

## BDA-LAB-EXAM

Name : Ravi Kumar

USN : 1BM17CS150

## Mongo DB Output

The image displays two screenshots of the Robo 3T MongoDB client interface, showing the execution of MongoDB commands and the resulting data.

**Top Screenshot:** The interface shows the 'BDA\_LAB' database selected. The 'Library' collection is visible in the left sidebar. The main window displays the following commands:

```
// Create database and table
use LibDB
db.createCollection("Library")
show collections

// Insert rows
db.Library.insertMany([
  { _id:1, lname:"Lib1", stu_count:400, sub:["maths","science"] },
  { _id:2, lname:"Lib2", stu_count:300, sub:["BDA","DSR","PSQ"] },
  { _id:3, lname:"Lib3", stu_count:500, sub:["MAD","SPMF","BDA"]} ])

db.Library.find()

// Use PULL and POP
db.Library.find({ _id:2 })
db.Library.update({ _id:2 }, { $pull: { sub: "PSQ" } })
db.Library.find({ _id:2 })
db.Library.find({ _id:3 })
db.Library.update({ _id:3 }, { $pop: { sub: 1 } })
db.Library.find({ _id:3 })
```

The results window shows the 'Library' collection with 3 documents:

_id	lname	stu_count	sub
1.0	Lib1	400.0	[2 elements]
2.0	Lib2	300.0	[3 elements]
3.0	Lib3	500.0	[3 elements]

**Bottom Screenshot:** The interface shows the 'BDA\_LAB' database selected. The 'Library' collection is visible in the left sidebar. The main window displays the following commands:

```
db.Library.insertMany([
  { _id:1, lname:"Lib1", stu_count:400, sub:["maths","science"] },
  { _id:2, lname:"Lib2", stu_count:300, sub:["BDA","DSR","PSQ"] },
  { _id:3, lname:"Lib3", stu_count:500, sub:["MAD","SPMF","BDA"]} ])

db.Library.find()

// Use PULL and POP
db.Library.find({ _id:2 })
db.Library.update({ _id:2 }, { $pull: { sub: "PSQ" } })
db.Library.find({ _id:2 })
db.Library.update({ _id:3 }, { $pop: { sub: 1 } })
db.Library.find({ _id:3 })
db.Library.find({ _id:1 })
db.Library.update({ _id:1 }, { $pop: { sub: -1 } })
db.Library.find({ _id:1 })

//Use Index
db.Library.ensureIndex({ "lname":1 })
```

The results window shows the 'Library' collection with 3 documents, displaying the key-value pairs and their types:

Key	Value	Type
{ "_id": 2.0 }	{ "lname": "Lib2", "stu_count": 300.0, "sub": ["BDA", "DSR"] }	Object
_id	2.0	Double
lname	Lib2	String
stu_count	300.0	Double
sub	[2 elements]	Array
sub [0]	BDA	String
sub [1]	DSR	String

Robo 3T - 1.4

File View Options Window Help

BDA\_LAB (9)

- System
- Bank\_DB
- College
- Company
- Database
- Faculty
- Product\_D
- config

Welcome x db.Library.find(\_id:3) x

BDA\_LAB localhost:27017 LibDB

```

db.Library.find()

// Use FULL and POP
db.Library.find({_id:2})
db.Library.update({_id:2},{pull:{sub:"PSQ"}})
db.Library.find({_id:2})
db.Library.find({_id:3})
db.Library.update({_id:3},{pop:{sub:1}})
db.Library.find({_id:3})
db.Library.find({_id:1})
db.Library.update({_id:1},{pop:{sub:-1}})
db.Library.find({_id:1})

//Use Index
db.Library.ensureIndex({"lname":1})
db.Library.getIndexes()
db.Library.find({lname:"Lib2",{stu_count:1,lname:1,_id:1,sub:1}).hint({lname:1})
  
```

Library 0.001 sec.

