Labview & Database Connection

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In order to use Labview to write the data into database MySQL, and then read the data from database, a connection file (*.dsn) is needed.

1. Build up a *.dsn file

A *.dsn is used as the connection between labview and database. The file can be generated either by creating by Data Sources (ODBC) directly, or by just generating a new *.txt file and then write in the connection information and changing the file type to *.dsn when finished.

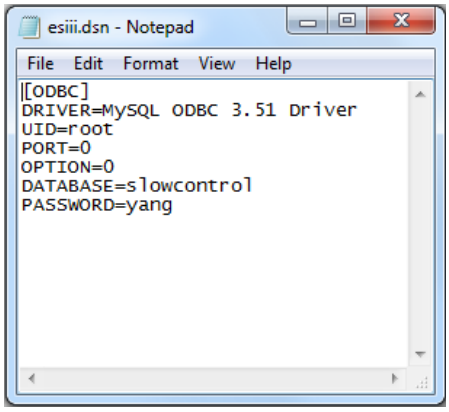

Fig.1. *.dsn file

1) Creating by Data Sources (ODBC)

Select **Start>Data Sources (ODBC)**

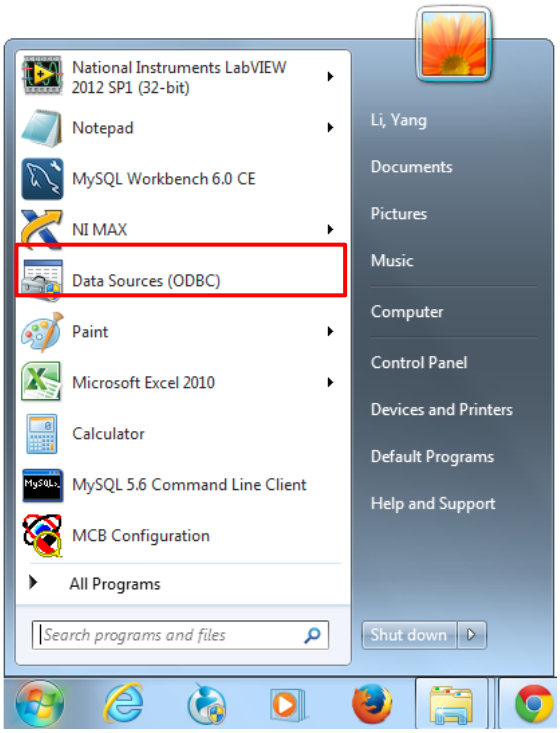

Fig. 2. Location of Data Sources (ODBC)

After open this program, choose *System DSN,* shown below in the red rectangle:

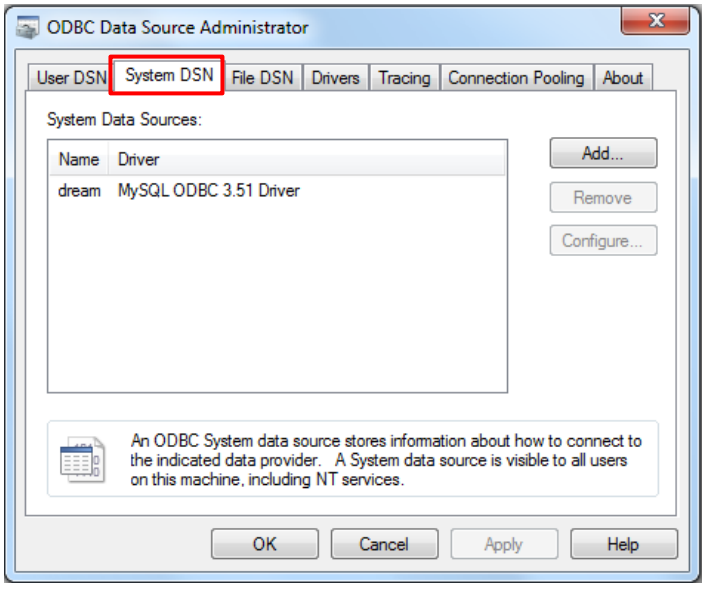

Fig. 3. ODBC Window

Click *Add…*, and a new window will appear, choose MySQL ODBC 3.51 Driver, and click *Finish,* shown in Fig. 4.

