MongoDB\_Lab1

1 – open mongo shell and view the help  
 Installation and configuration

Windows: <https://fastdl.mongodb.org/windows/mongodb-windows-x86_64-5.0.6-signed.msi>

Text

Description automatically generated UBUNTU:

Reload local package database

$ sudo apt-get update

Install the MongoDB packages

$ sudo apt-get install mongodb

MongoDB service

$ sudo service mongodb start

Start MongoDB Shell

$ mongo

> help

(or) $ mongo --help

2 – identify your current working database and show list of available databases

Text

Description automatically generated> db

> show dbs

Text

Description automatically generated3 – create a new database called Iti and create a collection named “students”. Insert whatever data you want about yourself (include name and age in your details).

> use iti

> db.createCollection('students')

> db.students.insert ({"Name": "Mahmoud Kamal", "Age": 24})

> db.students.find().pretty()

4– show a list of available databases. What did you notice?

Text

Description automatically generated> show dbs

My database is added and all dbs have 0GB

5 – Insert un-structured or semi-structured data for 10 of your friends (include name and age in your details. The documents should have different types of data i.e., arrays, strings, documents, integers).

> db.createCollection('friends')

> db.friends.insert ([{"Name": "Mahmoud Kamal", "Age": 24, "Hobbies":["Football", "Swimming"]}, {"Name": "Amr", "Age": 24, "Hobbies":["Football", "Games"]}, {"Name": "Ahmed", "Age": 24}, {"Name": "Nada", "Age": 23}, {"Name": Text

Description automatically generated"Donia", "Age": 23}, {"Name": "Mohamed", "Age": 26}, {"Name": "Hassan", "Age": 24}, {"Name": "Youssef", "Age": 23}, {"Name": "Salma", "Age": 24}, {"Name": "Rana", "Age": 24}])

> db.friends.find().pretty()

6 – Search for your object by name.

> db.friends.find({Name:"Ahmed"})

> db.friends.find({Name:"Ahmed"}).pretty()

Text

Description automatically generated

7–Search for your friend(s) by age.  
> db.friends.find({Age:23}, {Name:1, Age:1, \_id:0})

> db.friends.find({Age:23}, { Name:1, Age:1, \_id:0}).pretty()

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8 – Search for all of your friends whose age is older than yours.

> db.friends.find({Age:{$gt:24}}, {Name:1, Age:1, \_id:0})

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**9** – delete any of your friends by id.  
> db.friends.deleteOne ({\_id: ObjectId("6239c930e8907a94adab21c9")})

A picture containing graphical user interface

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Text

Description automatically generated10 – view all documents in students' collection in a prettified format.  
 > db.students.find().pretty()

11 – count all documents in students' collection. (self-learning)

Text

Description automatically generated> db.students.count()

> db.friends.count()

**---------------------------------------------------------**

Text

Description automatically generated**part 2**

1- Create database with name ems

> use ems

A screenshot of a computer

Description automatically generated with low confidence> db

2- Insert the following data into "faculty" collection

> db.faculty.insert([

{ "name":"Krish", "age":35,"gender":"M","exp":10,subjects:["DS","C","OS"],"type":"Full Time","qualification":"M.Tech" },

{ "name":"Manoj", "age":38,"gender":"M","exp":12,subjects:["JAVA","DBMS"],"type":"Full Time", "qualification":"Ph.D"},

{ "name":"Anush", "age":32,"gender":"F","exp":8,subjects:["C","CPP"],"type":"Part Time","qualification":"M.Tech" },

{ "name":"Suresh", "age":40,"gender":"M","exp":9,subjects:["JAVA","DBMS","NETWORKING"],"type":"Full Time", "qualification":"Ph.D"},

{ "name":"Rajesh", "age":35,"gender":"M","exp":7,subjects:["DS","C","OS"],"type":"Full Time","qualification":"M.Tech" },

{ "name":"Mani", "age":38,"gender":"F","exp":10,subjects:["JAVA","DBMS","OS"],"type":"Part Time", "qualification":"Ph.D"},

