University of Colombo School of Computing

SCS 2208 - Rapid Application Development

Lab Sheet 11

Basic Commands in MongoDB

1. How to show the databases present
   - ***show dbs***

2. How to create a database
   - ***use [name of database]***
     Example: ***use users***

3. How to check the current database
   - ***db***

4. How to create a collection
   - ***db.createCollection("[name of collection]")***
     Example: ***db.createCollection("customer")***

5. How to show collections
   - ***show collections***

6. How to Delete a collection
   - ***db.<collection name>.drop()***
     Example: ***db.customer.drop()***

7. How to insert a document into a collection
   - ***db.<collection>.insertOne(document, [writeConcern])***
     Example: ***db.users.insertOne({ name: "Lakshitha", gender: "M"})***

8. How to show all documents in a collection
   - ***db.[collection Name].find()*** or ***db.[collection name].find().pretty()*** for a well indented list.
     Example: ***db.customer.find().pretty()***

How to create a simple form using MERN?

1. Set up your Express.js project:

   If you haven't already, create a new directory for your project and initialize it with npm:

```
mkdir express-mongodb-form
cd express-mongodb-form
npm init -y
```

   Install the necessary dependencies:

```
npm install express mongoose body-parser
```

2. Create your Express.js application:

   Create an **app.js** file and set up your Express application with middleware for handling requests and connecting to the MongoDB database:

```
// app.js
const express = require('express');
const mongoose = require('mongoose');
const bodyParser = require('body-parser');

const app = express();
const port = process.env.PORT || 3000;

// MongoDB connection
mongoose.connect('mongodb://localhost/your_database_name', {
  useNewUrlParser: true,
  useUnifiedTopology: true,
});
const db = mongoose.connection;

db.on('error', (error) => console.error('MongoDB connection error:', error)
db.once('open', () => console.log('Connected to MongoDB'));
```

```
// Middleware
app.use(bodyParser.urlencoded({ extended: true }));

// Define a MongoDB schema and model for your form data
const FormData = mongoose.model('FormData', {
  message: String,
});

// Routes
app.get('/', (req, res) => {
  // Render an HTML form
  res.send(`
    <form action="/submit" method="post">
      <input type="text" name="message" placeholder="Enter your message">
      <button type="submit">Submit</button>
    </form>
  `);
});

app.post('/submit', (req, res) => {
  const { message } = req.body;
```

```
  // Create a new instance of the FormData model
  const formData = new FormData({ message });

  // Save the submitted data to MongoDB
  formData.save((err) => {
    if (err) {
      console.error('Error saving form data:', err);
      res.send('Error saving form data');
    } else {
      console.log('Form data saved successfully');
      res.send('Form data saved successfully');
    }
  });
});

// Start the server
app.listen(port, () => {
  console.log(`Server is running on port ${port}`);
});
```

3. Replace '**mongodb://localhost/your_database_name'** with your actual MongoDB connection string and customize the form according to your needs.

