Development of an e-commerce website sales management with JEE

Master's Degree in Computer Science Engineering

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Chaptre 1: UML Design and Conceptualization

In this chapter we will discuss UML Use Case and Class Diagrams

I. USE CASE DIAGRAM

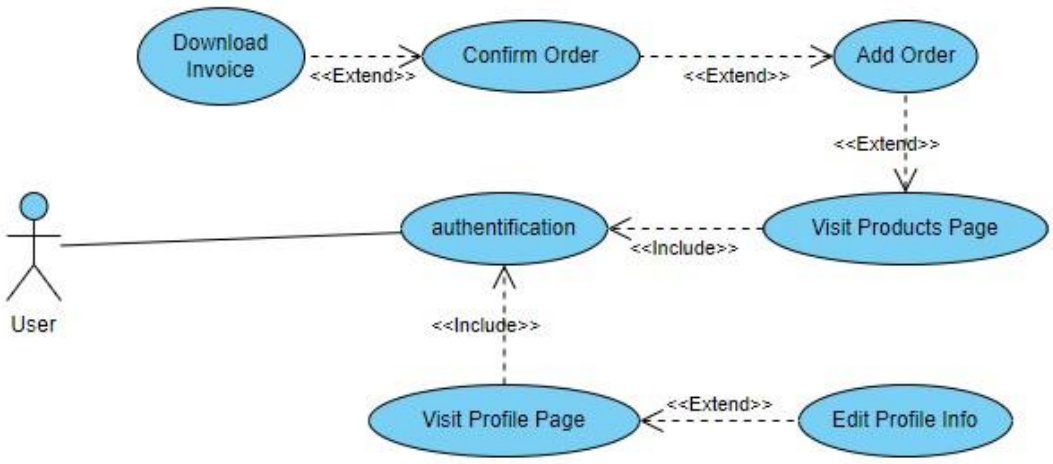


Figure 1 : Use case diagram

In the use case diagram, the main actor is the "User." Before accessing any other functionality, the User needs to authenticate or log in to the application. Once authenticated, the User can perform various actions. These include visiting and editing their profile information, browsing products, adding an order, and confirming the order. After confirming the order, the User can download the invoice in PDF format. The use case diagram visually represents the interactions between the User and the application, outlining the key functionalities available to the User.

II. CLASS DIAGRAM

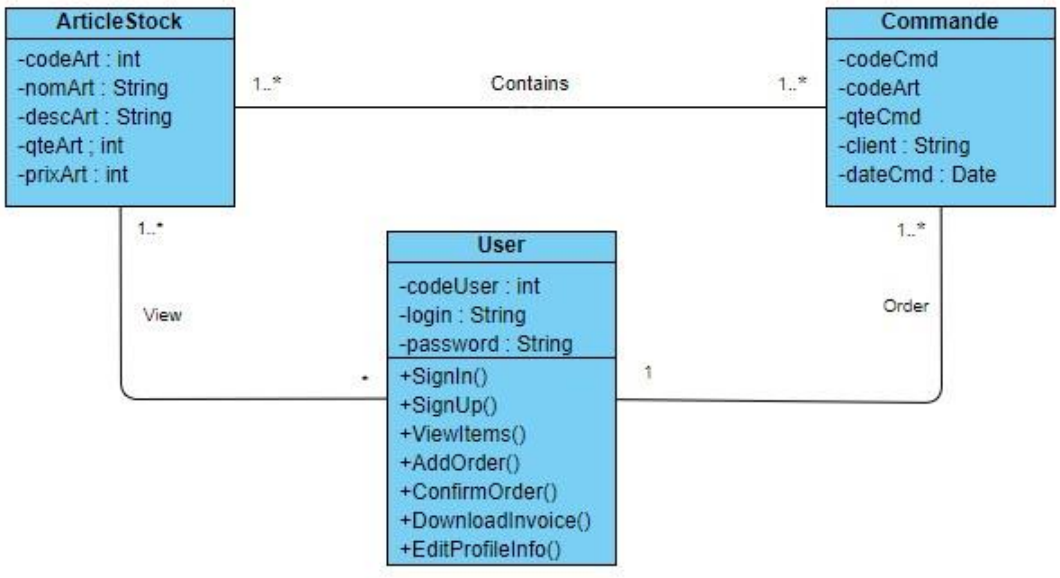


Figure 2 : Class diagram

The class diagram represents the structure and relationships between classes in the application. In this case, the "User" class is associated with the "Article" class through a "view" relationship. This implies that a user can view or interact with articles. The "Commande" class is related to the "User" class through an "order" relationship, indicating that a user can place orders. The "Commande" class also has a "contains" relationship with the "Article" class, suggesting that a command can contain multiple articles. These relationships illustrate how users, articles, and orders are connected within the application, providing a clearer understanding of the system's design.

