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CS6004NT Application Development

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Inventory Management System

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I confirm that I understand my coursework needs to be submitted online via Local Server under the relevant module page before the deadline in order for my assignment to be accepted and marked. I am fully aware that late submissions will be treated as non-submission and a marks of zero will be awarded.

Abstract

The project of Application development is a group coursework that must be completed by all the group members. This coursework is about designing and implementing stock management system for web-based application. The tools used in the project development are Microsoft Visual studio and Microsoft SQL Server Management Studio. The asp.net web platform was used in combination with the C# programming language and a Microsoft SQL Studio database.

The purpose of this report is to provide a detail overview of the designed system. Development of Stock Management System manages the items details, the customer's details and keep records of selling items to the customers. The steps to run the software in visual studio are described in the report. The system functionality is tested with all listed features to work efficiently and effectively. We have also briefly explained all the classes, its properties and methods. The challenge faced and individual works of each group member are reflected. As a whole, project is developed with proper report structure providing guidance to run the program.

Acknowledgement

We would like to express our deep gratitude to module Lecturer Mr. Rabi Shankar Rouniyar for his constant supervision and invaluable assistance throughout the coursework. Likewise, the module leader Mr. Dhruba Sen helps to guide and clarify the requirements of the project. Without the guidance from supervisor the project would not be possible, both of them encourage and assist us in overcoming the challenges we faced during the implementation and development of the application.

In addition, we would also like to thank Itahari International College for providing an appropriate environment to enhance our professional skills and become more successful in the future. To be honest, we would not forget to pay our heartfelt gratitude to London Metropolitan University for providing us with the opportunity to complete this wonderful group project.

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1. Introduction

Before getting started with the coursework content let's start with what is ASP.NET. ASP.NET is a web development platform where the code can be written in C#, Visual Basic.Net, Jscript or J#. This web development platform provides a diverse software infrastructure and various services that are needed to build a robust web application. On the internet, ASP.NET is used to create interactive, data-driven web applications. It has a lot of controls like text boxes, buttons, and labels for putting together, configuring, and manipulating code to make HTML pages. For the database we used SQL Server Management with C# as the backend.

This coursework is a group coursework where we are required to build a web application using ASP.NET, SQL Server and C# on Visual Studio. The system that we developed is an inventory management system. As per the requirements stated for this coursework, we developed our web application that facilitates the following functions:

- Allow user to enter the login into the system.
- Allow the user to enter an item details, stores customers record or select item name and display items detail.
- System allows the user to make items a sale to the customer, change passwords and allows users to make changes, updates and delete any detail regarding the inventory management from the system.

2. Detailed Instruction to run the program

After successfully running the program, the user will first be redirected to the login page.

Login Page: The login page for the system is given below:

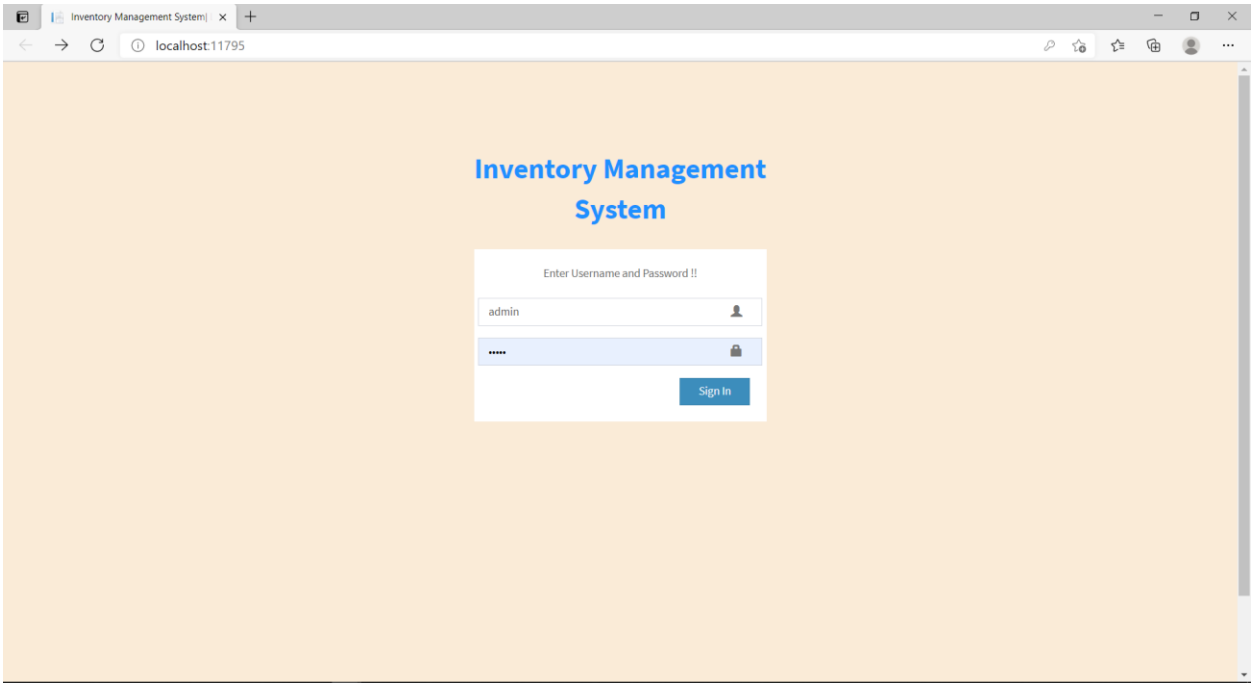


Figure 1: Login Page of The System.

The user needs to input the correct login credentials in order to login to the system. Otherwise, a popup message will be displayed saying the “Login Credentials are incorrect”.

Main Dashboard: After logging into the system, the system will display the dashboard of the system. The page contains the proper navigation bar in order to navigate throughout the system.

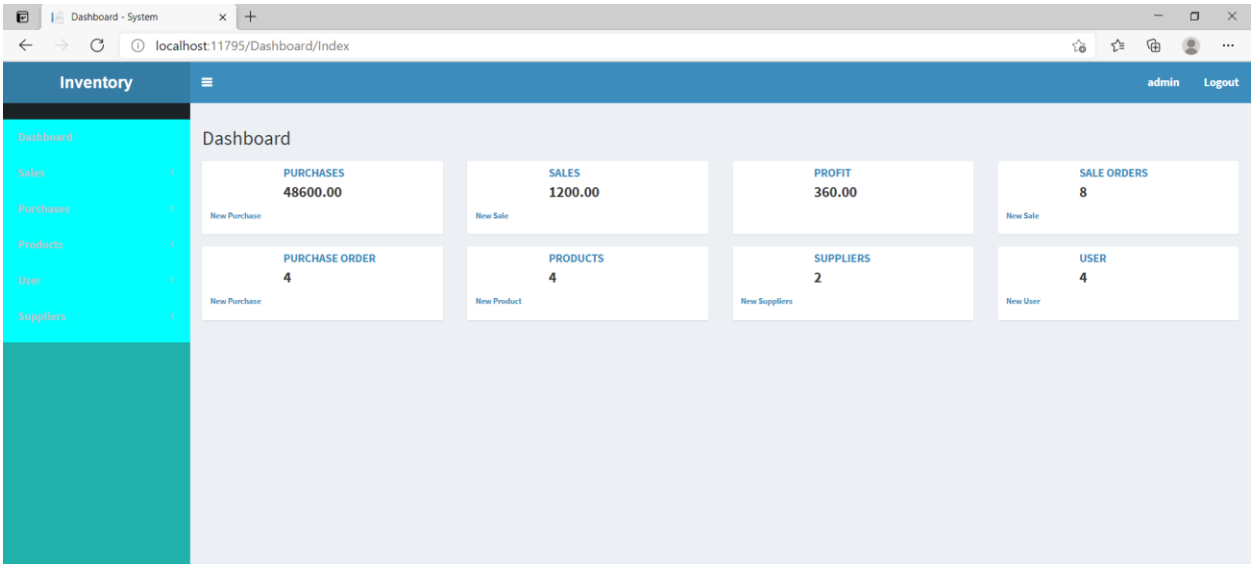
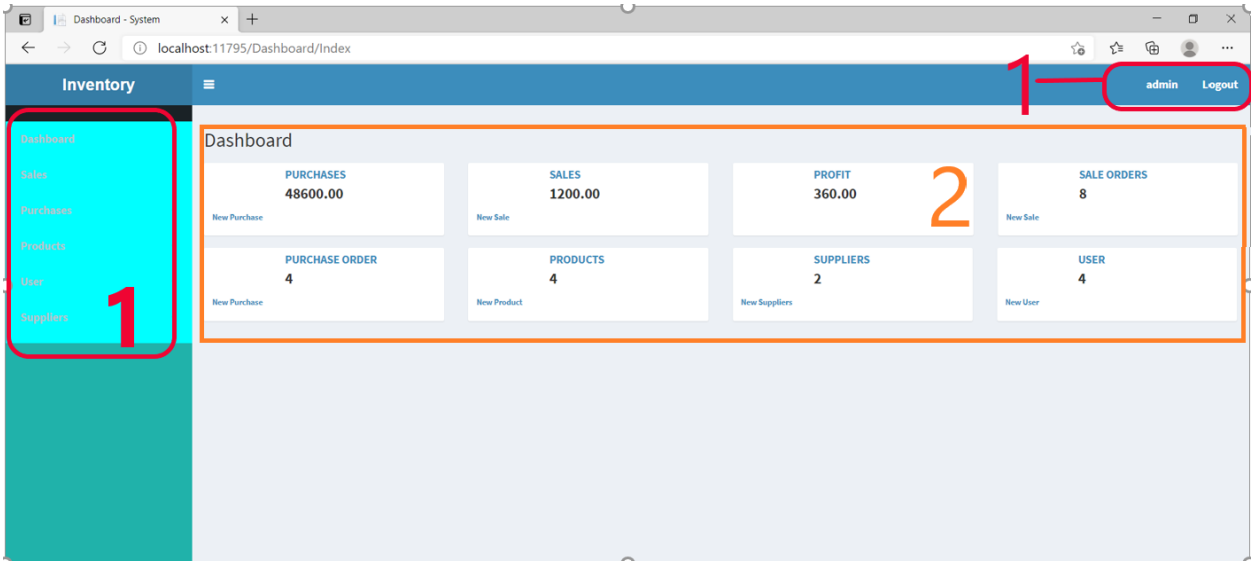


Figure 2: Main dashboard of the system.



