ODBC Driver
Version 4
Manual

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HanDBase ODBC Driver for Windows
Introduction

What is the HanDBase ODBC Driver?

HanDBase ODBC Driver is an Add-On utility that works with the HanDBase application for your handheld device.

This application makes it possible to retrieve data from a HanDBase PDB database file from another application that supports ODBC. To accomplish this you use this driver to set up your HanDBase database as an ODBC Data Source. Then other applications can make calls or query that database for information. Additionally, in an application like MS Access you can create a "Link" table where you can actually see and edit the data in that HanDBase database through MS Access, or another application that supports similar functionality.

What packages is the HanDBase ODBC Driver included with?

In addition to being available separately, the HanDBase ODBC Driver is included in the following packages.

> HanDBase Enterprise for Palm OS
> HanDBase Enterprise for Windows Mobile Classic/Professional (Pocket PC)
> HanDBase Enterprise for Windows Mobile Standard (Smartphone)
> HanDBase Enterprise for BlackBerry

System Requirements

Microsoft Windows 95, 98, ME, NT 4.51, 2000, XP Home or Pro, Vista Home, Home Premium, Business or Ultimate

Microsoft Access 97, 2000, XP(2002), 2003 or 2007 required for synchronization with Microsoft Access

ODBC-enabled product required for synchronization with an ODBC data source

HanDBase and HanDBase Desktop version 4.0 or greater

Microsoft ActiveSync 4.0 or higher (Windows Mobile Classic/Professional (Pocket PC) or Windows Mobile Standard (Smartphone) users)

Windows Mobile Device Center 6.0 or higher (Windows Vista users with Windows Mobile Classic/Professional (Pocket PC) or Windows Mobile Standard (Smartphone) devices)

Palm Desktop and HotSync Manager 4.0 or higher (Palm OS users)

BlackBerry Desktop Manager 4.0 or higher (BlackBerry Users)

1MB of hard drive space

Getting Started

In order to use your registered version of the HanDBase ODBC Driver you will need to enter your 16 digit License Key.

If you purchased this software directly from DDH Software then this License Key is found by logging into the DDH Software website using the email address you registered with and the password you were provided when you registered.

If you purchased the software online through the DDH Software website or through one of our resellers then you should have received your License Key in your confirmation email. Within one business day of purchasing you'll also receive login information for the DDH Software website where you can get your License Key.

If you purchased this software in a retail outlet then this License Key is printed on the insert to the package for the software. Be sure to use the correct code for your handheld and desktop platforms. You will also want to follow the instructions for registering the software so that you can download future updates and receive Technical Support.

If you are a Windows user you will be prompted to enter your License Key during the installation process. Once entered you will be able to use the Windows Desktop components you are registered for.

If you purchased one of the packages listed above you will be prompted for the License Key during installation of that and entering that will activate the Conduit that is part of that package.

Installation

The installation of the HanDBase ODBC Driver program is handled by the installation program that you download from the DDH Software website or receive on a CD or Disk via mail. When you run this installation file the program will be installed automatically.

Once installed you will be able to find the documentation on your Start Menu under Programs in the ODBC Driver sub-folder of the HanDBase 3.0 folder. Because this is a Driver application there is no interface. You will be able to access the properties for this through the ODBC Administrator. The steps for doing this are described below.

Creating HanDBase ODBC Data Sources

Introduction

ODBC Data Sources provide an independent interface to databases and other data sources installed on a Microsoft Windows computer. Using Structured Query Language (SQL), software applications can read and write data to any ODBC compliant database or data storage system installed on the local computer. These data sources can be accessed using the associated Data Source Name (DSN) assigned when the ODBC Data Source interface is created.

If you would like to view a beginner's tutorial, FAQ, or a list of databases supporting SQL, visit the online resources page at SQL.ORG: http://www.sql.org/online_resources.html

Creating an ODBC Data Source

When the HanDBase ODBC Driver is installed on a Microsoft Windows computer, HanDBase Databases (PDBs) can be accessed using the industry standard SQL language. Furthermore, the HanDBase PDBs can be linked to from database applications such as Microsoft Access.

Before the information in a PDB can be accessed, though, a HanDBase ODBC Data Source must be created. To create an ODBC Data Source for one or more HanDBase PDB files, you need to complete the following steps, described in detail below.

> *Starting the ODBC Data Source Administrator*
> *Creating an ODBC Data Source for a HanDBase PDB*
> *Configuring a HanDBase ODBC Data Source*

The setup program for the packages that include the HanDBase ODBC Driver have been designed to automatically create a few ODBC Data Sources for HanDBase. The setup program will create some generic Data Sources for all your Palm OS, Windows Mobile Classic/Professional (Pocket PC) and Windows Mobile Standard (Smartphone) users. These data sources will point to your users Sync folders. This will essentially make each user folder a database and each HanDBase database will be considered a table, see below.

Note: More than one HanDBase PDB file can be accessed through an ODBC data source if they are all located in the same file folder. Each HanDBase PDB file is treated as a separate table.

Starting the ODBC Data Source Admin

To open the ODBC Data Source Administrator on a Microsoft Windows computer follow these steps

Click on the Start button, point to the Settings menu item, and then click on the Control Panel menu item.

For Windows 2000, XP and Vista computers, double-click on the Administrative Tools icon in the Control Panel pane and then double-click on the Data Sources (ODBC) icon.

