

**S1: Folders**

```
C:\demo\jsfeb24\L19> mkdir sms_project  
C:\demo\jsfeb24\L19> cd sms_project  
C:\demo\jsfeb24\L19\sms_project> mkdir server  
C:\demo\jsfeb24\L19\sms_project> mkdir client
```

**S2: React****a.**

```
C:\demo\jsfeb24\L19\sms_project> cd client  
C:\demo\jsfeb24\L19\sms_project\client> npx create-react-app sms_app  
C:\demo\jsfeb24\L19\sms_project\client> cd sms_app  
C:\demo\jsfeb24\L19\sms_project\client\sms_app>npm install axios react-router-dom  
C:\demo\jsfeb24\L19\sms_project\client\sms_app>cd src  
C:\demo\jsfeb24\L19\sms_project\client\sms_app\src>notepad Home.js  
C:\demo\jsfeb24\L19\sms_project\client\sms_app\src>notepad Create.js  
C:\demo\jsfeb24\L19\sms_project\client\sms_app\src>notepad Update.js  
C:\demo\jsfeb24\L19\sms_project\client\sms_app\src>notepad NavBar.js  
C:\demo\jsfeb24\L19\sms_project\client\sms_app\src>cd..  
C:\demo\jsfeb24\L19\sms_project\client\sms_app>npm start
```

**b.****Home.js**

```
import NavBar from "./NavBar";  
  
function Home()  
{  
    return(  
        <>  
        <center>  
            <NavBar/>  
            <h1> Home Page </h1>  
        </center>  
    </>  
);  
}  
export default Home;
```

## Create.js

```
import NavBar from "./NavBar";
import { useState , useRef } from "react";
import axios from "axios";

function Create()
{
    const rRno = useRef();
    const [rno, setRno] = useState("");
    const [name, setName] = useState("");
    const [marks, setMarks] = useState("");
    const [msg, setMsg] = useState("");

    const hRno = (event) => { setRno(event.target.value); }
    const hName = (event) => { setName(event.target.value); }
    const hMarks = (event) => { setMarks(event.target.value); }

    const save = (event) => {
        event.preventDefault();
        let data = {rno, name, marks};
        let url = "http://localhost:9000/save";
        axios.post(url, data)
        .then(res => {
            if (res.data.insertedId == rno)
            {
                setMsg("record created");
                setRno("");
                setName("");
                setMarks("");
                rRno.current.focus();
            }
            else
            {
                setMsg("rno already exists");
                setRno("");
                rRno.current.focus();
            }
        })
        .catch( err => setMsg("issue " + err));
    }

    return(
    <>
    <center>
        <NavBar/>
        <h1> Create Page </h1>
        <form onSubmit={save}>
            <input type="number" placeholder ="enter rno "
            onChange={ hRno} value={rno} ref={rRno}/>
            <br/><br/>
    
```

```
<input type="text" placeholder ="enter name "
onChange={ hName} value={name}/>
<br/><br/>
<input type="number" placeholder ="enter marks "
onChange={hMarks} value={marks}/>
<br/><br/>
<input type="submit" />
</form>
<h2> { msg } </h2>
</center>
</>
);
}
export default Create;
```

### **Update.js**

```
import NavBar from "./NavBar";

function Update()
{
return(
<>
<center>
    <NavBar/>
    <h1> Update Page </h1>
</center>
</>
);
}
export default Update;
```

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### **NavBar.js**

```
import { Link } from "react-router-dom";

function NavBar()
{
return(
<>
<center>
    <div className="nav">
        <Link to="/" > Home </Link>
        <Link to="/create" > Create </Link>
    </div>
</center>
</>
);
}
export default NavBar;
```

### **App.js**

```
import logo from './logo.svg';
import './App.css';
import Home from './Home';
import Create from './Create';
import Update from './Update';
import { BrowserRouter, Routes, Route } from "react-router-dom";

function App() {
return (
    <BrowserRouter>
        <Routes>
            <Route path="/" element={ <Home/> } />
            <Route path="/create" element={ <Create/> } />
            <Route path="/update" element={ <Update/> } />
        </Routes>
    </BrowserRouter>
);
}

export default App;
```

### **App.css**

```
* { font-size:2.5vw; }
body { background-color:azure; }
.nav { background-color:black; }
.nav a { color:white; text-decoration:none; margin:3vw; }
```

### S3: Express

a.

```
C:\demo\jsfeb24\L19\sms_project\server>npm install express cors mongodb  
C:\demo\jsfeb24\L19\sms_project\server>notepad index.js  
C:\demo\jsfeb24\L19\sms_project\server>nodemon index.js
```

b.

#### index.js

```
const express = require("express");  
const cors = require("cors");  
const { MongoClient } = require("mongodb");  
  
const app = express();  
app.use(cors());  
app.use(express.json());  
  
app.post("/save", (req, res) => {  
    const url = "mongodb://0.0.0.0:27017";  
    const client = new MongoClient(url);  
    const db = client.db("sms17april24");  
    const coll = db.collection("student");  
    const record = {"_id": req.body.rno, "name" : req.body.name, "marks":req.body.marks };  
    coll.insertOne(record)  
    .then(result => res.send(result))  
    .catch(error => res.send(error));  
  
});  
  
app.listen(9000, () => { console.log("ready @ 9000"); });
```

### S4: MongoDB

```
C:\Program Files\MongoDB\Server\6.0\bin>mongosh  
test> use sms17april24;  
sms17april24> show collections;  
sms17april24> db.student.find();
```