



**Mahidol University**  
Faculty of Information  
and Communication Technology



**Faculty of Information and Communication Technology**  
**ITCS223 Introduction to Web Development**  
**MYKEA**  
**Project Phase II**

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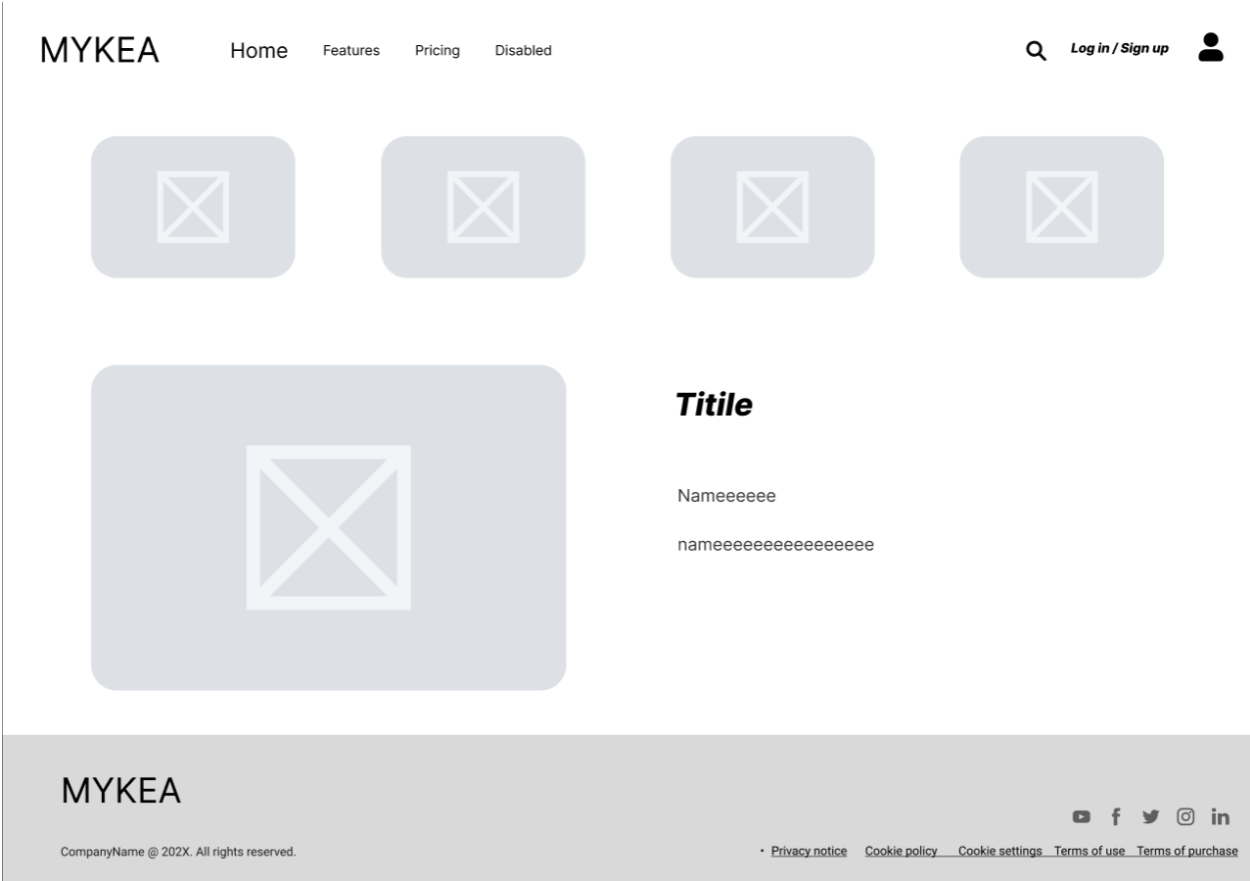
**Presented to**

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Kraisangka and Lect. Dr. Pisit Praiwattana  
Mahidol University  
ITCS223 Introduction to Web Development  
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# **Business Domain**

Our business is a Bed and accessories store which focuses on selling bed and bedding from various brands such as Boll & Branch, Coyuchi, Quince, Sijo, Buffy and many more. For our services, we have a website that customers can use for purchasing our products online. Our website contains many features such as a main page for welcoming customers, a log-in page for our customers to keep their purchasing information, product page to show details of our products, search page for customers to search for their products and admin page for our admin to edit the product information, adding and removing products from the website.

# Wireframe



Creat account

MYKEA

Create account

First name

Your username

Last name

Lastname

Email

Your email

Address

Your Address

Password

\*\*\*\*\*

Confirm Password

\*\*\*\*\*

Create Account

Already have an account? [Log in](#)

MYKEA

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[f](#) [t](#) [i](#) [in](#)

Login

MYKEA

Log in

Email address

Yourmail@gmail.com

Password

\*\*\*\*\*

[Forgot password?](#)

Login

Admin Sign up

Don't have an account? [Sign up](#)

MYKEA

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[f](#) [t](#) [i](#) [in](#)

Admin Login

MYKEA

Admin Log in

Admin ID

Admin ID

Password

\*\*\*\*\*

[Forgot password?](#)

Login

User [Log in](#)

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[f](#) [t](#) [i](#) [in](#)

# MYKEA

Model

- [bed with container](#)
- [bed without container](#)
- [Pillow](#)
- [Blanket](#)

Find your items 

Sort 

FINISHING

- [WOOD](#)
- [MATT LACQUERED](#)
- [LEATHERS](#)
- [FABRICS](#)
- [ECO-LEATHERS](#)
- [TANNED LEATHER](#)