For previous versions of Microsoft Windows, double-click on 32-bit ODBC or ODBC in the Control Panel pane.

The ODBC Data Source Administrator panel will open. The panel should look similar to the figure below:
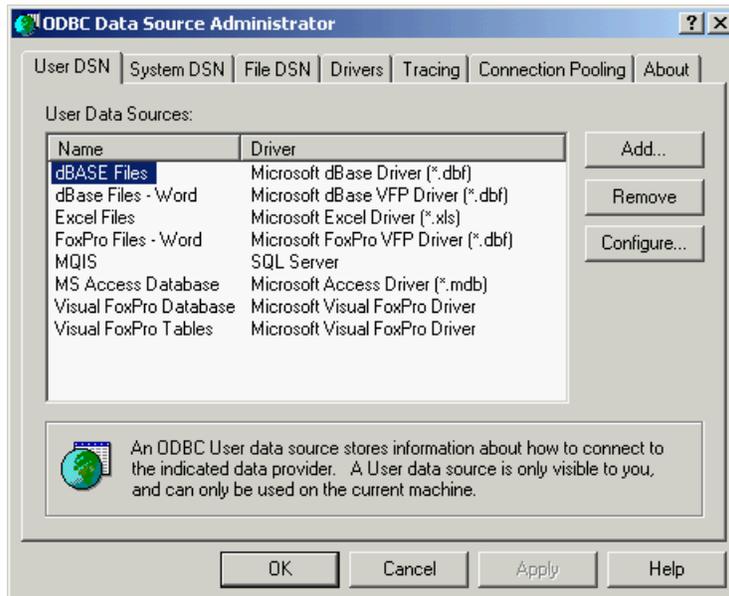
Adding an ODBC Data Source for a HanDBase PDB

From the Data Source Administrator screen (shown in figure above):

Select the tab that corresponds to the type of ODBC data source you would like to create. The choices are User DSN, System DSN or File DSN.

Note: A User DSN is visible only to the user profile that created the data source, while a System DSN is visible to all user profiles on the local computer. A File DSN allows the data source configuration to be copied and installed on other computers.

- Press the Add button on the right hand side of corresponding pane. This will open the Create New Data Source window:
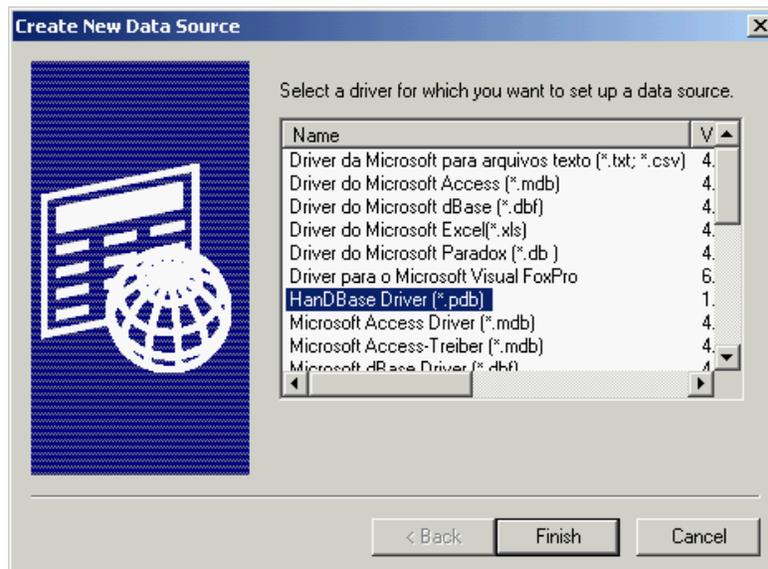
- Select HanDBase Driver (*.pdb) from the list in the Create New Data Source window.

- Press the Finish button. The ODBC HanDBase Setup screen will open, see below.
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To complete the creation of a HanDBase ODBC data source, follow the instructions describing how to configure a HanDBase ODBC data source.

Configuring a HanDBase ODBC Data Source
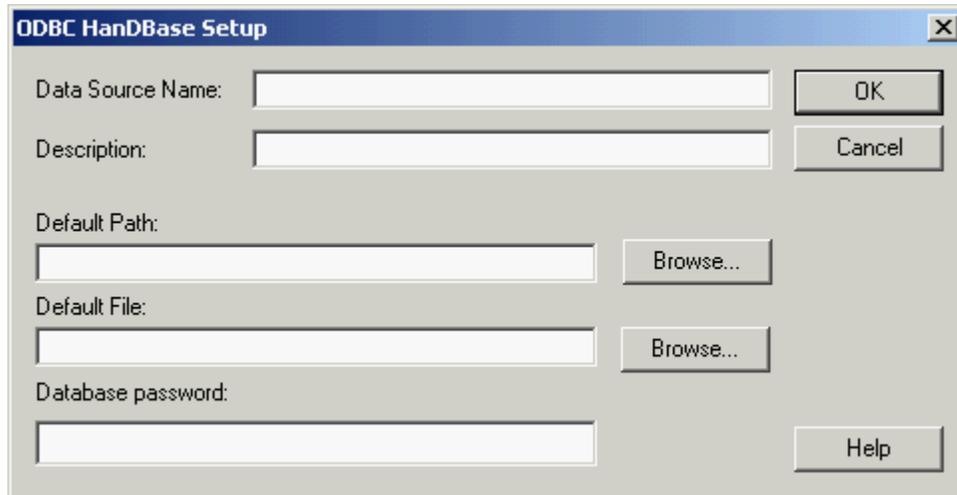
To configure the HanDBase ODBC data source, fill in the fields in the ODBC HanDBase Setup screen (see figure above) as follows:

- Provide an identification string for the HanDBase PDB file(s) in the Data Source Name field. The Data Source Name will be used to uniquely identify the HanDBase PDB file(s) from other applications.

