

Nama: Gagas Surya Laksana  
NIM: 1301223164  
Kelas: IF-46-10

## Tampilan web utama

# CRUD Mahasiswa

## Database Connection Status

STATUS: DB connected

## MASUKAN DATA ANDA

NIM:  Nama:

NIM Anda adalah: 1301223164

Nama Anda adalah: Gagas Surya Laksana

## Form Tambah Mahasiswa

Nama:   
Jurusan:   
Angkatan:   
IPK:

## Data Mahasiswa

ID	Nama	Jurusan	Angkatan	IPK	Opsi
1	Ahmad Fauzi	Teknik Informatika	2020	3.75	<a href="#">Edit</a>   <a href="#">Hapus</a>
2	Budi Santoso	Teknik Sipil	2019	3.6	<a href="#">Edit</a>   <a href="#">Hapus</a>
3	Citra Dewi	Ekonomi	2021	3.85	<a href="#">Edit</a>   <a href="#">Hapus</a>
4	Diana Sari	Kedokteran	2018	3.9	<a href="#">Edit</a>   <a href="#">Hapus</a>
5	Eko Prasetyo	Manajemen	2022	3.55	<a href="#">Edit</a>   <a href="#">Hapus</a>
6	Fadli Ramadhan	Hukum	2020	3.4	<a href="#">Edit</a>   <a href="#">Hapus</a>
7	Gita Wulandari	Psikologi	2021	3.8	<a href="#">Edit</a>   <a href="#">Hapus</a>
8	Hendra Kusuma	Teknik Elektro	2019	3.65	<a href="#">Edit</a>   <a href="#">Hapus</a>
9	Indra Maulana	Teknik Mesin	2020	3.7	<a href="#">Edit</a>   <a href="#">Hapus</a>
10	Julianti Putri	Desain Komunikasi Visual	2022	3.95	<a href="#">Edit</a>   <a href="#">Hapus</a>

Melakukan penambahan data pada database

## Data Mahasiswa

ID	Nama	Jurusan	Angkatan	IPK	Opsi
1	Ahmad Fauzi	Teknik Informatika	2020	3.75	<a href="#">Edit</a>   <a href="#">Hapus</a>
2	Budi Santoso	Teknik Sipil	2019	3.6	<a href="#">Edit</a>   <a href="#">Hapus</a>
3	Citra Dewi	Ekonomi	2021	3.85	<a href="#">Edit</a>   <a href="#">Hapus</a>
4	Diana Sari	Kedokteran	2018	3.9	<a href="#">Edit</a>   <a href="#">Hapus</a>
5	Eko Prasetyo	Manajemen	2022	3.55	<a href="#">Edit</a>   <a href="#">Hapus</a>
6	Fadli Ramadhan	Hukum	2020	3.4	<a href="#">Edit</a>   <a href="#">Hapus</a>
7	Gita Wulandari	Psikologi	2021	3.8	<a href="#">Edit</a>   <a href="#">Hapus</a>
8	Hendra Kusuma	Teknik Elektro	2019	3.65	<a href="#">Edit</a>   <a href="#">Hapus</a>
9	Indra Maulana	Teknik Mesin	2020	3.7	<a href="#">Edit</a>   <a href="#">Hapus</a>
10	Julianti Putri	Desain Komunikasi Visual	2022	3.95	<a href="#">Edit</a>   <a href="#">Hapus</a>
12	Gagas Surya Laksana	IF	2022	3.9	<a href="#">Edit</a>   <a href="#">Hapus</a>

Melakukan update pada data mahasiswa

## Edit Mahasiswa

Nama:   
Jurusan:   
Angkatan:   
IPK:   
  
[Kembali ke Halaman Utama](#)

hasil update:

