MES COLLEGE OF ENGINEERING, DEPARTMENT OF COMPUTER SCIENCE

CSL 333

DATABASE MANAGEMENT SYSTEMS LAB

WEB-BASED INVENTORY MANAGEMENT SYSTEM

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ABSTRACTION

This project introduces an Inventory Management Application designed to streamline and enhance the efficiency of managing product inventories. The application features a robust user authentication system, including signup and login pages, ensuring secure access to authorized users.

The heart of the application lies in its user-friendly dashboard, providing a comprehensive overview of the existing product inventory. Users can seamlessly navigate through the dashboard, which lists all products with essential details, facilitating quick and informed decision-making.

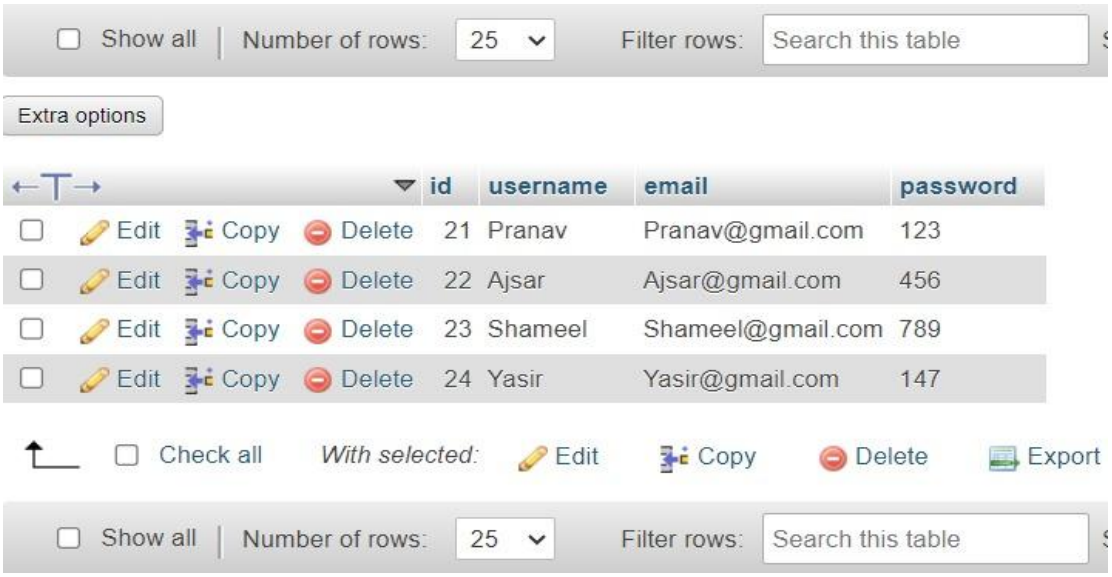
The application empowers users with the ability to add, delete, and update information about products directly from the dashboard. This functionality not only simplifies the process of inventory maintenance but also ensures real-time accuracy of product data. Through intuitive interfaces, users can effortlessly input new products, remove obsolete items, and modify existing information, contributing to a dynamic and responsive inventory management system.

With a focus on user convenience and data integrity, this Inventory Management Application strives to optimize the management of product inventories. The integration of user authentication ensures a secure environment, while the dynamic dashboard and product management functionalities enhance overall efficiency in handling inventory-related tasks.

IMPLEMENTATION

DATABASE CREATION

Open phpmyadmin in your internet browser In the create database field type in a name for your database. Leave the collation drop down box if you wish to use the default MySQL schema collation. Click Create.



Connect to the Database

After creating the table, we have to create a node.js/express.js connector script to connect to the MySQL database server. Create a file named db.js and put the following code inside it.

db.js

```
import express from 'express'
import cors from 'cors'
```

```
import mysql, { createConnection} from 'mysql'
const app = express();
app.use(cors());
app.use(express.json());
const db = mysql.createConnection({
    host: "localhost",
    user: 'root',
    password: "",
    database: 'inventory',
})
app.listen(8081,()=>{
    console.log("connected to server");
})
```

Session Create for connect sign-in page and login page with database

Next, we have to create a session for the user. Create a file named db.js and paste the codes below.

