MongoDB_Lab1

1-open mongo shell and view the help

help

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

show dbs

3 – 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: "Dina" ,age:23, address:"alex"})

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

show dbs

iti db is added

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).

var myfriends =[{name:"salma",id:1,courses:[{name:"os"},{name:"db"}]},

{name:"Ethar",id:2,age:22},

{name:"Rana",id:3,courses:[{name:"os"},{name:"db"}]},
{name:"Reham",id:4,age:24},

{name:"Rowan",id:5,age:25}]

---

db.students.insert(myfriends)

6 – Search for your object by name.

db.students.find({name:"Dina"})

7– Search for your friend(s) by age.

db.students.find({age:22})

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

```
db.students.find({age:{$gt:23}})
```

9 – delete any of your friends by id.

```
db.students.remove({"_id":ObjectId("6239e095a2ed58d91dc13308")})
```

10 – view all documents in students' collection in a prettified format.

```
db.students.find().pretty()
```

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

```
db.students.count()
```

---

part 2

1- Create database with name ems

```
Use ems
```

2- Insert the following data into "faculty" collection

```
db.createCollection("faculty")
```

```
[{ "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"}]
```

```
db.faculty.insertMany([{ "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.

```
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”.

```
db.faculty.find({"qualification":"Ph.D"})
```

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

```
db.faculty.find({"exp":{$gt:8,$lt:12}})
```

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

```
db.faculty.find({$or:[{"subjects":"MATHS"},{"subjects":"NETWORKING"}]})
```

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({$and:[{"subjects":"MATHS"},{"age":{$gt:30}},{"qualification":"Ph.D"}]})
```

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

```
db.faculty.find({$or:[{"subjects":"JAVA"},{"type":"part-time"}]})
```

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"})
```

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}})
```

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

```
db.faculty.updateMany({"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”.

```
db.faculty.updateMany({"subjects":"MATHS"},{$push: {subjects: 'PSK'}})
```

12. 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.

```
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})
```

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)
```