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LAPORAN PRAKTIKUM

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A. IDENTITAS

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Program Studi : D3 TEKNIK INFORMATIKA
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B. HASIL PRAKTIKUM/ TUGAS

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
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
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)
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
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
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 pengerajan tugas individu)

1. Modul 10_02 Praktikum

a. Kode program

```
import java.awt.*;  
import java.awt.event.*;  
import javax.swing.*;  
import javax.swing.border.TitledBorder;  
import javax.swing.table.DefaultTableModel;  
import net.miginfocom.swing.MigLayout;  
import com.formdev.flatlaf.FlatLaf;  
import com.formdev.flatlaf.FlatLightLaf;  
  
import java.util.Collections;
```



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```
public class RenovationApp {  
  
    private static String buttonColor = "background: $Component.accentColor; foreground:  
#FFFFFF;";  
  
    public static void main(String[] args) {  
  
        try {  
            FlatLaf.setGlobalExtraDefaults(Collections.singletonMap("@accentColor",  
"#8A2BE2"));  
            UIManager.setLookAndFeel(new FlatLightLaf());  
        } catch (Exception e) {  
            try {  
                UIManager.setLookAndFeel(UIManager.getSystemLookAndFeelClassName());  
            } catch (Exception ex) {}  
        }  
    }  
  
    SwingUtilities.invokeLater(() -> {  
  
        /** Deklarasi Frame **/  
        JFrame frame = new JFrame("Detail Proyek: RNV-JKT-AXG-001");  
        frame.setDefaultCloseOperation(JFrame.EXIT_ON_CLOSE);  
        frame.setPreferredSize(new Dimension(1024, 768));  
        frame.setMinimumSize(new Dimension(800, 600));  
  
        /** Deklarasi Panel Utama **/  
        JPanel panelUtama = new JPanel(new MigLayout(  
            "fill, wrap 3",  
            "[][grow][]",  
            "[][grow][grow][grow][]"  
        ));  
  
        /** Deklarasi Panel Information **/  
        JPanel panelInformation = new JPanel(new MigLayout(  
            "wrap 3",  
            "[right]10[left, grow, fill]5[fill]"  
        ));  
        panelInformation.setBorder(new TitledBorder("Information"));  
  
        panelInformation.add(new JLabel("Reserve days:"));  
        panelInformation.add(new JTextField("0 of 30"));  
        panelInformation.add(new JButton("Add Days"));  
  
        panelInformation.add(new JLabel("Buyer:"));  
        panelInformation.add(new JTextField("Bapak Alex Gunawan"), "span 2");  
    });  
}
```



```
panelInformation.add(new JLabel("Seller:"));
panelInformation.add(new JTextField("PT Bangun Jaya Abadi"), "span 2");

panelInformation.add(new JLabel("Address:"));
panelInformation.add(new JTextField("Jl. Raya Lohbener Baru, 778A"), "span 2");

panelInformation.add(new JLabel("Credit rating:"));
panelInformation.add(new JTextField("AAA"));

panelInformation.add(new JLabel("Update:"));
panelInformation.add(new JButton("S&P Update"));

panelInformation.add(new JCheckBox("Approved:"));

panelInformation.add(new JLabel("Note:"));
panelInformation.add(new JTextField("Proyek renovasi telah disetujui, siap dimulai"), "span 2");

/** Deklarasi Panel Client */
 JPanel panelClient = new JPanel(new MigLayout(
    "wrap 2",
    "[right]10[left]"
));
panelClient.setBorder(new TitledBorder("Client"));

panelClient.add(new JLabel("Client ID:"));
panelClient.add(new JLabel("<html><b>101</b></html>"));

panelClient.add(new JLabel("Name:"));
panelClient.add(new JLabel("<html><b>Bapak Alex Gunawan</b></html>"));

panelClient.add(new JLabel("Phone:"));
panelClient.add(new JLabel("<html><b>(+62) 8123456789</b></html>"));

panelClient.add(new JLabel("Registration No:"));
panelClient.add(new JLabel("<html><b>RNV-JKT-AXG-001</b></html>"));

 JButton buttonDetails = new JButton("Details");
buttonDetails.putClientProperty("FlatLaf.style", buttonColor);
panelClient.add(buttonDetails, "span 2, center");

panelUtama.add(panelClient, "grow");
panelUtama.add(panelInformation, "grow");
```



```
/** Deklarasi Panel Additional Information */
JPanel panelAdditional = new JPanel(new MigLayout("wrap 3",
"[right]10[left,grow,fill][]"));
panelAdditional.setBorder(new TitledBorder("Additional Information"));

panelAdditional.add(new JLabel("Estimated close:"));
panelAdditional.add(new JTextField("2025-12-15"), "wmin pref");
panelAdditional.add(new JButton("Edit"), "wmax pref");

panelAdditional.add(new JLabel("Creation date:"));
panelAdditional.add(new JLabel("<html><b>2025-10-15</b></html>"), "span 2");

panelAdditional.add(new JLabel("Created by:"));
panelAdditional.add(new JLabel("<html><b>Admin</b></html>"), "span 2");

panelAdditional.add(new JLabel("Last edit date:"));
panelAdditional.add(new JLabel("<html><b>2025-11-16</b></html>"), "span 2");

panelAdditional.add(new JLabel("Last edited by:"));
panelAdditional.add(new JLabel("<html><b>Warnoto</b></html>"), "span 2");

panelAdditional.add(new JLabel("Closed date:"));
panelAdditional.add(new JLabel("<html><b>null</b></html>"), "span 2");

panelAdditional.add(new JLabel("Closed by:"));
panelAdditional.add(new JLabel("<html><b>null</b></html>"), "span 2");

panelUtama.add(panelAdditional, "grow");

/** Deklarasi Panel Product List */
JPanel panelProduk = new JPanel(new MigLayout("", "[grow][]"));
panelProduk.setBorder(new TitledBorder("Product List"));

/** Deklarasi Panel (Table) Product List */
JPanel panelTableProductList = new JPanel(new MigLayout("wrap 3",
"[grow][left][right]", "[][][]"));

String[] kolomTableProductList = {
    "Renovation", "Description", "Part #", "Quantity", "List Price",
    "Discount", "Price", "Wholesale Discount", "Wholesaler Price"
};

Object[][] dataProductList = {
    { "Dapur", "Keramik Dinding Putih", "KW-PT-DLX-01", 50, 150000, 0,
    7500000L, 5, 712500L }
};
```



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```
{ "Dapur", "Lem Keramik Instan", "MLR-GRY-STD", 5, 50000, 0, 250000L, 0,  
250000L },  
    { "Dapur", "Pipa PVC 3 inch", "PVC-3IN-STOD", 12, 35000, 0, 420000L, 10,  
378000L },  
        { "Kamar Mandi", "Shower Set Minimalis", "SHW-MN-STL", 1, 850000, 15,  
722500L, 5, 686375L },  
            { "Kamar Mandi", "Closet Duduk Premium", "CLO-DD-PRM", 1, 2500000, 5,  
2375000L, 10, 2137500L },  
                { "Ruang Tamu", "Lampu Gantung Hias", "LMP-MNG-CRS", 2, 750000, 0,  
1500000L, 0, 1500000L },  
                    { "Ruang Tamu", "Cat Tembok Putih 20L", "CAT-PT-20L", 3, 450000, 10,  
1215000L, 15, 1032750L },  
                        { "Garasi", "Semen PC 50Kg", "SMN-PC-50", 20, 60000, 0, 1200000L, 5,  
1140000L },  
                    };  
  
DefaultTableModel tableModelProductList = new  
DefaultTableModel(dataProductList, kolomTableProductList);  
JTable tableProductList = new JTable(tableModelProductList);  
tableProductList.setAutoCreateRowSorter(true);  
tableProductList.setShowGrid(true);  
  
JScrollPane scrollPaneTableProductList = new JScrollPane(tableProductList);  
panelTableProductList.add(scrollPaneTableProductList, "span 3, growx, h 150");  
  
panelTableProductList.add(new JSeparator(), "growx");  
panelTableProductList.add(new JLabel("Subtotal list price:"), "gapx 10");  
panelTableProductList.add(new JLabel("Rp 15.570.000"), "gapx 30");  
  
panelTableProductList.add(new JLabel("Total retailer price:"), "skip 1, gapx 10");  
panelTableProductList.add(new JLabel("Rp 15.182.500"), "gapx 30");  
  
panelTableProductList.add(new JLabel("Total wholesaler price:"), "skip 1, gapx 10");  
panelTableProductList.add(new JLabel("Rp 14.249.625"), "gapx 30");  
  
panelProduk.add(panelTableProductList, "grow");  
  
/** Deklarasi Panel (Button) Product List **/  
 JPanel panelButtonProductList = new JPanel(new MigLayout("wrap 1"));  
  
panelButtonProductList.add(new JButton("Add"));  
panelButtonProductList.add(new JButton("Edit"));  
panelButtonProductList.add(new JButton("Delete"));  
  
panelProduk.add(panelButtonProductList, "grow");  
panelUtama.add(panelProduk, "growx, span 3");
```



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```
/** Deklarasi Panel Tasks */
JPanel panelTask = new JPanel(new MigLayout("", "[grow][]"));
panelTask.setBorder(new TitledBorder("Tasks"));

String[] kolomTableTask = {
    "State", "Task", "Assigner", "Executer",
    "Creation Date", "Estimated Date", "Executed Date"
};

Object[][] dataTask = {
    { "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", null },
    { "Delayed", "Pemasangan keramik dinding dapur", "Warnoto", "Toni", "2025-11-01",
    "2025-11-04", null },
    { "Completed", "Pemasangan pipa PVC di area garasi", "Warnoto", "Goang",
    "2025-10-20", "2025-10-21", "2025-10-21" },
    { "Not Started", "Pembelian dan instalasi lampu gantung hias", "Warnoto", "Toni",
    "2025-11-16", "2025-11-18", null }
};

DefaultTableModel tableModelTask = new DefaultTableModel(dataTask,
kolomTableTask);
JTable tableTask = new JTable(tableModelTask);
tableTask.setAutoCreateRowSorter(true);
tableTask.setShowGrid(true);

 JScrollPane scrollPaneTableTask = new JScrollPane(tableTask);
panelTask.add(scrollPaneTableTask, "grow, hmin 150, hmax 190");

/** Deklarasi Panel Controls */
JPanel panelControls = new JPanel(new MigLayout("insets 0", "[grow,left][right]"));

/** Deklarasi Panel Controls (Left) */
JPanel panelControlsLeft = new JPanel(new MigLayout());
panelControlsLeft.add(new JButton("Export"));
panelControls.add(panelControlsLeft);

