

Lecture #12:

CRUD operations with JSON Server

Create a React JS project using Vite that performs CRUD operations with JSON Server, styled using Bootstrap, and uses React Router for navigation.

1. Create React Project with Vite

```
npm create vite@latest crud-app --template react
cd crud-app
npm install
```

2. Install Dependencies

```
npm install react-router-dom axios bootstrap bootstrap-icons
npm install -D json-server
```

3. Setup JSON Server

Create a db.json in root:

```
{
  "users": [
    { "id": 1, "name": "John Doe", "email": "john@example.com" }
  ]
}
```

Add to package.json:

```
"scripts": {
  "dev": "vite",
  "server": "json-server --watch db.json --port 5000"
}
```

Start JSON Server:

```
npm run server
```

4. Set Up main.jsx

```
// main.jsx
import React from 'react';
import ReactDOM from 'react-dom/client';
import App from './App';
import { BrowserRouter } from 'react-router-dom';
import 'bootstrap/dist/css/bootstrap.min.css';
import 'bootstrap-icons/font/bootstrap-icons.css';

ReactDOM.createRoot(document.getElementById('root')).render(
  <BrowserRouter>
    <App />
  </BrowserRouter>
);
```

5. Define Routes in App.jsx

```
// App.jsx
import { Routes, Route, Link } from 'react-router-dom';
import AddUser from './components/AddUser';
import EditUser from './components/EditUser';
import UserList from './components/UserList';

function App() {
  return (
    <div className="container mt-4">
      <nav className="mb-4">
        <Link to="/" className="btn btn-primary me-2">User List</Link>
        <Link to="/add" className="btn btn-success">Add User</Link>
      </nav>

      <Routes>
        <Route path="/" element={ <UserList /> } />
        <Route path="/add" element={ <AddUser /> } />
        <Route path="/edit/:id" element={ <EditUser /> } />
      </Routes>
    </div>
  );
}

export default App;
```

6. Create AddUser.jsx

```
// components/AddUser.jsx
import { useState } from 'react';
import { useNavigate } from 'react-router-dom';
import axios from 'axios';

function AddUser() {
  const [user, setUser] = useState({ name: "", email: "" });
  const navigate = useNavigate();

  const handleSubmit = async (e) => {
    e.preventDefault();
    await axios.post('http://localhost:5000/users', user);
    navigate('/');
  };

  return (
    <div className="card p-4">
      <h3 className="mb-3">Add New User</h3>
      <form onSubmit={handleSubmit}>
        <div className="mb-3">
          <label>Name</label>
          <input type="text" className="form-control" onChange={(e) => setUser({ ...user, name:
e.target.value })} required />

```

```

    </div>
    <div className="mb-3">
      <label>Email</label>
      <input type="email" className="form-control" onChange={(e) => setUser({ ...user, email:
e.target.value })} required />
    </div>
    <button className="btn btn-success">Add User</button>
  </form>
</div>
);
}

export default AddUser;

```

7. Create EditUser.jsx

```

// components/EditUser.jsx
import { useState, useEffect } from 'react';
import { useParams, useNavigate } from 'react-router-dom';
import axios from 'axios';

function EditUser() {
  const [user, setUser] = useState({ name: "", email: "" });
  const { id } = useParams();
  const navigate = useNavigate();

  useEffect(() => {
    axios.get(`http://localhost:5000/users/${id}`).then((res) => setUser(res.data));
  }, [id]);

  const handleSubmit = async (e) => {
    e.preventDefault();
    await axios.put(`http://localhost:5000/users/${id}`, user);
    navigate('/');
  };

  return (
    <div className="card p-4">
      <h3 className="mb-3">Edit User</h3>
      <form onSubmit={handleSubmit}>
        <div className="mb-3">
          <label>Name</label>
          <input type="text" className="form-control" value={user.name} onChange={(e) => setUser({
...user, name: e.target.value })} required />
        </div>
        <div className="mb-3">
          <label>Email</label>
          <input type="email" className="form-control" value={user.email} onChange={(e) => setUser({
...user, email: e.target.value })} required />
        </div>
        <button className="btn btn-warning">Update User</button>
      </form>
    </div>
  );
}

```

```

    </form>
  </div>
);
}

export default EditUser;

```

8 Create UserList.jsx

```

// components/UserList.jsx
import { useEffect, useState } from 'react';
import axios from 'axios';
import { Link } from 'react-router-dom';

function UserList() {
  const [users, setUsers] = useState([]);

  const fetchUsers = async () => {
    const res = await axios.get('http://localhost:5000/users');
    setUsers(res.data);
  };

  useEffect(() => {
    fetchUsers();
  }, []);

  const deleteUser = async (id) => {
    if (confirm('Are you sure?')) {
      await axios.delete(`http://localhost:5000/users/${id}`);
      fetchUsers();
    }
  };

  return (
    <div>
      <h3>User List</h3>
      <table className="table table-bordered table-striped mt-3">
        <thead className="table-dark">
          <tr><th>ID</th><th>Name</th><th>Email</th><th>Actions</th></tr>
        </thead>
        <tbody>
          {users.map((u) => (
            <tr key={u.id}>
              <td>{u.id}</td>
              <td>{u.name}</td>
              <td>{u.email}</td>
              <td>
                <Link to={`/edit/${u.id}`} className="btn btn-sm btn-primary me-2">
                  <i className="bi bi-pencil"></i> Edit
                </Link>
                <button onClick={() => deleteUser(u.id)} className="btn btn-sm btn-danger">

```

```
        <i className="bi bi-trash"></i> Delete
      </button>
    </td>
  </tr>
)}
</tbody>
</table>
</div>
);
}
```

```
export default UserList;
```

Run App
npm run dev