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Ham Radio Deluxe

# Logbook User Guide

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December 22, 2008



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# Introduction

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## Why?

This program was written to provide better logbook support in Ham Radio Deluxe and the associated software.

By breaking the current logbook support out of the Ham Radio Deluxe executable it is easier to add support for more database products and respond to user requests.

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## Main Features

The main features are:

- Support for Access, MySQL and Microsoft SQL Server.
- Display an unlimited number of databases simultaneously.
- Full diagnostics in the logfile.



# Database

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## ODBC

This program uses ODBC to access the databases. From <http://en.wikipedia.org> "*In computing, Open Database Connectivity (ODBC) provides a standard software API method for using database management systems (DBMS). The designers of ODBC aimed to make it independent of programming languages, database systems, and operating systems.*"

Currently Microsoft Access, Microsoft SQL Server and MySQL are supported. By using ODBC other database products such as ORACLE can be supported at a later date with minimum effort.

The logbook opens an ODBC System DSN (Data Source Name), the DSN definition is defined using the database product of your choice.

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## Which Database Product?

For simplicity and small databases Microsoft Access is fine.

If it's performance you want then MySQL is hard to beat. The price is right, it's very easy to install and configure and offers all the features expected from a full-blown database product.



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## Supported Databases

The following database products are currently supported.

### Microsoft Access

A very small footprint, a simple solution for programs with only a few simultaneous users.

The drivers are normally installed with Windows XP and VISTA.

### Microsoft SQL Server Express

A 'real' database product.

The free version *Microsoft SQL Server Express* is limited to using one processor, 1 GB of memory and a 4 GB database. This is more than enough for any logbook application.

From <http://www.microsoft.com/express/sql/download/> download either:

- SQL Server 2008 Express with Tools, or

- SQL Server 2008 Express with Advanced Services.

It is important that you have SQL Server Management Studio Basic - a visual database management tool for creating, editing and managing databases.

## MySQL

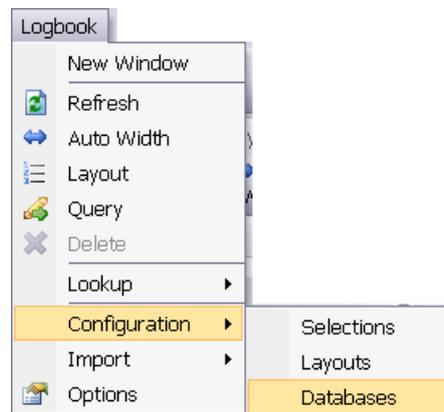
Free, open source and fast! You must install:

- [MySQL Community Server](#)
- [MySQL GUI Tools](#)
- [MySQL Connector/ODBC](#)

## Creating a Definition

Note: if you are using MySQL or Microsoft SQL Server see the section *Adding a DSN* on page 11 before creating a new definition.

To create a new definition, select *Configuration, Databases* from the *Logbook* menu.



In the *Logbook Databases* window press *Add*, the *Create Database Definition* window is shown.



Follow the instructions in the Help window:

- Enter a title,
- Enter a description,
- Either:
  - Press *Create new Access database* to create a new database using Microsoft Access, or
  - Select a Data Source Name (DSN) you created previously, for example a DSN created using MySQL or SQL Server. To create a DSN see *Adding a DSN* on page 11.

Press *OK* to save the new definition.



# Adding a DSN

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## DSN

This program accesses the database through an ODBC definition which is known as a Data Source Name (DSN).

A Data Source Name associates the configuration parameters for communicating with a specific database.

Generally a DSN consists of the following parameters:

- Name
- Hostname
- Database Name
- Login
- Password

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## Microsoft Access

The DSN is created automatically when you add a new database definition and select the *Create new Access database* option.

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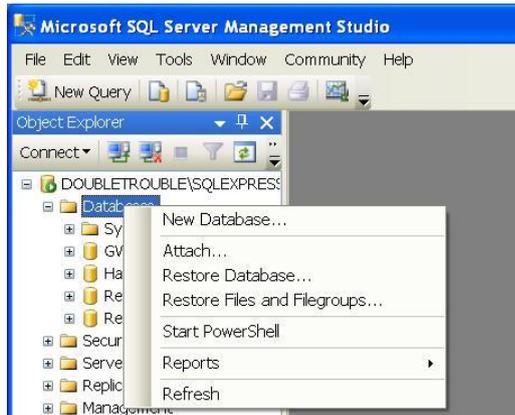
## Microsoft SQL Server

### ***Create a Database***

Before you can define a DSN you must create a new database:

Start the SQL Server Management Studio.