1. It is the navigation bar of the dashboard.

2. It shows the summary of the system.

For Adding Customer

Select customer from navigation bar and click on add customer button.

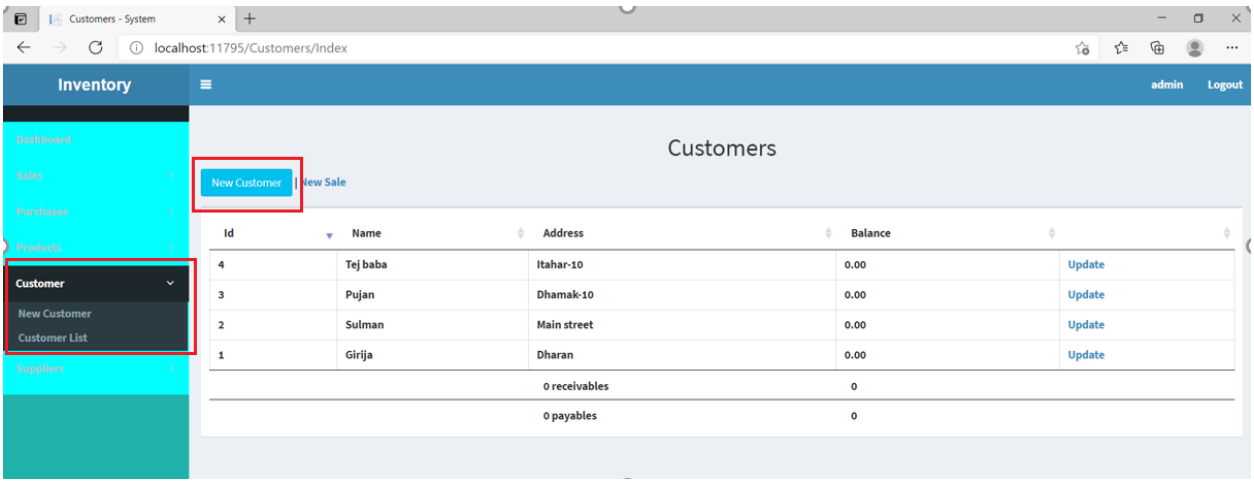


Figure 3: User manual for adding customer.

After clicking add customer button adding customer information form displays and fill out the suitable details and click create button.

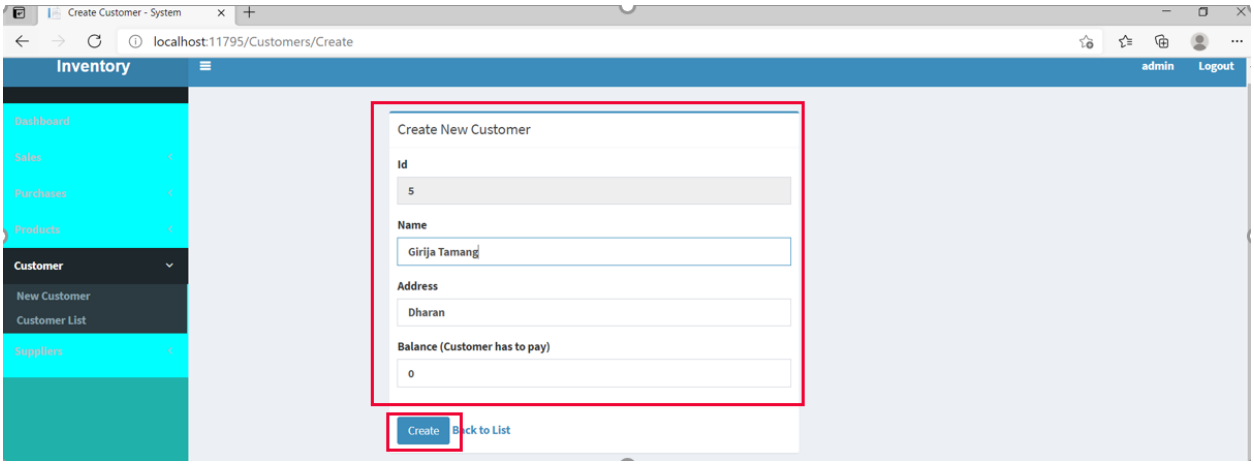


Figure 4: Adding customer details for user manual.

After clicking create button the data of the customer is added in the system.

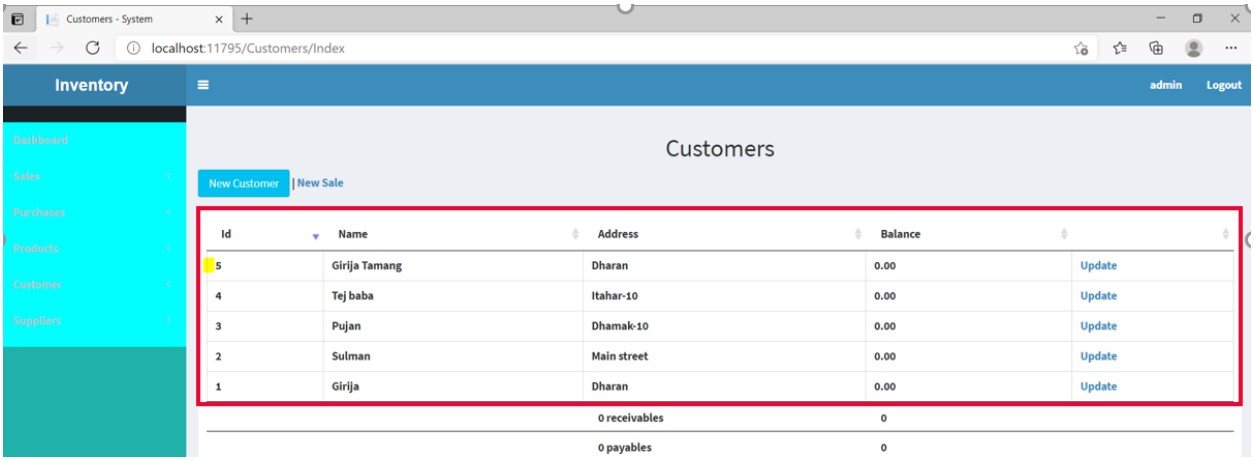


Figure 5: Displaying newly added customers in the user manual.

For using all the function of inventory management system, From the dashboard we can use this system like shown in the above user manual. We can select all the related links from navigation bar from where we can perform the specific function for the system like adding customer, suppliers, editing password etc.

(Note: we can perform all the function of system like shown for adding customer user manual.)

3. Architecture of the Project

3.1 System Architecture

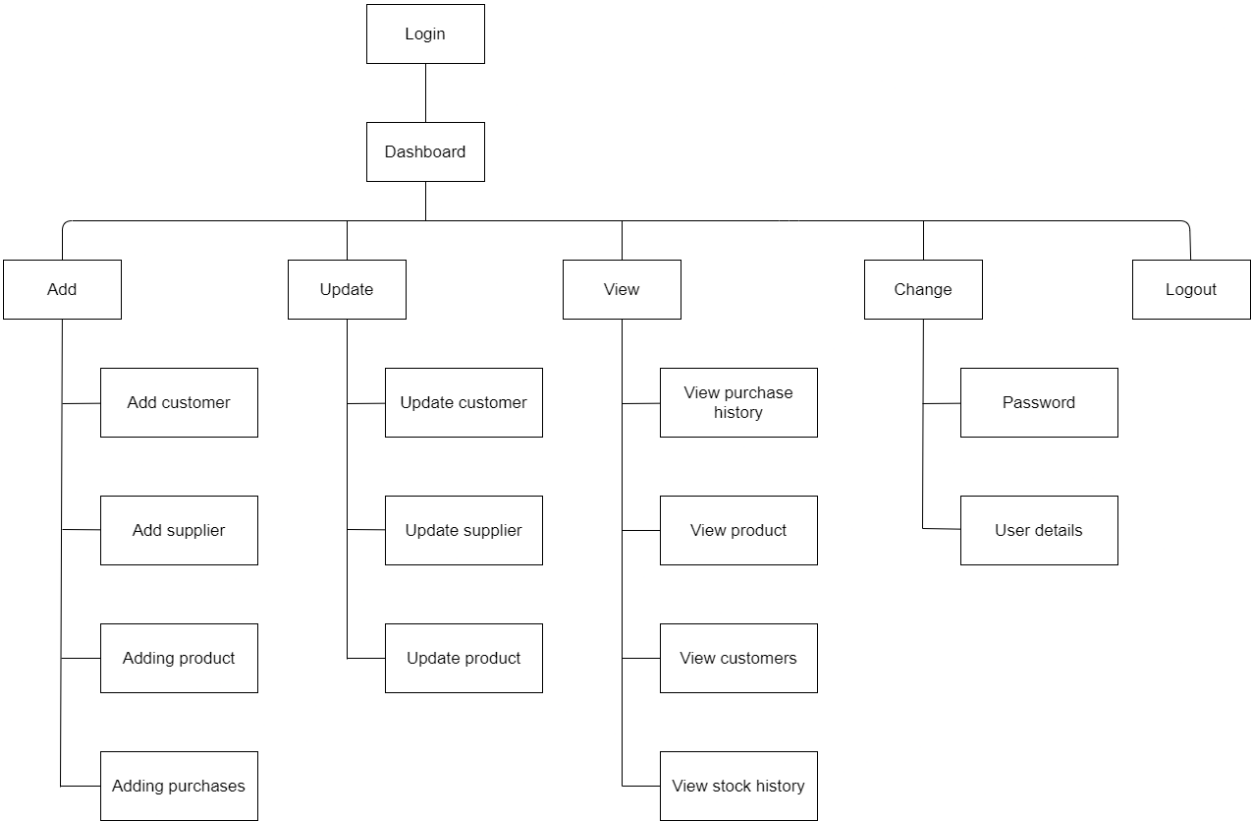


Figure 6: System Architecture for the inventory management system.

