

ACTIVITY PERTEMUAN 4

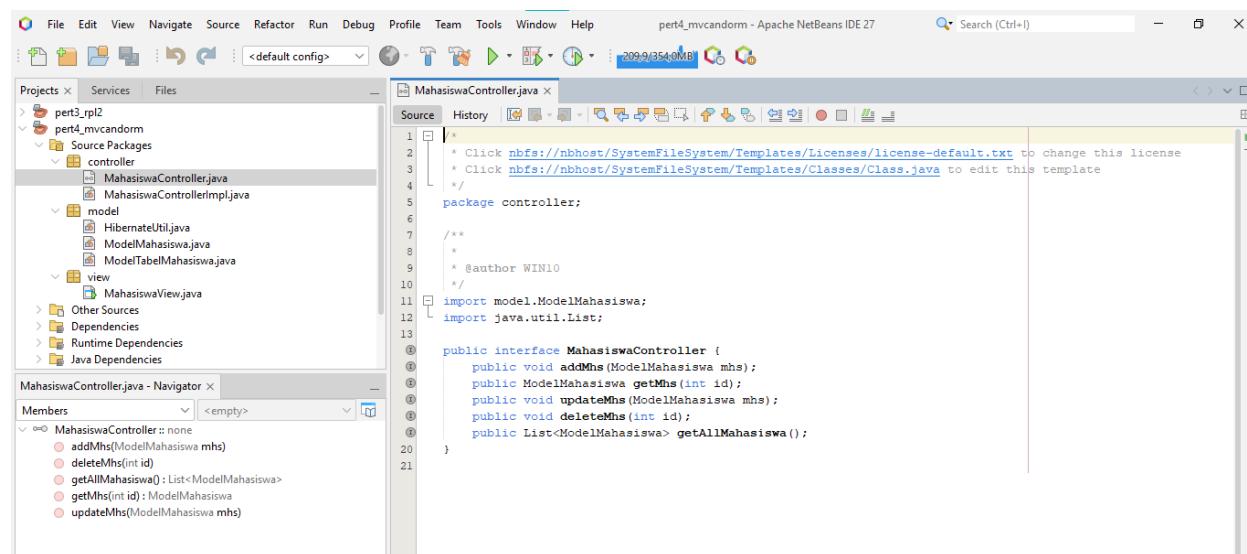
NAMA : Andi Purnama

NPM : 50422215

KELAS : 4IA18

MATERI : Konsep Dasar ORM dan FRAMEWORK HIBERNATE

MATA PRAKTIKUM : Rekayasa Perangkat Lunak 2



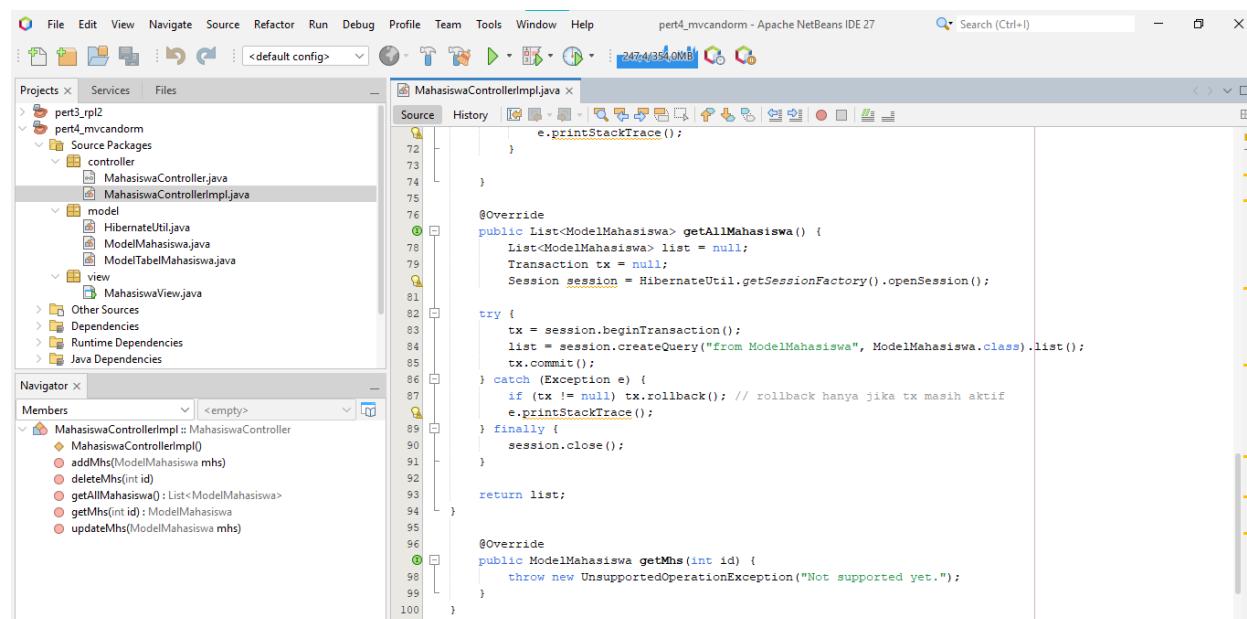
The screenshot shows the Apache NetBeans IDE interface with the project 'pert4_mvcandorm' open. The 'Source Packages' node contains a 'controller' package which includes 'MahasiswaController.java' and 'MahasiswaControllerImpl.java'. The 'model' package contains 'HibernateUtil.java', 'ModelMahasiswa.java', and 'ModelTabelMahasiswa.java'. The 'view' package contains 'MahasiswaView.java'. The code editor displays 'MahasiswaController.java' with the following content:

```
/*
 * Click nbfs://nbhost/SystemFileSystem/Templates/Licenses/license-default.txt to change this license
 * Click nbfs://nbhost/SystemFileSystem/Templates/Classes/Class.java to edit this template
 */
package controller;

/**
 *
 * @author WIN10
 */
import model.ModelMahasiswa;
import java.util.List;

public interface MahasiswaController {
    public void addMhs(ModelMahasiswa mhs);
    public ModelMahasiswa getMhs(int id);
    public void updateMhs(ModelMahasiswa mhs);
    public void deleteMhs(int id);
    public List<ModelMahasiswa> getAllMahasiswa();
}
```

The Navigator pane shows the members of the 'MahasiswaController' class.



