

CODE FREE MYSQL MANAGEMENT TOOL

NANTHINI.J

13PCS010

**A Project Report Submitted to
Avinashilingam Institute for Home Science and Higher Education for
Women, Coimbatore-641043**

**In Partial Fulfilment of the Requirements for the
Master's Degree in Computer Science**

MARCH 2015

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**SIGNATURE OF THE
HEAD OF THE DEPARTMENT**

**SIGNATURE OF THE
SUPERVISOR**

**SIGNATURE OF THE
EXTERNAL EXAMINER**

ACKNOWLEDGEMENT

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I would like to express my sincere thanks to God Almighty, for his constant love and grace that he has showered upon me.

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CERTIFICATE



Date: 24.03.2015


Coimbatore

TO WHOMSOEVER IT MAY CONCERN

This is to certify that **Ms. Nanthini J (Reg. No.13PCS010)**, doing **Final M.Sc (CS) at Avinashilingam University, Coimbatore**, has successfully completed her project on **"Code Free Mysql Management"** in our concern from **December 2014 to March 2015**.

She was dedicated during her project work and we wish all the best for her future endeavors.

For Abile Technologies,



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SYNOPSIS

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“CODE FREE MYSQL MANAGEMENT TOOL” has been developed in PHP as front end and MYSQL is used as the back end. Code Free MySQL Management Tool is the ultimate code replacement for managing MySQL databases. It utilizes modern day technologies and browsers to provide a fast, intuitive querying and editing interface to the MySQL databases. The main aim of the project is:

- To easy database management system, with much of writing queries.
- To provide a secure system for better information exchange.
- To develop a user-friendly system.

The proposed system “Code Free MySQL Management Tool” has been developed to overcome the drawback of the existing system. Sharing of information is one of the important aspects in day-to-day Business. Enterprises spread across geographical locations need sophisticated and cost effective communication tools for information exchange. It is not only having the right information, but also having it at the right time that gives an edge in today’s competitive world. This project involves in developing a reliable, scalable database management system, which will be used as a platform for effective information sharing in real time. There is a need to develop an fast and effective system for a better communication between the team members to interact and to share their ideas.

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INTRODUCTION

1. INTRODUCTION

1.1 PROBLEM DEFINITION

The proposed system “**Code Free MySQL Management Tool**” has been developed to overcome the drawback of the existing system. Sharing of information is one of the important aspects in day-to-day Business. Enterprises spread across geographical locations need sophisticated and cost effective communication tools for information exchange. It is not only having the right information, but also having it at the right time that gives an edge in today’s competitive world.

This project involves in developing a reliable, scalable database management system, which will be used as a platform for effective information sharing in real time. There is a need to develop an fast and effective system for a better communication between the team members to interact and to share their ideas.

1.2 OVERVIEW OF THE PROJECT

The Project is entitled as “Code free MySQL Management Tool”

The Project has been developed in PHP as front end and MYSQL is used as the back end. Code Free MySQL Management Tool is the ultimate code replacement for managing MySQL databases. It utilizes modern day technologies and browsers to provide a fast, intuitive querying and editing interface to the MySQL databases.

1.3 OBJECTIVES OF THE PROJECT

- ❖ To easy database management system, with much of writing queries.
- ❖ Easy to deploy and install on almost all-major server configurations use on any combination of MYSQL and PHP servers and operating system.
- ❖ To provide a secure system for better information exchange.
- ❖ To develop a user-friendly system.

SYSTEM CONFIGURATION

2. SYSTEM CONFIGURATION

This section gives the details about the hardware and software requirements.

2.1 HARDWARE SPECIFICATION:

The following are the minimum hardware requirements for this project.

- ❖ Operating System : Windows 7
- ❖ Processor(with Speed) : Intel Core 2 duo 2.4 GHz
- ❖ Hard Disk Space : 40 GB and above
- ❖ RAM : 512 MB and above
- ❖ Monitor : 15'CRT

2.2 SOFTWARE SPECIFICATION:

The following are the minimum hardware requirements for this project.

- ❖ Web Browser : Chrome, Firefox, Internet Explorer
- ❖ Web Server : XAMPP Server
- ❖ Front End : PHP
- ❖ Designing Tools : Dreamweaver, CSS
- ❖ Back End : MYSQL

2.2.1. ABOUT THE SOFTWARE:

FRONT END

PHP (HYPERTEXT PREPROCESSOR)

PHP is a widely used, general-purpose scripting language that was originally designed for web development to produce dynamic web pages. For this purpose, PHP code is embedded into the HTML source document and interpreted by a web server with a PHP processor module, which generates the web page document. As a general-purpose programming language, PHP code is processed by an interpreter application in command-line mode performing desired operating system operations and producing program output on its standard output channel. A competitor to Microsoft's Active Server Pages (ASP) server-side script engine and similar languages, PHP is installed on more than 20 million Web sites and 1 million Web servers.

PHP was originally created by Rasmus Lerdorf in 1995. The main implementation of PHP is now produced by The PHP Group and serves as the formal reference to the PHP language. PHP is free software released under the PHP License, which is incompatible with the GNU General Public License (GPL) due to restrictions on the usage of the term PHP.

A new major version has been under development alongside PHP 5 for several years. PHP 5 introduced private and protected member variables and methods, along with abstract classes and final classes as well as abstract methods and final methods. This version was originally planned to be released as PHP 6 as a result of its significant changes, which included plans for full Unicode support. However, Unicode support took developers much longer to implement than originally thought and the decision was made in March 2010 to move the project to a branch, with features still under development moved to trunk.

TRADITION OF PHP

- Generate dynamic web pages. PHP can display different content to different user or display different content at different times of the day.
- Process the contents of HTML forms. We can use a PHP to retrieve and respond to the data entered into an HTML form.
- It can create database-driven web pages. A PHP can insert new data or retrieve existing data from a database such a MySQL.

USAGE

PHP is a general-purpose scripting language that is especially suited to server-side web development where PHP generally runs on a web server. Any PHP code in a requested file is executed by the PHP runtime, usually to create dynamic web page content or dynamic images used on Web sites or elsewhere. It can also be used for command-line scripting and client-side GUI applications. PHP can be deployed on most Web servers, many operating systems and platforms, and can be used with many relational database management systems (RDBMS). It is available free of charge, and the PHP Group provides the complete source code for users to build, customize and extend for their own use.

PHP acts primarily as a filter, taking input from a file or stream containing text and/or PHP instructions and outputting another stream of data; most commonly, the output will be HTML. Since PHP 4, the PHP parser compiles input to produce byte code for processing by the Zend Engine, giving improved performance over its interpreter predecessor. Originally designed to create dynamic Web pages, PHP now focuses mainly on server-side scripting, and it is similar to other server-side scripting languages that provide dynamic content from a Web server to a client, such as Microsoft's ASP.NET, Sun Microsystems' Java Server Pages, and mod_perl.

The LAMP architecture has become popular in the Web industry as a way of deploying Web applications. PHP is commonly used as the *P* in this bundle alongside Linux, Apache and MySQL, although the *P* may also refer to Python or Perl or some combination of the three.

Similar packages are also available for Windows and Mac OS X, then called WAMP and MAMP, with the first letter standing for the respective operating system.

SECURITY

Vulnerabilities are caused mostly by not following best practice programming rules: technical security flaws of the language itself or of its core libraries are not Recognizing that programmers make mistakes, some languages include taint checking to detect automatically the lack of input validation , which induces many issues. Such a feature is being developed for PHP but its inclusion in a release has been rejected several times in the past.

There are advanced protection patches such as Suhosin and Hardening-Patch, especially designed for Web hosting environments. PHPIDS adds security to any PHP application to defend against intrusions. PHPIDS detects Cross-site scripting (XSS), SQL injection, header injection, Directory traversal, Remote File Execution, Local, and Denial of Service (DoS)

DATA TYPES

PHP stores whole numbers in a platform-dependent range, either a 64-bit or 32-bit signed integer equivalent to the C-language long type. Unsigned integers are converted to signed values in certain situations; this behavior is different from other programming languages. Integer variables can be assigned using decimal (positive and negative), octal, and hexadecimal notations. point numbers are also stored in a platform-specific range. They can be specified using floating point notation, or two forms of scientific notation. PHP has a native Boolean type that is similar to the native Boolean types in Java and C++. The only value in the null data type is *NULL*. Variables of the "resource" type represent references to resources from external sources. These are typically created by functions from a particular extension, and can only be processed by functions from the same extension; examples include file, image, and database resources. Arrays can contain elements of any type that PHP can handle, including resources, objects, and even other arrays. Order is preserved in lists of values and in hashes with both keys and values, and the two can be intermingled. PHP also supports strings, which can be used with single quotes, double quotes, `node` or `hereof`.

FUNCTIONS

PHP has hundreds of base functions and thousands more via extensions. These functions are well documented on the PHP site; however, the built-in library has a wide variety of naming conventions and inconsistencies. PHP currently has no functions for thread programming, although it does support multiprocess programming on POSIX systems.

Functions are not first-class functions and can only be referenced by their name, directly or dynamically by a variable containing the name of the function. User-defined functions can be created at any time without being prototyped. Functions can be defined inside code blocks, permitting a run-time decision as to whether or not a function should be defined. Function calls must use parentheses, with the exception of zero argument class constructor functions called with the `PHP new` operator, where parentheses are optional. PHP supports quasi-anonymous functions through the `create_function()` function,

although they are not true anonymous functions because anonymous functions are nameless, but functions can only be referenced by name, or indirectly through a variable `$function_name()`; , in PHP.

OBJECTS

Basic object-oriented programming functionality was added in PHP 3 and improved in PHP 4. Object handling was completely rewritten for PHP 5, expanding the feature set and enhancing performance. In previous versions of PHP, objects were handled like value types. The drawback of this method was that the whole object was copied when a variable was assigned or passed as a parameter to a method. In the new approach, objects are referenced by handle, and not by value. PHP 5 introduced private and protected member variables and methods, along with classes and final classes as well as abstract methods and final methods. Languages such a standard exception handling model.

Furthermore, PHP 5 added interfaces and allowed multiple interfaces to be implemented. There are special interfaces that allow objects to interact with the runtime system. Objects implementing `Array Access` can be used with array syntax and objects implementing `Iterate` or `Iterate Aggregate` can be used with the `for each` language construct. There is no virtual table feature in the engine, so static variables are bound with a name instead of a reference at compile time.

SPEED OPTIMIZATION

PHP source code is compiled on the fly to an internal format that can be executed by the PHP engine. In order to speed up execution time and not have to compile the PHP source code every time the Web page is accessed, PHP scripts can also be deployed in executable format using a PHP compiler.

Code optimizers aim to enhance the performance of the compiled code by reducing its size, merging redundant instructions and making other changes that can reduce the execution time. With PHP, there are often opportunities for code optimization.

An example of a code optimizer is the accelerator PHP extension. Opcode caching and code optimization can be combined for best efficiency, as the modifications do not depend on each other (they happen in distinct stages of the compilation).

COMPILERS

The PHP language was originally implemented as an interpreter. Several compilers have been developed which decouple the PHP language from the interpreter. Advantages of compilation include better execution speed, static analysis, and improved interoperability with code written in other languages. PHP compilers of note include Phalanger, which compiles PHP into CIL byte-code, and HipHop, developed at Facebook and now available as open source, which transforms the PHP Script into C++, then compiles it, reducing server load up to 50%.

XAMPP SERVER

XAMPP stands for “X (as in “cross-platform”), Apache, MySQL, PHP, Perl” and is a “solution stack package” that installs each of those items.

Similarly, there exists a WAMP, MAMP, and LAMP, standing for Windows, Mac, and Linux, respectively. I believe they condense the “P” to PHP/Perl/Python because Python is additionally included in the stack, whereas it’s not in XAMPP.

- ❖ **Apache:** This is the actually web server software. It takes requests from clients (other computers, for example) and returns the requested content to them.
- ❖ **MySQL:** This is the database.
- ❖ **PHP/Perl:** These are the languages used for actual web development. Interpreters need to be installed on the web server so it knows how to understand and display them to the users!

Once XAMPP is installed, it is possible to treat a local host like a remote host by connecting using an FTP client. Using a program like FileZilla has many advantages when installing a content management system (CMS) like Joomla or Word press. It is also possible to connect to local host via FTP with an HTML editor.

The default FTP user is "new user", the default FTP password is "wampp". The default MySQL user is "root" while there is no default MySQL password.

HYPERTEXT MARKUP LANGUAGE (HTML)

HTML is an application of the Standard Generalized Markup Language (SGML), which was approved as an international standard in the year 1986. SGML provides a way to encode hyper documents so they can be interchanged. SGML is also a Meta language for formally describing document markup system.

