MERN STACK PRACTICE

- ➢ *First of all, Create a Folder for your project named it what you want.*
- ➢ *Inside that folder create two another folder named 'Server' and 'Client'.*
- ➢ *After that open terminal and set path to the folder named as server*
- ➢ *Inside terminal type :* **npm init –y** *(Node Must be installed)(initialize package.json).*
- ➢ *After that we need to install* **mongoose, express, nodemon, cors.**
  npm i mongoose express nodemon cors
- ➢ *Now create one file named* **server.js** *in folder server*

Server>Server.js

```js
const mongoose = require('mongoose')
const express = require('express')
const app = express()
const routesStud = require('./routes/student_route')
const cors = require('cors')

async function main() {
  mongoose.connect('mongodb://127.0.0.1:27017/test');
  app.use(express.json())
  app.use(cors())
  app.use('/student', routesStud)
  app.listen(5000), () => {
    console.log('server is running')
  }
  return 'done.';
}

main()
  .then(console.log)
```

➢ *Now create one folder named **models** inside server folder.*
➢ *Inside that folder, create one file like **student_models.js**.*

Server>models>student_models.js

```
const mongoose = require('mongoose')
const signup=new mongoose.Schema({
name:{
    type:String,
    required:true,
},
email:{
    type:String,
    required:true,
},
phone:{
    type:String,
    required:true,
},
username:{
    type:String,
    required:true,
},
password:{
    type:String,
    required:true,
},sign_date:{
    type:Date,
    default:Date.now
}
})
module.exports=mongoose.model('student_master',signup)
```

- ➢ *Now create another folder named **routes**.*
- ➢ *Inside that folder create one file named **student_route.js**.*

Server>route>student_route.js

```javascript
const express = require("express");
const router=express.Router()
const signupinfo=require('../models/student_models')

// insert data
router.post('/signup',(req,res)=>{
    const signupentry=new signupinfo({
        name:req.body.name,
        email:req.body.email,
        phone:req.body.phone,
        username:req.body.username,
        password:req.body.password,
    })
    signupentry.save()
})

router.get('/dispStudent',async (req,res)=>{
    const data =await signupinfo.find()
    res.json(data)
})

module.exports=router
```

- ➢ *Now install vs code extension named as **REST Client**.*
- ➢ *Now Crate one file into server folder named like **test.rest**.*

test.rest

```
POST http://127.0.0.1:5000/student/signup
content-type: application/json

{
    "name":"prx",
    "email":"prx@xyz.com",
    "phone":"7689789875",
    "username":"test",
    "password":"test@1209"
}
###

GET http://localhost:5000/student/dispStudent
```

```
//Client Side
```

- *Now take new terminal and set path to the **client** folder.*
- *After that run command as : npx create-react-app ./*
- *It will create reactjs app in your client Directory.*
- *Then after you have to run command as :*
  npm i react-router-dom axios
- *Now make changes into **App.js** File resides in **src** Folder.*

Client>src>App.js

```
// import logo from './logo.svg';
import './App.css';
//uncomment if you want to use it
// import CreateStudent from './comp/CreateStudent'
import DisplayStudent from './comp/DisplayStudent'

function App() {
  return (
    <div className="App">
//uncomment if you want to use it
      {/* <CreateStudent/> */}
      <DisplayStudent/>
    </div>
  );
}

export default App;
```

- *After that create one folder named as **Component.***
- *Inside that folder you have to create one file named as **CreateStudent.js***

Client>comp>CreateStudent.js

```
import React,{useState} from 'react'
import axios from 'axios'

export const CreateStudent = () => {
    const [name,setName]=useState('')
    const [email,setEmail]=useState('')
    const [phone,setPhone]=useState('')
    const [username,setUsername]=useState('')
    const [password,setPassword]=useState('')
    const handleName=(e)=>{setName(e.target.value)}
    const handleEmail=(e)=>{setEmail(e.target.value)}
    const handlePhone=(e)=>{setPhone(e.target.value)}
    const handleUsername=(e)=>{setUsername(e.target.value)}
    const handlePassword=(e)=>{setPassword(e.target.value)}
```

```jsx
    const collectData=async()=>{try{let
insertData=axios.post('http://localhost:5000/student/signup',{name,email,phone
,username,password});}catch(error){console.log(error)}}
  return (
    <div className='App'>
        <header className='App-header'>
            <h4>Student Registration</h4>
            <label>
                Name :
            </label>
            <br/>
            <input type="text"  name='name' required value={name}
onChange={(e)=>handleName(e)} />
            <br/>
            <label>
                email :
            </label>
            <br/>
            <input type="email"  name='email' required value={email}
onChange={(e)=>handleEmail(e)} />
            <br/>
            <label>
                phone :
            </label>
            <br/>
            <input type="text"  name='phone' required value={phone}
onChange={(e)=>handlePhone(e)} />
            <br/>
            <label>
                username :
            </label>
            <br/>
            <input type="text"  name='username' value={username} required
onChange={(e)=>handleUsername(e)} />
            <br/>
            <label>
                password :
            </label>
            <br/>
            <input type="password"  name='password' value={password} required
onChange={(e)=>handlePassword(e)} />
            <br/>
            <button type="button"  onClick={collectData}>Submit</button>
        </header>
    </div>
  )
}
export default CreateStudent;
```

