HabeshaApparel Web Application
Service Layer
Ruth Shimay Okbaghebriel

03/21/2023

Note: I have added some endpoints as per the feedback I received last week. I only mentioned two endpoints on last week's submission I included nine more endpoints this week.

System Architecture

My e-commerce web application will use PHP and will follow a multi-tiered architecture that separates the application into different layers or tiers. The common service layers of my e-commerce web application that uses PHP are:

Presentation layer: This layer represents the user interface of the e-commerce website. It's responsible for displaying the web pages and handling user interactions. The presentation layer of my web application will be built using HTML, CSS, and JavaScript.
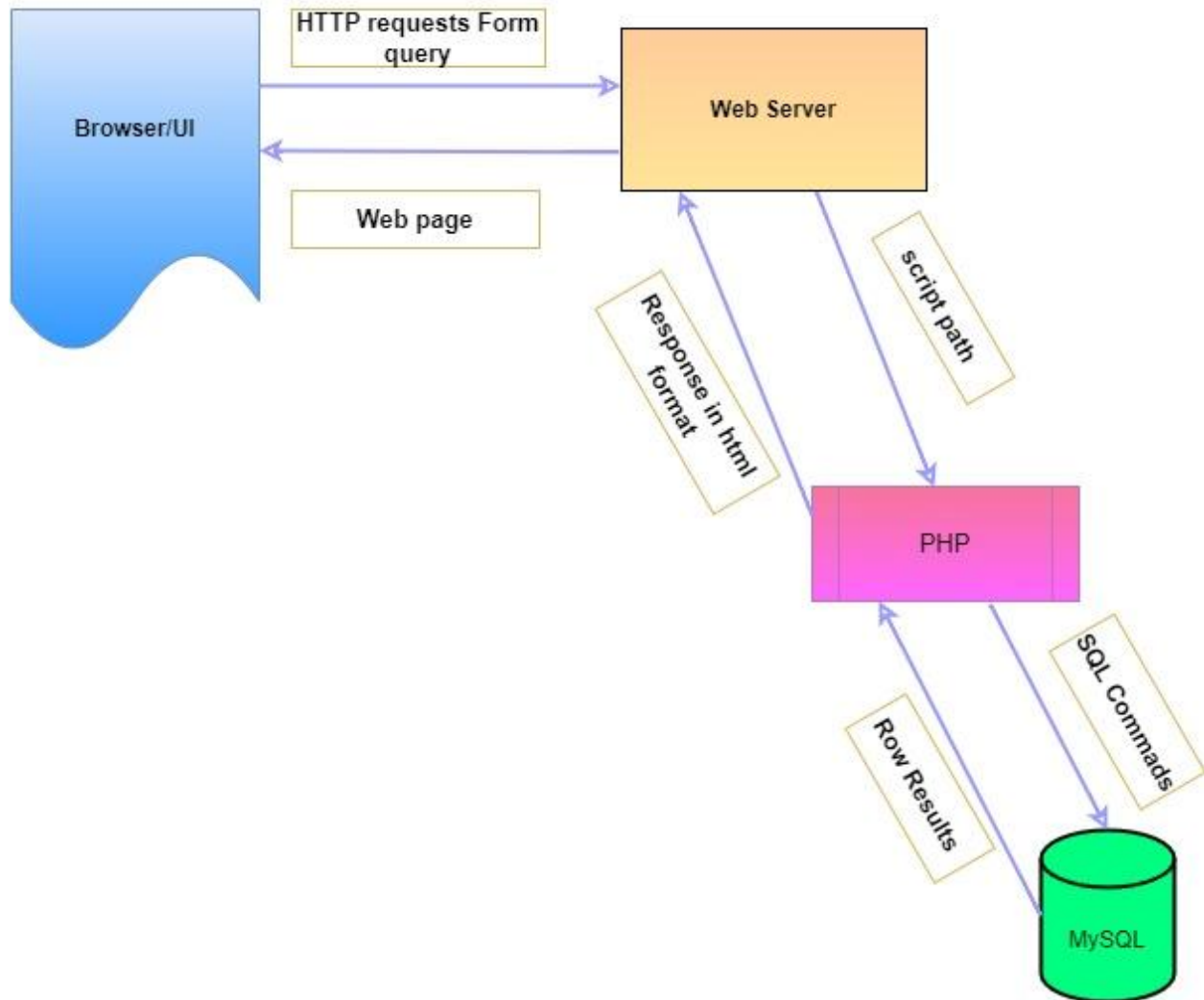
Application layer: This layer is responsible for implementing the business logic of the e-commerce web application. Since my project is a PHP-based e-commerce web application, the application layer will be built using PHP and typically includes components such as controllers, models, and views. Controllers are responsible for handling user requests, models represent the business logic of the application, and views are responsible for rendering the HTML content.

Database layer: This layer is responsible for storing and retrieving data used by the e-commerce web application. My PHP-based e-commerce web application, the database layer, will be built using MySQL relational databases.

Integration layer: This layer is responsible for integrating the e-commerce web application with other external systems, such as payment gateways, shipping providers, and inventory management systems. If I am going to include a payment gateway, I would use technologies such as RESTful APIs and webhooks.

So for all backend processing, such as adding products by Admin, a customer searching for products, viewing product details, cart functionality, and search functionality PHP will used to interact with the database.

General interaction of service layers

Browser/UI

HTTP requests Form query

Web page

Web Server

Response in html format

script path

PHP

Row Results

SQL Commads

MySQL

1. **Search Products Functionality:**

   Method: **GET**

   Purpose: The search functionality will allow customers to search for products they are interested in purchasing. With the search functionality, customers can easily find the products they are looking for without having to navigate through multiple pages or categories.

   The search functionality will work by allowing customers to enter keywords or phrases related to the product they are searching for. The search engine will then perform a search based on these keywords and return a list of relevant products that match the search criteria. The search results will include a product image, name, description, price, and other relevant details. If the product is not available, it will return a message product not available.

   GET response or result:

   Request URL:

   http://HabehaApparel/search_product.php?search_data=tilifi&search_data_product=Search

Customer making a search request

HTTP requests: Form query

http://HabehaApparel/search_product.php?
search_data=tilifi&search_data_product=Search
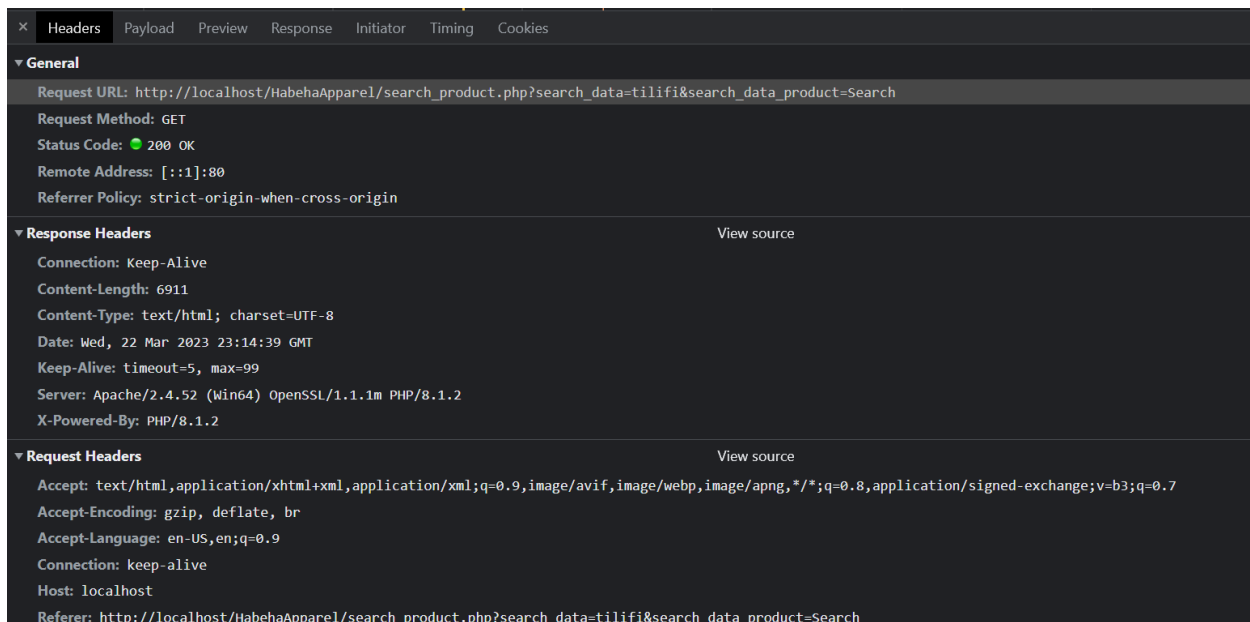
Browser/UI

Web Server

Web page

Response in html
format

script path

PHP

SQL Commads

Row Results

MySQL

× Headers Payload Preview Response Initiator Timing Cookies

▼ General

  Request URL: http://localhost/HabehaApparel/search_product.php?search_data=tilifi&search_data_product=Search
  Request Method: GET
  Status Code: ● 200 OK
  Remote Address: [::1]:80
  Referrer Policy: strict-origin-when-cross-origin

▼ Response Headers   View source

  Connection: Keep-Alive
  Content-Length: 6911
  Content-Type: text/html; charset=UTF-8
  Date: Wed, 22 Mar 2023 23:14:39 GMT
  Keep-Alive: timeout=5, max=99
  Server: Apache/2.4.52 (Win64) OpenSSL/1.1.1m PHP/8.1.2
  X-Powered-By: PHP/8.1.2

▼ Request Headers   View source

  Accept: text/html,application/xhtml+xml,application/xml;q=0.9,image/avif,image/webp,image/apng,*/*;q=0.8,application/signed-exchange;v=b3;q=0.7
  Accept-Encoding: gzip, deflate, br
  Accept-Language: en-US,en;q=0.9
  Connection: keep-alive
  Host: localhost
  Referer: http://localhost/HabehaApparel/search_product.php?search_data=tilifi&search_data_product=Search

2. Add to Cart Functionality:

Method: GET

Purpose: This feature will allow customers to browse through the e-commerce website and add multiple products to their cart before proceeding to checkout.

