

ACTIVITY PERTEMUAN 1

NAMA : FADLI ARDIANSYAH HARAHAP

NPM : 50421437

KELAS : 4IA14

MATERI : -

MATA PRAKTIKUM : REKAYASA PERANGKAT LUNAK 2

- KODE PROGRAM

1. PERTEMUAN6_50421437

```
/*
 * Click nbfs://nbhost/SystemFileSystem/Templates/Licenses/license-default.txt to change this license
 */
package me.akai;

import me.akai.controller.MahasiswaController;
import me.akai.service.MahasiswaService;
import me.akai.view.MahasiswaView;
import org.springframework.boot.ApplicationArguments;
import org.springframework.boot.ApplicationRunner;
import org.springframework.boot.SpringApplication;
import org.springframework.boot.autoconfigure.SpringBootApplication;
import org.springframework.beans.factory.annotation.Autowired;
import org.springframework.context.ApplicationContext;

/**
 *
 * @author fadli
 */
@SpringBootApplication
public class Pertemuan6_50521437 implements ApplicationRunner {

    @Autowired
    private MahasiswaService mahasiswaService;

    public static void main(String[] args) {
        System.setProperty("java.awt.headless", "false"); // Disable headless mode
    }
}
```

2. POM.XML

```
<?xml version="1.0" encoding="UTF-8"?>
<project xmlns="http://maven.apache.org/POM/4.0.0" xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance" xsi:schemaLocation="http://maven.apache.org/POM/4.0.0 http://maven.apache.org/xsd/maven-4.0.0.xsd">
    <modelVersion>4.0.0</modelVersion>
    <groupId>me.akai</groupId>
    <artifactId>Pertemuan6_50521437</artifactId>
    <version>1.0-SNAPSHOT</version>
    <packaging>jar</packaging>
    <properties>
        <project.build.sourceEncoding>UTF-8</project.build.sourceEncoding>
        <maven.compiler.source>23</maven.compiler.source>
        <maven.compiler.target>23</maven.compiler.target>
        <exec.mainClass>me.akai.Pertemuan6_50521437</exec.mainClass>
    </properties>
    <parent>
        <groupId>org.springframework.boot</groupId>
        <artifactId>spring-boot-starter-parent</artifactId>
        <version>3.3.3</version>
        <relativePath/>
    </parent>
    <dependencies>
        <!-- Hibernate + Spring Data JPA -->
        <dependency>
            <groupId>org.springframework.boot</groupId>
            <artifactId>spring-boot-starter-data-jpa</artifactId>
        </dependency>
    </dependencies>
</project>
```

3. MODELMAHASISWA

```
/*
 * 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 me.akai.model;

import jakarta.persistence.*;

@Entity
@Table(name = "mahasiswa")
public class ModelMahasiswa {

    @Id
    @GeneratedValue(strategy = GenerationType.IDENTITY)
    @Column(name = "id")
    private int id;

    @Column(name = "npm", nullable = false, length = 8)
    private String npm;

    @Column(name = "nama", nullable = false, length = 50)
    private String nama;

    @Column(name = "semester")
    private int semester;
}
```

4. MAHASISWAREPOSITORY

```
/*
 * 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 me.akai.repository;

import me.akai.model.ModelMahasiswa;
import org.springframework.data.jpa.repository.JpaRepository;
import org.springframework.stereotype.Repository;

@Repository
public interface MahasiswaRepository extends JpaRepository<ModelMahasiswa, Integer> {
}
```

5. MAHASISWASERVICE

```
/*
 * 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 me.akai.service;

import me.akai.model.ModelMahasiswa;
import me.akai.repository.MahasiswaRepository;
import java.util.List;
import org.springframework.beans.factory.annotation.Autowired;
import org.springframework.stereotype.Service;

@Service
public class MahasiswaService {

    @Autowired
    private MahasiswaRepository repository;

    public void addMhs(ModelMahasiswa mhs) {
        repository.save(mhs);
    }

    public ModelMahasiswa getMhs(int id) {
        return repository.findById(id).orElse(null);
    }

    public void updateMhs(ModelMahasiswa mhs) {
        repository.save(mhs);
    }
}
```

