additional tools for web database application development

PHP is widely known for fast server-side scripting execution. It can connect to any database servers provided the drivers are available. Most common database server used to be PHP sparring partner is MySQL. For this tutorial you need a database server, which is MySQL, and the MySQL administrator, we'll be using phpmyadmin.

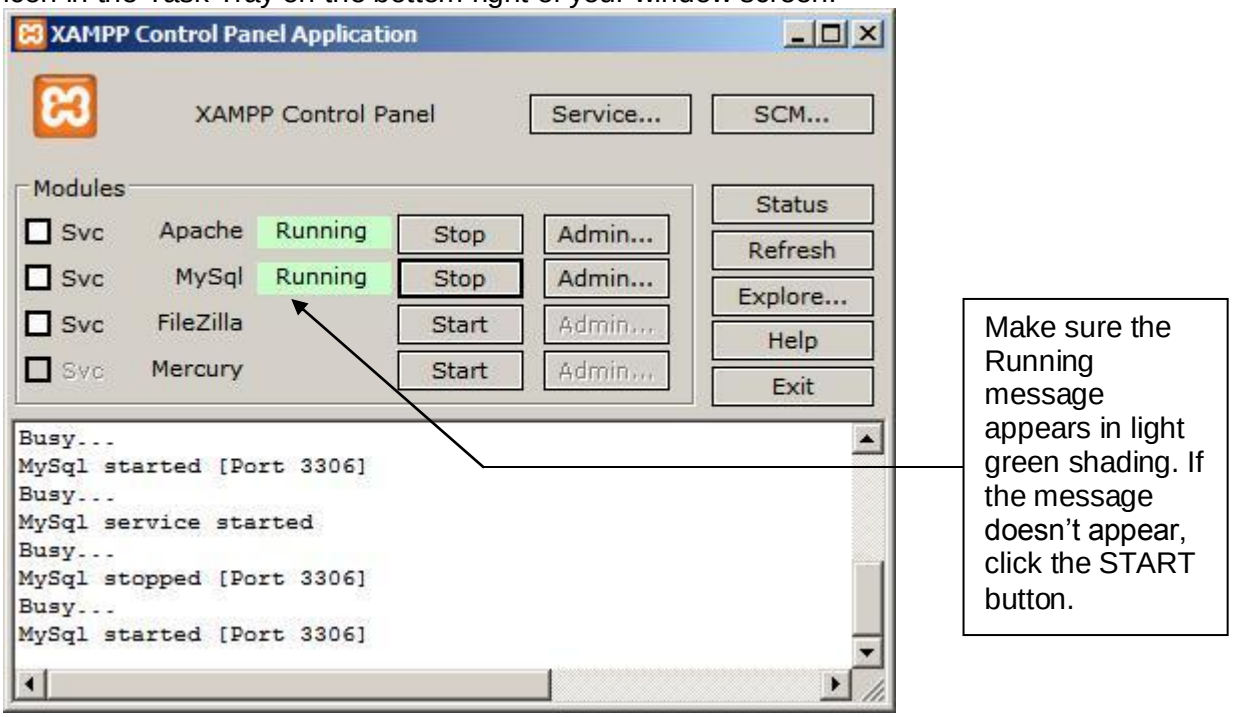
The database server, MySQL Community Edition

There are two major versions of MySQL database server, the first and the most popular is MySQL Community Server, and the second is the MySQL Enterprise Edition. Throughout this module, we'll be using the MySQL Community Server which is free.
*The MySQL Community Server version 5 is available for download at http://dev.mysql.com/downloads/mysql/5.0.html#downloads .

