



**UNIVERSITI TEKNIKAL MALAYSIA MELAKA**  
**FAKULTI TEKNOLOGI DAN KEJURUTERAAN ELEKTRONIK DAN KOMPUTER**

**BERR 2243**  
**DATABASE & CLOUD SYSTEM**

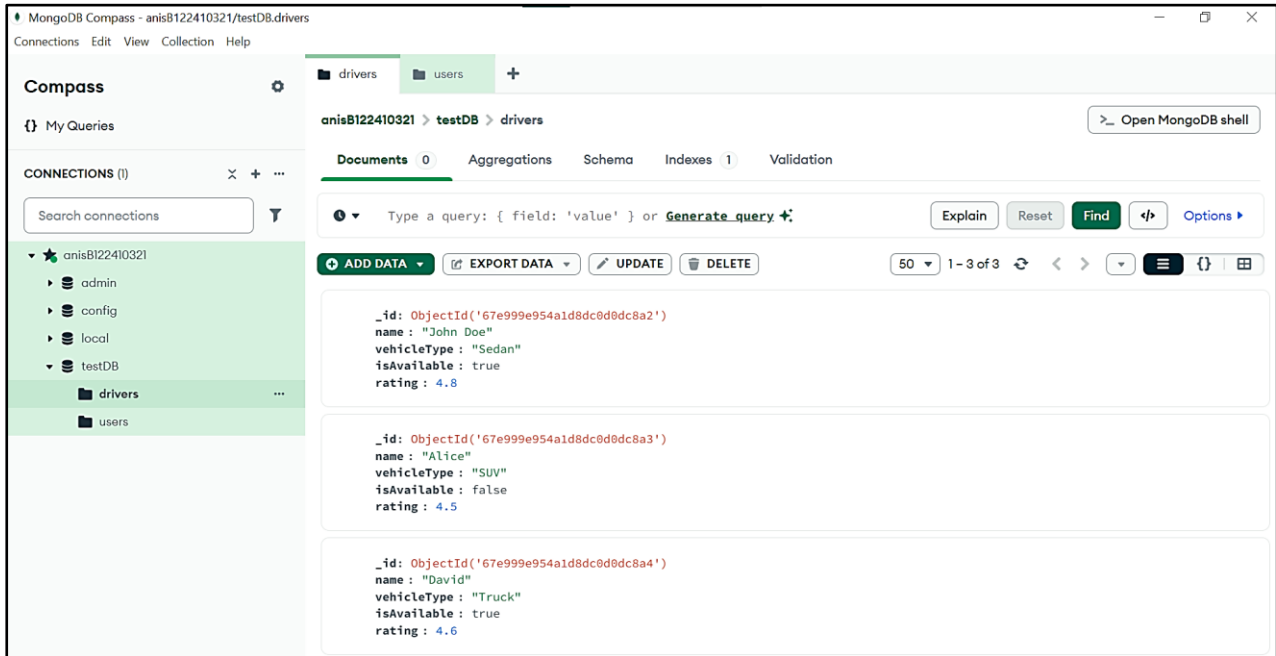
**SEM 2 2024/2025**

**EXERCISE : WEEK 2**

No	Name	Matrix No	Photo
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1. **GitHub Repository:** <https://github.com/anishafifza>
2. **Screenshots of:**

- **Document in MongoDB Compass**



## Exercise Questions

Answer:

1. Explain what is CRUD operations and how it is relates to the mongo functions in the exercise.

## Create – C

Inserting new documents into a collection.

```
for (const driver of drivers) {  
  const result = await driversCollection.insertOne(driver);  
  console.log(`New driver created with result: ${result.insertedId}`);  
}
```

## Read – R

Querying / fetching documents from a collection.

```
// Query and Update Drivers
const availableDrivers = await db.collection('drivers').find(
  {
    isAvailable: true,
    rating: { $gte: 4.5 }
  }).toArray();
console.log("Available drivers:", availableDrivers);
```

## Update – U

Modifying existing documents.

```
// Update
const updateResult = await db.collection('drivers').updateOne(
  { name: "John Doe" },
  { $inc: { rating: 0.1 } }
);
console.log(`Drivers updated with result: ${updateResult}`);
```

## Delete – D

Removing documents from a collection.

```
// Delete - Task 6
const deleteResult = await db.collection('drivers').deleteOne({ isAvailable: false });
console.log(`Driver delete with result: ${deleteResult}`);
}
```

2. Identify all the mongo operators used in the exercise, then explain the usage for each.

### **\$gte (Greater Than or Equal to):**

Used in the find() query to get all drivers whose rating is 4.5 or higher

```
// Query and Update Drivers
const availableDrivers = await db.collection('drivers').find(
  {
    isAvailable: true,
    rating: { $gte: 4.5 }
  }).toArray();
console.log("Available drivers:", availableDrivers);
```

### \$inc (Increment Operator):

Used in the updateOne() function to increase John Doe's rating by 0.1.

```
// Update
const updateResult = await db.collection('drivers').updateOne(
  { name: "John Doe" },
  { $inc: { rating: 0.1 } }
);
console.log(`Drivers updated with result: ${updateResult}`);
```

3. Replace the mongo functions in Task 5 to updateMany instead of updateOne, compare the difference based on the result in console and the mongo compass.

Before :

The screenshot shows the MongoDB Compass interface. On the left, the 'CONNECTIONS (1)' panel shows a connection to 'anisB122410321' with a database named 'testDB'. The 'drivers' collection is selected. The main panel shows the 'Documents' tab with three documents. The first document, for 'John Doe', has a rating of 4.8999999999999995. The second document, for 'Alice', has a rating of 4.5. The third document, for 'David', has a rating of 4.6.

After :

The screenshot shows the MongoDB Compass interface after the update. The 'drivers' collection is still selected. The main panel shows the same three documents. The first document, for 'John Doe', now has a rating of 4.999999999999999. The second document, for 'Alice', still has a rating of 4.5. The third document, for 'David', still has a rating of 4.6.

4. Replace the mongo functions in Task 6 to deleteMany instead of deleteOne, compare the difference based on the result in console and the mongo compass.

Before :

<pre>_id: ObjectId('67eed3ba492c2f5d8283654b') name: "John Doe" vehicleType: "Sedan" isAvailable: true rating: 4.999999999999999</pre>
<pre>_id: ObjectId('67eed3ba492c2f5d8283654d') name: "David" vehicleType: "Truck" isAvailable: true rating: 4.699999999999999</pre>
<pre>_id: ObjectId('67eed4d5414c187ba93a099a') name: "Alex" vehicleType: "Truck" isAvailable: false rating: 4.7</pre>

After :

<div><div><div><div><div><div></div><div>+</div></div><div>ADD DATA</div></div><div><div><div></div><div></div></div><div>EXPORT DATA</div></div><div><div><div></div><div></div></div><div>UPDATE</div></div><div><div><div></div><div></div></div><div>DELETE</div></div></div><div>501 - 2 of 2</div></div></div>
<pre>_id: ObjectId('67eed3ba492c2f5d8283654b') name: "John Doe" vehicleType: "Sedan" isAvailable: true rating: 4.999999999999999</pre>
<pre>_id: ObjectId('67eed3ba492c2f5d8283654d') name: "David" vehicleType: "Truck" isAvailable: true rating: 4.699999999999999</pre>