6. MAHASISWA CONTROLLER

```

/*
 * 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 me.akai.controller;

import org.springframework.beans.factory.annotation.Autowired;
import org.springframework.web.bind.annotation.*;
import me.akai.model.ModelMahasiswa;
import me.akai.service.MahasiswaService;

import java.util.List;
import org.springframework.stereotype.Controller;

@Controller
public class MahasiswaController {

    @Autowired
    private MahasiswaService mahasiswaService;

    // Add new Mahasiswa
    public String addMahasiswa(@RequestBody ModelMahasiswa mhs) {
        mahasiswaService.addMhs(mhs);
        return "Mahasiswa added successfully";
    }
}

```

7. MAHASISWA VIEW

The image shows a web application interface for managing students. It features a form with the following fields:

- NPM
- NAMA
- SEMESTER
- IPK

Below the form, there are three buttons: "Simpan", "Buang", and "Refresh". At the bottom of the page, there is a table with four columns labeled "Title 1", "Title 2", "Title 3", and "Title 4".

```

/*
 * Click nbfs://nbhost/SystemFileSystem/Templates/Licenses/license-default.txt to change this license
 * Click nbfs://nbhost/SystemFileSystem/Templates/GuiForms/JFrame.java to edit this template
 */
package me.akai.view;

import java.util.List;
import me.akai.controller.MahasiswaController;
import me.akai.model.ModelMahasiswa;
import javax.swing.*;
import me.akai.model.ModelTabelMahasiswa;

/**
 *
 * @author fadli
 */
public class MahasiswaView extends javax.swing.JFrame {

    private MahasiswaController controller;

    public MahasiswaView(MahasiswaController controller) {
        this.controller = controller;
        initComponents();
        loadMahasiswaTable();
    }
}

```

8. MODELABEL

```

/*
 * 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 me.akai.model;

import javax.swing.table.AbstractTableModel;
import java.util.List;

public class ModelTabelMahasiswa extends AbstractTableModel {
    private List<ModelMahasiswa> mahasiswaList;
    private String[] columnNames = {"ID", "NPM", "Nama", "Semester", "IPK"};

    public ModelTabelMahasiswa(List<ModelMahasiswa> mahasiswaList) {
        this.mahasiswaList = mahasiswaList;
    }

    @Override
    public int getRowCount() {
        return mahasiswaList.size(); // Jumlah baris sesuai dengan jumlah data mahasiswa
    }
}