The screenshot shows the Apache NetBeans IDE interface with the project 'pert4_mvcandorm' open. The 'Source Packages' node contains a 'controller' package which includes 'MahasiswaController.java' and 'MahasiswaControllerImpl.java'. The 'model' package contains 'HibernateUtil.java', 'ModelMahasiswa.java', and 'ModelTabelMahasiswa.java'. The 'view' package contains 'MahasiswaView.java'. The code editor displays 'MahasiswaControllerImpl.java' with the following content:

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

    @Override
    public List<ModelMahasiswa> getAllMahasiswa() {
        List<ModelMahasiswa> list = null;
        Transaction tx = null;
        Session session = HibernateUtil.getSessionFactory().openSession();

        try {
            tx = session.beginTransaction();
            list = session.createQuery("from ModelMahasiswa", ModelMahasiswa.class).list();
            tx.commit();
        } catch (Exception e) {
            if (tx != null) tx.rollback(); // rollback hanya jika tx masih aktif
            e.printStackTrace();
        } finally {
            session.close();
        }
        return list;
    }

    @Override
    public ModelMahasiswa getMhs(int id) {
        throw new UnsupportedOperationException("Not supported yet.");
    }
}
```

The Navigator pane shows the members of the 'MahasiswaControllerImpl' class.

The screenshot shows a Java code editor window with the title bar "HibernateUtil.java x". The menu bar includes "Source" and "History". The toolbar contains various icons for file operations like new, open, save, and search. The code itself is as follows:

