

ACTIVITY PERTEMUAN 3

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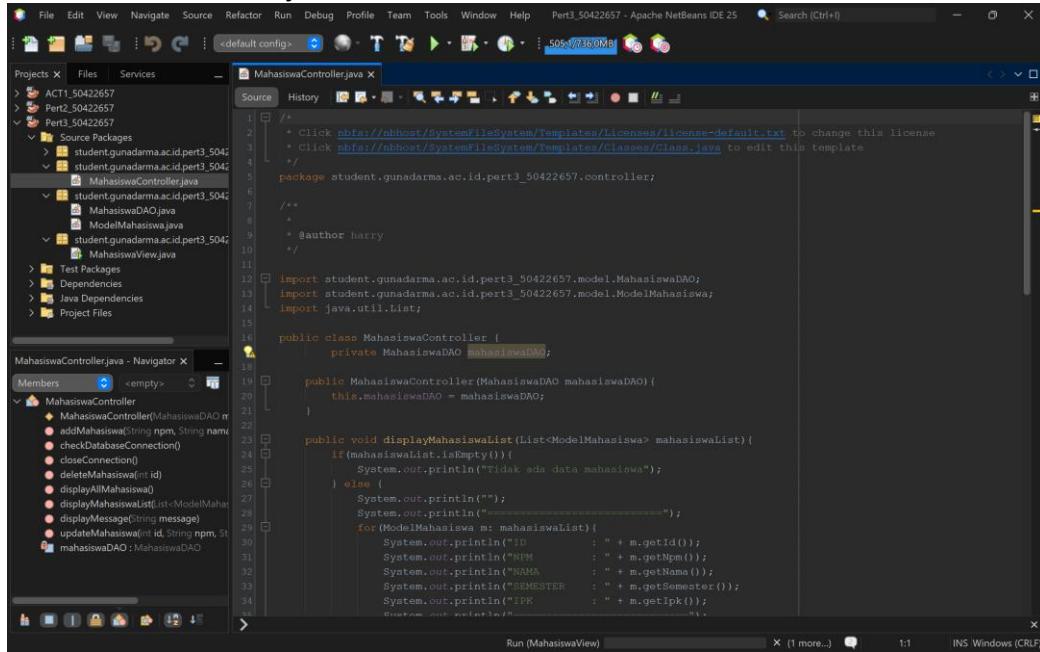
KELAS : 4IA01

MATERI : MVC

MATA PRAKTIKUM : Rekayasa Perangkat Lunak 2

1. Screenshot kode dan output dari program yang telah dibuat.

- MahasiswaController.java



The screenshot shows the Apache NetBeans IDE interface with the code editor open for the file `MahasiswaController.java`. The code implements a controller class that interacts with a `MahasiswaDAO` interface to manage student data. The code includes methods for adding, displaying, and deleting students, along with a `displayMahasiswaList` method that prints student details to the console.

```
/*
 * 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 student.gunadarma.ac.id.pert3_50422657.controller;

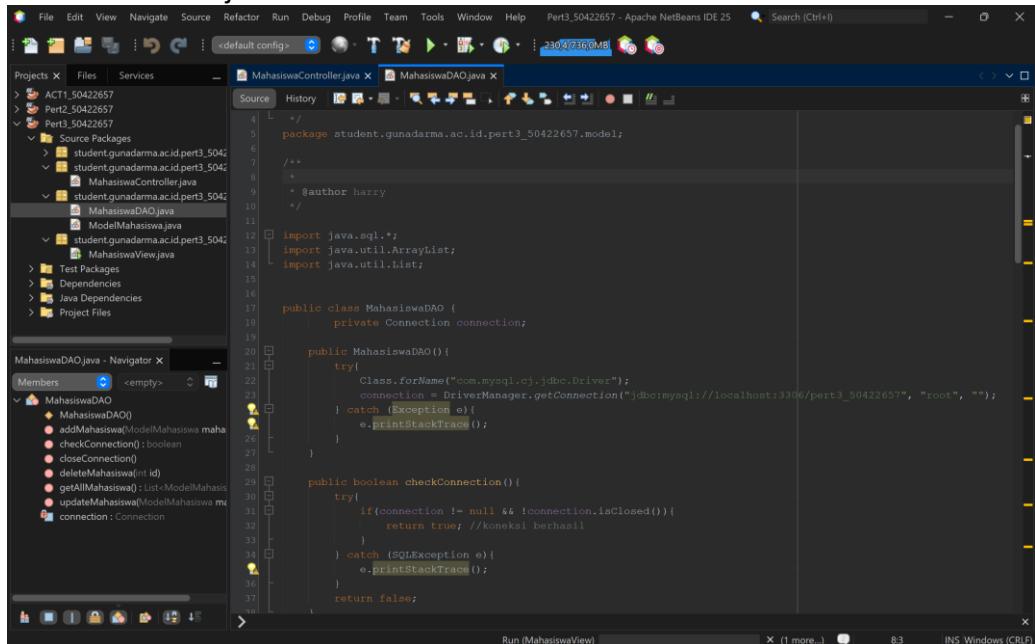
import student.gunadarma.ac.id.pert3_50422657.model.MahasiswaDAO;
import student.gunadarma.ac.id.pert3_50422657.model.ModelMahasiswa;
import java.util.List;

public class MahasiswaController {
    private MahasiswaDAO mahasiswaDAO;

    public MahasiswaController(MahasiswaDAO mahasiswaDAO) {
        this.mahasiswaDAO = mahasiswaDAO;
    }

    public void displayMahasiswaList(List<ModelMahasiswa> mahasiswaList) {
        if(mahasiswaList.isEmpty()){
            System.out.println("Tidak ada data mahasiswa");
        } else {
            System.out.println("=====");
            for(ModelMahasiswa m: mahasiswaList){
                System.out.println("ID : " + m.getId());
                System.out.println("NIM : " + m.getNpm());
                System.out.println("NAMA : " + m.getNama());
                System.out.println("SEMESTER : " + m.getSemester());
                System.out.println("TIPK : " + m.getTipk());
                System.out.println("=====");
            }
        }
    }
}
```