/** Deklarasi Panel (Button) Tasks */
JPanel panelButtonTask = new JPanel(new MigLayout("wrap 1"));
panelButtonTask.add(new JButton("Add"));
panelButtonTask.add(new JButton("Edit"));
panelButtonTask.add(new JButton("Delete"));
panelTask.add(panelButtonTask, "grow");
panelUtama.add(panelTask, "grow, span 3");
```



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```
/** Deklarasi Panel Comments */
JPanel panelComments = new JPanel(new MigLayout("", "[grow][]"));
panelComments.setBorder(new TitledBorder("Comments"));

String[] kolomTableComment = { "Date", "User", "Comment" };

Object[][] dataComment = {
    { "2025-10-26 10:15", "Toni", "Cat tembok sudah diolesi lapisan pertama.  
Menunggu kering sebelum lapisan kedua." },
    { "2025-11-15 14:30", "Goang", "Barang sudah sampai di lokasi. Mulai proses pembongkaran closet lama sore ini." },
    { "2025-11-16 09:00", "Warnoto", "Pastikan sambungan pipa air bersih dan pembuangan tidak ada yang bocor, cek tekanannya." },
    { "2025-11-03 16:45", "Toni", "Cuaca hujan deras selama 2 hari, area kerja sedikit basah. Pemasangan ditunda besok pagi." },
    { "2025-11-16 20:00", "Warnoto", "Lampu yang diinginkan customer stoknya habis. Mencari alternatif lampu model serupa." },
};

DefaultTableModel tableModelComment = new DefaultTableModel(dataComment,
kolomTableComment);
JTable tableComment = new JTable(tableModelComment);
tableComment.setAutoCreateRowSorter(true);
tableComment.setShowGrid(true);

 JScrollPane scrollPaneTableComment = new JScrollPane(tableComment);
panelComments.add(scrollPaneTableComment, "grow, hmin 150, hmax 190");

/** Deklarasi Panel (Button) Comments */
JPanel panelButtonComment = new JPanel(new MigLayout("wrap 1"));
panelButtonComment.add(new JButton("Add"));
panelButtonComment.add(new JButton("Edit"));
panelButtonComment.add(new JButton("Delete"));
panelComments.add(panelButtonComment, "grow");
panelUtama.add(panelComments, "grow, span 3");

/** Deklarasi ScrollPane */
JScrollPane scrollPane = new JScrollPane(panelUtama);
scrollPane.getVerticalScrollBar().setUnitIncrement(18);
scrollPane.getVerticalScrollBar().putClientProperty("JScrollBar.fastWheelScrolling",
true);
scrollPane.putClientProperty("JScrollPane.fastWheelScrolling", true);
scrollPane.setVerticalScrollBarPolicy(JScrollPane.VERTICAL_SCROLLBAR_AS_
NEEDED);

frame.add(scrollPane);
frame.pack();
```



```
frame.setLocationRelativeTo(null);
frame.setVisible(true);

installModernScrollChaining(frame, scrollPane);

/** Deklarasi Panel Controls (Right) */
JPanel panelControlsRight = new JPanel(new MigLayout());
JButton buttonSave = new JButton("Save");
buttonSave.putClientProperty("FlatLaf.style", buttonColor);
panelControlsRight.add(buttonSave);
panelControlsRight.add(new JButton("Cancel"));
panelControls.add(panelControlsRight);
panelUtama.add(panelControls, "grow, span 3");
});

}

private static void installModernScrollChaining(JFrame frame, JScrollPane mainScrollPane) {
    final double[] accumulatedDelta = {0.0};

    Toolkit.getDefaultToolkit().addAWTEventListener(event -> {
        if (!(event instanceof MouseWheelEvent)) return;
        MouseWheelEvent mwe = (MouseWheelEvent) event;
        if (mwe.isConsumed()) return;

        Component source = mwe.getComponent();
        if (!SwingUtilities.isDescendingFrom(source, frame)) return;

        JScrollPane inner = null;
        for (Component c = source; c != null; c = c.getParent()) {
            if (c instanceof JScrollPane) {
                JScrollPane sp = (JScrollPane) c;
                if (sp != mainScrollPane) {
                    inner = sp;
                    break;
                }
            }
        }

        if (inner == null) {
            return;
        }

        JScrollBar vbar = inner.getVerticalScrollBar();
        double rotation = mwe.getPreciseWheelRotation();
        if (rotation == 0) return;
```



```
boolean scrollDown = rotation > 0;
boolean scrollUp = rotation < 0;
boolean canScrollFurther = false;

if (vbar != null && vbar.isVisible()) {
    int value = vbar.getValue();
    int extent = vbar.getModel().getExtent();
    int max = vbar.getMaximum();

    boolean atBottom = (value + extent >= max - 1);
    boolean atTop = (value <= 1);

    canScrollFurther = (scrollDown && !atBottom) || (scrollUp && !atTop);
} else {
    canScrollFurther = false;
}
if (canScrollFurther) {
    accumulatedDelta[0] = 0.0;
    return;
}
accumulatedDelta[0] += rotation;
if (Math.abs(accumulatedDelta[0]) < 0.7) return;

JScrollBar mainBar = mainScrollPane.getVerticalScrollBar();
int delta = (int) Math.signum(accumulatedDelta[0]) * mainBar.getUnitIncrement();

int newValue = mainBar.getValue() + delta;
newValue = Math.max(mainBar.getMinimum(),
                    Math.min(mainBar.getMaximum() - mainBar.getModel().getExtent(),
                           newValue));
mainBar.setValue(newValue);

accumulatedDelta[0] = 0.0;
mwe.consume();
}, AWTEvent.MOUSE_WHEEL_EVENT_MASK);
}
```



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b. Hasil Run

Detail Projek: RNV-JKT-AXG-001

Client	Information	Additional Information
Client ID: 101 Name: Bapak Alex Gunawan Phone: (+62) 8123456789 Registration No: RNV-JKT-AXG-001	Reserve days: 0 of 30 Buyer: Bapak Alex Gunawan Seller: PT Bangun Jaya Abadi Address: Jl. Raya Lohbener Baru, 778A Credit rating: AAA	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
Details	<input type="checkbox"/> Approved: Proyek renovasi telah disetujui, siap dimulai!	Note:

Product List

Renovation	Description	Part #	Quantity	List Price	Discount	Price	Wholesale Discount	Wholesaler Price
Dapur	Keramik Dinding Putih	KW-PT-DLK-01	50	150000	0	750000	5	712500
Dapur	Lem Keramik Instan	MLR-GRY-STD	5	50000	0	250000	0	250000
Dapur	Pipa PVC 3 inch	PVC-3IN-STOD	12	35000	0	420000	10	378000
Kamar Mandi	Showe Set Minimalis	SHW-MN-STL	1	850000	15	722500	5	686375
Kamar Mandi	Close Duduk Premium	CLO-DD-PRM	1	2500000	5	2375000	10	2137500
Ruang Tamu	Lampu Gantung Hias	LMP-MNG-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 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	

Comments

Date	User	Comment
2025-10-26 10:15	Toni	Cat tembok sudah diolesi lapisan pertama. Menunggu kering sebelum...
2025-11-15 14:30	Goang	Barang sudah sampai di lokasi. Mulai proses pembongkaran closet la...
2025-11-16 09:00	Warnoto	Pastikan sambungan pipa air bersih dan pembuangan tidak ada yang...
2025-11-03 16:45	Toni	Cuaca hujan deras selama 2 hari, area kerja sedikit basah. Pemasanga...
2025-11-16 20:00	Warnoto	Lampu yang dinginkan customer stoknya habis. Mencari alternatif la...

Export **Save** **Cancel**

2. Modul 10_03 Praktikum

a. Kode Program

```
import java.awt.Color;
import java.awt.Dimension;
import java.awt.Font;
import java.awt.Insets;
import java.awt.event.ComponentAdapter;
import java.awt.event.ComponentEvent;

import javax.swing.BorderFactory;
import javax.swing.JFrame;
import javax.swing.JLabel;
import javax.swing.JPanel;
import javax.swing.SwingConstants;
```



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```
import javax.swing.SwingUtilities;
import javax.swing.UIManager;
import javax.swing.UnsupportedLookAndFeel;

import com.formdev.flatlaf.themes.FlatMacLightLaf;

import net.miginfocom.swing.MigLayout;

public class UISwingResponsif extends JFrame {

    private JPanel mainPanel;
    private JPanel panel1;
    private JPanel panel2;
    private JPanel panel3;
    private JPanel panel4;
    private JPanel panel5;

    private static final int COMPACT_VIEW_MAX = 576;
    private static final int SPLIT_VIEW_MAX = 768;
    private static final int INTERMEDIATE_VIEW_MAX = 992;
    private static final int DESKTOP_SMALL_MAX = 1200;
    private static final int DESKTOP_STANDARD_MAX = 1400;

    public UISwingResponsif() {
        setDefaultCloseOperation(JFrame.EXIT_ON_CLOSE);
        setMinimumSize(new Dimension(400, 600));

        panel1 = createColoredPanel("Panel 1 - Header", new Color(70, 130, 180));
        panel2 = createColoredPanel("Panel 2 - Sidebar", new Color(60, 179, 113));
        panel3 = createColoredPanel("Panel 3 - Content", new Color(255, 206, 86));
        panel4 = createColoredPanel("Panel 4 - Secondary", new Color(147, 112, 219));
        panel5 = createColoredPanel("Panel 5 - Footer", new Color(220, 20, 60));

        mainPanel = new JPanel();
        add(mainPanel);

        addComponentListener(new ComponentAdapter() {
            @Override
            public void componentResized(ComponentEvent e) {
                updateLayoutAndTitle();
            }

            @Override
            public void componentMoved(ComponentEvent e) {
                updateLayoutAndTitle();
            }
        });
    }

    private JPanel createColoredPanel(String title, Color color) {
        JPanel panel = new JPanel(new MigLayout());
        panel.setBackground(color);
        panel.setBorder(BorderFactory.createEmptyBorder(10, 10, 10, 10));
        panel.setLayout(new MigLayout("center, wrap"));
        panel.add(new JLabel(title));
        return panel;
    }

    private void updateLayoutAndTitle() {
        SwingUtilities.invokeLater(() -> {
            mainPanel.removeAll();
            mainPanel.add(panel1);
            mainPanel.add(panel2);
            mainPanel.add(panel3);
            mainPanel.add(panel4);
            mainPanel.add(panel5);
            mainPanel.revalidate();
            mainPanel.repaint();
        });
    }
}
```



```
});  
  
updateLayoutAndTitle();  
  
pack();  
setExtendedState(JFrame.MAXIMIZED_BOTH);  
setLocationRelativeTo(null);  
}  
  
private void updateLayoutAndTitle() {  
    Dimension size = getSize();  
    Insets insets = getInsets();  
    int innerWidth = size.width - insets.left - insets.right;  
    int innerHeight = size.height - insets.top - insets.bottom;  
  