When a customer clicks the "Add to Cart" button, the web application performs several actions in the background. Firstly, the product is added to the customer's virtual shopping cart, which stores information about the selected product, such as the product name, price, quantity, and any other relevant details. Additionally, the e-commerce application will update the shopping cart to display the newly added product along with any other products the customer has already added to their cart.
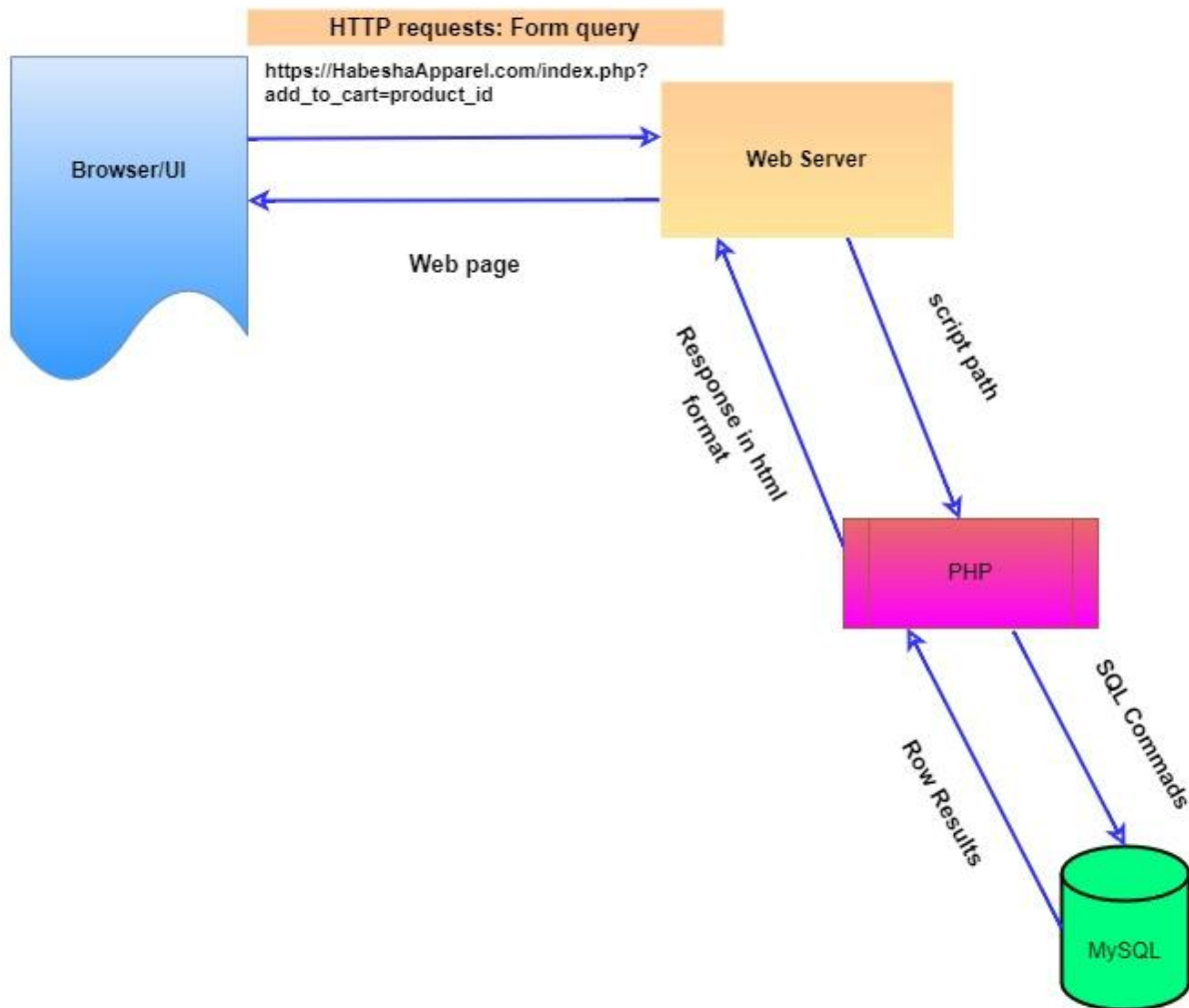
The "Add to Cart" functionality will be accompanied by a "View Cart" button, which allows the customer to view their current cart and make any necessary changes, such as removing products or updating quantities. When the customer is ready to proceed to check out, they can click on the "Checkout" button to complete the purchase.
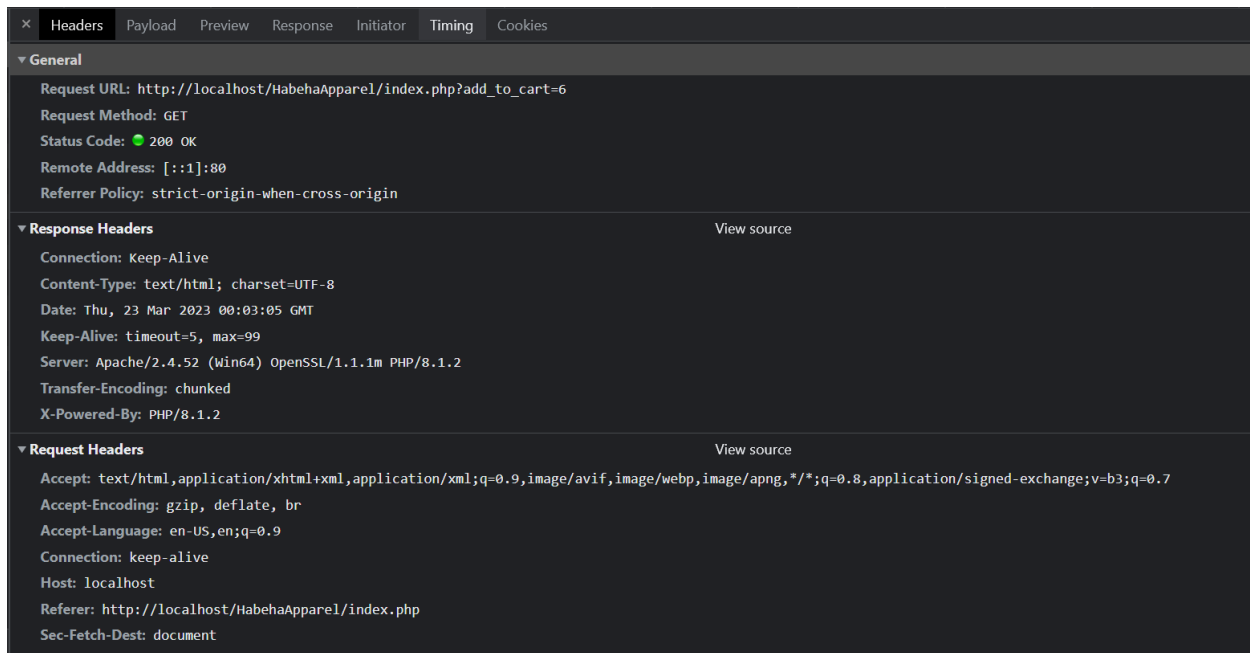
GET response or result :

Request URL:

http://HabehaApparel/index.php?add_to_cart=product_id

Customer adding to cart

HTTP requests: Form query

https://HabeshaApparel.com/index.php?add_to_cart=product_id

Browser/UI

Web Server

Web page

Response in html format

script path

PHP

SQL Commads

Row Results

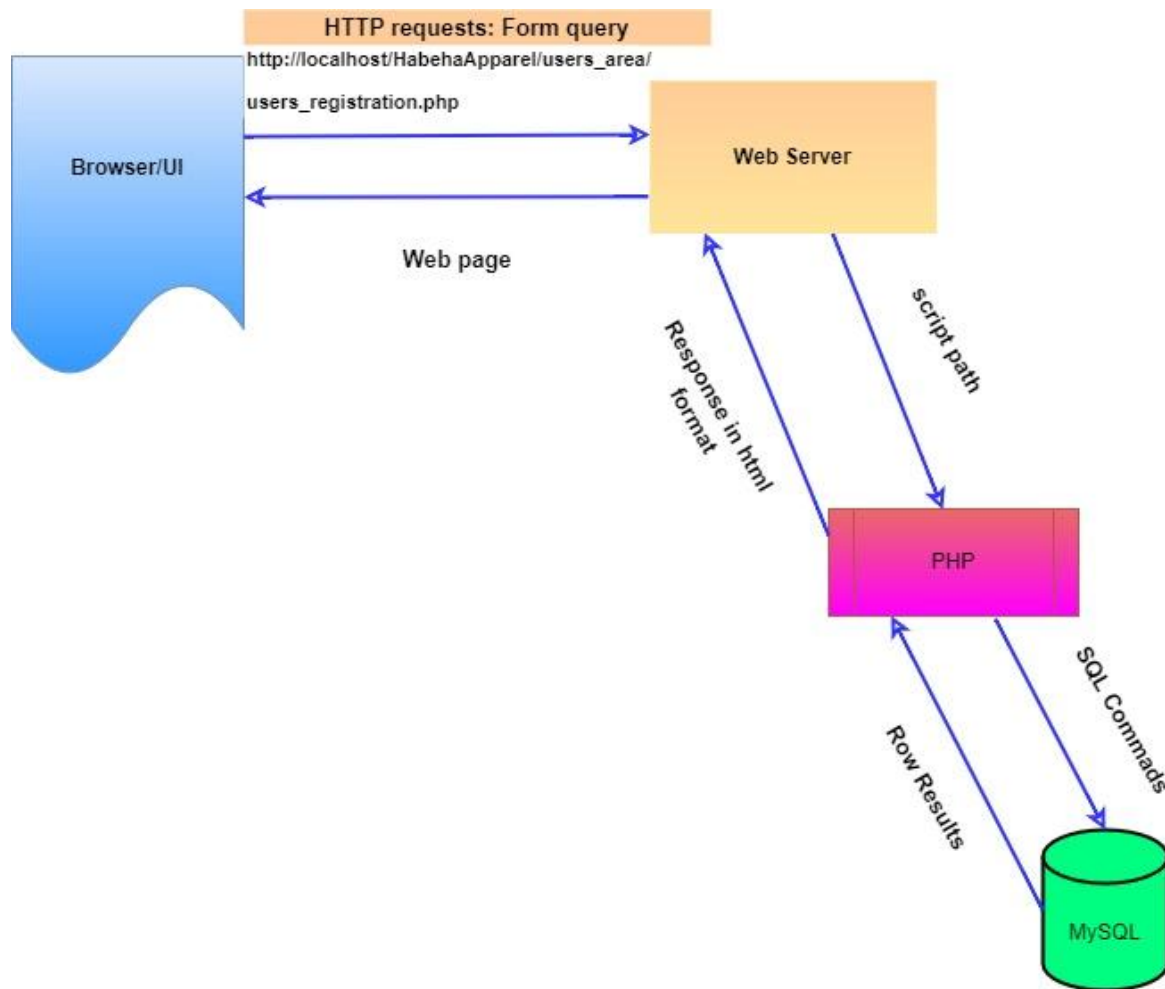MySQL

3. User Signup Functionality:

Method: GET

Purpose: This feature will allow customers to create an account if they are new users and explore and check out with a login afterward.

