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DOKUMENTASI LAPORAN APLIKASI MAHASISWA BERBASIS GUI DENGAN DATABASE

SOURCE CODE Koneksi.java

```
import java.sql.Connection;
import java.sql.DriverManager;
import java.sql.SQLException;
import javax.swing.JOptionPane;

public class Koneksi {
    static Connection koneksi = null;

    public static Connection getConnection() {
        if (koneksi == null) {
            try {
                String url = "jdbc:mysql://127.0.0.1:3307/mahasiswa";
                String user = "root";
                String password = "fadrif00";
                DriverManager.registerDriver(new com.mysql.jdbc.Driver());
                koneksi = DriverManager.getConnection(url, user, password);
                System.out.println("Terkoneksi");
            } catch (SQLException t) {
                System.out.println("Error membuat koneksi");
            }
        }
        return koneksi;
    }
}
```

SOURCE CODE Mahasiswa.java

```
import java.awt.*;
import java.sql.*;
import java.util.*;
import java.util.logging.*;
import javax.swing.*;
import java.lang.String.*;
import javax.swing.event.*;
import javax.swing.table.DefaultTableModel;
import java.awt.HeadlessException;
```

```

public class Mahasiswa extends javax.swing.JFrame {

    // mengosongkan textbox
    public void kosongkan_data(){
        txtnomhs.setText("");
        txtnama.setText("");
        txtjurusan.setText("");
        CARL.setText("");
    }

    // menampilkan data dari database ke tabel
    public void tampil_data(){
        DefaultTableModel model = new DefaultTableModel();
        model.addColumn("No");
        model.addColumn("Nama");
        model.addColumn("Jurusan");
        try {
            String sql="SELECT *FROM tabel_mahasiswa";
            Connection conn =(Connection)Koneksi.getConnection();
            java.sql.Statement stm = conn.createStatement();
            java.sql.ResultSet res = stm.executeQuery(sql);

            while(res.next()){
                model.addRow(new Object[]{res.getString(1), res.getString(2), res.getString(3)});
            }
            tabel_mahasiswa.setModel(model);
        }
        catch (SQLException e) {
            System.out.print("Error : " +e.getMessage());
        }
    }

    public Mahasiswa() {
        initComponents();
        kosongkan_data();
        tampil_data();
    }

    @SuppressWarnings("unchecked")
    // <editor-fold defaultstate="collapsed" desc="Generated Code">
    private void initComponents() {

        jLabel1 = new javax.swing.JLabel();
        jLabel7 = new javax.swing.JLabel();
        jLabel2 = new javax.swing.JLabel();
        jLabel3 = new javax.swing.JLabel();
        jLabel4 = new javax.swing.JLabel();
        jLabel5 = new javax.swing.JLabel();
    }

```

```

txtnomhs = new javax.swing.JTextField();
txtnama = new javax.swing.JTextField();
txtjurusan = new javax.swing.JTextField();
simpan = new javax.swing.JButton();
edit = new javax.swing.JButton();
jScrollPane1 = new javax.swing.JScrollPane();
tabel_mahasiswa = new javax.swing.JTable();
CARI = new javax.swing.JButton();
txtcari = new javax.swing.JTextField();
hapus = new javax.swing.JButton();
keluar = new javax.swing.JButton();
jLabel6 = new javax.swing.JLabel();

jLabel1.setBackground(new java.awt.Color(0, 0, 0));
jLabel1.setOpaque(true);

jLabel7.setBackground(new java.awt.Color(0, 0, 0));

setDefaultCloseOperation(javax.swing.WindowConstants.EXIT_ON_CLOSE);
setBackground(new java.awt.Color(0, 0, 0));

jLabel2.setFont(new java.awt.Font("Times New Roman", 1, 18)); // NOI18N
jLabel2.setForeground(new java.awt.Color(0, 102, 102));
jLabel2.setText("MAHASISWA");

jLabel3.setFont(new java.awt.Font("Times New Roman", 1, 14)); // NOI18N
jLabel3.setForeground(new java.awt.Color(0, 102, 102));
jLabel3.setText("No");

jLabel4.setFont(new java.awt.Font("Times New Roman", 1, 14)); // NOI18N
jLabel4.setForeground(new java.awt.Color(0, 102, 102));
jLabel4.setText("Nama");

jLabel5.setFont(new java.awt.Font("Times New Roman", 1, 14)); // NOI18N
jLabel5.setForeground(new java.awt.Color(0, 102, 102));
jLabel5.setText("Jurusan");

simpan.setBackground(new java.awt.Color(0, 102, 102));
simpan.setText("SIMPAN");
simpan.addActionListener(new java.awt.event.ActionListener() {
    public void actionPerformed(java.awt.event.ActionEvent evt) {
        simpanActionPerformed(evt);
    }
});

edit.setBackground(new java.awt.Color(0, 102, 102));
edit.setText("EDIT");
edit.addActionListener(new java.awt.event.ActionListener() {