### Data Mahasiswa

ID	Nama	Jurusan	Angkatan	IPK	Opsi
1	Ahmad Fauzi	Teknik Informatika	2020	3.75	<a href="#">Edit</a>   <a href="#">Hapus</a>
2	Budi Santoso	Teknik Sipil	2019	3.6	<a href="#">Edit</a>   <a href="#">Hapus</a>
3	Citra Dewi	Ekonomi	2021	3.85	<a href="#">Edit</a>   <a href="#">Hapus</a>
4	Diana Sari	Kedokteran	2018	3.9	<a href="#">Edit</a>   <a href="#">Hapus</a>
5	Eko Prasetyo	Manajemen	2022	3.55	<a href="#">Edit</a>   <a href="#">Hapus</a>
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7	Gita Wulandari	Psikologi	2021	3.8	<a href="#">Edit</a>   <a href="#">Hapus</a>
8	Hendra Kusuma	Teknik Elektro	2019	3.65	<a href="#">Edit</a>   <a href="#">Hapus</a>
9	Indra Maulana	Teknik Mesin	2020	3.7	<a href="#">Edit</a>   <a href="#">Hapus</a>
10	Julianti Putri	Desain Komunikasi Visual	2022	3.95	<a href="#">Edit</a>   <a href="#">Hapus</a>
12	Gagas Surya	informatika	2023	4.0	<a href="#">Edit</a>   <a href="#">Hapus</a>

## Melakukan hapus data

sebelum dihapus:

### Data Mahasiswa



















ID	Nama	Jurusan	Angkatan	IPK	Opsi
1	Ahmad Fauzi	Teknik Informatika	2020	3.75	<a href="#">Edit</a>   <a href="#">Hapus</a>
2	Budi Santoso	Teknik Sipil	2019	3.6	<a href="#">Edit</a>   <a href="#">Hapus</a>
3	Citra Dewi	Ekonomi	2021	3.85	<a href="#">Edit</a>   <a href="#">Hapus</a>
4	Diana Sari	Kedokteran	2018	3.9	<a href="#">Edit</a>   <a href="#">Hapus</a>
5	Eko Prasetyo	Manajemen	2022	3.55	<a href="#">Edit</a>   <a href="#">Hapus</a>
6	Fadli Ramadhan	Hukum	2020	3.4	<a href="#">Edit</a>   <a href="#">Hapus</a>
7	Gita Wulandari	Psikologi	2021	3.8	<a href="#">Edit</a>   <a href="#">Hapus</a>
8	Hendra Kusuma	Teknik Elektro	2019	3.65	<a href="#">Edit</a>   <a href="#">Hapus</a>
9	Indra Maulana	Teknik Mesin	2020	3.7	<a href="#">Edit</a>   <a href="#">Hapus</a>
10	Julianti Putri	Desain Komunikasi Visual	2022	3.95	<a href="#">Edit</a>   <a href="#">Hapus</a>
12	Gagas Surya	informatika	2023	4.0	<a href="#">Edit</a>   <a href="#">Hapus</a>

setelah dihapus:

### Data Mahasiswa

ID	Nama	Jurusan	Angkatan	IPK	Opsi
1	Ahmad Fauzi	Teknik Informatika	2020	3.75	<a href="#">Edit</a>   <a href="#">Hapus</a>
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3	Citra Dewi	Ekonomi	2021	3.85	<a href="#">Edit</a>   <a href="#">Hapus</a>
4	Diana Sari	Kedokteran	2018	3.9	<a href="#">Edit</a>   <a href="#">Hapus</a>
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8	Hendra Kusuma	Teknik Elektro	2019	3.65	<a href="#">Edit</a>   <a href="#">Hapus</a>
9	Indra Maulana	Teknik Mesin	2020	3.7	<a href="#">Edit</a>   <a href="#">Hapus</a>
10	Julianti Putri	Desain Komunikasi Visual	2022	3.95	<a href="#">Edit</a>   <a href="#">Hapus</a>

## Project Structure

- ▼  tp-w12
  - ▼  Web Pages
    - >  META-INF
    -  WEB-INF
    -  edit.jsp
    -  index.jsp
  - ▼  Source Packages
    - ▼  classes
      -  JDBC.java
    - ▼  servlets
      -  MahasiswaServlet.java
  - >  Test Packages
  - ▼  Libraries
    - >  mysql-connector-java-8.0.27.jar
    - >  JDK 23 (Default)
    - >  Apache Tomcat or TomEE
  - >  Test Libraries
  - >  Configuration Files

