**CURD OPERATIONS IN MONGODB**

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I MSC.Data Science

AIM : Perform MongoDB CRUD operations to manage student and course data related to Tamil Nadu and Data Science program

PROCEDURE WITH CODE :

1. **Create and switch to the database ‘educationdb’:**

use educationdb

switched to db educationdb

1. **Create a ‘students’ collection:**

db.createCollection('students')

{ ok: 1 }

1. **Insert a single document with student details:**

db.students.insertOne({name:'ravi kumar',age:23,state:'tamil nadu',course:'data science'})

**{**

**acknowledged: true,**

**insertedId: ObjectId('6749e17b98b12612e0691c76')**

**}**

1. **Insert a Multi document with student details:**

db.students.insertMany([{name:'kumar',age:23,state:'tamil nadu',course:'data science'},{name:'suresh babu',age:24,state:'tamil nadu'}])

**{**

**acknowledged: true,**

**insertedIds: {**

**'0': ObjectId('6749e23598b12612e0691c77'),**

**'1': ObjectId('6749e23598b12612e0691c78')**

**}**

**}**

1. **Retrieve all document from the ‘students’ collection:**

db.students.find()

**{**

**\_id: ObjectId('6749e12a98b12612e0691c75')**

**}**

**{**

**\_id: ObjectId('6749e17b98b12612e0691c76'),**

**name: 'ravi kumar',**

**age: 23,**

**state: 'tamil nadu',**

**course: 'data science'**

**}**

**{**

**\_id: ObjectId('6749e23598b12612e0691c77'),**

**name: 'kumar',**

**age: 23,**

**state: 'tamil nadu',**

**course: 'data science'**

**}**

**{**

**\_id: ObjectId('6749e23598b12612e0691c78'),**

**name: 'suresh babu',**

**age: 24,**

**state: 'tamil nadu'**

**}**

1. **Retrieve specific records based on conditions:**

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

**{**

**\_id: ObjectId('6749e23598b12612e0691c78'),**

**name: 'suresh babu',**

**age: 24,**

**state: 'tamil nadu'**

**}**

1. **Retrieve specific fields from documents using projection:**

db.students.find({},{name:1,course:1,\_id:0})

**{**

**name: 'ravi kumar',**

**course: 'data science'**

**}**

**{**

**name: 'kumar',**

**course: 'data science'**

**}**

**{**

**name: 'suresh babu'**

**}**

1. **Update a single document:**

db.students.updateOne({name:'ravi kumari'},{$set:{age:24}})

**{**

**acknowledged: true,**

**insertedId: null,**

**matchedCount: 0,**

**modifiedCount: 0,**

**upsertedCount: 0**

**}**

1. **Update Multi documents:**

db.students.updateMany({course:'data science'},{$set:{course:'advanced data science'}})

**{**

**acknowledged: true,**

**insertedId: null,**

**matchedCount: 2,**

**modifiedCount: 2,**

**upsertedCount: 0**

**}**

1. **Delete a single document:**

db.students.deleteOne({name:'suresh babu'})

**{**

**acknowledged: true,**

**deletedCount: 1**

**}**

1. **Delete Multi documents:**

db.students.deleteMany({age:{$lt:23}})

**{**

**acknowledged: true,**

**deletedCount: 0**

**}**

1. **Count the total number of Documents:**

db.students.countDocuments()

**3**

1. **Verify the Existence of a specific Documents:**

db.students.findOne({name:'anjali devi'})

**null**

1. **Group and Aggregate data by course:**

db.students.aggregate([{$group:{\_id:'$course',count:{$sum:1}}}])

**{**

**\_id: null,**

**count: 1**

**}**

**{**

**\_id: 'advanced data science',**

**count: 2**

**}**

1. **Create a ‘course’ collection:**

db.createCollection('course')

**{ ok: 1 }**

1. **Insert Multiple documents with course details:**

db.course.insertMany([{coursename:'data science',duration:'2 years'},{coursename:'advanced data science',duration:'1 years'}])

**{**

**acknowledged: true,**

**insertedIds: {**

**'0': ObjectId('6749eed198b12612e0691c7b'),**

**'1': ObjectId('6749eed198b12612e0691c7c')**

**}**

**}**

1. **Retrieve all documents from the ‘course’ collection:**

db.course.find()

**{**

**\_id: ObjectId('6749eed198b12612e0691c7b'),**

**coursename: 'data science',**

**duration: '2 years'**

**}**

**{**

**\_id: ObjectId('6749eed198b12612e0691c7c'),**

**coursename: 'advanced data science',**

**duration: '1 years'**

**}**

1. **Retrieve specific fields from the ‘course’ collection:**

db.course.find({},{coursename:1,duration:1,\_id:0})

**{**

**coursename: 'data science',**

**duration: '2 years'**

**}**

**{**

**coursename: 'advanced data science',**

**duration: '1 years'**

**}**

1. **Drop the ‘students’collection:**

db.students.drop()

**true**

1. **Drop the ‘students’collection:**

db.dropDatabase()

**{ ok: 1, dropped: 'educationdb' }**

{

\_id: ObjectId('6749e23598b12612e0691c77'),

name: 'kumar',

age: 23,

state: 'tamil nadu',

course: 'data science'

}