

ACTIVITY PERTEMUAN 4

NAMA : Fizri Rosdiansyah

NPM : 50421535

KELAS : 4IA06

MATERI : ORM dan framework Hibernate

MATA PRAKTIKUM : Rekayasa Perangkat Lunak 2

Soal

1. Sebutkan dan jelaskan semua komponen GUI yang digunakan pada JFrame “mahasiswaView.java”
2. Screenshot hasil codingan kalian lengkap dengan windows projects,navigator, dan outputnya?

Jawab

1.4 Label untuk menamai text field, 4 text field untuk melakukan input, 1 tabel untuk menunjukan data yang di input, button simpan untuk menyimpan input dan button hapus untuk mendelete data.

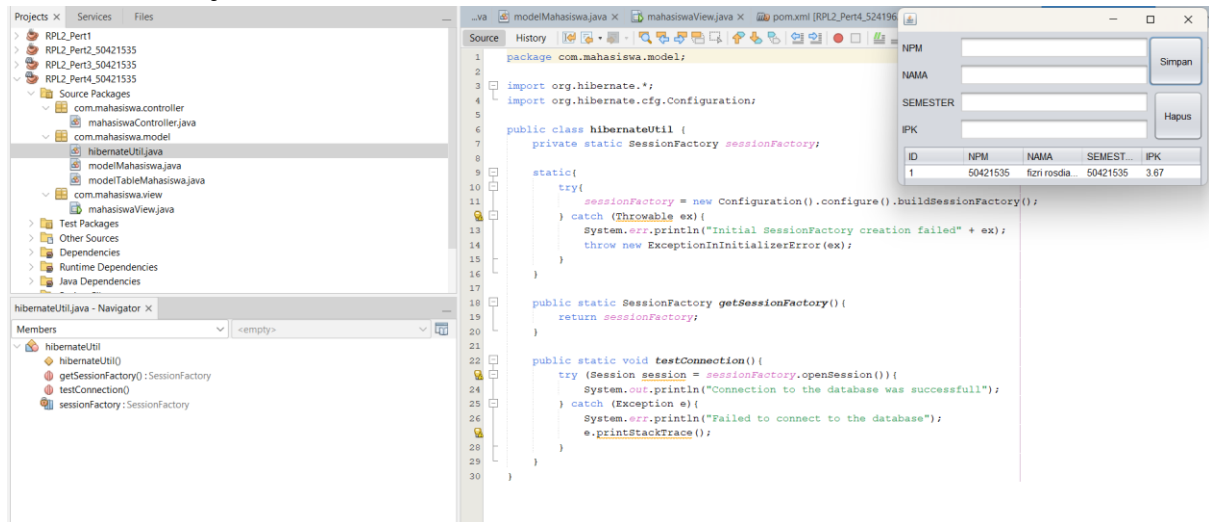
2.

A.MahasiswaController.java

The screenshot displays an IDE with the following components:

- Projects View:** Shows the project structure with packages like `com.mahasiswa.controller`, `com.mahasiswa.model`, and `com.mahasiswa.view`.
- Navigator View:** Lists the members of the `mahasiswaController` class, including `addMhs(modelMahasiswa mhs)`, `deleteMhs(int id)`, `getAllMahasiswa() : List<modelMahasiswa>`, and `updateMhs(modelMahasiswa mhs)`.
- Source View:** Contains the Java code for `mahasiswaController.java`. The code implements methods for adding, deleting, and retrieving student data using Hibernate. It includes transaction management and exception handling.
- GUI View (mahasiswaView.java):** Shows a JFrame with a form containing four text fields for NPM, NAMA, SEMESTER, and IPK. There are two buttons, "Simpan" (Save) and "Hapus" (Delete), and a table displaying the current data. The table has columns for ID, NPM, NAMA, SEMESTER, and IPK, with one row of data: ID 1, NPM 50421535, NAMA fizri rosda, SEMESTER 50421535, and IPK 3.67.