**Code:**

index.jsp

```
index.jsp x MahasiswaServlet.java x JDBC.java x edit.jsp x
Source History
1 <%@page import="classes.JDBC, java.sql.ResultSet"%>
2 <%@page contentType="text/html" pageEncoding="UTF-8"%>
3 <!DOCTYPE html>
4 <html>
5     <head>
6         <meta http-equiv="Content-Type" content="text/html; charset=UTF-8">
7         <title>CRUD Mahasiswa</title>
8     </head>
9     <body>
10        <h1>CRUD Mahasiswa</h1>
11
12        <h3>Database Connection Status</h3>
13        <%
14            JDBC db = new JDBC();
15            if (db.isConnected) {
16                out.print("STATUS: " + db.message);
17            } else {
18                out.print("STATUS: Gagal terkoneksi ke database");
19            }
20        %>
21
22        <br/><br/>
23        <h3>MASUKAN DATA ANDA</h3>
24        <form method="get" action="MahasiswaServlet">
25            NIM: <input type="text" name="nim" required />
26            Nama: <input type="text" name="nama" required />
27            <input type="submit" value="Kirim"/>
28        </form>
29
30        <%
31            String nim = (String) request.getAttribute("nim");
32            String nama = (String) request.getAttribute("nama");
33
34            if (nim != null && nama != null) {
35                out.print("<p>" + nim + "</p>");
36                out.print("<p>" + nama + "</p>");
37            }
38        %>
39
40        <br/><br/>
41        <h3>Form Tambah Mahasiswa</h3>
42        <form method="post" action="MahasiswaServlet?action=create">
43            Nama: <input type="text" name="nama" required/><br/>
44            Jurusan: <input type="text" name="jurusan" required/><br/>
45            Angkatan: <input type="number" name="angkatan" required/><br/>
46            IPK: <input type="text" name="ipk" required/><br/>
47            <input type="submit" value="Tambah"/>
48        </form>
49
50        <br/>
51        <h3>Data Mahasiswa</h3>
52        <table border="1">
```

```

index.jsp x MahasiswaServlet.java x JDBC.java x edit.jsp x
Source History
38 %>
39
40 <br/><br/>
41 <h3>Form Tambah Mahasiswa</h3>
42 <form method="post" action="MahasiswaServlet?action=create">
43 Nama: <input type="text" name="nama" required/><br/>
44 Jurusan: <input type="text" name="jurusan" required/><br/>
45 Angkatan: <input type="number" name="angkatan" required/><br/>
46 IPK: <input type="text" name="ipk" required/><br/>
47 <input type="submit" value="Tambah"/>
48 </form>
49
50 <br/>
51 <h3>Data Mahasiswa</h3>
52 <table border="1">
53 <tr>
54 <th>ID</th>
55 <th>Nama</th>
56 <th>Jurusan</th>
57 <th>Angkatan</th>
58 <th>IPK</th>
59 <th>Opsional</th>
60 </tr>
61
62 <%
63 if (db.isConnected()) {
64     ResultSet rs = db.runQuery("SELECT * FROM mahasiswa");
65
66     if (!rs.isBeforeFirst()) { // Jika tabel kosong
67         out.print("<tr><td colspan='6'>Tidak ada data</td></tr>");
68     } else {
69         while (rs.next()) {
70             out.print("<tr>");
71             out.print("<td>" + rs.getInt("id") + "</td>");
72             out.print("<td>" + rs.getString("nama") + "</td>");
73             out.print("<td>" + rs.getString("jurusan") + "</td>");
74             out.print("<td>" + rs.getInt("angkatan") + "</td>");
75             out.print("<td>" + rs.getDouble("ipk") + "</td>");
76             out.print("<td>"
77                 + "<a href='MahasiswaServlet?action=edit&id=" + rs.getInt("id") + "'>Edit</a> | "
78                 + "<a href='MahasiswaServlet?action=delete&id=" + rs.getInt("id") + "'>Hapus</a>"
79                 + "</td>");
80             out.print("</tr>");
81         }
82     } else {
83         out.print("<tr><td colspan='6'>Gagal menghubungkan ke database</td></tr>");
84     }
85 }
86 %>
87 </table>
88 </body>
89 </html>

