The Faculty of Information and Communication Technology

Mahidol University

Project Phase II

BY

Miss Kunruethai	**Patimapornchai**	**6688076**
Miss Sunattha	**Boonla-or**	**6688009**
Mr. Tinakome	**Rasripenngam**	**6688095**
Mr. Teemtat	**Weerarattanamanee**	**6688143**
Mr. Teeratat	**Kunavoratham**	**6688198**

A Report Submitted in Partial Fulfillment of
the Requirements for

ITCS223 Web Development

Faculty of Information and Communication Technology
Mahidol University

2024

Table of Contents

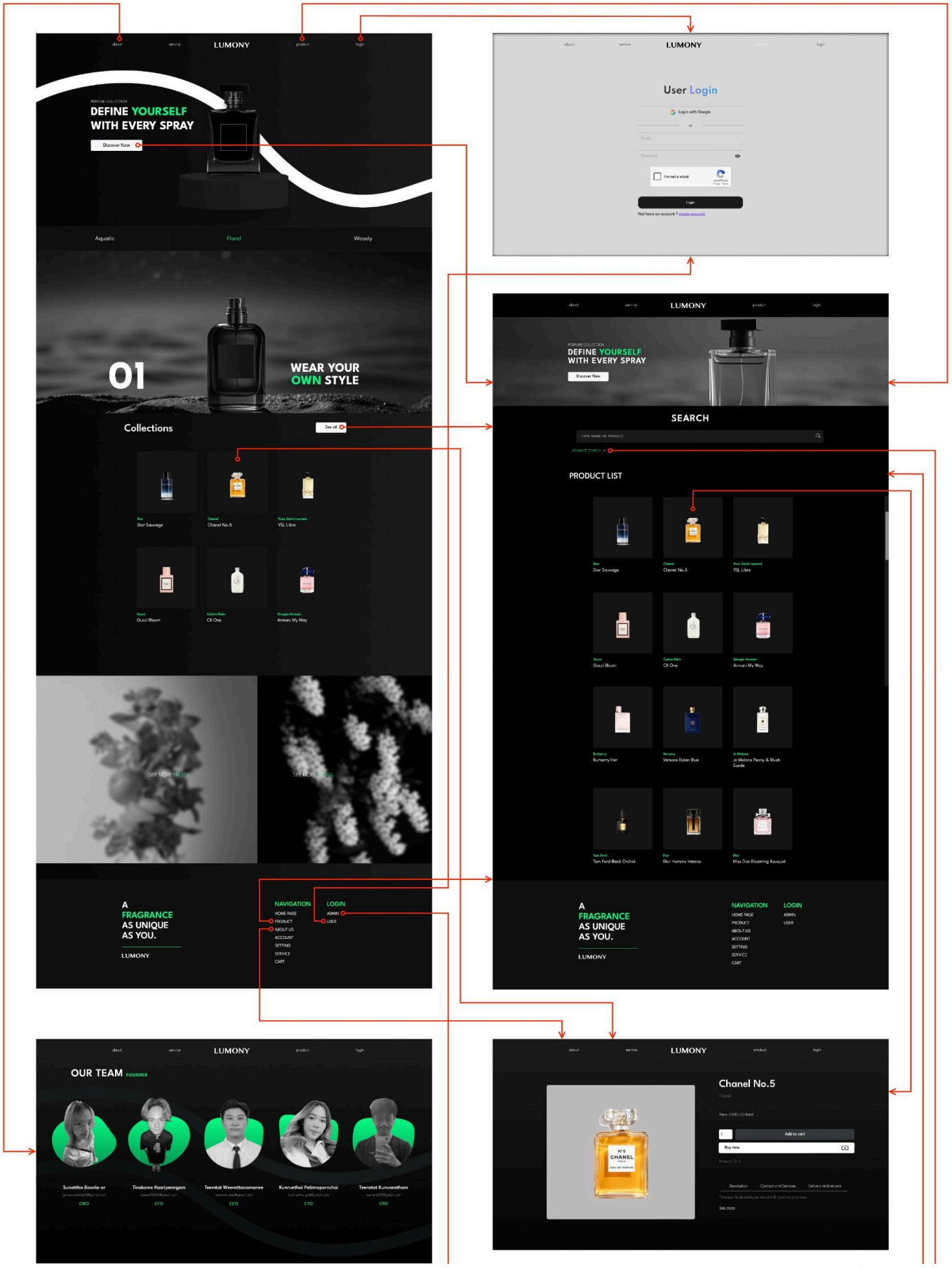
Business Domain

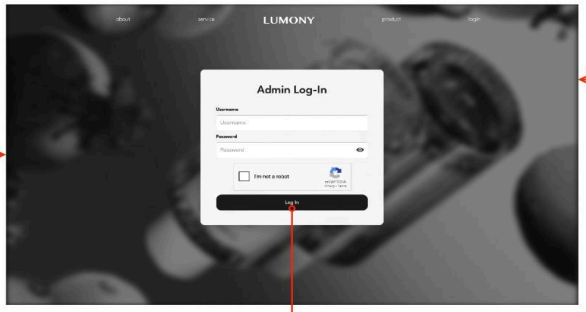
Lumony is a luxury perfume dealer specializing in high-end fragrance brands while also offering our exclusive Lumony collection. We curate a selection of premium perfumes from renowned luxury houses such as Yves Saint Laurent (YSL), Versace, and other exclusive names, guaranteeing genuine quality and elegance in every bottle.

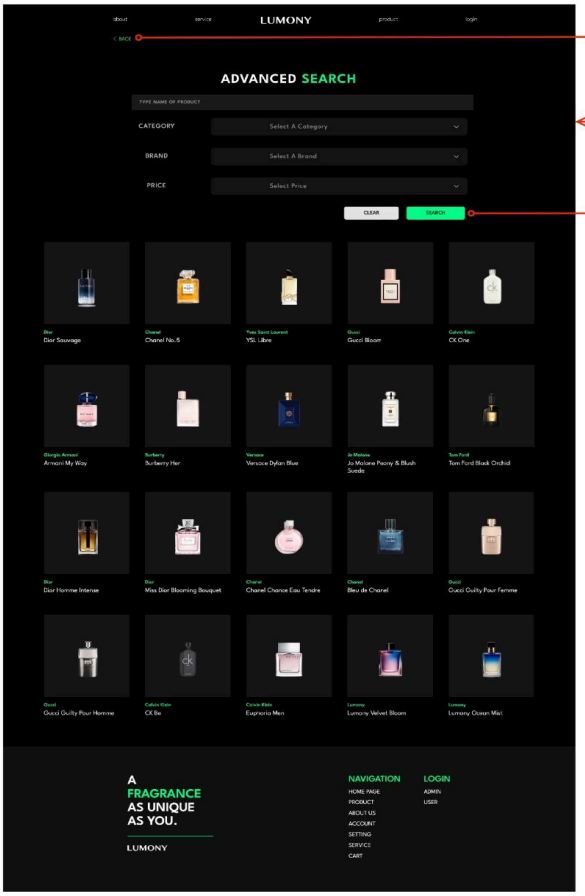
Beyond retailing designer fragrances, we take pride in our Lumony brand, which features uniquely crafted perfumes designed for individuals seeking exclusivity and personalization. Operating solely through our online platform, we provide a seamless and convenient shopping experience, allowing customers to explore and purchase luxury fragrances from anywhere.

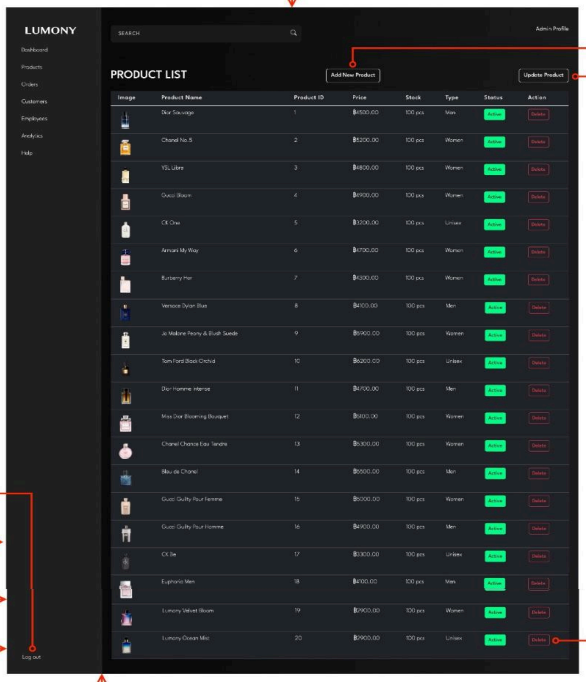
Our business scope includes direct online sales, limited-edition releases, and strategic brand collaborations. By combining high-end international perfumes with our own signature creations, we aim to establish Lumony as a distinguished name in the luxury fragrance industry.

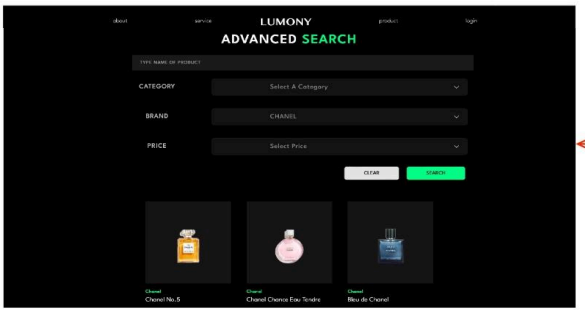
Wireframe

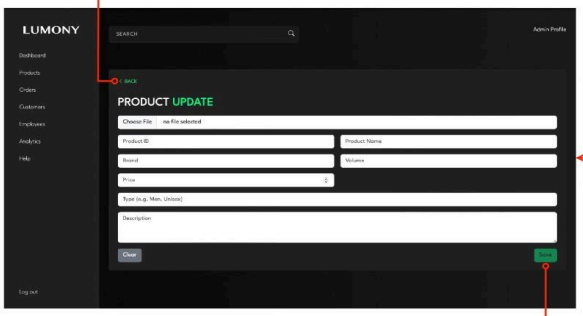

about
service
LUMONY
product
login
DEFINE YOURSELF
WITH EVERY SPRAY
Discover Now
Aquatic
Floral
Woody
01
WEAR YOUR
OWN STYLE
Collections
See all
Dior Sauvage
Chanel No.5
YSL Libre
Gucci Bloom
CK One
Armani My Way
A
FRAGRANCE
AS UNIQUE
AS YOU.
LUMONY
NAVIGATION
HOME PAGE
PRODUCT
ABOUT US
ACCOUNT
SETTING
SERVICE
CART
LOGIN
ADMIN
USER
User Login
Login with Google
or
Email
Password
I'm not a robot
Login
Not have an account ? create account
SEARCH
TYPE NAME OF PRODUCT
ADVANCE SEARCH
PRODUCT LIST
Burberry
Burberry Her
Versace
Versace Dylan Blue
Jo Malone
Jo Malone Peony & Blush Suede
Tom Ford
Tom Ford Black Orchid
Dior
Dior Homme Intense
Miss Dior Blooming Bouquet
OUR TEAM
FOUNDER
Sunattha Boonla-or
CMO
Tinakorn Rearipengam
CTO
Teerotat Kunvorathum
CPO
Chanel No.5
Add to cart
Buy now
Description
Contact and Services
Delivery and returns

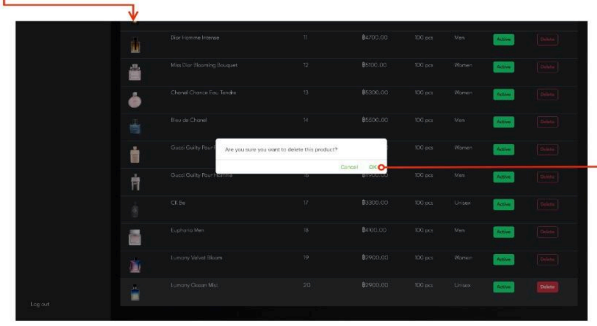

LUMONY
Admin Log-In
Username
Password
I'm not a robot
Log In

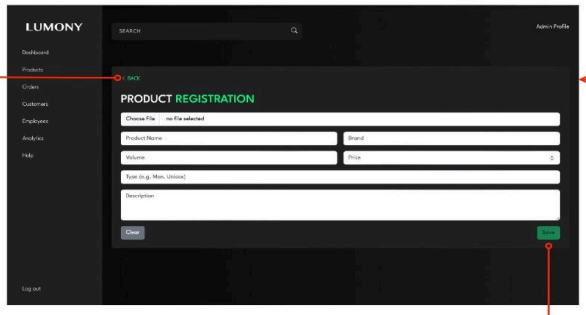

LUMONY
ADVANCED SEARCH
CATEGORY
BRAND
PRICE
CLEAR
SEARCH
A FRAGRANCE AS UNIQUE AS YOU.
LUMONY
NAVIGATION
HOME PAGE
PRODUCT
ABOUT US
ACCOUNT
SETTING
SERVICE
CART
LOGIN
ADMIN
USER

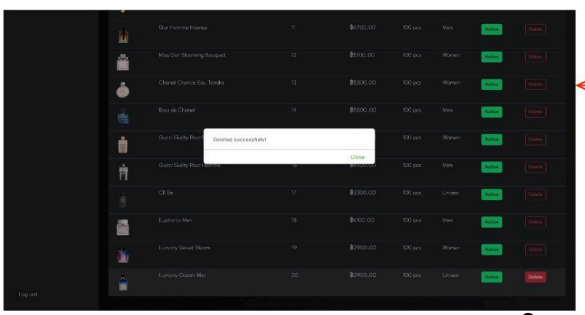

LUMONY
PRODUCT LIST
Add New Product
Update Product
Log out


LUMONY
ADVANCED SEARCH
CATEGORY
BRAND
PRICE
CLEAR
SEARCH


LUMONY
PRODUCT UPDATE
Log out




LUMONY
PRODUCT REGISTRATION
Log out

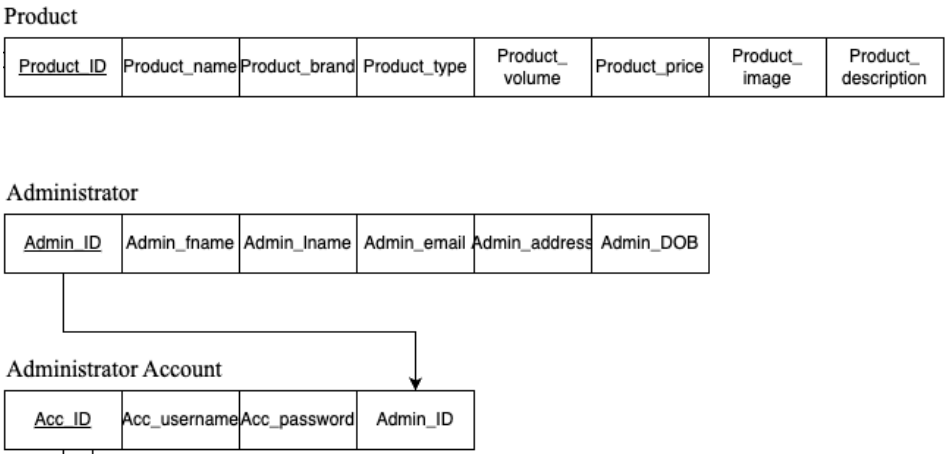


Data Model

Relational Schema

The data model is a relational schema which is designed to efficiently manage an administrative product management system, ensuring data consistency, security, and organization. This schema consists of six primary tables that define the relationships between products, administrators, and their respective actions within the system. These tables include:

- **Product**: To store product details.
- **Administrator**: Contains personal information of administrators.
- **Administrator Account**: Manages administrator login credentials, linking to the administrator profile.