The figure represents the architecture of the system i.e. Inventory Management System. As per the architecture of the system, the user needs to login into the system by providing valid credentials. After the successful login, the system will display the dashboard where there are various functions like adding customers, adding supplier, adding products, viewing products, adding product category, viewing customer purchase history along with stock history, function of changing password, and updating customer, supplier and product details.

3.2 Er-Diagram

Figure 7: ER-Diagram for the Inventory Management System.

3.3 Class Diagram

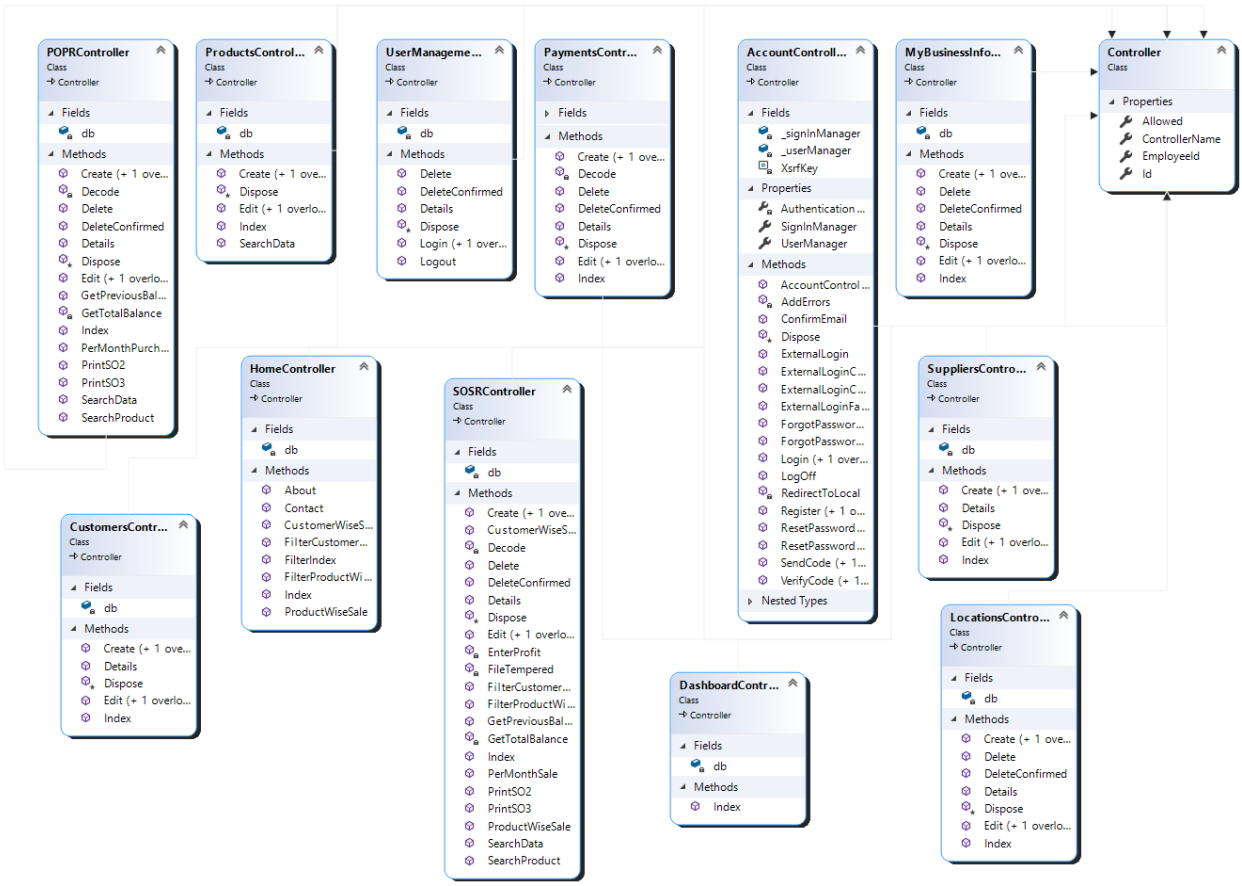


Figure 8: Class Diagram for the Inventory Management System.

4. Classes, Properties and Methods Description

Purpose of Classes

Class	Purpose
Login	The Login class is used to log into the system, as its name implies. A form for entering the username and password is provided by this class. The class makes use of methods and fields to call a special stored procedure that checks the credentials of each user and compares them to the passwords stored in the database.
Customer	The application can be used to record details of the customer. The class 'Customer' allows system users to add customer information about the new customer, customer purchases details, customer total buying and other necessary information.
Suppliers	The application can be used to record details of the suppliers. The class 'suppliers' allows system users to add supplier information about the new supply, supply details, total supply and other necessary information.
Purchases	The class purchases include auto generate bill ID along with purchases date, Address, Contact No and so on.
Product	The application can be used to record details of the products. The class 'products' allows system users to add products information and other necessary information related to product.

Table 1: Purpose of Classes

Methods	Descriptions
ChangePassword	
btnUpdatePassword_Click(object, system.EventArgs: void)	This method allows the password to be changed once the old password is replaced with the new
Supplier	
GetDataOutOfSupplier: void	This method gets all the data out of supplier
Page_Load(object, system.EventArgs: void)	The page Load method performs common actions to all requests
GetData : void	This method gets all the data of the of the supplier page to the table
Sales details	
Page_Load(object sender, EventArgs e)	The page_load method performs common actions to all requests
load_salesdetails: void	This method gets all the data of the sales
load_saleshistory: void	This method gets all the data of the sales history.
btncreate_Click(object sender, EventArgs e)	This method saves the classDetails.
btnedit_Click(object sender, EventArgs e)	This method edits the classDetails.
PurchaseRecord	
Page_Load(object sender, EventArgs e)	The page_load method performs common actions to all requests
btncreate_Click(object sender, eventArgs e)	This method saves all the purchases Record.
load_purrecord: void	This method gets all the data of the purchases record.

Table 2: Method description of inventory management system.

5. Testing

1. Login

Objective:	To check whether the user can login to the system or not.
Action:	Entered username as “admin” and password as “admin”. Pressed Sign In button.
Expected Result:	The dashboard page will load.
Actual Result:	The dashboard page is loaded successfully.
Test Result:	Successful.

Table 3: Table of Login testing.

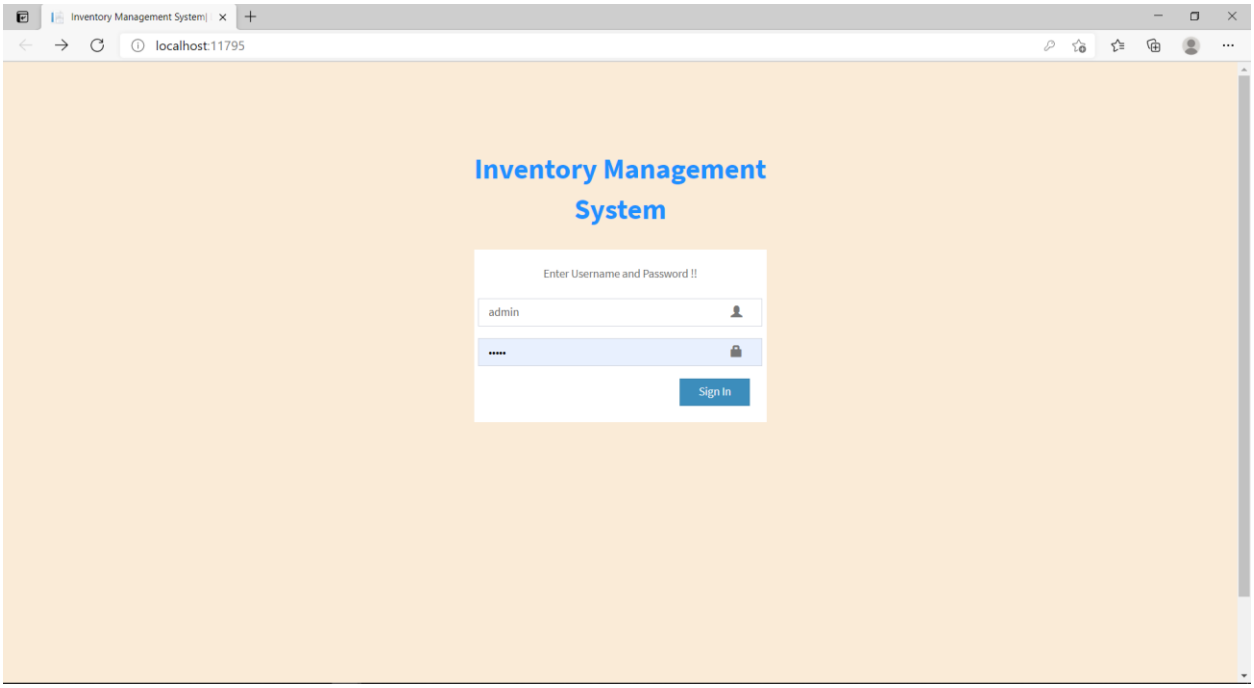


Figure 9: Login testing part 1.