BACK-END

MYSQL-PHP MYADMIN:

PhpMyAdmin is a free software tool written in PHP intended to handle the administration of MySQL over the World Wide Web. PhpMyAdmin supports a wide range of operations with MySQL. The most frequently used operations are supported by the user interface (managing databases, tables, fields, relations, indexes, users, permissions, etc), while you still have the ability to directly execute any SQL statement. PhpMyAdmin comes with a wide range of documentation and users are welcome to update our wiki pages to share ideas and how-to be for various operations.

MySQL server is a powerful database management system and the user can create application that requires little or no programming. It supports GUI features and an entire programming language, PhpMyAdmin which can be used to develop richer and more developed application. It is named after developer Michael Widenius' daughter, The SQL phrase stands for Structured Query Language. The MySQL development project has made its source code available under the terms of the GNU General Public License, as well as under a variety of proprietary agreements.

FEATURES

- Intuitive web interface.
- Support for most MySQL features.
- Browse and drop databases, tables, views, fields and indexes
- Create, copy, drop, rename and alter database, tables, fields, and indexes
- Maintenance server, databases and tables, with proposals on server configuration
- Execute, edit and bookmark any SQL-statement, even batch-queries.

- Manage MySQL users and privileges
- Import data from CSV and SQL
- Export data various formats: CSV, SQL, XML, PDF, ISO/IEC 26300-open document Stext and spreadsheet, word, excel.

MySQL Query Browser is a graphical tool for creating, executing, and optimizing queries in a graphical environment. Where the MySQL Administrator is designed to administer a MySQL server, the MySQL Query Browser is designed to help you query and analyze data stored within your MySQL database.

While all queries executed in the MySQL Query Browser can also be run from the command-line using the MySQL utility, the MySQL Query Browser allows for the querying and editing of data in a more intuitive, graphical manner. MySQL was owned and sponsored by a single for-profit firm, the Swedish company MySQL AB, now owned by Oracle Corporation.

ERWIN

Erwin is a data-modeling tool. A complete Erwin data model contains all the information that is required to generate a physical database on your selected target server.

Forward engineering is a process that generates the physical database schema from the data model. You can use Erwin's forward engineering feature to design and create your database without writing a single SQL CREATE TABLE or CREATE INDEX statement. Erwin lets you quickly create a data model by reverse engineering an existing physical database.

LIMITATIONS

MYSQL does not currently comply with the SQL standard for some of the implemented functionality, including issues like silent ignore of standard SQL syntax, including silent ignore of check constraints, foreign key references, and other features used to enforce business logic consistency. Triggers are currently limited to one per action/timing, i.e. maximum one after insert and one before insert on the same table. There are no triggers on views.

SYSTEM STUDY AND ANALYSIS

3. SYSTEM STUDY AND ANALYSIS

3.1. EXISTING SYSTEM

In this system, user need to know about all the queries related to databases such as MYSQL, SQL etc. They have to install specified software for executing queries. If they have done any mistakes in queries, it throws an error and user take more time to resolve and execute the queries.

In addition, there are different kind of forum software that exists in the market for query handling, which are more costly and not user friendly. These systems fail when large number of users access at same time.

DRAWBACKS OF EXISTING SYSTEM

- ❖ Need additional software like MYSQL server etc.
- ❖ Take more time and need to remember all the queries.
- ❖ More costly.
- ❖ Less user friendly.
- ❖ Number of users is limited.
- ❖ Time Consuming.

3.2 PROPOSED SYSTEM

The system study phase involves the initial investigation of the structure of the system, which is currently in use, with the objective of identifying the problem and difficulties with the existing system. The major steps involved in this phase include definition of the user requirements and study of the present system for the problem verification.

The Code Free MySQL Management System provides an ability to perform database operations without using command line. The proposed System is made up of a tool that can be used to perform DDL and DML commands in all databases. Each operation has individual functions and separate code which is not necessary to remember the each syntax by user.

The user can import or export any kind of database files such as SQL, CSV, PDF, XML etc. into databases. Code Free MySQL Management Tool intended to handle the administration of MySQL over the web. It supports wide range of MySQL operations that can be performed via the user interface, while you still have the ability to directly execute any SQL statement.

ADVANTAGES OF PROPOSED SYSTEM

- ❖ No need to remember all the queries.
- ❖ Ease of use.
- ❖ Reduce time to execute.

FEASIBILITY STUDY

Feasibility study involves the analysis of the proposed system to find out its visibility. The project to be considered feasible only if the proposed system is useful. Thus, the purpose of the feasibility is to gather and to analyse.

There are three types of feasibilities.

- ❖ Technical Feasibility
- ❖ Operational Feasibility
- ❖ Economic Feasibility

TECHNICAL FEASIBILITY

The Project “**Code Free MySQL Management Tool**” has been developed with Front End as PHP, Back End as MYSQL and Apache as Netware. The PHP, which supports scripting language. It does not require any specific platform to run the application. Due to avoid malware attack antivirus is needed so I suggest to buying a licensed antivirus.

OPERATIONAL FEASIBILITY

Proposed system is operationally feasible because it is supported by management persons and it is handled by other persons and who is now the system can maintain the system by getting knowledge about the processes in the system.

ECONOMICAL FEASIBILITY

The proposed system reduces the cost of the web application because the suggest tool is cost free. It reduces manpower thus the sales department does not need many person in that department.

SYSTEM DESIGN

4. SYSTEM DESIGN

4.1 FUNDAMENTAL DESIGN CONCEPTS

A Software design is a meaningful engineering representation of some software that is to be built. A design can be traced to the customer's requirements and can be assessed for quality against predefined criteria.

During the design process the software requirements model is transformed into design models that describe the details of the data structures, system architecture, interface and components. Each design product is reviewed for quality before moving to the next phase of software development.

4.2 DESIGN NOTATIONS

Sets of fundamental design concepts are evolved over the past three decades. Although the degree of interesting each concept has varied over the years, each has stood the test of time. Each provides the software designer with a foundation from which more sophisticated design methods can be applied. Fundamental design concepts provide the necessary framework for "getting it right". Design is defining a model of the new system and continues by converting this model to a new system. The method is used to convert the model of the proposed system into computer specification. Data models are converted to a database, processes and flows to user procedures and computer programs. Design proposes the new system that meets these requirements; this new system may be built by a fresh or by changing the existing system.

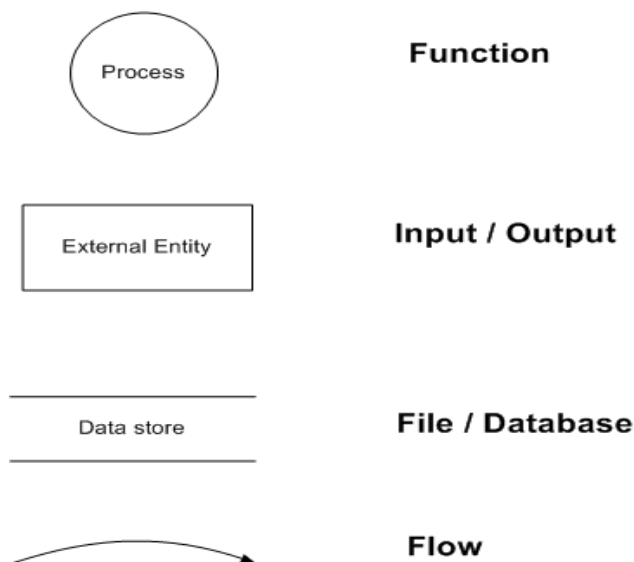
The detailed design starts with three activities, database design, user design and program design. Database design uses conceptual data model to produce a database design. User procedure design uses those parts of the DFD outside the automation boundary to design user procedures.

4.2.1 DATA FLOW DIAGRAM

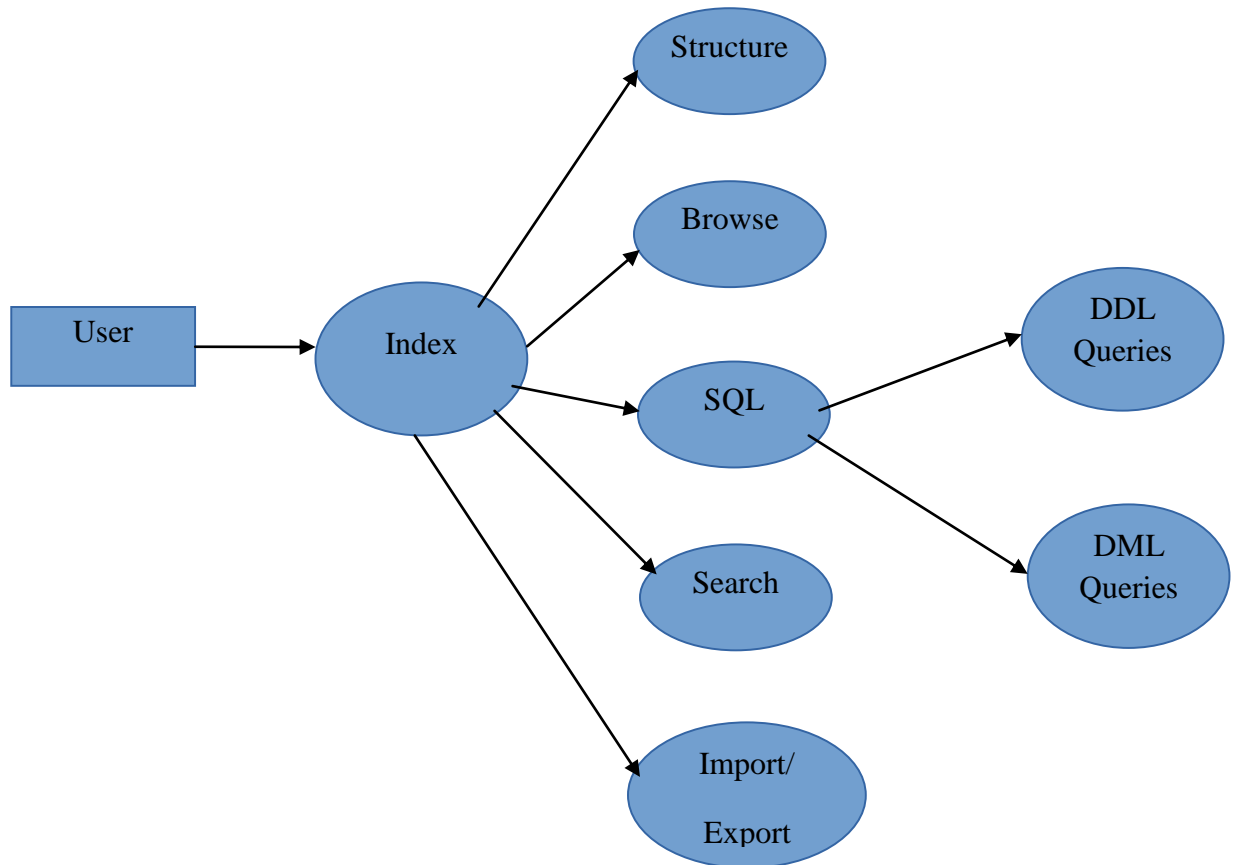
The Data Flow Diagram is a modeling tool that allows us to picture a system as a network of functional processes, connected to one another through “pipelines” and “holding tanks” of data. It is a graphical representation of the "flow" of data through an information system. DFDs can also be used for the visualization of data processing (structured design). On a DFD, data items flow from an external data source or an internal data store to an internal data store or an external data sink, via an internal process.

The Data Flow Diagram (DFD) is one of the most commonly used systems modeling tools, particularly for operational systems in which the functions of the system are of permanent importance and more complex than the data that the system manipulates. DFD were first used in the software engineering fields as a notation for studying system design issues. it should be noted that DFDs are not only used to model information-processing systems, but also as a way of modeling whole organizations, that is, as a tool for business planning and strategic planning.

Data Flow Diagram Notations



SYSTEM FLOW



4.2.2 INPUT DESIGN

The goal of the input design is to make the data entry easy, and make it free from logical errors. In the proposed system, the user can create new database using the Screen 3 through which the name of the database is given as input.

Screen 4 helps to input the table name and its corresponding field names. Screen 6 helps to insert records into the corresponding table. Screen 9 helps the user to modify the existing table by adding more fields to it. Table updation as shown in Screen 16 is used to alter the table through which the input for setting the new values are given.

Screen 17 is used to create a new view for displaying the table details. A new procedure is created using Screen 20 through which the input for the procedure name is got. Using Screen 22 the user can import any kind of data files into database by choosing the files from database.

