I. MySQL Essentials

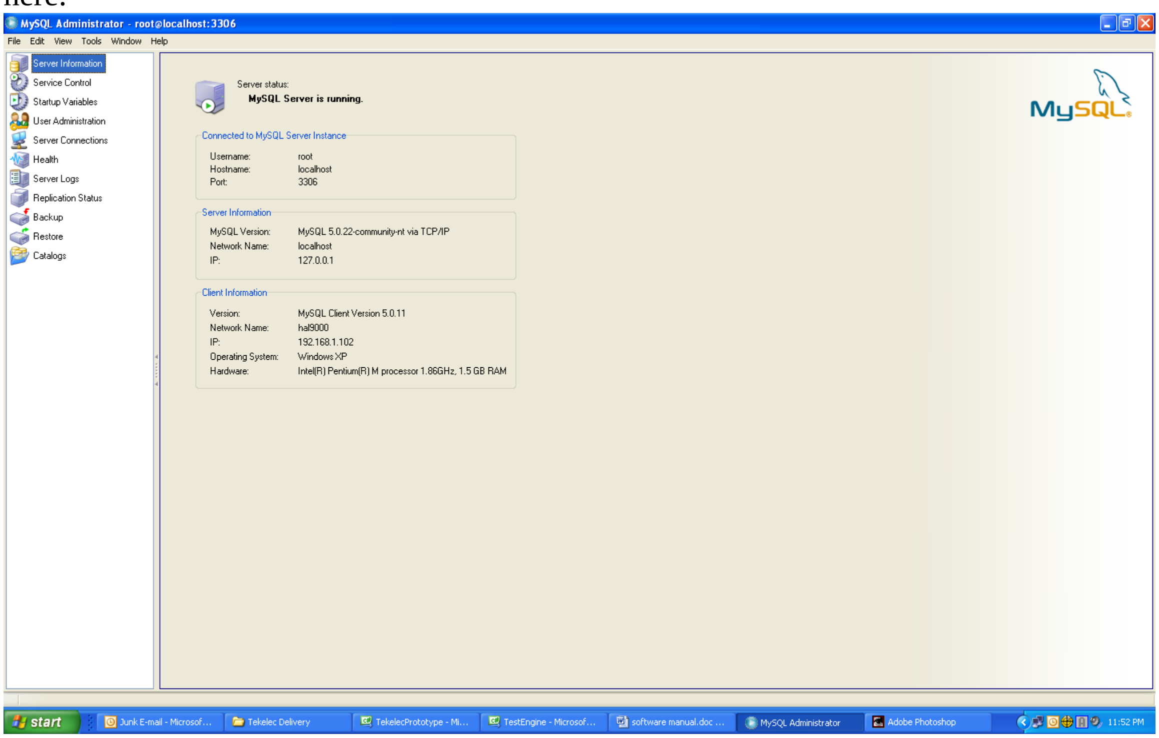
Introduction

This document is a very brief MySQL tutorial. MySQL is an open source relational database engine available on the internet from various sources including http://www.mysql.com/. The primary difficulty with this database engine is that it is command line only and does not have a graphical user interface. You can get the MySQL GUI administrator from the web at http://www.mysql.com/products/tools/administrator/.

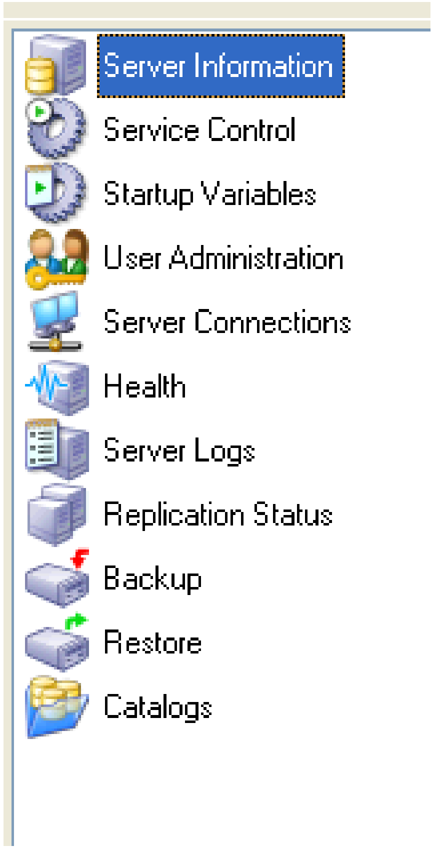
MySQL Administrator Tutorial

In this section we will provide you with a brief tutorial of the basic functions in MySQL Administrator, along with screen shots where appropriate. It should be noted that this is just a brief tutorial designed to assist the MySQL novice in getting started. If a person is intending to work with MySQL on a professional level it is recommended that at a minimum that person carefully study all documentation available at www.mysql.com. You may also consider reviewing the help file that comes with MySQL Administrator.

