Accessing MySQL through R

Connecting to MySQL is made very easy with the RMySQL package. To connect to a MySQL database simply install the package and load the library.  
  
install.packages("RMySQL")  
library(RMySQL)

**Connecting to MySQL:**  
Once the RMySQL library is installed create a database connection object.  
  
mydb = dbConnect(MySQL(), user='user', password='password', dbname='database\_name', host='host')

**Listing Tables and Fields:**  
Now that a connection has been made we list the tables and fields in the database we connected to.  
  
dbListTables(mydb)  
  
This will return a list of the tables in our connection.   
  
dbListFields(mydb, 'some\_table')  
  
This will return a list of the fields in some\_table.

**Running Queries:**  
Queries can be run using the dbSendQuery function.  
  
dbSendQuery(mydb, 'drop table if exists some\_table, some\_other\_table')  
  
In my experience with this package any SQL query that will run on MySQL will run using this method.

**Making tables:**  
We can create tables in the database using R dataframes.  
  
dbWriteTable(mydb, name='table\_name', value=data.frame.name)

**Retrieving data from MySQL:**  
To retrieve data from the database we need to save a results set object.  
  
rs = dbSendQuery(mydb, "select \* from some\_table")  
  
I believe that the results of this query remain on the MySQL server, to access the results in R we need to use the fetch function.  
  
data = fetch(rs, n=-1)  
  
This saves the results of the query as a data frame object. The n in the function specifies the number of records to retrieve, using n=-1 retrieves all pending records.

## Example

library(DBI)

# Connect to my-db as defined in ~/.my.cnf

con <- dbConnect(RMySQL::MySQL(), group = "my-db")

dbListTables(con)

dbWriteTable(con, "mtcars", mtcars)

dbListTables(con)

dbListFields(con, "mtcars")

dbReadTable(con, "mtcars")

# You can fetch all results:

res <- dbSendQuery(con, "SELECT \* FROM mtcars WHERE cyl = 4")

dbFetch(res)

dbClearResult(res)

# Or a chunk at a time

res <- dbSendQuery(con, "SELECT \* FROM mtcars WHERE cyl = 4")

while(!dbHasCompleted(res)){

chunk <- dbFetch(res, n = 5)

print(nrow(chunk))

}

# Clear the result

dbClearResult(res)

# Disconnect from the database

dbDisconnect(con)