Chaptre 2: Application Walkthrough and Technological Stack

In this chapter we will discuss the technologies used to build the website and also the application demo

I. TECHNOLOGICAL STACK

1. TOMCAT SERVER

Figure 3 : Tomcat

Apache Tomcat is a lightweight, open-source web server and servlet container that is widely used for deploying Java web applications. It provides an environment for running Java Servlets and JavaServer Pages (JSP), making it an ideal choice for hosting web applications.

2. STRUTS 2

Figure 4 : Struts

Struts 2 is a popular Java web application framework that provides a framework for building flexible and maintainable web applications. It follows the Model-View-Controller (MVC) architectural pattern, making it easier to separate concerns and enhance code reusability.

3. MAVEN

Figure 5 : Maven

Maven is a build automation and dependency management tool for Java projects. It simplifies the project's build process by managing project dependencies.

4. Spring Framework

Figure 6 : Spring

The Spring Framework is a powerful and widely adopted Java framework for building enterprise-level applications. It provides comprehensive support for dependency injection, aspect-oriented programming, and inversion of control. Spring Framework simplifies application development by promoting modular and loosely coupled code.

5. MySQL

Figure 7 : MySQL

MySQL is a popular open-source relational database management system (RDBMS) that provides a robust and scalable solution for storing and managing data. It is widely used in web applications for efficient and secure data storage and retrieval.

6. Hibernate

Figure 8 : Hibernate

Hibernate is an object-relational mapping (ORM) framework that simplifies database access and persistence in Java applications. It enables developers to interact with relational databases using object-oriented programming concepts, eliminating the need to write complex SQL queries manually.

7. JSP

Figure 9 : JSP

JavaServer Pages (JSP) is a technology that enables the creation of dynamic web content by embedding Java code within HTML pages. It allows for the separation of presentation logic from business logic, facilitating the development of dynamic and data-driven web applications.

8. CSS

Figure 10 : CSS

Cascading Style Sheets (CSS) is a stylesheet language used for describing the presentation and layout of web pages. It provides a range of styling options to customize the appearance of HTML elements, including fonts, colors, spacing, and responsive design.

9. BOOTSTRAP

Figure 11 : Bootstrap

Bootstrap is a front-end framework that provides a set of CSS and JavaScript components for creating responsive and mobile-friendly web applications. It offers pre-designed templates, grids, and UI elements that streamline the development process and ensure consistent visual presentation across different devices.

10.JavaScript

Figure 12 : Javascript

JavaScript is a widely used scripting language for web development. It enables dynamic behavior and interactivity on web pages, allowing developers to create responsive and engaging user interfaces.

11.JQuery

Figure 13 : JQuery

jQuery is a popular JavaScript library that simplifies client-side scripting and enhances the development of interactive web applications. It provides a range of functions and utilities for manipulating HTML elements, handling events, and making asynchronous requests to the server.

