**Project 2 Phase 2**

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**Programming Language: Java**

**Databases Used: MySql and MongoDB**

**Code Description:**

The code consists of 6 classes:

1) DbManager

2) MongodbManager

3) MainClass

4) DepartmentDocument

5) Employee

6) ProjectDocument

The MainClass consists of four functions:

1. insertIntoDb
2. fetchProjectDataFromDB
3. displayProjectFromNoSqlDb
4. fetchDeptDataFromDb
5. displayDepartmentFromNoSqlDb

**insertIntoDb**

Loads all the data (data of all tables) into MySql database.

**fetchProjectDataFromDb**

In this function, the SQL query is executed and the data is stored in HashMap. The HashMap consists of Project Number, Project Name, Department Name and a list of employees that work on the corresponding project.

The functions also check whether an entry for a project is made in the table. If yes, then it appends the name of the employee working on that project in the employee list. If not, then it creates a new entry in the table and stores info regarding the project.

**displayProjectFromNoSqlDb**

This function saves the HashMap object to mongodb ‘PROJECT’ document by converting it into json using GSON library. Also, to display the desired department data in JSON format.

**fetchDeptDataFromDb**

In this function, the SQL query is executed and the data is stored in HashMap. The HashMap consists of Department Name, Manager’s Last name and the Department locations. Department locations is a list.

This function checks whether an entry is made for the corresponding department. If yes, then it just appends the location of the department in the Department location list. If not, then it creates a new entry in the table and stores info related to the department.

**displayDepartmentFromNoSqlDb**

This function saves the HashMap object to mongodb by converting it into json using GSON library. Also, to display the desired department data in JSON format.

Notes -

1. We have provided the database schema just import it in mysql.
2. We have included all the libraries used, add it to the classpath
3. Create a database with name ”Company“ along with two Collections that is “project” and “department”.