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PHAGWARA, PUNJAB

Java Project on

Online Retail Application Database

Figure 1-JAVA Logo

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TABLE OF CONTENTS

LIST OF FIGURES

1. Abstract

This Java project provides a simple and user-friendly interface for both admins and users. The admin can log in to the system and perform crude operations on the products database, which is implemented using file handling in Java. The admin can add new products, delete existing products, update product details, and view all products in the database.

The user can also log in and place an order, after which they will receive a receipt for their purchase. The system also allows users to view their past orders and the list of available products in the database. The project provides efficient and secure handling of user and admin data, ensuring that only authorized personnel can access the system's features. Overall, this project is an effective solution for managing product orders and maintaining a product database in a convenient and secure manner.

We have also added the GUI interface in the project using the Java swing methods, so as soon as we run the source code in the compiler such as NetBeans or JDK a login window opens up which asks the user to choose between the user login or the admin login. After logging in the admin or the user dashboard appears where the user or the admin will be able to perform the functions we have made applicable to them respectively.

2. Introduction

This project aims to create a web-based platform that allows users to interact with a database of applications in a user-friendly and efficient manner. The database will contain information about various applications such as their names, descriptions, developers, and ratings.

The purpose of this project is to provide users with a platform where they can easily search for applications, view detailed information about them, and rate them based on their experience. The application will be built using Java, which is a widely used programming language with a vast array of libraries and tools that make it ideal for developing web-based applications.

The project will be designed using the Model-View-Controller (MVC) architecture, which is a widely used design pattern for developing scalable and maintainable software applications. The model will be responsible for managing the data stored in the database, the view will provide the user interface, and the controller will handle the user input and manage the interaction between the model and the view.

Overall, this project aims to provide users with a seamless experience when interacting with the application database, making it easy to find and rate their favorite applications. Thank you for your interest in this project, and I hope you find it useful and informative.

2.1 Reading and writing from files-

```
import java.io.BufferedReader;
import java.io.BufferedWriter;
```

These classes provide functionality for input and output operations, such as reading and writing data from and to files or streams.

Specifically, the first import statement imports the BufferedReader class, which provides a way to read text from a character-input stream, such as a file or network connection, in an efficient manner.

The second import statement imports the BufferedWriter class, which provides a way to write text to a character-output stream, such as a file or network connection, in an efficient manner.

2.2 Including Java Swing-

```
import javax.swing.JLabel;
import javax.swing.JOptionPane;
```

The above lines of code are Java import statements that are used to include classes from the javax.swing package in the current program. This package contains classes that provide graphical user interface (GUI) components for creating desktop applications.

Specifically, the first import statement imports the JLabel class, which provides a display area for a short text string or an image, or both. JLabel is a common component used to display static text or images in a GUI.

Second import statement imports the JOptionPane class, which provides a standardized dialog box for displaying messages, requesting input, or providing feedback to the user. JOptionPane provides an easy way to display different types of messages to the user, such as information, warning, error, or confirmation messages, and prompt the user for input.

2.3 Including table package-

The above line of code is a Java import statement that is used to include a class from the javax.swing.table package in the current program. This package contains classes that provide support for displaying and editing tabular data in a graphical user interface (GUI) application.

Specifically, the import statement imports the DefaultTableModel class, which provides a default implementation of the TableModel interface. The TableModel interface provides methods for accessing and manipulating the data displayed in a JTable, which is a Swing component used to display tabular data in a GUI.

2.4 Including logging framework-

```
import java.util.logging.Level;
import java.util.logging.Logger;
```

This package contains classes that provide a logging framework for Java applications, allowing developers to record information about the behavior of their programs.

Specifically, the first import statement imports the Level class, which represents a level of logging severity. The logging framework uses different levels of severity to indicate the importance of a log message, such as SEVERE, WARNING, INFO, and FINE.

The second import statement imports the Logger class, which is the main class of the logging framework. The Logger class provides methods for recording log messages at different levels of severity, as well as configuring the behavior of the logging framework.

2.5 Including exception handlers-

import java.util.InputMismatchException;

import java.io.FileNotFoundException;

The first import statement imports the InputMismatchException class from the java.util package. This class is an exception that is thrown by the Scanner class when an input token does not match the expected pattern or data type. It is commonly used to handle input errors when reading data from the console or a file.

The second import statement imports the FileNotFoundException class from the java.io package. This class is an exception that is thrown when a file with the specified pathname does not exist or cannot be opened for reading or writing. It is commonly used to handle file input/output errors when reading or writing data from or to a file.

By including these classes in the program, the developer can catch these exceptions using try-catch blocks and handle them accordingly to avoid program crashes or unexpected behavior.