- In the Object Explorer expand the first entry (your server), you see Databases, Security, Server Objects, Replication, management.
- Right-click on Databases and select New Database.



In New Database window:

- Enter a name for the database - for example HRD Logbook,
- Select an initial size for your logbook - 20 MB is probably a good starting point (the logbook will grow as needed),
- Press Add.

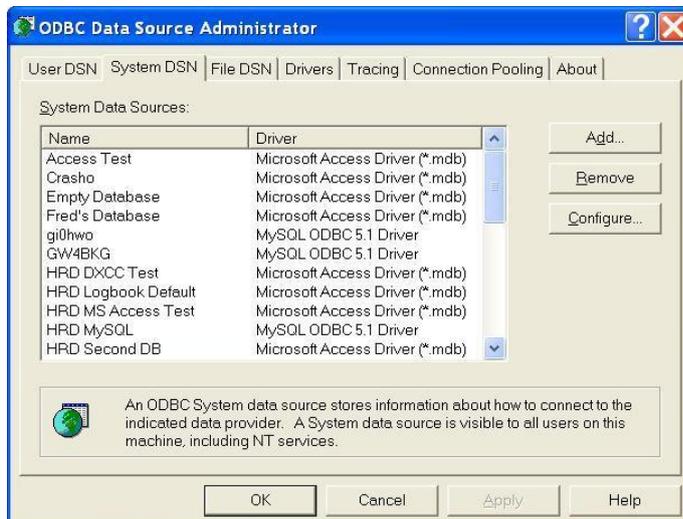
You have now created a new database inside Microsoft SQL Server!

### **Adding The DSN**

To create the DSN you must run the ODBC Data Source Administrator started by either:

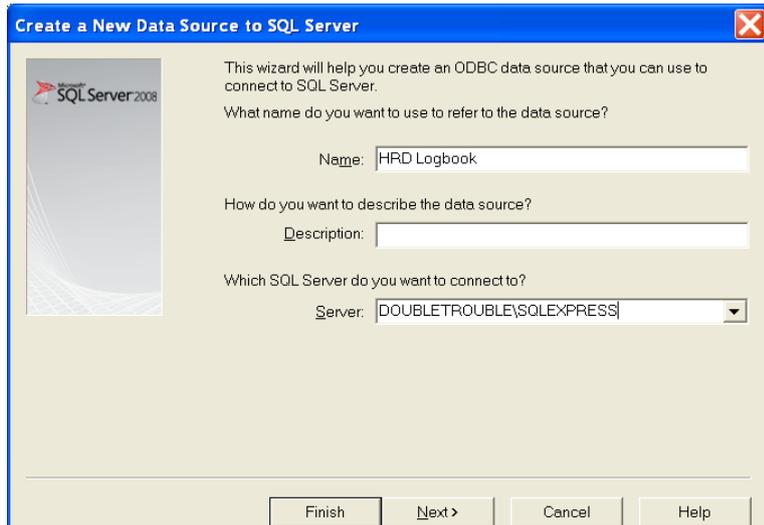
- Selecting ODBC Administrator from the Tools menu in this program, or
- From the Control Panel in Windows select Administrative Tools, then Data Sources (ODBC).

Create a new *System DSN* which references the database you just created. Select *System DSN*, not *User DSN*.

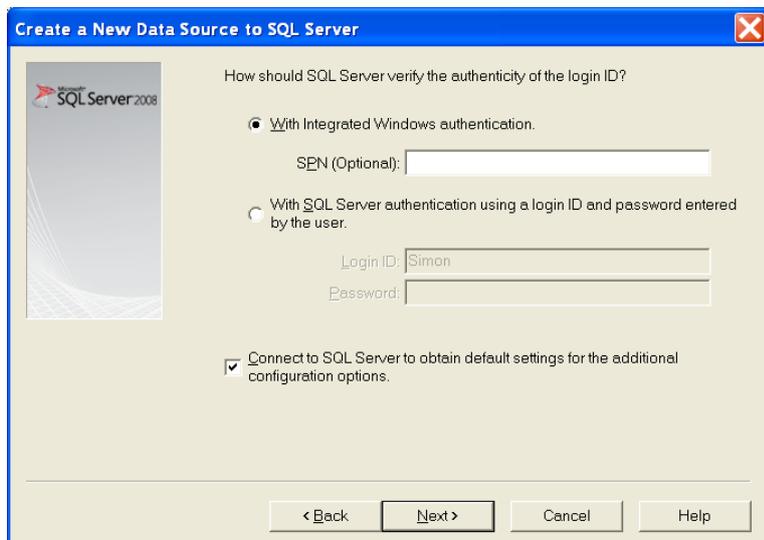


In the System DSN pane press *Add*.