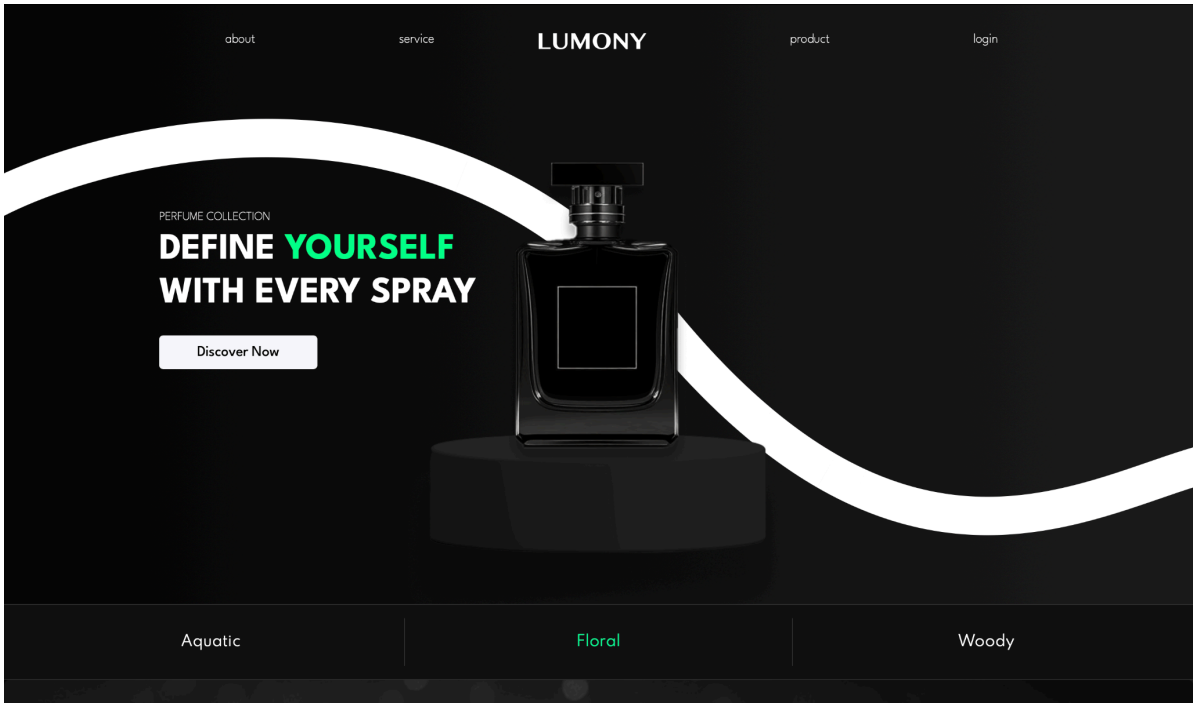
Data Dictionary

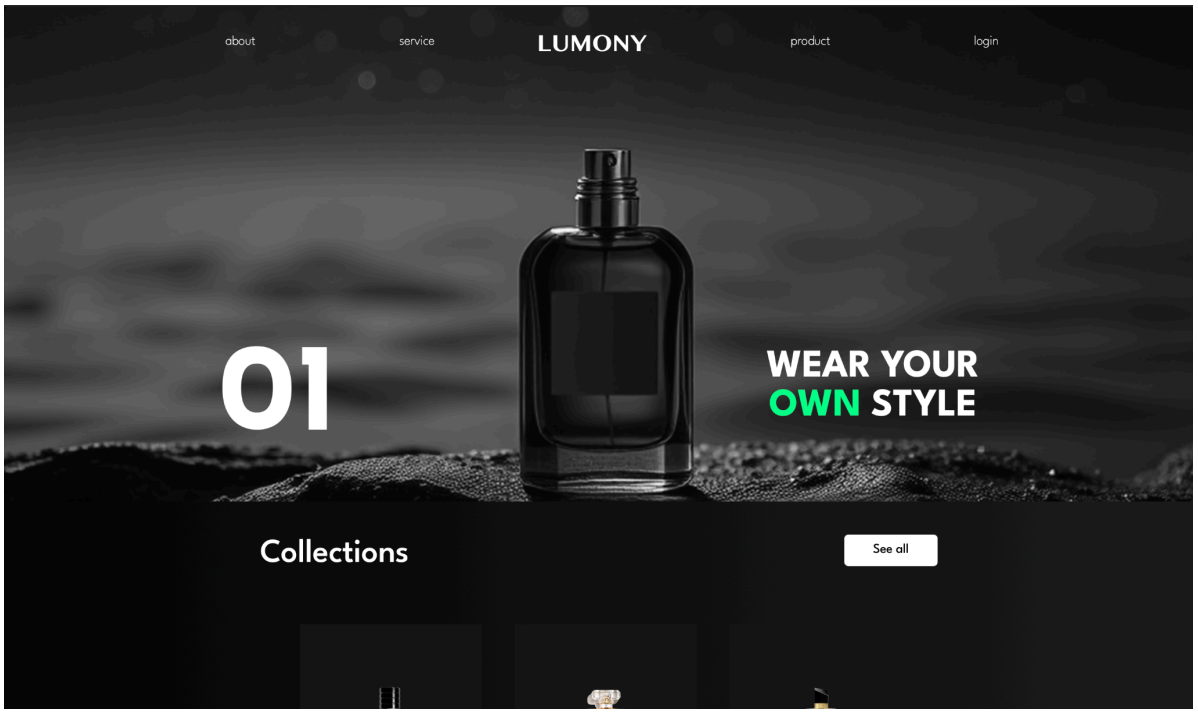
Attribute Name	Content	Type	Format	Nullable	Key	FK Reference
Table: Product						
Product_ID	Product's ID	Char(6)	XXXXXX	No	PK	
Product_name	Product's name	Varchar(50)	Xxxxxx	No		
Product_brand	Product's brand	Varchar(50)	Xxxxxx	No		
Product_type	Product's type/category	Varchar(50)	Xxxxxx	No		
Product_volume	Product's volume	Int	XXX	No		
Product_price	Product's price	Decimal(10,2)	XXX.XX	No		
Product_image	Product's image	Varchar(255)	Xxxxxx	No		
Product_ description	Product's description	Varchar(400)	Xxxxxx	Yes		
Table: Administrator						
Admin_ID	Admin's ID	Char(6)	XXXXXX	No	PK	
Admin_fname	Admin's first name	Varchar(50)	Xxxxxx	No		
Admin_lname	Admin's last name	Varchar(50)	Xxxxxx	No		
Admin_email	Admin's email	Varchar(100)	Xxxxx@xxx	No		
Admin_address	Admin's address	Varchar(100)	Xxxxxx	No		

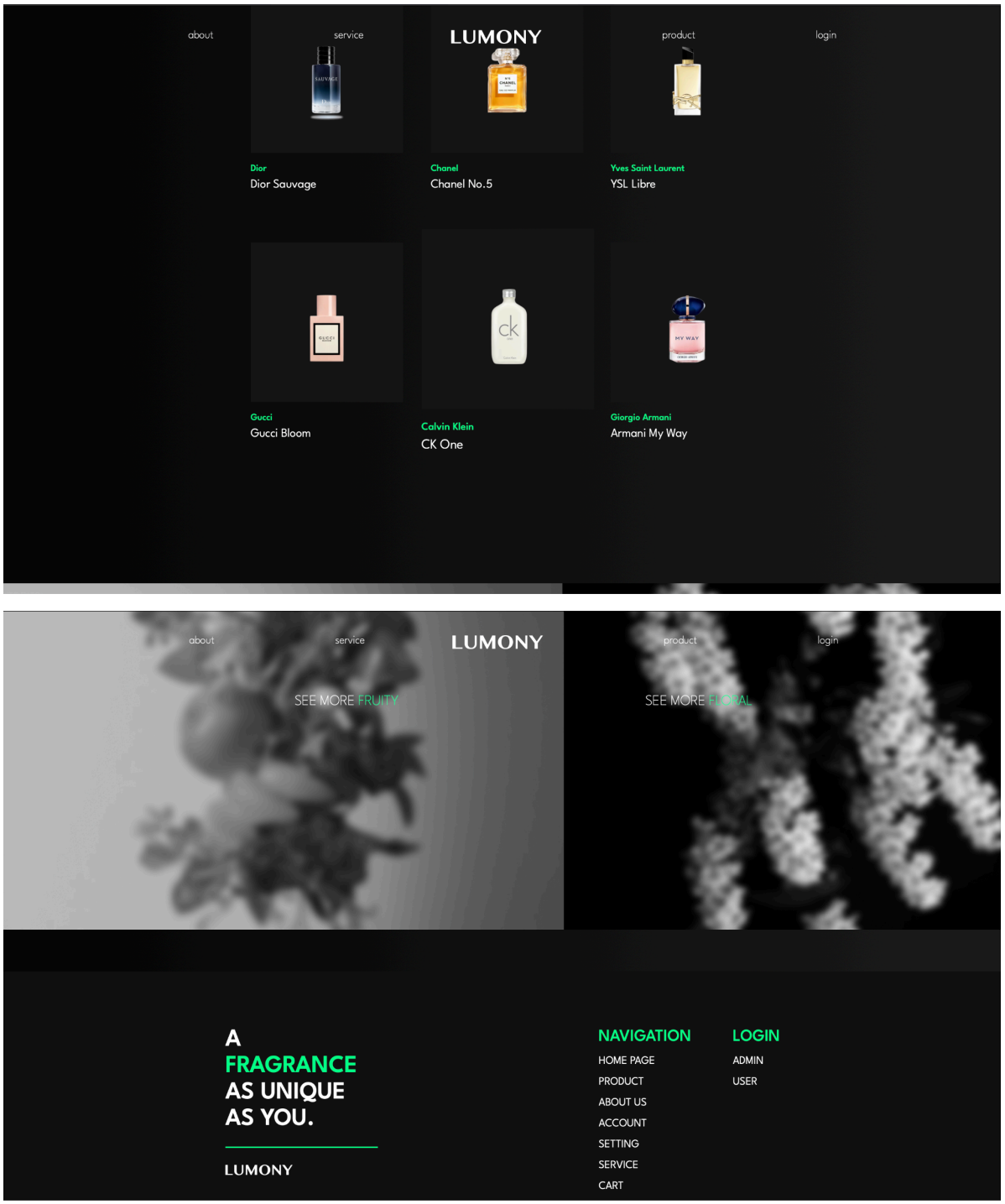
Admin_DOB	Admin's date of birth	Date	YYYY-MM-DD	No		
Table: Administrator Account						
Acc_ID	Admin account's ID	Char(6)	XXXXXX	No	PK	
Acc_username	Username for admin login	Varchar(50)	Xxxxxx	No		
Acc_password	Password for admin login	Varchar(50)	Xxxxxx	No		
Admin_ID	Admin's ID	Char(6)	XXXXXX	No	FK	Admin_ID [Administrator]

Web Application

Home Page







Detail: The top menu allows users to navigate through essential sections such as About, Products, Account Login and also return to the landing page by clicking the Lumony logo. Meanwhile, the main banner prominently features effectively highlights key content. Furthermore, the Collections section showcases Lumony's products alongside high-end brands (e.g., YSL, Dior, etc.), ensuring a diverse selection for customers. Additionally, the footer provides extra navigation options, including User Login and Administrator Login, enhancing accessibility and user convenience.

Code: index.html

```html
<!DOCTYPE html>
<html lang="en">

<head>
  <meta charset="UTF-8">
  <meta http-equiv="X-UA-Compatible" content="IE=edge">
  <meta name="viewport" content="width=device-width, initial-scale=1.0">
  <title>Lumony | Home-Page</title>
  <link rel="stylesheet" href="/css/bootstrap.css">
  <link rel="stylesheet" href="/css/bootstrap.min.css">
  <link rel="stylesheet" href="/css/bootstrap-grid.css">
  <link rel="stylesheet" href="/css/mycss.css">
  <script type="text/javascript" src="/js/bootstrap.bundle.min.js"></script>
  <script type="text/javascript" src="/js/bootstrap.bundle.js"></script>
  <script type="text/javascript" src="/js/bootstrap.js"></script>
  <link rel="shortcut icon" type="image/jpg" href="/img/logo.png" />
  <link rel="stylesheet" href="/dist/main.css" />
  <script src="/dist/main.js"></script>
  <link rel="preconnect" href="https://fonts.googleapis.com">
  <link rel="preconnect" href="https://fonts.gstatic.com" crossorigin>
  <link href="https://fonts.googleapis.com/css2?family=League+Spartan:wght@100..900&display=swap" rel="stylesheet">
  <link href="https://fonts.googleapis.com/css2?family=Spartan:wght@400;700&display=swap" rel="stylesheet">
  <link href="https://fonts.googleapis.com/css2?family=Reem+Kufi:wght@400;700&display=swap" rel="stylesheet">
</head>

<body class="bgcolor league-spartan100 text-white">

  <!-- nav -->
  <div class="sticky-top">
    <nav class="navbar navbar-expand-lg container">
      <div class="container-fluid">

        <button class="navbar-toggler" type="button" data-bs-toggle="collapse" data-bs-target="#navbarNavAltMarkup"
          aria-controls="navbarNavAltMarkup" aria-expanded="false" aria-label="Toggle navigation">
          <span class="navbar-toggler-icon"></span>
        </button>

        <ul class="nav-item mt-3">
          <a class="nav-link zoom" href="team">about</a>
        </ul>

        <ul class="nav-item mt-3">
          <a class="nav-link zoom" href="/promotion">service</a>
        </ul>

        <a class="navbar-brand zoom" href="">
          <img src="/img/logo.png" alt="" width="auto" height="20" class="d-inline-block align-text-top">
        </a>

        <ul class="nav-item mt-3">
          <a class="nav-link zoom" href="product" target="_blank">product</a>
        </ul>

        <ul class="nav-item mt-3">
          <a class="nav-link zoom" href="/login">login</a>
        </ul>

      </div>
    </nav>
  </div>
```

```
63    <section style="position: relative; overflow: hidden">
64      <!-- SVG Wave Background -->
65      <div
66        style="position: absolute; overflow: hidden; top: 0; left: 0; width: 100%; z-index: 0;display: flex; justify-content: center
67        <svg viewBox="270 0 1700 900" xmlns="http://www.w3.org/2000/svg" style="width: 100%; height: auto;"
68          preserveAspectRatio="xMidYMid meet">
69          <g transform="matrix(1,0,0,1,200,-130)">
70            <path d="M0,350C0,300 620,20 1000,470 C1560,1170 1900,300 2000,900" style="fill:none;stroke:■white;stroke-width:55px "
71          </g>
72        </svg>
73      </div>
74
75      <!-- Text Content -->
76      <div class="container position-relative" style="z-index: 1; padding-left: 8rem; padding-top: 10rem;">
77        <p class="perfume zoom">PERFUME COLLECTION</p>
78        <img class="zoom" style="position: absolute; left: 380px; top: 20px; height: 710px; z-index: -1;" src="img/MAIN IMG.png">
79        <h1 class="display-4 fw-bold zoom">
80          DEFINE <span style="color: ■#06ff87;">YOURSELF</span><br> WITH EVERY SPRAY
81        </h1>
82        <a href="product" class="btn btn-light btn-lg distance-top zoom"
83          style="padding-top: 6px; padding-bottom: 6px; padding-left: 45px; padding-right: 45px;">Discover Now</a>
84      </div>
85
86      <!-- category -->
87      <div class="categories">
88        <div class="zoom"> <a href="">Aquatic</a></div>
89        <div class="zoom"> <a href="" class="active">Floral</a></div>
90        <div class="zoom"> <a href="">Woody</a></div>
91      </div>
92
93      <!-- wear your own -->
94        <img style="width: 100%; z-index: -1;" src="img/output-29 1.png">
95
96        <div class="_01_wear_your_own">
97          <p style="font-family: 'Reem Kufi', sans-serif; font-size: 150px; font-weight: 700;">01</p>
98          <p style="font-size: 47px; font-weight: bold;">WEAR YOUR <br><span style="color: ■#06ff87;">OWN</span> STYLE</p>
99        </div>
```

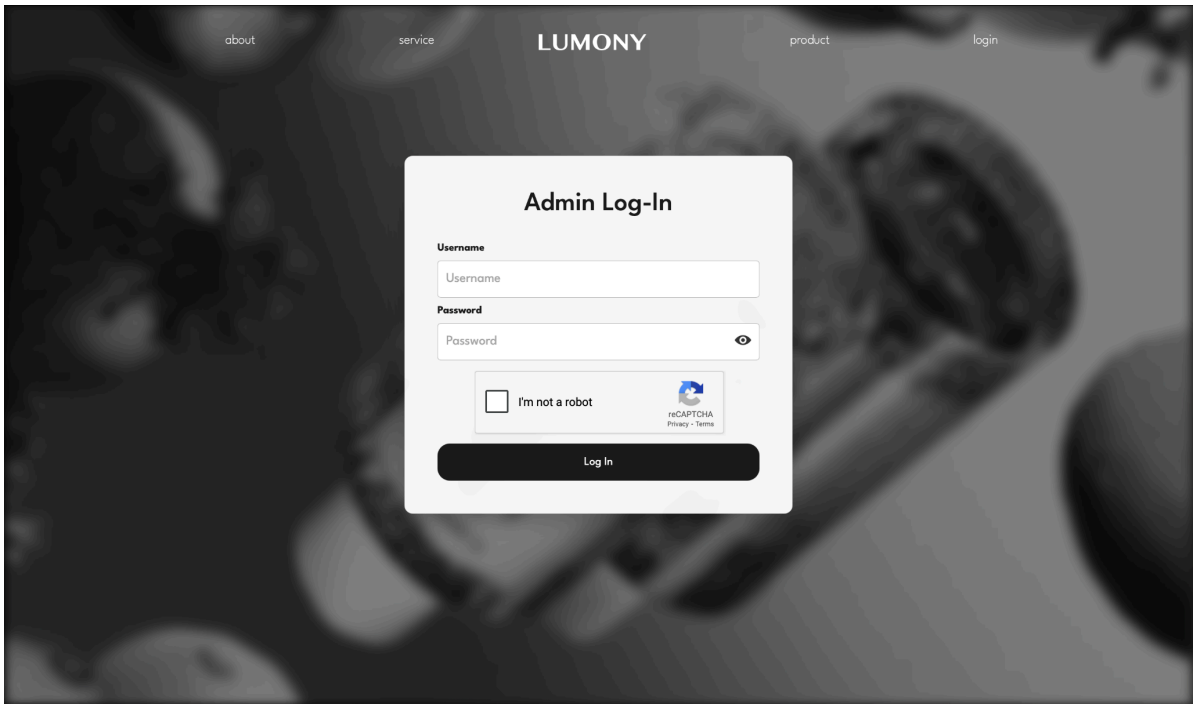
```
101     <!-- collection seeall -->
102     <div class="collection-seeall">
103       <h1>Collections</h1>
104       <a href="product">
105       <button  class="see-all zoom">See all</button>
106       </a>
107       <!-- ต้องใส่pathมั้ย?? -->
108
109       <section class="below-advance">
110         <div id="productListPage" class="py-4">
111           <table class="table table-dark table-hover">
112             <tbody id="productTable" class="grid"></tbody>
113           </table>
114         </div>
115       </section>
116
117     </div>
118
119   </section>
```

```
122   <!-- slogan -->
123   <section class="scent-category">
124     <div style="position: absolute; overflow: hidden; top: 0; left: 0; width: 100%; z-index: -1;display: flex; justify-content: ce
125       <svg viewBox="270 0 1700 900" xmlns="http://www.w3.org/2000/svg" style="width: 100%; height: auto;"
126         preserveAspectRatio="xMidYMid meet">
127         <g transform="matrix(1,0,0,1,200,-200)">
128           <path d="M0,400C0,390 720,20 900,600 C1060,870 1900,50 2000,900"
129             style="fill:none;stroke:■white;stroke-width:55px;" />
130         </g>
131       </svg>
132     </div>
133
134     <img style="padding-left: 220px; width: 67%; z-index: -1;" src="img/white.png">
135     <img style="padding-right: 170px; width: 68%; z-index: -1;" src="img/black.png">
136
137     <div class="text-btn">
138       <p class="fruity" href="">SEE MORE <span style="color: ■#00ff99;">FRUITY</span></p>
139       <p class="floral" href="">SEE MORE <span style="color: ■#00ff99;">FLORAL</span></p>
140     </div>
141   </section>
142
143   </section>
144 </body>
```

```
<!-- footer -->
<footer>
  <section class="slogan">
    <div class="slogan-text">
      <p>A<br><span>FRAGRANCE</span><br>AS UNIQUE<br>AS YOU.</p>
      <div class="underline"></div>
      <img style="width: 18%; height: auto;" src="img/logo.png">
    </div>

    <div class="footer-nav">
      <div>
        <h4>NAVIGATION</h4>
        <ul>
          <li class="zoom"><a href="/index">HOME PAGE</a></li>
          <li class="zoom"><a href="/product">PRODUCT</a></li>
          <li class="zoom"><a href="/team">ABOUT US</a></li>
          <li class="zoom"><a href="">ACCOUNT</a></li>
          <li class="zoom"><a href="">SETTING</a></li>
          <li class="zoom"><a href="">SERVICE</a></li>
          <li class="zoom"><a href="">CART</a></li>
        </ul>
      </div>
      <div>
        <h4>LOGIN</h4>
        <ul>
          <li class="zoom"><a href="admin_login">ADMIN</a></li>
          <li class="zoom"><a href="login">USER</a></li>
        </ul>
      </div>
    </div>
  </section>
</footer>
```

```
<script>

  // Fetches all products from the server and directly renders them on the page.
  async function fetchAndRenderProducts() {
    try{
      const response = await fetch('/getAllProductsUser');
      const products = await response.json();
      renderProductList(products);
    }
    catch(error) {
      console.error('Error fetching products:', error);
    }
  }

  // Renders the first six products as clickable cards linking to their detail pages.
  function renderProductList(products) {
    const list = document.getElementById('productTable'); // Make sure this is a <div class="grid">
    list.innerHTML = ''; // Clear existing content if needed
    products.slice(0, 6).forEach(element => {
        const card = document.createElement('div');
        card.classList.add('card2');
        card.innerHTML = `
        <div class="zoom">
          <div class="img-box" onclick="window.location.href='/product_detail?Product_ID=${element.Product_ID}'">
              <img src="${element.Product_image}" alt="${element.Product_name}">
          </div>
          <div class="text-each-perfume">
              <p class="brand">${element.Product_brand}</p>
              <p class="name">${element.Product_name}</p>
          </div>
        </div>
        `;
        list.appendChild(card);
    });
  }
  fetchAndRenderProducts()
</script>

</html>
```

Login Page for Administrators



Detail: The Administrator Login Page is accessed from the footer section of the home page and includes a login form with fields for Username and Password, an "I'm not a robot" reCAPTCHA using an external API, and an authentication button labeled Log In.