db.js

sign-up

```
app.post('/Signup',(req,res)=>{
    const sql = "INSERT INTO signup(`username`,`email`,`password`) VALUES (?)";
    const values = [
        req.body.username,
        req.body.email,
        req.body.password

    ]
    db.query(sql,[values],(err,result) =>{
        if(err) return res.json({Message:"Error in node"});
        return res.json(result);

    })
})
```

Login

```
app.post('/Login',(req,res)=>{
   const sql = "SELECT username,password FROM signup WHERE username = ?
and password = ?";
   db.query(sql,[req.body.username, req.body.password],(err,result) => {


      if(err) return res.json({Message: "Error inside server"});
      if(result.length > 0){
         return res.json({Login: true})
      }
      else {
         return res.json({Login: false})
      }
   })
})
```

Session create for connect dashboard with database

```
app.get("/Home",(req,res) => {
   const sql = "SELECT * FROM datatable";
   db.query(sql,(err,data) =>{
      if(err) return res.json("Error");
      return res.json(data);

   })

})
app.post('/Home',(req,res) =>{
   const sql = "INSERT INTO datatable
(`brand`,`category`,`item`,`count`,`date`,`deliverypin`,`ecommerce`) VALUES (?)";
   const values = [
      req.body.brand,
      req.body.category,
      req.body.item,
      req.body.count,
      req.body.date,
      req.body.deliverypin,
```

```
        req.body.ecommerce
    ]
    db.query(sql, [values],(err,data)=>{
        if(err) return res.json("Error");
        return res.json(data);
    })
})
app.put('/Update/:id',(req,res) =>{
    const sql = "UPDATE datatable SET `brand` = ?, `category` = ?, `item` = ?, `count`
= ?, `date` = ?, `deliverypin` = ?, `ecommerce` = ? WHERE ID = ?";
    const values = [
        req.body.brand,
        req.body.category,
        req.body.item,
        req.body.count,
        req.body.date,
        req.body.deliverypin,
        req.body.ecommerce
    ]
    const id = req.params.id;
    db.query(sql, [...values,id],(err,data)=>{
        if(err) return res.json("Error");
        return res.json(data);
    })
})
app.delete('/Home/:id',(req,res) =>{
    const sql = "DELETE FROM datatable WHERE ID = ?";
    const id = req.params.id;

    db.query(sql, [id],(err,data)=>{
        if(err) return res.json("Error");
        return res.json(data);
    })
})
```

Creating a Registration Form

Furthermore, create JSX file signup.JSX and paste the following example code in it. This will create an HTML form. It will allow users to register and add username,email and password