Best Seller



Sale



Bed



Table



\*\*\*\*\*



\*\*\*\*\*



\*\*\*\*\*



\*\*\*\*\*

MYKEA

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MYKEA

Home

Features

Pricing

Disabled

Log in / Sign up



Title

Button

Detail

Detail

Detail

MYKEA

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Upload

TITLE

Description

Description

Button

Title



Desc



Desc



Desc

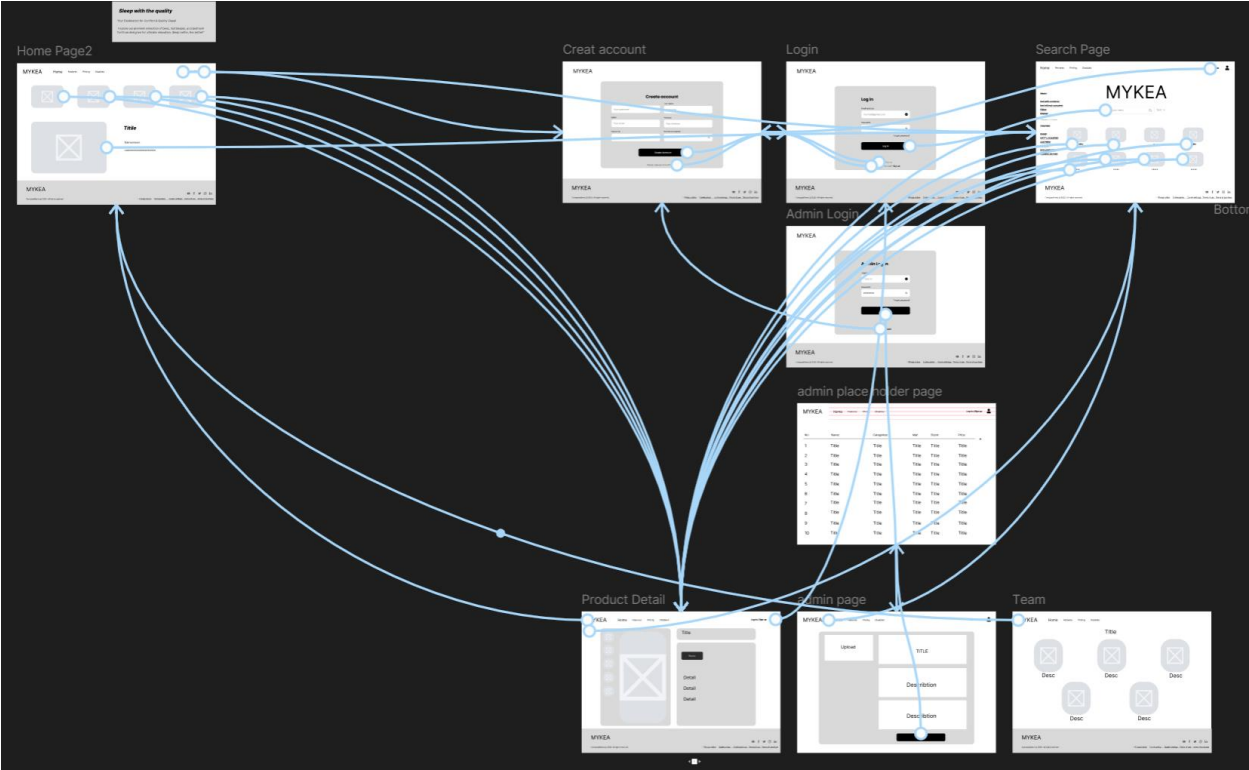


Desc



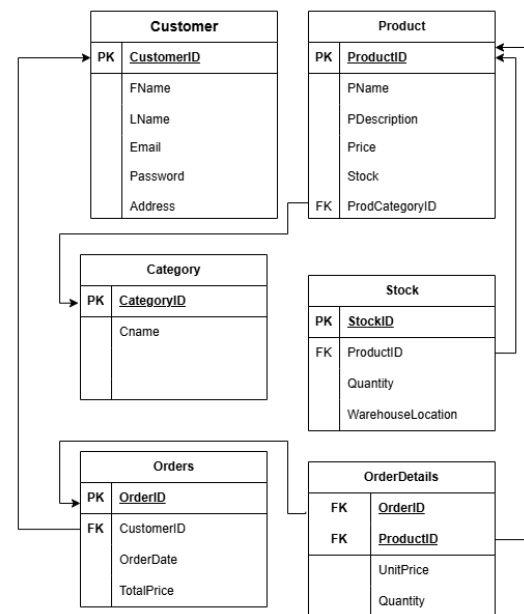
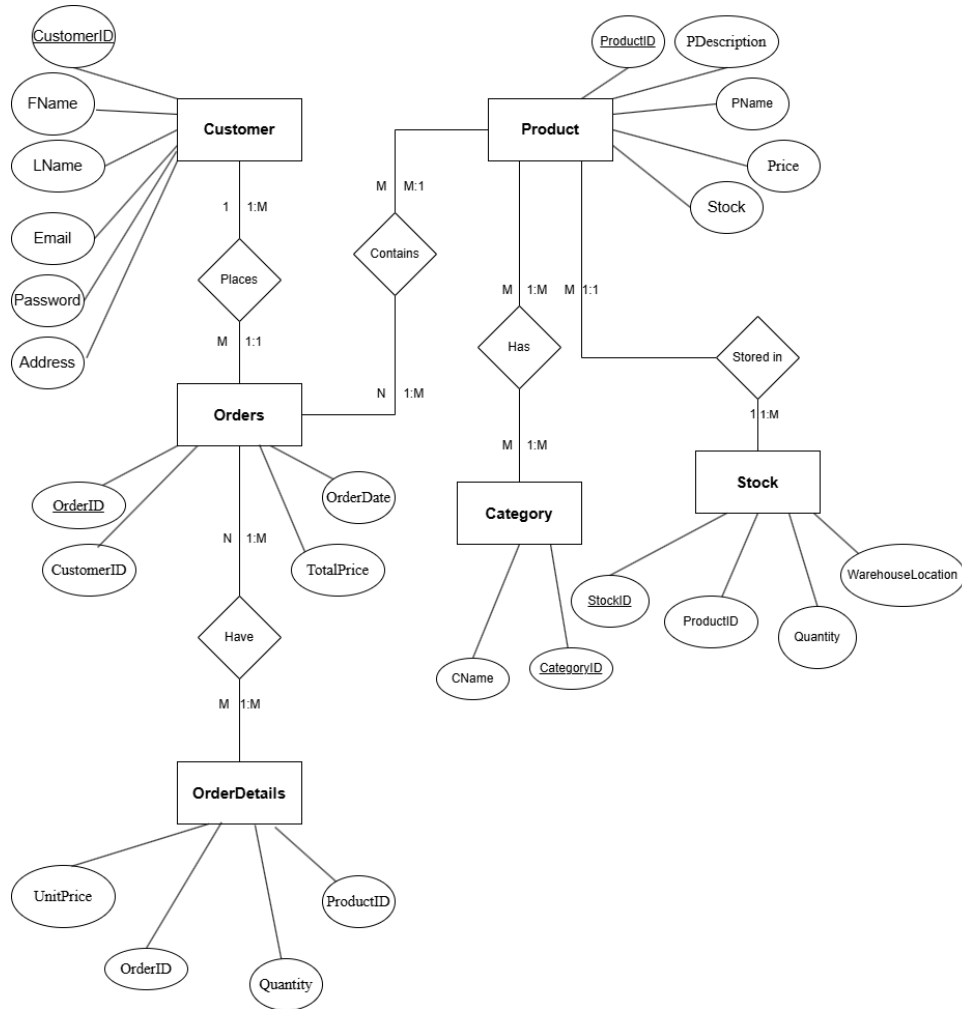
Desc





# Data Model

## Entity Relationship Diagram & Relational Schema

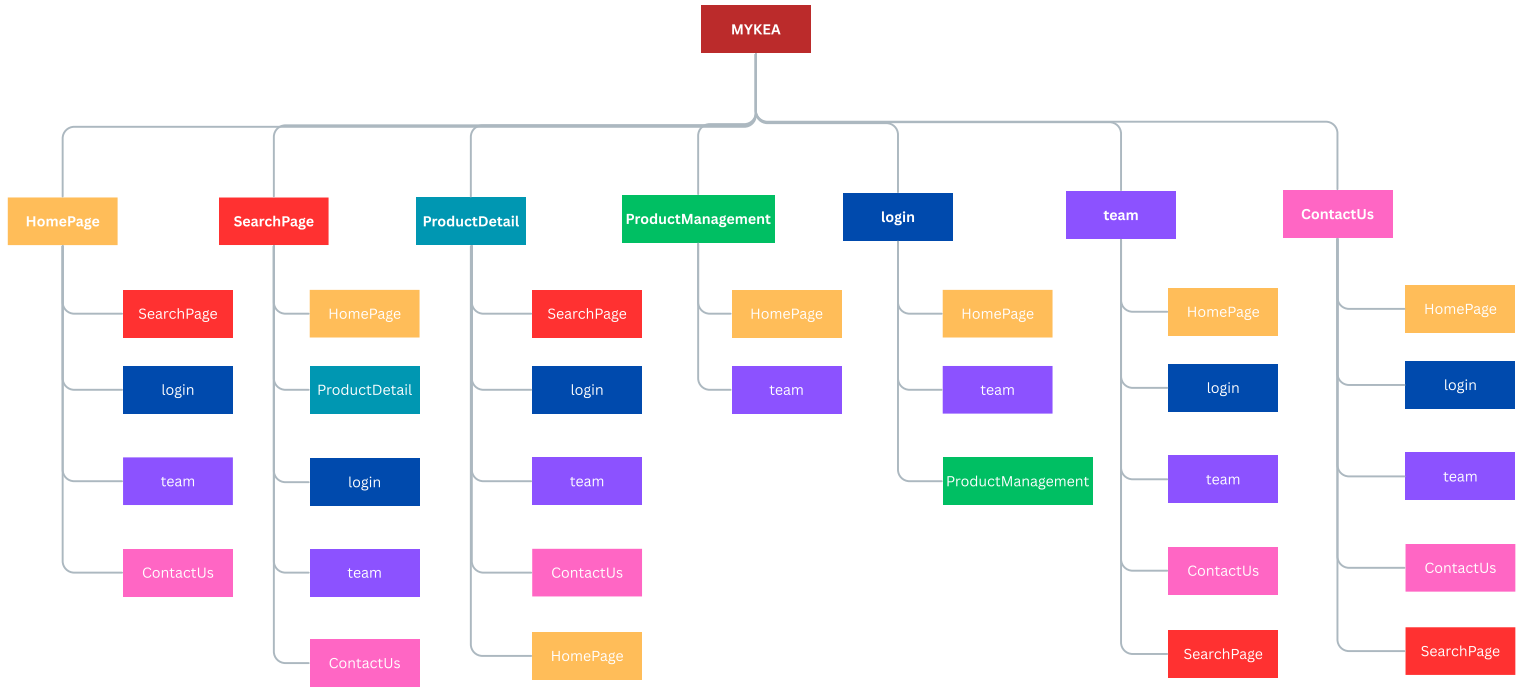


# Data Dictionary

Table Name	Attribute Name	Description	Data Type	Data Format	Field Size	Key	FK Reference Table
Customer	CustomerID	Unique ID for customer	VARCHAR	XXXXX	10	PK	
	FName	Customer's first name	VARCHAR	XXXXX	50		
	LName	Customer's last name	VARCHAR	XXXXX	50		
	Email	Customer's email	VARCHAR	X@X.com	50		
	Password	Customer's Password	VARCHAR	XXXXX	255		
	Address	Shipping address	VARCHAR	XXXXX	255		
Product	ProductID	Unique product ID	VARCHAR	XXXXX	10	PK	
	PName	Product name	VARCHAR	XXXXX	100		
	PDescription	Product details	TEXT	XXXXX			
	Price	Product price	DECIMAL (10,2)	XXXXX.XX			
	Stock	Available stock quantity	INT	XXXXX	100		
	ProdCategoryID	Category ID	VARCHAR	X	100	FK	CategoryID [Category]
Stock	StockID	Unique stock ID	VARCHAR	XXXXX	10	PK	
	ProductID		VARCHAR	XXXXX	100	FK	ProductID [Product]

	<b>Quantity</b>		<b>INT</b>	<b>XXXXX</b>	<b>100</b>		
	<b>Warehouse Location</b>		<b>VARCHAR</b>	<b>XXXXX</b>	<b>100</b>		
<b>Category</b>	<b>CategoryID</b>	<b>Unique category ID</b>	<b>VARCHAR</b>	<b>X</b>	<b>100</b>	<b>PK</b>	
	<b>CName</b>	<b>Category name</b>	<b>VARCHAR</b>	<b>XXXXX</b>	<b>50</b>		
<b>Orders</b>	<b>OrderID</b>	<b>Unique order ID</b>	<b>VARCHAR</b>	<b>XXXXX</b>	<b>10</b>	<b>PK</b>	
	<b>CustomerID</b>	<b>Unique ID for customer</b>	<b>VARCHAR</b>	<b>XXXXX</b>	<b>10</b>	<b>FK</b>	<b>CustomerID [Customer]</b>
	<b>OrderDate</b>	<b>Date of order</b>	<b>DATE</b>	<b>YYYY-MM-DD</b>			
	<b>TotalPrice</b>	<b>Total cost</b>	<b>DECIMAL (10,2)</b>	<b>XXXXX.XX</b>			
<b>OrderDetails</b>	<b>UnitPrice</b>	<b>Product price per piece</b>	<b>DECIMAL (10,2)</b>	<b>XXXXX.XX</b>	<b>50</b>		
	<b>OrderID</b>	<b>Unique order ID</b>	<b>VARCHAR</b>	<b>XXXXX</b>	<b>50</b>	<b>FK</b>	<b>OrderID [Orders]</b>
	<b>ProductID</b>	<b>Unique product ID</b>	<b>VARCHAR</b>	<b>XXXXX</b>	<b>50</b>	<b>FK</b>	<b>ProductID [Product]</b>
	<b>Quantity</b>	<b>Quantity ordered</b>	<b>INT</b>	<b>XXXX</b>	<b>-</b>		

# Navigation Diagram of web application



# Detail of our Website Application and Website Service

## 1. Import crucial modules

```
const express = require('express');  
const path = require('path');  
const dotenv = require("dotenv");
```

- These codes import crucial modules that will make servers work like
- **express** - providing tools for routing, handling request and response.
- **path** - provides utilities for working with file and directory paths.
- **dotenv** - load configuration settings from .env file.

## 2. Setting Up express

```
app.use(router)  
dotenv.config();  
  
app.use('/front-end', express.static(path.join(__dirname, 'front-end')));  
app.use('/asset', express.static(path.join(__dirname, 'asset')));  
  
router.use(express.json());  
router.use(express.urlencoded({ extended: true}));  
  
app.listen(process.env.PORT, function () {  
  console.log("Server listening at Port "  
    + process.env.PORT);});
```

1. **app.use(router);**  
it will handle any incoming requests to the router object
2. **dotenv.config();**  
it executes the config function from the .env file

**3. `app.use('/front-end', express.static(path.join(__dirname, 'front-end')));`**

It tells the server to serve static files (like HTML, CSS, JS, and images) from specific folders on the server, in this case is ('front-end').

