2CS702 - Big Data Analytics

Practical 8

Aim**:** Setup MongoDB environment in your system and Import Restaurant Dataset and perform CRUD operation.

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AIM:- Setup MongoDB environment in your system and Import Restaurant Dataset and perform CRUD operation.

MongoDB installation:-

- Download community edition of MongoDB from website

- Set up path in Environment Variable

- Now open terminal and run command mongo to check the version and another information and it will enter you in mongo shell.

```
C:\Users\Vijay>mongo
MongoDB shell version v5.0.0
connecting to: mongodb://127.0.0.1:27017/?compressors=disabled&gssapiServiceName=mongodb
Implicit session: session { "id" : UUID("3ba62ba7-5945-4998-87a5-58907efdd6a3") }
MongoDB server version: 5.0.0
================
Warning: the "mongo" shell has been superseded by "mongosh",
which delivers improved usability and compatibility.The "mongo" shell has been deprecated and will be removed in
an upcoming release.
We recommend you begin using "mongosh".
For installation instructions, see
https://docs.mongodb.com/mongodb-shell/install/
================
---
The server generated these startup warnings when booting:
        2021-11-20T14:37:34.904+05:30: Access control is not enabled for the database. Read and write access to data and
 configuration is unrestricted
---
---
        Enable MongoDB's free cloud-based monitoring service, which will then receive and display
        metrics about your deployment (disk utilization, CPU, operation statistics, etc).

        The monitoring data will be available on a MongoDB website with a unique URL accessible to you
        and anyone you share the URL with. MongoDB may use this information to make product
        improvements and to suggest MongoDB products and deployment options to you.

        To enable free monitoring, run the following command: db.enableFreeMonitoring()
        To permanently disable this reminder, run the following command: db.disableFreeMonitoring()
---
>
```

Importing Restaurant Database:-

>mongoimport --db test --collection res --file restaurant.json

```
C:\Program Files\MongoDB\Server\5.0\bin>mongoimport --db test --collection res --file restaurant.json
2021-11-15T15:50:15.214+0530    connected to: mongodb://localhost/
2021-11-15T15:50:15.366+0530    2548 document(s) imported successfully. 0 document(s) failed to import.

C:\Program Files\MongoDB\Server\5.0\bin>
```

Create Operation in Database:-

>db.createCollection("testcollection")

- db.createCollection(name, options) creates a new collection or view

```
---
> show dbs
admin    0.000GB
config   0.000GB
local    0.000GB
test     0.000GB
> dbs
uncaught exception: ReferenceError: dbs is not defined :
@(shell):1:1
> db
test
> show collections
res
> db.createCollection("testcollection")
{ "ok" : 1 }
> show collections
res
testcollection
>
```

Insert Operation:-

>db.res.insert({name:'Kabir Restaurant',address:'Gurukul Road',rating:5})

-db.collection.insert() inserts a document or documents into a collection.

```
> show collections
res
testcollection
> db.res.insert({name:'Kabir Restaurant',address:'Gurukul Road',rating: 5})
WriteResult({ "nInserted" : 1 })
>
```

Read Operation:-

>db.res.find()

-db.collection.find() selects documents in a collection or view and
returns a cursor to the selected documents

```
> db.res.find()
{ "_id" : ObjectId("55f14312c7447c3da7051b2a"), "URL" : "http://www.just-eat.co.uk/restaurants-indiancom-ch4/menu", "address" : "9 Broughton Hall Road", "address line 2" :
"Broughton", "name" : "@Indian.com", "outcode" : "CH4", "postcode" : "0QR", "rating" : 6, "type_of_food" : "Curry" }
{ "_id" : ObjectId("55f14312c7447c3da7051b26"), "URL" : "http://www.just-eat.co.uk/restaurants-cn-chinese-cardiff/menu", "address" : "228 City Road", "address line 2" : "Ca
rdiff", "name" : ".CN Chinese", "outcode" : "CF24", "postcode" : "3JH", "rating" : 5, "type_of_food" : "Chinese" }
{ "_id" : ObjectId("55f14312c7447c3da7051b2e"), "URL" : "http://www.just-eat.co.uk/restaurants-042-restaurant-e11/menu", "address" : "885 High Road Leytonstone", "address l
ine 2" : "London", "name" : "042 Restaurant & Bar", "outcode" : "E11", "postcode" : "1HR", "rating" : 3, "type_of_food" : "African" }
{ "_id" : ObjectId("55f14312c7447c3da7051b2b"), "URL" : "http://www.just-eat.co.uk/restaurants-007takeaway-s65/menu", "address" : "6 Drummond Street", "address line 2" : "R
otherham", "name" : "007 Takeaway", "outcode" : "S65", "postcode" : "1HY", "rating" : 6, "type_of_food" : "Pizza" }
{ "_id" : ObjectId("55f14312c7447c3da7051b2c"), "URL" : "http://www.just-eat.co.uk/restaurants-042-restaurant-e11/menu", "address" : "885 High Road Leytonstone", "address l
ine 2" : "London", "name" : "042 Restaurant & Bar", "outcode" : "E11", "postcode" : "1HR", "rating" : 3, "type_of_food" : "African" }
```