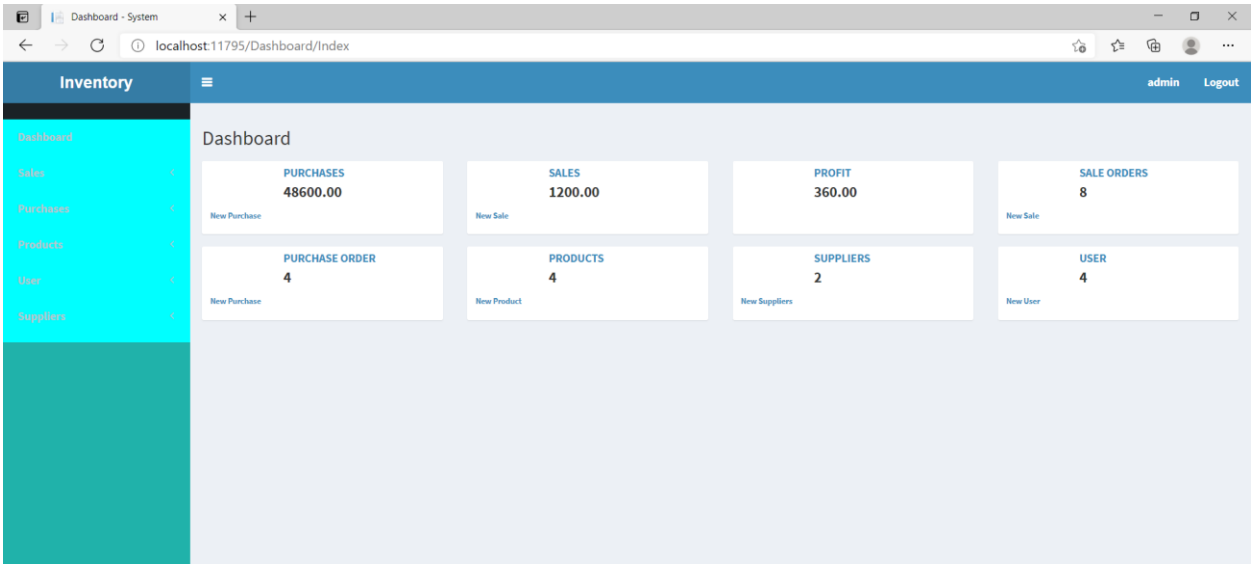


Figure 10: Login testing.

2. Display Customer Details.

Objective:	To check whether the Customer Details webpage opens or not.
Action:	Click on Customer Details from the navigation item
Expected Result:	The Customer Details webpage will be successfully displayed.
Actual Result:	The Customer Details webpage displayed successfully.
Test Result:	Successful.

Table 4: Table of Display Customer webpage.

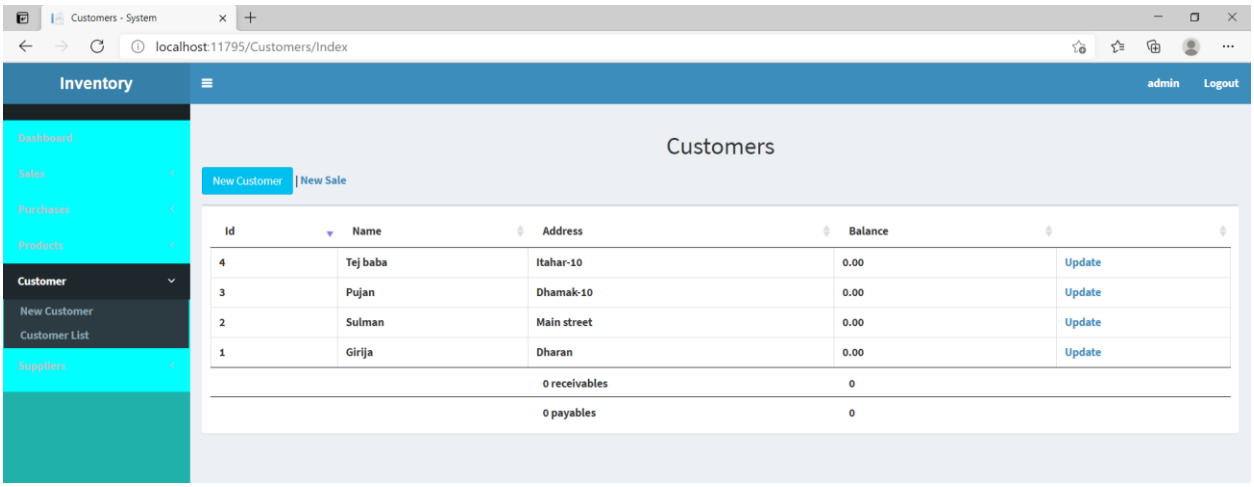


Figure 11: Displaying Customer Details Page.

3. Adding new customer in customer Table

Objective:	To check whether the new customer can add on the Users' webpage or not
Action:	Click on New Customer button from the webpage. Then, a popup form displays. Fill the text boxes and click the Add Users button.
Expected Result:	The new customer user will be added successfully.
Actual Result:	The new user added successfully.
Test Result:	Successful.

Table 5: Adding new row in customer Table.

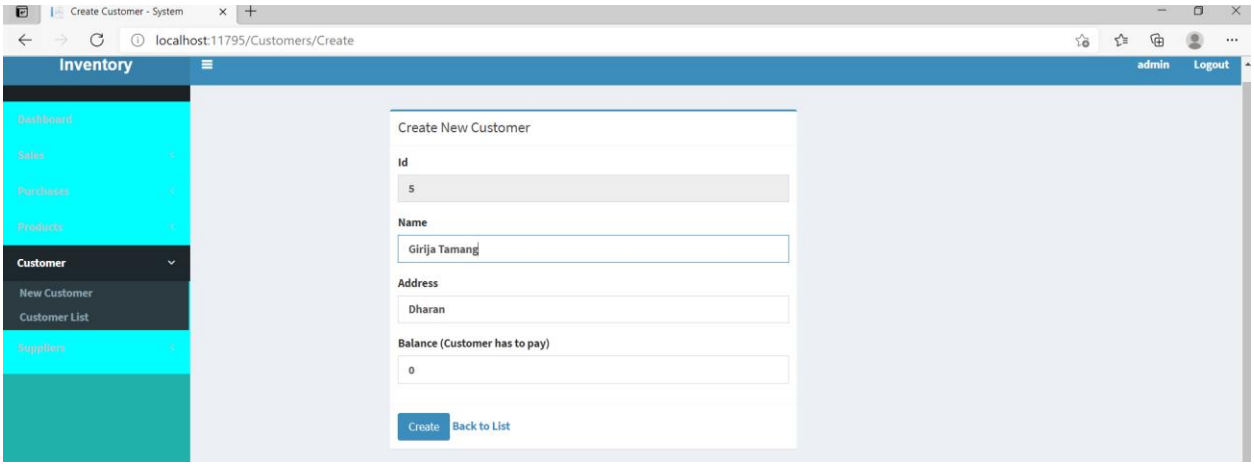


Figure 12: Entering new customer details for testing.

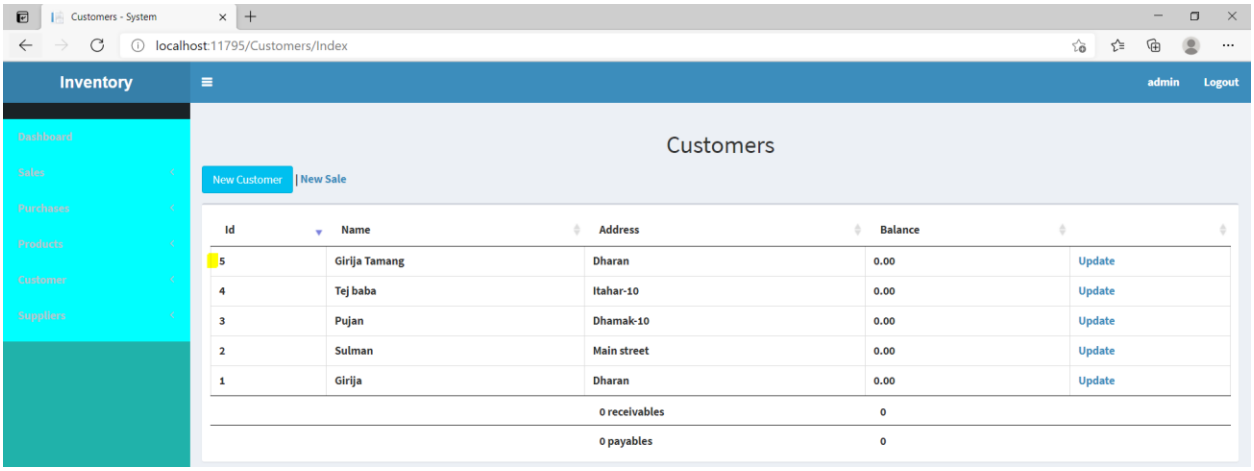


Figure 13: New customer details entered successfully.

4. Updating an existing row in Customers Table.

Objective:	To check whether the exiting customer's information can update on the Users webpage or not.
Action:	Click on the Edit button from the exiting user row. Then, a popup form displays. Updated textboxes and click the Update button.
Expected Result:	The customers information will be edited successfully.
Actual Result:	The customers information edited successfully.
Test Result:	Successful.

Table 6: Updating an existing row in Customers Table.