- MahasiswaDAO.java



The screenshot shows the Apache NetBeans IDE interface with the code editor open for the file `MahasiswaDAO.java`. The code defines a DAO interface for managing student data. It includes methods for adding, displaying, and deleting students, as well as a `checkConnection` method to verify the database connection.

```
/*
 * 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 student.gunadarma.ac.id.pert3_50422657.model;

import java.sql.*;
import java.util.ArrayList;
import java.util.List;

public class MahasiswaDAO {
    private Connection connection;

    public MahasiswaDAO(){
        try{
            Class.forName("com.mysql.jdbc.Driver");
            connection = DriverManager.getConnection("jdbc:mysql://localhost:3306/pert3_50422657", "root", "");
        } catch (Exception e){
            e.printStackTrace();
        }
    }

    public boolean checkConnection(){
        try{
            if(connection != null && !connection.isClosed()){
                return true; //koneksi berhasil
            }
        } catch (SQLException e){
            e.printStackTrace();
        }
        return false;
    }
}
```

- ModelMahasiswa.java

The screenshot shows the Apache NetBeans IDE interface with the following details:

- Toolbar:** File, Edit, View, Navigate, Source, Refactor, Run, Debug, Profile, Team, Tools, Window, Help, Port3_50422657 - Apache NetBeans IDE 25, Search (Ctrl+I).
- Projects Tab:** ACT1_50422657, Pert2_50422657, Pert3_50422657 (selected), Test Packages, Dependencies, Java Dependencies, Project Files.
- Middle Panel:** Shows the source code for `ModelMahasiswa.java`. The code defines a class `ModelMahasiswa` with fields `id`, `npm`, `nama`, `semester`, and `ipk`. It includes a constructor and methods for setting and getting each field.
- Navigator Tab:** Shows the members of the `ModelMahasiswa` class, including the constructor and the five field-related methods.

```
File Edit View Navigate Source Refactor Run Debug Profile Team Tools Window Help Port3_50422657 - Apache NetBeans IDE 25 Search (Ctrl+I)
Projects X Files Services <default config> MahasiswaController.java MahasiswaDAO.java ModelMahasiswa.java
Source History <empty> 520.0/756.0MB
+
package student.gunadarma.ac.id.pert3_50422657.model;
+
/*
 * @author harry
 */
public class ModelMahasiswa {
    private int id;
    private String npm;
    private String nama;
    private int semester;
    private float ipk;
    public ModelMahasiswa(int id, String npm, String nama, int semester, float ipk) {
        this.id = id;
        this.npm = npm;
        this.nama = nama;
        this.semester = semester;
        this.ipk = ipk;
    }
    public int getId() {
        return id;
    }
    public void setId(int id) {
        this.id = id;
    }
    public String getNpm() {
        return npm;
    }
}
+
public class MahasiswaView {
    private ModelMahasiswa model;
    public void setModel(ModelMahasiswa model) {
        this.model = model;
    }
    public ModelMahasiswa getModel() {
        return model;
    }
}
```

- MahasiswaView.java

Screenshot of the phpMyAdmin interface showing the structure of the 'mahasiswa' table.

Table Structure:

#	Nama	Jenis	Penyortiran	Atribut	Tak Ternilai	Bawaan	Komentar	Ekstra	Tindakan
1	id	int(5)		Tidak	Tidak ada	AUTO_INCREMENT			Ubah Hapus Lainnya
2	npm	varchar(16) utf8mb4_general_ci		Tidak	Tidak ada				Ubah Hapus Lainnya
3	nama	varchar(32) utf8mb4_general_ci		Tidak	Tidak ada				Ubah Hapus Lainnya
4	semester	int(2)		Tidak	Tidak ada				Ubah Hapus Lainnya
5	ipk	float		Tidak	Tidak ada				Ubah Hapus Lainnya

Index:

Tindakan	Nama kunci	Jenis	Unik	Dipadatkan	Kolom	Kardinalitas	Penyortiran	Tak Ternilai	Komentar
Ubah Rename Hapus	PRIMARY	BTREE	Ya	Tidak	id	0	A	Tidak	
Ubah Rename Hapus	npm	BTREE	Ya	Tidak	npm	0	A	Tidak	

Partitions:

No partitioning defined!

Informasi:

Unggunaan ruang: 349.47/735.0MB

Row statistics

Screenshot of the NetBeans IDE interface showing the code editor and run output.

Code Editor:

```
public class MahasiswaDAO {
    private Connection connection;
    public MahasiswaDAO() {
        try{
            Class.forName("com.mysql.cj.jdbc.Driver");
            connection = DriverManager.getConnection("jdbc:mysql://localhost:3306/pert3_50422657", "root", "root");
        } catch (Exception e){
            e.printStackTrace();
        }
    }
}
```

Output Window:

Run (MahasiswaView) x Run (MahasiswaView) x

```
3. Update Mahasiswa
4. Hapus Mahasiswa
5. Cek Koneksi Database
6. Keluar
PILIH OPSI: 1

=====
ID      : 1
NPM    : 50422657
NAMA   : Harry Mardika
SEMESTER : 7
IPK    : 4.0
=====

Menu:
1. Tampilkan Semua Mahasiswa
2. Tambah Mahasiswa
3. Update Mahasiswa
4. Hapus Mahasiswa
5. Cek Koneksi Database
6. Keluar
PILIH OPSI:
```