

CS-222 - Database Management System  
Complex Engineering Problem (CEP) - Report  
Spring Semester 2021



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# HOMOFY

Ecommerce Website

**Group Members:**

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# Project Title

HOMOFY

## Abstract

HOMOFY is an Ecommerce Website for shopping. It will use database to store different products of an Online shopping like Clothing, Home appliances, Sports goods etc. It will store information about price, colors, material and other information regarding products. Moreover, it will also store information about admins and users.

## Task Distribution Chart

	Zain	Moiz	Saad	Areeb
Database / schema / SQL		✓	✓	✓
React JS , Bootstrap	✓			✓
React Hooks (useState , useEffect , useHistory)	✓			✓
Data Entry		✓	✓	✓
APIs (Axios , Fetch API)	✓	✓		✓
Node JS	✓	✓		✓
Express JS	✓	✓		
Report writing			✓	

## Folder Structure

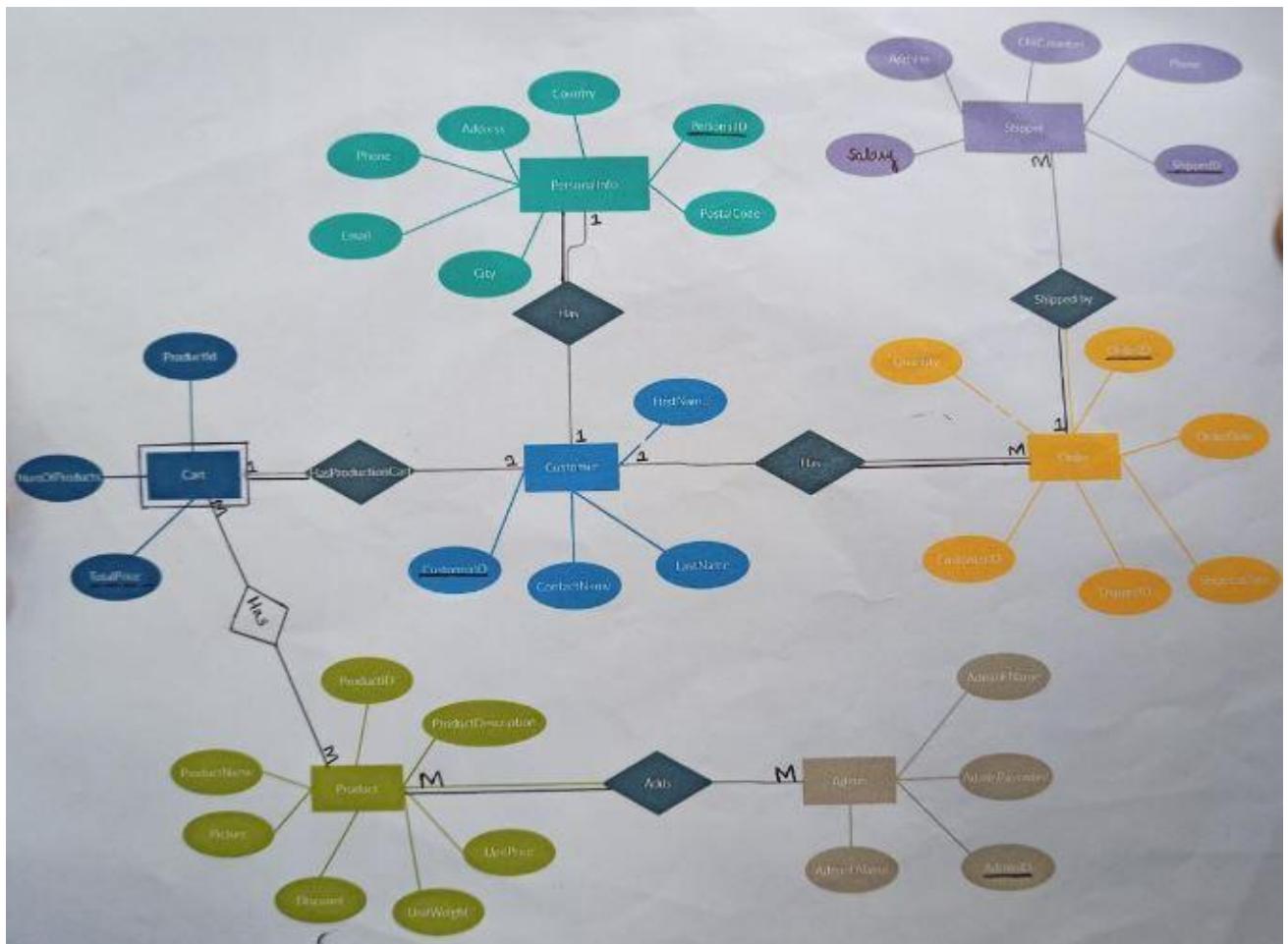
### **Client:**

Client folder deals with the front end of this project i.e React JS.