```

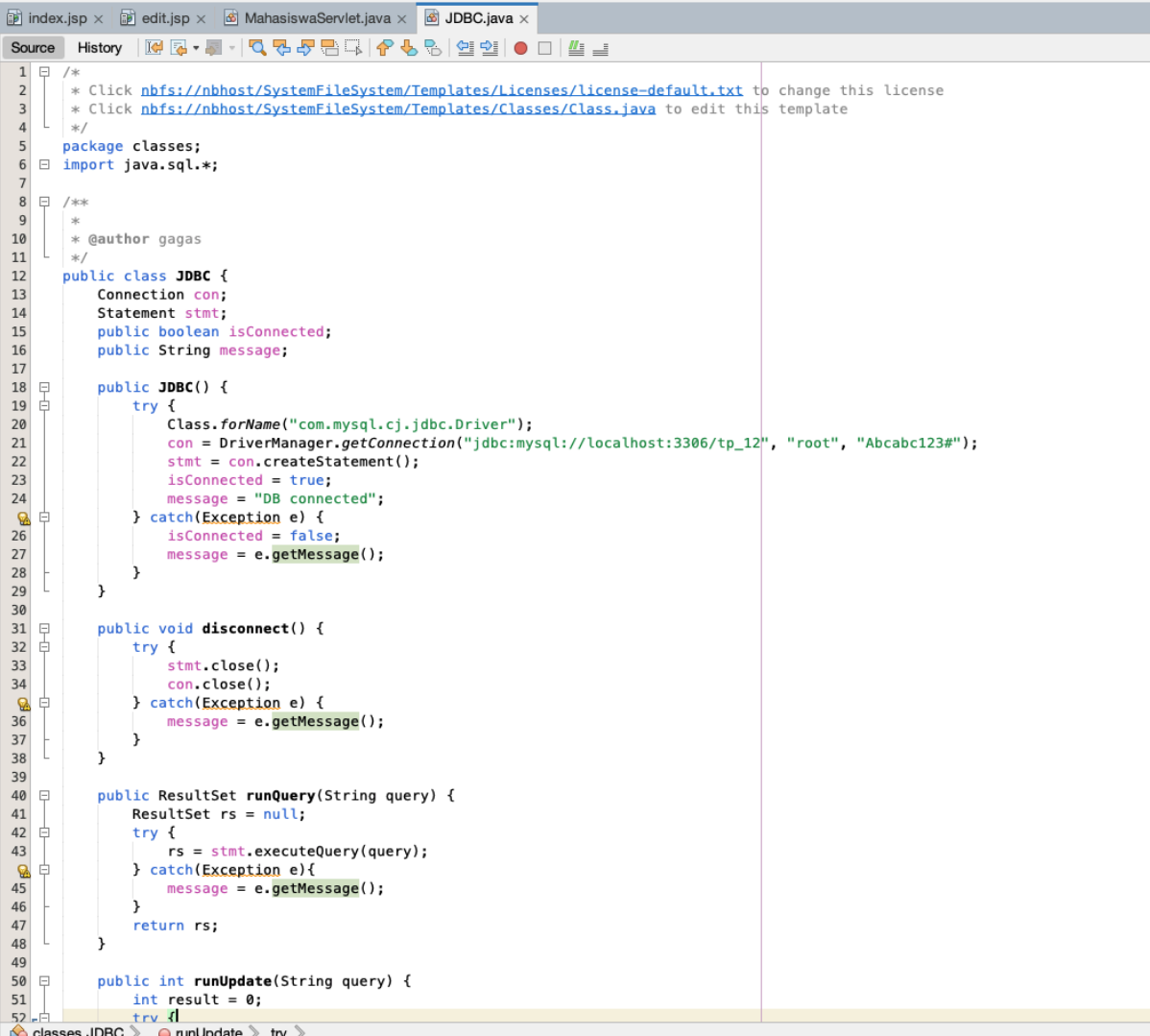
## edit.jsp

```

index.jsp x edit.jsp x MahasiswaServlet.java x JDBC.java x
Source History
1 <%@page import="classes.JDBC"%>
2 <%@page contentType="text/html" pageEncoding="UTF-8"%>
3 <!DOCTYPE html>
4 <html>
5 <head>
6 <meta http-equiv="Content-Type" content="text/html; charset=UTF-8">
7 <title>Edit Mahasiswa</title>
8 </head>
9 <body>
10 <h1>Edit Mahasiswa</h1>
11
12 <form method="post" action="MahasiswaServlet?action=update">
13 <input type="hidden" name="id" value="<%= request.getAttribute("id") %>" />
14 Nama: <input type="text" name="nama" value="<%= request.getAttribute("nama") %>" required/><br/>
15 Jurusan: <input type="text" name="jurusan" value="<%= request.getAttribute("jurusan") %>" required/><br/>
16 Angkatan: <input type="number" name="angkatan" value="<%= request.getAttribute("angkatan") %>" required/><br/>
17 IPK: <input type="text" name="ipk" value="<%= request.getAttribute("ipk") %>" required/><br/>
18 <input type="submit" value="Update"/>
19 </form>
20
21 <a href="index.jsp">Kembali ke Halaman Utama</a>
22 </body>
23 </html>
24

