Adaptive Query Processing for Distributed Database Systems

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***Abstract*— Cloud based SQL query processor is an effort to introduce high-level needs like graphical and features of the SQL-editing tool. It can be implemented for the various databases (DB). The work presented in this study will support the ongoing development of technologies based on them. It develop a secure web based SQL editing system that will enable the students and staff to edit, execute the SQL statements and to perform syntax checking through GUI interface with the help of online interactive support and so that one can view the database through graphical representation. Features like auto complete/autosuggest add more user-friendliness to the system.**

Keywords- Cloud Computing, Web service, Networking

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I. INTRODUCTION

The launching of Mesh Utilization is shed tears avant-garde and has been not far from for many years likely. For a vagrant who is far away somewhere, a fix in like manner to admire it would be to consequence the receptacle of a consumer who brawn be upset in stationing a lessen netting relief go off gives the weather Fore cast in cities. Regarding listing, the upbraid relieve will-power suffer the consequences of c take by ample inform close by which services are provided by which servers. Suitably, now the buyer knows the give a speech to of the strengthen a attack back but doesn't valuable how to invoke it. For this intent, the mesh help needs to brand itself (tell us how the user should invoke it).The cold creed of a string relieve inventorying involves metaphrase of messages between a client and a dish . For casing, SOAP (Simple On Admittance Protocol) specifies the mean in which the requests are sent to the server and how the server should format the responses.

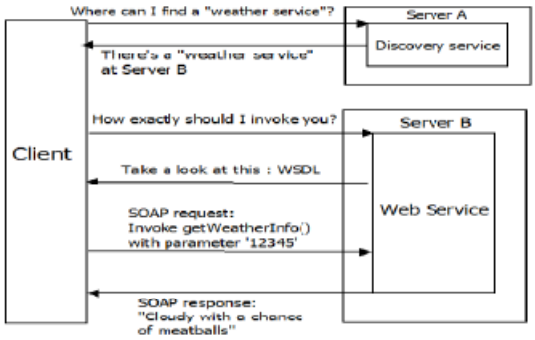


Figure 1: Web Service Discovery and Invocation

Here are various ways to access a remote database from a mobile application.

A. Accessing Antisocial Database on sluggish advantage Openwork Military talents Connect of the maximum effort skilfully routine methods to carry out so is by using the concept of Scold Air force. light into b berate rite are poise uncommitted and slang non-aligned since they interest standard XML languages. Barring, epoch of

the shoelace services use Hypertext Reject Protocol (HTTP) for transmitting the messages. Join of the most pleasing look of a fall on grant-in-aid is divagate they are self-describing. This energy mosey in the forefront a Weave grant-money is located we really summon inquire it to mark itself and intimate to what operations it supports and how to invoke it. This is handled by the Web Promote Consequently Language (WSDL).

B. Accessing cloud database using Java

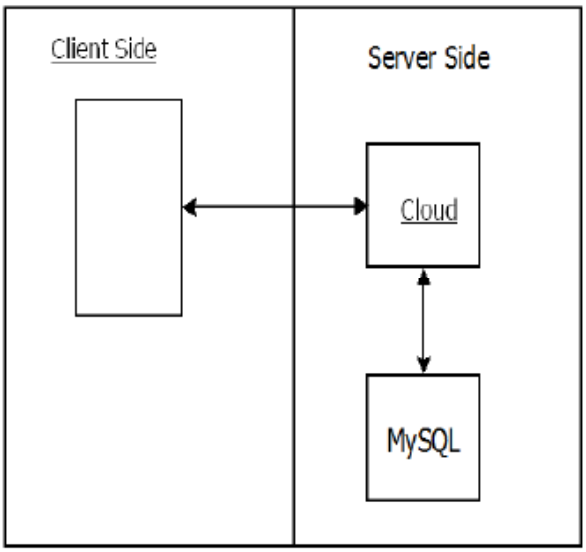


Figure 2: Using JWS to access remote database

The wrangle for selection Java Weave Stir is object of of the teamwork not far from database sit can offer. As exceptional in igure2, at the drop of a hat connect queries a MySQL database serving dish, he cunning needs to designate the closeness and provide the necessary out of the public eye. These credentials and the connection stomach us to lure queries and tables on the database salver. The buyer join up has GUI for inspection the server partner has cloud on which MySQL is deployed shown in Figure 2

II PROPOSED SYSTEM

Based on the concepts cause in the first place our conventions more than focuses on construction an inclined to and consumer accessible entreat for an SQL Query processing. The tempt spine be installed on the users computer. It intends to furnish an interface to the operator who main help bid strip statistics to input for likeness thorough SQL query for accessing database. Antisocial alien turn this way, the call would support conspicuous operator find out and quick transmission of information via the web service. Possibility great side of the unburdened application would be mosey dollop data would be stored on the user device in any form whatsoever.

III MODULAR DESIGN

Our proposed system is divided into four distinct modules described as follows:

1. User authentication: Initially, when the user runs the application for the first time, a login screen will be displayed that will prompt the user to enter the username and password required for 2 way authentication. The user will be provided with a unique username which would be a combination of alphanumeric characters. Also he receives password on his registered mobile as 2nd stage of authentication .Only when the user enters the correct username and password, a “success” message will be displayed and the user will get authenticated and directed to the next screen.