When you first launch the administrator you will see a screen like the one shown here:



The toolbar on the left is shown below, zoomed in so you can view its options.



We will briefly discuss each of these options, and will give a detailed explanation of the last option *Catalogs*, as this is where you actually see the databases and their tables.

Server Information

Selecting this screen provides you with basic information as to the MySQL version, operating system, and IP address of the server.

Service Control

This screen will allow you to start or stop the MySQL service. This is almost identical to the SQL server service.

Startup Variables

This screen allows you to set various settings for MySQL server. If you are not an experienced MySQL server user then you should leave these with default settings. The only one you may need to change is the port. MySQL works over your network or internet on port 3306. If for some reason this port is not available on your network, you can change it here. However any applications that communicate with your server will also need to be changed to use the new port.

User Administration

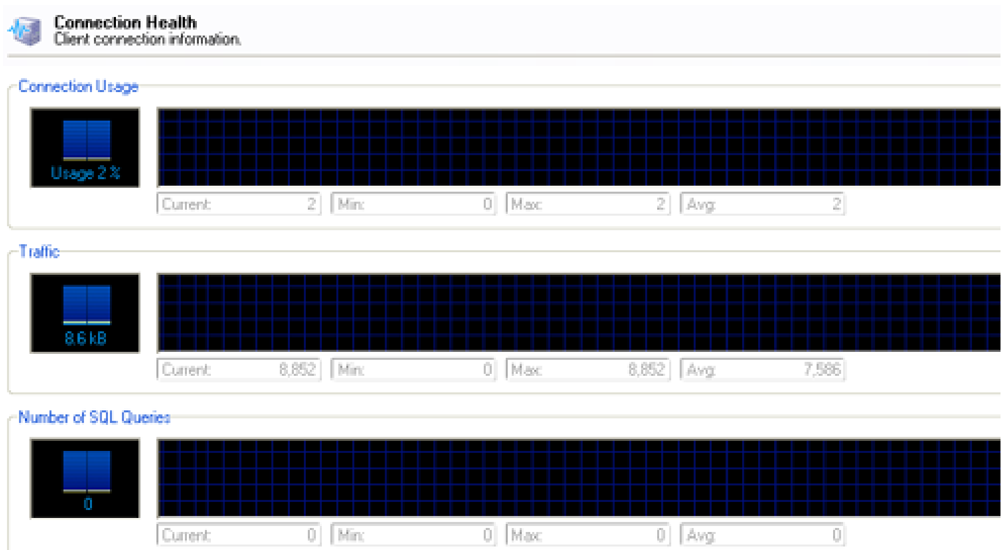
This screen allows you to add new users, delete users, and change their passwords. Its functionality is very straightforward and easy to follow.

Server Connections

This screen shows all currently active connections to the server. This screen is useful if you wish to know which users are currently connected.

Health

This screen gives you information similar to what the Windows Monitor gives you for windows. It displays traffic to the server, connections, etc. This screen is shown here:



Server Logs

This screen allows you to view all logs including the error log. This can be important if you are having difficulties with the MySQL server and need to track down some issue.

Replication Status

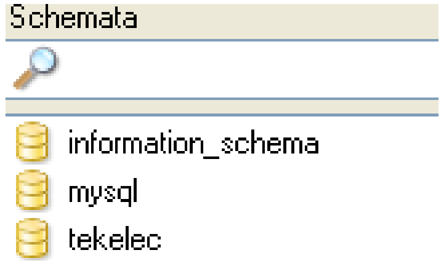
If the database is set to replicate to another database, this screen displays the status. Replication is an advanced feature and novice MySQL users should not use it.

Backup & Restore

The function of these two screens is obvious. They give you the ability to back up and restore MySQL databases.

Catalogs

This is a critical screen and displays the various databases this MySQL server is supporting. This is also the area we will examine most closely.



