

# **BUSINESS MANAGEMENT SYSTEM**

**A MINI-PROJECT BY:**

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*in partial fulfillment of the award of the degree of*

***BACHELOR OF ENGINEERING***

**IN**

**COMPUTER SCIENCE AND ENGINEERING**



**RAJALAKSHMI ENGINEERING COLLEGE**

**An Autonomous Institute  
CHENNAI**

**NOVEMBER 2024**

## **BONAFIDE CERTIFICATE**

Certified that this project “**BUSINESS MANAGEMENT SYSTEM**” is the bonafide work of “**GANESHAN M , JABARAJ E**” who carried out the project work under my supervision.

Submitted for the practical examination held on \_\_\_\_\_

SIGNATURE

SIGNATURE

**INTERNAL EXAMINER**

**EXTERNAL EXAMINER**

## **ABSTRACT**

The Business Management Application is a robust software solution designed to help businesses efficiently manage their operations, focusing on product inventory and user roles. This application is built using Java Swing for the graphical user interface (GUI) and MySQL as the database management system (DBMS). The primary goal of the application is to streamline business processes such as product management, order tracking, and user management, offering a user-friendly interface for both admin and employee users.

The application is structured with two types of user roles: Admin and Employee. The Admin has full control over the system, including adding and managing users, overseeing product details, and handling various business operations like updating inventory and generating reports. The Employee has limited access, with the ability to manage specific tasks such as tracking deliveries, updating product status, and interacting with customer orders.

User Management: Admin users can create, delete, and manage other users, assigning them appropriate roles and permissions. Product Management: Admin can add, edit, and remove products from the inventory, while employees can check product details and track deliveries. Order Tracking: Employees can monitor product deliveries and update statuses to ensure timely order fulfillment. Database Integration: The application uses MySQL to securely store and retrieve data, including user profiles, product information, and transaction records.

The Java Swing interface provides a flexible and customizable environment for both types of users, ensuring an intuitive and efficient interaction with the application. The MySQL database ensures fast and reliable storage, enabling real-time updates and seamless synchronization between the front-end and back-end.

This project serves as a comprehensive tool for businesses to manage their inventory, users, and orders effectively. Future enhancements could include adding advanced features like real-time notifications, reporting dashboards, or integrating payment gateways for a complete business management solution.

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# INTRODUCTION

## 1.1 INTRODUCTION

The Business Management Application is a software solution designed to streamline business operations, focusing on product inventory, order tracking, and user management. Built using Java Swing for the graphical user interface (GUI) and MySQL for database management, the application offers an intuitive experience for both Admin and Employee users.

Admins have full control over user management, product updates, and generating reports, while employees handle tasks like tracking deliveries and updating product statuses. The MySQL database ensures fast and secure data storage, providing real-time synchronization across the system.

This application helps businesses efficiently manage inventory, orders, and user roles, with future enhancements like reporting dashboards or payment gateway integration possible for further functionality.

## 1.2 IMPLEMENTATION

The **HOTEL MANAGEMENT SYSTEM** project discussed here is implemented using the concepts of **JAVA SWINGS** and **MYSQL**.

## 1.2 SCOPE OF THE PROJECT

The scope of the Business Management Application includes managing user roles, product inventory, and order tracking. It supports two user types: Admins, who can manage users, products, and generate reports, and Employees, who track deliveries and update product statuses. The application uses MySQL for secure, real-time data storage, ensuring efficient inventory and order management. The Java Swing interface offers a user-friendly design for both roles, with role-based access control for security. Future enhancements may include features like real-time notifications, reporting dashboards, and payment gateway integration. The application aims to streamline key business processes and improve operational efficiency.

### 1.3 APPLICATION FEATURES

- **Authentication:** Users must log in with a password for security.
- **Admin:** Full access to manage users, products, and all aspects of the system.
- **Employee:** Limited access to view and manage products, track inventory, and handle deliveries.
- **Role-based Access:** Different permissions for Admin and Employee roles.

## SYSTEM SPECIFICATIONS

### 2.1 HARDWARE SPECIFICATIONS:

PROCESSOR	:	Intel i5
MEMORY SIZE	:	4GB(Minimum)
HARD DISK	:	500 GB

### 2.2 SOFTWARE SPECIFICATIONS:

PROGRAMMING LANGUAGE	:	Java, MySQL
FRONT-END	:	Java
BACK-END	:	MySQL (XAMPP)
OPERATING SYSTEM	:	Windows 10

### 3. SAMPLE CODE

#### 3.1 LOGINPAGE.JAVA

```
package com.inventory.UI;
import com.formdev.flatlaf.intellijthemes.materialthemeuilite.FlatMaterialDarkerIJTheme;
import com.inventory.DTO.UserDTO;
import com.inventory.Database.ConnectionFactory;
import java.math.BigInteger;
import java.security.MessageDigest;
import java.time.LocalDateTime;
import java.util.logging.Level;
import java.util.logging.Logger;
import javax.swing.*;
public class LoginPage extends javax.swing.JFrame {
    UserDTO userDTO;
    LocalDateTime inTime;
    // Constructor method
    public LoginPage() {
        initComponents();
        userDTO = new UserDTO();

        @SuppressWarnings("unchecked")
        // <editor-fold defaultstate="collapsed" desc="Generated Code">//GEN-
BEGIN: initComponents
        private void initComponents() {
            jLabel1 = new javax.swing.JLabel();
            jLabel2 = new javax.swing.JLabel();
            userText = new javax.swing.JTextField();
            passText = new javax.swing.JPasswordField();
            jLabel3 = new javax.swing.JLabel();
            jComboBox1 = new javax.swing.JComboBox<>();
            loginButton = new javax.swing.JButton();
            clearButton = new javax.swing.JButton();
            setDefaultCloseOperation(javax.swing.WindowConstants.DISPOSE_ON_CLOSE);
            setTitle("Login");
            setBackground(new java.awt.Color(102, 102, 102));
            setBounds(new java.awt.Rectangle(500, 100, 0, 0));
            setName("loginFrame"); // NOI18N
            jLabel1.setFont(new java.awt.Font("Segoe UI", 0, 14)); // NOI18N
            jLabel1.setText("Username:");
            jLabel2.setFont(new java.awt.Font("Segoe UI", 0, 14)); // NOI18N
            jLabel2.setText("Password:");
            passText.addActionListener(new java.awt.event.ActionListener() {
                public void actionPerformed(java.awt.event.ActionEvent evt) {
                    passTextActionPerformed(evt);
                }
            });
            loginButton.setText("LOGIN");
```

```

    }
    // Variables declaration - do not modify//GEN-BEGIN:variables
    private javax.swing.JButton clearButton;
    private javax.swing.JComboBox<String> jComboBox1;
    private javax.swing.JLabel jLabel1;
    private javax.swing.JLabel jLabel2;
    private javax.swing.JLabel jLabel3;
    private javax.swing.JButton loginButton;
    private javax.swing.JPasswordField passText;
    private javax.swing.JTextField userText;
    // End of variables declaration//GEN-END:variables
}

```

## 3.2 HOMEPAGE.JAVA

```

package com.inventory.UI;
import com.inventory.DAO.UserDAO;
import com.inventory.DTO.UserDTO;
import java.sql.ResultSet;
import java.sql.SQLException;

// Welcome page for the application
public class HomePage extends javax.swing.JPanel {

    /**
     * Creates new form HomePage
     */
    public HomePage(String username) {
        initComponents();
        UserDTO userDTO = new UserDTO();
        new UserDAO().getFullName(userDTO, username);
        welcomeLabel.setText("Welcome, " + userDTO.getFullName() + ".");
    }

    layout.setVerticalGroup(
        layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)
        .addGroup(layout.createSequentialGroup()
            .addGap(12, 12, 12)
            .addComponent(welcomeLabel, javax.swing.GroupLayout.PREFERRED_SIZE,
48, javax.swing.GroupLayout.PREFERRED_SIZE)
            .addPreferredGap(javax.swing.LayoutStyle.ComponentPlacement.RELATED)
            .addComponent(jLabel1, javax.swing.GroupLayout.PREFERRED_SIZE, 133,
javax.swing.GroupLayout.PREFERRED_SIZE)
            .addContainerGap(174, Short.MAX_VALUE))
        );
    }// </editor-fold>//GEN-END: initComponents

```



```

// Variables declaration - do not modify//GEN-BEGIN:variables
private javax.swing.JLabel jLabel1;
private javax.swing.JLabel welcomeLabel;
// End of variables declaration//GEN-END:variables
}

