

# Using MySQL and ODBC with R

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## 1 Software Requirements

To use R to access a MySQL database you will need

- MySQL Community Server
- MySQL Connector/ODBC
- R
- The R package RODBC

Current versions and download locations for these components are at the time of writing:

Package	Version	URL
MySQL Community Server	5.5.24	<a href="http://dev.mysql.com/downloads/mysql/">http://dev.mysql.com/downloads/mysql/</a>
Connector/ODBC	5.1.11	<a href="http://dev.mysql.com/downloads/connector/odbc/">http://dev.mysql.com/downloads/connector/odbc/</a>
R	2.15.0	<a href="http://cran.r-project.org/bin/">http://cran.r-project.org/bin/</a>
RODBC	1.3-5	<a href="http://cran.r-project.org/web/packages/RODBC/index.html">http://cran.r-project.org/web/packages/RODBC/index.html</a>

I have installed this software on Windows 7 without problems.

## 2 Software Installation

Installation of MySQL should be a matter of running the self installer and mainly accepting defaults.

MySQL Connector/ODBC is a driver which controls the interface between R and MySQL. It implements the 'Open DataBase Connectivity' (ODBC) standard. After downloading, run the installer which should be straightforward.

The next step is to add information about the databases which you wish to access with R.

Go to **Control Panel**, double click **Administrative Tools**, followed by **Data Sources (ODBC)**. The dialog box shown in Figure 1 should appear.

Click on the **Add ...** button which should bring up the dialog box to create a new data source shown in Figure 2.

Scroll down and select the **MySQL ODBC 5.1 Driver** then press **Finish** to bring up the dialog box to configure a new data source, shown in Figure 3.

The values shown in this dialog box are those to connect the database `sampdb` which is used as an example in the book *MySQL* by Paul DuBois. It is also assumed that the defaults were taken when installing