    String category = getDeviceCategory(innerWidth);  
    setTitle(category + " | " + innerWidth + " x " + innerHeight + " px");  
  
    rebuildLayout(innerWidth);  
}  
  
private String getDeviceCategory(int width){  
    if (width <= COMPACT_VIEW_MAX) return "Compact View (<=576px)";  
    else if (width <= SPLIT_VIEW_MAX) return "Split View (576-768px)";  
    else if (width <= INTERMEDIATE_VIEW_MAX) return "Intermediate View (768-992px)";  
    else if (width <= DESKTOP_SMALL_MAX) return "Desktop Small (992-1200px)";  
    else if (width <= DESKTOP_STANDARD_MAX) return "Desktop Standard (1200-1400px)";  
    else return "Desktop Large (>1400px)";  
}  
  
private void rebuildLayout(int width) {  
    mainPanel.removeAll();  
    mainPanel.setLayout(new MigLayout("fill, insets 0, gap 0"));  
  
    if (width <= COMPACT_VIEW_MAX) {  
        mainPanel.add(panel1, "grow, wrap");  
        mainPanel.add(panel2, "grow, wrap");  
        mainPanel.add(panel3, "grow, push, h 300::, wrap");  
        mainPanel.add(panel4, "grow, wrap");  
        mainPanel.add(panel5, "grow, wrap");  
    }  
  
    else if (width <= SPLIT_VIEW_MAX) {  
        mainPanel.add(panel1, "span 2, growx, wrap");  
        mainPanel.add(panel2, "w 200!, growy");  
    }  
}
```



LAPORAN PRAKTIKUM

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```
mainPanel.add(panel3, "grow, push, wrap");
mainPanel.add(panel4, "span 2, growx, wrap");
mainPanel.add(panel5, "span 2, growx, wrap");
}

else if (width <= INTERMEDIATE_VIEW_MAX) {
    mainPanel.add(panel1, "span 2, growx, wrap");
    mainPanel.add(panel2, "w 300!, growy");
    mainPanel.add(panel3, "grow, push, spany 2");
    mainPanel.add(panel4, "growx, h 180!, wrap");
    mainPanel.add(panel5, "span 2, growx, wrap");
}

else if (width <= DESKTOP_SMALL_MAX) {
    mainPanel.add(panel1, "span 3, growx, wrap");
    mainPanel.add(panel2, "growy, span 1 2, w 300!, h 100%"); // span 1 kolom x 2 baris
    mainPanel.add(panel3, "grow, push, wrap");
    mainPanel.add(panel4, "h 25%, growx, wrap");
    mainPanel.add(panel5, "span 3, growx");
}

else if (width <= DESKTOP_STANDARD_MAX) {
    mainPanel.add(panel1, "span 3, growx, wrap");
    mainPanel.add(panel2, "w 300!, growy");
    mainPanel.add(panel3, "grow, pushx 2, pushy");
    mainPanel.add(panel4, "grow, wrap");
    mainPanel.add(panel5, "span 3, growx, wrap");
}

else {
    mainPanel.add(panel1, "span 3, growx, wrap");
    mainPanel.add(panel2, "w 340!, growy");
    mainPanel.add(panel3, "grow, pushx 2, pushy");
    mainPanel.add(panel4, "grow, wrap");
    mainPanel.add(panel5, "span 3, growx, wrap");
}

mainPanel.revalidate();
mainPanel.repaint();

}

private JPanel createColoredPanel(String title, Color background) {
    JPanel panel = new JPanel(new MigLayout("fill, insets 0"));
    panel.setBackground(background);
}
```

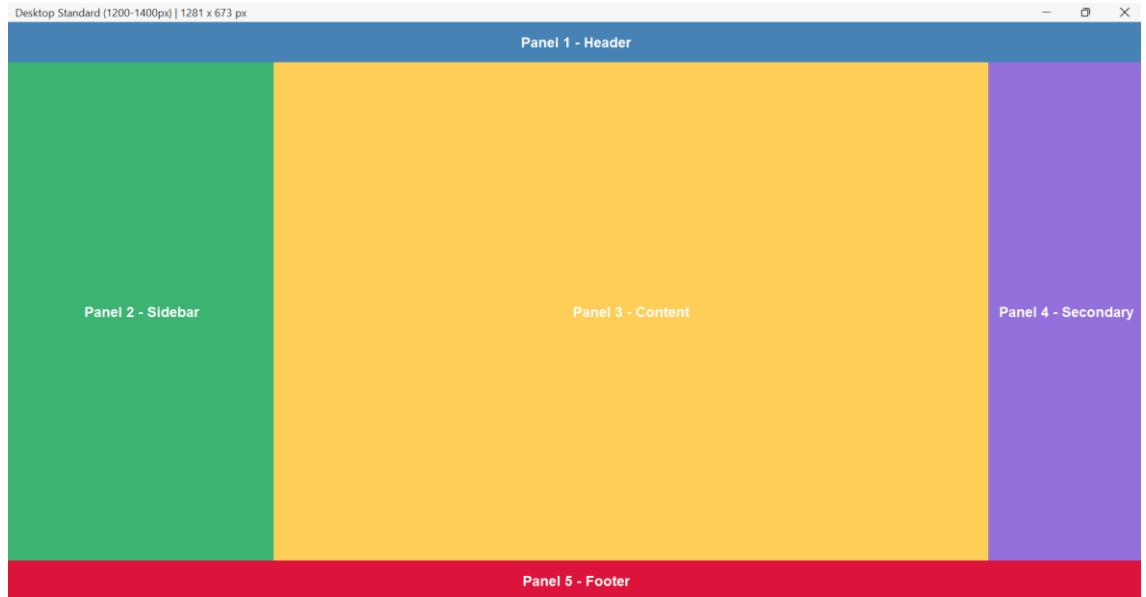


```
panel.setBorder(BorderFactory.createEmptyBorder(12, 12, 12, 12));
JLabel label = new JLabel(title, SwingConstants.CENTER);
label.setFont(new Font("Inter", Font.BOLD, 16));
label.setForeground(Color.WHITE);
label.setOpaque(false);
panel.add(label, "grow, align center");

return panel;
}

public static void main(String[] args) {
try {
    UIManager.setLookAndFeel(new FlatMacLightLaf());
} catch (UnsupportedLookAndFeelException e) {
    e.printStackTrace();
}
SwingUtilities.invokeLater(() -> {
    new UISwingResponsif().setVisible(true);
});
}
}
```

b. Hasil Run





Compact View (≤576px) | 386 x 592 px



Panel 1 - Header

Panel 2 - Sidebar

Panel 3 - Content

Panel 4 - Secondary

Panel 5 - Footer



3. Modul 10_03 Latihan

a. Kode Program

```
import java.awt.*;
import java.awt.event.*;
import javax.swing.*;
import javax.swing.border.TitledBorder;
import javax.swing.table.DefaultTableModel;
import net.miginfocom.swing.MigLayout;
import com.formdev.flatlaf.FlatLaf;
import com.formdev.flatlaf.FlatLightLaf;

import java.util.Collections;

public class RenovationAppTugas {

    private static String buttonColor = "background: $Component.accentColor; foreground: #FFFFFF;";

    private static final int COMPACT_VIEW_MAX = 576;
    private static final int SPLIT_VIEW_MAX = 768;
    private static final int INTERMEDIATE_VIEW_MAX = 992;
    private static final int DESKTOP_SMALL_MAX = 1200;
    private static final int DESKTOP_STANDARD_MAX = 1400;

    public static void main(String[] args) {

        try {
            FlatLaf.setGlobalExtraDefaults(Collections.singletonMap("@accentColor",
                    "#8A2BE2"));
            UIManager.setLookAndFeel(new FlatLightLaf());
        } catch (Exception e) {
            try {
                UIManager.setLookAndFeel(UIManager.getSystemLookAndFeelClassName());
            } catch (Exception ex) {
            }
        }

        SwingUtilities.invokeLater(() -> {

            /**
             * Deklarasi Frame */
            JFrame frame = new JFrame("Detail Proyek: RNV-JKT-AXG-001");
            frame.setDefaultCloseOperation(JFrame.EXIT_ON_CLOSE);
            frame.setPreferredSize(new Dimension(1024, 768));
            frame.setMinimumSize(new Dimension(800, 600));

            /**
             * Deklarasi Panel Utama */
        });
    }
}
```



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```
JPanel panelUtama = new JPanel(new MigLayout(
    "fill, wrap 3",
    "[][grow][]",
    "[][grow][grow][grow][]"
));

/** Deklarasi Panel Information */
JPanel panelInformation = new JPanel(new MigLayout(
    "wrap 3",
    "[right]10[left, grow, fill]5[fill]"
));
panelInformation.setBorder(new TitledBorder("Information"));

panelInformation.add(new JLabel("Reserve days:"));
panelInformation.add(new JTextField("0 of 30"));
panelInformation.add(new JButton("Add Days"));

panelInformation.add(new JLabel("Buyer:"));
panelInformation.add(new JTextField("Bapak Alex Gunawan"), "span 2");

panelInformation.add(new JLabel("Seller:"));
panelInformation.add(new JTextField("PT Bangun Jaya Abadi"), "span 2");

panelInformation.add(new JLabel("Address:"));
panelInformation.add(new JTextField("Jl. Raya Lohbener Baru, 778A"), "span 2");

panelInformation.add(new JLabel("Credit rating:"));
panelInformation.add(new JTextField("AAA"));

panelInformation.add(new JLabel("Update:"));
panelInformation.add(new JButton("S&P Update"));

panelInformation.add(new JCheckBox("Approved:"));

panelInformation.add(new JLabel("Note:"));
panelInformation.add(new JTextField("Proyek renovasi telah disetujui, siap
dimulai"), "span 2");

/** Deklarasi Panel Client */
JPanel panelClient = new JPanel(new MigLayout(
    "wrap 2",
    "[right]10[left]"
));
panelClient.setBorder(new TitledBorder("Client"));

panelClient.add(new JLabel("Client ID:"));
```



```
panelClient.add(new JLabel("<html><b>101</b></html>"));

panelClient.add(new JLabel("Name:"));
panelClient.add(new JLabel("<html><b>Bapak Alex Gunawan</b></html>"));

panelClient.add(new JLabel("Phone:"));
panelClient.add(new JLabel("<html><b>(+62) 8123456789</b></html>"));

panelClient.add(new JLabel("Registration No:"));
panelClient.add(new JLabel("<html><b>RNV-JKT-AXG-001</b></html>"));

JButton buttonDetails = new JButton("Details");
buttonDetails.putClientProperty("FlatLaf.style", buttonColor);
panelClient.add(buttonDetails, "span 2, center");

panelUtama.add(panelClient, "grow");

panelUtama.add(panelInformation, "grow");