When you click on one of these databases (in this case tekelec) all of the tables and properties of those tables are shown, as you see here:

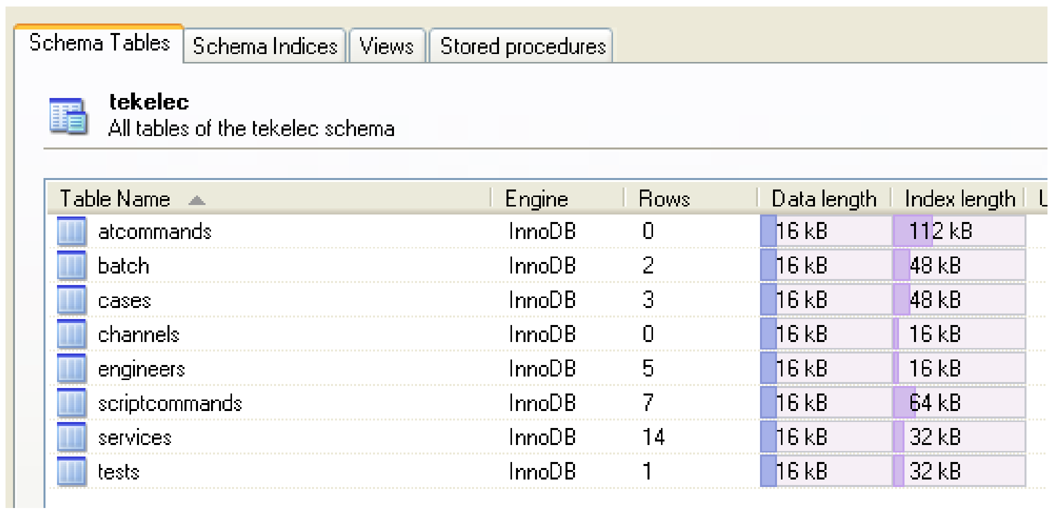
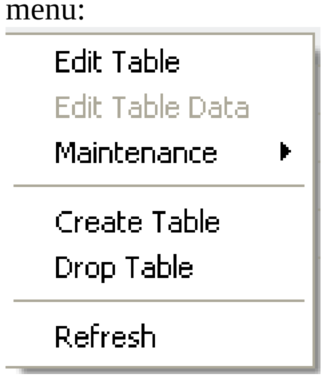
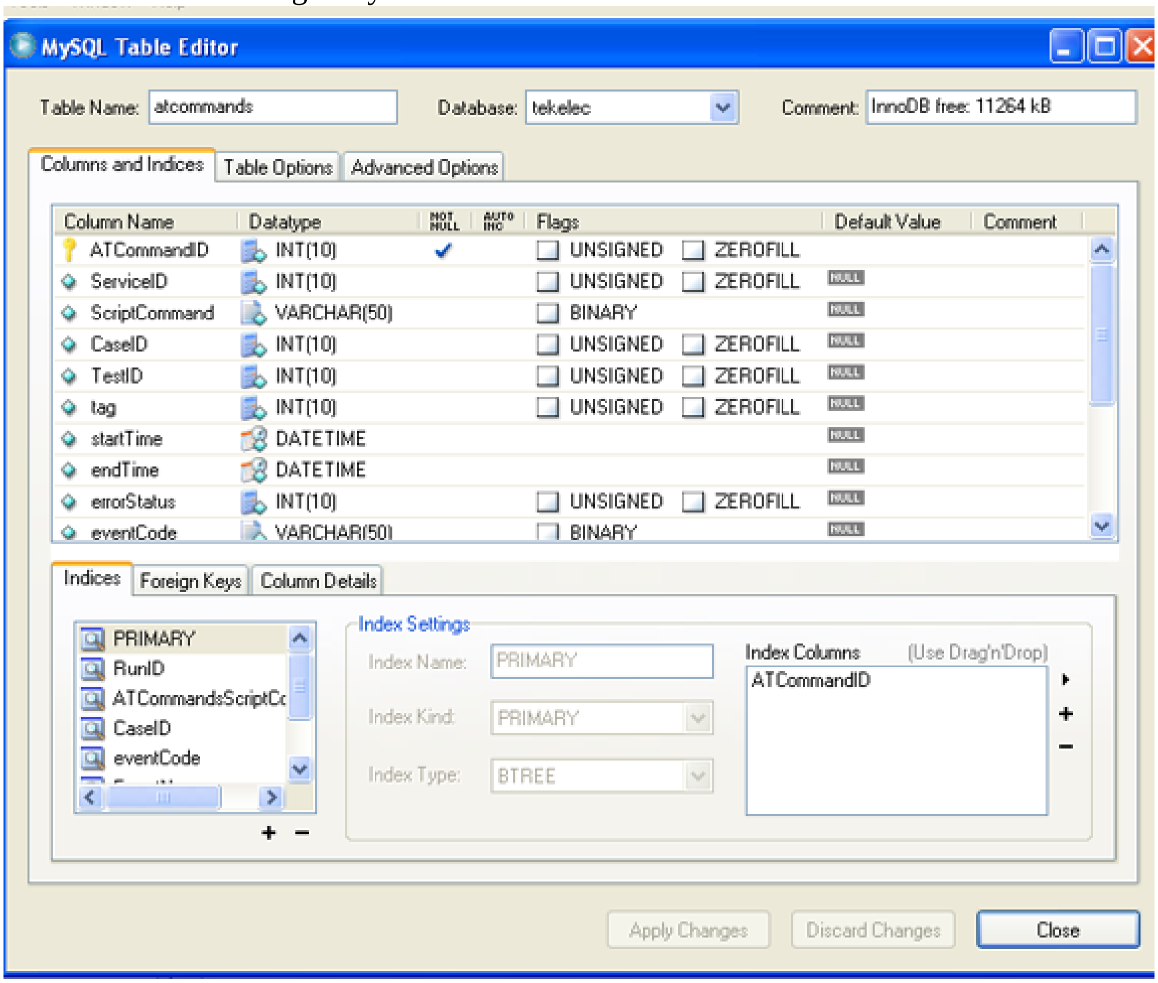