- ➤ *now run the app and take input from the form and need to check into mongodb compass that it will be work well or not.*
- ➤ *So now we have to create another file named as **DisplayStudent.js**.*

Client>comp>DisplayStudnet.js

```
import React from 'react'
import axios from 'axios'
import {useState,useEffect} from 'react'
export const DisplayStudent = () => {
    const [data, setData] = useState([])
    useEffect(()=>{
        const getdata=async()=>{
            try{
            const result=await
axios.get('http://localhost:5000/student/dispStudent')
            setData(result.data)
        }catch(error){
            console.log(error)
        }
        }
        getdata()
    },[])
    const studentrecord=data.map((d)=>{
        return(
            <tr>
                <td>{d.name}</td>
                <td>{d.email}</td>
                <td>{d.phone}</td>
                <td>Edit</td>
                <td>Delete</td>
            </tr>
        )
    })
  return (
    <div>
        <table class='table bg-dark text-light'>
            <tr class='bg-success'>
                <td>Name</td>
                <td>Email</td>
                <td>Phone</td>
                <td>Edit</td>
                <td>Delete</td>
            </tr>
            {studentrecord}
        </table>
    </div>
  )
}
```

```
export default DisplayStudent;
```

//login page

➢ *Now at server side create one file named as **login.js** into routes folder.*

Server>routes>login.js

```
const express=require('express')
const router=express.Router()
const logininfo=require('../models/student_models')

router.post('/login',async(req,res)=>{
    console.log(req.body)
    if(req.body.username && req.body.password){
        let loginchk=await logininfo.findOne(req.body).select('-password')
        if(loginchk)
        {
            res.send(loginchk)
        }else{
            res.send({result:"Invalid Username or Password"})
        }
    }else{
        res.send({result:"Invalid Username or Password"})
    }
})
module.exports=router
```

➢ *Then we want to update **server.js** file like as follow :*

```
const mongoose = require('mongoose')
const express = require('express')
const app = express()
const routesStud = require('./routes/student_route')
const routeLogin = require('./routes/login')
const cors = require('cors')

async function main() {
  mongoose.connect('mongodb://127.0.0.1:27017/testx');
  app.use(express.json())
  app.use(cors())
  app.use('/student', routesStud)
  app.use('/login',routeLogin)
  app.listen(5000), () => {
    console.log('server is running')
  }
  return 'done.';
```

```
}

main()
  .then(console.log)
```

> ➤ *Now create one file at client side in **Comp** folder named as Login.js*

Client>src>comp>Login.js

```javascript
import React, { useState } from 'react'
import axios from 'axios'

export const Login = () => {
    const [username,setUsername]=useState('')
    const [password,setPassword]=useState('')
    const handleUserChange=(e)=>{
        setUsername(e.target.value)
    }
    const handlePassChange=(e)=>{
        setPassword(e.target.value)
    }

    const collectData=async()=>{
        try {
            let logindata=await
axios.post('http://localhost:5000/login/login',{
                username,password
            })
            logindata=(logindata).data;
            alert(logindata.name)
            if(logindata.name){
                localStorage.setItem("login",JSON.stringify(logindata))
            }else{
                alert("Login Failed")
            }
        } catch (error) {
            console.log(error)
        }
    }
    return (
        <div>
            <div className='App'>
                <header className='App-header'>
                    <h4>Login Here</h4>
                    <label>Username :</label>
                    <input type='text' name='username' value={username}
required onChange={(e) => handleUserChange(e)} />
                    <br />
                    <label>Password :</label>
```

```
                        <input type='text' name='password' value={password}
required onChange={(e) => handlePassChange(e)} />
                    <br/>
              <button type="button"  onClick={collectData}>Submit</button>

                  </header>
              </div>
          </div>
      )
}
export default Login
```

> *Here we have to make changes in App.js*

Client>src>App.js

```
// import logo from './logo.svg';
import './App.css';
//uncomment if you want to use it
// import CreateStudent from './comp/CreateStudent'
//import DisplayStudent from './comp/DisplayStudent'
import Login from './comp/Login';

function App() {
  return (
    <div className="App">
//uncomment if you want to use it
      <Login/>
      {/* <CreateStudent/> */}
      {/* <DisplayStudent/> */}
    </div>
  );
}

export default App;
```

> *Now do not forgot to start the server using node server.js from serverside terminal and after that run client side using npm start.*
> *If it is running well, then you have to check in inspect>application> localstorage have your data or not.*