**FEDERAL INSTITUTE OF SCIENCE AND TECHNOLOGY (FISAT)**

**DEPARTMENT OF COMPUTER APPLICATIONS**

**ADVANCED DBMS LAB**(Semester & Batch: S2 MCA 2020 B Batch)

**CYCLE -3**

**NoSQL Database – Designing, Query Processing,**

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| --- | --- |
| **CO 3** | Configuration of NoSQL database |
| **CO 4** | Apply CRUD operations and retrieve data in a NoSQL environment. |

1. Install the MongoDB Compass GUI and configure it.
2. Create a collection student consists of details like rollno, name, phoneno, marks, address, year of course etc

NoSQL code:

> show dbs

admin 0.000GB

config 0.000GB

local 0.000GB

mymongodb 0.000GB

> use StudentB6

switched to db StudentB6

> db.createCollection("student")

\{ "ok" : 1 }

1. Insert the details of the multiple students (atleast 5) in the form of documents in the student collection.

NoSQL CODE:

> db.student.insertMany([{roll\_id:101,name:"Appu",phoneno:9496867367,mark:45,address:"moozhikkal",year:2012},{roll\_id:102,name:"Ammu",phoneno:9496867367,mark:45,address:"mol",year:2012},{roll\_id:103,name:"Anu",phoneno:9496867367,mark:48,address:"mh",year:2020},{roll\_id:104,name:"midhu",phoneno:9496867367,mark:51,address:"mr",year:2020}])

{

"acknowledged" : true,

"insertedIds" : [

ObjectId("61543b48b516465b01d989eb"),

ObjectId("61543b48b516465b01d989ec"),

ObjectId("61543b48b516465b01d989ed"),

ObjectId("61543b48b516465b01d989ee")

]

}

1. Retrieve the fields rollno, name, phoneno, marks, city for all the documents in the collection student.

NoSQL CODE:

> db.student.find({name:{$eq:"Ammu"}},{\_id:0,roll\_no:1,name:1,address:1,phone:1,mark:1})

{ "name" : "Ammu", "mark" : 45, "address" : "mol" }

1. Display the details of students who achieved a score more than 90 and are from ‘Thrissur’.

NoSQL CODE:

> db.student.find({$and:[{mark:{$gt:90}},{address:" Thrissur "}]})

**OUTPUT:**

{ "\_id" : ObjectId("61543b48b516465b01d989ee"), "roll\_id" : 104, "name" : "midhu", "phoneno" : 9496867367, "mark" : 95, "address" : " Thrissur ", "year" : 2020 }

1. Update the phone number of Sujith in the student collection. Retrieve the updated information.

NoSQL CODE:

> db.student.updateOne({name:"Sujith"},{$set:{phoneno:96325874}})

{ "acknowledged" : true, "matchedCount" : 1, "modifiedCount" : 1 }

1. Update the year of course in all the documents in the student collection to 2021. Also retrieve the updated information.

NoSQL CODE:

> db.student.updateMany({year:2020},{$set:{year:2021}})

{ "acknowledged" : true, "matchedCount" : 1, "modifiedCount" : 1 }

> db.student.find()

{ "\_id" : ObjectId("61543b48b516465b01d989eb"), "roll\_id" : 101, "name" : "Abhilash", "phoneno" : 9496867367, "mark" : 45, "address" : "moozhikkal", "year" : 2012 }

{ "\_id" : ObjectId("61543b48b516465b01d989ec"), "roll\_id" : 102, "name" : "Ammu", "phoneno" : 9496867367, "mark" : 45, "address" : "mol", "year" : 2012 }

{ "\_id" : ObjectId("61543b48b516465b01d989ed"), "roll\_id" : 103, "name" : "Anu", "phoneno" : 9496867367, "mark" : 48, "address" : "mh", "year" : 2021 }

{ "\_id" : ObjectId("61543b48b516465b01d989ee"), "roll\_id" : 104, "name" : "Sujith", "phoneno" : 96325874, "mark" : 95, "address" : "Thrisur", "year" : 2021 }

1. Delete the details of the student whose name is ‘Abhilash’ from the student collection

NoSQL CODE:

> db.student.deleteOne({name:"Abhilash"})

{ "acknowledged" : true, "deletedCount" : 1 }

> db.student.find()

{ "\_id" : ObjectId("61543b48b516465b01d989eb"), "roll\_id" : 101, "name" : "Appu", "phoneno" : 9496867367, "mark" : 45, "address" : "moozhikkal", "year" : 2012 }

{ "\_id" : ObjectId("61543b48b516465b01d989ec"), "roll\_id" : 102, "name" : "Ammu", "phoneno" : 9496867367, "mark" : 45, "address" : "mol", "year" : 2012 }

{ "\_id" : ObjectId("61543b48b516465b01d989ed"), "roll\_id" : 103, "name" : "Anu", "phoneno" : 9496867367, "mark" : 48, "address" : "mh", "year" : 2021 }

1. Retrieve the number of students per department from the student collection.

NoSQL CODE:

> db.student.find().count()

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1. Arrange the name of the students in ascending order along with all the columns.

NoSQL CODE:

> db.student.find().sort({roll\_id:-1})

{ "\_id" : ObjectId("61543b48b516465b01d989ed"), "roll\_id" : 103, "name" : "Anu", "phoneno" : 9496867367, "mark" : 48, "address" : "mh", "year" : 2021 }

{ "\_id" : ObjectId("61543b48b516465b01d989ec"), "roll\_id" : 102, "name" : "Ammu", "phoneno" : 9496867367, "mark" : 45, "address" : "mol", "year" : 2012 }

{ "\_id" : ObjectId("61543b48b516465b01d989eb"), "roll\_id" : 101, "name" : "Appu", "phoneno" : 9496867367, "mark" : 45, "address" : "moozhikkal", "year" : 2012 }

**Faculty-In-Charge**

**Dr. Deepa Mary Mathews**