Signup.JSX

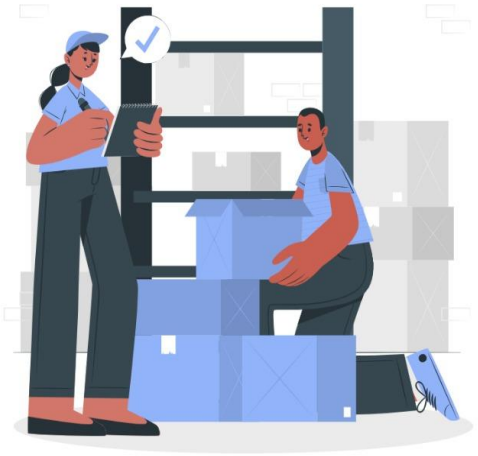
```
import React, { useState } from 'react'
import './Signup.css'
import axios from 'axios'
import { Link, useNavigate } from 'react-router-dom'
import img from '../../../Img/landing.svg'
import { BiLogoInstagram, BiLogoYoutube, BiLogoFacebookSquare } from
'react-icons/bi'
import { RiTwitterXFill } from 'react-icons/ri'


function Signup() {

const [values, setValues] = useState({
    username:'',
    email:'',
    password:''

})
const handleInput = (event) =>{
    setValues(prev =>({...prev,[event.target.name]:[event.target.value]}))
}
const navigate = useNavigate();


const handleSubmit = async (event) =>{
    event.preventDefault();
    axios.post('http://localhost:8081/Signup',values)
    .then(res => {
        console.log(res)
        navigate('/Login')
    })

    .catch(err => console.log(err));
}
    return (
        <div className="main">
            <div className="header">
                <div className="left">
                    <div className="logo">
                        AccuStock <span>Hub</span>
                    </div>
```

```
            </div>
            <div className="right">
              Seamless Inventory Control for Smarter Business Operations
            </div>
          </div>
          <div className="content">
            <div className="left">
              <img src={img} alt="img" />
            </div>
            <div className="right">
              <div className="signup-form">
                <h2>Sign Up</h2>
                <form onSubmit={handleSubmit}>
                  <div className="form-group">
                    <label htmlFor="username">Username
<span>(required)</span></label>
                    <input
                      type="text"
                      name='username'
                      placeholder="Enter your username"
                      onChange={handleInput}
                    />
                  </div>
                  <div className="form-group">
                    <label htmlFor="email">Email <span>(required)</span></label>
                    <input
                      type="email"
                      name='email'
                      placeholder="Enter your email"
                      onChange={handleInput}
                    />
                  </div>
                  <div className="form-group">
                    <label htmlFor="password">Password
<span>(required)</span></label>
                    <input
                      type="password"
                      name='password'
                      placeholder="Enter your password"
                      onChange={handleInput}
                    />
                  </div>
                  <button type="submit" id="Signup">Signup</button>
```

```
                    <Link to='/Login'><button id="Login">Already Have an
account</button></Link>
                </form>
              </div>
            </div>
          </div>
          <div className="footer">
            <div className="ftop">
              <div className="fleft">Lorem ipsum dolor, sit amet consectetur
adipisicing elit. Exercitationem pariatur inventore quae quas soluta, asperiores
dolores dolorem! Nemo, odio a. Lorem ipsum dolor sit amet consectetur adipisicing
elit. Blanditiis, molestias. Lorem ipsum dolor sit amet consectetur adipisicing elit. Odit
distinctio quia exercitationem nulla quod numquam, veniam facere reiciendis quam
veritatis.
              </div>
              <div className="fright">


                <ul>
                  <p>Follow</p>
                  <li><BiLogoInstagram /></li>
                  <li><BiLogoYoutube /></li>
                  <li><BiLogoFacebookSquare /></li>
                  <li><RiTwitterXFill /></li>
                </ul>


                <div className="flower"></div>
              </div>

            </div>
            <div className="bottom">
              <span>©</span>
              <p>All rights belong to the owner.</p>
            </div>
          </div>
        </div>
    )
}

export default Signup
```

AccuStock Hub

Seamless Inventory Control for Smarter Business Operations



Sign Up

Username (required)

Enter your username

Email (required)

Enter your email

Password (required)

Enter your password

Signup

Already Have an account

Creating a Login Form

Similarly, create a JSX file login.JSX and put the following example code in it. This file code contains a form that allows users to enter username and password.