```

### 3.3 PRODUCT PAGE.JAVA

```

package com.inventory.UI;
import com.inventory.DAO.ProductDAO;
import com.inventory.DAO.SupplierDAO;
import com.inventory.DTO.ProductDTO;
import com.toedter.calendar.JDateChooser;
import javax.swing.*;
import java.sql.SQLException;
public class ProductPage extends javax.swing.JPanel {
    ProductDTO productDTO;
    String username = null;
    String supplier = null;
    int userID;
    Dashboard dashboard;
    public ProductPage() {
    }
    public ProductPage(String username, Dashboard dashboard){
        initComponents();
        this.username = username;
        this.dashboard = dashboard;
        loadComboBox();
        loadDataSet();
    }
    @SuppressWarnings("unchecked")
    // <editor-fold defaultstate="collapsed" desc="Generated Code">//GEN-BEGIN: initComponents
    private void initComponents() {
        jLabel1 = new javax.swing.JLabel();
        jSeparator1 = new javax.swing.JSeparator();
        entryPanel = new javax.swing.JPanel();
        suppCombo = new javax.swing.JComboBox<>();
        addSuppButton = new javax.swing.JButton();
        jLabel2 = new javax.swing.JLabel();
        jLabel3 = new javax.swing.JLabel();
        jLabel4 = new javax.swing.JLabel();
        jLabel5 = new javax.swing.JLabel();
        jLabel6 = new javax.swing.JLabel();
        jLabel7 = new javax.swing.JLabel();

```

```

jLabel8 = new javax.swing.JLabel();
codeText = new javax.swing.JTextField();
nameText = new javax.swing.JTextField();
jDateChooser1 = new com.toedter.calendar.JDateChooser();
quantityText = new javax.swing.JTextField();
costText = new javax.swing.JTextField();
sellText = new javax.swing.JTextField();
brandText = new javax.swing.JTextField();
addButton = new javax.swing.JButton();
editButton = new javax.swing.JButton();
deleteButton = new javax.swing.JButton();
clearButton = new javax.swing.JButton();
jScrollPane1 = new javax.swing.JScrollPane();
productTable = new javax.swing.JTable();
refreshButton = new javax.swing.JButton();
searchText = new javax.swing.JTextField();
jLabel9 = new javax.swing.JLabel();
addSuppButton.setText("Click to add a New Supplier");
addSuppButton.setCursor(new java.awt.Cursor(java.awt.Cursor.HAND_CURSOR));
addSuppButton.addActionListener(new java.awt.event.ActionListener() {
    public void actionPerformed(java.awt.event.ActionEvent evt) {
        addSuppButtonActionPerformed(evt);
    }
});
jLabel2.setText("Product Code:");
jLabel3.setText("Product Name:");
jLabel4.setText("Date:");
jLabel5.setText("Quantity:");
jLabel6.setText("Cost Price:");
jLabel7.setText("Selling Price:");
jLabel8.setText("Brand:");
jDateChooser1.setForeground(new java.awt.Color(102, 102, 102));
addButton.setText("Add");
addButton.setCursor(new java.awt.Cursor(java.awt.Cursor.HAND_CURSOR));
addButton.addActionListener(new java.awt.event.ActionListener() {
    public void actionPerformed(java.awt.event.ActionEvent evt) {
        addButtonActionPerformed(evt);
    }
});
editButton.setText("Edit");
deleteButton.setText("Delete");
deleteButton.setCursor(new java.awt.Cursor(java.awt.Cursor.HAND_CURSOR));
deleteButton.addActionListener(new java.awt.event.ActionListener() {
    public void actionPerformed(java.awt.event.ActionEvent evt) {
        deleteButtonActionPerformed(evt);
    }
});

```

```

        javax.swing.GroupLayout entryPanelLayout = new
javax.swing.GroupLayout(entryPanel);
        entryPanel.setLayout(entryPanelLayout);
        entryPanelLayout.setHorizontalGroup(
            entryPanelLayout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)
                .addGroup(entryPanelLayout.createSequentialGroup()
                    .addContainerGap()
                    .addGroup(entryPanelLayout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)
                        .addComponent(clearButton, javax.swing.GroupLayout.DEFAULT_SIZE,
javax.swing.GroupLayout.DEFAULT_SIZE, Short.MAX_VALUE)
                        .addComponent(suppCombo, 0, javax.swing.GroupLayout.DEFAULT_SIZE,
Short.MAX_VALUE)
                        .addComponent(addSuppButton, javax.swing.GroupLayout.DEFAULT_SIZE,
                            .addPreferredGap(javax.swing.LayoutStyle.ComponentPlacement.RELATED)
                            .addComponent(jDateChooser1, javax.swing.GroupLayout.DEFAULT_SIZE,
javax.swing.GroupLayout.DEFAULT_SIZE, Short.MAX_VALUE))
                        .addGroup(entryPanelLayout.createSequentialGroup()
                            .addComponent(jLabel5, javax.swing.GroupLayout.PREFERRED_SIZE, 84,
javax.swing.GroupLayout.PREFERRED_SIZE)
                            .addPreferredGap(javax.swing.LayoutStyle.ComponentPlacement.RELATED)
                            .addComponent(quantityText))
                        .addGroup(entryPanelLayout.createSequentialGroup()
                            .addComponent(jLabel6, javax.swing.GroupLayout.PREFERRED_SIZE, 84,
javax.swing.GroupLayout.PREFERRED_SIZE)
                            .addPreferredGap(javax.swing.LayoutStyle.ComponentPlacement.RELATED)
                            .addComponent(costText))
                        .addGroup(entryPanelLayout.createSequentialGroup()
                            .addComponent(jLabel7, javax.swing.GroupLayout.PREFERRED_SIZE, 84,
javax.swing.GroupLayout.PREFERRED_SIZE)
                            .addPreferredGap(javax.swing.LayoutStyle.ComponentPlacement.RELATED)
                            .addComponent(sellText))
                        .addGroup(entryPanelLayout.createSequentialGroup()
                            .addComponent(addButton));
                    entryPanelLayout.setVerticalGroup(
                        entryPanelLayout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)
                            .addGroup(entryPanelLayout.createSequentialGroup()
                                .addContainerGap()
                                .addComponent(suppCombo, javax.swing.GroupLayout.PREFERRED_SIZE, 31,
javax.swing.GroupLayout.PREFERRED_SIZE)
                                .addPreferredGap(javax.swing.LayoutStyle.ComponentPlacement.RELATED)
                                .addComponent(addSuppButton, javax.swing.GroupLayout.PREFERRED_SIZE,
30, javax.swing.GroupLayout.PREFERRED_SIZE)
                                .addPreferredGap(javax.swing.LayoutStyle.ComponentPlacement.UNRELATED)

```

```

        .addGroup(entryPanelLayout.createParallelGroup(javax.swing.GroupLayout.Align
ment.BASELINE)
            .addComponent(jLabel2, javax.swing.GroupLayout.PREFERRED_SIZE, 26,
javax.swing.GroupLayout.PREFERRED_SIZE)
            .addComponent(codeText, javax.swing.GroupLayout.PREFERRED_SIZE, 26,
javax.swing.GroupLayout.PREFERRED_SIZE))
        .addPreferredGap(javax.swing.LayoutStyle.ComponentPlacement.RELATED)
        .addGroup(entryPanelLayout.createParallelGroup(javax.swing.GroupLayout.Align
ment.BASELINE)
            .addComponent(jLabel3, javax.swing.GroupLayout.PREFERRED_SIZE, 26,
javax.swing.GroupLayout.PREFERRED_SIZE)
            .addComponent(nameText, javax.swing.GroupLayout.PREFERRED_SIZE, 26,
javax.swing.GroupLayout.PREFERRED_SIZE))
        .addPreferredGap(javax.swing.LayoutStyle.ComponentPlacement.RELATED)
        .addGroup(entryPanelLayout.createParallelGroup(javax.swing.GroupLayout.Align
ment.LEADING, false)
            .addComponent(jDateChooser1, javax.swing.GroupLayout.DEFAULT_SIZE,
26, Short.MAX_VALUE)
            .addComponent(jLabel4, javax.swing.GroupLayout.DEFAULT_SIZE,
javax.swing.GroupLayout.DEFAULT_SIZE, Short.MAX_VALUE))
        .addPreferredGap(javax.swing.LayoutStyle.ComponentPlacement.RELATED)
        .addGroup(entryPanelLayout.createParallelGroup(javax.swing.GroupLayout.Align
ment.BASELINE)
            .addComponent(jLabel5, javax.swing.GroupLayout.PREFERRED_SIZE, 26,
javax.swing.GroupLayout.PREFERRED_SIZE)
            .addComponent(quantityText, javax.swing.GroupLayout.PREFERRED_SIZE,
26, javax.swing.GroupLayout.PREFERRED_SIZE))
        .addPreferredGap(javax.swing.LayoutStyle.ComponentPlacement.RELATED)
        .addGroup(entryPanelLayout.createParallelGroup(javax.swing.GroupLayout.Align
ment.BASELINE)
            .addComponent(jLabel6, javax.swing.GroupLayout.PREFERRED_SIZE, 26,
javax.swing.GroupLayout.PREFERRED_SIZE)
            .addComponent(costText, javax.swing.GroupLayout.PREFERRED_SIZE, 26,
javax.swing.GroupLayout.PREFERRED_SIZE))
        .addPreferredGap(javax.swing.LayoutStyle.ComponentPlacement.RELATED)
        .addGroup(entryPanelLayout.createParallelGroup(javax.swing.GroupLayout.Align
ment.BASELINE)
            .addComponent(jLabel7, javax.swing.GroupLayout.PREFERRED_SIZE, 26,
javax.swing.GroupLayout.PREFERRED_SIZE) });
    searchText.addKeyListener(new java.awt.event.KeyAdapter() {
        public void keyReleased(java.awt.event.KeyEvent evt) {
            searchTextKeyReleased(evt);
        }
    });

    layout.setVerticalGroup(