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3. Source Code

3.1 AdminDashboard-

```
import java.io.BufferedReader;
import java.io.BufferedWriter;
import java.io.File;
import java.io.FileNotFoundException;
import java.io.FileReader;
import java.io.FileWriter;
import java.io.IOException;
import static java.lang.Integer.parseInt;
import java.util.ArrayList;
import java.util.InputMismatchException;
import java.util.logging.Level;
import java.util.logging.Logger;
import javax.swing.JLabel;
import javax.swing.JOptionPane;
import javax.swing.table.DefaultTableModel;
import java.util.Scanner;
public class AdminDashboard extends javax.swing.JFrame {


    private static ArrayList<Product> products = new ArrayList<Product>();
    public static AdminDashboard obj1;
    public JLabel obj2;
    String fileName =
"C:\\Users\\hp\\Documents\\NetBeansProjects\\onlineretailapplication\\src\\main\\java\\com\\sau
ravhathi\\onlineretailapplication\\store.txt";
    String outputName =
"C:\\Users\\hp\\Documents\\NetBeansProjects\\onlineretailapplication\\src\\main\\java\\com\\sau
ravhathi\\onlineretailapplication\\output.txt";
```

```
/**
 * Creates new form AdminDashboard
 */
public AdminDashboard() {
    initComponents();
    obj1 = this;
    obj2 = dashboardLablel;
}
@SuppressWarnings("unchecked")
// <editor-fold defaultstate="collapsed" desc="Generated Code">
private void initComponents() {

    buttonGroup1 = new javax.swing.ButtonGroup();
    dashboardLablel = new javax.swing.JLabel();
    jTabbedPane1 = new javax.swing.JTabbedPane();
    jPanel1 = new javax.swing.JPanel();
    jLabel1 = new javax.swing.JLabel();
    idP = new javax.swing.JTextField();
    jLabel2 = new javax.swing.JLabel();
    nameP = new javax.swing.JTextField();
    jLabel3 = new javax.swing.JLabel();
    priceP = new javax.swing.JTextField();
    jLabel4 = new javax.swing.JLabel();
    categoryP = new javax.swing.JTextField();
    jLabel5 = new javax.swing.JLabel();
    addProductBtn = new javax.swing.JButton();
    descriptionP = new javax.swing.JTextField();
    jPanel4 = new javax.swing.JPanel();
    jPanel2 = new javax.swing.JPanel();
```

```
jLabel6 = new javax.swing.JLabel();
idUpdateP = new javax.swing.JTextField();
jLabel7 = new javax.swing.JLabel();
nameUpdateP = new javax.swing.JTextField();
jLabel8 = new javax.swing.JLabel();
priceUpdateP = new javax.swing.JTextField();
jLabel9 = new javax.swing.JLabel();
categoryUpdateP = new javax.swing.JTextField();
jLabel10 = new javax.swing.JLabel();
updateProductBtn = new javax.swing.JButton();
descriptionUpdateP = new javax.swing.JTextField();
jLabel11 = new javax.swing.JLabel();
idPGet = new javax.swing.JTextField();
getDetails = new javax.swing.JButton();
jPanel5 = new javax.swing.JPanel();
jScrollPane2 = new javax.swing.JScrollPane();
jTable = new javax.swing.JTable();
logOutBtn = new javax.swing.JButton();

setDefaultCloseOperation(javax.swing.WindowConstants.EXIT_ON_CLOSE);
setUndecorated(true);

dashboardLablel.setFont(new java.awt.Font("Tahoma", 1, 24)); // NOI18N

jTabbedPane1.setBackground(new java.awt.Color(255, 255, 255));
jTabbedPane1.setFont(new java.awt.Font("Tahoma", 0, 14)); // NOI18N
jTabbedPane1.setRequestFocusEnabled(false);
jTabbedPane1.addChangeListener(new javax.swing.event.ChangeListener() {
    public void stateChanged(javax.swing.event.ChangeEvent evt) {
        jTabbedPane1StateChanged(evt);
```

```
        }
    });

    jLabel1.setFont(new java.awt.Font("Tahoma", 0, 12)); // NOI18N
    jLabel1.setText("Id");
    jLabel2.setFont(new java.awt.Font("Tahoma", 0, 12)); // NOI18N
    jLabel2.setText("Name");
    jLabel3.setFont(new java.awt.Font("Tahoma", 0, 12)); // NOI18N
    jLabel3.setText("Price");
    jLabel4.setFont(new java.awt.Font("Tahoma", 0, 12)); // NOI18N
    jLabel4.setText("Category");
    jLabel5.setFont(new java.awt.Font("Tahoma", 0, 12)); // NOI18N
    jLabel5.setText("Description");

    addProductBtn.setFont(new java.awt.Font("Tahoma", 0, 14)); // NOI18N
    addProductBtn.setText("Add Product");
    addProductBtn.addActionListener(new java.awt.event.ActionListener() {
        public void actionPerformed(java.awt.event.ActionEvent evt) {
            addProductBtnActionPerformed(evt);
        }
    });

    javax.swing.GroupLayout jPanel1Layout = new javax.swing.GroupLayout(jPanel1);
    jPanel1.setLayout(jPanel1Layout);
    jPanel1Layout.setHorizontalGroup(
        jPanel1Layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)
        .addGroup(jPanel1Layout.createSequentialGroup()

.addGroup(jPanel1Layout.createParallelGroup(javax.swing.GroupLayout.Alignment.TRAILING
)
```

```
                .addComponent(addProductBtn)

.addGroup(jPanel1Layout.createParallelGroup(javax.swing.GroupLayout.Alignment.TRAILING
)
                .addGroup(jPanel1Layout.createSequentialGroup()
                    .addContainerGap()
                    .addComponent(descriptionP, javax.swing.GroupLayout.PREFERRED_SIZE,
203, javax.swing.GroupLayout.PREFERRED_SIZE))
                .addGroup(javax.swing.GroupLayout.Alignment.LEADING,
jPanel1Layout.createSequentialGroup()
                    .addGap(97, 97, 97)

.addGroup(jPanel1Layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING
)
                        .addGroup(jPanel1Layout.createSequentialGroup()

.addGroup(jPanel1Layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING
)
                            .addComponent(jLabel1,
javax.swing.GroupLayout.PREFERRED_SIZE, 31,
javax.swing.GroupLayout.PREFERRED_SIZE)
                            .addComponent(idP, javax.swing.GroupLayout.PREFERRED_SIZE,
55, javax.swing.GroupLayout.PREFERRED_SIZE))
                        .addGap(28, 28, 28)

.addGroup(jPanel1Layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING
)
                            .addComponent(jLabel2,
javax.swing.GroupLayout.PREFERRED_SIZE, 31,
javax.swing.GroupLayout.PREFERRED_SIZE)
                            .addComponent(nameP,
javax.swing.GroupLayout.PREFERRED_SIZE, 192,
javax.swing.GroupLayout.PREFERRED_SIZE))
                        .addGap(29, 29, 29)
```

```
.addGroup(jPanel1Layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING
)
                    .addComponent(jLabel3,
javax.swing.GroupLayout.PREFERRED_SIZE, 31,
javax.swing.GroupLayout.PREFERRED_SIZE)
                    .addComponent(priceP, javax.swing.GroupLayout.PREFERRED_SIZE,
73, javax.swing.GroupLayout.PREFERRED_SIZE)))
                .addGroup(jPanel1Layout.createSequentialGroup()

.addGroup(jPanel1Layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING
)
                    .addComponent(jLabel4)
                    .addComponent(categoryP,
javax.swing.GroupLayout.PREFERRED_SIZE, 140,
javax.swing.GroupLayout.PREFERRED_SIZE))
                .addGap(33, 33, 33)
                .addComponent(jLabel5))))))
            .addContainerGap(318, Short.MAX_VALUE))
        );
        jPanel1Layout.setVerticalGroup(
            jPanel1Layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)
            .addGroup(jPanel1Layout.createSequentialGroup()
                .addGap(58, 58, 58)

.addGroup(jPanel1Layout.createParallelGroup(javax.swing.GroupLayout.Alignment.BASELIN
E)
                    .addComponent(jLabel1)
                    .addComponent(jLabel2)
                    .addComponent(jLabel3))
                .addPreferredGap(javax.swing.LayoutStyle.ComponentPlacement.RELATED)

.addGroup(jPanel1Layout.createParallelGroup(javax.swing.GroupLayout.Alignment.BASELIN
E)
```

```
                .addComponent(idP, javax.swing.GroupLayout.PREFERRED_SIZE,
javax.swing.GroupLayout.DEFAULT_SIZE, javax.swing.GroupLayout.PREFERRED_SIZE)
                .addComponent(nameP, javax.swing.GroupLayout.PREFERRED_SIZE,
javax.swing.GroupLayout.DEFAULT_SIZE, javax.swing.GroupLayout.PREFERRED_SIZE)
                .addComponent(priceP, javax.swing.GroupLayout.PREFERRED_SIZE,
javax.swing.GroupLayout.DEFAULT_SIZE, javax.swing.GroupLayout.PREFERRED_SIZE))
            .addGap(27, 27, 27)

.addGroup(jPanel1Layout.createParallelGroup(javax.swing.GroupLayout.Alignment.BASELIN
E)
                .addComponent(jLabel4)
                .addComponent(jLabel5))
            .addPreferredGap(javax.swing.LayoutStyle.ComponentPlacement.RELATED)

.addGroup(jPanel1Layout.createParallelGroup(javax.swing.GroupLayout.Alignment.BASELIN
E)
                .addComponent(categoryP, javax.swing.GroupLayout.PREFERRED_SIZE,
javax.swing.GroupLayout.DEFAULT_SIZE, javax.swing.GroupLayout.PREFERRED_SIZE)
                .addComponent(descriptionP, javax.swing.GroupLayout.PREFERRED_SIZE,
javax.swing.GroupLayout.DEFAULT_SIZE, javax.swing.GroupLayout.PREFERRED_SIZE))
            .addGap(18, 18, 18)
            .addComponent(addProductBtn)
            .addContainerGap(102, Short.MAX_VALUE))
        );
      jTabbedPane1.addTab("Add Product", jPanel1);
       jLabel6.setFont(new java.awt.Font("Tahoma", 0, 12)); // NOI18N
        jLabel6.setText("Id");
       jLabel7.setFont(new java.awt.Font("Tahoma", 0, 12)); // NOI18N
        jLabel7.setText("Name");
        jLabel8.setFont(new java.awt.Font("Tahoma", 0, 12)); // NOI18N
        jLabel8.setText("Price");
        jLabel9.setFont(new java.awt.Font("Tahoma", 0, 12)); // NOI18N
        jLabel9.setText("Category");
```

```
        jLabel10.setFont(new java.awt.Font("Tahoma", 0, 12)); // NOI18N
        jLabel10.setText("Description");

        updateProductBtn.setFont(new java.awt.Font("Tahoma", 0, 14)); // NOI18N
        updateProductBtn.setText("Update Product");
        updateProductBtn.addActionListener(new java.awt.event.ActionListener() {
            public void actionPerformed(java.awt.event.ActionEvent evt) {
                updateProductBtnActionPerformed(evt);
            }
        });

        jLabel11.setFont(new java.awt.Font("Tahoma", 0, 12)); // NOI18N
        jLabel11.setText("Product Id:");
        getDetails.setFont(new java.awt.Font("Tahoma", 0, 12)); // NOI18N
        getDetails.setText("get Details");
        getDetails.addActionListener(new java.awt.event.ActionListener() {
            public void actionPerformed(java.awt.event.ActionEvent evt) {
                getDetailsActionPerformed(evt);
            }});

        javax.swing.GroupLayout jPanel2Layout = new javax.swing.GroupLayout(jPanel2);
        jPanel2.setLayout(jPanel2Layout);
        jPanel2Layout.setHorizontalGroup(
            jPanel2Layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)
            .addGroup(jPanel2Layout.createSequentialGroup()

.addGroup(jPanel2Layout.createParallelGroup(javax.swing.GroupLayout.Alignment.TRAILING
)
                    .addComponent(updateProductBtn)
```

```
.addGroup(jPanel2Layout.createParallelGroup(javax.swing.GroupLayout.Alignment.TRAILING
)
                .addGroup(jPanel2Layout.createSequentialGroup()