### **Server:**

Server folder comprises of the back end of this project, having Node JS and Express JS.

## Relational Schema of HOMOFY Database:



## Tables After Normalization:

- **Customer:**

custID	fname	lname	email	phno	address	country	city	postalCode	pass
ct1	Areeb	Azim	aareebbinazim360@gmail.com	03122885343	House-7,Street4	Pakistan	Karachi	75950	abc
ct2	dasda	dsad	asdsdsadad@gmail.com	4564648789	fdsadsa	sadsad	fsadfsf	54646556	dsad
ct3	Moiz	Ali	amoiz3731@gmail.com	03122885344	House-8,Street4	Pakistan	Karachi	75951	abc
ct4	S.Saad	Ali	16610122182wve@gmail.com	03122885345	House-9,Street4	Pakistan	Karachi	75952	abc
ct5	M.Zain	Ammad	zainamad05@gmail.com	03122885346	House-10,Street4	Pakistan	Karachi	75953	abc
ct6	sa	d	aakn@gmail.com	76	ddsa	sas	gfh	75	das aq
ct7	sada	daada	aaknunny@gmail.com	48776	sadsadsa	sgf	gf	875475	das sadq
ct8	sadsad	mbvnmnm	haaadak@gmail.com	6789764424	gjhhkjhg	jhky	hfgyt	132144	dsadas
	HULL	NULL	NULL	HULL	NULL	HULL	HULL	NULL	NULL

● Admin:

	adminID	fname	lname	email	pass
▶	ad1	Areeb	Azim	areebbinazim360@gmail.com	abc
	ad2	Moiz	Ali	amoiz3731@gmail.com	abc
	ad3	S.Saad	Ali	16610122182wwe@gmail.com	abc
*	ad4	M.Zain	Ammad	zainammad05@gmail.com	abc
*	NULL	NULL	NULL	NULL	NULL

● Products:

	prodID	prodname	prodDesc	discount	unitweightKg	unitprice	img
▶	pd1	Adidas T-shirt	Full Cotton	0	0.2	700	https://static-01.daraz.pk/p/17904cefd00442b...
	pd111	Juicer Blender	3 in 1	0	2.1	5000	https://static-01.daraz.pk/p/c2f4169f2fc43c0...
	pd112	Rechargeable Mini Fan	High Speed & Energy Efficient	0	0.5	900	https://static-01.daraz.pk/p/296adb46553e0cf...
	pd113	Sufi Fan	1 year Warranty	0	3	2500	https://static-01.daraz.pk/p/5723f17b3ffbc32c...
	pd114	KENWOOD Iron	Steam and Dry Iron	0	0.5	2000	https://static-01.daraz.pk/p/b0568ea21774087...
	pd115	KENWOOD hand mixer	handheld Egg beater mixer	0	1.2	1000	https://static-01.daraz.pk/p/655b456d397d9cb...
	pd116	Boxing Gloves	Good quality rexion	0	0.6	1000	https://static-01.daraz.pk/p/ce1d9a78a3ba45a...
	pd117	Pak Team Shirt	Good quality fabric	0	0.3	1000	https://static-01.daraz.pk/p/b52097dbf54447d...
	pd119	Cricket Helmet	For children under age 14	0	0.6	700	https://static-01.daraz.pk/p/d03091d279b466e...
	pd120	Cricket Ball	Good quality 4 Ball	0	0.3	600	https://static-01.daraz.pk/p/a3dde1a96775ba8...
	pd2	Brown Check T-shirt	Fasionable Export Quality 1...	0	0.112	1200	https://static-01.daraz.pk/p/39492f6866371e5...
*	pd4	Men Classic Jeans	Full Cotton	0	0.2	7000	https://static-01.daraz.pk/p/548a8b11c7534f7...
*	NULL	NULL	NULL	NULL	NULL	NULL	NULL

● Shipper:

	shipperID	cnic	phno	address	salary
▶	sp1	123	03123456567	House-7,Street8	15000
	sp2	456	03123456568	House-8,Street7	16000
	sp3	789	03123456569	House-9,Street6	25000
	sp4	0321	03123456560	House-10,Street5	18000
*	NULL	NULL	NULL	NULL	NULL