**Please refer http://dev.mysql.com/doc/refman/5.0/en/index.html for more information on MySQL database server.

ON the MySQL database server

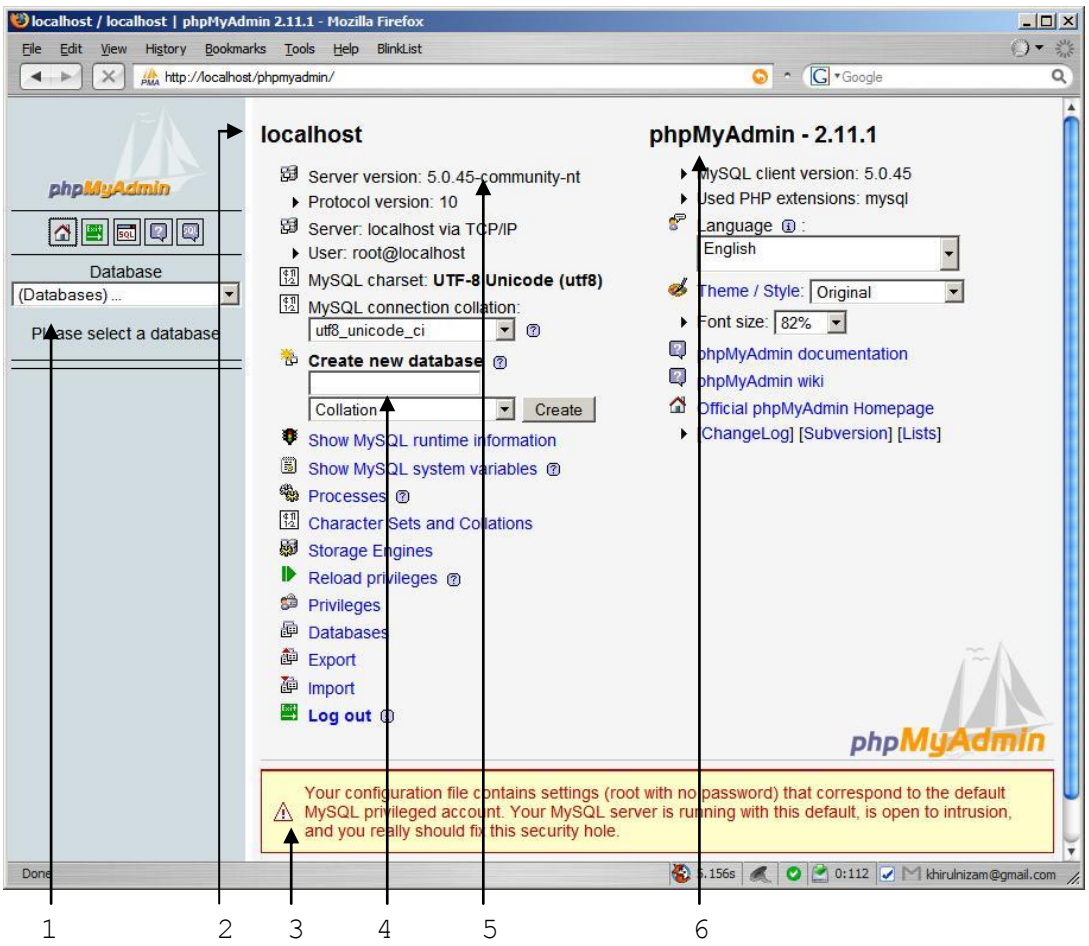
To make sure the database server is on, open the XAMPP Control Panel. Find the ( ) icon in the Task Tray on the bottom right of your window screen.



The database administrator

- phpmyadmin is an open-source web-based MySQL administrator.
- For the installation for the latest version, download the application from http://www.phpmyadmin.net and extract the zip file to the web-root.
- This tutorial is based on release v2.11.1, the default installation in XAMPP 1.6.4.
- To access from your machine; **http://localhost/phpmyadmin** .

Tutorial 1: A brief introduction to phpmyadmin main page.