- Provide a brief statement about the HanDBase data source in the Description field.

- Identify a folder containing PDB files or an individual HanDBase PDB file using the Default Path and Default File fields. Use the Browse buttons to navigate to a particular file or folder.

- If you have your security settings in the HanDBase database set to Password Required you can provide the password for the HanDBase PDB file in the Database password field. Then when you access this database through ODBC you will not be prompted for the password. Additionally, if you have encrypted the entire database or if you have encrypted individual records with the same password you can provide that password in the Database password field also, so you are not prompted when you access the database.

Note: If you use both of the security functions mentioned above and you use the same password in both instances then you can provide that password here so you are not prompted. However if the password is different you will still be prompted for at least one of the passwords, depending on how the other application handles Passwords.

- Close the screen by pressing the OK button.

Note: The Default Path and Default File fields follow a set of conventions outlined below. Disregarding these conventions may result in improper performance of the ODBC Driver.

Conventions for Default Path and Default File Fields

The HanDBase ODBC Driver applies the information submitted in the Default Path and Default File fields in the following order:

- If the Default File field provides the full path to an existing file, then only the PDB file identified in the Default File field is accessible through the data source. Information in the Default Path field is ignored.

- If the Default File field provides the name of a file, without the full path, and the Default Path field provides the path to an existing folder, then only the PDB file created by appending the file name in the Default File field to the folder in Default Folder field is accessible through the data source.

- If the Default Path field provides the path to an existing folder and the Default File field is empty, then all the HanDBase PDB files in the identified folder are accessible through the data source.

Using the HanDBase ODBC Driver with MS Access

Linking to HanDBase PDB files in MS Access

Microsoft Access databases are able to link to HanDBase PDB files providing direct access from your Microsoft Access application. Each HanDBase PDB file is treated as a single table in the Microsoft Access database.

It may be possible to use other ODBC-enabled database applications. Contact your DDH Software representative for a list of supported database applications. If you would like to use an unsupported database application, please consult the respective product's documentation for instructions on how to link to ODBC data sources.

For directions on linking a HanDBase PDB file into Microsoft Access read:

How to create a Link Table in MS Access

Follow these steps to Link to a HanDBase PDB file into a Microsoft Access database.

- In Microsoft Access, open the database that the HanDBase PDB file is to be linked into.
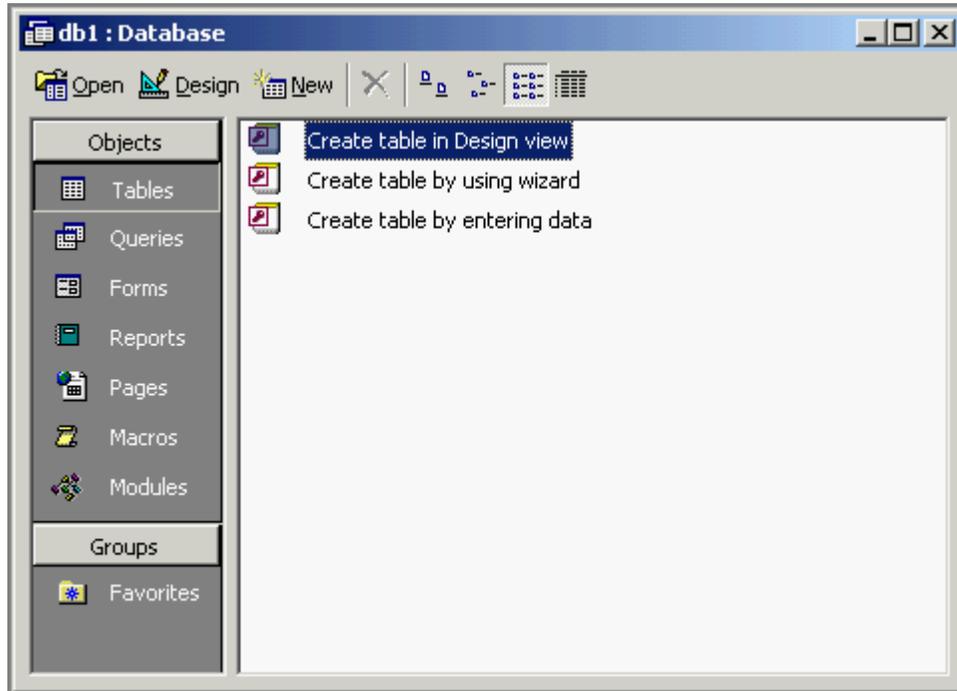
- Press the New button location on the panel displaying a view of the database (see figure above). This will open the New Table window seen in the figure below.