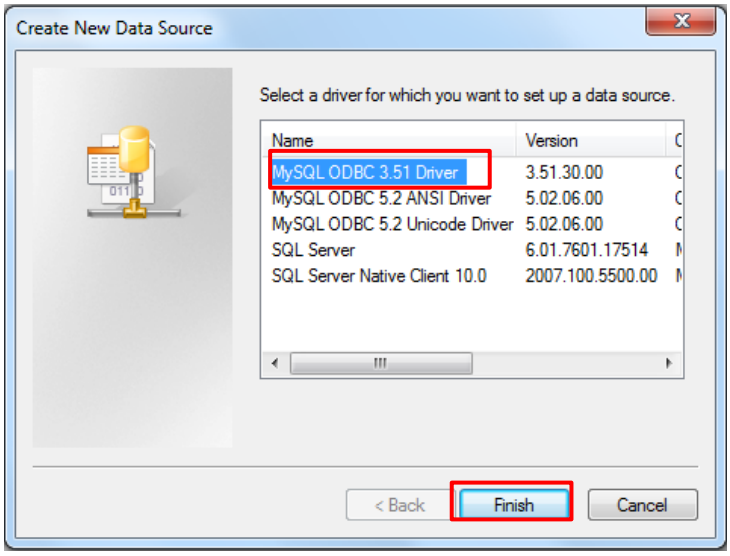

Fig. 4. Create New Data Source Window

Next, you should be able to see a window, where you can input the parameters, to define the *.dsn file you need. **The password is defined when I installed MySQL, and it is yang, (my first name).**

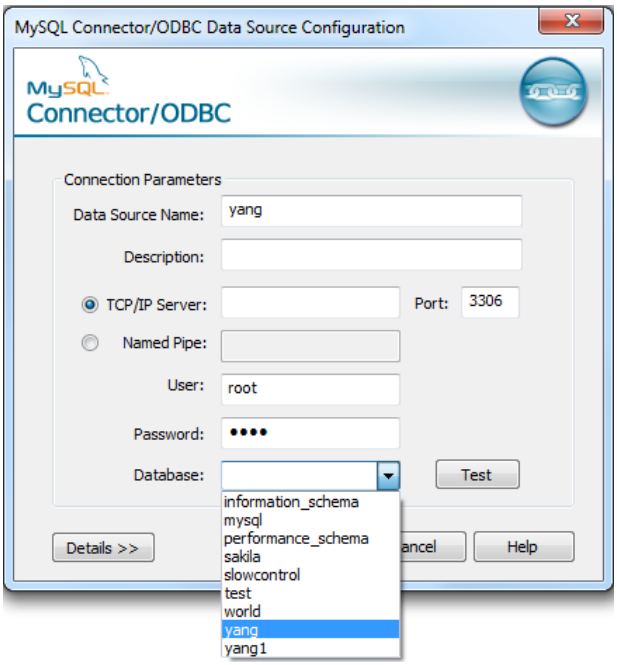

Fig. 5. Definition of *.dsn

You can then click *Test,* to see whether the connection is built up successfully. If so, click *OK* button, you should be able see it appears in the list of System DSN list.