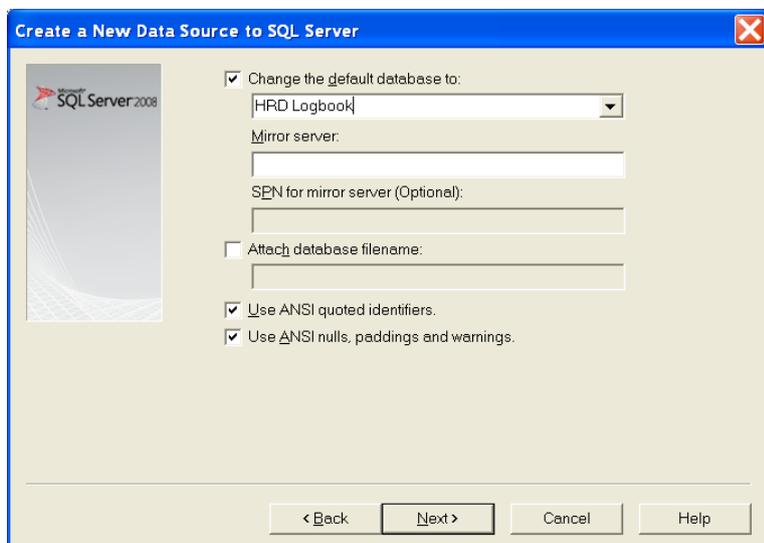
Select *SQL Server Native Client 10.0* and press *Finish*. The *Create a New Data Source to SQL Server* window is displayed. Press *Help* for extensive online help.



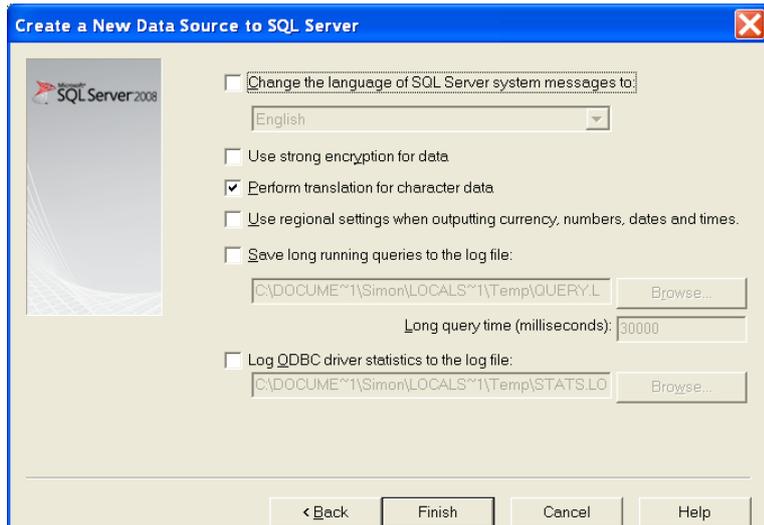
Enter the name for the data source, an optional description, the correct SQL Server instance and press *Next*.



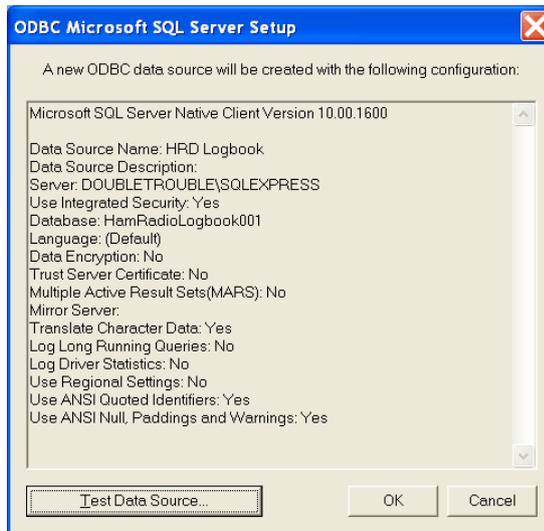
You can accept the defaults for login ID authentication, then press *Next*.