Key	Value	Type
(1) 3.0	{ 4 fields }	Object
_id	3.0	Double
lname	Lib3	String
stu_count	500.0	Double
sub	[ 2 elements ]	Array
sub [0]	MAD	String
sub [1]	SPMF	String

Robo 3T - 1.4

File View Options Window Help

BDA\_LAB (9)

- System
- Bank\_DB
- College
- Company
- Database
- Faculty
- Product\_D
- config

Welcome x db.Library.find(\_id:1) x

BDA\_LAB localhost:27017 LibDB

```

db.Library.find()

// Use FULL and POP
db.Library.find({_id:2})
db.Library.update({_id:2},{pull:{sub:"PSQ"}})
db.Library.find({_id:2})
db.Library.find({_id:3})
db.Library.update({_id:3},{pop:{sub:1}})
db.Library.find({_id:3})
db.Library.find({_id:1})
db.Library.update({_id:1},{pop:{sub:-1}})
db.Library.find({_id:1})

//Use Index
db.Library.ensureIndex({"lname":1})
db.Library.getIndexes()
db.Library.find({lname:"Lib2",{stu_count:1,lname:1,_id:1,sub:1}).hint({lname:1})
  
```

Library 0.003 sec.

Key	Value	Type
(1) 1.0	{ 4 fields }	Object
_id	1.0	Double
lname	Lib1	String
stu_count	400.0	Double
sub	[ 1 element ]	Array
sub [0]	science	String

Robo 3T - 1.4

File View Options Window Help

BDA\_LAB (9)

- System
- Bank\_DB
- College
- Company
- Database
- Faculty
- Product\_D
- config

Welcome x db.Library.getIndexes() x

BDA\_LAB localhost:27017 LibDB

```

db.Library.find({_id:3})
db.Library.update({_id:3},{pop:{sub:1}})
db.Library.find({_id:3})
db.Library.find({_id:1})
db.Library.update({_id:1},{pop:{sub:-1}})
db.Library.find({_id:1})

//Use Index
db.Library.ensureIndex({"lname":1})
db.Library.getIndexes()
db.Library.find({lname:"Lib2",{stu_count:1,lname:1,_id:1,sub:1}).hint({lname:1})

//Use Cursor
var mcurr=db.Library.find({})
while(mcurr.hasNext())
{
    var curtemp=mcurr.next()
    print("Library Id: "+curtemp._id+" "+"Library Name :"+curtemp.lname+" "+"Student Count :"+curtemp.stu_count+" "+"Subjects :"+curte

```

0.001 sec.

Key	Value	Type
(1)	[ 2 elements ]	Array
> [0]	{ 4 fields }	Object
> [1]	{ 4 fields }	Object
v	2	Int32
key	{ 1 field }	Object
name	lname_1	String
ns	LibDB.Library	String

None

Robo 3T - 1.4

File View Options Window Help

BDA\_LAB (9)

- System
- Bank\_DB
- College
- Company
- Database
- Faculty
- Product\_D
- config

Welcome x db.Library.find({lname:"Lib2"}) x

BDA\_LAB localhost:27017 LibDB

```

db.Library.find({_id:1})
db.Library.update({_id:1},{pop:{sub:-1}})
db.Library.find({_id:1})

//Use Index
db.Library.ensureIndex({"lname":1})
db.Library.getIndexes()
db.Library.find({lname:"Lib2",{stu_count:1,lname:1,_id:1,sub:1}).hint({lname:1})

//Use Cursor
var mcurr=db.Library.find({})
while(mcurr.hasNext())
{
    var curtemp=mcurr.next()
    print("Library Id: "+curtemp._id+" "+"Library Name :"+curtemp.lname+" "+"Student Count :"+curtemp.stu_count+" "+"Subjects :"+curte
}

//Updates

```

Library 0.043 sec.

Key	Value	Type
(1) 2.0	{ 4 fields }	Object
_id	2.0	Double
lname	Lib2	String
stu_count	300.0	Double
sub	[ 2 elements ]	Array
[0]	BDA	String
[1]	DSR	String

None

Robo 3T - 1.4

File View Options Window Help

BDA\_LAB (9)

- System
- Bank\_DB
- College
- Company
- Database
- Faculty
- Product\_D
- config

Welcome x while(mcurr.hasNext()) { ... x

BDA\_LAB localhost:27017 LibDB

```
//Use Index
db.Library.ensureIndex({"lname":1})
db.Library.getIndexes()
db.Library.find({lname:"Lib2"},{stu_count:1,lname:1,_id:1,sub:1}).hint({lname:1})

//Use Cursor
var mcurr=db.Library.find({})
while(mcurr.hasNext())
{
    var curtemp=mcurr.next()
    print("Library Id: "+curtemp._id+" "+"Library Name :"+curtemp.lname+" "+"Student Count :"+curtemp.stu_count+" "+"Subjects :"+curtemp.sub)
}

//Updates
db.Library.find({_id:3})
db.Library.update({_id:3},{set:{stu_count:900}})
db.Library.find({_id:3})
```