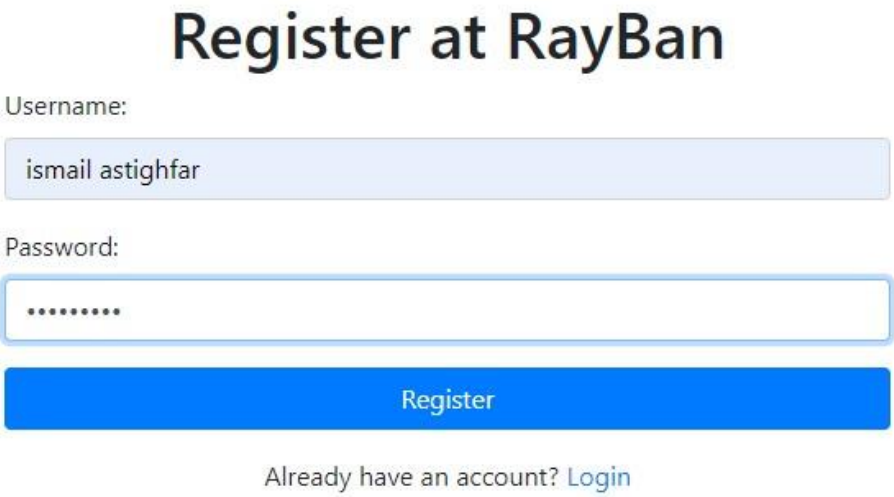
II. APPLICATION WALKTHROUGH

we will provide a visual demonstration of how the e-commerce application works.

1. AUTHENTIFICATION

- This is the first page that shown to the user when he visit our website , If this is the user first visit he need to click sign up link to register :

- The user enter credentials such as username and password :



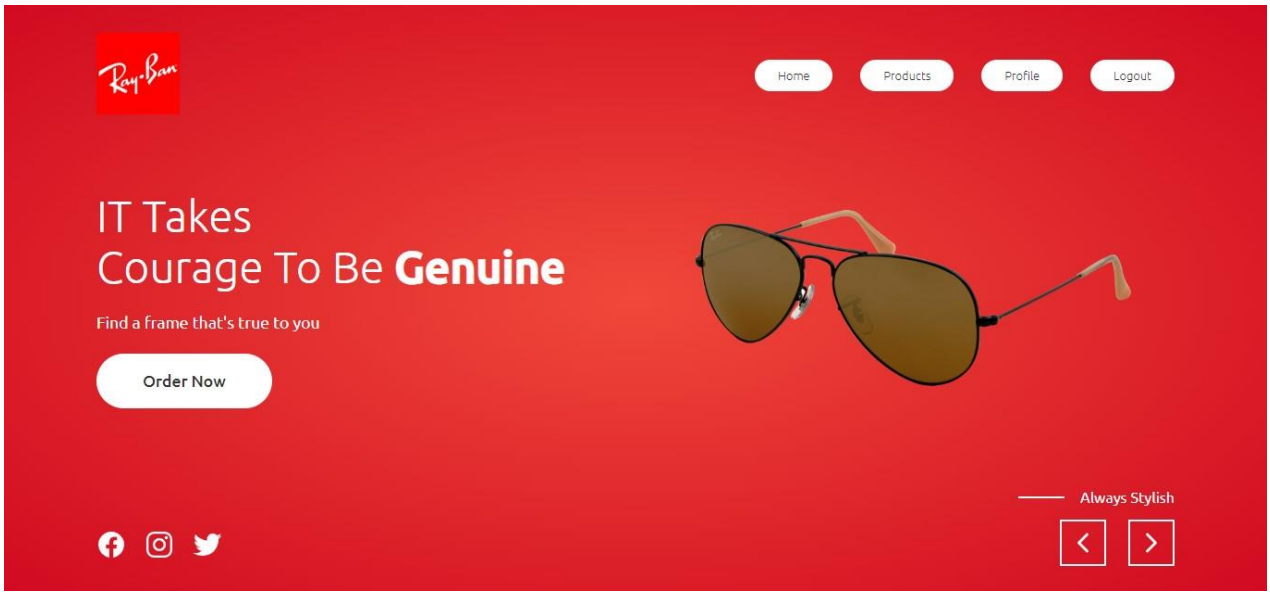
- If the username already exists , this error will be shown to the user :

- If the user enter a password that not match this criteria's this error will be shown to the user :

- If the register passes successfully the user will be redirected to the login page to enter credentials :