/** Deklarasi Panel Additional Information */
 JPanel panelAdditional = new JPanel(new MigLayout("wrap 3",
 "[right]10[left,grow,fill][]"));
 panelAdditional.setBorder(new TitledBorder("Additional Information"));

panelAdditional.add(new JLabel("Estimated close:"));
panelAdditional.add(new JTextField("2025-12-15"), "wmin pref");
panelAdditional.add(new JButton("Edit"), "wmax pref");

panelAdditional.add(new JLabel("Creation date:"));
panelAdditional.add(new JLabel("<html><b>2025-10-15</b></html>"), "span 2");

panelAdditional.add(new JLabel("Created by:"));
panelAdditional.add(new JLabel("<html><b>Admin</b></html>"), "span 2");

panelAdditional.add(new JLabel("Last edit date:"));
panelAdditional.add(new JLabel("<html><b>2025-11-16</b></html>"), "span 2");

panelAdditional.add(new JLabel("Last edited by:"));
panelAdditional.add(new JLabel("<html><b>Warnoto</b></html>"), "span 2");

panelAdditional.add(new JLabel("Closed date:"));
panelAdditional.add(new JLabel("<html><b>null</b></html>"), "span 2");

panelAdditional.add(new JLabel("Closed by:"));
panelAdditional.add(new JLabel("<html><b>null</b></html>"), "span 2");
```



LAPORAN PRAKTIKUM

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```
panelUtama.add(panelAdditional, "grow");

/** Deklarasi Panel Product List */
JPanel panelProduk = new JPanel(new MigLayout("", "[grow][]"));
panelProduk.setBorder(new TitledBorder("Product List"));

/** Deklarasi Panel (Table) Product List */
JPanel panelTableProductList = new JPanel(new MigLayout("wrap 3",
"[grow][left][right]", "[][][]"));

String[] kolomTableProductList = {
    "Renovation", "Description", "Part #", "Quantity", "List Price",
    "Discount", "Price", "Wholesale Discount", "Wholesaler Price"
};

Object[][] dataProductList = {
    { "Dapur", "Keramik Dinding Putih", "KW-PT-DLX-01", 50, 150000, 0,
    7500000L, 5, 712500L },
    { "Dapur", "Lem Keramik Instan", "MLR-GRY-STD", 5, 50000, 0, 250000L, 0,
    250000L },
    { "Dapur", "Pipa PVC 3 inch", "PVC-3IN-STOD", 12, 35000, 0, 420000L, 10,
    378000L },
    { "Kamar Mandi", "Shower Set Minimalis", "SHW-MN-STL", 1, 850000, 15,
    722500L, 5, 686375L },
    { "Kamar Mandi", "Closet Duduk Premium", "CLO-DD-PRM", 1, 2500000, 5,
    2375000L, 10, 2137500L },
    { "Ruang Tamu", "Lampu Gantung Hias", "LMP-MNG-CRS", 2, 750000, 0,
    1500000L, 0, 1500000L },
    { "Ruang Tamu", "Cat Tembok Putih 20L", "CAT-PT-20L", 3, 450000, 10,
    1215000L, 15, 1032750L },
    { "Garasi", "Semen PC 50Kg", "SMN-PC-50", 20, 60000, 0, 1200000L, 5,
    1140000L },
};

DefaultTableModel tableModelProductList = new
DefaultTableModel(dataProductList, kolomTableProductList);
JTable tableProductList = new JTable(tableModelProductList);
tableProductList.setAutoCreateRowSorter(true);
tableProductList.setShowGrid(true);

 JScrollPane scrollPaneTableProductList = new JScrollPane(tableProductList);
panelTableProductList.add(scrollPaneTableProductList, "span 3, growx, h 150");

panelTableProductList.add(new JSeparator(), "growx");
panelTableProductList.add(new JLabel("Subtotal list price:"), "gapx 10");
panelTableProductList.add(new JLabel("Rp 15.570.000"), "gapx 30");
```



```
panelTableProductList.add(new JLabel("Total retailer price:"), "skip 1, gapx 10");
panelTableProductList.add(new JLabel("Rp 15.182.500"), "gapx 30");

panelTableProductList.add(new JLabel("Total wholesaler price:"), "skip 1, gapx 10");
panelTableProductList.add(new JLabel("Rp 14.249.625"), "gapx 30");

panelProduk.add(panelTableProductList, "grow");

/** Deklarasi Panel (Button) Product List */
JPanel panelButtonProductList = new JPanel(new MigLayout("wrap 1"));

panelButtonProductList.add(new JButton("Add"));
panelButtonProductList.add(new JButton("Edit"));
panelButtonProductList.add(new JButton("Delete"));

panelProduk.add(panelButtonProductList, "grow");
panelUtama.add(panelProduk, "growx, span 3");

/** Deklarasi Panel Tasks */
JPanel panelTask = new JPanel(new MigLayout("", "[grow][]"));
panelTask.setBorder(new TitledBorder("Tasks"));

String[] kolomTableTask = {
    "State", "Task", "Assigner", "Executer",
    "Creation Date", "Estimated Date", "Executed Date"
};

Object[][] dataTask = {
    { "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", null },
    { "Delayed", "Pemasangan keramik dinding dapur", "Warnoto", "Toni", "2025-11-01",
      "2025-11-04", null },
    { "Completed", "Pemasangan pipa PVC di area garasi", "Warnoto", "Goang",
      "2025-10-20", "2025-10-21", "2025-10-21" },
    { "Not Started", "Pembelian dan instalasi lampu gantung hias", "Warnoto", "Toni",
      "2025-11-16", "2025-11-18", null }
};

DefaultTableModel tableModelTask = new DefaultTableModel(dataTask,
kolomTableTask);

JTable tableTask = new JTable(tableModelTask);
tableTask.setAutoCreateRowSorter(true);
tableTask.setShowGrid(true);
```



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```
JScrollPane scrollPaneTableTask = new JScrollPane(tableTask);
panelTask.add(scrollPaneTableTask, "grow, hmin 150, hmax 190");

/** Deklarasi Panel Controls */
JPanel panelControls = new JPanel(new MigLayout("insets 0", "[grow,left][right]"));

/** Deklarasi Panel Controls (Left) */
JPanel panelControlsLeft = new JPanel(new MigLayout());
panelControlsLeft.add(new JButton("Export"));
panelControls.add(panelControlsLeft);

/** Deklarasi Panel (Button) Tasks */
JPanel panelButtonTask = new JPanel(new MigLayout("wrap 1"));
panelButtonTask.add(new JButton("Add"));
panelButtonTask.add(new JButton("Edit"));
panelButtonTask.add(new JButton("Delete"));
panelTask.add(panelButtonTask, "grow");
panelUtama.add(panelTask, "grow, span 3");

/** Deklarasi Panel Comments */
JPanel panelComments = new JPanel(new MigLayout("", "[grow][]"));
panelComments.setBorder(new TitledBorder("Comments"));

String[] kolomTableComment = { "Date", "User", "Comment" };

Object[][] dataComment = {
    { "2025-10-26 10:15", "Toni", "Cat tembok sudah diolesi lapisan pertama.
    Menunggu kering sebelum lapisan kedua." },
    { "2025-11-15 14:30", "Goang", "Barang sudah sampai di lokasi. Mulai proses
    pembongkaran closet lama sore ini." },
    { "2025-11-16 09:00", "Warnoto", "Pastikan sambungan pipa air bersih dan
    pembuangan tidak ada yang bocor, cek tekanannya." },
    { "2025-11-03 16:45", "Toni", "Cuaca hujan deras selama 2 hari, area kerja sedikit
    basah. Pemasangan ditunda besok pagi." },
    { "2025-11-16 20:00", "Warnoto", "Lampu yang diinginkan customer stoknya
    habis. Mencari alternatif lampu model serupa." },
};

DefaultTableModel tableModelComment = new DefaultTableModel(dataComment,
kolomTableComment);
JTable tableComment = new JTable(tableModelComment);
tableComment.setAutoCreateRowSorter(true);
tableComment.setShowGrid(true);

JScrollPane scrollPaneTableComment = new JScrollPane(tableComment);
panelComments.add(scrollPaneTableComment, "grow, hmin 150, hmax 190");
```



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```
/** Deklarasi Panel (Button) Comments */
JPanel panelButtonComment = new JPanel(new MigLayout("wrap 1"));
panelButtonComment.add(new JButton("Add"));
panelButtonComment.add(new JButton("Edit"));
panelButtonComment.add(new JButton("Delete"));
panelComments.add(panelButtonComment, "grow");
panelUtama.add(panelComments, "grow, span 3");

/** Deklarasi ScrollPane */
JScrollPane scrollPane = new JScrollPane(panelUtama);
scrollPane.getVerticalScrollBar().setUnitIncrement(18);
scrollPane.getVerticalScrollBar().putClientProperty("JScrollBar.fastWheelScrolling",
true);
scrollPane.putClientProperty("JScrollPane.fastWheelScrolling", true);
scrollPane.setVerticalScrollBarPolicy(JScrollPane.VERTICAL_SCROLLBAR_AS_
NEEDED);

frame.add(scrollPane);
frame.pack();
frame.setLocationRelativeTo(null);
frame.setVisible(true);

installModernScrollChaining(frame, scrollPane);

/** Deklarasi Panel Controls (Right) */
JPanel panelControlsRight = new JPanel(new MigLayout());
JButton buttonSave = new JButton("Save");
buttonSave.putClientProperty("FlatLaf.style", buttonColor);
panelControlsRight.add(buttonSave);
panelControlsRight.add(new JButton("Cancel"));
panelControls.add(panelControlsRight);
panelUtama.add(panelControls, "grow, span 3");
});

}

private static void installModernScrollChaining(JFrame frame, JScrollPane
mainScrollPane) {
final double[] accumulatedDelta = {0.0};

Toolkit.getDefaultToolkit().addAWTEventListener(event -> {
if (!(event instanceof MouseWheelEvent)) return;
MouseWheelEvent mwe = (MouseWheelEvent) event;
if (mwe.isConsumed()) return;

Component source = mwe.getComponent();
if (!SwingUtilities.isDescendingFrom(source, frame)) return;
```



```
JScrollPane inner = null;
for (Component c = source; c != null; c = c.getParent()) {
    if (c instanceof JScrollPane) {
        JScrollPane sp = (JScrollPane) c;
        if (sp != mainScrollPane) {
            inner = sp;
            break;
        }
    }
}

if (inner == null) {
    return;
}

JScrollBar vbar = inner.getVerticalScrollBar();
double rotation = mwe.getPreciseWheelRotation();
if (rotation == 0) return;

boolean scrollDown = rotation > 0;
boolean scrollUp = rotation < 0;
boolean canScrollFurther = false;

if (vbar != null && vbar.isVisible()) {
    int value = vbar.getValue();
    int extent = vbar.getModel().getExtent();
    int max = vbar.getMaximum();

    boolean atBottom = (value + extent >= max - 1);
    boolean atTop = (value <= 1);

    canScrollFurther = (scrollDown && !atBottom) || (scrollUp && !atTop);
} else {
    canScrollFurther = false;
}
if (canScrollFurther) {
    accumulatedDelta[0] = 0.0;
    return;
}
accumulatedDelta[0] += rotation;
if (Math.abs(accumulatedDelta[0]) < 0.7) return;

JScrollBar mainBar = mainScrollPane.getVerticalScrollBar();
int delta = (int) Math.signum(accumulatedDelta[0]) * mainBar.getUnitIncrement();

int newValue = mainBar.getValue() + delta;
newValue = Math.max(mainBar.getMinimum(),
```