Login.JSX

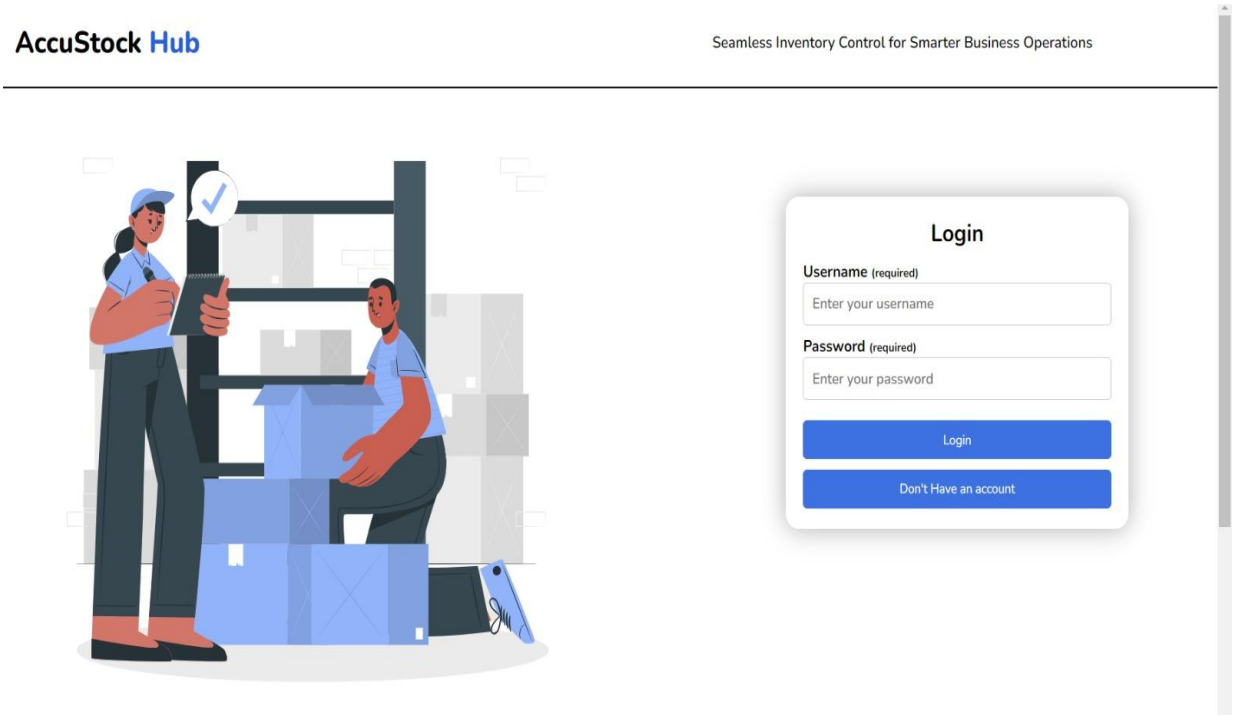
```
import React from 'react'
import img from '../../../Img/landing.svg'
import { Link ,useNavigate} from 'react-router-dom'
import { BiLogoInstagram, BiLogoYoutube, BiLogoFacebookSquare } from
'react-icons/bi'
import { RiTwitterXFill } from 'react-icons/ri'
import { useState } from 'react'
import axios from 'axios'

function Login()
{
    const [values, setValues] = useState({
        username:'',
        email:''


    })
    const handleInput = (event) =>{
        setValues(prev =>({...prev,[event.target.name]:[event.target.value]}))
    }
    const navigate = useNavigate();


    const handleSubmit = (event) =>{
        event.preventDefault();
        axios.post('http://localhost:8081/Login',values)
        .then(res => {
            if(res.data.Login){

                navigate('/Home')
            }
            else
```

```
        {
            alert("No record found please Signup")
            navigate('/Signup')


        }
        console.log(res)

      })

      .catch(err => console.log(err));
  }
  return (
    <div className="main">
      <div className="header">
        <div className="left">
          <div className="logo">
            AccuStock <span>Hub</span>
          </div>
        </div>
        <div className="right">
          Seamless Inventory Control for Smarter Business Operations
        </div>
      </div>
      <div className="content">
        <div className="left">
          <img src={img} alt="img" />
        </div>
        <div className="right">
          <div className="signup-form">
            <h2>Login</h2>
            <form onSubmit={handleSubmit}>
            <div className="form-group">
                  <label htmlFor="username">Username
<span>(required)</span></label>
                  <input
                    type="text"
                    name='username'
                    placeholder="Enter your username"
                    onChange={handleInput}
                  />
                </div>
                <div className="form-group">
```

```
                        <label htmlFor="password">Password
<span>(required)</span></label>
                        <input
                           type="password"
                           name='password'
                           placeholder="Enter your password"
                           onChange={handleInput}
                        />
                     </div>
                     <button type="submit" id="Login">Login</button>
                     <Link to='/Signup'><button type="button" id="Signup">Don't Have
an account</button></Link>
                  </form>
               </div>
            </div>
         </div>
         <div className="footer">
            <div className="ftop">
               <div className="fleft">Lorem ipsum dolor, sit amet consectetur
adipisicing elit. Exercitationem pariatur inventore quae quas soluta, asperiores
dolores dolorem! Nemo, odio a. Lorem ipsum dolor sit amet consectetur adipisicing
elit. Blanditiis, molestias. Lorem ipsum dolor sit amet consectetur adipisicing elit. Odit
distinctio quia exercitationem nulla quod numquam, veniam facere reiciendis quam
veritatis.
               </div>
               <div className="fright">


                  <ul>
                     <p>Follow</p>
                     <li><BiLogoInstagram /></li>
                     <li><BiLogoYoutube /></li>
                     <li><BiLogoFacebookSquare /></li>
                     <li><RiTwitterXFill /></li>
                  </ul>


                  <div className="flower"></div>
               </div>

            </div>
            <div className="bottom">
               <span>©</span>
```

```
                <p>All rights belong to the owner.</p>
            </div>
        </div>
    </div>
  )
}
```