                    .addContainerGap()
                    .addComponent(descriptionUpdateP,
javax.swing.GroupLayout.PREFERRED_SIZE, 203,
javax.swing.GroupLayout.PREFERRED_SIZE))
                .addGroup(javax.swing.GroupLayout.Alignment.LEADING,
jPanel2Layout.createSequentialGroup()
                    .addGap(97, 97, 97)

.addGroup(jPanel2Layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING
)
                        .addGroup(jPanel2Layout.createSequentialGroup()

.addGroup(jPanel2Layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING
)
                                .addComponent(jLabel6,
javax.swing.GroupLayout.PREFERRED_SIZE, 31,
javax.swing.GroupLayout.PREFERRED_SIZE)
                                .addComponent(idUpdateP,
javax.swing.GroupLayout.PREFERRED_SIZE, 55,
javax.swing.GroupLayout.PREFERRED_SIZE)
                                .addComponent(jLabel11))

.addGroup(jPanel2Layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING
)
                                .addGroup(jPanel2Layout.createSequentialGroup()
                                    .addGap(28, 28, 28)

.addGroup(jPanel2Layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING
)
                                        .addComponent(jLabel7,
javax.swing.GroupLayout.PREFERRED_SIZE, 31,
javax.swing.GroupLayout.PREFERRED_SIZE)
```

```
                                .addComponent(nameUpdateP,
javax.swing.GroupLayout.PREFERRED_SIZE, 192,
javax.swing.GroupLayout.PREFERRED_SIZE))

                                .addGap(29, 29, 29)

.addGroup(jPanel2Layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING
)

                                .addComponent(jLabel8,
javax.swing.GroupLayout.PREFERRED_SIZE, 31,
javax.swing.GroupLayout.PREFERRED_SIZE)

                                .addComponent(priceUpdateP,
javax.swing.GroupLayout.PREFERRED_SIZE, 73,
javax.swing.GroupLayout.PREFERRED_SIZE)))

                            .addGroup(jPanel2Layout.createSequentialGroup()

.addPreferredGap(javax.swing.LayoutStyle.ComponentPlacement.UNRELATED)

                                .addComponent(idPGet,
javax.swing.GroupLayout.PREFERRED_SIZE, 55,
javax.swing.GroupLayout.PREFERRED_SIZE)

.addPreferredGap(javax.swing.LayoutStyle.ComponentPlacement.UNRELATED)

                                .addComponent(getDetails))))

                        .addGroup(jPanel2Layout.createSequentialGroup()

.addGroup(jPanel2Layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING
)

                            .addComponent(jLabel9)

                            .addComponent(categoryUpdateP,
javax.swing.GroupLayout.PREFERRED_SIZE, 140,
javax.swing.GroupLayout.PREFERRED_SIZE))

                        .addGap(33, 33, 33)

                        .addComponent(jLabel10))))))

                .addContainerGap(315, Short.MAX_VALUE))

        );

        jPanel2Layout.setVerticalGroup(
```

```
        jPanel2Layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)
        .addGroup(jPanel2Layout.createSequentialGroup()
            .addGap(25, 25, 25)
.addGroup(jPanel2Layout.createParallelGroup(javax.swing.GroupLayout.Alignment.BASELINE)
                .addComponent(jLabel11)
                .addComponent(idPGet, javax.swing.GroupLayout.PREFERRED_SIZE, javax.swing.GroupLayout.DEFAULT_SIZE, javax.swing.GroupLayout.PREFERRED_SIZE)
                .addComponent(getDetails))
            .addGap(18, 18, 18)
.addGroup(jPanel2Layout.createParallelGroup(javax.swing.GroupLayout.Alignment.BASELINE)
                .addComponent(jLabel6)
                .addComponent(jLabel7)
                .addComponent(jLabel8))
            .addPreferredGap(javax.swing.LayoutStyle.ComponentPlacement.RELATED)
.addGroup(jPanel2Layout.createParallelGroup(javax.swing.GroupLayout.Alignment.BASELINE)
                .addComponent(idUpdateP, javax.swing.GroupLayout.PREFERRED_SIZE, javax.swing.GroupLayout.DEFAULT_SIZE, javax.swing.GroupLayout.PREFERRED_SIZE)
                .addComponent(nameUpdateP, javax.swing.GroupLayout.PREFERRED_SIZE, javax.swing.GroupLayout.DEFAULT_SIZE, javax.swing.GroupLayout.PREFERRED_SIZE)
                .addComponent(priceUpdateP, javax.swing.GroupLayout.PREFERRED_SIZE, javax.swing.GroupLayout.DEFAULT_SIZE, javax.swing.GroupLayout.PREFERRED_SIZE))
            .addGap(27, 27, 27)
.addGroup(jPanel2Layout.createParallelGroup(javax.swing.GroupLayout.Alignment.BASELINE)
                .addComponent(jLabel9)
                .addComponent(jLabel10))
            .addPreferredGap(javax.swing.LayoutStyle.ComponentPlacement.RELATED)
```

```
.addGroup(jPanel2Layout.createParallelGroup(javax.swing.GroupLayout.Alignment.BASELIN
E)
                .addComponent(categoryUpdateP, javax.swing.GroupLayout.PREFERRED_SIZE,
javax.swing.GroupLayout.DEFAULT_SIZE, javax.swing.GroupLayout.PREFERRED_SIZE)
                .addComponent(descriptionUpdateP,
javax.swing.GroupLayout.PREFERRED_SIZE, javax.swing.GroupLayout.DEFAULT_SIZE,
javax.swing.GroupLayout.PREFERRED_SIZE))
            .addGap(18, 18, 18)
            .addComponent(updateProductBtn)
            .addContainerGap(100, Short.MAX_VALUE))
        );

        javax.swing.GroupLayout jPanel4Layout = new javax.swing.GroupLayout(jPanel4);
        jPanel4.setLayout(jPanel4Layout);
        jPanel4Layout.setHorizontalGroup(
            jPanel4Layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)
            .addGap(0, 792, Short.MAX_VALUE)

.addGroup(jPanel4Layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING
)
            .addGroup(jPanel4Layout.createSequentialGroup()
                .addGap(0, 0, Short.MAX_VALUE)
                .addComponent(jPanel2, javax.swing.GroupLayout.PREFERRED_SIZE,
javax.swing.GroupLayout.DEFAULT_SIZE, javax.swing.GroupLayout.PREFERRED_SIZE)
                .addGap(0, 0, Short.MAX_VALUE)))
        );
        jPanel4Layout.setVerticalGroup(
            jPanel4Layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)
            .addGap(0, 316, Short.MAX_VALUE)

.addGroup(jPanel4Layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING
)
```

```
            .addGroup(jPanel4Layout.createSequentialGroup()
                .addGap(0, 0, Short.MAX_VALUE)
                .addComponent(jPanel2, javax.swing.GroupLayout.PREFERRED_SIZE,
javax.swing.GroupLayout.DEFAULT_SIZE, javax.swing.GroupLayout.PREFERRED_SIZE)
                .addGap(0, 0, Short.MAX_VALUE)))
        );

        jTabbedPane1.addTab("Update Product", jPanel4);

        jTable.setModel(new javax.swing.table.DefaultTableModel(
            new Object [][] {

            },
            new String [] {
}
        ));
        jTable.setColumnSelectionAllowed(true);
        jTable.addAncestorListener(new javax.swing.event.AncestorListener() {
            public void ancestorAdded(javax.swing.event.AncestorEvent evt) {
                jTableAncestorAdded(evt);
            }
            public void ancestorMoved(javax.swing.event.AncestorEvent evt) {
                jTableAncestorMoved(evt);
            }
            public void ancestorRemoved(javax.swing.event.AncestorEvent evt) {
                jTableAncestorRemoved(evt);
            }
        });
        jTable.addMouseListener(new java.awt.event.MouseAdapter() {
            public void mouseClicked(java.awt.event.MouseEvent evt) {
```

```
            jTableMouseClicked(evt);
        }
    });
    jScrollPane2.setViewportView(jTable);

jTable.getColumnModel().getSelectionModel().setSelectionMode(javax.swing.ListSelectionMod
el.SINGLE_SELECTION);


    javax.swing.GroupLayout jPanel5Layout = new javax.swing.GroupLayout(jPanel5);
    jPanel5.setLayout(jPanel5Layout);
    jPanel5Layout.setHorizontalGroup(
        jPanel5Layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)
        .addComponent(jScrollPane2, javax.swing.GroupLayout.DEFAULT_SIZE, 792,
Short.MAX_VALUE)
    );
    jPanel5Layout.setVerticalGroup(
        jPanel5Layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)
        .addGroup(jPanel5Layout.createSequentialGroup()
            .addComponent(jScrollPane2, javax.swing.GroupLayout.PREFERRED_SIZE, 312,
javax.swing.GroupLayout.PREFERRED_SIZE)
            .addGap(0, 0, Short.MAX_VALUE))
    );


    jTabbedPane1.addTab("Show All Product", jPanel5);
    logOutBtn.setBackground(new java.awt.Color(51, 0, 51));
    logOutBtn.setFont(new java.awt.Font("Tahoma", 0, 18)); // NOI18N
    logOutBtn.setForeground(new java.awt.Color(255, 255, 255));
    logOutBtn.setText("LogOut");
    logOutBtn.setBorder(null);
    logOutBtn.addActionListener(new java.awt.event.ActionListener() {
        public void actionPerformed(java.awt.event.ActionEvent evt) {
```

```
            logOutBtnActionPerformed(evt);
        }
    });
    javax.swing.GroupLayout layout = new javax.swing.GroupLayout(getContentPane());
    getContentPane().setLayout(layout);
    layout.setHorizontalGroup(
        layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)
        .addGroup(layout.createSequentialGroup()
            .addGap(292, 292, 292)
            .addComponent(dashboardLablel, javax.swing.GroupLayout.PREFERRED_SIZE,
311, javax.swing.GroupLayout.PREFERRED_SIZE)
            .addContainerGap(javax.swing.GroupLayout.DEFAULT_SIZE,
Short.MAX_VALUE))
        .addComponent(jTabbedPane1)
        .addGroup(javax.swing.GroupLayout.Alignment.TRAILING,
layout.createSequentialGroup()
            .addContainerGap(javax.swing.GroupLayout.DEFAULT_SIZE, Short.MAX_VALUE)
            .addComponent(logOutBtn)
            .addContainerGap())
    );
    layout.setVerticalGroup(
        layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)
        .addGroup(layout.createSequentialGroup()
            .addGap(31, 31, 31)
            .addComponent(dashboardLablel, javax.swing.GroupLayout.DEFAULT_SIZE,
javax.swing.GroupLayout.DEFAULT_SIZE, Short.MAX_VALUE)
            .addGap(32, 32, 32)
            .addComponent(logOutBtn)
            .addPreferredGap(javax.swing.LayoutStyle.ComponentPlacement.UNRELATED)
            .addComponent(jTabbedPane1, javax.swing.GroupLayout.PREFERRED_SIZE, 341,
javax.swing.GroupLayout.PREFERRED_SIZE))
```

```
        );
        pack();
    }// </editor-fold>
    private void logOutBtnActionPerformed(java.awt.event.ActionEvent evt) {
        int result = JOptionPane.showConfirmDialog(rootPane, "Are you sure you want to log out?", "Log Out", JOptionPane.YES_NO_OPTION, JOptionPane.QUESTION_MESSAGE);
        if (result == JOptionPane.YES_OPTION) {
            new AdminDashboard().setVisible(false);
            JOptionPane.showMessageDialog(rootPane, "Log Out Successful.");
            dispose(); // close the current window
            // TODO: add code to open the login window or main menu window
        }
    }
    private void jTabbedPane1StateChanged(javax.swing.event.ChangeEvent evt) {