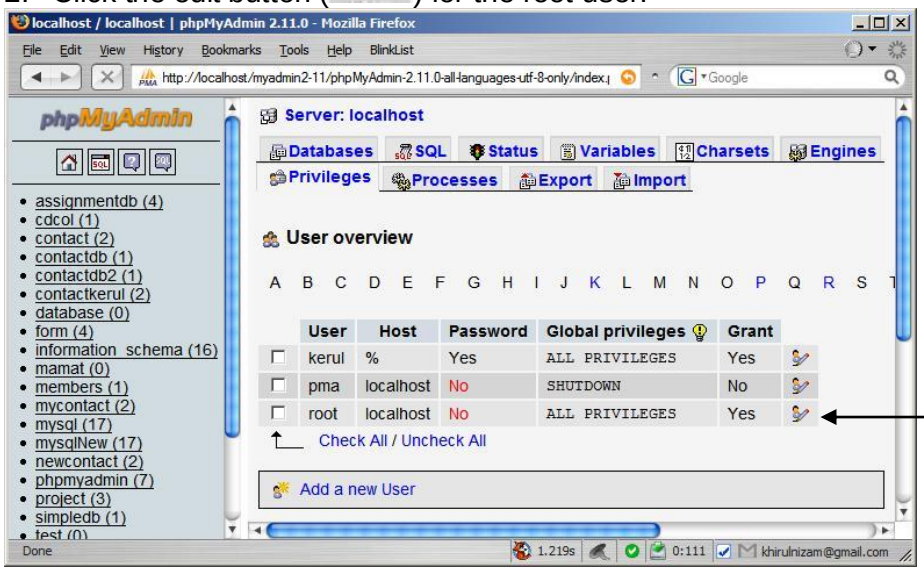


Legend :

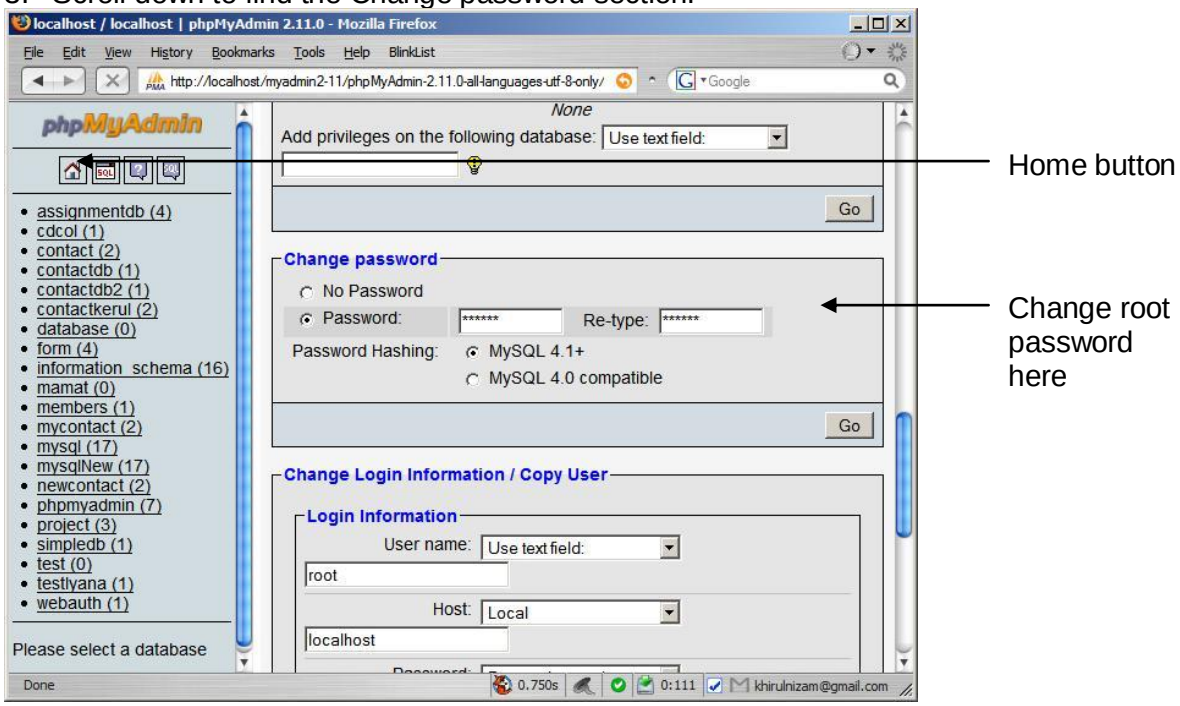
1. Listing of all databases available in the database server. Choose one of the database to administer the content. It will change into listing in the form of combo box, once you have selected a database.
2. The database address. Sometimes in the form of IP address.
3. Warning: The database server root password is default (no password). You must change the password for better security. A simple tutorial is included to change the password through phpmyadmin.
4. Type a new database name, and hit Create to create a new database. Make sure the name is unique and please avoid special characters.
5. The MySQL server version (this tutorial is using 5.0.25-community-nt).
6. The phpmyadmin version (this tutorial is using 2.11.1, default version provided in XAMPP 1.6.4).

