

Praktikum 11 - Navigasi Dashboard UI Swing Responsif

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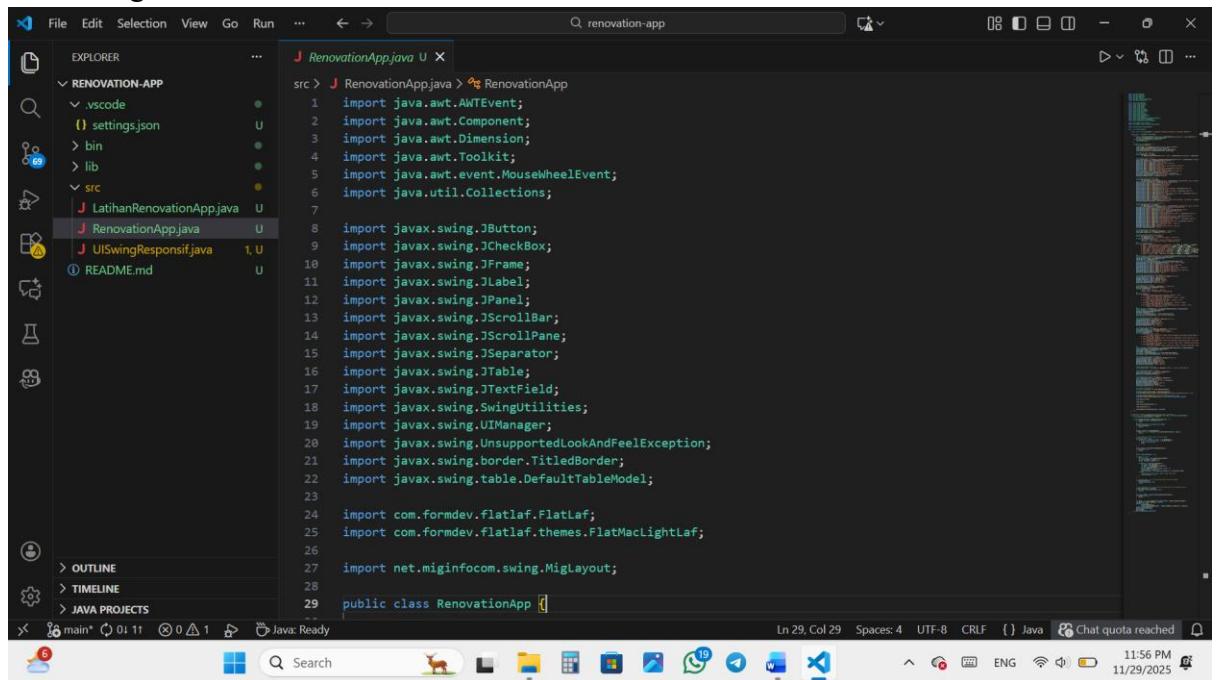
Kelas : D3TI2C

Mata Kuliah : Pemrograman Berorientasi Objek

Sajikanlah Laporan Praktikum 11 - Navigasi Dashboard UI Swing Responsif dengan format (*.pdf) dan ketentuan sebagai berikut:

1. Terdapat penyelesaian Praktikum pada Modul - 10_02 Kode Program Swing Layout, UI, & Event Handling yang disertai bukti hasil running dan pembuktian Scroll Chaining

a. Kode Program



```
RenovationApp.java
import java.awt.AWTEvent;
import java.awt.Component;
import java.awt.Dimension;
import java.awt.Toolkit;
import java.awt.event.MouseWheelEvent;
import java.util.Collections;
import javax.swing.JButton;
import javax.swing.JCheckBox;
import javax.swing.JFrame;
import javax.swing.JLabel;
import javax.swing.JPanel;
import javax.swing.JScrollPane;
import javax.swing.JSeparator;
import javax.swing.JTable;
import javax.swing.JTextField;
import javax.swing.SwingUtilities;
import javax.swing.UIManager;
import javax.swing.UnsupportedLookAndFeelException;
import javax.swing.border.TitledBorder;
import javax.swing.table.DefaultTableModel;
import com.formdev.flatlaf.FlatLaf;
import com.formdev.flatlaf.themes.FlatMacLightLaf;
import net.miginfocom.swing.MigLayout;
public class RenovationApp {
```

```
src > J RenovationApp.java > RenovationApp > main(String[])
28
29 public class RenovationApp {
30
31     private static String buttonColor = "background: $Component.accentColor; foreground: #FFFFFF;";
32
33     Run| Debug
34     public static void main(String[] args) {
35         try {
36             FlatLaf.setGlobalExtraDefaults(Collections.singletonMap(key: "@accentColor", value: "#A2BEB2"));
37             UIManager.setLookAndFeel(new FlatMacLightLaf());
38         } catch (UnsupportedLookAndFeelException e) {
39             e.printStackTrace();
40         }
41
42         SwingUtilities.invokeLater(() -> {
43             /** Deklarasi Frame */
44             JFrame frame = new JFrame(title: "Detail Proyek: RNV-JKT-AXG-001");
45             frame.setDefaultCloseOperation(JFrame.EXIT_ON_CLOSE);
46             frame.setPreferredSize(new Dimension(width: 1024, height: 768));
47             frame.setMinimumSize(new Dimension(width: 800, height: 600));
48
49             /** Deklarasi Panel Utama */
50             JPanel panelUtama = new JPanel(
51                 new MigLayout(layoutConstraints: "fill, wrap 3", colConstraints: "[[] [grow] []]", rowConstraints: "[[] [grow] [grow] []]"));
52
53             /** Deklarasi Panel Client */
54             JPanel panelClient = new JPanel(new MigLayout(layoutConstraints: "wrap 2", colConstraints: "[right]10[left]"));
55             panelClient.setBorder(new TitledBorder(title: "Client"));
56             panelClient.add(new JLabel(text: "Client ID:"));
57             panelClient.add(new JLabel(text: "<html><b>i01</b></html>"));
58             panelClient.add(new JLabel(text: "Name:"));
59             panelClient.add(new JLabel(text: "<html><b>Bapak Alex Gunawan</b></html>"));
60             panelClient.add(new JLabel(text: "Phone:"));
61             panelClient.add(new JLabel(text: "<html><b>+62 8123456789</b></html>"));
62             panelClient.add(new JLabel(text: "Registration No: "));
63             panelClient.add(new JLabel(text: "<html><b>RNV-JKT-AXG-001</b></html>"));
64             JButton buttonDetails = new JButton(text: "Details");
65             buttonDetails.putClientProperty(key: "FlatLaf.style", buttonColor);
66             panelClient.add(buttonDetails, constraints: "span 2, gap top 10, center");
67             panelUtama.add(panelClient, constraints: "grow");
68
69             /** Deklarasi Panel Information */
70             JPanel panelInformation = new JPanel(
71                 new MigLayout(layoutConstraints: "wrap 3", colConstraints: "[right]10[left, grow, fill]5[fill]"));
72             panelInformation.setBorder(new TitledBorder(title: "Information"));
73             panelInformation.add(new JLabel(text: "Reserve days:"));
74             panelInformation.add(new JTextField(text: "0 of 30"));
75             panelInformation.add(new JButton(text: "Add Days"));
76             panelInformation.add(new JLabel(text: "Buyer: "));
77             panelInformation.add(new JTextField(text: "Bapak Alex Gunawan"), constraints: "span 2");
78             panelInformation.add(new JLabel(text: "Seller: "));
79             panelInformation.add(new JTextField(text: "PT Bangun Jaya Abadi"), constraints: "span 2");
```

J RenovationApp.java U X

```

src > J RenovationApp.java > RenovationApp > main(String[])
29  public class RenovationApp {
33    public static void main(String[] args) {
69      JPanel panelInformation = new JPanel(
70        new MigLayout(layoutConstraints: "wrap 3", colConstraints: "[right]10[left, grow, fill]5[fill]"));
71      panelInformation.setBorder(new TitledBorder(title: "Information"));
72      panelInformation.add(new JLabel(text: "Reserve days:"));
73      panelInformation.add(new JTextField(text: "0 of 30"));
74      panelInformation.add(new JButton(text: "Add Days"));
75      panelInformation.add(new JLabel(text: "Buyer: "));
76      panelInformation.add(new JTextField(text: "Bapak Alex Gunawan"), constraints: "span 2");
77      panelInformation.add(new JLabel(text: "Seller: "));
78      panelInformation.add(new JTextField(text: "PT Bangun Jaya Abadi"), constraints: "span 2");
79      panelInformation.add(new JLabel(text: "Address:"));
80      panelInformation.add(new JTextField(text: "Jl. Raya Lohbener Baru, 778A"), constraints: "span 2");
81      panelInformation.add(new JLabel(text: "Credit rating:"));
82      panelInformation.add(new JTextField(text: "AAA"));
83      panelInformation.add(new JButton(text: "$&P Update"));
84      panelInformation.add(new JCheckBox(text: "Approved: "));
85      panelInformation.add(new JTextField(text: "Proyek renovasi telah disetujui, siap dimulai"), constraints: "span 2");
86      panelUtama.add(panelInformation, constraints: "grow");
87
88      /** Deklarasi Panel Additional Information */
89      JPanel panelAdditional = new JPanel(
90        new MigLayout(layoutConstraints: "wrap 3", colConstraints: "[right]10[left, grow, fill][]"));
91      panelAdditional.setBorder(new TitledBorder(title: "Additional Information"));
92      panelAdditional.add(new JLabel(text: "Estimated close"));
93      panelAdditional.add(new JTextField(text: "2025-12-15"), constraints: "wmin pref");
94      panelAdditional.add(new JButton(text: "Edit"), constraints: "wmax pref");
95      panelAdditional.add(new JLabel(text: "Creation date:"));
96
97      panelAdditional.add(new JLabel(text: "<html><b>2025-10-15</b></html>"), constraints: "span 2");
98      panelAdditional.add(new JLabel(text: "Created by: "));
99      panelAdditional.add(new JLabel(text: "<html><b>Admin</b></html>"), constraints: "span 2");
100     panelAdditional.add(new JLabel(text: "Last edit date: "));
101     panelAdditional.add(new JLabel(text: "<html><b>2025-11-16</b></html>"), constraints: "span 2");
102     panelAdditional.add(new JLabel(text: "Last edited by: "));
103     panelAdditional.add(new JLabel(text: "<html><b>Warnoto</b></html>"), constraints: "span 2");
104     panelAdditional.add(new JLabel(text: "Closed date: "));
105     panelAdditional.add(new JLabel(text: "<html><b>null</b></html>"), constraints: "span 2");
106     panelAdditional.add(new JLabel(text: "Closed by: "));
107     panelAdditional.add(new JLabel(text: "<html><b>null</b></html>"), constraints: "span 2");
108
109     /** Deklarasi Panel Product List */
110     JPanel panelProduk = new JPanel(new MigLayout(layoutConstraints: "", colConstraints: "[grow][]"));
111     panelProduk.setBorder(new TitledBorder(title: "Product List"));
112
113     /** Deklarasi Panel (Table) Product List */
114     JPanel panelTableProductList = new JPanel(
115       new MigLayout(layoutConstraints: "wrap 3", colConstraints: "[grow][left][right]", rowConstraints: "[[]][[]][[]]"));
116     String[] kolomTableProductList = {
117       "Renovation", "Description", "Part #", "Quantity", "List Price",
118       "Discount", "Price", "Wholesale Discount", "Wholesaler Price"
119     }
120   }
121 }
```

Java: Ready

Ln 74, Col 59 Spaces: 4 UTF-8 CRLF {} Java Chat quota reached

12:00 AM 11/30/2025

J RenovationApp.java U X

```

src > J RenovationApp.java > RenovationApp > main(String[])
29  public class RenovationApp {
33    public static void main(String[] args) {
69      JPanel panelInformation = new JPanel(
70        new MigLayout(layoutConstraints: "wrap 3", colConstraints: "[right]10[left, grow, fill]5[fill]"));
71      panelInformation.setBorder(new TitledBorder(title: "Information"));
72      panelInformation.add(new JLabel(text: "Reserve days:"));
73      panelInformation.add(new JTextField(text: "0 of 30"));
74      panelInformation.add(new JButton(text: "Add Days"));
75      panelInformation.add(new JLabel(text: "Buyer: "));
76      panelInformation.add(new JTextField(text: "Bapak Alex Gunawan"), constraints: "span 2");
77      panelInformation.add(new JLabel(text: "Seller: "));
78      panelInformation.add(new JTextField(text: "PT Bangun Jaya Abadi"), constraints: "span 2");
79      panelInformation.add(new JLabel(text: "Address:"));
80      panelInformation.add(new JTextField(text: "Jl. Raya Lohbener Baru, 778A"), constraints: "span 2");
81      panelInformation.add(new JLabel(text: "Credit rating:"));
82      panelInformation.add(new JTextField(text: "AAA"));
83      panelInformation.add(new JButton(text: "$&P Update"));
84      panelInformation.add(new JCheckBox(text: "Approved: "));
85      panelInformation.add(new JTextField(text: "Proyek renovasi telah disetujui, siap dimulai"), constraints: "span 2");
86      panelUtama.add(panelInformation, constraints: "grow");
87
88      /** Deklarasi Panel Additional Information */
89      JPanel panelAdditional = new JPanel(
90        new MigLayout(layoutConstraints: "wrap 3", colConstraints: "[right]10[left, grow, fill][]"));
91      panelAdditional.setBorder(new TitledBorder(title: "Additional Information"));
92      panelAdditional.add(new JLabel(text: "Estimated close"));
93      panelAdditional.add(new JTextField(text: "2025-12-15"), constraints: "wmin pref");
94      panelAdditional.add(new JButton(text: "Edit"), constraints: "wmax pref");
95      panelAdditional.add(new JLabel(text: "Creation date:"));
96
97      panelAdditional.add(new JLabel(text: "<html><b>2025-10-15</b></html>"), constraints: "span 2");
98      panelAdditional.add(new JLabel(text: "Created by: "));
99      panelAdditional.add(new JLabel(text: "<html><b>Admin</b></html>"), constraints: "span 2");
100     panelAdditional.add(new JLabel(text: "Last edit date: "));
101     panelAdditional.add(new JLabel(text: "<html><b>2025-11-16</b></html>"), constraints: "span 2");
102     panelAdditional.add(new JLabel(text: "Last edited by: "));
103     panelAdditional.add(new JLabel(text: "<html><b>Warnoto</b></html>"), constraints: "span 2");
104     panelAdditional.add(new JLabel(text: "Closed date: "));
105     panelAdditional.add(new JLabel(text: "<html><b>null</b></html>"), constraints: "span 2");
106     panelAdditional.add(new JLabel(text: "Closed by: "));
107     panelAdditional.add(new JLabel(text: "<html><b>null</b></html>"), constraints: "span 2");
108
109     /** Deklarasi Panel Product List */
110     JPanel panelProduk = new JPanel(new MigLayout(layoutConstraints: "", colConstraints: "[grow][]"));
111     panelProduk.setBorder(new TitledBorder(title: "Product List"));
112
113     /** Deklarasi Panel (Table) Product List */
114     JPanel panelTableProductList = new JPanel(
115       new MigLayout(layoutConstraints: "wrap 3", colConstraints: "[grow][left][right]", rowConstraints: "[[]][[]][[]]"));
116     String[] kolomTableProductList = {
117       "Renovation", "Description", "Part #", "Quantity", "List Price",
118       "Discount", "Price", "Wholesale Discount", "Wholesaler Price"
119     }
120   }
121 }
```

Java: Ready

Ln 88, Col 59 Spaces: 4 UTF-8 CRLF {} Java Chat quota reached

12:00 AM 11/30/2025

File Edit Selection View Go Run ... Q renovation-app

J RenovationApp.java U X

```

src > J RenovationApp.java > RenovationApp > main(String[])
29  public class RenovationApp {
33    public static void main(String[] args) {
118      "Discount", "Price", "Wholesale Discount", "Wholesaler Price"
119    };
120    Object[][] dataProductList = {
121      { "Dapur", "Keramik Dinding Putih", "KW-PT-DLX-01", 50, 150000, 0, 750000L, 5, 712500L },
122      { "Dapur", "Lem Keramik Instan", "LMI-GRY-STD", 5, 50000, 0, 250000L, 6, 250000L },
123      { "Dapur", "Pipa PVC 3 inch", "PVC-3IN-STD", 12, 35000, 0, 420000L, 10, 378000L },
124      { "Kamar Mandi", "Shower Set Minimalis", "SHW-MN-STL", 1, 850000, 15, 722500L, 5, 686375L },
125      { "Kamar Mandi", "Closet Duduk Premium", "CLO-DD-PRM", 1, 250000, 5, 237500L, 10, 2137500L },
126      { "Ruang Tamu", "Lampu Gantung Hias", "LMP-HNG-CRS", 2, 750000, 0, 1500000L, 0, 1500000L },
127      { "Ruang Tamu", "Cat Tembok Putih 20L", "CAT-PT-20L", 3, 450000, 10, 1215000L, 15, 1032750L },
128      { "Garasi", "Semen PC 50kg", "SMN-PC-50", 20, 60000, 0, 1200000L, 5, 1140000L },
129    };
130    DefaultTableModel tableModelProductList = new DefaultTableModel(dataProductList, kolomTableProductList);
131    JTable tableProductList = new JTable(tableModelProductList);
132    tableProductList.setAutoCreateRowSorter(true);
133    tableProductList.setShowGrid(true);
134    JScrollPane scrollPaneTableProductList = new JScrollPane(tableProductList);
135    panelTableProductList.add(scrollPaneTableProductList, constraints: "span 3, growx, h 150");
136    panelTableProductList.add(new JSeparator(), constraints: "growx");
137    panelTableProductList.add(new JLabel(text: "Subtotal list price:"), constraints: "gapx 10");
138    panelTableProductList.add(new JLabel(text: "Rp 15.570.000"), constraints: "gapx 30");
139    panelTableProductList.add(new JLabel(text: "Total retailer price:"), constraints: "skip 1, gapx 10");
140    panelTableProductList.add(new JLabel(text: "Rp 15.182.500"), constraints: "gapx 30");
141    panelTableProductList.add(new JLabel(text: "Total wholesaler price:"), constraints: "skip 1, gapx 10");
142    panelTableProductList.add(new JLabel(text: "Rp 14.249.625"), constraints: "gapx 30");
143    panelProduk.add(panelTableProductList, constraints: "grow");
144}

```

main* Q 0 11 X 0 Δ 1 Java Ready

Ln 111, Col 69 Spaces: 4 UTF-8 CRLF {} Java Chat quota reached

File Edit Selection View Go Run ... Q renovation-app

J RenovationApp.java U X

```

src > J RenovationApp.java > RenovationApp > main(String[])
29  public class RenovationApp {
33    public static void main(String[] args) {
145    /**
146     * Deklarasi Panel (Button) Product List */
147    JPanel panelButtonProductList = new JPanel(new MigLayout(layoutConstraints: "wrap 1"));
148    panelButtonProductList.add(new JButton(text: "Add"));
149    panelButtonProductList.add(new JButton(text: "Edit"));
150    panelButtonProductList.add(new JButton(text: "Delete"));
151    panelProduk.add(panelButtonProductList, constraints: "grow");
152    panelUtama.add(panelProduk, constraints: "growx, span 3");
153
154    /**
155     * Deklarasi Panel Tasks */
156    JPanel panelTask = new JPanel(new MigLayout(layoutConstraints: "", colConstraints: "[grow][]"));
157    panelTask.setBorder(new TitledBorder(title: "Tasks"));
158    String[] kolomTableTask = {
159      "State", "Task", "Assigner", "Executer",
160      "Creation Date", "Estimated Date", "Executed Date"
161    };
162    Object[][] dataTask = {
163      { "Completed", "Pengecatan ulang ruang tamu", "Warnoto", "Toni",
164        "2825-18-25", "2025-10-28", "2025-10-27" },
165      { "In Progress", "Instalasi closet duduk premium", "Warnoto", "Goang",
166        "2025-11-15", "2025-11-17", null },
167      { "Delayed", "Pemasangan keramik dinding dapur", "Warnoto", "Toni",
168        "2025-11-01", "2025-11-04", null },
169      { "Completed", "Pemasangan pipa PVC di area garasi", "Warnoto", "Goang",
170        "2025-10-28", "2025-10-21", "2025-10-21" },
171      { "Not Started", "Pembelian dan instalasi lampu gantung hias", "Warnoto", "Toni",
172        "2025-11-16", "2025-11-18", null }
173    };
174  };

```

main* Q 0 11 X 0 Δ 1 Java Ready

Ln 138, Col 79 Spaces: 4 UTF-8 CRLF {} Java Chat quota reached

```
File Edit Selection View Go Run ... Q renovation-app
src > J RenovationApp.java U X
29  public class RenovationApp {
33      public static void main(String[] args) {
171          ...
172          DefaultTableModel tableModelTask = new DefaultTableModel(dataTask, kolomTableTask);
173          JTable tableTask = new JTable(tableModelTask);
174          tableTask.setAutoCreateRowSorter(autoCreateRowSorter: true);
175          tableTask.setShowGrid(showGrid: true);
176          JScrollPane scrollPaneTableTask = new JScrollPane(tableTask);
177          panelTask.add(scrollPaneTableTask, constraints: "grow, hmin 150, hmax 190");
178
179          /** Deklarasi Panel (Button) Tasks */
180          JPanel panelButtonTask = new JPanel(new MigLayout(layoutConstraints: "wrap 1"));
181          panelButtonTask.add(new JButton(text: "Add"));
182          panelButtonTask.add(new JButton(text: "Edit"));
183          panelButtonTask.add(new JButton(text: "Delete"));
184          panelTask.add(panelButtonTask, constraints: "grow");
185          panelUtama.add(panelTask, constraints: "grow, span 3");
186
187          /** Deklarasi Panel Comments */
188          JPanel panelComments = new JPanel(new MigLayout(layoutConstraints: "", colConstraints: "[grow][]"));
189          panelComments.setBorder(new TitledBorder(title: "Comments"));
190          String[] kolomTableComment = { "Date", "User", "Comment" };
191          Object[][] dataComment = {
192              { "2025-10-26 10:15", "Toni",
193                  "Cat tembok sudah diolesi lapisan pertama. Menunggu kering sebelum lapisan kedua." },
194              { "2025-11-15 14:30", "Goang",
195                  "Barang sudah sampai di lokasi. Mulai proses pembongkaran closet lama sore ini." },
196              { "2025-11-16 09:00", "Warnoto",
197                  "Pastikan sambungan pipa air bersih dan pembuangan tidak ada yang bocor. cek tekanannya." },
198          };
199          DefaultTableModel tableModelComment = new DefaultTableModel(dataComment, kolomTableComment);
200          JTable tableComment = new JTable(tableModelComment);
201          tableComment.setAutoCreateRowSorter(autoCreateRowSorter: true);
202          tableComment.setShowGrid(showGrid: true);
203          JScrollPane scrollPaneTableComment = new JScrollPane(tableComment);
204          panelComments.add(scrollPaneTableComment, constraints: "grow, hmin 150, hmax 190");
205
206          /** Deklarasi Panel (Button) Comments */
207          JPanel panelButtonComment = new JPanel(new MigLayout(layoutConstraints: "wrap 1"));
208          panelButtonComment.add(new JButton(text: "Add"));
209          panelButtonComment.add(new JButton(text: "Edit"));
210          panelButtonComment.add(new JButton(text: "Delete"));
211          panelComments.add(panelButtonComment, constraints: "grow");
212          panelUtama.add(panelComments, constraints: "grow, span 3");
213
214          /** Deklarasi Panel Controls */
215          JPanel panelControls = new JPanel(new MigLayout(layoutConstraints: "insets 0", colConstraints: "[grow, left][right]"));
216
217          /** Deklarasi Panel Controls (Left) */
218          JPanel panelControlsLeft = new JPanel(new MigLayout());
219
220
221
222
Java: Ready
Ln 168, Col 72 Spaces:4 UTF-8 CRLF {} Java Chat quota reached
12:00 AM 11/30/2025
```



```
File Edit Selection View Go Run ... Q renovation-app
src > J RenovationApp.java U X
29  public class RenovationApp {
33      public static void main(String[] args) {
196          ...
197          { "2025-11-16 09:00", "Warnoto",
198              "Pastikan sambungan pipa air bersih dan pembuangan tidak ada yang bocor, cek tekanannya." },
199          { "2025-11-03 16:45", "Toni",
200              "Cuaca hujan deras selama 2 hari, area kerja sedikit basah. Pemasangan ditunda besok pagi." },
201          { "2025-11-16 20:00", "Warnoto",
202              "Lampu yang diinginkan customer stoknya habis. Mencari alternatif lampu model serupa." },
203
204          DefaultTableModel tableModelComment = new DefaultTableModel(dataComment, kolomTableComment);
205          JTable tableComment = new JTable(tableModelComment);
206          tableComment.setAutoCreateRowSorter(autoCreateRowSorter: true);
207          tableComment.setShowGrid(showGrid: true);
208          JScrollPane scrollPaneTableComment = new JScrollPane(tableComment);
209          panelComments.add(scrollPaneTableComment, constraints: "grow, hmin 150, hmax 190");
210
211          /** Deklarasi Panel (Button) Comments */
212          JPanel panelButtonComment = new JPanel(new MigLayout(layoutConstraints: "wrap 1"));
213          panelButtonComment.add(new JButton(text: "Add"));
214          panelButtonComment.add(new JButton(text: "Edit"));
215          panelButtonComment.add(new JButton(text: "Delete"));
216          panelComments.add(panelButtonComment, constraints: "grow");
217          panelUtama.add(panelComments, constraints: "grow, span 3");
218
219          /** Deklarasi Panel Controls */
220          JPanel panelControls = new JPanel(new MigLayout(layoutConstraints: "insets 0", colConstraints: "[grow, left][right]"));
221
222
223
224
Java: Ready
Ln 190, Col 72 Spaces:4 UTF-8 CRLF {} Java Chat quota reached
12:01 AM 11/30/2025
```

```
File Edit Selection View Go Run ... Q renovation-app D X
J RenovationApp.java U x
src > J RenovationApp.java > RenovationApp > main(String[])
29 public class RenovationApp {
33     public static void main(String[] args) {
221         /* Deklarasi Panel Controls (Left) */
222         JPanel panelControlsLeft = new JPanel(new MigLayout());
223         panelControlsLeft.add(new JButton(text: "Export"));
224         panelControls.add(panelControlsLeft);
225
226         /* Deklarasi Panel Controls (Right) */
227         JPanel panelControlsRight = new JPanel(new MigLayout());
228         JButton buttonSave = new JButton(text: "Save");
229         buttonSave.putClientProperty(key: "FlatLaf.style", buttonColor);
230         panelControlsRight.add(buttonSave);
231         panelControls.add(panelControlsRight);
232         panelUtama.add(panelControls, constraints: "grow, span 3");
233
234         /* Deklarasi ScrollPane */
235         JScrollPane scrollPane = new JScrollPane(panelUtama);
236
237         scrollPane.getVerticalScrollBar().setUnitIncrement(unitIncrement: 18);
238         scrollPane.getVerticalScrollBar().putClientProperty(key: "ScrollBar.fastWheelScrolling", value: true);
239
240         scrollPane.putClientProperty(key: "JScrollPane.fastWheelScrolling", value: true);
241         scrollPane.setVerticalScrollBarPolicy(JScrollPane.VERTICAL_SCROLLBAR_AS_NEEDED);
242
243         frame.add(scrollPane);
244
245         frame.pack();
246
247     }
}
Ln 217, Col 1 Spaces: 4 UTF-8 CRLF {} Java Chat quota reached
File Edit Selection View Go Run ... Q renovation-app D X
J RenovationApp.java U x
src > J RenovationApp.java > RenovationApp > main(String[])
29 public class RenovationApp {
33     public static void main(String[] args) {
248         frame.setLocationRelativeTo(c: null);
249
250         frame.setVisible(b: true);
251
252         installModernScrollChaining(frame, scrollPane);
253     }
}
254
255
256     /** Deklarasi method installModernScrollChaining (frame, scrollPane) */
257     private static void installModernScrollChaining(JFrame frame, JScrollPane mainScrollPane) {
258         final double[] accumulatedDelta = { 0.0 };
259
260         Toolkit.getDefaultToolkit().addAWTEventListener(event -> {
261             if (!(event instanceof MouseWheelEvent)) {
262                 return;
263             }
264             MouseWheelEvent mwe = (MouseWheelEvent) event;
265             if (mwe.isConsumed()) {
266                 return;
267             }
268
269             Component source = mwe.getComponent();
270             if (source == null || !SwingUtilities.isDescendingFrom(source, frame)) {
271                 return;
272             }
273         });
}
Ln 245, Col 1 Spaces: 4 UTF-8 CRLF {} Java Chat quota reached
```

```
src > J RenovationApp.java U X
29     public class RenovationApp {
257         private static void installModernScrollChaining(JFrame frame, JScrollPane mainScrollPane) {
273             // CARI INNER JScrollPane (kecuali mainScrollPane)
274             JScrollPane inner = null;
275             for (Component c = source; c != null; c = c.getParent()) {
276                 if (c instanceof JScrollPane && c != mainScrollPane) {
277                     inner = (JScrollPane) c;
278                     break;
279                 }
280             }
281
283             double rotation = mwe.getPreciseWheelRotation();
284             if (rotation == 0) {
285                 return;
286             }
288
289             boolean canScrollFurther = false;
290
291             if (inner != null) {
292                 JScrollPane vbar = inner.getVerticalScrollBar();
293                 boolean scrollDown = rotation > 0;
294                 boolean scrollUp = rotation < 0;
295
296                 if (vbar != null && vbar.isVisible()) {
297                     int value = vbar.getValue();
298                     int extent = vbar.getModel().getExtent();
299                     int max = vbar.getMaximum();
300                     boolean atBottom = (value + extent >= max - 1);
301                     boolean atTop = (value <= 1);
302                     canScrollFurther = (scrollDown && !atBottom) || (scrollUp && !atTop);
303
304                 } else {
305                     // Tidak ada scrollbar (data pendek) anggap sudah mentok
306                     canScrollFurther = false;
307                 }
308
309                 // Jika MASIH BISA scroll di dalam tabel biarkan Swing yang tangani
310                 if (canScrollFurther) {
311                     accumulatedDelta[0] = 0.0;
312                     return;
313                 }
314
315                 // Jika TIDAK BISA scroll lagi (mentok atau tidak ada scroll) propagasi ke main
316                 accumulatedDelta[0] += rotation;
317                 if (Math.abs(accumulatedDelta[0]) < 0.7) {
318                     return;
319                 }
320
321                 JScrollPane mainBar = mainScrollPane.getVerticalScrollBar();
322                 if (mainBar == null) {
```