        // TODO add your handling code here:
        int tabIndex = jTabbedPane1.getSelectedIndex();
        if (tabIndex == 2) {
            try {
                FileReader fileReader = new FileReader(fileName);
                BufferedReader bufferedReader = new BufferedReader(fileReader);

                // Create DefaultTableModel object
                String[] columnNames = {"id", "name", "price", "description", "category"};
                DefaultTableModel model = new DefaultTableModel(columnNames, 0) {
                    @Override
                    public boolean isCellEditable(int row, int column) {
                        // Disable editing of all cells
                        return false;
                    }
                };
```

```
            // Read data from file and add to DefaultTableModel object
            String line;
            while ((line = bufferedReader.readLine()) != null) {
                String[] data = line.split(",");
                model.addRow(data);
            }
            // Set the model for the JTable
            jTable.setModel(model);
            // Close FileReader and BufferedReader objects
            bufferedReader.close();
            fileReader.close();
        } catch (IOException ex) {
            ex.printStackTrace();
        }
    }
}

private void jTableAncestorAdded(javax.swing.event.AncestorEvent evt) {
    // TODO add your handling code here:
    jTable.setAutoCreateRowSorter(true);
}

private void jTableAncestorMoved(javax.swing.event.AncestorEvent evt) {
    // TODO add your handling code here:
}
private void jTableAncestorRemoved(javax.swing.event.AncestorEvent evt) {
    // TODO add your handling code here:
}
private void jTableMouseClicked(java.awt.event.MouseEvent evt) {
    // TODO add your handling code here:
```

```
        DefaultTableModel model = (DefaultTableModel) jTable.getModel();
        int selectedRow = jTable.getSelectedRow();
        if (selectedRow != -1) { // Check if a row is actually selected
            int confirmation = JOptionPane.showConfirmDialog(this, "Are you sure you want to delete this row?", "Confirmation", JOptionPane.YES_NO_OPTION, JOptionPane.WARNING_MESSAGE);
            if (confirmation == JOptionPane.YES_OPTION) {
                model.removeRow(selectedRow);
            }
        }
        // Update the data in the file
        try {
            FileWriter fileWriter = new FileWriter(fileName);
            BufferedWriter bufferedWriter = new BufferedWriter(fileWriter);
            String[] columnNames = {"id", "name", "price", "description", "category"};

            for (int i = 0; i < model.getRowCount(); i++) {
                for (int j = 0; j < model.getColumnCount(); j++) {
                    Object value = model.getValueAt(i, j);
                    bufferedWriter.write(value.toString());
                    bufferedWriter.write(",");
                }
                bufferedWriter.newLine();
            }
            // Close the file writer and buffered writer
            bufferedWriter.close();
            fileWriter.close();
        } catch (IOException ex) {
            ex.printStackTrace();
        }
```

```
}
private void addProductBtnActionPerformed(java.awt.event.ActionEvent evt) {
    // TODO add your handling code here:
    String idStr = idP.getText();
    String name = nameP.getText();
    String priceStr = priceP.getText();
    String description = descriptionP.getText();
    String category = categoryP.getText();
    // Validate the input
    if (idStr.isEmpty() || priceStr.isEmpty() || description.isEmpty() || category.isEmpty()) {
        JOptionPane.showMessageDialog(null, "Please enter all the fields.");
        return;
    }
    int id;
    double price;
    try {
        id = Integer.parseInt(idStr);
    } catch (NumberFormatException ex) {
        JOptionPane.showMessageDialog(null, "Please enter a valid ID.");
        return;
    }

    try {
        price = Double.parseDouble(priceStr);
    } catch (NumberFormatException ex) {
        JOptionPane.showMessageDialog(null, "Please enter a valid price.");
        return;
    }

    try {
```

```
            // Create the product string
            String product = id + "," + name + "," + price + "," + description + "," + category;
            // Write the Product object to the store.txt file
            FileWriter fileWriter = new FileWriter(fileName, true);
            BufferedWriter bufferedWriter = new BufferedWriter(fileWriter);

            // Write the new product to the file
            bufferedWriter.write(product);
            bufferedWriter.newLine();

            // Close the file writer and buffered writer
            bufferedWriter.close();
            fileWriter.close();
        } catch (IOException ex) {
            ex.printStackTrace();
        }
        idP.setText("");
        nameP.setText("");
        priceP.setText("");
        descriptionP.setText("");
        categoryP.setText("");
        JOptionPane.showMessageDialog(rootPane, "Product added successfully.");
    }

    private void updateProductBtnActionPerformed(java.awt.event.ActionEvent evt) {
        // TODO add your handling code here:
        int id = Integer.parseInt(idUpdateP.getText());
        String name = nameUpdateP.getText();
        double price = Double.parseDouble(priceUpdateP.getText());
```

```
        String category = categoryUpdateP.getText();
        String description = descriptionUpdateP.getText();

        try {
            File inputFile = new File(fileName);
            File outputFile = new File(outputName);
            BufferedReader reader = new BufferedReader(new FileReader(inputFile));
            BufferedWriter writer = new BufferedWriter(new FileWriter(outputFile));

            String line;
            boolean productUpdated = false;

            while ((line = reader.readLine()) != null) {
                if (line.startsWith(Integer.toString(id))) {
                    writer.write(id + "," + name + "," + price + "," + description + "," + category);
                    writer.newLine();
                    productUpdated = true;
                } else {
                    writer.write(line);
                    writer.newLine();
                }
            }

            reader.close();
            writer.close();

            if (!productUpdated) {
                JOptionPane.showMessageDialog(this, "Product with ID " + id + " not found.",
"Error", JOptionPane.ERROR_MESSAGE);
            } else {
```

```
            if (!inputFile.delete()) {
                throw new IOException("Failed to delete the original file.");
            }
            while (inputFile.exists()) {
                Thread.sleep(100);
            }
            if (!outputFile.renameTo(inputFile)) {
                throw new IOException("Failed to rename the new file.");
            }
            JOptionPane.showMessageDialog(this, "Product updated successfully.", "Success",
JOptionPane.INFORMATION_MESSAGE);
        }
    } catch (IOException ex) {
        ex.printStackTrace();
    } catch (InterruptedException ex) {
        ex.printStackTrace();
    }
  }

  private void getDetailsActionPerformed(java.awt.event.ActionEvent evt) {
    // TODO add your handling code here:
    String idText = idPGet.getText();
    if (idText.isEmpty()) {
        JOptionPane.showMessageDialog(rootPane, "Id not be empty.");
    }
    int selectedId = Integer.parseInt(idText);
    Product selectedProduct = null;

    // Search for the product with the selected ID
    try {
```

```
            FileReader fileReader = new FileReader(fileName);
            BufferedReader bufferedReader = new BufferedReader(fileReader);

            String line;
            while ((line = bufferedReader.readLine()) != null) {
                Product product = Product.fromString(line);
                if (product.getId() == selectedId) {
                    selectedProduct = product;
                    break;
                }
            }

            bufferedReader.close();
            fileReader.close();
        } catch (IOException ex) {
            ex.printStackTrace();
        } catch (IllegalArgumentException ex) {
            ex.printStackTrace();
        }

        // Set the fields based on the selected product
        if (selectedProduct != null) {
            idUpdateP.setText(Integer.toString(selectedProduct.getId()));
            nameUpdateP.setText(selectedProduct.getName());
            priceUpdateP.setText(Double.toString(selectedProduct.getPrice()));
            categoryUpdateP.setText(selectedProduct.getCategory());
            descriptionUpdateP.setText(selectedProduct.getDescription());
        } else {
            JOptionPane.showMessageDialog(this, "Product with ID " + selectedId + " not found.",
"Error", JOptionPane.ERROR_MESSAGE);
```

```
    }
}
    public static void main(String args[]) {
    /* Set the Nimbus look and feel */
    //<editor-fold defaultstate="collapsed" desc=" Look and feel setting code (optional) ">
    //</editor-fold>
    /* Create and display the form */
    java.awt.EventQueue.invokeLater(new Runnable() {
        public void run() {
            new AdminDashboard().setVisible(true);
        }
    });
}

// Variables declaration - do not modify
private javax.swing.JButton addProductBtn;
private javax.swing.ButtonGroup buttonGroup1;
private javax.swing.JTextField categoryP;
private javax.swing.JTextField categoryUpdateP;
private javax.swing.JLabel dashboardLablel;
private javax.swing.JTextField descriptionP;
private javax.swing.JTextField descriptionUpdateP;
private javax.swing.JButton getDetails;
private javax.swing.JTextField idP;
private javax.swing.JTextField idPGet;
private javax.swing.JTextField idUpdateP;
private javax.swing.JLabel jLabel1;
private javax.swing.JLabel jLabel10;
private javax.swing.JLabel jLabel11;
private javax.swing.JLabel jLabel2;
```

```
    private javax.swing.JLabel jLabel3;
    private javax.swing.JLabel jLabel4;
    private javax.swing.JLabel jLabel5;
    private javax.swing.JLabel jLabel6;
    private javax.swing.JLabel jLabel7;
    private javax.swing.JLabel jLabel8;
    private javax.swing.JLabel jLabel9;
    private javax.swing.JPanel jPanel1;
    private javax.swing.JPanel jPanel2;
    private javax.swing.JPanel jPanel4;
    private javax.swing.JPanel jPanel5;
    private javax.swing.JScrollPane jScrollPane2;
    private javax.swing.JTabbedPane jTabbedPane1;
    private javax.swing.JTable jTable;
    private javax.swing.JButton logOutBtn;
    private javax.swing.JTextField nameP;
    private javax.swing.JTextField nameUpdateP;
    private javax.swing.JTextField priceP;
    private javax.swing.JTextField priceUpdateP;
    private javax.swing.JButton updateProductBtn;
    // End of variables declaration
}
```