Tutorial 2: Changing the MySQL root password.

1. Click the Privileges menu.
2. Click the edit button () for the root user.

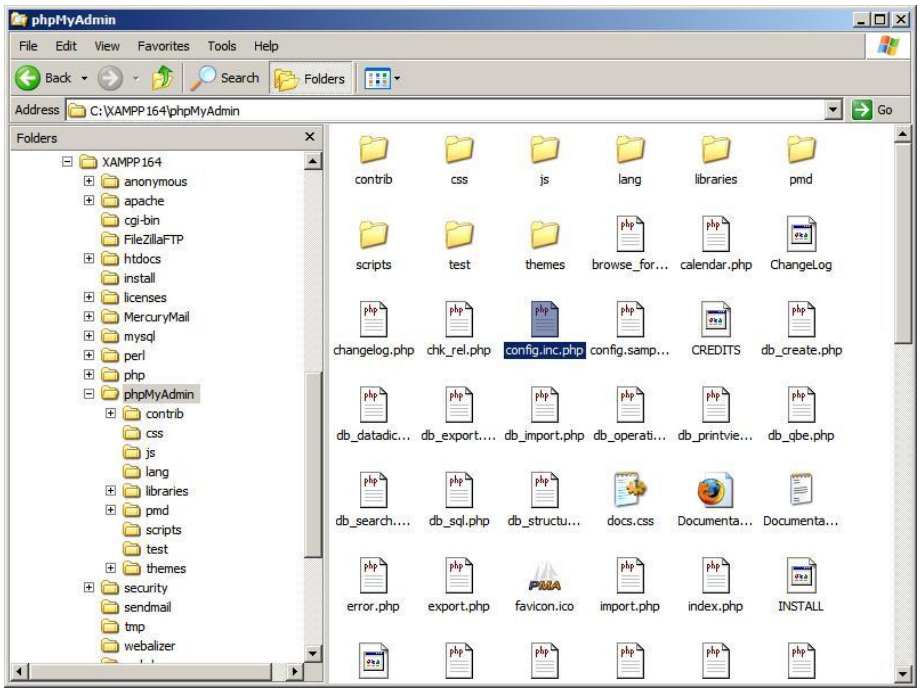


3. Scroll down to find the Change password section.



4. After you have changed the root password (let say *abc123*) try to hit Home button () , on the left side frame. You will get this message;

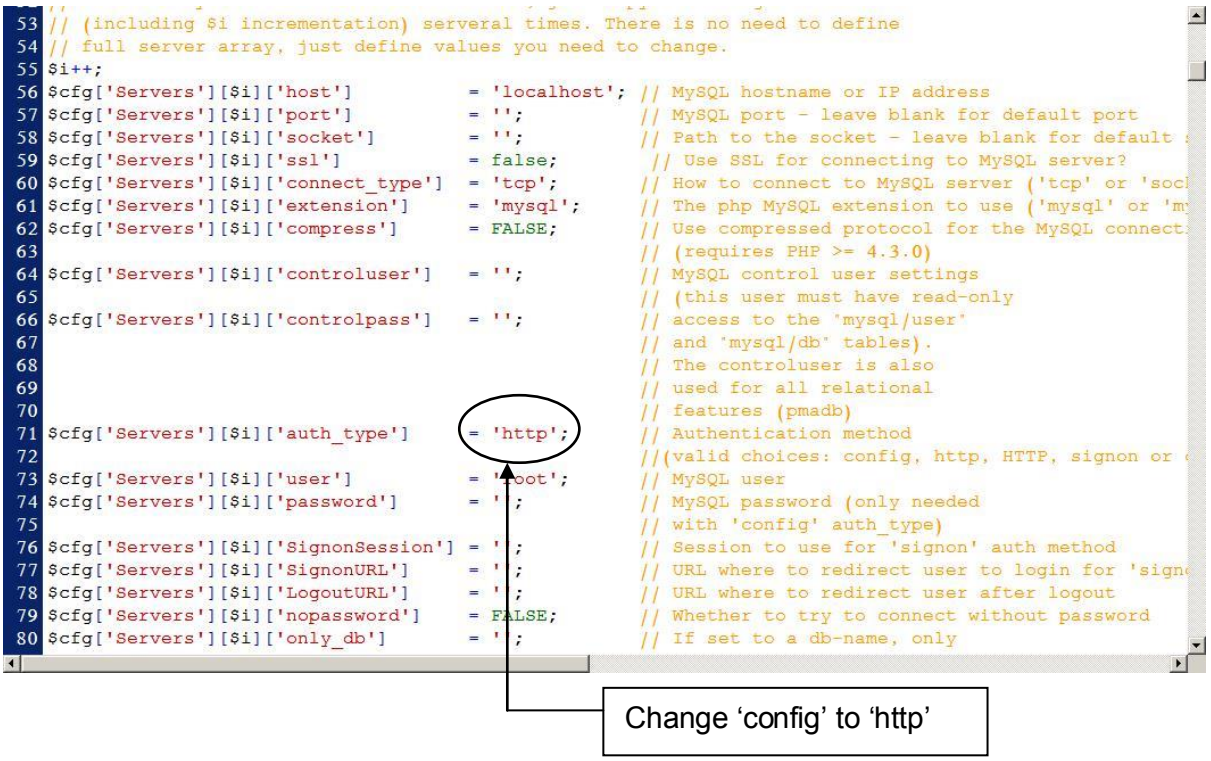
5. You need to modify the phpmyadmin configuration setting so phpmyadmin could access the MySQL database server with the new password. Note that, phpmyadmin use the privileges set in the MySQL database users table.
6. Choose the *config.inc.php* file and open with your favorite text editor.