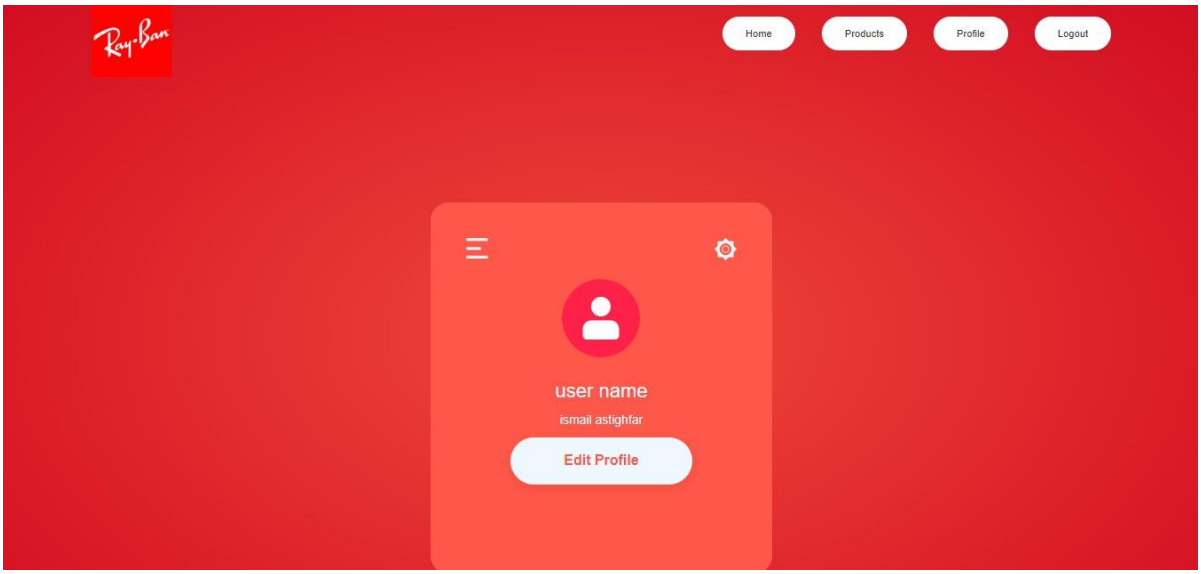
- If the user enter invalid credentials this error will be shown :

- If all passes successfully the user will be redirected to the home page :