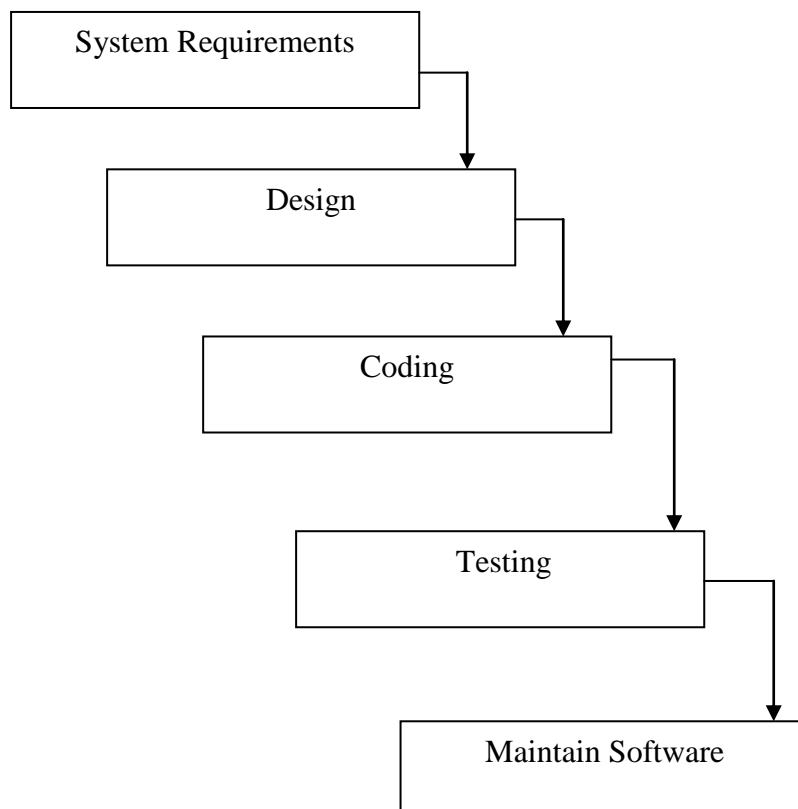
4.2.3 OUTPUT DESIGN

Output design refers to the results generated by the system. The accuracy of output depends on the accuracy of inputs and its processing. Screen 7 helps the user view the records in a table. Screen 8 displays an acknowledgement message for the table created. Screen 24 intends the user to export the table from the database.

Screen 10 intends to delete the specific table from the database using the drop command. Screen 11 helps to choose a specific record in the table and delete it by using the truncate command.

4.3 DEVELOPMENT APPROACH

This model particularly expresses the interaction between subsequent phases. Testing software is not an activity, which strictly follows the implementation phase. In each phase of the software development process, we have to compare the results obtained against that which is required. In all phases quality has to be assessed and controlled.



SYSTEM DEVELOPMENT

5. SYSTEM DEVELOPMENT

5.1. MODULES:

- ❖ User Interface
- ❖ Administration Module
- ❖ Table Editor Module

5.2. MODULE DESCRIPTION:

User Interface Module:

The user interface module includes the following interfaces

- ❖ Using Application Menus
- ❖ Using context menus
- ❖ Performing queries

Using Application Menus

The application menus on the code free MySQL interface act just like any other desktop application menu. The only difference is that the menu opens as soon as you hover your mouse on it, and does not wait for you to click for the menu to be opened.

Using Context Menus

Most areas of the MyWebSQL interface provide options to work with when they are right clicked. The most important in this regard is the 'Database object list' on the left of the screen, which displays the database tables, views, procedures, functions and trigger.

Performing Queries

Queries can be executed from the interface using the 'SQL Editor' provided on the bottom right of the screen. Each one can be used to edit queries separately, without requiring you to erase old queries in case you need them again. The editors can be switched quickly using the hotkey combination (ALT+1, ALT+2, ALT+3 ...). The hotkey combination can also be modified.

Administration Module

The administration module is used in administrating and monitoring the database, which the user can use

❖ Creating/Editing tables

The creating and editing module is used to create a new table and also editing the existing table. This module contains table name, field name, length, data type and primary key.

❖ Working with tables and Views

This module helps in adding new fields to the table. In addition, this module support DDL and DML operations to select, update, alter, delete and rename.

❖ Managing table Indexes

This module is used to quickly locate the data without having to search every row in a database. Indexes can be created using one or more columns of a database table. It provides the basis for both rapid random lookups and efficient access of ordered records.

❖ Exporting Database Objects

Access provides a number of ways to copy an object such as table or form from one database to another. Copying and pasting an object is easiest, but exporting an object offers more options.

❖ Importing Batch Files

This module helps the user to import any kind of database files such as SQL, CSV, PDF, XML etc. into databases.

Table Editor Module:

- ❖ The table editor is extremely simple to use. To create a new table, open the table editor from the main menu or using the right click menu option for table 'Create table'.
- ❖ Once the table editor opens, you add/edit/delete any field information in the default tab, including the field data type, primary key and other constraints.

SYSTEM TESTING AND IMPLEMENTATION

6. SYSTEM TESTING AND IMPLEMENTATION

6.1 SYSTEM TESTING

Testing

Testing is necessary for the success of the system. System testing makes a logical assumption that if all parts of the system are correct, the goal will be successfully achieved.

6.1.1 Test Plan

Software testing is an important element of software quality assurance and represents the ultimate review of specification, design and coding. The increasing visibility of software as a system element and the costs associated with a software failure are motivating forces for well planned, thorough testing.

The testing plays an important role in the development of the project. For every software project, there is an inherent conflict of interest that occurs as testing begins. The main aim of testing is to demonstrate the programs are error free, that it works according to the customer requirements.

The system testing deals with the process of testing the system as a whole. This is done after the integration process. The entire system is tested by moving through each module from top to bottom. The verification and validation process are carried out.

Verification

Verification is also intended to find errors. Executing a program in an environment performs it.

Validation

Validation refers to the process of using software in a live environment in order to find errors. Software allows the different type of testing.

Testing demonstrates that software functions work according to specification. In addition, data collected from testing provides a good indication of software reliability and some indication of software quality as a whole. Testing results in the deduction in the number of errors. Critical modules are tested as early as possible.

There are several rules can serve as testing objectives. They are

- ❖ Testing is a process of executing a program with the intent of finding an error
- ❖ A good test is one that has a high probability of finding an undiscovered error
- ❖ A successful test is one that uncovers and discovers errors

If testing is conducted successfully according to the objectives stated above, it will uncover errors in the software. In addition, testing demonstrates that software functions appear to be working according to specification, that performance requirements appear to have been met.

6.1.2 TESTING METHODS

Unit Testing

The unit testing comprises the set of the tests performed by an individual Programmer. The situation is illustrated as follows.

Coding → Debugging → Unit Testing → Integration Testing

Unit test is the first level of testing. In this, the different modules are tested against the specifications produced during the design of the modules. This testing is done for verifications of the code during the coding phase and to test the internal logic of the module. It refers to the verification of the single program module in an isolated environment.

Unit testing heavily makes use of the white box strategies, exercising specific paths in a module's control structure to ensure complete coverage and maximum error detection.

Unit testing focuses first on the modules, independently of one another to locate errors. Those resulting from the interaction between modules are initially avoided. The test cases needed for unit testing should exercise each condition and option.

If the module receives input or generates output, test cases are needed to test the range of values expressed, including both valid and invalid data.

The project was divided into modules and tested according to the unit testing. This project contains four modules. There are four categories of unit testing.

- ❖ Functional Testing
- ❖ Performance Testing
- ❖ Stress Testing
- ❖ Structured Testing

Functional Testing

A functional test case involves executing the code with nominal input values for which the expected result are known as well as boundary values.

System Testing

System testing is divided into two parts namely

- ❖ Integration Testing
- ❖ Acceptance Testing

Integration Testing

Integration testing is a systematic technique for constructing the program structure while at the same time conducting tests to uncover error associated with interfacing.

Many tested modules are combined into sub systems, which are then tested. This testing is the verification of the interfaces among system parts. Integration testing addresses the issue associated with the dual problems of verification and program construction. Black box test case design techniques are the most prevalent during integration. The various unit – tested modules were integrated.

Acceptance Testing

Acceptance Testing involves planning and execution of functional tests, performance tests and stress tests. In order to demonstrate that the implementation system satisfies its requirements. Typical acceptance testing will incorporate test cases developed during unit testing and integration testing. In this project, performed and underwent acceptance testing and succeeded in it.

Validation Testing

Validation testing provides the final assurance that the software meets all functional, behavioral and performance requirements. The software completely assembled as a package interfacing errors has been uncovered and collected by the user. Validation refers to the course of validation in the system, failure may occur and software will be challenged. The feedbacks from the validation phase generally produce changes in the software to deal with errors and failures that uncovered.

Test cases

Login Form

Input	Expected Output	Actual Output	Comments
Username with Caps and small letter	Accept Username	Username Accepted	Username not to be case sensitive
Enter Password	If correct Login else an Error msg.	Both Correct and wrong password tested	Verify the password
Server Details	If db server detail is provided should connect with server engine after login	Connected with server	Expected output recieved

If the user is logged in display the user home page else if the administrator is logged display the admin page.

Import new database

Input	Expected Output	Actual Output	Comments
Import database	Should able to import database for other servers	Expected Output obtained	Imported database

Table Creation

When a user provides new table name and fields, new table should be created, after initial testing new table created.

Test Results

After conducting, the above tests various corrections were made to ensure reliability and increase the security of the system. The administrator can implement the project in a live environment. The user can select the optimum environment needed for the solution to be used. It is now capable of running in any environment that supports online navigation and approach.

Quality Assurance

Quality assurance is the activity of providing evidence needed to establish quality in work, and that activities that require good quality are being performed effectively. All those planned or systematic actions are necessary to provide enough confidence that a product or service will satisfy the given requirements for quality.

Quality assurance consists of the auditing and reporting functions of management. The goals of quality assurance is to provide management with the data necessary to be informed about product quality, thereby gaining insight and confide that product quality is meeting its goals. This “umbrella activity is applied throughout the engineering process.

6.2 SYSTEM IMPLEMENTATION

Implementation includes all those activities that take place to convert from the old system to the new. The old system consists of manual processing, which is operated in a very different manner from the proposed new system. A proper implementation is essential to provide a reliable system to meet the requirements of the organization. An improper installation may effect the execution of the computerized system.

Once the physical system has been designed in detail, the next stage is to turn the design into working system and then to monitor the operation of a project, which is often a very complex and time consuming as it involves more people than in the earlier stages.

Implementation Plans

The implementation plan includes a description of all the activities that must occur to implement the new system and to put into operation. It identifies the personnel responsible for the activities and prepares a time chart for implementing the system. The implementation plan consists of the following steps:

- ❖ List all files required for implementation
- ❖ Identify all data required to build new files during the implementation
- ❖ List all new documents and procedures that are needed for new system.

The implementation plan should anticipate possible problems and must be able to deal with them. The usual problems may be missing document, mixed data formats between current files, errors in data translation, missing data etc.

6.2.1 IMPLEMENTATION METHODS

There are several methods for handling the implementation and the consequent conversion from the old to the new system.

The most secure method for conversion from the old system to the new system is to execute the old and new system in parallel. In this approach, a person may operate in the older processing system as well as start operation in the new system, too.

This method offers higher security, because even if there is a flow in the new system, we can depend upon the legacy system. However, the cost for maintaining two systems in parallel is very high. This out weights its benefits.

Another common method is a direct cutover of existing system to the new system. The change takes place within a week or within a day. There are no parallel activities. However, there is no remedy in case of a problem. This strategy requires careful planning. A working version of the system can also be implemented in one part of the organization, the personnel will be piloting the system, and changes can be made as and when required. But this method is less preferable due to the loss of entirety of the system.

6.2.2 USER TRAINING

To achieve the objectives and benefits expected from computer-based system, it is essential for the people who will be involved to be confident of their role in the new system. As systems become more complex, the need for education and training is more and more important. Education is complementary to training. It brings life to formal training by explaining the background to the resources for them. Education involves creating the right atmosphere a motivating user staff. Education sections should encourage participation from all staff with protection for individuals for group criticism. Education should start will before any development work to enable users to maintain or to regain the ability to participate in the development of their system.

Education information can make training more interesting and more understandable. The aim should always to make individual feel that they can still make all-important contributions, to explain how they participate in making system changes, and to show that the computer and computer staff do not operate in isolation, but are of the same organization.

Training On the Application Software:

After providing the necessary basic training on the computer awareness, the users will have to be trained on the new application software. This will give the underlying philosophy of the use of the system such as the screen flow, screen design, type of help on the screen, type of errors while entering the data, the corresponding validation check at each entry and the ways to correct the data entered.

It should then cover information needed by the specific user/groups to use the system or part of the system while imparting the training of the program on the application. The training may be different across different user groups and across different levels of hierarchy.

6.2.3 OPERATIONAL DOCUMENTATION

The operational documentation that depicts the entire operating procedure of the system is provided to the users during the training period. The user help manual describes the operating technique of the system that helps the user to operate the system. It describes every activity of the system for example, the action that takes place when a button, menu or a link is clicked.