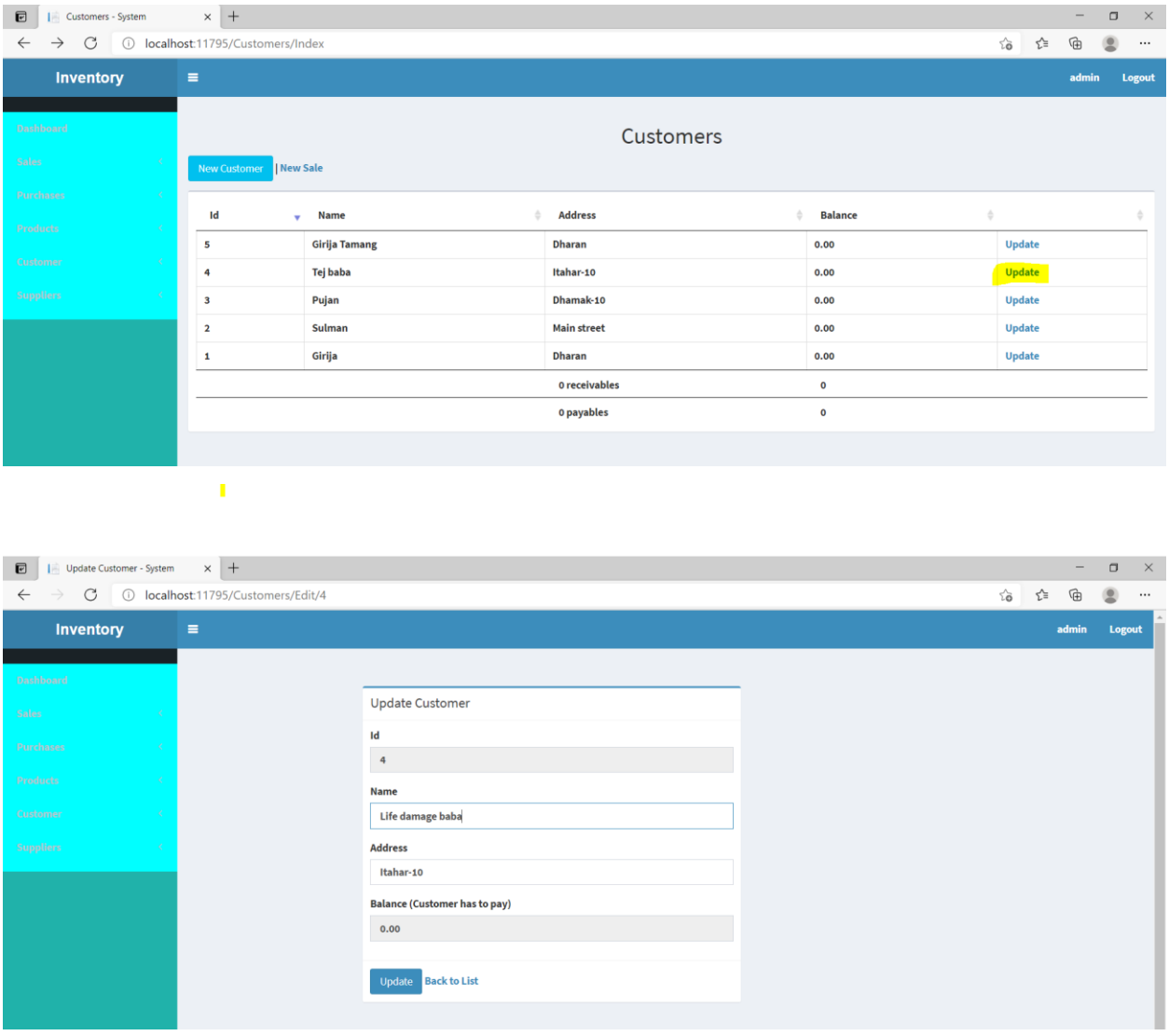


Figure 14: Editing Customer Details.

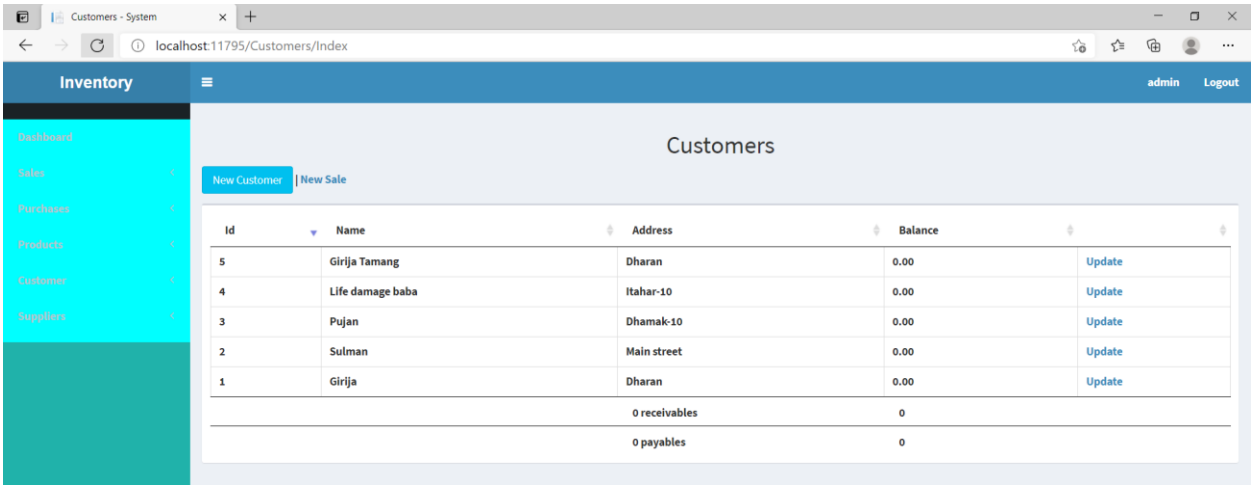


Figure 15: Updated Customer Details.

5. Adding new suppliers in suppliers' table

Objective:	To check whether the new suppliers can add on the supplierss webpage or not.
Action:	Click on New suppliers' button from the webpage. Then, a popup form displays. Fill the text boxes and click create button.
Expected Result:	The new supplier will be added successfully.
Actual Result:	The new supplier added successfully.
Test Result:	Successful.

Table 7: Adding new suppliers in suppliers' table.

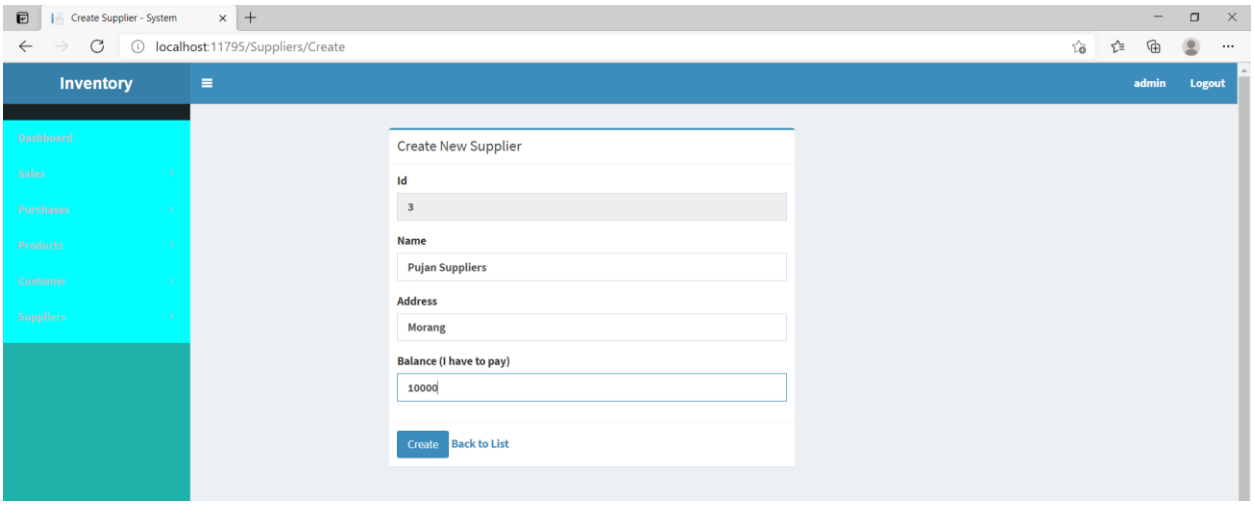


Figure 16: Entering suppliers' details.

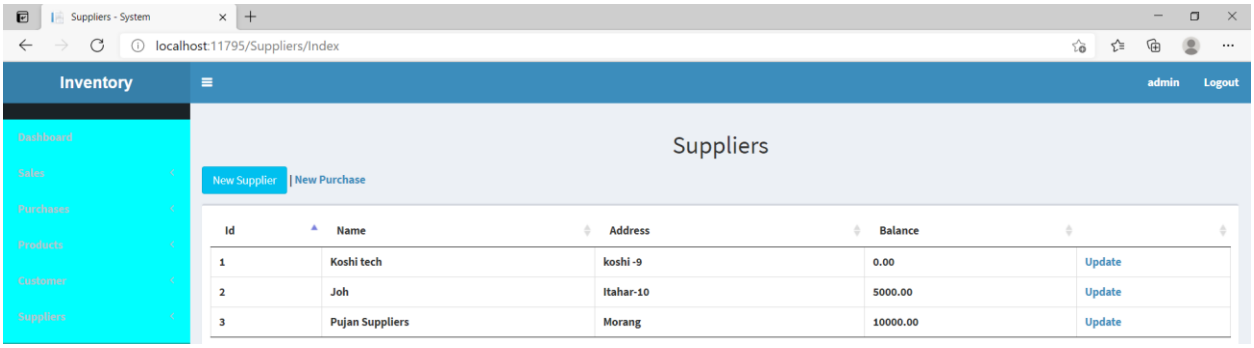


Figure 17: Supplier added successfully.

6. Displaying Suppliers Details.

Objective:	To check whether the supplier Details webpage opens or not.
Action:	Click on suppliers list from the navigation item
Expected Result:	The suppliers Details webpage will be successfully displayed.
Actual Result:	The suppliers Details webpage displayed successfully.
Test Result:	Successful.

Table 8: Displaying Suppliers Details.