- Select Link Table from the list in the New Table screen.
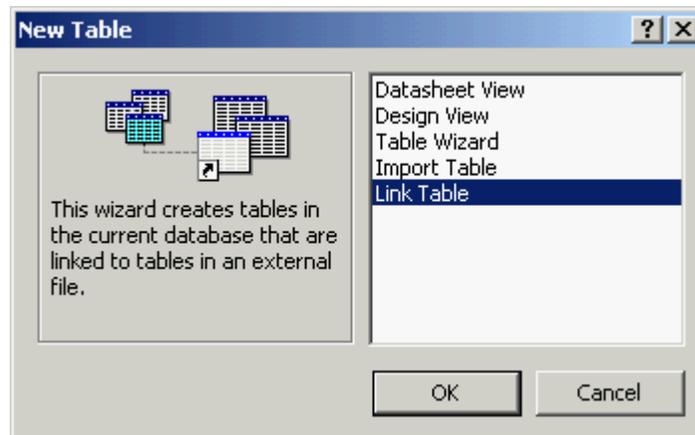
- Select ODBC Databases from the Files of type pull-down menu in the Link screen.
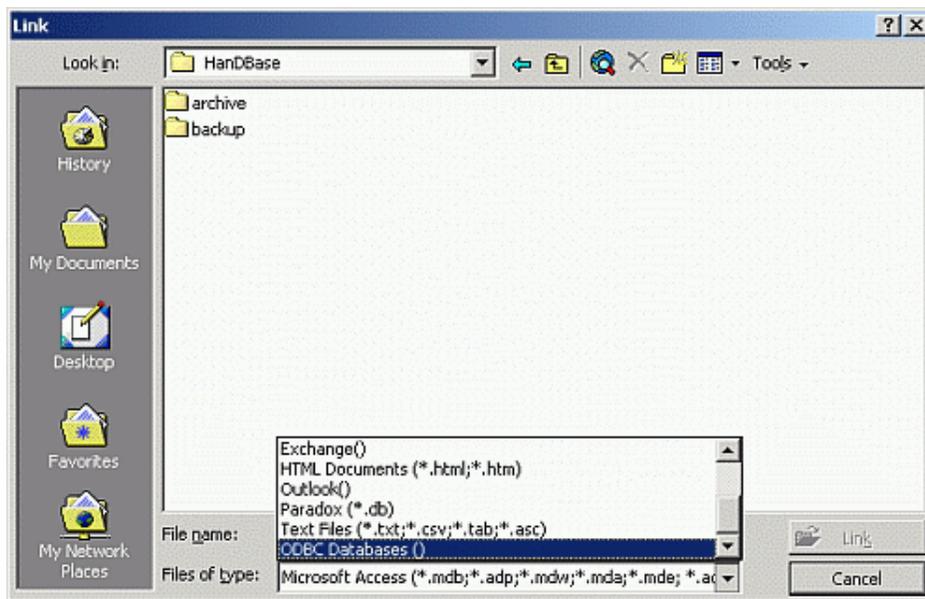
- Click on the Machine Data Source tab in the Select Data Source screen.
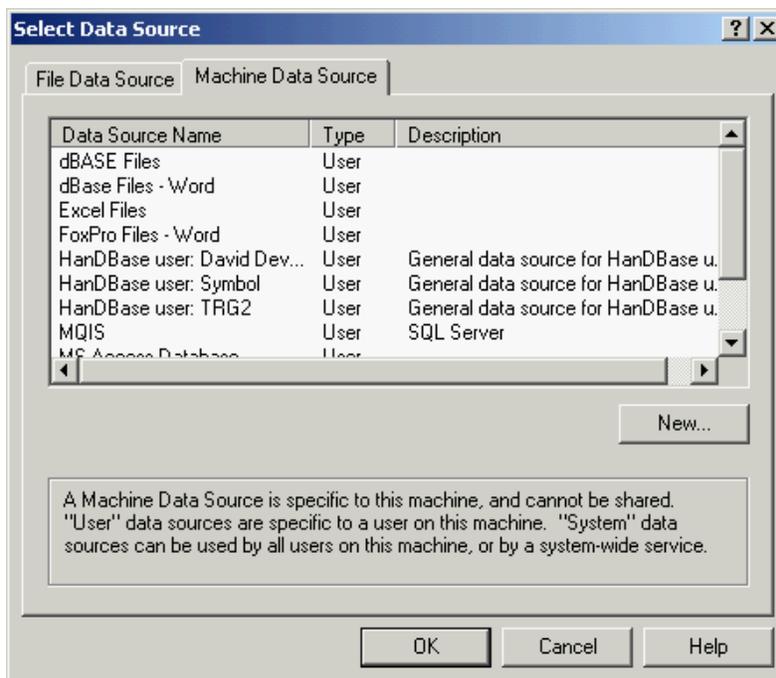
- Select the data source from the list that contains the desired HanDBase PDB file.