{ "name":"Sivani", "age":32,"gender":"F","exp":8,subjects:["C","CPP","MATHS"],"type":"Part Time","qualification":"M.Tech" },

{ "name":"Nagesh", "age":39,"gender":"M","exp":11,subjects:["JAVA","DBMS","NETWORKING"],"type":"Full Time", "qualification":"Ph.D"},

{ "name":"Nagesh", "age":35,"gender":"M","exp":9,subjects:["JAVA",".Net","NETWORKING"],"type":"Full Time", "qualification":"Ph.D"},

{ "name":"Latha", "age":40,"gender":"F","exp":13,subjects:["MATHS"],"type":"Full Time", "qualification":"Ph.D"}])

1. Get the details of all the faculty.

A picture containing text

Description automatically generated> db.faculty.find()

2. Get the count of all faculty members.

> db.faculty.count()

3. Get all the faculty members whose qualification is “Ph.D”.

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Description automatically generated> db.faculty.find({qualification: "Ph.D"}, {name:1, qualification:1, \_id:0})

4. Get all the faculty members whose experience is between 8 to 12 years.

> db.faculty.find({exp:{ $in:[8, 9, 10, 11, 12]}}, {name:1, exp:1, \_id:0})

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> db.faculty.find({exp:{$gt: 8}, exp:{$lt: 12}}, {name:1, exp:1, \_id:0})

5. Get all the faculty members who teach “MATHS” or “NETWORKING”.

> db.faculty.find({$or:[{subjects: "MATHS"}, {subjects: "NETWORKING"}]}, {name:1, subjects:1, \_id:0})

Text

Description automatically generated

6. Get all the faculty members who teach “MATHS” and whose age is more than 30 years and qualification must be “Ph.D”.

> db.faculty.find({subjects: "MATHS", age:{$gt: 30}, qualification: "Ph.D"},{ \_id:0})

7. Get all the faculty members who are working part-time or who teach “JAVA”.

> db.faculty.find({$or:[{subjects: "JAVA"}, { type: "Part Time"}]}, {name:1, subjects:1, type:1, \_id:0})

Text

Description automatically generated

8. Add the following new faculty members:

{ "name":"Suresh Babu", "age":55, "gender":"M", "exp":25, subjects: ["MATHS","DE"], "type":"Full Time", "qualification":"Ph.D"}

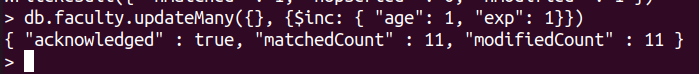
> db.faculty.insert({ "name":"Suresh Babu", "age":55, "gender":"M", "exp":25, subjects: ["MATHS","DE"], "type":"Full Time", "qualification":"Ph.D"})

Text

Description automatically generated

9. Update the data of all faculty members by incrementing their age and exp by one year.

> db.faculty.updateMany({}, {$inc: { "age": 1, "exp": 1}})



Text

Description automatically generated10. Update the faculty “Sivani” with the following data: update qualification to “Ph.D” and type to “Full Time”.

> db.faculty.update(

{"name": "Sivani"},

{$set: {"qualification": "Ph.D", "type": "Full Time"}})

11. Update all faculty members who are teaching “MATHS” such that they should now also teach “PSK”.

A computer screen capture

Description automatically generated with low confidence> db.faculty.updateMany(

{"subjects": "MATHS"},

{$push: {"subjects": "PSK"}})

Text

Description automatically generated12. Delete all faculty members whose age is more than 55 years.

> db.faculty.deleteMany({age:{$gt:55}})

13. Get only the name and qualification of all faculty members.

Text

Description automatically generated> db.faculty.find({}, {name:1, qualification:1, \_id:0})

14. Get the name, qualification and exp of all faculty members and display the same in ascending order of exp.

> db.faculty.find({}, {name:1, qualification:1, exp:1, \_id:0}).sort({exp:1})

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Description automatically generated

15. Sort the faculty details by their age (descending order) and get the details of the first five faculty members only.

> db.faculty.find().sort({age:-1}).limit(5)

A computer screen capture

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