GET response or result :

Request URL:

http://localhost/HabehaApparel/users_area/users_registration.php

```
▼ General
   Request URL: http://localhost/HabehaApparel/users_area/users_registration.php
   Request Method: GET
   Status Code: ● 200 OK
   Remote Address: [::1]:80
   Referrer Policy: strict-origin-when-cross-origin
▼ Response Headers                                          View source
   Connection: Keep-Alive
   Content-Length: 4495
   Content-Type: text/html; charset=UTF-8
   Date: Thu, 30 Mar 2023 00:20:48 GMT
   Keep-Alive: timeout=5, max=100
   Server: Apache/2.4.52 (Win64) OpenSSL/1.1.1m PHP/8.1.2
   X-Powered-By: PHP/8.1.2
```
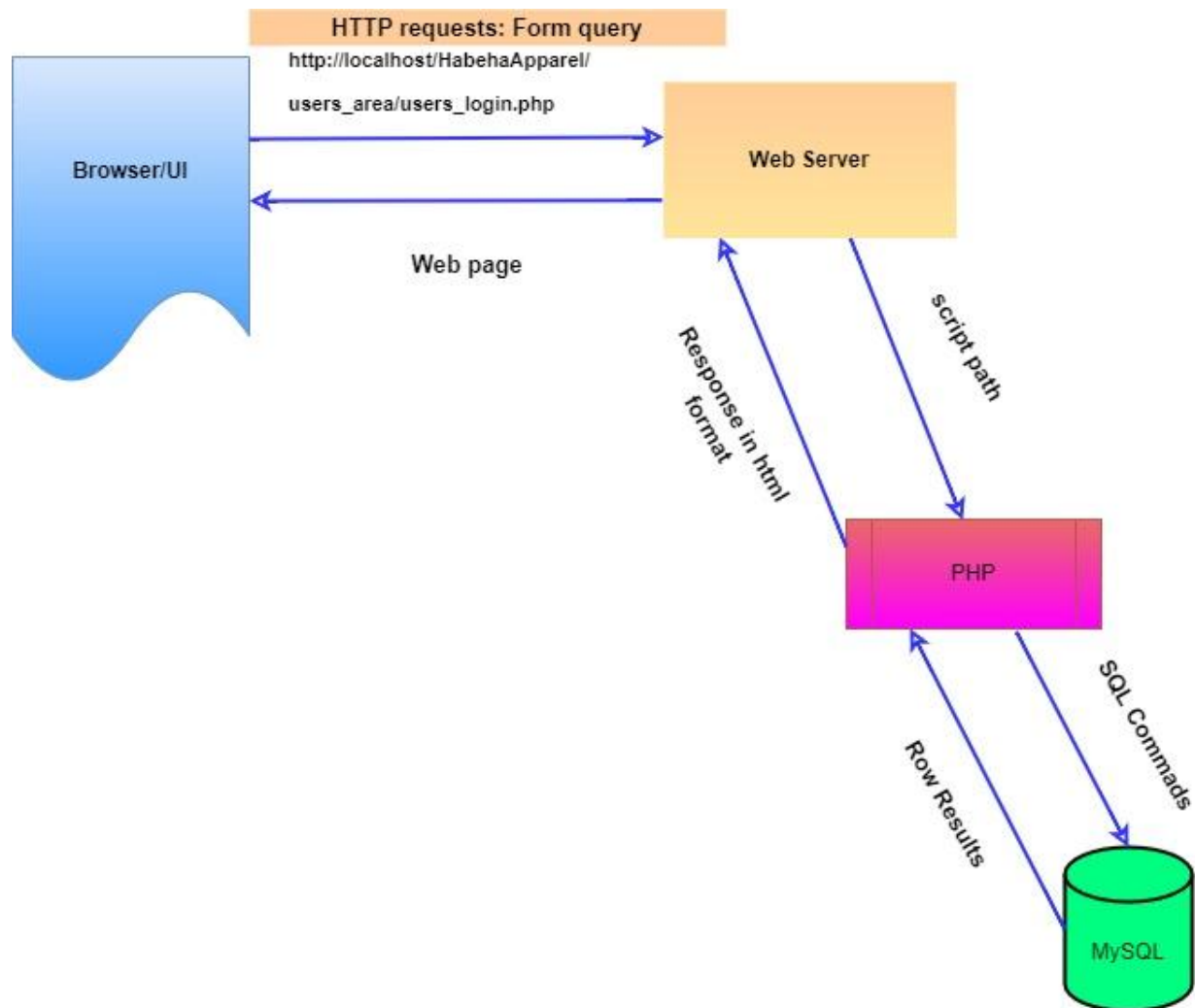
4. User Login Functionality:

Method: GET

Purpose: This feature will allow returning customers to sign into their accounts and explore and check out if they have pending orders.

GET response or result :

Request URL:

http://localhost/HabehaApparel/users_area/users_login.php

```
▼ General
    Request URL: http://localhost/HabehaApparel/users_area/users_login.php
    Request Method: GET
    Status Code: ● 200 OK
    Remote Address: [::1]:80
    Referrer Policy: strict-origin-when-cross-origin
▼ Response Headers                                          View source
    Cache-Control: no-store, no-cache, must-revalidate
    Connection: Keep-Alive
    Content-Length: 2551
    Content-Type: text/html; charset=UTF-8
    Date: Thu, 30 Mar 2023 00:21:34 GMT
    Expires: Thu, 19 Nov 1981 08:52:00 GMT
    Keep-Alive: timeout=5, max=100
    Pragma: no-cache
    Server: Apache/2.4.52 (Win64) OpenSSL/1.1.1m PHP/8.1.2
    X-Powered-By: PHP/8.1.2
```