- From the list in the Link Tables screen, select the HanDBase PDB file that is to be linked into the database.
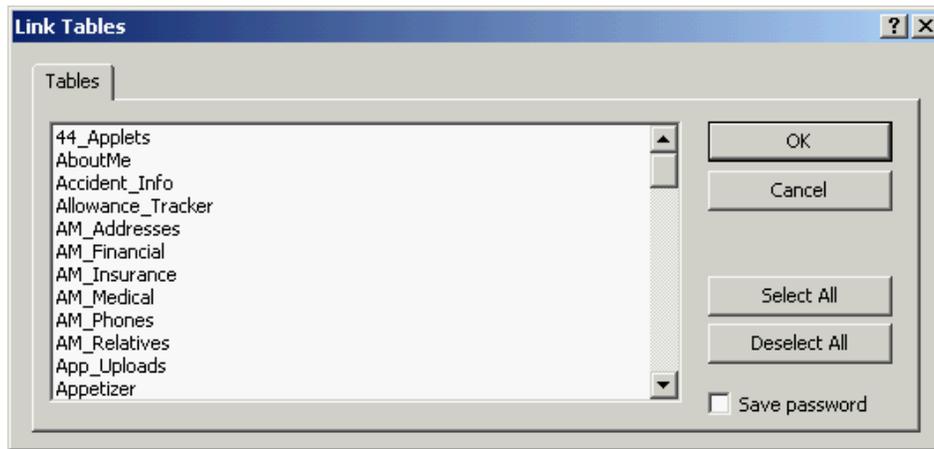
From the Select Unique Record Identifier, select one or more fields of the HanDBase PDB file that will uniquely identify each record in the HanDBase PDB file. Alternatively, press the Cancel button to link the PDB file in read-only mode.
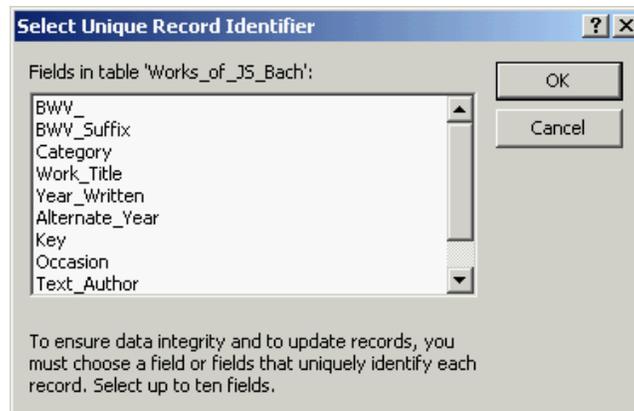
Note: In order to edit data in the HanDBase PDB file from Access, fields from the PDB file must be selected that can be used to uniquely identify every record in the PDB file. If no such field exists, you may want to consider adding a 'unique' HanDBase field type to the PDB file in question.

The HanDBase PDB file will be listed in the Tables tab of the database view in Microsoft Access. Double-clicking on the linked table will open a view of the data in the table. The information in the table can be edited if one or more unique identifiers were selected for the PDB file during setup.

HanDBase Linked fields in MS Access

Introduction

The relationships created between two HanDBase databases using the link/linked or relationship fields are not operational through the HanDBase ODBC driver. However, if you are linking to HanDBase databases from Microsoft Access, it is possible to reconstruct the relationship.

Defining the relationship in Microsoft Access will allow you to construct queries in Microsoft Access that include JOIN statements.

There are two important restrictions concerning Microsoft Access defined relationships for HanDBase databases:

- When linking the two HanDBase files into Microsoft Access, each HanDBase database must be from a different DSN
See the 'Creating HanDBase Data Sources' section for more details. Otherwise Microsoft Access assumes that the HanDBase ODBC driver will handle the JOIN, which is not the case.

- You cannot modify the HanDBase link/linked relationships within Access or through the HanDBase ODBC driver. You must do this within the HanDBase Desktop application.

To build and use Microsoft Access defined relationships with HanDBase databases you will need to follow the steps in the following, Define Relationships in Microsoft Access, section.

Defining Relationships in MS Access

To define relationships between HanDBase tables in Microsoft Access follow these steps.

- Open an existing database in Microsoft Access or create a new one
- If you have not already done so, link the two HanDBase PDB files into Microsoft Access

Note: Remember to make sure that each HanDBase PDB file is given a different DSN in the ODBC Data Source Administrator.

- Select the Relationships menu item from the Tools menu.

- The Show Table window will open (seen below). If the Show Table window does not open, select the Show Table menu item from the Relationships menu. This will also open the window.
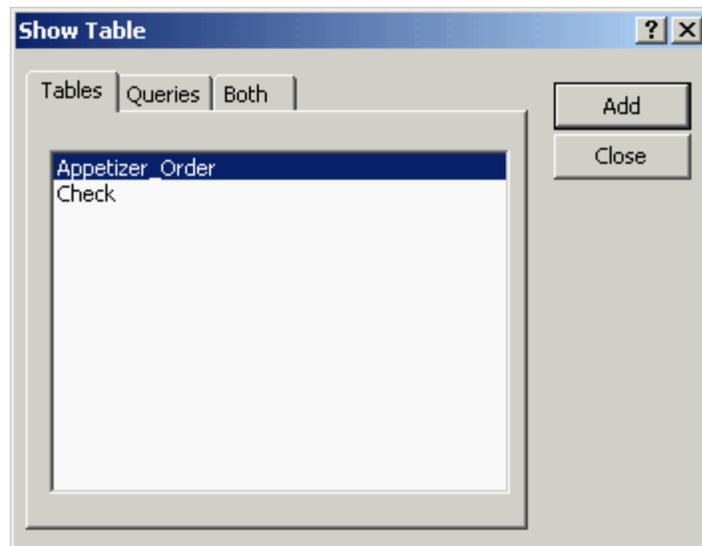
- Click on the Tables tab in the Show Tables window.