● Orders:

	orderID	shipperID	custID	quantity	orderDate	shippedDate
▶	od1	sp1	ct1	2	2021-09-01	2021-09-04
	od2	sp2	ct2	1	2021-09-02	2021-09-05
	od3	sp3	ct3	5	2021-09-03	2021-09-04
	od4	sp4	ct4	4	2021-09-01	2021-09-05
*	NULL	NULL	NULL	NULL	NULL	NULL

- **Cart:**

	noOfProducts	totalPrice	custID
▶	2	100	ct1

## **SQL Queries:**

- **Creating Table:**

```
-- CREATE TABLE admin(  
-- adminID varchar(20) NOT NULL UNIQUE,  
-- fname varchar(50) NOT NULL,  
-- lname varchar(50),  
-- email varchar(60) NOT NULL UNIQUE,  
-- pass varchar(30) NOT NULL  
-- );  
  
-- CREATE TABLE cart(  
-- cartID varchar(20) NOT NULL UNIQUE,  
-- noOfProducts int NOT NULL,  
-- totalPrice int NOT NULL  
-- );  
  
-- CREATE TABLE shipper(  
-- shipperID varchar(20) NOT NULL UNIQUE,  
-- cnic varchar(30) NOT NULL UNIQUE,  
-- phno varchar(30) NOT NULL UNIQUE,  
-- address varchar(60) NOT NULL,  
-- salary int  
-- );  
  
-- CREATE TABLE customer(  
-- custID varchar(20) NOT NULL UNIQUE,  
-- fname varchar(50) NOT NULL,  
-- lname varchar(50),  
-- email varchar(60) NOT NULL UNIQUE,  
-- phno varchar(30) NOT NULL UNIQUE,
```

```

-- address varchar(60) NOT NULL,
-- country varchar(30) NOT NULL DEFAULT 'Pakistan',
-- city varchar (30) NOT NULL,
-- postalCode int NOT NULL
-- );

-- CREATE TABLE product(
-- prodID varchar(20) NOT NULL UNIQUE,
-- prodname varchar(50) NOT NULL,
-- prodDesc varchar(100) NOT NULL,
-- discount int NOT NULL DEFAULT 0,
-- unitweightKg float NOT NULL,
-- unitprice int NOT NULL
-- );

-- CREATE TABLE orders(
-- orderID varchar(20) NOT NULL UNIQUE,
-- shipperID varchar(20) NOT NULL UNIQUE,
-- custID varchar(20) NOT NULL UNIQUE,
-- quantity int NOT NULL,
-- orderDate DATE NOT NULL,
-- shippedDate DATE
-- );

```

● **Inserting data into tables:**

```

-- INSERT INTO admin (adminID, fname, lname, email, pass)
-- VALUES
-- ('ad1', 'Areeb', 'Azim', 'areebbinazim360@gmail.com', 'abc'),
-- ('ad2', 'Moiz', 'Ali', 'amoiz3731@gmail.com', 'abc'),
-- ('ad3', 'S.Saad', 'Ali', '16610122182wwe@gmail.com', 'abc'),
-- ('ad4', 'M.Zain', 'Ammad', 'zainammad05@gmail.com', 'abc');

-- INSERT INTO cart (cartID, noOfProducts, totalPrice)
-- VALUES
-- ('cart1', 2, 20),
-- ('cart2', 4, 50),
-- ('cart3', 3, 70),
-- ('cart4', 2, 20);

-- INSERT INTO customer (custID, fname, lname, email, phno, address, country, city, postalCode)
-- VALUES