5. User Logout Functionality:

Method: GET

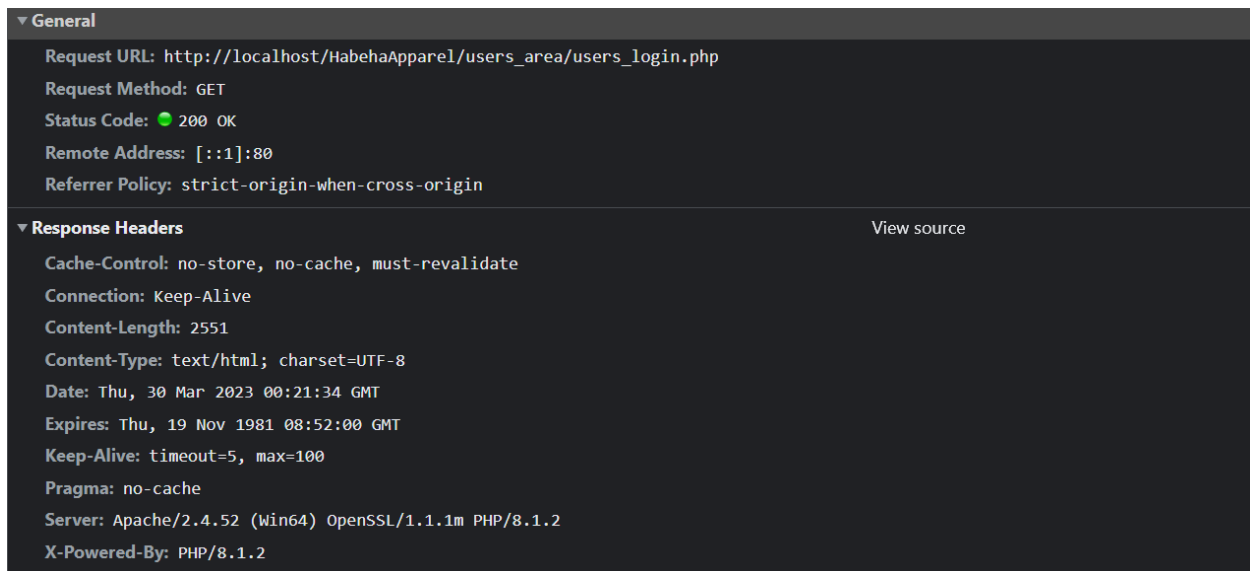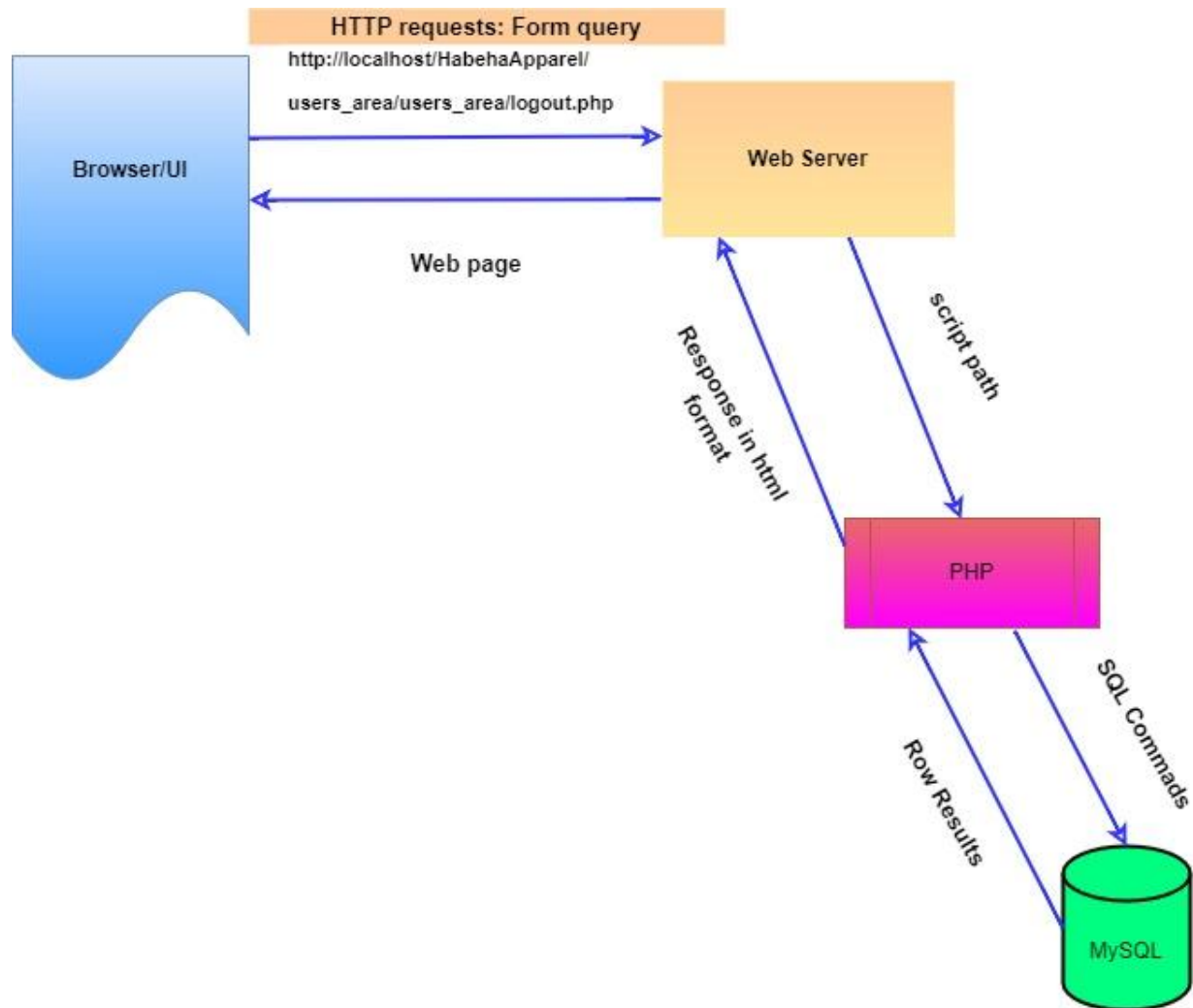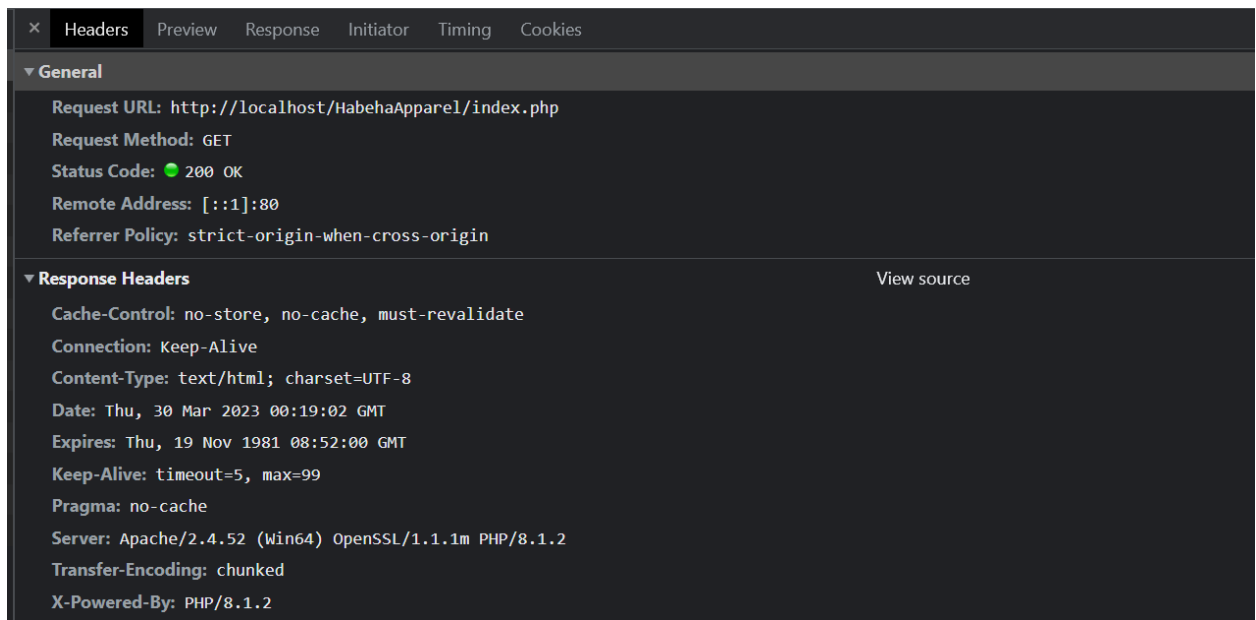**Purpose:** This feature will allow logged-in users to sign-out from their account.

GET response or result :

Request URL:

http://localhost/HabehaApparel/users_area/users_area/logout.php

HTTP requests: Form query

http://localhost/HabehaApparel/

users_area/users_area/logout.php

Browser/UI

Web page

Web Server

Response in html format

script path

PHP

Row Results

SQL Commads

MySQL

```
×  Headers  Preview  Response  Initiator  Timing  Cookies
▼ General
    Request URL: http://localhost/HabehaApparel/index.php
    Request Method: GET
    Status Code: ● 200 OK
    Remote Address: [::1]:80
    Referrer Policy: strict-origin-when-cross-origin
▼ Response Headers                                          View source
    Cache-Control: no-store, no-cache, must-revalidate
    Connection: Keep-Alive
    Content-Type: text/html; charset=UTF-8
    Date: Thu, 30 Mar 2023 00:19:02 GMT
    Expires: Thu, 19 Nov 1981 08:52:00 GMT
    Keep-Alive: timeout=5, max=99
    Pragma: no-cache
    Server: Apache/2.4.52 (Win64) OpenSSL/1.1.1m PHP/8.1.2
    Transfer-Encoding: chunked
    X-Powered-By: PHP/8.1.2
```

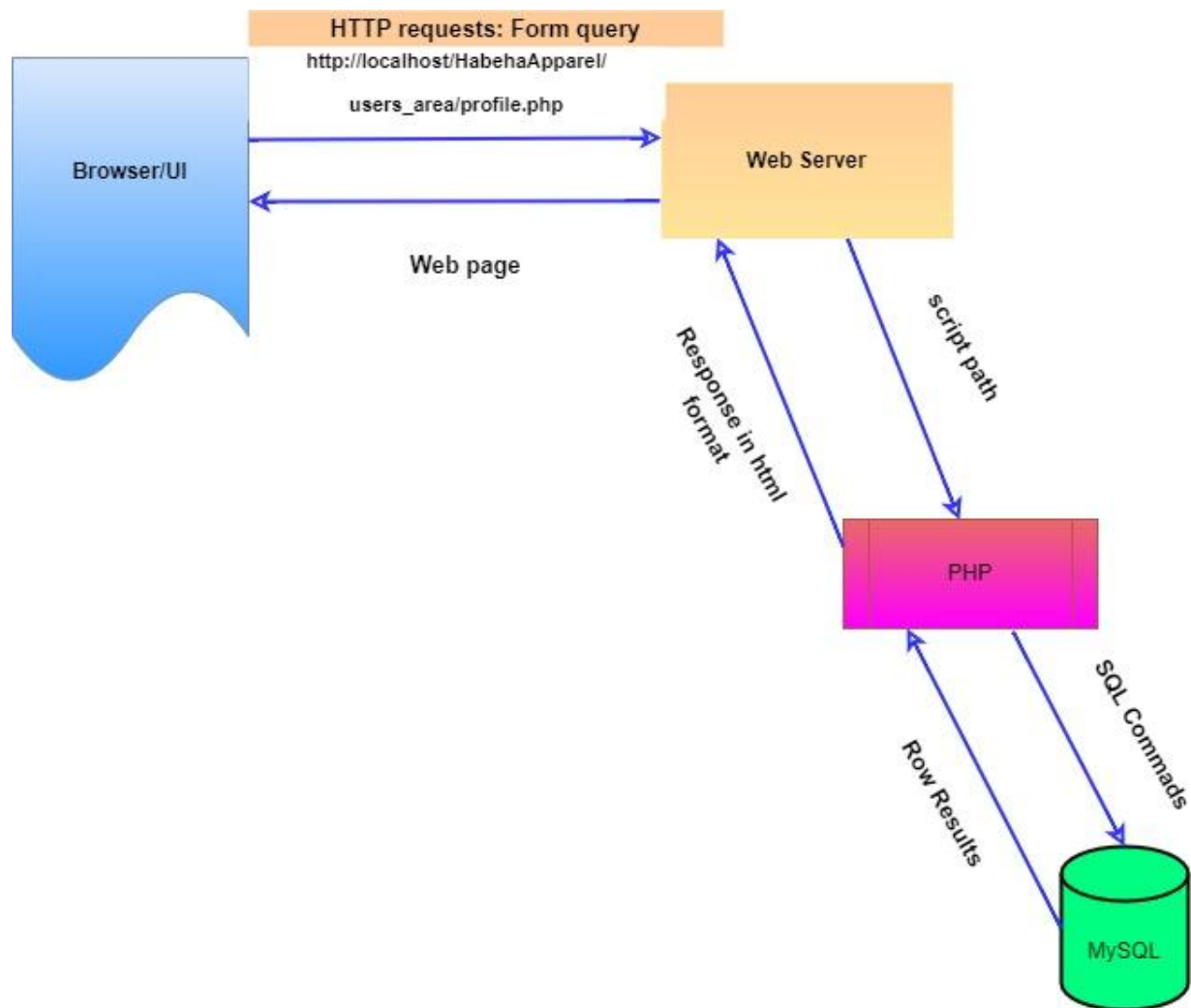6. **User View/Update Profile Functionality:**