3.2 Login-

```
import javax.swing.JOptionPane;
public class Login extends javax.swing.JFrame {
    public Login() {
        initComponents();
    }
   private void initComponents() {
```

```
        jLabel1 = new javax.swing.JLabel();
        username = new javax.swing.JTextField();
        password = new javax.swing.JTextField();
        jLabel2 = new javax.swing.JLabel();
        jLabel3 = new javax.swing.JLabel();
        logInBtn = new javax.swing.JButton();
        setDefaultCloseOperation(javax.swing.WindowConstants.EXIT_ON_CLOSE);
        jLabel1.setFont(new java.awt.Font("Tahoma", 1, 24)); // NOI18N
        jLabel1.setText("Online Retail Application");
        jLabel2.setFont(new java.awt.Font("Tahoma", 0, 12)); // NOI18N
        jLabel2.setText("Username");
        jLabel3.setFont(new java.awt.Font("Tahoma", 0, 12)); // NOI18N
        jLabel3.setText("Password");

        logInBtn.setText("LogIn");
        logInBtn.addActionListener(new java.awt.event.ActionListener() {
            public void actionPerformed(java.awt.event.ActionEvent evt) {
                logInBtnActionPerformed(evt);
            }
        });

        javax.swing.GroupLayout layout = new javax.swing.GroupLayout(getContentPane());
        getContentPane().setLayout(layout);
        layout.setHorizontalGroup(
            layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)
            .addGroup(javax.swing.GroupLayout.Alignment.TRAILING,
layout.createSequentialGroup()
                .addContainerGap(130, Short.MAX_VALUE)
```

```
.addGroup(layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)
                .addComponent(jLabel1, javax.swing.GroupLayout.PREFERRED_SIZE, 307,
javax.swing.GroupLayout.PREFERRED_SIZE)
                .addGroup(javax.swing.GroupLayout.Alignment.TRAILING,
layout.createSequentialGroup()

.addGroup(layout.createParallelGroup(javax.swing.GroupLayout.Alignment.TRAILING)
                    .addComponent(logInBtn)

.addGroup(layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)
                    .addComponent(username, javax.swing.GroupLayout.PREFERRED_SIZE,
202, javax.swing.GroupLayout.PREFERRED_SIZE)
                    .addComponent(password, javax.swing.GroupLayout.PREFERRED_SIZE,
202, javax.swing.GroupLayout.PREFERRED_SIZE)
                    .addComponent(jLabel2, javax.swing.GroupLayout.PREFERRED_SIZE, 69,
javax.swing.GroupLayout.PREFERRED_SIZE)
                    .addComponent(jLabel3, javax.swing.GroupLayout.PREFERRED_SIZE, 69,
javax.swing.GroupLayout.PREFERRED_SIZE)))
                .addGap(51, 51, 51)))
            .addGap(120, 120, 120))
    );
    layout.setVerticalGroup(
        layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)
        .addGroup(layout.createSequentialGroup()
            .addGap(29, 29, 29)
            .addComponent(jLabel1)
            .addGap(65, 65, 65)
            .addComponent(jLabel2)
            .addPreferredGap(javax.swing.LayoutStyle.ComponentPlacement.RELATED)
            .addComponent(username, javax.swing.GroupLayout.PREFERRED_SIZE,
javax.swing.GroupLayout.DEFAULT_SIZE, javax.swing.GroupLayout.PREFERRED_SIZE)
            .addPreferredGap(javax.swing.LayoutStyle.ComponentPlacement.UNRELATED)
```

```
            .addComponent(jLabel3)
            .addPreferredGap(javax.swing.LayoutStyle.ComponentPlacement.RELATED)
            .addComponent(password, javax.swing.GroupLayout.PREFERRED_SIZE,
javax.swing.GroupLayout.DEFAULT_SIZE, javax.swing.GroupLayout.PREFERRED_SIZE)
            .addGap(18, 18, 18)
            .addComponent(logInBtn)
            .addContainerGap(100, Short.MAX_VALUE))
        );

        pack();
    }// </editor-fold>
    private void logInBtnActionPerformed(java.awt.event.ActionEvent evt) {
        // TODO add your handling code here:
        String user = username.getText();
        String pass = password.getText();
        String userU = user.substring(0, 1).toUpperCase() + user.substring(1);
        if(user.equals("admin") && pass.equals("admin")){
            JOptionPane.showMessageDialog(rootPane, "Welcome to the Online Retail Application
"+userU+"!");
            new Login().setVisible(false);
            new AdminDashboard().show();
            AdminDashboard.obj1.obj2.setText(userU+" Dashboard");
            dispose();
        }
        else if(user.equals("user") && pass.equals("user")){
            JOptionPane.showMessageDialog(rootPane, "Welcome to the Online Retail Application
"+userU+"!");
            new Login().setVisible(false);
            new UserDashboard().show();
            UserDashboard.obj1.obj2.setText(userU+" Dashboard");
            UserDashboard.obj1.obj3.setText(userU);
```

```
            dispose();
        }
        else if(user.equals("") || pass.equals("")){
            JOptionPane.showMessageDialog(rootPane, "Plz fill the required details");
        }
        else{
            JOptionPane.showMessageDialog(rootPane, "Invalid details");
        }
    }
    public static void main(String args[]) {
        try {
            for (javax.swing.UIManager.LookAndFeelInfo info :
javax.swing.UIManager.getInstalledLookAndFeels()) {
                if ("Nimbus".equals(info.getName())) {
                    javax.swing.UIManager.setLookAndFeel(info.getClassName());
                    break;
                }
            }
        } catch (ClassNotFoundException ex) {

java.util.logging.Logger.getLogger(Login.class.getName()).log(java.util.logging.Level.SEVERE
, null, ex);
        } catch (InstantiationException ex) {

java.util.logging.Logger.getLogger(Login.class.getName()).log(java.util.logging.Level.SEVERE
, null, ex);
        } catch (IllegalAccessException ex) {

java.util.logging.Logger.getLogger(Login.class.getName()).log(java.util.logging.Level.SEVERE
, null, ex);
        } catch (javax.swing.UnsupportedLookAndFeelException ex) {
```

```
java.util.logging.Logger.getLogger(Login.class.getName()).log(java.util.logging.Level.SEVERE
, null, ex);
        }
        //</editor-fold>

        /* Create and display the form */
        java.awt.EventQueue.invokeLater(new Runnable() {
            public void run() {
                new Login().setVisible(true);
            }
        });
    }
    // Variables declaration - do not modify
    private javax.swing.JLabel jLabel1;
    private javax.swing.JLabel jLabel2;
    private javax.swing.JLabel jLabel3;
    private javax.swing.JButton logInBtn;
    private javax.swing.JTextField password;
    private javax.swing.JTextField username;
    // End of variables declaration
}
```