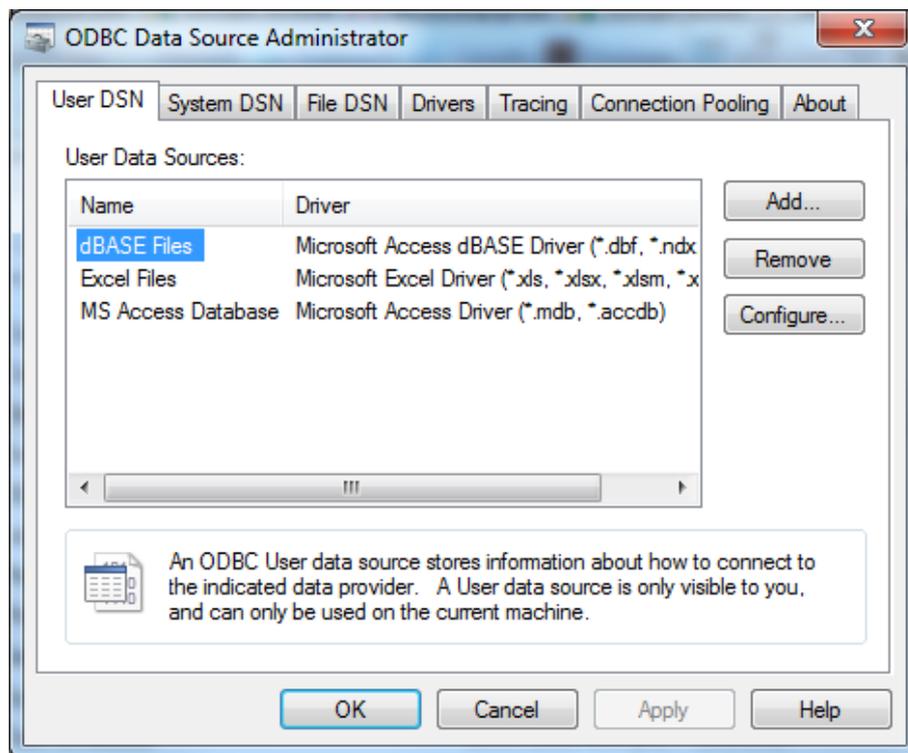


Figure 1: The ODBC Data Source Administrator dialog box

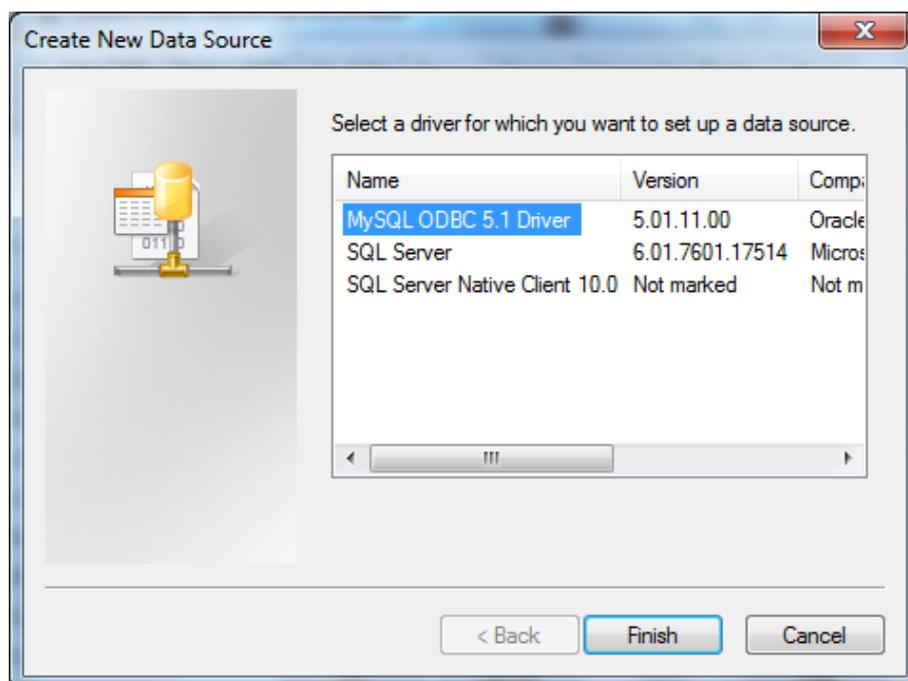


Figure 2: The Create New Data Source dialog box

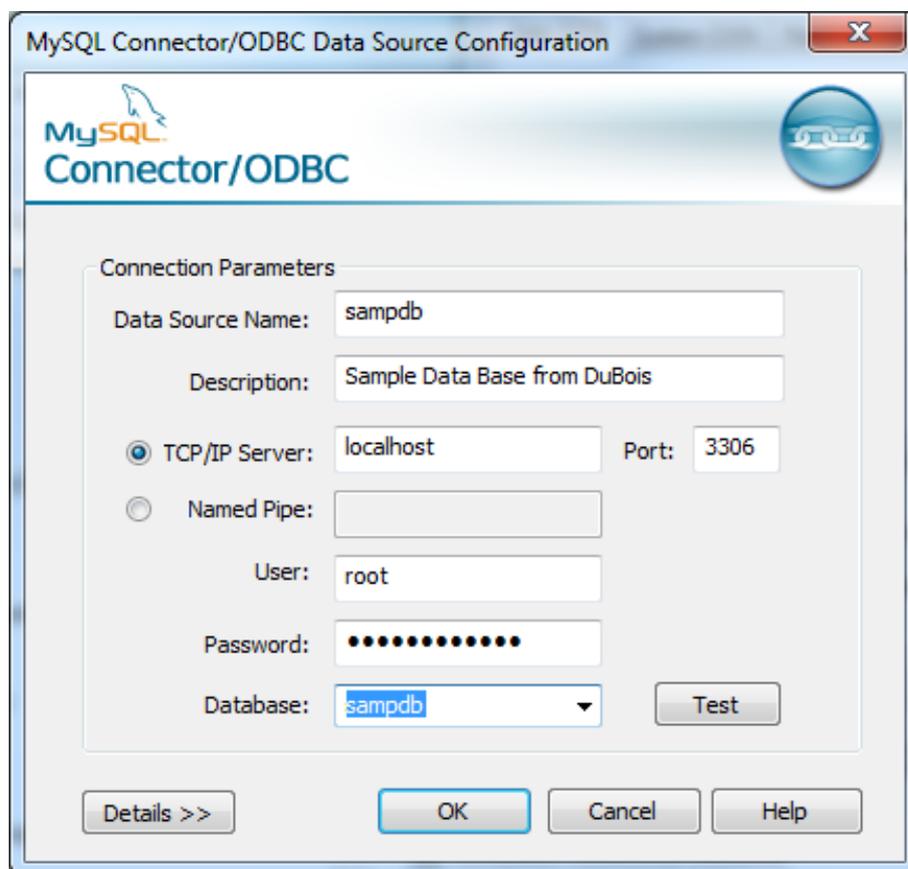


Figure 3: The Data Source Configuration dialog box

MySQL, such as using port 3306 for accessing MySQL. Note that `sampdb` is available for download from <http://www.kitebird.com/mysql-book/>.

R is installed as usual with the self-installer, and then the package `RODBC` can be installed using the `install.packages()` command or if using `R.gui` from the Packages menu.

### 3 Using the Command Prompt Window in Windows 7

By default the Command Prompt window in Microsoft Windows is not very convenient to use in conjunction with MySQL. It is difficult to use cut and paste, and the width of the window is limited. The narrow window means that wide output from MySQL appears wrapped around which makes it hard to read.