```

```

        public void actionPerformed(java.awt.event.ActionEvent evt) {
            editActionPerformed(evt);
        }
    });

    tabel_mahasiswa.setModel(new javax.swing.table.DefaultTableModel(
        new Object [][] {
            {null, null, null},
            {null, null, null},
            {null, null, null},
            {null, null, null}
        },
        new String [] {
            "No", "Nama", "Jurusan"
        }
    ));
    tabel_mahasiswa.addMouseListener(new java.awt.event.MouseAdapter() {
        public void mouseClicked(java.awt.event.MouseEvent evt) {
            tabel_mahasiswaMouseClicked(evt);
        }
    });
    jScrollPane1.setViewportViewView(tabel_mahasiswa);

    CARI.setBackground(new java.awt.Color(0, 102, 102));
    CARI.setText("CARI");
    CARI.setBorder(null);
    CARI.setMaximumSize(new java.awt.Dimension(50, 23));
    CARI.addActionListener(new java.awt.event.ActionListener() {
        public void actionPerformed(java.awt.event.ActionEvent evt) {
            CARIActionPerformed(evt);
        }
    });

    hapus.setBackground(new java.awt.Color(0, 102, 102));
    hapus.setText("HAPUS");
    hapus.addActionListener(new java.awt.event.ActionListener() {
        public void actionPerformed(java.awt.event.ActionEvent evt) {
            hapusActionPerformed(evt);
        }
    });

    keluar.setBackground(new java.awt.Color(0, 102, 102));
    keluar.setText("KELUAR");
    keluar.addActionListener(new java.awt.event.ActionListener() {
        public void actionPerformed(java.awt.event.ActionEvent evt) {
            keluarActionPerformed(evt);
        }
    });