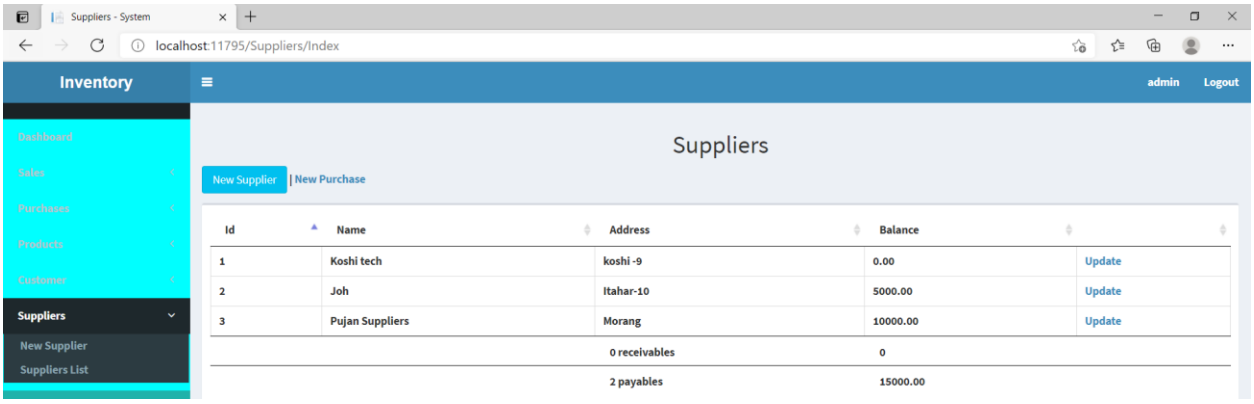


Figure 18: Displaying Suppliers Details.

7. Adding new product in store

Objective:	To check whether the new product can add on the system webpage or not.
Action:	Click on New product button from the webpage. Then, a popup form displays. Fill the text boxes and click create button.
Expected Result:	The new product will be added successfully.
Actual Result:	The new supplier is added successfully.
Test Result:	Successful.

Table 9: Adding new product in store.

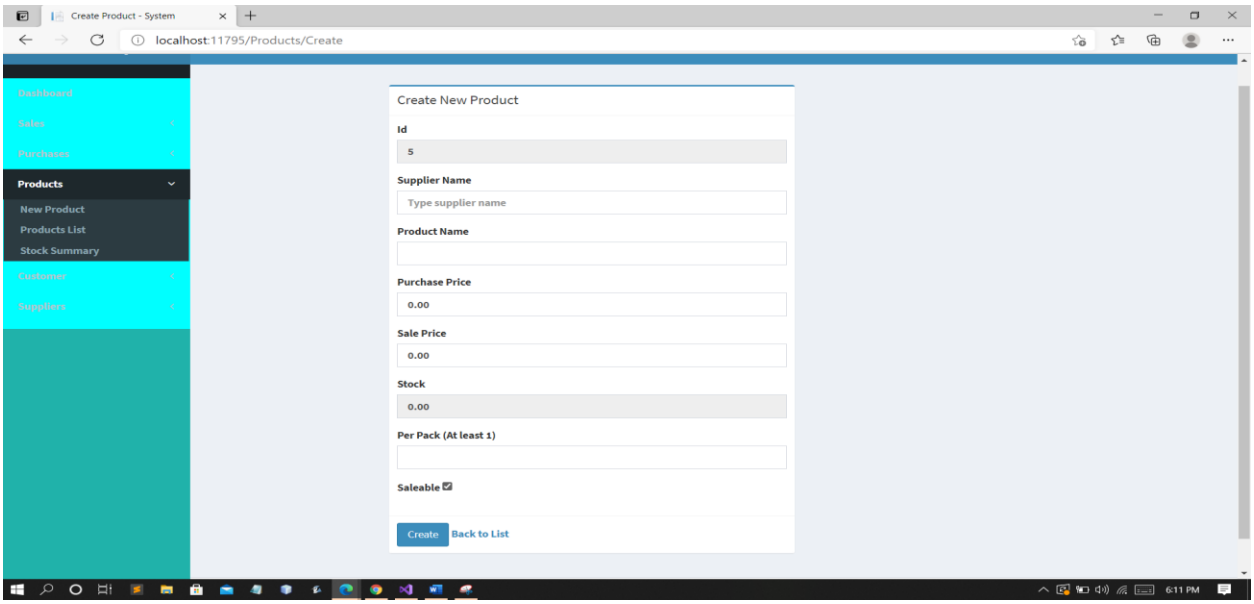


Figure 19: Insert Sales details.

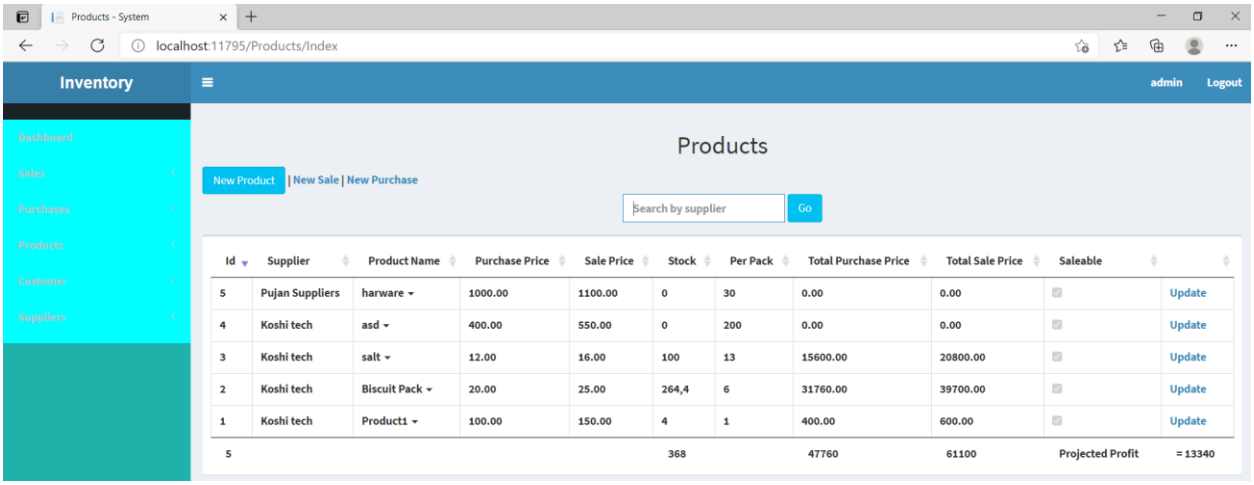


Figure 20:Product added successfully.

8. Displaying Product list.

Objective:	To check whether the product Details webpage opens or not.
Action:	Click on products list from the navigation item.
Expected Result:	The product details webpage will be successfully displayed.
Actual Result:	The Product Details webpage will be successfully displayed.
Test Result:	Successful.

Table 10: Displaying Product list.

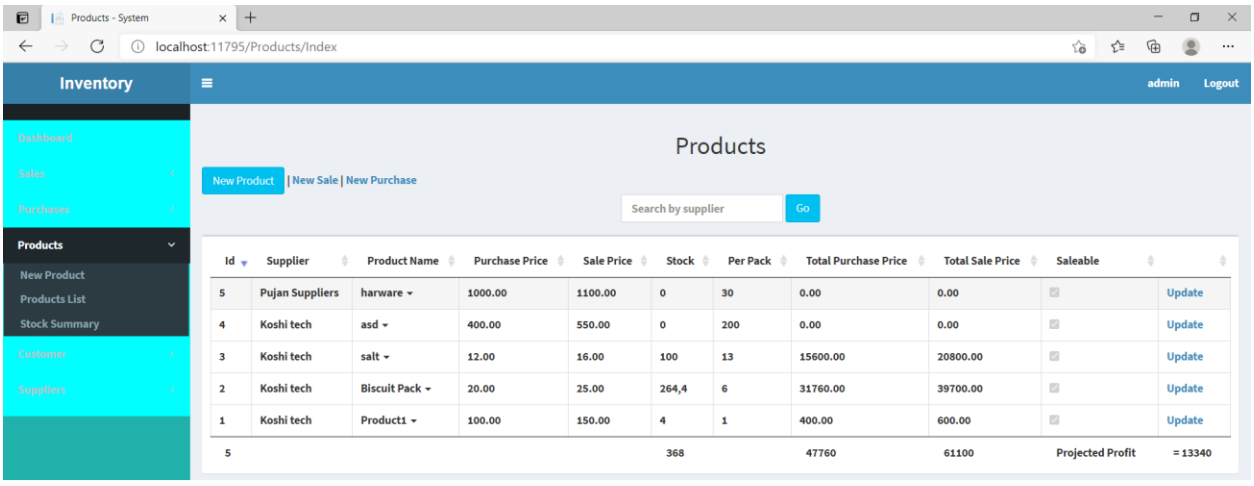


Figure 21: Product details displayed.

9. Adding Purchases List.

Objective:	To check whether the new purchase list can add on webpage or not.
Action:	Click on New purchases button from the dashboard webpage. Then, a popup form displays. Fill the text boxes and click the create button.
Expected Result:	The new purchases will be added successfully.
Actual Result:	The new purchases are added successfully.
Test Result:	Successful.

Table 11: Adding Purchases List.