Properties and defaults for the Command Prompt window are accessible by right clicking on the top section of the frame of the Command Prompt window. If this is done a menu will appear.

To make the Command Prompt window wider, select **Properties** or **Defaults** from the menu, and click on the **Layout** tab. Go to the **Window Size: Width** box and increase the value. The value of **Screen Buffer Size: Width** will increase also. Figure 4 shows the values which I have selected to make the Command Prompt window nearly as wide as my screen. (Values for your computer may be different.)

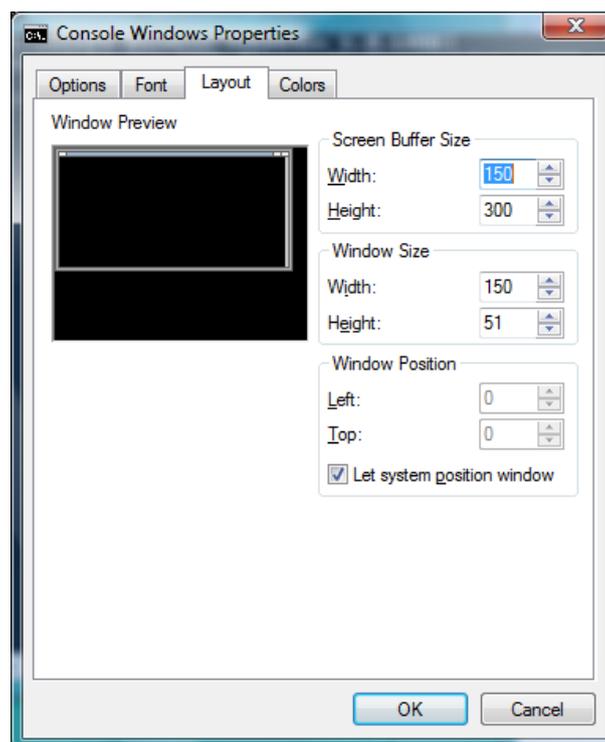


Figure 4: Command Prompt Windows Properties Layout Tab

To facilitate cutting and pasting, select **Properties** or **Defaults** from the menu, and click on the **Options** tab. Make sure the boxes alongside **QuickEdit Mode** and **Insert Mode** are checked. The dialog box should appear as in Figure 5 if **Defaults** was chosen and is very similar if **Properties** was chosen.

