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HOW TO INSTALL ODBC DRIVER FOR UBUNTU AND USE RODBC PACKAGE IN R



In my last post I discussed *how to setup a MySQL Server and use R to connect* (<http://thinkdatascience.com/how-to-connect-your-rstudio-server-to-different-databases-using-odbc-in-linux/>). In many other cases, we have to connect our R to data source from other places like Microsoft SQL Server, etc. Setting up ODBC in windows system is easy because of GUI interface, but it's gonna be a little tricky for Linux. In this post I will go through the procedure of installing and configuring FreeTDS ODBC driver on Ubuntu 15.10 Server.

Install FreeTDS ODBC driver

First thing we need to do is install ODBC driver for our server, run

```
sudo apt-get install unixodbc unixodbc-dev freetds-dev tdsodbc
```

This will install freetds ODBC driver, then we have to configure it by editing `/etc/odbc.ini` and `/usr/share/freetds/freetds.conf` files

Setup `/etc/odbc.ini`

Run following code in terminal, this will open up gedit (or you can use other text editor like vim)

```
sudo gedit /etc/odbc.ini
```

If the `odbc.ini` file doesn't have any content, copy the following into it:

```
[myDB]
Driver=/usr/lib/x86_64-linux-gnu/odbc/libtdsodbc.so
Trace=No
Server=xxxxxx.com
Port=8925
TDS_Version=8.0
Database=testdb
```

Put the name you want to call your data source in the bracket and Server address, port, database name, just like what you did in windows ODBC setup. If you have more than one data source to setup, copy the entire paragraph and paste it underneath for the new one. I have four different data source and my `odbc.ini` file looks like this:

```

odbc.ini x
[Driver]
Driver=/usr/lib/x86_64-linux-gnu/odbc/libtdsodbc.so
Trace=No
Server=192.168.1.100
Port=8925
TDS_Version=8.0
Database=COMPASS

[FreeTDS]
Driver=/usr/lib/x86_64-linux-gnu/odbc/libtdsodbc.so
Trace=No
Server=192.168.1.100
Port=1433
TDS_Version=8.0
Database=COMPASS

[FreeTDS]
Driver=/usr/lib/x86_64-linux-gnu/odbc/libtdsodbc.so
Trace=No
Server=192.168.1.100
Port=1433
TDS_Version=8.0
Database=COMPASS

[FreeTDS]
Driver=/usr/lib/x86_64-linux-gnu/odbc/libtdsodbc.so
Trace=No
Server=192.168.1.100
Port=1433
TDS_Version=8.0
Database=COMPASS

```

Setup '/usr/share/freetds/freetds.conf'

Run following code in terminal

```
sudo gedit /usr/share/freetds/freetds.conf
```

change the paragraph at the end with your server host name and port number, use the same name in the bracket and keep everything consistent with your odbc.ini file. My freetds.conf looks like this:

```

# A typical Microsoft server
[Microsoft]
    host = 192.168.1.100
    port = 1433
    tds version = 7.0

# A typical Microsoft server
[FreeTDS]
    host = 192.168.1.100
    port = 1433
    tds version = 7.0

```

Test Connection

We can use isql command to test the connection. Type in following code in terminal

```
isql -v "data source name" username password
```

If I want to connect to data source called "MSSQLdb" using username "myan" and password "1234", the command should be:

```
isql -v "MSSQLdb" myan 1234
```

If you see the following prompt which means this ODBC is successfully setup

```

myan@myanserver:~$ isql -v "MSSQLdb" myan 1234
+-----+
| Connected!
|
| sql-statement
| help [tablename]
| quit
|
+-----+
SQL> quit
myan@myanserver:~$

```

Run SQL query in R using RODBC

Now open up R and install package "RODBC", we can use the following code to pull and store data into dataframe in R

```
1 library(RODBC)
2 odbc.key = odbcConnect("MSSQLdb", uid="myan", pwd="1234")
3 rawdata = sqlQuery( channel= odbc.key, query = "SELECT * FROM table1")
```



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"In god we trust, all others bring data." — William Edwards Deming

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