**4. `app.use('/asset', express.static(path.join(__dirname, 'asset')));`**

It tells the server to serve static files (like HTML, CSS, JS, and images) from specific folders on the server, in this case is ('asset').

**5. `router.use(express.json());`**

**`router.use(express.urlencoded({ extended: true }));`**

These two lines equip the router with the ability to automatically understand and process data sent in the *body* of incoming requests, whether that data is in JSON format or URL, this makes the data readily available in `req.body`.

**6. `app.listen();`**

method in an Express.js application starts the server and makes it listen for incoming connections on a specified network port.

### 3. Setup/Connect to the database

```
const mysql = require('mysql2');
var connection = mysql.createConnection({
  host      : process.env.DB_HOST,
  user      : process.env.DB_USERNAME,
  password  : process.env.DB_PASSWORD,
  database  : process.env.DB_NAME
});
/* Connect to DB */
connection.connect(function(err){
  if(err) throw err;
  console.log(`Connected DB: ${process.env.DB_NAME}`);
});
```

- First, we import the MySQL modules, next we set up the details needed to connect to a MySQL database by using `.env` to keep

sensitive credentials like username and password out of the source code itself, and error handling the connection.

## 4. Setup Routing

```
//Login
router.get(['/Login'], (req, res) => {
  console.log("Request at " + req.url);
  res.sendFile(path.join(`${__dirname}/front-end/html/login.html`))
});

//HomePage
router.get(['/', '/HomePage'], (req, res) => {
  console.log("Request at " + req.url);
  res.sendFile(path.join(`${__dirname}/front-end/html/HomePage.html`))
});

//SearchPage
router.get('/SearchPage', (req, res) => {
  console.log("Request at " + req.url);
  res.sendFile(path.join(`${__dirname}/front-end/html/SearchPage.html`))
});

//ProductDetail
router.get('/ProductDetail', (req, res) => {
  console.log("Request at " + req.url);
  res.sendFile(path.join(`${__dirname}/front-end/html/ProductDetail.html`))
});

//ProductManagement
router.get('/ProductManagement', (req, res) => {
  console.log("Request at " + req.url);
  res.sendFile(path.join(`${__dirname}/front-end/html/ProductManagement.html`))
});

//OurTeam
router.get('/OurTeam', (req, res) => {
  console.log("Request at " + req.url);
  res.sendFile(path.join(`${__dirname}/front-end/html/Team.html`))
});

//Contact
router.get('/Contact-Us', (req, res) => {
```



```
console.log("Request at " + req.url);  
res.sendFile(path.join(`${__dirname}/front-end/html/Contact-Us.html`))  
});
```

- This code is about setting up the routing of our website such as if user go to ('/', '/Homepage') it will send HomePage.html or if user go to ('/SearchPage') it will send SearchPage.html and log the req.url.

## 5. Route for handling login attempts

```
router.post('/api/login', (req, res) => { ... });
```

- This code is a Api endpoint ('/api/login') to handle login attempts via HTTP post request
  1. It extracts the email and password sent in the request body.
  2. It performs basic validation to ensure both email and password are provided.
  3. It queries a database (user table) to find a user matching the provided email.
  4. It checks for the database error or if the user was not found.
  5. It directly compares the submitted plain text password with the plain text password (pwd) stored in the database.
  6. Checking whether the password match or not match, if match send back the 200 status and set the success to be true, if not match send back 401 status and set the success to be false.

## 6. Setup CRUD operations

### 1. Select all products

```
router.get('/product', function (req, res){
  connection.query(`SELECT * FROM product`, function (error,
results) {
    if(results.length ==0){
      return res.status(400).send({error: true, message: 'Your
database didnt have any data.'})
    }
    else{
      console.log(`${results.length} rows returned`);
      return res.send({error: false, data: results, message:
'Select All Products successfully.'});
    }
  });
});
```

-This is an Api endpoint ('/product') that handles HTTP GET requests. When client sends a GET request to ('/product'), the code executes an SQL query to select all data from the product table in the database, if no products are found send back an error response, if products are found, sends back the data and JSON response.

## 2. Select product by product code or category name

```
router.get('/product/:ProductCodeOrCatName', function (req, res){
  let product_CodeOrCatName = req.params.ProductCodeOrCatName;
  console.log(`Searching for: ${product_CodeOrCatName}`);
  const query = `SELECT * FROM product WHERE product_code = ? OR
category3_code LIKE ?`;
  connection.query(query, [product_CodeOrCatName,
product_CodeOrCatName + '%'], function (error, results) {
    if(results.length == 0){
      return res.status(400).send({error: true, message:
'Please Provide product code or category name.'})
    }
    console.log(`${results.length} rows returned`);
    return res.send({error: false, data: results, message:
'Select Product successfully.'});
  });
});
```

-This is an Api endpoint that handles HTTP GET requests to ('/product/') followed by a specific value ('/product/SomeCode' , '/product/SomeCategory') designed to Select product by specific value. First it take the value provided in the URL after ('/product/') and it perform database query then query search for rows where either 'product\_code' column or the 'category3\_code' column and handling errors then send back the matching products and the JSON response back.

### 3. Insert product

```
router.post('/product', function (req, res){
  let product = req.body.product;
  console.log(product);
  if(!product){
    return res.status(400).send({error: true, message: 'Please
Provide product information'})
  }

  connection.query(`INSERT into product SET ?`, [product],
function (error, results) {
  if(error){
    throw error;
  }
  console.log(`New Product has been inserted`);
  return res.send({error: false, data: results.affectedRows,
message: 'Product has been inserted successfully.'});
});
});
```

- This is an Api endpoint that handles HTTP POST requests to ('/product/'), designed to add a new product to the database. First it expects the client to send product data within request body then extract this product object from the request body, next validate the product , and execute SQL insert query to add new row to the product table, then handling errors and send back JSON response.

#### 4. Update product

```
router.put('/product', function (req,res){
  let PreviousProduct_code = req.body.product.product_code;
  let NewProduct = req.body.newProduct;

  if (!PreviousProduct_code || !NewProduct){
    return res.status(400).send({error: true, message: 'Please
Provide Product information'})
  }

  connection.query(`UPDATE product SET ? WHERE product_code = ?`,
[NewProduct, PreviousProduct_code], function (error, results) {
    if(error){
      throw error;
    }
    console.log(`Product has been updated`);
    return res.send({error: false, data: results.affectedRows,
message: `Product has been updated successfully.`});
  });
});
```

- This is an Api endpoint that handles HTTP PUT requests to ('/product/'), designed to update the existing product. First it get the product code of the product that want to update then get the new information for new product then handling error, next execute SQL update query then handling error, if success send back the JSON response.

## 5. Delete product

```
router.delete('/product', function (req,res){
    let product_code = req.body.product.product_code;

    if (!product_code){
        return res.status(400).send({error: true, message: 'Please
provide product_code'})
    }

    connection.query(`DELETE FROM product WHERE product_code = ?`,
[product_code], function (error, results) {
        if(error){
            throw error;
        }
        console.log(`The product code ${product_code} has been
deleted.`);
        return res.send({error: false, data: results.affectedRows,
message: `The Product id ${product_code} has been deleted
successfully.`});
    });
});
```

- This is an Api endpoint that handles HTTP DELETE requests to ('/product/'), designed to delete a product from the database. First it gets the product code of the product that want to delete then handling error, next execute SQL delete query then handling error, if success send back the JSON response.

## 7. Client-Side

Styling & interaction (Bootstrap, swiper)

- We use Bootstrap for easy styling, bootstrap provides a lot of complete structures like card, nav, etc. so it can shorten working time, and for swiper to make an interaction sliding image and have the next and previous button for home page.

## 8. Public API

-our website use Longdo map, it an online web mapping service and platform that primarily focused on Thai, it provides many features such as zoom bar and the Pin. We use it to display our company location in Contact us page.

- **Link:** [Longdo Map API](#)

# The testing results of web services using Postman or any program for testing web service

## 1. Select all products

The screenshot displays the Postman application interface. On the left sidebar, the 'My Workspace' is expanded, showing a collection named 'LAB13' and an environment named 'MYKEA-PROJECT'. The main panel shows a GET request to 'http://localhost:3000/product' with a status of '200 OK' and a response time of '12 ms'. The response body is a JSON object with the following structure:

```
1 {
2   "error": false,
3   "data": [
4     {
5       "website_name": "Rue La La",
6       "competence_date": "2023-11-17",
7       "country_code": "USA",
8       "currency_code": "USD",
9       "brand": "NAUTICA",
10      "category1_code": "HOME",
11      "category2_code": "BEDDING%20%26%20BEDROOM",
12      "category3_code": "SHEETS",
13      "product_code": "125944724"
14    }
15  ]
16 }
```



```
//Testing Select all products
//method: GET
//URL: http://localhost:3000/product
//body: raw JSON
{
  "error": false,
  "data": [
    {
      "website_name": "Rue La La",
      "competence_date": "2023-11-17",
      "country_code": "USA",
      "currency_code": "USD",
      "brand": "NAUTICA",
      "category1_code": "HOME",
      "category2_code": "BEDDING% 20% 26% 20BEDROOM",
      "category3_code": "SHEETS",
      "product_code": 125944224,
      "title": "Nautica T200 Solid 4Pc Grey Sheet Set",
      "itemurl":
"https://www.ruelala.com/boutique/product/159137/125944224/",
      "imageurl":
"http://asset1.ruecdn.com/images/product/303394/3033948560_RLLDTH_1.jpg"
    ,
      "full_price": 80,
      "price": 39,
      "full_price_eur": 73.8,
      "price_eur": 35.97,
      "flg_discount": "1"
    }, ... (other 49 results),

    "message": "Select All Products successfully."
  }
}
```

## 2. Select product by specific values

### Test Case 1 (product\_code):

The screenshot displays the Postman interface with a workspace named 'MYKEYA-PROJECT'. The left sidebar shows a collection of API requests, including 'GET select Product by specific values'. The main panel shows the details of this request, which is a GET request to the URL 'http://localhost:3000/product/125944224'. The response is a 200 OK status with a 6 ms response time and 838 B of data. The response body is a JSON object with the following structure:

```
{
  "error": false,
  "data": [
    {
      "website_name": "Rue La La",
      "competence_date": "2023-11-17",
      "country_code": "USA",
      "currency_code": "USD",
      "brand": "NAUTICA",
      "category1_code": "HOME",
      "category2_code": "BEDDING%26%26BEDROOM",
      "category3_code": "SHEETS",
      "product_code": "125944224"
    }
  ]
}
```