```

```

jLabel6.setFont(new java.awt.Font("Times New Roman", 2, 10)); // NOI18N
jLabel6.setForeground(new java.awt.Color(0, 102, 102));
jLabel6.setText("*cari data mahasiswa");

javax.swing.GroupLayout layout = new javax.swing.GroupLayout(getContentPane());
getContentPane().setLayout(layout);
layout.setHorizontalGroup(
    layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)
        .addGroup(layout.createSequentialGroup()
            .addGroup(layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)
                .addGroup(layout.createSequentialGroup()
                    .addGap(21, 21, 21)
                    .addGroup(layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)
                        .addComponent(CARI, javax.swing.GroupLayout.PREFERRED_SIZE, 81, javax.swing.GroupLayout.PREFERRED_SIZE)
                        .addPreferredGap(javax.swing.LayoutStyle.ComponentPlacement.UNRELATED)
                        .addGroup(layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)
                            .addComponent(txtcari, javax.swing.GroupLayout.PREFERRED_SIZE, 266, javax.swing.GroupLayout.PREFERRED_SIZE)
                            .addComponent(jLabel6)))
                    .addComponent(jScrollPane1, javax.swing.GroupLayout.PREFERRED_SIZE, javax.swing.GroupLayout.DEFAULT_SIZE, javax.swing.GroupLayout.PREFERRED_SIZE))
                .addGroup(layout.createSequentialGroup()
                    .addGap(100, 100, 100)
                    .addComponent(edit, javax.swing.GroupLayout.PREFERRED_SIZE, 85, javax.swing.GroupLayout.PREFERRED_SIZE)
                    .addGap(18, 18, 18)
                    .addComponent(hapus, javax.swing.GroupLayout.PREFERRED_SIZE, 85, javax.swing.GroupLayout.PREFERRED_SIZE)
                    .addGap(18, 18, 18)
                    .addComponent(keluar, javax.swing.GroupLayout.PREFERRED_SIZE, 85, javax.swing.GroupLayout.PREFERRED_SIZE))
            .addGroup(layout.createSequentialGroup()
                .addGap(188, 188, 188)
                .addComponent(jLabel2))
            .addGroup(layout.createSequentialGroup()
                .addGap(91, 91, 91)
                .addGroup(layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)
                    .addComponent(jLabel3)
                    .addComponent(jLabel4)
                    .addComponent(jLabel5))
                .addGap(22, 22, 22)
                .addGroup(layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING, false)
                    .addComponent(txtnomhs)
                    .addComponent(txtnama)
                ))
        )
    );

```

```

        .addComponent(txtjurusan,          javax.swing.GroupLayout.PREFERRED_SIZE,      231,
javax.swing.GroupLayout.PREFERRED_SIZE)))
        .addGroup(layout.createSequentialGroup())
        .addGap(202, 202, 202)
        .addComponent(simpan,          javax.swing.GroupLayout.PREFERRED_SIZE,      85,
javax.swing.GroupLayout.PREFERRED_SIZE)))
        .addContainerGap(19, Short.MAX_VALUE))
    );
    layout.setVerticalGroup(
        layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)
        .addGroup(layout.createSequentialGroup())
        .addContainerGap()
        .addComponent(jLabel2)
        .addGap(11, 11, 11)
        .addGroup(layout.createParallelGroup(javax.swing.GroupLayout.Alignment.TRAILING)
        .addComponent(txtnomhs,          javax.swing.GroupLayout.PREFERRED_SIZE,
javax.swing.GroupLayout.DEFAULT_SIZE, javax.swing.GroupLayout.PREFERRED_SIZE)
        .addComponent(jLabel3))
        .addPreferredGap(javax.swing.LayoutStyle.ComponentPlacement.RELATED)
        .addGroup(layout.createParallelGroup(javax.swing.GroupLayout.Alignment.BASELINE)
        .addComponent(jLabel4)
        .addComponent(txtnama,          javax.swing.GroupLayout.PREFERRED_SIZE,
javax.swing.GroupLayout.DEFAULT_SIZE, javax.swing.GroupLayout.PREFERRED_SIZE)
        .addPreferredGap(javax.swing.LayoutStyle.ComponentPlacement.RELATED)
        .addGroup(layout.createParallelGroup(javax.swing.GroupLayout.Alignment.BASELINE)
        .addComponent(txtjurusan,          javax.swing.GroupLayout.PREFERRED_SIZE,
javax.swing.GroupLayout.DEFAULT_SIZE, javax.swing.GroupLayout.PREFERRED_SIZE)
        .addComponent(jLabel5))
        .addGap(18, 18, 18)
        .addComponent(simpan)
        .addGap(29, 29, 29)
        .addGroup(layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING, false)
        .addComponent(CARI,          javax.swing.GroupLayout.PREFERRED_SIZE,      36,
javax.swing.GroupLayout.PREFERRED_SIZE)
        .addGroup(layout.createSequentialGroup())
        .addComponent(txtcari,          javax.swing.GroupLayout.PREFERRED_SIZE,
javax.swing.GroupLayout.DEFAULT_SIZE, javax.swing.GroupLayout.PREFERRED_SIZE)
        .addPreferredGap(javax.swing.LayoutStyle.ComponentPlacement.RELATED,
javax.swing.GroupLayout.DEFAULT_SIZE, Short.MAX_VALUE)
        .addComponent(jLabel6)))
        .addGap(18, 18, 18)
        .addComponent(jScrollPane1,          javax.swing.GroupLayout.PREFERRED_SIZE,      97,
javax.swing.GroupLayout.PREFERRED_SIZE)
        .addGap(18, 18, 18)
        .addGroup(layout.createParallelGroup(javax.swing.GroupLayout.Alignment.BASELINE)
        .addComponent(hapus)
        .addComponent(keluar)
        .addComponent(edit))

