

VIBHA HUGAR

CS255

NOSQL LAB1 and LAB2

LAB-1 Perform the following DB operations using MongoDB.

1. Create a database “Student” with the following attributes Rollno, Age, ContactNo, Email-Id.

use myDB;

db.createCollection(“Student”);

Output:

```
mongosh mongodb+srv://<credentials>@dbmslab.nu1zzfd.mongodb.net/myFirstDatabase
Atlas atlas-hwvtuk-shard-0 [primary] myDB> use myDB
already on db myDB
Atlas atlas-hwvtuk-shard-0 [primary] myDB> db.createCollection("Student");
{ ok: 1 }
Atlas atlas-hwvtuk-shard-0 [primary] myDB> |
```

2. Insert appropriate values

```
db.Student.insert({RollNo:1,Age:21,Cont:9876,email:"antara.de9@gmail.com"});
db.Student.insert({RollNo:2,Age:22,Cont:9976,email:"anushka.de9@gmail.com"});
db.Student.insert({RollNo:3,Age:21,Cont:5576,email:"anubhav.de9@gmail.com"});
db.Student.insert({RollNo:4,Age:20,Cont:4476,email:"pani.de9@gmail.com"});
db.Student.insert({RollNo:10,Age:23,Cont:2276,email:"rekha.de9@gmail.com"});
```

Output:

```
mongosh mongodb+srv://<credentials>@dbmslab.nu1zzfd.mongodb.net/myFirstDatabase
Atlas atlas-hwvtuk-shard-0 [primary] myDB> db.Student.find();
[
  {
    _id: ObjectId("63c6c1d58fc43cee59d05c7c"),
    RollNo: 1,
    Age: 21,
    Cont: 9876,
    email: 'antara.de9@gmail.com'
  },
  {
    _id: ObjectId("63c6c1e68fc43cee59d05c7d"),
    RollNo: 2,
    Age: 22,
    Cont: 9976,
    email: 'anushka.de9@gmail.com'
  },
  {
    _id: ObjectId("63c6c1f68fc43cee59d05c7e"),
    RollNo: 3,
    Age: 21,
    Cont: 5576,
    email: 'anubhav.de9@gmail.com'
  },
  {
    _id: ObjectId("63c6c2048fc43cee59d05c7f"),
    RollNo: 4,
    Age: 20,
    Cont: 4476,
    email: 'pani.de9@gmail.com'
  },
  {
    _id: ObjectId("63c6c22b8fc43cee59d05c80"),
    RollNo: 10,
    Age: 23,
    Cont: 2276,
    email: 'rekha.de9@gmail.com'
  }
]
Atlas atlas-hwvtuk-shard-0 [primary] myDB> |
```

3. Write query to update Email-Id of a student with rollno 10.

```
db.Student.update({RollNo:10},{ $set:{email:"Abhinav@gmail.com"}});
```

Output:

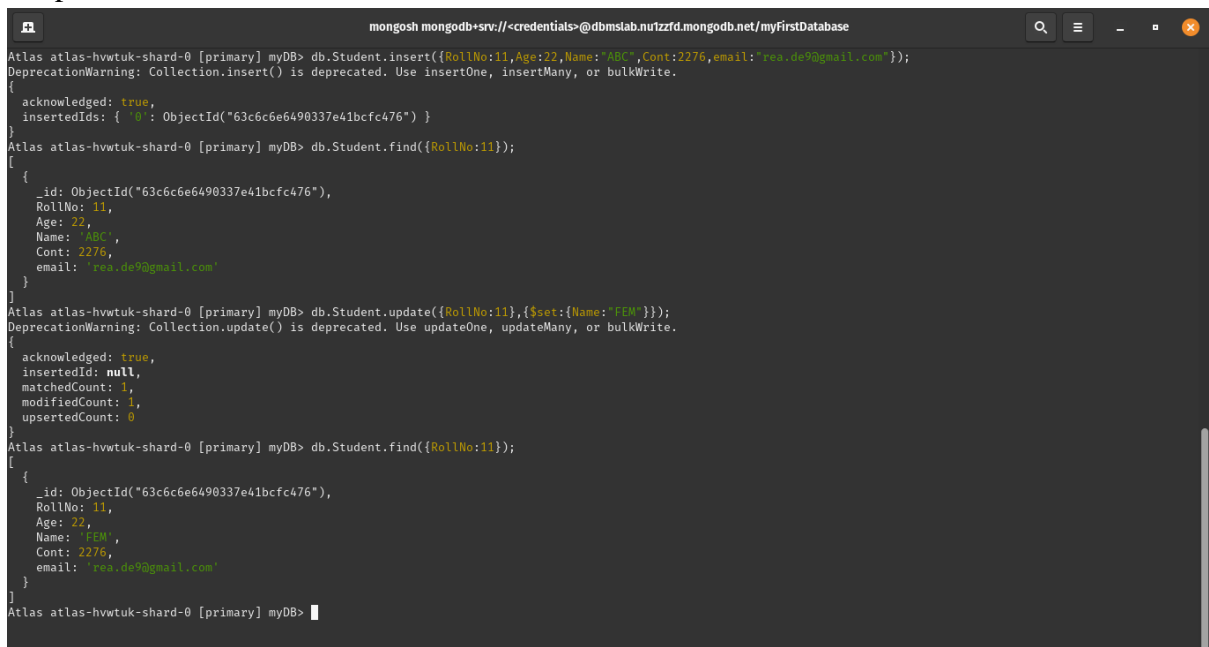


```
mongosh mongodb+srv://<credentials>@dbmslab.nu1zzfd.mongodb.net/myFirstDatabase
Atlas atlas-hwvtuk-shard-0 [primary] myDB> db.Student.update({RollNo:10},{ $set:{email:"Abhinav@gmail.com"}});
DeprecationWarning: Collection.update() is deprecated. Use updateOne, updateMany, or bulkWrite.
{
  acknowledged: true,
  insertedId: null,
  matchedCount: 1,
  modifiedCount: 1,
  upsertedCount: 0
}
Atlas atlas-hwvtuk-shard-0 [primary] myDB> db.Student.find({RollNo:10});
[
  {
    _id: ObjectId("63c6c22b8fc43cee59d05c80"),
    RollNo: 10,
    Age: 23,
    Cont: 2276,
    email: 'Abhinav@gmail.com'
  }
]
Atlas atlas-hwvtuk-shard-0 [primary] myDB>
```

4. Replace the student name from “ABC” to “FEM” of rollno 11.

```
db.Student.insert({RollNo:11, Age:22, Name:"ABC", Cont:2276, email:"rea.de9@gmail.com"})
);
db.Student.update({RollNo:11},{ $set:{Name:"FEM"}});
```

Output:



```
mongosh mongodb+srv://<credentials>@dbmslab.nu1zzfd.mongodb.net/myFirstDatabase
Atlas atlas-hwvtuk-shard-0 [primary] myDB> db.Student.insert({RollNo:11, Age:22, Name:"ABC", Cont:2276, email:"rea.de9@gmail.com"});
DeprecationWarning: Collection.insert() is deprecated. Use insertOne, insertMany, or bulkWrite.
{
  acknowledged: true,
  insertedIds: { '0': ObjectId("63c6c6e6490337e41bcfc476") }
}
Atlas atlas-hwvtuk-shard-0 [primary] myDB> db.Student.find({RollNo:11});
[
  {
    _id: ObjectId("63c6c6e6490337e41bcfc476"),
    RollNo: 11,
    Age: 22,
    Name: 'ABC',
    Cont: 2276,
    email: 'rea.de9@gmail.com'
  }
]
Atlas atlas-hwvtuk-shard-0 [primary] myDB> db.Student.update({RollNo:11},{ $set:{Name:"FEM"}});
DeprecationWarning: Collection.update() is deprecated. Use updateOne, updateMany, or bulkWrite.
{
  acknowledged: true,
  insertedId: null,
  matchedCount: 1,
  modifiedCount: 1,
  upsertedCount: 0
}
Atlas atlas-hwvtuk-shard-0 [primary] myDB> db.Student.find({RollNo:11});
[
  {
    _id: ObjectId("63c6c6e6490337e41bcfc476"),
    RollNo: 11,
    Age: 22,
    Name: 'FEM',
    Cont: 2276,
    email: 'rea.de9@gmail.com'
  }
]
Atlas atlas-hwvtuk-shard-0 [primary] myDB>
```