export default Login



Making a Dashboard Page

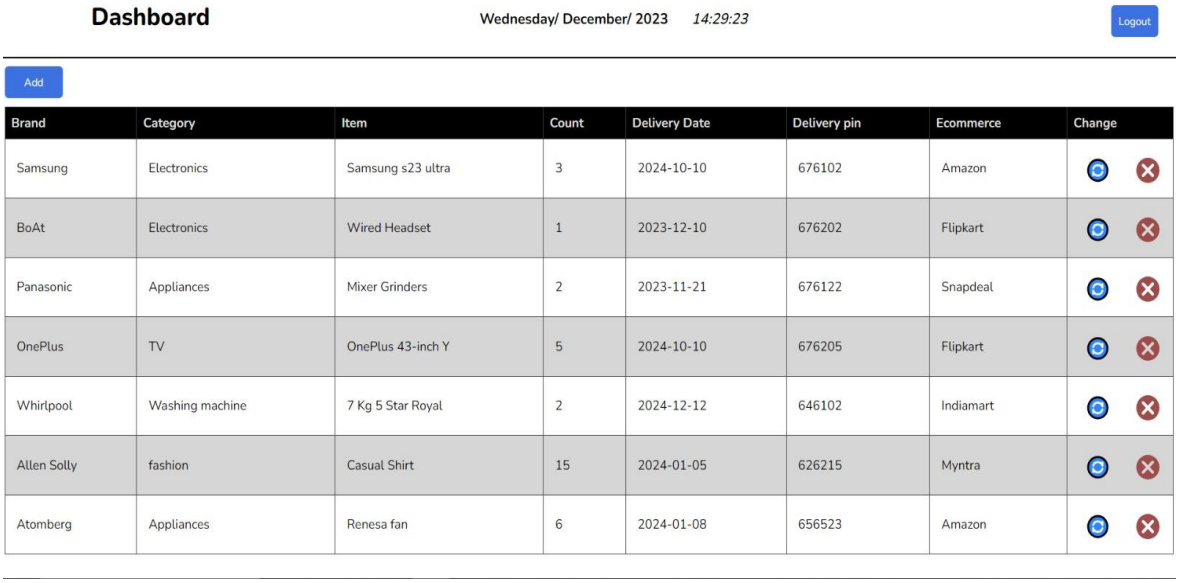
Once user login we will redirect to the user dashboard page. Create a JSX file named home.jsx and paste the below code in it,

Home.jsx

```
import React, { useEffect, useState } from 'react'
import './Home.css';
import axios from 'axios';
import update from '../../Img/update.svg';
import img from '../../Img/delete.svg';
import { Link } from 'react-router-dom';
```

```
import Adding from '../Adding/Adding';
import Nav from '../Nav/Nav';

function Home() {

  const [info, setinfo] = useState([])
  useEffect(()=>{

    axios.get('http://localhost:8081/Home')
    .then(res =>  setinfo(res.data))         // console.log(res))
    .catch(err => console.log(err));
  },[])
  const handleDelete =async (id)=> {
    try{
      await axios.delete('http://localhost:8081/Home/'+id)
      window.location.reload()
    }catch(err){
      console.log(err);
    }
  }
  return (
    <>
    <Nav/>
    <div className="table-container">
        <Link to='/Adding'><button id="Adding"
className='add-button'>Add</button></Link>


        <table className='data-table'>
          <thead>
            <tr>
              <th>Brand</th>
              <th>Category</th>
              <th>Item</th>
              <th>Count</th>
              <th>Delivery Date</th>
              <th>Delivery pin</th>
              <th>Ecommerce</th>
              <th>Change</th>
            </tr>
          </thead>
          <tbody>
            {
```

```
            info.map((data,i)=>(
              <tr key={i}>
                <td>{data.brand}</td>
                <td>{data.category}</td>
                <td>{data.item}</td>
                <td>{data.count}</td>
                <td>{data.date}</td>
                <td>{data.deliverypin}</td>
                <td>{data.ecommerce}</td>
                <td>
                  <div className="btn">
                  <Link to={`/Update/${data.id}`}><button className='edit1'><img
src={update} alt="update" width={30}/></button></Link>

                  <button className='edit2' onClick={e => handleDelete(data.id)}><img
src={img} alt="delete" width={30}/></button>
                  </div>

                </td>
              </tr>
            ))
          }
        </tbody>
      </table>

    </div>
    </>

  )

}

export default Home
```