- Select the tables from the list that represent HanDBase databases for which you would like to define field relationships and press the Add button.

- Press the Close button when you are done.

- From the Relationships pane select the field that is of type Link in the linking HanDBase database, or is the "key" field in the parent database, as defined by the Relationship field being used. With the mouse button still pressed, drag the mouse to the field that is of type Linked in the linked HanDBase database or is the "key" field in the child database, as defined by the Relationship field being used. Release the mouse button.

- The Relationships configuration screen will then open. Press the Create button on the Relationships configuration window.
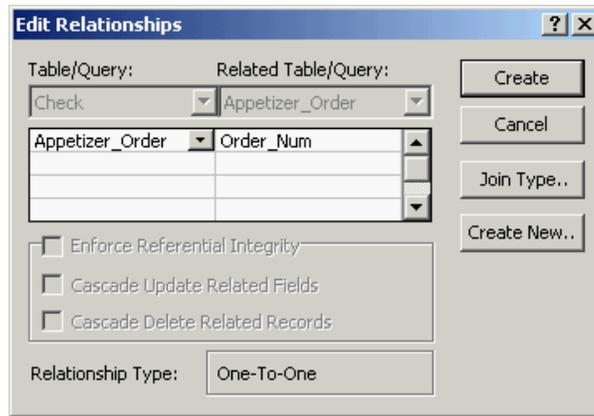
The Relationships configuration window will close and a line will be drawn between the Link and Linked fields or the two "key" fields in the two HanDBase databases.
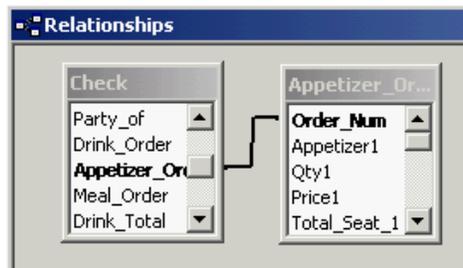
- Close the Relationships pane. Click Yes if prompted to save changes.

The relationship between the two HanDBase databases has now been manually reconstructed within Microsoft Access. Learn how to build queries in Microsoft Access in order to utilize the relationship definition.

Follow the steps below to build a query in Microsoft Access

- Select the Queries tab in the database pane in Microsoft Access for the Access database that the query is to be built for.
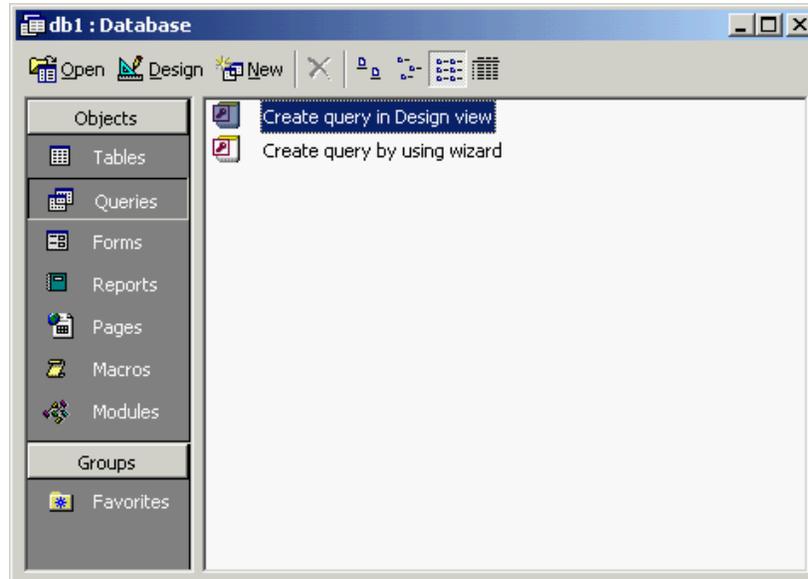
- Press the New button on the right hand side of the database pane. The New Query window will open.

- Select Design View from the list of options in the New Query window.
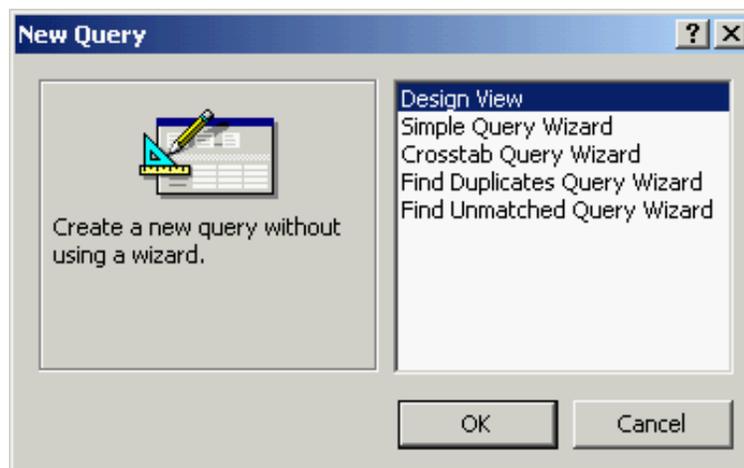
- Press the OK button at the bottom of the New Query window. The Show Table window will open.

