MERN PROJECT

Basic Steps to follow

1. Setting Up the Backend (Node.js & Express)///

-> mkdir student-details-app

cd student-details-app

-> npm init -y

-> npm install express mongoose cors body-parser

2. Setting Up the Frontend (React)///

-> npx create-react-app client

cd client

-> npm install bootstrap

-> import 'bootstrap/dist/css/bootstrap.min.css';

3. Running the Application ///

-> Start the Backend Server

node server.js

-> Start the Frontend React App

cd client

npm start

Client file

Create the Form Component

Set up the form in StudentForm.js

----> form code //

import React, { useState } from 'react';

import axios from 'axios';

const StudentForm = () => {

const [student, setStudent] = useState({

name: '',

age: '',

gender: '',

district: '',

});

const [message, setMessage] = useState('');

const handleChange = (e) => {

const { name, value } = e.target;

setStudent({ ...student, [name]: value });

};

const handleSubmit = async (e) => {

e.preventDefault();

try {

const response = await axios.post('http://localhost:5000/students', student);

setMessage(response.data.message);

setStudent({ name: '', age: '', gender: '', district: '' }); // Reset form

} catch (error) {

setMessage('Error adding student.');

}

};

return (

<div className="container mt-5">

<h2>Add Student Details</h2>

{message && <div className="alert alert-info">{message}</div>}

<form onSubmit={handleSubmit}>

<div className="mb-3">

<label className="form-label">Name</label>

<input type="text" name="name" className="form-control" value={student.name} onChange={handleChange} required />

</div>

<div className="mb-3">

<label className="form-label">Age</label>

<input type="number" name="age" className="form-control" value={student.age} onChange={handleChange} required />

</div>

<div className="mb-3">

<label className="form-label">Gender</label>

<div>

<input type="radio" name="gender" value="Male" onChange={handleChange} required /> Male

<input type="radio" name="gender" value="Female" onChange={handleChange} /> Female

<input type="radio" name="gender" value="Other" onChange={handleChange} /> Other

</div>

</div>

<div className="mb-3">

<label className="form-label">District</label>

<select name="district" className="form-select" value={student.district} onChange={handleChange} required>

<option value="">Select District</option>

<option value="District A">District A</option>

<option value="District B">District B</option>

<option value="District C">District C</option>

<option value="District D">District D</option>

<option value="District E">District E</option>

</select>

</div>

<button type="submit" className="btn btn-primary">Submit</button>

</form>

</div>

);

};

export default StudentForm;

------> Step 3: Update the App Component

import React from 'react';

import StudentForm from './components/StudentForm';

const App = () => {

return (

<div>

<StudentForm />

</div>

);

};

export default App;

Server file

Create the Express Server

Set up your Express server in server.js

-----> code for backend //

const express = require('express');

const mongoose = require('mongoose');

const cors = require('cors');

const bodyParser = require('body-parser');

const app = express();

const PORT = process.env.PORT || 5000;

// Middleware

app.use(cors());

app.use(bodyParser.json());

// MongoDB connection

mongoose.connect('mongodb://localhost:27017/studentDB', {

useNewUrlParser: true,

useUnifiedTopology: true,

});

const studentSchema = new mongoose.Schema({

name: String,

age: Number,

gender: String,

district: String,

});

const Student = mongoose.model('Student', studentSchema);

// POST endpoint to add a student

app.post('/students', async (req, res) => {

try {

const student = new Student(req.body);

await student.save();

res.status(201).json({ message: 'Student added successfully!' });

} catch (error) {

res.status(400).json({ message: 'Error adding student.', error });

}

});

app.listen(PORT, () => {

console.log(`Server is running on http://localhost:${PORT}`);

});