

Bapuji Educational Association (Regd.)
Bapuji Institute of Engineering and Technology, Davangere
Department of Information Science and Engineering
Academic Year:2024-25
Full Stack Development (BIS601)
Hands-on Session

1.Objective:

To enrich the practical knowledge on MERN components with hands-on experience in Full Stack Web Development.

This intensive one-day session is designed to introduce students the core concepts of Full Stack Development. By the end of the session, participants will have built a basic full-stack application using HTML, CSS, JavaScript (Frontend) and Node.js with Express and Mongo DB (Backend).

2. Topics Covered:

- Introduction to Full Stack Development
- Frontend Basics: HTML, CSS, JavaScript
- Backend Setup: Node.js, Express
- Database Integration: Mongo DB Basics
- Connecting Frontend and Backend
- Mini Project Development and Completion



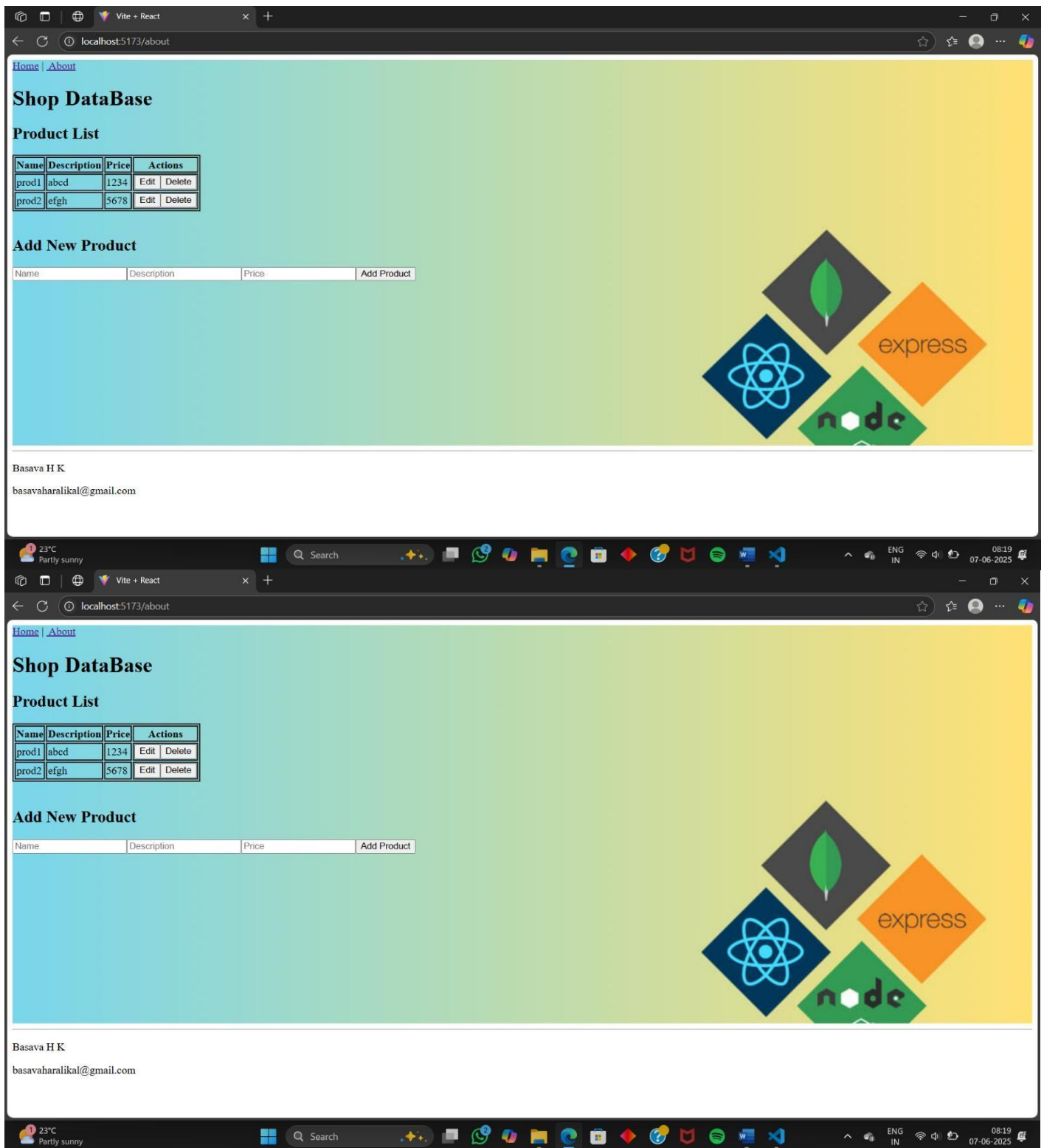
3. Implementation

The image shows a VS Code editor window with a project named 'mern project'. The Explorer sidebar on the left shows the file structure, with 'About.jsx' selected under 'pages'. The main editor displays the code for 'About.jsx'.

```
client > src > pages > About.jsx > About > fetchProducts
4
5
6 function About()
7 {
8   const [products, setProducts] = useState([]);
9   useEffect(() => {
10     fetchProducts();
11   }, []);
12   async function fetchProducts()
13   {
14     const response = await fetch('http://localhost:3000/products');
15     if (!response.ok) {
16       console.error("error");
17       return;
18     }
19     const products = await response.json();
20     setProducts(products);
21   }
22
23   return(
24     <div style={{padding: "20px", backgroundImage: "url('/ios-wallpaper-new.jpg')", backgroundSize: "cover"}} ><
25     <ProductList products={products} fetchProducts={fetchProducts}/>
26     <br />
27     <AddProduct fetchProducts={fetchProducts}/>
28     </div>
29   );
30 }
31 export default About;
```

Below the editor, a browser window shows the rendered 'About' page. The page has a light blue and yellow background. It displays 'Welcome To MERN Project' and a logo for the MERN stack (MongoDB, Express, React, Node.js). The footer shows the name 'Basava H K' and the email 'basavaharalikal@gmail.com'.