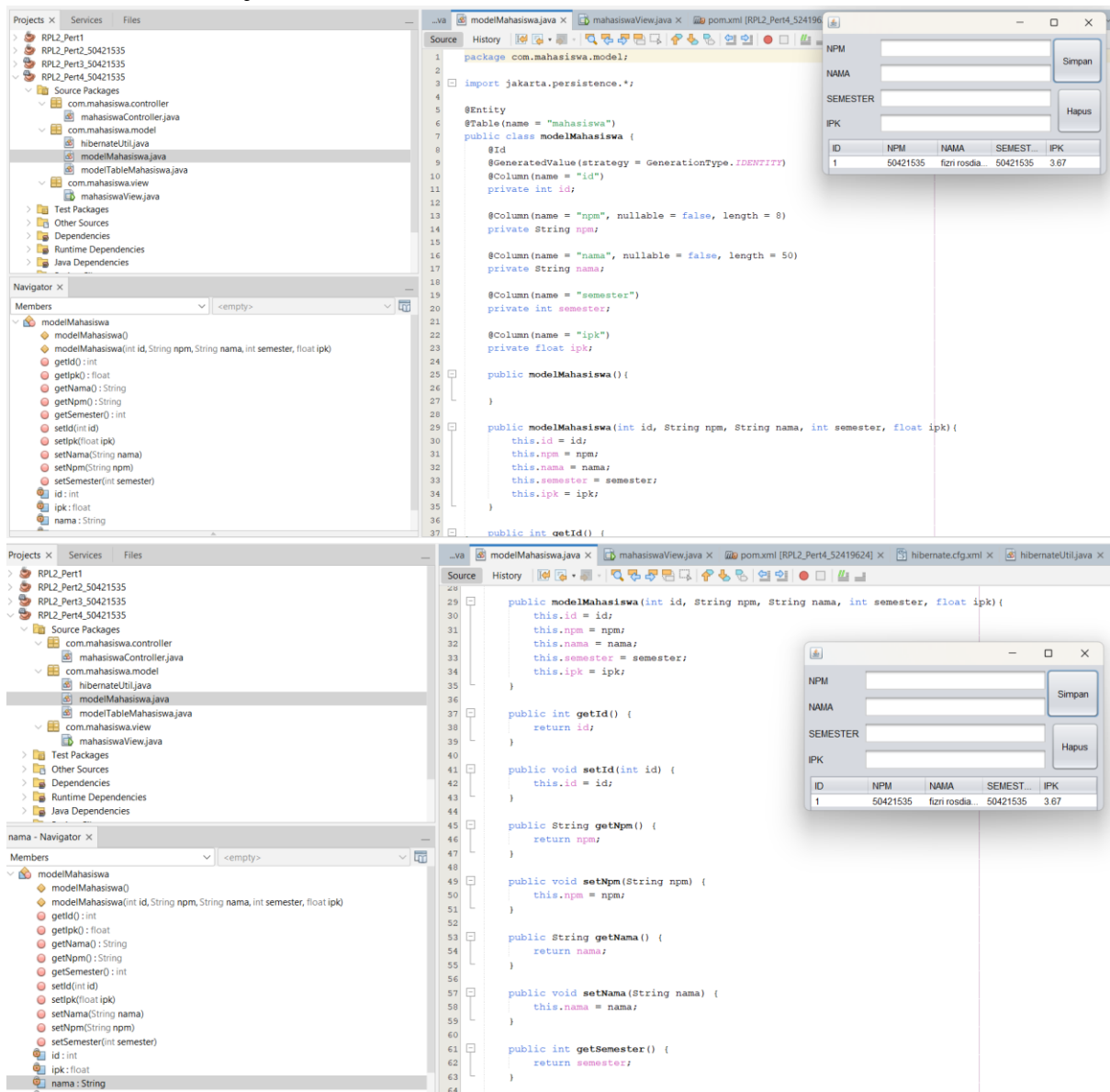
B.hibernateUtil.java



The screenshot shows an IDE with the following components:

- Projects Panel:** Shows a project structure with packages like `com.mahasiswa.controller`, `com.mahasiswa.model`, and `com.mahasiswa.view`.
- hibernateUtil.java - Navigator:** Lists members of the `hibernateUtil` class, including `hibernateUtil()`, `getSessionFactory(): SessionFactory`, `testConnection()`, and `sessionFactory: SessionFactory`.
- Source Editor:** Displays the code for `hibernateUtil.java`. The code includes imports for `org.hibernate` and `org.hibernate.cfg.Configuration`. It defines a `SessionFactory` and a `testConnection()` method.
- Database Table View:** A window titled "hibernateUtil.java" showing a table with columns: ID, NPM, NAMA, SEMESTER, and IPK. The table contains one row of data: 1, 50421535, fuzri rosda, 50421535, 3.67.