```

9. APPLICATIONPROPERTIES

```

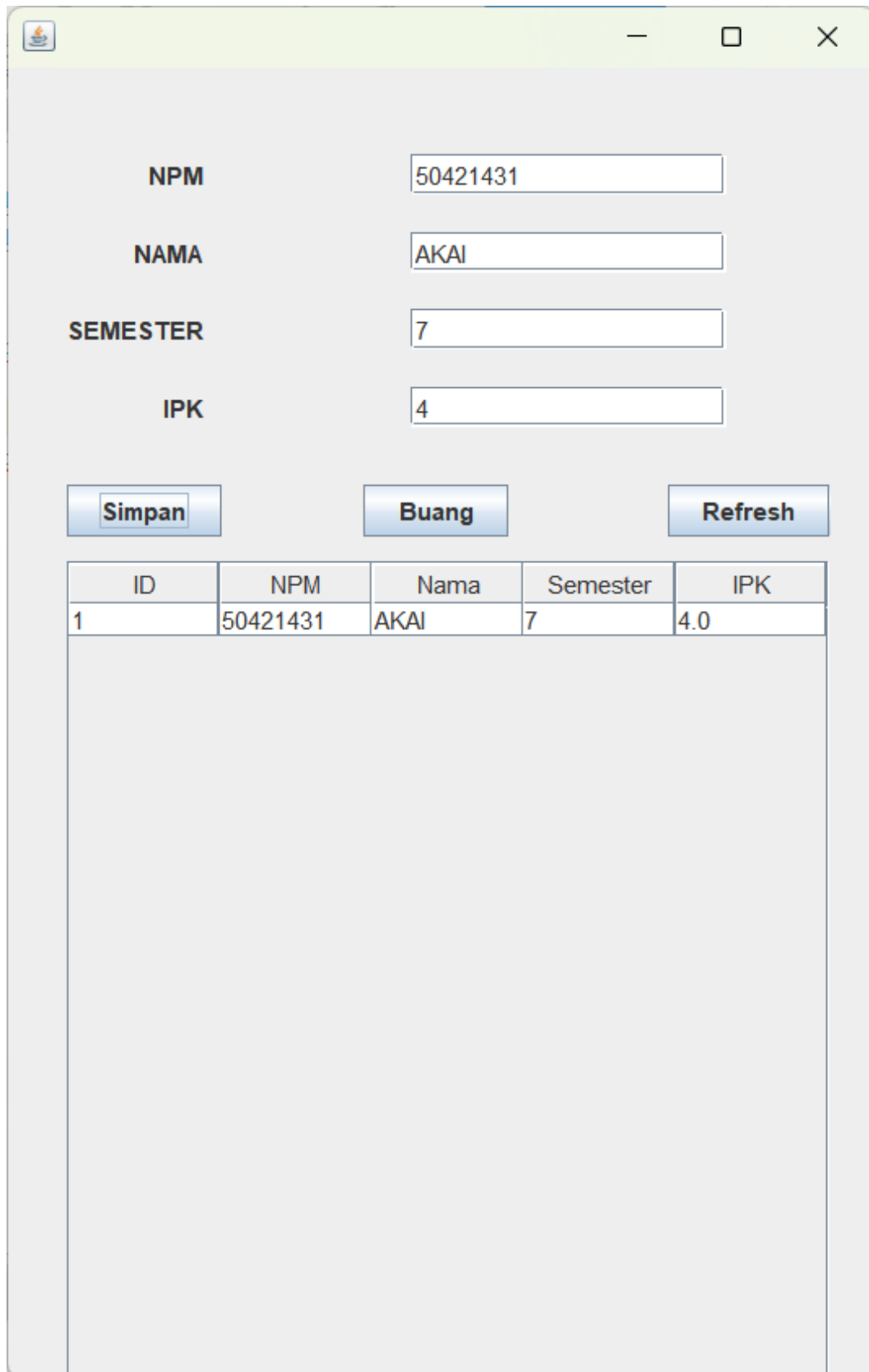
# Click nbfs://nbhost/SystemFileSystem/Templates/Licenses/license-default.txt to change this license
# Click nbfs://nbhost/SystemFileSystem/Templates/Other/properties.properties to edit this template

# Konfigurasi MySQL Hibernate
spring.datasource.url=jdbc:mysql://localhost:3306/spring_50421437?useSSL=false&serverTimezone=UTC
spring.datasource.username=root
spring.datasource.password=
spring.datasource.driver-class-name=com.mysql.cj.jdbc.Driver

# Hibernate settings
spring.jpa.hibernate.ddl-auto=update
spring.jpa.show-sql=true

```

- OUTPUT



The screenshot shows a web application window with a light green title bar. Inside, there is a form with four input fields labeled NPM, NAMA, SEMESTER, and IPK. Below the form are three buttons: Simpan, Buang, and Refresh. At the bottom, there is a table with five columns: ID, NPM, Nama, Semester, and IPK. The table contains one row of data.

NPM	50421431
NAMA	AKAI
SEMESTER	7
IPK	4

Simpan **Buang** **Refresh**

ID	NPM	Nama	Semester	IPK
1	50421431	AKAI	7	4.0