```

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        .addContainerGap(21, Short.MAX_VALUE))
    );

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

private void simpanActionPerformed(java.awt.event.ActionEvent evt) {
    // TODO add your handling code here:
    try{
        String sql = "INSERT into tabel_mahasiswa values('"+txtnomhs.getText()+"",
        '"+txtnama.getText()+"', '"+txtjurusan.getText()+"')";
        java.sql.Connection conn =(Connection)Koneksi.getConnection();
        java.sql.PreparedStatement pstm = conn.prepareStatement(sql);
        pstm.execute();
        JOptionPane.showMessageDialog(null, "Simpan Data...");
        tampil_data();
        kosongkan_data();
    }catch(HeadlessException | SQLException e){
        JOptionPane.showMessageDialog(this, e.getMessage());
    }
}

private void tabel_mahasiswaMouseClicked(java.awt.event.MouseEvent evt) {
    // TODO add your handling code here:
    int baris = tabel_mahasiswa.rowAtPoint(evt.getPoint());
    String nomhs = tabel_mahasiswa.getValueAt(baris, 0).toString();
    txtnomhs.setText(nomhs);
    String nama = tabel_mahasiswa.getValueAt(baris, 1).toString();
    txtnama.setText(nama);
    String jurusan = tabel_mahasiswa.getValueAt(baris, 2).toString();
    txtjurusan.setText(jurusan);
}

private void editActionPerformed(java.awt.event.ActionEvent evt) {
    // TODO add your handling code here:
    try{
        String sql = "UPDATE tabel_mahasiswa set nama = '"+txtnama.getText()+"', jurusan =
        '"+txtjurusan.getText()+"' where nomhs = '"+txtnomhs.getText()+"'";
        java.sql.Connection conn = (Connection)Koneksi.getConnection();
        java.sql.PreparedStatement pstm = conn.prepareStatement(sql);
        pstm.execute();
        JOptionPane.showMessageDialog(null, "Edit Data..");
    }catch(HeadlessException | SQLException e){
        JOptionPane.showMessageDialog(this, e.getMessage());
    }
    tampil_data();
    kosongkan_data();
}

```

```

private void hapusActionPerformed(java.awt.event.ActionEvent evt) {
    // TODO add your handling code here:
    try{
        String sql = "DELETE from tabel_mahasiswa where nomhs = '"+txtnomhs.getText()+"'";
        java.sql.Connection conn = (Connection)Koneksi.getConnection();
        java.sql.PreparedStatement pstm = conn.prepareStatement(sql);
        pstm.execute();
        JOptionPane.showMessageDialog(null, "Hapus Data..");
    }catch(HeadlessException | SQLException e){
        JOptionPane.showMessageDialog(this, e.getMessage());
    }
    tampil_data();
    kosongkan_data();
}

private void keluarActionPerformed(java.awt.event.ActionEvent evt) {
    // TODO add your handling code here:
    System.exit(0);
}

private void CARIActionPerformed(java.awt.event.ActionEvent evt) {
    // TODO add your handling code here:
    DefaultTableModel model = new DefaultTableModel();
    model.addColumn("No");
    model.addColumn("Nama");
    model.addColumn("Jurusan");