5. Export the created table into local file system

mongoexport

```
mongodb+srv://vibha783:Vibha#511821@dbmslab.nu1zzfd.mongodb.net/myDB --  
collection=Student --out /home/vibha/Documents/output.json
```

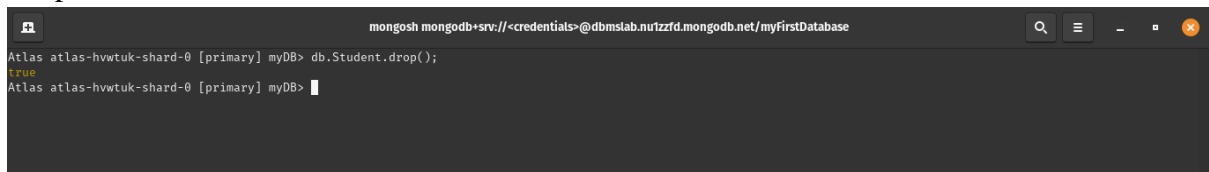
Output:

A terminal window titled 'suryabhat@pop-os' showing the execution of the mongoexport command. The command is: mongoexport --uri 'mongodb+srv://surya4206:Surya#511821@dbmslab.nu1zzfd.mongodb.net/myDB' --collection Student --out /home/suryabhat/Documents/output.json. The output shows: connected to: mongodb+srv://[REDACTED]@dbmslab.nu1zzfd.mongodb.net/myDB, exported 6 records.

6. Drop the table

```
db.Student.drop();
```

Output:

A terminal window titled 'mongosh mongodb+srv://<credentials>@dbmslab.nu1zzfd.mongodb.net/myFirstDatabase' showing the execution of the db.Student.drop() command. The output shows: Atlas atlas-hwtuk-shard-0 [primary] myDB> db.Student.drop();, true, Atlas atlas-hwtuk-shard-0 [primary] myDB>.

7. Import a given csv dataset from local file system into mongodb collection.

mongoimport

```
mongodb+srv://surya4206:Surya#511821@dbmslab.nu1zzfd.mongodb.net/myDB --  
collection=New_Student --type json --file /home/suryabhat/Documents/output.json
```

Output:

A terminal window titled 'suryabhat@pop-os' showing the execution of the mongoimport command. The command is: mongoimport --uri 'mongodb+srv://surya4206:Surya#511821@dbmslab.nu1zzfd.mongodb.net/myDB' --collection New_Student --type json --file /home/suryabhat/Documents/output.json. The output shows: connected to: mongodb+srv://[REDACTED]@dbmslab.nu1zzfd.mongodb.net/myDB, 6 document(s) imported successfully, 0 document(s) failed to import.

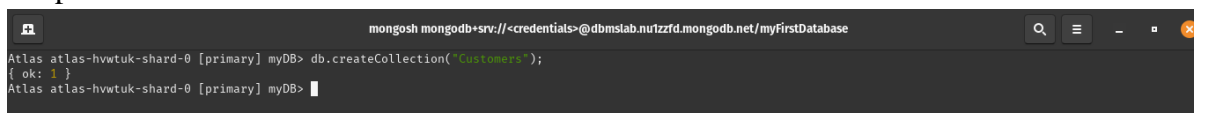
LAB2: Perform the following DB operations using MongoDB.