4. Start your Express.js application:

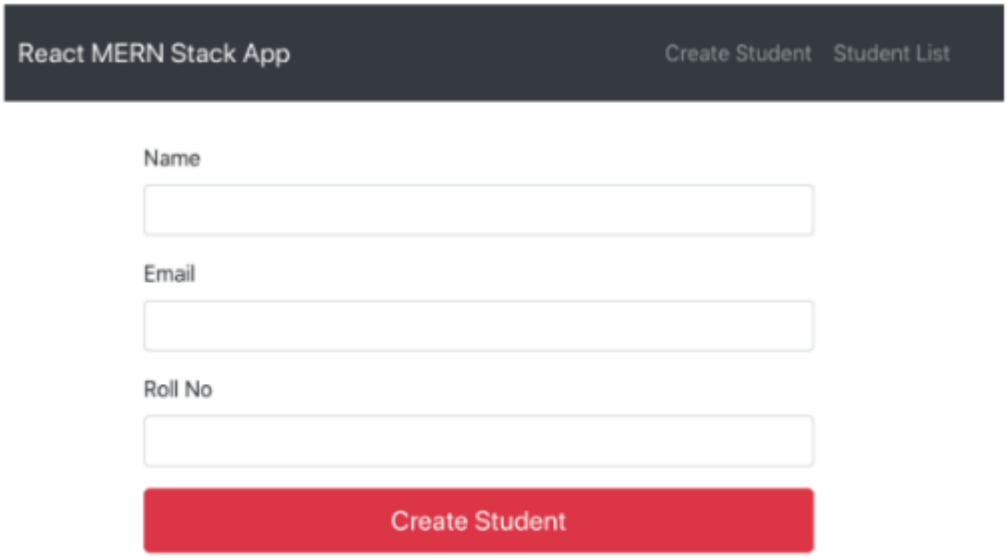
```
node app.js
```

5. Access your application in a web browser at **http://localhost:3000/**. You should see a simple form with a text input field. You can enter text and submit it to save the data in your MongoDB database

Activity

1. Develop a React MERN Stack App to store the details of your Second Year Group Project team members. You are encouraged to develop the design according to your creativity.

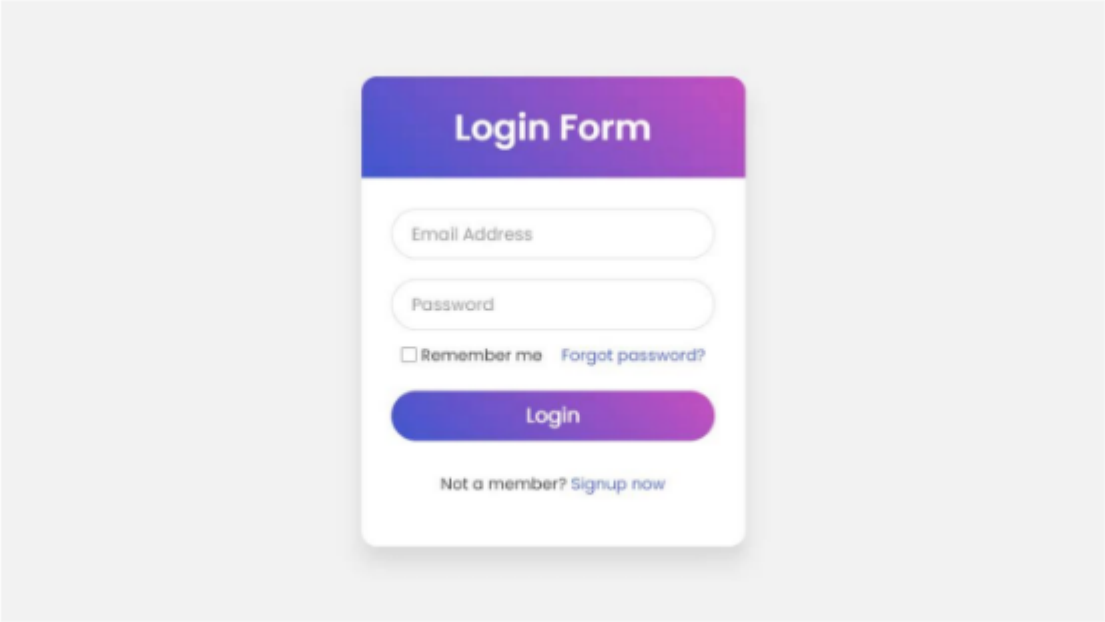
Example UI:



Reference : https://www.positronx.io/react-mern-stack-crud-app-tutorial/

https://www.scaler.com/topics/nodejs/connect-mongodb-with-node-js/

2.



a) Create a login form for a Node application using **Passport.js.**
b) Use the session authentication strategy with **Passport.js.**
c) Connect **Passport** to a **MongoDB** database to store user data.
d) Authorize only logged-in users to access a page.