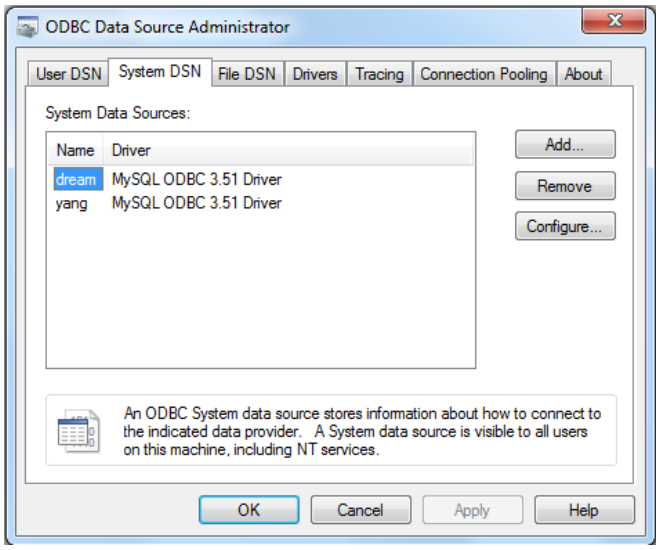

Fig. 6. DSN appears in the list

Note: by this method, you won't see the *.dsn file, but it does be generated. In the next programming in Labview, what you need to do is just write the name of the file you generated as string when required to write the path of the *.dsn file. Shown in Fig. 11b and Fig. 15b.

2) Creating directly

Create a *.txt document

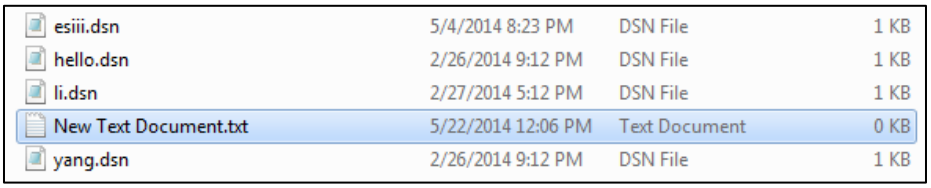

Fig. 7. Create a *.txt document

Open it, and write the required information, refer to Fig.1 for the format.

When finish, close the file and change the type of file to *.dsn.

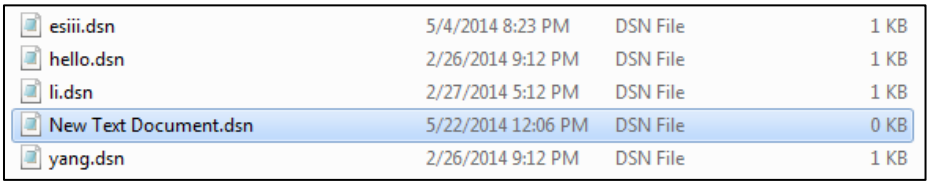

Fig. 8. Change the type of file to *.dsn

Note: the path of the generated *.dsn file will be needed when do the programming about database connection in Labview.

2. Write data into database

After the sensors measured the temperature, pressure, etc., the signal will be sent to computer, either by feildpoint or by its own controller. In the project, Labview is used to receive the data and write into database in MySQL. Two methods will be illustrated.

1) DB Tools Insert Data.vi

This function can be found in the Function Palette, the path is given below:

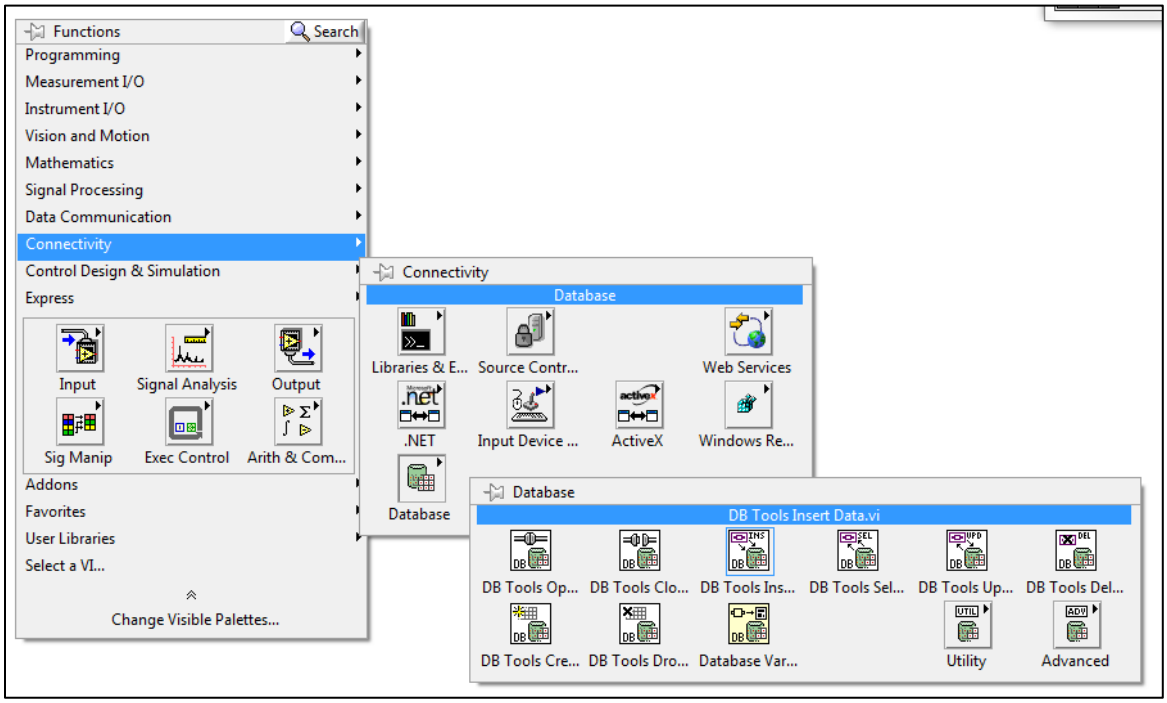

Fig. 9. The position of DB Tools

The function and connection pins are given below:

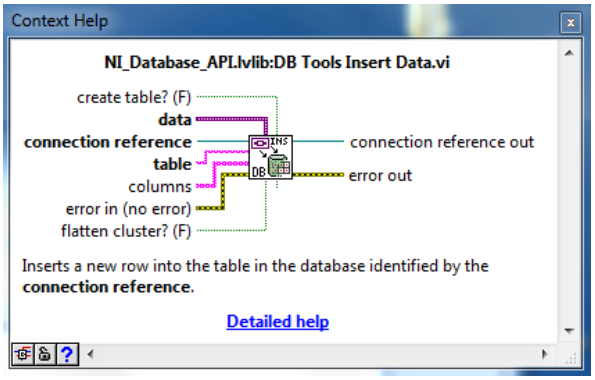

Fig. 10. DB Tools Insert Data.vi

Here I put one example to show how to use it:

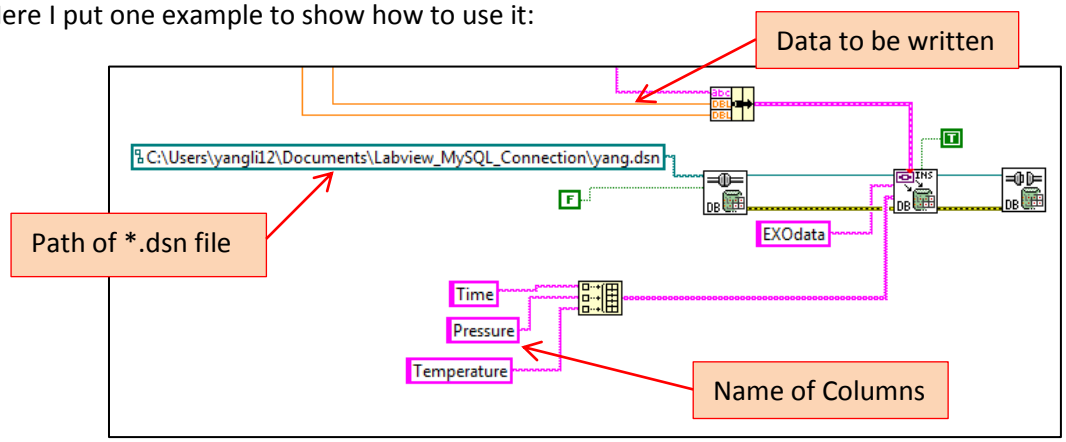

Fig. 11a. How to use DB Tools Insert Data.vi

(when use the first method to generate *.dsn)