>db.res.find().pretty()

```
> db.res.find().pretty()
{
        "_id" : ObjectId("55f14312c7447c3da7051b2a"),
        "URL" : "http://www.just-eat.co.uk/restaurants-indiancom-ch4/menu",
        "address" : "9 Broughton Hall Road",
        "address line 2" : "Broughton",
        "name" : "@Indian.com",
        "outcode" : "CH4",
        "postcode" : "0QR",
        "rating" : 6,
        "type_of_food" : "Curry"
}
{
        "_id" : ObjectId("55f14312c7447c3da7051b26"),
        "URL" : "http://www.just-eat.co.uk/restaurants-cn-chinese-cardiff/menu",
        "address" : "228 City Road",
        "address line 2" : "Cardiff",
        "name" : ".CN Chinese",
        "outcode" : "CF24",
        "postcode" : "3JH",
        "rating" : 5,
        "type_of_food" : "Chinese"
}
```

>db.res.find({'name':'Kabir Restaurant'}).pretty()

```
> db.res.find({'name':'Kabir Restaurant'}).pretty()
{
        "_id" : ObjectId("61923b62aa45523d0f505067"),
        "name" : "Kabir Restaurant",
        "address" : "Gurukul Road",
        "rating" : 5
}
```

>db.res.find({'rating':{&gte:4}}).pretty()

```
> db.res.find({'rating':{$gte:4}}).pretty()
{
        "_id" : ObjectId("55f14312c7447c3da7051b2a"),
        "URL" : "http://www.just-eat.co.uk/restaurants-indiancom-ch4/menu",
        "address" : "9 Broughton Hall Road",
        "address line 2" : "Broughton",
        "name" : "@Indian.com",
        "outcode" : "CH4",
        "postcode" : "0QR",
        "rating" : 6,
        "type_of_food" : "Curry"
}
{
        "_id" : ObjectId("55f14312c7447c3da7051b26"),
        "URL" : "http://www.just-eat.co.uk/restaurants-cn-chinese-cardiff/menu",
        "address" : "228 City Road",
        "address line 2" : "Cardiff",
        "name" : ".CN Chinese",
        "outcode" : "CF24",
        "postcode" : "3JH",
        "rating" : 5,
        "type_of_food" : "Chinese"
}
```

>db.res.find({'rating':{&lt:4}}).pretty()

```
> db.res.find({'rating':{$lt:4}}).pretty()
{
        "_id" : ObjectId("55f14312c7447c3da7051b2e"),
        "URL" : "http://www.just-eat.co.uk/restaurants-042-restaurant-e11/menu",
        "address" : "885 High Road Leytonstone",
        "address line 2" : "London",
        "name" : "042 Restaurant & Bar",
        "outcode" : "E11",
        "postcode" : "1HR",
        "rating" : 3,
        "type_of_food" : "African"
}
{
        "_id" : ObjectId("55f14312c7447c3da7051b2c"),
        "URL" : "http://www.just-eat.co.uk/restaurants-042-restaurant-e11/menu",
        "address" : "885 High Road Leytonstone",
        "address line 2" : "London",
        "name" : "042 Restaurant & Bar",
        "outcode" : "E11",
        "postcode" : "1HR",
        "rating" : 3,
        "type_of_food" : "African"
}
```

>db.res.find({'rating':{$gte:4},$or:[{'type_of_food':'chinese'},{'type_of_food':'turkish'}]}).pretty()

```
> db.res.find({'rating':{$gte:4},$or:[{'type_of_food':'chinese'},{'type_of_food':'Turkish'}]}).pretty()
{
        "_id" : ObjectId("55f14312c7447c3da7051b33"),
        "URL" : "http://www.just-eat.co.uk/restaurants-104-turkish-BBQ/menu",
        "address" : "104 Tanners Lane",
        "address line 2" : "Essex",
        "name" : "104 Turkish BBQ",
        "outcode" : "IG6",
        "postcode" : "1QE",
        "rating" : 5,
        "type_of_food" : "Turkish"
}
{
        "_id" : ObjectId("55f14312c7447c3da7051bc3"),
        "URL" : "http://www.just-eat.co.uk/restaurants-ab-pizza-and-grill/menu",
        "address" : "149 Layton Road",
        "address line 2" : "Blackpool",
        "name" : "AB Pizza and Grill",
        "outcode" : "FY3",
        "postcode" : "8HH",
        "rating" : 5.5,
        "type_of_food" : "Turkish"
}
```

Update Operation:-

>db.res.update({'address':'Gurukul Road'},{$set:{'address':'Bodakdev Road'}})

```
> db.res.find({'address':'Gurukul Road'}).pretty()
{
        "_id" : ObjectId("61923b62aa45523d0f505067"),
        "name" : "Kabir Restaurant",
        "address" : "Gurukul Road",
        "rating" : 5
}
> db.res.update({'address':'Gurukul Road'},{$set:{'address':'Bodakdev Road'}})
WriteResult({ "nMatched" : 1, "nUpserted" : 0, "nModified" : 1 })
> db.res.find({'address':'Gurukul Road'}).pretty()
> db.res.find({'address':'Bodakdev Road'}).pretty()
{
        "_id" : ObjectId("61923b62aa45523d0f505067"),
        "name" : "Kabir Restaurant",
        "address" : "Bodakdev Road",
        "rating" : 5
}
```

Delete Operation:-

>db.res.remove({'name':'Kabir Restaurant'})

```
> db.res.find({'name':'Kabir Restaurant'}).pretty()
{
        "_id" : ObjectId("61923b62aa45523d0f505067"),
        "name" : "Kabir Restaurant",
        "address" : "Bodakdev Road",
        "rating" : 5
}
> db.res.remove({'name':'Kabir Restaurant'})
WriteResult({ "nRemoved" : 1 })
> db.res.find({'name':'Kabir Restaurant'}).pretty()
>
```