Method: GET

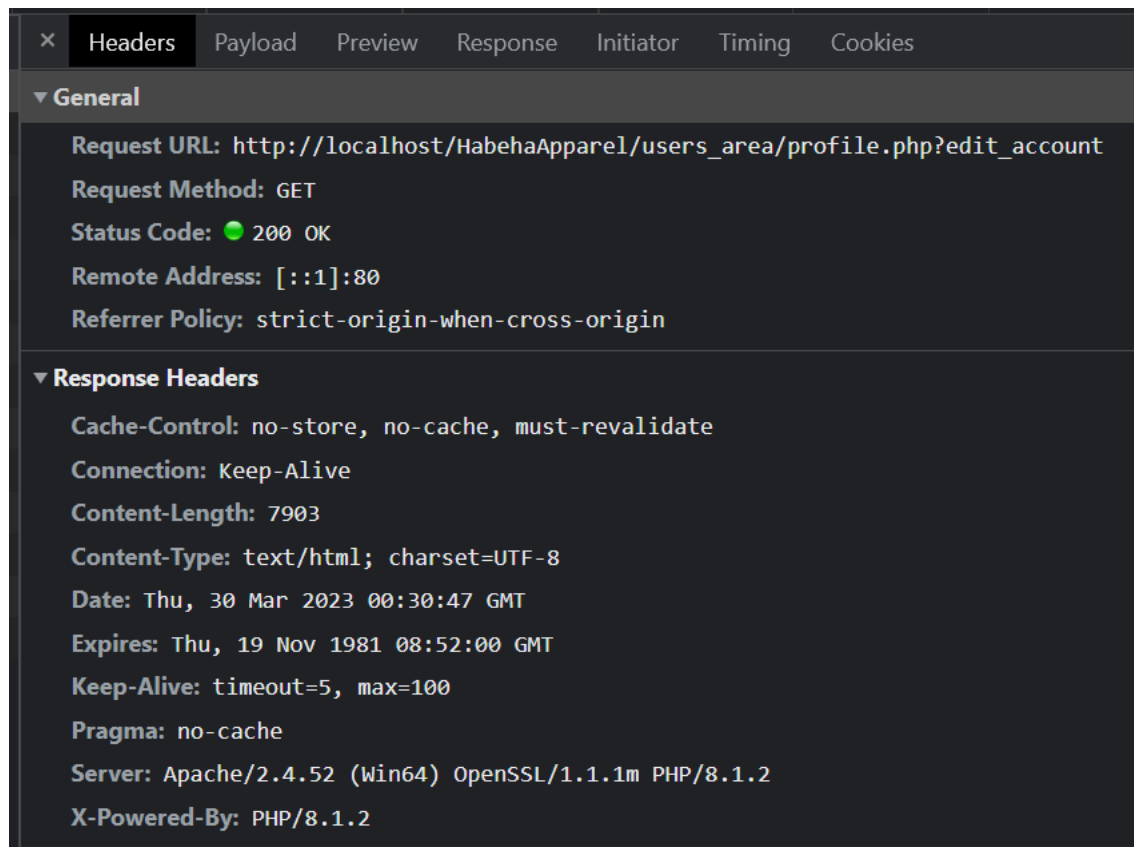**Purpose:** This feature will allow users with an account to view and make changes to their user accounts.

GET response or result :

Request URL:

http://localhost/HabehaApparel/users_area/profile.php?edit_account

HTTP requests: Form query

http://localhost/HabehaApparel/

users_area/profile.php

Browser/UI

Web Server

Web page

Response in html format

script path

PHP

Row Results

SQL Commads

MySQL

```
 ✕   Headers   Payload   Preview   Response   Initiator   Timing   Cookies
▼ General
    Request URL: http://localhost/HabehaApparel/users_area/profile.php?edit_account
    Request Method: GET
    Status Code: ● 200 OK
    Remote Address: [::1]:80
    Referrer Policy: strict-origin-when-cross-origin
▼ Response Headers
    Cache-Control: no-store, no-cache, must-revalidate
    Connection: Keep-Alive
    Content-Length: 7903
    Content-Type: text/html; charset=UTF-8
    Date: Thu, 30 Mar 2023 00:30:47 GMT
    Expires: Thu, 19 Nov 1981 08:52:00 GMT
    Keep-Alive: timeout=5, max=100
    Pragma: no-cache
    Server: Apache/2.4.52 (Win64) OpenSSL/1.1.1m PHP/8.1.2
    X-Powered-By: PHP/8.1.2
```