```

```
--  
('ct1','Areeb','Azim','areebbinazim360@gmail.com','03122885343','House-7,Street4','Pakistan','K  
arachi',75950),  
--  
('ct2','Moiz','Ali','amoiz3731@gmail.com','03122885344','House-8,Street4','Pakistan','Karachi',75  
951),  
--  
('ct3','S.Saad','Ali','16610122182wwe@gmail.com','03122885345','House-9,Street4','Pakistan','K  
arachi',75952),  
--  
('ct4','M.Zain','Ammad','zainammad05@gmail.com','03122885346','House-10,Street4','Pakistan',  
'Karachi',75953);  
  
-- INSERT INTO shipper (shipperID,cnic,phno,address,salary)  
-- VALUES  
-- ('sp1','123','03123456567','House-7,Street8',15000),  
-- ('sp2','456','03123456568','House-8,Street7',16000),  
-- ('sp3','789','03123456569','House-9,Street6',25000),  
-- ('sp4','0321','03123456560','House-10,Street5',18000);  
  
-- INSERT INTO product (prodID,prodname,prodDesc,discount,unitweightKg,unitprice)  
-- VALUES  
-- ('pd1','Adidas T-shirt','Full Cotton',0,0.2,700),  
-- ('pd2','Denim Jeans Pant','Wash Faded quality',0,0.5,1100),  
-- ('pd3','Rado Mens Watch','Silver Plated',0,0.22,2000),  
-- ('pd4','Nike Mens Shoes','Very Light',0,0.54,3000);  
  
-- INSERT INTO orders (orderID,shipperID,custID,quantity,orderDate,shippedDate)  
-- VALUES  
-- ('od1','sp1','ct1',2,'2021-09-01','2021-09-04'),  
-- ('od2','sp2','ct2',1,'2021-09-02','2021-09-05'),  
-- ('od3','sp3','ct3',5,'2021-09-03','2021-09-04'),  
-- ('od4','sp4','ct4',4,'2021-09-01','2021-09-05');  
  
-- ALTER TABLE orders  
-- ADD FOREIGN KEY(shipperID) REFERENCES shipper(shipperID),  
-- ADD FOREIGN KEY(custID) REFERENCES customer(custID);
```

## Backend

The backend of this project is implemented in Node JS and Express JS.

Brief explanation of all routes is given as follows:

The default route leads to the homepage.

/

This is the home route of this application which renders the home component and here all the products of the website will be shown to the user.

### /adminlogin

This route will redirect to the **Admin Login** Component where an admin can login via his email and password in order to add products or delete products.

### /userlogin

This route will redirect the user to the **user login** component where a user can login with his credentials in order to make any order. This also authenticate the credentials of user whether he or she has inserted the right credentials according to the database.

### /addproduct

This route is giving a response to admin, and redirects the admin to the component where the admin can add any product by filling all the fields of the form of Add Product i.e Dashboard.

### /delproduct/:dProdName

This route is giving response to admin to delete any product by giving product name into the particular field and that particular field passes through this route as **params**.

### /userSignin

This route will redirect the user to the Sign Up component where he can register himself by giving specific records that would be saved in the database after completion of registration.

### /Cart

This route will redirect the user to the cart component when user wants to add some products to the cart.

## Frontend

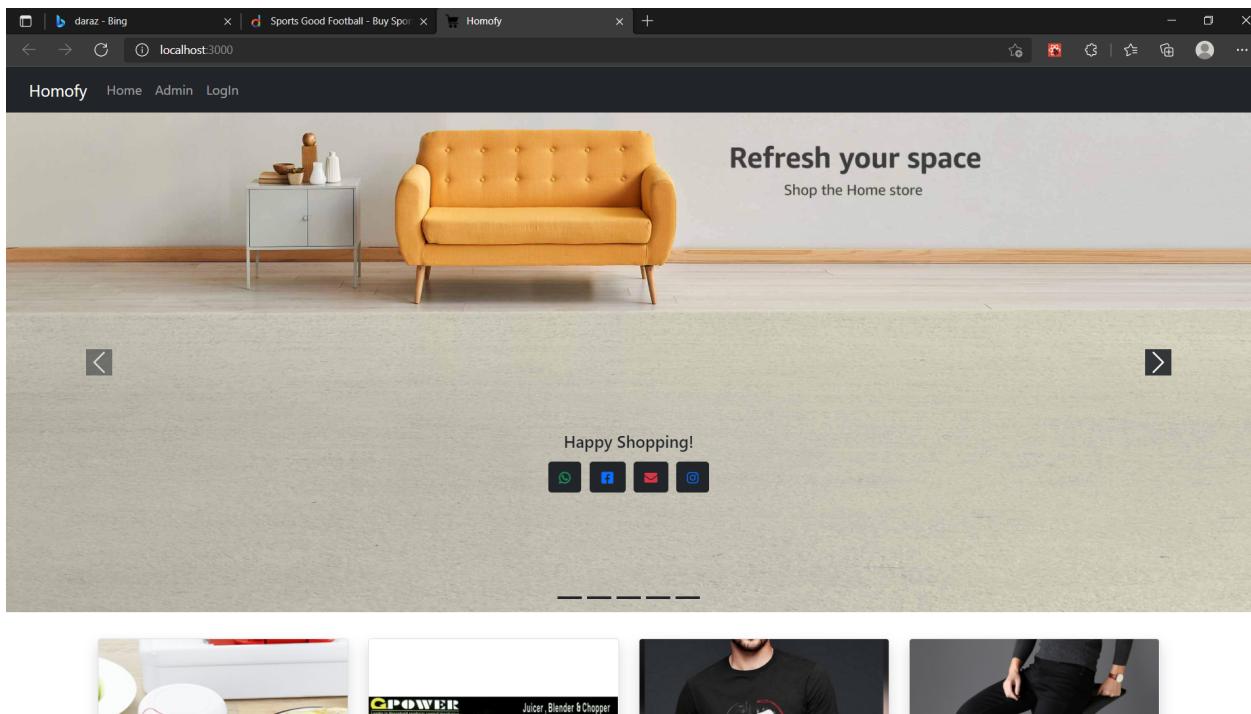
The frontend involves React JS and Bootstrap.