Session create for adding products

Create a jsx file named adding.jsx, when clicked add button in the dashboard it redirect to adding page for adding product data

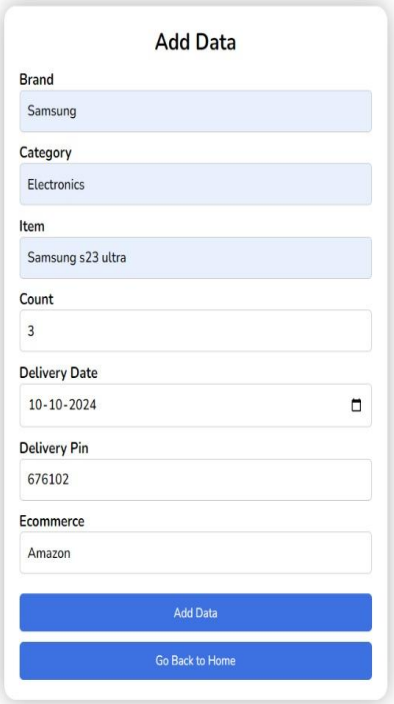
adding.jsx

```
import React, { useState } from 'react'
import { Link } from 'react-router-dom'
import './Adding.css'
import axios from 'axios'
import { useNavigate } from 'react-router-dom'
function Adding() {
    const [brand, setbrand] = useState('')
    const [category, setcategory] = useState('')
    const [item, setitem] = useState('')
    const [count, setcount] = useState('')
    const [date, setdate] = useState('')
    const [deliverypin, setdeliverypin] = useState('')
    const [ecommerce, setecommerce] = useState('')
    const navigate = useNavigate();
    const handleSubmit = async (event) =>{
    event.preventDefault();
```

```
axios.post('http://localhost:8081/Home',{brand,category,item,count,date,deliverypin,e
commerce})
    .then(res =>{
        console.log(res);
        navigate('/Home')
    })
    .catch(err => console.log(err));
}
  return (
    <div className="adding-form">
                    <h2>Add Data</h2>
                    <form onSubmit={handleSubmit}>
                        <div className="addform-group">
                            <label htmlFor="brand">Brand</label>
                            <input
                                type="text"
                                name='brand'
                                placeholder="Brand"
                                onChange={e => setbrand(e.target.value)}

                            />
                        </div>
                        <div className="addform-group">
                            <label htmlFor="category">Category</label>
                            <input

                                type="text"
                                name='category'
                                placeholder="Category"
                                onChange={e => setcategory(e.target.value)}
                            />
                        </div>
                        <div className="addform-group">
                            <label htmlFor="item">Item</label>
                            <input
                                type="text"
                                name='item'
                                placeholder="Item"
                                onChange={e => setitem(e.target.value)}

                            />
                        </div>
```

```
                    <div className="addform-group">
                        <label htmlFor="count">Count</label>
                        <input
                            type="number"
                            name='count'
                            placeholder="Count"
                            onChange={e => setcount(e.target.value)}
                        />
                    </div>
                    <div className="addform-group">
                        <label htmlFor="date">Delivery Date</label>
                        <input
                            type="date"
                            name='date'
                            placeholder="Date"
                            onChange={e => setdate(e.target.value)}

                        />
                    </div>
                    <div className="addform-group">
                        <label htmlFor="deliverypin">Delivery Pin</label>
                        <input
                            type="tel"
                            name='deliverypin'
                            placeholder="Pincode"
                            onChange={e => setdeliverypin(e.target.value)}

                        />
                    </div>

                    <div className="addform-group">
                        <label htmlFor="ecommerce">Ecommerce</label>
                        <input
                            type="text"
                            name='ecommerce'
                            placeholder="Ecommerce"
                            onChange={e => setecommerce(e.target.value)}

                        />
                    </div>
                    <button type="submit" id="add">Add Data</button>
                    <Link to='/Home'><button id="Login">Go Back to
Home</button></Link>
```

```
                </form>
            </div>
  )
}

export default Adding
```



CSS File Create

Finally, important step for a user experience perspective, Create CSS file signup.css ,login.css,adding.css and put the below code.