```

```

        layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)
        .addGroup(layout.createSequentialGroup()
        .addGroup(layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)
        .addGroup(layout.createSequentialGroup()
        .addContainerGap()
        .addComponent(jLabel1, javax.swing.GroupLayout.PREFERRED_SIZE, 41,
javax.swing.GroupLayout.PREFERRED_SIZE)
        .addPreferredGap(javax.swing.LayoutStyle.ComponentPlacement.RELATED,
javax.swing.GroupLayout.DEFAULT_SIZE, Short.MAX_VALUE))
        .addGroup(javax.swing.GroupLayout.Alignment.TRAILING,
layout.createSequentialGroup()
        .addContainerGap(javax.swing.GroupLayout.DEFAULT_SIZE,
Short.MAX_VALUE)
        .addGroup(layout.createParallelGroup(javax.swing.GroupLayout.Alignment.BASELINE)
        .addComponent(refreshButton,
javax.swing.GroupLayout.PREFERRED_SIZE, 29,
javax.swing.GroupLayout.PREFERRED_SIZE)
        .addComponent(searchText,
javax.swing.GroupLayout.PREFERRED_SIZE, javax.swing.GroupLayout.DEFAULT_SIZE,
javax.swing.GroupLayout.PREFERRED_SIZE)
        .addComponent(jLabel9))
        .addPreferredGap(javax.swing.LayoutStyle.ComponentPlacement.UNRELATED)))
        .addComponent(jSeparator1, javax.swing.GroupLayout.PREFERRED_SIZE, 10,
javax.swing.GroupLayout.PREFERRED_SIZE)
        .addPreferredGap(javax.swing.LayoutStyle.ComponentPlacement.RELATED)
        .addGroup(layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING, false)
        .addComponent(entryPanel, javax.swing.GroupLayout.DEFAULT_SIZE,
javax.swing.GroupLayout.DEFAULT_SIZE, Short.MAX_VALUE)
        .addComponent(jScrollPane1, javax.swing.GroupLayout.PREFERRED_SIZE, 0,
Short.MAX_VALUE))
        .addGap(64, 64, 64))
    );
} // </editor-fold> // GEN-END: initComponents

```

```

private void editButtonActionPerformed(java.awt.event.ActionEvent evt) { // GEN-
FIRST:event_editButtonActionPerformed
    if (productTable.getSelectedRow() < 0)
        JOptionPane.showMessageDialog(null, "Please select product from the table.");
    else {
        productDTO = new ProductDTO();
        if (nameText.getText().equals("") || costText.getText().equals("")
            || sellText.getText().equals("") || brandText.getText().equals(""))

```

```

        JOptionPane.showMessageDialog(null, "Please enter all the required details.");
    else {
        productDTO.setProdCode(codeText.getText());
        productDTO.setProdName(nameText.getText());
        productDTO.setDate(jDateChooser1.getDateFormatString());
        productDTO.setQuantity(Integer.parseInt(quantityText.getText()));
        productDTO.setCostPrice(Double.parseDouble(costText.getText()));
        productDTO.setSellPrice(Double.parseDouble(sellText.getText()));
        productDTO.setBrand(brandText.getText());
        productDTO.setUserID(userID);

        new ProductDAO().editProdDAO(productDTO);
    }
    loadDataSet();
}
} //GEN-LAST:event_editButtonActionPerformed

private void addButtonActionPerformed(java.awt.event.ActionEvent evt) { //GEN-FIRST:event_addButtonActionPerformed
    productDTO = new ProductDTO();
    if (nameText.getText().equals("") || costText.getText().equals("")
        || sellText.getText().equals("") || brandText.getText().equals(""))
        JOptionPane.showMessageDialog(null, "Please enter all the required details.");
    else {
        productDTO.setProdCode(codeText.getText());
        productDTO.setProdName(nameText.getText());
        productDTO.setDate(jDateChooser1.getDateFormatString());
        productDTO.setQuantity(Integer.parseInt(quantityText.getText()));
        productDTO.setCostPrice(Double.parseDouble(costText.getText()));
        productDTO.setSellPrice(Double.parseDouble(sellText.getText()));
        productDTO.setBrand(brandText.getText());
        productDTO.setUserID(userID);

        new ProductDAO().addProductDAO(productDTO);
        loadDataSet();
    }
} //GEN-LAST:event_addButtonActionPerformed

private void deleteButtonActionPerformed(java.awt.event.ActionEvent evt) { //GEN-FIRST:event_deleteButtonActionPerformed
    if (productTable.getSelectedRow() < 0)
        JOptionPane.showMessageDialog(null, "Please select product from the table.");
    else {
        int opt = JOptionPane.showConfirmDialog(
            null,
            "Are you sure you want to delete this product?",

```

```

        "Confirmation",
        JOptionPane.YES_NO_OPTION);
    if(opt==JOptionPane.YES_OPTION) {
        new ProductDAO().deleteProductDAO(
            (String) productTable.getValueAt(
                productTable.getSelectedRow(),0));
        loadDataSet();
    }
}
} //GEN-LAST:event_deleteButtonActionPerformed

private void clearButtonActionPerformed(java.awt.event.ActionEvent evt) { //GEN-FIRST:event_clearButtonActionPerformed
    codeText.setText("");
    nameText.setText("");
    jDateChooser1.setDate(null);
    quantityText.setText("");
    costText.setText("");
    sellText.setText("");
    brandText.setText("");
    searchText.setText("");
} //GEN-LAST:event_clearButtonActionPerformed

//static String productName;
private void productTableMouseClicked(java.awt.event.MouseEvent evt) { //GEN-FIRST:event_productTableMouseClicked
    int row = productTable.getSelectedRow();
    int col = productTable.getColumnCount();

    Object[] data = new Object[col];
    for (int i=0; i<col; i++)
        data[i] = productTable.getValueAt(row, i);

    codeText.setText(data[0].toString());
    nameText.setText(data[1].toString());
    costText.setText(data[2].toString());
    sellText.setText(data[3].toString());
    brandText.setText(data[4].toString()); // Method to load data into table
public void loadDataSet() {
    try {
        ProductDAO productDAO = new ProductDAO();
        productTable.setModel(productDAO.buildTableModel(productDAO.getQueryResult(
)));
    } catch (SQLException throwables) {
        throwables.printStackTrace();
    }
}

```

```

    }
    // Method to display search result in table
    public void loadSearchData(String text) {
        try {
            ProductDAO productDAO = new ProductDAO();
            productTable.setModel(productDAO.buildTableModel(productDAO.getProductSearch(text)));
        } catch (SQLException throwables) {
            throwables.printStackTrace();
        }
    }
}
// Variables declaration - do not modify//GEN-BEGIN:variables
private javax.swing.JButton addButton;
private javax.swing.JButton addSuppButton;
private javax.swing.JTextField brandText;
private javax.swing.JButton clearButton;
private javax.swing.JButton refreshButton;
private javax.swing.JTextField searchText;
private javax.swing.JTextField sellText;
private javax.swing.JComboBox<String> suppCombo;
// End of variables declaration//GEN-END:variables
}

```

### 3.3 PRODUCT PAGE.JAVA

```

package com.inventory.UI;
import com.inventory.DAO.ProductDAO;
import com.inventory.DAO.SupplierDAO;
import com.inventory.DTO.ProductDTO;
import com.toedter.calendar.JDateChooser;
import javax.swing.*;
import java.sql.SQLException;
public class ProductPage extends javax.swing.JPanel {
    ProductDTO productDTO;
    String username = null;
    String supplier = null;
    int userID;
    Dashboard dashboard;
    public ProductPage() {
    }
    public ProductPage(String username, Dashboard dashboard){
        initComponents();
        this.username = username;
        this.dashboard = dashboard;
        loadComboBox();
        loadDataSet();
    }
}