The bottom status bar indicates the Postman version and various settings like 'Postbot', 'Runner', 'Capture requests', 'Desktop Agent', 'Cookies', 'Vault', and 'Trash'.

```
//Testing Select product by specific values (product_code)
//method: GET
//URL: http://localhost:3000/product/125944224
//body: raw JSON
{
  "error": false,
  "data": [
    {
      "website_name": "Rue La La",
      "competence_date": "2023-11-17",
      "country_code": "USA",
      "currency_code": "USD",
      "brand": "NAUTICA",
      "category1_code": "HOME",
      "category2_code": "BEDDING% 20% 26% 20BEDROOM",
      "category3_code": "SHEETS",
      "product_code": 125944224,
      "title": "Nautica T200 Solid 4Pc Grey Sheet Set",
      "itemurl":
"https://www.ruelala.com/boutique/product/159137/125944224/",
      "imageurl":
"http://asset1.ruecdn.com/images/product/303394/3033948560_RLLDTH_1.jpg"
    ,
      "full_price": 80,
      "price": 39,
      "full_price_eur": 73.8,
      "price_eur": 35.97,
      "flg_discount": "1"
    }
  ],
  "message": "Select Product successfully."
}
```

## Test Case 2 (Category name):

The screenshot displays the Postman interface for a REST client. The left sidebar shows the 'My Workspace' with a collection named 'LAB13' containing a folder 'MYKEA-PROJECT'. Inside this folder, the request 'GET select Product by specific values' is selected. The main panel shows the request details: a GET request to 'http://localhost:3000/product/pillow'. The response is a 200 OK status with a response time of 5 ms and a body size of 3.64 KB. The response body is displayed in JSON format, showing a successful result with product details.

**Request Details:**

- Method: GET
- URL: `http://localhost:3000/product/pillow`

**Response Details:**

- Status: 200 OK
- Time: 5 ms
- Size: 3.64 KB

**Response Body (JSON):**

```
1 {
2   "error": false,
3   "data": [
4     {
5       "website_name": "Rue la La",
6       "competence_date": "2023-11-17",
7       "country_code": "USA",
8       "currency_code": "USD",
9       "brand": "SCHLOSSBERG OF SWITZERLAND",
10      "category1_code": "HOME",
11      "category2_code": "BEDDING%26%26BEDROOM",
12      "category3_code": "PILLOWCASES%26%26SHAMS",
13      "product_code": "132557784"
14    }
15  ]
16 }
```

```
//Testing Select product by specific values (category3_code)
```

```
//method: GET
```

```
//URL: http://localhost:3000/product/pillow
```

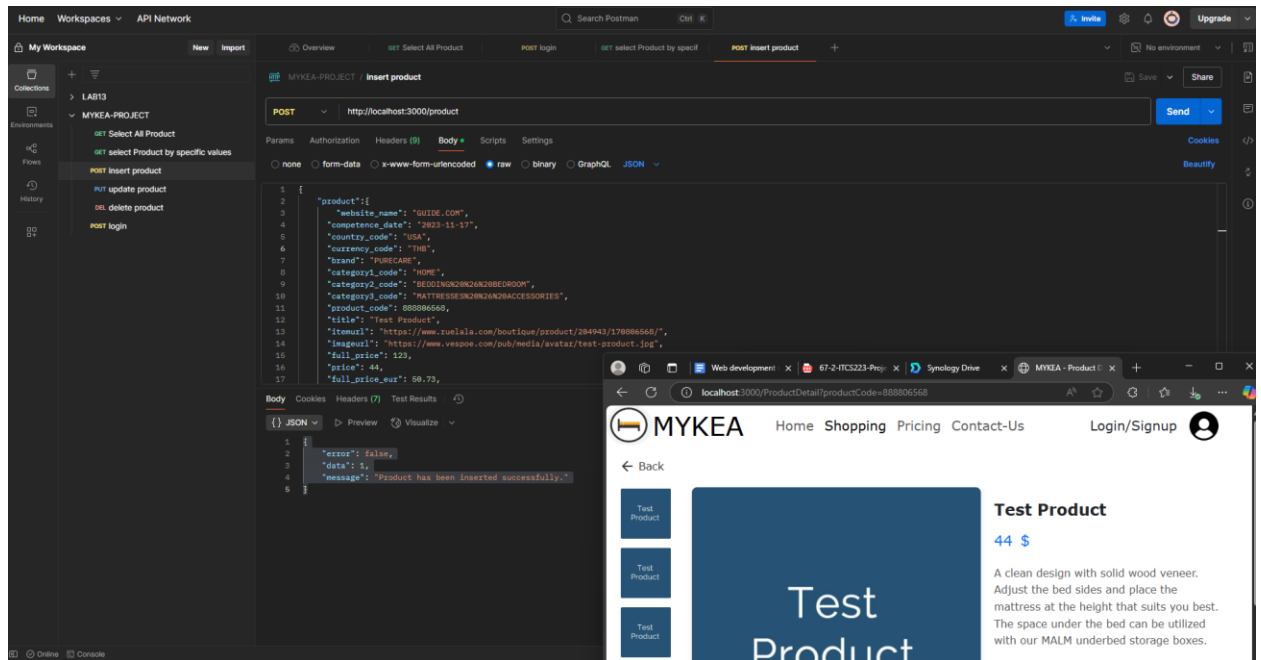
```
//body: raw JSON
```

(I decrease the data inside “data” to decrease the amount of text for you to easily see, i will show what important to check (run this before insert, update, delete anything to be the same result.) )

```
{
  "error": false,
  "data": [
    {
      "category3_code": "PILLOWCASES%20%26%20SHAMS",
      "product_code": 132557784,
    },
    . . . ,
    {
      "category3_code": "PILLOW%20INSERTS",
      "product_code": 180650918,
    }
  ],
  "message": "Select Product successfully."
}
```

### 3. Insert product

#### Test Case 1:



```
//Testing insert product
//method: POST
//URL: http://localhost:3000/product
//body: raw JSON
```

**Client sent this:**

```
{
  "product":{
    "website_name": "GUIDE.COM",
    "competence_date": "2023-11-17",
    "country_code": "USA",
    "currency_code": "THB",
    "brand": "PURECARE",
    "category1_code": "HOME",
    "category2_code": "BEDDING% 20% 26% 20BEDROOM",
    "category3_code":
    "MATTRESSES% 20% 26% 20ACCESSORIES",
    "product_code": 888806568,
    "title": "Test Product",
    "itemurl":
    "https://www.ruelala.com/boutique/product/204943/170806568/",
    "imageurl": "https://www.vespoe.com/pub/media/avatar/test-
product.jpg",
    "full_price": 123,
    "price": 44,
    "full_price_eur": 50.73,
    "price_eur": 40.59,
    "flg_discount": "1"
  }
}
```

**Response:**

```
{
  "error": false,
  "data": 1,
  "message": "Product has been inserted successfully."
}
```

## Test Case 2:

The screenshot displays a REST client interface (Postman) and a web browser side-by-side, illustrating a successful API call and its response.

**REST Client (Postman):**

- Method:** POST
- URL:** `http://localhost:3000/product`
- Body (raw JSON):**

```
1 {
2   "product": {
3     "website_name": "mykeia.com",
4     "competence_date": "2023-11-17",
5     "country_code": "USA",
6     "currency_code": "USD",
7     "brand": "FUNKCAR",
8     "category1_code": "HOME",
9     "category2_code": "BEDDINGKID26K26BEDROOM",
10    "category3_code": "MATTRESSESIN26K26ACCESSORIES",
11    "product_code": "887786568",
12    "title": "Test Product2",
13    "itemurl": "https://www.suelala.com/boutique/product/284943/178886568/",
14    "imageurl": "https://www.vespoe.com/pub/media/avatar/test-product.jpg",
15    "full_price": 154,
16    "price": 44,
17    "full_price_min": 88.73,
18  }
19 }
```
- Body (JSON Preview):**

```
1 {
2   "error": false,
3   "data": 1,
4   "message": "Product has been inserted successfully."
5 }
```

**Web Browser (localhost:3000/ProductDetail/productCode=887786568):**

- Header:** MYKEA Home Shopping Pricing Contact-Us Login/Signup
- Content:** The page displays "Test Product2" with a price of "44 \$". It includes a description: "A clean design with solid wood veneer. Adjust the bed sides and place the mattress at the height that suits you best. The space under the bed can be utilized with our MALM underbed storage boxes."



```
//Testing insert product
//method: POST
//URL: http://localhost:3000/product
//body: raw JSON
```