The user manual describes the activities for every screen. The example operational manual is given below.

Screen Name Home

Home → **New Table** → **Create Table**

New Table This screen option to create new table.

Create Table The user can provide table name to create new table

6.3 SYSTEM MAINTENANCE

The term “Software Maintenance” is used to describe the software engineering activities that occur following delivery of a software product to the customer. The maintenance phase of the software life cycle is the time period in which the software product performs usual work.

Maintenance activities involving making enhancement to the software products, adapting products to new environments and correcting problems. Software product enhancement may involve providing new functional capabilities, improving user displays and modes of interaction, upgrading external documents and internal documentation, or upgrading the performance characteristics of a system.

Adaptation of software to a new environment may involve moving the software to a different machine, or for instance, modifying the software to accommodate a new protocol. Problem correction involves modification and revalidation of software to correct errors. It is well established that maintenance activities consume large portion total life cycle budget.

CONCLUSION

7. CONCLUSION

The project “**CODE FREE MYSQL MANAGEMENT TOOL**” is completed, satisfying the required design specifications. The system provides a user-friendly interface. All modules in the system have been tested with valid data and every module developed works successfully. Thus, the system has fulfilled all the objectives identified and is able to replace the existing system.

The “Code Free MYSQL Management System” has been developed to overcome the problems faced in existing system. The developed project was found to work out the operation effectively. The new system has provided an effective media for better query handling. The system is also more cost effective than the old system, in which maximum number of user can access the system simultaneously.

Password securities and other security policies that have been implemented so the system is more secure than the old. A consistent and efficient system has been developed, implemented and tested. The system has been developed with PHP. With all aspects, the new system developed and deployed is more effective and powerful than the existing one.

SCOPE FOR FUTURE ENHANCEMENT

8. SCOPE OF FUTURE ENHANCEMENT

The program is designed in such a way that new modules can be added easily. Any of the needed updates can be done very easily with the help of the source code.

The coding used is simple so any programmer can take over it. The system outputs can be stored in a database for future analysis.

Further this system can be enhanced by include Trigger, functions Scan be developed to support more Database engines.

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9. BIBLIOGRAPHY

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APPENDIX

10. APPENDIX A

10.1 SYSTEM FLOW DIAGRAM

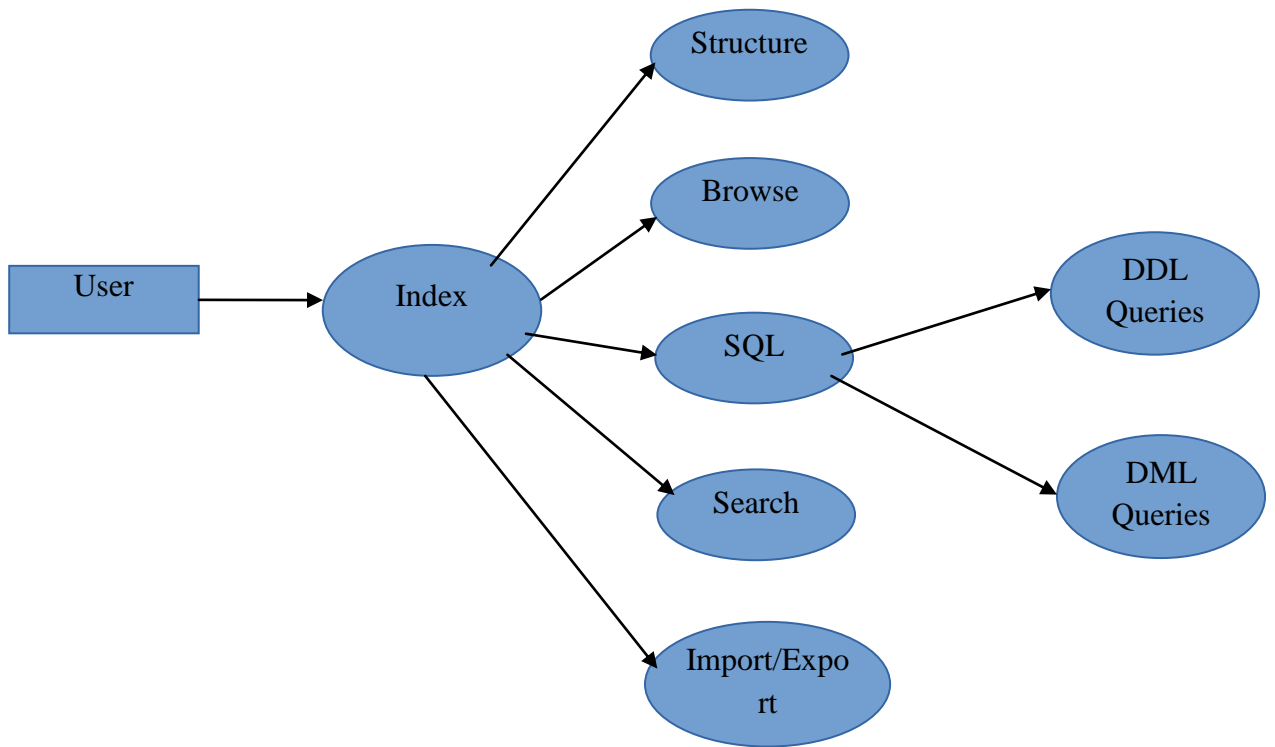
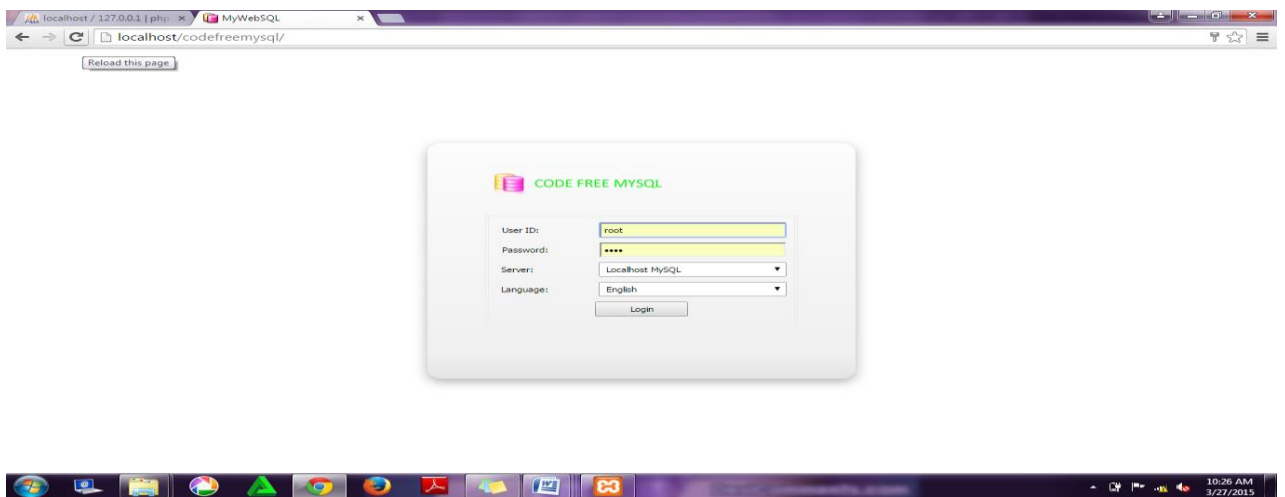


FIG 1. SYSTEM DESIGN

APPENDIX-B

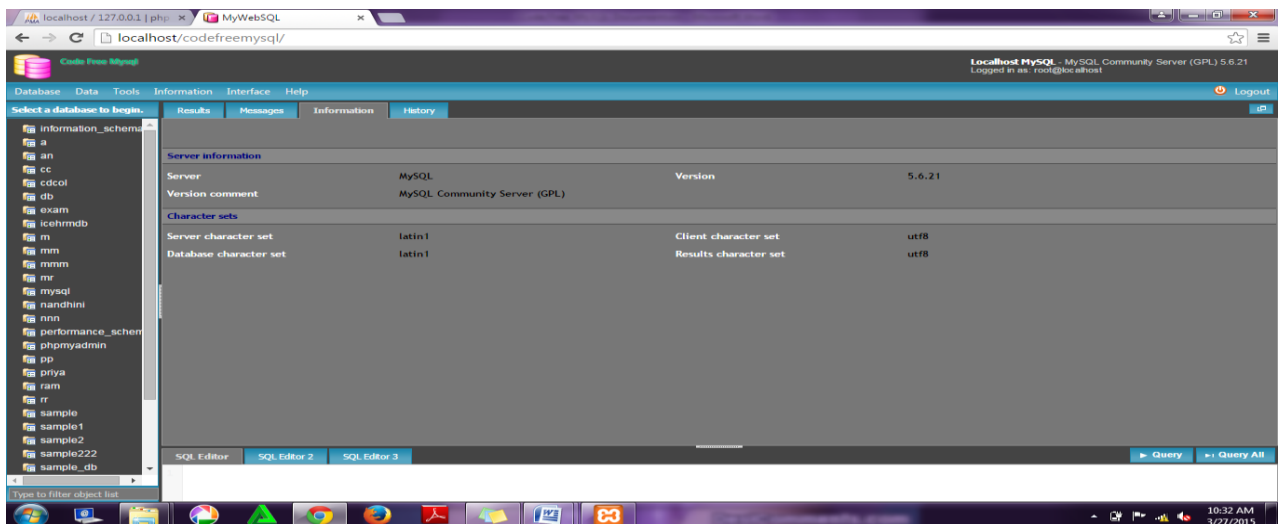
SCREEN SHOTS

LOGIN:



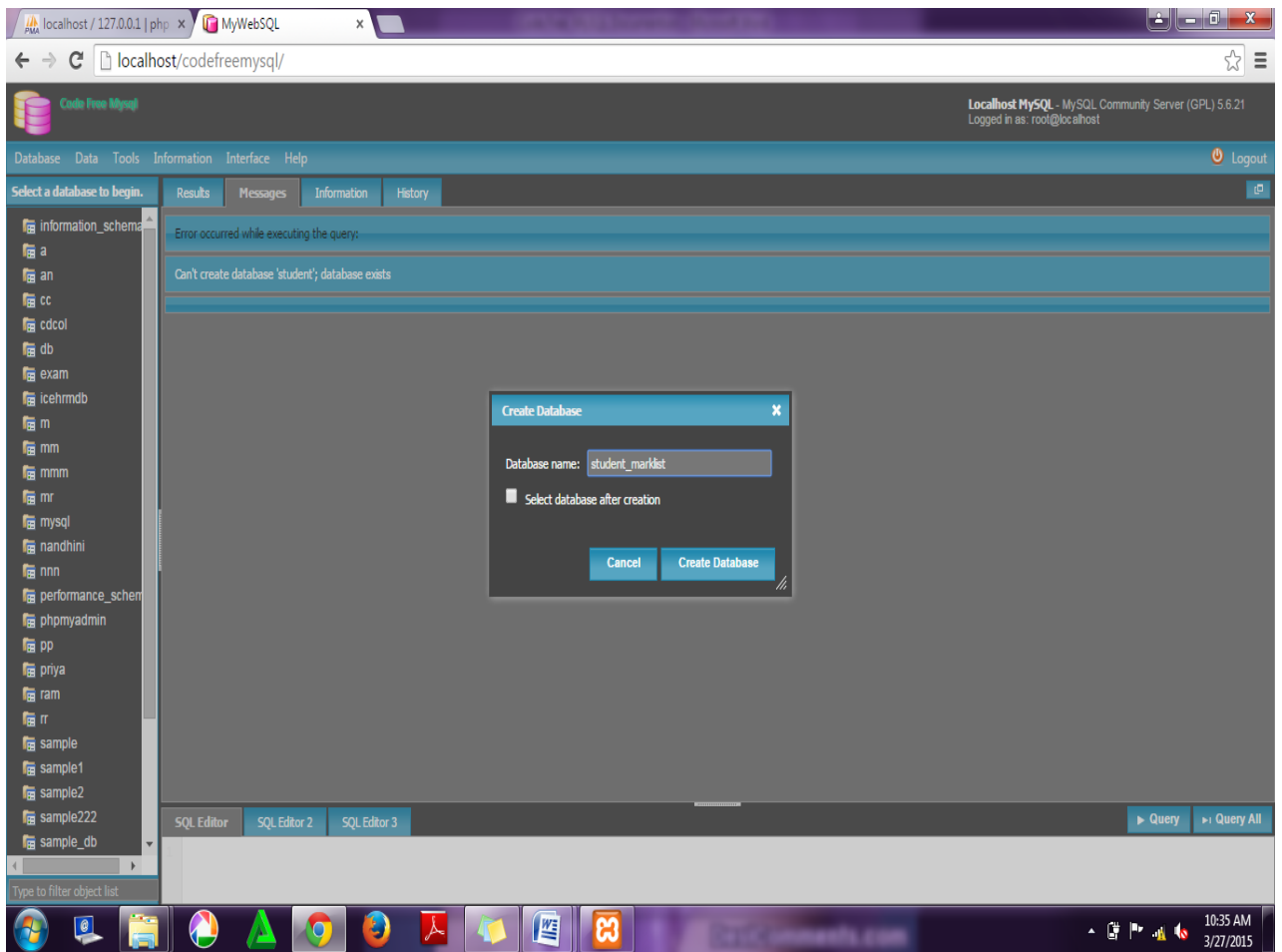
Screen 1. Login page

HOME:



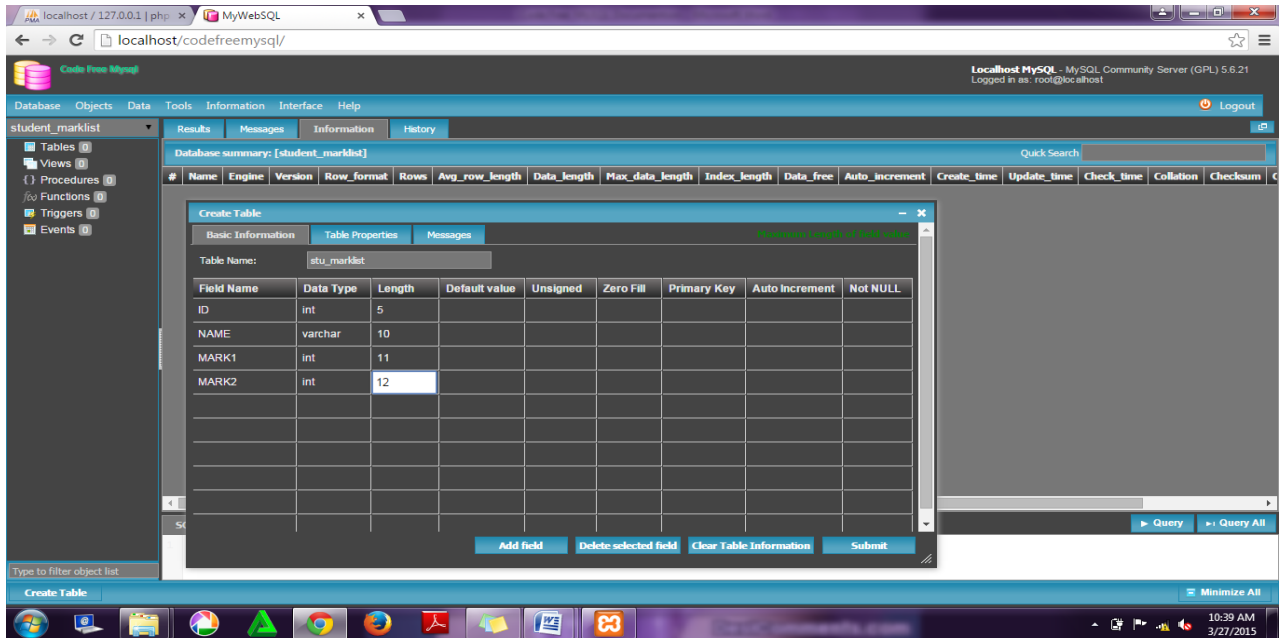
Screen 2. Home page

CREATE DATABASE:



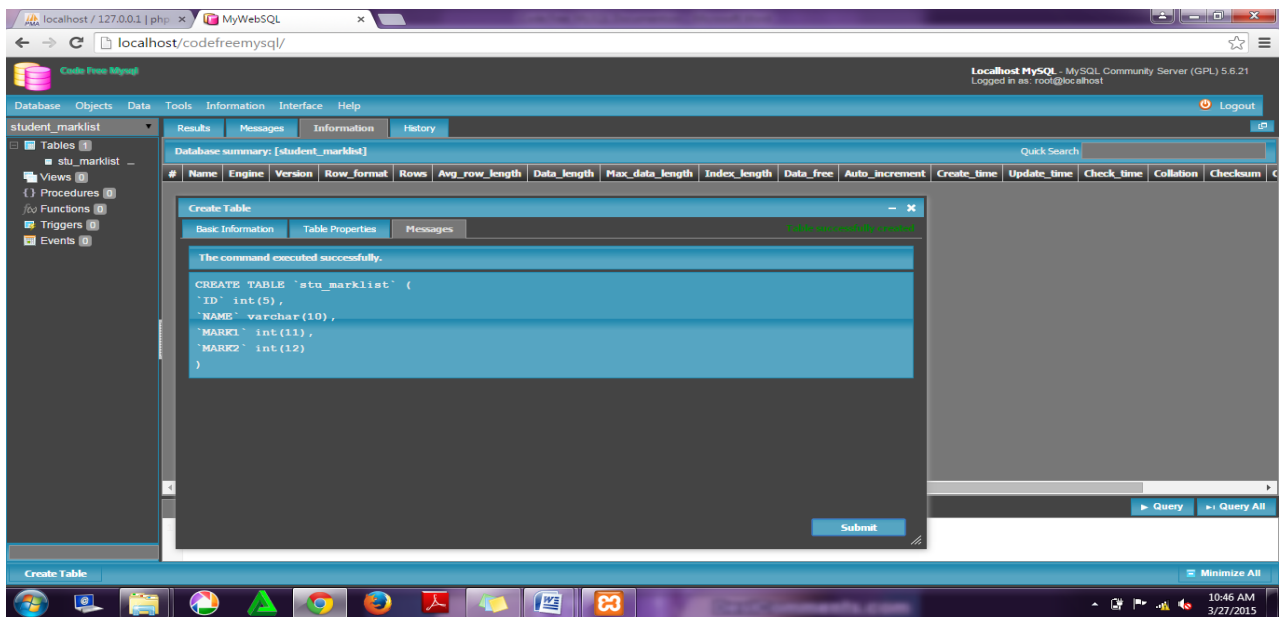
Screen 3. Create Database

CREATE TABLE AND FIELDS



Screen 4. Create Table and Fields

GENERATE CREATE TABLE COMMAND:



Screen 5. Generate Create Table Command

INSERT RECORD FIELDS:

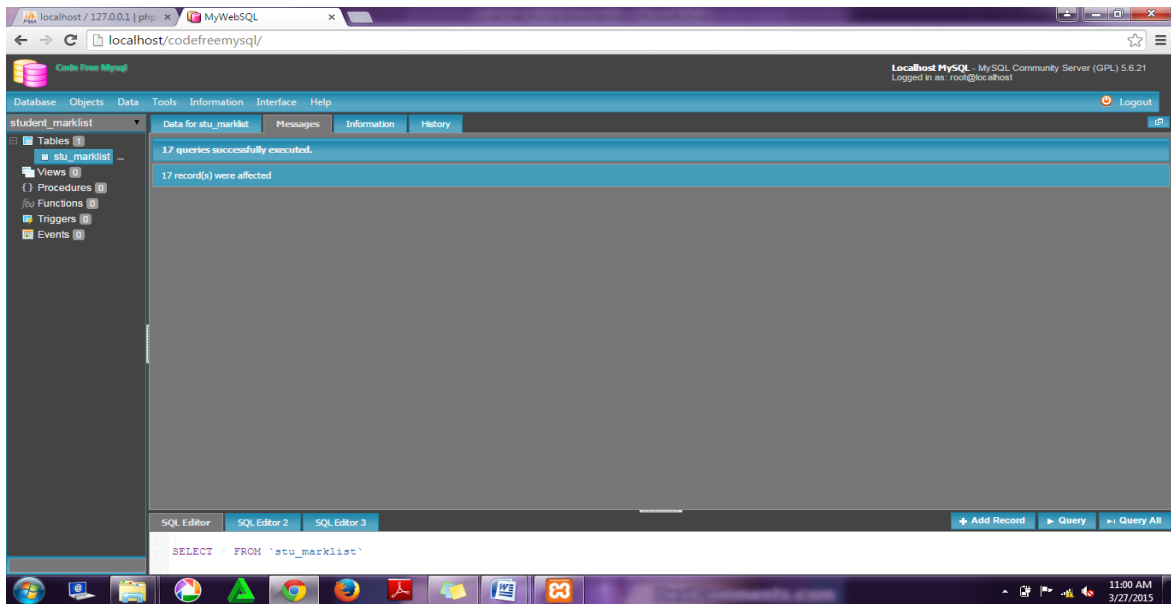


The screenshot shows the MySQL Workbench interface with the 'student_marklist' table selected. The table contains 17 records with columns ID, NAME, MARK1, and MARK2. The data is as follows:

ID	NAME	MARK1	MARK2
01	KALAI	50	30
02	MALAR	20	56
03	SELVI	39	67
04	TAMIL	38	87
05	KALA	49	55
06	PAM	50	88
07	SRI	88	33
08	MATHU	70	89
09	ANITHA	80	78
10	NITHYA	48	43
11	NANTHINI	58	75
12	KEERTHANA	67	87
13	THANGAM	79	89
14	AMBI	34	77
16	ROJA	57	56
17	VLJI	87	89
18	GEETHA	67	37

Screen 6. Insert Record Fields.

INSERT TABLE MESSAGE:



The screenshot shows the MySQL Workbench interface with a message box indicating that 17 queries were successfully executed and 17 records were affected. The SQL Editor shows the following query:

```
SELECT FROM 'stu_marklist'
```

Screen 7. Insert Table Message.

VIEW DATA

The screenshot shows the MySQL Workbench interface with the 'stu_marklist' table selected. The table contains 17 records with columns for ID, NAME, MARK1, and MARK2. The SQL Editor at the bottom shows the query: `SELECT * FROM 'stu_marklist'`.

#	ID	NAME	MARK1	MARK2
1	1	KALAI	50	30
2	2	MALAR	20	56
3	3	SELVI	39	67
4	4	TAMIL	38	87
5	5	KALA	49	55
6	6	PAVI	50	88
7	7	SRI	68	33
8	8	MATHU	70	89
9	9	ANITHA	80	78
10	10	NITHYA	48	43
11	11	NANTHINI	58	75
12	12	KEERTHANA	67	87
13	13	THANGAM	79	89
14	14	AMBI	34	77
15	16	ROJA	57	56
16	17	VJJI	87	89
17	18	GEETHA	67	37

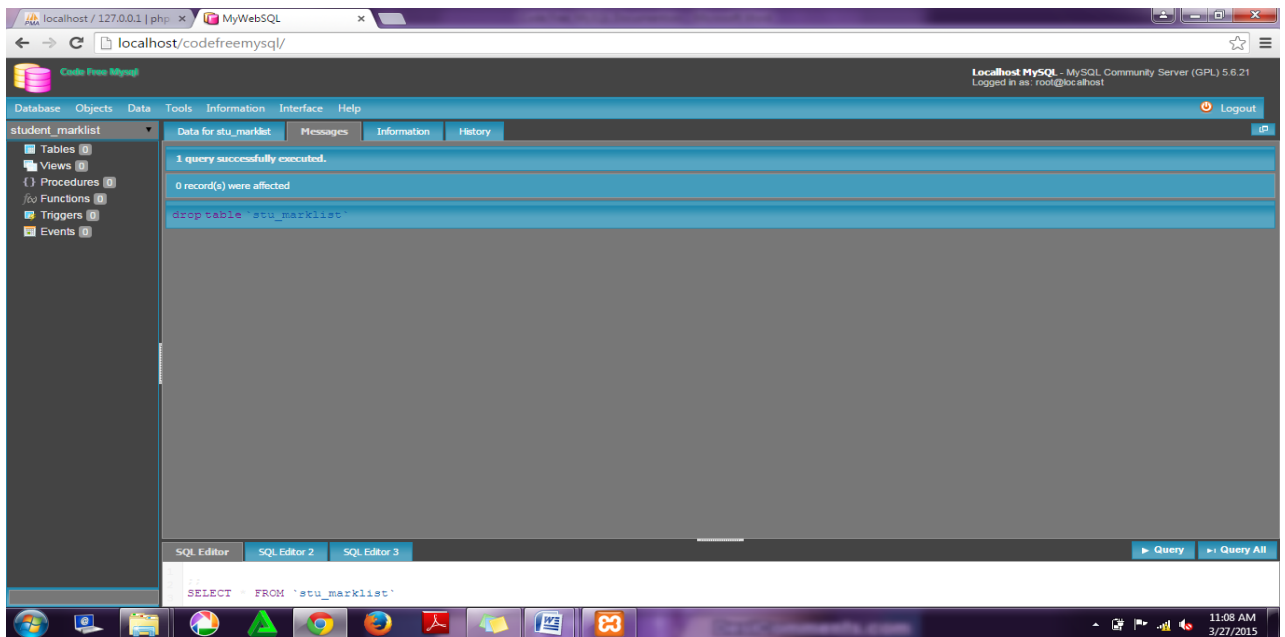
Screen 8.View Data FieldsALTER TABLE FIELDS:

The screenshot shows the MySQL Workbench interface with the 'ALTER TABLE' dialog box open for the 'stu_marklist' table. The dialog displays the table's structure with columns: ID (int, 5), NAME (varchar, 10), MARK1 (int, 11), and MARK2 (int, 12). The dialog includes tabs for 'Basic Information', 'Table Properties', and 'Messages'. The 'Basic Information' tab is active, showing the table name and field details.