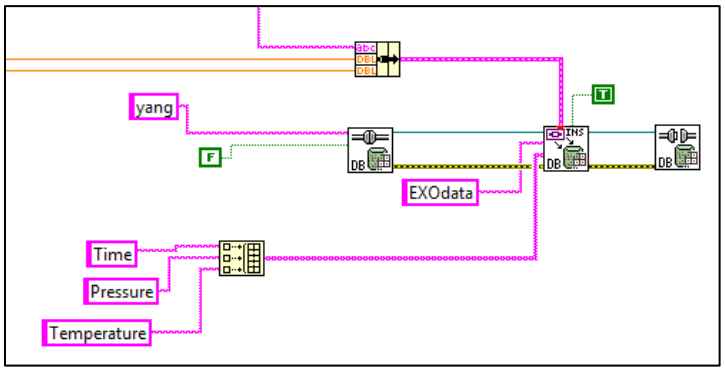

Fig. 11b. How to use DB Tools Insert Data.vi

(when use the first method to generate *.dsn)

2) DB Tools Execute Query.vi

This method of connection is given by Stanford, besides they use a lot of global variables, so sometimes one *.vi file may report error if only itself is run.

The function, DB Tools Execute Query.vi is shown below:

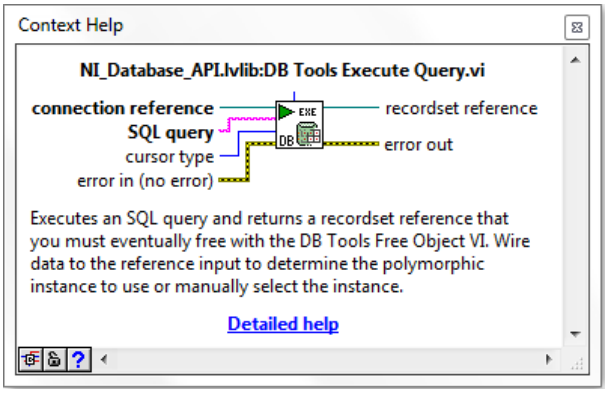

Fig. 12. DB Tools Execute Query.vi

I also attached one screenshot to show how to use this function.

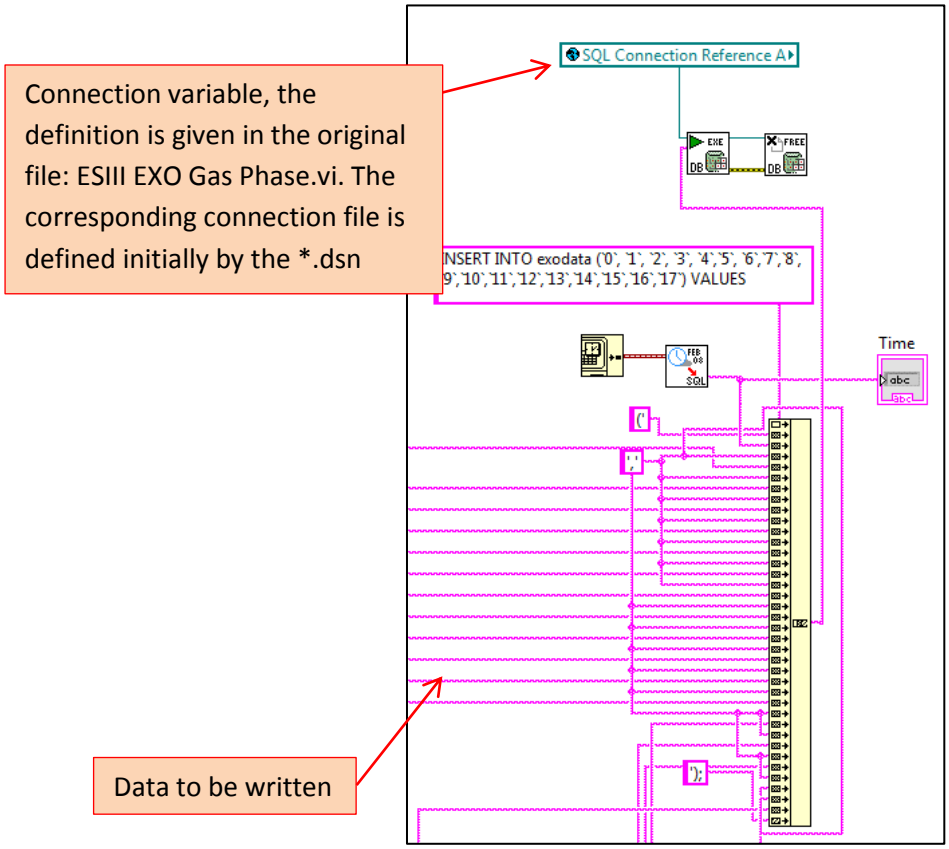

Fig. 13. How to use DB Tools Execute Query.vi

3. Read data from database

Another Labview function, DB Tools Select All Data.vi, is used in this case, which is shown below.