In React JS we have use:

- Components
  - Header
  - Carousel
  - Card
  - Footer
- Containers (pages)
  - Home
  - Admin
  - SignUp
  - Login
  - SignUp
  - Dashboard
  - Cart
- Routers (for routing on containers (pages))
- Hooks (to use functionalities of class components in functional components)
  - useState (to use states)
  - useEffect (to render components)
  - useHistory (to route on pages on condition)

Pictures (and explanation of some) of the front end are shown as follows:

- **Homepage:**



## \* Homepage dynamically showing the products from mysql database :



**Kitchen Mini Hand Crusher**

Description: Good Quality 2 in 1

Price: 600

[Add To Cart](#)



**Juicer Blender**

Description: Good Quality 3 in 1

Price: 6000

[Add To Cart](#)



**Money Heist T Shirt**

Description: Good Fabric Full Cotton

Price: 1000

[Add To Cart](#)



**Denim Jeans Pant**

Description: Good Quality Full Cotton

Price: 1500

[Add To Cart](#)

---



**Jeans Pant Blue**

Description: Good Quality Full Cotton

Price: 1500

[Add To Cart](#)



**Boxing Gloves**

Description: Good Quality Fabric

Price: 900

[Add To Cart](#)

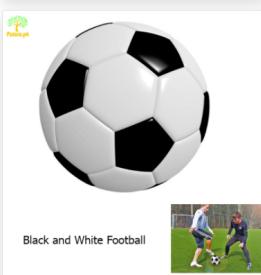


**Slim Fit T shirts**

Description: Pack of 5 Shirts

Price: 1900

[Add To Cart](#)



**Black and White Football**

Description: Good Quality

Price: 1800

[Add To Cart](#)

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**Jeans Pant Blue**

Description: Good Quality Full Cotton

Price: 1500

[Add To Cart](#)



**Boxing Gloves**

Description: Good Quality Fabric

Price: 900

[Add To Cart](#)



**Slim Fit T shirts**

Description: Pack of 5 Shirts

Price: 1900

[Add To Cart](#)



**Black & White Football**

Description: Good Quality

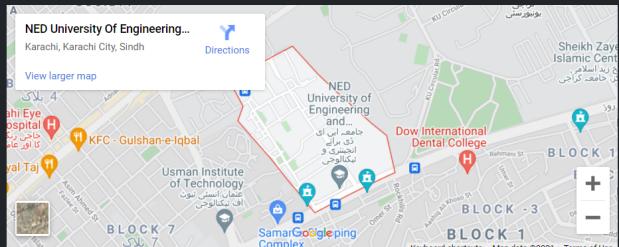
Price: 1800

[Add To Cart](#)

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A map showing the location of NED University of Engineering and Technology in Karachi, Sindh, Pakistan. The map includes labels for the university, KFC - Gulshan-e-Iqbal, Usman Institute of Technology, Dow International Dental College, and other nearby landmarks. A red polygon highlights the university's campus area.

- **Admin Authentication:**

Homofy Home Admin Login

### Admin

Email:

Password:

**Login**

## Admin's Dashboard

**Adding Product**

Product ID:

Product Name:

Product Description:

Discount:

Unit Weight:

Unit Price:

Product's Image URL\*:

**Add Product**

- **Code Snippets:**

```
File Edit Selection View Go Run Terminal Help ecommerce_website.js - ecommerce - Visual Studio Code

EXPLORER ... JS ecommerce_website.js X JS Header.js JS Carousel.jsx JS Card.js JS Footer.jsx JS Home.js JS Admin.js JS Login.js JS Signup.js

server > JS ecommerce_website.js > ...
1 var mysql = require('mysql');
2 var express = require('express');
3 var app = express();
4 var cors = require('cors');
5 app.use(express.json());
6 app.use(cors());
7
8 // To connect with the database
9 var db = mysql.createConnection({
10   host: 'localhost',
11   user: 'root',
12   password: 'arbiidx',
13   database: 'ecommerce'
14 });
15
16 db.connect(function(error){
17   if (error){throw error};
18   console.log("connected to the database")
19 })
20
21
22 //requests
23
24 // to get products for Home page
25 app.get('/',(req, response)=>{
26   db.query("select * from product",function(err, result){
27     | response.json(result)
28   });
29 }
30 )
31
32
33 app.post('/adminLogin',(req, res) => [
34   const adminEmail = req.body.adminEmail;
35   const adminPass = req.body.adminPass;
36   db.query("select * from admin where email = ? AND pass = ?",
37   [adminEmail, adminPass],
38   (err, result)=>{
39     if (err)=>{
40       res.send({err:err})
41     }
42   }
43 ]
44 )
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```

The screenshot shows the Visual Studio Code interface with the following details:

- File Explorer:** On the left, it lists the project structure under "ecommerce".
  - ECOMMERCE:** Contains "config", "containers", and several files: Admin.js, Cart.js, Dashboard.js, Home.js (selected), Login.js, SignUp.js, Signup.js, style.css, UserPanel.js, App.css, App.js, App.test.js, index.css, index.js, logo.svg, reportWebVitals.js, setupTests.js, .gitignore, package-lock.json, package.json, README.md.
  - server:** Contains "assets" and "node\_modules".
- Code Editor:** The main area displays the content of "Home.js".

```
client > src > containers > Home.js [e] Home
1 import React, { useEffect, useState } from 'react'
2 import Header from '../components/Header';
3 import Card from '../components/Card';
4 import Carousel from '../components/Carousel';
5 import Footer from '../components/Footer';
6
7 const Home = () => {
8
9     const [cardData, setCardData] = useState([[]]);
10    useEffect(() => {
11        fetch('http://localhost:5000/')
12            .then(val => val.json())
13            .then(data => {
14                setCardData(data)
15            })
16        }, []);
17
18    return (
19        <div>
20            <Header />
21            <Carousel />
22            <div className='container mt-3'>
23                <div className='row'>
24                    {cardData.map((v) => {
25                        return (
26                            <div className='col-3 mt-3'>
27                                <card img={v.img} name={v.prodname} price={v.unitprice} desc={v.prodDesc}/>
28                            </div>
29                        )
30                    })}
31                </div>
32            <Footer />
33        </div>
34    )
35}
36
37 export default Home;
```
- Status Bar:** Shows "Home.js - ecommerce - Visual Studio Code".

The screenshot shows the Visual Studio Code interface with the following details:

- File Bar:** File, Edit, Selection, View, Go, Run, Terminal, Help.
- Tab Bar:** ecommerce\_website.js, Header.js, Carousel.jsx, Card.js, Footer.jsx, Home.js, Admin.js (active), Login.js, SignUp.js.
- Explorer View:** Shows the project structure under "ECOMMERCE".
- Code Editor:** Displays the content of the Admin.js file.

```
client > src > containers > Admin.js > ...
1 import './style.css';
2 import { useState } from 'react';
3 import Axios from 'axios';
4 import { useHistory } from 'react-router-dom';
5 import Header from '../components/Header';
6 // import Dashboard from './Dashboard';
7
8 const Admin = () => {
9   const [adminEmail, setAdminEmail] = useState('')
10  const [adminPass, setAdminPass] = useState('')
11  const history = useHistory();
12
13  function login() {
14    Axios.post("http://localhost:5000/adminLogin", {
15      adminEmail: adminEmail,
16      adminPass: adminPass
17    }).then((res) => {
18      // console.log(res.data.message)
19      if (res.data.message === undefined) {
20        history.push("/dashboard")
21      } else {
22        alert(res.data.message)
23      }
24    })
25  }
26
27  return (
28    <>
29      <Header />
30      <div className="container">
31        <div className="row">
32          <div className="col-6 mx-auto">
33            <div className="card login_card">
34              <h1>Admin</h1>
35              <div className="mb-3">
36                <label for="exampleFormControlInput1" className="form-label">Email:</label>
37                <input type="email" onChange={(e) => {
38                  setAdminEmail(e.target.value)
39                }}>
40              </div>
41            </div>
42          </div>
43        </div>
44      </div>
45    </>
46  )
47}
```