```



```

    }
    @SuppressWarnings("unchecked")
    // <editor-fold defaultstate="collapsed" desc="Generated Code"> // GEN-
BEGIN: initComponents
    private void initComponents() {
        jLabel1.setFont(new java.awt.Font("Impact", 0, 24)); // NOI18N
        jLabel1.setText("PRODUCTS");
        entryPanel.setBorder(javax.swing.BorderFactory.createTitledBorder("Enter Product
Details"));
        suppCombo.setModel(new javax.swing.DefaultComboBoxModel<>(new String[] {
"Select a supplier" }));
        suppCombo.setToolTipText("Select a supplier");
        addSuppButton.setText("Click to add a New Supplier");
        addSuppButton.setCursor(new java.awt.Cursor(java.awt.Cursor.HAND_CURSOR));
        addSuppButton.addActionListener(new java.awt.event.ActionListener() {
            public void actionPerformed(java.awt.event.ActionEvent evt) {
                addSuppButtonActionPerformed(evt);
            }
        });
        jLabel2.setText("Product Code:");
        jLabel3.setText("Product Name:");
        jLabel4.setText("Date:");
        jLabel5.setText("Quantity:");
        jLabel6.setText("Cost Price:");
        jLabel7.setText("Selling Price:");
        jLabel8.setText("Brand:");
        jDateChooser1.setForeground(new java.awt.Color(102, 102, 102));
        addButton.setText("Add");
        addButton.setCursor(new java.awt.Cursor(java.awt.Cursor.HAND_CURSOR));
        addButton.addActionListener(new java.awt.event.ActionListener() {
            public void actionPerformed(java.awt.event.ActionEvent evt) {
                addButtonActionPerformed(evt);
            }
        });
    }

    javax.swing.GroupLayout entryPanelLayout = new
javax.swing.GroupLayout(entryPanel);

    brandText.setText(data[4].toString());

    // productName = data[1].toString();

} // GEN-LAST: event_productTableMouseClicked
// Method to update combo box containing supplier names
public void loadComboBox() {
    try {

```

```

        SupplierDAO supplierDAO = new SupplierDAO();
        suppCombo.setModel(supplierDAO.setComboItems(supplierDAO.getQueryResult()
));
    } catch (SQLException e) {
        e.printStackTrace();
    }
}

// Method to load data into table
public void loadDataSet() {
    try {
        ProductDAO productDAO = new ProductDAO();
        productTable.setModel(productDAO.buildTableModel(productDAO.getQueryResult(
)));
    } catch (SQLException throwables) {
        throwables.printStackTrace();
    }
}

// Method to display search result in table
public void loadSearchData(String text) {
    try {
        ProductDAO productDAO = new ProductDAO();
        productTable.setModel(productDAO.buildTableModel(productDAO.getProductSearch(text)));
    } catch (SQLException throwables) {
        throwables.printStackTrace();
    }
}

private javax.swing.JLabel jLabel7;
private javax.swing.JLabel jLabel8;
private javax.swing.JLabel jLabel9;
private javax.swing.JScrollPane jScrollPane1;
private javax.swing.JSeparator jSeparator1;
private javax.swing.JTextField nameText;
private javax.swing.JComboBox<String> suppCombo;
// End of variables declaration//GEN-END:variables}

```

### 3.4 CUSTOMER STOCK PAGE.JAVA

```

package com.inventory.UI;
import com.inventory.DAO.ProductDAO;
import java.sql.SQLException;
public class CurrentStockPage extends javax.swing.JPanel {
    public CurrentStockPage(String username) {
        initComponents();
    }
}

```

```

        this.username = username;
        loadDataSet();
    }
    @SuppressWarnings("unchecked")
    // <editor-fold defaultstate="collapsed" desc="Generated Code"> // GEN-
BEGIN: initComponents
    private void initComponents() {
        jLabel1 = new javax.swing.JLabel();
        jSeparator1 = new javax.swing.JSeparator();
        jScrollPane1 = new javax.swing.JScrollPane();
        stockTable = new javax.swing.JTable();
        refreshButton = new javax.swing.JButton();
        jLabel1.setFont(new java.awt.Font("Impact", 0, 24)); // NOI18N
        jLabel1.setText("CURRENT STOCK");
        jLabel1.setToolTipText("");
        stockTable.setModel(new javax.swing.table.DefaultTableModel(
            new Object [][] {
                {null, null, null, null},
                {null, null, null, null},
                {null, null, null, null},
                {null, null, null, null}
            }
        )
        .addGroup(javax.swing.GroupLayout.Alignment.LEADING,
layout.createSequentialGroup()
        .addComponent(jLabel1, javax.swing.GroupLayout.PREFERRED_SIZE, 165,
javax.swing.GroupLayout.PREFERRED_SIZE)
        .addPreferredGap(javax.swing.LayoutStyle.ComponentPlacement.RELATED,
javax.swing.GroupLayout.DEFAULT_SIZE, Short.MAX_VALUE)
        .addComponent(refreshButton)))
        .addContainerGap())
    );
    layout.setVerticalGroup(
        layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)
        .addGroup(layout.createSequentialGroup()
        .addGroup(layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)
        .addComponent(refreshButton, javax.swing.GroupLayout.PREFERRED_SIZE,
31, javax.swing.GroupLayout.PREFERRED_SIZE)
        .addComponent(jLabel1, javax.swing.GroupLayout.PREFERRED_SIZE, 44,
javax.swing.GroupLayout.PREFERRED_SIZE))
        .addPreferredGap(javax.swing.LayoutStyle.ComponentPlacement.RELATED,
javax.swing.GroupLayout.DEFAULT_SIZE, Short.MAX_VALUE)
        .addComponent(jSeparator1, javax.swing.GroupLayout.PREFERRED_SIZE, 10,
javax.swing.GroupLayout.PREFERRED_SIZE)
        .addPreferredGap(javax.swing.LayoutStyle.ComponentPlacement.RELATED)

```

```

        .addComponent(jScrollPane1, javax.swing.GroupLayout.PREFERRED_SIZE, 330)
// Variables declaration - do not modify//GEN-BEGIN:variables
private javax.swing.JLabel jLabel1;
private javax.swing.JScrollPane jScrollPane1;
private javax.swing.JSeparator jSeparator1;
private javax.swing.JButton refreshButton;
private javax.swing.JTable stockTable;
// End of variables declaration//GEN-END:variables
}

```

### 3.5 SALESPAGE.JAVA

```

package com.inventory.UI;
import com.inventory.DAO.CustomerDAO;
import com.inventory.DAO.ProductDAO;
import com.inventory.DTO.ProductDTO;
import javax.swing.*;
import java.sql.ResultSet;
import java.sql.SQLException;
public class SalesPage extends javax.swing.JPanel {
    String username;
    Dashboard dashboard;
    int quantity;
    String prodCode;
    public SalesPage(String username, Dashboard dashboard) {
        initComponents();
        this.username = username;
        this.dashboard = dashboard;
        custNameLabel.setVisible(false);
        prodNameLabel.setVisible(false);
        loadDataSet();
    }
    @SuppressWarnings("unchecked")
    // <editor-fold defaultstate="collapsed" desc="Generated Code">//GEN-
BEGIN: initComponents
    private void initComponents() {

        jLabel1 = new javax.swing.JLabel();
        jSeparator1 = new javax.swing.JSeparator();
        sellPanel = new javax.swing.JPanel();
        jLabel2 = new javax.swing.JLabel();
        jLabel3 = new javax.swing.JLabel();
        jLabel4 = new javax.swing.JLabel();
        jLabel5 = new javax.swing.JLabel();
        jLabel6 = new javax.swing.JLabel();
        custCodeText = new javax.swing.JTextField();

```

```

prodCodeText = new javax.swing.JTextField();
priceText = new javax.swing.JTextField();
quantityText = new javax.swing.JTextField();
jDateChooser1 = new com.toedter.calendar.JDateChooser();
sellButton = new javax.swing.JButton();
deleteButton = new javax.swing.JButton();
clearButton = new javax.swing.JButton();
addCustButton = new javax.swing.JButton();
custNameLabel = new javax.swing.JLabel();
prodNameLabel = new javax.swing.JLabel();
jScrollPane1 = new javax.swing.JScrollPane();
salesTable = new javax.swing.JTable();
searchText = new javax.swing.JTextField();
jLabel7 = new javax.swing.JLabel();
jLabel1.setFont(new java.awt.Font("Impact", 0, 24)); // NOI18N
jLabel1.setText("SALES");
sellPanel.setBorder(javax.swing.BorderFactory.createTitledBorder("Sell Product"));
jLabel2.setText("Customer Code:");
jLabel3.setText("Product Code:");
jLabel4.setText("Date:");
jLabel5.setText("Selling Price:");
jLabel6.setText("Quantity:");
custCodeText.addKeyListener(new java.awt.event.KeyAdapter() {
    public void keyReleased(java.awt.event.KeyEvent evt) {
        custCodeTextKeyReleased(evt);
    }
});
prodCodeText.addKeyListener(new java.awt.event.KeyAdapter() {
    public void keyReleased(java.awt.event.KeyEvent evt) {
        prodCodeTextKeyReleased(evt);
    }
});
sellButton.setFont(new java.awt.Font("Segoe UI", 1, 12)); // NOI18N
sellButton.setText("SELL PRODUCT");
sellButton.setCursor(new java.awt.Cursor(java.awt.Cursor.HAND_CURSOR));
sellButton.addActionListener(new java.awt.event.ActionListener() {
    public void actionPerformed(java.awt.event.ActionEvent evt) {
        sellButtonActionPerformed(evt);
    }
});
deleteButton.setText("Delete");
deleteButton.setCursor(new java.awt.Cursor(java.awt.Cursor.HAND_CURSOR));
deleteButton.addActionListener(new java.awt.event.ActionListener() {
    public void actionPerformed(java.awt.event.ActionEvent evt) {
        deleteButtonActionPerformed(evt);
    }
});

clearButton.setText("Clear");