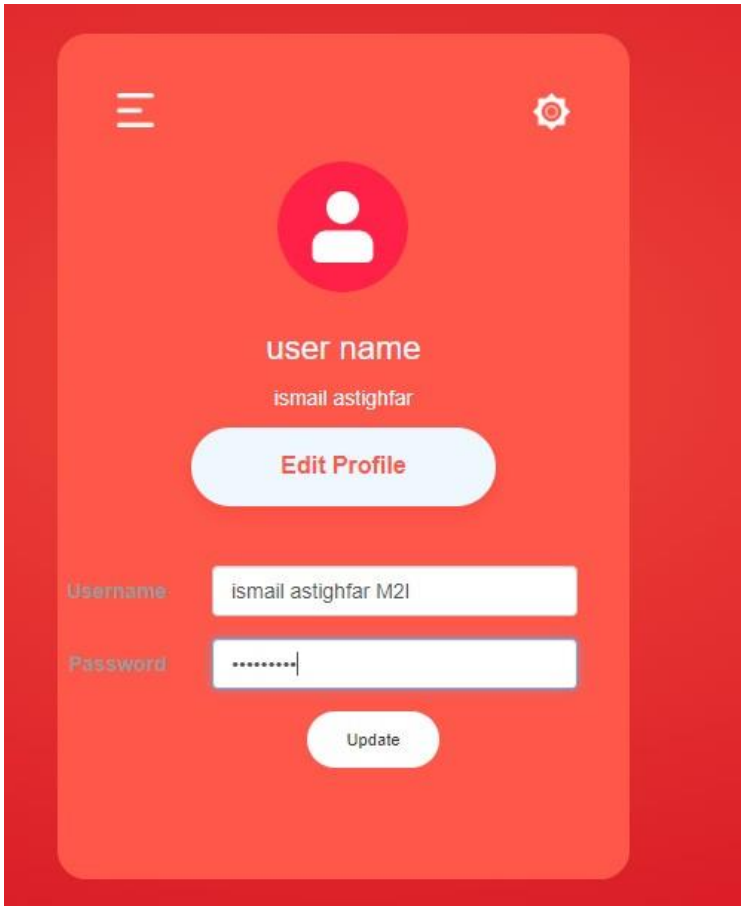


2. EDIT PROFILE INFORMATION

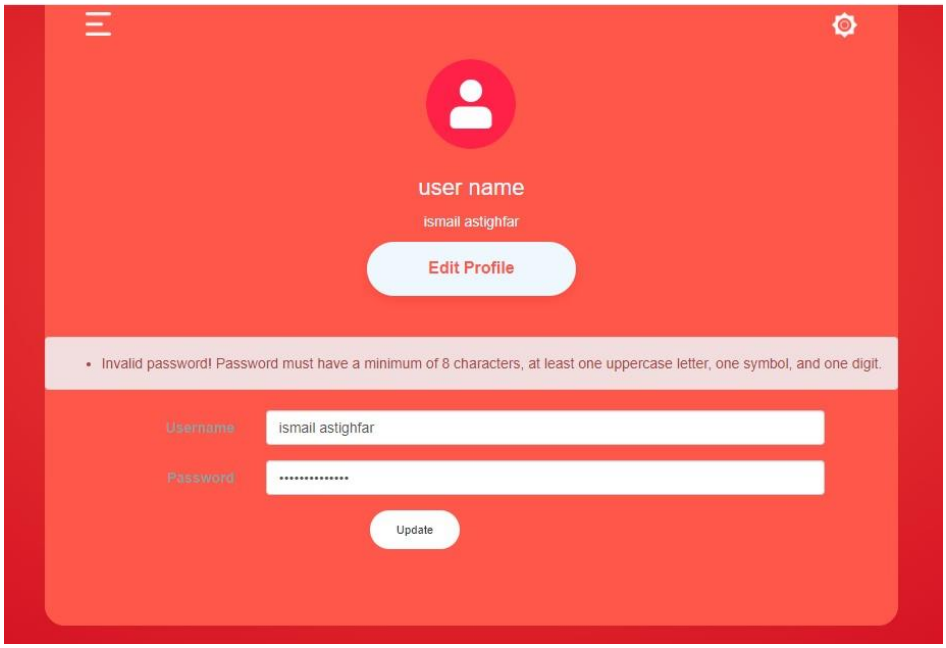
- If the user visit the profile page he can view his username and can edit profile info :



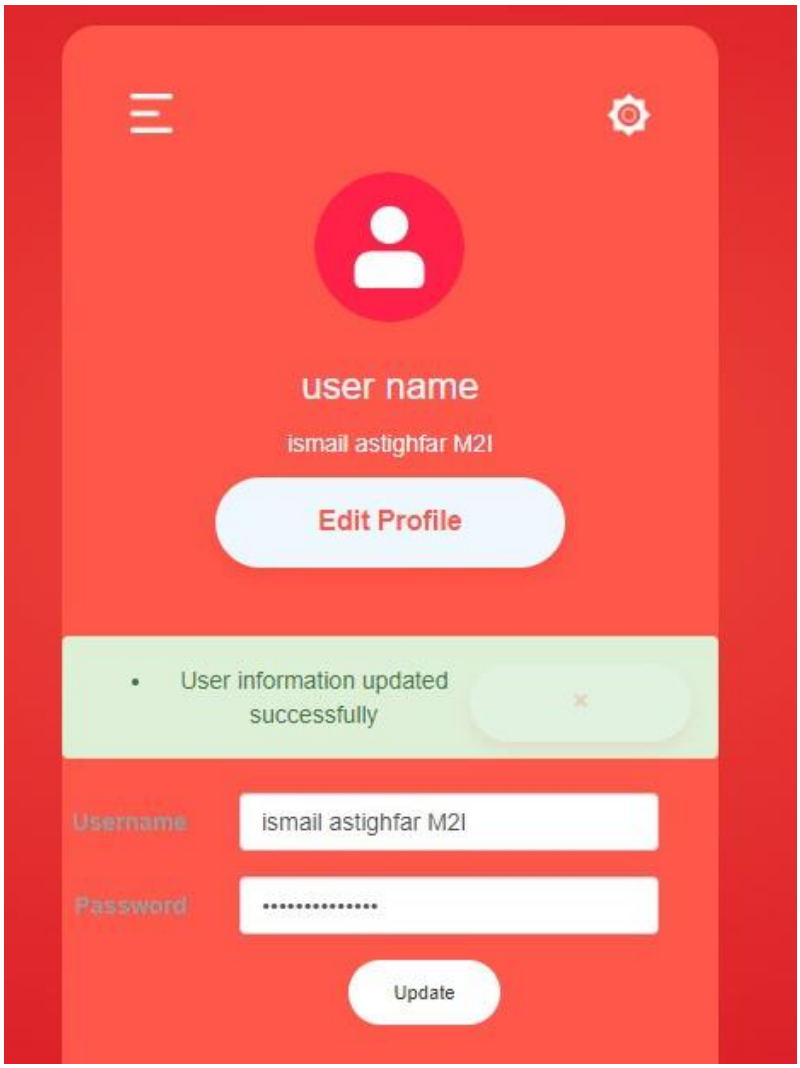
- If the user click edit profile button this form appears and he can modify his username and password :