```
7  /**
8  *
9  * @author WIN10
10 */
11 import org.hibernate.SessionFactory;
12 import org.hibernate.Session;
13 import org.hibernate.cfg.Configuration;
14
15 public class HibernateUtil {
16     private static SessionFactory sessionFactory;
17
18     static {
19         try {
20             sessionFactory = (SessionFactory) new Configuration().configure().buildSessionFactory();
21         } catch (Throwable ex) {
22             System.err.println("Initial SessionFactory creation failed." + ex);
23             throw new ExceptionInInitializerError(ex);
24         }
25     }
26
27     public static SessionFactory getSessionFactory() {
28         return sessionFactory;
29     }
30
31     public static void testConnection() {
32         try (Session session = sessionFactory.openSession()) {
33             System.out.println("Connection to the database was successful!");
34         } catch (Exception e) {
35             System.err.println("Failed to connect to the database.");
36             e.printStackTrace();
37         }
38     }
39 }
```

The screenshot shows a Java code editor window with three tabs: "HibernateUtil.java x", "ModelMahasiswa.java x", and another tab that is partially visible. The "ModelMahasiswa.java x" tab is active. The menu bar includes "Source" and "History". The toolbar contains various icons for file operations like new, open, save, and search. The code itself is as follows:

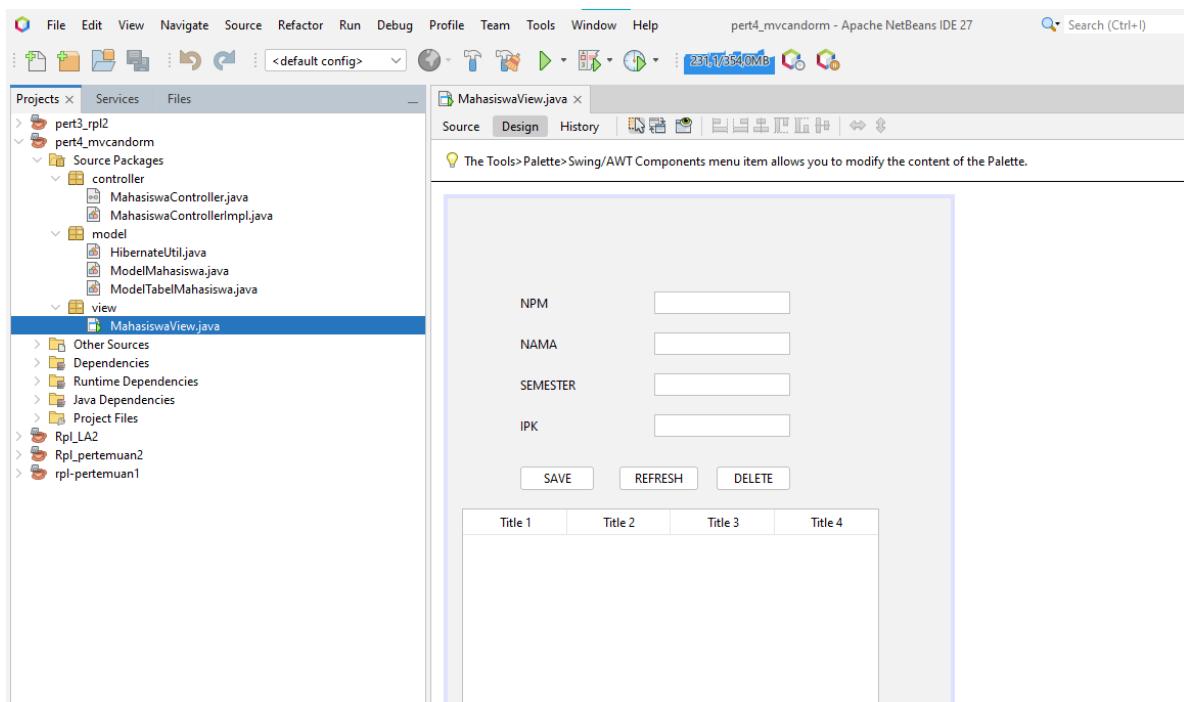
```
52     return npm;
53 }
54
55     public void setNpm(String npm) {
56         this.npm = npm;
57     }
58
59     public String getNama() {
60         return nama;
61     }
62
63     public void setNama(String nama) {
64         this.nama = nama;
65     }
66
67     public int getSemester() {
68         return semester;
69     }
70
71     public void setSemester(int semester) {
72         this.semester = semester;
73     }
74
75     public float getIpk() {
76         return ipk;
77     }
78
79     public void setIpk(float ipk) {
80         this.ipk = ipk;
81     }
82 }
```

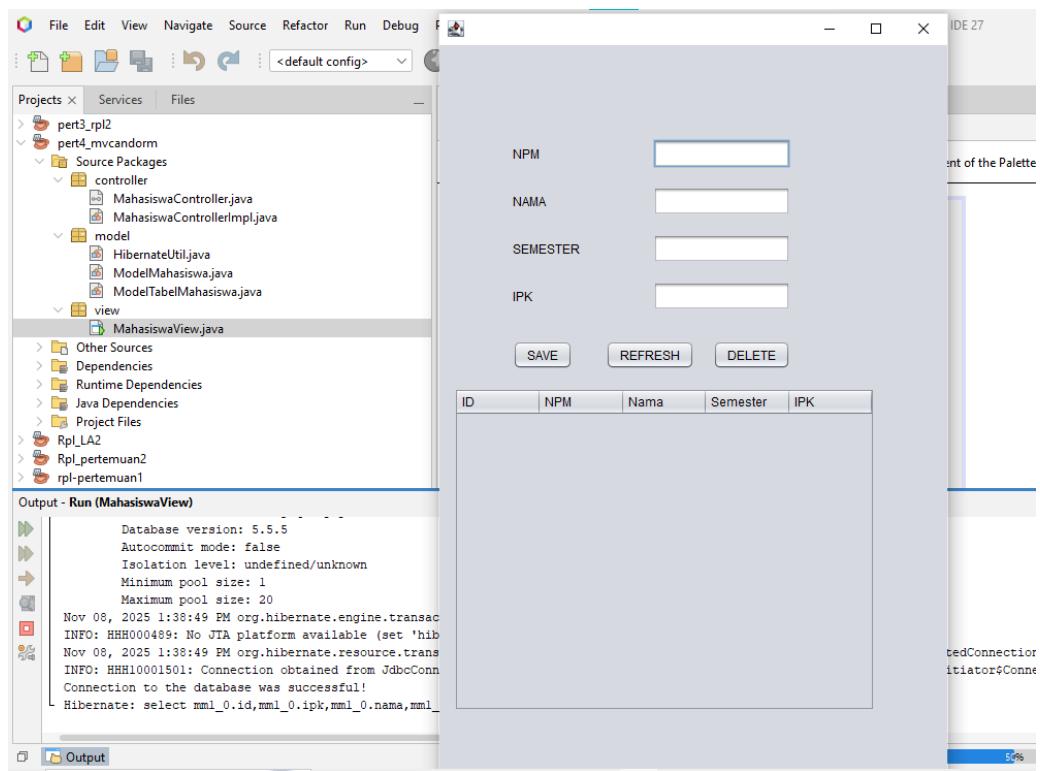
Screenshot of the Apache NetBeans IDE showing the code editor for `ModelTabelMahasiswa.java`. The code implements a `JTable` model for displaying student data.

