

Name: Devansh Wadhwani

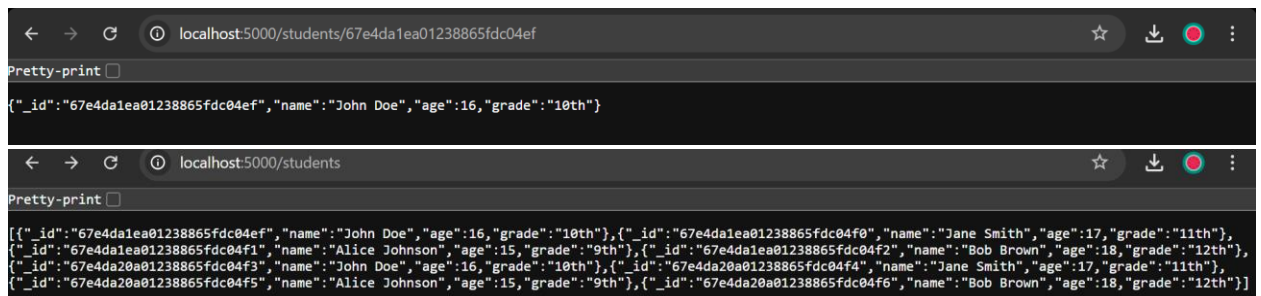
Class : D15A

Roll no. : 64

Experiment – 7: MongoDB

- 1) **Aim:** To study CRUD operations in MongoDB
- 2) **Problem Statement:**
 - A) Create a new database to storage student details of IT dept(Name, Roll no, class name) and perform the following on the database
 - a) Insert one student details
 - b) Insert at once multiple student details
 - c) Display student for a particular class
 - d) Display students of specific roll no in a class
 - e) Change the roll no of a student
 - f) Delete entries of particular student
 - B) Create a set of RESTful endpoints using Node.js, Express, and Mongoose for handling student data operations.
The endpoints should support:
 - Retrieve a list of all students.
 - Retrieve details of an individual student by ID.
 - Add a new student to the database.
 - Update details of an existing student by ID.
 - Delete a student from the database by ID.Connect the server to MongoDB using Mongoose, and store student data with attributes: name, age, and grade.

3) **Output:**



```
localhost:5000/students/67e4da1ea01238865fdc04ef
Pretty-print
{"_id":"67e4da1ea01238865fdc04ef","name":"John Doe","age":16,"grade":"10th"}

localhost:5000/students
Pretty-print
[{"_id":"67e4da1ea01238865fdc04ef","name":"John Doe","age":16,"grade":"10th"}, {"_id":"67e4da1ea01238865fdc04f0","name":"Jane Smith","age":17,"grade":"11th"}, {"_id":"67e4da1ea01238865fdc04f1","name":"Alice Johnson","age":15,"grade":"9th"}, {"_id":"67e4da1ea01238865fdc04f2","name":"Bob Brown","age":18,"grade":"12th"}, {"_id":"67e4da20a01238865fdc04f3","name":"John Doe","age":16,"grade":"10th"}, {"_id":"67e4da20a01238865fdc04f4","name":"Jane Smith","age":17,"grade":"11th"}, {"_id":"67e4da20a01238865fdc04f5","name":"Alice Johnson","age":15,"grade":"9th"}, {"_id":"67e4da20a01238865fdc04f6","name":"Bob Brown","age":18,"grade":"12th"}]
```

Insert Document

To collection sturts

VIEW



```
1 {  
2   {  
3     "name": "John Doe",  
4     "age": 16,  
5     "grade": "10th"  
6   },  
7   {  
8     "name": "Jane Smith",  
9     "age": 17,  
10    "grade": "11th"  
11  },  
12  {  
13    "name": "Alice Johnson",  
14    "age": 15
```



Cancel

Insert

[+ Create Database](#)

inventory

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STORAGE SIZE: 4KB

LOGICAL DATA SIZE: 0B

TOTAL DOCUMENTS: 0

INDEXES TOTAL SIZE: 4KB

Find

Indexes

Schema Anti-
Patterns 0

Aggregation

Search
Indexes[Generate queries from natural language in Compass](#)