```

```

clearButton.setCursor(new java.awt.Cursor(java.awt.Cursor.HAND_CURSOR));
clearButton.addActionListener(new java.awt.event.ActionListener() {
    public void actionPerformed(java.awt.event.ActionEvent evt) {
        clearButtonActionPerformed(evt);
    }
});

        .addGroup(sellPanelLayout.createSequentialGroup());
.addComponent(jScrollPane1, javax.swing.GroupLayout.DEFAULT_SIZE, 457,
Short.MAX_VALUE)
        .addPreferredGap(javax.swing.LayoutStyle.ComponentPlacement.RELATED)
        .addComponent(sellPanel, javax.swing.GroupLayout.PREFERRED_SIZE,
javax.swing.GroupLayout.DEFAULT_SIZE,
javax.swing.GroupLayout.PREFERRED_SIZE)))
        .addContainerGap()
);
layout.setVerticalGroup(
    layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)
        .addGroup(layout.createSequentialGroup()
            .addContainerGap()

.addGroup(layout.createParallelGroup(javax.swing.GroupLayout.Alignment.BASELINE)
            .addComponent(jLabel1, javax.swing.GroupLayout.PREFERRED_SIZE, 40,
javax.swing.GroupLayout.PREFERRED_SIZE)
            .addComponent(searchText, javax.swing.GroupLayout.PREFERRED_SIZE,
javax.swing.GroupLayout.DEFAULT_SIZE, javax.swing.GroupLayout.PREFERRED_SIZE)
            .addComponent(jLabel7))
            .addPreferredGap(javax.swing.LayoutStyle.ComponentPlacement.RELATED)
            .addComponent(jSeparator1, javax.swing.GroupLayout.PREFERRED_SIZE, 10,
javax.swing.GroupLayout.PREFERRED_SIZE)
            .addPreferredGap(javax.swing.LayoutStyle.ComponentPlacement.RELATED)

.addGroup(layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING,
false)
            .addComponent(sellPanel, javax.swing.GroupLayout.DEFAULT_SIZE,
javax.swing.GroupLayout.DEFAULT_SIZE, Short.MAX_VALUE)
            .addComponent(jScrollPane1, javax.swing.GroupLayout.PREFERRED_SIZE, 0,
Short.MAX_VALUE))
            .addContainerGap(70, Short.MAX_VALUE))
);
} // </editor-fold> // GEN-END: initComponents

private void deleteButtonActionPerformed(java.awt.event.ActionEvent evt) { // GEN-
FIRST:event_deleteButtonActionPerformed
    if (salesTable.getSelectedRow()<0)

```

```

        JOptionPane.showMessageDialog(this, "Please select an entry from the table you
wish to delete.");
    else {
        int opt = JOptionPane.showConfirmDialog(
            this,
            "Are you sure you want to delete this sale from the database?",
            "Confirmation",
            JOptionPane.YES_NO_OPTION);
        productDTO.setQuantity(Integer.parseInt(quantityText.getText()));
        new ProductDAO().sellProductDAO(productDTO, username);
        loadDataSet();
    } else
        JOptionPane.showMessageDialog(this, "This customer does not exist.\n" +
            "Add new customer or use a valid customer code.");
    } catch (SQLException e) {
        e.printStackTrace();
    }
}
}
} //GEN-LAST:event_sellButtonActionPerformed

```

```

// Variables declaration - do not modify//GEN-BEGIN:variables
private javax.swing.JButton addCustButton;
private javax.swing.JButton clearButton;
private javax.swing.JTextField custCodeText;
private javax.swing.JLabel custNameLabel;
private javax.swing.JButton deleteButton;
private com.toedter.calendar.JDateChooser jDateChooser1;
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.JScrollPane jScrollPane1;
private javax.swing.JSeparator jSeparator1;
private javax.swing.JTextField priceText;
private javax.swing.JTextField prodCodeText;
private javax.swing.JLabel prodNameLabel;
private javax.swing.JTextField quantityText;
private javax.swing.JTable salesTable;
private javax.swing.JTextField searchText;
private javax.swing.JButton sellButton;
private javax.swing.JPanel sellPanel;
// End of variables declaration//GEN-END:variables

```

```
}
```

### 3.5 USERSPAGE.JAVA

```
package com.inventory.UI;
import com.inventory.DAO.UserDAO;
import com.inventory.DTO.UserDTO;
import javax.swing.*;
import java.sql.*;

public class UsersPage extends javax.swing.JPanel {
    public UsersPage() {
        initComponents();
        loadDataSet();
    }
    @SuppressWarnings("unchecked")
    // <editor-fold defaultstate="collapsed" desc="Generated Code"> //GEN-BEGIN: initComponents
    private void initComponents() {

        jLabel1 = new javax.swing.JLabel();
        jSeparator1 = new javax.swing.JSeparator();
        entryPanel = new javax.swing.JPanel();
        jLabel2 = new javax.swing.JLabel();
        jLabel3 = new javax.swing.JLabel();
        jLabel4 = new javax.swing.JLabel();
        jLabel5 = new javax.swing.JLabel();
        jLabel6 = new javax.swing.JLabel();
        nameText = new javax.swing.JTextField();
        locationText = new javax.swing.JTextField();
        phoneText = new javax.swing.JTextField();
        usernameText = new javax.swing.JTextField();
        passText = new javax.swing.JPasswordField();
        userTypeCombo = new javax.swing.JComboBox<>();
        addButton = new javax.swing.JButton();
        deleteButton = new javax.swing.JButton();
        clearButton = new javax.swing.JButton();
        jScrollPane1 = new javax.swing.JScrollPane();
        userTable = new javax.swing.JTable();

        jLabel1.setFont(new java.awt.Font("Impact", 0, 24)); // NOI18N
        jLabel1.setText("USERS");

        entryPanel.setBorder(javax.swing.BorderFactory.createTitledBorder("Enter User Details"));

        jLabel2.setText("Full Name:");
```



```

jLabel3.setText("Location:");

jLabel4.setText("Contact:");

jLabel5.setText("Username:");
jLabel6.setText("Password:");

userTypeCombo.setModel(new javax.swing.DefaultComboBoxModel<>(new String[] {
"ADMINISTRATOR", "EMPLOYEE" }));

addButton.setText("Add");
addButton.setCursor(new java.awt.Cursor(java.awt.Cursor.HAND_CURSOR));
addButton.addActionListener(new java.awt.event.ActionListener() {
    public void actionPerformed(java.awt.event.ActionEvent evt) {
        addButtonActionPerformed(evt);
    }
});

deleteButton.setText("Delete");
deleteButton.setCursor(new java.awt.Cursor(java.awt.Cursor.HAND_CURSOR));
deleteButton.addActionListener(new java.awt.event.ActionListener() {
    public void actionPerformed(java.awt.event.ActionEvent evt) {
        deleteButtonActionPerformed(evt);
    }
});

clearButton.setText("Clear");
clearButton.setCursor(new java.awt.Cursor(java.awt.Cursor.HAND_CURSOR));
clearButton.addActionListener(new java.awt.event.ActionListener() {
    public void actionPerformed(java.awt.event.ActionEvent evt) {
        clearButtonActionPerformed(evt);
    }
});

javax.swing.GroupLayout entryPanelLayout = new
javax.swing.GroupLayout(entryPanel);
entryPanel.setLayout(entryPanelLayout);
entryPanelLayout.setHorizontalGroup(

    entryPanelLayout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)
        .addGroup(entryPanelLayout.createSequentialGroup()
            .addContainerGap()

.addGroup(entryPanelLayout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEA
DING)

