Individual Report

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In the beginning, it was a little bit hard to understand and implement each section of code, interact with other code and methods, and eventually built the allowed server and database. However, once we understand the specific commands required to execute a SQL query. For example, JDBC offers us the ResultSet interface to process query result sets exclusively. In addition, we can utilize ResultSet and PreparedStatement to inject SQL query operations on database, and return the required query results.

Literally, there were several times we had to modify our scheme because some methods need to be implemented, but we cannot use the previous scheme to fulfil the modification. Therefore, we realized that it is very profound to fully study the API (APIProvider) and existing JAVA code before dealing with this coursework. On the other hand, to some extent, our variable name is a bit long, while it can be inconvenient when constructing SQL statement. However, its high consistency character also makes the variable easy to identify, like Post has post_num, Topic has topic_title and so forth.

I took the occupation as a pioneer in this assignment. I studied the structure and various implementations of JDBC before our team started the coursework. Hence, I was responsible for the following design:

- Inserted data into various Forum, Topic, Post and Person Tables.
- Designed the general format of java code with the database using JDBC.
- Adding method to check whether users, forum, topic and post exist or not.
- Implement some basic functions at the beginning like getUsers(), getPersonView(), addNewPerson() and createForum().
- Managed to accomplish createPost() and createTopic().
- Accomplish B part with my team members.
- Using preparedStatments for efficiency and protection from SQL injection.

I think the difficult part was laid in beginning to study how to use JDBC to connect with MariaDB correctly, because I had no such experience for this kind of application. And it is also hard to imagine the answer looks like after we build the method. In the process of learning, I realized that we must also take into consideration the fact that the injection of SQL should be proofread respectively. So it is recommended to utilize the MariaDB to verify the input statement in advance before actually implementing the JDBC.

On the other hand, once you have set up the JDBC connection, it would be easier to have the web page directly for debugging afterward. Because you only need to perform a query against the database and store the result in a map and display it by using Result.success(). For now, inserting data into the table seem to be not difficult as we thought.

During this coursework, I learned how to work together with JDBC library, like executeQuery to fetch data. And use ? and setString with SQL prepared Statement. Each peculiar method has a generic format. For instance, the "create" method must first comply with the rules of checking whether the database really has the object or the person in order to execute "INSERT INTO Post VALUES (?, ?, ?, ?)";. Moreover, it is important for use try and catch to avoid fatal error to shut down the statement individually. Overall, I have understood the structure or web development and interconnection between server, templates and java. While it was an excellent opportunity to work as a group, everyone was really into accomplishing this project.

In this course, the assignments provide insights into how the database performs queries to store and provide information. Again, this coursework really gave me a good experience in web development with database. Although I still lack of knowledge about JDBC, still I would definitely use JDBC for its simplicity as the standard implementation in the future. And here are my opinions about this project. The "Web" seems to handle and serve the event. The "Util" is like pointing parameters which relate specific files, and "API" which is more important than others, is responsible for all the APIs and result classes. What we have done with the API.java, is to create files base on API.

In general, I found that this assignment is an interesting application of applying the database to practical implementation. According to most existing Java and HTML which allow us to concentrate more on implementing the SQL, but it also means that we must work within the limits of the API, to some extent, the structure might not be flexible. Nonetheless, these restrictions can be challengeable because it feels like we work in a real workplace, and a part of the product will be created by teamwork.