```

## JDBC.java



```
1  /**
2   * Click nbfs://nbhost/SystemFileSystem/Templates/Licenses/license-default.txt to change this license
3   * Click nbfs://nbhost/SystemFileSystem/Templates/Classes/Class.java to edit this template
4   */
5  package classes;
6  import java.sql.*;
7
8  /**
9   *
10   * @author gagas
11   */
12  public class JDBC {
13      Connection con;
14      Statement stmt;
15      public boolean isConnected;
16      public String message;
17
18      public JDBC() {
19          try {
20              Class.forName("com.mysql.cj.jdbc.Driver");
21              con = DriverManager.getConnection("jdbc:mysql://localhost:3306/tp_12", "root", "Abcabc123#");
22              stmt = con.createStatement();
23              isConnected = true;
24              message = "DB connected";
25          } catch (Exception e) {
26              isConnected = false;
27              message = e.getMessage();
28          }
29      }
30
31      public void disconnect() {
32          try {
33              stmt.close();
34              con.close();
35          } catch (Exception e) {
36              message = e.getMessage();
37          }
38      }
39
40      public ResultSet runQuery(String query) {
41          ResultSet rs = null;
42          try {
43              rs = stmt.executeQuery(query);
44          } catch (Exception e) {
45              message = e.getMessage();
46          }
47          return rs;
48      }
49
50      public int runUpdate(String query) {
51          int result = 0;
52          try {
53              result = stmt.executeUpdate(query); // Use executeUpdate for non-SELECT queries
54          } catch (Exception e) {
55              message = e.getMessage();
56          }
57          return result;
58      }
59  }
60
```