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```
Math.min(mainBar.getMaximum() - mainBar.getModel().getExtent(),  
newValue));  
  
mainBar.setValue(newValue);  
  
accumulatedDelta[0] = 0.0;  
mwe.consume();  
, AWTEvent.MOUSE_WHEEL_EVENT_MASK);  
}  
}
```



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b. Hasil Run

Detail Projek: RNV-JKT-AXG-001

Client	Information	Additional Information
Name: Bapak Alex Gunawan Phone: (+62) 8123456789 Registration No: RNV-JKT-AXG-001	Reserve days: 0 of 30 Buyer: Bapak Alex Gunawan Seller: PT Bangun Jaya Abadi Address: Jl. Raya Lohbener Baru, 778A Credit rating: AAA	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
Details	S&P Update <input type="checkbox"/> Approved: <input checked="" type="checkbox"/> Note: Proyek renovasi telah disetujui, siap dimulai!	

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	712500
Dapur	Lem Keramik Instant	MLR-GRY-STD	5	50000	0	250000	0	250000
Dapur	Pipa PVC 3 inch	PVC-3IN-STOD	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-MNG-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 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 ruang PVC di area	Warnoto	Goang	2025-10-20	2025-10-21	2025-10-21

Detail Projek: RNV-JKT-AXG-001

Kamar Mandi	Closest Duduk Premium	CLO-DD-PRM	1	2500000	5	2375000	10	2137500
Ruang Tamu	Lampu Gantung Hias	LMP-MNG-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 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	Warnoto	Goang	2025-10-20	2025-10-21	2025-10-21
Not Started	Pembelian dan instalasi lampu	Warnoto	Toni	2025-11-16	2025-11-16	

Comments

Date	User	Comment
2025-10-26 10:15	Toni	Cat tembok sudah diolesi lapisan pertama. Menunggu kering sebelum...
2025-11-15 14:30	Goang	Barang sudah sampai di lokasi. Mulai proses pembongkaran closet la...
2025-11-16 09:00	Warnoto	Pastikan sambungan pipa air bersih dan pembuangan tidak ada yang...
2025-11-03 16:45	Toni	Cuaca hujan deras selama 2 hari, area kerja sedikit basah. Pemasanga...
2025-11-16 20:00	Warnoto	Lampu yang diinginkan customer stoknya habis. Mencari alternatif la...

Export Save Cancel

4. Modul 11 Praktikum

a. Panel Dashboard

```
package view.konten;
```

```
import java.awt.Color;  
import java.awt.Font;
```

```
import javax.swing.JLabel;  
import javax.swing.JPanel;
```



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```
import net.miginfocom.swing.MigLayout;

public class PanelDashboard extends JPanel{

    public PanelDashboard() {
        initializeUI();
    }

    private void initializeUI() {
        setLayout(new MigLayout("fill, insets 60", "[grow]", "[grow]"));
        setBackground(Color.WHITE);
        setOpaque(true);

        JLabel title = new JLabel("Panel Dasboard Tisa");
        title.setFont(new Font("Inter", Font.BOLD, 36));
        title.setForeground(new Color(0, 48, 73));

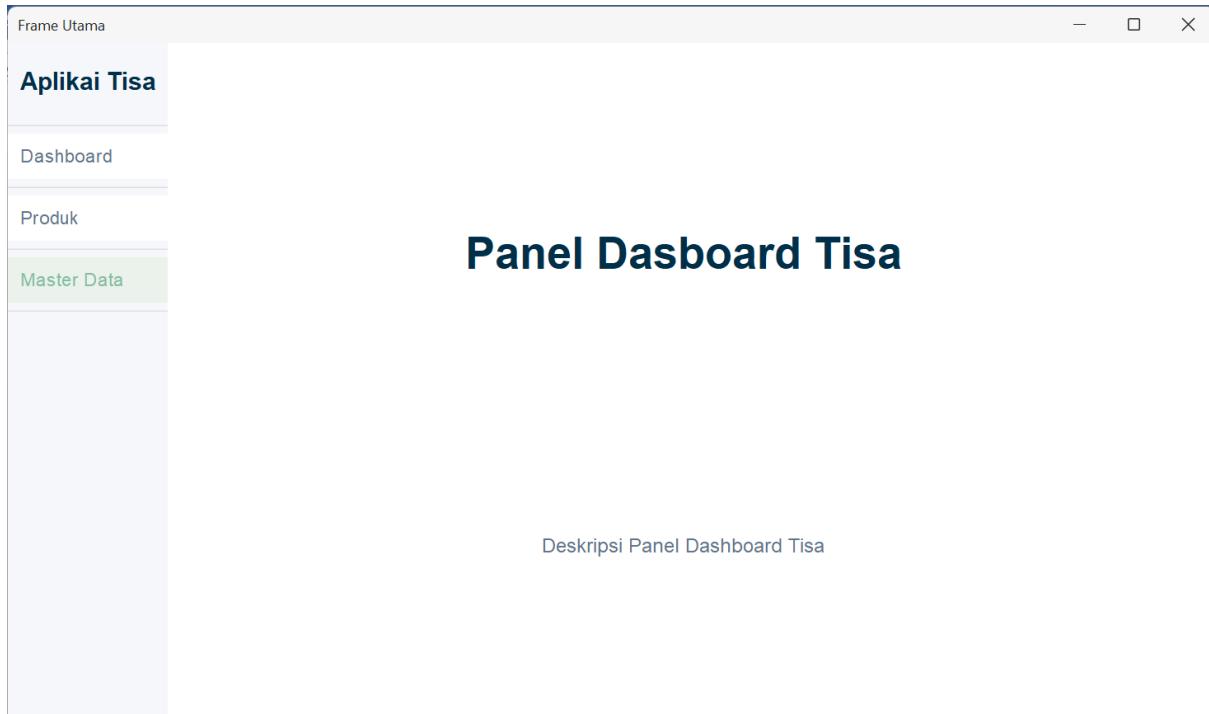
        JLabel info = new JLabel("Deskripsi Panel Dashboard Tisa");
        info.setFont(new Font("Inter", Font.PLAIN, 16));
        info.setForeground(new Color(98, 117, 138));

        add(title, "alignx center, wrap 30");
        add(info, "alignx center");

    }
}
```



b. Hasil Run



c. Panel Kategori

```
package view.konten;

import java.awt.Color;
import java.awt.Font;

import javax.swing.JLabel;
import javax.swing.JPanel;

import net.miginfocom.swing.MigLayout;

public class PanelKategori extends JPanel {

    public PanelKategori() {
        initializeUI();
    }

    private void initializeUI() {
        setLayout(new MigLayout("fill, insets 60", "[grow]", "[grow]"));
        setBackground(Color.WHITE);
        setOpaque(true);

        JLabel title = new JLabel("Panel Kategori Tisa");
        title.setFont(new Font("Inter", Font.BOLD, 36));
    }
}
```



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```
title.setForeground(new Color(0, 48, 73));

JLabel info = new JLabel("Deskripsi Panel Kategori");
info.setFont(new Font("Inter", Font.PLAIN, 16));
info.setForeground(new Color(98, 117, 138));

add(title, "alignx center, wrap 30");
add(info, "alignx center");
}
}
```

d. Hasil Run



e. Panel Produk

```
package view.konten;

import java.awt.Color;
import java.awt.Font;

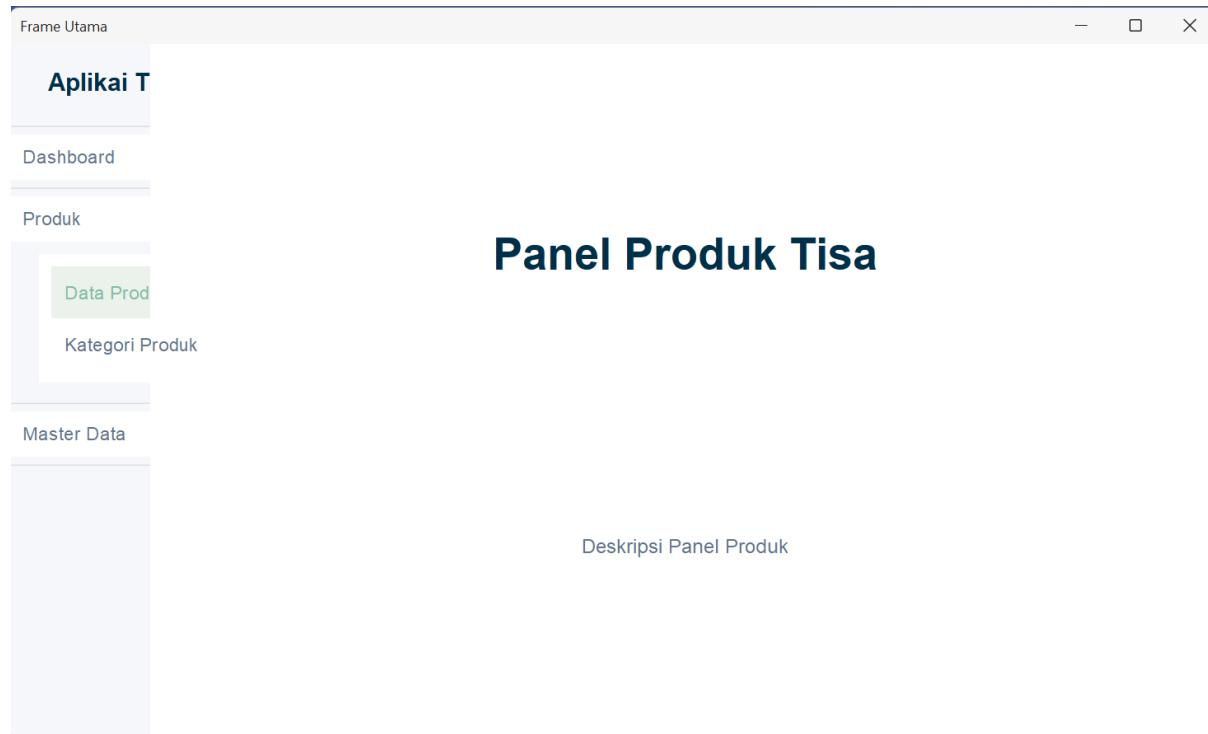
import javax.swing.JLabel;
import javax.swing.JPanel;

import net.miginfocom.swing.MigLayout;
```



```
public class PanelProduk extends JPanel {  
  
    public PanelProduk() {  
        initializeUI();  
    }  
  
    private void initializeUI() {  
        setLayout(new MigLayout("fill, insets 60", "[grow]", "[grow]"));  
        setBackground(Color.WHITE);  
        setOpaque(true);  
  