HOME PAGE



ADD PRODUCT

Home | About

Shop DataBase

Product List

Name	Description	Price	Actions
prod1	abcd	1234	Edit Delete
prod2	efgh	5678	Edit Delete

Add New Product

prod3 ijk 9012 Add Product

Basava H K
basavaharalikal@gmail.com

23°C Partly sunny

Home | About

Shop DataBase

Product List

Name	Description	Price	Actions
prod1	abcd	1234	Edit Delete
prod2	efgh	5678	Edit Delete
prod3	higjk	9012	Edit Delete

Add New Product

Name Description Price Add Product

Basava H K
basavaharalikal@gmail.com

23°C Partly sunny

EDIT PRODUCT

Vite + React

localhost:5173/about

[Home](#) | [About](#)

Shop DataBase

Product List

Name	Description	Price	Actions
prod1	abcd	1234	Edit Delete
prod2	efgh	5678	Edit Delete
product3	ijkl	9012	Edit Delete

Add New Product

Basava H K
basavaharalikal@gmail.com

23°C
Partly sunny

Search

ENG
IN

08:23
07-06-2025

Vite + React

localhost:5173/about

localhost:5173 says
do you want to delete

OK

[Home](#) | [About](#)

Shop DataBase

Product List

Name	Description	Price	Actions
prod1	abcd	1234	Edit Delete
prod2	efgh	5678	Edit Delete
product3	ijkl	9012	Edit Delete

Add New Product

Basava H K
basavaharalikal@gmail.com

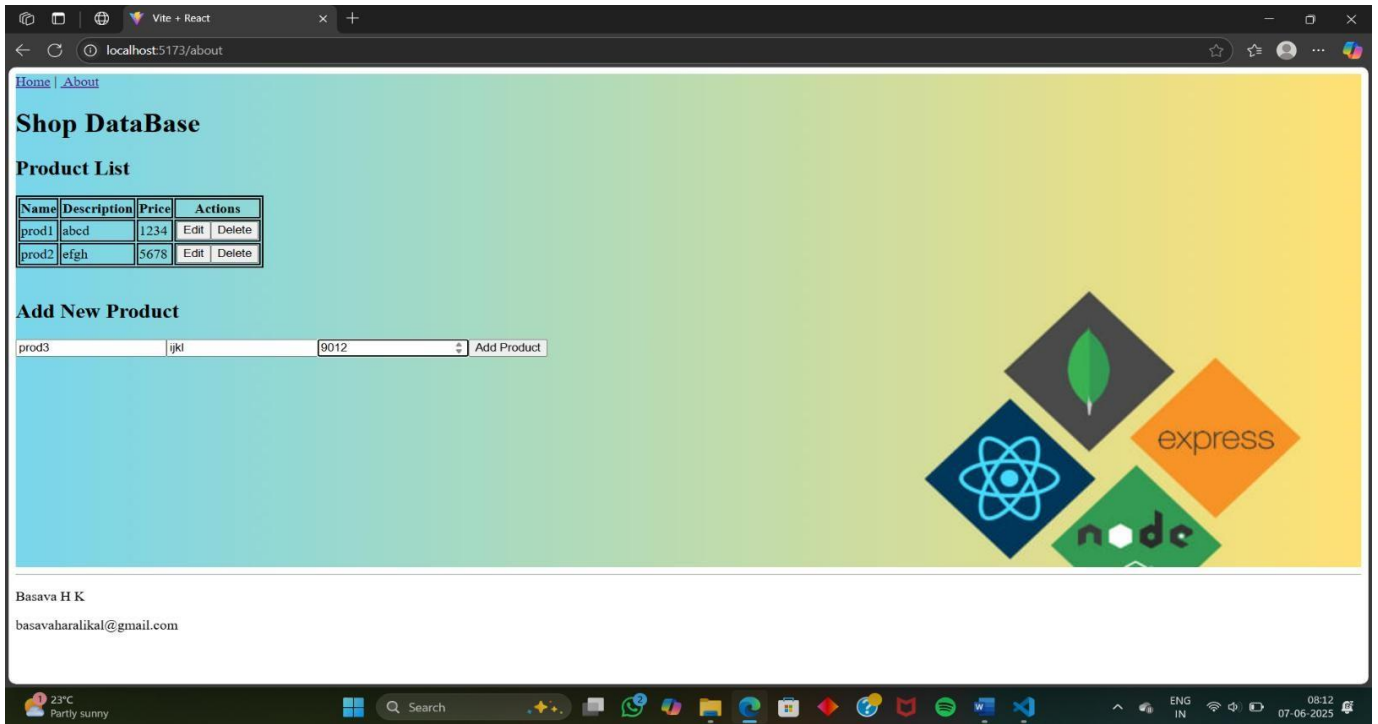
23°C
Partly sunny

Search

ENG
IN

08:15
07-06-2025

DELETE PRODUCT



4. Outcome:

After this Hands-on session, students are able to apply MERN (MongoDB, Express.js, React.js, Node.js) components to develop a web application. Successfully implemented CRUD operations with RESTful APIs.

Course Coordinator

Program Coordinator