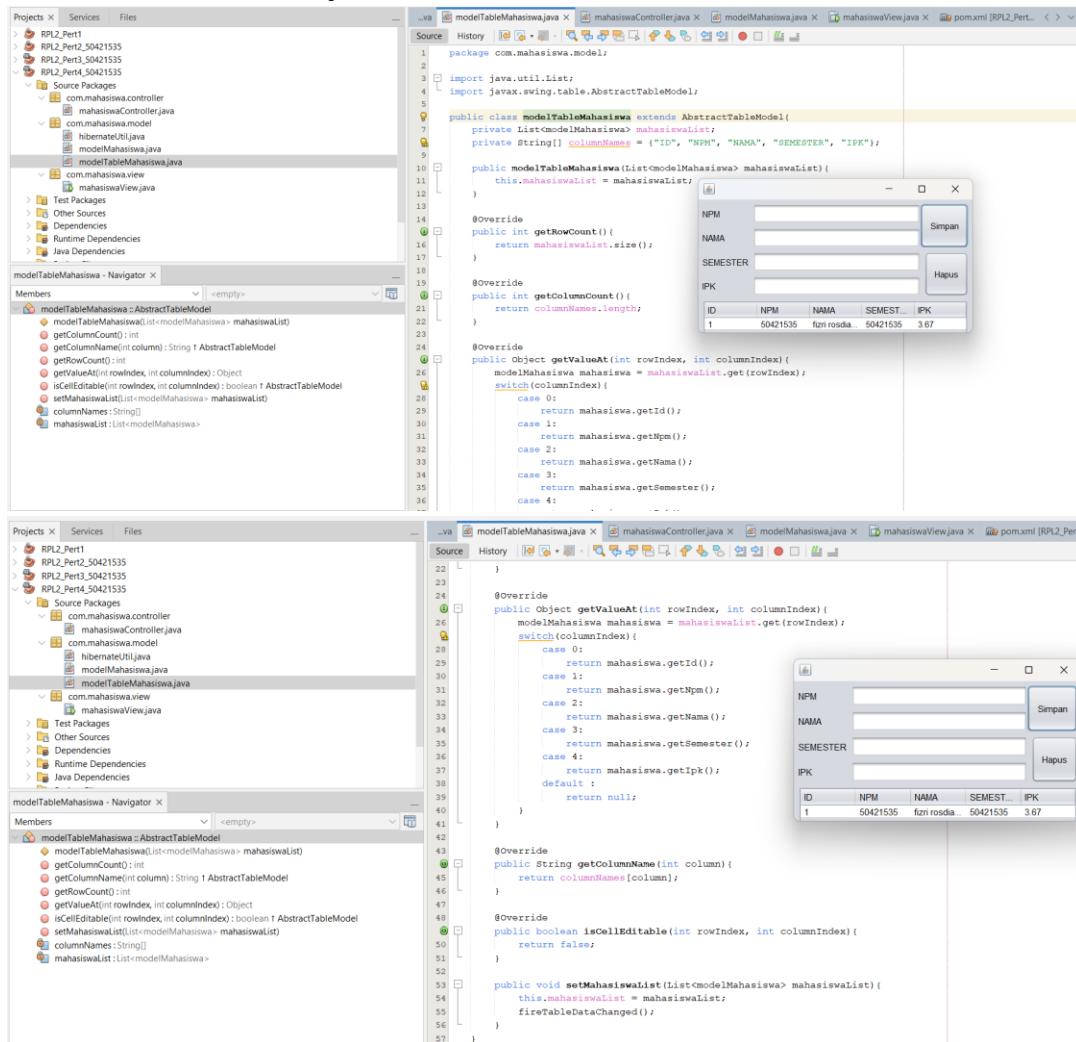
C.modelMahasiswa.java



The screenshot shows an IDE with the following components:

- Projects Panel:** Shows a project structure with packages like `com.mahasiswa.controller`, `com.mahasiswa.model`, and `com.mahasiswa.view`.
- Navigator:** Lists members of the `modelMahasiswa` class, including `modelMahasiswa()`, `getId(): int`, `getNpm(): float`, `getNama(): String`, `getSemester(): int`, `setId(int id)`, `setNpm(float npm)`, `setNama(String nama)`, `setSemester(int semester)`, `id: int`, `npm: float`, and `nama: String`.
- Source Editor:** Displays the code for `modelMahasiswa.java`. The code includes imports for `jakarta.persistence`. It defines an `Entity` with fields `id`, `npm`, `nama`, `semester`, and `ipk`. It also includes methods for `getId()`, `setId(int id)`, `getNpm()`, `setNpm(String npm)`, `getNama()`, `setNama(String nama)`, and `getSemester()`.
- Database Table View:** A window titled "hibernateUtil.java" showing a table with columns: ID, NPM, NAMA, SEMESTER, and IPK. The table contains one row of data: 1, 50421535, fuzri rosda, 50421535, 3.67.

D.modelTableMahasiswa.java



```

package com.mahasiswa.model;

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

public class modelTableMahasiswa extends AbstractTableModel {
    private List<modelMahasiswa> mahasiswaList;
    private String[] columnNames = {"ID", "NPM", "NAMA", "SEMESTER", "IPK"};

    public modelTableMahasiswa(List<modelMahasiswa> mahasiswaList) {
        this.mahasiswaList = mahasiswaList;
    }

    @Override
    public int getRowCount() {
        return mahasiswaList.size();
    }

    @Override
    public int getColumnCount() {
        return columnNames.length;
    }

    @Override
    public Object getValueAt(int rowIndex, int columnIndex) {
        modelMahasiswa mahasiswa = mahasiswaList.get(rowIndex);
        switch (columnIndex) {
            case 0:
                return mahasiswa.getId();
            case 1:
                return mahasiswa.getNpm();
            case 2:
                return mahasiswa.getNama();
            case 3:
                return mahasiswa.getSemester();
            case 4:
                return mahasiswa.getIpk();
            default:
                return null;
        }
    }

    @Override
    public String getColumnName(int column) {
        return columnNames[column];
    }

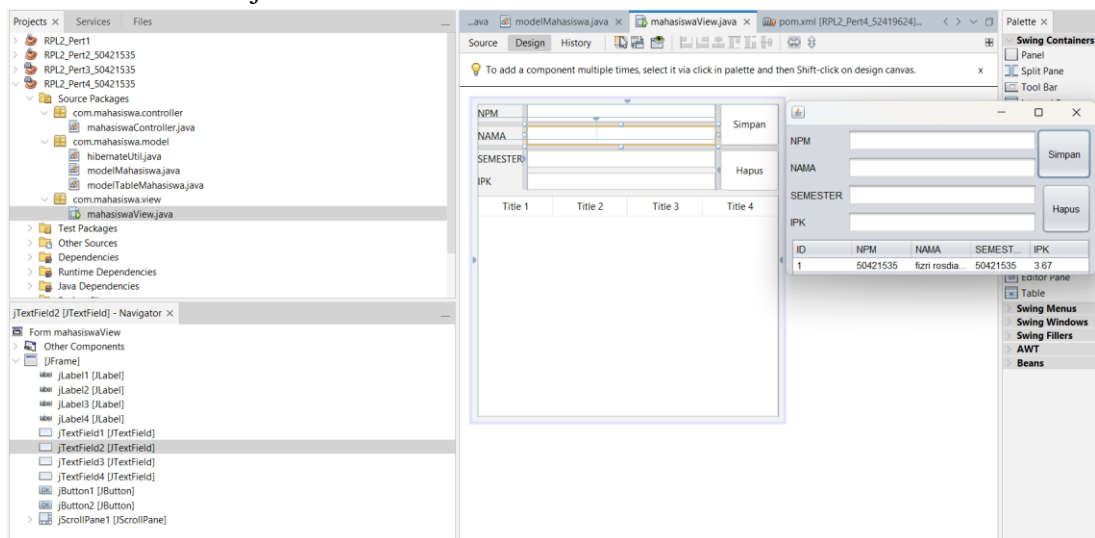
    @Override
    public boolean isCellEditable(int rowIndex, int columnIndex) {
        return false;
    }

    public void setMahasiswaList(List<modelMahasiswa> mahasiswaList) {
        this.mahasiswaList = mahasiswaList;
        fireTableDataChanged();
    }
}