```

```

        .addComponent(userTypeCombo, 0,
javax.swing.GroupLayout.DEFAULT_SIZE, Short.MAX_VALUE)
        .addGroup(entryPanelLayout.createSequentialGroup())
        .addComponent(jLabel2, javax.swing.GroupLayout.PREFERRED_SIZE, 68,
javax.swing.GroupLayout.PREFERRED_SIZE)
        .addPreferredGap(javax.swing.LayoutStyle.ComponentPlacement.RELATED)
        .addComponent(nameText))
        .addGroup(entryPanelLayout.createSequentialGroup())
        .addComponent(jLabel3, javax.swing.GroupLayout.PREFERRED_SIZE, 68,
javax.swing.GroupLayout.PREFERRED_SIZE)
        .addPreferredGap(javax.swing.LayoutStyle.ComponentPlacement.RELATED)
        .addComponent(locationText))
        .addGroup(entryPanelLayout.createSequentialGroup())
        .addComponent(jLabel4, javax.swing.GroupLayout.PREFERRED_SIZE, 68,
javax.swing.GroupLayout.PREFERRED_SIZE)
        .addPreferredGap(javax.swing.LayoutStyle.ComponentPlacement.RELATED)
        .addComponent(phoneText))
        .addGroup(entryPanelLayout.createSequentialGroup())
        .addComponent(jLabel6, javax.swing.GroupLayout.PREFERRED_SIZE, 68,
javax.swing.GroupLayout.PREFERRED_SIZE)
        .addPreferredGap(javax.swing.LayoutStyle.ComponentPlacement.RELATED)
        .addComponent(passText))
        .addGroup(entryPanelLayout.createSequentialGroup())
        .addComponent(jLabel5, javax.swing.GroupLayout.PREFERRED_SIZE, 68,
javax.swing.GroupLayout.PREFERRED_SIZE)
        .addPreferredGap(javax.swing.LayoutStyle.ComponentPlacement.RELATED)
        .addComponent(usernameText)))
        .addContainerGap())
        .addGroup(entryPanelLayout.createSequentialGroup())
        .addComponent(addButton, javax.swing.GroupLayout.PREFERRED_SIZE, 78,
javax.swing.GroupLayout.PREFERRED_SIZE)
        .addPreferredGap(javax.swing.LayoutStyle.ComponentPlacement.RELATED)
        .addComponent(deleteButton, javax.swing.GroupLayout.PREFERRED_SIZE, 75,
javax.swing.GroupLayout.PREFERRED_SIZE)
        .addPreferredGap(javax.swing.LayoutStyle.ComponentPlacement.RELATED)
        .addComponent(clearButton, javax.swing.GroupLayout.PREFERRED_SIZE, 75,
javax.swing.GroupLayout.PREFERRED_SIZE)
        .addGap(0, 0, Short.MAX_VALUE))
    );
    entryPanelLayout.setVerticalGroup(

entryPanelLayout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)
    .addGroup(entryPanelLayout.createSequentialGroup())
        .addContainerGap()

```

```

.addGroup(entryPanelLayout.createParallelGroup(javax.swing.GroupLayout.Alignment.BAS
ELINE)
    .addComponent(jLabel2, javax.swing.GroupLayout.PREFERRED_SIZE, 25,
javax.swing.GroupLayout.PREFERRED_SIZE)
    .addComponent(nameText, javax.swing.GroupLayout.PREFERRED_SIZE,
javax.swing.GroupLayout.DEFAULT_SIZE,
javax.swing.GroupLayout.PREFERRED_SIZE))
    .addPreferredGap(javax.swing.LayoutStyle.ComponentPlacement.RELATED)

.addGroup(entryPanelLayout.createParallelGroup(javax.swing.GroupLayout.Alignment.BAS
ELINE)
    .addComponent(jLabel3, javax.swing.GroupLayout.PREFERRED_SIZE, 25,
javax.swing.GroupLayout.PREFERRED_SIZE)
    .addComponent(locationText, javax.swing.GroupLayout.PREFERRED_SIZE,
javax.swing.GroupLayout.DEFAULT_SIZE,
javax.swing.GroupLayout.PREFERRED_SIZE))
    .addPreferredGap(javax.swing.LayoutStyle.ComponentPlacement.RELATED)

.addGroup(entryPanelLayout.createParallelGroup(javax.swing.GroupLayout.Alignment.BAS
ELINE)
    .addComponent(jLabel4, javax.swing.GroupLayout.PREFERRED_SIZE, 25,
javax.swing.GroupLayout.PREFERRED_SIZE)
    .addComponent(phoneText, javax.swing.GroupLayout.PREFERRED_SIZE,
javax.swing.GroupLayout.DEFAULT_SIZE,
javax.swing.GroupLayout.PREFERRED_SIZE))
    .addPreferredGap(javax.swing.LayoutStyle.ComponentPlacement.RELATED)

.addGroup(entryPanelLayout.createParallelGroup(javax.swing.GroupLayout.Alignment.BAS
ELINE)
    .addComponent(jLabel5, javax.swing.GroupLayout.PREFERRED_SIZE, 25,
javax.swing.GroupLayout.PREFERRED_SIZE)
    .addComponent(usernameText, javax.swing.GroupLayout.PREFERRED_SIZE,
javax.swing.GroupLayout.DEFAULT_SIZE,
javax.swing.GroupLayout.PREFERRED_SIZE))
    .addPreferredGap(javax.swing.LayoutStyle.ComponentPlacement.RELATED)

.addGroup(entryPanelLayout.createParallelGroup(javax.swing.GroupLayout.Alignment.TRA
ILING)
    .addComponent(jLabel6, javax.swing.GroupLayout.PREFERRED_SIZE, 25,
javax.swing.GroupLayout.PREFERRED_SIZE)
    .addComponent(passText, javax.swing.GroupLayout.PREFERRED_SIZE,
javax.swing.GroupLayout.DEFAULT_SIZE,
javax.swing.GroupLayout.PREFERRED_SIZE))
    .addPreferredGap(javax.swing.LayoutStyle.ComponentPlacement.UNRELATED)

```

```

        .addComponent(userTypeCombo, javax.swing.GroupLayout.PREFERRED_SIZE,
33, javax.swing.GroupLayout.PREFERRED_SIZE)
        .addGap(18, 18, 18)

```

```

.addGroup(entryPanelLayout.createParallelGroup(javax.swing.GroupLayout.Alignment.BAS
ELINE)

```

```

        .addComponent(addButton)
        .addComponent(deleteButton)
        .addComponent(clearButton))
        .addContainerGap(javax.swing.GroupLayout.DEFAULT_SIZE,
Short.MAX_VALUE))
    );

```

```

userTable.setBorder(javax.swing.BorderFactory.createEtchedBorder());
userTable.setForeground(new java.awt.Color(102, 102, 102));
userTable.setModel(new javax.swing.table.DefaultTableModel(
    new Object [][] {
        {null, null, null, null},
        {null, null, null, null},
        {null, null, null, null},
        {null, null, null, null}
    },
    new String [] {
        "Title 1", "Title 2", "Title 3", "Title 4"
    }
) {
    boolean[] canEdit = new boolean [] {
        false, false, false, false
    };

    public boolean isCellEditable(int rowIndex, int columnIndex) {
        return canEdit [columnIndex];
    }
});
userTable.setCursor(new java.awt.Cursor(java.awt.Cursor.HAND_CURSOR));
userTable.setName("Users"); // NOI18N
userTable.setShowGrid(true);
userTable.addMouseListener(new java.awt.event.MouseAdapter() {
    public void mouseClicked(java.awt.event.MouseEvent evt) {
        userTableMouseClicked(evt);
    }
});
jScrollPane1.setViewportViewView(userTable);

javax.swing.GroupLayout layout = new javax.swing.GroupLayout(this);
this.setLayout(layout);

```

```

        layout.setHorizontalGroup(
            layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)
                .addGroup(layout.createSequentialGroup()
                    .addContainerGap()

.addGroup(layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)
                .addComponent(jSeparator1)
                .addGroup(javax.swing.GroupLayout.Alignment.TRAILING,
layout.createSequentialGroup()
                    .addComponent(jScrollPane1, javax.swing.GroupLayout.DEFAULT_SIZE,
432, Short.MAX_VALUE)
                    .addPreferredGap(javax.swing.LayoutStyle.ComponentPlacement.RELATED)
                    .addComponent(entryPanel, javax.swing.GroupLayout.PREFERRED_SIZE,
javax.swing.GroupLayout.DEFAULT_SIZE,
javax.swing.GroupLayout.PREFERRED_SIZE))
                .addGroup(layout.createSequentialGroup()
                    .addComponent(jLabel1, javax.swing.GroupLayout.PREFERRED_SIZE, 62,
javax.swing.GroupLayout.PREFERRED_SIZE)
                    .addGap(0, 0, Short.MAX_VALUE)))
                .addContainerGap()
        );
        layout.setVerticalGroup(
            layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)
                .addGroup(layout.createSequentialGroup()
                    .addContainerGap()
                    .addComponent(jLabel1, javax.swing.GroupLayout.PREFERRED_SIZE, 36,
javax.swing.GroupLayout.PREFERRED_SIZE)
                    .addPreferredGap(javax.swing.LayoutStyle.ComponentPlacement.RELATED)
                    .addComponent(jSeparator1, javax.swing.GroupLayout.PREFERRED_SIZE, 10,
javax.swing.GroupLayout.PREFERRED_SIZE)
                    .addPreferredGap(javax.swing.LayoutStyle.ComponentPlacement.RELATED)

.addGroup(layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)
                .addComponent(entryPanel, javax.swing.GroupLayout.DEFAULT_SIZE,
javax.swing.GroupLayout.DEFAULT_SIZE, Short.MAX_VALUE)
                .addComponent(jScrollPane1, javax.swing.GroupLayout.PREFERRED_SIZE, 0,
Short.MAX_VALUE))
                .addGap(95, 95, 95))
        );
    } // </editor-fold> // GEN-END: initComponents

