** to highlight it, then click on the **OK** button.

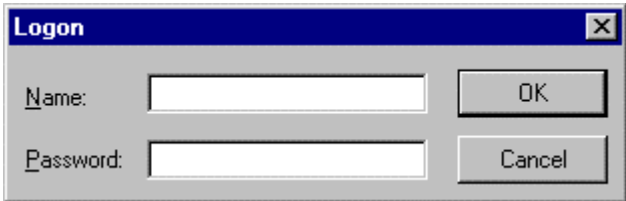
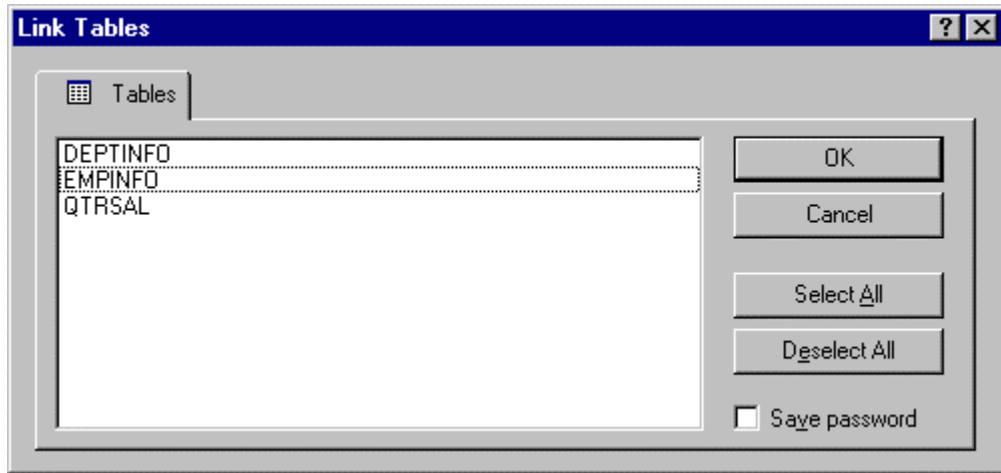


Figure 12. GURU ODBC Driver User/Password dialog

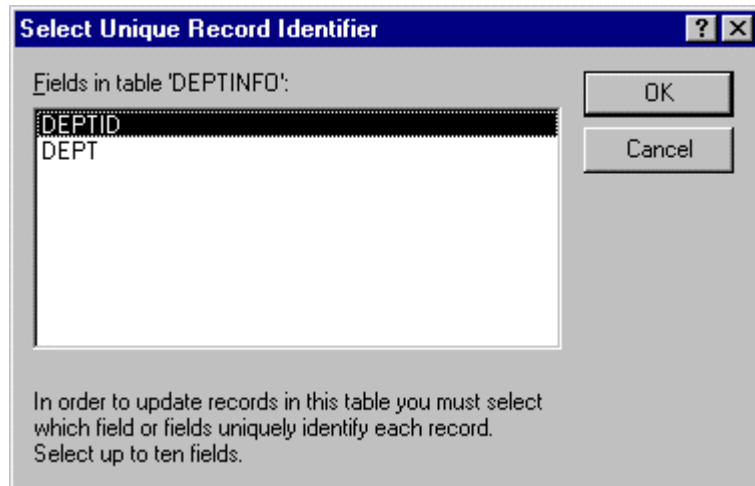
The User Name/Password dialog now appears. In this example, because passwords are not used to access the tables, simply click on the **OK** button without entering a user or password. If a user name and password are being used to access these .ITB tables in GURU or KnowledgeMan, enter the same user name

and password here. See the sections “Driver Setup Options” and “TBLINFO.DAT Options”, below, for more information on using passwords.