7. View Product Details Functionality:
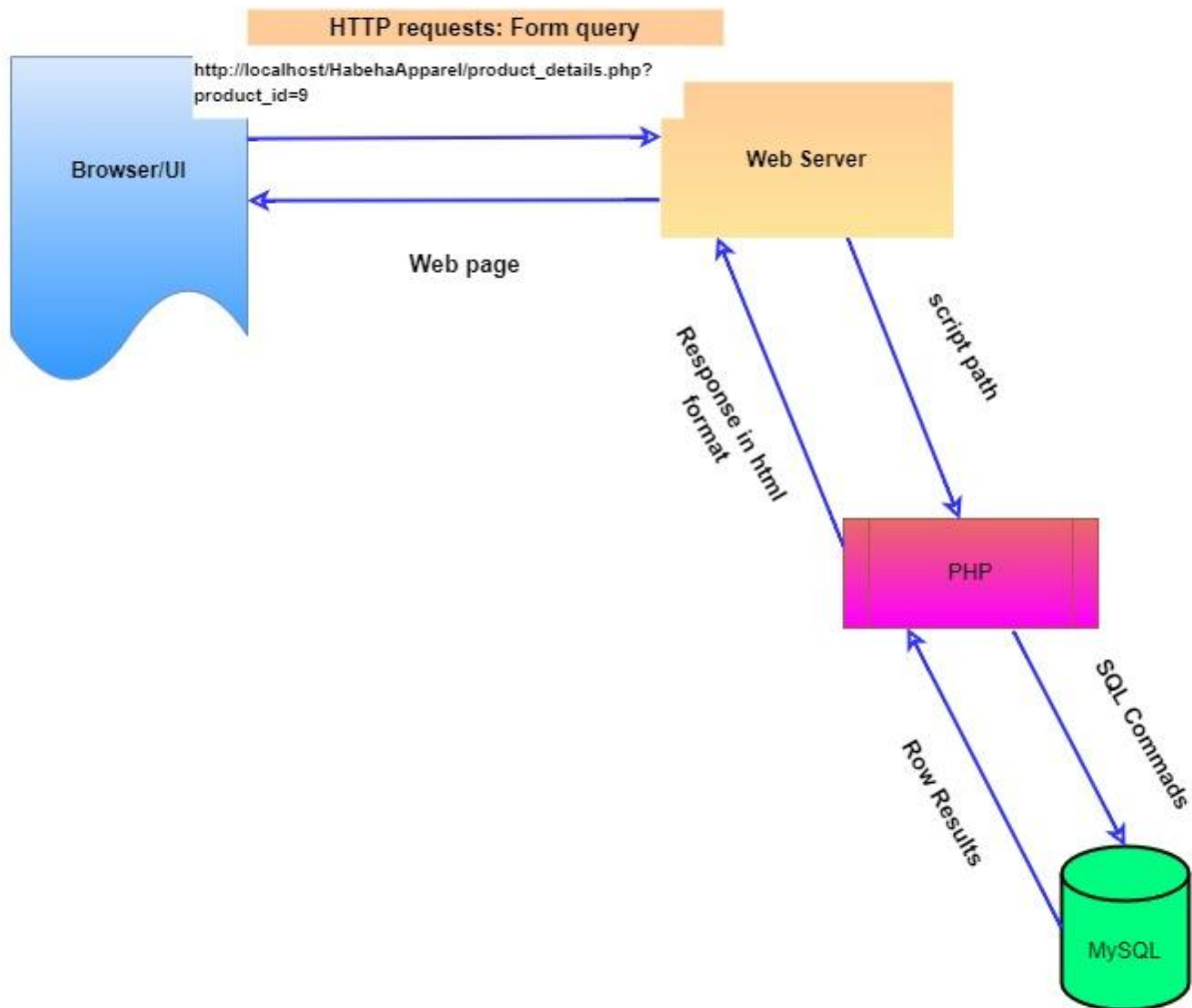
Method: GET

Purpose: This feature will give users more information about the products that they are interested in.
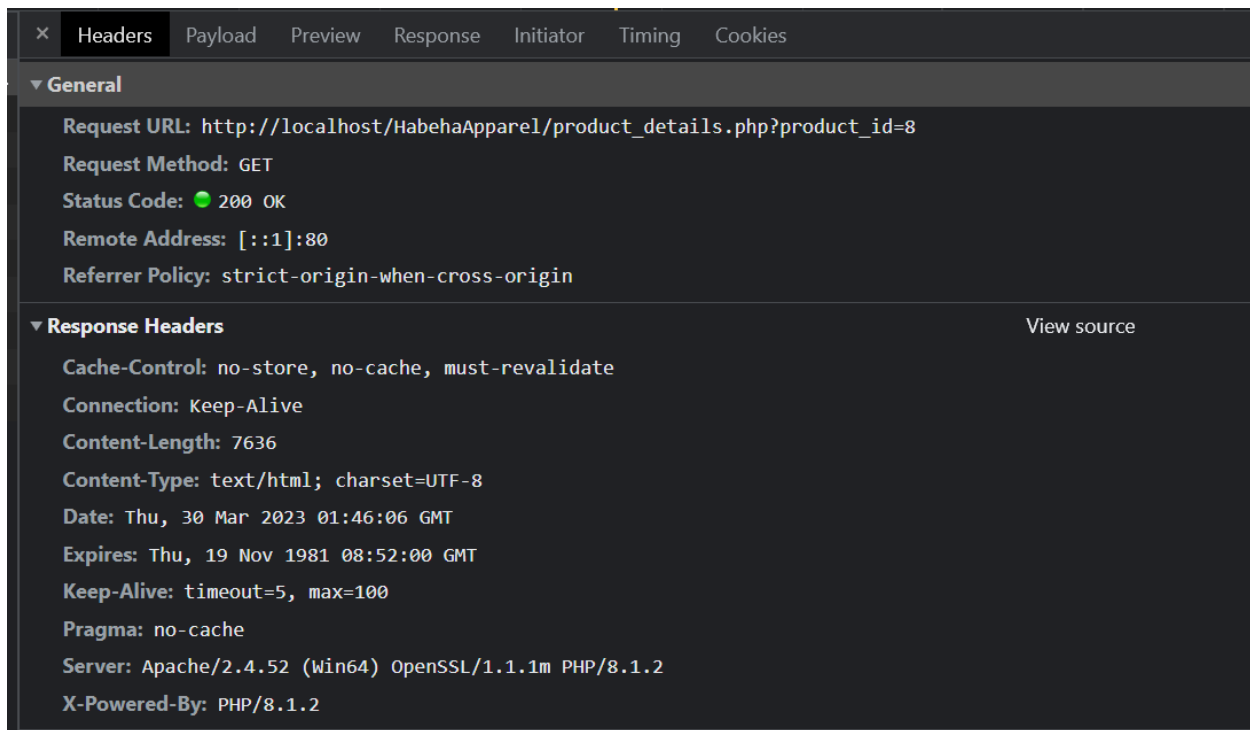
GET response or result :

Request URL:

http://localhost/HabehaApparel/product_details.php?product_id=9

Customer adding to cart

HTTP requests: Form query

http://localhost/HabehaApparel/product_details.php?product_id=9

Browser/UI

Web Server

Web page

Response in html format

script path

PHP

SQL Commads

Row Results

MySQL

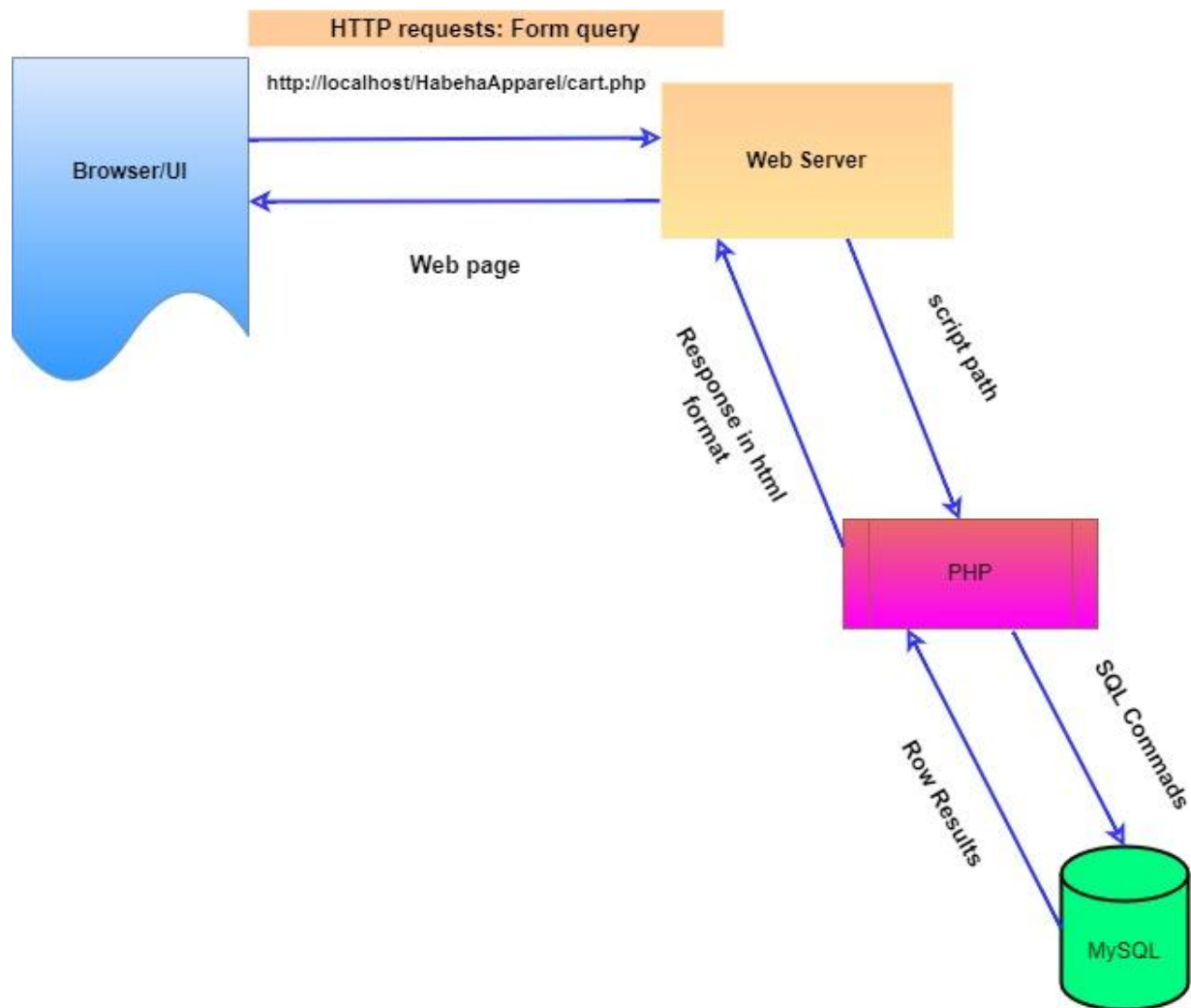### 8. View/Update Cart Functionality:

Method: GET

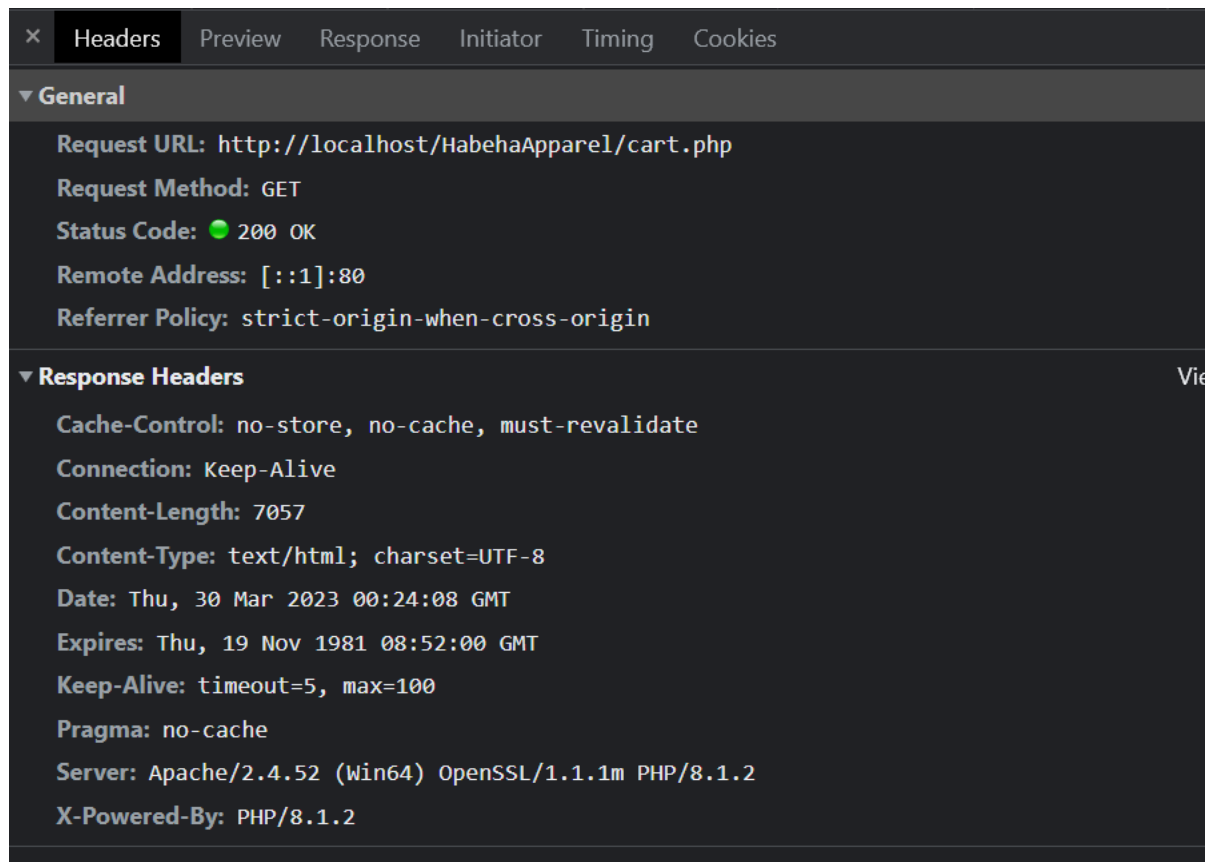**Purpose:** This feature will allow users to view what's on their cart and update their carts as needed.