Code: admin_login.html

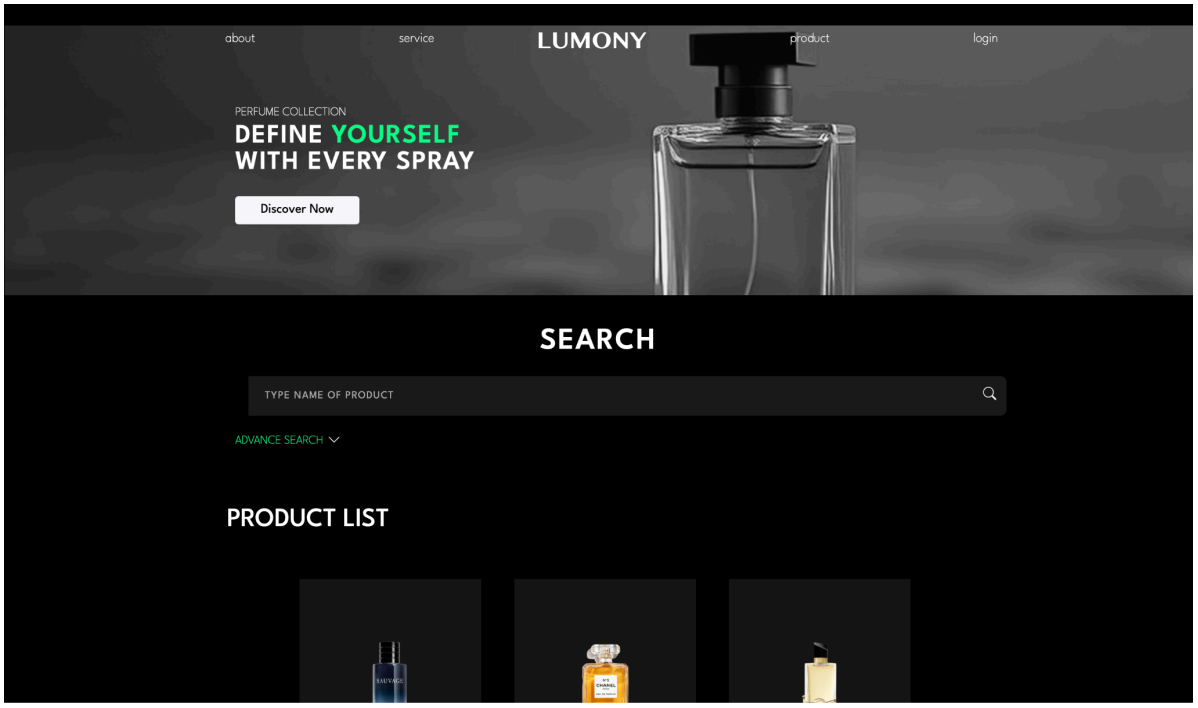
```
<!DOCTYPE html>
<html lang="en">
  <head>
    <meta charset="UTF-8">
    <meta http-equiv="X-UA-Compatible" content="IE=edge">
    <meta name="viewport" content="width=device-width, initial-scale=1.0">
    <title>Lumony | Admin</title>
    <link rel="stylesheet" href="/css/bootstrap.css">
    <link rel="stylesheet" href="/css/bootstrap.min.css">
    <link rel="stylesheet" href="/css/bootstrap-grid.css">
    <link rel="stylesheet" href="/css/mycss.css">
    <script type="text/javascript" src="/js/bootstrap.bundle.min.js"></script>
    <script type="text/javascript" src="/js/bootstrap.bundle.js"></script>
    <script type="text/javascript" src="/js/bootstrap.js"></script>
    <link rel="shortcut icon" type="image/jpg" href="/img/logo.png"/>
    <link rel="stylesheet" href="/dist/main.css" />
    <script src="/dist/main.js"></script>
    <link rel="preconnect" href="https://fonts.googleapis.com">
    <link rel="preconnect" href="https://fonts.gstatic.com" crossorigin>
    <link href="https://fonts.googleapis.com/css2?family=League+Spartan:wght@100..900&display=swap" rel="stylesheet">
    <script src="https://www.google.com/recaptcha/api.js" async defer></script>
  </head>
```

```
<body class="bgcolor league-spartan100 text-white">
    <div class="sticky-top">
      <nav class="navbar navbar-expand-lg container">
        <div class="container-fluid">

          <button class="navbar-toggler" type="button" data-bs-toggle="collapse" data-bs-target="#navbarNavAltMarkup"
          aria-controls="navbarNavAltMarkup" aria-expanded="false" aria-label="Toggle navigation">
            <span class="navbar-toggler-icon"></span>
          </button>

          <ul class="nav-item mt-3">
            <a class="nav-link zoom" href="team">about</a>
          </ul>

          <ul class="nav-item mt-3">
            <a class="nav-link zoom" href="/promotion">service</a>
          </ul>

          <a class="navbar-brand zoom" href="/">
            <img src="/img/logo.png" alt="" width="auto" height="20" class="d-inline-block align-text-top">
          </a>

          <ul class="nav-item mt-3">
            <a class="nav-link zoom" href="product" target="_blank">product</a>
          </ul>

          <ul class="nav-item mt-3">
            <a class="nav-link zoom" href="/login">login</a>
          </ul>

        </div>
      </nav>
    </div>
```

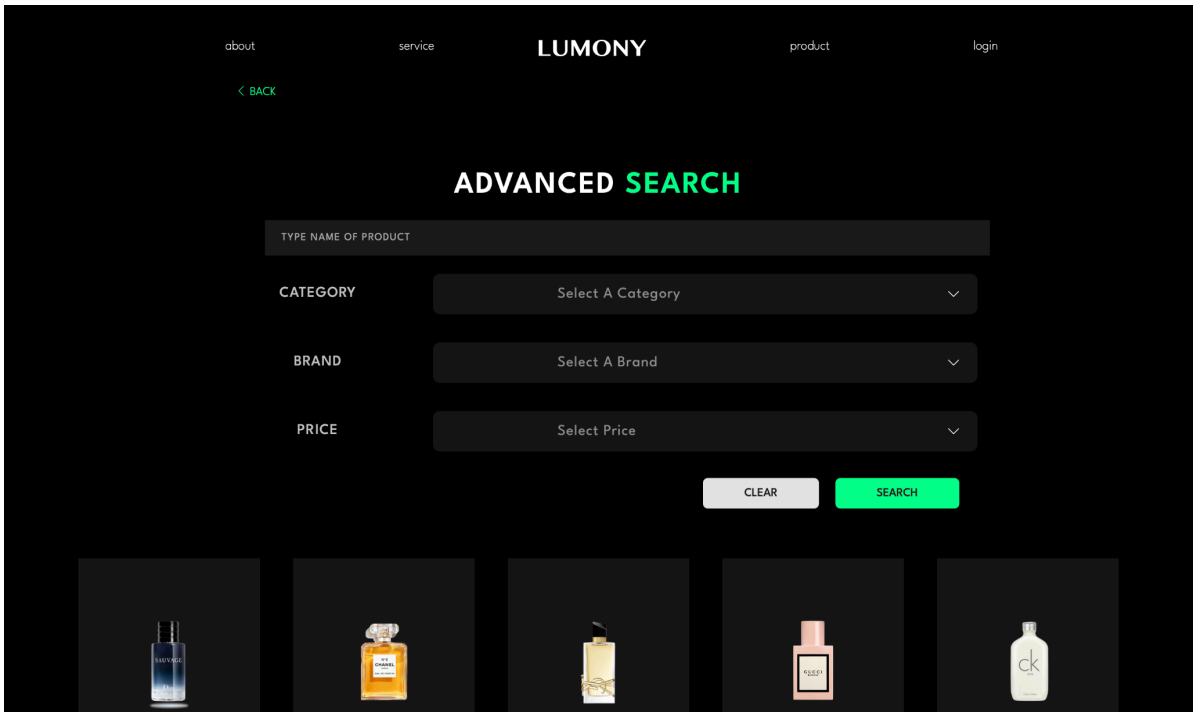
```
    <!-- login form -->
    <div id="loginPage">
      <section class="admin_log">
        <img src="img/6cdfdb3ea1849ca44fd216385d90fac5_1.png" alt="admin_background">
      </section>

      <div class="login-container">
        <form class="login-box" action="/admin_login_auth" method="POST" onsubmit="return validateCaptcha()">
          <h2>Admin Log-In</h2>

          <label for="username">Username</label>
          <input type="text" name="username" placeholder="Username">

          <label for="password">Password</label>
          <div class="password-wrapper">
            <input name="password" type="password" placeholder="Password">
            <span class="eye"><img src="img/eye_1.png" alt=""></span>
          </div>

          <div class="g-recaptcha" data-sitekey="6LeEiicrAAAAAIWTSs-ydcJ0-hhwh0Kjj5GjKrxt"></div>
          <button type="submit" class="login-btn">Log In</button>
        </form>
      </div>
    </div>

    <script>
      function validateCaptcha() {
        const response = grecaptcha.getResponse();
        if (response.length === 0) {
          alert('Please verify you are not a robot.');
          return false; // Prevent form submission
        }
        return true; // Allow form submission
      }
    </script>

  </body>
</html>
```

Search page for searching product

Product Page



Advanced Search Page



Detail: This product page displays all available products and allows users to search by product name using the search bar. By clicking "Advanced Search," users

are taken to a page where they can refine their search using filters including Product Name, Category, Brand, and Price. Users can input their criteria and use the "Search" button to display matching products or click "Clear" to reset the form. The filtered results are dynamically shown below based on the selected search options.

Code: product.html

```html
<!DOCTYPE html>
<html lang="en">

<head>
    <meta charset="UTF-8">
    <meta http-equiv="X-UA-Compatible" content="IE=edge">
    <meta name="viewport" content="width=device-width, initial-scale=1.0">
    <title>Lumony | Product-Page</title>
    <link rel="stylesheet" href="/css/bootstrap.css">
    <link rel="stylesheet" href="/css/bootstrap.min.css">
    <link rel="stylesheet" href="/css/bootstrap-grid.css">
    <link rel="stylesheet" href="/css/mycss.css">
    <script type="text/javascript" src="/js/bootstrap.bundle.min.js"></script>
    <script type="text/javascript" src="/js/bootstrap.bundle.js"></script>
    <script type="text/javascript" src="/js/bootstrap.js"></script>
    <link rel="shortcut icon" type="image/jpg" href="/img/logo.png" />
    <link rel="stylesheet" href="/dist/main.css" />
    <script src="/dist/main.js"></script>
    <link rel="preconnect" href="https://fonts.googleapis.com">
    <link rel="preconnect" href="https://fonts.gstatic.com" crossorigin>
    <link href="https://fonts.googleapis.com/css2?family=League+Spartan:wght@100..900&display=swap" rel="stylesheet">
    <!-- เพิ่มฟ้อน -->
    <link href="https://fonts.googleapis.com/css2?family=Spartan:wght@400;700&display=swap" rel="stylesheet">
    <link href="https://fonts.googleapis.com/css2?family=Reem+Kufi:wght@400;700&display=swap" rel="stylesheet">
    <!-- เพิ่มicon -->
    <link rel="stylesheet" href="https://cdn.jsdelivr.net/npm/bootstrap-icons@1.10.5/font/bootstrap-icons.css">
</head>
```

```html
<body style="background: ☐black;" class="league-spartan100 text-white">
  <!-- nav -->
  <section class="sticky-top">
      <nav class="navbar navbar-expand-lg container">
          <div class="container-fluid">

              <button class="navbar-toggler" type="button" data-bs-toggle="collapse"
                  data-bs-target="#navbarNavAltMarkup" aria-controls="navbarNavAltMarkup" aria-expanded="false"
                  aria-label="Toggle navigation">
                  <span class="navbar-toggler-icon"></span>
              </button>

              <ul class="nav-item mt-3">
                  <a class="nav-link zoom" href="team">about </a>
              </ul>

              <ul class="nav-item mt-3">
                  <a class="nav-link zoom" href="/promotion">service</a>
              </ul>

              <a class="navbar-brand zoom" href="/">
                  <img src="/img/logo.png" alt="" width="auto" height="20" class="d-inline-block align-text-top">
              </a>

              <ul class="nav-item mt-3">
                <a class="nav-link zoom" href="product" target="_blank">product</a>
              </ul>

              <ul class="nav-item mt-3">
                  <a class="nav-link zoom" href="/login">login</a>
              </ul>

          </div>
      </nav>
  </section>
```

```
  <section class="text_on_pic">
    <img src="img/output-3 1.png">
    <div>
      <p class="perfume">PERFUME COLLECTION</p>
      <h1 style="font-size: 2rem; font-weight: 600; line-height: 1; letter-spacing: 1.5px;">
          DEFINE <span style="color: #06ff87;">YOURSELF</span><br>
          WITH EVERY SPRAY
      </h1>
      <a href="#" class="btn btn-light distance-top"
          style="padding: 4px 30px 4px 30px;">Discover Now</a>
    </div>
  </section>

  <section>
    <div class="search-section">
      <h1 class="search-title">SEARCH</h1>
      <div class="search-bar">
        <input type="text" id="productSearchInput" placeholder="TYPE NAME OF PRODUCT">
        <i class="bi bi-search" id="searchIcon" style="cursor: pointer;"></i>
      </div>
      <div class="advance">
        <a href="/advance-search" class="advance-search">ADVANCE SEARCH</a>
        <i class="bi bi-chevron-down"> </i>
      </div>
    </div>
  </section>

  <!-- Creates a product list section with a table where products will be dynamically displayed. -->
  <section class="below-advance">
    <div id="productListPage" class="py-4">
      <div class="d-flex justify-content-between align-items-center mb-4">
        <h2 style="margin: 0;">PRODUCT LIST</h2>
      </div>
      <table class="table table-dark table-hover">
        <tbody id="productTable" class="grid"></tbody>
      </table>
    </div>
  </section>
```

```
<footer>
    <section class="slogan">
        <div class="slogan-text">
            <p>A<br><span>FRAGRANCE</span><br>AS UNIQUE<br>AS YOU.</p>
            <div class="underline"></div>
            <img style="width: 18%; height: auto;" src="img/logo.png">
        </div>

        <div class="footer-nav">
            <div>
                <h4>NAVIGATION</h4>
                <ul>
                    <li><a href="/index">HOME PAGE</a></li>
                    <li><a href="/product">PRODUCT</a></li>
                    <li><a href="/team">ABOUT US</a></li>
                    <li><a href="">ACCOUNT</a></li>
                    <li><a href="">SETTING</a></li>
                    <li><a href="">SERVICE</a></li>
                    <li><a href="">CART</a></li>
                </ul>
            </div>
            <div>
                <h4>LOGIN</h4>
                <ul>
                    <li><a href="/admin_login">ADMIN</a></li>
                    <li><a href="/login">USER</a></li>
                </ul>
            </div>
        </div>
    </section>
</footer>
```

```
<script>
  let allProducts = []; // global

  async function fetchAndRenderProducts() {
    try {
      const response = await fetch('/getAllProductsUser');
      allProducts = await response.json();
      renderProductList(allProducts);
    } catch (error) {
      console.error('Error fetching products:', error);
    }
  }

  // Trigger search on icon click
  document.getElementById('searchIcon').addEventListener('click', function () {
    const keyword = document.getElementById('productSearchInput').value.trim().toLowerCase();
    const filtered = allProducts.filter(product =>
      product.Product_name.toLowerCase().includes(keyword)
    );
    renderProductList(filtered);
  });

  // Also trigger search when pressing "Enter"
  document.getElementById('productSearchInput').addEventListener('keypress', function (e) {
    if (e.key === 'Enter') {
      document.getElementById('searchIcon').click();
    }
  });
```

```
  function renderProductList(products) {
    const list = document.getElementById('productTable');
    list.innerHTML = '';
    products.forEach(element => {
      const card = document.createElement('div');
      card.classList.add('card2');
      card.innerHTML = `
        <div class="zoom">
          <div class="img-box" onclick="window.location.href='/product_detail?Product_ID=${element.Product_ID}'">
            <img src="${element.Product_image}" alt="${element.Product_name}">
          </div>
          <div class="text-each-perfume">
            <p class="brand">${element.Product_brand}</p>
            <p class="name">${element.Product_name}</p>
          </div>
        </div>
      `;
      list.appendChild(card);
    });
  }

  fetchAndRenderProducts();
</script>

</html>
```