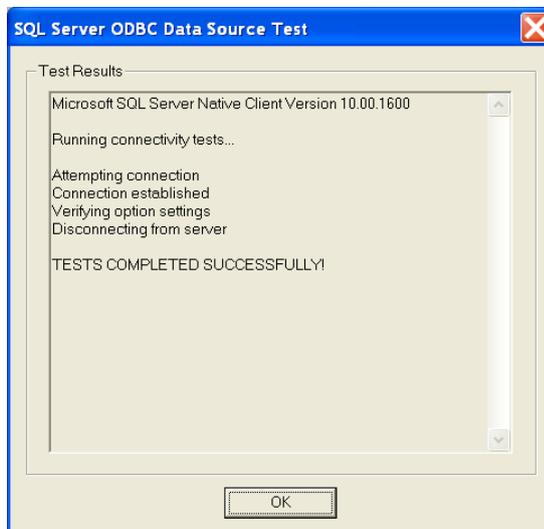
Select the correct database, then press *Next*.



Accept the defaults, press Next.



In this window press Test Data Source – if all is OK you will see a window like this:

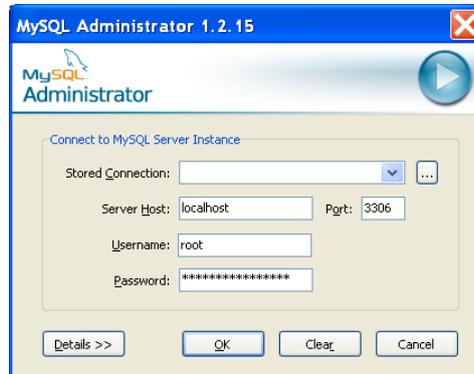


# MySQL

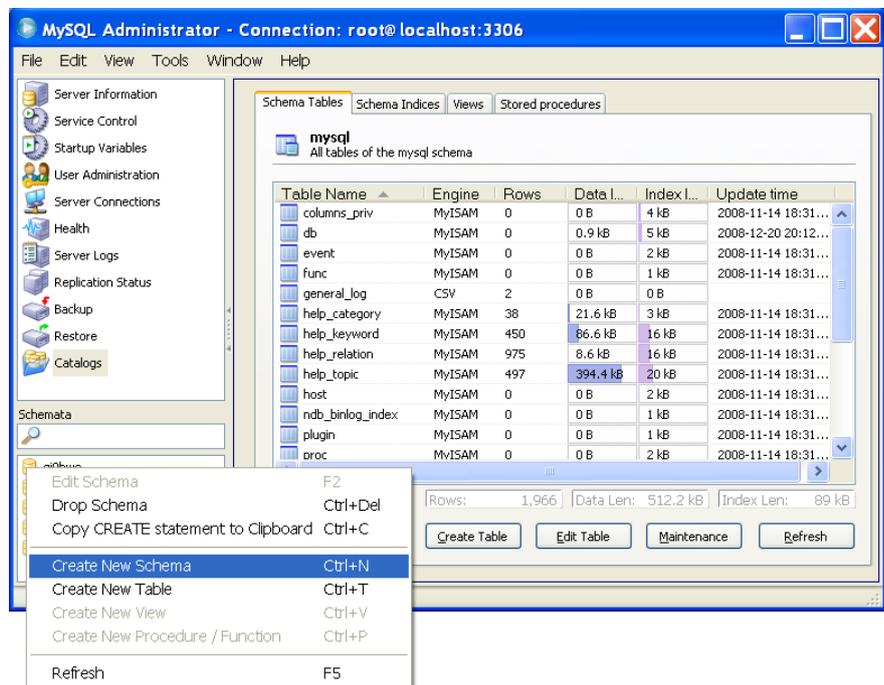
## Create a Schema

Before you can define a DSN you must create a new schema (a database in MySQL terminology):

Start the MySQL Administrator:



After entering your password and pressing OK the main window is shown. Select Catalogs, right-click in the list of catalogs (the list is shown in the bottom-left of the window below the Schemata filed) and select *Create New Schema*.



Enter a name for the new schema, for example *HRD Logbook*.

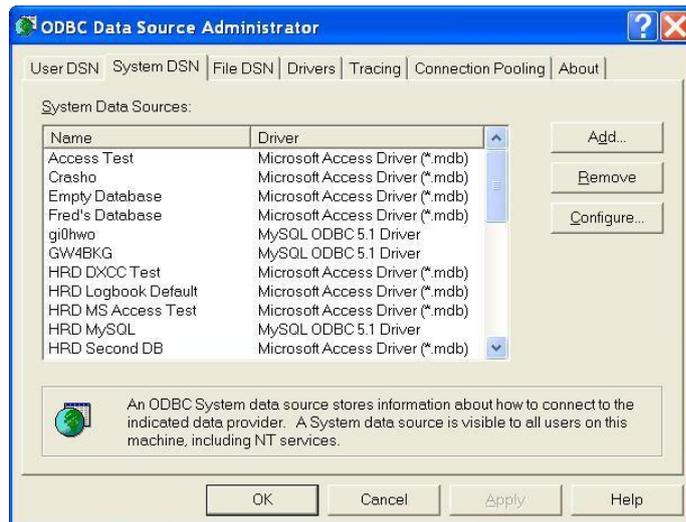
Close the MySQL Administrator.