3.3 Product-

```
public class Product {

    private int id;
    private String name;
    private double price;
    private String description;
    private String category;

    public Product(int id, String name, double price, String description, String category) {
        this.id = id;
        this.name = name;
```

```
        this.price = price;
        this.description = description;
        this.category = category;
    }

    public int getId() {
        return id;
    }

    public String getName() {
        return name;
    }

    public double getPrice() {
        return price;
    }

    public String getDescription() {
        return description;
    }

    public String getCategory() {
        return category;
    }

    public static Product fromString(String line) throws IllegalArgumentException {
        String[] values = line.split(",");
        if (values.length != 5) {
            throw new IllegalArgumentException("Invalid product data: " + line);
        }
        int id = Integer.parseInt(values[0]);
        String name = values[1];
        double price = Double.parseDouble(values[2]);
        String description = values[3];
        String category = values[4];
        return new Product(id, name, price, description, category);
    }

    public String toString() {
        return id + "," + name + "," + price + "," + description + "," + category;
    }
}
```

3.4 UserDashboard-

```
import java.io.BufferedReader;
import java.io.BufferedWriter;
import java.io.FileReader;
import java.io.FileWriter;
import java.io.IOException;
import javax.swing.JLabel;
import javax.swing.JOptionPane;
import javax.swing.JTextPane;
import javax.swing.table.DefaultTableModel;

public class UserDashboard extends javax.swing.JFrame {

    public static UserDashboard obj1;
    public JLabel obj2;
    public JTextPane obj3;
//    public JTextPanel obj3;
    String fileName =
"C:\\Users\\hp\\Documents\\NetBeansProjects\\onlineretailapplication\\src\\main\\java\\com\\sau
ravhathi\\onlineretailapplication\\store.txt";

    /**
     * Creates new form UserDashboard
     */
    public UserDashboard() {
        initComponents();
        obj1 = this;
        obj2 = userLabel;
        obj3 = userName;
    }

    /**
     * This method is called from within the constructor to initialize the form.
     * WARNING: Do NOT modify this code. The content of this method is always
     * regenerated by the Form Editor.
     */
    @SuppressWarnings("unchecked")
    // <editor-fold defaultstate="collapsed" desc="Generated Code">
    private void initComponents() {

        buttonGroup1 = new javax.swing.ButtonGroup();
        userLabel = new javax.swing.JLabel();
        logOutBtn = new javax.swing.JButton();
        buyProduct = new javax.swing.JTabbedPane();
```

```
jPanel1 = new javax.swing.JPanel();
jScrollPane2 = new javax.swing.JScrollPane();
jTable = new javax.swing.JTable();
jPanel2 = new javax.swing.JPanel();
jLabel1 = new javax.swing.JLabel();
jLabel2 = new javax.swing.JLabel();
pId = new javax.swing.JTextField();
jSeparator1 = new javax.swing.JSeparator();
jScrollPane1 = new javax.swing.JScrollPane();
userName = new javax.swing.JTextPane();
jScrollPane3 = new javax.swing.JScrollPane();
productName = new javax.swing.JTextPane();
jScrollPane4 = new javax.swing.JScrollPane();
totalProductQut = new javax.swing.JTextPane();
jScrollPane5 = new javax.swing.JScrollPane();
totalPriceProduct = new javax.swing.JTextPane();
jLabel3 = new javax.swing.JLabel();
jLabel4 = new javax.swing.JLabel();
jLabel5 = new javax.swing.JLabel();
jLabel6 = new javax.swing.JLabel();
pQut = new javax.swing.JTextField();
jLabel7 = new javax.swing.JLabel();
getDetails = new javax.swing.JButton();

setDefaultCloseOperation(javax.swing.WindowConstants.EXIT_ON_CLOSE);
setPreferredSize(new java.awt.Dimension(794, 400));

userLabel.setFont(new java.awt.Font("Tahoma", 1, 24)); // NOI18N

logOutBtn.setBackground(new java.awt.Color(51, 0, 51));
logOutBtn.setFont(new java.awt.Font("Tahoma", 0, 18)); // NOI18N
logOutBtn.setForeground(new java.awt.Color(255, 255, 255));
logOutBtn.setText("LogOut");
logOutBtn.setBorder(null);
logOutBtn.addActionListener(new java.awt.event.ActionListener() {
    public void actionPerformed(java.awt.event.ActionEvent evt) {
        logOutBtnActionPerformed(evt);
    }
});

buyProduct.setFont(new java.awt.Font("Tahoma", 0, 14)); // NOI18N
buyProduct.addChangeListener(new javax.swing.event.ChangeListener() {
    public void stateChanged(javax.swing.event.ChangeEvent evt) {
        buyProductStateChanged(evt);
    }
```

```
        });

        jTable.setModel(new javax.swing.table.DefaultTableModel(
            new Object [][] {

            },
            new String [] {

            }
        ));
        jTable.setColumnSelectionAllowed(true);
        jTable.addAncestorListener(new javax.swing.event.AncestorListener() {
            public void ancestorAdded(javax.swing.event.AncestorEvent evt) {
                jTableAncestorAdded(evt);
            }
            public void ancestorMoved(javax.swing.event.AncestorEvent evt) {
                jTableAncestorMoved(evt);
            }
            public void ancestorRemoved(javax.swing.event.AncestorEvent evt) {
                jTableAncestorRemoved(evt);
            }
        });
        jTable.addMouseListener(new java.awt.event.MouseAdapter() {
            public void mouseClicked(java.awt.event.MouseEvent evt) {
                jTableMouseClicked(evt);
            }
        });
        jScrollPane2.setViewportView(jTable);

jTable.getColumnModel().getSelectionModel().setSelectionMode(javax.swing.ListSelectionMod
el.SINGLE_INTERVAL_SELECTION);

        javax.swing.GroupLayout jPanel1Layout = new javax.swing.GroupLayout(jPanel1);
        jPanel1.setLayout(jPanel1Layout);
        jPanel1Layout.setHorizontalGroup(
            jPanel1Layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)
            .addComponent(jScrollPane2, javax.swing.GroupLayout.DEFAULT_SIZE, 789,
Short.MAX_VALUE)
        );
        jPanel1Layout.setVerticalGroup(
            jPanel1Layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)
            .addComponent(jScrollPane2, javax.swing.GroupLayout.DEFAULT_SIZE, 331,
Short.MAX_VALUE)
        );
```

```
buyProduct.addTab("Products", jPanel1);

jLabel1.setFont(new java.awt.Font("Tahoma", 1, 18)); // NOI18N
jLabel1.setText("Place your order");

jLabel2.setFont(new java.awt.Font("Tahoma", 0, 14)); // NOI18N
jLabel2.setText("Product Id:");

pId.setFont(new java.awt.Font("Tahoma", 0, 12)); // NOI18N

jSeparator1.setForeground(new java.awt.Color(0, 0, 0));
jSeparator1.setOrientation(javax.swing.SwingConstants.VERTICAL);

jScrollPane1.setViewportView(userName);

jScrollPane3.setViewportView(productName);

jScrollPane4.setViewportView(totalProductQut);

jScrollPane5.setViewportView(totalPriceProduct);

jLabel3.setText("User Name");

jLabel4.setText("Product Name");

jLabel5.setText("Qut");

jLabel6.setText("Total Price");

pQut.setFont(new java.awt.Font("Tahoma", 0, 12)); // NOI18N

jLabel7.setFont(new java.awt.Font("Tahoma", 0, 14)); // NOI18N
jLabel7.setText("Product Qut:");

getDetails.setFont(new java.awt.Font("Tahoma", 0, 14)); // NOI18N
getDetails.setText("Get Details");
getDetails.addActionListener(new java.awt.event.ActionListener() {
   public void actionPerformed(java.awt.event.ActionEvent evt) {
      getDetailsActionPerformed(evt);
   }
});

javax.swing.GroupLayout jPanel2Layout = new javax.swing.GroupLayout(jPanel2);
jPanel2.setLayout(jPanel2Layout);
jPanel2Layout.setHorizontalGroup(
```

```
        jPanel2Layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)
        .addGroup(javax.swing.GroupLayout.Alignment.TRAILING,
jPanel2Layout.createSequentialGroup()
            .addContainerGap(325, Short.MAX_VALUE)
            .addComponent(jLabel1)
            .addGap(312, 312, 312))
        .addGroup(jPanel2Layout.createSequentialGroup()
            .addGap(63, 63, 63)

.addGroup(jPanel2Layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING
)
                .addGroup(jPanel2Layout.createSequentialGroup()

.addGroup(jPanel2Layout.createParallelGroup(javax.swing.GroupLayout.Alignment.TRAILING
)
                    .addGroup(jPanel2Layout.createSequentialGroup()
                        .addComponent(jLabel2)

.addPreferredGap(javax.swing.LayoutStyle.ComponentPlacement.UNRELATED)
                        .addComponent(pId, javax.swing.GroupLayout.PREFERRED_SIZE, 81,
javax.swing.GroupLayout.PREFERRED_SIZE))
                    .addComponent(getDetails))
                .addGap(18, 18, 18)
                .addComponent(jSeparator1, javax.swing.GroupLayout.PREFERRED_SIZE, 11,
javax.swing.GroupLayout.PREFERRED_SIZE))
                .addGroup(jPanel2Layout.createSequentialGroup()
                    .addComponent(jLabel7)

.addPreferredGap(javax.swing.LayoutStyle.ComponentPlacement.UNRELATED)
                    .addComponent(pQut, javax.swing.GroupLayout.PREFERRED_SIZE, 55,
javax.swing.GroupLayout.PREFERRED_SIZE)))
            .addGap(18, 18, 18)

.addGroup(jPanel2Layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING
)
                .addComponent(jScrollPane1, javax.swing.GroupLayout.PREFERRED_SIZE, 160,
javax.swing.GroupLayout.PREFERRED_SIZE)
                .addComponent(jScrollPane3, javax.swing.GroupLayout.PREFERRED_SIZE, 160,
javax.swing.GroupLayout.PREFERRED_SIZE)
                .addComponent(jScrollPane5, javax.swing.GroupLayout.PREFERRED_SIZE, 160,
javax.swing.GroupLayout.PREFERRED_SIZE)
                .addComponent(jScrollPane4, javax.swing.GroupLayout.PREFERRED_SIZE, 160,
javax.swing.GroupLayout.PREFERRED_SIZE)
                .addComponent(jLabel3, javax.swing.GroupLayout.PREFERRED_SIZE, 76,
javax.swing.GroupLayout.PREFERRED_SIZE)
```

```
                .addComponent(jLabel4)
                .addComponent(jLabel5)
                .addComponent(jLabel6))
            .addContainerGap(javax.swing.GroupLayout.DEFAULT_SIZE,
Short.MAX_VALUE))
        );
        jPanel2Layout.setVerticalGroup(
            jPanel2Layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)
            .addGroup(jPanel2Layout.createSequentialGroup()
                .addGap(20, 20, 20)
                .addComponent(jLabel1)

.addGroup(jPanel2Layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING
)
                .addGroup(jPanel2Layout.createSequentialGroup()
                    .addGap(18, 18, 18)

.addGroup(jPanel2Layout.createParallelGroup(javax.swing.GroupLayout.Alignment.BASELIN
E)
                        .addComponent(jLabel2)
                        .addComponent(pId, javax.swing.GroupLayout.PREFERRED_SIZE,
javax.swing.GroupLayout.DEFAULT_SIZE, javax.swing.GroupLayout.PREFERRED_SIZE))
                    .addGap(18, 18, 18)

.addGroup(jPanel2Layout.createParallelGroup(javax.swing.GroupLayout.Alignment.BASELIN
E)
                        .addComponent(jLabel7)
                        .addComponent(pQut, javax.swing.GroupLayout.PREFERRED_SIZE,
javax.swing.GroupLayout.DEFAULT_SIZE, javax.swing.GroupLayout.PREFERRED_SIZE))
                    .addGap(18, 18, 18)
                    .addComponent(getDetails)
                    .addContainerGap(javax.swing.GroupLayout.DEFAULT_SIZE,
Short.MAX_VALUE))
                .addGroup(jPanel2Layout.createSequentialGroup()
                    .addGap(10, 10, 10)

.addGroup(jPanel2Layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING
)
                        .addComponent(jSeparator1)
                        .addGroup(jPanel2Layout.createSequentialGroup()
                            .addGap(8, 8, 8)
                            .addComponent(jLabel3)
                            .addGap(5, 5, 5)
```

```
                        .addComponent(jScrollPane1,
javax.swing.GroupLayout.PREFERRED_SIZE, javax.swing.GroupLayout.DEFAULT_SIZE,
javax.swing.GroupLayout.PREFERRED_SIZE)
                        .addGap(13, 13, 13)
                        .addComponent(jLabel4)

.addPreferredGap(javax.swing.LayoutStyle.ComponentPlacement.RELATED)
                        .addComponent(jScrollPane3,
javax.swing.GroupLayout.PREFERRED_SIZE, javax.swing.GroupLayout.DEFAULT_SIZE,
javax.swing.GroupLayout.PREFERRED_SIZE)
                        .addGap(13, 13, 13)
                        .addComponent(jLabel5)

.addPreferredGap(javax.swing.LayoutStyle.ComponentPlacement.RELATED)
                        .addComponent(jScrollPane4,
javax.swing.GroupLayout.PREFERRED_SIZE, javax.swing.GroupLayout.DEFAULT_SIZE,
javax.swing.GroupLayout.PREFERRED_SIZE)
                        .addGap(13, 13, 13)
                        .addComponent(jLabel6)

.addPreferredGap(javax.swing.LayoutStyle.ComponentPlacement.RELATED)
                        .addComponent(jScrollPane5,
javax.swing.GroupLayout.PREFERRED_SIZE, javax.swing.GroupLayout.DEFAULT_SIZE,
javax.swing.GroupLayout.PREFERRED_SIZE)
                        .addGap(0, 63, Short.MAX_VALUE)))
                .addContainerGap())))
    );

    buyProduct.addTab("Buy Product", jPanel2);

    javax.swing.GroupLayout layout = new javax.swing.GroupLayout(getContentPane());
    getContentPane().setLayout(layout);
    layout.setHorizontalGroup(
       layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)
       .addGroup(layout.createSequentialGroup()
          .addContainerGap(javax.swing.GroupLayout.DEFAULT_SIZE, Short.MAX_VALUE)

.addGroup(layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)
             .addGroup(javax.swing.GroupLayout.Alignment.TRAILING,
layout.createSequentialGroup()
                .addComponent(userLabel)
                .addGap(281, 281, 281))
             .addGroup(javax.swing.GroupLayout.Alignment.TRAILING,
layout.createSequentialGroup()
                .addComponent(logOutBtn)
```

```
                    .addGap(27, 27, 27))))
            .addComponent(buyProduct)
        );
        layout.setVerticalGroup(
            layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)
            .addGroup(layout.createSequentialGroup()
                .addGap(28, 28, 28)
                .addComponent(userLabel)
                .addGap(45, 45, 45)
                .addComponent(logOutBtn)
                .addGap(18, 18, 18)
                .addComponent(buyProduct))
        );

        pack();
    }// </editor-fold>

    private void logOutBtnActionPerformed(java.awt.event.ActionEvent evt) {
        // TODO add your handling code here:
        int result = JOptionPane.showConfirmDialog(rootPane, "Are you sure you want to log
out?", "Log Out", JOptionPane.YES_NO_OPTION, JOptionPane.QUESTION_MESSAGE);
        if (result == JOptionPane.YES_OPTION) {
            new UserDashboard().setVisible(false);
            JOptionPane.showMessageDialog(rootPane, "Log Out Successful.");
            dispose(); // close the current window
            // TODO: add code to open the login window or main menu window
        }
    }

    private void jTableAncestorAdded(javax.swing.event.AncestorEvent evt) {
        // TODO add your handling code here:
        jTable.setAutoCreateRowSorter(true);
    }

    private void jTableAncestorMoved(javax.swing.event.AncestorEvent evt) {
        // TODO add your handling code here:
    }

    private void jTableAncestorRemoved(javax.swing.event.AncestorEvent evt) {
        // TODO add your handling code here:
    }

    private void jTableMouseClicked(java.awt.event.MouseEvent evt) {
        // TODO add your handling code here:
    }
```

```
private void buyProductStateChanged(javax.swing.event.ChangeEvent evt) {
    // TODO add your handling code here:
    int tabIndex = buyProduct.getSelectedIndex();
    if (tabIndex == 0) {
        try {
            FileReader fileReader = new FileReader(fileName);
            BufferedReader bufferedReader = new BufferedReader(fileReader);

            // Create DefaultTableModel object
            String[] columnNames = {"id", "name", "price", "description", "category"};
            DefaultTableModel model = new DefaultTableModel(columnNames, 0) {
                @Override
                public boolean isCellEditable(int row, int column) {
                    // Disable editing of all cells
                    return false;
                }
            };

            // Read data from file and add to DefaultTableModel object
            String line;
            while ((line = bufferedReader.readLine()) != null) {
                String[] data = line.split(",");
                model.addRow(data);
            }

            // Set the model for the JTable
            jTable.setModel(model);

            // Close FileReader and BufferedReader objects
            bufferedReader.close();
            fileReader.close();
        } catch (IOException ex) {
            ex.printStackTrace();
        }
    }
}

private void getDetailsActionPerformed(java.awt.event.ActionEvent evt) {
    // TODO add your handling code here:
    // Get the selected product ID and quantity from the text fields
    int productId = Integer.parseInt(pId.getText());
    int productQut = Integer.parseInt(pQut.getText());

    // Search for the product with the selected ID
```

```
        try {
            FileReader fileReader = new FileReader(fileName);
            BufferedReader bufferedReader = new BufferedReader(fileReader);

            String line;
            while ((line = bufferedReader.readLine()) != null) {
                Product product = Product.fromString(line);
                if (product.getId() == productId) {
                    // Calculate the total price and quantity of the selected product
                    double totalPrice = product.getPrice() * productQut;
                    int totalQut = productQut;

                    // Update the order details on the page
                    productName.setText(product.getName());
                    totalProductQut.setText(Integer.toString(totalQut));
                    totalPriceProduct.setText(Double.toString(totalPrice));

                    // Exit the loop since we found the selected product
                    break;
                }
            }

            bufferedReader.close();
            fileReader.close();
        } catch (IOException ex) {
            ex.printStackTrace();
        } catch (NumberFormatException ex) {
            JOptionPane.showMessageDialog(this, "Invalid input.", "Error",
JOptionPane.ERROR_MESSAGE);
        } catch (IllegalArgumentException ex) {
            ex.printStackTrace();
        }
    }

    public static void main(String args[]) {

        java.awt.EventQueue.invokeLater(new Runnable() {
            public void run() {
                new UserDashboard().setVisible(true);
            }
        });
    }

    // Variables declaration - do not modify
    private javax.swing.ButtonGroup buttonGroup1;
```

```
    private javax.swing.JTabbedPane buyProduct;
    private javax.swing.JButton getDetails;
    private javax.swing.JLabel jLabel1;
    private javax.swing.JLabel jLabel2;
    private javax.swing.JLabel jLabel3;
    private javax.swing.JLabel jLabel4;
    private javax.swing.JLabel jLabel5;
    private javax.swing.JLabel jLabel6;
    private javax.swing.JLabel jLabel7;
    private javax.swing.JPanel jPanel1;
    private javax.swing.JPanel jPanel2;
    private javax.swing.JScrollPane jScrollPane1;
    private javax.swing.JScrollPane jScrollPane2;
    private javax.swing.JScrollPane jScrollPane3;
    private javax.swing.JScrollPane jScrollPane4;
    private javax.swing.JScrollPane jScrollPane5;
    private javax.swing.JSeparator jSeparator1;
    private javax.swing.JTable jTable;
    private javax.swing.JButton logOutBtn;
    private javax.swing.JTextField pId;
    private javax.swing.JTextField pQut;
    private javax.swing.JTextPane productName;
    private javax.swing.JTextPane totalPriceProduct;
    private javax.swing.JTextPane totalProductQut;
    private javax.swing.JLabel userLabel;
    private javax.swing.JTextPane userName;
    // End of variables declaration
}
```