```

```

private void clearButtonActionPerformed(java.awt.event.ActionEvent evt) { // GEN-
FIRST:event_clearButtonActionPerformed
    nameText.setText("");
    locationText.setText("");
    phoneText.setText("");
}

```

```

        usernameText.setText("");
        passText.setText("");
    } //GEN-LAST:event_clearButtonActionPerformed

    String userType;
    private void addButtonActionPerformed(java.awt.event.ActionEvent evt) { //GEN-FIRST:event_addButtonActionPerformed
        UserDTO userDTO = new UserDTO();

        if (nameText.getText().equals("") || locationText.getText().equals("") ||
            phoneText.getText().equals(""))
            JOptionPane.showMessageDialog(null, "Please fill all the required fields.");
        else {
            userType = (String) userTypeCombo.getSelectedItem();
            userDTO.setFullName(nameText.getText());
            userDTO.setLocation(locationText.getText());
            userDTO.setPhone(phoneText.getText());
            userDTO.setUsername(usernameText.getText());
            userDTO.setPassword(passText.getText());
            userDTO.setUserType(userType);
            new UserDAO().addUserDAO(userDTO, userType);
            loadDataSet();
        }
    } //GEN-LAST:event_addButtonActionPerformed

    private void deleteButtonActionPerformed(java.awt.event.ActionEvent evt) { //GEN-FIRST:event_deleteButtonActionPerformed
        if (userTable.getSelectedRow() < 0)
            JOptionPane.showMessageDialog(null, "Please select an entry from the table");
        else {
            int opt = JOptionPane.showConfirmDialog(
                null,
                "Are you sure you want to delete this user?",
                "Confirmation",
                JOptionPane.YES_NO_OPTION);
            if (opt == JOptionPane.YES_OPTION) {
                new UserDAO().deleteUserDAO(
                    String.valueOf(
                        userTable.getValueAt
                            (userTable.getSelectedRow(), 4)));
                loadDataSet();
            }
        }
    } //GEN-LAST:event_deleteButtonActionPerformed

    String username;

```

```

private void userTableMouseClicked(java.awt.event.MouseEvent evt) {//GEN-FIRST:event_userTableMouseClicked
    int row = userTable.getSelectedRow();
    int col = userTable.getColumnCount();
    Object[] val = new Object[col];

    for(int i=0; i<col; i++) {
        val[i] = userTable.getValueAt(row, i);
    }
    nameText.setText(val[1].toString());
    locationText.setText(val[2].toString());
    phoneText.setText(val[3].toString());
    usernameText.setText(val[4].toString());
    userTypeCombo.setSelectedItem(val[6].toString());
} //GEN-LAST:event_userTableMouseClicked

public void loadDataSet() {
    try {
        UserDao userDao = new UserDao();
        userTable.setModel(userDao.buildTableModel(userDao.getQueryResult()));
    } catch (SQLException ex) {
        ex.printStackTrace();
    }
}

// Variables declaration - do not modify//GEN-BEGIN:variables
private javax.swing.JButton addButton;
private javax.swing.JButton clearButton;
private javax.swing.JButton deleteButton;
private javax.swing.JPanel entryPanel;
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.JScrollPane jScrollPane1;
private javax.swing.JSeparator jSeparator1;
private javax.swing.JTextField locationText;
private javax.swing.JTextField nameText;
private javax.swing.JPasswordField passText;
private javax.swing.JTextField phoneText;
private javax.swing.JTable userTable;
private javax.swing.JComboBox<String> userTypeCombo;
private javax.swing.JTextField usernameText;
// End of variables declaration//GEN-END:variables

```

```
}
```

## **CONNECTIONFACTORY.JAVA**

```
package com.inventory.Database;
```

```
import java.io.FileInputStream;  
import java.io.IOException;  
import java.sql.Connection;  
import java.sql.DriverManager;  
import java.sql.ResultSet;  
import java.sql.Statement;  
import java.util.Properties;
```

```
//Class to retrieve connection for database and login verification.
```

```
public class ConnectionFactory {
```

```
    static final String driver = "com.mysql.cj.jdbc.Driver";  
    static final String url = "jdbc:mysql://127.0.0.1:3306/inventory";  
    static String username;  
    static String password;
```

```
    Properties prop;
```

```
    Connection conn = null;  
    Statement statement = null;  
    ResultSet resultSet = null;
```

```
    public ConnectionFactory(){
```

```
        try {
```

```
            //Username and Password saved as configurable properties to allow changes without  
            recompilation.
```

```
            prop = new Properties();
```

```
            prop.loadFromXML(new FileInputStream("lib/DBCredentials.xml"));
```

```
        } catch (IOException e) {
```

```
            e.printStackTrace();
```

```
        }
```

```
        username = prop.getProperty("username");
```

```
        password = prop.getProperty("");
```

```
        try {
```

```
            Class.forName(driver);
```

```
            conn = DriverManager.getConnection(url, username, password);
```

```
            statement = conn.createStatement();
```

```
        } catch (Exception e) {
```

```
            e.printStackTrace();
```

```
        }
```



```

    }

    public Connection getConn() {
        try {
            Class.forName(driver);
            conn = DriverManager.getConnection(url, username, password);
            System.out.println("Connected successfully.");
        } catch (Exception e) {
            e.printStackTrace();
        }
        return conn;
    }

    //Login verification method
    public boolean checkLogin(String username, String password, String userType){
        String query = "SELECT * FROM users WHERE username="
            + username
            + " AND password="
            + password
            + " AND usertype="
            + userType
            + " LIMIT 1";

        try {
            resultSet = statement.executeQuery(query);
            if(resultSet.next()) return true;
        } catch (Exception ex) {
            ex.printStackTrace();
        }
        return false;
    }
}

```

## SNAPSHOTS

### 4.1 LOGIN PAGE

Username:

Password:

ADMINISTRATOR

LOGIN CLEAR

## 4.2 HOME AND PRODUCT PAGE :

File Edit BUSINESS MANAGEMENT

Menu User: Trial Admin (ADMINISTRATOR) Sign out

PRODUCTS

Search:  REFRESH

PRODUCTCODE	PRODUCTNAME	COSTPRICE	SELLPRICE	BRAND
prod1	Laptop	85000.0	90000.0	Dell
prod2	Laptop	70000.0	72000.0	HP
prod3	Mobile	60000.0	64000.0	Apple
prod4	Mobile	50000.0	51000.0	Samsung
prod5	Charger	2000.0	2100.0	Apple
prod6	Mouse	1700.0	1900.0	Dell
prod7	Power Adapter	3000.0	3500.0	Dell
prod8	Smart Watch	15000.0	17000.0	Apple

Enter Product Details

Dell Inc.