signup.css ,login.css,adding.css

```
.header{
    width: 100%;
    background-color: #ffffff;
    display: flex;
    align-items: center;
    justify-content: space-between;
    padding: 3.2vh;


    border-bottom: 2px solid black;
```

```
}
.header .logo{
    font-size: 30px;
    font-weight: 800;
    cursor: pointer;
    padding-left: 6vw;

}
.header .logo span{
    color: #2660dc;
}
.header .right{
    padding-right: 8vw;
    font-weight: 600;
    color: black;


}
.content {
    display: flex;

}
.content .left{

    width: 60%;
    background-color: #ffffff;
    height: 88vh;


}
.content .left img{
    width:100%;
    height: 100%;


}
.content .right{
    width: 40%;
    background-color: #ffffff;
    height: 88vh;
    padding-top:7vw ;
}
.signup-form {
```

```
  max-width: 400px;
  margin: 0 auto;
  padding: 20px;
  background: #fff;
  border-radius: 15px;

  box-shadow: 0 0 25px rgba(0, 0, 0, 0.3);
}

.signup-form h2 {
  text-align: center;
}

.form-group {
  margin: 10px 0;
}
.form-group span{

  font-size: 12px;
}

label {
  display: block;
  font-weight: bold;
}

input {
  width: 100%;
  padding: 10px;
  border: 1px solid #ccc;
  border-radius: 5px;
}

button {
  width: 100%;
  padding: 10px;


  background: #3d71e1;
  color: #fff;
  border: none;
  border-radius: 5px;
  cursor: pointer;
```

```
    margin-top: 10px;
  }

  button:hover {
    background: #0056b3;
  }
.footer{
    background-color:#000814;

    padding: 20px;

}
.fleft{
    color: aliceblue;
    padding-right: 20rem;
    margin-left: 6rem;
}
.ftop{
    display: flex;
    padding-top: 20px;
}
.footer .fright ul{
    display: flex;
    list-style: none;
    gap: 20px;
    margin-right: 200px;
    padding-top: 50px;



}
.footer .fright ul li{

    color: antiquewhite;
    display: flex;

    border-radius: 10%;
    padding: 10px;
    cursor: pointer;

}
.footer .fright ul li:hover{
    background-color: aliceblue;
```

```
    color: #4286e4;
}
.footer svg{
    font-size: 30px;
    color: #4286e4;

}
.bottom{
    color:#4286e4;
    display: flex;
    align-items: center;
    flex-direction: column;
    justify-content: space-around;
}
.bottom span{
    font-size: 40px;
    color: aliceblue;

}
footer .fright ul p{
    color: aliceblue;
    padding-top: 12px;
}
```

dashboard.css

```
/* Table.css */

.table-container {
    padding: 0 3px 0 2px;
    max-width: 100%;

  }

  .data-table {
    border-collapse: collapse;
    width: 100%;
  }
  .add-button {
    width: 5%;
    margin-bottom: 10px;
  }
```

```
.data-table th, .data-table td {
  border: 1px solid #423f3f;
  text-align: left;
  padding: 8px;
}

.data-table th {
  background-color: black;
  color: #dddddd;



}
.data-table td{
  padding: 3px;
  padding-left: 15px;
}

.data-table tr:nth-child(even) {
  background-color: #3333;
}
.data-table td .btn{
  display: flex;
  gap: 1vw;
  max-width: 60px;




}
.data-table td .btn .edit1{
  background-color: transparent;

}
.data-table td .btn .edit2{
  background-color: transparent;
}
```

CONCLUSION

Inventory management application project leverages MySQL, Node.js, Express.js, and React.js to develop a robust Inventory Management Application. The backend, powered by Node.js and Express.js, ensures a secure foundation, while MySQL handles efficient database management. The frontend, built with React.js, features a dynamic dashboard that provides users with a comprehensive overview of their product inventory.

User authentication is a focal point, with signup and login pages enhancing security. The seamless integration of React.js enables users to interact with the dashboard intuitively, facilitating quick decision-making. The application's core functionality lies in the ability to add, delete, and update product information directly from the dashboard, ensuring real-time accuracy and responsiveness in inventory management.

In essence, this technology stack amalgamates to create a user-friendly, secure, and efficient Inventory Management Application. By combining the strengths of MySQL, Node.js, Express.js, and React.js, the project delivers a holistic solution that addresses user authentication needs and streamlines the management of product inventories.