- Select the tables that contain fields that you would like to display in the query.

- Press the Add button on the right hand side of the Show Table window.

- Press the Close button on the right hand side of the Show Table window.

- Clicking on cells in the Field row of the table in the Select Query pane, select table fields that you would like displayed in the query.
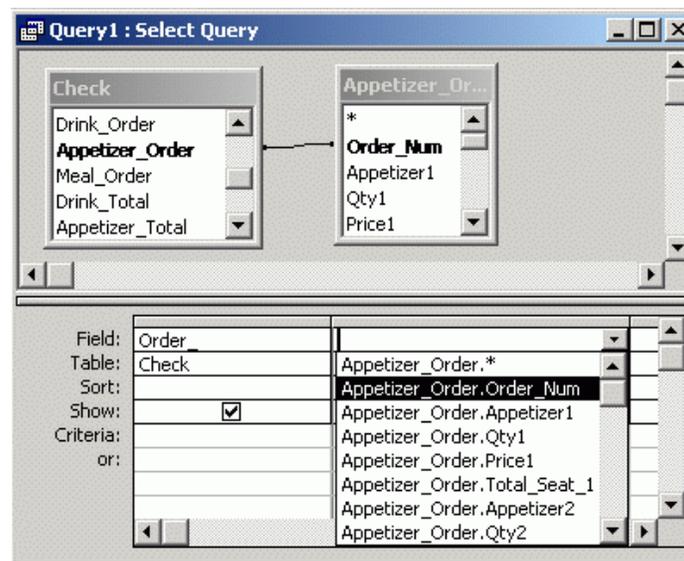
Note: With a Microsoft Access relationship defined, the query will be able display results from the multiple related tables without duplicating table entries. In other words Microsoft Access will automatically execute a JOIN across the databases.

- Close the Select Query pane once the all the desired fields have been selected.

- Click Yes if prompted to save the changes. A Save As dialog box may open. If the Save As dialog opens and you wish to provide a name for the new query, enter the new title in the Query Name field and press the OK button.

The new query has been created. To execute the query, double-click on the name of the query from the Queries section of the Database pane.
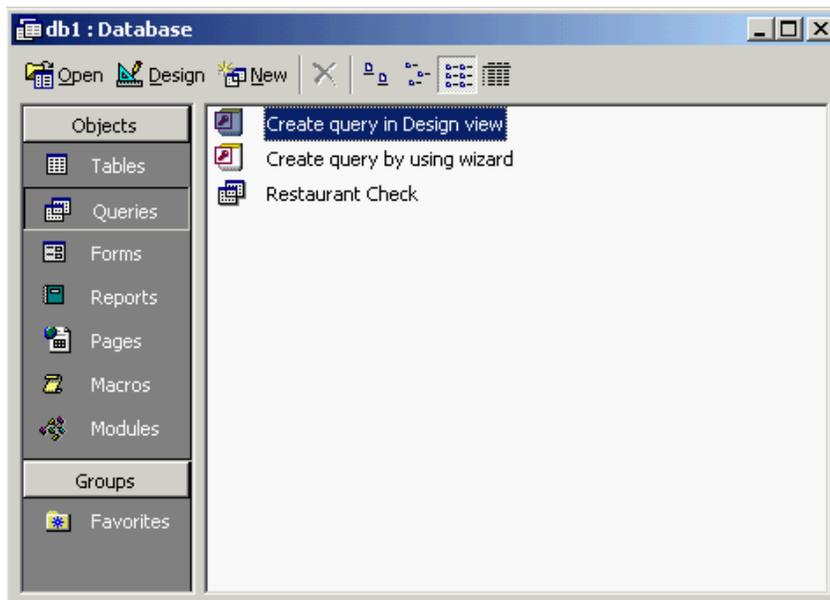
The results of the query will be displayed in the Select Query pane. You will notice that if query contains fields from the two HanDBase databases for which a Microsoft Access relationship has been defined, the query will do an automatic JOIN of the two tables.
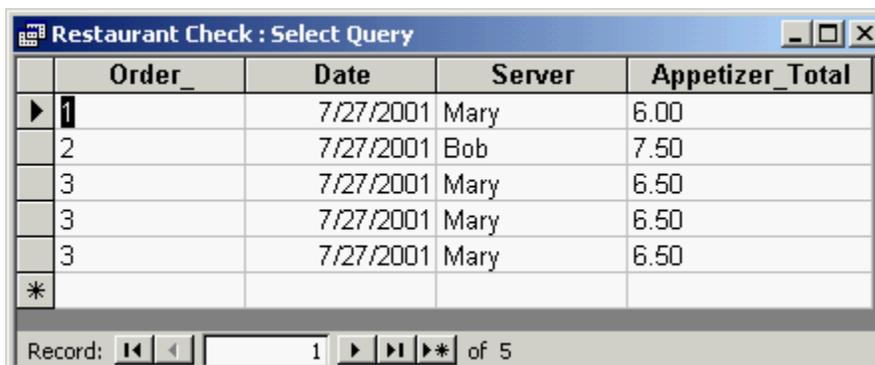
Editing Data

When you access a HanDBase database using the HanDBase ODBC Driver, the data types in the HanDBase database are converted to ODBC data types. The following sections explain the data type conversions made by the HanDBase ODBC Driver and issues that arise when editing converted data. Conversion of HanDBase Types to ODBC TypesIDH_CONVERT_TYPES_H2O

Conversion of HanDBase Types to ODBC Types

For each HanDBase field type, the corresponding ODBC data type that it is converted to is described below.