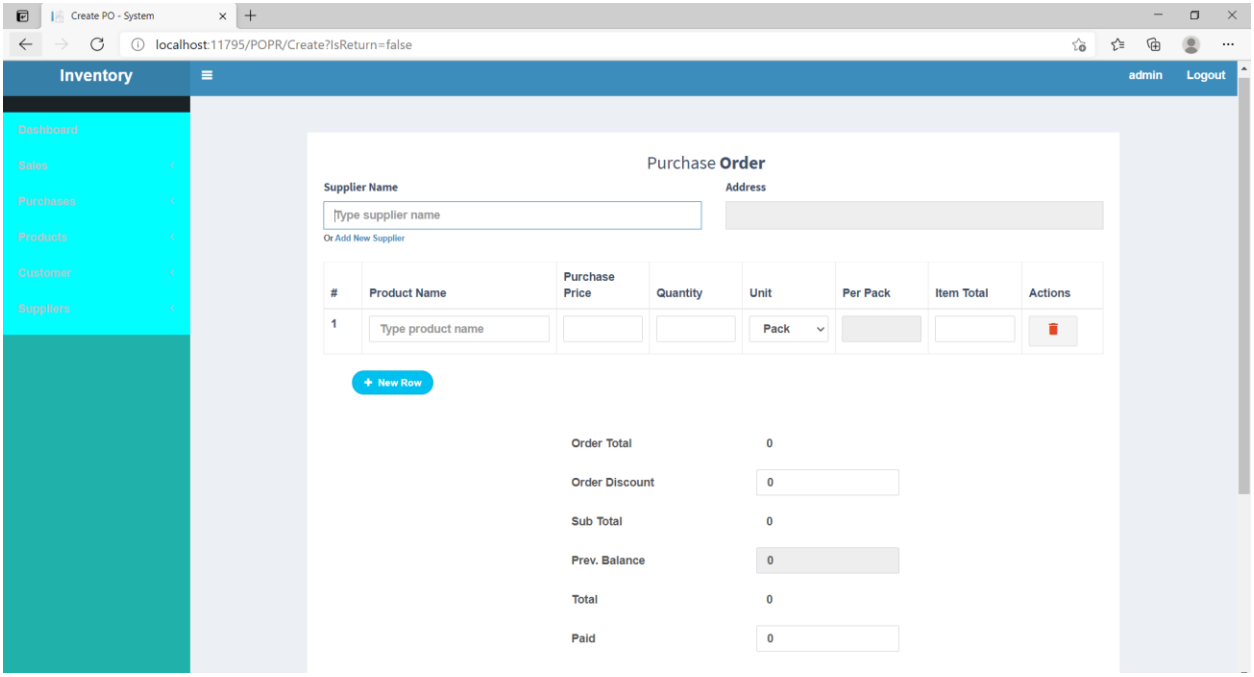


Figure 22: Entering the purchasing details.

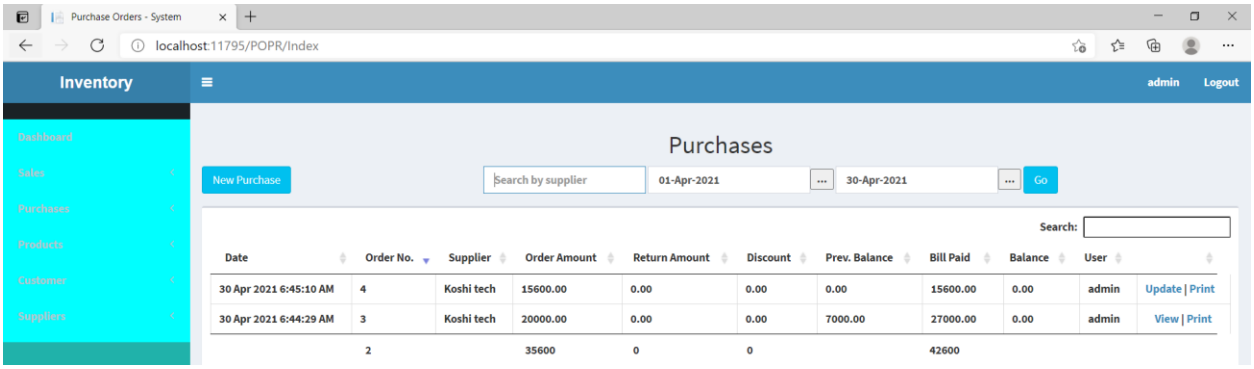


Figure 23: Adding Purchases successful.

10. View purchases history

Objective:	To check whether we can view purchases history webpage opens or not.
Action:	Click on view purchases history from the navigation item.
Expected Result:	The purchases history webpage will be successfully displayed.
Actual Result:	The purchases history webpage will be successfully displayed.
Test Result:	Successful.

Table 12: View purchases history.

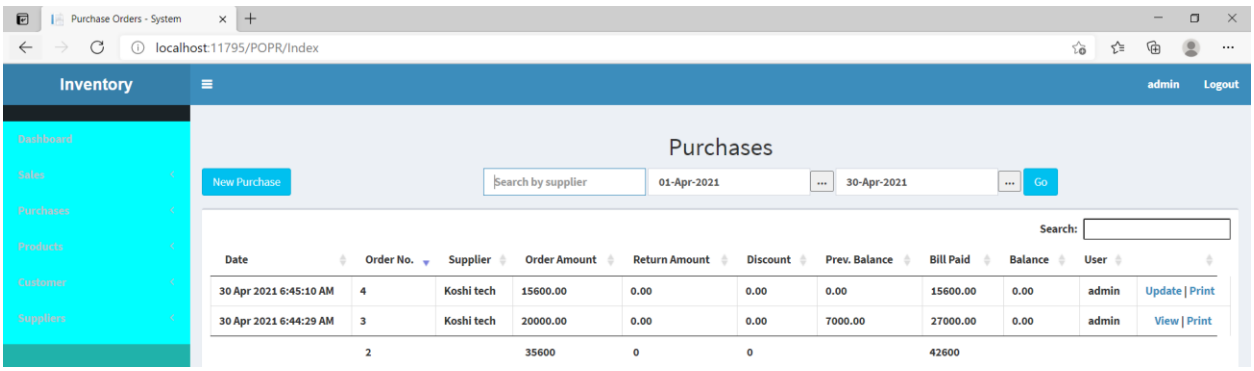


Figure 24: Purchases List successfully displayed.

11. Adding new sales

Objective:	To check whether the new sales can add on the webpage or not.
Action:	Click on New sales button from the Users webpage. Then, a popup form displays. Fill the text boxes and click the Add pay button.
Expected Result:	The new sales will be added successfully.
Actual Result:	The new user added successfully.
Test Result:	Successful.

Table 13: Adding new sales.

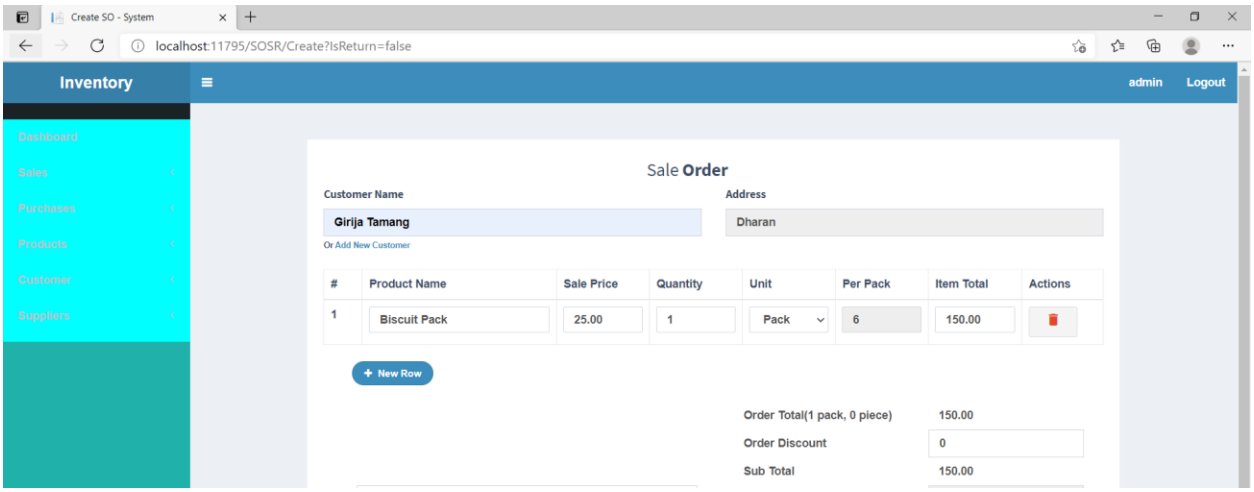


Figure 25: Adding new sales.

12. Display sales history Detail

Objective:	To check whether the sales Details webpage opens or not
Action:	Click on sales history Details from the navigation item.
Expected Result:	The sales history Details webpage will be successfully displayed.
Actual Result:	The sales history Details webpage displayed successfully.
Test Result:	Successful.

Table 14: Display sales history Detail.

13. Logout from System

Objective:	To check whether the user can login to the system or not.
Action:	The logout button was clicked
Expected Result:	The current session will end, and the page will be redirected to login.aspx page.
Actual Result:	The current session will end, and the page is redirected to login.aspx page.
Test Result:	Successful.

Table 15: Logout from system.

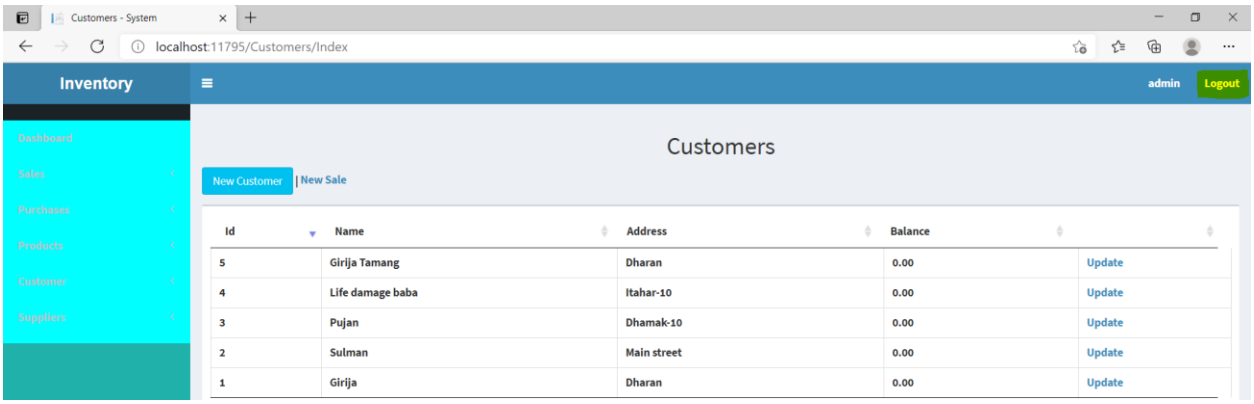


Figure 26: logout button clicked.