Click to add a New Supplier

Product Code:

Product Name:

Date:

Quantity:

Cost Price:

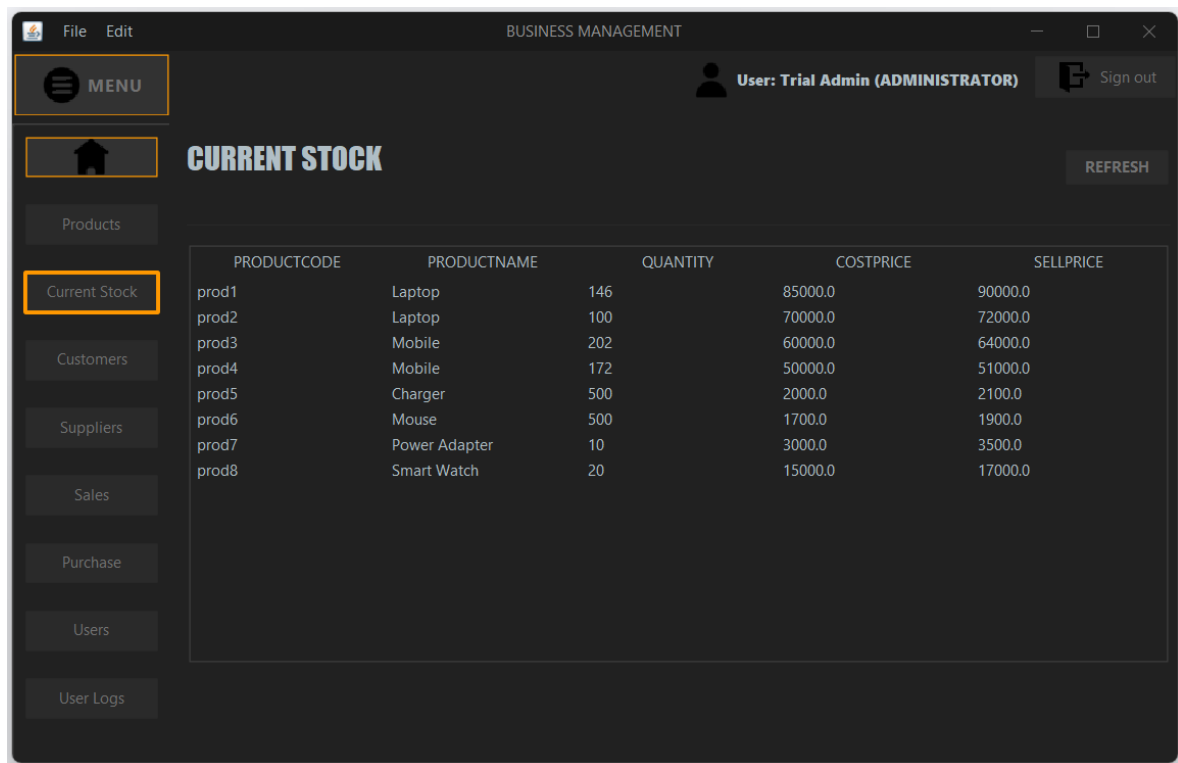
Selling Price:

Brand:

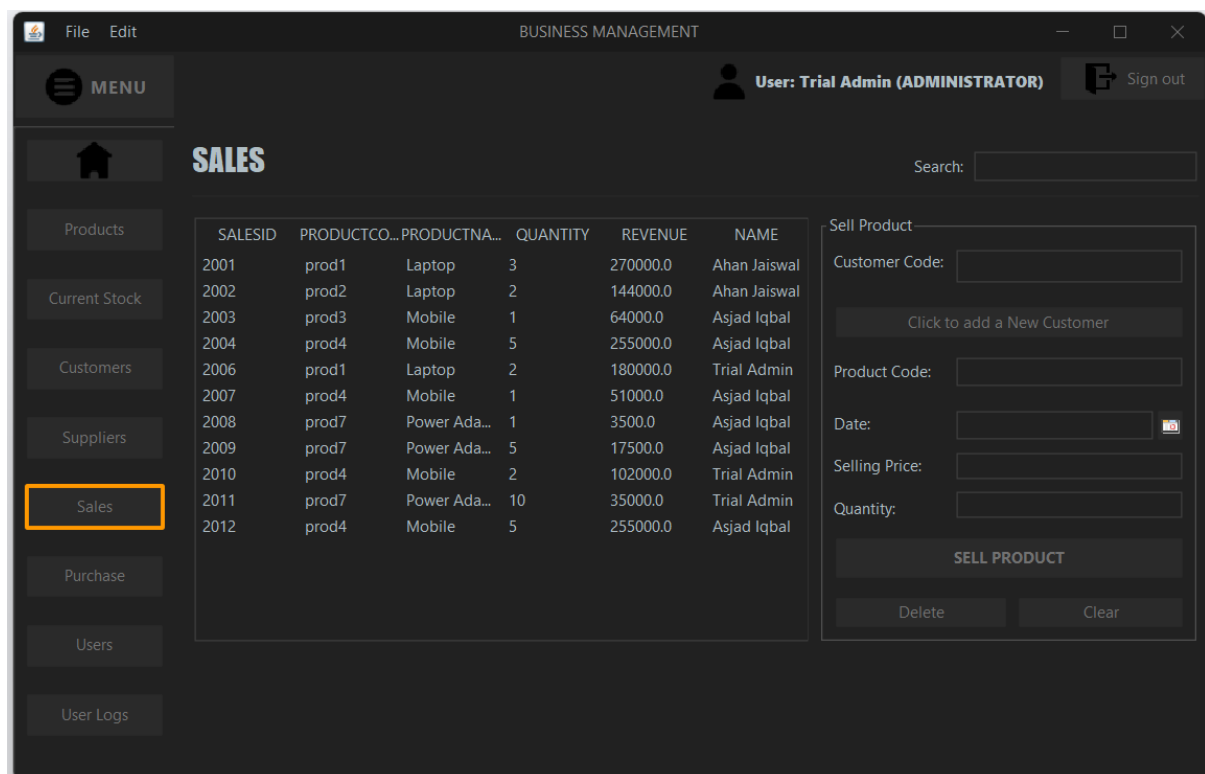
Add Edit Delete

CLEAR

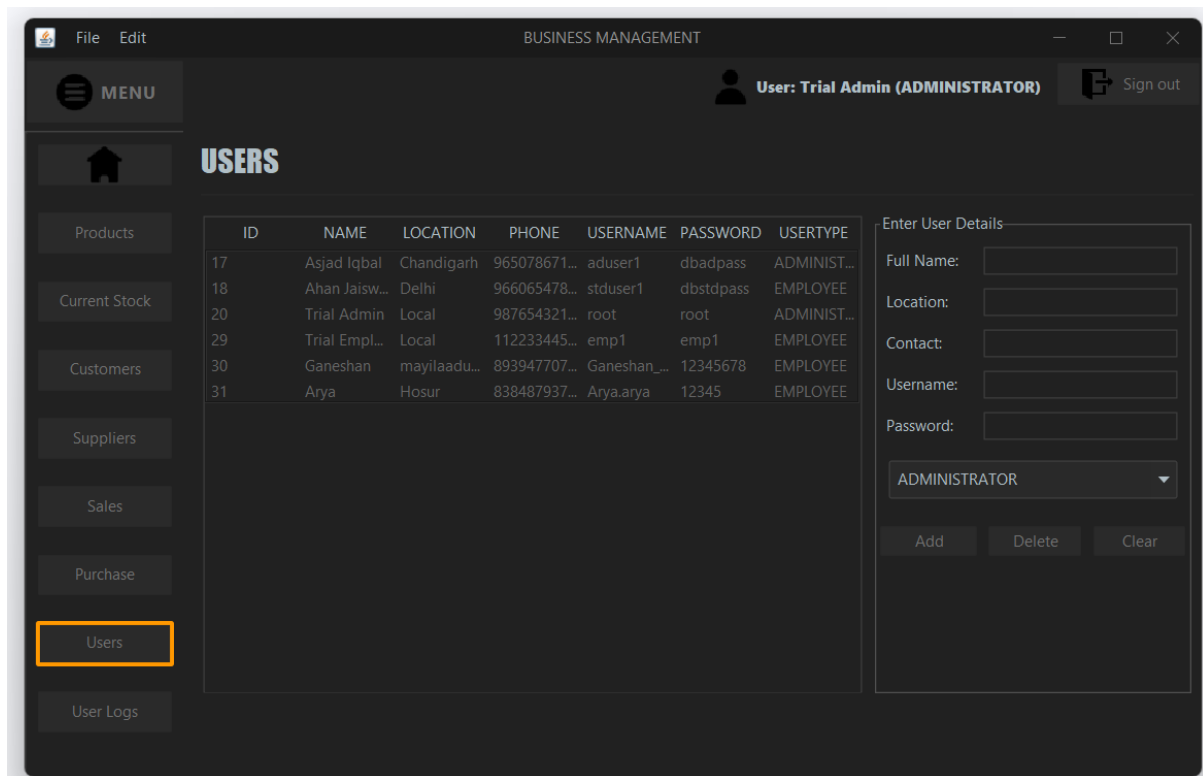
## 4.3 CUSTOMER STOCK :



#### 4.4 SALES:



#### 4.5 USERS:



## CONCLUSION

In conclusion, the Business Management Application offers a comprehensive and efficient solution for businesses to manage their operations, focusing on product inventory, order tracking, and user management. With Java Swing as the foundation for its user-friendly graphical interface and MySQL ensuring reliable data storage and retrieval, the application provides an intuitive experience for both Admin and Employee users. The Admin's full control over system operations, along with the Employee's limited yet crucial capabilities, helps streamline business processes. The integration of real-time updates and secure database management ensures seamless functionality. This application is a robust tool that not only supports day-to-day business activities but also offers scalability for future enhancements, such as advanced reporting, real-time notifications, and payment gateway integrations, further improving business efficiency.

## REFERENCES

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2. <https://www.wikipedia.org/>
3. <https://www.w3schools.com/sql/>
4. [SQL | Codecademy](#)