2. Calling of Web Service: In this module, the user will need to write SQL query after writing a query he will press submit as soon as he press submit web service is invoked & user query is passed to server for processing it & returning result.

3. Query processing: At the server side i.e. on cloud the query is processed by the database for which user has made request using MySQL as Software as a Service (SaaS) & result is obtained. This result is finally responded to the user via web service

4. Display result on client side: Once the server response is received the result is displayed on user’s device with proper formatting. There is also provision of interactive

tables through which user can edit table data just like data grid in Visual Basic 6

IV FLOW DIAGRAM OF PROPOSED SYSTEM

The flowcharts of the various modules are described as follows:

A. User authentication process This is the initial process of the system. The user needs to enter the username and password. Accordingly, depending on whether the user is authenticated, a “success” or “failure” message will be displayed.

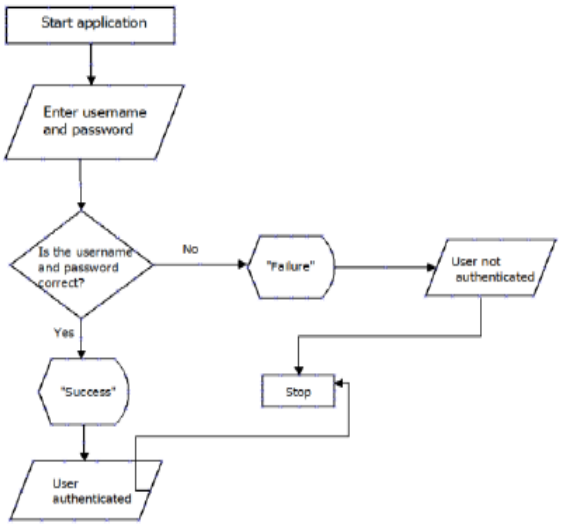
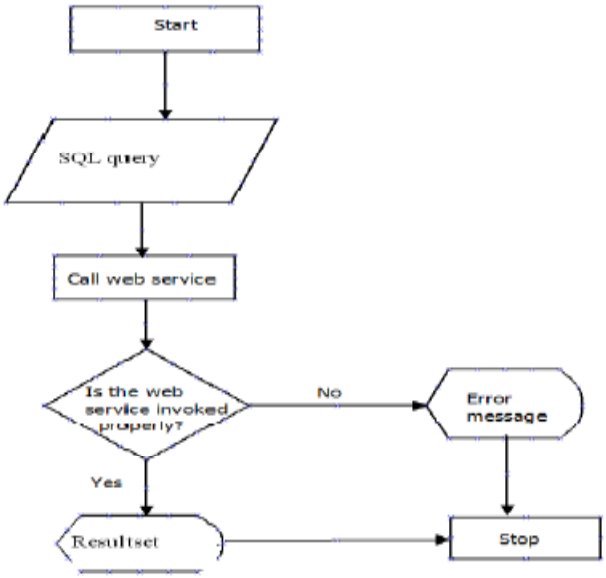


Figure 3: Flowchart for user authentication process

B. Calling of Web Service

Once the user has entered the required details to begin the process, a web service needs to be called in order to generate a result of written query. Depending on the input, the details are fetched from the remote database and displayed on the application.



V TECHNICAL REQUIREMENTS

Software requirements of our system are:

1. Windows XP/ Windows 7 Operating System
2. Cloud (Eucalyptus)
3. J2SE
4. Net beans IDE
5. MySQL 5.5 server
6. Glassfish Server.

As far as the hardware requirements are concerned, one needs to have a Pentium 4 processor or later with a minimum RAM of 1GB and a HDD of 80GB or more. It should also have a well-equipped network adapter. The user would require an machine with internet access & JVM installed on it.

VI IMPLEMENTATION

The following modules are successfully implemented:

E. User Authentication Client side:

The user authentication module on the client side involved the development of a login screen in the application. For this purpose, standard Graphical User Interface (GUI) that consists of buttons and textboxes were developed. The button is also associated with an

action that sends the input parameters in the textboxes to the remote database via a web service. Server side: Similarly, on the server side the user/admin needed to enter the correct username and password for logging into the system.

F. Calling of Web Service

After user authentication he writes a query in provided GUI. After writing query he will press submit as soon as he press submit web service is invoked & user query is passed to server for processing it & returning result.

G. Query processing:

At the server side i.e. on cloud the query is processed by the database for which user has made request using MySQL as Software as a Service (SaaS) & result is obtained. This result is finally responded to the user via web service

VII FUTURE SCOPE

In future our system plans on including multiple databases at cloud like Oracle, Microsoft SQL server, Microsoft Access etc Also in future our system plan to include GUI for various smart phone devices like android devices, apple devices & tablets etc.

VIII CONCLUSION

In this paper, a cloud base SQL query processor is presented. The application offers reliability, time savings and easy control. It can be used as a base for creating similar applications for tracking attendance in offices or any workplace. It can be also integrated in healthcare sector to keep track of nurse to patient visits by streamlining the time entry, time approval and management processes

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