Ln 272, Col 14 Spaces: 4 UTF-8 CRLF {} Java Chat quota reached

Java: Ready

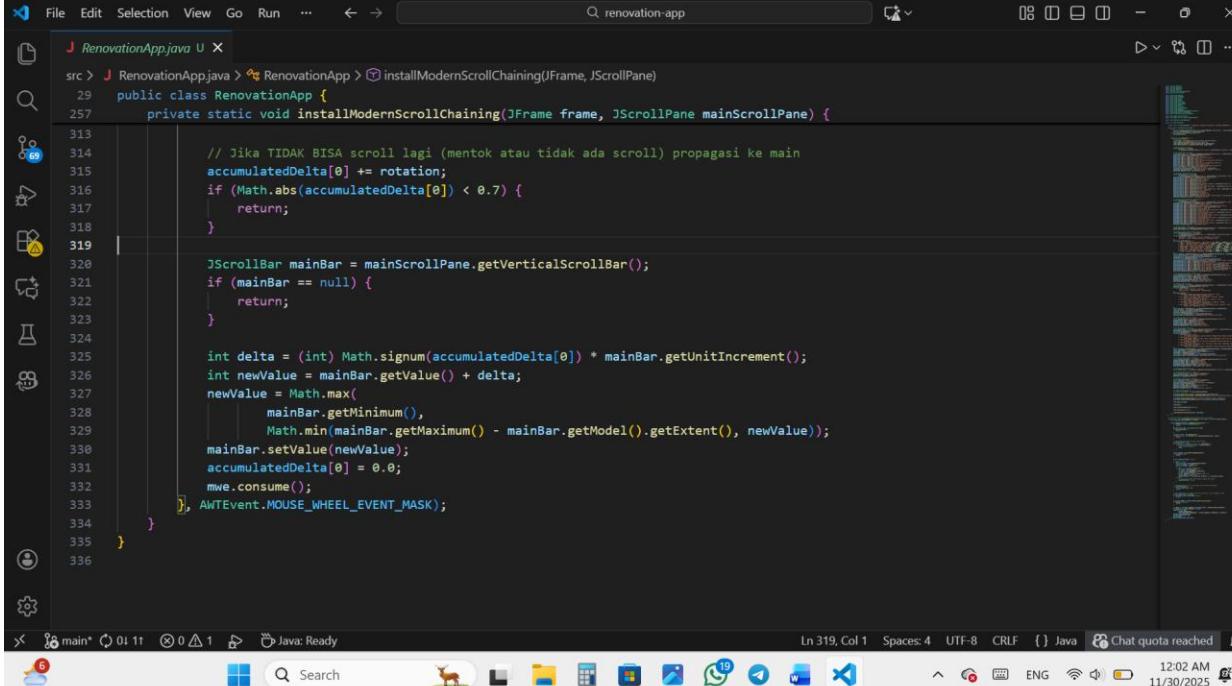
12:01 AM 11/30/2025

src > J RenovationApp.java U X
29 public class RenovationApp {
257 private static void installModernScrollChaining(JFrame frame, JScrollPane mainScrollPane) {
295 if (vbar != null && vbar.isVisible()) {
296 int value = vbar.getValue();
297 int extent = vbar.getModel().getExtent();
298 int max = vbar.getMaximum();
299 boolean atBottom = (value + extent >= max - 1);
300 boolean atTop = (value <= 1);
301 canScrollFurther = (scrollDown && !atBottom) || (scrollUp && !atTop);
302 } else {
303 // Tidak ada scrollbar (data pendek) anggap sudah mentok
304 canScrollFurther = false;
305 }
306
307 // Jika MASIH BISA scroll di dalam tabel biarkan Swing yang tangani
308 if (canScrollFurther) {
309 accumulatedDelta[0] = 0.0;
310 return;
311 }
312
313 // Jika TIDAK BISA scroll lagi (mentok atau tidak ada scroll) propagasi ke main
314 accumulatedDelta[0] += rotation;
315 if (Math.abs(accumulatedDelta[0]) < 0.7) {
316 return;
317 }
318
319 JScrollPane mainBar = mainScrollPane.getVerticalScrollBar();
320 if (mainBar == null) {

Ln 294, Col 1 Spaces: 4 UTF-8 CRLF {} Java Chat quota reached

Java: Ready

12:02 AM 11/30/2025



```

File Edit Selection View Go Run ... < > Q renovation-app
src > J RenovationApp.java > RenovationApp > installModernScrollChaining(JFrame, JScrollPane)
29     public class RenovationApp {
30         private static void installModernScrollChaining(JFrame frame, JScrollPane mainScrollPane) {
31             ...
32             // Jika TIDAK BISA scroll lagi (mentok atau tidak ada scroll) propagasi ke main
33             accumulatedDelta[0] += rotation;
34             if (Math.abs(accumulatedDelta[0]) < 0.7) {
35                 return;
36             }
37
38             JScrollPane mainBar = mainScrollPane.getVerticalScrollBar();
39             if (mainBar == null) {
40                 return;
41             }
42
43             int delta = (int) Math.signum(accumulatedDelta[0]) * mainBar.getUnitIncrement();
44             int newValue = mainBar.getValue() + delta;
45             newValue = Math.max(
46                 mainBar.getMinimum(),
47                 Math.min(mainBar.getMaximum() - mainBar.getModel().getExtent(), newValue));
48             mainBar.setValue(newValue);
49             accumulatedDelta[0] = 0.0;
50             mwe.consume();
51         }, AWTEvent.MOUSE_WHEEL_EVENT_MASK);
52     }
53
54 }

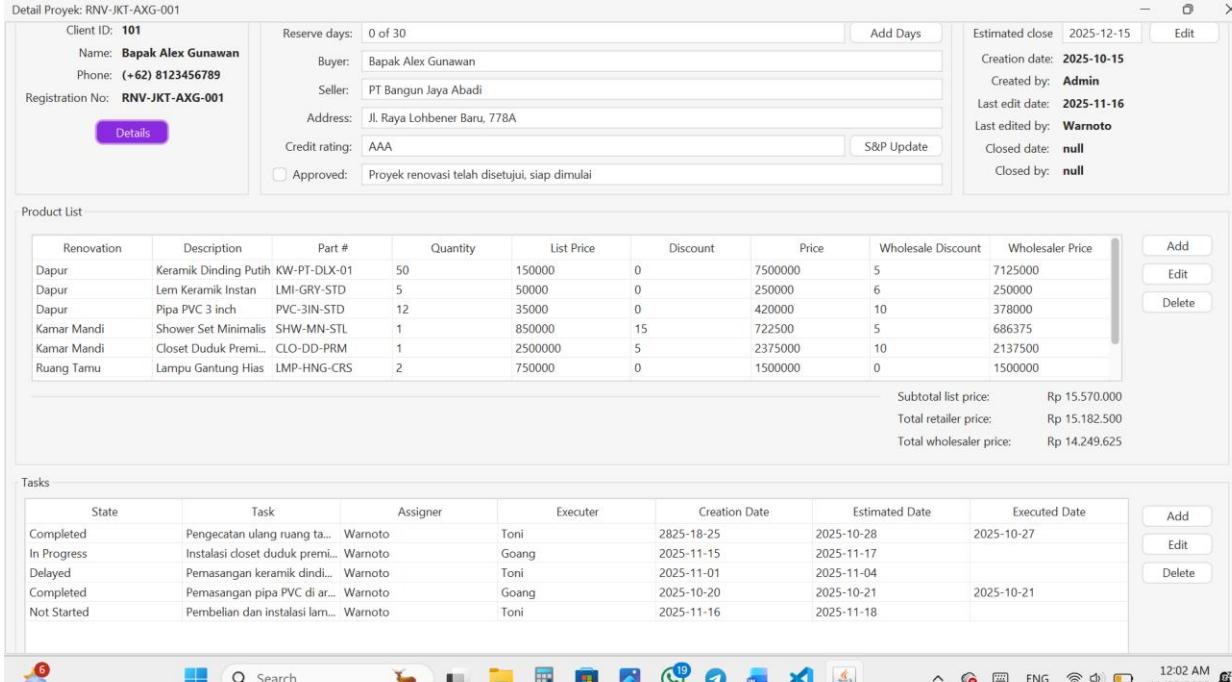
```

Ln 319, Col 1 Spaces: 4 UTF-8 CRLF {} Java Chat quota reached

Java: Ready

12:02 AM 11/30/2025

b. Hasil Running dan pembuktian Scroll Chaining



Detail Projek: RNV-JKT-AXG-001

Client ID: 101	Reserve days: 0 of 30	Add Days	Estimated close 2025-12-15
Name: Bapak Alex Gunawan	Buyer: Bapak Alex Gunawan	S&P Update	Creation date: 2025-10-15
Phone: (+62) 8123456789	Seller: PT Bangun Jaya Abadi		Created by: Admin
Registration No: RNV-JKT-AXG-001	Address: Jl. Raya Lohbener Baru, 778A		Last edit date: 2025-11-16
Details	Credit rating: AAA		Last edited by: Warnoto
	<input type="checkbox"/> Approved: Projek renovasi telah disetujui, siap dimulai		Closed date: null
			Closed by: null

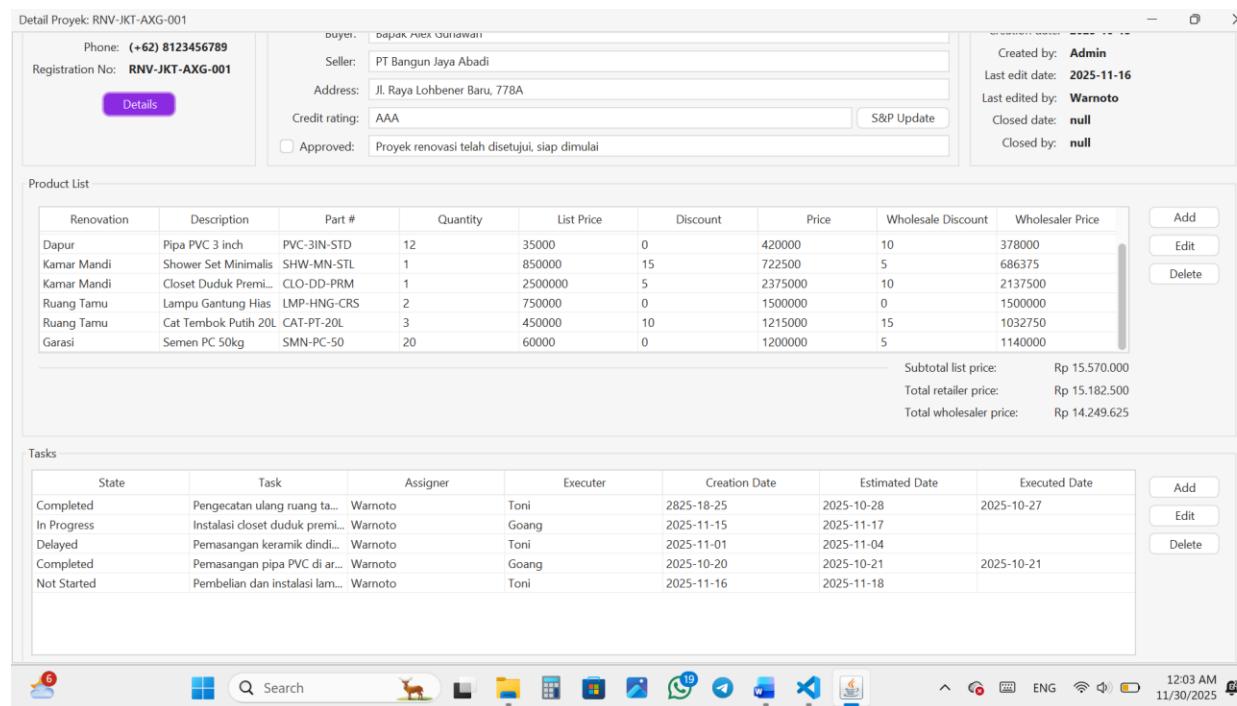
Product List

Renovation	Description	Part #	Quantity	List Price	Discount	Price	Wholesale Discount	Wholesaler Price
Dapur	Keramik Dinding Putih	KW-PT-DLX-01	50	150000	0	750000	5	7125000
Dapur	Lem Keramik Instan	LMI-GRY-STD	5	50000	0	250000	6	250000
Dapur	Pipa PVC 3 inch	PVC-3IN-STD	12	35000	0	420000	10	378000
Kamar Mandi	Showe Set Minimalis	SHW-MN-STL	1	850000	15	722500	5	686375
Kamar Mandi	Closet Duduk Premi...	CLO-DD-PRM	1	2500000	5	2375000	10	2137500
Ruang Tamu	Lampu Gantung Hias	LMP-HNG-CRS	2	750000	0	1500000	0	1500000

Subtotal list price: Rp 15.570.000
Total retailer price: Rp 15.182.500
Total wholesaler price: Rp 14.249.625

Tasks

State	Task	Assigner	Executer	Creation Date	Estimated Date	Executed Date
Completed	Pengecatan ulang ruang ta...	Warnoto	Toni	2825-10-25	2025-10-28	2025-10-27
In Progress	Instalasi closet duduk premi...	Warnoto	Goang	2025-11-15	2025-11-17	
Delayed	Pemasangan keramik dindi...	Warnoto	Toni	2025-11-01	2025-11-04	
Completed	Pemasangan pipa PVC di ar...	Warnoto	Goang	2025-10-20	2025-10-21	2025-10-21
Not Started	Pembelian dan instalasi lam...	Warnoto	Toni	2025-11-16	2025-11-18	



2. Terdapat penyelesaian Praktikum pada Modul - 10_03 UI Swing Responsif yang disertai bukti hasil running dan pembuktian tampilan UI yang responsif pada semua kategori jendela aplikasi

a. Kode program

```

File Edit Selection View Go Run ... < > renovation-app
RENDERING-APP
vscode
src
  LatihanRenovationApp.java
  RenovationApp.java
  UISwingResponsif.java
  README.md
EXPLORER
J UISwingResponsif.java 1, U
src > J UISwingResponsif.java > J UISwingResponsif > J UISwingResponsif()
1 import java.awt.*;
2 import java.awt.event.*;
3 import javax.swing.*;
4 import javax.swing.border.*;
5 import net.miginfocom.swing.MigLayout;
6 import com.formdev.flatlaf.themes.FlatMacLightLaf;
7
8 public class UISwingResponsif extends JFrame {
9
10    private JPanel mainPanel;
11    private JPanel panel1;
12    private JPanel panel2;
13    private JPanel panel3;
14    private JPanel panel4;
15    private JPanel panel5;
16
17    private static final int COMPACT_VIEW_MAX = 576;
18    private static final int SPLIT_VIEW_MAX = 768;
19    private static final int INTERMEDIATE_VIEW_MAX = 992;
20    private static final int DESKTOP_SMALL_MAX = 1200;
21    private static final int DESKTOP_STANDARD_MAX = 1400;
22
23    public UISwingResponsif() {
24        setDefaultCloseOperation(JFrame.EXIT_ON_CLOSE);
25        setMinimumSize(new Dimension(width: 400, height: 600));
26
27        panel1 = createColoredPanel(title: "Panel 1 Header", new Color(r: 70, g: 130, b: 180));
28        panel2 = createColoredPanel(title: "Panel 2 Sidebar", new Color(r: 60, g: 179, b: 113));
29        panel3 = createColoredPanel(title: "Panel 3 Content", new Color(r: 255, g: 206, b: 86));
30
31        MigLayout layout = new MigLayout();
32        mainPanel.setLayout(layout);
33        mainPanel.add(panel1, "w 100%, h 100%");
34        mainPanel.add(panel2, "w 100%, h 100%");
35        mainPanel.add(panel3, "w 100%, h 100%");
36
37        add(mainPanel, "w 100%, h 100%");
38    }
39
40    private JPanel createColoredPanel(String title, Color color) {
41        JPanel panel = new JPanel();
42        panel.setBackground(color);
43        panel.setBorder(new EmptyBorder(10, 10, 10, 10));
44        panel.setLayout(new BorderLayout());
45        panel.add(new JLabel(title), "center");
46        return panel;
47    }
48
49    public static void main() {
50        SwingUtilities.invokeLater(() -> {
51            new UISwingResponsif();
52        });
53    }
54}

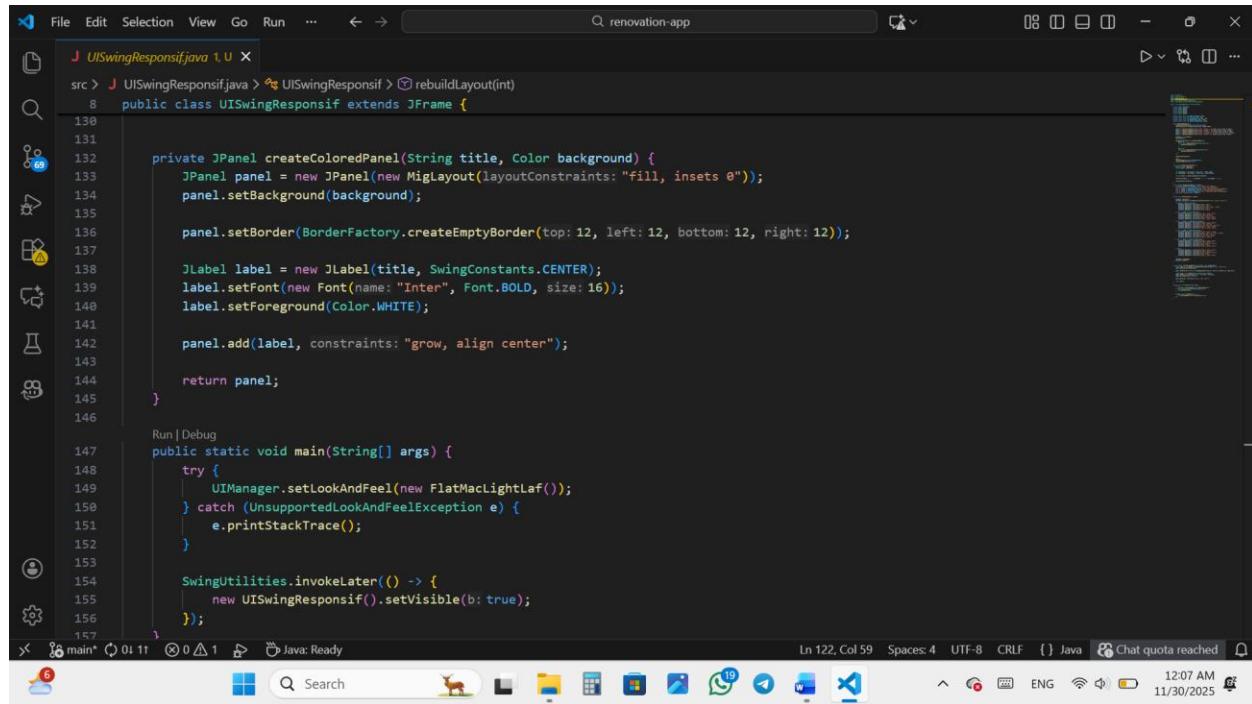
```

```
J UI Swing Responsif.java L 1 U X
src > J UI Swing Responsif.java > UI Swing Responsif
8  public class UI Swing Responsif extends JFrame {
23    public UI Swing Responsif() {
27      panel1 = createColoredPanel(title: "Panel 1 Header", new Color(r: 70, g: 130, b: 180));
28      panel2 = createColoredPanel(title: "Panel 2 Sidebar", new Color(r: 60, g: 179, b: 113));
29      panel3 = createColoredPanel(title: "Panel 3 Content", new Color(r: 255, g: 206, b: 86));
30      panel4 = createColoredPanel(title: "Panel 4 Secondary", new Color(r: 147, g: 112, b: 219));
31      panel5 = createColoredPanel(title: "Panel 5 Footer", new Color(r: 220, g: 20, b: 60));
32
33      mainPanel = new JPanel();
34      add(mainPanel);
35
36      addComponentListener(new ComponentAdapter() {
37        @Override
38        public void componentResized(ComponentEvent e) {
39          updateLayoutAndTitle();
40        }
41
42        @Override
43        public void componentMoved(ComponentEvent e) {
44          updateLayoutAndTitle();
45        }
46      );
47
48      updateLayoutAndTitle();
49
50      pack();
51      setExtendedState(JFrame.MAXIMIZED_BOTH);
52      setLocationRelativeTo(c: null);
53    }
54
55    private void updateLayoutAndTitle() {
56      Dimension size = getSize();
57      Insets insets = getInsets();
58
59      int innerWidth = size.width - insets.left - insets.right;
60      int innerHeight = size.height - insets.top - insets.bottom;
61
62      String category = getDeviceCategory(innerWidth);
63
64      setTitle(category + " | " + innerWidth + " x " + innerHeight + " px");
65
66      rebuildLayout(innerWidth);
67    }
68
69    private String getDeviceCategory(int width) {
70      if (width <= COMPACT_VIEW_MAX) return "Compact View (<576px)";
71      else if (width <= SPLIT_VIEW_MAX) return "Split View (576-768px)";
72      else if (width <= INTERMEDIATE_VIEW_MAX) return "Intermediate View (768-992px)";
73      else if (width <= DESKTOP_SMALL_MAX) return "Desktop Small (992-1200px)";
74      else if (width <= DESKTOP_STANDARD_MAX) return "Desktop Standard (1200-1400px)";
75      else return "Desktop Large (>1400px)";
76    }
77
78    private void rebuildLayout(int width) {
79
80      mainPanel.removeAll();
81    }
82
83  }
```

Ln 9, Col 1 Spaces: 4 UTF-8 CRLF {} Java Chat quota reached

12:06 AM 11/30/2025

```
J UISwingResponsif.java L 1, U X
src > J UISwingResponsif.java > ↗ UISwingResponsif
8  public class UISwingResponsif extends JFrame {
79   private void rebuildLayout(int width) {
80     mainPanel.removeAll();
81     mainPanel.setLayout(new MigLayout(layoutConstraints: "fill, insets 0, gap 0"));
82
83     if (width <= COMPACT_VIEW_MAX) {
84       mainPanel.add(panel1, constraints: "grow, wrap");
85       mainPanel.add(panel2, constraints: "grow, wrap");
86       mainPanel.add(panel3, constraints: "grow, push, h 300:, wrap");
87       mainPanel.add(panel4, constraints: "grow, wrap");
88       mainPanel.add(panel5, constraints: "grow, wrap");
89
90     } else if (width <= SPLIT_VIEW_MAX) {
91       mainPanel.add(panel1, constraints: "span 2, growx, wrap");
92       mainPanel.add(panel2, constraints: "w 200!, growy");
93       mainPanel.add(panel3, constraints: "grow, push, wrap");
94       mainPanel.add(panel4, constraints: "span 2, growx, wrap");
95       mainPanel.add(panel5, constraints: "span 2, growx, wrap");
96
97     } else if (width <= INTERMEDIATE_VIEW_MAX) {
98       mainPanel.add(panel1, constraints: "span 2, growx, wrap");
99       mainPanel.add(panel2, constraints: "w 280!, growy");
100      mainPanel.add(panel3, constraints: "grow, push, wrap, spany 2");
101      mainPanel.add(panel4, constraints: "growx, h 180!, wrap");
102      mainPanel.add(panel5, constraints: "span 2, growx, wrap");
103
104    } else if (width <= DESKTOP_SMALL_MAX) {
105       mainPanel.add(panel1, constraints: "span 3, growx, wrap");
106       mainPanel.add(panel2, constraints: "growy, span 1 2, w 300!, h 100%");
107
108
109
110
111
112
113
114
115
116
117
118
119
120
121
122
123
124
125
126
127
128
129
130
131
}
mainPanel.revalidate();
mainPanel.repaint();
```



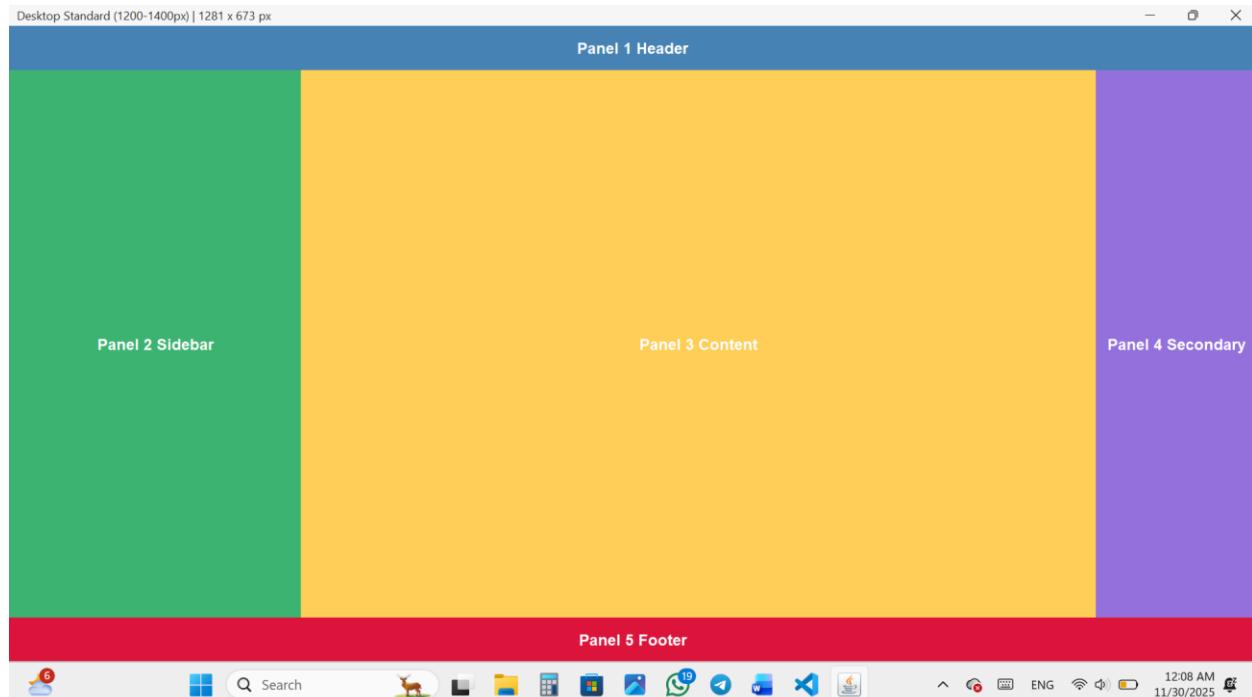
The screenshot shows a Java IDE interface with a dark theme. The main window displays the code for a class named `UISwingResponsif`. The code uses the `MigLayout` library to create panels with specific colors and layouts. It includes a `main` method that sets the look and feel to `FlatMacLightLaf` and then creates and shows a `JFrame` instance.

```

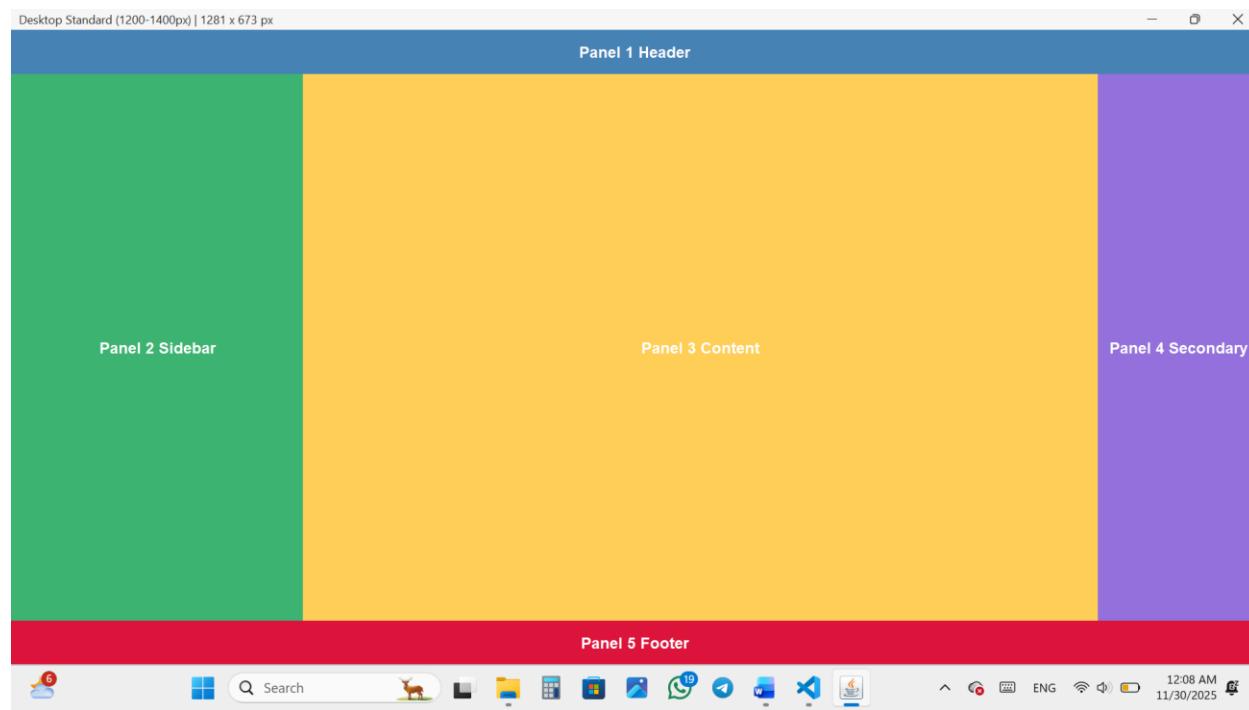
J UISwingResponsif.java 1.0 X
src > J UISwingResponsif.java > ↗ UISwingResponsif > ↗ rebuildLayout(int)
  8  public class UISwingResponsif extends JFrame {
  138
  131
  132  private JPanel createColoredPanel(String title, Color background) {
  133      JPanel panel = new JPanel(new MigLayout(layoutConstraints:"fill, insets 0"));
  134      panel.setBackground(background);
  135
  136      panel.setBorder(BorderFactory.createEmptyBorder(top: 12, left: 12, bottom: 12, right: 12));
  137
  138      JLabel label = new JLabel(title, SwingConstants.CENTER);
  139      label.setFont(new Font(name: "Inter", Font.BOLD, size: 16));
  140      label.setForeground(Color.WHITE);
  141
  142      panel.add(label, constraints: "grow, align center");
  143
  144      return panel;
  145
  146
  147  Run | Debug
  148  public static void main(String[] args) {
  149      try {
  150          UIManager.setLookAndFeel(new FlatMacLightLaf());
  151      } catch (UnsupportedLookAndFeelException e) {
  152          e.printStackTrace();
  153      }
  154
  155      SwingUtilities.invokeLater(() -> {
  156          new UISwingResponsif().setVisible(b: true);
  157      });
  
```

The status bar at the bottom indicates the line number (Ln 122), column (Col 59), spaces (Spaces: 4), and encoding (UTF-8). It also shows the file type (Java) and a message about reaching the chat quota.