    try {
        String sql="SELECT *FROM tabel_mahasiswa where nomhs like '%" + txtcari.getText() + "%'" + "or  

nama like '%" + txtcari.getText() + "%'" + "or jurusan like '%" + txtcari.getText() + "%'";
        Connection conn =(Connection)Koneksi.getConnection();
        java.sql.Statement stm = conn.createStatement();
        java.sql.ResultSet res = stm.executeQuery(sql);
        while(res.next()){
            model.addRow(new Object[]{res.getString(1), res.getString(2), res.getString(3)});
        }
        tabel_mahasiswa.setModel(model);
    }
    catch (SQLException e) {
        System.out.print("Error : " +e.getMessage());
    }
}

/**
 * @param args the command line arguments
 */
public static void main(String args[]) {

```



```

/* Set the Nimbus look and feel */
//<editor-fold defaultstate="collapsed" desc=" Look and feel setting code (optional) ">
/* If Nimbus (introduced in Java SE 6) is not available, stay with the default look and feel.
 * For details see http://download.oracle.com/javase/tutorial/uiswing/lookandfeel/plaf.html
 */
try {
    for (javax.swing.UIManager.LookAndFeelInfo info :
javax.swing.UIManager.getInstalledLookAndFeels()) {
        if ("Nimbus".equals(info.getName())) {
            javax.swing.UIManager.setLookAndFeel(info.getClassName());
            break;
        }
    }
} catch (ClassNotFoundException ex) {
    java.util.logging.Logger.getLogger(Mahasiswa.class.getName()).log(java.util.logging.Level.SEVERE,
null, ex);
} catch (InstantiationException ex) {
    java.util.logging.Logger.getLogger(Mahasiswa.class.getName()).log(java.util.logging.Level.SEVERE,
null, ex);
} catch (IllegalAccessException ex) {
    java.util.logging.Logger.getLogger(Mahasiswa.class.getName()).log(java.util.logging.Level.SEVERE,
null, ex);
} catch (javax.swing.UnsupportedLookAndFeelException ex) {
    java.util.logging.Logger.getLogger(Mahasiswa.class.getName()).log(java.util.logging.Level.SEVERE,
null, ex);
}
//</editor-fold>

/* Create and display the form */
java.awt.EventQueue.invokeLater(new Runnable() {
    public void run() {
        new Mahasiswa().setVisible(true);
    }
});
}

// Variables declaration - do not modify
private javax.swing.JButton CARI;
private javax.swing.JButton edit;
private javax.swing.JButton hapus;
private javax.swing.JLabel jLabel1;
private javax.swing.JLabel jLabel2;
private javax.swing.JLabel jLabel3;
private javax.swing.JLabel jLabel4;
private javax.swing.JLabel jLabel5;
private javax.swing.JLabel jLabel6;
private javax.swing.JLabel jLabel7;
private javax.swing.JScrollPane jScrollPane1;

```