Advance-search.html

```
<!DOCTYPE html>
<html lang="en">
<head>
    <meta charset="UTF-8">
    <meta http-equiv="X-UA-Compatible" content="IE=edge">
    <meta name="viewport" content="width=device-width, initial-scale=1.0">
    <title>Lumony | Product-Page</title>
    <link rel="stylesheet" href="/css/bootstrap.css">
    <link rel="stylesheet" href="/css/bootstrap.min.css">
    <link rel="stylesheet" href="/css/bootstrap-grid.css">
    <link rel="stylesheet" href="/css/mycss.css">
    <script type="text/javascript" src="/js/bootstrap.bundle.min.js"></script>
    <script type="text/javascript" src="/js/bootstrap.bundle.js"></script>
    <script type="text/javascript" src="/js/bootstrap.js"></script>
    <link rel="shortcut icon" type="image/jpg" href="/img/logo.png" />
    <link rel="stylesheet" href="/dist/main.css" />
    <script src="/dist/main.js"></script>
    <link rel="preconnect" href="https://fonts.googleapis.com">
    <link rel="preconnect" href="https://fonts.gstatic.com" crossorigin>
    <link href="https://fonts.googleapis.com/css2?family=League+Spartan:wght@100..900&display=swap" rel="stylesheet">
    <link href="https://fonts.googleapis.com/css2?family=Spartan:wght@400;700&display=swap" rel="stylesheet">
    <link href="https://fonts.googleapis.com/css2?family=Reem+Kufi:wght@400;700&display=swap" rel="stylesheet">
    <link rel="stylesheet" href="https://cdn.jsdelivr.net/npm/bootstrap-icons@1.10.5/font/bootstrap-icons.css">
</head>
```

```
<body style="background: black;" class="league-spartan100 text-white">
    <section class="sticky-top">
        <nav class="navbar navbar-expand-lg container">
            <div class="container-fluid">
                <button class="navbar-toggler" type="button" data-bs-toggle="collapse"
                    data-bs-target="#navbarNavAltMarkup" aria-controls="navbarNavAltMarkup" aria-expanded="false"
                    aria-label="Toggle navigation">
                    <span class="navbar-toggler-icon"></span>
                </button>

                <ul class="nav-item mt-3">
                    <a class="nav-link zoom" href="team">about</a>
                </ul>

                <ul class="nav-item mt-3">
                    <a class="nav-link zoom" href="/promotion">service</a>
                </ul>

                <a class="navbar-brand zoom" href="/index">
                    <img src="/img/logo.png" alt="" width="auto" height="20" class="d-inline-block align-text-top">
                </a>

                <ul class="nav-item mt-3">
                    <a class="nav-link zoom" href="product" target="_blank">product</a>
                </ul>

                <ul class="nav-item mt-3">
                    <a class="nav-link zoom" href="/login">login</a>
                </ul>

            </div>
        </nav>
    </section>
```

```
    <!-- top text -->
    <section>

        <div class="back-button">
            <i class="bi bi-chevron-left"> </i>
            <a href="/product">BACK</a>
        </div>

        <div class="advance-section">
            <h1 class="search-title">ADVANCED <span>SEARCH</span></h1>
            <div class="search-bar">
              <input type="text" id="productNameInput" placeholder="TYPE NAME OF PRODUCT">
            </div>
        </div>
    </section>
```

```
    <section style="margin-bottom: 180px;">
        <!-- CATEGORY -->
        <div class="input-box">
            <div class="label">CATEGORY</div>
            <select id="typeSelect" name="type">
            <option value="">Select A Category</option>
            <option value="Men">Men</option>
            <option value="Women">Women</option>
            <option value="Unisex">Unisex</option>
            </select>
        </div>

        <!-- BRAND -->
        <div class="input-box">
            <div class="label">BRAND</div>
            <select id="brandSelect" name="brand">
            <option value="">Select A Brand</option>
            <option value="Burberry">BURBERRY</option>
            <option value="Calvin Klein">CALVIN KLEIN</option>
            <option value="Chanel">CHANEL</option>
            <option value="Dior">DIOR</option>
            <option value="Giorgio Armani">GIORGIO ARMANI</option>
            <option value="Gucci">GUCCI</option>
            <option value="Jo Malone">JO MALONE</option>
            <option value="Tom Ford">TOM FORD</option>
            <option value="Versace">VERSACE</option>
            <option value="Yves Saint Laurent">YSL</option>
            </select>
        </div>
```

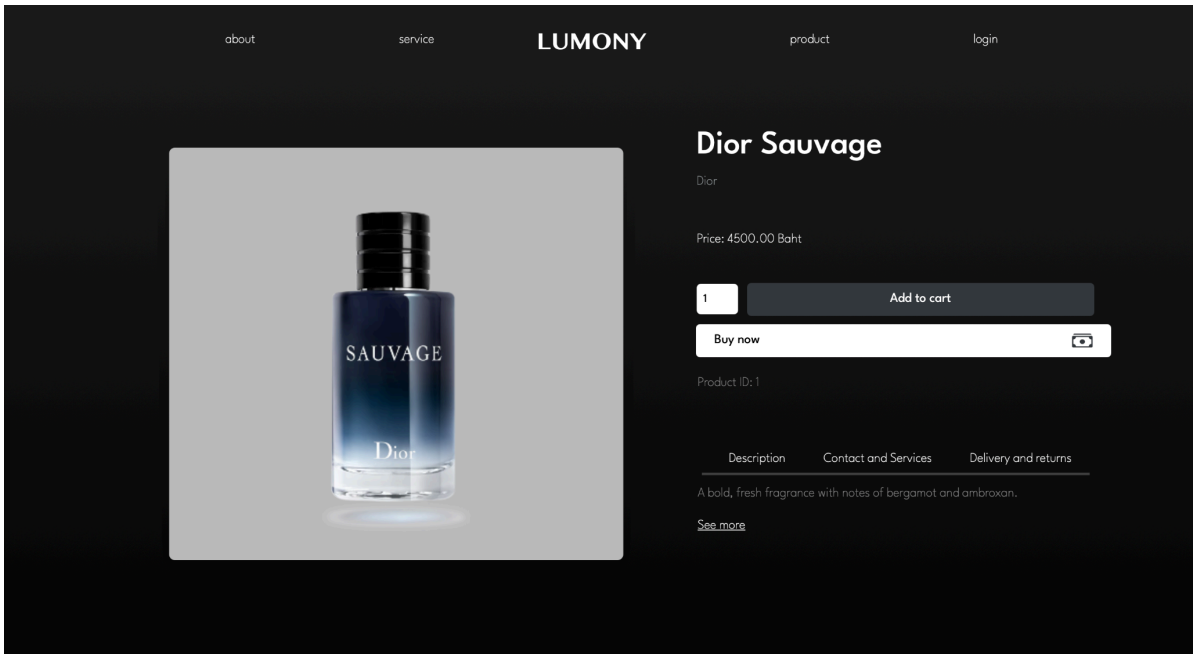
```
105
106         <!-- PRICE -->
107         <div class="input-box">
108             <div class="label">PRICE</div>
109             <select id="priceSelect" name="price">
110             <option value="">Select Price</option>
111             <option value="2000-3000">2,000-3,000 BAHT</option>
112             <option value="3001-4000">3,001-4,000 BAHT</option>
113             <option value="4001-5000">4,001-5,000 BAHT</option>
114             <option value="5001-6000">5,001-6,000 BAHT</option>
115             <option value="6001-7000">6,001-7,000 BAHT</option>
116             </select>
117         </div>
118
119         <!-- FILTER BUTTONS -->
120         <div class="filter-buttons">
121             <button type="reset" class="clear-btn">CLEAR</button>
122             <button type="submit" class="search-btn" id="searchBtn">SEARCH</button>
123         </div>
124
125         <div id="productTable" class="grid" style="margin: 40px 20px;">
126             <!-- Products will show up here -->
127         </div>
128
129       </section>
130
131 </body>
```

```
133 <footer>
134     <section class="slogan">
135         <div class="slogan-text">
136             <p>A<br><span>FRAGRANCE</span><br>AS UNIQUE<br>AS YOU.</p>
137             <div class="underline"></div>
138             <img style="width: 18%; height: auto;" src="img/logo.png">
139         </div>
140
141         <div class="footer-nav">
142             <div>
143                 <h4>NAVIGATION</h4>
144                 <ul>
145                     <li><a href="/index">HOME PAGE</a></li>
146                     <li><a href="/product">PRODUCT</a></li>
147                     <li><a href="/team">ABOUT US</a></li>
148                     <li><a href="">ACCOUNT</a></li>
149                     <li><a href="">SETTING</a></li>
150                     <li><a href="">SERVICE</a></li>
151                     <li><a href="">CART</a></li>
152                 </ul>
153             </div>
154
155             <div>
156                 <h4>LOGIN</h4>
157                 <ul>
158                     <li><a href="/admin_login">ADMIN</a></li>
159                     <li><a href="/login">USER</a></li>
160                 </ul>
161             </div>
162         </div>
163
164     </section>
165 </footer>
```

```
<script>

    // Fetches all products from the server and returns them as a JSON array.
    let allProducts = [];
    async function fetchProducts() {
        try {
            const response = await fetch('/getAllProductsUser');
            const products = await response.json();
            return products;
        } catch (error) {
            console.error('Error fetching products:', error);
            return [];
        }
    }

    // Renders a list of products as image cards inside the HTML element with ID productTable.
    function renderProductList(products) {
        const list = document.getElementById('productTable');
        list.innerHTML = '';
        products.forEach(element => {
            const card = document.createElement('div');
            card.classList.add('card2');
            card.innerHTML = `
                <div class="img-box zoom" onclick="window.location.href='/product_detail?Product_ID=${element.Product_ID}'" style=
                    <img src="${element.Product_image}" alt="${element.Product_name}">
                </div>
                <div class="text-each-perfume">
                    <p class="brand">${element.Product_brand}</p>
                    <p class="name">${element.Product_name}</p>
                </div>
            `;

            list.appendChild(card);
        });
    }

    // Fetches all products and displays them by calling the render function.
    async function init() {
        allProducts = await fetchProducts();
        renderProductList(allProducts);
    }
```

```
    // Filters products based on search criteria and updates the displayed product list.
    document.getElementById('searchBtn').addEventListener('click', async function () {
        const name = document.getElementById('productNameInput').value.trim().toLowerCase();
        const type = document.getElementById('typeSelect').value.trim();
        const brand = document.getElementById('brandSelect').value.trim();
        const price = document.getElementById('priceSelect').value.trim();
        const filtered = allProducts.filter(product => {
            const matchesName = !name || product.Product_name.toLowerCase().includes(name);
            const matchesType = !type || product.Product_type === type;
            const matchesBrand = !brand || product.Product_brand === brand;
            const matchesPrice = !price || product.priceRange === price;

            return matchesName && matchesType && matchesBrand && matchesPrice;
        });
        renderProductList(filtered);
    });

    // Clears search fields, resets the product list, and fetches products again with empty filters.
    document.querySelector('.clear-btn').addEventListener('click', function () {
        document.getElementById('productNameInput').value = '';
        document.getElementById('typeSelect').value = '';
        document.getElementById('brandSelect').value = '';
        document.getElementById('priceSelect').value = '';
        renderProductList(allProducts); // Reset to show all products
        const params = new URLSearchParams();
            if (name) params.append('name', name);
            if (artist) params.append('artist', artist);
            if (label) params.append('label', label);

            fetchProducts(params.toString());
    });
    init();

</script>

</html>
```

Detail page for each product result



Detail: The Product Detail Page displays key information about the selected fragrance, including the name and brand, product type, quantity, and price. Additional details such as the Product ID and fragrance description are provided.

Code: product_detail.html

```
<!DOCTYPE html>
<html lang="en">
<head>
    <meta charset="UTF-8">
    <meta http-equiv="X-UA-Compatible" content="IE=edge">
    <meta name="viewport" content="width=device-width, initial-scale=1.0">
    <title>Lumony | Product-Page</title>
    <link rel="stylesheet" href="/css/bootstrap.css">
    <link rel="stylesheet" href="/css/bootstrap.min.css">
    <link rel="stylesheet" href="/css/bootstrap-grid.css">
    <link rel="stylesheet" href="/css/mycss.css">
    <script type="text/javascript" src="/js/bootstrap.bundle.min.js"></script>
    <script type="text/javascript" src="/js/bootstrap.bundle.js"></script>
    <script type="text/javascript" src="/js/bootstrap.js"></script>
    <link rel="shortcut icon" type="image/jpg" href="/img/logo.png" />
    <link rel="stylesheet" href="/dist/main.css" />
    <script src="/dist/main.js"></script>
    <link rel="preconnect" href="https://fonts.googleapis.com">
    <link rel="preconnect" href="https://fonts.gstatic.com" crossorigin>
    <link href="https://fonts.googleapis.com/css2?family=League+Spartan:wght@100..900&display=swap" rel="stylesheet">
    <link href="https://fonts.googleapis.com/css2?family=Spartan:wght@400;700&display=swap" rel="stylesheet">
    <link href="https://fonts.googleapis.com/css2?family=Reem+Kufi:wght@400;700&display=swap" rel="stylesheet">
    <link rel="stylesheet" href="https://cdn.jsdelivr.net/npm/bootstrap-icons@1.10.5/font/bootstrap-icons.css">

</head>
```

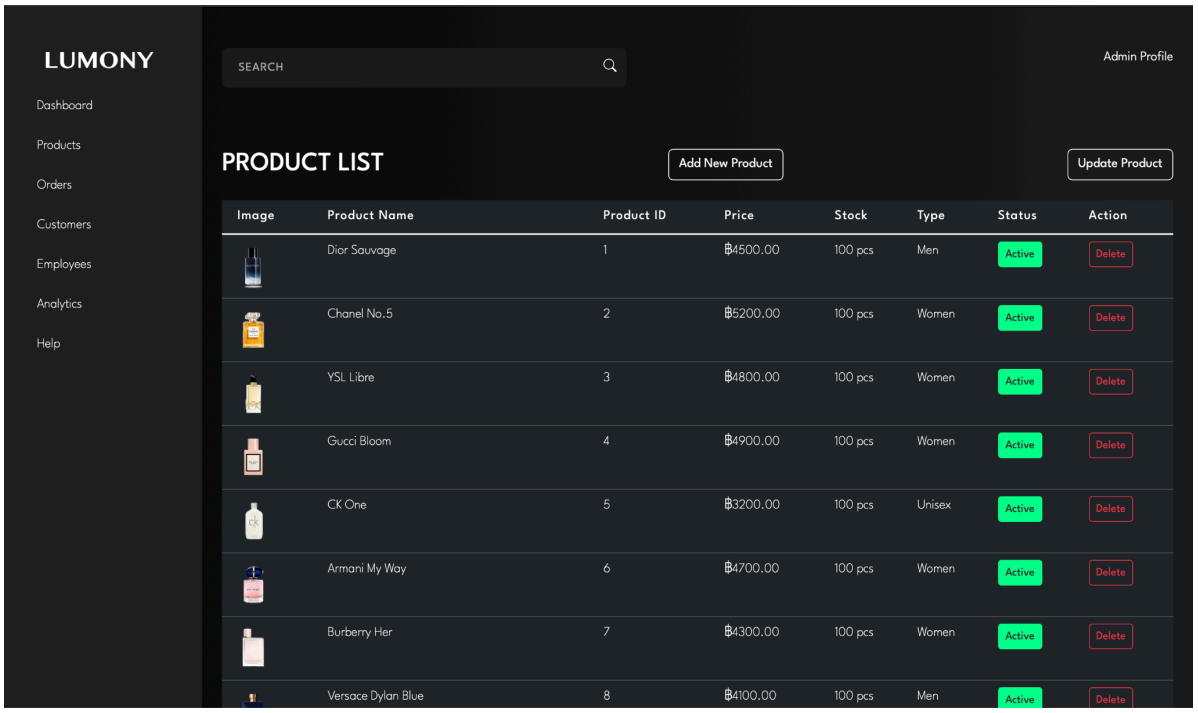
```
<body class="bgcolor2 league-spartan100 text-white ">
    <!-- nav -->
    <section class="sticky-top">
        <nav class="navbar navbar-expand-lg container">
            <div class="container-fluid">

                <button class="navbar-toggler" type="button" data-bs-toggle="collapse"
                    data-bs-target="#navbarNavAltMarkup" aria-controls="navbarNavAltMarkup" aria-expanded="false"
                    aria-label="Toggle navigation">
                    <span class="navbar-toggler-icon"></span>
                </button>

                <ul class="nav-item mt-3">
                    <a class="nav-link zoom" href="team">about</a>
                </ul>

                <ul class="nav-item mt-3">
                    <a class="nav-link zoom" href="/promotion">service</a>
                </ul>

                <a class="navbar-brand zoom" href="/index">
                    <img src="/img/logo.png" alt="" width="auto" height="20" class="d-inline-block align-text-top">
                </a>

                <ul class="nav-item mt-3">
                    <a class="nav-link zoom" href="product" target="_blank">product</a>
                  </ul>

                <ul class="nav-item mt-3">
                    <a class="nav-link zoom" href="/login">login</a>
                </ul>

            </div>
        </nav>
    </section>
```