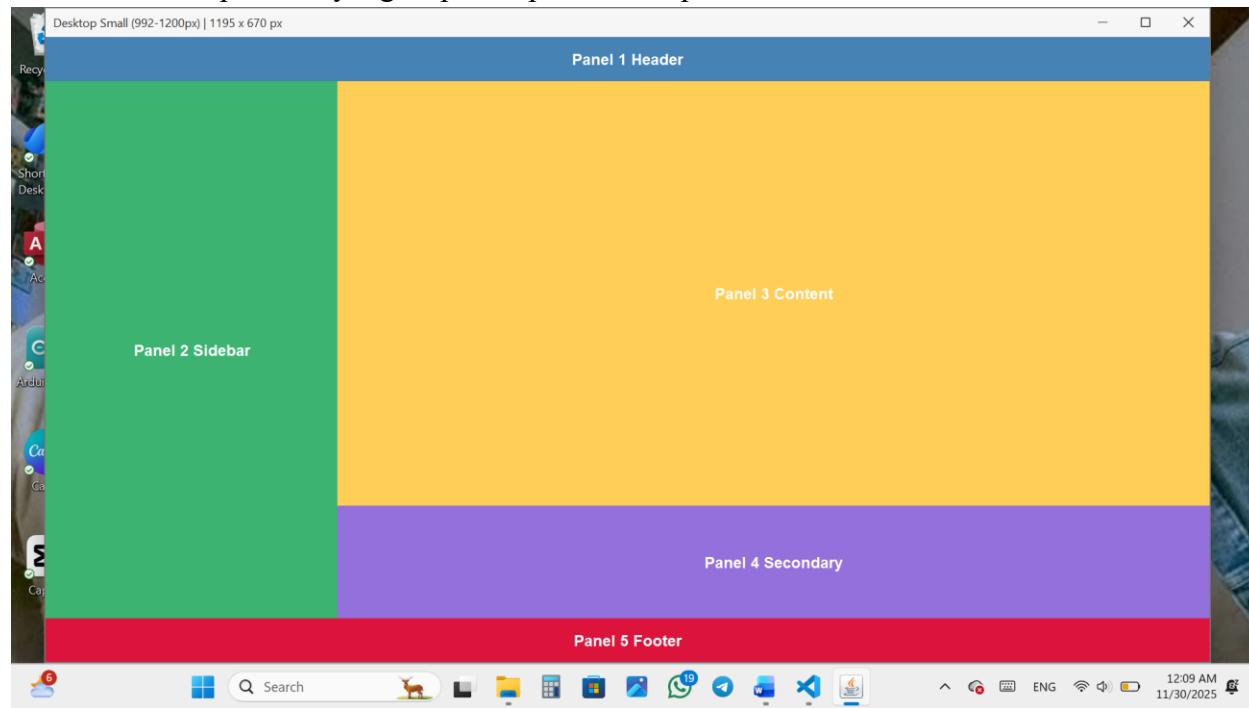
b. Hasil running



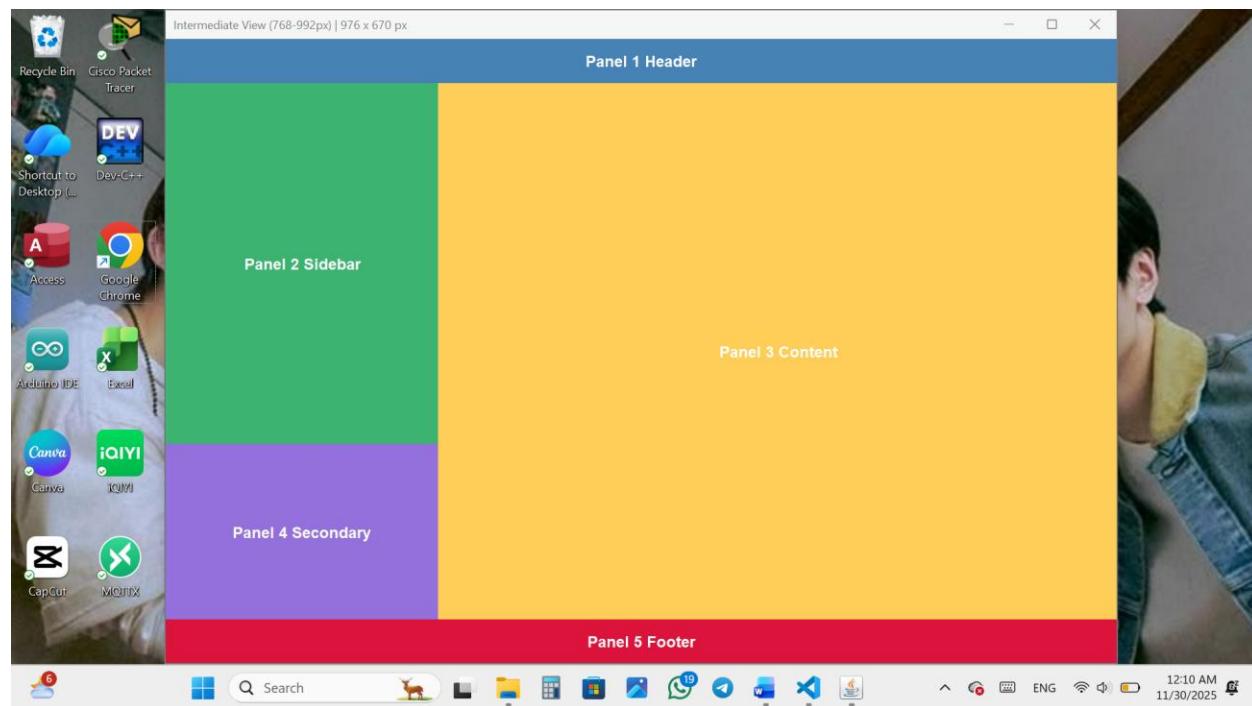
c. Pembuktian tampilan UI yang responsif pada desktop standar



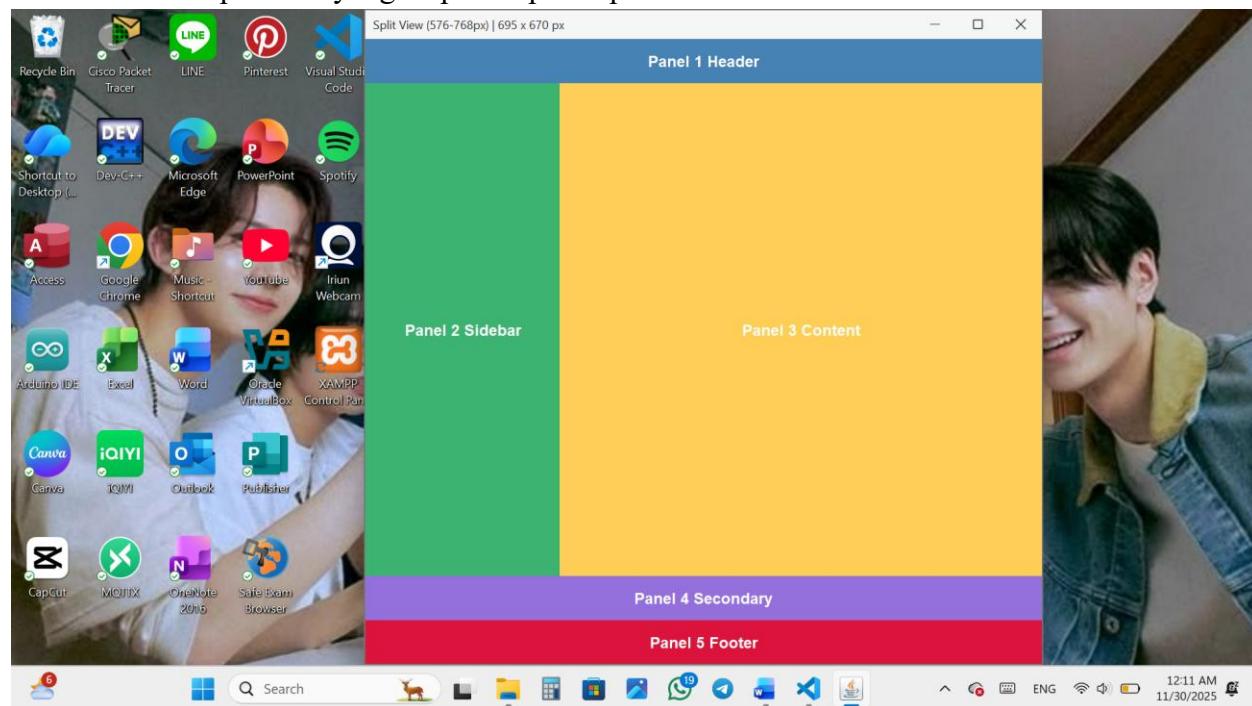
- d. Pembuktian tampilan UI yang responsif pada desktop small



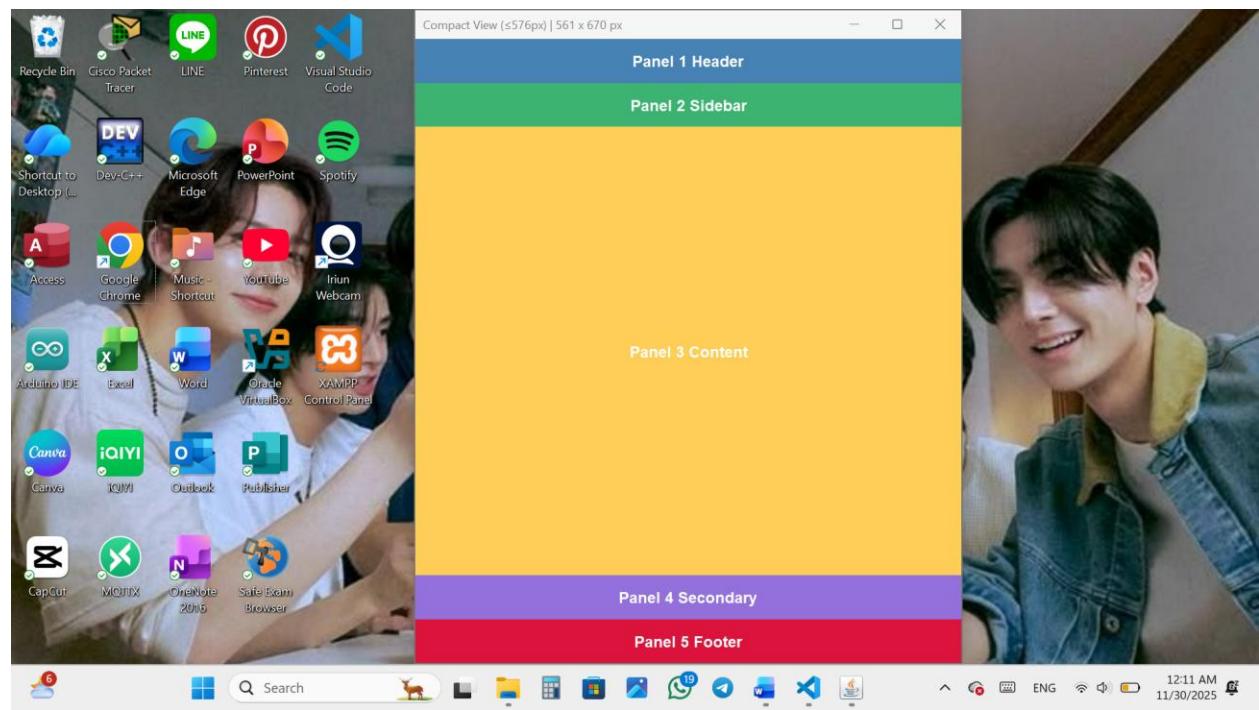
- e. Pembuktian tampilan UI yang responsif pada intermediate view



f. Pembuktian tampilan UI yang responsif pada split view



g. Pembuktian tampilan UI yang responsif pada compact view



3. Terdapat penyelesaian Latihan pada Modul - 10_03 UI Swing Responsif yang disertai bukti hasil running dan pembuktian tampilan UI yang responsif pada 3 kategori jendela aplikasi (mengacu pada ketentuan di redaksi latihan)

a. Kode program

```

File Edit Selection View Go Run ... < > Q renovation-app
EXPLORER RENOVATION-APP
vscode settings.json bin lib src
LatihanRenovationApp.java U RenovationApp.java U UIswingResponsif.java 1, U README.md U
J LatihanRenovationApp.java U
src > J LatihanRenovationApp.java > LatihanRenovationApp
1 import javax.swing.JButton;
2 import javax.swing.JCheckBox;
3 import javax.swing.JFrame;
4 import javax.swing.JLabel;
5 import javax.swing.JPanel;
6 import javax.swing.JScrollPane;
7 import javax.swing.JTable;
8 import javax.swing.JTextField;
9 import javax.swing.SwingUtilities;
10 import javax.swing.UIManager;
11 import javax.swing.UnsupportedLookAndFeelException;
12 import javax.swing.border.TitledBorder;
13
14 import javax.swing.table.DefaultTableModel;
15
16 import java.awt.Dimension;
17 import java.awt.event.ComponentAdapter;
18 import java.awt.event.ComponentEvent;
19
20 import java.util.Collections;
21
22 import com.formdev.flatlaf.themes.FlatMacLightLaf;
23 import com.formdev.flatlaf.FlatLaf;
24
25 import net.miginfocom.swing.MigLayout;
26
27 public class LatihanRenovationApp {
28
29     private static String buttonColor = "background: $Component.accentColor; foreground: #FFFFFF;";

```

Ln 30, Col 1 Spaces: 4 UTF-8 CRLF { } Java Chat quota reached

The image displays two vertically stacked screenshots of a Java code editor interface, likely NetBeans, showing the same class file being edited in two different stages or sections.

Top Screenshot:

```

src > J LatihanRenovationApp.java U
27  public class LatihanRenovationApp {
30
31      Run | Debug
32
33      try {
34          FlatLaf.setGlobalExtraDefaults(Collections.singletonMap(key: "@accentColor", value: "#FF69B4"));
35          UIManager.setLookAndFeel(new FlatMacLightLaf());
36      } catch (UnsupportedLookAndFeelException e) {
37          e.printStackTrace();
38      }
39
40      SwingUtilities.invokeLater(() -> {
41
42          // FRAME
43          JFrame frame = new JFrame(title: "Detail Projek: RNV-JKT-AXG-001");
44          frame.setDefaultCloseOperation(JFrame.EXIT_ON_CLOSE);
45          frame.setPreferredSize(new Dimension(width: 1024, height: 768));
46          frame.setMinimumSize(new Dimension(width: 768, height: 600));
47
48          // PANEL UTAMA
49          JPanel panelUtama = new JPanel();
50
51          // CLIENT PANEL
52          JPanel panelClient = new JPanel(new MigLayout(layoutConstraints: "wrap 2", colConstraints: "[right]10[left]"));
53          panelClient.setBorder(new TitledBorder(title: "Client"));
54          panelClient.add(new JLabel(text: "Client ID:"));
55          panelClient.add(new JLabel(text: "<html><b>101</b></html>"));
56          panelClient.add(new JLabel(text: "Name:"));
57          panelClient.add(new JLabel(text: "<html><b>Bapak Alex Gunawan</b></html>"));
58
59          // INFORMATION PANEL
60          JPanel panelInformation = new JPanel(new MigLayout(layoutConstraints: "wrap 3", colConstraints: "[right]10[left, grow, fill]5[fill]"));
61          panelInformation.setBorder(new TitledBorder(title: "Information"));
62          panelInformation.add(new JLabel(text: "Reserve days:"));
63          panelInformation.add(new JTextField(text: "0 of 30"));
64          panelInformation.add(new JButton(text: "Add Days"));
65
66          // INFORMATION PANEL
67          JPanel panelInformation = new JPanel(new MigLayout(layoutConstraints: "wrap 3", colConstraints: "[right]10[left, grow, fill]5[fill]"));
68          panelInformation.setBorder(new TitledBorder(title: "Information"));
69          panelInformation.add(new JLabel(text: "Buyer:"));
70          panelInformation.add(new JTextField(text: "Bapak Alex Gunawan"), constraints: "span 2");
71          panelInformation.add(new JLabel(text: "Seller:"));
72          panelInformation.add(new JTextField(text: "PT Bangun Jaya Abadi"), constraints: "span 2");
73          panelInformation.add(new JLabel(text: "Address:"));
74          panelInformation.add(new JTextField(text: "Jl. Raya Lohbener Baru, 778A"), constraints: "span 2");
75          panelInformation.add(new JLabel(text: "Credit rating:"));
76          panelInformation.add(new JTextField(text: "AAA"));
77          panelInformation.add(new JButton(text: "S&P Update"));
78
79          panelInformation.add(new JCheckBox(text: "Approved:"));
80
81      });

```

Bottom Screenshot:

```

src > J LatihanRenovationApp.java U
27  public class LatihanRenovationApp {
31  public static void main(String[] args) {
32
33      panelClient.add(new JLabel(text: "<html><b>101</b></html>"));
34      panelClient.add(new JLabel(text: "Name:"));
35      panelClient.add(new JLabel(text: "<html><b>Bapak Alex Gunawan</b></html>"));
36      panelClient.add(new JLabel(text: "Phone:"));
37      panelClient.add(new JLabel(text: "<html><b>(+62) 8123456789</b></html>"));
38      panelClient.add(new JLabel(text: "Registration No:"));
39      panelClient.add(new JLabel(text: "<html><b>RNV-JKT-AXG-001</b></html>"));
40      JButton buttonDetails = new JButton(text: "Details");
41      buttonDetails.putClientProperty(key: "FlatLaf.style", buttonColor);
42      panelClient.add(buttonDetails, constraints: "span 2, center, gapTop 10");
43
44      // INFORMATION PANEL
45      JPanel panelInformation = new JPanel(new MigLayout(layoutConstraints: "wrap 3", colConstraints: "[right]10[left, grow, fill]5[fill]"));
46      panelInformation.setBorder(new TitledBorder(title: "Information"));
47      panelInformation.add(new JLabel(text: "Reserve days:"));
48      panelInformation.add(new JTextField(text: "0 of 30"));
49      panelInformation.add(new JButton(text: "Add Days"));
50
51      // INFORMATION PANEL
52      JPanel panelInformation = new JPanel(new MigLayout(layoutConstraints: "wrap 3", colConstraints: "[right]10[left, grow, fill]5[fill]"));
53      panelInformation.setBorder(new TitledBorder(title: "Information"));
54      panelInformation.add(new JLabel(text: "Buyer:"));
55      panelInformation.add(new JTextField(text: "Bapak Alex Gunawan"), constraints: "span 2");
56      panelInformation.add(new JLabel(text: "Seller:"));
57      panelInformation.add(new JTextField(text: "PT Bangun Jaya Abadi"), constraints: "span 2");
58      panelInformation.add(new JLabel(text: "Address:"));
59      panelInformation.add(new JTextField(text: "Jl. Raya Lohbener Baru, 778A"), constraints: "span 2");
60      panelInformation.add(new JLabel(text: "Credit rating:"));
61      panelInformation.add(new JTextField(text: "AAA"));
62      panelInformation.add(new JButton(text: "S&P Update"));
63
64      panelInformation.add(new JCheckBox(text: "Approved:"));
65
66  };

```

The code implements a Java Swing application for a renovation project. It uses MigLayout for layout management. The application features a main frame with a central panel containing client details and information about the renovation project. The client details section includes labels for Client ID, Name, and Phone number, with their respective HTML-formatted values. The information section includes labels for Reserve days, Buyer, Seller, Address, and Credit rating, along with buttons for Add Days, S&P Update, and Approved status.

File Edit Selection View Go Run ... Q renovation-app

J LatihanRenovationApp.java U

```

src > J LatihanRenovationApp.java > LatihanRenovationApp > main(String[])
27  public class LatihanRenovationApp {
31      public static void main(String[] args) {
80          panelInformation.add(new JButton(text: "S&P Update"));
81          panelInformation.add(new JCheckBox(text: "Approved"));
82          panelInformation.add(new JTextField(text: "Proyek renovasi telah disetujui, siap dimulai"), constraints: "span 2");
83
84          // ADDITIONAL PANEL
85          JPanel panelAdditional = new JPanel(new MigLayout(layoutConstraints: "wrap 3", colConstraints: "[right]10[left, grow, fill][]"));
86          panelAdditional.setBorder(new TitledBorder(title: "Additional Information"));
87          panelAdditional.add(new JTextField(text: "Estimated close"));
88          panelAdditional.add(new JButton(text: "Edit"), constraints: "wmax pref");
89          panelAdditional.add(new JLabel(text: "Creation date:"));
90          panelAdditional.add(new JLabel(text: "<html><b>2025-12-15</b></html>"), constraints: "span 2");
91          panelAdditional.add(new JLabel(text: "Created by:"));
92          panelAdditional.add(new JLabel(text: "<html><b>Admin</b></html>"), constraints: "span 2");
93          panelAdditional.add(new JLabel(text: "Last edit date:"));
94          panelAdditional.add(new JLabel(text: "<html><b>2025-11-16</b></html>"), constraints: "span 2");
95          panelAdditional.add(new JLabel(text: "Last edited by:"));
96          panelAdditional.add(new JLabel(text: "<html><b>Warnoto</b></html>"), constraints: "span 2");
97          panelAdditional.add(new JLabel(text: "Closed date:"));
98          panelAdditional.add(new JLabel(text: "<html><b>null</b></html>"), constraints: "span 2");
99          panelAdditional.add(new JLabel(text: "Closed by:"));
100         panelAdditional.add(new JLabel(text: "<html><b>null</b></html>"), constraints: "span 2");
101
102         // PRODUCT PANEL
103         JPanel panelProduk = new JPanel(new MigLayout(layoutConstraints: "", colConstraints: "[grow][]"));
104         panelProduk.setBorder(new TitledBorder(title: "Product List"));
105
106
107     String[] kolomTableProductList = {
108         "Renovation", "Description", "Part #", "Quantity", "List Price", "Discount",
109         "Price", "Wholesale Discount", "Wholesaler Price"
110     };
111     Object[][] dataProductList = {
112         {"Dapur", "Keramik Dinding Putih", "KW-PT-DLX-01", 50, 150000, 0, 7500000L, 5, 7125000L },
113         {"Dapur", "Lem Keramik Instan", "LMI-GRY-STD", 5, 50000, 0, 250000L, 0, 250000L },
114         {"Dapur", "Pipa PVC 3 inch", "PVC-3IN-STD", 12, 35000, 0, 420000L, 10, 378000L },
115         {"Kamar Mandi", "Shower Set Minimalis", "SHW-MN-STD", 1, 850000, 15, 722500L, 5, 686375L },
116         {"Kamar Mandi", "Closet Duduk Premium", "CLO-DD-PRM", 1, 2500000, 5, 2375000L, 10, 2137500L },
117         {"Ruang Tamu", "Lampu Gantung Hias", "LMP-HNG-CRS", 2, 750000, 0, 1500000L, 0, 1500000L },
118         {"Ruang Tamu", "Cat Tembok Putih 20L", "CAT-PT-20L", 3, 450000, 10, 1215000L, 15, 1032750L },
119         {"Garasi", "Semen PC 50kg", "SMN-PC-50", 20, 60000, 0, 1200000L, 5, 1140000L },
120     };
121
122     JTable tableProductList = new JTable(new DefaultTableModel(dataProductList, kolomTableProductList));
123     JScrollPane scrollPaneTableProductList = new JScrollPane(tableProductList);
124
125     JPanel panelTableProductList = new JPanel(new MigLayout(layoutConstraints: "wrap 1", colConstraints: "[grow]"));
126     panelTableProductList.add(scrollPaneTableProductList, constraints: "grow, h 150!");
127     panelProduk.add(panelTableProductList, constraints: "grow");
128
129     JPanel panelButtonProductList = new JPanel(new MigLayout(layoutConstraints: "wrap 1"));
130     panelButtonProductList.add(new JButton(text: "Add"));
131     panelButtonProductList.add(new JButton(text: "Edit"));
132     panelButtonProductList.add(new JButton(text: "Delete"));
133     panelProduk.add(panelButtonProductList);

```

Ln 77, Col 86 Spaces: 4 UTF-8 CRLF {} Java Chat quota reached

File Edit Selection View Go Run ... Q renovation-app

J LatihanRenovationApp.java U

```

src > J LatihanRenovationApp.java > LatihanRenovationApp > main(String[])
27  public class LatihanRenovationApp {
31      public static void main(String[] args) {
107     String[] kolomTableProductList = {
108         "Renovation", "Description", "Part #", "Quantity", "List Price", "Discount",
109         "Price", "Wholesale Discount", "Wholesaler Price"
110     };
111     Object[][] dataProductList = {
112         {"Dapur", "Keramik Dinding Putih", "KW-PT-DLX-01", 50, 150000, 0, 7500000L, 5, 7125000L },
113         {"Dapur", "Lem Keramik Instan", "LMI-GRY-STD", 5, 50000, 0, 250000L, 0, 250000L },
114         {"Dapur", "Pipa PVC 3 inch", "PVC-3IN-STD", 12, 35000, 0, 420000L, 10, 378000L },
115         {"Kamar Mandi", "Shower Set Minimalis", "SHW-MN-STD", 1, 850000, 15, 722500L, 5, 686375L },
116         {"Kamar Mandi", "Closet Duduk Premium", "CLO-DD-PRM", 1, 2500000, 5, 2375000L, 10, 2137500L },
117         {"Ruang Tamu", "Lampu Gantung Hias", "LMP-HNG-CRS", 2, 750000, 0, 1500000L, 0, 1500000L },
118         {"Ruang Tamu", "Cat Tembok Putih 20L", "CAT-PT-20L", 3, 450000, 10, 1215000L, 15, 1032750L },
119         {"Garasi", "Semen PC 50kg", "SMN-PC-50", 20, 60000, 0, 1200000L, 5, 1140000L },
120     };
121
122     JTable tableProductList = new JTable(new DefaultTableModel(dataProductList, kolomTableProductList));
123     JScrollPane scrollPaneTableProductList = new JScrollPane(tableProductList);
124
125     JPanel panelTableProductList = new JPanel(new MigLayout(layoutConstraints: "wrap 1", colConstraints: "[grow]"));
126     panelTableProductList.add(scrollPaneTableProductList, constraints: "grow, h 150!");
127     panelProduk.add(panelTableProductList, constraints: "grow");
128
129     JPanel panelButtonProductList = new JPanel(new MigLayout(layoutConstraints: "wrap 1"));
130     panelButtonProductList.add(new JButton(text: "Add"));
131     panelButtonProductList.add(new JButton(text: "Edit"));
132     panelButtonProductList.add(new JButton(text: "Delete"));
133     panelProduk.add(panelButtonProductList);