```

private javax.swing.JButton keluar;
private javax.swing.JButton simpan;
private javax.swing.JTable tabel_mahasiswa;
private javax.swing.JTextField txtcari;
private javax.swing.JTextField txtjurusan;
private javax.swing.JTextField txtnama;
private javax.swing.JTextField txtnomhs;
// End of variables declaration
}

```

DATABASE

localhost/phpmyadmin/tbl_structure.php?db=mahasiswa&table=tabel_mahasiswa

Server: 127.0.0.1:3307 » Database: mahasiswa » Table: tabel_mahasiswa										
Browse Structure SQL Search Insert Export Import Privileges Operations										
Table structure Relation view										
#	Name	Type	Collation	Attributes	Null	Default	Comments	Extra	Action	
<input type="checkbox"/> 1	nomhs 	varchar(5)	latin1_swedish_ci		No	None			 Change	 Drop  More
<input type="checkbox"/> 2	nama	varchar(30)	latin1_swedish_ci		No	None			 Change	 Drop  More
<input type="checkbox"/> 3	jurusan	varchar(30)	latin1_swedish_ci		No	None			 Change	 Drop  More

Rancangan Desain Aplikasi Mahasiswa

MAHASISWA

No

Nama

Jurusan

SIMPAN

CARI

**cari data mahasiswa*

No	Nama	Jurusan

EDIT

HAPUS

KELUAR

Tampilan Desain Aplikasi Mahasiswa

MAHASISWA

No

Nama

Jurusan

SIMPAN

CARI

**cari data mahasiswa*

No	Nama	Jurusan
----	------	---------

EDIT

HAPUS

KELUAR

CREATE / MEMBUAT DATA

MAHASISWA

No

Nama

Jurusan

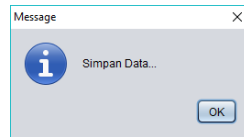
SIMPAN

CARI

*cari data mahasiswa

No	Nama	Jurusan
----	------	---------

EDIT **HAPUS** **KELUAR**



READ / MENAMPILKAN DATA KE TABEL

MAHASISWA

No

Nama

Jurusan

SIMPAN

CARI

*cari data mahasiswa

No	Nama	Jurusan
0091	FADHILAH RIFQI	TEKNIK INFORMATIKA

EDIT **HAPUS** **KELUAR**

UPDATE / MENGEDIT DATA

MAHASISWA

No

Nama

Jurusan

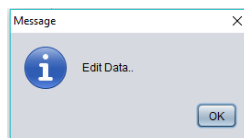
SIMPAN

CARI

*cari data mahasiswa

No	Nama	Jurusan
0076	SITI GAYATRI HEHANUSSA	TEKNIK INFORMATIKA
0091	FADHILAH RIFQI	TEKNIK INFORMATIKA
0092	DEWI AYU PURWTI AMIR	TEKNIK INFORMATIKA

EDIT **HAPUS** **KELUAR**



MAHASISWA

No

Nama

Jurusan

SIMPAN

CARI

*cari data mahasiswa

No	Nama	Jurusan
0076	SITI GAYATRI HEHANU...	TEKNIK INFORMATIKA
0091	FADHILAH	TEKNIK INFORMATIKA
0092	DEWI AYU PURWTI AMIR	TEKNIK INFORMATIKA

EDIT **HAPUS** **KELUAR**

DELETE / MENGHAPUS DATA

MAHASISWA

No:

Nama:

Jurusan:

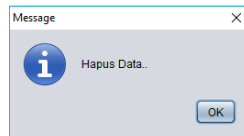
SIMPAN

CARI

*cari data mahasiswa

No	Nama	Jurusan
0076	SITI GAYATRI HEHANU	TEKNIK INFORMATIKA
0091	FADHILAH	TEKNIK INFORMATIKA
0092	DEWI AYU PURWTI AMIR	TEKNIK INFORMATIKA

EDIT HAPUS KELUAR



MAHASISWA

No:

Nama:

Jurusan:

SIMPAN

CARI

*cari data mahasiswa

No	Nama	Jurusan
0091	FADHILAH	TEKNIK INFORMATIKA
0092	DEWI AYU PURWTI AMIR	TEKNIK INFORMATIKA

EDIT HAPUS KELUAR

MENCARI DATA

MAHASISWA

No:

Nama:

Jurusan:

SIMPAN

CARI

*cari data mahasiswa

No	Nama	Jurusan
0091	FADHILAH	TEKNIK INFORMATIKA
0092	DEWI AYU PURWTI AMIR	TEKNIK INFORMATIKA

EDIT HAPUS KELUAR

MAHASISWA

No:

Nama:

Jurusan:

SIMPAN

CARI

*cari data mahasiswa

No	Nama	Jurusan
0091	FADHILAH	TEKNIK INFORMATIKA
0092	DEWI AYU PURWTI AMIR	TEKNIK INFORMATIKA

EDIT HAPUS KELUAR