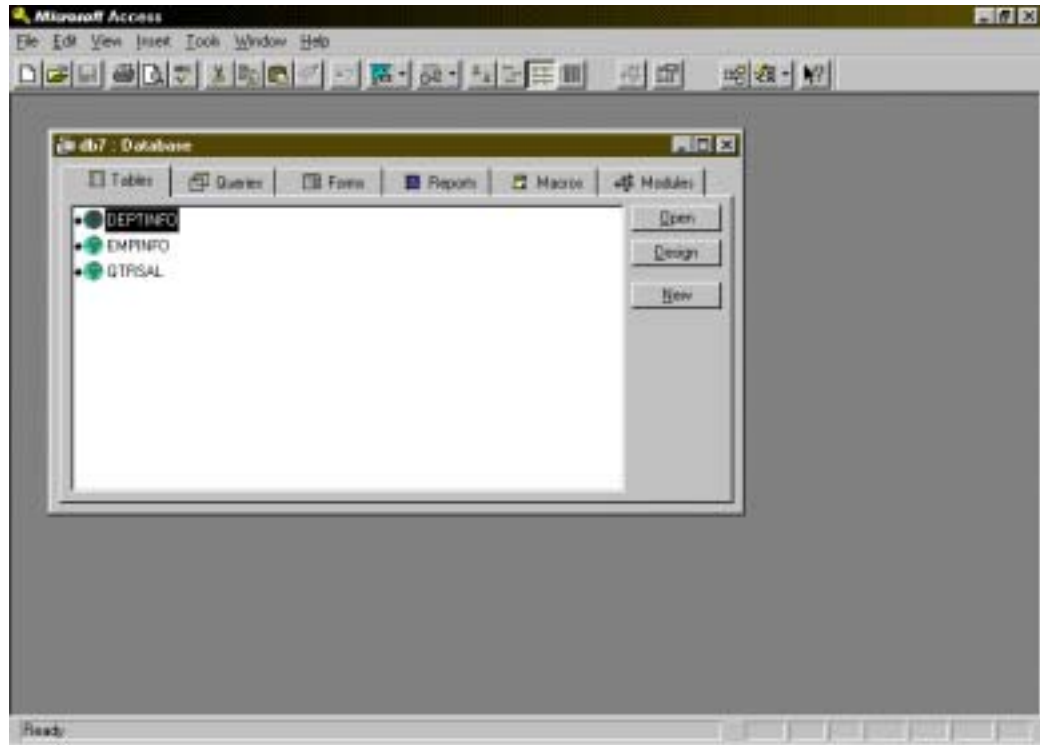
**Figure 13. Link Tables dialog with tables from “Payroll” GURU ODBC data source**

The Link Tables dialog now shows the tables from this data source. Some or all of the tables may be selected to be linked into Microsoft Access. For this example, click on the **Select All** button to select all the tables. Click **OK** to finish.



**Figure 14. Select Unique Record Identifier dialog**

For each of the selected tables, a Select Unique Record Identifier dialog appears. Each of the fields from the table is listed. Select one or more of the fields that uniquely identify a particular record. For example, in the Departments table, the DEPTID field uniquely identifies each department, so click on **DEPTID** in the list box of field names.

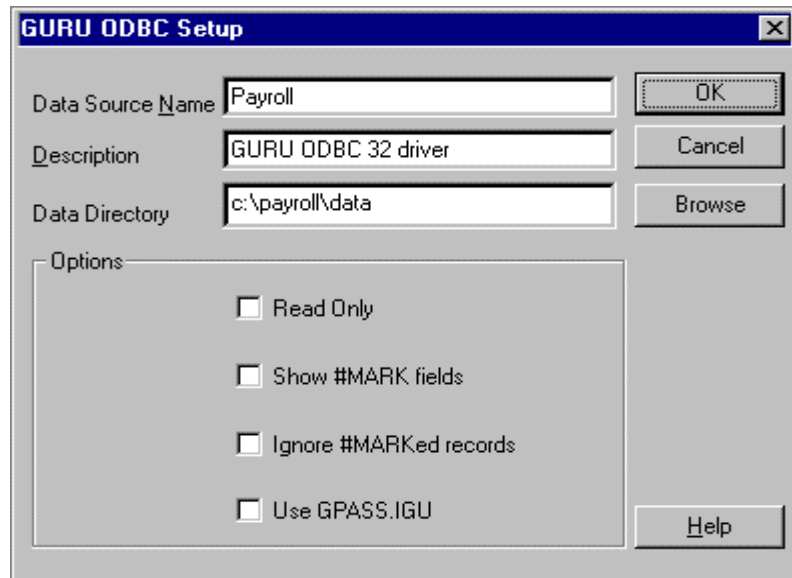


**Figure 15. Microsoft Access Database with Linked GURU ODBC Tables**

Linking is now complete. Each of the tables appears in the Tables tab of the Microsoft Access database. Queries, reports, and other Microsoft Access operations may now be defined using GURU ODBC tables.