Text

A HanDBase Text field type is converted to an ODBC varchar type. The "Max Characters" setting for the HanDBase field is used as the column width in the column type definition. For example, if your text field was created with "Max Characters" set to 40, the ODBC column type definition will be varchar(40) NULL. The NULL allows for the case where your Text field is not defined.

Integer

A HanDBase Integer field type is converted to an ODBC integer type. The ODBC column type definition will be integer NULL. The NULL allows for the case where your Integer field is not defined.

Float

A HanDBase Float field type is converted to an ODBC double type. The ODBC column type definition will be double NULL. The NULL allows for the case where your Float field is not defined.

Pop-Up

A HanDBase Pop-Up field type is converted to an ODBC varchar type. The text representing the popup choice is converted into the column data. The ODBC column type definition will be varchar(254) NULL. The NULL allows for the case where your Popup choice is not defined.

CheckBox

A HanDBase CheckBox field type is converted to an ODBC bit type. The ODBC column type definition will be bit NOT NULL. In the case of a CheckBox, NULL is not allowed since the CheckBox is defined as either checked or unchecked.

Unique

A HanDBase Unique field type is converted to an ODBC integer type. The ODBC column type definition will be integer NULL.

Date

A HanDBase Date field type is converted to an ODBC date type. The ODBC column type definition will be date NULL. The NULL allows for the case where your Date field is not defined.

Time

A HanDBase Time field type is converted to an ODBC time type. The ODBC column type definition will be time NULL. The NULL allows for the case where your Time field is not defined.

Link
A HanDBase Link field type is converted to an ODBC varchar type. The resulting integer is a unique value representing the current record in the database with the Link field. The ODBC column type definition will be integer NULL.

Linked
A HanDBase Linked field type is converted to an ODBC varchar type. When converted, the integer represents the unique record the in the linking database that the current record is linked to. The ODBC column type definition will be integer NULL.

Note
A HanDBase Note field type is converted to an ODBC longvarchar type. The ODBC column type definition will be varchar(2000) NULL. The NULL allows for the case where your Note field is not defined.

DB Popup
A HanDBase DBPopup field type is converted to an ODBC varchar type. The DBPopup field contains the text value for the popup selection. When converted, that text becomes the column data. The ODBC column type definition will be varchar(254) NULL.

Calculated
A HanDBase Calculated field type is converted to an ODBC varchar type. The ODBC column type definition will be varchar(254) NULL. A varchar type is used because some calculations are not numeric. Hence, the result is not always numeric.

Relationship
A HanDBase Relationship field type is converted to an ODBC varchar type. The ODBC column type definition will be varchar(254) NULL.

Conditional
A HanDBase Conditional field type is converted to an ODBC varchar type. The ODBC column type definition will be varchar(254) NULL.

Heading
A HanDBase Heading field type is converted to an ODBC varbinary type. The ODBC column type definition will be varbinary (254) NULL.

Image
A HanDBase Image field type is converted to an ODBC longvarbinary type. The ODBC column type definition will be longvarbinary (2000) NULL.

Data Editing Issues
Since the ODBC data type corresponding to a HanDBase field type is not always an exact match, there are several issues that arise when data is edited in a HanDBase database using the ODBC driver. The issues associated with different HanDBase field types are discussed below.

Pop-Up
Data in a HanDBase Pop-Up field is converted into text. Editing the text will result in the new string replacing the current selection. Furthermore, the new string will be added to the Popup List of that Pop-Up field in the HanDBase database.

CheckBox
A HanDBase CheckBox field type is converted to an ODBC bit type. Thus, users editing this field through the ODBC driver will provide values of 0 or 1 where 0 represents unchecked and 1 represents checked.

Unique
A HanDBase Unique field type is converted to an ODBC integer type. If a field that is a unique type in the corresponding HanDBase database is changed through the ODBC driver, the HanDBase database will NOT confirm that the value is unique. If you must edit a field that is a unique type, take great care to ensure the value is not already present in a different cell in that column!

Link
A HanDBase Link field type is converted to an ODBC varchar type. The integer has a value that uniquely represents the current record in the database. Editing the value of a field of type link will destroy relationships between the record in the linking database and the connected records in the linked database.

Linked
A HanDBase Linked field type is converted to an ODBC varchar type. Editing the value of a linked field will destroy the relationship between the record in the linked database and the associated record in the linking database.

DBPopup
A HanDBase DBPopup field type is converted to an ODBC varchar type. The DBPopup field contains the text value for the popup selection. Editing the value of a DBPopup field will destroy the link to the record in the other database.

Calculated
A HanDBase Calculated field type is converted to an ODBC varchar type. If the value is changed, the data is updated. However, the value is not displayed in the HanDBase table. The value is properly recalculated when the HanDBase database record is opened and changes accepted.

Heading

A HanDBase Heading field type is converted to an ODBC varbinary type. Editing heading field types with the ODBC driver is unsupported.

Image

A HanDBase Image field type is converted to an ODBC longvarbinary type. Editing image field types with the ODBC driver is unsupported.