## MahasiswaServlet.java

```
index.jsp x edit.jsp x MahasiswaServlet.java x JDBC.java x
Source History
1 package servlets;
2
3 import classes.JDBC;
4 import java.io.IOException;
5 import java.sql.ResultSet;
6 import jakarta.servlet.ServletException;
7 import jakarta.servlet.annotation.WebServlet;
8 import jakarta.servlet.http.HttpServlet;
9 import jakarta.servlet.http.HttpServletRequest;
10 import jakarta.servlet.http.HttpServletResponse;
11
12 @WebServlet(name = "MahasiswaServlet", urlPatterns = {"/MahasiswaServlet"})
13 public class MahasiswaServlet extends HttpServlet {
14
15     // Calling processRequest inside doGet and doPost methods
16     @Override
17     protected void doGet(HttpServletRequest request, HttpServletResponse response)
18         throws ServletException, IOException {
19         String action = request.getParameter("action");
20
21         if (action == null || action.isEmpty()) {
22             processRequest(request, response); // Call processRequest method
23             return;
24         }
25
26         JDBC db = new JDBC();
27         try {
28             if (action.equals("delete")) {
29                 int id = Integer.parseInt(request.getParameter("id"));
30                 db.runUpdate("DELETE FROM mahasiswa WHERE id = " + id);
31                 response.sendRedirect("index.jsp");
32             } else if (action.equals("edit")) {
33                 int id = Integer.parseInt(request.getParameter("id"));
34                 ResultSet rs = db.runQuery("SELECT * FROM mahasiswa WHERE id = " + id);
35                 if (rs.next()) {
36                     request.setAttribute("id", rs.getInt("id"));
37                     request.setAttribute("nama", rs.getString("nama"));
38                     request.setAttribute("jurusan", rs.getString("jurusan"));
39                     request.setAttribute("angkatan", rs.getInt("angkatan"));
40                     request.setAttribute("ipk", rs.getDouble("ipk"));
41                 }
42                 request.getRequestDispatcher("edit.jsp").forward(request, response);
43             }
44         } catch (Exception e) {
45             e.printStackTrace();
46             response.sendRedirect("index.jsp");
47         }
48     }
49
50     @Override
51     protected void doPost(HttpServletRequest request, HttpServletResponse response)
52         throws ServletException, IOException {
53         // ...
54     }
55 }
```



```
index.jsp x edit.jsp x MahasiswaServlet.java x JDBC.java x
ResultSet rs = db.runQuery("SELECT * FROM mahasiswa WHERE id = " + id);

50
51 @Override
52 protected void doPost(HttpServletRequest request, HttpServletResponse response)
53     throws ServletException, IOException {
54     JDBC db = new JDBC();
55     String action = request.getParameter("action");
56
57     try {
58         if (action.equals("create")) {
59             String nama = request.getParameter("nama");
60             String jurusan = request.getParameter("jurusan");
61             int angkatan = Integer.parseInt(request.getParameter("angkatan"));
62             double ipk = Double.parseDouble(request.getParameter("ipk"));
63
64             String query = "INSERT INTO mahasiswa (nama, jurusan, angkatan, ipk) VALUES ('" +
65                 nama + "', '" + jurusan + "', " + angkatan + ", " + ipk + ")";
66             db.runUpdate(query);
67             response.sendRedirect("index.jsp");
68
69         } else if (action.equals("update")) {
70             int id = Integer.parseInt(request.getParameter("id"));
71             String nama = request.getParameter("nama");
72             String jurusan = request.getParameter("jurusan");
73             int angkatan = Integer.parseInt(request.getParameter("angkatan"));
74             double ipk = Double.parseDouble(request.getParameter("ipk"));
75
76             String query = "UPDATE mahasiswa SET nama = '" + nama + "', jurusan = '" +
77                 jurusan + "', angkatan = " + angkatan + ", ipk = " + ipk + " WHERE id = " + id;
78             db.runUpdate(query);
79             response.sendRedirect("index.jsp");
80         }
81     } catch (Exception e) {
82         e.printStackTrace();
83         response.sendRedirect("index.jsp");
84     }
85 }
86
87 // Process request logic that is called in both doGet and doPost
88 protected void processRequest(HttpServletRequest request, HttpServletResponse response)
89     throws ServletException, IOException {
90     String nim = request.getParameter("nim");
91     String nama = request.getParameter("nama");
92
93     // Handle null or empty parameters
94     if (nim == null || nim.isEmpty()) {
95         nim = "NIM tidak diisi.";
96     }
97     if (nama == null || nama.isEmpty()) {
98         nama = "Nama tidak diisi.";
99     }
100
101     // Set attributes to forward to JSP
102     request.setAttribute("nim", "NIM Anda adalah: " + nim);
103     request.setAttribute("nama", "Nama Anda adalah: " + nama);
104
105     // Forward to index.jsp
106     request.getRequestDispatcher("index.jsp").forward(request, response);
107 }
108
109
```