- If the user enter invalid password this error appear :

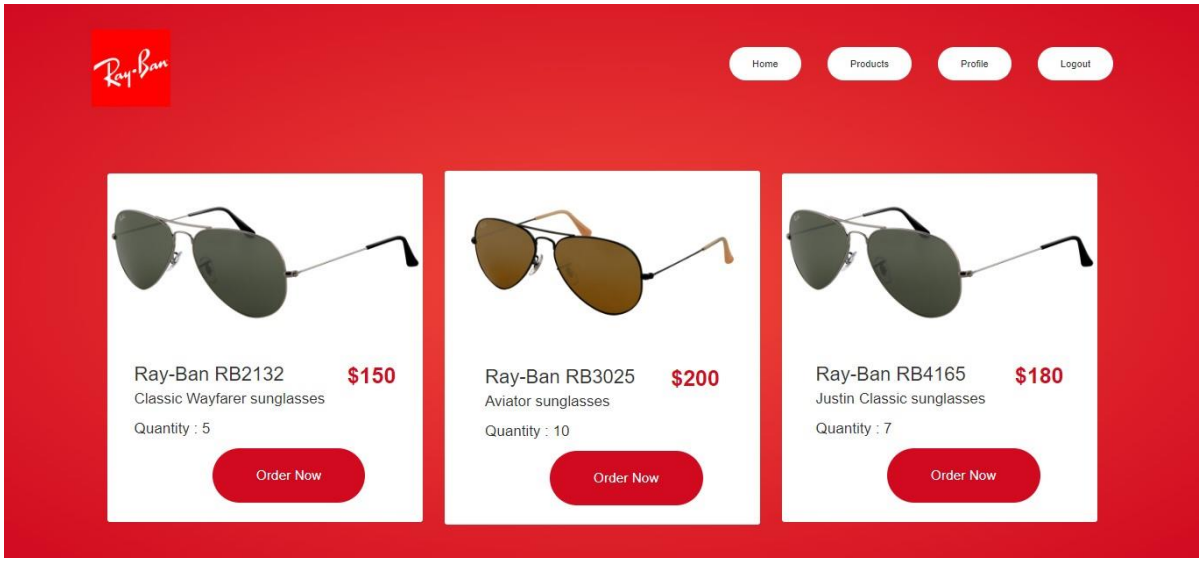


- if the all information is valid :