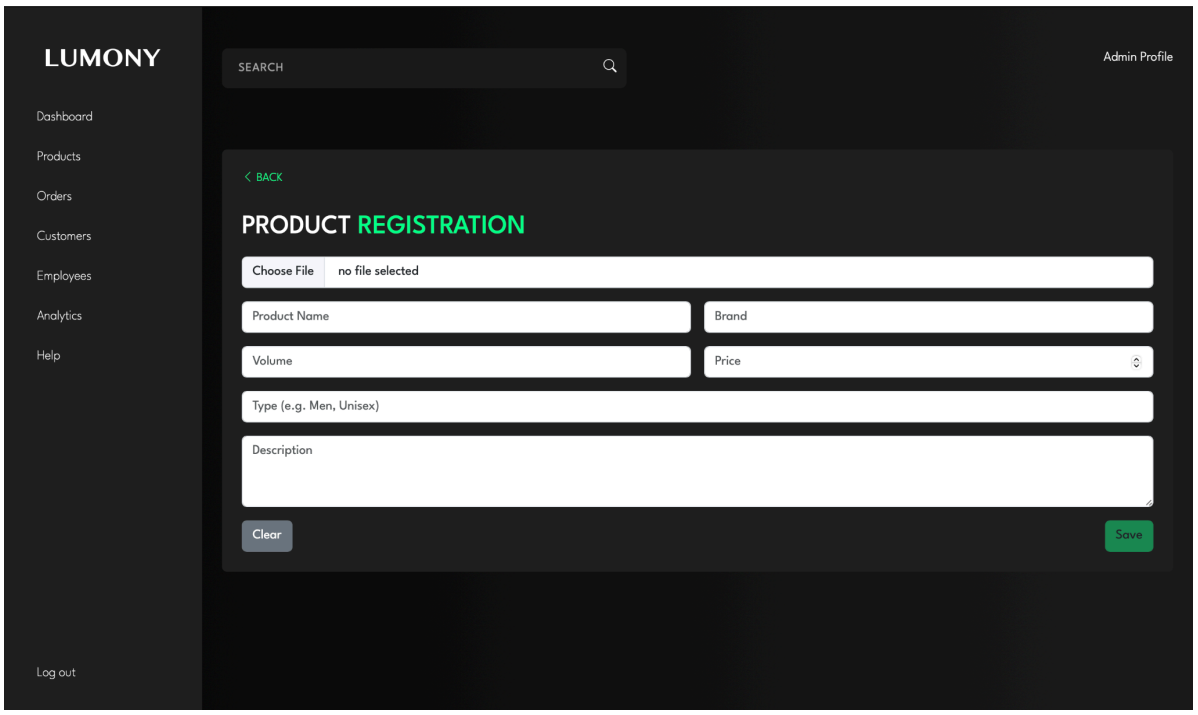
```
    <!-- product detail -->
    <section >
        <div class="Product_text">
            <!-- SPACE -->
        </div>
        <div class="Product_pretext">
            <!-- SPACE -->
        </div>
        <div class="product-box">
            <!-- SPACE -->
        </div>
        <div class="main_price">
            <!-- SPACE -->
        </div>
    </section>

    <section>
        <div class="quan">
            <select name="quantity" id="quantity">
              <option value="1">1</option>
              <option value="2">2</option>
              <option value="2">3</option>
              <option value="2">4</option>
              <option value="2">5</option>
            </select>
            <button class="add_cart">
                Add to cart
                <!-- SPACE -->
            </button>
        </div>

        <button class="buy_now">Buy now
        <span class="buy_now_split"><img src="/img/cash-stack.png" alt=""></span>
        </button>

        <p class="product_id">
            <!-- SPACE -->
        </p>
    </section>
```

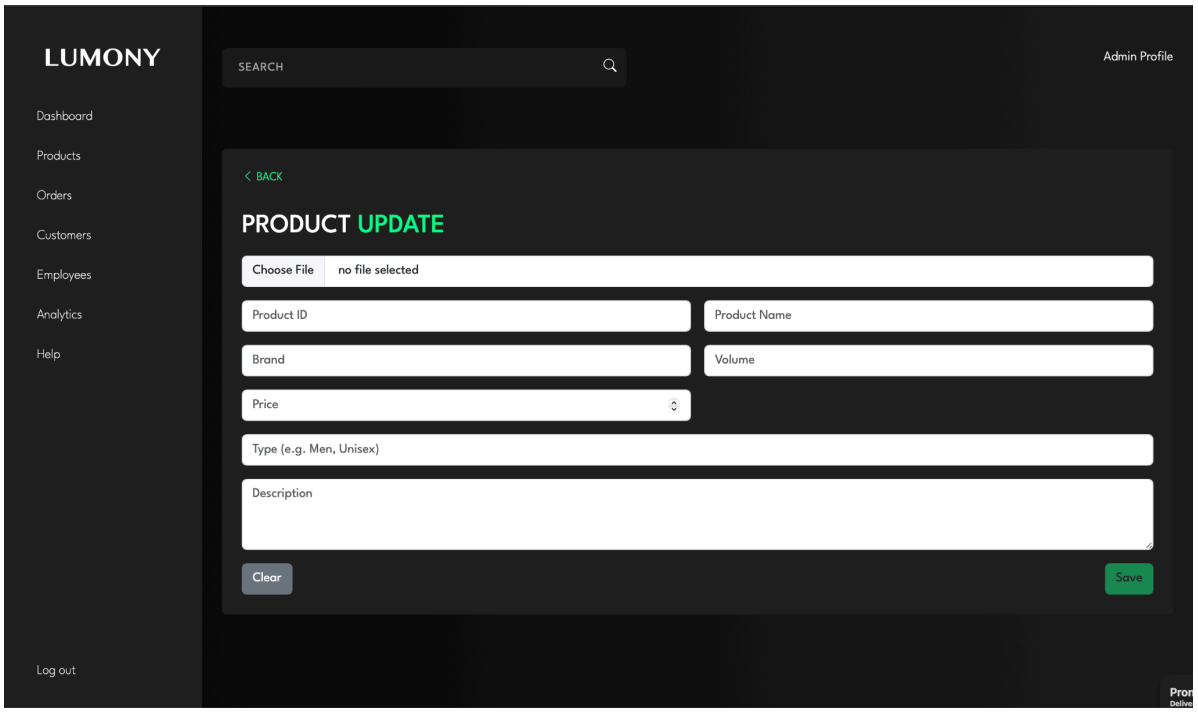
```
    <!-- description tab -->
    <section>
        <div class="d_product">
            <div class="p-2">Description</div>
            <div class="p-2">Contact and Services</div>
            <div class="p-2">Delivery and returns</div>
        </div>
        <hr style="width: 470px; height: 3px; border: 1px solid #ccc; margin-left: 845px;">
        <div class="discription">
            <div class="discription_detail">
                An explosive fragrance clashing powerful iris with spicy black pepper and deep <br>
                vanilla wood. Givenchy celebrates the free spirit and charismatic charm of the
            </div>
        </div>
        <div class="see_more_S">
            <u class="see_more">See more</u>
        </div>
    </section>
</body>

<script src="https://cdn.jsdelivr.net/npm/axios/dist/axios.min.js"></script>
```

```
<script>
    // Fetches product details by ID from the server and displays them on the product detail page.
    async function loadProductDetail() {
        const urlParams = new URLSearchParams(window.location.search);
        const productId = urlParams.get('Product_ID');
        console.log("Product_ID:", productId); // Debug
        if (!productId) {
            console.error("No Product_ID found");
            return;
        }
        try {
            const response = await axios.get('http://localhost:8083/api/getProductDetail', {
                params: { Product_ID: productId }
            });
            const product = response.data;
            console.log("Product Data:", product); // Debug API response
            // Inject data into HTML
            document.querySelector('.Product_text').innerHTML = `<h1>${product.Product_name}</h1>`;
            document.querySelector('.Product_pretext').innerHTML = `<p>${product.Product_brand}</p>`;
            document.querySelector('.product-box').innerHTML = `
            <img src="${product.Product_image}" alt="${product.Product_name}">
            `;
            document.querySelector('.main_price').innerHTML = `<p>Price: ${product.Product_price} Baht</p>`;
            document.querySelector('.discription_detail').innerHTML = product.Product_description;
            document.querySelector('.product_id').innerHTML = `Product ID: ${product.Product_ID}`;
        } catch (error) {
            console.error("Error loading product detail:", error);
        }
    }
    loadProductDetail();
</script>
</html>
```

Product Management page for administrators







Detail: The Product Management Page is designed for administrators to efficiently add, modify, or delete products in the system.

- **Adding a Product**: Click on the "Add New Product" button which redirects to the Product Registration Page. This page includes fields for Product Name, Brand, Type, Volume, Price, Image, and Description, along with an auto-generated Product ID for tracking. Administrators can upload product images. The interface also features "Clear" and "Save" buttons for seamless updates.
- **Modifying a Product**: Click the "Update Product" button located in the top right corner to navigate to the Product Updating Page. Here, administrators can modify all fields listed on the Product Registration Page. By entering the Product ID, the product details will be retrieved, allowing edits to all fields except the Product ID itself.
- **Deleting a Product**: On the Product Management Page, click the "Delete" button next to the desired product.

Code: service_admin.html

```html
<!DOCTYPE html>
<html lang="en">

<head>
    <meta charset="UTF-8">
    <meta http-equiv="X-UA-Compatible" content="IE=edge">
    <meta name="viewport" content="width=device-width, initial-scale=1.0">
    <title>Lumony | Admin Service</title>
    <link rel="stylesheet" href="/css/bootstrap.css">
    <link rel="stylesheet" href="/css/bootstrap.min.css">
    <link rel="stylesheet" href="/css/bootstrap-grid.css">
    <link rel="stylesheet" href="/css/mycss.css">
    <script type="text/javascript" src="/js/bootstrap.bundle.min.js"></script>
    <script type="text/javascript" src="/js/bootstrap.bundle.js"></script>
    <script type="text/javascript" src="/js/bootstrap.js"></script>
    <link rel="shortcut icon" type="image/jpg" href="/img/logo.png" />
    <link rel="stylesheet" href="/dist/main.css" />
    <script src="/dist/main.js"></script>
    <link rel="preconnect" href="https://fonts.googleapis.com">
    <link rel="preconnect" href="https://fonts.gstatic.com" crossorigin>
    <link href="https://fonts.googleapis.com/css2?family=League+Spartan:wght@100..900&display=swap" rel="stylesheet">
    <link href="https://fonts.googleapis.com/css2?family=Spartan:wght@400;700&display=swap" rel="stylesheet">
    <link href="https://fonts.googleapis.com/css2?family=Reem+Kufi:wght@400;700&display=swap" rel="stylesheet">
    <link rel="stylesheet" href="https://cdn.jsdelivr.net/npm/bootstrap-icons@1.10.5/font/bootstrap-icons.css">
    <link href="https://cdn.jsdelivr.net/npm/bootstrap@5.3.2/dist/css/bootstrap.min.css" rel="stylesheet">


</head>
```

```html
<body class="bgcolor text-white league-spartan100">
  <div class="container-fluid">
    <div class="row">
      <!-- Sidebar -->
      <nav class="col-md-2 d-none d-md-flex bg-sidenav sidebar p-4">
          <div style="margin: 0.7cm;">
            <a class="navbar-brand zoom" href="/index">
              <img src="/img/logo.png" alt="" width="auto" height="20" class="d-inline-block align-text-top">
            </a>
          </div>

          <div>
              <ul class="nav flex-column">
                  <li class="nav-item mb-2">
                      <a class="nav-link text-white" href="#">Dashboard</a>
                  </li>
                  <li class="nav-item mb-2">
                      <a class="nav-link text-white" href="#">Products</a>
                  </li>
                  <li class="nav-item mb-2">
                      <a class="nav-link text-white" href="#">Orders</a>
                  </li>
                  <li class="nav-item mb-2">
                      <a class="nav-link text-white" href="#">Customers</a>
                  </li>
                  <li class="nav-item mb-2">
                      <a class="nav-link text-white" href="#">Employees</a>
                  </li>
                  <li class="nav-item mb-2">
                      <a class="nav-link text-white" href="#">Analytics</a>
                  </li>
                  <li class="nav-item mb-2">
                      <a class="nav-link text-white" href="#">Help</a>
                  </li>
              </ul>
          </div>
```

```
            <ul class="nav flex-column logout-link">
                <li class="nav-item">
                    <a class="nav-link text-white" href="admin_login">Log out</a>
                </li>
            </ul>

        </nav>

        <!-- Main Content -->
        <main class="col-md-10 ms-sm-auto px-md-4">
          <!-- search bar - profile -->
          <section style="margin: 30px 0; display: flex; justify-content:space-between;">
              <div class="search-bar2">
                  <input class="search_bar_d" type="text" placeholder="SEARCH">
                  <i class="bi bi-search"></i>
              </div>
              <div>
                  <p id="adminInfo" style="font-weight: 300;" class="admininfo-pro">Admin Profile</p>
              </div>
          </section>
```

```
          <!-- Admin Product List Page -->
          <div id="productListPage" class="py-4">
            <div class="d-flex justify-content-between align-items-center mb-4">
              <h2 style="margin: 0;">PRODUCT LIST</h2>
              <a href="/add_product">
                <button style="text-align: center;" class="btn btn-outline-light">Add New Product</button>
              </a>
              <a href="/update_product">
                <button style="text-align: center;" class="btn btn-outline-light">Update Product</button>
              </a>
            </div>
            <table class="table table-dark table-hover">
              <thead>
                <tr>
                  <th style="padding-left: 0.5cm;">Image</th>
                  <th>Product Name</th>
                  <th>Product ID</th>
                  <th>Price</th>
                  <th>Stock</th>
                  <th>Type</th>
                  <th>Status</th>
                  <th>Action</th>
                </tr>
              </thead>

              <tbody id="productTable">

              </tbody>
            </table>
          </div>

        </main>
      </div>
    </div>
  </body>
```

```
<script>
  // Fetches all products from the server and displays them using the render function.
  async function fetchAndRenderProducts() {
    try{
      const response = await fetch('/getAllProducts');
      const products = await response.json();
      renderProductList(products);
    }
    catch(error) {
      console.error('Error fetching products:', error);
    }
  }

  // Renders each product as a table row with details and a delete button.
  function renderProductList(products) {
    const list = document.getElementById('productTable');
    products.forEach(element => {
      const tr = document.createElement('tr');
      tr.innerHTML =`
        <td><img src="${element.Product_image}" alt="Product Image" style="width:60px;"></td>
        <td>${element.Product_name}</td>
        <td>${element.Product_ID}</td>
        <td>₱${element.Product_price}</td>
        <td>100 pcs</td> <!-- Placeholder stock -->
        <td>${element.Product_type}</td>
        <td><span class="btn btn-sm text-dark" style="background-color: #06ff87;">Active</span></td>
          <td>
          <button class="btn btn-sm btn-outline-danger" onclick="deleteProduct(${element.Product_ID})">Delete</button>
        </td>
      `;
      list.appendChild(tr);
    });
  }
```

```
  // Deletes a product after confirmation and reloads the page to refresh the product list.
  window.deleteProduct = async function(productId) {
  if (confirm('Are you sure you want to delete this product?')) {
    try {
      const response = await fetch(`/deleteProduct/${productId}`, { method: 'DELETE' });
      const result = await response.text();
      console.log('Delete result:', result);
      alert('Deleted successfully!');
      location.reload(); // Reload only after delete success
    } catch (error) {
      console.error('Error deleting product:', error);
      alert('Failed to delete product.');
    }
  }
};
  fetchAndRenderProducts();
</script>

</html>
```