```

ID	NPM	NAMA	SEMESTER	IPK
1	50421535	fzri rosda	50421535	3.67

E.mahasiswaView.java



```

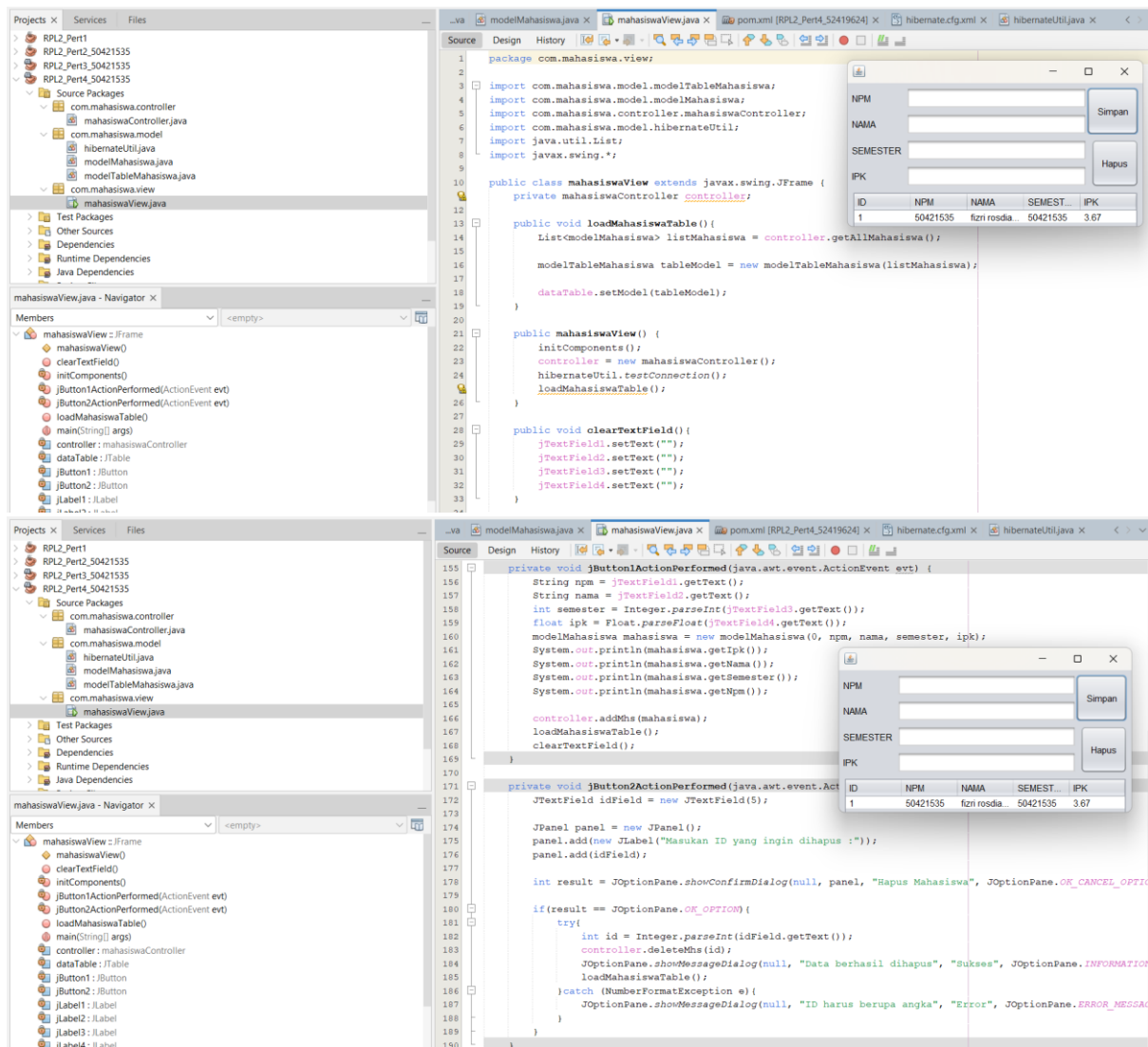
package com.mahasiswa.view;

import javax.swing.*;
import java.awt.*;

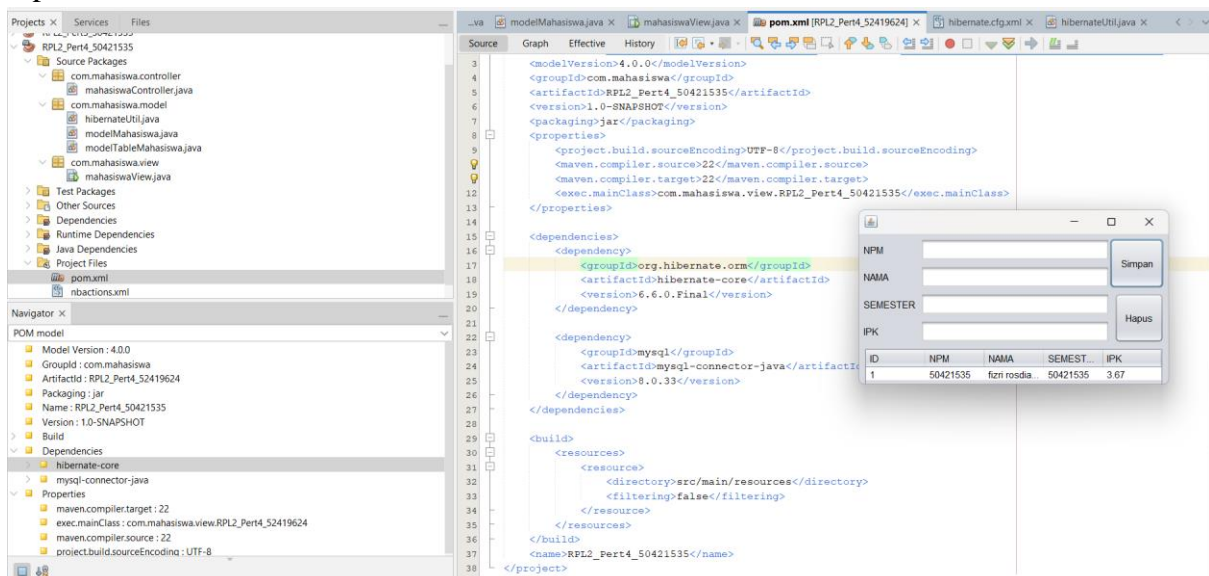
public class mahasiswaView extends JFrame {
    public mahasiswaView() {
        setTitle("Mahasiswa View");
        setDefaultCloseOperation(JFrame.EXIT_ON_CLOSE);
        getContentPane().add(new JPanel());
    }
}