To copy text which is in the Command Prompt window, select the desired text using the mouse. The region selected will necessarily be rectangular. Right click on the frame of the window and either select **Edit: Copy** or simply hit **Enter**. This will copy the selected text to the clipboard.

To paste text from the clipboard, right click on the frame of the window and select **Edit: Paste**.

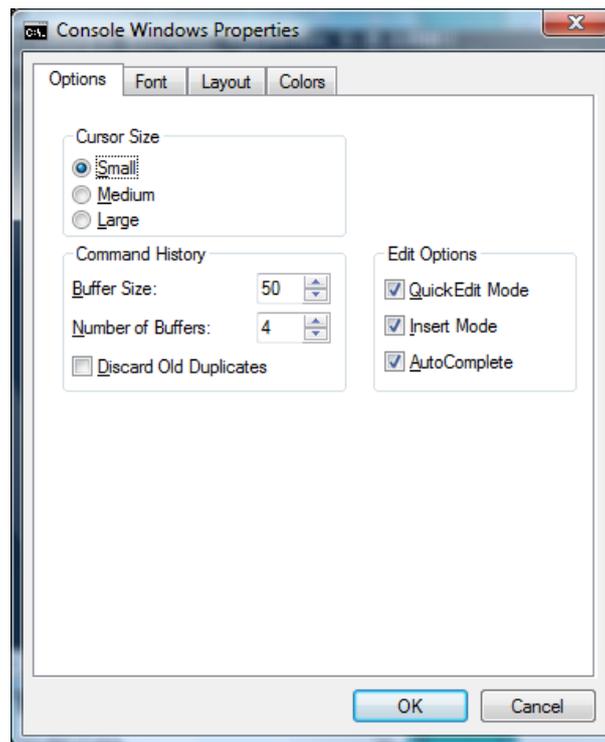


Figure 5: Command Prompt Windows Properties Options Tab

## 4 Starting the Command Prompt Window in a Particular Folder

When you wish to read a data file or into MySQL or run some MySQL commands from a file, it is convenient to start the Command Prompt window in the folder where the relevant files reside. One nice way to do this is to use Windows Explorer to go to the folder containing the folder which you want to start in, then right shift-click on the folder you want to start in. This will bring up a menu with an item **Open Command Window Here**. Figure 6 shows this situation. Note that in my case the menu has some additional items due to my having TortoiseSVN installed. Select the item **Open Command Window Here**, and the Command Prompt window will open up in that folder.

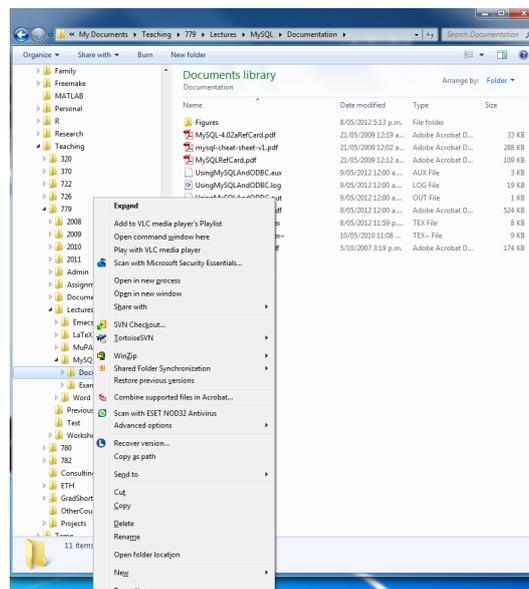


Figure 6: Menu Showing Item Open Command Window Here

## **5 Using R to Access MySQL Databases**

The final step of writing commands in R to access a MySQL database is described in the STATS 779 lecture notes on MySQL.