add_product.html

```html
<!DOCTYPE html>
<html lang="en">

<head>
    <meta charset="UTF-8">
    <meta http-equiv="X-UA-Compatible" content="IE=edge">
    <meta name="viewport" content="width=device-width, initial-scale=1.0">
    <title>Lumony | Add Product</title>
    <link rel="stylesheet" href="/css/bootstrap.css">
    <link rel="stylesheet" href="/css/bootstrap.min.css">
    <link rel="stylesheet" href="/css/bootstrap-grid.css">
    <link rel="stylesheet" href="/css/mycss.css">
    <script type="text/javascript" src="/js/bootstrap.bundle.min.js"></script>
    <script type="text/javascript" src="/js/bootstrap.bundle.js"></script>
    <script type="text/javascript" src="/js/bootstrap.js"></script>
    <link rel="shortcut icon" type="image/jpg" href="/img/logo.png" />
    <link rel="stylesheet" href="/dist/main.css" />
    <script src="/dist/main.js"></script>
    <link rel="preconnect" href="https://fonts.googleapis.com">
    <link rel="preconnect" href="https://fonts.gstatic.com" crossorigin>
    <link href="https://fonts.googleapis.com/css2?family=League+Spartan:wght@100..900&display=swap" rel="stylesheet">
    <!-- เพิ่มฟ้อน -->
    <link href="https://fonts.googleapis.com/css2?family=Spartan:wght@400;700&display=swap" rel="stylesheet">
    <link href="https://fonts.googleapis.com/css2?family=Reem+Kufi:wght@400;700&display=swap" rel="stylesheet">
    <!-- เพิ่มicon -->
    <link rel="stylesheet" href="https://cdn.jsdelivr.net/npm/bootstrap-icons@1.10.5/font/bootstrap-icons.css">
    <link href="https://cdn.jsdelivr.net/npm/bootstrap@5.3.2/dist/css/bootstrap.min.css" rel="stylesheet">


</head>
```

```html
<body class="bgcolor text-white league-spartan100">
    <div class="container-fluid">
        <div class="row">
        <!-- NAV -->
        <nav class="col-md-2 d-none d-md-flex bg-sidenav sidebar p-4">
            <div style="margin: 0.7cm;">
                <img src="img/logo.png" alt="Logo" style="width: 100%; max-width: 150px;" class="mb-3">
            </div>

            <!-- left side dashboard -->
            <div>
                <ul class="nav flex-column">
                    <li class="nav-item mb-2">
                        <a class="nav-link text-white" href="#">Dashboard</a>
                    </li>
                    <li class="nav-item mb-2">
                        <a class="nav-link text-white" href="#">Products</a>
                    </li>
                    <li class="nav-item mb-2">
                        <a class="nav-link text-white" href="#">Orders</a>
                    </li>
                    <li class="nav-item mb-2">
                        <a class="nav-link text-white" href="#">Customers</a>
                    </li>
                    <li class="nav-item mb-2">
                        <a class="nav-link text-white" href="#">Employees</a>
                    </li>
                    <li class="nav-item mb-2">
                        <a class="nav-link text-white" href="#">Analytics</a>
                    </li>
                    <li class="nav-item mb-2">
                        <a class="nav-link text-white" href="#">Help</a>
                    </li>
                </ul>
            </div>

            <ul class="nav flex-column logout-link">
                <li class="nav-item">
                    <a class="nav-link text-white" href="admin_login">Log out</a>
                </li>
            </ul>
        </nav>
```

```
        <!-- Main Content -->
        <main class="col-md-10 ms-sm-auto px-md-4">

            <!-- search bar - profile -->
            <section style="margin: 30px 0; display: flex; justify-content:space-between;">
                <div class="search-bar2">
                    <input class="search_bar_d" type="text" placeholder="SEARCH">
                    <i class="bi bi-search"></i>
                </div>
                <div>
                    <p id="adminInfo" style="font-weight: 300;" class="admininfo-pro">Admin Profile</p>
                </div>
            </section>

            <!-- Admin Add Product Page -->
            <div id="productFormPage" class=" py-4">
              <form class="bg-sidenav p-4 rounded" action="/addNewProduct" method="POST" enctype="multipart/form-data">
                <div class="back-button2">
                    <i class="bi bi-chevron-left"> </i>
                    <a href="/service_admin"> BACK</a>
                </div>
                <h2 style="margin-top: 0.8cm;" class="h2 mb-3">PRODUCT <span style="color: #06ff87;">REGISTRATION<span></h2>
                <div class="row g-3">
                    <div class="col-md-12">
                        <input name="productImage" type="file" class="form-control" accept="image/*" onchange="previewImage(event)
                        <img id="imagePreview" class="image-preview d-none" alt="Preview" />
                    </div>
                    <div class="col-md-6"><input name="productName" class="form-control" placeholder="Product Name" required></div
                    <div class="col-md-6"><input name="brand" class="form-control" placeholder="Brand" required></div>
                    <div class="col-md-6"><input name="volume" class="form-control" placeholder="Volume" required></div>
                    <div class="col-md-6"><input name="price" class="form-control" type="number" placeholder="Price" required></di
                    <div class="col-md-12"><input name="type" class="form-control" placeholder="Type (e.g. Men, Unisex)" required>
                    <div class="col-md-12"><textarea name="description" class="form-control" placeholder="Description" rows="3" re
                </div>
                <div class="d-flex justify-content-between mt-3">
                  <button type="reset" class="btn btn-secondary">Clear</button>
                  <button type="submit" class="btn btn-success text-dark">Save</button>
                </div>
              </form>
```

```
            </div>

        </main>
    </div>
</body>

</html>
```

Update_product.html

```
<!DOCTYPE html>
<html lang="en">

<head>
    <meta charset="UTF-8">
    <meta http-equiv="X-UA-Compatible" content="IE=edge">
    <meta name="viewport" content="width=device-width, initial-scale=1.0">
    <title>Lumony | Update Product</title>
    <link rel="stylesheet" href="/css/bootstrap.css">
    <link rel="stylesheet" href="/css/bootstrap.min.css">
    <link rel="stylesheet" href="/css/bootstrap-grid.css">
    <link rel="stylesheet" href="/css/mycss.css">
    <script type="text/javascript" src="/js/bootstrap.bundle.min.js"></script>
    <script type="text/javascript" src="/js/bootstrap.bundle.js"></script>
    <script type="text/javascript" src="/js/bootstrap.js"></script>
    <link rel="shortcut icon" type="image/jpg" href="/img/logo.png" />
    <link rel="stylesheet" href="/dist/main.css" />
    <script src="/dist/main.js"></script>
    <link rel="preconnect" href="https://fonts.googleapis.com">
    <link rel="preconnect" href="https://fonts.gstatic.com" crossorigin>
    <link href="https://fonts.googleapis.com/css2?family=League+Spartan:wght@100..900&display=swap" rel="stylesheet">
    <!-- เพิ่มฟ้อน -->
    <link href="https://fonts.googleapis.com/css2?family=Spartan:wght@400;700&display=swap" rel="stylesheet">
    <link href="https://fonts.googleapis.com/css2?family=Reem+Kufi:wght@400;700&display=swap" rel="stylesheet">
    <!-- เพิ่มicon -->
    <link rel="stylesheet" href="https://cdn.jsdelivr.net/npm/bootstrap-icons@1.10.5/font/bootstrap-icons.css">
    <link href="https://cdn.jsdelivr.net/npm/bootstrap@5.3.2/dist/css/bootstrap.min.css" rel="stylesheet">


</head>
```

```
<body class="bgcolor text-white league-spartan100">
    <div class="container-fluid">
        <div class="row">
            <!-- Sidebar -->
            <nav class="col-md-2 d-none d-md-flex bg-sidenav sidebar p-4">
                <div style="margin: 0.7cm;">
                    <img src="img/logo.png" alt="Logo" style="width: 100%; max-width: 150px;" class="mb-3">
                </div>

                <div>
                    <ul class="nav flex-column">
                        <li class="nav-item mb-2">
                            <a class="nav-link text-white" href="#">Dashboard</a>
                        </li>
                        <li class="nav-item mb-2">
                            <a class="nav-link text-white" href="#">Products</a>
                        </li>
                        <li class="nav-item mb-2">
                            <a class="nav-link text-white" href="#">Orders</a>
                        </li>
                        <li class="nav-item mb-2">
                            <a class="nav-link text-white" href="#">Customers</a>
                        </li>
                        <li class="nav-item mb-2">
                            <a class="nav-link text-white" href="#">Employees</a>
                        </li>
                        <li class="nav-item mb-2">
                            <a class="nav-link text-white" href="#">Analytics</a>
                        </li>
                        <li class="nav-item mb-2">
                            <a class="nav-link text-white" href="#">Help</a>
                        </li>
                    </ul>
                </div>

                <ul class="nav flex-column logout-link">
                    <li class="nav-item">
                        <a class="nav-link text-white" href="admin_login">Log out</a>
                    </li>
                </ul>
```

```
            <!-- Main Content -->
            <main class="col-md-10 ms-sm-auto px-md-4">
                <!-- search bar - profile -->
                <section style="margin: 30px 0; display: flex; justify-content:space-between;">
                    <div class="search-bar2">
                        <input class="search_bar_d" type="text" placeholder="SEARCH">
                        <i class="bi bi-search"></i>
                    </div>
                    <div>
                        <p id="adminInfo" style="font-weight: 300;" class="admininfo-pro">Admin Profile</p>
                    </div>
                </section>
```

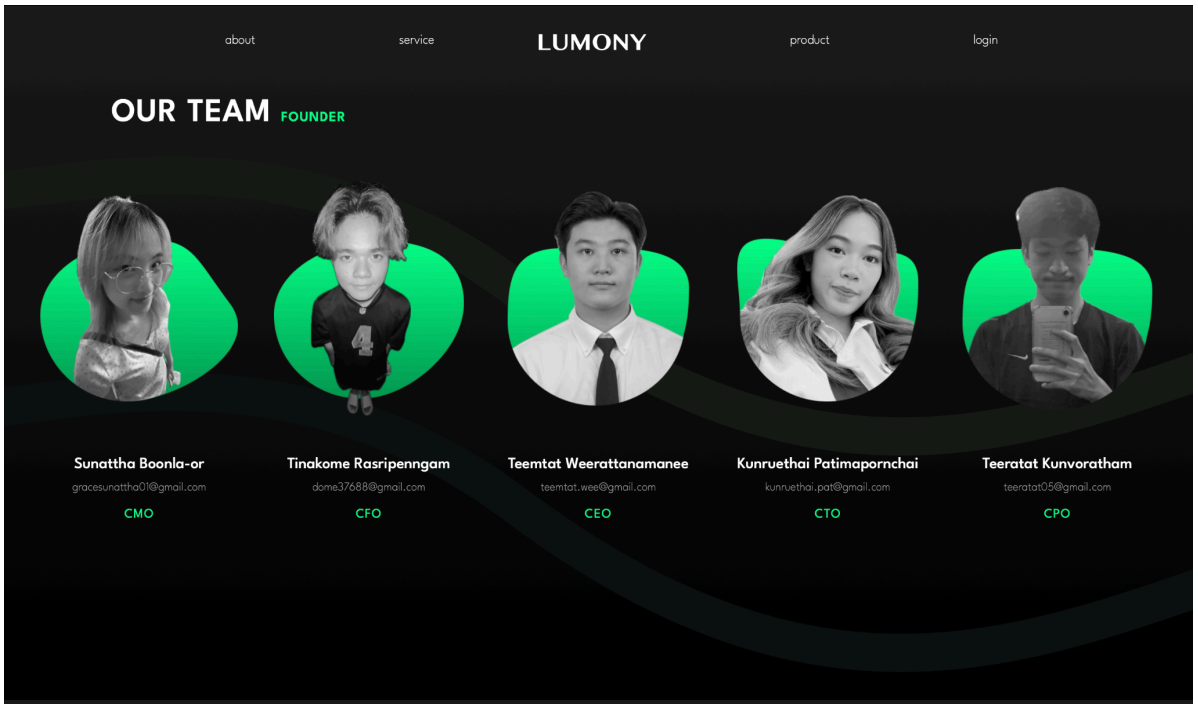
```
                <!-- Admin Add Product Page -->
                <div id="productFormPage" class=" py-4">
                  <form id="updateProductForm" class="bg-sidenav p-4 rounded" action="/updateProduct" method="POST" enctype="multipart
                    <div class="back-button2">
                        <i class="bi bi-chevron-left"> </i>
                        <a href="/service_admin"> BACK</a>
                    </div>
                    <h2 style="margin-top: 0.8cm;" class="h2 mb-3">PRODUCT <span style="color: #06ff87;">UPDATE<span></h2>
                    <div class="row g-3">
                        <div class="col-md-12">
                            <input name="productImage" type="file" class="form-control" accept="image/*" onchange="previewImage(event)
                            <input type="hidden" name="oldImage" id="oldImage">
                            <img id="imagePreview" class="image-preview d-none" alt="Preview" />
                        </div>
                        <div class="col-md-6"><input name="product_ID" class="form-control" placeholder="Product ID" required></div>
                        <div class="col-md-6"><input name="productName" class="form-control" placeholder="Product Name" required></div
                        <div class="col-md-6"><input name="brand" class="form-control" placeholder="Brand" required></div>
                        <div class="col-md-6"><input name="volume" class="form-control" placeholder="Volume" required></div>
                        <div class="col-md-6"><input name="price" class="form-control" type="number" placeholder="Price" required></di
                        <div class="col-md-12"><input name="type" class="form-control" placeholder="Type (e.g. Men, Unisex)" required>
                        <div class="col-md-12"><textarea name="description" class="form-control" placeholder="Description" rows="3" re
                    </div>
                    <div class="d-flex justify-content-between mt-3">
                      <button type="reset" class="btn btn-secondary">Clear</button>
                      <button type="submit" class="btn btn-success text-dark">Save</button>
                    </div>
                  </form>
                </div>
            </main>
        </div>
    </body>
```

```
<script>
    // Auto-fill product details when typing product ID
    document.querySelector('input[name="product_ID"]').addEventListener('blur', function () {
      const productId = this.value.trim();
      if (productId) {
        fetch(`/api/getProduct/${productId}`)
          .then(response => {
            if (!response.ok) {
              throw new Error('Product not found');
            }
            return response.json();
          })
          .then(product => {
            document.querySelector('input[name="productName"]').value = product.Product_name || '';
            document.querySelector('input[name="brand"]').value = product.Product_brand || '';
            document.querySelector('input[name="volume"]').value = product.Product_volume || '';
            document.querySelector('input[name="price"]').value = product.Product_price || '';
            document.querySelector('input[name="type"]').value = product.Product_type || '';
            document.querySelector('textarea[name="description"]').value = product.Product_description || '';

            if (product.Product_image) {
              const imagePreview = document.getElementById('imagePreview');
              imagePreview.src = `${product.Product_image}`;
              imagePreview.classList.remove('d-none');
              document.getElementById('oldImage').value = product.Product_image; // Save old image
            }
          })
          .catch(err => {
            alert(err.message);
            console.log(err);
          });
      }
    });
```

```
    // Show preview when user chooses a new image
    function previewImage(event) {
      const file = event.target.files[0];
      const preview = document.getElementById('imagePreview');
      if (file) {
        const reader = new FileReader();
        reader.onload = function (e) {
          preview.src = e.target.result;
          preview.classList.remove('d-none');
        };
        reader.readAsDataURL(file);
      }
    }

    // Handle form submit manually
    document.getElementById('updateProductForm').addEventListener('submit', async function (event) {
      event.preventDefault(); // Prevent normal form POST

      const form = event.target;
      const formData = new FormData(form);

      const productData = {
        product_ID: formData.get('product_ID'),
        productName: formData.get('productName'),
        brand: formData.get('brand'),
        volume: formData.get('volume'),
        price: formData.get('price'),
        type: formData.get('type'),
        description: formData.get('description'),
        imageUrl: '', // Default
        oldImage: formData.get('oldImage')
      };
```

```
      const imageFile = formData.get('productImage');
      if (imageFile && imageFile.size > 0) {
        const reader = new FileReader();
        reader.onload = async function (e) {
          productData.imageUrl = e.target.result.split(',')[1]; // Only Base64 part
          await updateProduct(productData);
        };
        reader.readAsDataURL(imageFile);
      } else {
        // No new image, use old
        await updateProduct(productData);
      }
    });

    // Send the updated product data to the server
    async function updateProduct(productData) {
      try {
        const response = await fetch('http://localhost:8083/api/updateProduct', {
          method: 'PUT',
          headers: { 'Content-Type': 'application/json' },
          body: JSON.stringify(productData)
        });

        const result = await response.json();
        if (result.success) {
          alert('Product updated successfully!');
          window.location.href = '/service_admin'; // Redirect after success
        } else {
          alert('Failed to update product.');
        }
      } catch (error) {
        console.error('Error updating product:', error);
        alert('Error updating product.');
      }
    }
  </script>

</html>
```

Team Page



The Team Page can be accessed via the "About Us" link in the footer or the "About" option in the navigation bar. This page provides detailed information about our team members, highlighting their roles and contributions within Lumony.

Code: team.html

```html
<!DOCTYPE html>
<html lang="en">

<head>
  <meta charset="UTF-8">
  <meta http-equiv="X-UA-Compatible" content="IE=edge">
  <meta name="viewport" content="width=device-width, initial-scale=1.0">
  <title>Lumony | Home-Page</title>
  <link rel="stylesheet" href="/css/bootstrap.css">
  <link rel="stylesheet" href="/css/bootstrap.min.css">
  <link rel="stylesheet" href="/css/bootstrap-grid.css">
  <link rel="stylesheet" href="/css/mycss.css">
  <script type="text/javascript" src="/js/bootstrap.bundle.min.js"></script>
  <script type="text/javascript" src="/js/bootstrap.bundle.js"></script>
  <script type="text/javascript" src="/js/bootstrap.js"></script>
  <link rel="shortcut icon" type="image/jpg" href="/img/logo.png"/>
  <link rel="stylesheet" href="/dist/main.css" />
  <script src="/dist/main.js"></script>
  <link rel="preconnect" href="https://fonts.googleapis.com">
  <link rel="preconnect" href="https://fonts.gstatic.com" crossorigin>
  <link href="https://fonts.googleapis.com/css2?family=League+Spartan:wght@100..900&display=swap" rel="stylesheet">
</head>
```

```
<body class="bgcolor-forTEAM league-spartan100 text-white">
  <div class="sticky-top">
    <nav class="navbar navbar-expand-lg container">
      <div class="container-fluid">

        <button class="navbar-toggler" type="button" data-bs-toggle="collapse" data-bs-target="#navbarNavAltMarkup" aria-controls=
          <span class="navbar-toggler-icon"></span>
        </button>

        <ul class="nav-item mt-3">
          <a class="nav-link zoom" href="team">about</a>
        </ul>

        <ul class="nav-item mt-3">
          <a class="nav-link zoom" href="/promotion">service</a>
        </ul>

        <a class="navbar-brand zoom" href="/index">
          <img src="/img/logo.png" alt="" width="auto" height="20" class="d-inline-block align-text-top">
        </a>

        <ul class="nav-item mt-3">
          <a class="nav-link zoom" href="product" target="_blank">product</a>
        </ul>

        <ul class="nav-item mt-3">
          <a class="nav-link zoom" href="/login">login</a>
        </ul>

      </div>
    </nav>
  </div>
```

```
  <!-- top text -->
  <section>
    <div class="our-team">
      <h1>OUR TEAM <span>FOUNDER</span></h1>
    </div>
  </section>

  <section style="position: relative;">
    <!-- SVG Wave Background -->
    <div style="position: absolute; width: 100%;
    height: 100%;  display: flex; justify-content: center;
    align-items: center; color: white; text-align: center; z-index: 1;">
      <svg
        viewBox="270 0 1700 790"
        xmlns="http://www.w3.org/2000/svg"
        style="width: 100%; height: auto;"
        preserveAspectRatio="xMidYMid meet"
      >
        <g transform="matrix(1,0,0,1,200,-190)">
          <path
            d="M0,238.962C0,330 400,100 800,400 C1600,1000 1900,100 2800,500"
            style="fill:none;stroke:rgb(22, 26, 24);stroke-width:55px;"
          />
        </g>

        <g transform="matrix(1,0,0,1,200,120)">
            <path
            d="M0,238.962C0,330 400,100 800,400 C1600,1000 1900,100 2800,500"
              style="fill:none;stroke:rgb(14, 18, 16);stroke-width:55px;"
            />
        </g>
      </svg>
    </div>
```

```
90      <section class="image-ad">
91        <div class="team-member zoom">
92          <div class="image-box">
93            <img style="width: 240px; height: 250px;" src="img/Group 21.png" alt="Grace">
94          </div>
95          <h3>Sunattha Boonla-or</h3>
96          <a href="mailto:gracesunattha01@gmail.com">gracesunattha01@gmail.com</a>
97          <div class="role">CMO</div>
98        </div>
99
100       <div class="team-member zoom">
101         <div class="image-box">
102           <img style="width: 230px; height: 285px;" src="img/Group 20.png" alt="Dome">
103         </div>
104         <h3>Tinakome Rasripenngam</h3>
105         <a href="mailto:dome37688@gmail.com">dome37688@gmail.com</a>
106         <div class="role">CFO</div>
107       </div>
108
109       <div class="team-member zoom">
110         <div class="image-box">
111           <img style="width: 220px; height: 260px;" src="img/Group 22.png" alt="Troy">
112         </div>
113         <h3>Teemtat Weerattanamanee</h3>
114         <a href="mailto:teemtat.wee@gmail.com">teemtat.wee@gmail.com</a>
115         <div class="role">CEO</div>
116       </div>
117
118       <div class="team-member zoom">
119         <div class="image-box">
120           <img style="width: 220px; height: 250px;" src="img/Group 23.png" alt="Fon">
121         </div>
122         <h3>Kunruethai Patimapornchai</h3>
123         <a href="mailto:kunruethai.pat@gmail.com">kunruethai.pat@gmail.com</a>
124         <div class="role">CTO</div>
125       </div>
```

```
127       <div class="team-member zoom">
128         <div class="image-box">
129           <img style="width: 230px; height: 270px;" src="img/Group 52.png" alt="Boss">
130         </div>
131         <h3>Teeratat Kunvoratham</h3>
132         <a href="mailto:teeratat05@gmail.com">teeratat05@gmail.com</a>
133         <div class="role">CPO</div>
134       </div>
135     </section>
136   </section>
137 </body>
138 </html>
```