```

Ln 101, Col 83 Spaces: 4 UTF-8 CRLF {} Java Chat quota reached

```
src > J LatihanRenovationApp.java U X
File Edit Selection View Go Run ... < > Q renovation-app
27 public class LatihanRenovationApp {
31     public static void main(String[] args) {
159         panelProduk.add(panelButtonProductList);
160
161         // TASK PANEL
162         JPanel panelTask = new JPanel(new MigLayout(layoutConstraints: "", colConstraints: "[grow][]"));
163         panelTask.setBorder(new TitledBorder(title: "Tasks"));
164
165         String[] kolomTableTask = { "State", "Task", "Assigner", "Executer", "Creation Date", "Estimated Date", "Executed Date" };
166         Object[][] dataTask = {
167             { "Completed", "Pengecatan ulang ruang tamu", "Warnoto", "Toni", "2025-10-25", "2025-10-28", "2025-10-27" },
168             { "In Progress", "Instalasi closet duduk premium", "Warnoto", "Goang", "2025-11-15", "2025-11-17", null },
169             { "Delayed", "Pemasangan keramik dinding dapur", "Warnoto", "Toni", "2025-11-01", "2025-11-04", null },
170             { "Completed", "Pemasangan pipa PVC di area garasi", "Warnoto", "Goang", "2025-10-20", "2025-10-21", "2025-10-21" },
171             { "Not Started", "Pembelian dan instalasi lampu gantung hias", "Warnoto", "Toni", "2025-11-16", "2025-11-18", null }
172         };
173
174         JTable tableTask = new JTable(new DefaultTableModel(dataTask, kolomTableTask));
175         JScrollPane scrollPaneTableTask = new JScrollPane(tableTask);
176         panelTask.add(scrollPaneTableTask, constraints: "grow, h 120!");
177
178         JPanel panelButtonTask = new JPanel(new MigLayout(layoutConstraints: "wrap 1"));
179         panelButtonTask.add(new JButton(text: "Add"));
180         panelButtonTask.add(new JButton(text: "Edit"));
181         panelButtonTask.add(new JButton(text: "Delete"));
182         panelTask.add(panelButtonTask);
183
184         // COMMENTS PANEL
185         JPanel panelComments = new JPanel(new MigLayout(layoutConstraints: "", colConstraints: "[grow][]"));
186         panelComments.setBorder(new TitledBorder(title: "Comments"));
187
188         String[] kolomTableComment = { "Date", "User", "Comment" };
189         Object[][] dataComment = {
190             { "2025-10-26 10:15", "Toni", "Cat tembok sudah diolesi lapisan pertama. Menunggu kering sebelum lapisan kedua." },
191             { "2025-11-15 14:30", "Goang", "Barang sudah sampai di lokasi. Mulai proses pembongkaran closet lama sore ini." },
192             { "2025-11-16 09:00", "Warnoto", "Pastikan sambungan pipa air bersih dan pembuangan tidak ada yang bocor." },
193             { "2025-11-03 16:45", "Toni", "Cuaca hujan deras selama 2 hari, area kerja sedikit basah. Pemasangan ditunda besok pagi." },
194             { "2025-11-16 20:00", "Warnoto", "Lampu yang diinginkan customer stoknya habis. Mencari alternatif lampu model serupa." }
195         };
196
197         JTable tableComment = new JTable(new DefaultTableModel(dataComment, kolomTableComment));
198         JScrollPane scrollPaneTableComment = new JScrollPane(tableComment);
199         panelComments.add(scrollPaneTableComment, constraints: "grow, h 120!");
200
201         JPanel panelButtonComment = new JPanel(new MigLayout(layoutConstraints: "wrap 1"));
202         panelButtonComment.add(new JButton(text: "Add"));
203         panelButtonComment.add(new JButton(text: "Edit"));
204         panelButtonComment.add(new JButton(text: "Delete"));
205         panelComments.add(panelButtonComment);
206
207         // CONTROLS
208         JPanel panelControls = new JPanel(new MigLayout(layoutConstraints: "insets 0", colConstraints: "[grow][right]"));
209         JPanel left = new JPanel(new MigLayout());
210         left.add(new JButton(text: "Export"));
211         panelControls.add(left, constraints: "grow");
212
213         panelProduk.add(panelComments);
214
215         panelMain.add(panelTask);
216
217         frame.add(panelMain);
218
219         frame.setVisible(true);
220     }
221 }
```

```
src > J LatihanRenovationApp.java U X
File Edit Selection View Go Run ... < > Q renovation-app
27 public class LatihanRenovationApp {
31     public static void main(String[] args) {
159         panelComments.setBorder(new TitledBorder(title: "Comments"));
160
161         String[] kolomTableComment = { "Date", "User", "Comment" };
162         Object[][] dataComment = {
163             { "2025-10-26 10:15", "Toni", "Cat tembok sudah diolesi lapisan pertama. Menunggu kering sebelum lapisan kedua." },
164             { "2025-11-15 14:30", "Goang", "Barang sudah sampai di lokasi. Mulai proses pembongkaran closet lama sore ini." },
165             { "2025-11-16 09:00", "Warnoto", "Pastikan sambungan pipa air bersih dan pembuangan tidak ada yang bocor." },
166             { "2025-11-03 16:45", "Toni", "Cuaca hujan deras selama 2 hari, area kerja sedikit basah. Pemasangan ditunda besok pagi." },
167             { "2025-11-16 20:00", "Warnoto", "Lampu yang diinginkan customer stoknya habis. Mencari alternatif lampu model serupa." }
168         };
169
170         JTable tableComment = new JTable(new DefaultTableModel(dataComment, kolomTableComment));
171         JScrollPane scrollPaneTableComment = new JScrollPane(tableComment);
172         panelComments.add(scrollPaneTableComment, constraints: "grow, h 120!");
173
174         JPanel panelButtonComment = new JPanel(new MigLayout(layoutConstraints: "wrap 1"));
175         panelButtonComment.add(new JButton(text: "Add"));
176         panelButtonComment.add(new JButton(text: "Edit"));
177         panelButtonComment.add(new JButton(text: "Delete"));
178         panelComments.add(panelButtonComment);
179
180         // CONTROLS
181         JPanel panelControls = new JPanel(new MigLayout(layoutConstraints: "insets 0", colConstraints: "[grow][right]"));
182         JPanel left = new JPanel(new MigLayout());
183         left.add(new JButton(text: "Export"));
184         panelControls.add(left, constraints: "grow");
185
186         panelProduk.add(panelComments);
187
188         panelMain.add(panelTask);
189
190         frame.add(panelMain);
191
192         frame.setVisible(true);
193     }
194 }
```

Screenshot 1: Java code editor showing the initial state of `LatihanRenovationApp.java`. The code defines a `main` method that creates a `JFrame` and adds a `JPanel` with a `MigLayout`. It also adds two `JButton`s to the panel.

```

src > J LatihanRenovationApp.java U X
27  public class LatihanRenovationApp {
31    public static void main(String[] args) {
186
187      JPanel right = new JPanel(new MigLayout());
188      JButton buttonSave = new JButton(text: "Save");
189      buttonSave.putClientProperty(key: "FlatLaf.style", buttonColor);
190      right.add(buttonSave);
191      right.add(new JButton(text: "Cancel"));
192      panelControls.add(right);
193
194      // INITIAL RESPONSIVE
195      applyResponsiveLayout(panelUtama, width: 1200,
196          panelClient, panelInformation, panelAdditional,
197          panelProduk, panelTask, panelComments, panelControls);
198
199      // SCROLLPANE
200      JScrollPane scrollRoot = new JScrollPane(panelUtama);
201      scrollRoot.setVerticalScrollBar().setUnitIncrement(unitIncrement: 16);
202      frame.setContentPane(scrollRoot);
203
204      // RESPONSIVE LISTENER
205      frame.addComponentListener(new ComponentAdapter() {
206        @Override
207        public void componentResized(ComponentEvent e) {
208          int w = frame.getWidth();
209          applyResponsiveLayout(panelUtama, w,
210              panelClient, panelInformation, panelAdditional,
211              panelProduk, panelTask, panelComments, panelControls);
212        }
213      });
214
215      frame.pack();
216      frame.setLocationRelativeTo(c: null);
217      frame.setVisible(b: true);
218    }
219
220    // RESPONSIVE HANDLER
221    private static void applyResponsiveLayout(
222        JPanel root, int width,
223        JPanel panelClient, JPanel panelInformation, JPanel panelAdditional,
224        JPanel panelProduk, JPanel panelTask, JPanel panelComments, JPanel panelControls
225    ) {
226
227      root.removeAll();
228
229      if (width < 768) {
230        root.setLayout(new MigLayout(layoutConstraints: "fill, wrap 1", colConstraints: "[grow]", rowConstr...[""]));
231        root.add(panelClient, constraints: "growx");
232        root.add(panelAdditional, constraints: "growx");
233        root.add(panelInformation, constraints: "growx");
234        root.add(panelProduk, constraints: "growx");
235        root.add(panelTask, constraints: "growx");
236        root.add(panelComments, constraints: "growx");
237        root.add(panelControls, constraints: "growx");
238      }
239    }
240  }

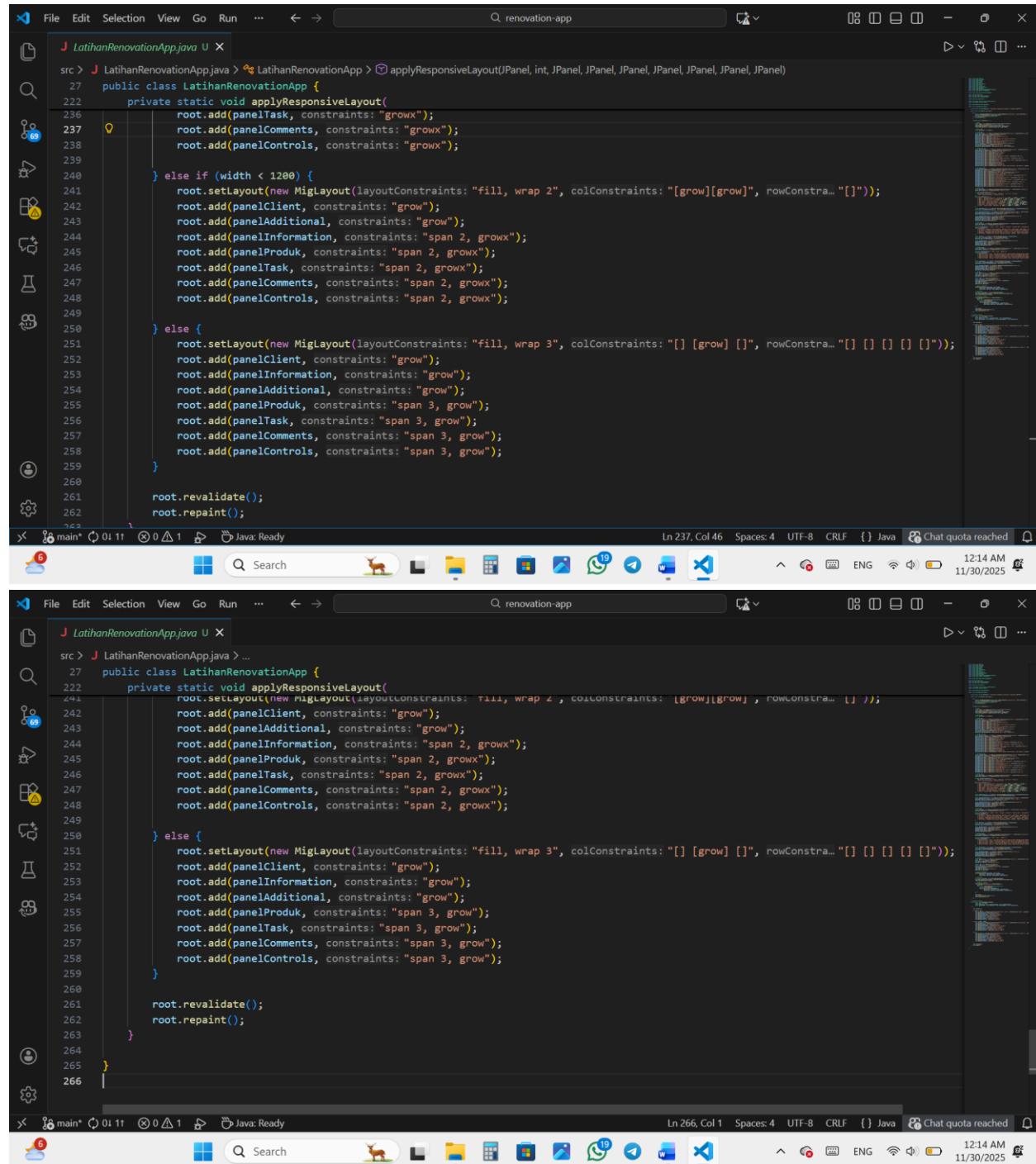
```

Screenshot 2: Java code editor showing the code after adding the `componentResized` event listener. The code now includes a `ComponentAdapter` implementation that calls the `applyResponsiveLayout` method whenever the window size changes.

```

src > J LatihanRenovationApp.java U X
27  public class LatihanRenovationApp {
31    public static void main(String[] args) {
205      frame.addComponentListener(new ComponentAdapter() {
206        @Override
207        public void componentResized(ComponentEvent e) {
208          int w = frame.getWidth();
209          applyResponsiveLayout(panelUtama, w,
210              panelClient, panelInformation, panelAdditional,
211              panelProduk, panelTask, panelComments, panelControls);
212        }
213      });
214
215      frame.pack();
216      frame.setLocationRelativeTo(c: null);
217      frame.setVisible(b: true);
218    }
219
220    // RESPONSIVE HANDLER
221    private static void applyResponsiveLayout(
222        JPanel root, int width,
223        JPanel panelClient, JPanel panelInformation, JPanel panelAdditional,
224        JPanel panelProduk, JPanel panelTask, JPanel panelComments, JPanel panelControls
225    ) {
226
227      root.removeAll();
228
229      if (width < 768) {
230        root.setLayout(new MigLayout(layoutConstraints: "fill, wrap 1", colConstraints: "[grow]", rowConstr...[""]));
231        root.add(panelClient, constraints: "growx");
232        root.add(panelAdditional, constraints: "growx");
233        root.add(panelInformation, constraints: "growx");
234        root.add(panelProduk, constraints: "growx");
235        root.add(panelTask, constraints: "growx");
236        root.add(panelComments, constraints: "growx");
237        root.add(panelControls, constraints: "growx");
238      }
239    }
240  }

```



```
src > J LatihanRenovationApp.java U X
27  public class LatihanRenovationApp {
222   private static void applyResponsiveLayout(
236     root.add(panelTask, constraints: "growx");
238     root.add(panelComments, constraints: "growx");
239     root.add(panelControls, constraints: "growx");

240   } else if (width < 1200) {
241     root.setLayout(new MigLayout(layoutConstraints: "fill, wrap 2", colConstraints: "[grow][grow]", rowConstra...[""]));
242     root.add(panelClient, constraints: "grow");
243     root.add(panelAdditional, constraints: "grow");
244     root.add(panelInformation, constraints: "span 2, growx");
245     root.add(panelProduk, constraints: "span 2, growx");
246     root.add(panelTask, constraints: "span 2, growx");
247     root.add(panelComments, constraints: "span 2, growx");
248     root.add(panelControls, constraints: "span 2, growx");

249   } else {
250     root.setLayout(new MigLayout(layoutConstraints: "fill, wrap 3", colConstraints: "[ ] [grow] [ ]", rowConstra...[""]);
251     root.add(panelClient, constraints: "grow");
252     root.add(panelInformation, constraints: "grow");
253     root.add(panelAdditional, constraints: "grow");
254     root.add(panelProduk, constraints: "span 3, grow");
255     root.add(panelTask, constraints: "span 3, grow");
256     root.add(panelComments, constraints: "span 3, grow");
257     root.add(panelControls, constraints: "span 3, grow");

258   }
259
260   root.revalidate();
261   root.repaint();
262 }

263
264
265
266 }
```

b. Hasil running

Detail Proyek: RNV-JKT-AXG-001

Client		Information						Additional Information		
Client ID:	101	Reserve days:	0 of 30		Add Days	Estimated close:	2025-12-15		Edit	
Name:	Bapak Alex Gunawan	Buyer:	Bapak Alex Gunawan			Creation date:	2025-10-15			
Phone:	(+62) 8123456789	Seller:	PT Bangun Jaya Abadi			Created by:	Admin			
Registration No:	RNV-JKT-AXG-001	Address:	Jl. Raya Lohbener Baru, 778A			Last edit date:	2025-11-16			
		Credit rating:	AAA		S&P Update	Last edited by:	Warnoto			
		<input type="checkbox"/> Approved:	Proyek renovasi telah disetujui, siap dimulai						Closed date:	null
								Closed by:	null	

Product List

Renovation	Description	Part #	Quantity	List Price	Discount	Price	Wholesale Discount	Wholesaler Price
Dapur	Keramik Dinding Putih KW-PT-DLX-01	50	150000	0	7500000	5	7125000	
Dapur	Lem Keramik Instan LMI-GRY-STD	5	50000	0	250000	0	250000	
Dapur	Pipa PVC 3 inch PVC-3IN-STD	12	35000	0	420000	10	378000	
Kamar Mandi	Showe Set Minimalis SHW-MN-STL	1	850000	15	722500	5	686375	
Kamar Mandi	Closet Duduk Premium CLO-DD-PRM	1	2500000	5	2375000	10	2137500	
Ruang Tamu	Lampu Gantung Hias LMP-HNG-CRS	2	750000	0	1500000	0	1500000	

Tasks

State	Task	Assigner	Executer	Creation Date	Estimated Date	Executed Date
Completed	Pengecatan ulang ruang tamu	Warnoto	Toni	2025-10-25	2025-10-28	2025-10-27
In Progress	Instalasi closet duduk premium	Warnoto	Goang	2025-11-15	2025-11-17	
Delayed	Pemasangan keramik dinding	Warnoto	Toni	2025-11-01	2025-11-04	
Completed	Pemasangan pipa PVC di area kamar mandi	Warnoto	Goang	2025-10-20	2025-10-21	2025-10-21
Not Started	Pembelian dan instalasi lampu gantung	Warnoto	Toni	2025-11-16	2025-11-18	

Comments

Date	User	Comment
12:15 AM 11/30/2025	ENG	

c. Pembuktian tampilan UI yang responsif pada split view

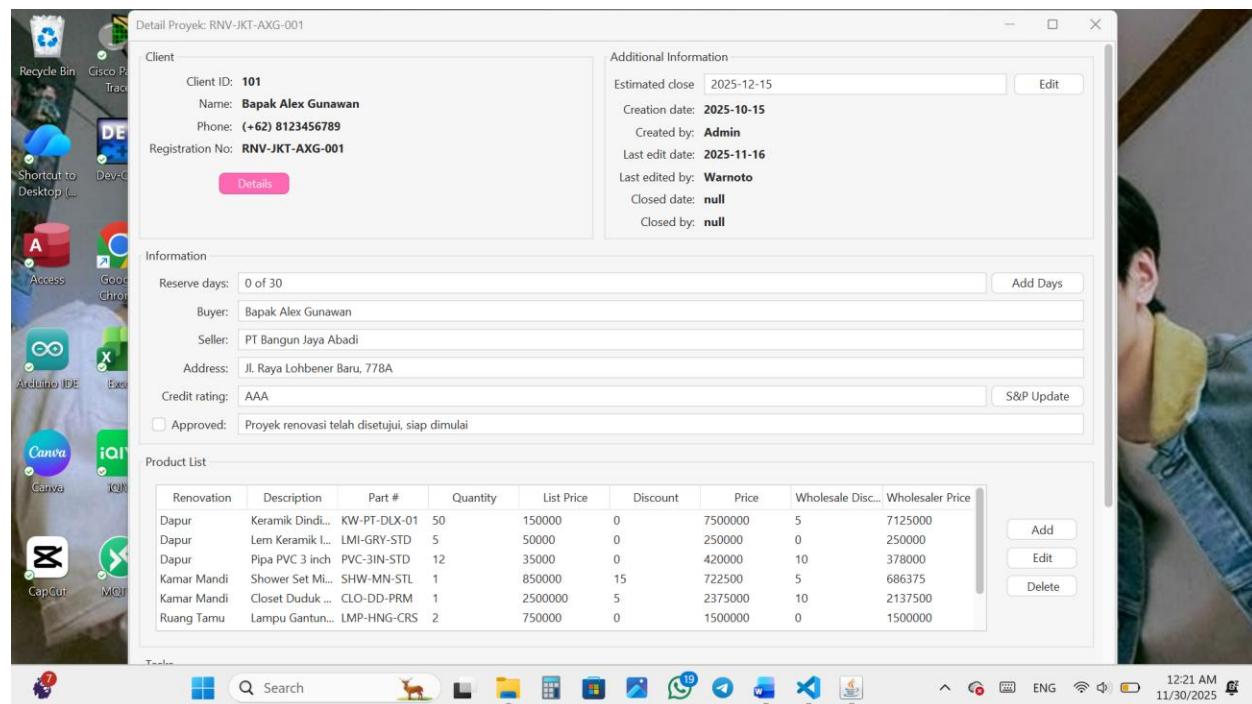
Detail Proyek: RNV-JKT-AXG-001

Client		Information						Additional Information		
Client ID:	101	Reserve days:	0 of 30		Add Days	Estimated close:	2025-12-15		Edit	
Name:	Bapak Alex Gunawan	Buyer:	Bapak Alex Gunawan			Creation date:	2025-10-15			
Phone:	(+62) 8123456789	Seller:	PT Bangun Jaya Abadi			Created by:	Admin			
Registration No:	RNV-JKT-AXG-001	Address:	Jl. Raya Lohbener Baru, 778A			Last edit date:	2025-11-16			
		Credit rating:	AAA		S&P Update	Last edited by:	Warnoto			
		<input type="checkbox"/> Approved:	Proyek renovasi telah disetujui, siap dimulai						Closed date:	null
								Closed by:	null	

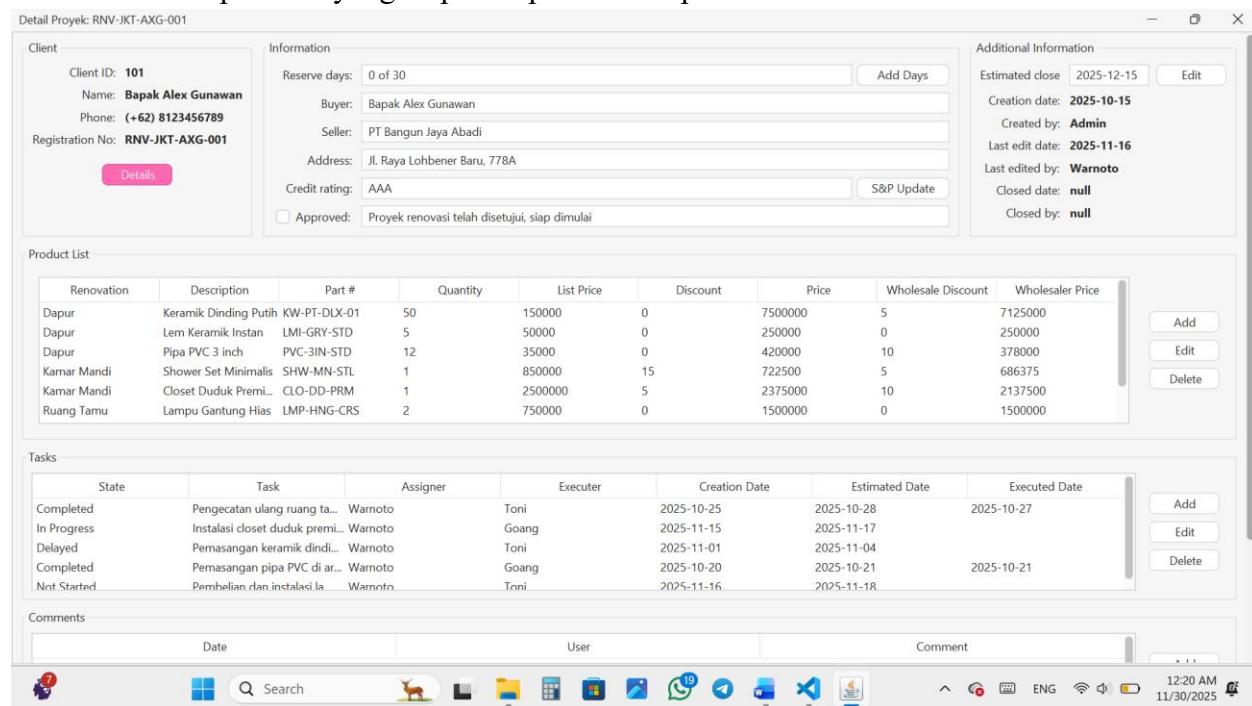
Product List

Renovation	Description	Part #	Quantity	List Price	Discount	Price	Wholesale Discount	Wholesaler Price
Dapur	Keramik Dinding Putih KW-PT-DLX-01	50	150000	0	7500000	5	7125000	
Dapur	Lem Keramik Instan LMI-GRY-STD	5	50000	0	250000	0	250000	
Dapur	Pipa PVC 3 inch PVC-3IN-STD	12	35000	0	420000	10	378000	
Kamar Mandi	Showe Set Minimalis SHW-MN-STL	1	850000	15	722500	5	686375	
Kamar Mandi	Closet Duduk Premium CLO-DD-PRM	1	2500000	5	2375000	10	2137500	
Ruang Tamu	Lampu Gantung Hias LMP-HNG-CRS	2	750000	0	1500000	0	1500000	

d. Pembuktian tampilan UI yang responsif pada desktop small

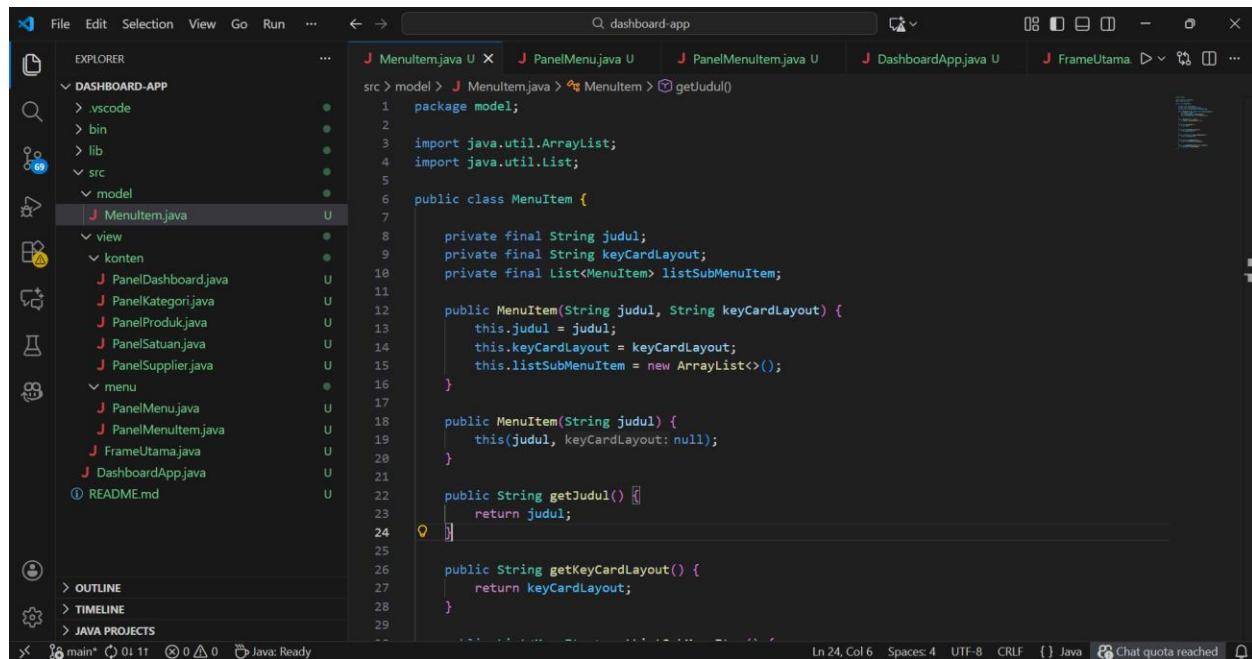


e. Pembuktian tampilan UI yang responsif pada desktop standard



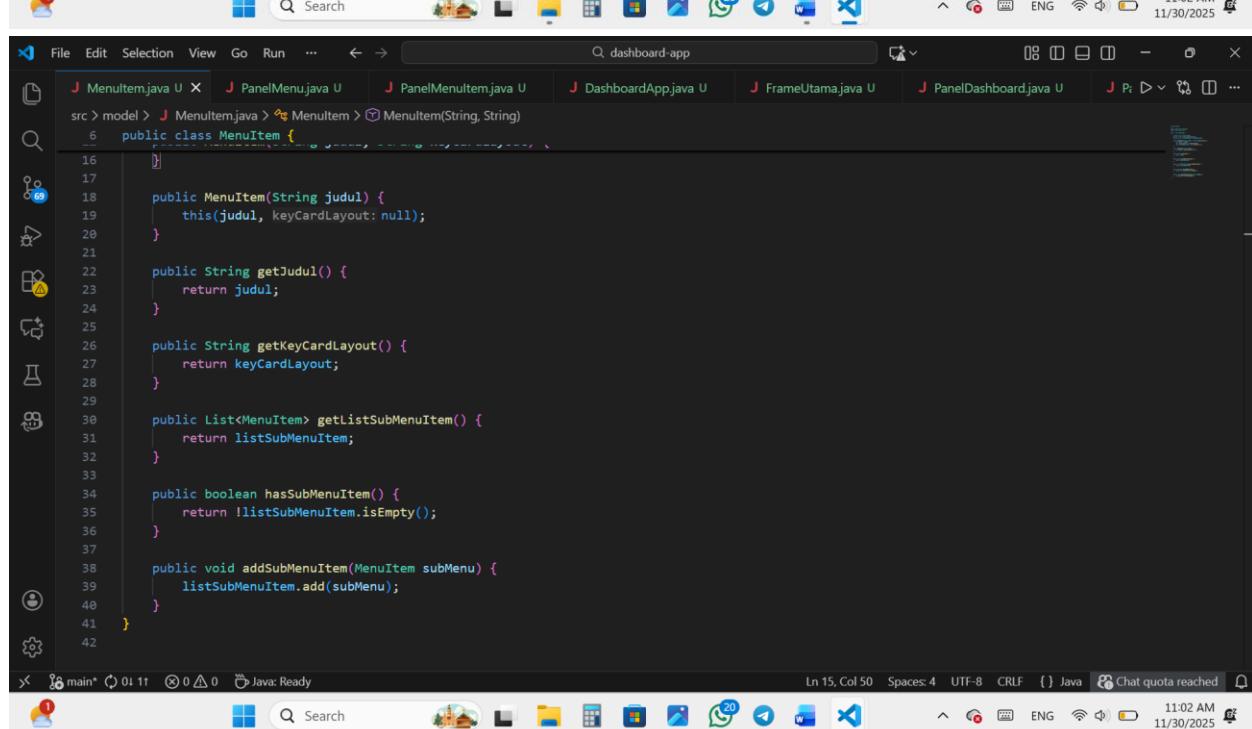
4. Terdapat penyelesaian Praktikum pada Modul - 11 Navigasi GUI yang disertai bukti hasil running dan pembuktian tampilan konten menu yang berubah berdasarkan event handling pada pilihan menu

a. Kode program



The screenshot shows the VS Code interface with the file `MenuItem.java` open in the editor. The code defines a class `MenuItem` with methods to get the menu item name and key card layout, and to add sub-menu items. The code is annotated with JavaDoc comments.

```
1 package model;
2
3 import java.util.ArrayList;
4 import java.util.List;
5
6 public class MenuItem {
7
8     private final String judul;
9     private final String keyCardLayout;
10    private final List<MenuItem> listSubMenuitem;
11
12    public MenuItem(String judul, String keyCardLayout) {
13        this.judul = judul;
14        this.keyCardLayout = keyCardLayout;
15        this.listSubMenuitem = new ArrayList<>();
16    }
17
18    public MenuItem(String judul) {
19        this(judul, null);
20    }
21
22    public String getJudul() {
23        return judul;
24    }
25
26    public String getKeyCardLayout() {
27        return keyCardLayout;
28    }
29
30    public List<MenuItem> getListSubMenuitem() {
31        return listSubMenuitem;
32    }
33
34    public boolean hasSubMenuitem() {
35        return !listSubMenuitem.isEmpty();
36    }
37
38    public void addSubMenuitem(MenuItem subMenu) {
39        listSubMenuitem.add(subMenu);
40    }
41 }
```



The screenshot shows the Eclipse IDE interface with the file `MenuItem.java` open in the editor. The code is identical to the one in VS Code, defining the `MenuItem` class with its methods and annotations.

```
16 public class MenuItem {
17
18     public MenuItem(String judul) {
19         this(judul, null);
20     }
21
22     public String getJudul() {
23         return judul;
24     }
25
26     public String getKeyCardLayout() {
27         return keyCardLayout;
28     }
29
30     public List<MenuItem> getListSubMenuitem() {
31         return listSubMenuitem;
32     }
33
34     public boolean hasSubMenuitem() {
35         return !listSubMenuitem.isEmpty();
36     }
37
38     public void addSubMenuitem(MenuItem subMenu) {
39         listSubMenuitem.add(subMenu);
40     }
41 }
```

The image shows two side-by-side screenshots of a Java IDE interface, likely Eclipse or IntelliJ IDEA, displaying code for a Java Swing application named "dashboard-app".