1. Create a collection by name Customers with the following attributes.

Cust_id, Acc_Bal, Acc_Type

```
db.createCollection("Customers");
```

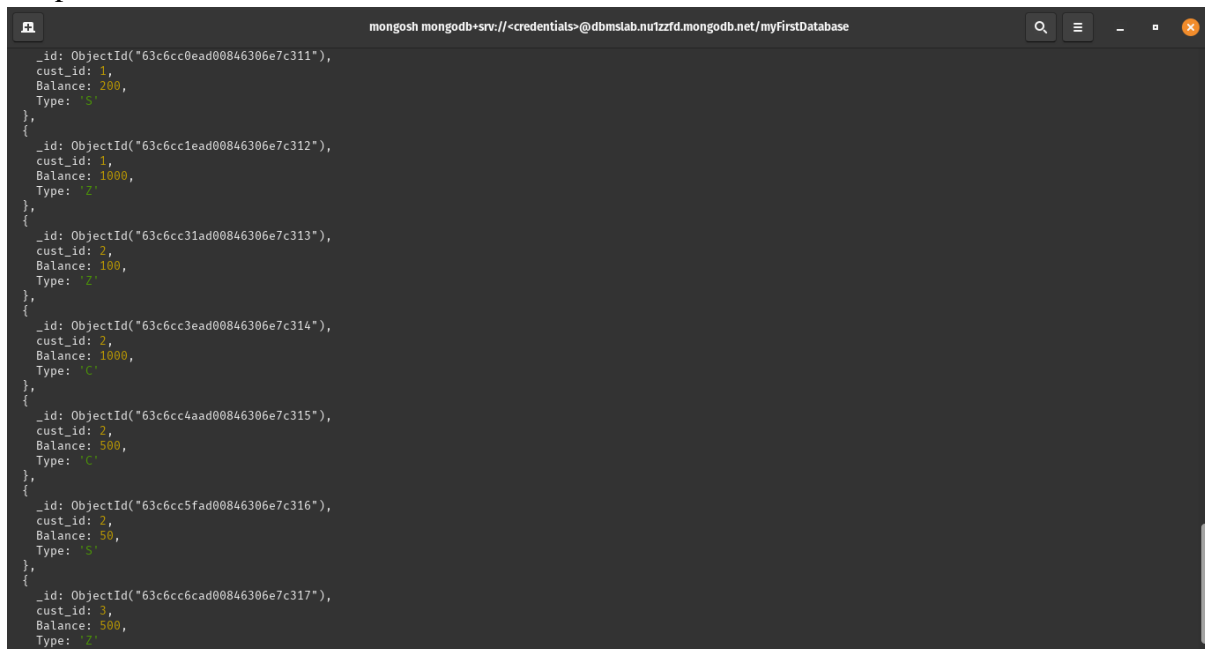
Output:

A terminal window titled 'mongosh mongodb+srv://<credentials>@dbmslab.nu1zzfd.mongodb.net/myFirstDatabase' showing the execution of the db.createCollection("Customers") command. The output shows: Atlas atlas-hwtuk-shard-0 [primary] myDB> db.createCollection("Customers");, { ok: 1 }, Atlas atlas-hwtuk-shard-0 [primary] myDB>.

2. Insert at least 5 values into the table

```
db.Customers.insert({cust_id:1,Balance:200, Type:"S"});
db.Customers.insert({cust_id:1,Balance:1000, Type:"Z"});
db.Customers.insert({cust_id:2,Balance:100, Type:"Z"});
db.Customers.insert({cust_id:2,Balance:1000, Type:"C"});
db.Customers.insert({cust_id:2,Balance:500, Type:"C"});
db.Customers.insert({cust_id:2,Balance:50, Type:"S"});
db.Customers.insert({cust_id:3,Balance:500, Type:"Z"});
```

Output:



```
mongosh mongodb+srv://<credentials>@dbmstlab.nu1zfd.mongodb.net/myFirstDatabase
{
  "_id": ObjectId("63c6cc0ead00846306e7c311"),
  "cust_id": 1,
  "Balance": 200,
  "Type": "S"
},
{
  "_id": ObjectId("63c6cc1ead00846306e7c312"),
  "cust_id": 1,
  "Balance": 1000,
  "Type": "Z"
},
{
  "_id": ObjectId("63c6cc31ad00846306e7c313"),
  "cust_id": 2,
  "Balance": 100,
  "Type": "Z"
},
{
  "_id": ObjectId("63c6cc3ead00846306e7c314"),
  "cust_id": 2,
  "Balance": 1000,
  "Type": "C"
},
{
  "_id": ObjectId("63c6cc4aad00846306e7c315"),
  "cust_id": 2,
  "Balance": 500,
  "Type": "C"
},
{
  "_id": ObjectId("63c6cc5fad00846306e7c316"),
  "cust_id": 2,
  "Balance": 50,
  "Type": "S"
},
{
  "_id": ObjectId("63c6cc6cad00846306e7c317"),
  "cust_id": 3,
  "Balance": 500,
  "Type": "Z"
}
```