Web Services

server.js

This Express server sets up an application that handles both static file serving and API routing. It imports essential modules like ***express*** for server creation, ***path*** for handling filesystem paths, ***axios*** for making HTTP requests to a backend service, and ***multer*** for handling file uploads. The server is configured to run on port 8082 and uses a router for organizing routes. Multer is set up with ***memoryStorage***, meaning uploaded files are temporarily stored in server memory rather than being saved to disk. The server also uses middleware to parse URL-encoded and JSON bodies, allowing it to handle form data and API requests effectively.

The ***BASE_DIR*** is set to the current directory, and the server is configured to serve static assets like CSS, JavaScript, images, and built distribution files from corresponding folders. Several routes are defined using ***router.get()*** and ***app.get()*** to serve different HTML pages such as the homepage, login page, team page, product page, admin login, and account creation page.

For API operations, the server defines routes for admin login authentication, deleting products, adding new products (with an image upload), and updating existing products. These operations internally use ***axios*** to communicate with a backend API running on port 8083. Each API route sends a request to the backend and either redirects the user based on the result (for login, add, update) or returns JSON data to the frontend (for fetching products).

Specific product operations include deleting a product by ID, adding a new product by uploading an image and product information, updating a product's information and image, retrieving a single product by ID, fetching all products, fetching only user-visible products, and getting detailed product information.

Additionally, a fallback ***404 route*** is included to redirect any undefined request back to the homepage (***index.html***). Finally, the server starts and listens on the specified port, logging the server URL once it is running.

Code:

```
// Sets up an Express server with Axios, Multer, and routing functionalities.
const express = require('express');
const path = require('path');
const axios = require('axios');
const app = express();
const PORT = 8082;
const router = express.Router();
const multer = require('multer');

// Setup multer to store file uploads
const storage = multer.memoryStorage(); // or diskStorage if you want to save files
const upload = multer({ storage: storage });

// Configures the server to use the router and parse URL-encoded and JSON request bodies.
app.use(router);
router.use(express.urlencoded({ extended: true }));
router.use(express.json());

// Base directory to serve files from
const BASE_DIR = path.join(__dirname); // Automatically resolves to the current directory where server.js is located
console.log(BASE_DIR);

// Serve static assets
app.use('/css', express.static(path.join(BASE_DIR, 'css')));
app.use('/js', express.static(path.join(BASE_DIR, 'js')));
app.use('/img', express.static(path.join(BASE_DIR, 'img')));
app.use('/dist', express.static(path.join(BASE_DIR, 'dist')));

// Explicit page routes
router.get('/', (req, res) => {
  // console.log(BASE_DIR);
  res.sendFile(path.join(BASE_DIR, 'index.html'));
}
);
router.get('/index', (req, res) => {
  // console.log(BASE_DIR);
  res.sendFile(path.join(BASE_DIR, 'index.html'));
}
);
```

```
// Defines routes to serve various HTML pages for different parts of the website.
app.get('/login', (req, res) => res.sendFile(path.join(BASE_DIR, 'login.html')));
app.get('/team', (req, res) => res.sendFile(path.join(BASE_DIR, 'team.html')));
app.get('/product', (req, res) => res.sendFile(path.join(BASE_DIR, 'product.html')));
app.get('/admin_login', (req, res) => res.sendFile(path.join(BASE_DIR, 'admin_login.html')));
app.get('/advance-search', (req, res) => res.sendFile(path.join(BASE_DIR, 'advance-search.html')));
app.get('/create_account', (req, res) => res.sendFile(path.join(BASE_DIR, 'create_account.html')));
app.get('/product_detail', (req, res) => res.sendFile(path.join(BASE_DIR, 'product_detail.html')));
app.get('/service_admin', (req, res) => res.sendFile(path.join(BASE_DIR, 'service_admin.html')));
app.get('/add_product', (req, res) => res.sendFile(path.join(BASE_DIR, 'add_product.html')));
app.get('/update_product', (req, res) => res.sendFile(path.join(BASE_DIR, 'update_product.html')));

// Handles admin login authentication by sending credentials to the backend and redirecting based on the result.
router.post('/admin_login_auth', async function (req, res)  {
  const username = req.body.username;
  const password = req.body.password;
  console.log(username);
   try{
    const response = await axios.post('http://localhost:8083/api/admin_login_auth',{
      username,
      password
    });

    if(response.data.success){
      res.redirect('/service_admin');
    }
   }
   catch(error){
    console.error('login error:',error);
    res.redirect('/admin_login');
   }
});
```

```
// Handles product deletion by forwarding the request to the backend API and returning the result.
router.delete('/deleteProduct/:id', async (req, res) => {
  const { id } = req.params;
  try {
    const response = await axios.delete(`http://localhost:8083/api/deleteProduct/${id}`);
    res.send(response.data); // send back success to frontend
  } catch (error) {
    console.error('Delete product error:', error);
    res.status(500).send('Failed to delete product');
  }
});

// Handles adding a new product by uploading its image and sending product data to the backend API.
router.post('/addNewProduct', upload.single('productImage'), async function (req, res) {
  const file = req.file; // <-- file upload
  const { productName, brand, volume, price, type, description } = req.body;
  console.log(productName);
  let imageUrl = '';
  if (file) {
    imageUrl = file.buffer.toString('base64'); // or upload to storage and get URL
  }
  try {
    const response = await axios.post('http://localhost:8083/api/addNewProduct', {
      productName,
      brand,
      volume,
      price,
      type,
      description,
      imageUrl
    });
    res.redirect('/service_admin');
  } catch (error) {
    console.error('Add new product error:', error);
    res.redirect('/service_admin');
  }
});
```

```
// Handles updating a product by sending the updated data and image to the backend API.
router.post('/updateProduct', upload.single('productImage'), async (req, res) => {
  const file = req.file;
  const { product_ID, productName, brand, volume, price, type, description } = req.body;
  const imageUrl = file ? file.buffer.toString('base64') : '';
  try {
    const response = await axios.put('http://localhost:8083/api/updateProduct', {
      product_ID,
      productName,
      brand,
      type,
      volume,
      price,
      description,
      imageUrl
    });
    if (response.data.success) {
      console.log('Update succeeded:', response.data.message);
      return res.redirect('/service_admin');
    } else {
      console.error('Update failed:', response.data);
      return res.redirect('/service_admin');
    }
  } catch (err) {
    console.error('Update product error:', err.response?.data || err.message);
    return res.redirect('/service_admin');
  }
});

// Fetches product details by ID from the backend API and returns them as JSON.
router.get('/api/getProduct/:id', async (req, res) => {
  const { id } = req.params;
  try {
    const response = await axios.get(`http://localhost:8083/api/getProduct/${id}`);
    res.json(response.data);
  } catch (error) {
    console.error('Fetch product error:', error.response?.data || error.message);
    res.status(error.response?.status || 500).send('Product not found');
  }
});
```

```
// Fetches all product data from the backend API and returns it as a JSON response.
router.get('/getAllProducts', async function (req, res) {
  try {
    const response = await axios.get('http://localhost:8083/api/getAllProducts');
    res.json(response.data); // send back to frontend
  } catch (error) {
    console.error('Error fetching products:', error);
    res.status(500).send('Error fetching products');
  }
});

// Fetches all user-visible products from the backend API and returns them as JSON to the frontend.
router.get('/getAllProductsUser', async function (req, res) {
  try {
    const response = await axios.get('http://localhost:8083/api/getAllProductsUser');
    console.log(response.data);
    res.json(response.data); // send back to frontend
  } catch (error) {
    console.error('Error fetching products:', error);
    res.status(500).send('Error fetching products');
  }
});

// Fetches detailed product data from the backend API and returns it as JSON to the frontend.
router.get('/getProductDetail', async function (req, res) {
  try {
    const response = await axios.get('http://localhost:8083/api/getProductDetail');
    console.log(response.data);
    res.json(response.data); // send back to frontend
  } catch (error) {
    console.error('Error fetching products:', error);
    res.status(500).send('Error fetching products');
  }
});
```

```
// Fallback 404 route
app.use((req, res) => {
  const notFoundPath = path.join(BASE_DIR, '/index.html');
  res.status(404).sendFile(notFoundPath);
});

// Start the server
app.listen(PORT, () => {
  console.log(`Server running at http://localhost:${PORT}`);
});
```

webservice.js

This Express server initializes a backend API service connected to a MySQL database. It uses essential modules like ***express*** for creating the server, ***mysql2*** for database connection, ***path*** for handling filesystem paths, and ***cors*** for enabling Cross-Origin Resource Sharing with frontend services (especially from ***localhost:8082***). The server listens on port 8083 and accepts URL-encoded and JSON request bodies. The MySQL connection is established with the ***Lumony*** database, and any connection errors are logged.

Several API endpoints are defined to handle core product management features. A ***DELETE*** endpoint allows deleting a product by its ***Product_ID***, sending back a success response if the operation completes successfully. A ***PUT*** endpoint updates existing product details, including the ability to keep an old image if a new one is not provided. The ***GET /api/getProduct/:id*** route fetches and returns a single product's data based on its ID.

The server also includes an ***admin_login_auth*** endpoint where it verifies the provided username and password against the ***Administrator_Account*** table to authenticate administrators. New products can be added through a ***POST /api/addNewProduct*** route by providing product details such as name, brand, type, volume, price, image, and description.

For retrieving products, there are two main routes: one that fetches **all products** (***/api/getAllProducts***) and another (***/api/getAllProductsUser***) that retrieves products based on optional filters like type and brand, while also adding a dynamic ***priceRange*** field based on the product price. Another route, ***/api/getProductDetail***, fetches detailed information for a specific product based on the provided ***Product_ID***.

Lastly, the server directly serves an HTML file ***service_admin.html*** at the ***/service_admin*** route for administrative interface access. If all setup is successful, the server starts listening at the designated port and logs its URL.

Code:

```
// Initializes an Express server and MySQL connection setup for backend API services.
const mysql = require('mysql2');
const express = require('express');
const app = express();
const path = require('path');
const PORT = 8083;

var cors = require('cors');
app.use(cors());

let corsOptions = {
  origin: 'http://localhost:8082',
  methods:'GET,POST,PUT,DELETE'
}

app.use(cors(corsOptions));
app.use(express.json({ limit: '50mb' }));
app.use(express.urlencoded({ extended: true, limit: '50mb' }));

const db = mysql.createConnection({
  host: 'localhost',
  user: 'root',
  password: 'Teemmatat_5068',
  database: 'Lumony'
});

db.connect(function (err) {
  if(err){
    console.error("Error", err);
    return;
  }
  console.log('Connected DB:', db.config.database);
});
```

```
// Deletes a product from the database by its ID and returns a success message.
app.delete('/api/deleteProduct/:id', (req, res) => {
  const { id } = req.params;
  const sql = `DELETE FROM Product WHERE Product_ID = ?`;
  db.query(sql, [id], (err, result) => {
    if (err) {
      console.error('Delete error:', err);
      return res.status(500).send('Database delete error');
    }
    res.send({ success: true, message: 'Product deleted successfully' });
  });
});

// Updates a product's details in the database based on the provided information.
app.put('/api/updateProduct', (req, res) => {
  const { product_ID, productName, brand, type, volume, price, description, imageUrl, oldImage } = req.body;

  // If no new image uploaded, use old image
  const finalImage = imageUrl && imageUrl.trim() !== '' ? imageUrl : oldImage;

  const sql = `
    UPDATE Product
    SET Product_name = ?, Product_brand = ?, Product_type = ?, Product_volume = ?, Product_price = ?, Product_image = ?, Product_d
    WHERE Product_ID = ?
  `;
  const values = [productName, brand, type, volume, price, finalImage, description, product_ID];

  db.query(sql, values, (err, result) => {
    if (err) {
      console.error('Update error:', err);
      return res.status(500).send('Database update error');
    }
    console.log('Rows changed:', result.affectedRows);
    res.send({ success: true, message: 'Product updated successfully' });
  });
});
```

```
// Fetches a single product's details from the database by its ID and returns it.
app.get('/api/getProduct/:id', (req, res) => {
  const id = req.params.id;
  console.log('Fetching product with ID:', id);
  const sql = 'SELECT * FROM Product WHERE Product_ID = ?';
  db.query(sql, [id], (err, result) => {
    if (err) {
      console.error('Query error:', err);
      return res.status(500).send('Database query error');
    }
    console.log('Query result:', result);
    if (result.length === 0) {
      return res.status(404).send('Product not found');
    }
    res.send(result[0]);
  });
});

// Authenticates an admin by checking the username and password against the database.
app.post('/api/admin_login_auth', (req, res) => {
  const { username, password } = req.body;
  console.log(username);
  db.query(
    'SELECT * FROM Administrator_Account WHERE Acc_username = ? AND Acc_password = ?',
    [username, password],
    (err, results) => {
      if (err) return res.status(500).send('Error');
      if (results.length > 0) {
        res.send({ success: true });
      } else {
        res.status(401).send({ success: false });
      }
    }
  );
});
```

```
// Inserts a new product into the database with the provided details and image.
app.post('/api/addNewProduct', (req, res) => {
  const { productName, brand, type, volume, price, imageUrl, description } = req.body;
  const sql = `
    INSERT INTO Product (Product_name, Product_brand, Product_type, Product_volume, Product_price, Product_image, Product_descript
    VALUES (?, ?, ?, ?, ?, ?, ?)`;
  const values = [productName, brand, type, volume, price, imageUrl, description];
  db.query(sql, values, (err, results) => {
    if (err) {
      console.error('Insert error:', err);
      return res.status(500).send('Database insert error');
    }
    res.send({ success: true, message: 'Product added successfully' });
  });
});

// Fetches and returns all products from the database as a JSON array.
app.get('/api/getAllProducts', (req, res) => {
  const sql = 'SELECT * FROM Product';
  db.query(sql, (err, results) => {
    if (err) {
      console.error('Error fetching products:', err);
      return res.status(500).send('Database error');
    }
    res.json(results);
  });
});
```