Top Panel:

- File Bar:** File, Edit, Selection, View, Go, Run, ...
- Title Bar:** Q_dashboard-app
- Toolbars:** Standard Java toolbars.
- Left Sidebar (Explorer):** Shows the project structure under "DASHBOARD-APP".
- Central Area:** Code editor for "PanelDashboard.java".
- Bottom Status Bar:** Ln 13, Col 33, Spaces: 4, UTF-8, CRLF, {} Java, Chat quota reached.

```
1 package view.konten;
2
3 import java.awt.Color;
4 import java.awt.Font;
5
6 import javax.swing.JLabel;
7 import javax.swing.JPanel;
8
9 import net.miginfocom.swing.MigLayout;
10
11 public class PanelDashboard extends JPanel {
12
13     public PanelDashboard() {
14         initializeUI();
15     }
16
17     private void initializeUI() {
18         setLayout(new MigLayout(layoutConstraints: "fill, insets 60", colConstraints: "[grow]", rowConstr... "[grow]"));
19         setBackground(Color.WHITE);
20         setOpaque(isOpaque: true);
21
22         JLabel title = new JLabel(text: "Panel Dashboard");
23         title.setFont(new Font(name: "Inter", Font.BOLD, size: 36));
24         title.setForeground(new Color(r: 0, g: 48, b: 73)); // #003049
25
26         JLabel info = new JLabel(text: "Deskripsi panel dashboard");
27         info.setFont(new Font(name: "Inter", Font.PLAIN, size: 16));
28         info.setForeground(new Color(r: 98, g: 117, b: 138)); // #62758A
29
30         add(title, constraints: "alignx center, wrap 30");
31         add(info, constraints: "alignx center");
32     }
33
34 }
```

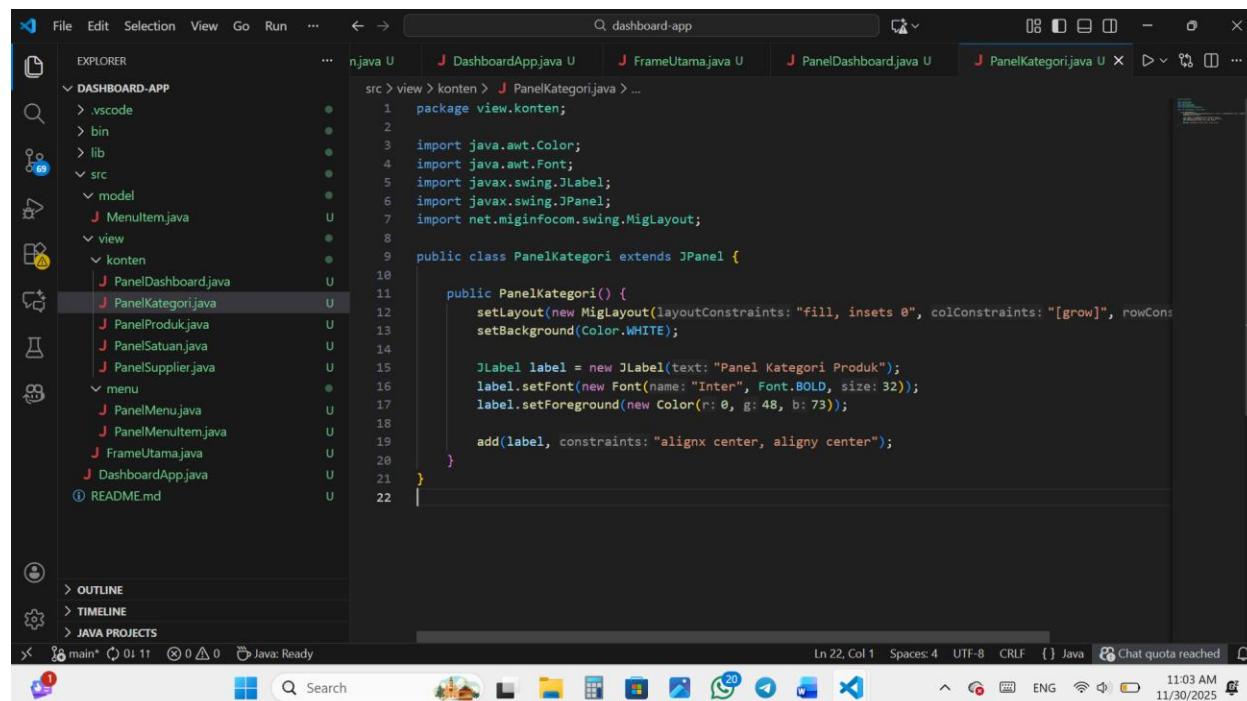
Bottom Status Bar: 11:03 AM, 11/30/2025

Bottom Panel:

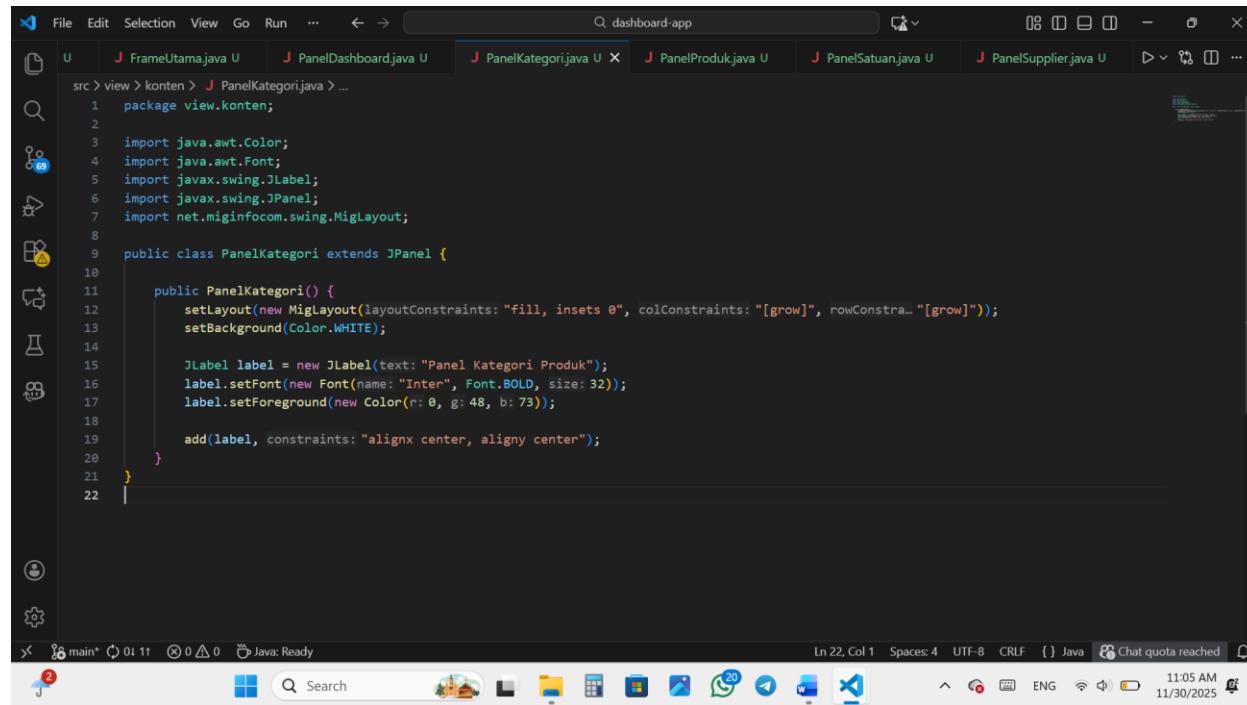
- File Bar:** File, Edit, Selection, View, Go, Run, ...
- Title Bar:** Q_dashboard-app
- Toolbars:** Standard Java toolbars.
- Central Area:** Code editor for "PanelDashboard.java".
- Bottom Status Bar:** Ln 35, Col 1, Spaces: 4, UTF-8, CRLF, {} Java, Chat quota reached.

```
8
9     import net.miginfocom.swing.MigLayout;
10
11    public class PanelDashboard extends JPanel {
12
13        public PanelDashboard() {
14            initializeUI();
15        }
16
17        private void initializeUI() {
18            setLayout(new MigLayout(layoutConstraints: "fill, insets 60", colConstraints: "[grow]", rowConstr... "[grow]"));
19            setBackground(Color.WHITE);
20            setOpaque(isOpaque: true);
21
22            JLabel title = new JLabel(text: "Panel Dashboard");
23            title.setFont(new Font(name: "Inter", Font.BOLD, size: 36));
24            title.setForeground(new Color(r: 0, g: 48, b: 73)); // #003049
25
26            JLabel info = new JLabel(text: "Deskripsi panel dashboard");
27            info.setFont(new Font(name: "Inter", Font.PLAIN, size: 16));
28            info.setForeground(new Color(r: 98, g: 117, b: 138)); // #62758A
29
30            add(title, constraints: "alignx center, wrap 30");
31            add(info, constraints: "alignx center");
32        }
33
34 }
```

Bottom Status Bar: 11:03 AM, 11/30/2025



```
File Edit Selection View Go Run ... < > Q dashboard-app
EXPLORER DASHBOARD-APP
> .vscode
> bin
> lib
src
model
> view
  konten
    J PanelDashboard.java U
    J PanelKategori.java U
    J PanelProduk.java U
    J PanelSatuan.java U
    J PanelSupplier.java U
menu
J PanelMenu.java U
J PanelMenultem.java U
J FrameUtama.java U
J DashboardApp.java U
README.md U
... n.java U J DashboardApp.java U J FrameUtama.java U J PanelDashboard.java U J PanelKategori.java U X
src > view > konten > J PanelKategori.java ...
1 package view.konten;
2
3 import java.awt.Color;
4 import java.awt.Font;
5 import javax.swing.JLabel;
6 import javax.swing.JPanel;
7 import net.miginfocom.swing.MigLayout;
8
9 public class PanelKategori extends JPanel {
10
11     public PanelKategori() {
12         setLayout(new MigLayout(layoutConstraints: "fill, insets 0", colConstraints: "[grow]", rowConstraints: "[grow]"));
13         setBackground(Color.WHITE);
14
15         JLabel label = new JLabel(text: "Panel Kategori Produk");
16         label.setFont(new Font(name: "Inter", Font.BOLD, size: 32));
17         label.setForeground(new Color(r: 0, g: 48, b: 73));
18
19         add(label, constraints: "alignx center, aligny center");
20     }
21 }
Ln 22, Col 1 Spaces: 4 UTF-8 CRLF {} Java Chat quota reached
```



```
File Edit Selection View Go Run ... < > Q dashboard-app
src > view > konten > J PanelKategori.java ...
1 package view.konten;
2
3 import java.awt.Color;
4 import java.awt.Font;
5 import javax.swing.JLabel;
6 import javax.swing.JPanel;
7 import net.miginfocom.swing.MigLayout;
8
9 public class PanelKategori extends JPanel {
10
11     public PanelKategori() {
12         setLayout(new MigLayout(layoutConstraints: "fill, insets 0", colConstraints: "[grow]", rowConstraints: "[grow]"));
13         setBackground(Color.WHITE);
14
15         JLabel label = new JLabel(text: "Panel Kategori Produk");
16         label.setFont(new Font(name: "Inter", Font.BOLD, size: 32));
17         label.setForeground(new Color(r: 0, g: 48, b: 73));
18
19         add(label, constraints: "alignx center, aligny center");
20     }
21 }
Ln 22, Col 1 Spaces: 4 UTF-8 CRLF {} Java Chat quota reached
```

The screenshot displays two side-by-side panels of Java code within a development environment. Both panels show the same code snippet:

```
src > view > konten > J PanelProduk.java > ...
1 package view.konten;
2
3 import java.awt.Color;
4 import java.awt.Font;
5 import javax.swing.JLabel;
6 import javax.swing.JPanel;
7 import net.miginfocom.swing.MigLayout;
8
9 public class PanelProduk extends JPanel {
10
11     public PanelProduk() {
12         setLayout(new MigLayout(layoutConstraints: "fill, insets 0", colConstraints: "[grow]", rowConstraints: "[grow]"));
13         setBackground(Color.WHITE);
14
15         JLabel label = new JLabel(text: "Panel Data Produk");
16         label.setFont(new Font(name: "Inter", Font.BOLD, size: 32));
17         label.setForeground(new Color(r: 0, g: 48, b: 73));
18
19         add(label, constraints: "alignx center, aligny center");
20     }
21 }
22
```

The code is annotated with several code completion suggestions:

- Top Panel (Left):** Shows suggestions for the package declaration and imports. For example, 'view.konten' is highlighted in blue, and 'Color' is shown with a tooltip 'Color [r: 0, g: 48, b: 73]'.
- Bottom Panel (Right):** Shows suggestions for the package declaration and imports. For example, 'view.konten' is highlighted in blue, and 'Color' is shown with a tooltip 'Color [r: 0, g: 48, b: 73]'.

The interface includes standard IDE elements like a toolbar, status bar, and a search bar at the bottom.

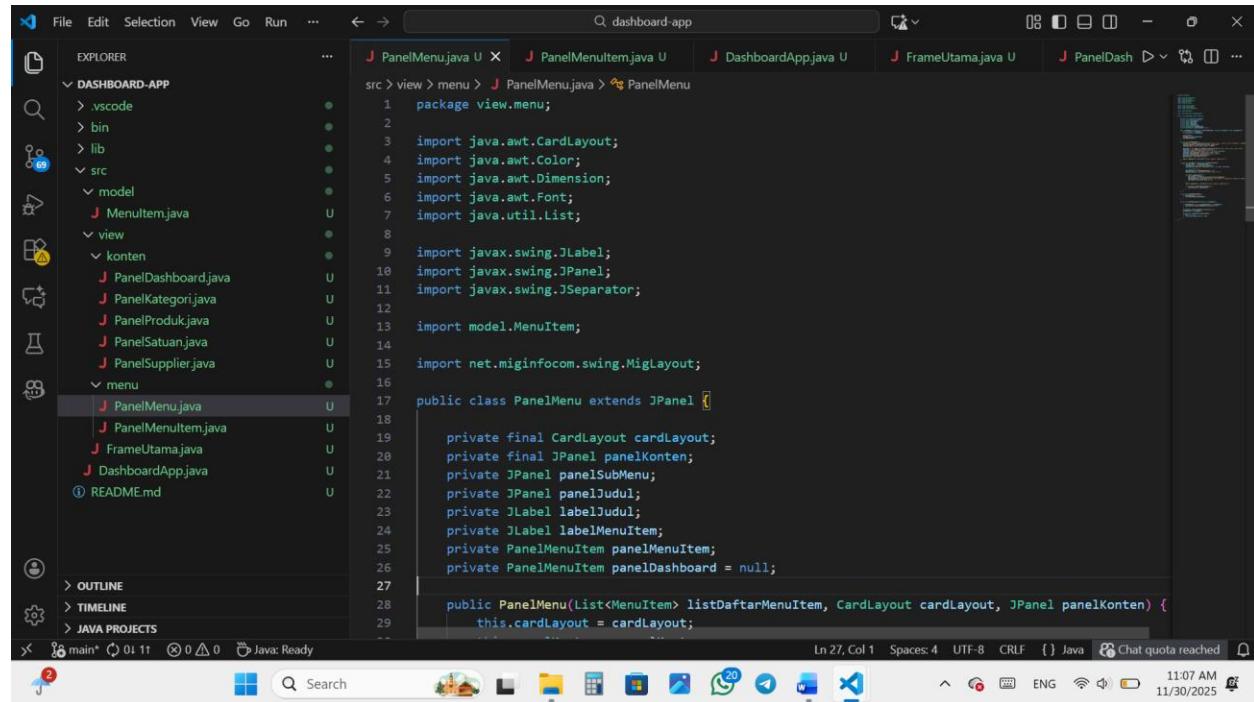
```
src > view > konten > J PanelSatuan.java ...
1 package view.konten;
2
3 import java.awt.Color;
4 import java.awt.Font;
5 import javax.swing.JLabel;
6 import javax.swing.JPanel;
7 import net.miginfocom.swing.MigLayout;
8
9 public class PanelSatuan extends JPanel {
10
11     public PanelSatuan() {
12         setLayout(new MigLayout(layoutConstraints: "fill, insets 0", colConstraints: "[grow]", rowConstraints: "[grow]"));
13         setBackground(Color.WHITE);
14
15         JLabel label = new JLabel(text: "Panel Satuan");
16         label.setFont(new Font(name: "Inter", Font.BOLD, size: 32));
17         label.setForeground(new Color(r: 0, g: 48, b: 73));
18
19         add(label, constraints: "alignx center, aligny center");
20     }
21 }

```

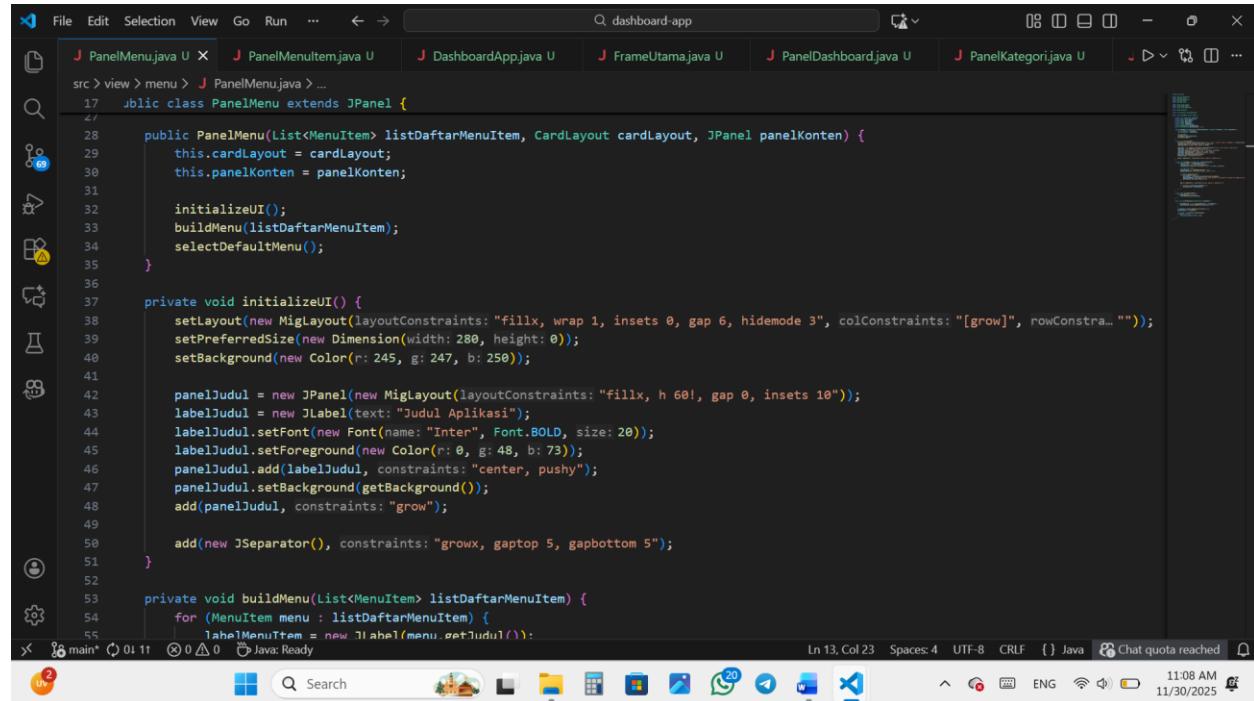


```
src > view > konten > J PanelSupplier.java ...
1 package view.konten;
2
3 import java.awt.Color;
4 import java.awt.Font;
5 import javax.swing.JLabel;
6 import javax.swing.JPanel;
7 import net.miginfocom.swing.MigLayout;
8
9 public class PanelSupplier extends JPanel {
10
11     public PanelSupplier() {
12         setLayout(new MigLayout(layoutConstraints: "fill, insets 0", colConstraints: "[grow]", rowConstraints: "[grow]"));
13         setBackground(Color.WHITE);
14
15         JLabel label = new JLabel(text: "Panel Supplier");
16         label.setFont(new Font(name: "Inter", Font.BOLD, size: 32));
17         label.setForeground(new Color(r: 0, g: 48, b: 73));
18
19         add(label, constraints: "alignx center, aligny center");
20     }
21 }

```



```
src > view > menu > J PanelMenu.java > PanelMenu
1 package view.menu;
2
3 import java.awt.CardLayout;
4 import java.awt.Color;
5 import java.awt.Dimension;
6 import java.awt.Font;
7 import java.util.List;
8
9 import javax.swing.JLabel;
10 import javax.swing.JPanel;
11 import javax.swing.JSeparator;
12
13 import model.MenuItem;
14
15 import net.miginfocom.swing.MigLayout;
16
17 public class PanelMenu extends JPanel {
18
19     private final CardLayout cardLayout;
20     private final JPanel panelKonten;
21     private JPanel panelSubMenu;
22     private JPanel panelJudul;
23     private JLabel labelJudul;
24     private JLabel labelMenuItem;
25     private PanelMenuItem panelMenuItem;
26     private PanelMenuItem panelDashboard = null;
27
28     public PanelMenu(List<MenuItem> listDaftarMenuItem, CardLayout cardLayout, JPanel panelKonten) {
29         this.cardLayout = cardLayout;
30         this.panelKonten = panelKonten;
31
32         initializeUI();
33         buildMenu(listDaftarMenuItem);
34         selectDefaultMenu();
35     }
36
37     private void initializeUI() {
38         setLayout(new MigLayout(layoutConstraints: "fillx, wrap 1, insets 0, gap 6, hidemode 3", colConstraints: "[grow]", rowConstraints: ""));
39         setPreferredSize(new Dimension(width: 280, height: 0));
40         setBackground(new Color(r: 245, g: 247, b: 250));
41
42         panelJudul = new JPanel(new MigLayout(layoutConstraints: "fillx, h 60!, gap 0, insets 10"));
43         labelJudul = new JLabel(text: "Judul Aplikasi");
44         labelJudul.setFont(new Font(name: "Inter", Font.BOLD, size: 20));
45         labelJudul.setForeground(new Color(r: 0, g: 48, b: 73));
46         panelJudul.add(labelJudul, constraints: "center, pushy");
47         panelJudul.setBackground(getBackground());
48         add(panelJudul, constraints: "grow");
49
50         add(new JSeparator(), constraints: "growX, gapTop 5, gapBottom 5");
51     }
52
53     private void buildMenu(List<MenuItem> listDaftarMenuItem) {
54         for (MenuItem menu : listDaftarMenuItem) {
55             labelMenuItem = new JLabel(menu.getJudul());
56         }
57     }
58 }
```



```
src > view > menu > J PanelMenu.java ...
17 public class PanelMenu extends JPanel {
18
19     public PanelMenu(List<MenuItem> listDaftarMenuItem, CardLayout cardLayout, JPanel panelKonten) {
20         this.cardLayout = cardLayout;
21         this.panelKonten = panelKonten;
22
23         initializeUI();
24         buildMenu(listDaftarMenuItem);
25         selectDefaultMenu();
26     }
27
28     private void initializeUI() {
29         setLayout(new MigLayout(layoutConstraints: "fillx, wrap 1, insets 0, gap 6, hidemode 3", colConstraints: "[grow]", rowConstraints: ""));
30         setPreferredSize(new Dimension(width: 280, height: 0));
31         setBackground(new Color(r: 245, g: 247, b: 250));
32
33         panelJudul = new JPanel(new MigLayout(layoutConstraints: "fillx, h 60!, gap 0, insets 10"));
34         labelJudul = new JLabel(text: "Judul Aplikasi");
35         labelJudul.setFont(new Font(name: "Inter", Font.BOLD, size: 20));
36         labelJudul.setForeground(new Color(r: 0, g: 48, b: 73));
37         panelJudul.add(labelJudul, constraints: "center, pushy");
38         panelJudul.setBackground(getBackground());
39         add(panelJudul, constraints: "grow");
40
41         add(new JSeparator(), constraints: "growX, gapTop 5, gapBottom 5");
42     }
43
44     private void buildMenu(List<MenuItem> listDaftarMenuItem) {
45         for (MenuItem menu : listDaftarMenuItem) {
46             labelMenuItem = new JLabel(menu.getJudul());
47         }
48     }
49 }
```

```
File Edit Selection View Go Run ... dashboard-app
J PanelMenu.java U X J PanelMenuItem.java U J DashboardApp.java U J FrameUtama.java U J PanelDashboard.java U J PanelKategori.java U
src > view > menu > J PanelMenu.java > buildMenu(List<MenuItem>)
17 public class PanelMenu extends JPanel {
52
53     private void buildMenu(List<MenuItem> listDaftarMenuItem) {
54         for (MenuItem menu : listDaftarMenuItem) {
55             JLabelMenuItem = new JLabel(menu.getJudul());
56             JLabelMenuItem.setFont(new Font("Arial", Font.BOLD, size: 14));
57
58             /** Panel Menu Item */
59             panelMenuItem = new PanelMenuItem(menu, this);
60             add(panelMenuItem, constraints: "growx, wrap, h 37!");
61
62             /** Panel (Sub) Menu Item */
63             if (menu.hasSubMenu()) {
64                 panelSubMenu = panelMenuItem.getPanelContainerSubMenu();
65                 add(panelSubMenu, constraints: "growx, wrap, gapleft 24, gapright 10, gaptop 10, gapbottom 10");
66                 panelSubMenu.setVisible(aFlag: false);
67             }
68
69             add(new JSeparator(), constraints: "growx, gaptop 5, gapbottom 5");
70
71             if ("Dashboard".equals(menu.getJudul())) {
72                 panelDashboard = panelMenuItem;
73             }
74         }
75     }
76
77     private void selectDefaultMenu() {
78         if (panelDashboard != null) {
79             selectMenuItem(panelDashboard);
80         }
81     }
82
83     public void selectMenuItem(PanelMenuItem clickedPanel) {
84
85         if (panelMenuItem != null && panelMenuItem != clickedPanel) {
86             panelMenuItem.setSelectedByParent(selected: false);
87         }
88
89         clickedPanel.setSelectedByParent(selected: true);
90         panelMenuItem = clickedPanel;
91
92         String key = clickedPanel.getContentKey();
93         if (key != null) {
94             cardLayout.show(panelKonten, key);
95         }
96     }
97 }
```

```
src > view > menu > J PanelMenuItem.java > J PanelMenuItem
1 package view.menu;
2
3 import java.awt.Color;
4 import java.awt.Font;
5 import java.awt.event.MouseAdapter;
6 import java.awt.event.MouseEvent;
7 import javax.swing.JLabel;
8 import javax.swing.JPanel;
9 import model.MenuItem;
10 import net.miginfocom.swing.MigLayout;
11
12 public class PanelMenuItem extends JPanel {
13
14     private static final Color BG_SIDEBAR = new Color(r: 245, g: 247, b: 250);
15     private static final Color BG_HOVER = new Color(r: 224, g: 238, b: 235);
16     private static final Color BG_SELECTED = new Color(r: 234, g: 242, b: 235);
17     private static final Color TEXT_NORMAL = new Color(r: 98, g: 117, b: 138);
18     private static final Color TEXT_HOVER = new Color(r: 8, g: 48, b: 73);
19     private static final Color TEXT_SELECTED = new Color(r: 131, g: 188, b: 160);
20
21     private final String contentKey;
22     private boolean isSubMenu;
23     private boolean selected = false;
24     private JPanel panelContainerSubMenu;
25     private JLabel lblMenu;
26     private PanelMenu panelMenu;
27
28     public PanelMenuItem(MenuItem item, PanelMenu panelMenu) {
29         this(item, panelMenu, isSubMenu: false);
30     }
31
32     private PanelMenuItem(MenuItem item, PanelMenu panelMenu, boolean isSubMenu) {
33         this.contentKey = item.getKeyCardLayout();
34         this.panelMenu = panelMenu;
35         this.isSubMenu = isSubMenu;
36
37         initializeUI(item);
38         setupEventHandlers();
39     }
40
41     private void initializeUI(MenuItem item) {
42         panelContainerSubMenu = new JPanel(
43             new MigLayout(
44                 layoutConstraints: "fillx, insets 0, gap 0, hidemode 3",
45                 colConstraints: "[grow]",
46                 rowConstraints: ""
47             )
48         );
49         panelContainerSubMenu.setBackground(Color.WHITE);
50         panelContainerSubMenu.setOpaque(isOpaque: true);
51         panelContainerSubMenu.setVisible(aFlag: false);
52
53         setLayout(new MigLayout(layoutConstraints: "fill, insets 8, gap 8", colConstraints: "[grow]", rowConstraints: ""));
54         setBackground(isSubMenu ? Color.WHITE : BG_SIDEBAR);
55     }

```

The screenshot displays two Java code editors side-by-side, likely from an IDE like Eclipse or IntelliJ IDEA.