4. Output

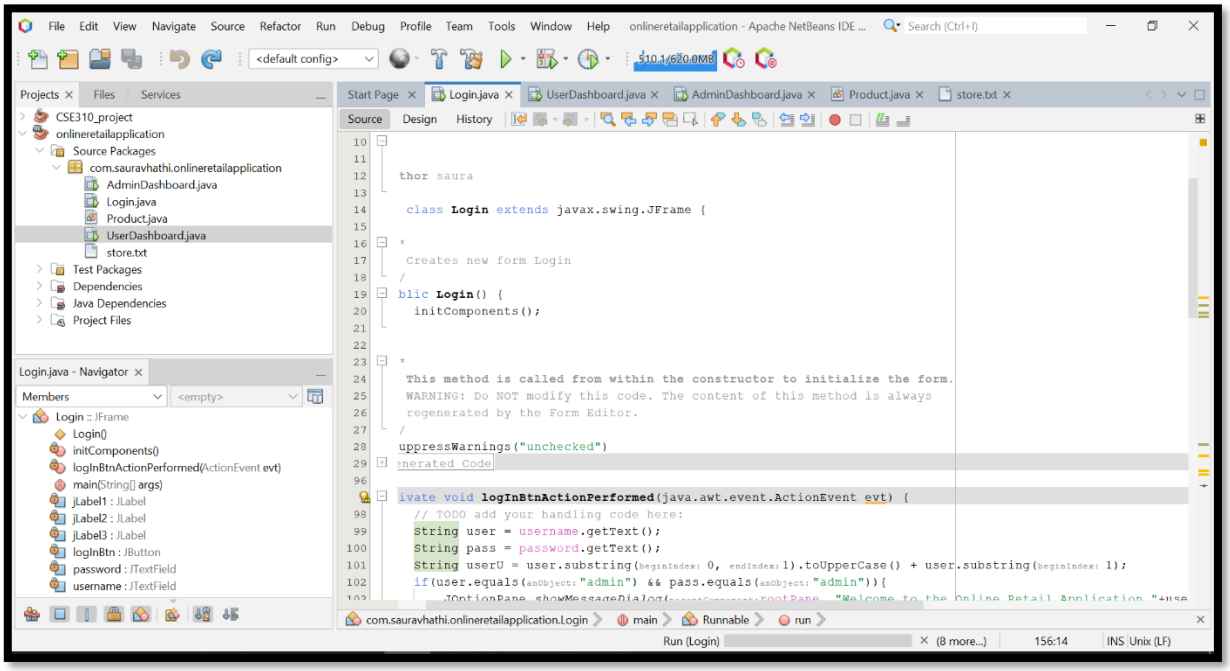


Figure 2-Login class in NetBeans

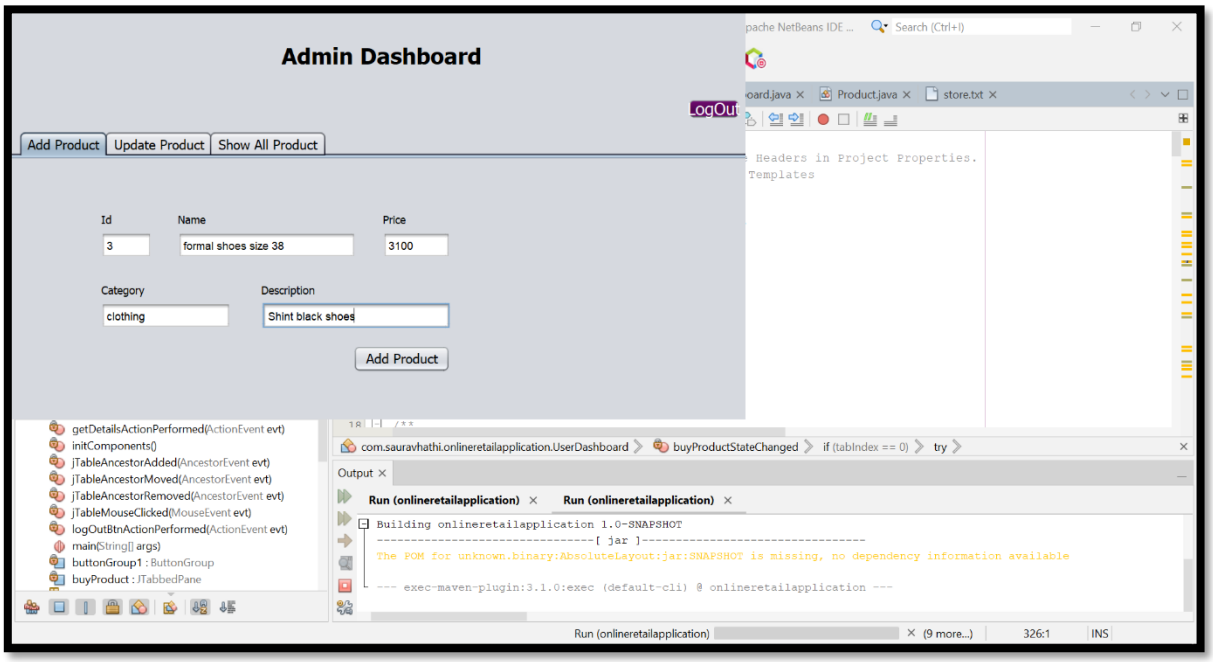


Figure 3-Adding products

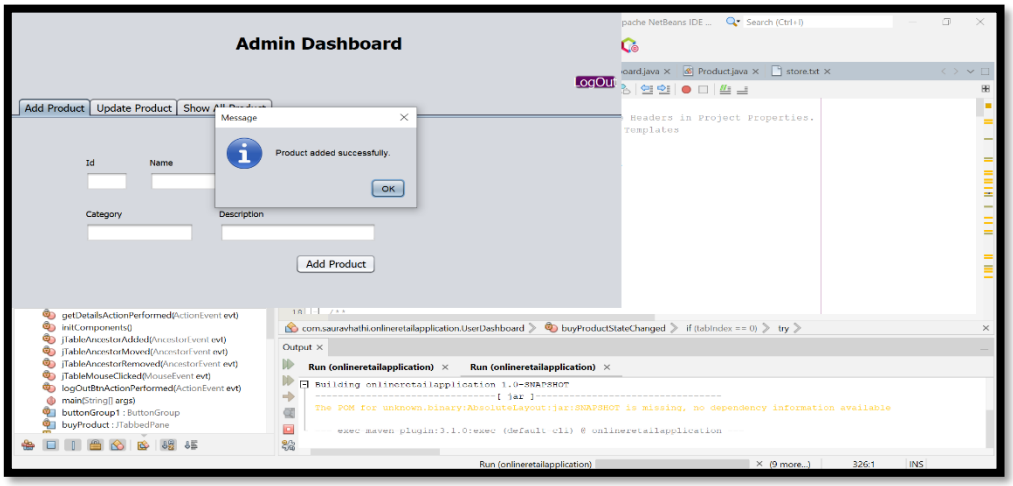


Figure 4-Added product

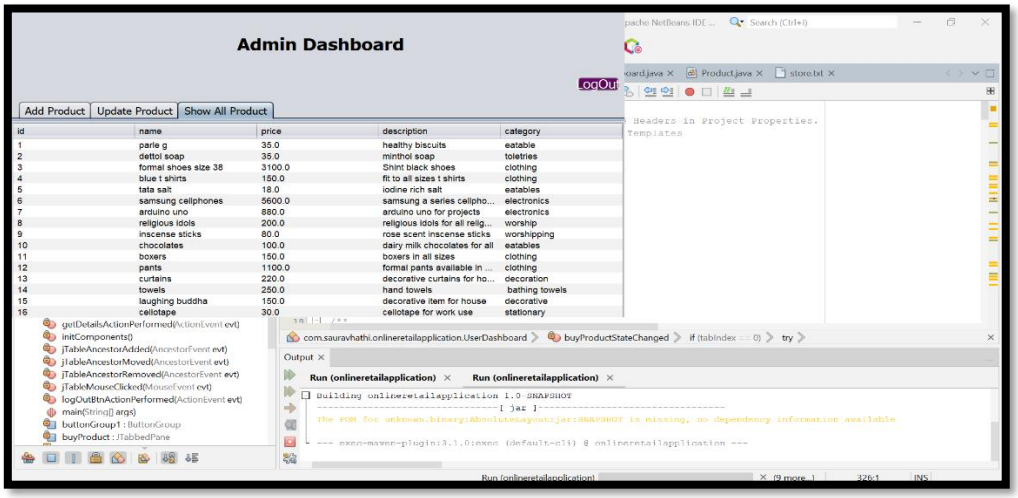


Figure 5-Admin Dashboard

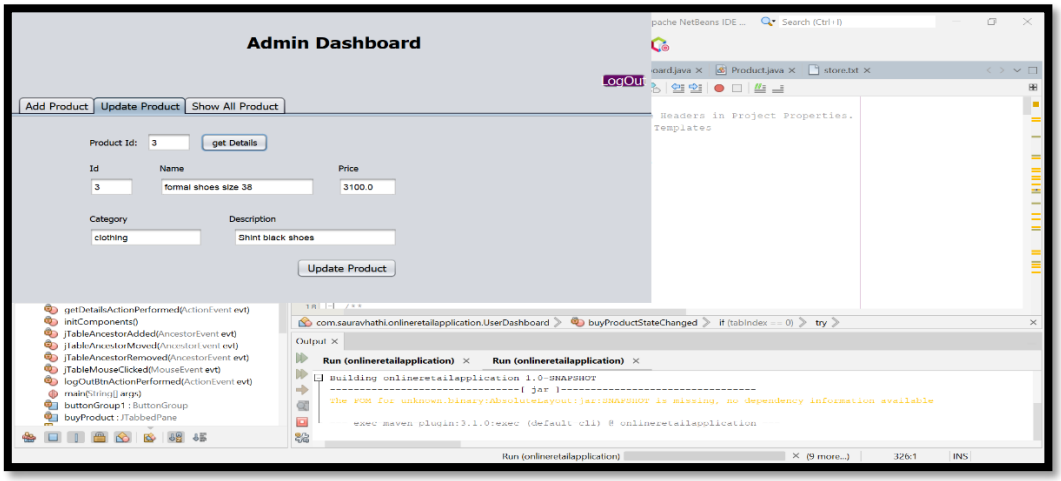


Figure 6-Updating an Existing Product

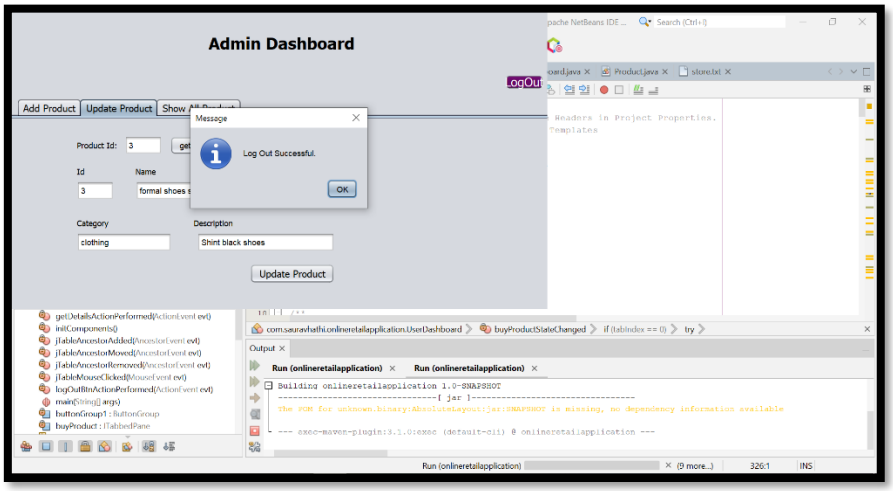


Figure 7-Successful Logout

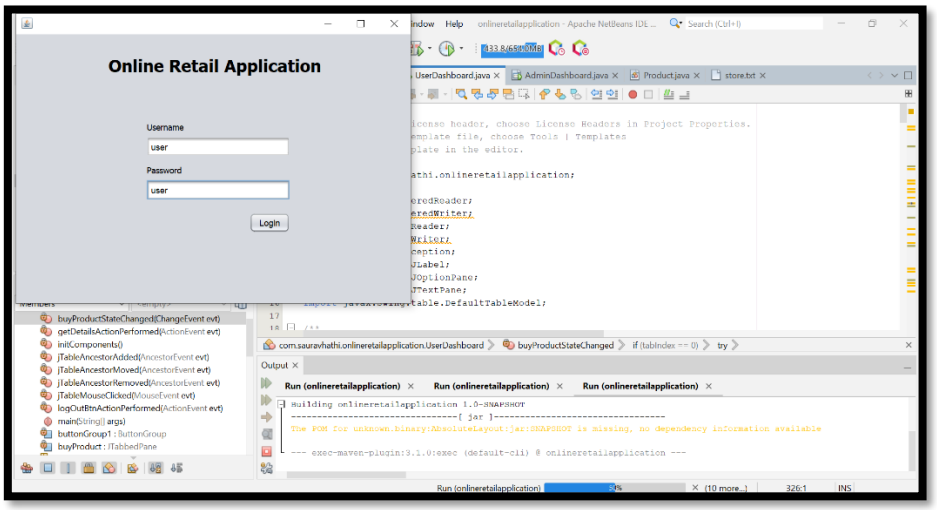


Figure 8-User Login

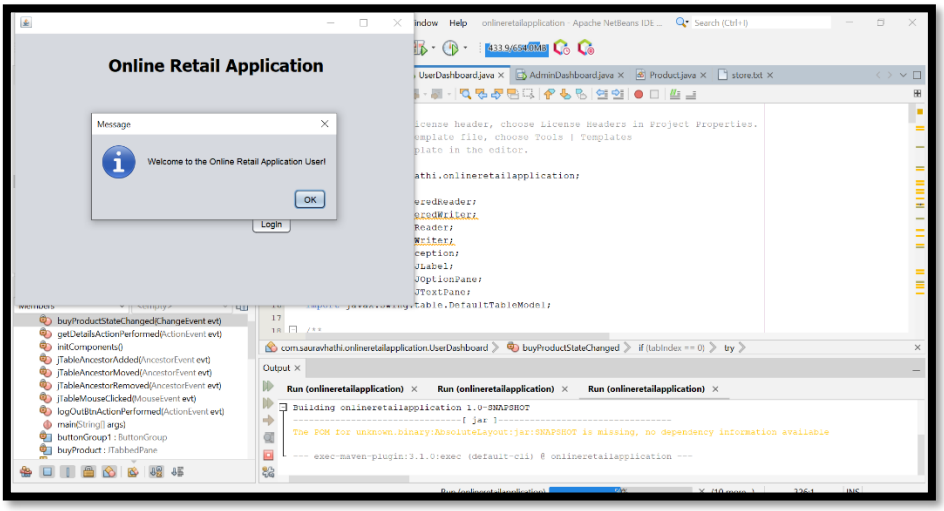
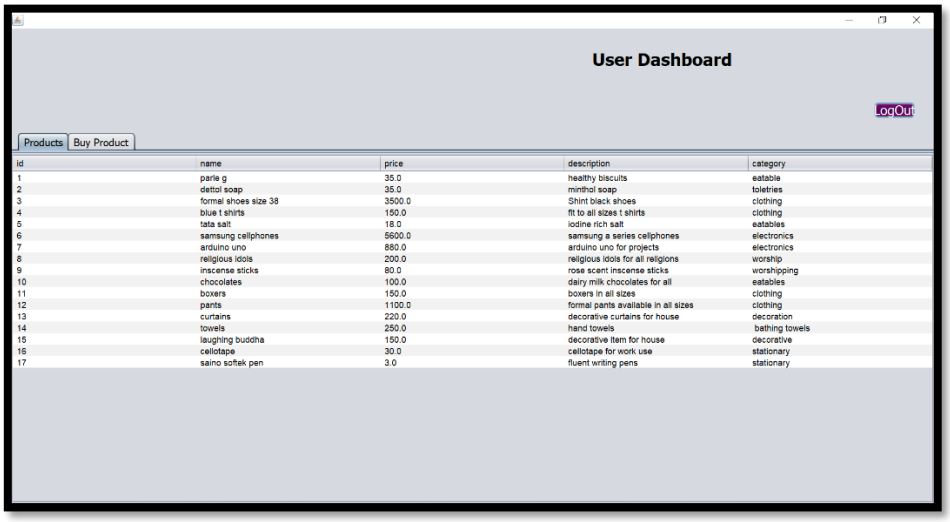


Figure 9-Successful User Login



id	name	price	description	category
1	parle g	35.0	healthy biscuits	eatable
2	dettol soap	35.0	minthol soap	toletries
3	formal shoes size 38	3500.0	Shint black shoes	clothing
4	blue t shirts	150.0	fit to all sizes t shirts	clothing
5	tata salt	18.0	iodine rich salt	eatables
6	samsung cellphones	5600.0	samsung a series cellphones	electronics
7	arduino uno	880.0	arduino uno for projects	electronics
8	religious idols	200.0	religious idols for all religions	worship
9	inscense sticks	80.0	rose scent inscense sticks	worshipping
10	chocolates	100.0	dairy milk chocolates for all	eatables
11	boxers	150.0	boxers in all sizes	clothing
12	pants	1100.0	formal pants available in all sizes	clothing
13	curtains	220.0	decorative curtains for house	decoration
14	towels	250.0	hand towels	bathing towels
15	laughing buddha	150.0	decorative item for house	decorative
16	cellotape	30.0	cellotape for work use	stationary
17	saino softek pen	3.0	fluent writing pens	stationary

Figure 10-List of Products

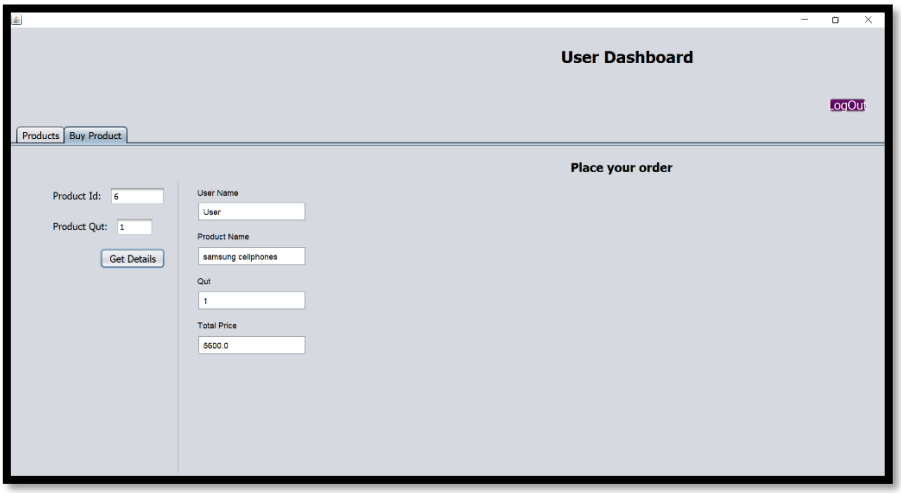


Figure 11-User buying a Product

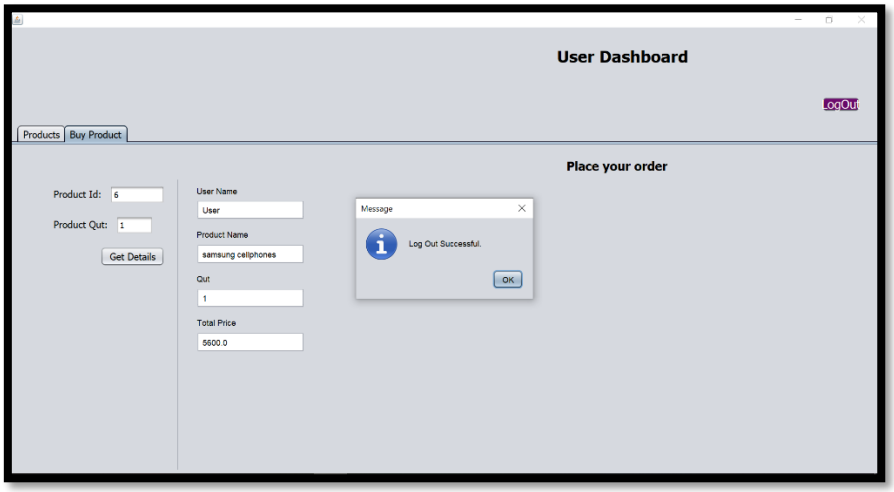


Figure 12-Logout after buying product

5. Future Scope

Here are some possible areas of expansion and improvement for such a project:

- **Scalability:** The application can be optimized for scalability to handle increasing amounts of data and users. This can be achieved through various techniques such as sharding, load balancing, and distributed computing. Multiple users can be added and also we can add the feature of showing product history for a particular user for which we will have to create individual files for each individual user.
