

# WEB-BASED QUERY BUILDER

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## Abstract

Database Management systems are widely used on industries to administer databases like MySQL. The most common way of managing these databases is via long commands or scripts that need to be entered on a console. In some cases, these commands can be long enough to span 4 lines. The longer the command, higher is the chance of making mistakes. They require the administrator to be highly skilled. In this paper, a Query Builder is proposed and this will be accessible from anywhere in the world. If we compare conventional DB administration procedures and administration using our Web Based Query Builder, we can see that it highly simplifies the task of administration.

Keywords: Web Based; query builder; JSP.

## I. INTRODUCTION

MySQL is an open source database system. Query builder is a program which will provide the user with a graphical interface. The user can use this program to easily build complex query for database management. Query builder will be a complete Web based GUI which a user can use to easily create complex DBMS queries. Hence someone with less experience in databases can also use this tool to perform DB related operations. Our main priority in this project will be to make the system as easy and user friendly as possible. This program is specially targeted at students, developers, database managers who work on different database management system such as SQL, MICROSOFT ACCESS, ORACLE etc. This program will benefit large organization or individual who work on database management system on daily basis and need to build complex queries in different databases. This product is new and can be used as an add-on to the convectional database management system which will ease the query building process in different system.

## II. NEED AND USE OF WEB-BASED QUERY BUILDER

The whole idea of being able to easily manage your database system from anywhere in the world is exciting. From both the personal world and the business world, one can easily understand the far-reaching benefits of this technology. One can imagine a variety of use cases from a business perspective. For example, "a company's manager wants urgently make some changes in the database but has fair knowledge about creating queries". Query building and executing is related with a process of extracting and manipulating tables (and other information) of a database. This concept can be supported by means of building a query by choosing desired options in a graphical interface and later executing it. This approach leaves the user the task of knowing only basics of query building. The need of this application is to make it easier to manage multiple types of database systems. The other needs for this application include automatic generation of query and the ability to manage your database from anywhere in the world.

This application will provide the user with features such as logging in from anywhere in the world, connecting to any type of database management system. If a person is new to databases he can rely on this application to get his job of executing queries easier. It can also serve the needs of students, administrators and teachers. There is a constant need of an application that lets you manipulate different types of systems without having to open a different console for each, this need can be quenched by adding support for all these database systems, you can get connected with these systems. The presence of such features enhances the need of this application. The ability to log in and work from anywhere aspect of the application will cater to the needs of the people who distinctly and constantly want to stay connected with their systems. It is clear that there are multiple types of database management systems out there. Thus, this application is developed in a way that it can support them. It will include the ability to edit permissions of a user on the fly. Since it is web-based, it can be accessed from any device that supports webpages.

### III. MOTIVATION FOR THE WORK

The purpose of development of this application is to become acquainted with the required superior technical skills and gaining expertise in the database management systems. The concept of the Query builder application has been inspired by the need to build long complicated queries for manipulating database systems with minimal knowledge and expertise. Not only does it does it provides a GUI which helps you select the operations that we want to perform thus reducing mistakes, but it also makes it accessible from anywhere in the world. It is also capable of manipulating multiple types of systems developed by different companies.

This application would provide the user with a rich interface that has a very small learning curve. It appears that the Web Browser is actually a better platform for this application since it can be accessed from an type of client.

### IV. LITERATURE REVIEW

Survey shows that there are very view applications out there that provide similar functionality. Most of these like Easy Query Builder, support only one type of database system. Our Web Based query builder can support multiple databases. Hence caters to a wider audience. The constant worry among the existing systems and social-networkers is security. This is a big concern as information content might fall into illicit hands. This issue will be solved by using SSL encrypted HTTPS webpages. [4].

A query builder that supports multiple databases will require the ability to create queries for all systems. Hence we have included libraries in the code that support commands that can be recognized and executed on all types of DBMSs. Thus one of the purposes of development of this application is mastering these superior technical skills and gaining expertise in the database management. The idea behind the project is to attain a systematic and detailed study of the database technologies along with the existing technologies and to utilize these technologies in building useful applications. Modularization of object oriented code is distribution of the software in to modules and these modules should communicate with each other through some application programming interface (API). The main problem is of communication between the modules. Generally this should be done through some application programming interface (API).