        JLabel title = new JLabel("Panel Produk Tisa");  
        title.setFont(new Font("Inter", Font.BOLD, 36));  
        title.setForeground(new Color(0, 48, 73));  
  
        JLabel info = new JLabel("Deskripsi Panel Produk");  
        info.setFont(new Font("Inter", Font.PLAIN, 16));  
        info.setForeground(new Color(98, 117, 138));  
  
        add(title, "alignx center, wrap 30");  
        add(info, "alignx center");  
    }  
}
```

f. Hasil Run





g. Panel Satuan

```
package view.konten;

import java.awt.Color;
import java.awt.Font;

import javax.swing.JLabel;
import javax.swing.JPanel;

import net.miginfocom.swing.MigLayout;

public class PanelSatuan extends JPanel {

    public PanelSatuan() {
        initializeUI();
    }

    private void initializeUI() {
        setLayout(new MigLayout("fill, insets 60", "[grow]", "[grow]"));
        setBackground(Color.WHITE);
        setOpaque(true);

        JLabel title = new JLabel("Panel Satuan Tisa");
        title.setFont(new Font("Inter", Font.BOLD, 36));
        title.setForeground(new Color(0, 48, 73));

        JLabel info = new JLabel("Deskripsi Panel Satuan");
        info.setFont(new Font("Inter", Font.PLAIN, 16));
        info.setForeground(new Color(98, 117, 138));

        add(title, "alignx center, wrap 30");
        add(info, "alignx center");
    }
}
```



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h. Hasil Run



i. Panel Supplier

```
package view.konten;

import java.awt.Color;
import java.awt.Font;

import javax.swing.JLabel;
import javax.swing.JPanel;

import net.miginfocom.swing.MigLayout;

public class PanelSupplier extends JPanel {

    public PanelSupplier() {
        initializeUI();
    }

    private void initializeUI() {
        setLayout(new MigLayout("fill, insets 60", "[grow]", "[grow]"));
        setBackground(Color.WHITE);
        setOpaque(true);

        JLabel title = new JLabel("Panel Supplier Tisa");
        title.setFont(new Font("Inter", Font.BOLD, 36));
```



LAPORAN PRAKTIKUM

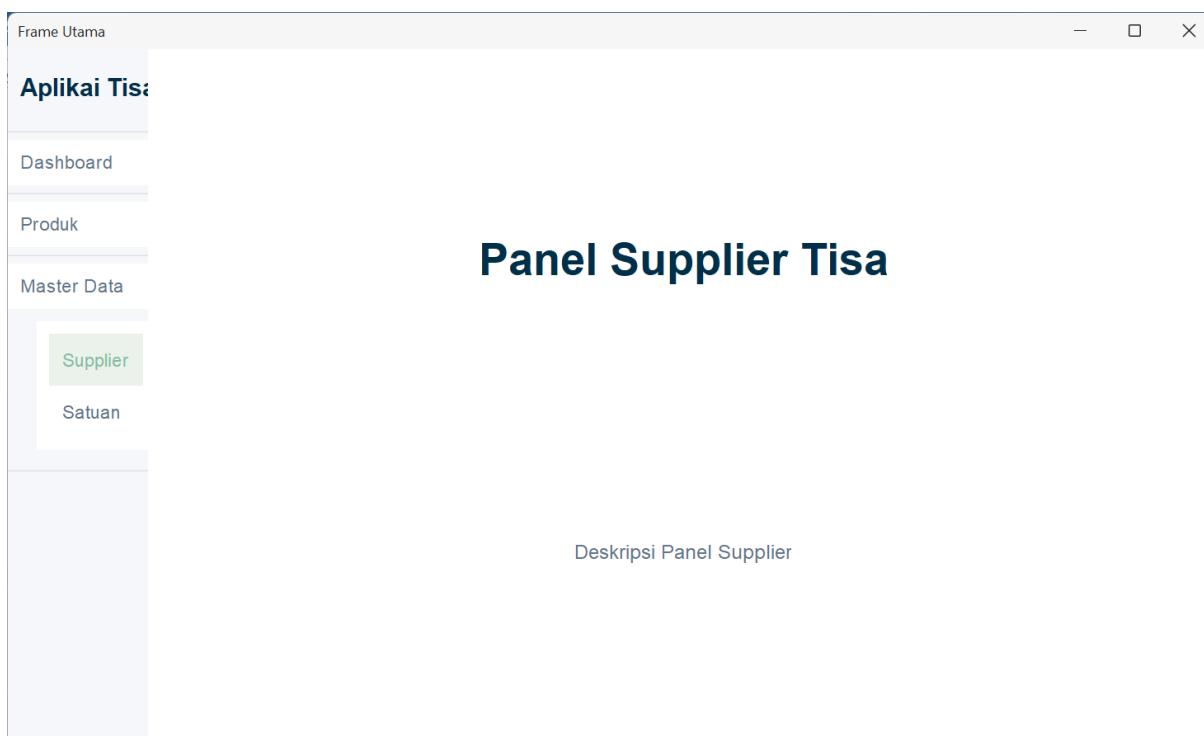
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```
title.setForeground(new Color(0, 48, 73));

JLabel info = new JLabel("Deskripsi Panel Supplier");
info.setFont(new Font("Inter", Font.PLAIN, 16));
info.setForeground(new Color(98, 117, 138));

add(title, "alignx center, wrap 30");
add(info, "alignx center");
}
}
```

j. Hasil Run



k. Frame Utama

```
package view;

import java.awt.CardLayout;
import java.awt.Color;
import java.awt.Dimension;
import java.util.ArrayList;
import java.util.List;

import javax.swing.JFrame;
import javax.swing.JPanel;
```



LAPORAN PRAKTIKUM

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```
import model.MenuItem;
import net.miginfocom.swing.MigLayout;
import view.konten.PanelDashboard;
import view.konten.PanelKategori;
import view.konten.PanelProduk;
import view.konten.PanelSatuan;
import view.konten.PanelSupplier;
import view.menu.PanelMenu;

public class FrameUtama extends JFrame {

    MenuItem menuDashboard;
    MenuItem menuProduk;
    MenuItem menuMasterData;
    List<MenuItem> listDaftarMenuItem;

    CardLayout cardLayout;
    JPanel panelKonten;
    PanelMenu panelMenu;

    public FrameUtama() {
        initializeUI();
        setupPanelKonten();
        setupPanelMenu();
        addPanel();

    }

    private void initializeUI() {
        setTitle("Frame Utama");
        setDefaultCloseOperation(JFrame.EXIT_ON_CLOSE);
        setPreferredSize(new Dimension(1280, 720));
        setMinimumSize(new Dimension(992, 600));
        setLocationRelativeTo(null);
        setLayout(new MigLayout(
            "fill, insets 0, gap 0",
            "[14!][grow]",
            "[grow]"
        ));
    }

    //throw new UnsupportedOperationException("Unimplemented method 'initializeUI'");
}

private void setupPanelMenu() {
    listDaftarMenuItem = new ArrayList<>();
```



LAPORAN PRAKTIKUM

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```
menuDashboard = new MenuItem("Dashboard", "dashboard");
menuProduk = new MenuItem("Produk");
menuMasterData = new MenuItem("Master Data");

menuProduk.addSubMenu(new MenuItem("Data Produk", "produk"));
menuProduk.addSubMenu(new MenuItem("Kategori Produk", "kategori"));
menuMasterData.addSubMenu(new MenuItem("Supplier", "supplier"));
menuMasterData.addSubMenu(new MenuItem("Satuan", "satuan"));

listDaftarMenuItem.add(menuDashboard);
listDaftarMenuItem.add(menuProduk);
listDaftarMenuItem.add(menuMasterData);

panelMenu = new PanelMenu(listDaftarMenuItem, cardLayout, panelKonten);
panelMenu.setBackground(new Color(245, 247, 250));

//throw new UnsupportedOperationException("Unimplemented method
'setupPanelMenu');

}

private void setupPanelKonten() {
    cardLayout = new CardLayout();
    panelKonten = new JPanel(cardLayout);

    panelKonten.add(new PanelDashboard(), "dashboard");
    panelKonten.add(new PanelProduk(), "produk");
    panelKonten.add(new PanelKategori(), "kategori");
    panelKonten.add(new PanelSupplier(), "supplier");
    panelKonten.add(new PanelSatuan(), "satuan");

    //throw new UnsupportedOperationException("Unimplemented method
'setupPanelKonten");
}

private void addPanel() {
    add(panelMenu, "growy");
    add(panelKonten, "grow");

    //throw new UnsupportedOperationException("Unimplemented method 'addPanel'");
}

}
```



1. Dashboard App

```
import javax.swing.SwingUtilities;
import javax.swing.UIManager;

import com.formdev.flatlaf.themes.FlatMacLightLaf;

import view.FrameUtama;

public class DashboardTisaApp {
    public static void main(String[] args) //throws Exception
    {try {
        UIManager.setLookAndFeel(new FlatMacLightLaf());
    } catch (Exception e) {
        System.err.println(e.getMessage());
    }

    SwingUtilities.invokeLater(() -> {
        new FrameUtama().setVisible(true);
    });

    //System.out.println("Hello, World!");
    }
}
```

5. Modul 10_03 Tugas

- a. Kode program
- PanelRenovation

```
package view.konten;

import java.awt.Color;
import java.awt.Font;

import javax.swing.JLabel;
import javax.swing.JPanel;

import net.miginfocom.swing.MigLayout;

public class PanelRenovation extends JPanel {

    public PanelRenovation() {
        initializeUI();
    }
```



```
private void initializeUI() {
    setLayout(new MigLayout("fill, insets 60", "[grow]", "[grow]"));
    setBackground(Color.WHITE);
    setOpaque(true);

    JLabel title = new JLabel("Renovation App");
    title.setFont(new Font("Inter", Font.BOLD, 36));
    title.setForeground(new Color(0, 48, 73));

    JLabel info = new JLabel("Deskripsi Panel Renovation App");
    info.setFont(new Font("Inter", Font.PLAIN, 16));
    info.setForeground(new Color(98, 117, 138));

    add(title, "alignx center, wrap 30");
    add(info, "alignx center");
}
}
```