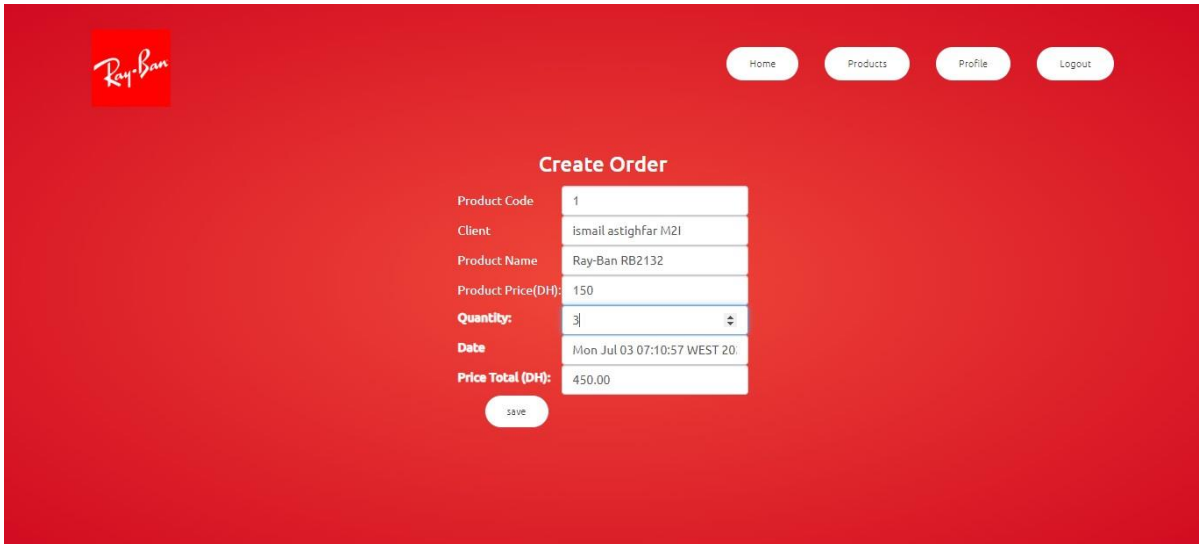


3. ORDER PRODUCT PROCESS

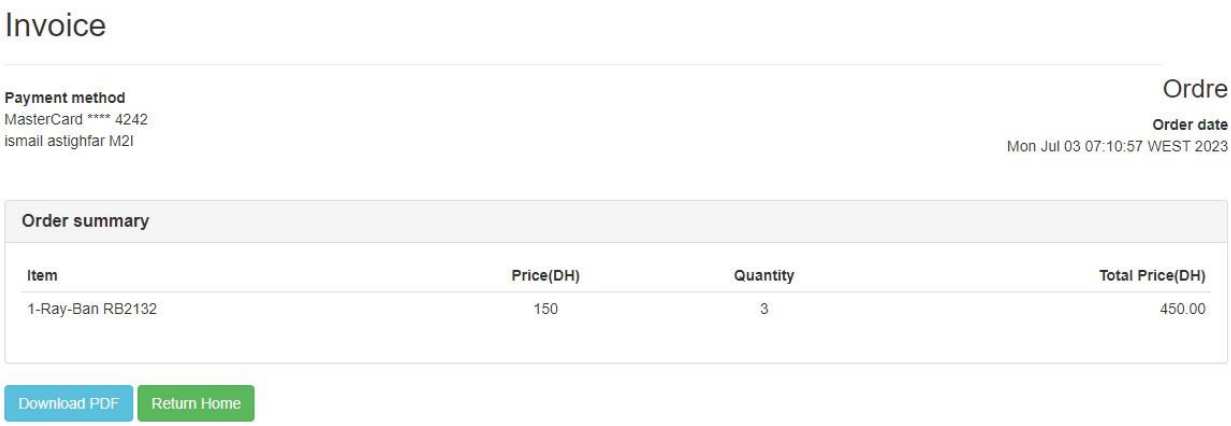
- The user click either Order now or product link in the navbar he will be redirected to the product's page :