Top Editor:

```
src > view > menu > J PanelMenuItem.java U > initializeUI(MenuItem item) > PanelMenuItem.java U > DashboardApp.java U > FrameUtama.java U > PanelDashboard.java U > PanelKategori.java U
```

```
12  public class PanelMenuItem extends JPanel {  
41      private void initializeUI(MenuItem item) {  
55          lblMenu = new JLabel();  
56          lblMenu.setText(item.getJudul());  
57          lblMenu.setFont(new Font(name: "Inter", isSubMenu ? Font.PLAIN : Font.BOLD, size: 15));  
58          lblMenu.setForeground(TEXT_NORMAL);  
59  
60          int gapLeft = isSubMenu ? 18 : 24;  
61          add(lblMenu, "gapleft " + gapLeft + ", grow, pushy, wrap");  
62  
63          if (item.getListSubMenuItem() != null && !item.getListSubMenuItem().isEmpty()) {  
64              for (MenuItem sub : item.getListSubMenuItem()) {  
65                  PanelMenuItem panelSubMenuItem = new PanelMenuItem(sub, panelMenu, isSubMenu: true);  
66                  panelContainerSubMenu.add(panelSubMenuItem, constraints: "growx, h 42!, wrap");  
67              }  
68              add(panelContainerSubMenu, constraints: "newline, growx, pushy, wrap");  
69          }  
70      }  
71  
72      private void setupEventHandlers() {  
73          addMouseListener(new MouseAdapter() {  
74              @Override  
75              public void mouseEntered(MouseEvent e) {  
76                  if (!selected) {  
77                      setBackground(BG_HOVER);  
78                      lblMenu.setForeground(TEXT_HOVER);  
79                  }  
80              }  
81          });  
82  
83          @Override  
84          public void mouseExited(MouseEvent e) {  
85              if (selected) {  
86                  setBackground(isSubMenu ? Color.WHITE : BG_SIDEBAR);  
87                  lblMenu.setForeground(TEXT_NORMAL);  
88              }  
89          }  
90  
91          @Override  
92          public void mousePressed(MouseEvent e) {  
93              panelMenu.selectMenuItem(PanelMenuItem.this);  
94  
95              if (panelContainerSubMenu.getComponentCount() > 0) {  
96                  boolean visible = panelContainerSubMenu.isVisible();  
97                  panelContainerSubMenu.setVisible(!visible);  
98  
99                  revalidate();  
100                 repaint();  
101             }  
102         }  
103     }  
104  
105     public void setSelectedByParent(boolean selected) {  
106         this.selected = selected;  
107         panelMenuItem.setSelected(selected ? BG_SELECTED : BG_UNSELECTED);  
108     }  
109 }
```

Bottom Editor:

```
src > view > menu > J PanelMenuItem.java U > setupEventHandlers() > new MouseAdapter() {} > mouseEntered(MouseEvent) > mouseEntered(MouseEvent) > PanelMenuItem.java U > DashboardApp.java U > FrameUtama.java U > PanelDashboard.java U > PanelKategori.java U
```

```
12  public class PanelMenuItem extends JPanel {  
73      private void setupEventHandlers() {  
74          addMouseListener(new MouseAdapter() {  
75              @Override  
76              public void mouseEntered(MouseEvent e) {  
77                  if (!selected) {  
78                      setBackground(isSubMenu ? Color.WHITE : BG_SIDEBAR);  
79                      lblMenu.setForeground(TEXT_NORMAL);  
80                  }  
81              }  
82  
83              @Override  
84              public void mouseExited(MouseEvent e) {  
85                  if (selected) {  
86                      setBackground(isSubMenu ? Color.WHITE : BG_SIDEBAR);  
87                      lblMenu.setForeground(TEXT_NORMAL);  
88                  }  
89              }  
90  
91              @Override  
92              public void mousePressed(MouseEvent e) {  
93                  panelMenu.selectMenuItem(PanelMenuItem.this);  
94  
95                  if (panelContainerSubMenu.getComponentCount() > 0) {  
96                      boolean visible = panelContainerSubMenu.isVisible();  
97                      panelContainerSubMenu.setVisible(!visible);  
98  
99                      revalidate();  
100                     repaint();  
101                 }  
102             }  
103         });  
104  
105         public void setSelectedByParent(boolean selected) {  
106             this.selected = selected;  
107             panelMenuItem.setSelected(selected ? BG_SELECTED : BG_UNSELECTED);  
108         }  
109     }  
110 }
```

File Edit Selection View Go Run ...

J PanelMenuItem.java U J PanelMenuItem.java X J DashboardApp.java U J FrameUtama.java U J PanelDashboard.java U J PanelKategori.java U

```

src > view > menu > J PanelMenuItem.java > ⚙ PanelMenuItem > ⚙ setupEventHandlers()
12  public class PanelMenuItem extends JPanel {
73      private void setupEventHandlers() {
74          addMouseListener(new MouseAdapter() {
92              public void mousePressed(MouseEvent e) {
93                  if (panelContainerSubMenu.getComponentCount() > 0) {
94                      boolean visible = panelContainerSubMenu.isVisible();
95                      panelContainerSubMenu.setVisible(!visible);
96
97                      revalidate();
98                      repaint();
99                  }
100             });
101
102         });
103     }
104 }
105
106 public void setSelectedByParent(boolean selected) {
107     this.selected = selected;
108     setBackground(selected ? BG_SELECTED : (isSubMenu ? Color.WHITE : BG_SIDEBAR));
109     lblMenu.setForeground(selected ? TEXT_SELECTED : TEXT_NORMAL);
110 }
111
112 public String getContentKey() {
113     return contentKey;
114 }
115
116 public JPanel getPanelContainerSubMenu() {
117     return panelContainerSubMenu;
118 }
119 }

```

main* 0 11 0 0 Java: Ready Ln 104, Col 6 Spaces: 4 UTF-8 CRLF {} Java Chat quota reached 11:10 AM 11/30/2025

File Edit Selection View Go Run ...

J PanelMenuItem.java U J PanelMenuItem.java X J DashboardApp.java U J FrameUtama.java X J PanelDash D ...

EXPLORER

- DASHBOARD-APP
 - > vscode
 - > bin
 - > lib
 - > src
 - > model
 - J Menutem.java
 - > view
 - > konten
 - J PanelDashboard.java
 - J PanelKategori.java
 - J PanelProduk.java
 - J PanelSatuan.java
 - J PanelSupplier.java
 - > menu
 - J PanelMenu.java
 - J PanelMenuItem.java

J FrameUtama.java U J DashboardApp.java U README.md

```

src > view > J FrameUtama.java > ⚙ FrameUtama > ⚙ cardLayout
1 package view;
2
3 import java.awt.CardLayout;
4 import java.awt.Color;
5 import java.awt.Dimension;
6 import java.util.ArrayList;
7 import java.util.List;
8
9 import javax.swing.JFrame;
10 import javax.swing.JPanel;
11
12 import net.miginfocom.swing.MigLayout;
13
14 import model.MenuItem;
15 import view.konten.PanelDashboard;
16 import view.konten.PanelKategori;
17 import view.konten.PanelProduk;
18 import view.konten.PanelSatuan;
19 import view.konten.PanelSupplier;
20 import view.menu.PanelMenu;
21
22 public class FrameUtama extends JFrame {
23
24     MenuItem menuDashboard;
25     MenuItem menuProduk;
26     MenuItem menuMasterData;
27     List<MenuItem> listDaftarMenuItem;
28
29     CardLayout cardLayout;

```

main* 0 11 0 0 Java: Ready Ln 29, Col 27 Spaces: 4 UTF-8 CRLF {} Java Chat quota reached 11:10 AM 11/30/2025

File Edit Selection View Go Run ...

J PanelMenu.java U J PanelMenuItem.java U J DashboardApp.java U J FrameUtama.java U X J PanelDashboard.java U J PanelKategori.java U

```

src > view > J FrameUtama.java ...
22  public class FrameUtama extends JFrame {
23
24      CardLayout cardLayout;
25      JPanel panelKonten;
26      PanelMenu panelMenu;
27
28      public FrameUtama() {
29          initializeUI();
30          setupPanelKonten();
31          setupPanelMenu();
32          addPanel();
33      }
34
35      private void initializeUI() {
36          setTitle("Frame Utama");
37          setDefaultCloseOperation(JFrame.EXIT_ON_CLOSE);
38          setPreferredSize(new Dimension(width: 1280, height: 720));
39          setMinimumSize(new Dimension(width: 992, height: 600));
40          setLocationRelativeTo(null);
41          setLayout(new MigLayout(
42              layoutConstraints: "fill, insets 0, gap 0",
43              colConstraints: "[2241] [grow]",
44              rowConstraints: "[grow]"
45          ));
46      }
47
48      private void setupPanelMenu() {
49          listDaftarMenuItem = new ArrayList<>();
50
51          menuDashboard = new MenuItem(judul: "Dashboard", keyCardLayout: "dashboard");
52
53      }
54
55  }
56
57
58
59
60
61
62
63
64
65
66
67
68
69
70
71
72
73
74
75
76
77
78
79
80
81
82
}

```

main* 0 11 0 0 Java: Ready

File Edit Selection View Go Run ...

J PanelMenu.java U J PanelMenuItem.java U J DashboardApp.java U J FrameUtama.java U X J PanelDashboard.java U J PanelKategori.java U

```

src > view > J FrameUtama.java > J FrameUtama > initializeUI()
22  public class FrameUtama extends JFrame {
23
24      private void setupPanelMenu() {
25
26          menuDashboard = new MenuItem(judul: "Dashboard", keyCardLayout: "dashboard");
27          menuProduk = new MenuItem(judul: "Produk");
28          menuMasterData = new MenuItem(judul: "Master Data");
29
30          menuProduk.addSubMenuItem(new MenuItem(judul: "Data Produk", keyCardLayout: "produk"));
31          menuProduk.addSubMenuItem(new MenuItem(judul: "Kategori Produk", keyCardLayout: "kategori"));
32          menuMasterData.addSubMenuItem(new MenuItem(judul: "Supplier", keyCardLayout: "supplier"));
33          menuMasterData.addSubMenuItem(new MenuItem(judul: "Satuan", keyCardLayout: "satuan"));
34
35          listDaftarMenuItem.add(menuDashboard);
36          listDaftarMenuItem.add(menuProduk);
37          listDaftarMenuItem.add(menuMasterData);
38
39          panelMenu = new PanelMenu(listDaftarMenuItem, cardLayout, panelKonten);
40          panelMenu.setBackground(new Color(r: 245, g: 245, b: 250));
41      }
42
43      private void setupPanelKonten() {
44          cardLayout = new CardLayout();
45          panelKonten = new JPanel(cardLayout);
46
47          panelKonten.add(new PanelDashboard(), constraints: "dashboard");
48          panelKonten.add(new PanelProduk(), constraints: "produk");
49          panelKonten.add(new PanelKategori(), constraints: "kategori");
50          panelKonten.add(new PanelSupplier(), constraints: "supplier");
51          panelKonten.add(new PanelSatuan(), constraints: "satuan");
52
53      }
54
55
56
57
58
59
60
61
62
63
64
65
66
67
68
69
70
71
72
73
74
75
76
77
78
79
80
81
82
}

```

main* 0 11 0 0 Java: Ready

```

File Edit Selection View Go Run ... < > Q dashboard-app
J PanelMenu.java U J PanelMenuItem.java U J DashboardApp.java U J FrameUtama.java X J PanelDashboard.java U J PanelKategori.java U
src > view > J FrameUtama.java ...
22  public class FrameUtama extends JFrame {
53  private void setupPanelMenu() {
63      menuMasterData.addSubMenuItem(new MenuItem(judul: "Satuan", keyCardLayout: "satuan"));
64
65      listDaftarMenuItem.add(menuDashboard);
66      listDaftarMenuItem.add(menuProduk);
67      listDaftarMenuItem.add(menuMasterData);
68
69      panelMenu = new PanelMenu(listDaftarMenuItem, cardLayout, panelKonten);
70      panelMenu.setBackground(new Color(r: 245, g: 247, b: 250));
71  }
72
73  private void setupPanelKonten() {
74      cardLayout = new CardLayout();
75      panelKonten = new JPanel(cardLayout);
76
77      panelKonten.add(new PanelDashboard(), constraints: "dashboard");
78      panelKonten.add(new PanelProduk(), constraints: "produk");
79      panelKonten.add(new PanelKategori(), constraints: "kategori");
80      panelKonten.add(new PanelSupplier(), constraints: "supplier");
81      panelKonten.add(new PanelSatuan(), constraints: "satuan");
82
83  }
84
85  private void addPanel() {
86      add(panelMenu, constraints: "growy");
87      add(panelKonten, constraints: "grow");
88  }
89 }

Ln 89, Col 1 Spaces: 4 UTF-8 CRLF {} Java Chat quota reached
main* 01 1t 0 0 △ 0 Java: Ready 11:10 AM 11/30/2025

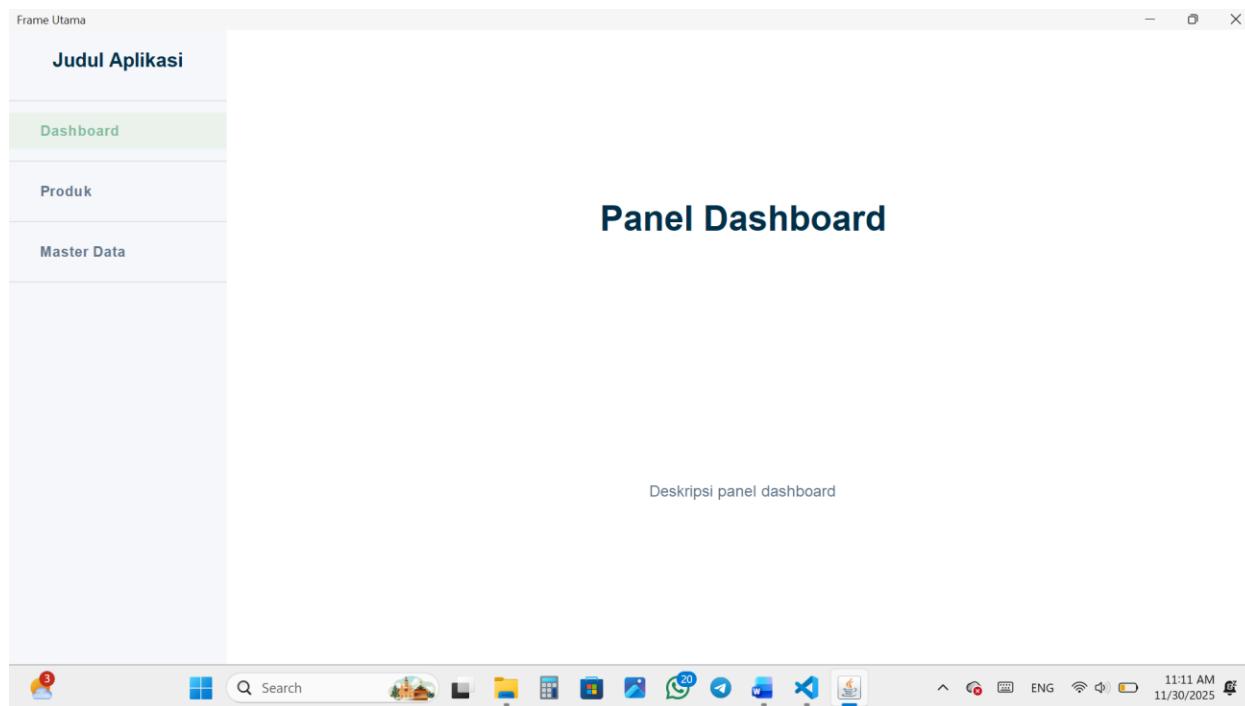
File Edit Selection View Go Run ... < > Q dashboard-app
J PanelMenu.java U J PanelMenuItem.java U J DashboardApp.java U J FrameUtama.java U J PanelDash D ...
src > J DashboardApp.java ...
1  import javax.swing.SwingUtilities;
2  import javax.swing.UIManager;
3
4  import com.formdev.flatlaf.themes.FlatMacLightLaf;
5
6  import view.FrameUtama;
7
8  public class DashboardApp {
9
10     Run | Debug
11     public static void main(String[] args) {
12
13         try {
14             UIManager.setLookAndFeel(new FlatMacLightLaf());
15         } catch (Exception e) {
16             System.err.println(e.getMessage());
17         }
18
19         SwingUtilities.invokeLater(() -> {
20             new FrameUtama().setVisible(b: true);
21         });
22     }
23 }

Ln 23, Col 1 Spaces: 4 UTF-8 CRLF {} Java Chat quota reached
main* 01 1t 0 0 △ 0 Java: Ready 11:11 AM 11/30/2025

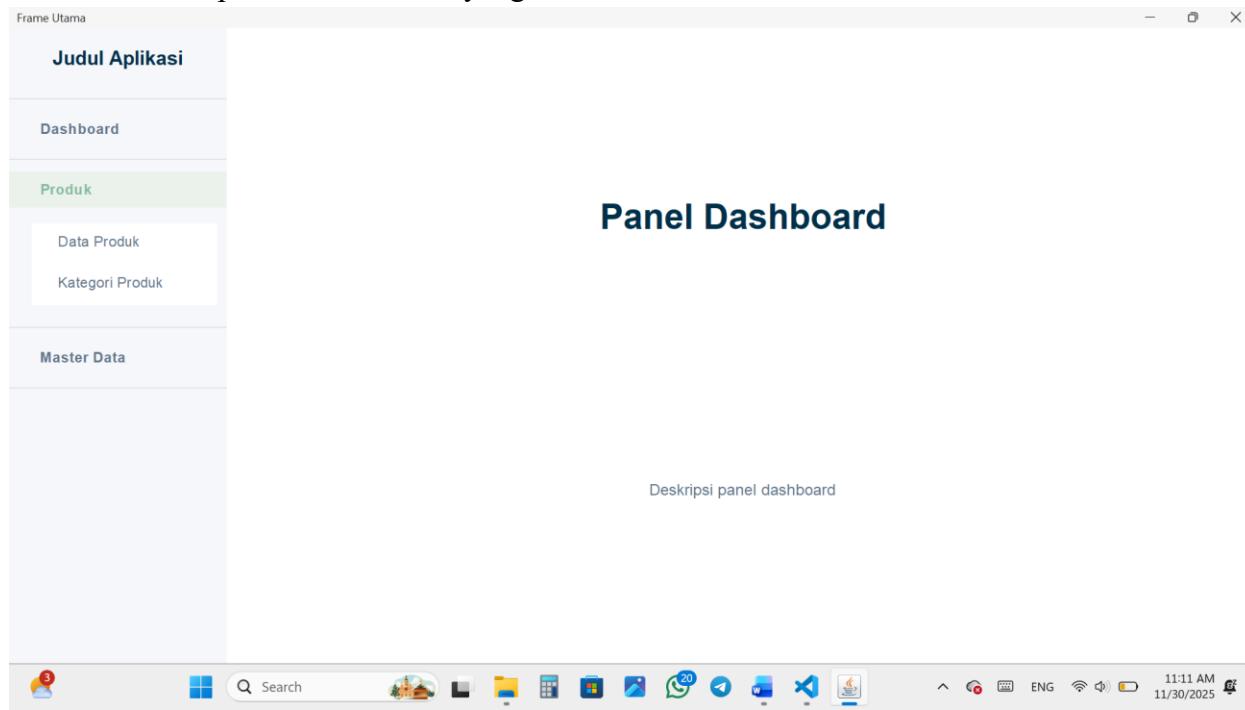
```

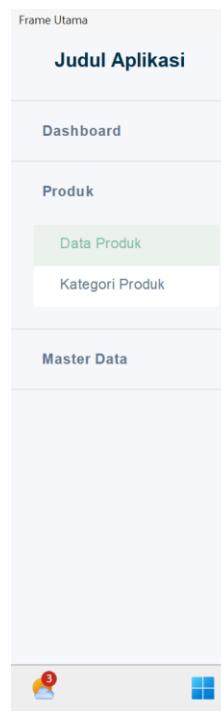
The screenshot shows two instances of the Visual Studio Code (VS Code) interface. Both instances are working on Java projects related to a 'dashboard-app'. The top instance has its current file set to 'PanelMenu.java', which contains code for a `FrameUtama` class. The bottom instance has its current file set to 'DashboardApp.java', which contains code for a `DashboardApp` class using Swing utilities. Both instances show tabs for other files like 'PanelMenuItem.java' and 'FrameUtama.java'. The status bar at the bottom of each instance displays the current time (11:10 AM and 11:11 AM respectively) and date (11/30/2025). The interface includes standard VS Code icons for file operations, search, and navigation.

b. Hasil running

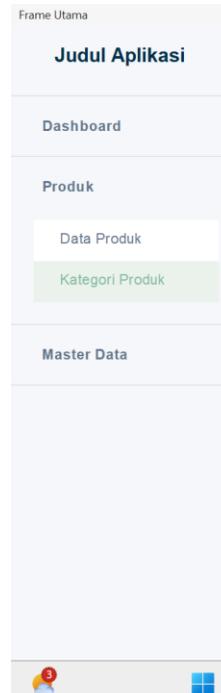


c. Pembuktian tampilan konten menu yang berubah

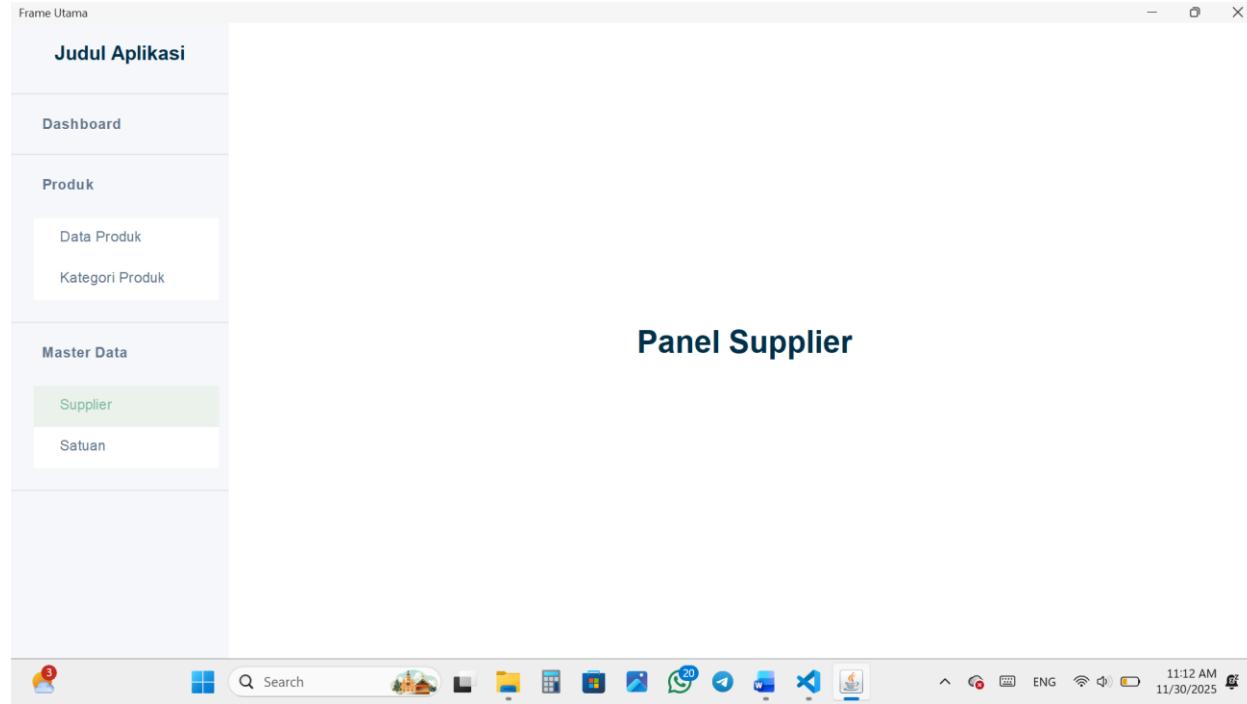
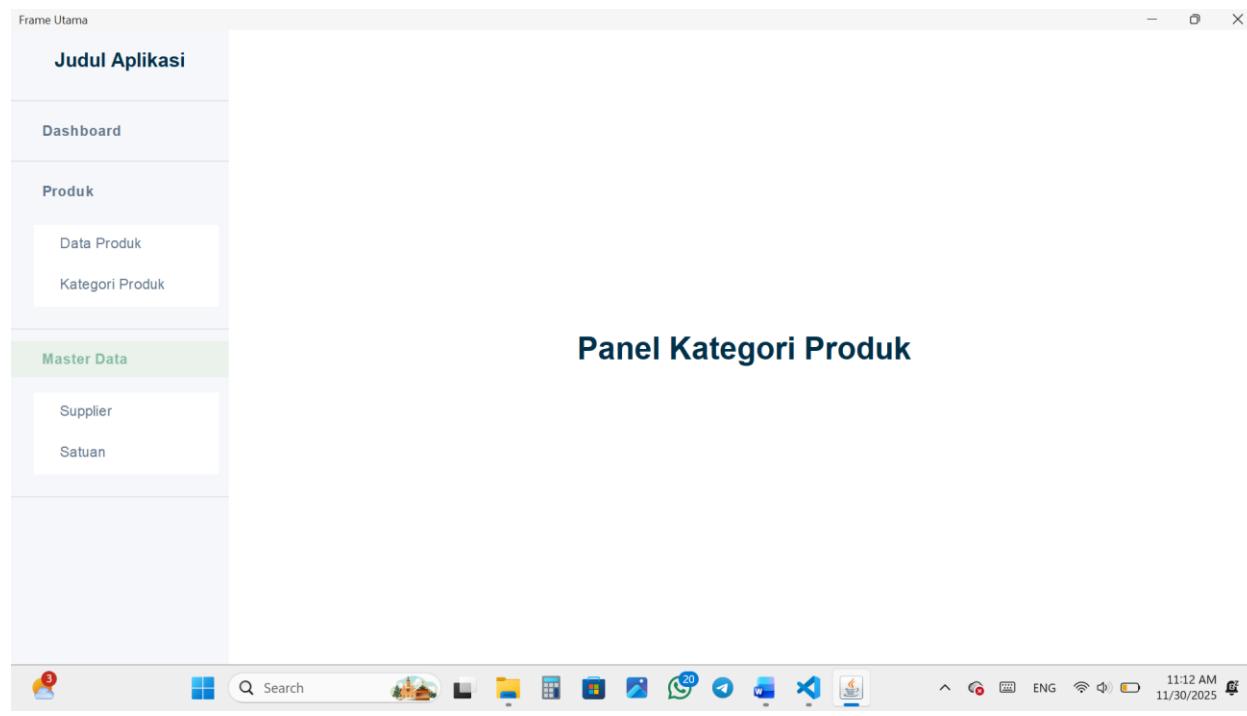


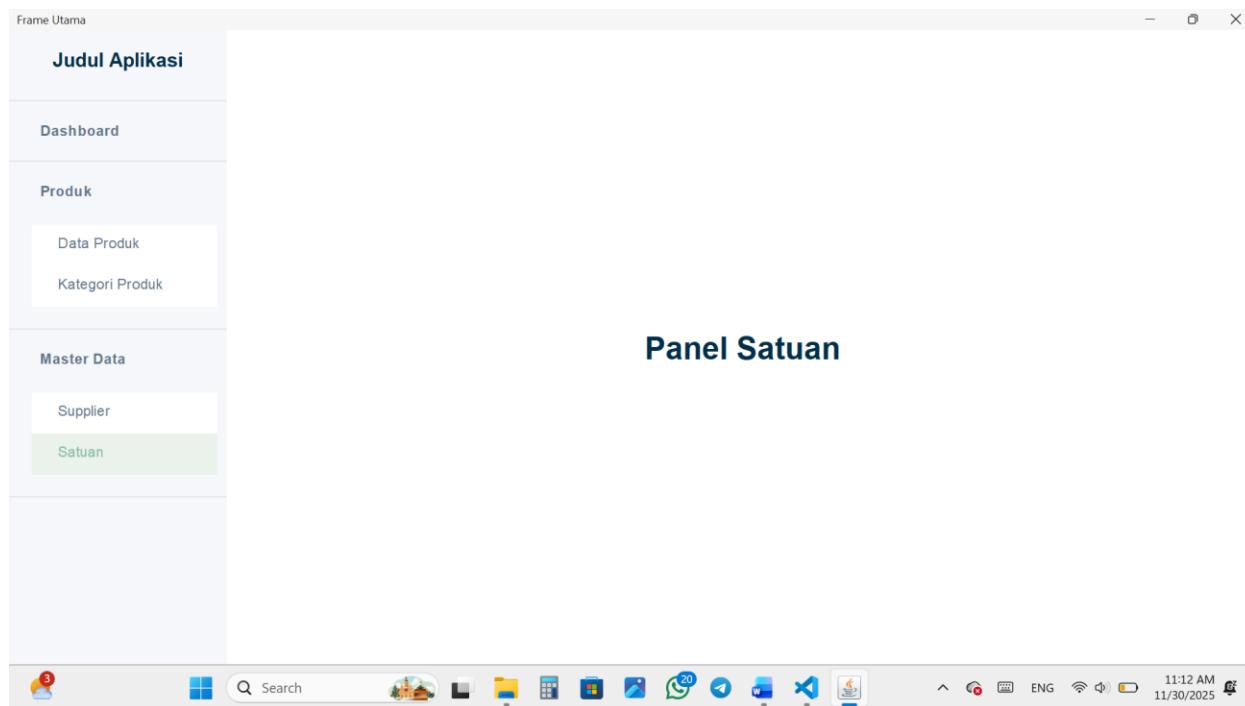


Panel Data Produk



Panel Kategori Produk





5. Terdapat penyelesaian Tugas kreasi atau modifikasi pada Navigasi GUI, melalui penambahan Menu/SubMenu baru yang apabila di-klik akan menampilkan hasil Latihan Modul - 10_03 UI Swing Responsif pada panel konten
 - a. Kode program
Semua kode program sama seperti praktikum sebelumnya hanya diubah pada kode menu item, frame utama dan dashboard app, dan menambahkan 1 panel latihan renovation.