Table Name	Engine	Rows	Data length	Index length
atcommands	InnoDB	0	16 kB	112 kB
batch	InnoDB	2	16 kB	48 kB
cases	InnoDB	3	16 kB	48 kB
channels	InnoDB	0	16 kB	16 kB
engineers	InnoDB	5	16 kB	16 kB
scriptcommands	InnoDB	7	16 kB	64 kB
services	InnoDB	14	16 kB	32 kB
tests	InnoDB	1	16 kB	32 kB

Only advanced users should attempt creating stored procedures (the fourth tab in the image above) or views (the third tab in the image above). However all users will want to view tables, create tables, and alter tables.   Any time you right click with your mouse in the general area of this screen you get the following popup menu:



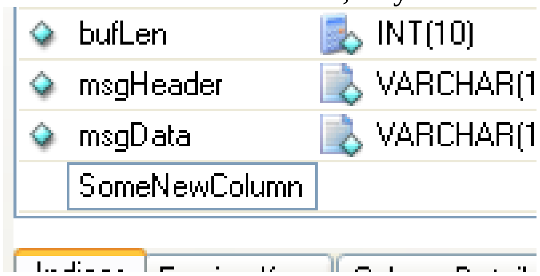
You can use this popup menu to create a table or drop a table. The Maintenance option will allow you to check the table for flaws, and to repair the table. To edit a table you can either choose edit from this popup window or simply double click on the table itself. In this case we will double click on the atcommandstable. This gives you the screen shown here:



Note this screen shows every column listed on the left side followed by the data type for that column (int, varchar,DateTime,etc.) whether or not nulls are disallowed in that column whether or not this is an auto increment table (**Note**: during installation instructions we will note that when importing an MS Access database it looses its auto increment value. Here is where you would come to reset that), if the column is unsigned, and more. Basically everything you want to know about a table and its columns is shown on this screen.

Note: Novice MySQL users should not bother with the second two tabs shown on this screen. Leave those items with their default values.

If you wish to add a new column then simply scroll down to the bottom of the list of columns and start typing in a new column name after the last column, as you see here:



These basic notes will not make you an expert with MySQL but should get you started and allow you to use the MySQL administrator.

Trouble shooting common problems:

1. During the installation or operation of MySQL one of the most common problems occurs with the default port being blocked. MySQL uses port 3306. If you have a firewall either on your router or on your PC (remember Windows XP comes with a firewall) that is blocking port 3306 you will need to set the firewall to allow traffic on that port.
2. MySQL passwords and usernames are case sensitive. Mistyping a password is a common problem.

   The following websites offer help with common MySQL problems:
   - http://www.mysqlfreaks.com/mysql/manual_Problems.html
   - http://dev.mysql.com/doc/refman/5.0/en/problems.html
   - http://www.cit.gu.edu.au/teaching/2105CIT/cgi-bin/info2html.cgi?(mysql)Problems