- PanelRenovasi

```
package view.konten;

import java.awt.*;
import java.awt.event.*;
import javax.swing.*;
import javax.swing.border.TitledBorder;
import javax.swing.event.AncestorEvent;
import javax.swing.event.AncestorListener;
import javax.swing.table.DefaultTableModel;

//import com.formdev.flatlaf.FlatLaf;

import net.miginfocom.swing.MigLayout;

public class PanelRenovasi extends JPanel {

    private static String buttonColor = "background: $Component.accentColor; foreground: #FFFFFF;";

    public PanelRenovasi() {

        setLayout(new BorderLayout());
        setBackground(Color.WHITE);

        // Panel utama yang berisi seluruh komponen
    }
}
```



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```
JPanel panelUtama = new JPanel(new MigLayout(
    "fill, wrap 3",
    "[][grow][]",
    "[][grow][grow][grow][]"
));

JPanel panelClient = new JPanel(new MigLayout("wrap 2", "[right]10[left]"));
panelClient.setBorder(new TitledBorder("Client"));

panelClient.add(new JLabel("Client ID:"));
panelClient.add(new JLabel("<html><b>101</b></html>"));

panelClient.add(new JLabel("Name:"));
panelClient.add(new JLabel("<html><b>Bapak Alex Gunawan</b></html>"));

panelClient.add(new JLabel("Phone:"));
panelClient.add(new JLabel("<html><b>(+62) 8123456789</b></html>"));

panelClient.add(new JLabel("Registration No:"));
panelClient.add(new JLabel("<html><b>RNV-JKT-AXG-001</b></html>"));

JButton buttonDetails = new JButton("Details");
buttonDetails.putClientProperty("FlatLaf.style", buttonColor);
panelClient.add(buttonDetails, "span 2, center");

panelUtama.add(panelClient, "grow");

JPanel panelInformation = new JPanel(new MigLayout(
    "wrap 3",
    "[right]10[left,grow,fill][fill]"
));
panelInformation.setBorder(new TitledBorder("Information"));

panelInformation.add(new JLabel("Reserve days:"));
panelInformation.add(new JTextField("0 of 30"));
panelInformation.add(new JButton("Add Days"));

panelInformation.add(new JLabel("Buyer:"));
panelInformation.add(new JTextField("Bapak Alex Gunawan"), "span 2");

panelInformation.add(new JLabel("Seller:"));
panelInformation.add(new JTextField("PT Bangun Jaya Abadi"), "span 2");

panelInformation.add(new JLabel("Address:"));
panelInformation.add(new JTextField("Jl. Raya Lohbener Baru, 778A"), "span 2");
```



```
panelInformation.add(new JLabel("Credit rating:"));
panelInformation.add(new JTextField("AAA"));

panelInformation.add(new JLabel("Update:"));
panelInformation.add(new JButton("S&P Update"));

panelInformation.add(new JCheckBox("Approved:"));

panelInformation.add(new JLabel("Note:"));
panelInformation.add(new JTextField("Proyek renovasi telah disetujui, siap dimulai"),
"span 2");

panelUtama.add(panelInformation, "grow");

JPanel panelAdditional = new JPanel(new MigLayout("wrap 3",
"[right]10[left,grow,fill][]"));
panelAdditional.setBorder(new TitledBorder("Additional Information"));

panelAdditional.add(new JLabel("Estimated close:"));
panelAdditional.add(new JTextField("2025-12-15"));
panelAdditional.add(new JButton("Edit"));

panelAdditional.add(new JLabel("Creation date:"));
panelAdditional.add(new JLabel("<html><b>2025-10-15</b></html>"), "span 2");

panelAdditional.add(new JLabel("Created by:"));
panelAdditional.add(new JLabel("<html><b>Admin</b></html>"), "span 2");

panelAdditional.add(new JLabel("Last edit date:"));
panelAdditional.add(new JLabel("<html><b>2025-11-16</b></html>"), "span 2");

panelAdditional.add(new JLabel("Last edited by:"));
panelAdditional.add(new JLabel("<html><b>Warnoto</b></html>"), "span 2");

panelAdditional.add(new JLabel("Closed date:"));
panelAdditional.add(new JLabel("<html><b>null</b></html>"), "span 2");

panelAdditional.add(new JLabel("Closed by:"));
panelAdditional.add(new JLabel("<html><b>null</b></html>"), "span 2");

panelUtama.add(panelAdditional, "grow");

JPanel panelProduk = new JPanel(new MigLayout("", "[grow][]"));
panelProduk.setBorder(new TitledBorder("Product List"));
```



LAPORAN PRAKTIKUM

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```
String[] kolomProduct = {
    "Renovation", "Description", "Part #", "Quantity",
    "List Price", "Discount", "Price", "Wholesale Discount", "Wholesaler Price"
};

Object[][] dataProduct = {
    { "Dapur", "Keramik Dinding Putih", "KW-PT-DLX-01", 50, 150000, 0,
    7500000L, 5, 712500L },
    { "Dapur", "Lem Keramik Instan", "MLR-GRY-STD", 5, 50000, 0, 250000L, 0,
    250000L },
    { "Dapur", "Pipa PVC 3 inch", "PVC-3IN-STOD", 12, 35000, 0, 420000L, 10,
    378000L },
    { "Kamar Mandi", "Shower Set Minimalis", "SHW-MN-STL", 1, 850000, 15,
    722500L, 5, 686375L },
    { "Kamar Mandi", "Closet Duduk Premium", "CLO-DD-PRM", 1, 2500000, 5,
    2375000L, 10, 2137500L },
    { "Ruang Tamu", "Lampu Gantung Hias", "LMP-MNG-CRS", 2, 750000, 0,
    1500000L, 0, 1500000L },
    { "Ruang Tamu", "Cat Tembok Putih 20L", "CAT-PT-20L", 3, 450000, 10,
    1215000L, 15, 1032750L },
    { "Garasi", "Semen PC 50Kg", "SMN-PC-50", 20, 60000, 0, 1200000L, 5,
    1140000L },
};

JTable tableProduk = new JTable(new DefaultTableModel(dataProduct,
kolomProduct));
tableProduk.setAutoCreateRowSorter(true);
tableProduk.setShowGrid(true);

JScrollPane scrollProduk = new JScrollPane(tableProduk);
panelProduk.add(scrollProduk, "growx, span 2, h 150");

panelProduk.add(new JButton("Add"));
panelProduk.add(new JButton("Edit"));
panelProduk.add(new JButton("Delete"));

panelUtama.add(panelProduk, "grow, span 3");

JPanel panelTask = new JPanel(new MigLayout("", "[grow][]"));
panelTask.setBorder(new TitledBorder("Tasks"));

String[] kolomTask = {
    "State", "Task", "Assigner", "Executer",
    "Creation Date", "Estimated Date", "Executed Date"
};
```



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```
Object[][] dataTask = {
    { "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", null },
    { "Delayed", "Pemasangan keramik dinding dapur", "Warnoto", "Toni", "2025-11-
    01", "2025-11-04", null },
    { "Completed", "Pemasangan pipa PVC di area garasi", "Warnoto", "Goang",
    "2025-10-20", "2025-10-21", "2025-10-21" },
    { "Not Started", "Pembelian dan instalasi lampu gantung hias", "Warnoto", "Toni",
    "2025-11-16", "2025-11-18", null }
};

JTable tableTask = new JTable(new DefaultTableModel(dataTask, kolomTask));
tableTask.setAutoCreateRowSorter(true);
tableTask.setShowGrid(true);

 JScrollPane scrollTask = new JScrollPane(tableTask);
 panelTask.add(scrollTask, "grow, hmin 150, hmax 190");

 JPanel panelBtnTask = new JPanel(new MigLayout("wrap 1"));
 panelBtnTask.add(new JButton("Add"));
 panelBtnTask.add(new JButton("Edit"));
 panelBtnTask.add(new JButton("Delete"));

 panelTask.add(panelBtnTask, "grow");
 panelUtama.add(panelTask, "grow, span 3");

 JPanel panelComments = new JPanel(new MigLayout("", "[grow][]"));
 panelComments.setBorder(new TitledBorder("Comments"));

 String[] kolomComment = { "Date", "User", "Comment" };

 Object[][] dataComment = {
    { "2025-10-26 10:15", "Toni", "Cat tembok sudah diolesi lapisan pertama.
    Menunggu kering sebelum lapisan kedua." },
    { "2025-11-15 14:30", "Goang", "Barang sudah sampai di lokasi. Mulai proses
    pembongkaran closet lama sore ini." },
    { "2025-11-16 09:00", "Warnoto", "Pastikan sambungan pipa air bersih dan
    pembuangan tidak ada yang bocor, cek tekanannya." },
    { "2025-11-03 16:45", "Toni", "Cuaca hujan deras selama 2 hari, area kerja sedikit
    basah. Pemasangan ditunda besok pagi." },
    { "2025-11-16 20:00", "Warnoto", "Lampu yang diinginkan customer stoknya
    habis. Mencari alternatif lampu model serupa." }
};
```



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```
JTable tableComment = new JTable(new DefaultTableModel(dataComment,
kolomComment));
tableComment.setAutoCreateRowSorter(true);
tableComment.setShowGrid(true);

JScrollPane scrollComment = new JScrollPane(tableComment);
panelComments.add(scrollComment, "grow, hmin 150, hmax 190");

 JPanel panelBtnComment = new JPanel(new MigLayout("wrap 1"));
panelBtnComment.add(new JButton("Add"));
panelBtnComment.add(new JButton("Edit"));
panelBtnComment.add(new JButton("Delete"));

panelComments.add(panelBtnComment, "grow");
panelUtama.add(panelComments, "grow, span 3");

/** Deklarasi Panel Controls */
 JPanel panelControls = new JPanel(new MigLayout("insets 0", "[grow,left][right]"));

/** Deklarasi Panel Controls (Left) */
 JPanel panelControlsLeft = new JPanel(new MigLayout());
panelControlsLeft.add(new JButton("Export"));
panelControls.add(panelControlsLeft);

 JPanel panelControlsRight = new JPanel(new MigLayout());
 JButton buttonSave = new JButton("Save");
buttonSave.putClientProperty("FlatLaf.style", buttonColor);
panelControlsRight.add(buttonSave);
panelControlsRight.add(new JButton("Cancel"));
panelControls.add(panelControlsRight);
panelUtama.add(panelControls,"grow, span 3");

// =====
// SCROLL WRAPPER
// =====
JScrollPane scroll = new JScrollPane(panelUtama);
scroll.getVerticalScrollBar().setUnitIncrement(18);

add(scroll, BorderLayout.CENTER);

// Smooth scrolling dipasang otomatis ketika panel ditambahkan ke frame
addAncestorListener(new AncestorListener() {
    @Override
    public void ancestorAdded(AncestorEvent event) {
        Window win = SwingUtilities.getWindowAncestor(PanelRenovasi.this);
        if (win instanceof JFrame) {
```



```
        installModernScrollChaining((JFrame) win, scroll);
    }
}
@Override public void ancestorRemoved(AncestorEvent event) {}
@Override public void ancestorMoved(AncestorEvent event) {}
});
}

// -----
// MODERN SMOOTH SCROLL CHAINING
// -----



private static void installModernScrollChaining(JFrame frame, JScrollPane
mainScrollPane) {
    final double[] accumulatedDelta = {0.0};

    Toolkit.getDefaultToolkit().addAWTEventListener(event -> {
        if (!(event instanceof MouseWheelEvent)) return;
        MouseWheelEvent mwe = (MouseWheelEvent) event;
        if (mwe.isConsumed()) return;

        Component source = mwe.getComponent();
        if (!SwingUtilities.isDescendingFrom(source, frame)) return;

        JScrollPane inner = null;
        for (Component c = source; c != null; c = c.getParent()) {
            if (c instanceof JScrollPane && c != mainScrollPane) {
                inner = (JScrollPane) c;
                break;
            }
        }

        if (inner == null) return;

        JScrollBar vbar = inner.getVerticalScrollBar();
        double rotation = mwe.getPreciseWheelRotation();
        if (rotation == 0) return;

        boolean scrollDown = rotation > 0;
        boolean scrollUp = rotation < 0;

        boolean canScrollFurther = false;
        if (vbar != null && vbar.isVisible()) {
            int value = vbar.getValue();
            int extent = vbar.getModel().getExtent();
            int max = vbar.getMaximum();

            boolean atBottom = (value + extent >= max - 1);
```