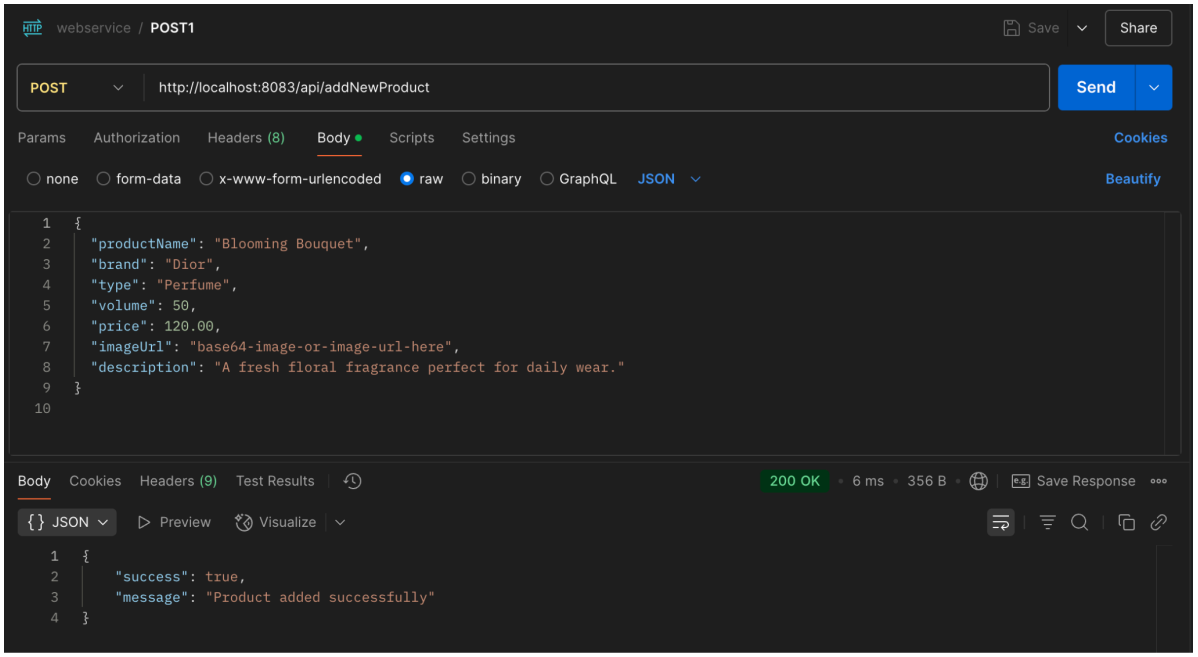
```
// Fetches user-filtered products from the database, adds price ranges, and returns them as JSON.
app.get('/api/getAllProductsUser', (req, res) => {
  const { type, brand } = req.query;
  let sql = 'SELECT * FROM Product WHERE 1=1';
  const params = [];
  if (type) {
    sql += ' AND Product_type = ?';
    params.push(type);
  }
  if (brand) {
    sql += ' AND Product_brand = ?';
    params.push(brand);
  }
  db.query(sql, params, (err, results) => {
    if (err) {
      console.error('Error fetching products:', err);
      return res.status(500).send('Database error');
    }
    const productsWithRange = results.map(product => {
      let priceRange = '';
      if (product.Product_price >= 2000 && product.Product_price <= 3000) {
        priceRange = '2000-3000';
      } else if (product.Product_price <= 4000) {
        priceRange = '3001-4000';
      } else if (product.Product_price <= 5000) {
        priceRange = '4001-5000';
      } else if (product.Product_price <= 6000) {
        priceRange = '5001-6000';
      } else if (product.Product_price <= 7000) {
        priceRange = '6001-7000';
      }
      return {
        ...product,
        priceRange: priceRange
      };
    });
    res.json(productsWithRange);
  });
});
```

```
// Fetches detailed information for a specific product by ID and returns it as JSON.
app.get('/api/getProductDetail', (req, res) => {
  const productId = req.query.Product_ID;
  const query = 'SELECT * FROM Product WHERE Product_ID = ?';
  db.query(query, [productId], (err, results) => {
      if (err) {
          console.error('Database query error:', err);
          return res.status(500).json({ error: "Database error" });
      }
      if (results.length > 0) {
          res.json(results[0]); // ส่งข้อมูลสินค้า
      } else {
          res.status(404).json({ error: "Product not found" });
      }
  });
});

// Serves the `service_admin.html` page when the `/service_admin` route is accessed.
app.get('/service_admin', (req, res) => {
  res.sendFile(path.join(__dirname, 'service_admin.html'));
});

app.listen(PORT, () => {
  console.log(`http://localhost:${PORT}`);
});
```

Testing Results

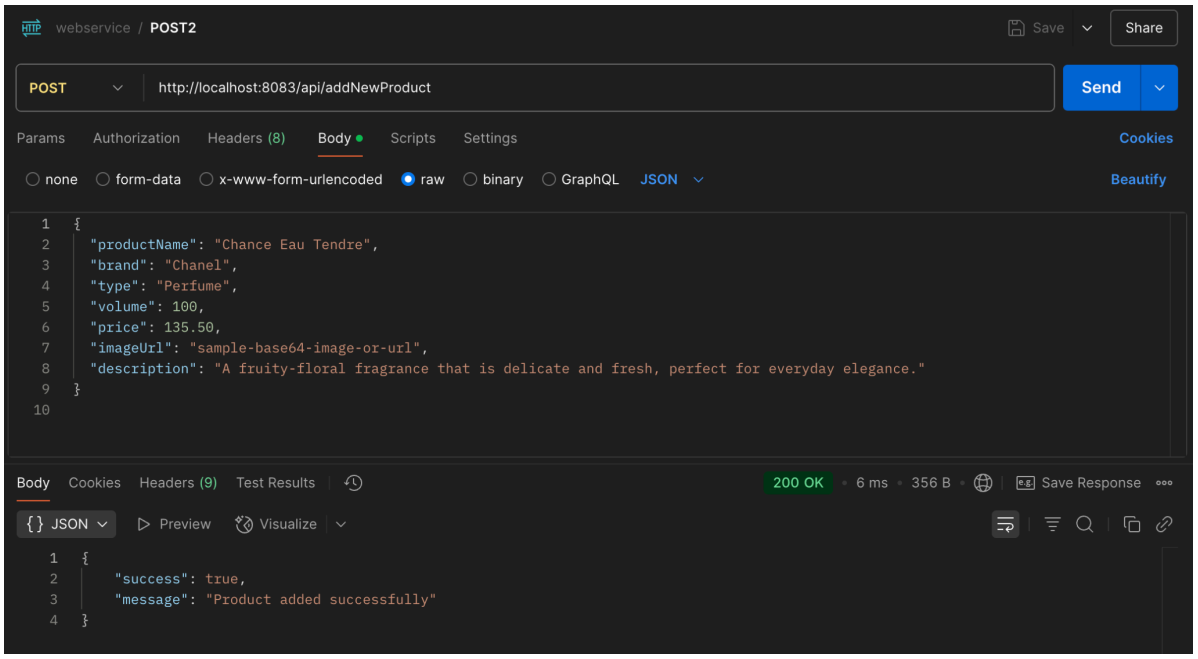
POST method

Post Method 1:



// Testing Insert a New Product
// method: POST
// URL: http://localhost:8083/api/addNewProduct
// body: raw JSON
// {
// "productName": "Blooming Bouquet",
// "brand": "Dior",
// "type": "Perfume",
// "volume": 50,
// "price": 120.00,
// "imageUrl": "base64-image-or-image-url-here",
// "description": "A fresh floral fragrance perfect for daily wear."
// }

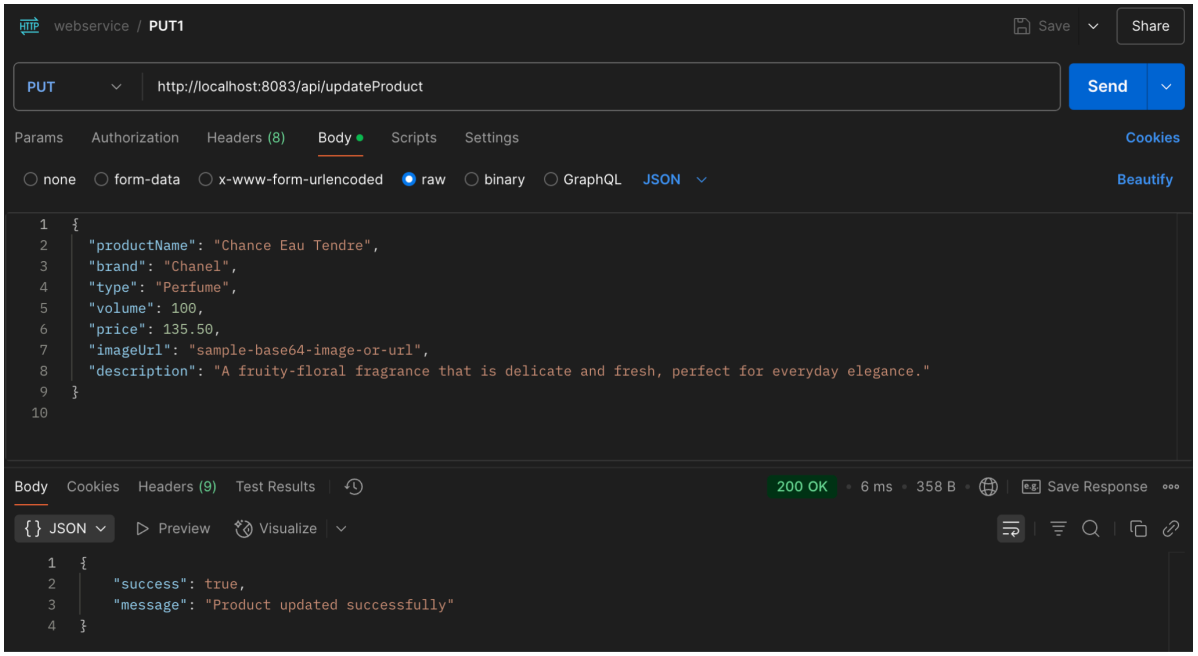
Post Method 2:



// Testing Insert Another New Product
// method: POST
// URL: http://localhost:8083/api/addNewProduct
// body: raw JSON
// {
// "productName": "Chance Eau Tendre",
// "brand": "Chanel",
// "type": "Perfume",
// "volume": 100,
// "price": 135.50,
// "imageUrl": "sample-base64-image-or-url",
// "description": "A fruity-floral fragrance that is delicate and fresh, perfect for everyday elegance."
// }

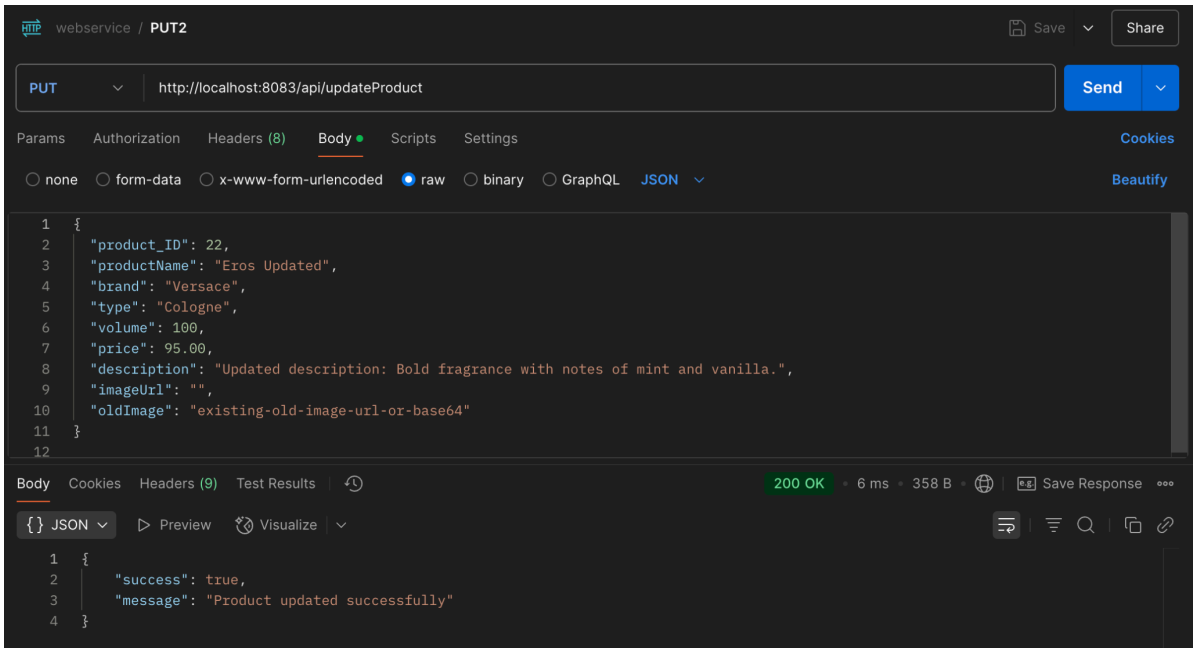
PUT method

Put Method 1:



// Testing Update a Product
// method: PUT
// URL: http://localhost:8083/api/updateProduct
// body: raw JSON
// {
// "product_ID": 1,
// "productName": "Blooming Bouquet Updated",
// "brand": "Dior",
// "type": "Perfume",
// "volume": 50,
// "price": 125.00,
// "description": "Updated description: Fresh floral fragrance with a soft finish.",
// "imageUrl": "new-base64-or-image-url-here",
// "oldImage": "old-image-url"
// }

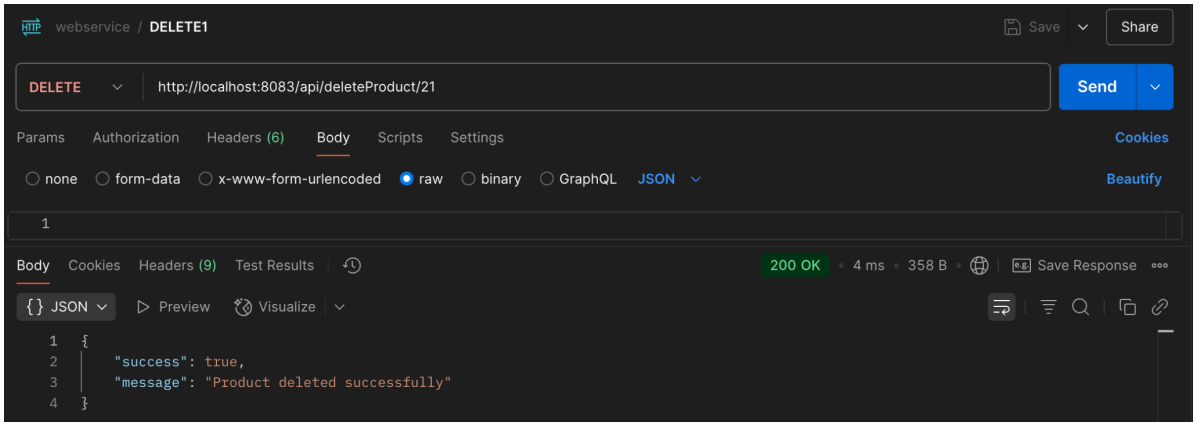
Put Method 1:



// Testing Update Another Product (Keep Old Image)
// method: PUT
// URL: http://localhost:8083/api/updateProduct
// body: raw JSON
// {
// "product_ID": 2,
// "productName": "Eros Updated",
// "brand": "Versace",
// "type": "Cologne",
// "volume": 100,
// "price": 95.00,
// "description": "Updated description: Bold fragrance with notes of mint and vanilla.",
// "imageUrl": "",
// "oldImage": "existing-old-image-url-or-base64"
// }

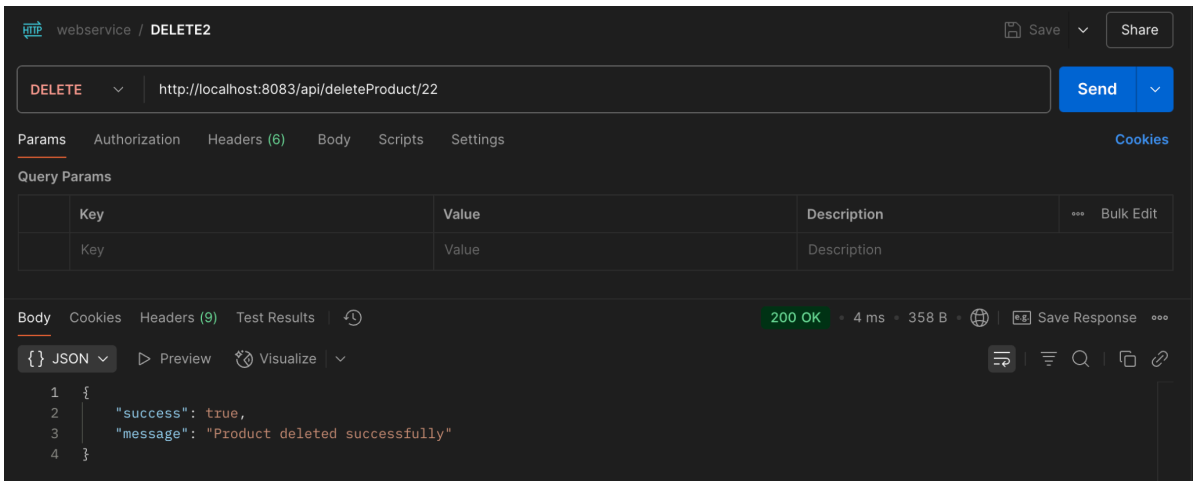
DELETE method

Delete Method 1:



// Testing Delete a Product
// method: DELETE
// URL: http://localhost:8083/api/deleteProduct/21
// body: none

Delete Method 2:



// Testing Delete Another Product
// method: DELETE
// URL: http://localhost:8083/api/deleteProduct/22
// body: none

References

[1]Versace, "Fragrances," Versace, 2025. [Online]. Available: https://www.versace.com/row/en/fragrances/. [Accessed: 20-Feb-2025].

[2]Givenchy Beauty, "Fragrance," Givenchy, 2025. [Online]. Available: https://www.givenchybeauty.com/us/fragrance/. [Accessed: 21-Feb-2025].

[3] Dior, "Fragrances for Men and Women," Dior Beauty, 2025. [Online]. Available: https://www.dior.com/en_int/fragrance. [Accessed: 29-Apr-2025].

[4] Chanel, "Fragrance," Chanel Official Site, 2025. [Online]. Available: https://www.chanel.com/us/fragrance/. [Accessed: 29-Apr-2025].

[5] Yves Saint Laurent, "Fragrance," YSL Beauty, 2025. [Online]. Available: https://www.yslbeautyus.com/fragrance/. [Accessed: 29-Apr-2025].

[6] Gucci, "Fragrances," Gucci Beauty, 2025. [Online]. Available: https://www.gucci.com/us/en/ca/beauty/fragrances. [Accessed: 29-Apr-2025].

[7] Calvin Klein, "Fragrance," Calvin Klein, 2025. [Online]. Available: https://www.calvinklein.us/en/fragrance. [Accessed: 29-Apr-2025].

[8] Giorgio Armani Beauty, "Fragrance," Armani Beauty, 2025. [Online]. Available: https://www.armani-beauty.com/fragrances. [Accessed: 29-Apr-2025].

[9] Burberry, "Fragrance Collection," Burberry, 2025. [Online]. Available: https://www.burberry.com/fragrance/. [Accessed: 29-Apr-2025].

[10] Jo Malone London, "Fragrance Collection," Jo Malone, 2025. [Online]. Available: https://www.jomalone.com/fragrances. [Accessed: 29-Apr-2025].

[11] Tom Ford, "Fragrances," Tom Ford Beauty, 2025. [Online]. Available: https://www.tomford.com/beauty/fragrance/. [Accessed: 29-Apr-2025].