**Technologies available to cater the same concept:**

1. Easy Query Builder
2. Razor Query builder

### V. GETTING STARTED WITH THE APPLICATION

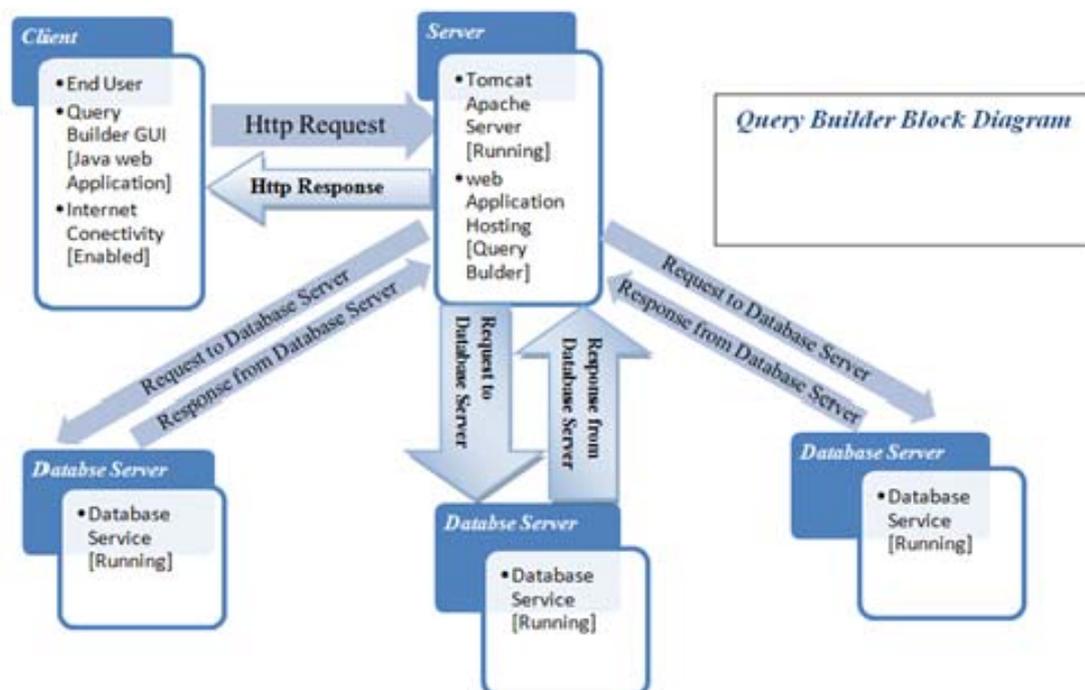


Figure 1. Basic Architecture

## EXPLANATION OF FLOW

1. The user will select the appropriate operations within the interface
2. The program will automatically generate a query depending upon the operations and the type of the database selected.
3. There will also be an option to directly execute the generated query

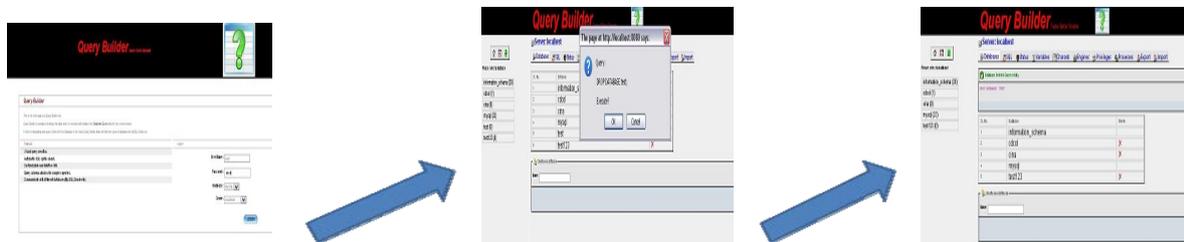


Figure 2. Building a Query

In the above figure it shows the operations being selected by the user. Accordingly the program will generate the query that needs to be executed in order to fulfill the operations. User has a choice to simply copy the generated query for later purpose or he can execute it on the database currently selected.

## VI. THE FEATURES OF THIS APPLICATION

1. Allows the user edit permissions(Read, Write, Execute)
2. User can use the Rich GUI and easily select the type of operation to perform.
3. User can save query for later use or execute it on the database of his choice.
4. User can select the database to manipulate at login screen.
5. Browsers that are compatible Internet Explorer, Safari, Firefox and Chrome.
6. SSL secured HTTP pages to enhance the security of the transaction.
7. Currently supports Oracle and MySQL. More to be added in future.

## VII. UTILITIES AND CHARACTERISTICS OF THE PROPOSED WORK

This system will allow the user of the application to have choices as described below:

- [1] Choice of database at logon: Using this feature the user will be able to select the database to connect to at the user logon since many admins do not have the same credentials for their databases.
- [2] Create Queries using Rich GUI: Using the GUI user will be selecting the operations he desires. This will then generate the correct query that needs to be executed to perform the said operations.
- [3] Save Query: Some users simply want the query strings for research purposes like Students and not actually execute them. For such users, there is an option to copy only the query and not execute it.
- [4] Execute query: This will execute the generated query on the database currently selected. Output will be displayed to the user.
- [5] Permissions: This feature allows administrators to assign and revoke permissions from users of the database.

## VIII. CONCLUSIONS

Thus we can conclude that the Web Based Query Builder is powerful and highly advantageous. Developing this system will prove to be beneficial to the users. This system ensures the execution of the queries on any platform and thus the configuration of the system would not pose an issue in running query. Also the user need not install the necessary software on every machine he uses. This saves a lot of time and improves efficiency. The system is easy to access from anywhere. It is easy to understand and use without any complicated queries. Also the memory space in the machine is saved as the programs and the included components do not occupy any space on the client's machine. The scope of the project is scalable. With work and proper guidance the project can be

built commercially. Thus, this system is of great assistance to users from various fields to execute DBMS operations easily and would surely be preferred over the existing systems.

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