```

ID	NPM	NAMA	SEMESTER	IPK
1	50421535	fzri rosda	50421535	3.67



F.pom.xml



G.hibernate.cfg.xml

The screenshot displays an IDE with the `hibernate.cfg.xml` file open. The file contains the following XML configuration:

```
<?xml version="1.0" encoding="UTF-8"?>
<!DOCTYPE hibernate-configuration PUBLIC "-//Hibernate/Hibernate Configuration DTD 3.0//EN" "http://hibernate.sourceforge.net/hibernate-configuration-3.0.dtd">
<hibernate-configuration>
  <session-factory>
    <!-- Database Connection Settings -->
    <property name="hibernate.connection.driver_class">com.mysql.cj.jdbc.Driver</property>
    <property name="hibernate.connection.url">jdbc:mysql://localhost:3306/hibernate_db</property>
    <property name="hibernate.connection.username">root</property>
    <property name="hibernate.connection.password"></property>

    <!-- JDBC connection pool settings -->
    <property name="hibernate.c3p0.min_size">5</property>
    <property name="hibernate.c3p0.max_size">20</property>
    <property name="hibernate.c3p0.timeout">300</property>
    <property name="hibernate.c3p0.max_statements">50</property>
    <property name="hibernate.c3p0.idle_test_period">3000</property>

    <!-- SQL dialect -->
    <property name="hibernate.dialect">org.hibernate.dialect.MySQLDialect</property>

    <!-- Echo all executed SQL to stdout -->
    <property name="hibernate.show_sql">true</property>

    <!-- Drop and re-create the database schema on startup -->
    <property name="hibernate.hbm2ddl.auto">update</property>

    <!-- Mapping class -->
    <mapping class="com.mahasiswa.model.modelMahasiswa"/>
  </session-factory>
</hibernate-configuration>
</root>
```

On the right side of the IDE, a database table view is visible, showing a table with the following data:

ID	NPM	NAMA	SEMESTER	IPK
1	50421535	fzri rosda	50421535	3.67