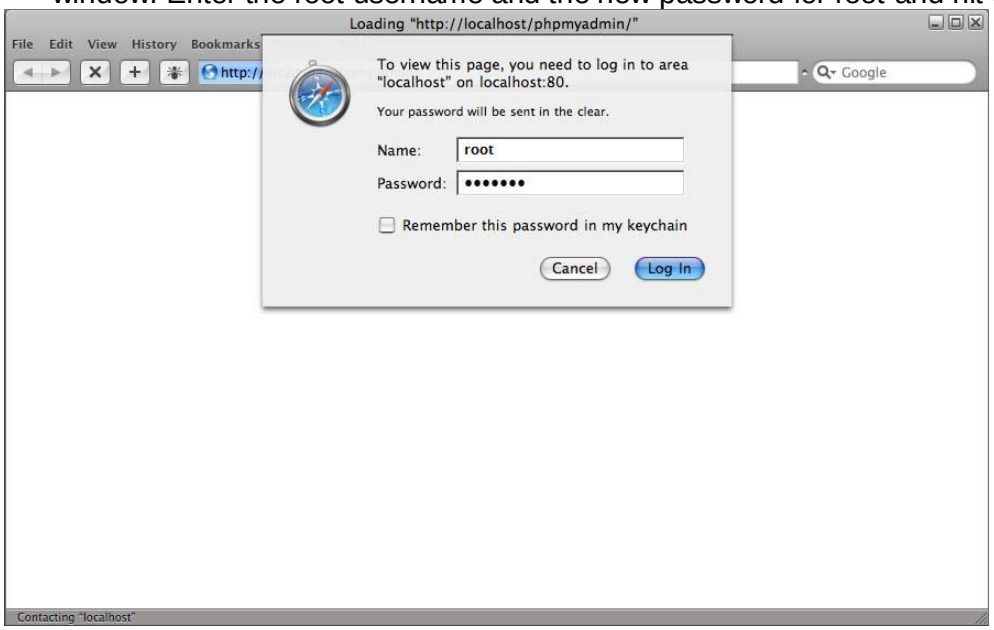
7. Edit the information near these lines :

```
$cfg['Servers'][$i]['auth_type'] = 'config';      // Authentication method
                                  //(valid choices: config, http, HTTP, signon or cookie)
$cfg['Servers'][$i]['user']          = 'root';          // MySQL user
```