**Client:**

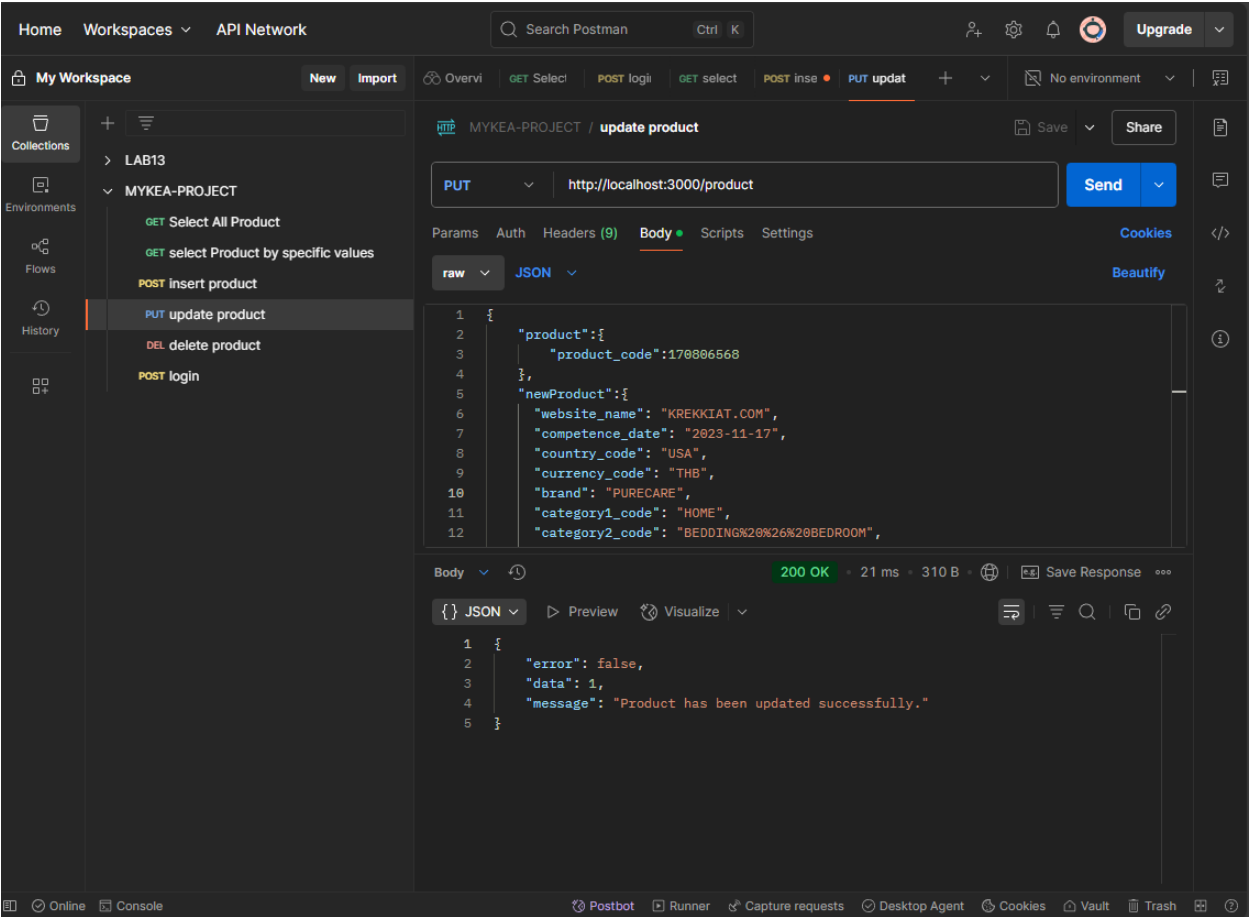
```
{
  "product":{
    "website_name": "WARIS.COM",
    "competence_date": "2023-11-17",
    "country_code": "USA",
    "currency_code": "THB",
    "brand": "PURECARE",
    "category1_code": "HOME",
    "category2_code": "BEDDING%20%26%20BEDROOM",
    "category3_code": "MATTRESSES%20%26%20ACCESSORIES",
    "product_code": 887706568,
    "title": "Test Product2",
    "itemurl": "https://www.ruelala.com/boutique/product/204943/170806568/",
    "imageurl": "https://www.vespoe.com/pub/media/avatar/test-product.jpg",
    "full_price": 154,
    "price": 44,
    "full_price_eur": 50.73,
    "price_eur": 40.59,
    "flg_discount": "1"
  }
}
```

**Response:**

```
{
  "error": false,
  "data": 1,
  "message": "Product has been inserted successfully."
}
```

## 4. Update product

### Test Case 1:



SQL:

KREKCIAT.COM	2023-11-17	USA	THB	PURECARE	HOME	BEDDING
--------------	------------	-----	-----	----------	------	---------

```
//Testing update product
//method: PUT
//URL: http://localhost:3000/product
//body: raw JSON
```

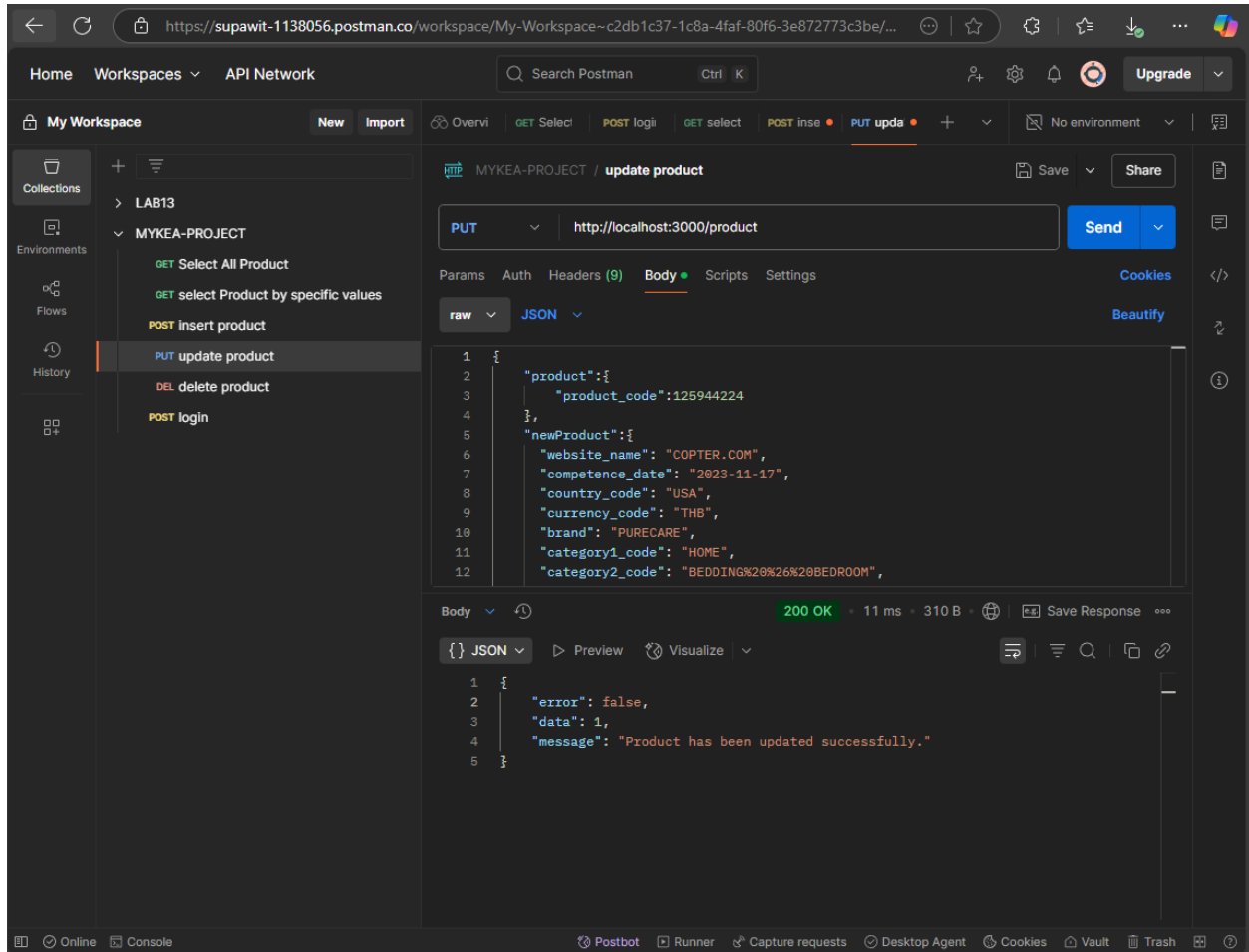
**Client:**

```
{
  "product":{
    "product_code":170806568
  },
  "newProduct":{
    "website_name": "KREKKIAT.COM",
    "competence_date": "2023-11-17",
    "country_code": "USA",
    "currency_code": "THB",
    "brand": "PURECARE",
    "category1_code": "HOME",
    "category2_code": "BEDDING% 20% 26% 20BEDROOM",
    "category3_code": "MATTRESSES% 20% 26% 20ACCESSORIES",
    "title": "PureCare Cotton Terry Mattress Protector",
    "itemurl": "https://www.ruelala.com/boutique/product/204943/170806568/",
    "imageurl":
"http://asset2.ruecdn.com/images/product/303091/3030916670_RLLDTH_1.jpg"
  },
  "full_price": 55,
  "price": 44,
  "full_price_eur": 50.73,
  "price_eur": 40.59,
  "flg_discount": "1"
}
}
```

**Response:**

```
{
  "error": false,
  "data": 1,
  "message": "Product has been updated successfully."
}
```

## Test Case 2:



SQL:

COPTER.COM	2023-11-17	USA	THB	PURECARE	HOME	BEDDING
------------	------------	-----	-----	----------	------	---------

```
//Testing update product
//method: PUT
//URL: http://localhost:3000/product
//body: raw JSON
```

**Client:**

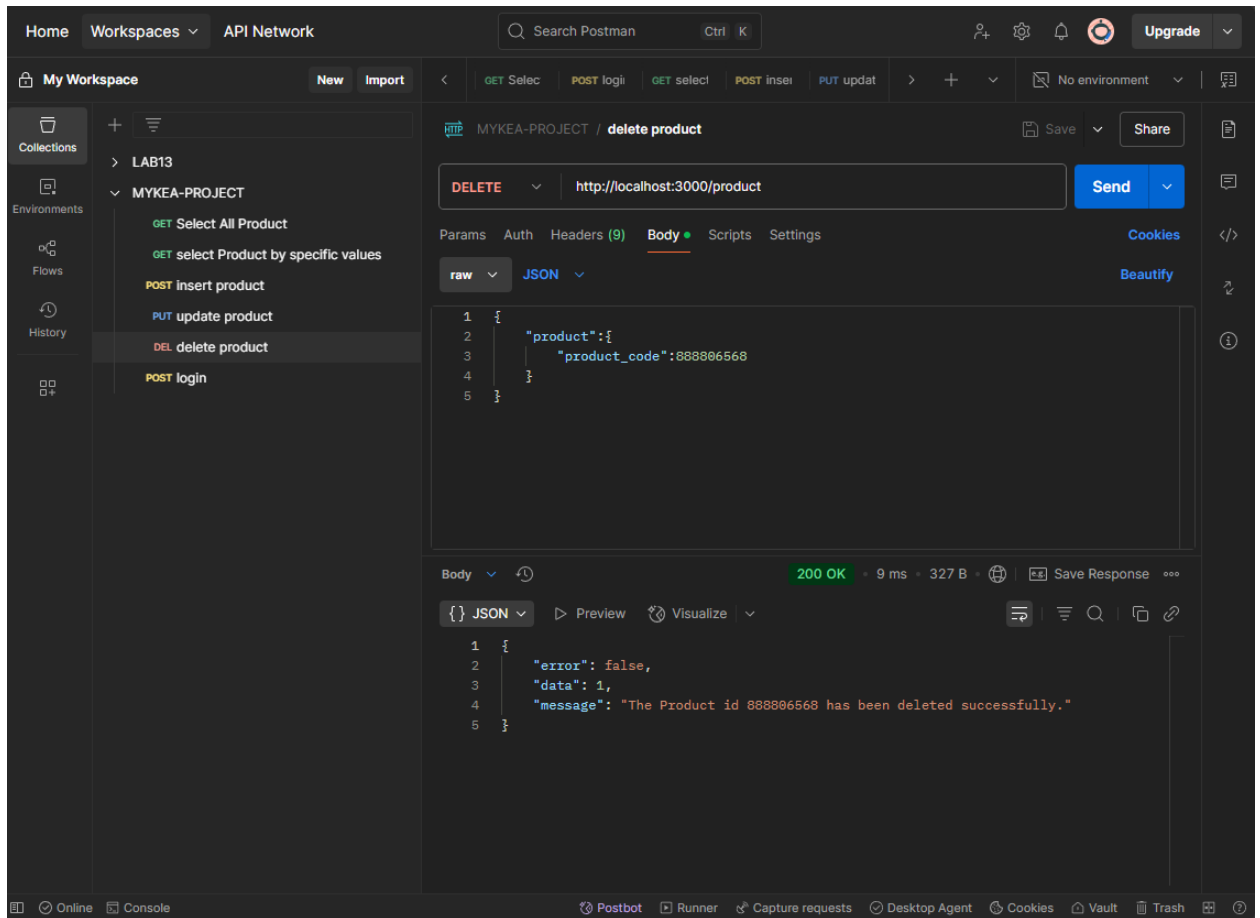
```
{
  "product":{
    "product_code":125944224
  },
  "newProduct":{
    "website_name": "COPTER.COM",
    "competence_date": "2023-11-17",
    "country_code": "USA",
    "currency_code": "THB",
    "brand": "PURECARE",
    "category1_code": "HOME",
    "category2_code": "BEDDING% 20% 26% 20BEDROOM",
    "category3_code": "MATTRESSES% 20% 26% 20ACCESSORIES",
    "title": "PureCare Cotton Terry Mattress Protector",
    "itemurl": "https://www.ruelala.com/boutique/product/204943/170806568/",
    "imageurl":
"http://asset2.ruecdn.com/images/product/303091/3030916670_RLLDTH_1.jpg"
  },
  "full_price": 55,
  "price": 44,
  "full_price_eur": 50.73,
  "price_eur": 40.59,
  "flg_discount": "1"
}
}
```