- **Security:** The application can be enhanced with additional security features such as authentication, authorization, encryption, and secure communication protocols to protect against data breaches and cyber attacks.
- **Data analytics:** The application can be integrated with data analytics tools and algorithms to provide insights and trends from the stored data. This can help in making data-driven decisions and improving business processes.
- **Mobile compatibility:** The application can be made compatible with mobile devices and platforms, enabling users to access and update the database from anywhere at any time.
- **User interface:** The user interface of the application can be improved to make it more intuitive and user-friendly, with additional features such as drag-and-drop functionality and interactive visualizations.
- **Integration with other systems:** The application can be integrated with other enterprise systems such as CRM, ERP, and e-commerce platforms to streamline business processes and improve efficiency.
- **Cloud hosting:** The application can be hosted on a cloud platform such as Amazon Web Services, Microsoft Azure, or Google Cloud Platform to provide greater flexibility, scalability, and cost-effectiveness.

6. Conclusion

Practical knowledge means the visualization of the knowledge, which we read in our books. For this, we perform experiments and get observations. Practical knowledge is very important in every field. One must be familiar with the problems related to that field so that he may solve them and become a successful person.

After achieving the proper goal in life, an engineer must enter professional life. According to this life, he must serve an industry, may be public or private sector or self-own. For efficient work in the field, he must be aware of practical knowledge as well as theoretical knowledge.

Due to all the above reasons we decided to make an online retail application databse using JAVA programming language which we are studying in our curriculum. We think that this project has a lot of future scope and some unique features can be added to it like the apps of amazon and flipkart.

We have tried our level best to achieve our goal. In this process we have been through the some new java concepts such as data logging, file handling, exception handling and so on.