## Advanced Information: Driver Setup Options

The GURU ODBC Driver can be configured to operate in a different way depending on the setup options chosen for a particular data source. To change these options, start the ODBC administrator. Select the desired data source and click on the **Configure** button to bring up the GURU ODBC Setup dialog:



**Figure 18. GURU ODBC Setup dialog**

This dialog has are four different options which can be set for each data source, as follows:

- ◆ **Read Only** - This option prevents modification of the data in this data source through ODBC. It allows the driver to be used for reports and queries, but not for inserting, updating, or deleting data in the data sources tables.
- ◆ **Show #MARK Fields** - GURU .ITB tables have a special boolean field named #MARK that is set to TRUE when a record is marked for deletion. By default, the driver does not display this field, but it can be displayed by checking this option box.
- ◆ **Ignore #MARKed Records** - By default, the driver includes rows containing a #MARK field set to true, but these rows can be suppressed by checking this option box.
- ◆ **Use GPASS.IGU** - The GURU Password File is named GPASS.IGU. By default, the driver does not use passwords. The driver is not able to access a table that is so protected; set this option to TRUE to force the driver to log in with the correct user name and password before accessing tables in this data source. In order to use this option, the GPASS.IGU file must be located in the same directory as the .ITB files for this data source.

## Advanced Information: TBLINFO.DAT Options

The options set in the configuration dialog are set by special option lines added to the TBLINFO.DAT file for that particular data source. These option lines can also be added with a text editor. The option lines are:

- ◆ #READ - Enables “Read-Only” option if present.
- ◆ #MARK - Enables “Show #MARK Fields” option if present.
- ◆ #-IMARK - Disables the “Ignore #MARKed Records” option if present.

To see the #MARK field from the ODBC driver, add a line with the text “#MARK” in the TBLINFO.DAT file. In order to have the ODBC driver see and return records where #MARK is set to TRUE, add a line with the text “#-IMARK” (which stands for NOT Ignore #MARKs) to the TBLINFO.DAT file. The configuration dialog adds this line if the “Ignore #MARK Fields” box is not checked. An example TBLINFO.DAT file making #MARK visible and not ignoring #MARKed records is shown below:

```
#MARK
#-IMARK
empinfo.itb
emp.ind
deptinfo.itb
dept.ind
```

The “Use Passwords” option is controlled by the presence of a .IGU file in the list of tables and indexes. If GPASS.IGU is listed, the driver logs in with that password file before accessing any tables. To use the KPASS.IGU file (KnowledgeMan password file), simply list the KPASS.IGU file name in TBLINFO.DAT instead of GPASS.IGU.

## Note on Data Types, BLOBs, and Virtual Fields

GURU data types are mapped to corresponding ODBC data types by the GURU ODBC Driver. NUM fields are mapped as floating-point numbers (IEEE Double), INT fields as short integers, STR fields as text, and LOGIC fields as bits.

BLOB fields are mapped as long text, so that BLOBs with large text content are mapped correctly by most ODBC front-end applications. Microsoft Access, for example, maps BLOBs into Memo fields. BLOBs containing non-text data are not supported by ODBC.

Virtual fields are visible, but have a value of zero, as their expressions can only be evaluated from within GURU.

## Multi-User Access

Multi-user write access to tables via ODBC is supported. The GURU ODBC Driver calls the database `HOLDR()` and `DROPR()` functions to acquire and release locks on tables when writing to the database through ODBC.

## Uninstall

Uninstalling the GURU ODBC Driver in this release is not recommended. Certain files for the ODBC Manager may be removed which may cause other system problems. If the GURU ODBC driver does need to be uninstalled, simply delete these files from the `\WINDOWS\SYSTEM` directory:

```
go32.dll  
go32cfg.dll  
simspy32.dll
```

## Tested Applications

As of this release, these ODBC front-end applications have been tested with the GURU ODBC Driver:

*Microsoft Access for Windows 95 v7.0*  
*Microsoft Word & Excel for Windows 95 (via Microsoft Query) v7.0*  
*Crystal Report Writer v4.5, v5.0*  
*Microsoft ODBC SDK v2.0 & v3.0*