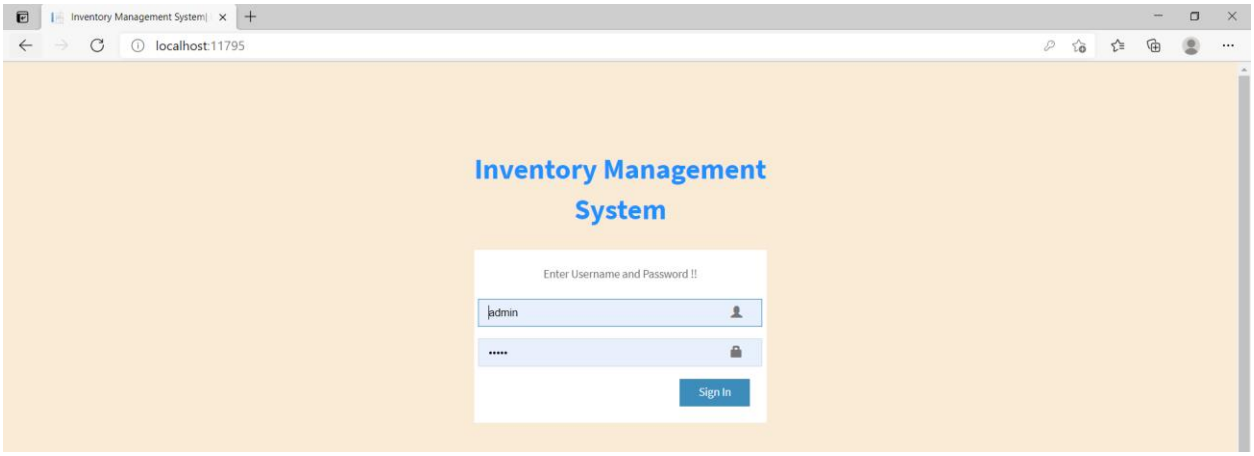


Figure 27: logout done.

14. Changing Password.

Objective:	Check whether the password will change or not.
Action:	the current password and new password are entered to update,
Expected Result:	Password will be updated.
Actual Result:	Password was updated.
Test Result:	Successful.

Table 16: Changing Password.

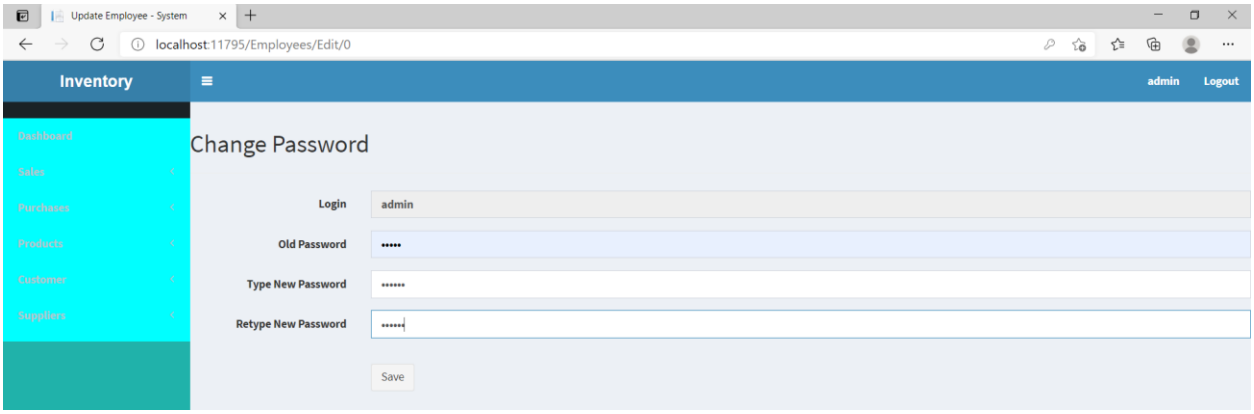


Figure 28:new password updated.

15. Viewing stock details.

Objective:	To check whether stock Detail webpage opens or not.
Action:	Click on stock Details from the navigation item.
Expected Result:	The stock Details webpage will be successfully displayed.
Actual Result:	The stock Details webpage will be successfully displayed.
Test Result:	Successful.

Figure 29: Viewing stock details.

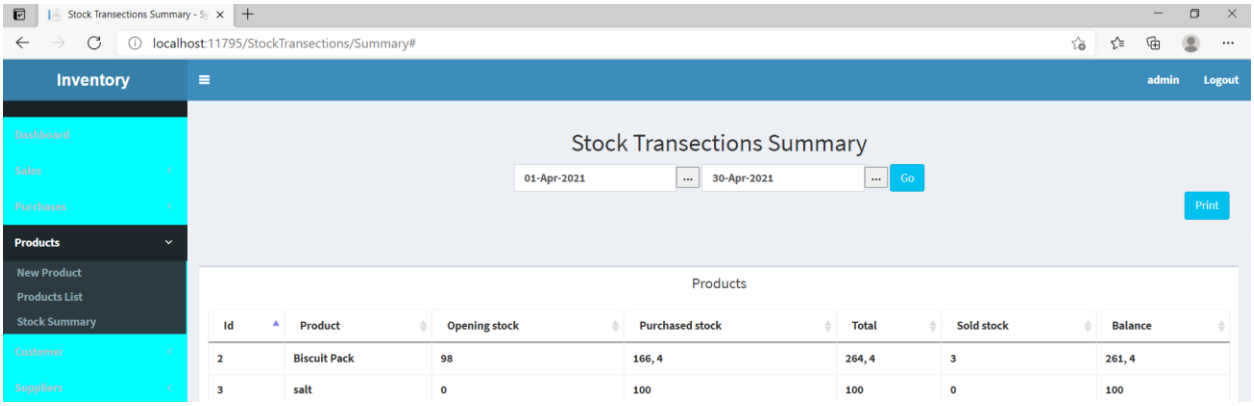


Figure 30: Viewing stock details.

6. Individual Group Member Reflection

Girija Tamang

During the development of this project, the major contribution of my work lies in coding section. I assisted the group in designing ER diagram and database design by providing detailed suggestions and feedback. Following that, I also made a significant contribution by adding item details and storing the customer record into the system. The functionalities of Edit and Delete listed user and generating the report on the base of web forms is done. While in documentation part, I also help to do user manual explaining the functionalities of application.

Working on Microsoft Visual Studio I found the features very flexible and precise that it is easy to write code. Most importantly, working on group project has helped me to expose better, allowing me to improve abilities and understanding regarding web development using advanced tools and technologies such as Visual Studio, C#, ASP.NET, and MS SQL server.

Pujan Prasai

The beginning task for me was to design required web forms, then make an integration of tables into web forms. And, for to learn how web forms works I went through different tutorials. To contribute the group designing Entity-Relationship Diagram (ERD) was another major task. While creating ERD, it was hard to find suitable entities and attributes. The performing normalization to generate final table was challenging. By doing research, using connectors and their related tools, the relation was designed properly. Likewise, research on admin roles and role-based login is created. To make login page interactive, I added validation and session control. The change in password and logout functionalities is made. In documentation, help is made to other members by giving ideas to test and validate system functionality.

This coursework improved my software development skills. The continuous usage of software development tools such as Visual Studio, Asp.Net, Web forms, MS SQL server helped my programming and researching skills. A web app is built using C# and .Net

Framework. Developing project using C# remind me a lot of Java programming due to similar syntax to that of Java. At last, this project and module itself gave me a great learning experience.

Dipesh Joshi

I was responsible for the frontend part of the application. For this, I used various styling techniques like CSS and Bootstrap to design the system. Managing some of the CRUD functionalities for customer information, such as adding details, listing all of their names, deleting, and so on. Thereafter, in the documentation section, I took screenshots of functioning applications along with all the required explanations and processes. The system's user manual is complete, with step-by-step instructions to make it simple to use.

The working in this project polished my designing. Similarly, after working on team improved my communication, project planning, documentation and software development skills.

Simran Shrestha

The responsibility given to me was to create the Class diagrams, wrote the purposes of Classes, Method and Properties Description for each class. In the same way, I completed test cases and validated the system with possible outcomes. On a personal level, being assigned to various tasks has strengthened my testing, writing and comprehension abilities.

Prakash Shrestha

I was responsible and able to complete the documentation part. The project introduction and research of required features is carried from me. Likewise, I also completed final overview with the conclusion. And after finishing, this coursework builds my research and writing skills.

7. Conclusion

To be honest, when we received this coursework, we were kind of afraid of not being able to complete the requirements mentioned on it. But after our module teacher explained it clearly and he also further helped us by teaching similar functions during the teaching sessions. But even with the guidance of the teacher there were few difficulties we faced. The first was the database design with proper tables along with its attributes. But with some consultation with other groups and as well as watching online tutorials we were able to solve the problem. Next was not a big problem as it was related to the designing of the web forms which was also later solved by the respective group member who was responsible for the designing part. The most difficult one was the backend part as there were some few errors in the queries for the updating and deleting part of the items.

To conclude all this, even though we faced problems during the development of this project, but due to the guidance of the teacher and the combined efforts of the group member, we were able to overcome all those difficulties and completed our project. During this journey, we learned various things like teamwork, time management, research and also how to tackle the problems.