INSERT DOCUMENT

Filter

Type a query: { field: 'valu

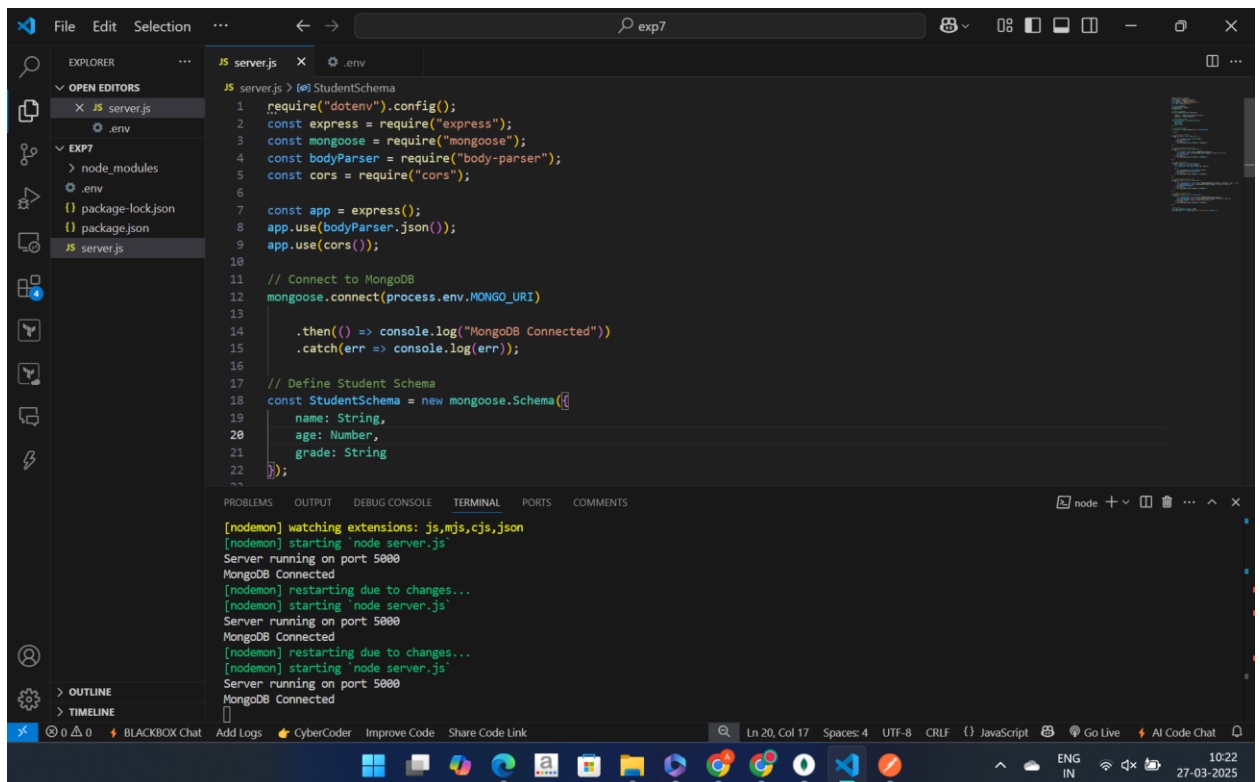
Reset

Apply

Options

QUERY RESULTS: 0





```
> db.students.updateOne({ RollNo: "IT101" }, { $set: { RollNo: "IT110" } })
< {
  acknowledged: true,
  insertedId: null,
  matchedCount: 1,
  modifiedCount: 1,
  upsertedCount: 0
}
> db.students.deleteOne({ Name: "Charlie Brown" })
< {
  acknowledged: true,
  deletedCount: 1
}
Atlas atlas-jsa0wb-shard-0 [primary] itdept>
```

```
>_MONGOSH
```

```
> db.students.find({ ClassName: "IT-1" }).pretty()
```

```
< {  
  _id: ObjectId('67e4d54b85c12e85bbe0e052'),  
  Name: 'John Doe',  
  RollNo: 'IT101',  
  ClassName: 'IT-1'  
}  
{  
  _id: ObjectId('67e4d55585c12e85bbe0e053'),  
  Name: 'Alice Smith',  
  RollNo: 'IT102',  
  ClassName: 'IT-1'  
}  
{  
  _id: ObjectId('67e4d55585c12e85bbe0e055'),  
  Name: 'Charlie Brown',  
  RollNo: 'IT104',  
  ClassName: 'IT-1'  
}
```

```
> db.students.find({ RollNo: "IT103", ClassName: "IT-2" }).pretty()
```

```
< {  
  _id: ObjectId('67e4d55585c12e85bbe0e054'),  
  Name: 'Bob Johnson',  
  RollNo: 'IT103',  
  ClassName: 'IT-2'  
}
```

```
1
```

```
>_MONGOSH
```

```
> use itdept
```

```
< switched to db itdept
```

```
>
```

```
> db.students.insertOne({
```

```
    Name: "John Doe",
```

```
    RollNo: "IT101",
```

```
    ClassName: "IT-1"
```

```
  })
```

```
< {
```

```
  acknowledged: true,
```

```
  insertedId: ObjectId('67e4d54b85c12e85bbe0e052')
```

```
}
```

```
> db.students.insertMany([
```

```
  { Name: "Alice Smith", RollNo: "IT102", ClassName: "IT-1" },
```

```
  { Name: "Bob Johnson", RollNo: "IT103", ClassName: "IT-2" },
```

```
  { Name: "Charlie Brown", RollNo: "IT104", ClassName: "IT-1" },
```

```
  { Name: "David White", RollNo: "IT105", ClassName: "IT-3" }
```

```
])
```

```
< {
```

```
  acknowledged: true,
```

```
  insertedIds: {
```

```
    '0': ObjectId('67e4d55585c12e85bbe0e053'),
```

```
    '1': ObjectId('67e4d55585c12e85bbe0e054'),
```

```
    '2': ObjectId('67e4d55585c12e85bbe0e055'),
```

```
    '3': ObjectId('67e4d55585c12e85bbe0e056')
```

```
}
```

Data ServicesCharts

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Aggregation

IN

Create Database

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Database name ?

itdept

Collection name ?

student

Additional Preferences

Select ▼

Cancel

Create