GET response or result :

Request URL:

http://localhost/HabehaApparel/cart.php

HTTP requests: Form query

Browser/UI

http://localhost/HabehaApparel/cart.php

Web Server

Web page

Response in html format

script path

PHP

SQL Commads

Row Results

MySQL

```
✕  Headers   Preview   Response   Initiator   Timing   Cookies

▼ General
   Request URL: http://localhost/HabehaApparel/cart.php
   Request Method: GET
   Status Code: ● 200 OK
   Remote Address: [::1]:80
   Referrer Policy: strict-origin-when-cross-origin

▼ Response Headers                                              Vie
   Cache-Control: no-store, no-cache, must-revalidate
   Connection: Keep-Alive
   Content-Length: 7057
   Content-Type: text/html; charset=UTF-8
   Date: Thu, 30 Mar 2023 00:24:08 GMT
   Expires: Thu, 19 Nov 1981 08:52:00 GMT
   Keep-Alive: timeout=5, max=100
   Pragma: no-cache
   Server: Apache/2.4.52 (Win64) OpenSSL/1.1.1m PHP/8.1.2
   X-Powered-By: PHP/8.1.2
```
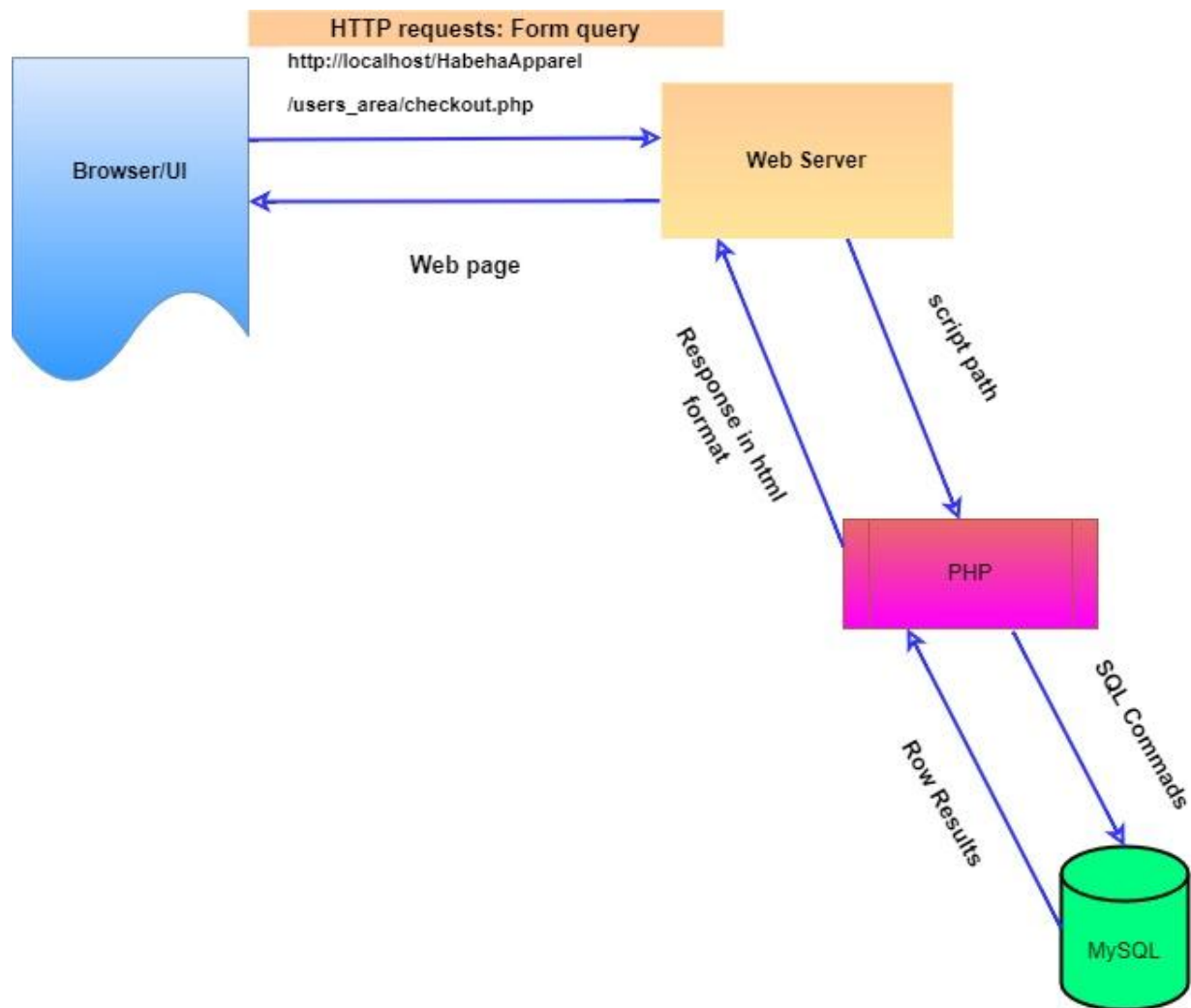
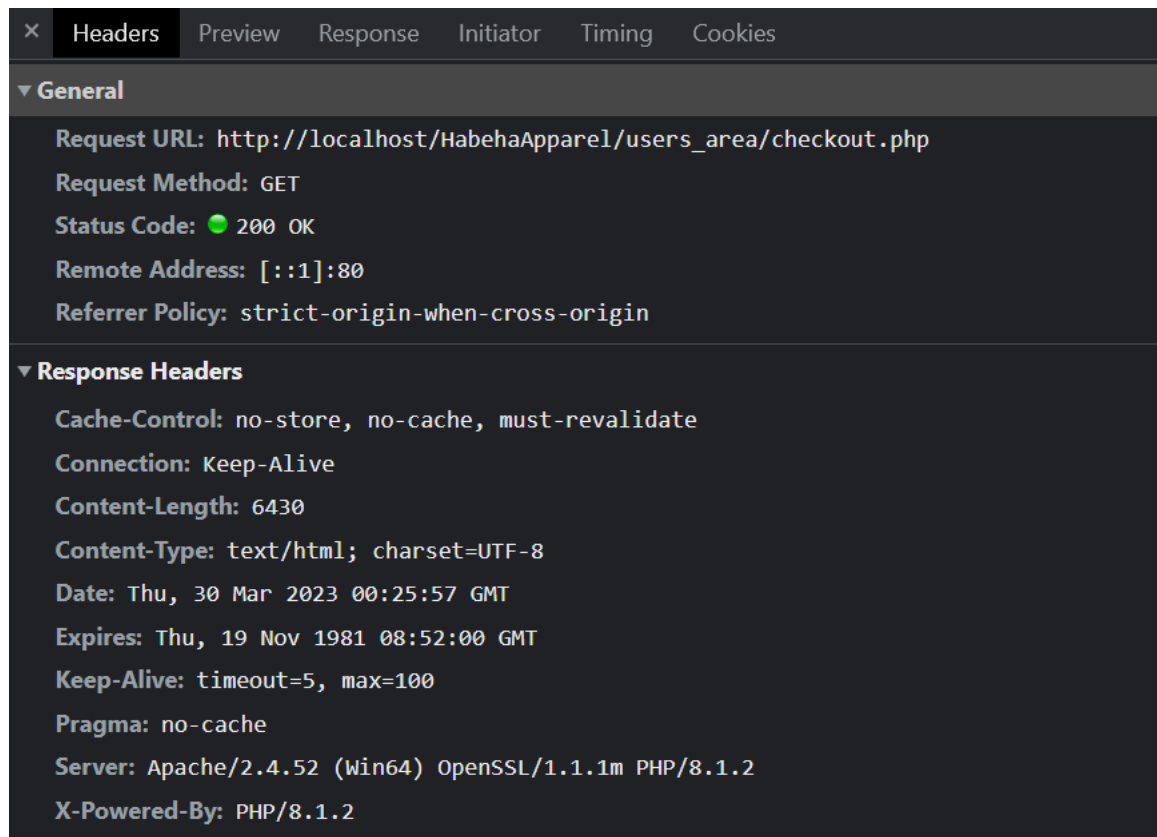### 9. Checkout Functionality:

Method: GET

Purpose: This feature will allow users to checkout with products.

GET response or result :

Request URL:

