CSE5331 Assignment 2- Mongo DB

**Submitted By**

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MongoDB is a cross-platform document-oriented database system. It represents data as collection of JSON format. MongoDB increases scalability than the traditional relational database model by increasing more servers. Rather than a rigid data schema, it has a flexible documents type model, which eases the development and deployment is done much faster.

MongoDB being document-oriented, the structure of collections of documents. A collection may be considered a table except there are no aligned columns.  Each entry (row) can use varying dynamic schemas in key-value pairs. For Example, inside a collection of Users there may be one entry with First name & Last name. Then another entry with First, Last, and Middle name, along with e-mail address and date of birth. This is the flexible MongoDB system which makes these databases easy to work with. Now each of these entries or rows inside a collection is called a document. They are not physical documents like .txt or .html, but document-based objects. They are basically JSON data blocks stored in memory-mapped files which behave as separate entries in your collections.

Purpose: To learn to use Mongo DB as an example of a document-oriented NOSQL system, and see how data is stored and queried in system.

## 1. Program Assignment Implementation:

The Mongo DB has the file mongo.java

In this Java File variables :

Connection conn : Used to establish the connection with database

Statement stmt : Used to trigger the SQL Statements

Methods:

readDataBase()

To Retrieve the records from MySQL database .

addToMap(HashMap <Integer, ArrayList<String>> map, Integer key, String value)  
To store the records values in HashMap as a Key Value pairs

Tables created:

EMPLOYEE, DEPARTMENT, WORKS\_ON, PROJECT, DEPT\_LOCATIONS, and DEPENDENT.

SQL statements:

Create Schema db3;

Use db3;

select dl.dnumber,dl.dlocation from dept\_locations as dl

select d.dname,e.lname,e.dno from department as d ,employee as e where e.ssn=d.mgr\_ssn

select p.pname,w.hours,w.essn from works\_on as w,employee as e,project as p where e.ssn=w.essn and w.pno=p.pnumber

select d.dependent\_name,d.relationship,d.essn from dependent as d,employee as e where e.ssn=d.essn

Console outputs for every line from input file.

Final output is entries in the Mongo DB for Employee Table and Department Table.

**2. Software Requirements:**

1) Eclipse IDE

2) MySQL 6.0

3) Mongo DB

## 3. Development of Application

1. Java is the programming language used to develop the application using the Eclipse IDE
2. The project was created as a new Java Application Project in Eclipse and the Java file is created in 'src' folder under a created package called db.
3. After the project build, the application was run using a connection with MySQL (Data Base).And the records are fetched from the MySQL database and inserted into the Mongo DB database.
4. Outputs of Employee Table and Department Table can be seen directly in the console.

## 4. Steps to run this application:

1) Unzip the Zipped folder () to get the source files.

2) Create a new Java application project in Eclipse and a package called db under src folder.

3) Copy the Java file under src directory.

4) Create a MySQL connection in Eclipse.

5) Add the required MySQL jars to reference library.

6) Make sure that the path to your input file is proper.

7) Run the Java application.

8) View Output on the console, in a descriptive manner.

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## 5. References:

1) DB2 Class Slides.

2) http://stackoverflow.com - Result Set and on connection errors

3) <http://dev.mysql.com/doc/refman/5.6/en/>

4) <http://docs.mongodb.org/manual/reference/operator/query/>