**Response:**

```
{
  "error": false,
  "data": 1,
  "message": "Product has been updated successfully."
}
```

## 5. Delete product

### Test Case 1:



```
//Testing delete product
//method: DELETE
//URL: http://localhost:3000/product
//body: raw JSON
```

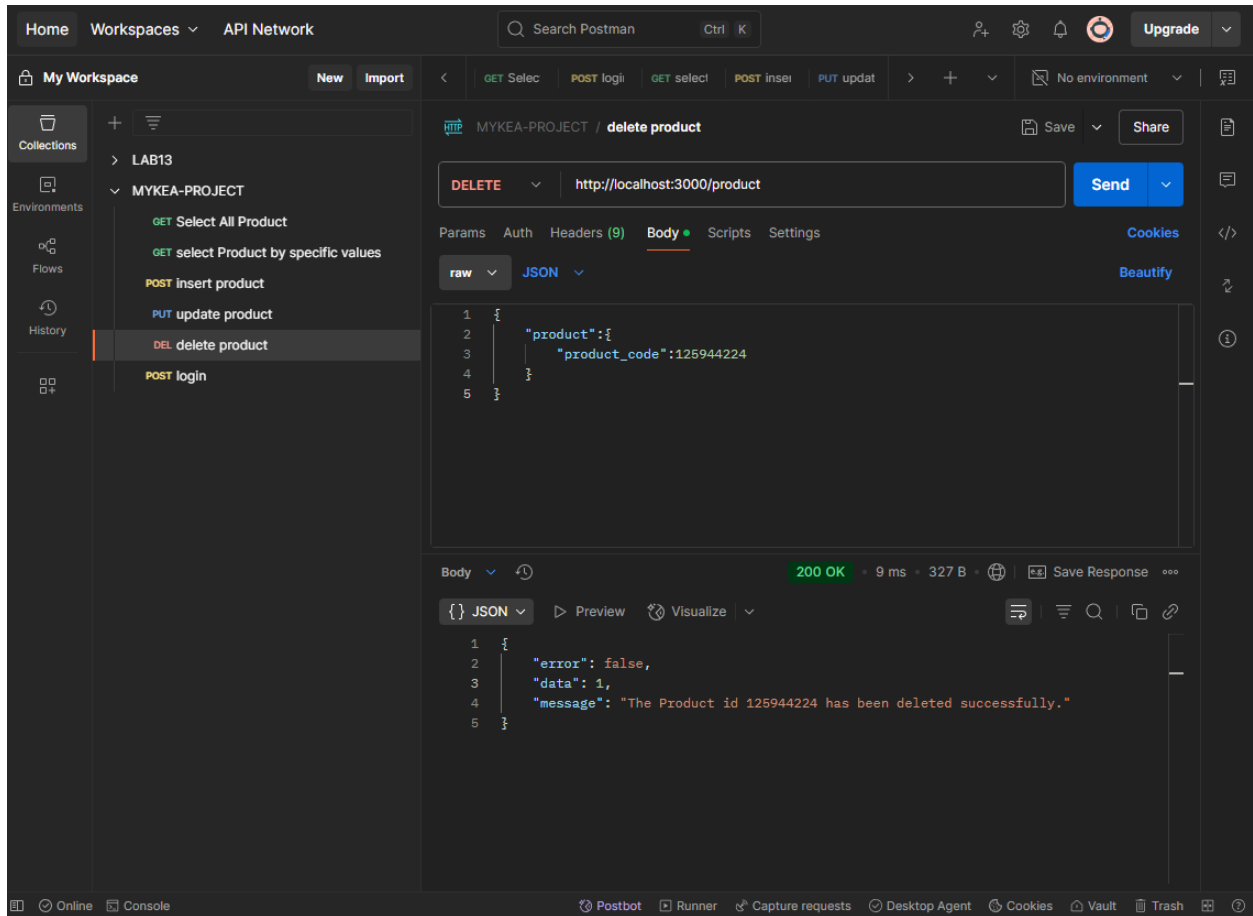
**Client:**

```
{
  "product":{
    "product_code":888806568
  }
}
```

**Response:**

```
{
  "error": false,
  "data": 1,
  "message": "The Product id 888806568 has been deleted successfully."
}
```

## Test Case 2:





```
//Testing delete product
//method: DELETE
//URL: http://localhost:3000/product
//body: raw JSON
```

**Client:**

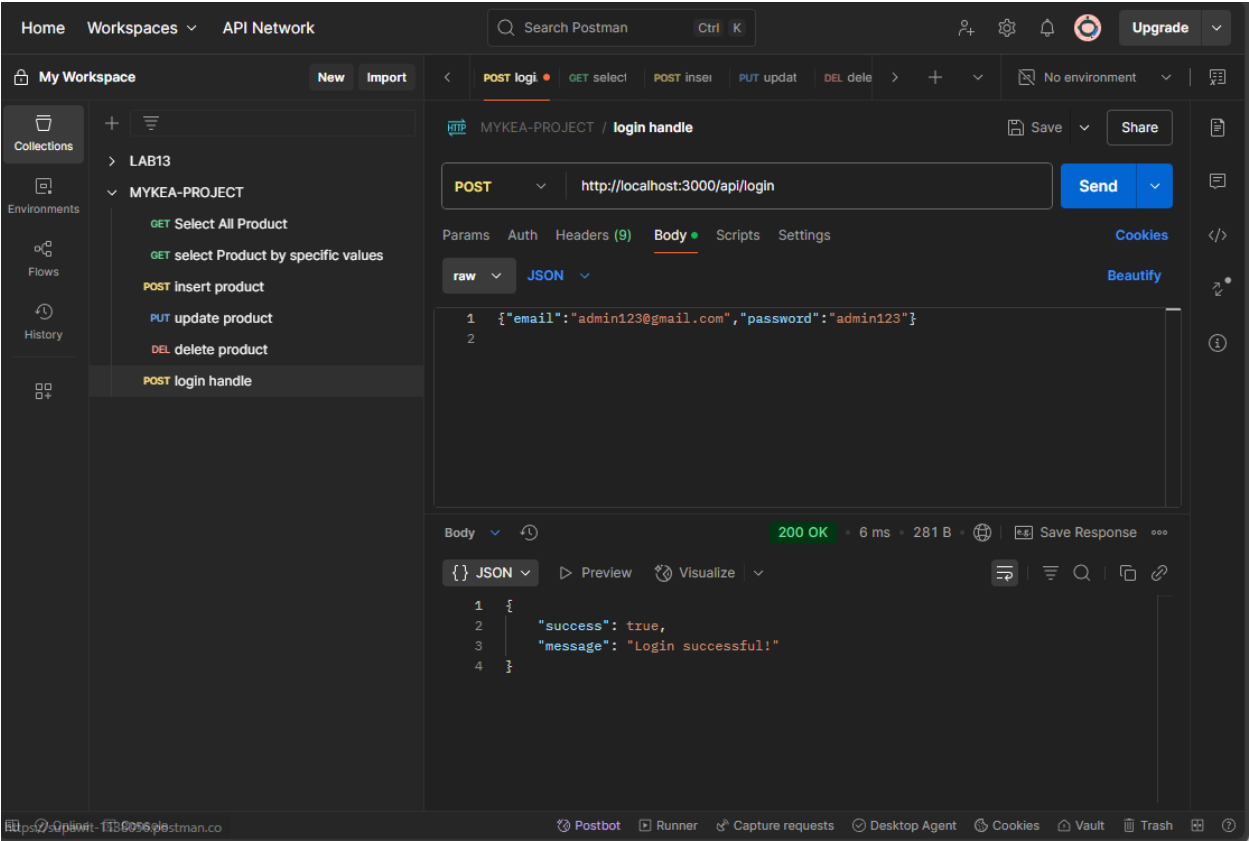
```
{
  "product":{
    "product_code":125944224
  }
}
```

**Response:**

```
{
  "error": false,
  "data": 1,
  "message": "The Product id 125944224 has been deleted successfully."
}
```

# 6. Login handle

## Test Case 1:



MYKEA

Login

Login successful!

Email address

admin123@gmail.com

Password

\*\*\*\*\*

☐ Remember me

Login

Forgot Password?