```

37     case 0:
38         return mahasiswa.getId();
39     case 1:
40         return mahasiswa.getNpm();
41     case 2:
42         return mahasiswa.getNama();
43     case 3:
44         return mahasiswa.getSemester();
45     case 4:
46         return mahasiswa.getIpk();
47     default:
48         return null;
49     }
50 }
51
52 @Override
53 public String getColumnName(int column) {
54     return columnNames[column]; // Mengatur nama kolom
55 }
56
57 @Override
58 public boolean isCellEditable(int rowIndex, int columnIndex) {
59     return false; // Semua sel tidak dapat diedit
60 }
61
62 // Method untuk menambahkan atau memodifikasi data, jika dibutuhkan
63 public void setMahasiswaList(List<ModelMahasiswa> mahasiswaList) {
64     this.mahasiswaList = mahasiswaList;
65     fireTableDataChanged(); // Memberitahu JTable bahwa data telah berubah
66 }
67

```





Data Entry Form:

NPM	<input type="text" value="50422215"/>
NAMA	<input type="text" value="ANDI PURNAMA"/>
SEMESTER	<input type="text" value="7"/>
IPK	<input type="text" value="3.9"/>

Buttons: SAVE, REFRESH, DELETE

Table:

ID	NPM	Nama	Semester	IPK
2	50422215	ANDI PUR...	7	3.9