http://localhost/HabehaApparel/users_area/checkout.php

HTTP requests: Form query

http://localhost/HabehaApparel

/users_area/checkout.php

Browser/UI

Web Server

Web page

Response in html format

script path

PHP

Row Results

SQL Commads

MySQL

```
× Headers   Preview   Response   Initiator   Timing   Cookies
▼ General
    Request URL: http://localhost/HabehaApparel/users_area/checkout.php
    Request Method: GET
    Status Code: ● 200 OK
    Remote Address: [::1]:80
    Referrer Policy: strict-origin-when-cross-origin
▼ Response Headers
    Cache-Control: no-store, no-cache, must-revalidate
    Connection: Keep-Alive
    Content-Length: 6430
    Content-Type: text/html; charset=UTF-8
    Date: Thu, 30 Mar 2023 00:25:57 GMT
    Expires: Thu, 19 Nov 1981 08:52:00 GMT
    Keep-Alive: timeout=5, max=100
    Pragma: no-cache
    Server: Apache/2.4.52 (Win64) OpenSSL/1.1.1m PHP/8.1.2
    X-Powered-By: PHP/8.1.2
```
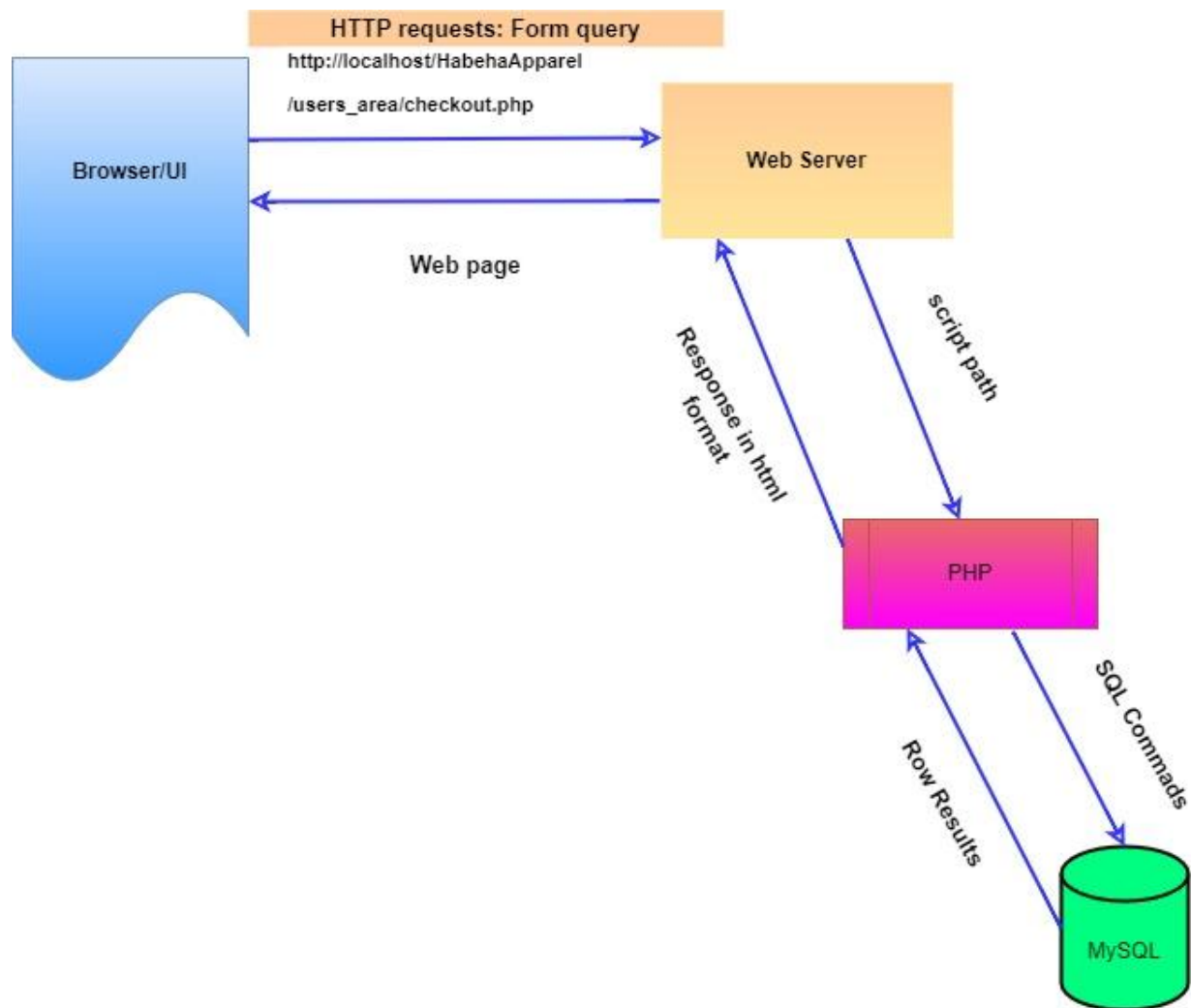
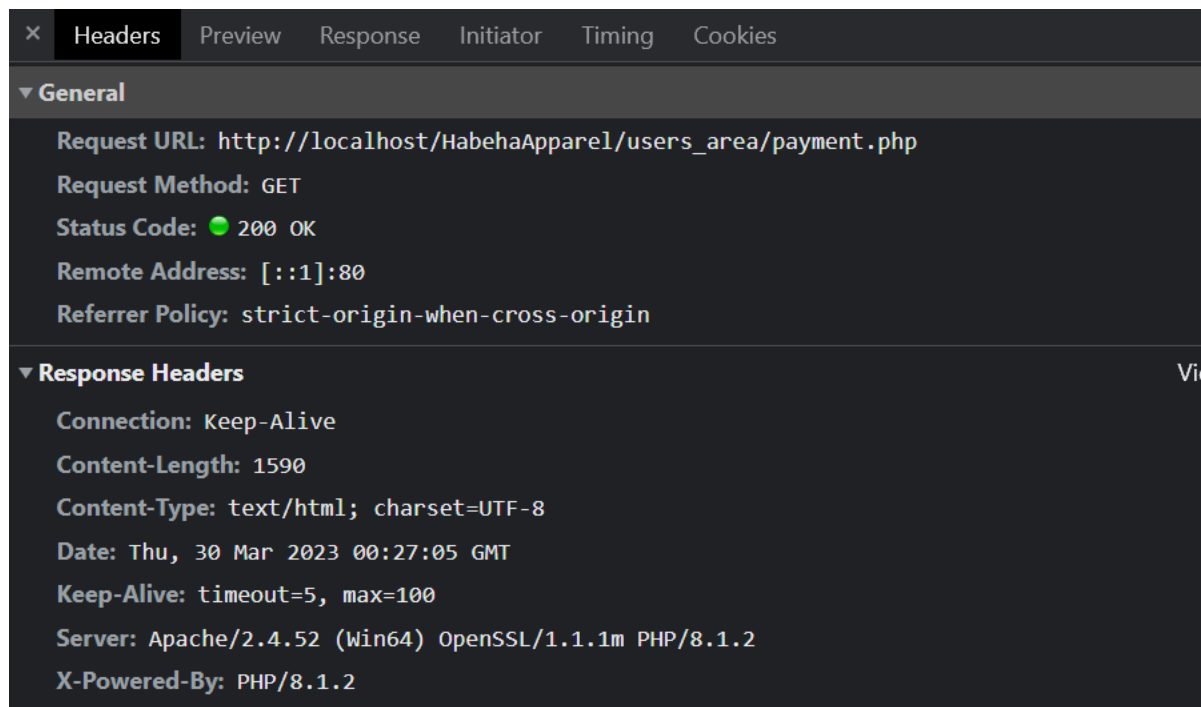## 10. Make Payment Functionality:

Method: GET

Purpose: This feature will allow users to make payment to their orders.

GET response or result :

Request URL:

http://localhost/HabehaApparel/users_area/order.php?user_id=1

HTTP requests: Form query
http://localhost/HabehaApparel
/users_area/checkout.php

Browser/UI

Web page

Web Server

script path

Response in html format

PHP

SQL Commads

Row Results

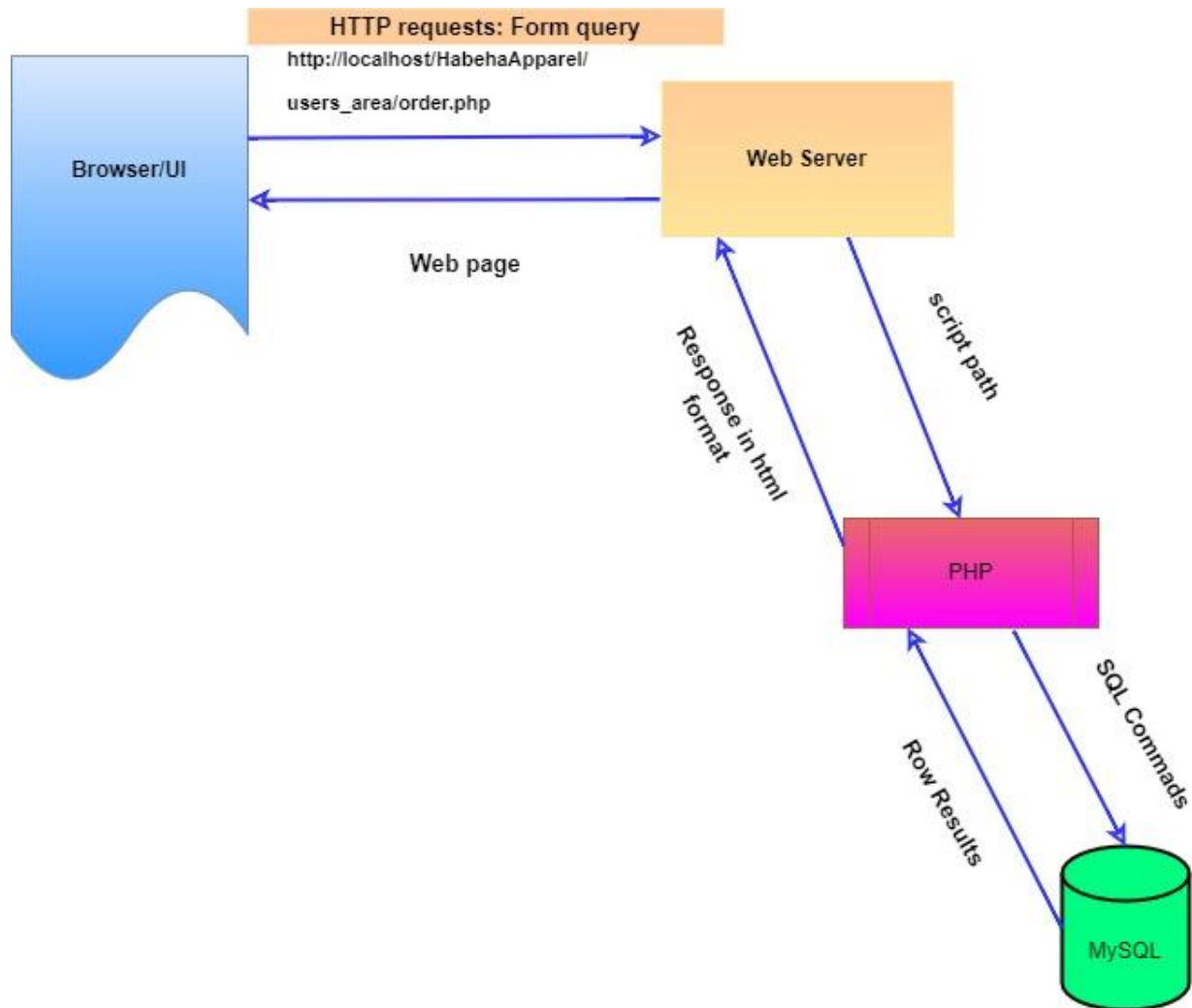MySQL

11. Order Details Functionality:

Method: GET

Purpose: This feature will allow users to view their orders orders.

GET response or result :

Request URL:

http://localhost/HabehaApparel/users_area/order.php

HTTP requests: Form query
http://localhost/HabehaApparel/
users_area/order.php

Browser/UI

Web Server

Web page

Response in html format

script path

PHP

SQL Commads

Row Results

MySQL

▼ **General**

Request URL: http://localhost/HabehaApparel/users_area/order.php?user_id=1

Request Method: GET

Status Code: 🟢 200 OK

Remote Address: [::1]:80

Referrer Policy: strict-origin-when-cross-origin

▼ **Response Headers**

Connection: Keep-Alive

Content-Length: 119

Content-Type: text/html; charset=UTF-8

Date: Thu, 30 Mar 2023 00:27:38 GMT

Keep-Alive: timeout=5, max=100

Server: Apache/2.4.52 (Win64) OpenSSL/1.1.1m PHP/8.1.2

X-Powered-By: PHP/8.1.2