Don't have an account? Sign Up

```
//Testing login handle  
//method: POST  
//URL: http://localhost:3000/api/login  
//body: raw JSON
```

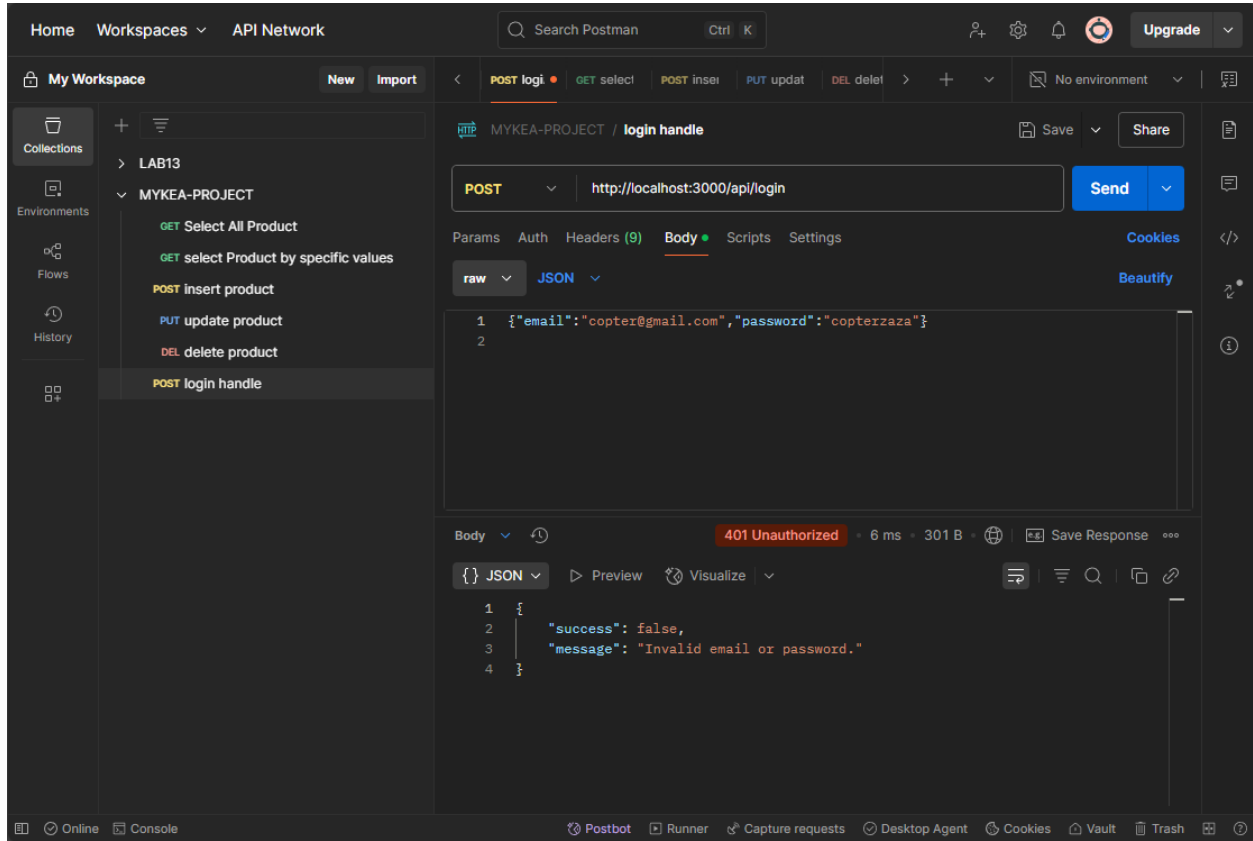
**Client:**

```
{"email":"admin123@gmail.com","password":"admin123"}
```

**Response:**

```
{  
  "success": true,  
  "message": "Login successful!"  
}
```

## Test Case 2:



MYKEA

### Login

Invalid email or password.

Email address

copter@gmail.com

Password

\*\*\*\*\*

☐ Remember me

Login

Forgot Password?

Don't have an account? Sign Up

```
//Testing login handle  
//method: POST  
//URL: http://localhost:3000/api/login  
//body: raw JSON
```

**Client:**

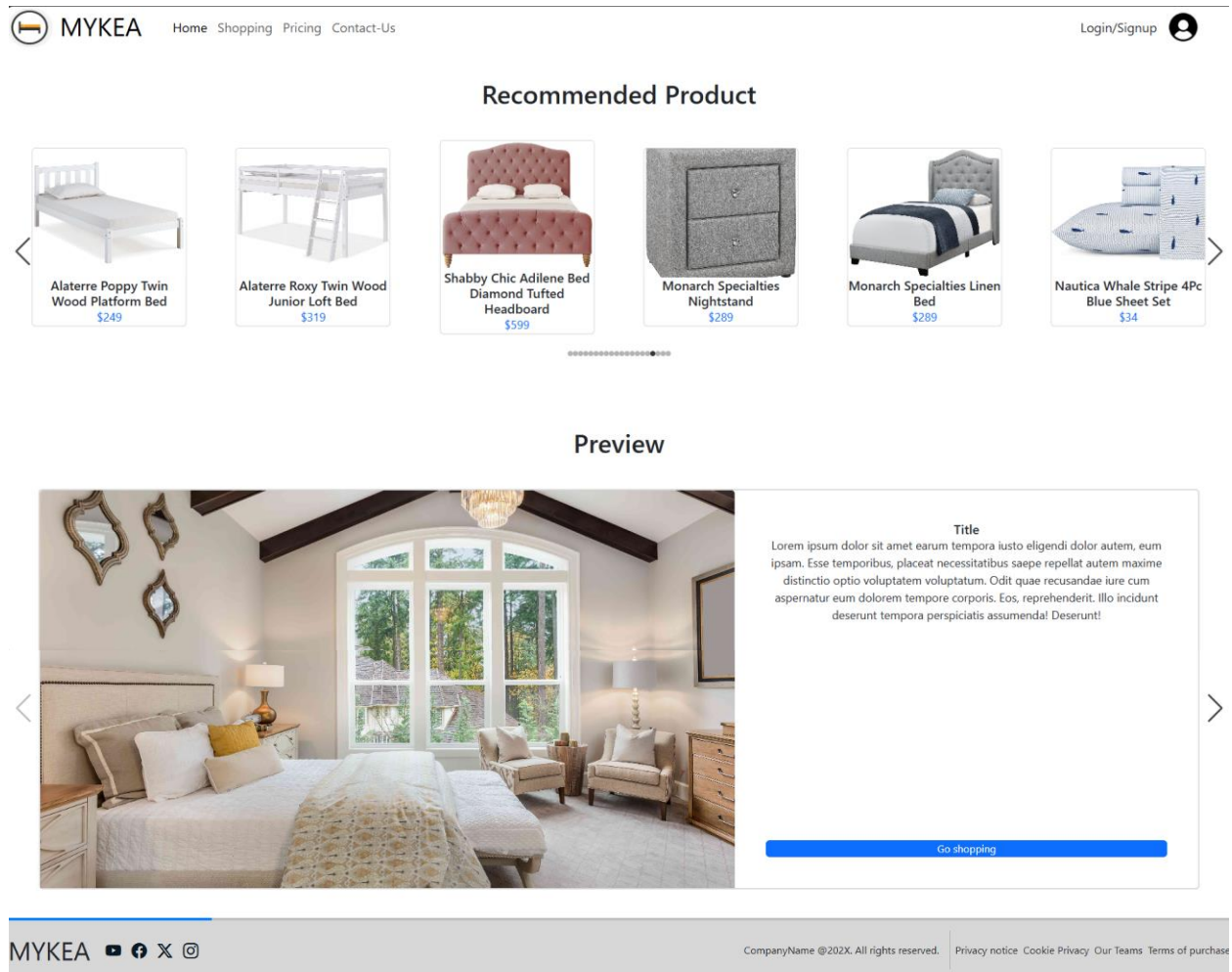
```
{"email":"copter@gmail.com","password":"copterzaza"}
```

**Response:**

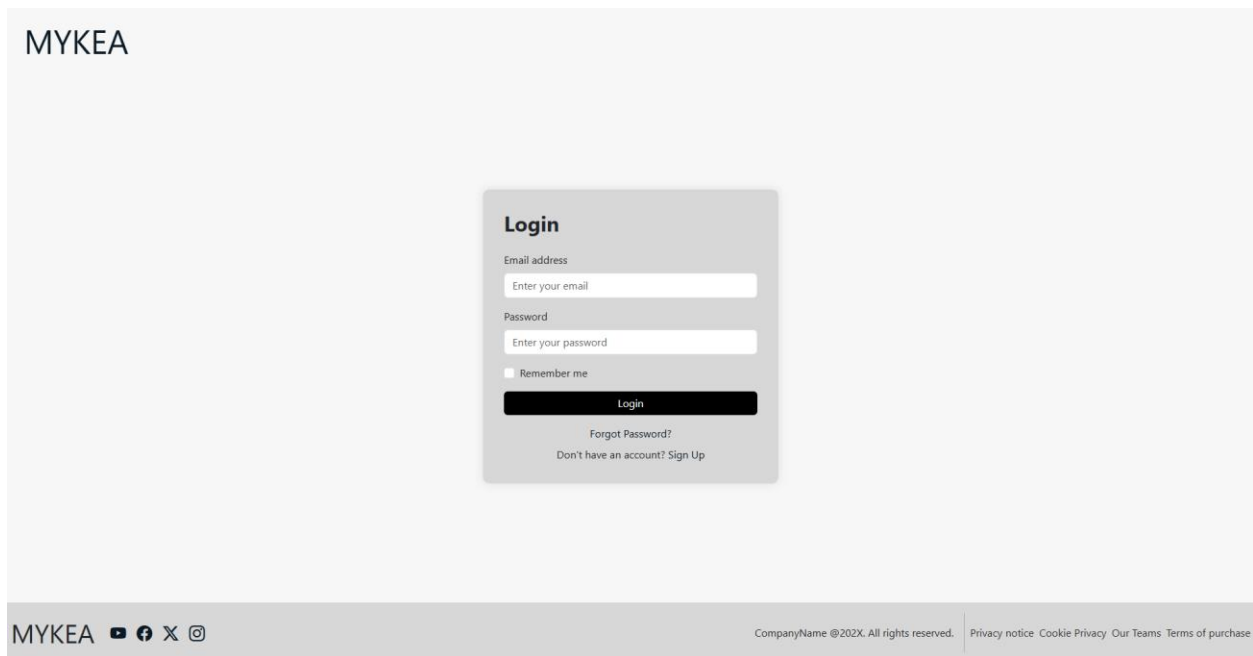
```
{  
  "success": false,  
  "message": "Invalid email or password."  
}
```