3. Write a query to display those records whose total account balance is greater than 1200 of account type 'Z' for each customer_id.

```
db.Customers.aggregate({$match:{Type:"Z"}},{ $group:{_id:"$cust_id",TotAccBal:{$sum:"$Balance"}}},{ $match:{TotAccBal:{$gt:1200}}});
```

Output:



```
mongosh mongodb+srv://<credentials>@dbmstlab.nu1zfd.mongodb.net/myFirstDatabase
Atlas atlas-hwvtuk-shard-0 [primary] myDB> db.Customers.aggregate({$match:{Type:"Z"}},{ $group:{_id:"$cust_id",TotAccBal:{$sum:"$Balance"}}},{ $match:{TotAccBal:{$gt:1200}}});
[ { _id: 3, TotAccBal: 1500 } ]
Atlas atlas-hwvtuk-shard-0 [primary] myDB>
```

4. Determine Minimum and Maximum account balance for each customer_id.

```
db.Customers.aggregate({$group:{_id:"$cust_id",minAccBal:{$min:"$Balance"},maxAccBal:{$max:"$Balance"}}});
```

Output:

```
mongosh mongodb+srv://<credentials>@dbmslab.nulzzfd.mongodb.net/myFirstDatabase
Atlas atlas-hwvtuk-shard-0 [primary] myDB> db.Customers.aggregate({$group:{_id:$cust_id,minAccBal:{$min: '$Balance'},maxAccBal:{$max: '$Balance'}}});
[
  { _id: 1, minAccBal: 200, maxAccBal: 1000 },
  { _id: 2, minAccBal: 50, maxAccBal: 1000 },
  { _id: 3, minAccBal: 500, maxAccBal: 1000 }
]
Atlas atlas-hwvtuk-shard-0 [primary] myDB>
```

5. Export the created collection into local file system

mongoexport

mongodb+srv://vibha783:Vibha#511821@dbmslab.nulzzfd.mongodb.net/myDB --
collection=Customers --out /home/vibha/Documents/output1.json

Output:

```
suryabhat@pop-os:~$ mongoexport mongodb+srv://surya4206:Surya#511821@dbmslab.nulzzfd.mongodb.net/myDB --collection=Customers --out /home/suryabhat/Documents/output1.json
2023-01-18T12:34:22.994+0530 connected to: mongodb+srv://[REDACTED]@dbmslab.nulzzfd.mongodb.net/myDB
2023-01-18T12:34:23.184+0530 exported 3 records
suryabhat@pop-os:~$
```

6. Drop the table

db.Customers.drop();

Output:

```
mongosh mongodb+srv://<credentials>@dbmslab.nulzzfd.mongodb.net/myFirstDatabase
Atlas atlas-hwvtuk-shard-0 [primary] myDB> db.Customers.drop();
true
Atlas atlas-hwvtuk-shard-0 [primary] myDB>
```

7. Import a given csv dataset from local file system into mongodb collection.

mongoimport

mongodb+srv://surya4206:Surya#511821@dbmslab.nulzzfd.mongodb.net/myDB --
collection=New_Collection --type json --file /home/suryabhat/Documents/output1.json

Output:

```
suryabhat@pop-os:~$ mongoimport mongodb+srv://surya4206:Surya#511821@dbmslab.nulzzfd.mongodb.net/myDB --collection=New_Collection --type json --file /home/suryabhat/Documents/output1.json
2023-01-18T12:51:48.074+0530 connected to: mongodb+srv://[REDACTED]@dbmslab.nulzzfd.mongodb.net/myDB
2023-01-18T12:51:48.238+0530 3 document(s) imported successfully. 0 document(s) failed to import.
suryabhat@pop-os:~$
```