8. Change *config* to *http*.



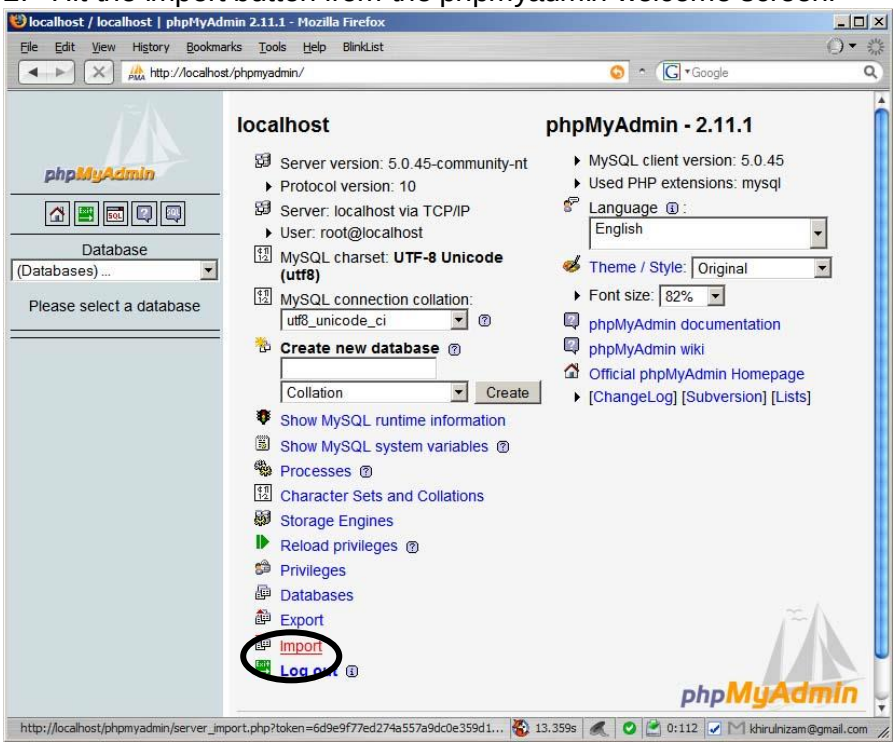
9. Go back to your browser and refresh/reload the page. You will be greeted with this window. Enter the root username and the new password for root and hit enter.



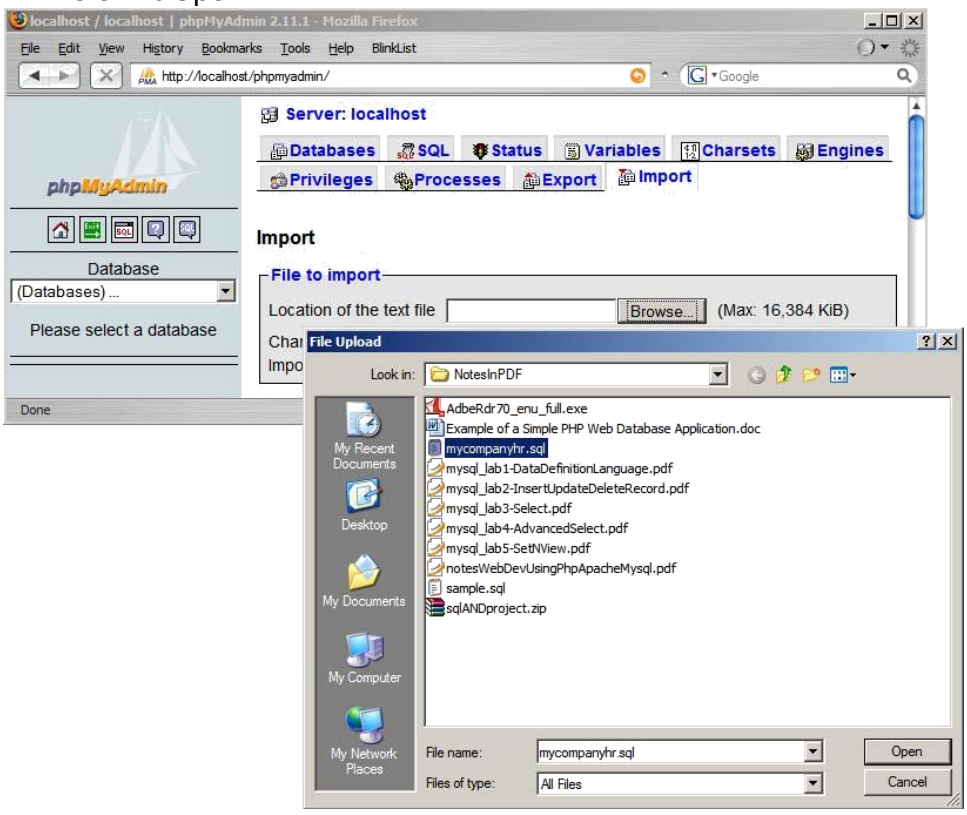
10. Then your phpmyadmin is in control again.