# Example of web application pages

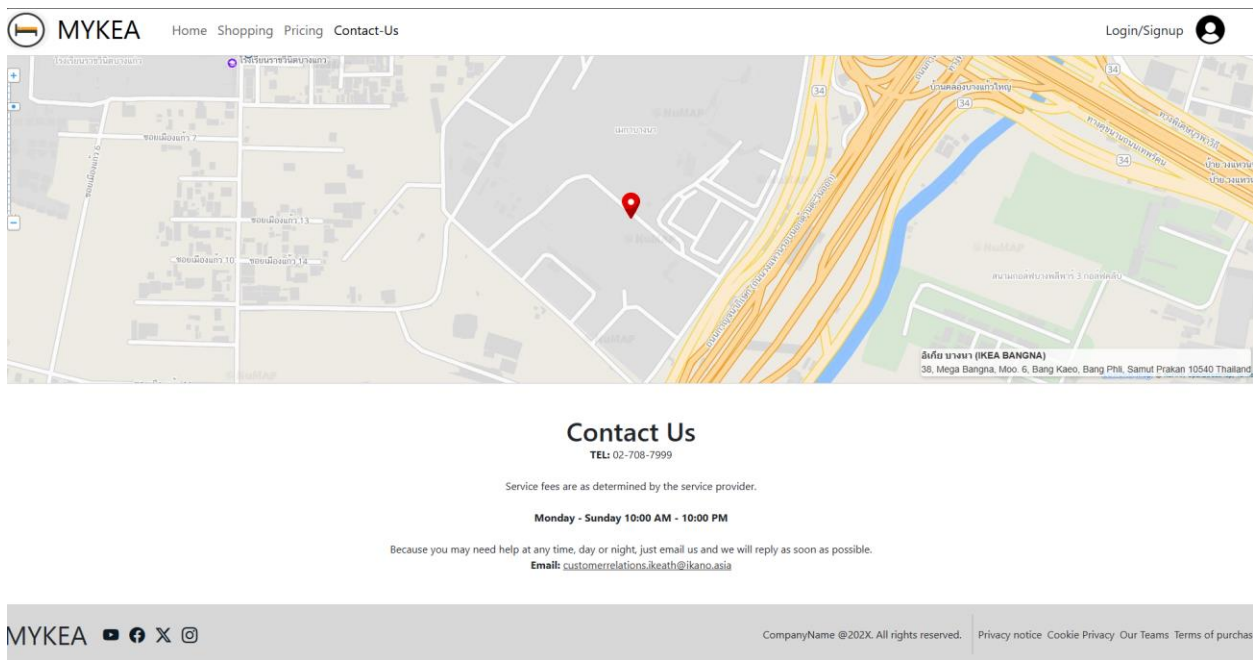
- Home page ('http://localhost:3000/', 'http://localhost:3000/HomePage')



- Login page ('http://localhost:3000/Login')



- Contact-Us page ('http://localhost:3000/Contact-Us')



- ProductDetail page ('http://localhost:3000/ProductDetail')

MYKEA

Home Shopping Pricing Contact-Us

Login/Signup

← Back

Design Studios Alinia King Platform Bed

569 \$

A clean design with solid wood veneer. Adjust the bed sides and place the mattress at the height that suits you best. The space under the bed can be utilized with our MALM underbed storage boxes.

Add to Cart

Size:XXXX

Material:XXXX

Color:XXXX

MYKEA

Company Name @202X. All rights reserved. Privacy notice Cookie Privacy Our Teams Terms of purchase

- ProductManagement page ('http://localhost:3000/ProductManagement')

MYKEA

Logout

Logged in as: admin123@gmail.com

Product Management

Add New Product

Product Code\*

Title\*

Unique code for the product.

Brand

Competence Date

Website Name

/mm/dd/yyyy

Country Code

Currency Code

e.g., US, TH, GB

e.g., USD, THB, EUR

Full Price

Current Price\*

Full Price (EUR)

Current Price (EUR)

Discount Flag/Value

Item URL

Image URL

Discount value/flag

https://...

https://...

Category 1 Code

Category 2 Code

Category 3 Code

e.g., FURN

e.g., CHAIR

e.g., OFFICE (Used for search)

Clear Form

Add Product

Search Products

Enter Product Code or Category 3 Code...

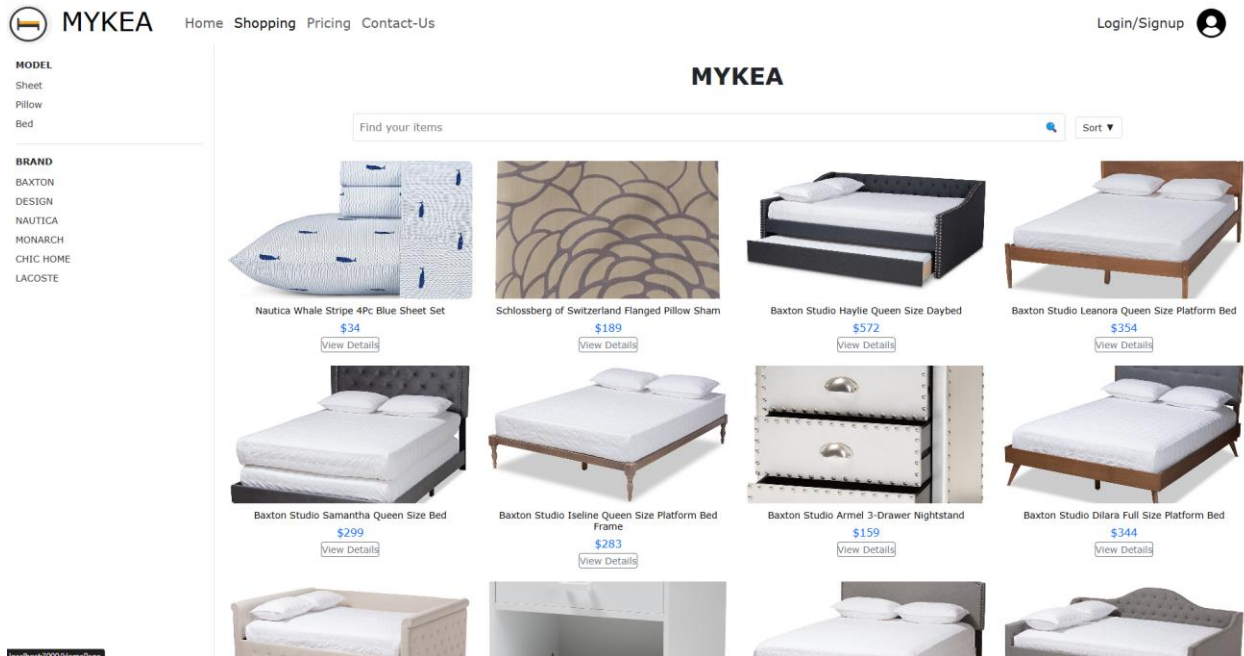
SearchShow All

Product List

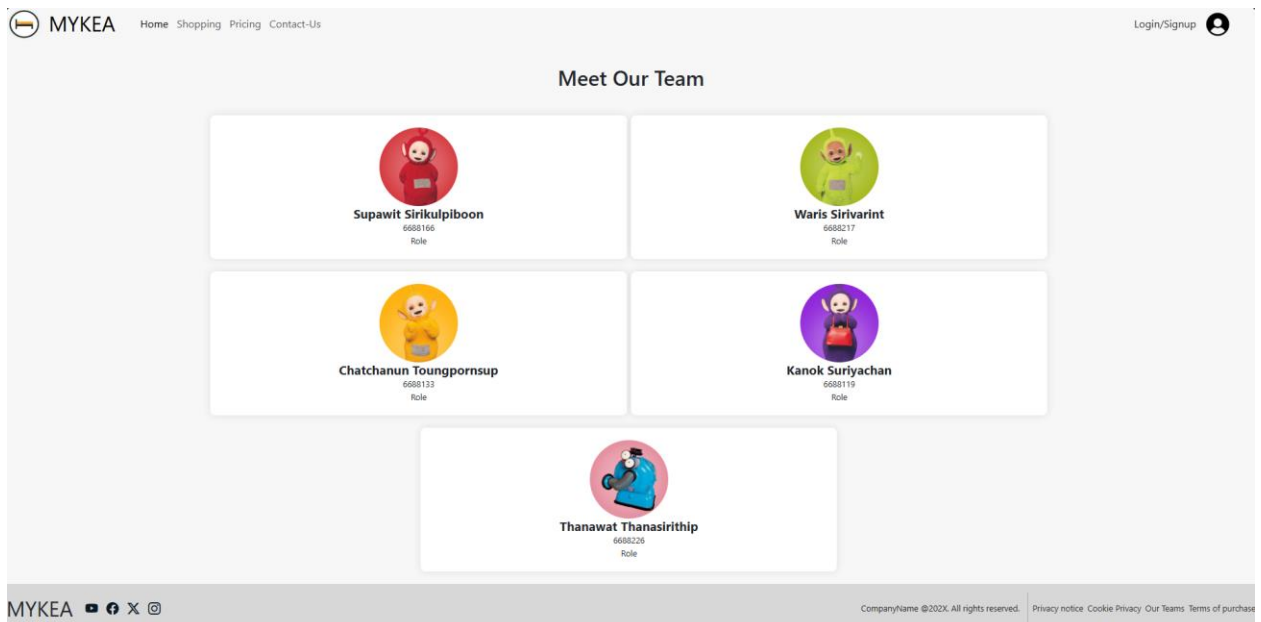
Code	Title	Brand	Price	Currency	Country	Actions
125944274	Nautica Whale Stripes 4Pc Blue Sheet Set	NAUTICA	34.00	USD	USA	<a href="#">✕ Edit</a> <a href="#">🗑 Delete</a>
132557784	Schlossberg of Switzerland Flanged Pillow Sham	SCHLOSSBERG OF SWITZERLAND	189.00	USD	USA	<a href="#">✕ Edit</a> <a href="#">🗑 Delete</a>
132925350	Baxton Studio Haylie Queen Size Daybed	BAXTON STUDIO	572.00	USD	USA	<a href="#">✕ Edit</a> <a href="#">🗑 Delete</a>
132925425	Baxton Studio Leanora Queen Size Platform Bed	BAXTON STUDIO	354.00	USD	USA	<a href="#">✕ Edit</a> <a href="#">🗑 Delete</a>



- Search page ('http://localhost:3000/SearchPage')



- Team page ('http://localhost:3000/OurTeam')



## References

<https://ellebeddingth.com/th/>

<https://www.potterybarn.com/shop/bedding/>

<https://www.marksandspencer.com/l/home-and-furniture/bedding>