Top Window (Screenshot 1):

```

src > view > konten > J PanellLatihanRenovation.java > PanelLatihanRenovation
  1 package view.konten;
  2
  3 import javax.swing.JButton;
  4 import javax.swing.JCheckBox;
  5 import javax.swing.JLabel;
  6 import javax.swing.JPanel;
  7 import javax.swing.JScrollPane;
  8 import javax.swing.JTable;
  9 import javax.swing.JTextField;
 10 import javax.swing.border.TitledBorder;
 11
 12 import javax.swing.table.DefaultTableModel;
 13
 14 import java.awt.event.ComponentAdapter;
 15 import java.awt.event.ComponentEvent;
 16
 17 import net.miginfocom.swing.MigLayout;
 18
 19 public class PanellLatihanRenovation extends JPanel {
 20
 21     private static String buttonColor = "background: $Component.accentColor; foreground: #FFFFFF;";
 22
 23     public PanellLatihanRenovation() {
 24
 25         setLayout(new MigLayout("fill, insets 0", "[grow]", "[grow]"));
 26
 27         JPanel panelUtama = new JPanel();
 28
 29         // -----
 30         // 1. CLIENT PANEL
 31         // -----
 32         JPanel panelClient = new JPanel(new MigLayout("wrap 2", "[right]10[left]"));
 33         panelClient.setBorder(new TitledBorder(title: "Client"));
 34         panelClient.add(new JLabel(text: "Client ID:"));
 35         panelClient.add(new JLabel(text: "<html><b>101</b></html>"));
 36         panelClient.add(new JLabel(text: "Name:"));
 37         panelClient.add(new JLabel(text: "<html><b>Bapak Alex Gunawan</b></html>"));
 38         panelClient.add(new JLabel(text: "Phone:"));
 39         panelClient.add(new JLabel(text: "<html><b>(62) 8123456789</b></html>"));
 40         panelClient.add(new JLabel(text: "Registration No:"));
 41         panelClient.add(new JLabel(text: "<html><b>RVN-JKT-AXG-001</b></html>"));
 42         JButton buttonDetails = new JButton(text: "Details");
 43         buttonDetails.putClientProperty(key: "flatlaf.style", buttonColor);
 44         panelClient.add(buttonDetails, constraints: "span 2, center, gaptop 10");
 45
 46         // -----
 47         // 2. INFORMATION PANEL
 48         // -----
 49         JPanel panelInformation = new JPanel(new MigLayout("wrap 3", "[right]10[left, grow, fill]5[fill]"));
 50         panelInformation.setBorder(new TitledBorder(title: "Information"));
 51         panelInformation.add(new JLabel(text: "Reserve days:"));
 52         panelInformation.add(new JTextField(text: "0 of 30"));
 53         panelInformation.add(new JButton(text: "Add Days"));
 54         panelInformation.add(new JLabel(text: "Buyer:"));
 55         panelInformation.add(new JTextField(text: "Bapak Alex Gunawan"), constraints: "span 2");
  
```

Bottom Window (Screenshot 2):

```

src > view > konten > J PanellLatihanRenovation.java > ...
  19 public class PanellLatihanRenovation extends JPanel {
 20     public PanellLatihanRenovation() {
 21
 22         // -----
 23         // 1. CLIENT PANEL
 24         // -----
 25         JPanel panelClient = new JPanel(new MigLayout("wrap 2", "[right]10[left]"));
 26         panelClient.setBorder(new TitledBorder(title: "Client"));
 27         panelClient.add(new JLabel(text: "Client ID:"));
 28         panelClient.add(new JLabel(text: "<html><b>101</b></html>"));
 29         panelClient.add(new JLabel(text: "Name:"));
 30         panelClient.add(new JLabel(text: "<html><b>Bapak Alex Gunawan</b></html>"));
 31         panelClient.add(new JLabel(text: "Phone:"));
 32         panelClient.add(new JLabel(text: "<html><b>(62) 8123456789</b></html>"));
 33         panelClient.add(new JLabel(text: "Registration No:"));
 34         panelClient.add(new JLabel(text: "<html><b>RVN-JKT-AXG-001</b></html>"));
 35         JButton buttonDetails = new JButton(text: "Details");
 36         buttonDetails.putClientProperty(key: "flatlaf.style", buttonColor);
 37         panelClient.add(buttonDetails, constraints: "span 2, center, gaptop 10");
 38
 39         // -----
 40         // 2. INFORMATION PANEL
 41         // -----
 42         JPanel panelInformation = new JPanel(new MigLayout("wrap 3", "[right]10[left, grow, fill]5[fill]"));
 43         panelInformation.setBorder(new TitledBorder(title: "Information"));
 44         panelInformation.add(new JLabel(text: "Reserve days:"));
 45         panelInformation.add(new JTextField(text: "0 of 30"));
 46         panelInformation.add(new JButton(text: "Add Days"));
 47         panelInformation.add(new JLabel(text: "Buyer:"));
 48         panelInformation.add(new JTextField(text: "Bapak Alex Gunawan"), constraints: "span 2");
  
```

kreasi-dashboard-app

```

J DashboardApp.java U J Menulitem.java U J PanellatihanRenovation.java X J FrameUtama.java U
src > view > konten > J PanellatihanRenovation.java > ⚙ PanellatihanRenovation > ⌂ PanellatihanRenovation()
19  public class PanellatihanRenovation extends JPanel {
23      public PanellatihanRenovation() {
50          panelInformation.setBorder(new TitledBorder(title: "Information"));
51          panelInformation.add(new JLabel(text: "Reserve days:"));
52          panelInformation.add(new JTextField(text: "# of 30"));
53          panelInformation.add(new JButton(text: "Add Days"));
54          panelInformation.add(new JLabel(text: "Buyer:"));
55          panelInformation.add(new JTextField(text: "Bapak Alex Gunawan"), constraints: "span 2");
56          panelInformation.add(new JLabel(text: "Seller:"));
57          panelInformation.add(new JTextField(text: "PT Bangun Jaya Abadi"), constraints: "span 2");
58          panelInformation.add(new JLabel(text: "Address:"));
59          panelInformation.add(new JTextField(text: "Jl. Raya Lohbener Baru, 778A"), constraints: "span 2");
60          panelInformation.add(new JLabel(text: "Credit rating:"));
61          panelInformation.add(new JTextField(text: "AAA"));
62          panelInformation.add(new JButton(text: "S&P Update"));
63          panelInformation.add(new JCheckBox(text: "Approved:"));
64          panelInformation.add(new JTextField(text: "Proyek renovasi telah disetujui, siap dimulai"), constraints: "span 2");
65
66          // -----
67          // 3. ADDITIONAL PANEL
68          // -----
69          JPanel panelAdditional = new JPanel(new MigLayout("wrap 3", "[right]10[left, grow, fill][]"));
70          panelAdditional.setBorder(new TitledBorder(title: "Additional Information"));
71          panelAdditional.add(new JLabel(text: "Estimated close:"));
72          panelAdditional.add(new JTextField(text: "2025-12-15"), constraints: "wmin pref");
73          panelAdditional.add(new JButton(text: "Edit"), constraints: "wmax pref");
74          panelAdditional.add(new JLabel(text: "Creation date:"));
75          panelAdditional.add(new JLabel(text: "<html><b>2025-10-15</b></html>"), constraints: "span 2");
76          panelAdditional.add(new JLabel(text: "Created by:"));
77          panelAdditional.add(new JLabel(text: "admin"));
78
79          panelAdditional.add(new JLabel(text: "Last edit date:"));
80          panelAdditional.add(new JTextField(text: "2025-11-16"), constraints: "span 2");
81          panelAdditional.add(new JLabel(text: "Last edited by:"));
82          panelAdditional.add(new JLabel(text: "Warnoto"));
83          panelAdditional.add(new JLabel(text: "Closed date:"));
84          panelAdditional.add(new JTextField(text: "null"), constraints: "span 2");
85          panelAdditional.add(new JLabel(text: "Closed by:"));
86          panelAdditional.add(new JLabel(text: "<html><b>null</b></html>"), constraints: "span 2");
87
88          // -----
89          // 4. PRODUCT PANEL
90          // -----
91          JPanel panelProduk = new JPanel(new MigLayout("", "[grow][]"));
92          panelProduk.setBorder(new TitledBorder(title: "Product List"));
93
94          String[] kolomTableProductList = {
95              "Renovation", "Description", "Part #", "Quantity", "List Price", "Discount",
96              "Price", "Wholesale Discount", "Wholesaler Price"
97          };
98          Object[][] dataProductList = [
99              { "Dapur", "Keramik Dinding Putih", "KW-PT-DLX-01", 50, 150000, 0, 7500000L, 5, 7125000L },
100             { "Dapur", "Lem Keramik Instan", "LMI-GRY-STD", 5, 50000, 0, 250000L, 0, 250000L },
101             { "Dapur", "Pipa PVC 3 inch", "PVC-3IN-STD", 12, 35000, 0, 420000L, 10, 378000L }
102         ];

```

Java: Ready

11:16 AM 11/30/2025

kreasi-dashboard-app

```

J DashboardApp.java U J Menulitem.java U J PanellatihanRenovation.java U X J FrameUtama.java U
src > view > konten > J PanellatihanRenovation.java > ⚙ PanellatihanRenovation > ⌂ PanellatihanRenovation()
19  public class PanellatihanRenovation extends JPanel {
23      public PanellatihanRenovation() {
74          panelAdditional.add(new JLabel(text: "Creation date:"));
75          panelAdditional.add(new JLabel(text: "<html><b>2025-10-15</b></html>"), constraints: "span 2");
76          panelAdditional.add(new JLabel(text: "Created by:"));
77          panelAdditional.add(new JLabel(text: "<html><b>admin</b></html>"), constraints: "span 2");
78          panelAdditional.add(new JLabel(text: "Last edit date:"));
79          panelAdditional.add(new JTextField(text: "2025-11-16"), constraints: "span 2");
80          panelAdditional.add(new JLabel(text: "Last edited by:"));
81          panelAdditional.add(new JLabel(text: "<html><b>Warnoto</b></html>"), constraints: "span 2");
82          panelAdditional.add(new JLabel(text: "Closed date:"));
83          panelAdditional.add(new JTextField(text: "null"), constraints: "span 2");
84          panelAdditional.add(new JLabel(text: "Closed by:"));
85          panelAdditional.add(new JLabel(text: "<html><b>null</b></html>"), constraints: "span 2");
86
87          // -----
88          // 4. PRODUCT PANEL
89          // -----
90          JPanel panelProduk = new JPanel(new MigLayout("", "[grow][]"));
91          panelProduk.setBorder(new TitledBorder(title: "Product List"));
92
93          String[] kolomTableProductList = {
94              "Renovation", "Description", "Part #", "Quantity", "List Price", "Discount",
95              "Price", "Wholesale Discount", "Wholesaler Price"
96          };
97          Object[][] dataProductList = [
98              { "Dapur", "Keramik Dinding Putih", "KW-PT-DLX-01", 50, 150000, 0, 7500000L, 5, 7125000L },
99              { "Dapur", "Lem Keramik Instan", "LMI-GRY-STD", 5, 50000, 0, 250000L, 0, 250000L },
100             { "Dapur", "Pipa PVC 3 inch", "PVC-3IN-STD", 12, 35000, 0, 420000L, 10, 378000L }
101         ];

```

Java: Ready

11:16 AM 11/30/2025

The image shows two side-by-side screenshots of a Java IDE interface, likely NetBeans, displaying code for a dashboard application named "kreasi-dashboard-app".

Left Panel (Line 111 to 125):

```
src > view > konten > J PanelLatihanRenovation.java > ↗ PanelLatihanRenovation > ↗ PanelLatihanRenovation()
19     public class PanelLatihanRenovation extends JPanel {
23         public PanelLatihanRenovation() {
99             {
100                 {"Dapur", "Lem Keramik Instan", "LMI-GRY-STD", 5, 50000, 0, 25000L, 0, 25000L },
101                 {"Dapur", "Pipa PVC 3 inch", "PVC-3IN-STD", 12, 35000, 0, 420000L, 10, 378000L },
102                 {"Kamar Mandi", "Shower Set Minimalis", "SHW-MN-SSL", 1, 850000, 15, 722500L, 5, 686375L },
103                 {"Kamar Mandi", "Closet Duduk Premium", "CLO-DD-PRM", 1, 2500000, 5, 2375000L, 10, 2137500L },
104                 {"Ruang Tamu", "Lampu Gantung Hias", "LMP-HNG-CRS", 2, 750000, 0, 1500000L, 0, 1500000L },
105                 {"Ruang Tamu", "Cat Tembok Putin 20L", "CAT-PT-20L", 3, 450000, 10, 1215000L, 15, 1032750L },
106                 {"Garasi", "Semen PC 50kg", "SMN-PC-50", 20, 60000, 0, 1200000L, 5, 1140000L },
107             };
108             JTable tableProductList = new JTable(new DefaultTableModel(dataProductList, kolomTableProductList));
109             JScrollPane scrollPaneTableProductList = new JScrollPane(tableProductList);
110
111             JPanel panelTableProductList = new JPanel(new MigLayout("wrap 1", "[grow]"));
112             panelTableProductList.add(scrollPaneTableProductList, constraints: "grow, h 150!");
113             panelProduk.add(panelTableProductList, constraints: "grow");
114
115             JPanel panelButtonProductList = new JPanel(new MigLayout("wrap 1"));
116             panelButtonProductList.add(new JButton(text: "Add"));
117             panelButtonProductList.add(new JButton(text: "Edit"));
118             panelButtonProductList.add(new JButton(text: "Delete"));
119             panelProduk.add(panelButtonProductList);
120
121             // -----
122             // 5. TASK PANEL
123             // -----
124             JPanel panelTask = new JPanel(new MigLayout("", "[grow][]"));
125             panelTask.setBorder(new TitledBorder(title: "Tasks"));
```

Right Panel (Line 125 to 151):

```
src > view > konten > J PanelLatihanRenovation.java > ↗ PanelLatihanRenovation > ↗ PanelLatihanRenovation()
19     public class PanelLatihanRenovation extends JPanel {
23         public PanelLatihanRenovation() {
125             panelTask.setBorder(new TitledBorder(title: "Tasks"));
126
127             String[] kolomTableTask = { "State", "Task", "Assigner", "Executer", "Creation Date", "Estimated Date", "Executed Date" };
128             Object[][] dataTask = {
129                 { "Completed", "Pengecatan ulang ruang tamu", "Warnoto", "Toni", "2025-10-25", "2025-10-28", "2025-10-27" },
130                 { "In Progress", "Instalasi closet duduk premium", "Warnoto", "Goang", "2025-11-15", "2025-11-17", null },
131                 { "Delayed", "Pemasangan keramik dinding dapur", "Warnoto", "Toni", "2025-11-01", "2025-11-04", null },
132                 { "Completed", "Pemasangan pipa PVC di area garasi", "Warnoto", "Goang", "2025-10-20", "2025-10-21", "2025-10-21" },
133                 { "Not Started", "Pembelian dan instalasi lampu gantung hias", "Warnoto", "Toni", "2025-11-16", "2025-11-18", null }
134             };
135
136             JTable tableTask = new JTable(new DefaultTableModel(dataTask, kolomTableTask));
137             JScrollPane scrollPaneTableTask = new JScrollPane(tableTask);
138             panelTask.add(scrollPaneTableTask, constraints: "grow, h 120!");
139
140             JPanel panelButtonTask = new JPanel(new MigLayout("wrap 1"));
141             panelButtonTask.add(new JButton(text: "Add"));
142             panelButtonTask.add(new JButton(text: "Edit"));
143             panelButtonTask.add(new JButton(text: "Delete"));
144             panelTask.add(panelButtonTask);
145
146             // -----
147             // 6. COMMENTS PANEL
148             // -----
149             JPanel panelComments = new JPanel(new MigLayout("", "[grow][]"));
150             panelComments.setBorder(new TitledBorder(title: "Comments"));
151
152         };
153     };
154 }
```

The image shows two side-by-side panels of a Java IDE interface, likely NetBeans, displaying code for a dashboard application named "kreasi-dashboard-app".

Left Panel:

```
src > view > konten > J PanelLatihanRenovation.java > ↗ PanelLatihanRenovation > ↗ PanelLatihanRenovation()
```

```
19  public class PanelLatihanRenovation extends JPanel {  
23      public PanelLatihanRenovation() {  
152          String[] kolomTableComment = { "Date", "User", "Comment" };  
153          Object[][] dataComment = {  
154              { "2025-10-26 10:15", "Toni", "Cat tembok sudah diolesi lapisan pertama. Menunggu kering sebelum lapisan kedua." },  
155              { "2025-11-15 14:30", "Goang", "Barang sudah sampai di lokasi. Mulai proses pembongkaran closet lama sore ini." },  
156              { "2025-11-16 09:00", "Warnoto", "Pastikan sambungan pipa air bersih dan pembungkaran tidak ada yang bocor." },  
157              { "2025-11-03 16:45", "Toni", "Cuaca hujan deras selama 2 hari, area kerja sedikit basah. Pemasangan ditunda besok pagi." },  
158              { "2025-11-16 20:00", "Warnoto", "Lampu yang diinginkan customer stoknya habis. Mencari alternatif lampu model serupa." },  
159          };  
160  
161          JTable tableComment = new JTable(new DefaultTableModel(dataComment, kolomTableComment));  
162          JScrollPane scrollPaneTableComment = new JScrollPane(tableComment);  
163          panelComments.add(scrollPaneTableComment, constraints: "grow, h 120!");  
164  
165          JPanel panelButtonComment = new JPanel(new MigLayout("wrap 1"));  
166          panelButtonComment.add(new JButton(text: "Add"));  
167          panelButtonComment.add(new JButton(text: "Edit"));  
168          panelButtonComment.add(new JButton(text: "Delete"));  
169          panelComments.add(panelButtonComment);  
170  
171          // -----  
172          // 7. CONTROLS  
173          // -----  
174          JPanel panelControls = new JPanel(new MigLayout("insets 0", "[grow][right]"));  
175          JPanel left = new JPanel(new MigLayout());  
176          left.add(new JButton(text: "Export"));  
177          panelControls.add(left, constraints: "grow");  
178  
179          JPanel right = new JPanel(new MigLayout());  
180          JButton buttonSave = new JButton(text: "Save");  
181          buttonSave.putClientProperty(key: "FlatLaf.style", buttonColor);  
182          right.add(buttonSave);  
183          right.add(new JButton(text: "Cancel"));  
184          panelControls.add(right);  
185  
186          // -----  
187          // INITIAL SETUP & RESPONSIVE LISTENER  
188          // -----  
189  
190          applyResponsiveLayout(panelUtama, width: 1200,  
191                  panelClient, panelInformation, panelAdditional,  
192                  panelProduk, panelTask, panelComments, panelControls);  
193  
194          JScrollPane scrollRoot = new JScrollPane(panelUtama);  
195          scrollRoot.getVerticalScrollBar().setUnitIncrement(unitIncrement: 16);  
196  
197          add(scrollRoot, constraints: "grow");  
198  
199          addComponentListener(new ComponentAdapter() {  
200              @Override  
201              public void componentResized(ComponentEvent e) {  
202                  int w = PanelLatihanRenovation.this.getWidth();  
203                  scrollRoot.setUnitIncrement(w / 16);  
204              }  
205          });  
206      }  
207  }
```

Right Panel:

```
src > view > konten > J PanelLatihanRenovation.java > ↗ PanelLatihanRenovation > ↗ PanelLatihanRenovation()
```

```
19  public class PanelLatihanRenovation extends JPanel {  
23      public PanelLatihanRenovation() {  
176          left.add(new JButton(text: "Export"));  
177          panelControls.add(left, constraints: "grow");  
178  
179          JPanel right = new JPanel(new MigLayout());  
180          JButton buttonSave = new JButton(text: "Save");  
181          buttonSave.putClientProperty(key: "FlatLaf.style", buttonColor);  
182          right.add(buttonSave);  
183          right.add(new JButton(text: "Cancel"));  
184          panelControls.add(right);  
185  
186          // -----  
187          // INITIAL SETUP & RESPONSIVE LISTENER  
188          // -----  
189  
190          applyResponsiveLayout(panelUtama, width: 1200,  
191                  panelClient, panelInformation, panelAdditional,  
192                  panelProduk, panelTask, panelComments, panelControls);  
193  
194          JScrollPane scrollRoot = new JScrollPane(panelUtama);  
195          scrollRoot.getVerticalScrollBar().setUnitIncrement(unitIncrement: 16);  
196  
197          add(scrollRoot, constraints: "grow");  
198  
199          addComponentListener(new ComponentAdapter() {  
200              @Override  
201              public void componentResized(ComponentEvent e) {  
202                  int w = PanelLatihanRenovation.this.getWidth();  
203                  scrollRoot.setUnitIncrement(w / 16);  
204              }  
205          });  
206      }  
207  }
```

```
src > view > konten > J PanelLatihanRenovation.java > applyResponsiveLayout(JPanel, int, JPanel, JPanel, JPanel, JPanel, JPanel, JPanel)
19  public class PanelLatihanRenovation extends JPanel {
20      public PanelLatihanRenovation() {
21          addComponentListener(new ComponentAdapter() {
22              public void componentResized(ComponentEvent e) {
23                  int w = PanelLatihanRenovation.this.getWidth();
24                  applyResponsiveLayout(panelUtama, w,
25                      panelClient, panelInformation, panelAdditional,
26                      panelProduk, panelTask, panelComments, panelControls);
27              }
28          }
29      }
30      // -----
31      // RESPONSIVE HANDLER (Logika Layout)
32      // -----
33      private static void applyResponsiveLayout(
34          JPanel root, int width,
35          JPanel panelClient, JPanel panelInformation, JPanel panelAdditional,
36          JPanel panelProduk, JPanel panelTask, JPanel panelComments, JPanel panelControls
37      ) {
38          root.removeAll();
39
40          if (width < 768) {
41              root.setLayout(new MigLayout("fill, wrap 1", "[grow]", "["));
42              root.add(panelClient, constraints: "growx");
43              root.add(panelAdditional, constraints: "growx");
44              root.add(panelInformation, constraints: "growx");
45              root.add(panelProduk, constraints: "growx");
46          } else if (width < 1200) {
47              root.setLayout(new MigLayout("fill, wrap 2", "[grow][grow]", "["));
48              root.add(panelClient, constraints: "grow");
49              root.add(panelAdditional, constraints: "grow");
50              root.add(panelInformation, constraints: "span 2, growx");
51              root.add(panelProduk, constraints: "span 2, growx");
52              root.add(panelTask, constraints: "span 2, growx");
53              root.add(panelComments, constraints: "span 2, growx");
54              root.add(panelControls, constraints: "span 2, growx");
55          } else {
56              root.setLayout(new MigLayout("fill, wrap 3, insets 10", "[25% [grow] [25%]", "[] [] [] [] []"));
57              root.add(panelClient, constraints: "grow");
58              root.add(panelInformation, constraints: "grow");
59              root.add(panelAdditional, constraints: "grow");
60              root.add(panelProduk, constraints: "span 3, grow");
61              root.add(panelTask, constraints: "span 3, grow");
62              root.add(panelComments, constraints: "span 3, grow");
63              root.add(panelControls, constraints: "span 3, grow");
64          }
65      }
66  }
```

```
src > view > konten > J PanelLatihanRenovation.java > applyResponsiveLayout(JPanel, int, JPanel, JPanel, JPanel, JPanel, JPanel, JPanel)
19  public class PanelLatihanRenovation extends JPanel {
20      private static void applyResponsiveLayout(
21          JPanel root, int width,
22          JPanel panelClient, JPanel panelInformation, JPanel panelAdditional,
23          JPanel panelProduk, JPanel panelTask, JPanel panelComments, JPanel panelControls
24      ) {
25          root.removeAll();
26
27          if (width < 768) {
28              root.setLayout(new MigLayout("fill, wrap 1", "[grow]", "["));
29              root.add(panelClient, constraints: "growx");
30              root.add(panelAdditional, constraints: "growx");
31              root.add(panelInformation, constraints: "growx");
32              root.add(panelProduk, constraints: "growx");
33          } else if (width < 1200) {
34              root.setLayout(new MigLayout("fill, wrap 2", "[grow][grow]", "["));
35              root.add(panelClient, constraints: "grow");
36              root.add(panelAdditional, constraints: "grow");
37              root.add(panelInformation, constraints: "span 2, growx");
38              root.add(panelProduk, constraints: "span 2, growx");
39              root.add(panelTask, constraints: "span 2, growx");
40              root.add(panelComments, constraints: "span 2, growx");
41              root.add(panelControls, constraints: "span 2, growx");
42          } else {
43              root.setLayout(new MigLayout("fill, wrap 3, insets 10", "[25% [grow] [25%]", "[] [] [] [] []"));
44              root.add(panelClient, constraints: "grow");
45              root.add(panelInformation, constraints: "grow");
46              root.add(panelAdditional, constraints: "grow");
47              root.add(panelProduk, constraints: "span 3, grow");
48              root.add(panelTask, constraints: "span 3, grow");
49              root.add(panelComments, constraints: "span 3, grow");
50              root.add(panelControls, constraints: "span 3, grow");
51          }
52      }
53  }
```

```
src > view > konten > J PanelLatihanRenovation.java > applyResponsiveLayout(JPanel, int, JPanel, JPanel, JPanel, JPanel, JPanel, JPanel)
19  public class PanelLatihanRenovation extends JPanel {
213  private static void applyResponsiveLayout(
231      } else if (width < 1200) {
232          root.setLayout(new MigLayout("fill, wrap 2", "[grow][grow]", "[]"));
233          root.add(panelClient, constraints: "grow");
234          root.add(panelAdditional, constraints: "grow");
235          root.add(panelInformation, constraints: "span 2, growx");
236          root.add(panelProduk, constraints: "span 2, growx");
237          root.add(panelTask, constraints: "span 2, growx");
238          root.add(panelComments, constraints: "span 2, growx");
239          root.add(panelControls, constraints: "span 2, growx");
240      } else {
241          root.setLayout(new MigLayout("fill, wrap 3, insets 10", "[25%][grow][25%]", "[] [] [] [] []"));
242          root.add(panelClient, constraints: "grow");
243          root.add(panelInformation, constraints: "grow");
244          root.add(panelAdditional, constraints: "grow");
245          root.add(panelProduk, constraints: "span 3, grow");
246          root.add(panelTask, constraints: "span 3, grow");
247          root.add(panelComments, constraints: "span 3, grow");
248          root.add(panelControls, constraints: "span 3, grow");
249      }
250
251      root.revalidate();
252      root.repaint();
253  }
254 }
255 }
```

```
src > view > menu > J PanelMenuItem.java > getPanelContainerSubMenu()
1 package view.menu;
2
3 import java.awt.Color;
4 import java.awt.Font;
5 import java.awt.event.MouseAdapter;
6 import java.awt.event.MouseEvent;
7 import javax.swing.JLabel;
8 import javax.swing.JPanel;
9 import model.MenuItem;
10 import net.miginfocom.swing.MigLayout;
11
12 public class PanelMenuItem extends JPanel {
13
14     private static final Color BG_SIDEBAR = new Color(245, 247, 250);
15     private static final Color BG_HOVER = new Color(224, 238, 235);
16     private static final Color BG_SELECTED = new Color(234, 242, 235);
17     private static final Color TEXT_NORMAL = new Color(98, 117, 138);
18     private static final Color TEXT_HOVER = new Color(8, 48, 73);
19     private static final Color TEXT_SELECTED = new Color(131, 188, 160);
20
21     private final String contentKey;
22     private boolean isSubMenu;
23     private boolean selected = false;
24     private JPanel panelContainerSubMenu;
25     private JLabel lblMenu;
26     private PanelMenu panelMenu;
27
28     public PanelMenuItem(MenuItem item, PanelMenu panelMenu) {
29         this(item, panelMenu, isSubMenu: false);
30     }
31 }
```

```
src > view > menu > J PanelMenuItem.java > selected
12  public class PanelMenuItem extends JPanel {
28      public PanelMenuItem(MenuItem item, PanelMenu panelMenu) {
30          }
31
32      private PanelMenuItem(MenuItem item, PanelMenu panelMenu, boolean isSubMenu) {
33          this.contentKey = item.getKeyCardLayout();
34          this.panelMenu = panelMenu;
35          this.isSubMenu = isSubMenu;
36
37          initializeUI(item);
38          setupEventHandlers();
39      }
40
41      private void initializeUI(MenuItem item) {
42          panelContainerSubMenu = new JPanel(
43              new MigLayout(
44                  "fillx, insets 0, gap 0, hidemode 3",
45                  "[grow]",
46                  ""
47              )
48          );
49          panelContainerSubMenu.setBackground(Color.WHITE);
50          panelContainerSubMenu.setOpaque(true);
51          panelContainerSubMenu.setVisible(aFlag: false);
52
53          setLayout(new MigLayout("fill, insets 8, gap 8", "[grow]", "["));
54          setLayout(isSubMenu ? Color.WHITE : BG_SIDEBAR);
55
56          lblMenu = new JLabel();
57
58          lblMenu.setText(item.getJudul());
59          lblMenu.setFont(new Font(name: "Inter", isSubMenu ? Font.PLAIN : Font.BOLD, size: 15));
59          lblMenu.setForeground(TEXT_NORMAL);
60
61          int gapLeft = isSubMenu ? 18 : 24;
62          add(lblMenu, "gapleft " + gapLeft + ", grow, pushy, wrap");
63
64          if (item.getListSubMenu() != null && !item.getListSubMenu().isEmpty()) {
65              for (MenuItem sub : item.getListSubMenu()) {
66                  PanelMenuItem panelSubMenuItem = new PanelMenuItem(sub, panelMenu, isSubMenu: true);
67                  panelContainerSubMenu.add(panelSubMenuItem, constraints: "growx, h 42!, wrap");
68              }
69              add(panelContainerSubMenu, constraints: "newline, growx, pushy, wrap");
70          }
71
72
73      private void setupEventHandlers() {
74          addMouseListener(new MouseAdapter() {
75              @Override
76              public void mouseEntered(MouseEvent e) {
77                  if (!selected) {
78                      setBackground(BG_HOVER);
79                      lblMenu.setForeground(TEXT_HOVER);
80                  }
81              }
82
83              @Override
84
85          }
86      }
87
88      public void setSelected(boolean selected) {
89          this.selected = selected;
90          if (selected) {
91              setBackground(BG_SELECTED);
92              lblMenu.setForeground(TEXT_SELECTED);
93          } else {
94              setBackground(BG_HOVER);
95              lblMenu.setForeground(TEXT_HOVER);
96          }
97      }
98
99  }
```

```
src > view > menu > J PanelMenuItem.java > initializeUI(MenuItem)
12  public class PanelMenuItem extends JPanel {
41      private void initializeUI(MenuItem item) {
42
43          lblMenu.setText(item.getJudul());
44          lblMenu.setFont(new Font(name: "Inter", isSubMenu ? Font.PLAIN : Font.BOLD, size: 15));
45          lblMenu.setForeground(TEXT_NORMAL);
46
47          int gapLeft = isSubMenu ? 18 : 24;
48          add(lblMenu, "gapleft " + gapLeft + ", grow, pushy, wrap");
49
50          if (item.getListSubMenu() != null && !item.getListSubMenu().isEmpty()) {
51              for (MenuItem sub : item.getListSubMenu()) {
52                  PanelMenuItem panelSubMenuItem = new PanelMenuItem(sub, panelMenu, isSubMenu: true);
53                  panelContainerSubMenu.add(panelSubMenuItem, constraints: "growx, h 42!, wrap");
54              }
55              add(panelContainerSubMenu, constraints: "newline, growx, pushy, wrap");
56          }
57
58
59      private void setupEventHandlers() {
60          addMouseListener(new MouseAdapter() {
61              @Override
62              public void mouseEntered(MouseEvent e) {
63                  if (!selected) {
64                      setBackground(BG_HOVER);
65                      lblMenu.setForeground(TEXT_HOVER);
66                  }
67              }
68
69              @Override
70
71          }
72      }
73
74      public void setSelected(boolean selected) {
75          this.selected = selected;
76          if (selected) {
77              setBackground(BG_SELECTED);
78              lblMenu.setForeground(TEXT_SELECTED);
79          } else {
80              setBackground(BG_HOVER);
81              lblMenu.setForeground(TEXT_HOVER);
82          }
83      }
84
85  }
```

The image shows two side-by-side panels of a Java code editor, likely from the Eclipse IDE. Both panels display the same Java file, `PanelMenuItem.java`, with minor differences in the code content.