Tutorial 3 : Importing an existing database using phpmyadmin.

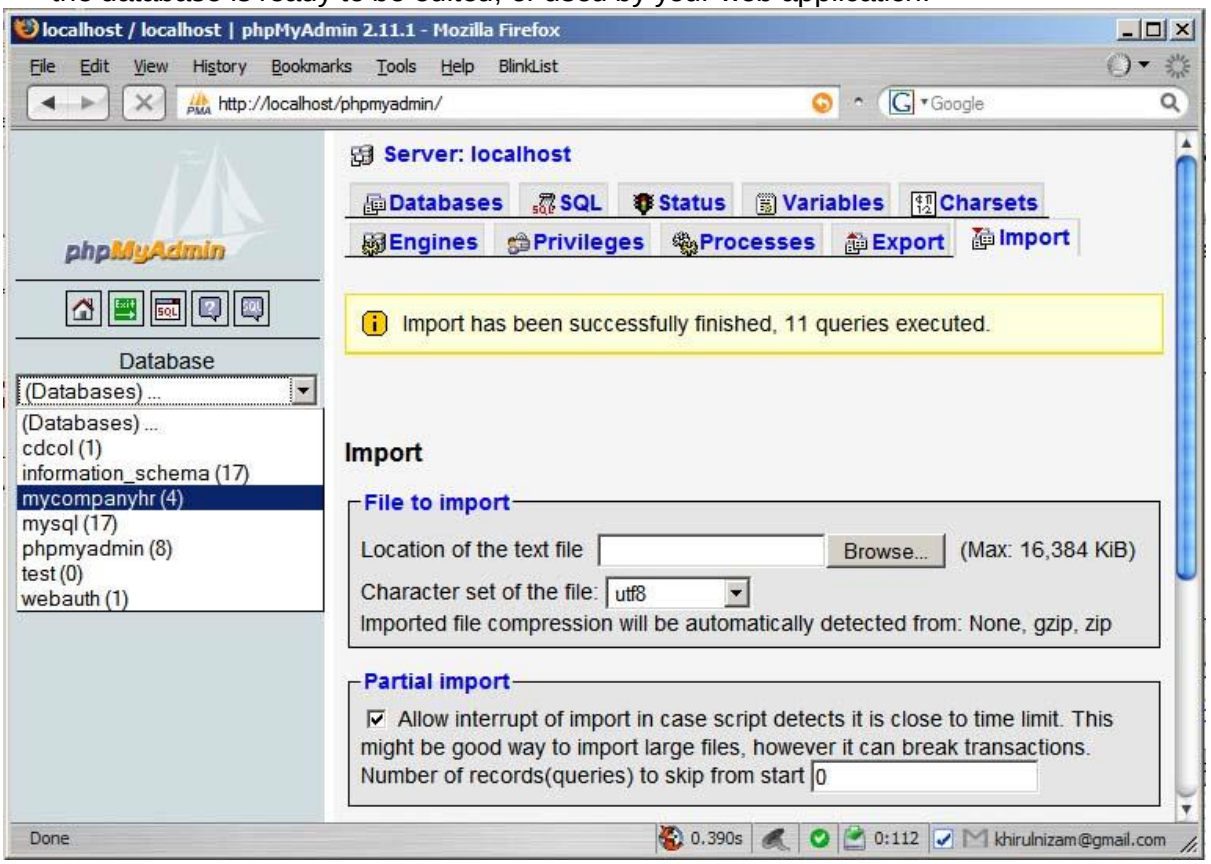
1. Download the sql file from dhost.info/kerul/sql/mycompanyhr.sql. And save the file somewhere in your computer.
2. Hit the import button from the phpmyadmin welcome screen.