0.002sec.

```
Library Id: 1 Library Name :Lib1 Student Count :400 Subjects :science
Library Id: 2 Library Name :Lib2 Student Count :300 Subjects :BDA,DSR
Library Id: 3 Library Name :Lib3 Student Count :500 Subjects :MAD,SPMF
```

Robo 3T - 1.4

File View Options Window Help

BDA\_LAB (9)

- System
- Bank\_DB
- College
- Company
- Database
- Faculty
- Product\_D
- config

Welcome x "db.Library.find({\_id:3})" x

BDA\_LAB localhost:27017 LibDB

```
//Use Cursor
var mcurr=db.Library.find({})
while(mcurr.hasNext())
{
    var curtemp=mcurr.next()
    print("Library Id: "+curtemp._id+" "+"Library Name :"+curtemp.lname+" "+"Student Count :"+curtemp.stu_count+" "+"Subjects :"+curtemp.sub)
}

//Updates
db.Library.find({_id:3})
db.Library.update({_id:3},{set:{stu_count:900}})
db.Library.find({_id:3})
db.Library.update({_id:2},{set:{lname:"New Lib"}})
db.Library.find({_id:2})
db.Library.update({_id:4},{set:{lname:"Lib4",stu_count:600,sub:["OOMD","TOC"]}},(upsert:true))
db.Library.find({})
db.Library.drop()
```

Library 0.001sec.

Key	Value	Type
(1) 3.0	{ 4 fields }	Object
_id	3.0	Double
lname	Lib3	String
stu_count	900.0	Double
sub	[ 2 elements ]	Array
[0]	MAD	String
[1]	SPMF	String

Logs

Robo 3T-1.4

File View Options Window Help

BDA\_LAB (9)

- System
- Bank\_DB
- College
- Company
- Database
- Faculty
- Product\_D
- config

Welcome x db.Library.find({\_id:2}) x

BDA\_LAB localhost:27017 LibDB

```
//Use Cursor
var mcurr=db.Library.find({})
while(mcurr.hasNext())
{
    var curtemp=mcurr.next()
    print("Library Id: "+curtemp._id+" "+"Library Name :"+curtemp.lname+" "+"Student Count :"+curtemp.stu_count+" "+"Subjects :"+curtemp.sub)
}

//Updates
db.Library.find({_id:3})
db.Library.update({_id:3},{ $set:{stu_count:900}})
db.Library.find({_id:3})
db.Library.update({_id:2},{ $set:{lname:"New Lib"}})
db.Library.find({_id:2})
db.Library.update({_id:4},{ $set:{lname:"Lib4",stu_count:600,sub:["OOMD","TOC"]},(upsert:true)})
db.Library.find({})
db.Library.drop()
```

Library 0.001 sec.

Key	Value	Type
> (1) 2.0	{ 4 fields }	Object
id	2.0	Double
lname	New Lib	String
stu_count	300.0	Double
sub	[ 2 elements ]	Array
[0]	BDA	String
[1]	DSR	String

Logs

Robo 3T-1.4

File View Options Window Help

BDA\_LAB (9)

- System
- Bank\_DB
- College
- Company
- Database
- Faculty
- Product\_D
- config

Welcome x db.Library.find({}) x

BDA\_LAB localhost:27017 LibDB

```
//Use Cursor
var mcurr=db.Library.find({})
while(mcurr.hasNext())
{
    var curtemp=mcurr.next()
    print("Library Id: "+curtemp._id+" "+"Library Name :"+curtemp.lname+" "+"Student Count :"+curtemp.stu_count+" "+"Subjects :"+curtemp.sub)
}

//Updates
db.Library.find({_id:3})
db.Library.update({_id:3},{ $set:{stu_count:900}})
db.Library.find({_id:3})
db.Library.update({_id:2},{ $set:{lname:"New Lib"}})
db.Library.find({_id:2})
db.Library.update({_id:4},{ $set:{lname:"Lib4",stu_count:600,sub:["OOMD","TOC"]},(upsert:true)})
db.Library.find({})
db.Library.drop()
```

Library 0.002 sec.

Key	Value	Type
> (1) 1.0	{ 4 fields }	Object
> (2) 2.0	{ 4 fields }	Object
> (3) 3.0	{ 4 fields }	Object
> (4) 4.0	{ 4 fields }	Object
id	4.0	Double
lname	Lib4	String
stu_count	600.0	Double
sub	[ 2 elements ]	Array
[0]	OOMD	String
[1]	TOC	String

Logs