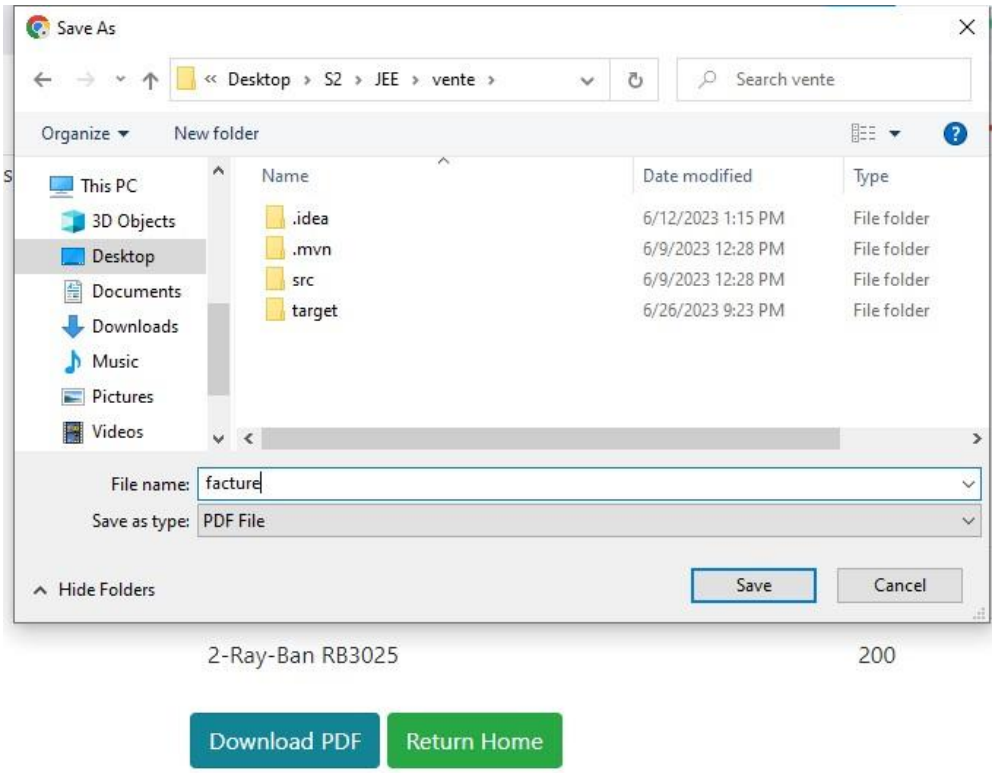


- The user choose the product and click Order now , then he can choose the quantity he want and a total price will be calculated :

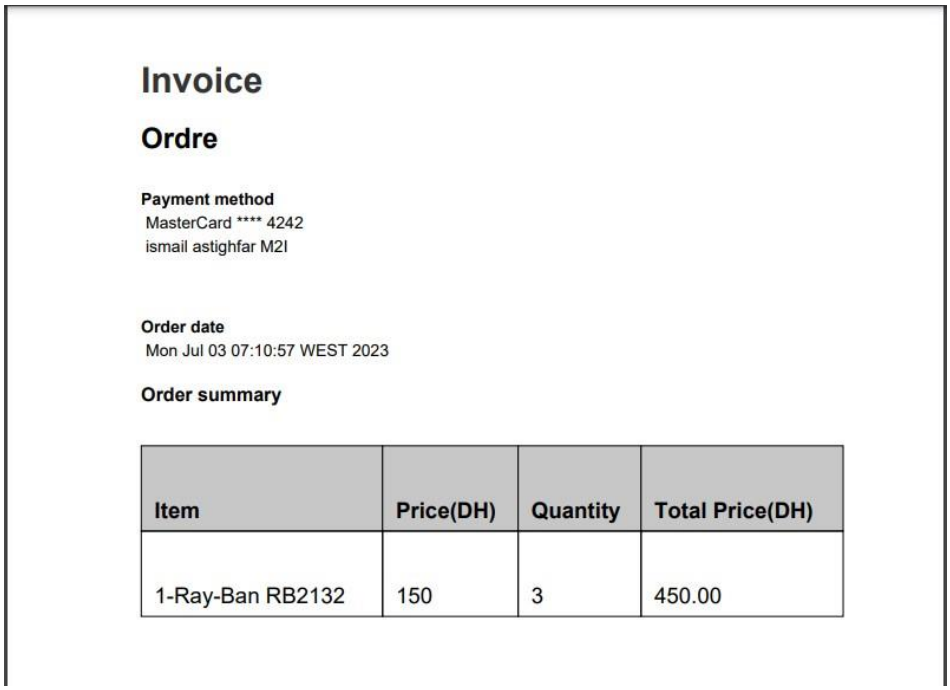


- if the user click save , an invoice page shown and he can download his invoice as PDF :





- Finally this is the resulting Invoice Pdf :



Invoice

Ordre

Payment method
MasterCard **** 4242
ismail astighfar M2I

Order date
Mon Jul 03 07:10:57 WEST 2023

Order summary

Item	Price(DH)	Quantity	Total Price(DH)
1-Ray-Ban RB2132	150	3	450.00

- In The End the user can return to the home page and Logout :