DBMSL 31147

Assignment B5.

Date of completion: 27/10/20 Date of Submission: 12/11/20.

Problem Statement:

To design and implement any 5 query using MongoDB.

Objectives:

1) Understand the concept of mongoDB
2) Understand the concept of MongoDB on two tier
3) Understand basic commands of mongoDB.

Outcomes:

We will able to implement various queries in mongoDB in mongoshell.
Understand the array of documents as well.

S/W & H/W:

MongoDB, window 10/Ubuntu, 64bit, 8GB RAM

Theory:

MongoDB is a cross platform document oriented database that provide high performance, high availability and easy scalability. MongoDB works on concept of documents and collections.

Collection is a group of MongoDB documents. It is an equivalent of an RDBMS table. A collection exist within a collection can have different field.

Document is a set of key-value pairs. Documents have dynamic schema ie documents in same collection do not need to have same set of fields or structure and common fields may hold different types of data.

Advantages of MongoDB over RDBMS.

Schema less:

MongoDB is document database in which one collection holds different documents.

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Structure of a single object is clear.
No complex joins
Deep query ability.
Ease of scale out in mongoDB.
conversion/mapping of application objects to database object not needed.
Uses internal memory for storing the working set, enabling faster access of data.

Clauses in MongoDB.

1) $size:

The size operator matches any array with number of elements specified by the argument.

db.collection.find({field_name:{$size:2}});
It returns all document in collection where field is an array of 2 elements.

2) $all:

The $all operator selects the documents where the value of a field is an array that contains all the specified elements.
db.collection.find({field_name:{$all:[value1, value2]}});

3) $nin:

$nin selects the documents.
the field value is not in specified array.
the field does not exist.
db.collection.find({field:{$nin:[value1, value2]}});

4) $elemMatch:

The $elemMatch operator matches documents that contain an array field with at least on element that matches all specified query criteria.
{<field>:{$elemMatch:{<query1>,<query2>}}};

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$where:

$where operator to pass either a string containing a javascript expression of a full Javascript function to query system.

{ $where : <string | Javascript code> }

Conclusion:

We have successfully performed query operation of MongoDB collections with certain operators.