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```
boolean atTop = (value <= 1);

    canScrollFurther = (scrollDown && !atBottom) || (scrollUp && !atTop);
}

if (canScrollFurther) {
    accumulatedDelta[0] = 0;
    return;
}

accumulatedDelta[0] += rotation;
if (Math.abs(accumulatedDelta[0]) < 0.7) return;

JScrollBar mainBar = mainScrollPane.getVerticalScrollBar();
int delta = (int) Math.signum(accumulatedDelta[0]) * mainBar.getUnitIncrement();

int newValue = mainBar.getValue() + delta;
newValue = Math.max(
    mainBar.getMinimum(),
    Math.min(mainBar.getMaximum() - mainBar.getModel().getExtent(),
newValue)
);
mainBar.setValue(newValue);

accumulatedDelta[0] = 0;
mwe.consume();

}, AWTEvent.MOUSE_WHEEL_EVENT_MASK);
}
```



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b. Hasil Run

Frame Utama

Aplikai Tisa

Dashboard

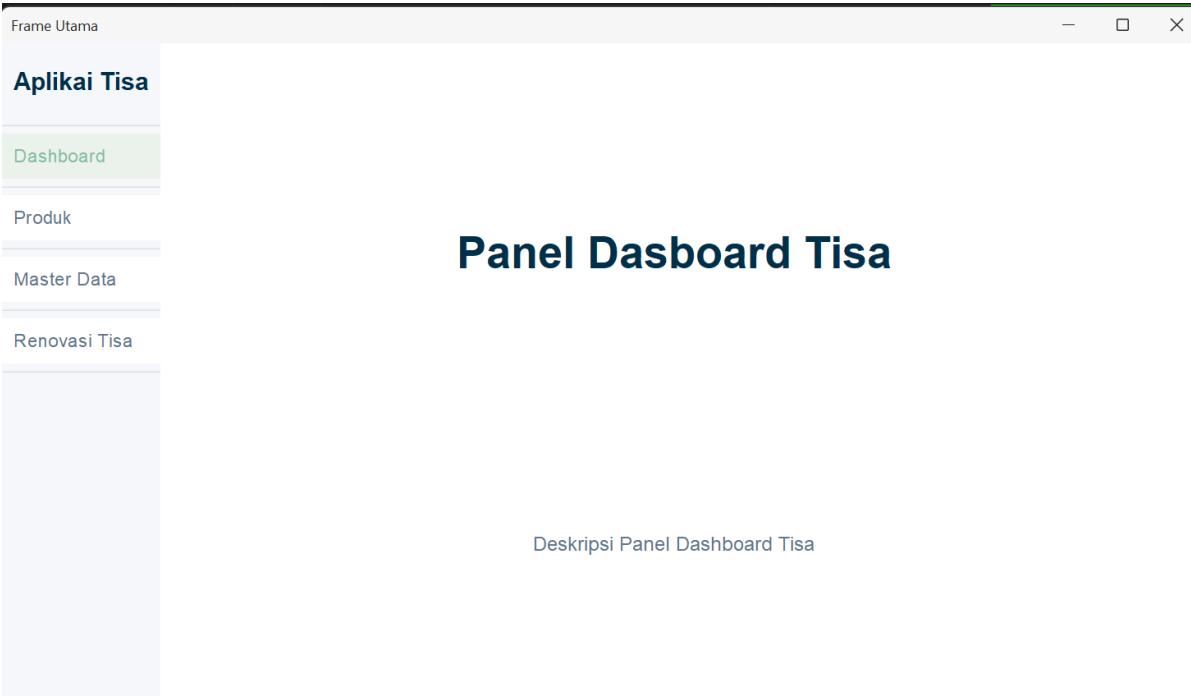
Produk

Master Data

Renovasi Tisa

Panel Dasboard Tisa

Deskripsi Panel Dashboard Tisa



Frame Utama

Aplikai Tis

Client

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

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: Note: **Proyek renovasi telah disetujui, siap dimulai**

Additional Information

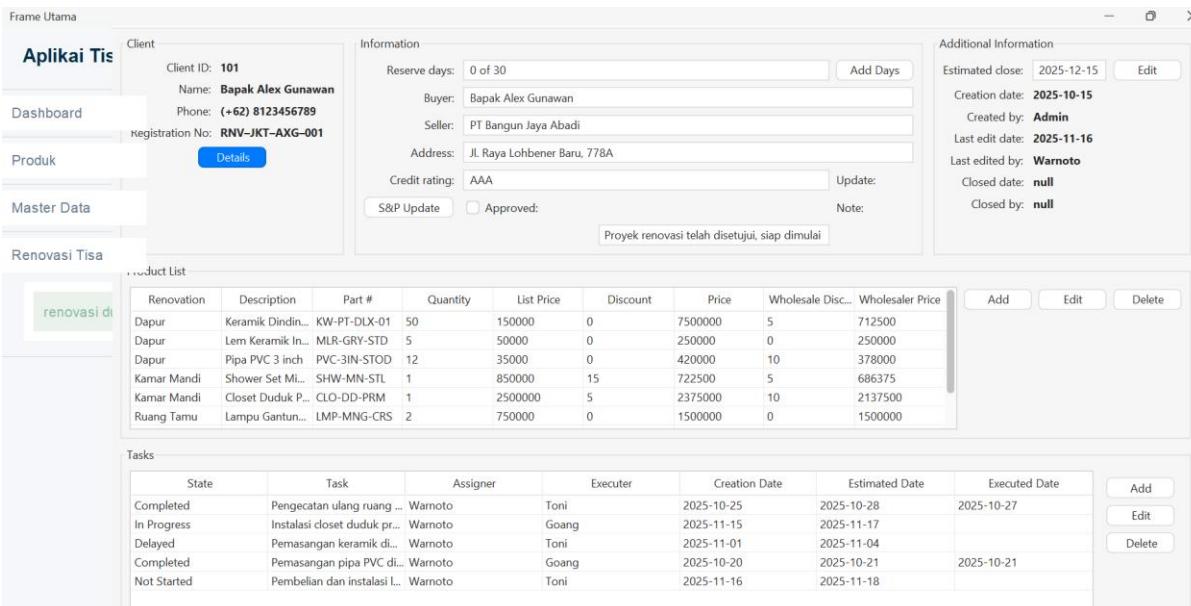
Estimated close: **2025-10-15**
Creation date: **2025-10-15**
Created by: **Admin**
Last edit date: **2025-11-16**
Last edited by: **Warnoto**
Closed date: **null**
Closed by: **null**

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	712500
Dapur	Lem Keramik In...	MLR-GRY-STD	5	50000	0	250000	0	250000
Dapur	Pipa PVC 3 inch	PVC-3IN-STOD	12	35000	0	420000	10	378000
Kamar Mandi	Shower Set Ml...	SHW-MN-STL	1	850000	15	722500	5	686375
Kamar Mandi	Closest Duduk P...	CLO-DD-PRM	1	2500000	5	2375000	10	2137500
Ruang Tamu	Lampu Gantung...	LMP-MNG-CRS	2	750000	0	1500000	0	1500000

Tasks

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





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Frame Utama

Aplikasi Tis

	Dapur	Pipa PVC 3 inch	PVC-3IN-STOD	12	35000	0	420000	10	378000
Kamar Mandi	Shower Set Ml...	SHW-MN-STL	1	850000	15	722500	5	686375	
Kamar Mandi	Closest Duduk P...	CLO-DD-PRM	1	2500000	5	2375000	10	2137500	
Ruang Tamu	Lampu Gantun...	LMP-MNG-CRS	2	750000	0	1500000	0	1500000	
Ruang Tamu	Cat Tembok Pu...	CAT-PT-20L	3	450000	10	1215000	15	1032750	
Garasi	Semen PC 50Kg	SMN-PC-50	20	60000	0	1200000	5	1140000	

Dashboard

Produk

Master Data

Renovasi Tisa

renovasi di

Tasks

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

Add

Edit

Delete

Comments

Date	User	Comment
2025-10-26 10:15	Toni	Cat tembok sudah diolesi lapisan pertama. Menunggu kering ...
2025-11-15 14:30	Goang	Barang sudah sampai di lokasi. Mulai proses pembongkaran ...
2025-11-16 09:00	Warnoto	Pastikan sambungan pipa air bersih dan pembuangan tidak a...
2025-11-03 16:45	Toni	Cuaca hujan deras selama 2 hari, area kerja sedikit basah. Pe...
2025-11-16 20:00	Warnoto	Lampu yang dinginkan customer stoknya habis. Mencari alte...

Add

Edit

Delete

Export

Save

Cancel

6. Pengalaman Pembelajaran

Dalam pemahaman lumayan faham, namun agak kesulitan dalam pengerjaan tugas, dikarenakan terbatasnya alat (berupa laptop). Sehingga dalam pengerjaannya kurang sempurna.