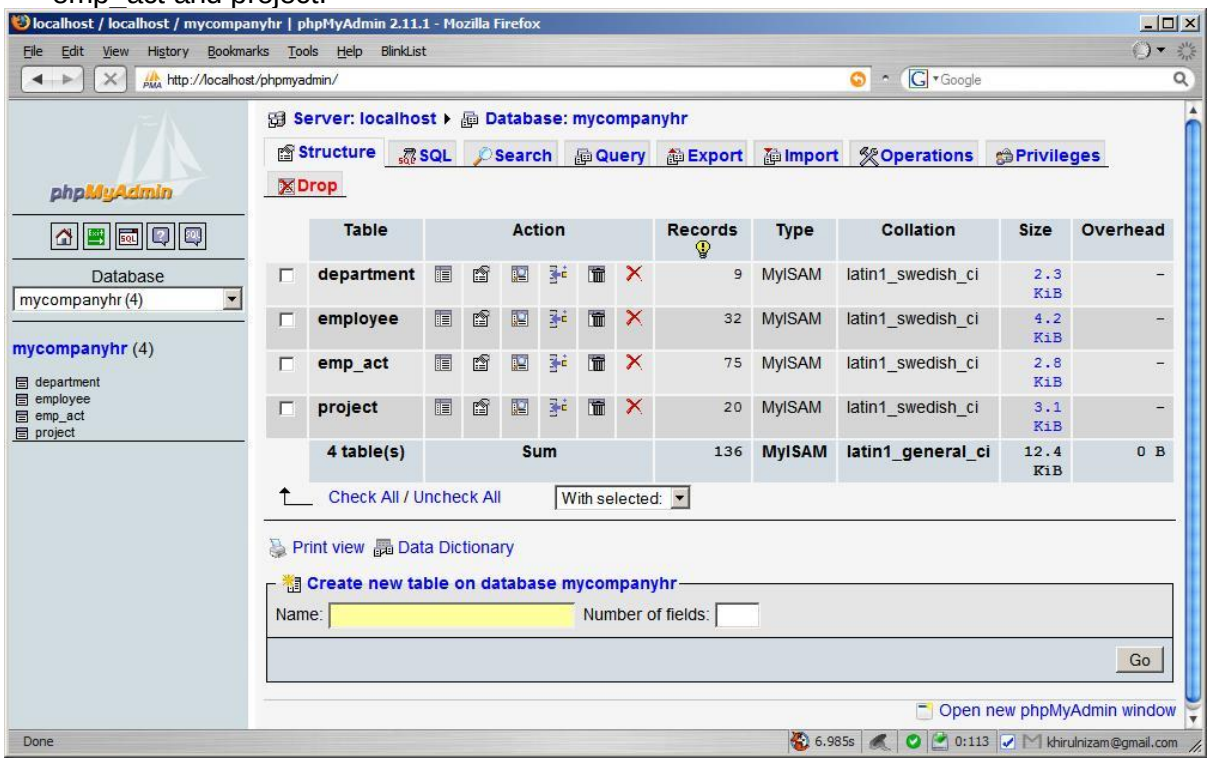
3. Click browse and find the files you have just downloaded previously. Double-click the file or hit Open.



4. If there are no sql errors, the screen should appear like this. Go to the left section of the page and click the combo box. Choose the database named mycompanyhr and the database is ready to be edited, or used by your web application.



5. As you can see on the left, the database consists of 4 tables; department, employee, emp_act and project.



MySQL Improved Extension

Through out this web database development exercises, we will be covering a lot of API for MySQL database connection. MySQL has introduced an improved version of mysql functions prefixed with mysqli_ . All the functions are design to connect and manipulate information from MySQL database server version 4.1.3 and above. For further information, go to http://php.net/mysqli .

Among the functions that will be used in this tutorial are;
mysqli_connect — Open a new connection to the MySQL server.
mysqli_select_db — Selects the default database for database queries.
mysqli_affected_rows — Gets the number of affected rows in a previous MySQL operation.
mysqli_close — Closes a previously opened database connection.
mysqli_errno — Returns the error code for the most recent function call.
mysqli_error — Returns a string description of the last error.
mysqli_execute — Executes a prepared Query.
mysqli_fetch_array — Fetch a result row as an associative, a numeric array, or both.
mysqli_fetch_row — Get a result row as an enumerated array.
mysqli_num_fields — Get the number of fields in a result.
mysqli_num_rows — Gets the number of rows in a result.
mysqli_query — Performs a query on the database.
*These function list are extracted from http://php.net/mysql.