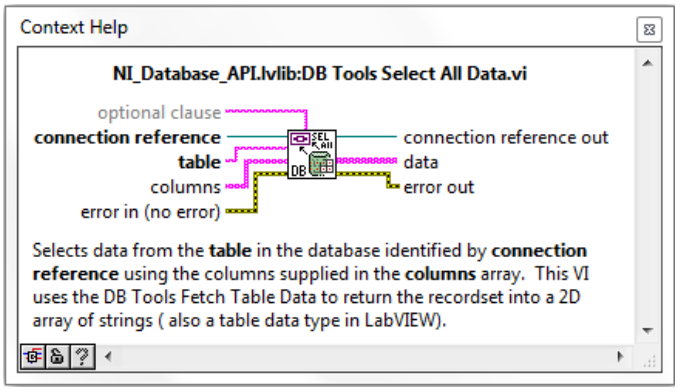

Fig. 14. DB Tools Select All Data.vi

The following pictures shows how to use it.

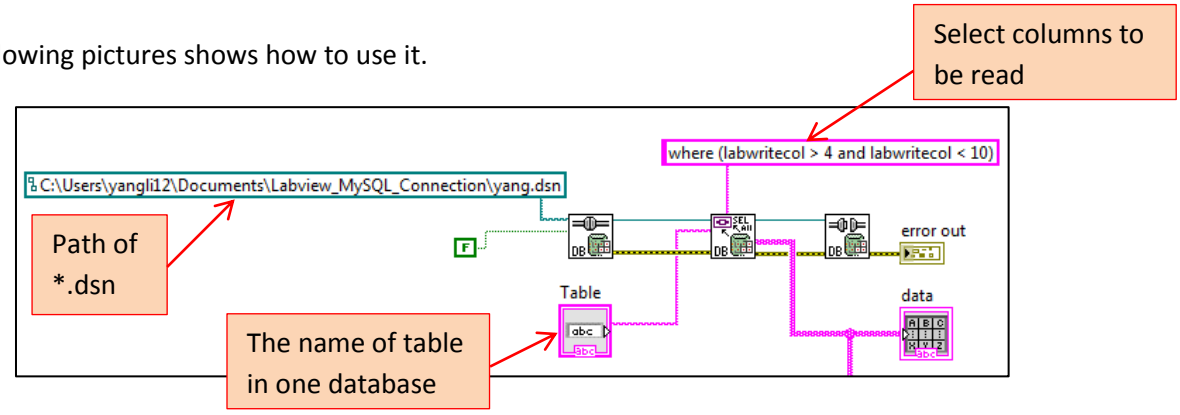

Fig. 15a. How to use DB Tools Select All Data.vi

(when use the second method to generate *.dsn)

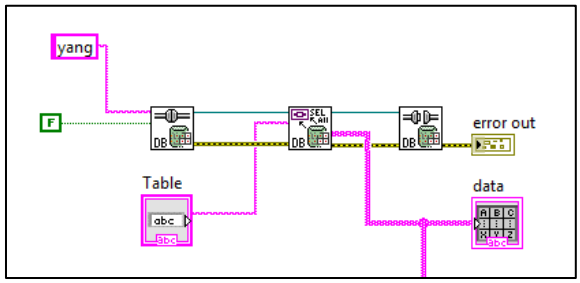

Fig. 15b. How to use DB Tools Select All Data.vi

(when use the first method to generate *.dsn)

Besides, similarly, the global variable of connection can be used to instead of using the path of connection file every time. Stanford uses the second method.