Panel at the top:

```
src > view > menu > J PanelMenuItem.java > setEventHandlers() > new MouseAdapter() (...)  
12  public class PanelMenuItem extends JPanel {  
13      private void setupEventHandlers() {  
14          addMouseListener(new MouseAdapter() {  
15              public void mouseExited(MouseEvent e) {  
16                  if (!selected) {  
17                      setBackground(isSubMenu ? Color.WHITE : BG_SIDEBAR);  
18                      lblMenu.setForeground(TEXT_NORMAL);  
19                  }  
20  
21                  @Override  
22                  public void mousePressed(MouseEvent e) {  
23                      panelMenu.selectMenuItem(PanelMenuItem.this);  
24  
25                      if (panelContainerSubMenu.getComponentCount() > 0) {  
26                          boolean visible = panelContainerSubMenu.isVisible();  
27                          panelContainerSubMenu.setVisible(!visible);  
28  
29                          revalidate();  
30                          repaint();  
31                      }  
32                  }  
33              }  
34          };  
35      }  
36  
37      public void setSelectedByParent(boolean selected) {  
38          this.selected = selected;  
39          setBackground(selected ? BG_SELECTED : (isSubMenu ? Color.WHITE : BG_SIDEBAR));  
40          lblMenu.setForeground(selected ? TEXT_SELECTED : TEXT_NORMAL);  
41      }  
42  }  
43  
44  main* 0 11 0 Java: Ready
```

Panel at the bottom:

```
src > view > menu > J PanelMenuItem.java > setEventHandlers() > setSelectedByParent(boolean)  
12  public class PanelMenuItem extends JPanel {  
13      private void setupEventHandlers() {  
14          addMouseListener(new MouseAdapter() {  
15              public void mousePressed(MouseEvent e) {  
16                  boolean visible = panelContainerSubMenu.isVisible();  
17                  panelContainerSubMenu.setVisible(!visible);  
18  
19                  revalidate();  
20                  repaint();  
21              }  
22          };  
23      }  
24  
25      public void setSelectedByParent(boolean selected) {  
26          this.selected = selected;  
27          setBackground(selected ? BG_SELECTED : (isSubMenu ? Color.WHITE : BG_SIDEBAR));  
28          lblMenu.setForeground(selected ? TEXT_SELECTED : TEXT_NORMAL);  
29      }  
30  
31      public String getContentKey() {  
32          return contentKey;  
33      }  
34  
35      public JPanel getPanelCountainerSubMenu() {  
36          return panelContainerSubMenu;  
37      }  
38  }  
39  
40  main* 0 11 0 Java: Ready
```

Both panels show the same code structure, with the bottom panel including additional methods (`getContentKey()` and `getPanelCountainerSubMenu()`) that are commented out in the top panel. The code uses Java annotations like `@Override` and `@SuppressWarnings`.

```
src > view > J FrameUtama.java > FrameUtama
1 package view;
2
3 import java.awt.CardLayout;
4 import java.awt.Color;
5 import java.awt.Dimension;
6 import java.util.ArrayList;
7 import java.util.List;
8
9 import javax.swing.JFrame;
10 import javax.swing.JPanel;
11
12 import net.miginfocom.swing.MigLayout;
13
14 import model.MenuItem;
15 import view.konten.PanelDashboard;
16 import view.konten.PanelKategori;
17 import view.konten.PanelProduk;
18 import view.konten.PanelSatuan;
19 import view.konten.PanelSupplier;
20 import view.menu.PanelMenu;
21 import view.konten.PanelLatihanRenovation;
22
23 public class FrameUtama extends JFrame {
24
25     MenuItem menuDashboard;
26     MenuItem menuProduk;
27     MenuItem menuMasterData;
28     MenuItem menuLatihanUI;
29     List<MenuItem> listDaftarMenuItem;
30
31     CardLayout cardLayout;
32     JPanel panelKonten;
33     PanelMenu panelMenu;
34
35     public FrameUtama() {
36         initializeUI();
37         setupPanelKonten();
38         setupPanelMenu();
39         addPanel();
40         pack();
41         setLocationRelativeTo(null);
42     }
43
44     private void initializeUI() {
45         setTitle("Frame Utama");
46         setDefaultCloseOperation(JFrame.EXIT_ON_CLOSE);
47         setPreferredSize(new Dimension(width: 1280, height: 720));
48         setMinimumSize(new Dimension(width: 992, height: 600));
49         setLayout(new MigLayout(
50             "fill, insets 0, gap 0",
51             "[224!] [grow]",
52             "[grow]"
53         ));
54     }
55
56     private void setupPanelMenu() {
57         listDaftarMenuItem = new ArrayList<>();
58
59     }
60
61     private void addPanel() {
62         panelKonten.setLayout(cardLayout);
63
64         panelKonten.add(panelDashboard, "PanelDashboard");
65         panelKonten.add(panelKategori, "PanelKategori");
66         panelKonten.add(panelProduk, "PanelProduk");
67         panelKonten.add(panelSatuan, "PanelSatuan");
68         panelKonten.add(panelSupplier, "PanelSupplier");
69
70         panelMenu.setJMenuBar(menuBar);
71
72         panelMenu.addMenuItem(menuDashboard);
73         panelMenu.addMenuItem(menuProduk);
74         panelMenu.addMenuItem(menuMasterData);
75         panelMenu.addMenuItem(menuLatihanUI);
76
77         panelKonten.add(panelMenu, "PanelMenu");
78
79         cardLayout.show(panelKonten, "PanelDashboard");
80
81     }
82
83     private void setupPanelKonten() {
84         panelKonten = new JPanel();
85
86         panelKonten.setLayout(cardLayout);
87
88         panelKonten.add(panelDashboard, "PanelDashboard");
89         panelKonten.add(panelKategori, "PanelKategori");
90         panelKonten.add(panelProduk, "PanelProduk");
91         panelKonten.add(panelSatuan, "PanelSatuan");
92         panelKonten.add(panelSupplier, "PanelSupplier");
93
94         panelKonten.add(panelMenu, "PanelMenu");
95
96         cardLayout.show(panelKonten, "PanelDashboard");
97
98     }
99
100 }
```

File Edit Selection View Go Run ... ↶ ↷ 🔍 kreasidashboard-app

J DashboardApp.java U J PanelLatihanRenovation.java U J PanelMenuItem.java U J FrameUtama.java X

```

src > view > J FrameUtama.java > ⚡ FrameUtama > ⚡ setupPanelMenu()
23  public class FrameUtama extends JFrame {
56      private void setupPanelMenu() {
58          menuDashboard = new MenuItem(judul: "Dashboard", keyCardLayout: "dashboard");
59          menuProduk = new MenuItem(judul: "Produk");
60          menuMasterData = new MenuItem(judul: "Master Data");
61          menuLatihanUI = new MenuItem(judul: "Latihan UI");
62
63          menuProduk.addSubMenuItem(new MenuItem(judul: "Data Produk", keyCardLayout: "produk"));
64          menuProduk.addSubMenuItem(new MenuItem(judul: "Kategori Produk", keyCardLayout: "kategori"));
65          menuMasterData.addSubMenuItem(new MenuItem(judul: "Supplier", keyCardLayout: "supplier"));
66          menuMasterData.addSubMenuItem(new MenuItem(judul: "Satuan", keyCardLayout: "satuan"));
67          menuLatihanUI.addSubMenuItem(new MenuItem(judul: "Renovation Detail", keyCardLayout: "renovation_detail"));
68
69          listDaftarMenuItem.add(menuDashboard);
70          listDaftarMenuItem.add(menuProduk);
71          listDaftarMenuItem.add(menuMasterData);
72          listDaftarMenuItem.add(menuLatihanUI);
73
74          panelMenu = new PanelMenu(listDaftarMenuItem, cardLayout, panelKonten);
75          panelMenu.setBackground(new Color(r: 245, g: 247, b: 250));
76      }
77
78      private void setupPanelKonten() {
79          cardLayout = new CardLayout();
80          panelKonten = new JPanel(cardLayout);
81
82          panelKonten.add(new PanelDashboard(), constraints: "dashboard");
83          panelKonten.add(new PanelProduk(), constraints: "produk");
84
85          panelKonten.add(new PanelKategori(), constraints: "kategori");
86          panelKonten.add(new PanelSupplier(), constraints: "supplier");
87          panelKonten.add(new PanelSatuan(), constraints: "satuan");
88          panelKonten.add(new PanelLatihanRenovation(), constraints: "renovation_detail");
89
90      }
91
92      private void addPanel() {
93          add(panelMenu, constraints: "growy");
94          add(panelKonten, constraints: "grow");
95      }
}

```

main* 0 11 0 0 Java: Ready Ln 56, Col 36 Spaces: 4 UTF-8 CRLF {} Java Chat quota reached 11:21 AM 11/30/2025

File Edit Selection View Go Run ... ↶ ↷ 🔍 kreasidashboard-app

J DashboardApp.java U J PanelLatihanRenovation.java U J PanelMenuItem.java U J FrameUtama.java X

```

src > view > J FrameUtama.java > ⚡ FrameUtama > ⚡ setupPanelKonten()
23  public class FrameUtama extends JFrame {
56      private void setupPanelMenu() {
57          menuDashboard = new MenuItem(judul: "Dashboard", keyCardLayout: "dashboard");
58          menuProduk = new MenuItem(judul: "Produk");
59          menuMasterData = new MenuItem(judul: "Master Data");
60          menuLatihanUI = new MenuItem(judul: "Latihan UI");
61
62          listDaftarMenuItem.add(menuProduk);
63          listDaftarMenuItem.add(menuMasterData);
64          listDaftarMenuItem.add(menuLatihanUI);
65
66          panelMenu = new PanelMenu(listDaftarMenuItem, cardLayout, panelKonten);
67          panelMenu.setBackground(new Color(r: 245, g: 247, b: 250));
68
69      }
70
71      private void setupPanelKonten() {
72          cardLayout = new CardLayout();
73          panelKonten = new JPanel(cardLayout);
74
75          panelKonten.add(new PanelDashboard(), constraints: "dashboard");
76          panelKonten.add(new PanelProduk(), constraints: "produk");
77          panelKonten.add(new PanelKategori(), constraints: "kategori");
78          panelKonten.add(new PanelSupplier(), constraints: "supplier");
79          panelKonten.add(new PanelSatuan(), constraints: "satuan");
80          panelKonten.add(new PanelLatihanRenovation(), constraints: "renovation_detail");
81
82      }
83
84      private void addPanel() {
85          add(panelMenu, constraints: "growy");
86          add(panelKonten, constraints: "grow");
87      }
}

```

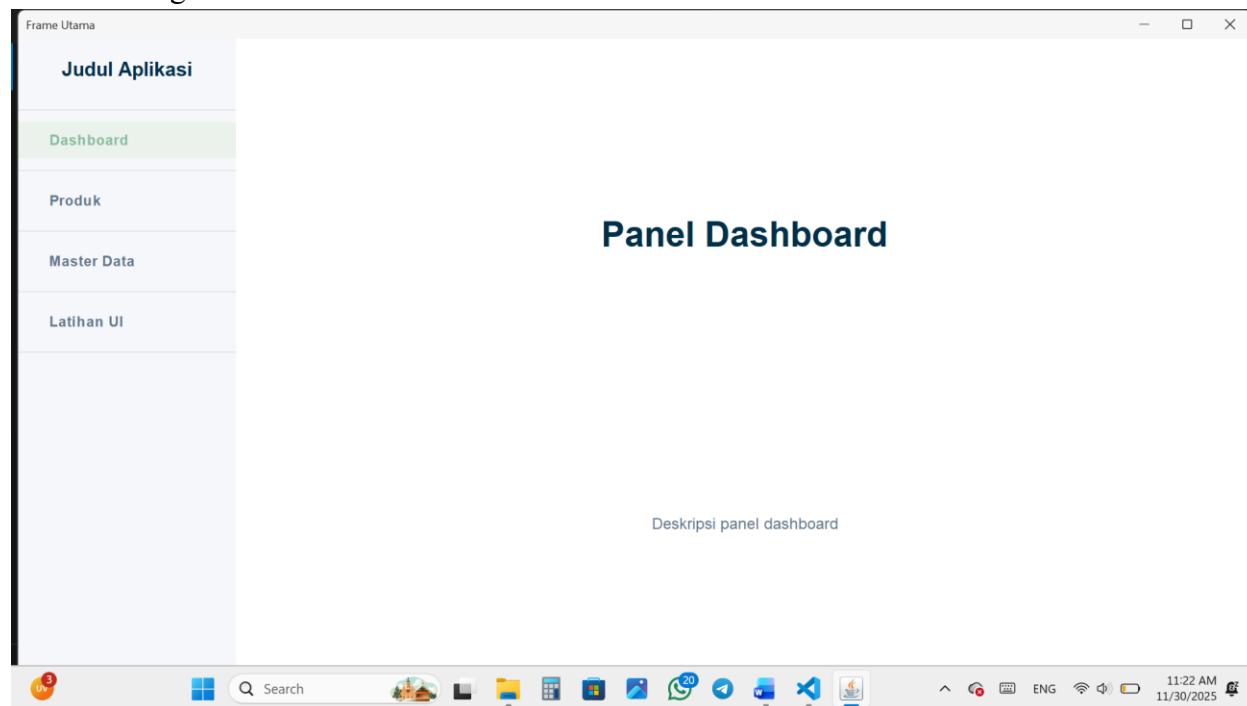
main* 0 11 0 0 Java: Ready Ln 84, Col 54 Spaces: 4 UTF-8 CRLF {} Java Chat quota reached 11:21 AM 11/30/2025

The screenshot shows an IDE interface with the project 'KREASI-DASHBOARD...' open. The code editor displays 'DashboardApp.java' with the following content:

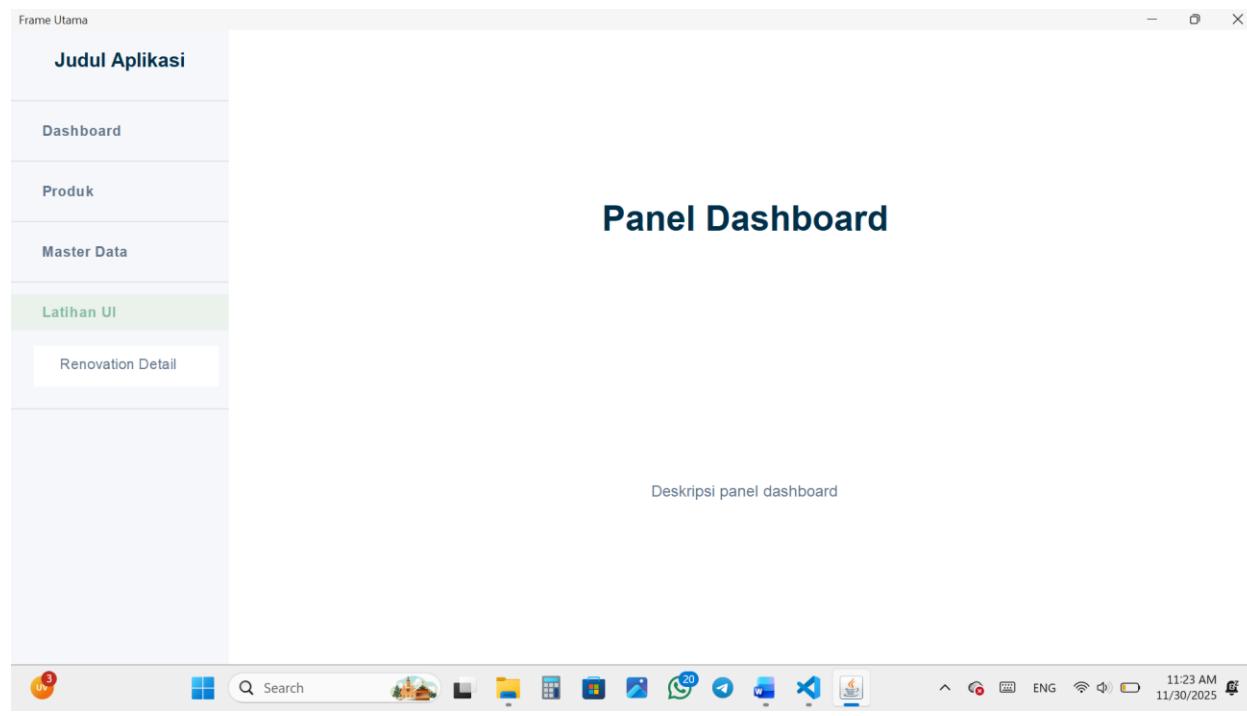
```
import javax.swing.SwingUtilities;
import javax.swing.UIManager;
import javax.swing.UnsupportedLookAndFeelException;
import com.formdev.flatlaf.FlatLaf;
import com.formdev.flatlaf.themes.FlatMacLightLaf;
import view.FrameUtama;
import java.util.Collections;
public class DashboardApp {
    public static void main(String[] args) {
        try {
            FlatLaf.setGlobalExtraDefaults(Collections.singletonMap(key: "@accentColor", value: "#FF69B4"));
            UIManager.setLookAndFeel(new FlatMacLightLaf());
        } catch (UnsupportedLookAndFeelException e) {
            System.err.println(e.getMessage());
        }
        SwingUtilities.invokeLater(() -> {
            new FrameUtama().setVisible(true);
        });
    }
}
```

The file 'DashboardApp.java' is selected in the code editor. The project structure on the left shows 'src' containing 'model' and 'view' packages, with 'konten' being a subdirectory of 'view'. Other files like 'PanelDashboard.java', 'PanelKategori.java', etc., are also listed.

b. Hasil running



c. Pembuktian tampilan konten menu yang berubah



Frame Utama

Judul Aplikasi

Dashboard

Produk

Master Data

Latihan UI

Renovation Detail

Client

Client ID: **101**
Name: **Bapak Alex Gunawan**
Phone: **(+62) 8123456789**
Registration No: **RNV-JKT-AXG-001**

Additional Information

Estimated close: **2025-12-15**
Creation date: **2025-10-15**
Created by: **Admin**
Last edit date: **2025-11-16**
Last edited by: **Warnoto**
Closed date: **null**
Closed by: **null**

Information

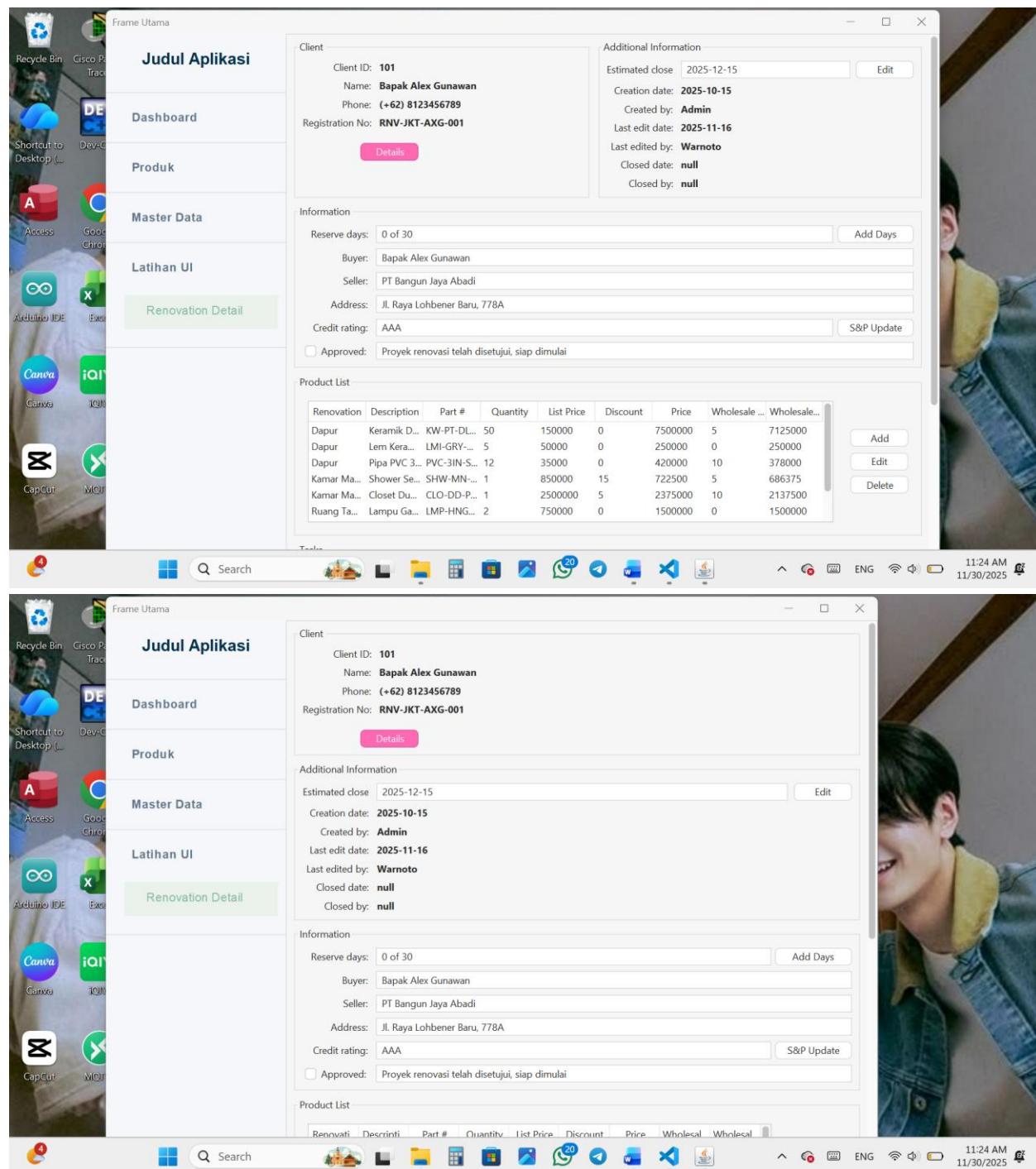
Reserve days: **0 of 30**
Buyer: **Bapak Alex Gunawan**
Seller: **PT Bangun Jaya Abadi**
Address: **Jl. Raya Lohbener Baru, 778A**
Credit rating: **AAA**
 Approved: **Proyek renovasi telah disetujui, siap dimulai** **S&P Update**

Product List

Renovation	Description	Part #	Quantity	List Price	Discount	Price	Wholesale Disc...	Wholesaler Price
Dapur	Keramik Dindin...	KW-PT-DLX-01	50	150000	0	7500000	5	7125000
Dapur	Lem Keramik In...	LMI-GRY-STD	5	50000	0	250000	0	250000
Dapur	Pipa PVC 3 inch	PVC-3IN-STD	12	35000	0	420000	10	378000
Kamar Mandi	Showher Set Min...	SHW-MN-STD	1	850000	15	722500	5	686375
Kamar Mandi	Closet Duduk P...	CLO-DD-PRM	1	2500000	5	2375000	10	2137500
Ruang Tamu	Lampu Gantun...	LMP-HNG-CRS	2	750000	0	1500000	0	1500000

Tasks

This screenshot shows a more complex application interface. It includes a sidebar with a light gray background and a main content area with a white background. The sidebar contains the same menu items as the first screenshot. The main content area displays detailed information about a client, a product list, and a task section. The client details include ID, name, phone number, and registration number. The product list table provides a breakdown of items like kitchen tiles, cabinet doors, pipes, and bathroom fixtures, along with their respective quantities, prices, and discounts. The task section is currently empty.



6. Terdapat penyajian redaksi pengalaman pembelajaran yang didapat (secara pribadi)

Selama mempelajari materi implementasi Scroll Chaining, UI Swing Responsif, dan Navigasi GUI Dashboard secara keseluruhan (baik teori, praktikum, latihan, maupun pengerjaan tugas individu)

Pengalaman pembelajaran terkait implementasi Graphical User Interface (GUI) Dashboard menggunakan Java Swing, yang berfokus pada Scroll Chaining, UI Responsif, dan Navigasi GUI Dashboard, telah memberikan dampak positif yang signifikan pada pemahaman saya. Kelancaran dalam menguasai materi ini didukung sepenuhnya oleh kualitas panduan yang disajikan.

1. Kelancaran Pembelajaran Berkat Panduan yang Jelas

Seluruh proses pembelajaran, baik dari sesi teori, praktikum, latihan, hingga penyelesaian tugas individu, dapat saya serap dengan lancar. Hal ini utamanya dikarenakan paduan instruksi yang sangat lengkap dan jelas. Struktur materi yang sistematis, didukung dengan contoh kode yang terperinci untuk setiap komponen dan logika, memungkinkan saya untuk:

- Memahami konsep dasar FlatLaf untuk look and feel modern.
- Menguasai integrasi library eksternal seperti MigLayout untuk kontrol tata letak yang presisi.
- Menerapkan pola desain seperti CardLayout untuk navigasi dengan efisien.

Kejelasan dalam penyampaian materi merupakan faktor krusial yang meniadakan hambatan interpretasi, sehingga fokus dapat sepenuhnya tertuju pada implementasi teknis.

2. Pemahaman Mendalam tentang Adaptabilitas UI (Responsif)

Salah satu capaian pemahaman terpenting adalah mengenai prinsip responsivitas UI dalam lingkungan Swing.

Adaptasi Dinamis (Jendela Dibelah Dua): Saya berhasil memahami secara fundamental bagaimana tampilan antarmuka (isi panel) dapat berubah secara adaptif ketika jendela utama mengalami perubahan dimensi atau seolah 'dibelah dua'. Hal ini terefleksi dalam implementasi logika applyResponsiveLayout yang memecah tata letak:

- Dari 3 kolom menjadi 2 kolom.
- Dari 2 kolom menjadi tumpukan vertikal (1 kolom) pada dimensi jendela yang lebih kecil.

Logika Perubahan Konten: Pemahaman ini mengajarkan bahwa perubahan tata letak di Swing bersifat imperatif, di mana layout manager diatur ulang (setLayout), semua komponen dihilangkan (removeAll), dan kemudian ditambahkan kembali sesuai dengan batasan kolom baru (wrap 1 atau wrap 2) yang mencerminkan lebar jendela saat itu. Ini memberikan pemahaman yang kuat tentang bagaimana aplikasi desktop dapat mempertahankan kegunaan (usability) pada berbagai resolusi.

3. Integrasi Komponen Kunci

Melalui serangkaian praktik, saya juga dapat mengintegrasikan tiga konsep utama menjadi sebuah kesatuan dashboard yang fungsional:

- Navigasi Dashboard: Penggunaan CardLayout pada content panel (panelKonten) berhasil menciptakan pengalaman navigasi yang mulus antara dashboard dan detail panel (misalnya, PanelLatihanRenovation).
- Scroll Chaining: Saya berhasil memastikan pengalaman scrolling di panel detail yang kompleks terasa menyatu dan mulus, berkat konfigurasi JScrollPane yang tepat.

Secara keseluruhan, pengalaman ini menegaskan bahwa dengan panduan yang terstruktur dan detail, materi teknis yang kompleks dapat dipelajari dengan kelancaran dan menghasilkan pemahaman konseptual yang solid.