## Adding the DSN

To create the DSN you must run the *ODBC Data Source Administrator* started by either:

- Selecting ODBC Administrator from the Tools menu in the *HRD Logbook* program, or
- From the Control Panel in Windows select Administrative Tools, then Data Sources (ODBC).

Create a new System DSN which references the database you just created.

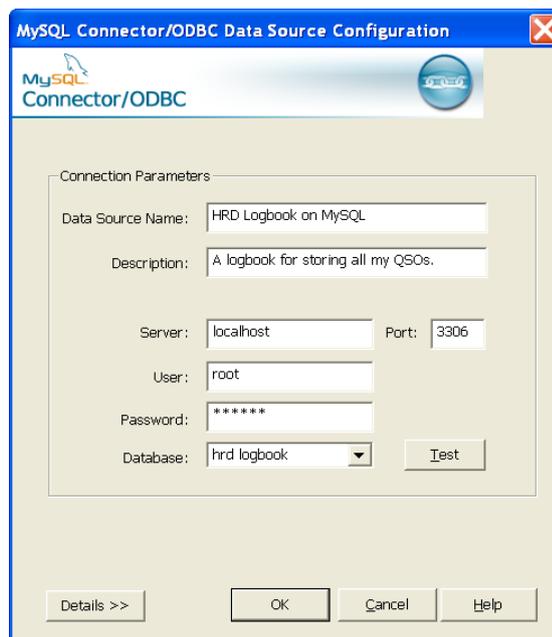


In the System DSN pane press *Add*.

Select *MySQL ODBC 5.1 Driver* and press *Finish*. The MySQL Connector/ODBC window is displayed. The MySQL online help is excellent – if you have any questions just press *Help*.

Fill in the fields, in the example below the HRD Logbook schema is used (it is converted to lowercase by MySQL).

Press *Test* to check that the connection can be established with the MySQL server and schema.



# Tuning MySQL

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## Introduction

This section contains a few notes about tuning a new MySQL installation. For advanced tuning options just use Google.

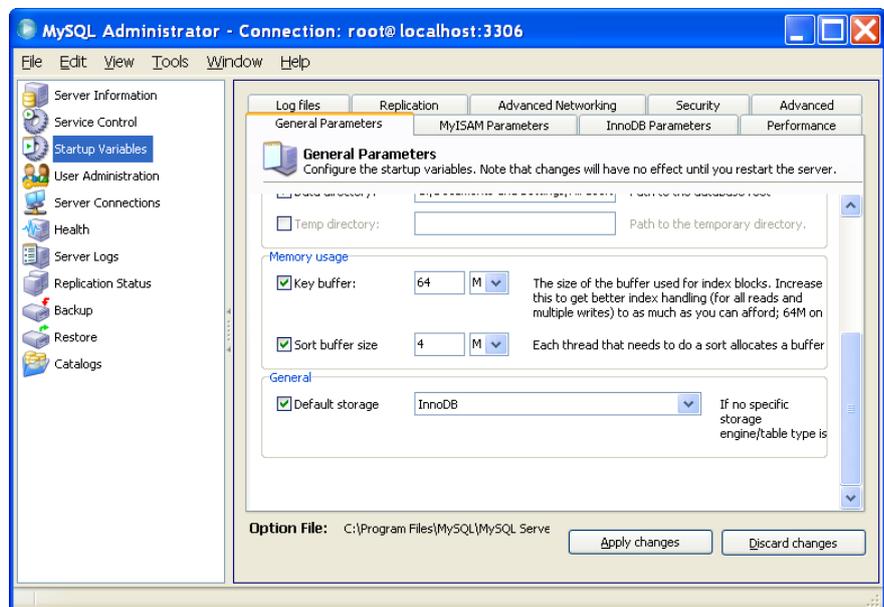
To tune MySQL first start *MySQL Administrator*.

Note – you must restart the MySQL server for these changes to take affect.

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## General Parameters

In the *Memory usage* section I have set the *Key buffer size* to 64 megabytes and the *Sort buffer size* to 4 megabytes.



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## Performance

In the *Query cache* I have set the *Cache size* to 50 megabytes and the *Cache type* to Cache all queries except SELECT SQL\_NO\_CACHE.