Field Name	Data Type	Length	Default value	Unsigned	Zero Fill	Primary Key	Auto Increment	Not NULL
ID	int	5	null					
NAME	varchar	10	null					
MARK1	int	11	null					
MARK2	int	12	null					

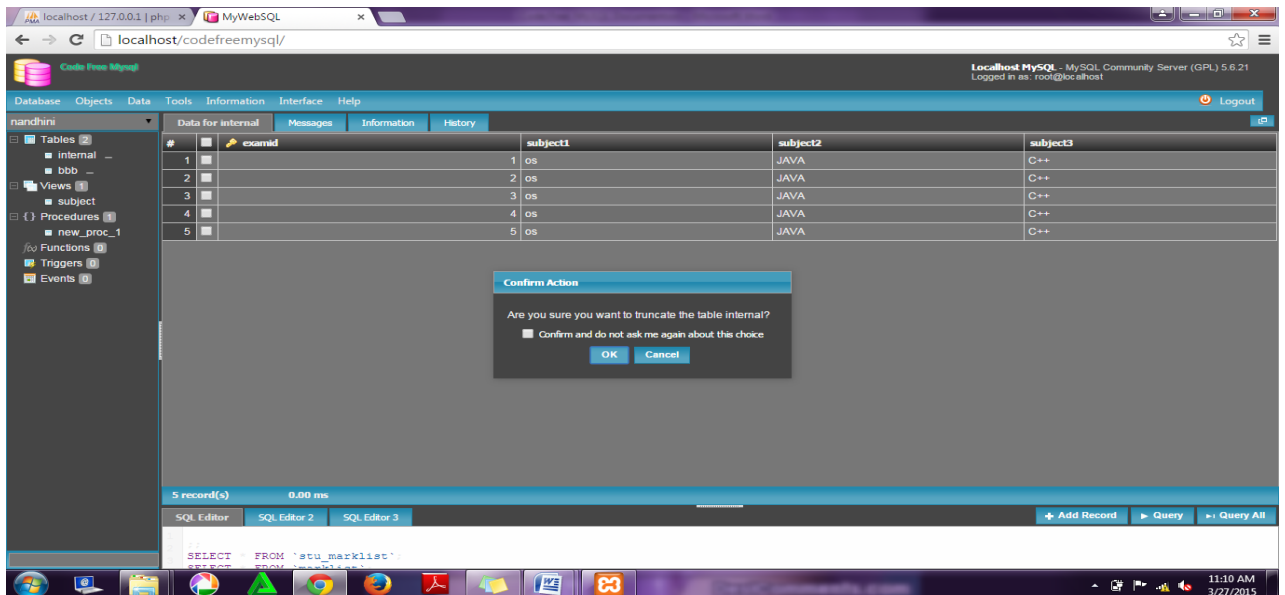
Screen 9. Alter Table Fields

DROP TABLE:



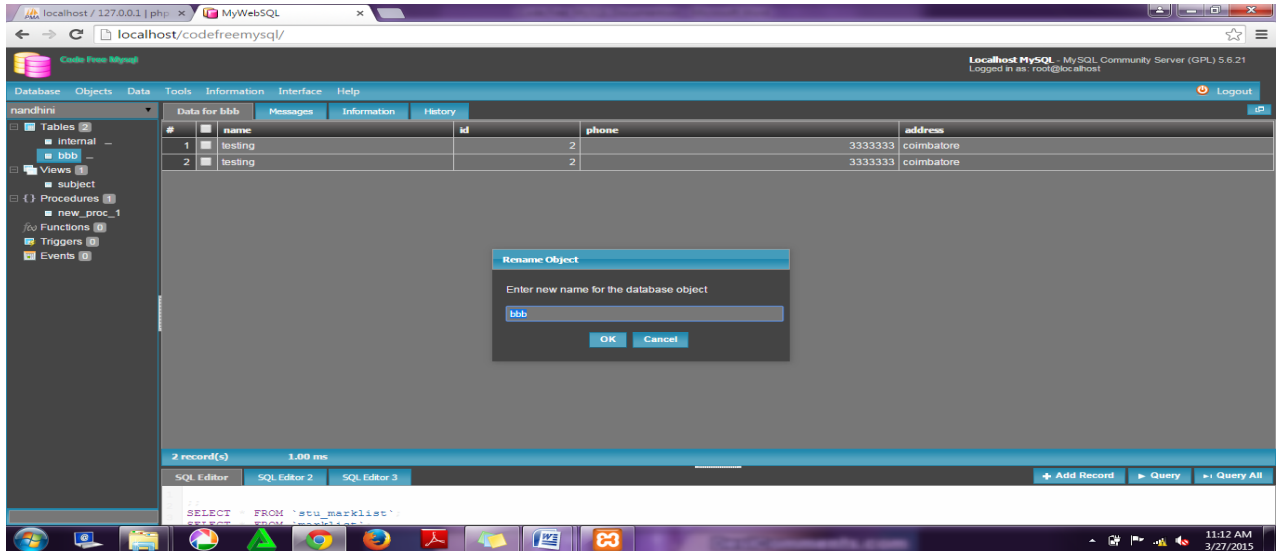
Screen 10. Drop Table

TRUNCATE TABLE:



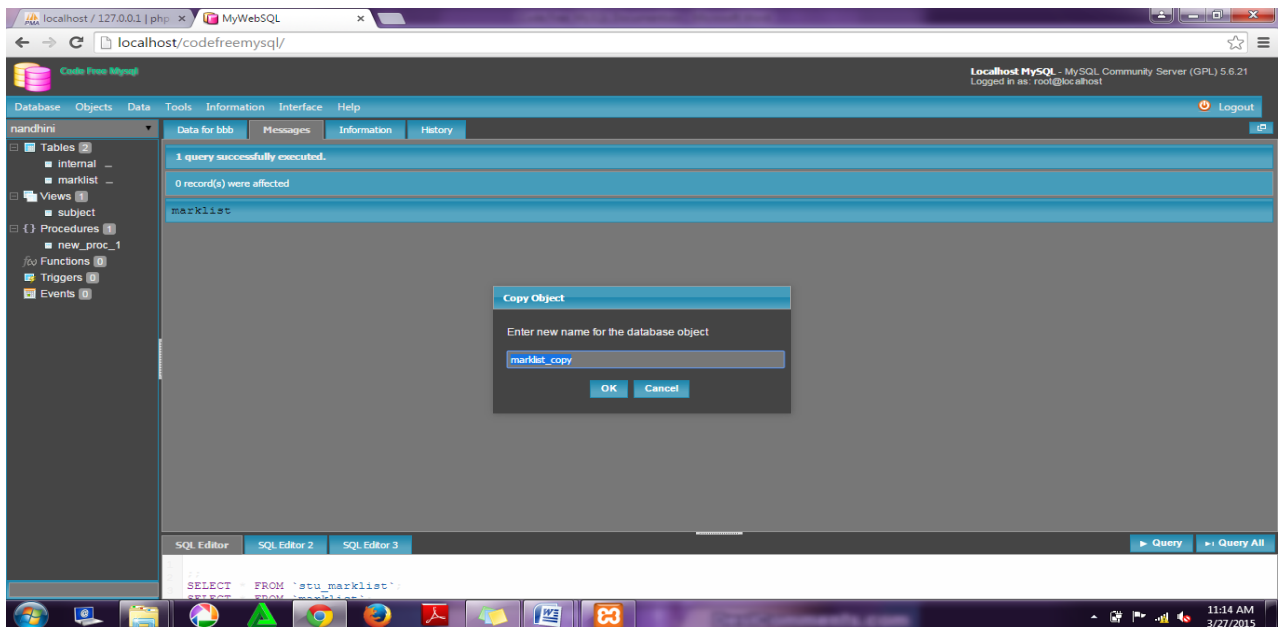
Screen 11. Truncate Table

RENAME:



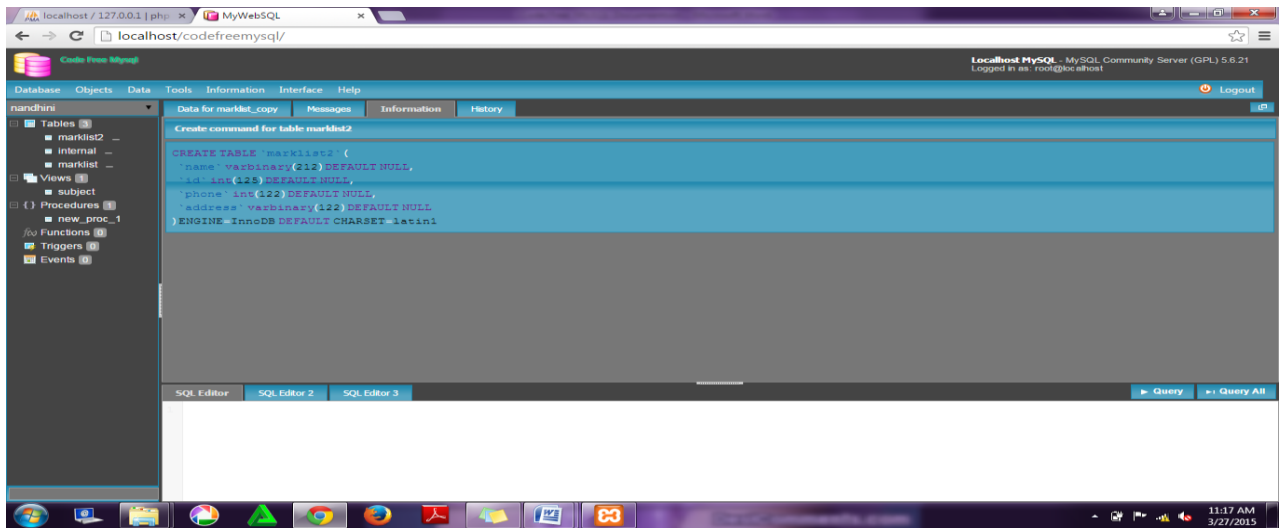
Screen 12. Rename Table

COPY OBJECT:



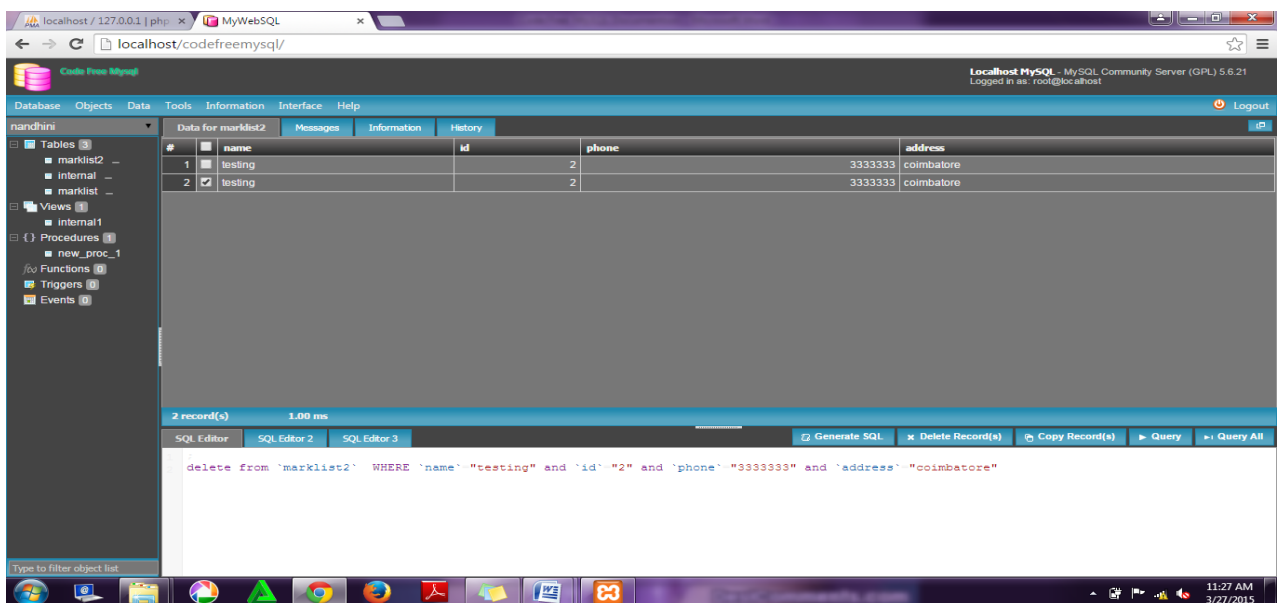
Screen 13. Copy Object

SHOW COMMAND:



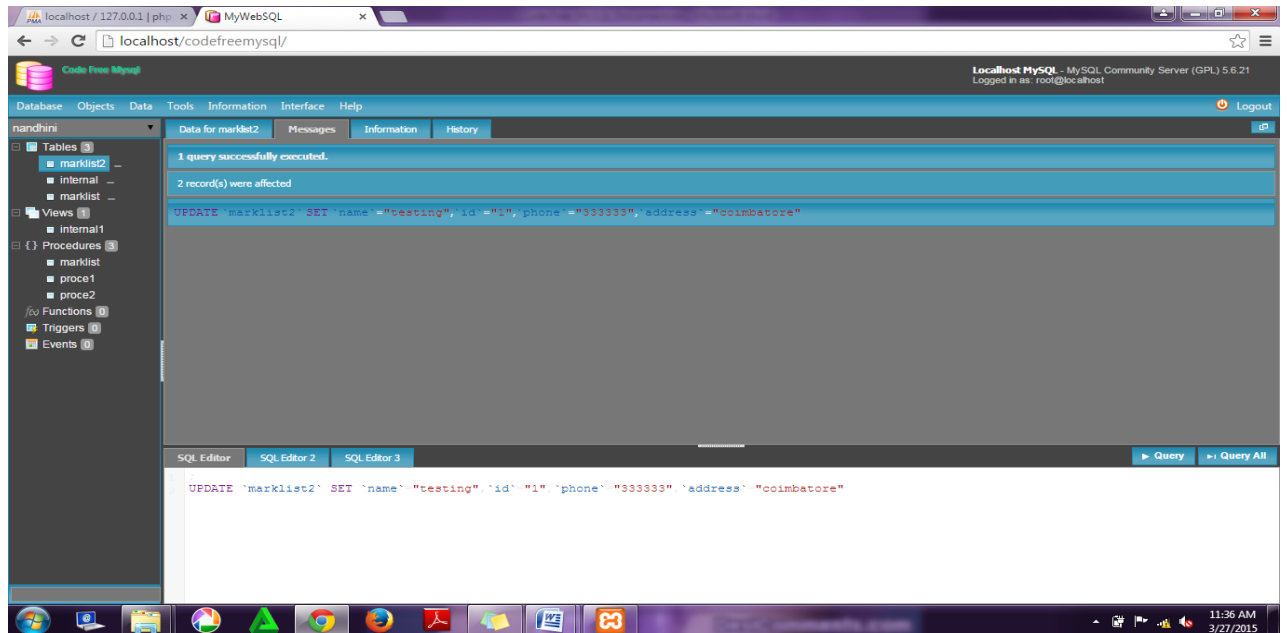
Screen 14. Show Command

DELETE TABLE:



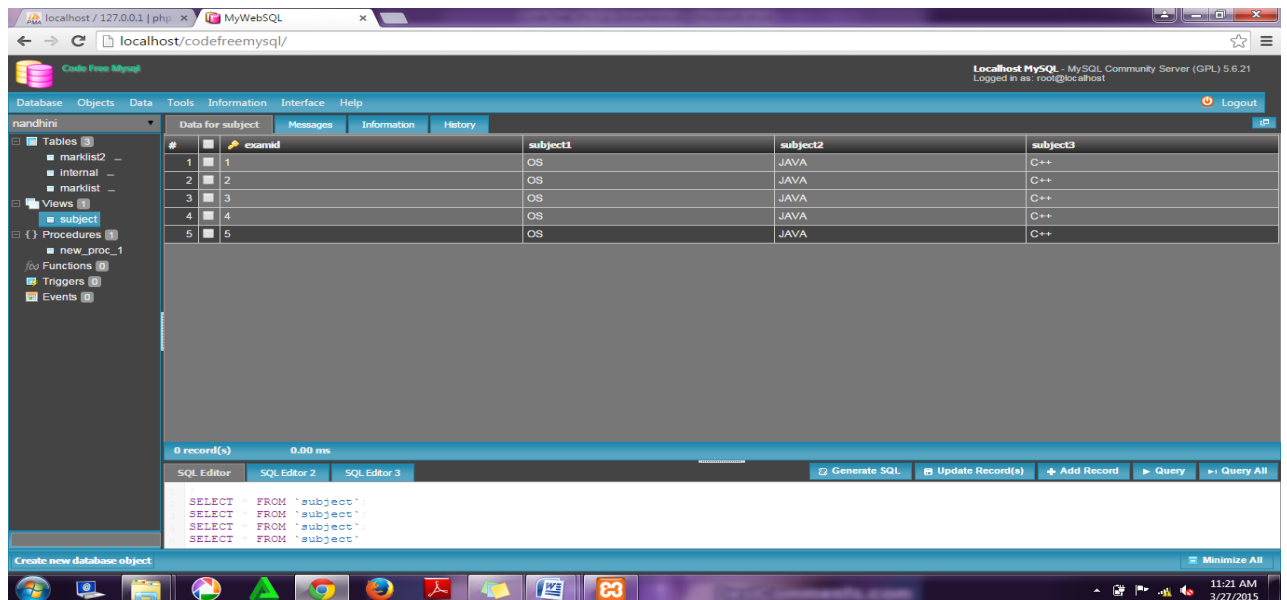
Screen 15. Delete Table

UPDATE TABLE:



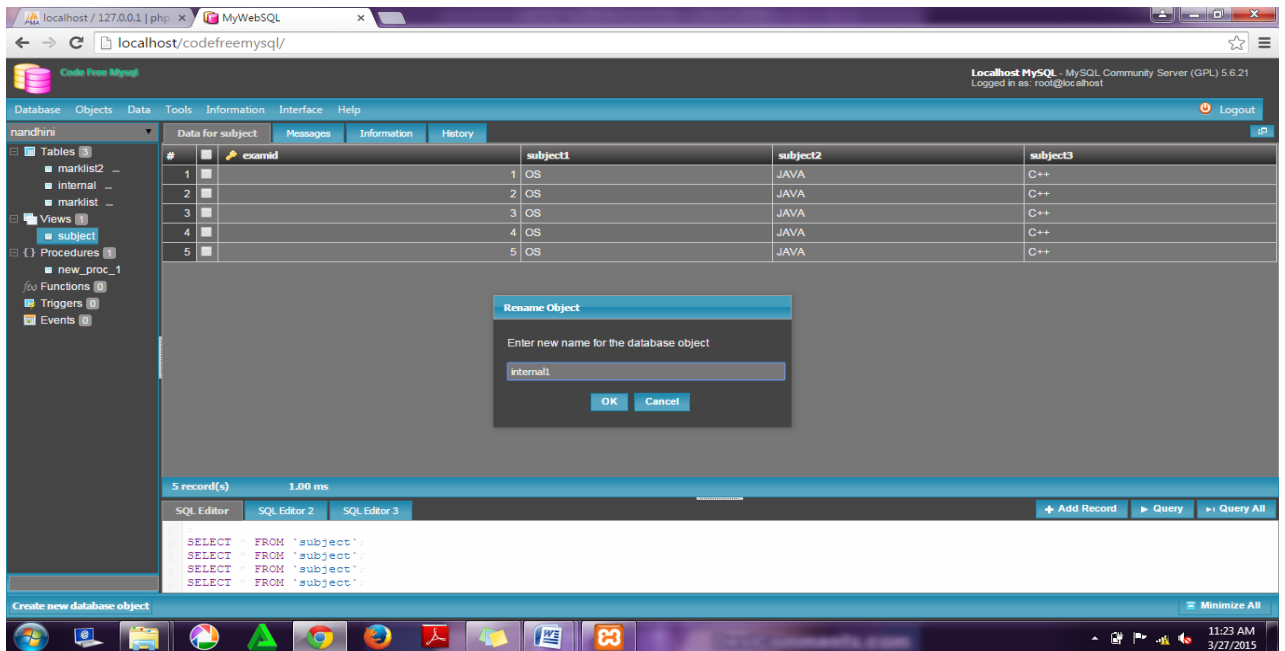
Screen 16. Update Table

CREATE VIEW:



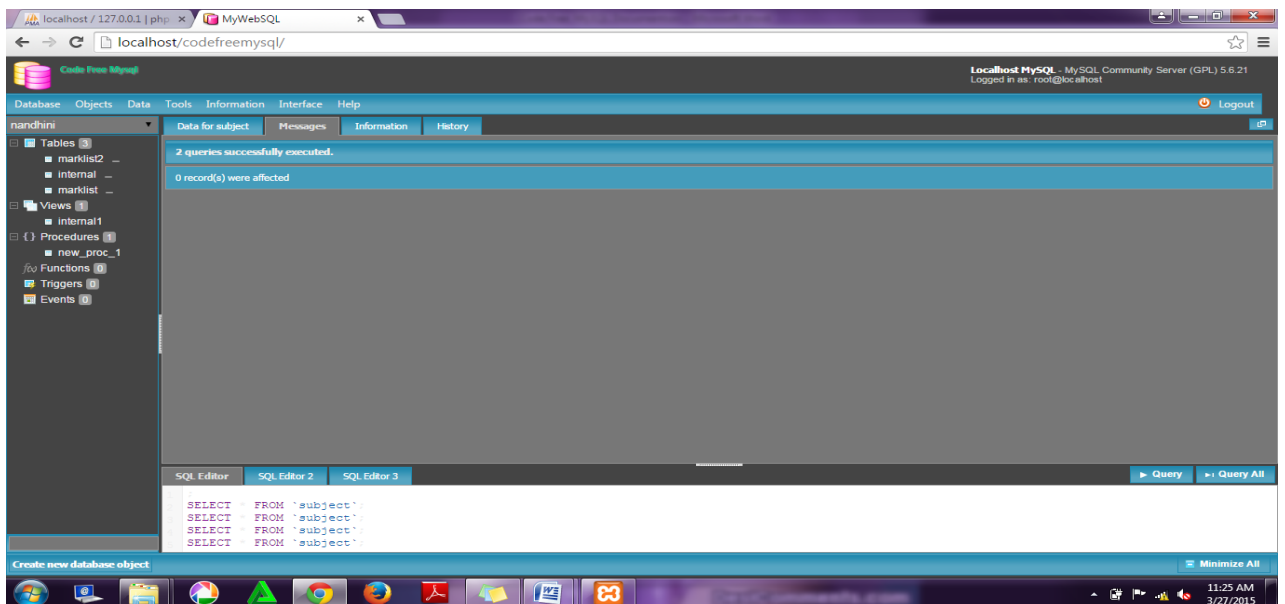
Screen 17. Create View Command

RENAME OBJECT:



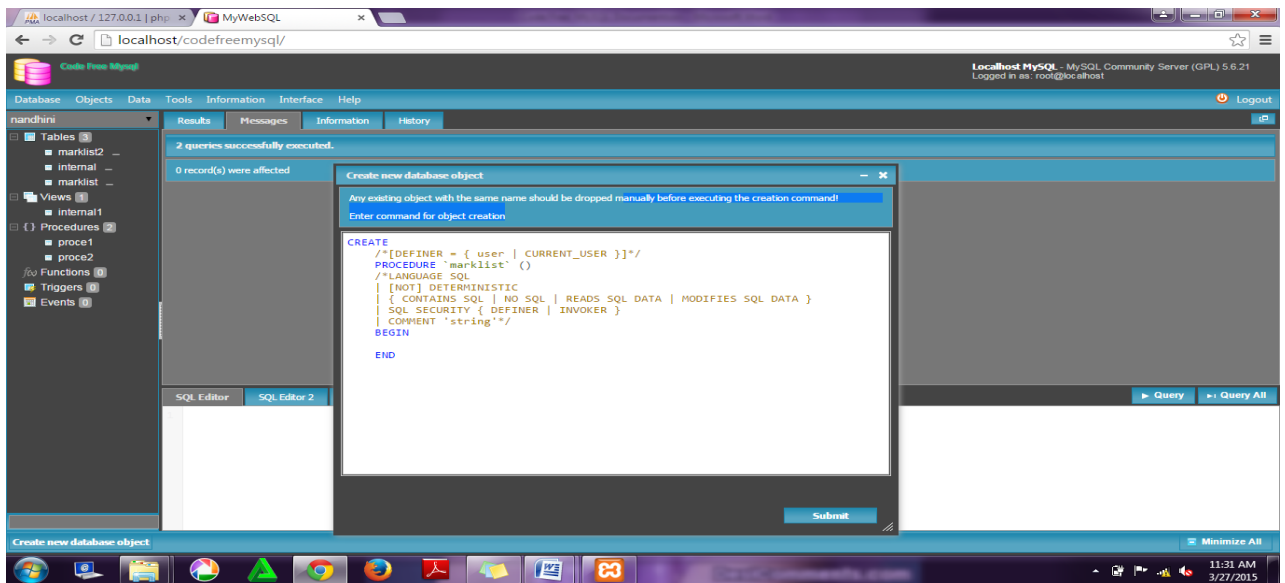
Screen 18. Rename object

RENAME OBJECT MESSAGE:



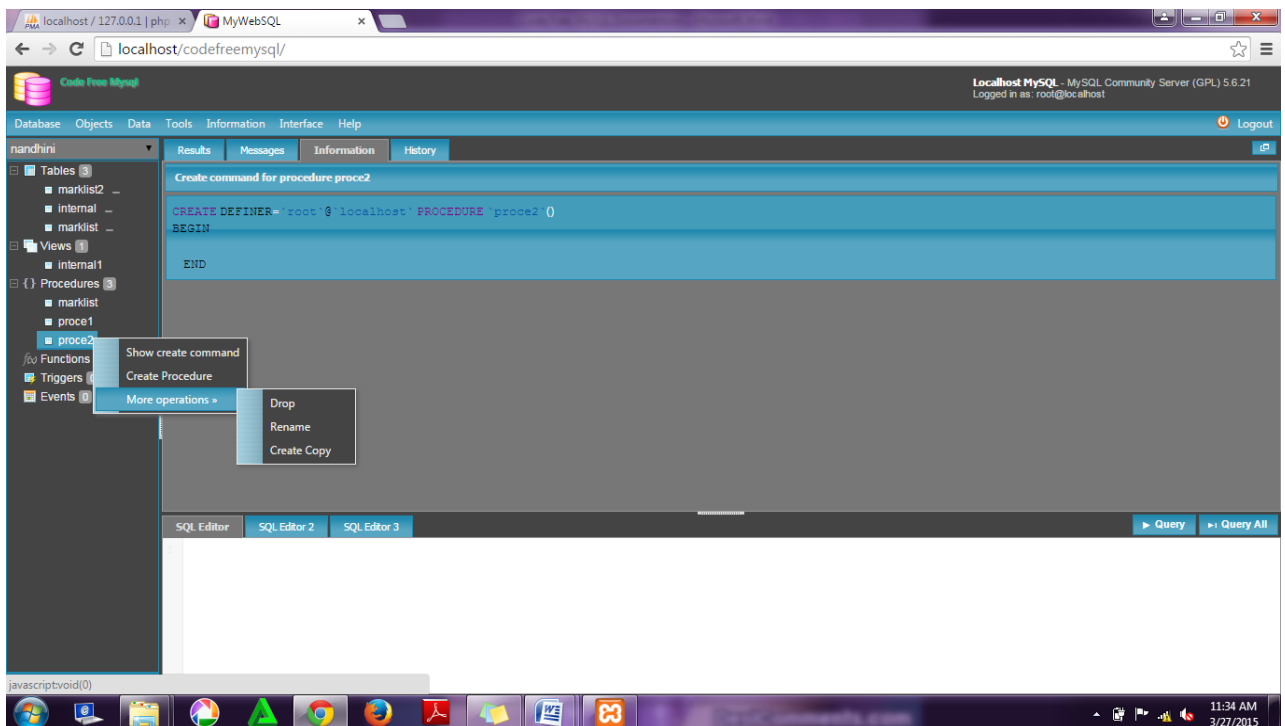
Screen 19. Rename object Message

CREATE PROCEDURE:



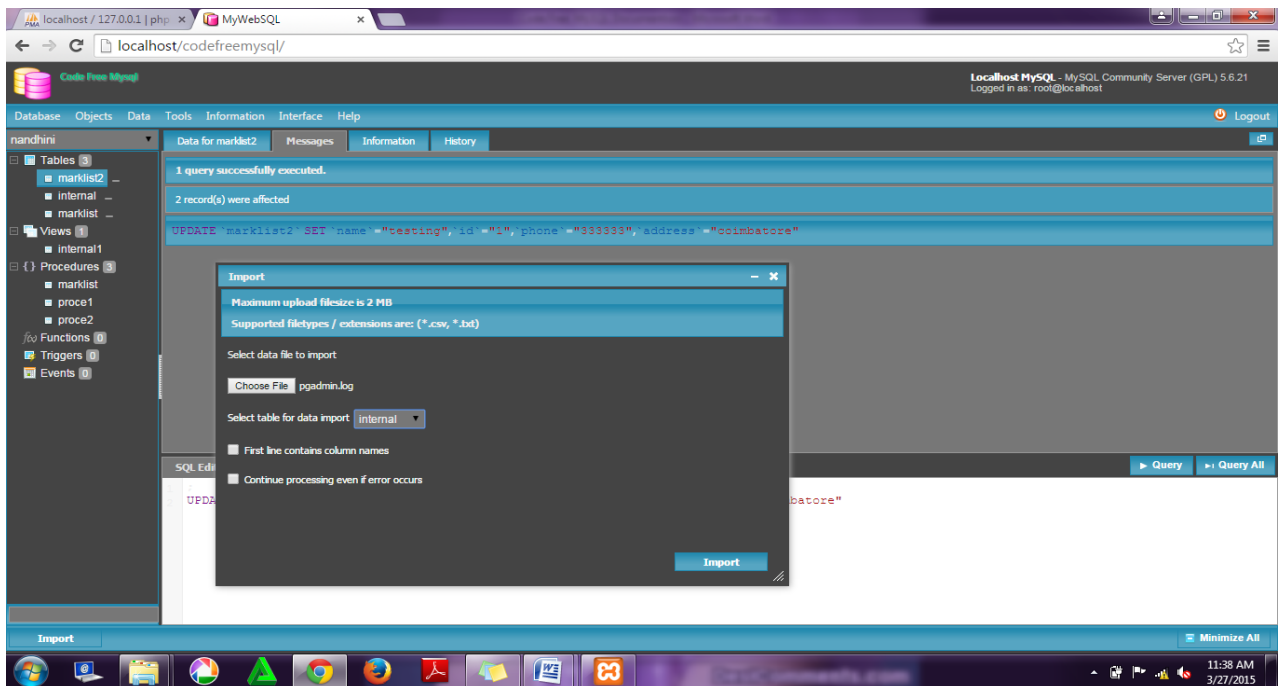
Screen 20. Create Procedure

PROCEDURE OPERATION:



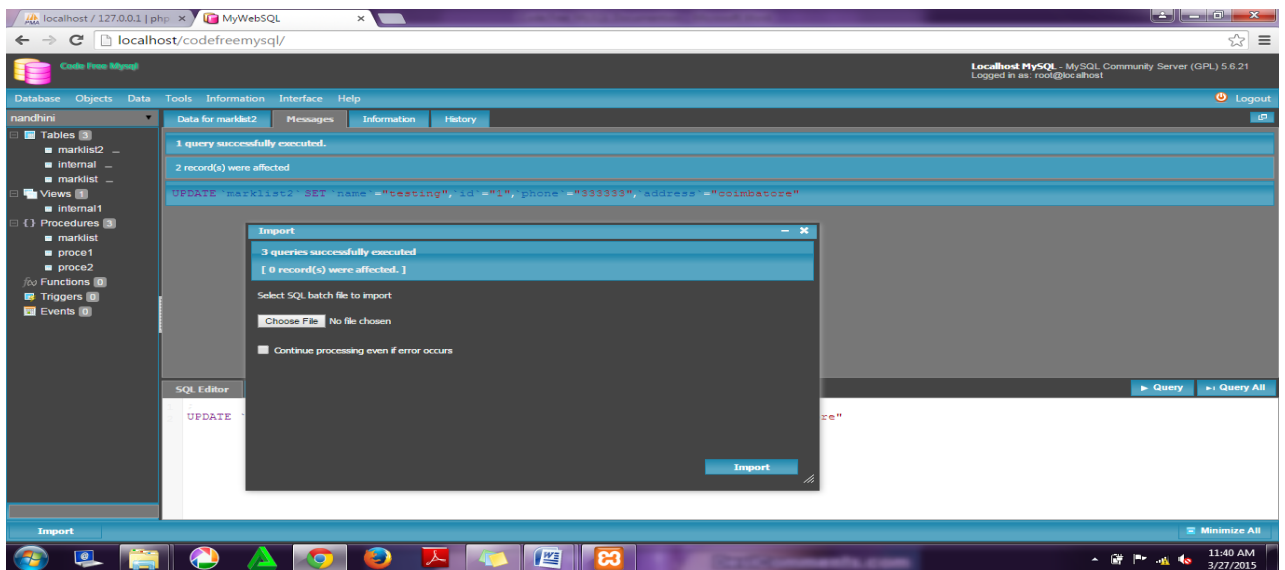
Screen 21. Procedure Operation

IMPORT TABLE:



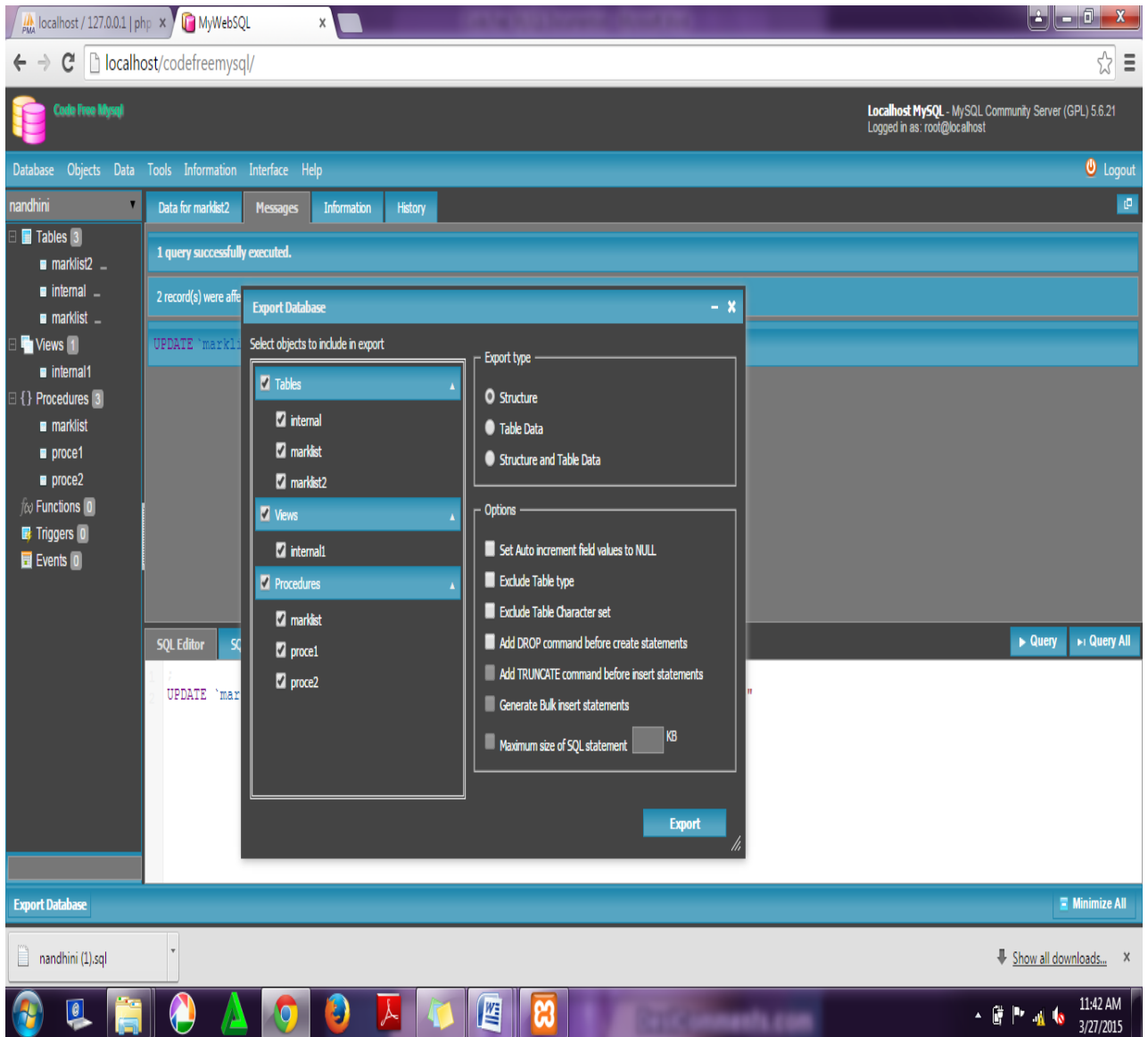
Screen 22. Import Table

IMPORT TABLE MESSAGE:



Screen 23. Import Table message

EXPORT TABLE:



Screen 24. Export Table message